Errata

Title & Document Type: 5245L Electronic Counter Operating and Service Manual

Manual Part Number: 05245-9044

Revision Date: November 1973

About this Manual

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HP References in this Manual

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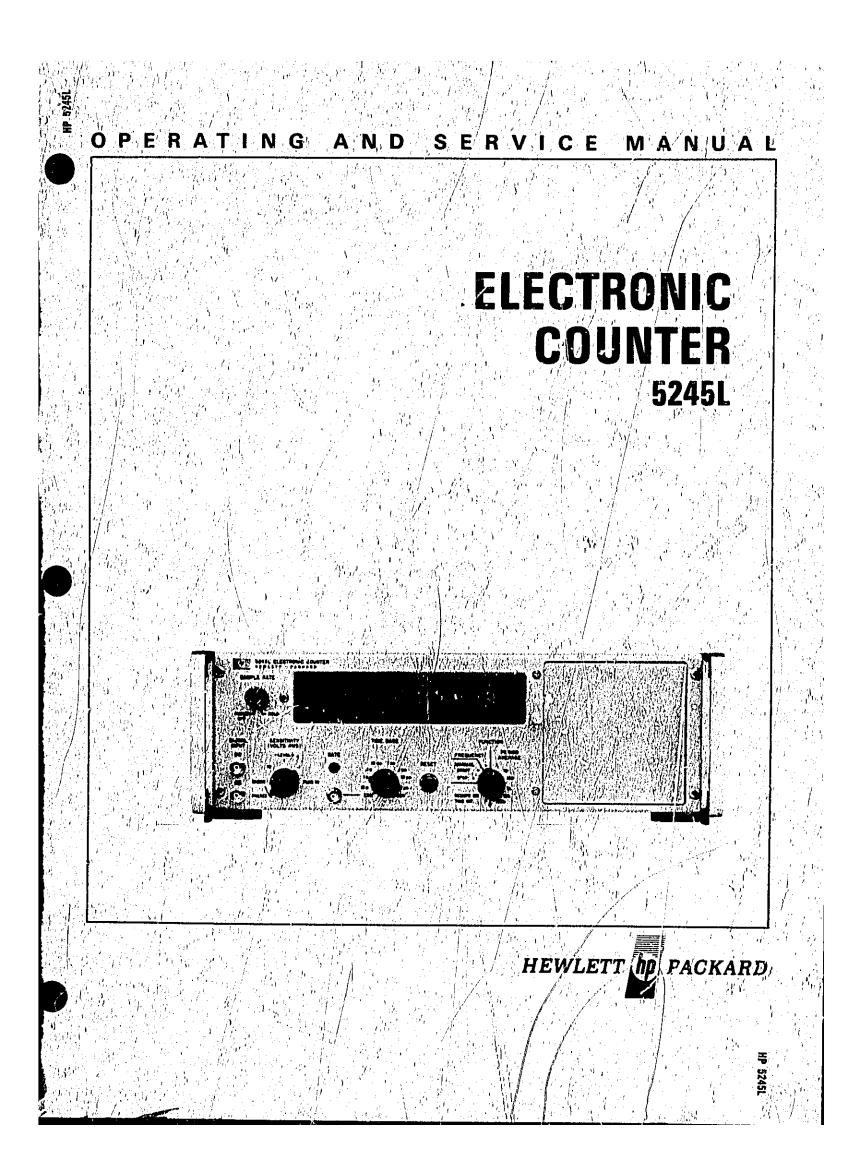
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ELECTRONIC COUNTER

5245L

SERIAL PREFIX: 1124A

This manual applies directly to HP Model 5245L Electronic Counters having serial prefix number 1124A.

SERIAL PREFIXES NOT LISTED

For serial prefixes above 1124A, a "Manual Changes" sheet is included with this manual. For serial prefixes below 1124A, refer to Section V, Manual Changes.

OPTIONS

This manual with changes described in Section V_{c_1} also applies to Options 002 and 003.

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PACKARD

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Foreword

Model 5245L

IANUAL CONTENT

This is a Service Manual only. Operating instructions are outlined in a separate Operating Manual. This Service Manual is supplied to help you make best use of your $\frac{1}{2}$ Model 5245L Electronic Counter. Seven sections of information are included as follows:

Section I is an introduction to the counter. This includes a table of technical specifications.

Section II discusses detailed theory for the circuits used.

Section III outlines a performance check procedure to verify operation.

Section IV lists parts for the counter.

Section V covers available options and manual changes required to backdate this manual,⁴

Section VI contains adjustment and troubleshooting procedures which include a self check.

Section VII provides the circuit diagrams for the counter. These include block diagrams, schematic diagrams, and some waveforms and voltages.

HOW TO ORDER

To order an Operating or Service Manual for your Electronic Counter, contact the nearest Hewlett-Packard Sales and Service Office. Lists are provided at the back of this manual. Give complete 8-or 9-digit serial number and name of instrument. Comments and suggestions concerning this manual are welcome at any Sales and Service Office.

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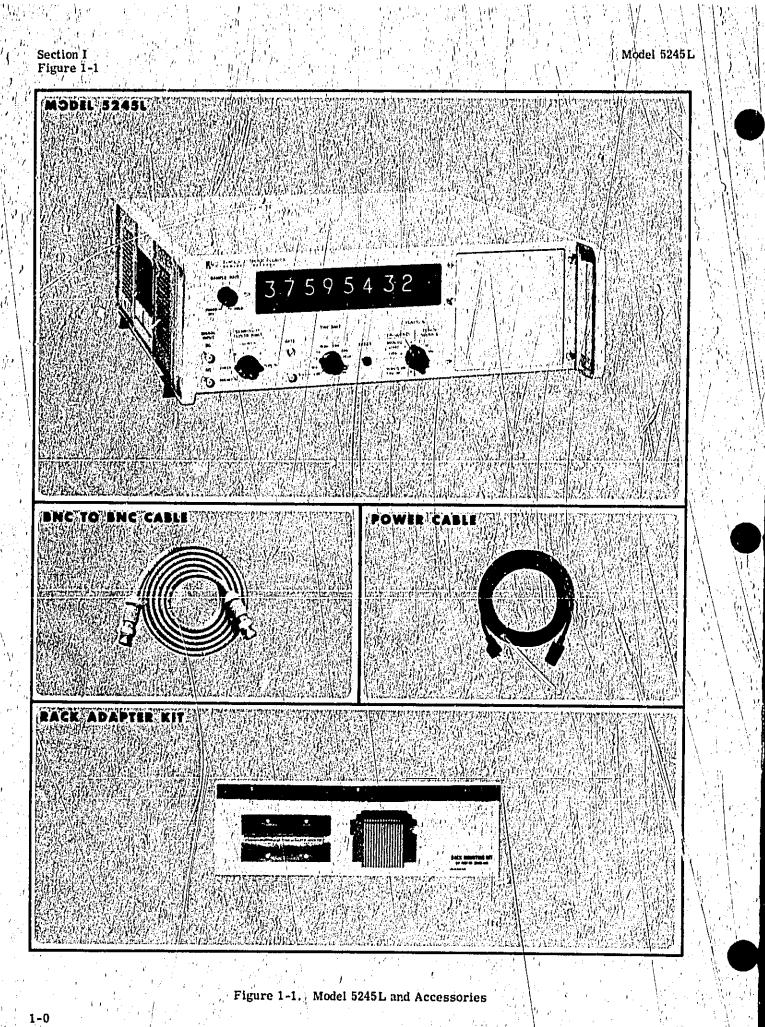
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GENERAL INFORMATION

1-1. INTRODUCTION

1-2. DESCRIPTION,

1-3., The HP Model 5245L Electronic Counter is a sign-frequency general-purpose electronic counter. The Model 5345L measures frequencies from 0 to 50 MHz, periods from 1 μ sec to 10 seconds, period averages from 10 to 100,000 periods, the ratio of two frequencies, and the multiplied ratio of two frequencies.

1-4. The HP Model 5245L provides these additional features:

a. Decade scaling to 10^9 for any frequency to 50 MHz.

b. Standard output frequencies from 0.1 Hz to 10 MHz in decade steps.

c. Four-line, binary-coded-decimal output to drive digital recorder (HP Model 562A), digital to analog converter (HP Model 580A/581A), remote readout, or data processing equipment (1-2-2-4 code; 1-2-4-8 code available; see Section V).

d. Display storage which permits reading to be displayed while new count is made.

e. Remote control by external contact closure available (see Section V).

f. Eight-digit display using rectangular (narrow) digital display tubes; decimal point position and measurement units displayed automatically.

basic range and performance of the counter.

h.) All tleatrical and mechanical specifications for the Model 52451, are given in Table 1-2.

1-5. The Model 5245L features solid state design, low power consumption, small size (5-1/4 inch/panel height), light weight (32 lb), easy conversion for rack mounting, and modular plug-in circuit boards for simplified maintenance.

1-6. INSTRUMENT IDENTIFICATION.

1-7. Hewlett-Packard uses a two-section serial number mounted on the rear panel. Earlier instruments use an 8-digit serial number (000-00000). The first digits are a serial prefix number; the last five digits refer to the specific instrument. Later instruments use a 9-digit serial number (0000A00000). The first four digits are the serial prefix and the last five digits refer to the specific instrument. 1-8. If the serial prefix of your instrument differs from that listed on the title page of this manual, there are differences between this manual and your instrument. Lower serial prefixes are documented in Section VII, and higher serial prefixes are covered with manual change sheets included with the manual. If the change is missing, contact the nearest Hewlett-Packard Sales and Service Office listed on the inside rear cover of this manual.

9. INSTALLATION AND OPERATION

1-10. [In stallation and operation procedures are covered in Sections II and III of the Model 5245L Operating Manual. An explanation of the Counter's controls and connectors and a self-check procedure is included in Section VI of this manual (see Figures 6-1, 6-2, and 6-3).

1-11- EQUIPMENT, SUPPLIED.

1-12. Equipment supplied with Model 5245L is listed in Table 1-1.

Table 1-1. Equipment Supplied

	HP Part No.
Detachable power cord 7-1/2 feet (231 cm), long	8120-1378
Cable 4-feet (122 cm) long male BNC connectors	10503A
Rack mount kit Kit includes:	5243A-44A
1 Right-hand bracket 1 Left-hand bracket 1 Strip filler (gray) 1 Label 1 Circuit-board extender	5020-0709 5020-0708 05243-4001 05243-9004 05243-6022

FREQUENCY MEASUREMENTS

Range: 0.1050 MHz (dc input). 25 Hz to 50 MHz (ac input, maximum sensitivity).

Gate Time: 1 usec to 10 seconds in decade steps.

Accuracy: ± 1 count \pm time base accuracy

Readout: kHz or MHz with positioned decimal point; units annunciator in line with digital display,

Self Check: counts 10 MHz for the gate time chosen by the time base selector switch.

SCALING

Frequency Range: 0 to 50 MHz.

Factor: by decades up to 10⁹, switch selected¹¹ on rear panel.

Input: front-panel, Signal Input.

Output: in place of time base output frequencies.

PERIOD AVERAGE MEASUREMENTS

Range:Single Period0 to 1 MHz'Multiple Period0 to 300 kHz

Periods Averaged: 1 period to 10⁵ periods in decade steps.

Accuracy: ±1 count ± time base accoracy.± trigger error.*

Frequency Counted:

 1 and 10 period
 1 Hz to 10 MHz in decade steps

 100 period
 10 Hz to 10 MHz

 1,000 period
 100 Hz to 10 MHz

 10,000 period
 1 Hz to 10 MHz

 100,000 period
 1 Hz to 10 MHz

 100,000 period
 1 Hz to 10 MHz

Readout: sec, ms, µs, with positioned decimal point; units annunciator in line with digital display.

Self Check: Gate time is 10 µs to 1 sec (periods averaged of 100 kHz); counts 100 kHz from the time base.

RATIO MEASUREMENTS

Displays: (f_1/f_2) times period multiplier.

Range: $f_1 = 0$ to 50 MHz. $f_2 = 0$ to 1 MHz in single period, 0 to 300 kHz in multiple period; periods averaged 1 to 10^5 in decade steps.

Sensitivity: 0.1 v rms, each input

•Trigger error is less than ±0.3% of one period ÷ periods averaged for signals with ±0.0b or better signal-to-noise ratio.

After 72 hours of continuous operation.

1-2

Accuracy: ± 1 count of $f_1 \pm trigger error* of <math>f_2$. f_1 is frequency applied to the decimal counters (enters Time Base Ext. jack on front panel); f_2 is frequency applied to decade dividers (enters Signal Input jack).

Readout: Dimensionless; positioned decimal point for number of periods averaged.

Self Check: Period Average Self Check applies.

TIME BASE

Frequency (internal): 1 MHz,

Stability: Aging Rate - less than 3 parts in 10^9 per 24 hours. ** As a Function of Temperature: less than ±2 parts in 10^{10} /°C -20°C to +55°C. As a Function of Line Voltage: less than ±5 parts in 10^{10} for ±10% change in line voltage from 115v or 230 v rms.

Short Term - less than 2 parts in 1010 rms with measurement averaging time of one second under constant environmental and line voltage conditions.

Adjustment: Fine frequency adjustment (range approximately 4 parts in 10⁸) and medium frequency adjustment (range approximately 1 part in 10⁶) are available from the front panel through the plug-in hole. Coarse frequency adjustment (range approximately 1 part in 10⁵) is available at the rear of the instrument.

Output Frequencies:

Rear Panel: 0. 1 Hz to 10 MHz in decude steps; switch selected on rear panel; all frequencies available in manual function without interruption at reset except 100 Hz, 10 Hz, 1 Hz, and 0. 1 Hz which a re interrupted by manual reset; 10 kHz to 10 MHz available continuously in all functions; 1 kHz available continuously for a 11 functions except 100K period average; stability same as internal time, base; 5 volts p-p rectangular wave with 1000 ohm source impedance at 1 MHz and lower; 1 volt rms sine wave with 1000 ohm source impedance only at 10 MHz.

Front Panel: 0.1 Ez to 1 MHz in decade steps; selected by Time Base switch; availability as defined under Output Frequencies abovo; stability same as internal time base; 1 v p-to-p.

External Standard Frequency: 1 MHz, 1 volt, frms, into 1000 ohms required at rear panel BNC connector.

GENERAL

 Registration: 8 digits in-line with rectangular Nixie⁽⁸⁾ tubes and display storage; 99,999, 999 maximum display; total width of 8 digit display including illuminated units annunciator and auto-positioned decimal point indication does not exceed 7 inches.
 Burroughs Corporation



Model 5245

GENERAL (continued)

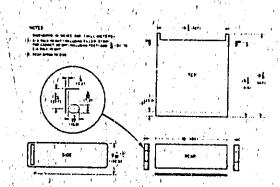
- Display Storage: Holds reading between samples; switch overrides storage
- Sample Rate: Time following a gate closing during which the gate may not be reopened is continuously variable from less than 0, 2 sec to 5 ; seconds in frequency mode, independent of gate time; display can be held indefinitely.
- Operating Temperature Range: -20°C to +65°C.
- Connectors: BNC 'type except for BCD output , and power cable.
- Signal Input:
- Maximum Sensitivity 100 mv rms.
- Attenuation Step attenuator provides ranges of 9.1, 1, and 10 volts rms.
- Trigger Level Adjustment Front panel control has $\pm 0, 3$ volt trigger level range on 0. 1 volt position, ± 3 volt range on 1 volt posilion, and ± 30 volt range on 10 volt position. A preset position automatically centers trigger level at zero volts for all positions of attenuator.
- Impedance 1 megohm in parallel with approximately 25 pr, all ranges.
- Coupling ac or dc, separate BNC connectors. AC coupling has 600 vdc, 0.022 μ f capacitor (-3 dB at approximately 7 Hz).
- Overload Protection Diode clamps protect input circuit for up to 120 volts rms on 0.1, volt range, 250 volts rms on 1 volt range, and 500 volts rms on 10 volt range. Input resistance under overload conditions (approximately tentimes minimum sensitivity) will be greater than 100K ohms on 0.1 volt range, and approximately 1 m e g o hm on other ranges.
- Time Base External Input (Front Panel):
- Maximum Sensitivity 100 mv, rms. Impedance - 10K ohms, approximately 20, pf. DC coupled.
- Overload Diode clamps protect input circuit for up to 120 volts, rms.

Output:

- 4-line BCD 1-2-2-4, "1" state positive. 4line BCD 1-2-4-8, available as Option 002-("1" state postive) and Option 003 ("1" state negative).
- "0" State Level: -8v,
- "1" State Level: +18v.
- Impedance 100K, each line.
- Reference Levels: Approximately +9v, 350 ohm source. Approximately -1v, 1000 ohm source. Output is suitable for systems use or output devices such as & Model 580A and 581A , Digital-to-Analog Converters and includes the decimal point and measurement unit for \$ 562A Digital Recorder.
- Print Command + 13v to 0v step, dc-coupled.

- Cable Connector Amphenol 50-pin 57-30500, 1 required.
- Hold-off Requirement +15v min., +25v max, from chassis ground (1000 ohm source).
- Weight Net 32 lbs (14, 4 kg) with blank plug-in; shipping, 40 lbs (18, 2 kg).
- Power Supply 115 or 230 volts $\pm 10^{\circ}$, 50 to 60 Hz; 95 watts (50 to 1000 Hz operation, special order).
- Accessories Furnished \$\phi 10503A Cable, 4 feet long, male BNC connectors. Detachable power cord, 7-1/2 ft (2040 mm) long, NEMA plug. Circuit Board Extender.

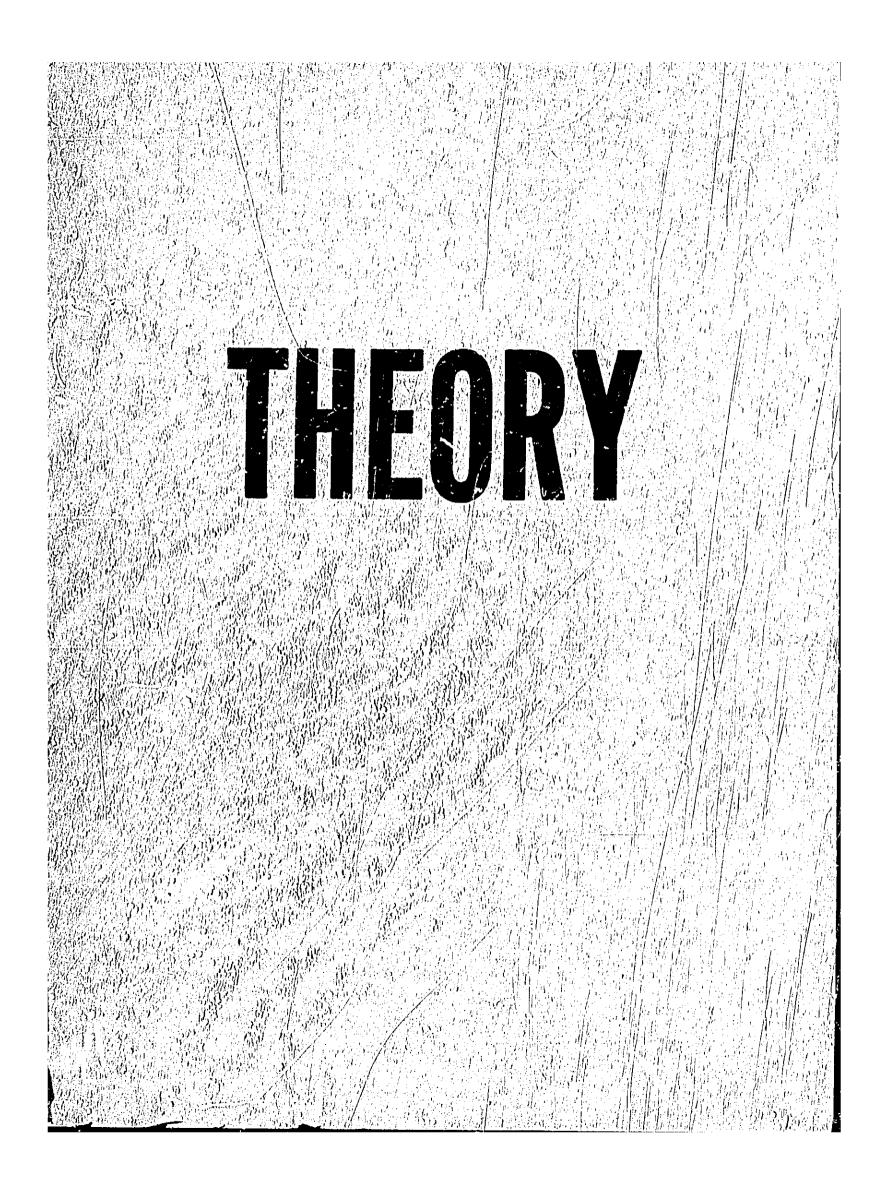
Diménsions:



OPTIONAL AND SPECIAL FEATURES

- Option 002: 4-line BCD 1-2-4-8, "1" state positive in lieu of 1-2-2-4 (identical in other respects to above Output data) for digits only.
- Option 003: 4-line BCD/1-2-4-8, "1" state negative in lieu of 1-2-2-4 (identical in other respects to above Output data) for digits only.
- Remote Operation: All functions which may be programmed from the front panel controls (in normal use) may be programmed from a remote location except for the "Sample Rate" (as defined above) and the sensitivity control setting. The instrument provides (through rear panel connectors) all voltages necessary for remote control. The programming voltages for Time Base and Function control are low level, -15 volts de at 5 ma per gate. Control may also be achieved by using an external -15 voit dc supply. The position of the decimal point and measurements unit may be correctly illuminated from the remote location, using +170 volts de from the internal or an external supply.

Cable Connector: Amphenol 36-pin 57-30360, 22 required.



RINCIPLES OF OPERATIO

2-1. INTRODUCTION.

Model 5245L

2-2. This section describes how the Model 5245L operates. Basic circuits used in the counter are described first (Paragraphs 2-3 through 2-24). Operation of decimal counters and decade dividers is thoroughly discussed in Paragraphs 2-25 through 2-35. A discussion of basic counter functions is given next (Paragraphs 2-36 through 2-43). Pulse timing circuits and overall operation of the entire counter are discussed in Paragraphs 2-44 through 2-50. At the end of the section each assembly is described in order of its assembly designation (A)) (Paragraphs 2-51 through 2-122.)

2-3. THE DIODE.

2-4. GENERAL. Semiconductor diodes are used in signal-handling circuits and in power supply rectifier and regulator circuits.

2-5. THE "OR" GATE. Two or more diodes are sometimes used as an OR gate. The OR gate is a multiple-input circuit which requires only one input to produce an output. Figure 2-1A shows some OR gate configuration.

2-6. THE "AND" GATE. The AND gath or coincidence circuit is a multiple thout circuit which requires the presence of all input signals to produce an output. Figure 2-IB shows an AND gate configuration in which an input signal is presend only when a property polarized control voltage is applied.

2-7. THE "INHIBIT GATE. The signal normally passes through an INHIBIT GATE. The signal normally closes the gate and stevents the signal from going through. One of the most cormon forms of the IN-HIBIT gate is the series gate shown in Figure 2-1C. If the diode is biased off the gate is closed, and pulses do not reach the decide divider or decimal counter; when the diode is biased on, the pulses go through the gate and reach the decide divider or decimal counter.

2-8. LIMITER OR CLIPPER. The limiter or clipper is a circuit which removes positive or negative peaks of waveforms. It can be used either as a waveform shaping circuit or as a protective device to prevent excessive voltages from reaching a sensitive circuit. Figure 2-1D shows a limiter which prevents the negative peak of a pulse from going more negative than about -0.6 volt. Note that for a conducting silicon diode the cathode voltage is about 0.6 to 0.8 volt more negative than the abode.

2-9. CLAMPER OR DC RESTORER. The clamper or DC restorer is a circuit which establishes either the positive or negative peak of a waveform at a particular DC reference voltage; in other words, it provides a definite baseline voltage for the waveform, Figure 2-1E shows a clamper which provides a baseline of about +20 volts for a negative vulse. 2-10. REGULATOR: A diode regulator uses either the constant reverse-bias breakdown voltage characteristic of a breakdown diode or the constant forwardbias voltage drop characturistic of a silicon diode. Power supply reference voltages are generally provided by breakdown diodes which maintain a constant voltage when supplied with a reverse-bias voltage greater than their specified breakdown voltage. Regulated voltages can also be provided by a forwardbiased silicon diode which maintains a constant 0.6 to 0.8 volt drop. Figure 2-1F shows connections for both types of diodes.

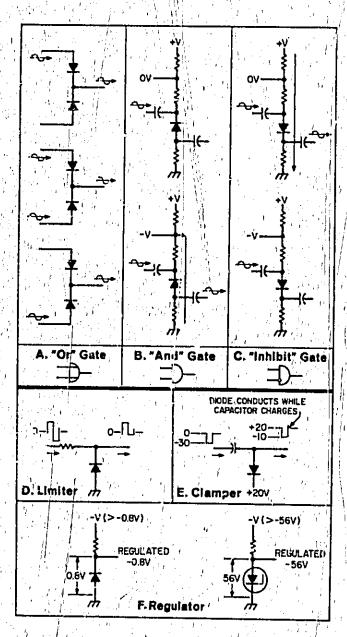


Figure 2-1. Basic Diode Circuits

Section I

1.10

Paragraphs 2-11 to 2-18

2-11 THE TRANSISTOR

2-12.) GENERAL. Transistors are used throughout the counter in circuit configurations such as the amplifier, the flip-flop or binary, the trigger circuit, and the one-shot multivibrator. In the following paragraphs, basic transistor operation and a few basic transistor circuits are discussed. These paragraphs discuss the easily observed changes in currents and voltages in transistor circuits which help technicians locate circuit faults but do not attempt to describe how transistors work internally.

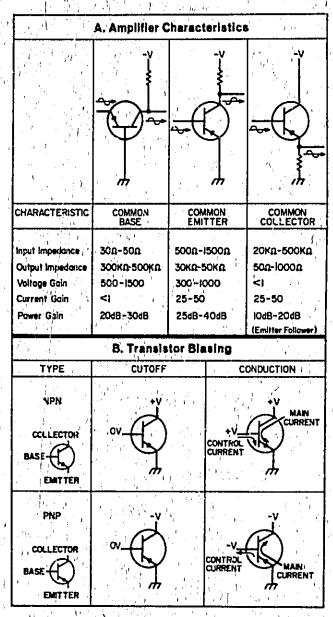
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2-13. BIASING AND CONDUCTION. In a transistor a small base-to-emitter current controls a large collector-to-emitter current. A comparison of NPN transistor and PNP transistor operation is shown in Figure 2-2B; indicated current represents conventional flow of positive charges external to the transistor and is not intended to indicate flow of carriers inside the transistor structure. Notice that the effect of emitter-base-collector voltages is totally reversed between NPN and PNP transistors; circuits which are arranged for an NPN transistor u sually function normally for a PNP transistor if supply voltages are reversed.

2-14. AMPLIFIERS. Three basic amplifier types are available (Figure 2-2A). These amplifiers may be used alone or in combination to form complex circuits.

2-15. FLIP-FLOP. The flip-flop is a bi-stable twotransistor circuit in which one transistor conducts, holding the other cut off. Each input pulse causes a reversal of states; that is, the cut off transistor is turned on and the conducting transistor is cut off. In the flip-flop shown in Figure 2-3A, QI is initially conducting heavily; its collector voltage is only slightly negative; a near-zero voltage is supplied to the base of Q2 (junction of R27-28 divider). The voltage drop across R24 produces a sufficiently negative voltage at the emitter of Q2 to hold Q2 cut off. With Q2 cut off the R18-R19-R20 divider delivers a negative voltage to the base of Q1 to keep it conducting.

2-16. At time ti the positive input pulse cuts off Q1; the Q1 collector voltage goes negative and drives Q2 into conduction (R27-R28 divider to Q2 base); the Q2 collector voltage and the Q1 base voltage (R19-R20 divider) then become considerably less negative, permitting QI to remain cut off. The R26-R27-R28 divider delivers a sufficiently negative voltage to the base of Q2 to drive it into conduction. In a similar, manner the positive input pulse at time t_2 cuts off Q2 and starts a sequence of events which ends with Q1 conducting and Q2 cut off. Note that a positive input pulse has no effect on Q1 if it is already cut off. A negative reset pulse applied to the base of QI returns the flip-flop to its initial condition (Q1 conducting, Q2 cutoff). The diode CR9 removes the negative pulse from the differentiated square wave input. Without this diode, the negative pulse would drive Q1 which is cut off and the stage would switch from one state



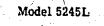
Model 5245

Figure 2-2. Transistor Operation

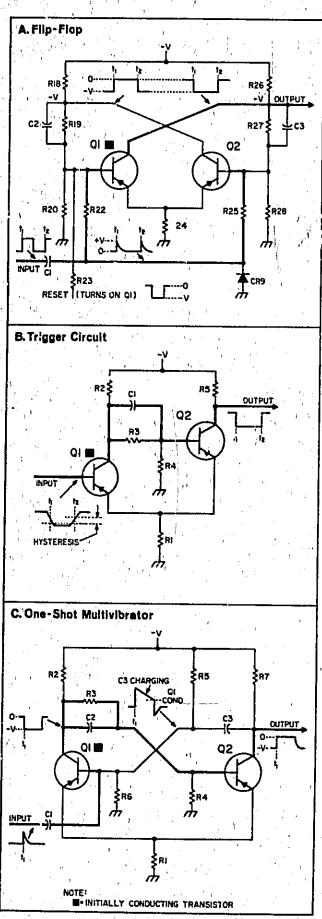
to the other but would not divide by two. The AC coupling through C2 and C3 insures fast switching. The DC coupling through R19 and R27 insures bi-stable characteristics.

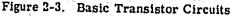
2-17. BINARY CIRCUIT. In this manual a flip-flop which completes its operating cycle and produces an output pulse after receipt of two similar input pulses is called a binary circuit, since it is a counting device in a binary system. The binary circuit is driven from a single input which is connected either through a pair of resistors or through a pair of gating diodes to each transistor base.

2-18. TRIGGER CIRCUIT. The trigger circuit is a limiter or squaring circuit which produces an output waveform with very fast rise and fall times. The



e i





Section II Paragraphs 2-19 to 2-24

trigger circuit is similar to the flip-flop except that the RC network in one half is replaced by the input signal. Capacitor C1 bypasses R3 to couple fast changes in voltage at the Q1 collector to the base of Q2. Either Q1 or Q2 can conduct depending on the voltage at the input. Note that there is a slight difference in input voltage (called hysteresis) between switching with a negative-going input (time t_1) and switching with a positive-going input (time t_2).

2-19. ONE-SHOT MULTIVIBRATOR. The one-shot multivibrator is a circuit which generates a pulse of some specified duration following the application of a suitable triggering pulse. The circuit is similar to the flip-flop except one DC coupling path has been removed so the circuit is stable only in the state with Q1 conducting.

2-20. In the typical one-shot multivibrator shown in Figure 2-3C the following conditions exist during the initial stable period: the R5-R6 divider delivers a sufficiently negative potential to the base of Q1 to hold Q1 in saturation; the Q1 collector and Q1 emitter are therefore slightly negative; the R3-R4 divider delivers the Q2 base an even smaller negative voltage to hold Q2 cut off.

2-21. The positive triggering pulse at time t_1 reduces conduction of Q1; the resulting negative-going voltage at the Q1 collector is applied to the Q2 base through the R3-R4 divider (C2 bypasses R3 to provide coupling for the rapidly changing voltage at the Q1 collector); Q2 begins to conduct; the resulting positive-going change in Q2 collector voltage is coupled through C3 to the Q1 base to further decrease Q1 conduction. The process is regenerative and quickly results in Q1 being cut off and Q2 being saturated.

2-22. Capacitor C3 now charges at a rate mainly determined by the values of R6 and C3 (main charge path: R1-Q2-C3-R5). When the Q1 base voltage becomes sufficiently negative. Q1 begins conduction; the resulting positive-going Q1 collector voltage is coupled to the Q2 base; the Q2 collector voltage goes negative and is coupled through C3 to the Q1 base to further increase Q1 conduction. The process is regenerative and ends with the circuit in its original quiescent state, Q1 saturated and Q2 cut off.

2-23. FIELD EFFECT TRANSISTOR (FET). Field effect transistors have three terminals: source, drain, and gate which correspond in function to emitter, collector, and base of junction transistors. Source and drain leads are attached to the same block (channel) of N or P semiconductor material. A band of oppositely doped material around the channel (between the source and drain leads) is connected to the gate lead.

2-24. In normal FET operation, the gate-source voltage reverse-biases the PN junction, causing an electric field that creates a depletion region in the source-drain channel. In the depletion region the number of available current carriers is reduced as the reverse-biasing voltage increases, making source-

Section II Paragraphs 2-25 to 2-28

drain current a function of gate-source voltage. With the input (gate-source) circuit reverse-biased, the FET presents a high impedance to its signal sources (as compared with the low impedance of the forwardblased junction transistor base-emitter circuit). Because there is no input current, FET's have less noise than junction transistors. Figure 2-4 shows the schematic symbol and biasing for Λ channe' and P channel field effect transistors.

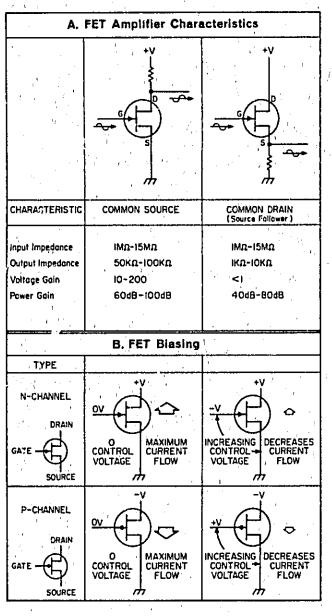


Figure 2-4. Field Effect Transistor Operation

2-25. BASIC OPERATION OF DECIMAL COUNTER OR DECADE DIVIDER

2-26. INTRODUCTION. Operation of the decimal counter circuit and the decade divider circuit is similar. The difference between the two is in function. Decimal counter circuits divide the input signal by 10 and actuate the digital display tubes, whereas the decade divider circuits are used to divide the input

Model 5245L

signal or the output of the internal oscillator into the frequencies to be counted or frequencies to provide the various gate times. Throughout the following discussion, circuits are referred to as "counters" though the description applies equally to decade dividers. Paragraphs 2-25 through 2-20 cover general operation of the counters with emphasis on counting logic; Paragraphs 2-30 through 2-32 discuss readout circuits; and Paragraphs 2-73 through 2-86 diacuss specific decimal counter assemblies and the readout assembly.

2-27. INPUT AND OUTPUT FROM BINARY. Figures 2-5A and 2-5B show a flip-flop connected for operation as a binary circuit (basic flip-flop operation is discussed in Paragraphs 2-15 and 2-16). Positive input pulses go to the bases of both transistors and cause switching by cutting off the conducting transistor. Negative reset pulses go to the base of one transistor and turn it on. Note the letter "A" near one transistor and turn it on. Note the letter "A" near one transistor of the \overline{A} transistor (while switching from A conducting to \overline{A} conducting) provides the input to the next binary circuit.

2-28. CIRCUIT ARRANGEMENT AND COUNT NOTATION. Figure 2-5C is a block diagram of a typical four-binary decimal counter. Notice that the B output is applied to the D, D, and \overline{C} transistors and that the D output is applied only to the C transistor. Each input pulse produces a different combination of conducting and cut-off stages; there are only 10 allowable combinations and each combination represents a decimal digit. Decimal weighting is the decimal value assigned, arbitrarily, to the output of a pair when the plain-letter transistor is conducting.

a. Decimal Count. Decimal weighting used in the Model 5245L counter is shown in Figure 2-5C, immediately above each of the four binary stages. The decimal weight each pair represents is present only when the plain-letter side (A, B, D, or C) is conducting; when the barred-letter side (\overline{A} , \overline{B} , \overline{D} , or \overline{C}) is conducting, the decimal weight is zero. The decimal count can be determined by adding the decimal weighting of the four stages. For example, if the \overline{A} , \overline{B} , D, and C transistors are conducting, where A=1, $\overline{B} = 0$, D = 4, C = 2, the output is 1 + 0 + 4 + 2 = 7.

b. Binary-coded Decimals. In binary-coded decimal notation, the output is either 1 (when the plainletter transistor is conducting) or 0 (when the barredletter transistor is conducting). In binary-coded decimal notation, the order of the binaries is given so that binary-coded decimals can be written with the least significant digit to the right. Thus in the system used in the Model 5245L, the binary-coded decimal rotation normally is given in the order DCBA. (Counter binaries are shown in the ABDC order on the schematics and in Figure 2-5C to increase clarity in showing signal flow.) For the decimal count of 7 used as an example in Paragraph a, with D = 1, C = 1, $\overline{B} = 0$, A = 1, the binary-coded-decimal number would be 1101.



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2-29. SEQUENCE. Figure 2-6 shows the counting sequence for a typical decimal counter. Initially each binary is in the "0" (reset) state (decimal count = 0, DCBA = 0000). The following action takes place when a scries of input pulses is applied to the counter.

a. The first pulse switches A to the "1" state (DCBA = 0001 = 0 + 0 + 0 + 1 = 1).

b. The second pulse switches A to the "0" state; the output from A causes B to switch to the "1" state (DCBA = 0010 = 0 + 0 + 2 + 0 = 2).

c. The third pulse switches A to the "1" state (DCBA = 0011 = 0 + 0 + 2 + 1 = 3).

d. The fourth pulse switches A to the "0" state; the output from \overline{A} switches B to the "0" state; the output from \overline{B} switches both D and C to the "1" state; the resulting signal from C is applied to \overline{B} and D to return B to the "1" state and D to the "0" state (DCBA = 0110). Although \overline{D} is connected to C, no switching occurs at C as a result of the final switching of D since C has not fully recovered from its recent switching.

e. The fifth pulse switches A to the "1" state (DCBA = 0111 = 0 + 2 + 2 + 1 = 5).

f. The sixth pulse switches A to the "0" state; the output from \overline{A} switches B to the "0" state; the output from \overline{B} switches D to the "1" state (DCBA = 1100 = 4 + 2 + 0 + 0 = 6).

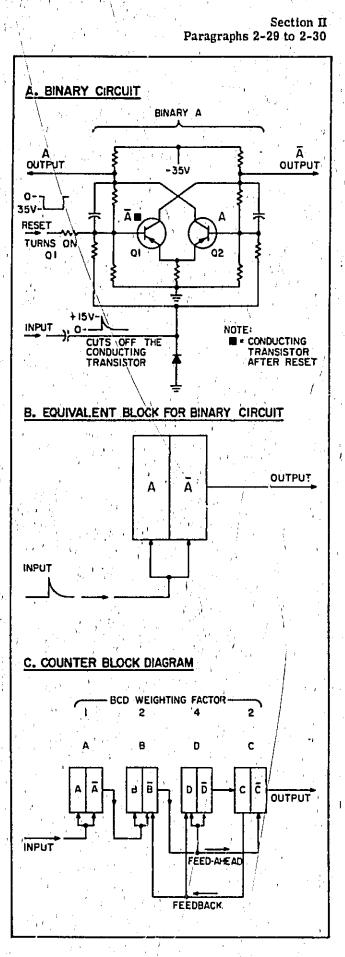
g. The seventh pulse switches A to the "1" state (DCBA = 1101 = 4 + 2 + 0 + 1 = 7).

h. The eighth pulse switches A to the "0" state; the output from \overline{A} switches B to the "1" state (DCBA = 1110 = 4 + 2 + 2 + 0 = 8).

i. The ninth pulse switches A to the "I" state (DCBA = 1111 = 4 + 2 + 2 + 1 = 9).

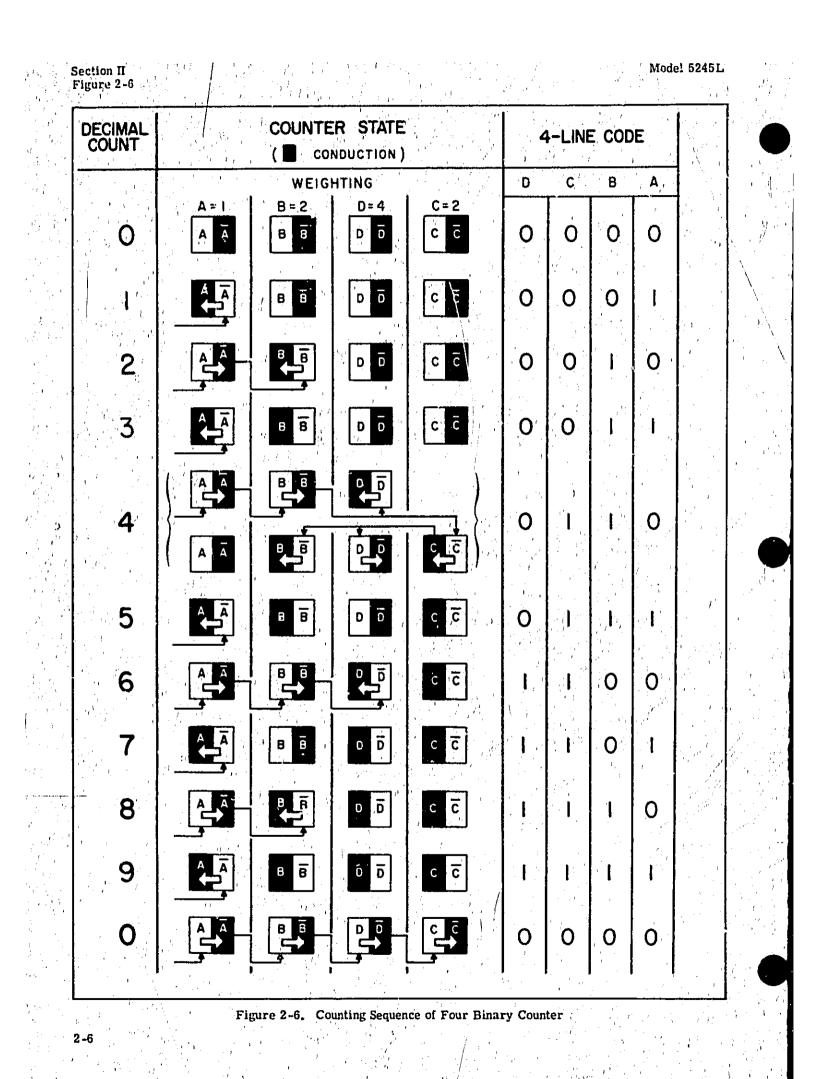
j. The tenth pulse switches A to the "0" state; the output from \overline{A} switches B to the "0" state; the output from \overline{B} switches D to the "0" state; the output from \overline{D} switches C to the "0" state (DCBA = 0000). When C becomes "0", \overline{C} produces an output pulse which serves as a carry pulse to a following decimal counter assembly. The counter is now returned to its original count.

2-30, RESETTING TO ZERO. The reset pulse, (negative) is applied to the base of the "O" state transistors (\overline{A} , \overline{B} , \overline{D} , \overline{C}) in each binary circuit. If the "O" state transistor is conducting, the pulse has no effect; if the "O" state transistor is not conducting, the pulse turns it on. Thus the reset pulse ensures that all four "O" state transistors are conducting. Figure 2-7 indicates a decimal counter assembly receiving a reset pulse. The counter is in the decimal "4" state (DCBA 0110) and the reset pulse returns the decimal counter assembly to the decimal "0" state (DCBA 0000), Decade dividers can be reset as required to any desired state, since reset inputs are available at each transistor. Note the difference between a regular input pulse and a reset pulse; a regular input signal is positive, and causes a conducting transistor to cut off; a reset pulse is negative, and causes a cut-off transistor to conduct.





2-5



2-31. Waveforms showing time relationships for the counter are given in Section VII; remember that a driven binary switches only when the input wave is going positive: (Diode clipping removes negative portion of input).

2-32.' ELECTRICAL READOUT. A four-line binarycoded-decimal butput is available from each decimal counter assembly. A voltage representing the state of each binary is taken from the collector of each of the plain-lettered transistors (A, B, C, and D). A binary "9" is represented by a relatively positive voltage on each line, and a binary "0" is represented by a relatively negative voltage on each line. Table 2-1 summarizes the ten allowable combinations which represent the decimal digits "0" through "9". To protect the binary circuit from being affected by the load, each output line includes a 100K ohm seriesconnected isolation resistor.

Table 2-1. Four-Line Code Truth Table

Digit	4-Line	Code,	0 = negativ L = positiv	ve state re state
, A	• • D	Ċ	B	A A
0	0 1	0	0	0
1	· · · •	0	0	1
2	0	0	1 1	0
3	0	0	1	1
4	0	- 1 1	1 1	0
5	0	1 .	1	1 .
6	1	· 1	0	0
7	1	1	0 -	n 1 h ann
8	1	1	1	.0
9	1	1	1	1'

2-33. DIGITAL DISPLAY. A display matrix, conisting of eight neon input lamps and 18 photoconductive elements is used to convert the binary-coded-representation to a digital representation. / The display matrix is shown in the Decimal Counter schematics, Figures 7-9, 7-11, and 7-14.

2-34. As indicated in the schematic diagrams, Figures 7-9, 7-11, and 7-14, the circuit to each numeral in the display is brought through three seriesconnected photocell elements. A characteristic of the photocell element is that it is a high resistance element Section II Paragraphs 2-31 to 2-35

(several megohms) when dark and a relatively low resistance element (less than 7000 ohms) when illumin-Thus when the three photocell elements which ated. constitute a circuit path are illuminated, resistance drops to about 20,000 ohms and sufficient current can flow to light the display digit. Illuminating elements for the photocells are neon lamps, one of which is connected in the collector circuit of each of the eight transistors in the counting circuit; the lamp lights when the transistor conducts. As explained in Paragraph 2-30, a four-binary counting circuit has ten states, ten combinations of conducting and nonconducting transistors, each combination corresponding to one digit. Thus there is a pattern of lighted lamps for each digit. Assigning a binary weight of 1 when the plain-letter lamp (A, B, C, or D) lights, and a weight of 0 when the bar lamp (\overline{A} , \overline{B} , \overline{C} , or \overline{D}) lights, the lamp pattern for any digit can be determined from Table 2-1. Figure 7-9 shows the counting circuit with transistors D, C, B, A conducting. The lamps associated with these circuits illuminate the photocell elements in the circuit to the digit 0 display.

2-35. The circuit sequence required to light a lamp is discussed in the following paragraphs. The sequence discussed will have more meaning if it is remembered 1) that a much higher voltage is required to fire a neon 'amp than to maintain illumination in the lamp (for the lamps used in the Model 5245L. 70 volts for firing and 55 volts for maintaining illumination), and 2) that after application of the firing voltage the lamp cannot fire immediately because of the time, required for ionization. Arrangement of the binary lamp circuit used in the Model 5245L is indicated in Figure 2-8B. As will be discussed later, diodes connected between the lamps make it possible for the circuit to store a previous count even though the binaries are switching during the next counting period. In decimal counter assemblies which do not have this storage feature. the display changes with each step the binaries take in setting up the circuit for a given digit. To clarify certain aspects of the lamp circuit sequence, the lamp circuit will first be discussed as though there were no diodes between the two lamps of a binary; this circuit is shown in Figure 2-8A.

a. Lamp Circuit without Diodes.

(1) As indicated in Figure 2-8A-1, the lamp associated with the conducting transistor is

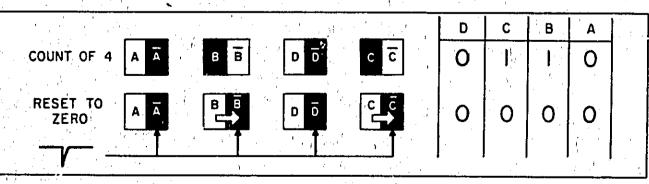
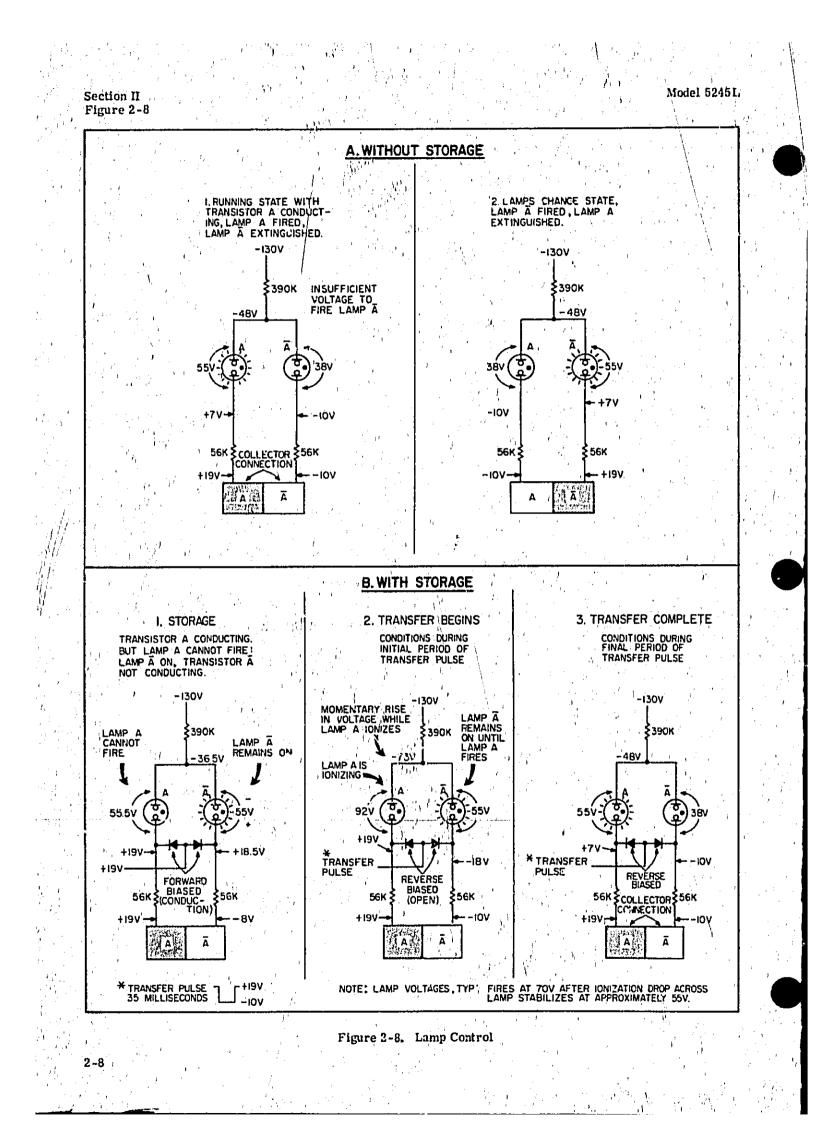


Figure 2-7. Typical Reset Operation in Four-Binary Decimal Counter Assembly

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lighted, the lamp associated with the nonconducting transistor is dark. Typically, voltages will be as shown. Since the transistor associated with the dark lamp is not conducting, no current is flowing in the circuit of the dark lamp, and voltage across it is established (a) by the circuit of the conducting lamp and its transistor, and (b) by the voltage on the collector of the non-conducting transistor. This voltage is not high enough to fire the dark lamp.

(2) When the binary shown in Figure 2-8A changes state, the voltage on the collector of transistor $\overline{\mathbf{A}}$ (now conducting) drops to -10 volts, while the voltage on the collector of nonconducting, transistor A rises to +19 volts. With transistor A turned off, current through lamp A decreases, and the voltage at the junction of the two lamps rises. Since lamp A cannot fire until ionized, voltage will continue to rise until the 70-volt firing level is reached; the junction will reach approximately 73 volts during the ionization period. After the dark lamp lires, the voltage across it vubilizes at about 55 volts, and since the voltage across the other lampis now reduced to 38 volts, the other lamp extinguishes.

(3) Circuit state after lamp \overline{A} has fired is shown in Figure 2-8A-2; it is the mirror image of that shown in Figure 2-8A-1.

b. Lamp Circuit with Diodes. The steady, or storage, state of the lamp circuit is indicated in Figure 2-8B-1. The diodes are forward-biased, effectively connecting the lamps in parallel and clamping them to approximately -1.5 volts. One lamp is conducting, the other lamp is dark. Since both lamps are clamped to -1.5 volts, regardless of the state of the binary, there will never be sufficient voltage across the dark light to fire it and it will remain dark until 1) the diodes are reverse-biased and 2) there is conduction through the transistor in whose collector circuit the lamp is connected.

When the gate closes at the completion of the counting period (see Paragraph 2-95) a -29 volt transfer pulse (see Paragraph 2-99) is applied to the binary diodes, reverse biasing them. With the diodes reverse-biased, the lamps are disconnected from each other, and the circuit for each lamp is now completed through its associated transistor.

(2) If the state of the binary is the same as that at the end of the previous counting period, the lamps "see" the voltages required to maintain them without change. If, however, the digit is such that the binary state is changed, the lamps change state. With the diodes reverse-biased, circuit action is the same as that described in subparagraph'a. Condition of the circuit during the Initial period of the transfer pulse when voltage across the dark lamp is increasing is indicated in Figure 2-8B-2; circuit condition after the lamp has fired is indicated in Figure 2-8B-3.

c. Disabling the Storage. When the function selector is set to MANUAL or the STORAGE switchon the rear panel is in the off position, the storage feature is disabled. Circuit action is then described in subparagraph a.

2-36. BASIC COUNTER FUNCTIONS.

2-37, GENERAL.

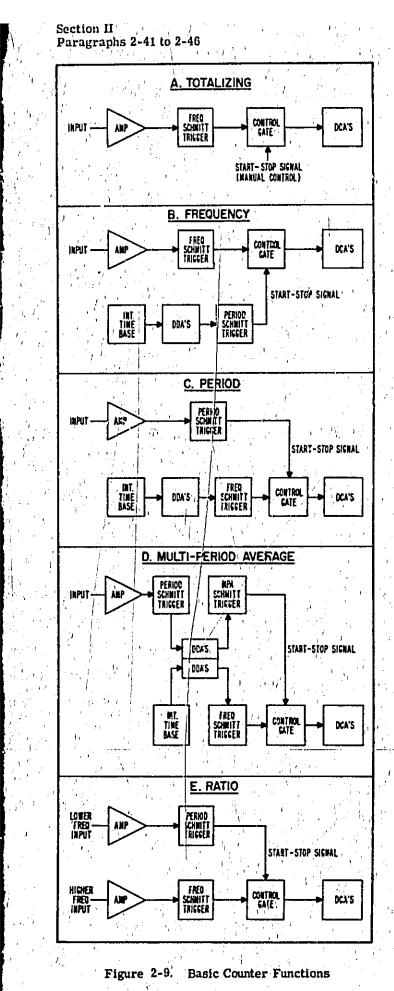
a. The basic counter circuits are arranged to provide several functional modes of operation. Each arrangement includes a main AND gate with 1) a signal input and 2) a control input, or gating signal. Following the main gate is a cascaded series of decimal counters which accumulate and display the total number of pulses which pass through the main gate. The various modes of operation are discussed in Paragraphs 2-36 through 2-41.

b. Circuit sequence in the various modes of operation is similar: pulses pass through the main gate to the decimal counters for a predetermined time, are counted and displayed. The difference between arrangements is in 1) the source of the pulses counted, and 2) the source of the gating signal which establishes the length of time during which the main gate is open to pass pulses to the decimal counters.

2-38. TOTALIZING. In the totalizing mode (see Figure 2-9A), the gate flip-flop is controlled by the FUNCTION switch when it is in the MANUAL START or MANUAL STOP positions. The decimal counters count the total number of input pulses applied while the main gate is held open with the FUNCTION switch in the MANUAL START position. Switching the FUNC-TION switch to the MANUAL STOP position closes the main gate and the number of pulses which came through the main gate while it was open are displayed.

2-39. FREQUENCY MEASUREMENT. The circuit arrangement shown in Figure 2-9B permits control of the main gate by the counter time base. The gate is opened for a controlled time, therefore the accumulated count represents the number of input cycles or pulses during this time. Controlled intervals are from 10 seconds down to 1 microsecond in decade submultiples, selectable with the front panel TIME BASE switch. The decimal point is automatically positioned and the readout is in kilohertz-or-megahertz with the units in line with the digital display,

2-40. PERIOD MEASUREMENT. The arrangement shown in Figure 2-9C provides the means for measuring the period of the input signal. The period of a signal is the time required for the completion of one cycle; the counter displays the time in seconds, milliseconds or microseconds. The period measurement is obtained by making the duration of the gating signal equal to the period of the input signal, and counting a train of pulses supplied by the counter time base. The displayed count is the number of time-base pulses which occur during one period of the input signal. For multiple period measurements, Figure 2-9D, the input signal is divided by the selected decade factor so that the gating signal is the selected multiple of one



2-10

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period. The decimal point is positioned to give the readout in seconds, milliseconds or microseconds for a single period of the input signal.

2-41. RATIO MEASUREMENT. As shown in Figure 2-9E, the frequency ratio of two inputs can be measured by a circuit arrangement similar to that used for period measurement. One input signal is applied to the main gate while the gating signal is made equal to the period (or decade multiple of the period) of the other signal. The displayed count represents the number of cycles of one input which occur during the period of one cycle (or decade multiple of one cycle) of the other input.

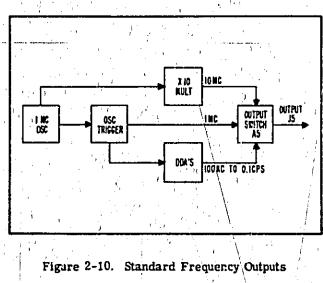
2-42. STANDARD FREQUENCY OUTPUTS. Multiplier and decade divider circuits connected to the internal 1 MHz oscillator provide output frequencies from 10 MHz to 0.1 Hz (in decade steps) using the arrangement shown in Figure 2-10.

2-43. SCALER OPERATION. An input can be scaled by a factor from 10 to 10^9 (in decade steps) using the arrangement shown in Figure 2-17. Note that the first two divisions are done by the high-speed decimal counters which in this case function as decade dividers.

2-44. TIME SEQUENCE.

2-45. GENERAL. Following a counter measurement there are several operations which occur in a particular sequence. The pulses which control these operations and their time relation to each other are shown in Figure 2-17. The trailing edge of the gating pulse (end of count) triggers the one-shot multivibrators (Paragraph 2-19) which generate these pulses.

2-46. TRANSFER. The transfer multivibrator is triggered at the end of the gating signal, and it produces a 35-millisecond pulse. The transfer pulse is applied to the decimal counters to transfer the new count to the display. During a measurement function the count is stored in the storage binaries until the transfer pulse allows the new count to be displayed.



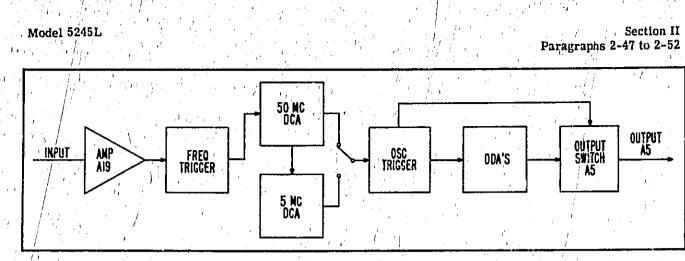


Figure 2-11. Scaler Operation

2-47. SAMPLE RATE. The sample-rate multivibrator is triggered at the leading edge of the transfer pulse; it produces a pulse which may be varied from 55 milliseconds to 5 seconds with the front panel SAMPLE RATE control. The trailing edge of the samplerate pulse is differentiated to operate the reset amplifier. The reset pulse resets the decimal counters and low-frequency decade dividers.

2-48. HOLDOFF. The holdoff multivibrator produces an output pulse which starts at the leading edge of the sample rate pulse and lasts until 55 milliseconds after the end of the sample-rate pulse. The holdoff pulse disables the gate flir flop to prevent retriggering until the sample rate multivibrator timing capacitor has completed recharging. A sync pulse from the gate control circuit (collector of Q1 through C10 or when in TIME INTERVAL from the start line through CR7 and C11) gives the holdoff pulse a precise length

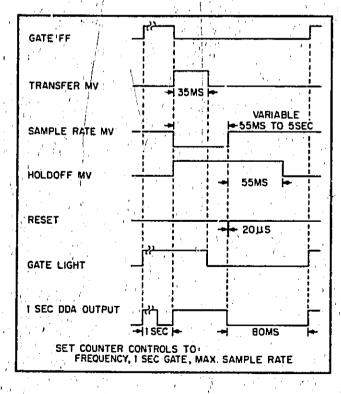


Figure 2-12. Time Sequence

and prevents the gate flip-flop from being triggered prematurely. During the slight delay between the end of the gating pulse and the start of the holdoff pulse, the gate flip-flop is disabled by an inhibit signal from the transfer multivibrator.

2-49. OVERALL COUNTER OPERATION.

2-50. The entire counter is shown in a logic block diagram in Figure 2-13. The front-panel FUNCTION switch applies a control voltage to selected AND gates in the function control assembly (A21) to arrange circuits for each counter function (see tabulation in Figure 7-2). The front-panel TIME BASE switch arranges the decade dividers (A23-A34) into two groups using gate circuits in the time-base control assembly (A35); the first group produces decade division of the oscillator (A26) output, and the second group produces decade division of the counter input during multiplied period measurements. For details of inter-connections between circuit modules (assemblies) refer to the overall diagram Figure 7-2.

2-51. INPUT SWITCH ASSEMBLY A1.

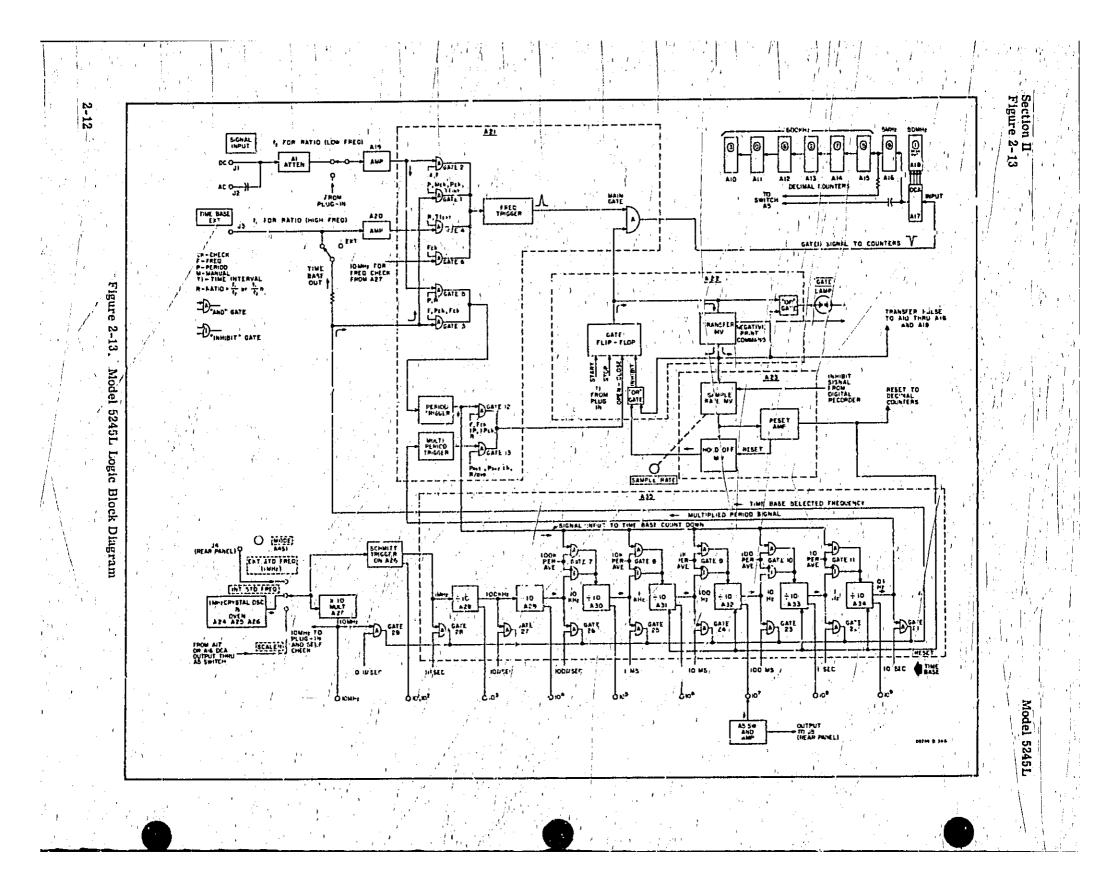
2-52. The input switch assembly, designated SENSI-TIVITY (VOLTS RMS) on front panel, is a five-position switch (CHECK, 10, 1, .1, and PLUG-IN). Refer to the schematic diagram, Figure 7-3, for circuit details. Switch functions are listed below.

a. Provides three attenuation steps (X1, X10, X100) for signal applied to the SIGNAL INPUT connector. The attenuator output is connected to the input amplifier A19.

b. Connects output of plug-in unit to input amplifier A19 when switched to PLUG-IN position.

c. Produces gate controls 1, 2, 3, 5, 6, and 27 by combining switched -15 volts from A3 (FUNCTION switch); distinguishes between CHECK and not-CHECK positions.

d. Combines switched -15 volts from A3 to contribute to generation of gate controls 4, 21, 22, 23, 24, 25, 26, 27, 28, and 29; distinguishes between CHECK and not-CHECK positions. Switching for these gate controls is finished in A2 (TIME BASE switch).





e. Switches +170 volts as first step in generating lamp control voltages (distinguishes between CHECK and not-CHECK positions). Further switching is done by A3, final switching by A2.

2-53. The level control designated -LEVEL+ on the front panel adjusts the dc input trigger level from -0. 3 volts dc to +0. 3 volts dc. Refer to schematic diagram Figure' 7-3 and 7-4 for circuit details. This control allows the trigger level for input signals. to be adjusted above or below ground potential. The level control range is increased to ±3 voits dc when the input sensitivity switch is set at 1 voltirms, and is increased to ±30 volts dc for the 10 volt rms setting. The maximum counterclockwise position (PRESET) closes a switch which automatically sets the trigger level at ground potential for all attenuator positions.

2-54. TIME-BASE SWITCH ASSEMBLY A2

(a)

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2-55. The time-base switch assembly (designated TIME-BASE on front panel) is a 10-position switch (EXT, 10s, 1s, .1s, 10ms, 1ms, .1ms, 10µs, 1µs, ./1µs). Refer to the schematic diagram, Figure 7-4, for circuit details, Switch functions are listed below.

a. Produces gate controls 4, 21, 22, 23, 24, 25, 26, 27, 28, and 29 using switched -15 volts from A1 (SENSITIVITY switch).

b. Produces all decimal point control voltages using switched +170 volts from A3 (FUNCTION switch). Decimal point control voltages are connected to appropriate input terminals on decimal point assembly A8.

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 $\mathcal{M}_{\mathcal{M}}$ is the proof of the set of th Produces all measurement units control voltages using switched +170 volts from A3., Measurement unit control voltages are connected to appropriate input terminals on measurement units assembly A9.

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d. Generates reset pulses by momentarily supplying -15 volts while switch is between detent positions. This resets, all counter circuits if time-base selection is changed during a measurement operation. Reset output is connected to manual reset input of sampling control assembly (pin 9 of A23).

-e.- Connects time-base selected frequency from A21 (function control assembly) to EXT connector on front panel when switch is not in EXT position. Disconnects selected frequency from EXT connector when switch is in EXT position.

2-56. FUNCTION SWITCH ASSEMBLY A3.

The function switch assembly (designated 2-57. FUNCTION on the front panel) is a 10-position switch (MANUAL STOP; MANUAL START; FLEQUENCY; PERIOD AVERAGE for 1, 10, 100, 1K, 10K, and 100K, periods; and REMOTE OR TIME INT). Refer to the schematic diagram, Figure 7-5, for circuit details. Switch functions are listed below.

Section II Paragraphs 2-53 to 2-59

Produces gate controls 7 through 13 by switching -15 volts from power supply.

b. Contributes to generation of gate controls I thru 6 and 21 thru 29.

c. Contributes to generation of decimal point and measurement units controls from switched +170 volts from A1 (SENSITIVITY switch).

d. Produces start and stop input voltages (-15 volts) to gate flip-flop in the gate control assembly (pins 13 and 14 of A23) when switched to MANUAL START and MANUAL STOP.

e, Shorts sample-rate trigger pulse to ground at pin 4 of A23 when switched to either MANUAL START or MANUA's STOP. This inhibits operation of the sample rate and holdoff multivibrators, thereby preventing the roset amplifier from operating in MANUAL functions. This arrangement allows the accumulation of counts in the DCA's over several gate openings during MANUAL operation. Reset is still possible in the MANUAL function by use of the RESET jush button on the front panel, 11

f. Opens the transfer fulse line between the STOR-AGE switch on the rear punel and the decimal counters when switched to either MANUAL START or MANUAL STOP. This prevents display storage operation.

Opens inhibit-signal line between the DIGITAL RECORDER connector on the rear panel and pin 12 of A23 when switched to either MANUAL START or MANUAL STOP, 'This prevents undesired triggering of the holdoff multivibrator which could inhibit the gate flip-flop.

h. Generates reset pulses by momentarily supplying +15 volts while switch is between detent positions. This resets all counter circuits if function selection is changed during a measurement operation. Reset output is connected to manual reset input of sampling centrol assembly (pin 9 of A23).

2-58, MODE SWITCH ASSEMBLY A4.

2-59. The mode switch assembly (designated MODE on rear panel) is a three-position switch (EXT STD FREQ 1 MHz, INT STD FREQ, SCALER). Refer to the schematic diagram, Figure 7-6, for circuit details. Switch functions are listed below:

a. Connects external 1-MHz standard to triggercircuit of the oscillator assembly (A26) when in EXT STD FREQ 1 MHz position.

b. Connects output of internal oscillator to trigger circuit of oscillator assembly when in INT STD FREQ position.

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Section II

Paragraphs 2-60 to 2-68

c. With A5, connects output of first or second decimal counter (A16 or A17) to trigger-circuit of oscillator assembly when in SCALER position.

d. Provides AC ground through bypass capacitor, for signals not selected as input for trigger-circuit of oscillator assembly,

2-60. OUTPUT SWITCH ASSEMBLY A5.

2-61. The output switch assembly (designated OUT-PUT on rear panel) includes an amplifier stage and a nine-position switch (.1 Hz thru 10 MHz and 10^9 thru 10 in decade steps). Circuit details are shown in the schematic diagram, Figure 7-6. Switch functions are listed below:

a. Provides standard frequency signals at OUTPUT connector from counter time base if MODE switch is not set to SCALER position. Normally provides all frequencies from . I Hz to 10 MHz in decade steps but frequencies of 100 Hz and below are interrupted when counter is reset, and availability of frequencies of 1 kHz and below depends on setting of FUNCTION switch.

b. Provides scaling of input signals by factor of 10 to 10^9 (in decide steps) at the OUTPUT connector when MODE switch is set to SCALER and FUNCTION switch is set to MANUAL START.

c. Amplifies selected output for all selections (except standard frequencies of 1 MHz and 10 MHz and scaler ratio of 10 and 100; amplifier is disabled by +13 volt bias supplied when these out, its are selected).

2-62. POWER SUPPLY: RECTIFIER ASSEMBLY A6; REGULATOR ASSEMBLY A7.

2-63. GENERAL. Several supplies are included in the 5245L. Their characteristics are tabulated in Table 2-2.

Note

In the following discussion complete reference designations are used to identify components. This is to prevent confusion between reference designations of power-supply components located on the chassis and components located on the rectifier assembly (A6) and regulator assembly (A7). For example, "R1" would refer to a component located on the chassis, while "A7R1" would refer to a component located on the regulator assembly. Complete designations are used when confusion might exist between chassis components and circuit-board components.

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Table 2-2. Power Supplies

Supply	Regulated	Remarks
-15 v	Yes	Series reg
+13 .v	Yes	Series reg
+20 v	Yes	Series reg
-130 v	No ,	-150 v ref to +20 v
+170 v	No	+150 v ref to +20 v

PRIMARY POWER. As shown in Figure 7-7 2_64 either 115+ or 230- volt AC power is connected through an LC filtor (C5A, C5B, L1, L2), fuse F1 and frontpanel power switch S3B (part of SAMPLE RATE control) to the primary of power transformer T1 and T2. Moving slide switch S4 on the rear panel to the left exposes "115" and connects the primaries in parallel for 115-volt operation. Moving the slide switch to the right exposes "230" and connects the primaries in series for 230-volt operation. Transformer T1 supplies power for continuous operation of the crystaloven-heater control circuits; note that turning off the counter does not turn off the power to the crystal oven. Fan motor B1 is connected across a single primary winding; T2 functions as an autotransformer to supply 115-yolts to B1 when the instrument is connected for 230-volt operation.

2-65. MINUS 15-VOLT SUPPLY. The regulated -15 volt supply consists of a full-wave rectifier (A6CR1 through A6CR4) whose output is smoothed by filter L3-C6, regulated by Q2, and further filtered by A7C2. The A7R4, A7R5, A7R6 divider supplies a sample of the regulated output to A7Q2 which amplifies and inverts variations in the sample. The A7Q2 output controls driver A7Q1 which in turn controls regulator Q2. Potentiometer A7R5 permits adjustment of the regulated output voltage by providing a means of adjusting A7Q2 bias.

2-66. REGULATOR OPERATION: Operation may be traced as follows: Suppose the output voltage tends to shift toward -14 volts. This causes the voltage at the A7Q2 base to go in a positive direction resulting in a decrease of conduction and a negative swing in A7Q2 collector voltage; driver A7Q1 increases conduction (A7Q1 emitter and Q2 base voltage go negative); regulator Q2 increases conduction and returns the output voltage to -15 volts.

2-67. OTHER REGULATOR COMPONENTS. Breakdown diode A7CR1 provides a 6.8-volt reference to the emitter of A7Q2. The A7R1-A7C1 network provides phase correction for stability during transients,

2-68. -130 VOLT AND +170 VOLT SUPPLIES. Two conventional full-wave rectifiers supply unregulated +170 volts and -130 volts. Each rectifier circuit provides a 150-volt output (filtered by C7 and C8), but the circuits are referenced to +20 volts so the actual output voltages (relative to ground) are +170 volts and



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-130 volts. Note that the -130 volt supply is the scurce for shunt regulator A7CR2 which provides -56 volts to the -15 volt regulator circuit.

2469. +13-VOLT AND :20-VOLT SUPPLIES. The (413-volt supply (Q3, A7()3, anu A7Q4; see schematic Figure 7-7) is similar to the -15 volt supply described in Paragraph 2-65. The only significant difference is that the negative leg is grounded while the positive leg provides the regulated output. The +20 volt supply is obtained by adding a 7 volt source to the +13 volt supply. The 7 volt regulator consists of Q4 and A7Q5, both acting as emitter followers. A 7 volt zener diode and a hias adjustment circuit provide the reference voltage for this supply.

2-70. DECIMAL POINT ASSEMBLY A8.

2-71. INPUT. The decimal point assembly holds eight neon lamps which are located to the left of each digital display tube on the front panel. Lamps are designated 0 through 7 from right to left as seen looking at the front panel. The decimal point control signal consists of +1.70 volts applied to the desired lamp input. Control is supplied either from the TIME BASE switch or the lower REMOTE CONTROL connector on the rear panel.

2-72. OUTPUT. A group of OR gates converts the decimal point control signal from decimal form to binary-coded decimal (BCD) form which is supplied to the DIGITAL RECORDER connector on the rear panel. As an example, suppose decimal point 5 is lighted; a positive signal passes the OR gates and limiters to the A, B, and C output lines, thus providing a 0111 (in the order DCBA) output to the DIGITAL RECORDER connector. For circuit details refer to the schematic diagram, Figure 7-8.

2-73. MEASUREMENT UNITS ASSEMBLY A9.

2-74. INPUT. The measurement units assembly holds six neon lamps which are located on the front panel at the right end of the counter display. Lamps are designated MC, KC, SEC, mS, μ S, and *(asterisk). As with the decimal point assembly, the measurement units control signal consists of +170 volts applied to the desired lamp input. Control is supplied either from the TIME-BASE switch or the lower REMOTE CONTROL connector on the rear panel.

2-75. OUTPUT.' A group of OR gates converts the measurement units control signal from decimal form to BCD form, just as is done in the decimal point assembly. The digitwhich is printed for each measurement unit is given in a table along with the schematic diagram, Figure 7-8. Print wheels are available for Hewlett-Packard recorders so that the correct measurement units symbol can be printed directly.

2-76. 600 kHz DECIMAL COUNTER ASSEMBLIES A17-A15.

2-77. The decimal counter' is shown in block diagram form in Figure 2-14A. The input circuit to binary A includes steering diodes CR9 through CR12. These diodes gate the input pulse so that it is applied only to

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the conducting transistor. For example, if the binary is in the "1" state (Q1 cut off, Q2 conducting), CR9 is reversed blased by approximately 30 volts while CR10 is slightly forward blased. The next input pulse is therefore steered to the base of conducting transistor Q2. Note the inclusion of clipper diodes CR13 and CR16 through CR18; they permit only positive pulses to be delivered to the input base of each transistor. In A15 only, CR13 also functions as the main signal gate. Operation of the basic circuits is discussed in the paragraphs listed in Table 2-3. Circuit detials are given in the schematic diagram Figure 7-9.

Table 2-3. Basic Operation Summary of Four-Binary Counter

Area	((Paragraph Reference
Binary circuit and counting logic Resetting Electrical readout Digital display Decimal point Clipper diodes	2-25 through 2-29 2-30 2-32 2-33 through 2-35 2-70 2-8

2-78. 5 MHz DECIMAL COUNTER ASSEMBLY A16.

2-79. The 5 MHz decimal counter operates in a manner similar to the low frequency counter described in Paragraph 2-76. The circuits have been modified by the use of: a) high frequency transistors; b) reduced time constants in the interstage coupling network; and c) steering diodes. The input circuit to binary A includes steering diodes CR9, CR10, CR20, and CR21. These diodes gate the input pulse so that it is applied only to the conducting transistor. For example, if the binary is in the "1" state (Q1 cut off, Q2 conducting), CR9 is reversed biased by approximately 30 volts while CR10 is slightly forward biased. The next input pulse is therefore steered to the base of the conducting transistor Q2. (See Figure 7-11.)

2-80. 50 MHz DECIMAL COUNTER ASSEMBLY A17.

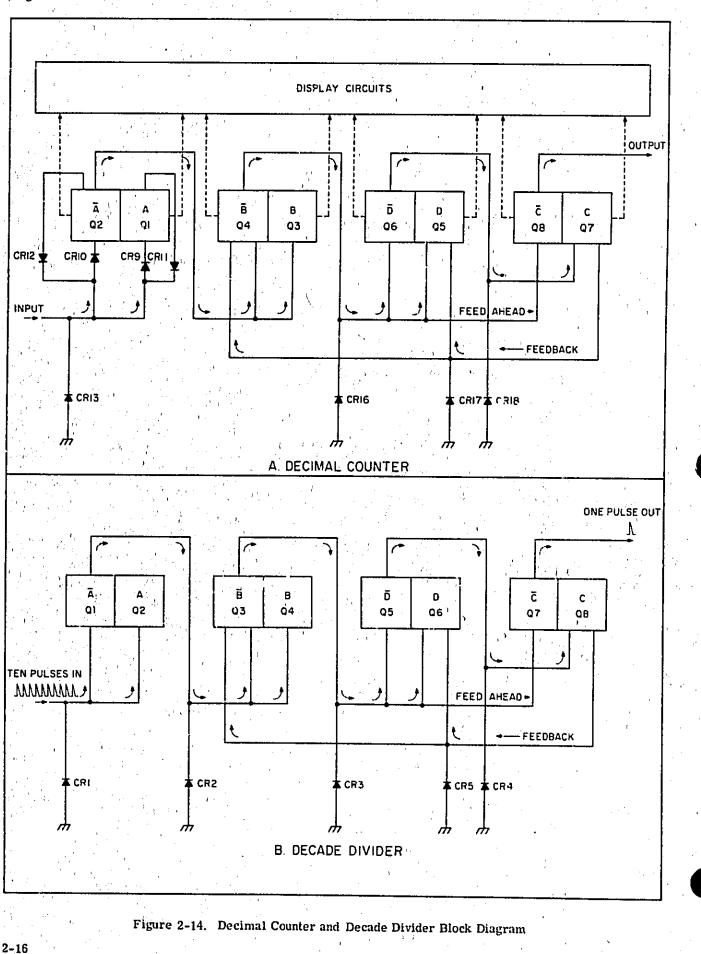
2-81. GENERAL. The 50 MHz decimal counter assembly is shown in Figure 2-16. Operation of basic circuits is discussed in the Paragraphs listed in Table 2-3. Circuit details are given in the schematic diagram, Figure 7-13.

2-82. GATED INPUT. Five AND gates route the input signal to the proper transistor base for each count: feedback is not used. Each of these gates is labeled to indicate the results of an input pulse passed by that gate For example, the first input pulse is passed by gate A (diode gate A is forward biased by the negative collector voltage of transistor \overline{A}) This negative pulse turns off transistor A which turns on transistor A. In the same way gate A passes the second pulse turning on transistor \overline{A} . On counts 2, 4, 6, 8, and 0 (10) the input pulse passed by gate A is amplified and applied to the inputs of gates B, B, and C. Gate B conducts when both an input pulse is present and transistor B is not conducting (this occurs on counts 2 and 8). Gate B conducts when both an input pulse is present and transistors \overline{B} and \overline{C} are both turned off (this

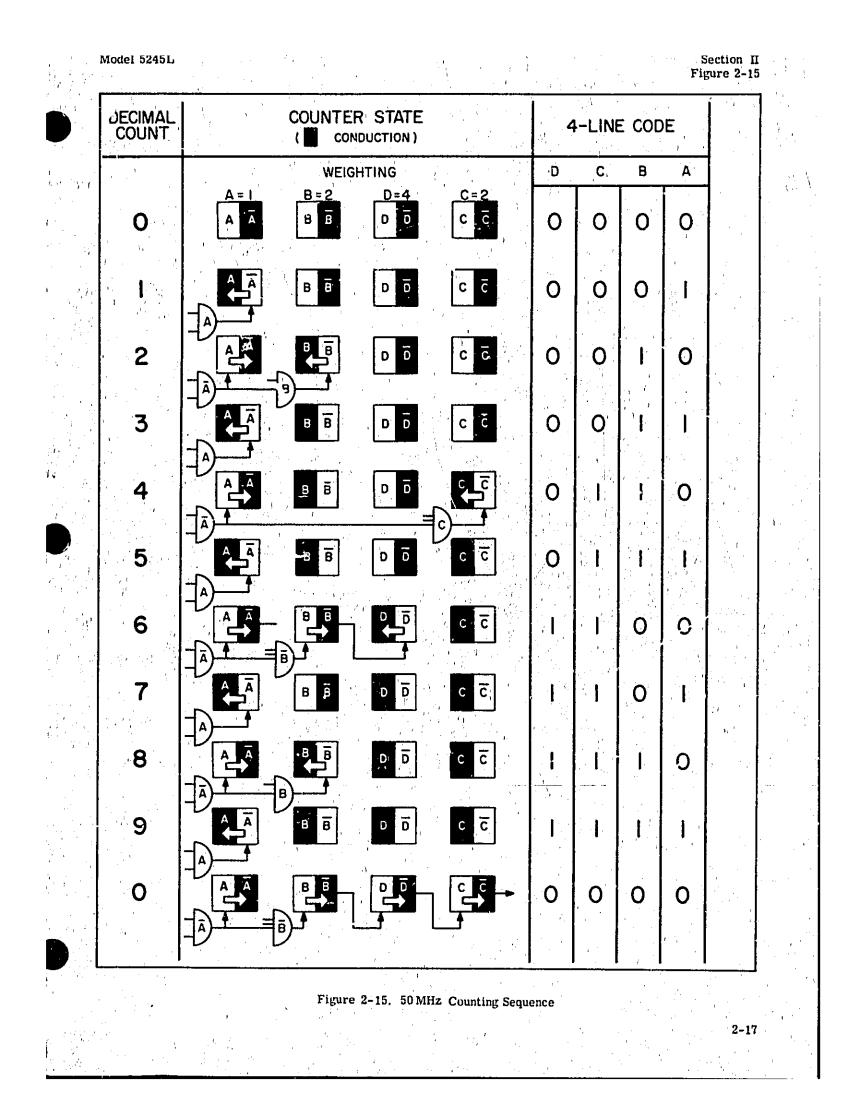
2-15

Section II Figure 2-14

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Paragraphs 2-83 to 2-90

occurs on counts 6 and 0). Gate C conducts when an input pulse is present and transistors $\overline{\mathbf{B}}$ and \mathbf{C} are both turned off (count 4).

2-83. OUTPUT. The common emitter amplifier inverts the output and provides the voltage gain necessary to drive the 5 MHz counter assembly.

2-84. 50 MHZ READOUT ASSEMBLY A18.

2-85. GENERAL. The 50 MHz readout assembly (A18) receives the binary-coded decimal output from the 50 MHz decimal counter A17; it provides both frontpanel digital display and amplified binary-codeddecimal signals. Circuit details are shown in the schematic diagram, Figure 7-14.

2-86. AMPLIFIERS. Transistors Q1 through Q8 are arranged in four pairs (amplifiers A, B, D, and C). Each amplifier pair controls a pair of neon lamps in the display matrix (for detailed discussion of digital display see Paragraphs 2-33 through 2-35.

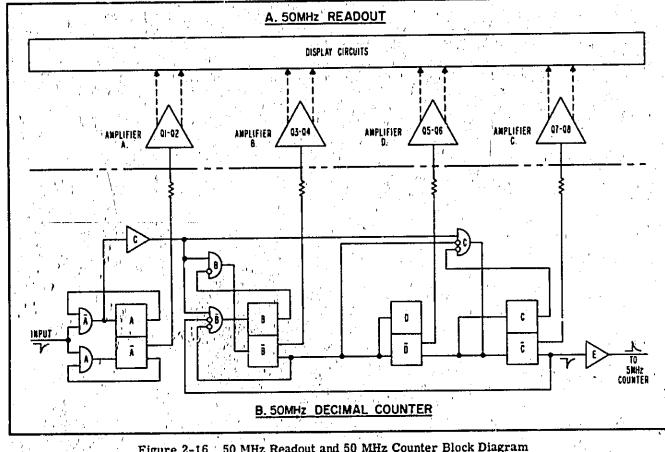
2-87. AMPLIFIER OPERATION. As an example of amplifier operation, suppose that the A input became relatively negative, equivalent to binary "0", conduction through Q1 would decrease, resulting in a relatively negative voltage at the Q1 emitter and a relatively positive voltage at the Q1 collector, thus permitting the \overline{A} neon lamp to light; the output of Q1, coupled to Q2 by way of emitter resistor R22 and voltage divider R20-R21, results in conduction of Q2,

the Q2 collector voltage therefore becomes relatively negative, representing binary "0", and is supplied as the A output. Operation is reversed upon receipt of a relatively positive input (binary "1") and results in lighting of the A neon lamp and supplying a relatively positive A output, representing binary "1". The B amplifier (Q3-Q4), the D amplifier (Q5-Q6), and the C amplifier (Q7-Q8) operate in a similar manner.

INPUT AMPLIFIER ASSEMBLY A19-A20. 2-88.

2-89. Diodes CR2, CR6, CR4, and CR7 together with current source resistors R25 and R26 provides two low voltage sources that function togetier with limiting diodes CR1 and CR3 to provide protection while maintaining 1 megohm input resistance up to 2.8 volts peak-to-peak (same voltage as the 4 cn diodes). Since the input resistance of the limiting diodes in parallel with the temperature matched field effect transistor (FET) pair is much greater than 1 megohm, the input resistance is determined by the resistors in the attenuator A1.

2-90. The LEVEL control supplies a voltage to the second input without a gain change, Transistors Q2A and Q3 are a standard feedback pair used in differential operation with feedback pair Q2B and Q4. The feedback provides small loading on the source followers, wide bandwidth, and stable gain. The second differential pair provides gain with temperature stability and is a current source to drive the twisted pair





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cable leading to the trigger on the function control assembly A21. The loaded twisted cable optimizes voltage gain, minimizes capacity effects, and isolates signal ground current. See Figure 7-17 for circuit details.

2-91. FUNCTION CONTROL ASSEMBLY A21.

2-92. GENERAL. The function control assembly, Figure 2-17, switches the counter logic circuits to perform the various counting functions. The signal which is counted by the decimal counting assemblies is switched to the high frequency trigger by one of the input gates; 1, 2, 4, or 6. The resulting pulses are gated by the main gate and then drive the 50 MHz DCA, A17. The signal to control the main gate is switched to the period trigger by input gates 3 or 5. The resulting pulses either drive the gate control assembly, A22 directly through gate 12 or are divided by the decade divider assemblies and then drive the gate control through gate 13.

2-93. SIGNAL FLOW. The following outline gives signal flow for each measurement function. In each case the control signal to the main gate is on during counting.

a. MANUAL. The input signal from A19 passes through gate 2, amplifier Q1, high frequency trigger Q3-Q4, pulse amplifier Q9, main gate Q10-Q11, and pulse amplifier Q13 to the gated signal output.

b. MANUAL CHECK. Same as MANUAL except gate 2 is off and gate 1 is on so that the selected frec bency from decade dividers passes through to gated signal output.

c. FREQUENCY. Input signal path same as for N ANUAL. Selected frequency passes through gate 3, e atter follower Q2, period trigger Q5-Q6, and gate 12 to the gate triggering output.

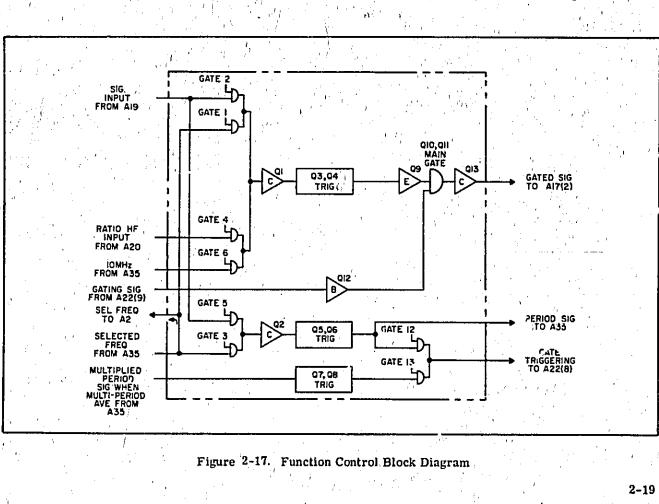
d. FREQUENCY CHECK. Same as for FREQUENCY except gate 2 is off and gate 6 is on so that a 10 MHz signal passes to gated signal output.

e. PERIOD. Selected frequency from the time base pontrol assembly A35 passes through gate 1, Q1, trigger Q3-Q4, Q9, main gate Q10-Q11, and Q13 to the gated signal output. The input signal from Q19 passes through gate 5, Q9, period trigger Q10-Q11, and gate 12 to the gate triggering outputs.

f. PERIOD CHECK. Same as PERIOD except that gate 5 is off and gate 3 is on so that the selected frequency (always 100 kHz for PERIOD CHECK) from the time base control assembly A35 passes to the gate triggering output.

g. MULTI-PERIOD. Same as PERIOD except that gate 12 is off and gate 13 is on. The output of the period trigger Q5-Q6 is divided by the chain of decade dividers. The output of the proper divider drives the multi-period trigger Q7-Q8, and passes through gate 13 to the gate triggering output.

h. MULTI-PERIOD CHECK. Same as MULTI-PERIOD except that gate 5 is off and gate 3 is on so



Section II Paragraphs 2-94 to 2-97

that the selected frequency (always 100 kHz) from the time base control assembly A35 becomes the driving signal for the second group of decade dividers.

2-94. CIRCUIT DETAILS, Refer to the schematic diagram, Figure 7-18, for circuit details. The basic AND gate description given in Paragraph 2-6 applies to the gate circuits, but note that gates 1 through 6 consist of two diodes. ' The gates are turned on (signal passes) when -15 volts is applied to the control input to forward-bias the diodes; the gates are turned off (signal blocked) when the -15 volts is removed so that the fixed bias supply (from +13 volts) reversebiases the diodes. The main gate, Q10-Q11, is open when the gating signal amplifier A12 is off, allowing the pulses from amplifie. < 9 to switch the current flowing through Q10 to Q11 and to the output pulse amplifier Q13. The main gate is clused when Q12 is conducting which turns off transistors Q10 and Q11. Thus the pulses from Q9 are not allowed to drive the output pulse amplifier Q13.

2-95. GATE CONTROL ASSEMBLY A22.

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2-96. GENERAL. The main function of the gate control assembly is to generate the gating signal (which controls the main gate in A21) and the sampling trigger (which starts the sample-rate multivibrator in A23). Refer to the block diagram, Figure 2-18, during the following discussion.

2-97. SIGNAL FLOW. The gate flip-flop (Q4-Q5) is normally held in its off state (in this state, it holds the main gate closed, preventing counting) by the holdoff signal from A23 which is applied through Q6. The first gate triggering pulse which occurs after the end of the holdoff pulse is amplified by Q1 and steering amplifier Q2 and operates the gate flip-flop to its on state. The next gate triggering pulse turns the gate flip-flop off through Q1 and Q3." (In MANUAL operation. -15 volts is applied as a start or stop signal thru CR1 or CR2 to turn the gate flip-flop on or off.) The gate flip-flop output (positive pulse) is amplified without inversion by split-load amplifier Q7 and passed on to A21 as the gating pulse. The trailing edge of the inverted output from Q7 triggers the transfer one-shot multivibrator (Q8-Q9) which produces a 30-millisecond output pulse; the negative pulse output is supplied directly from the multivibrator as the print command pulse (negative transition tells digital recorder to accept BCD information from counter); the positive pulse output from the multivibrator is a) immediately fed back to the gate flip-flop as a hold-off signal thru Q6 to prevent retriggering of the gate flip-flop until the regular holdoff signal from A23 is generated about a microsecond later, b) delivered to A23 for amplification as the transfer pulse, and c) amplified and inverted by Q10. The Q10 output is delivered to A23 as the sampling trigger pulse. (In MANUAL operation the sampling trigger output is shorted to ground by the FUNCTION switch). The negative pulse outputs

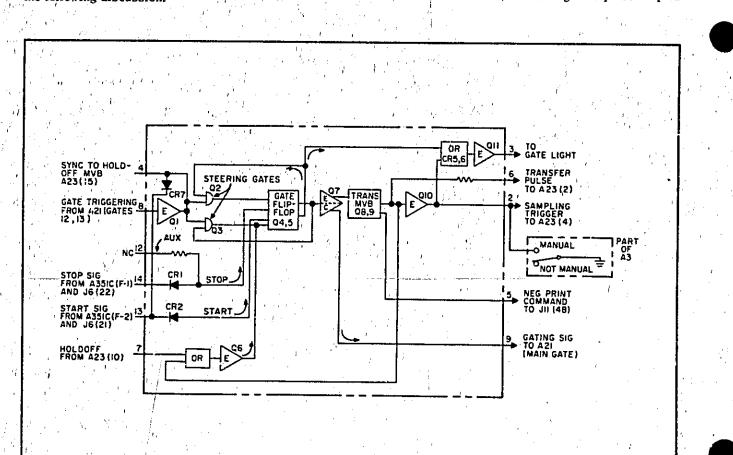


Figure 2-18. Gate Control Block Diagram

Section II Paragraphs 2–98 to 2–102

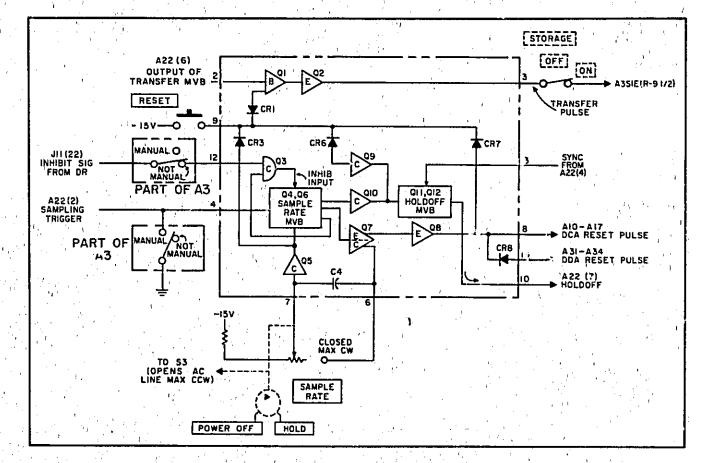


Figure 2-19. Sampling Control Block Diagram

of both the gate flip-flop and amplifier Q10 are combined, then amplified by A11 to drive the front-panel GATE lamp; the GATE lamp is therefore on during the gating signal plus 30 milliseconds; this ensures a visible flash from the lamp even for very short gates.

2-98. CIRCUIT DETAILS. Refer to the schematic diagram, Figure 7-19, for circuit details. All circuits are conventional; flip-flop operation is described in Paragraphs 2-15 and 2-16, and one-shot multivibrator operation described in Paragraphs 2-19 thru 2-22. The steering amplifiers (Q2 and Q3) are common-base amplifiers; one amplifier (whose collector is connected to the collector of the conducting flip-flop transistor) cannot operate because of low collector voltage; the other amplifier (whose collector is connected to the collector of the cut-off flip-flop transistor) amplifies the gate triggering pulse and supplies it to the receptive flip-flop transistor.

2-99. SAMPLING CONTROL ASSEMBLY A23.

2-100. GENERAL. During normal operation, the sampling control assembly receives the positive transfer pulse and the sampling trigger pulse from A22; its outputs are a) the amplified and inverted transfer pulse, b) reset pulses for the decimal counters and decade dividers, and c) the holdoff signal which prevents retriggering of the gate flip-flop in A22. Refer to the block diagram, Figure 2-19, during the following explanation.

2-101. TRANSFER PULSE. The positive transfer pulse is amplified without inversion by Q1, then amplified and inverted by Q2. During manual reset (RE-SET pushbutton pressed or FUNCTION or TIME-BASE switches operated)-15 volts is amplified and inverted by Q1, then amplified and inverted by Q2 to produce a manually generated equivalent of the transfer pulse. Action of other circuits resets all decimal counters to zero before the reset contacts open; then the voltage on the transfer pulse line transfers the zero count to the front-panel numerical display.

2-102. RESET. The negative transition of the sampling trigger pulse from A22 normally triggers the sample-rate one-shot multivibrator and starts operation of all sample-rate control circuits. Multivibrator feedback is through quick-recovery amplifier Q7, capacitor C4, and emitter follower Q5. The samplerate output pulse duration is controlled by the SAMPLE RATE potentiometer and is variable between 55 milliseconds and 5 seconds. When the SAMPLE-RATE control is operated to the HOLD position (completely clockwise), the multivibrator provides a continuous output. An amplified output is taken from Q7, differentiated (leading edge is selected), amplified by Q8, and supplied as the DCA reset pulse and the DDA reset pulse. If manual reset occurs during the sample-rate multivibrator cycle, the multivibrator is quickly returned to its quiescent state as a result of the -15 volt input through CR3.

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Section II

Paragraphs 2-103 to 2-116

2-103. HOLDOFF. A second output from the samplerate multivibrator, is amplified by Q10 to drive the holdoff one-shot multivibrator (Q11-Q12). The holdoff multivibrator output consists of a positive pulse which normally begins about 1 microsecond after the end of the gating signal and ends 55 milliseconds after the end of the sample-rate pulse. A holdoff pulse is also generated as a result of manual reset (-15 volts from manual reset line through CR6 and Q9 to Q11-Q12) so that counting cannot start until after reset switching transients have ended.

2-104. CIRCUIT DETAILS. Refer to the schematic diagram, Figure 7-20, for circuit details. Inhibit amplifier Q3 is in series with the Q4 collector; inhibition of the sample-rate multivibrator occurs when Q3 is cut off by a positive inhibit signal (which effectively disconnects the Q4 collector). At the end of the multivibrator cycle, recovery amplifier Q7 conducts heavily to discharge C4 rapidly in preparation for the next cycle. Refer to Paragraphs 2-19 thru 2-22 for a basic one-shot multivibrator discussion.

2-105: OSCILLATOR AND OVEN A24, A25, A26.

2-106. GENERAL. Crystal oven assembly A24, oven control assembly A25, and the first portion of oscillator assembly A26 provide an extremely stable 1 MHz signal. The second portion of A26 amplifies and shapes either the internally generated 1 MHz, an externally supplied 1 MHz, or, for scaler operation, the output of the decimal counter A17 or A16. Refer to the schematic diagram, Figure 7-21, during the following explanation.

2-107. CRYSTAL OVEN ASSEMBLY A24. The crystal oven assembly is a thermally insulated chamber which contains a heating element, a temperature sensing circuit, and a 1 MHz piezo-electric crystal.

2-108. OVEN CONTROL ASSEMBLY A25. The oven control assembly includes oscillator A25Q1 which produces a 3 kHz output whose amplitude is controlled by the temperature-sensing element in the oven. The oscillator output is amplified by A25Q2, detected to produce a DC level whose amplitude is inversely proportional to oven temperature. The DC level is amplified and applied to the heating element in the oven. The-oven-control-assembly contains its own power supply which operates continuously whenever power is connected to the counter.

2-109. OSCILLATOR ASSEMBLY A26. The oscillator assembly includes the Q1 oscillator circuit which is connected to the 1 MHz crystal in A24. The 1 MHz oscillator output is amplified by A26Q2, A26Q3, and A26Q4. A portion of the A26Q4 output is detected and applied to A26Q1 as AGC so that power dissipation in the crystal can be held at a constant low value.' Another portion of the A26Q4 output is supplied to the rear panel MODE switch where it usually is switched through to amplifier A26Q5 and trigger A26Q6-A26Q7. Outputs of 1 MHz are taken from both A26Q5 and A26Q6-A26Q7.

2-110. CIRCUIT DETAILS. Refer to the schematic diagram, Figure 7-21, for circuit details. The oscillator A25Q1 is controlled by the Wien bridge in A24. Positive/feedback from the A25Q2 emitter through A24R1-A24C6 to the A25Q1 emitter maintains oscillation at the frequency of maximum feedback, which occurs at that frequency for which the A24R1-A24C6 phase shift equals the A24R2-A23C7 phase shift (about 3kHz). Degenerative feedback is provided from the A25Q2 emitter and the A24RT1-A24R3-A24R4 divider to the A25Q1 base; an increase in oven temperature lowers the resistance of RT1, thus increasing degenerative feedback and lowering oscillator output; likewise, 'a temperature decrease results in decreased degenerative feedback to produce increased oscillator output. The detector is a voltage doubler circuit; A25C2 charges fully through the negative half cycle, and then discharges through A25CR2 in series with the driving source during the positive half cycle. Capacitor A25C4 between the collector and base of A25Q4 dampens sudden DC voltage swings and filters any AC component from the detected signal. The A26Q1 oscillator is a modified Pierce oscillator; its base is maintained at a DC level from the A2CR1-A26R2 junction; AGC current is supplied to its en:itter from the A26CR1-A26CR2 detector (voliage doubler) which is referenced to the A26R1-A2oR2 junction. Operation of the trigger circuit (A26Q6-A26Q7) is discussed in detail in Paragraph 2-18,

2-111. MULTIPLIER ASSEMBLY A27:

2-112. The 1 to 10 MHz multiplier assembly consists of X2 multiplier Q1, X5 multiplier Q2 and amplifier Q3. Circuit details are shown in the schematic diagram, Figure 7-22. Divider R4-R5 and emitter resistor R6 provide optimum DC bias to Q1 for efficient frequency doubling; likewise, divider R8-R9 and emitter resistor R10 provide optimum DC bias to Q2 for efficient fifth-harmonic generation. The interstage coupling transformers (L1-L2, L3-L4, and L5-L6) include capacitive dividers in their secondary circuits (C8-C9, C13-C14, and C19-C20) for interstage impedance matching.

2-113, 5-MHz DECADE DIVIDER ASSEMBLY A28,

2-114. The 5 MHz decade divider assembly reduces the frequency of its input by a factor of ten (normally 1 MHz to 100 kHz). Basic operation is identical to that described for the 5 MHz decimal counter (Paragraphs 2-76 through 2-79), except that there is no displayed count. Refer to the schematic diagram, Figure 7-23, for circuit details.

2-115. LOW-FREQUENCY DECADE DIVIDER ASSEMBLY A29-A34.

2-116. A block diagram of a typical decade divider is shown in Figure 2-14B. A decade divider is an arrangement of four, cascaded binaries (flip-flop) so that for every ten input pulses there is one output



pulse. Consequently, when a frequency is applied to the input of the decade divider, the first binary divides it by two (since the first pulse switches the binary to the opposite state and a second pulse is required to return it to its original state) and ugain by two in the second binary (making a total division by four) and so on, with an expected total division of sixteen at the output of the fourth binary. The desired division by ten is obtained by a feed-ahead pulse to the fourth binary and feedback pulses to the second and third binaries. Therefore, after the eighth input pulse is received the binaries will be in a state as if they had counted fourteen pulses. Then, when the ninth and tenth pulses are received the desired final output pulse is produced. Operation is similar to that described for the decimal counters discussed in Paragraphs 2-76 and 2-77 except that there is no display array connected to the binaries. Note that A31 through A34 are supplied with a reset input so that only a certain number of input pulses to the decade dividers are necessary after reset before an output is produced. Refer to the schematic diagram Figure 7-24, for circuit details.

2-117. TIME-BASE CONTROL ASSEMBLY A35.

2-118 GENERAL. The purpose of the time-base control is to a) lower the output impedance of the 10 MHz signal from multiplier A27; b) select a frequency between 0.1 Hz and 10 MHz as controlled by the TIME BASE switch, and c) provide a multiplied period signal when the FUNCTION switch selection is between 10 and 100K PERIOD AVERAGE. Inhibit gates 7 thru 11 (CR8, CR11, CR14, CR17, and CR20) are normally open; a control voltage to turn one of these gates off is applied only for multiplied period measurement. Multi-period gates 7 thru 11 (CR9, CR12, CR15, CR18, and CR21) are normally closed; one only is opened for multiplied period measurements. Selected frequency gates 21 thru 28 are controlled by the TIME-BASE switch.

2-119. SELECTED FREQUENCY CONTROL. For all operating functions except PERIOD AVERAGE CHECK, gates 21 thru 29 are on for the TIME BASE selections listed in Table 2-4. For example, if the TIME BASE switch is set to 1 ms, the control voltage is applied to gate 25, turning it on and permitting the 1 kHz signal from A30 to be amplified by Q11 and Q12; the amplified 1 kHz is supplied as the selected frequency to A21.

Table	2-4.	Normal	Time	Base	Control
-------	------	--------	------	------	---------

Gate	Control On	Time Base Switch	1
	21	 10 5	
	22	1 s	
r	.23	0.1 s	ľ
ананан Султария Султария	24	10 ms	
· ·	25	1 ms	ŀ
	26	0. '`ms	
	27	10 µs	
	28	1 µs	ľ
	29	0.1 μs	

(For PERIOD AVERAGE CHECK, gate 27 is on, regardless of TIME BASE selection, and 100 kHz is supplied as the selected frequency.)

2-120. MULTIPLIED PERIOD CONTROL. Control voltages for gates 7 through 11 are supplied only for multiplied period measurements, as listed in Table 2-5. These control voltages select one to give steps of decade division for the period signal supplied by A21. Example 1: The FUNCTION switch is set to 10-PERIOD AVERAGE; gate control 11 is on, turning off inhibit gate 11 (to prevent further division of the signal from A26) and turning on multi-period gate 11; the amplified period signal from Q1 is passed thru CR21, divided by ten in A34, and supplied thru Q10 as the multiplied period signal. Example 2: The FUNCTION switch is set to 1K-PERIOD AVERAGE; gate control 9 is on, turning off inhibit gate 9 and turning on multi-period gate 9; the amplified period signal from Q1 is passed through CR15, divided by ten in A32, passed by CR17, divided in A33, passed by CR20, divided in A34, and supplied through Q10 as the multiplied period signal.

- 1 - 1	0 "	N #	1	A
ante	2-5.	Multiplie	a Perioq	Control

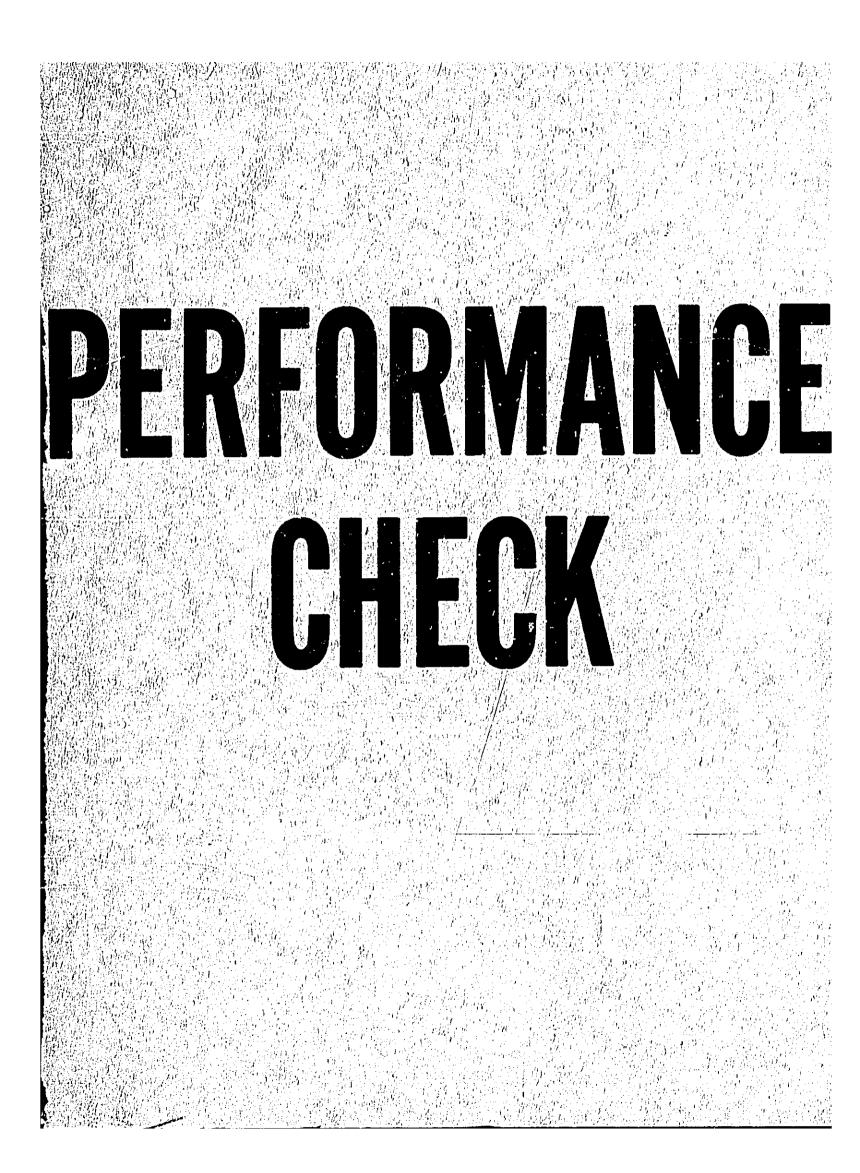
T

Gate Control On	Function Switch
7	100K PERIOD AVE
8	10K PERIOD AVE
9	IK PERIOD AVE
10	100 PERIOD AVE
11	10 PERIOD AVE

2-121. GATING CONFLICT. 'A few combinations of TIME BASE and FUNCTION switch selections produce overlapping decade-divider requirements. For example, a TIME BASE selection of 0.1s and a FUNC-TION selection of 10K-PERIOD AVERAGE turns on gate control 23 and gate control 8; the expected selected frequency of 10 Hz is not supplied through CR16-Q7 since the frequency-dividing chain is blocked at CR11; the counter display is therefore meaningless." An alarm for unallowed switch combinations of this sort is given by the lighting of an asterisk (*) at the right end of the front panel display. The asterisk is also used to indicate two other non-useful control combinations: 1) TIME BASE of 0.1 µs and frequency FUNC-TION, and 2) TIME BASE of 10 SEC and PERIOD function. The asterisk lamp (in A9) is controlled by switching contacts on both the TIME BASE and FUNC-TION switches.

2-122. CIRCUITS. Refer to the schematic diagram, Figure 7-25, fc. circuit details. Most of the gates in A35 are of the type described in Paragraph 2-6, but gates 28 and 29 are two-diode AND gates, described in Paragraph 2-94. The inhibit gates (CR8, CR11, CR14, CR17, and CR20) are similar to conventional AND gates except that they are always on (forwardbiased diode) in the absence of the control voltage and off (reverse-biased diode) when the control voltage is applied.

2 - 23



Section III Paragraphs 3-1 to 3-2

SECTION III ERFORMANCE CHECH

3-1. GENERAL. The In-Cabinet Performance Checks, Table 3-2, and Performance Check Test Card (to be filled out during incoming inspection), pages 3-11a thru 3-11d, verify specifications and provide permanent record of the performance of each instrument. The In-Cabinet Performance Check, Table 3-2, and the Self-Check Procedure, Figure 6-1, verify proper operation of all circuits in the Model 5245L Electronic Counter and may by used:

a. as part of an incoming inspection check of instrument specifications;

b. periodically, for instruments used in systems where maximum reliability is of utmost importance; c. as part of a troubleshooting procedure to locate malfunctioning circuits, and

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, d. after any repairs' or adjustments, before returning instrument to regular service.

3-2. VARIABLE LINE VOLTAGE. During the Performance Check, Table 3-2, the Model 5245L should be connected to power source through a variable voltage device so that line voltage may be varied $\pm 10\%$ from nominal (115 or 230 Vac) to assure proper operation of the Counter under various supply conditions.

Instrument Type	Required Characteristics	Use	Instrument Recommended
Oscilloscope	50 MHz bandwidth, dual trace ylug-in, ext sync capability.	Observe waveforms during troubleshooting and adjust- ment. Performance Check.	HP Model 175A Oscilloscope HP Model 1750B Dual Trace Vertical Amplifier HP AC-21C Voltage Divider Probe (two) HP 10003A'10:1 Probe
Test Oscillator	Continuously variable from 10.Hz to 50 MHz, 100 mV output.	Performance Check	HP Model 204B Oscillator HP Model 606A Test Oscillator
Low Frequency Generator	Continuously variable from 2 Hz to 10 Hz, 100 mV output.	Performance Çheck	HP Model 202A Low Frequency Function Generator
Pulse Generator	1 µsec wide, 1V negative, 1 kHz repetition rate.	Performance Clieck	HP Model 212A Pulse Generator
Primary Standard Oscillator	100 kHz or 1 MHz sine wave, accuracy of $\langle \pm 5 \rangle$ x 10 ⁻¹⁰ per 24 hours.	Check accuracy of Counter time base Ferformance Check	HP Model 107BR
Variable line volt- age source with meter	Variable from 103 to 127 Vac (207 to 253 Vac).	Performance Check	
DC Voltmeter	0Y to ± 170V, 10 megohm input impedance, 1% accuracy.	Troubleshooting and adjustments	HP Model 412A
Power Amplifier	DC, to 10 MHz, 10 dB gain.	Performance Check	Dymec DY-2460A/ DY-2460A-M2
Power Supply	0V to ± 20V	Performance Check	HP Model 721A

Table 3-1. Recommended Test Equipment

Section III Tables 3-1 and 3-2 计十分子名 计

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Instrument Type	Required Characteristics	Use	Instrument Recommended
Counter	10 MHz, 100 mV sensitivity, ± 1 count \pm time base.	Performance Check	HP Model 5245L
Mixer	10 MHz, 50Ω impedance, 40 mW sensitivity max.	Performance Check	HP Model 10514A
Impedance Transformer	1000 ohms to 50 ohms	Performance Check	
Digital to Analog Converter	1-2-2-4 BCD code	Performance Check	HP Model 581A
Strip-Chart Recorder		Performance Check	Moseley 680
Low-Pass Filter	1 kHz	Performance Check	
Frequency Synthesizer	Precision signal source 0 to 50 MHz	Performance Check	HP Model 5100A/5110A
Coax Attenuator	Variable from 0 to 120 dB in 10 dB steps	Performance Check	HP Model 355D
Coax Attenuator	Variable from 0 to 12 dB in 1 dB steps	Performance Check	HP Model 355C

Table 3-2. In-Cabinet Performance Check

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FREQU	ENCY MEASUREMENTS
1. RANGE: DC coupled: 0 to 50 MHz AC coupled: 25 Hz to 50 MHz	
DC INPUT a. Set Counter controls as follows: SENSITIVITY to . 1 VOL SAMPLE RATE slightly TIME BASE to . 1 s FUNCTION to FREQUEN - LEVEL + to PRESET	clockwise out of POWER OFF
with BNC "T" connector. The oscillo: c. Vary frequency of Frequency Synthesiz d. To check for pulse operation, connect normal recommended load. Set Pulse	er to Counter DC SIGNAL INPUT and to Oscilloscope input scope is used to monitor the input signal. zer from 0 to 50 MHz at 0. 1V rms (0. 28 V peak-to-peak). Pulse Generator to DC INPUT connector of Counter with Generator for 1 μ sec, 1 volt pulse of the polarity used to repetition rate. Vary -LEVEL+ control until count is



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	Table 3-2, in-Cabinet Performance Check (cont'd)
, AC	INPUT,
	beat the procedure given for DC INPUT in steps a through d with the input signal connected he AC Input. Frequency range 25 Hz to 50 MHz.
2. GA	TE, TIME: selectable from 1 microsecond to 10 seconds.
рана . 1990 г. 1990 г.	SET COUNTER CONTONS AS TODOWS. SENSITIVITY to . 1 VOLT SAMPLE RATE slightly clockwise out of POWER OFF
Antig Antigan Antig Antigan Antigan Antigan Antigan Antigan	TIME BASE to 1 us FUNCTION to FREQUENCY
	- LEVEL+ to PRESET
, b.	Connect Frequency Synthesizer output to Counter DC SIGNAL INPUT.
с.	Set Frequency Synthesizer for 10 MHz at 0.1V rms.
d.	Rotate TIME BASE switch counterclockwise through 10s gate position and observe counter real for each setting. Record results on test card.
3. AC	CURACY: ±1 count, ± time base accuracy.
a.	Set Counter controls as follows:
1 4 1 T	SENSITIVITY to .1 VOLT
	SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to 1 µs
4	FUNCTION to FREQUENCY
	- LEVEL + to PRESET
D.	Allow Counter to warm up for 72 hours. Internal crystal should be stabilized and calibrated to 1×10^8 to a primary standard.
, c. '	Connect output of Frequency Synthesizer (calibrated to 1×10^8 to a primary standard) to the Counter DC INPUT.
. d.	Set Frequency Synthesizer to 50 MHz at 0. 1V rms.
е.	With TIME BASE switch in the 1 μs position, the Counter should count 50 MHz \pm 1 count. Reco accuracy on test card.
f.	Change the TIME BASE switch to the 10s gate position. The Counter should count 50 MHz \pm 12 Record accuracy on test card.
4. 011'	rput DISPLAY: 8 significant figures with decimal point units of measure (kHz or MHz).
	JF-CHECK: counts 10 MHz for the gate time chosen by the TIME BASE switch.
а.	Use Self-Check procedure; see Figure 6-1, page 6-4.
ь.	Record results on test card.
+ *	SCALING
1 84	NGE: 0 to 50 MHz
а.	Set Counter controls as follows: SENSITIVITY to . 1V
	SAMPLE RATE slightly clockwise out of POWER OFF
	TIME BASE to 10s
•	FUNCTION to MANUAL START - LEVEL + to PRESET
I	MODE (rear panel) to SCALER
• .	OUTPUT (rear panel) to SCALER RATIO 10

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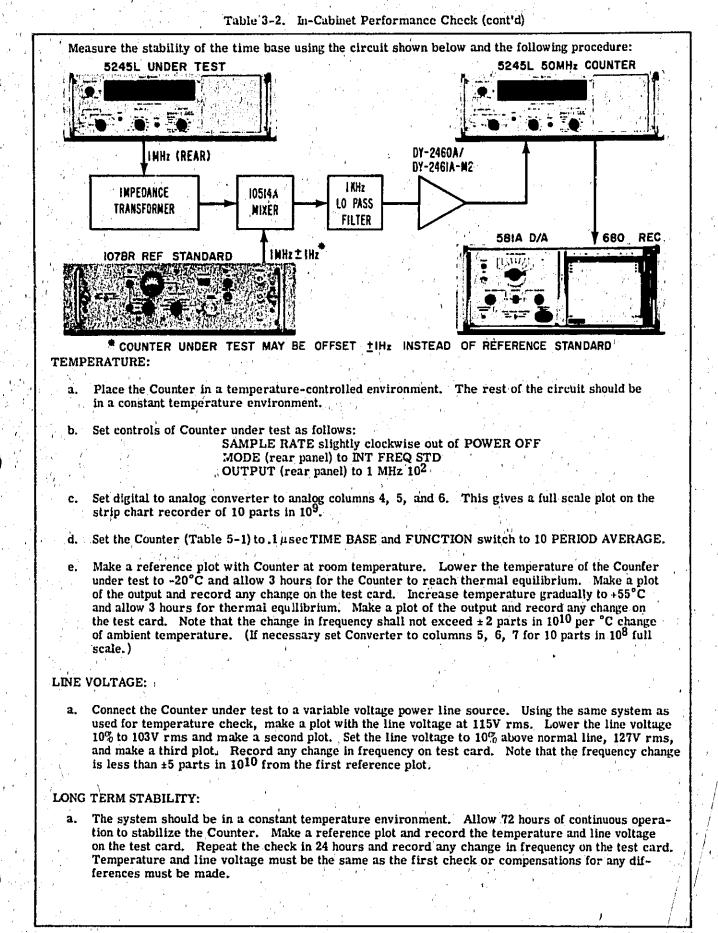
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1	D. Connect output from rear panel SCALER RATIO OUTPUT jack to Oscilloscope or another 5245L.	ヿ .
1	c. Connect output of Frequency Synthesizer to Counter DC SIGNAL INPUT.	
•	d. Set Frequency Synthesizer for 50 MHz at 0.1 V rms. The scaled output should be 5 MHz. Record results on test card.	
2	FACTOR: by decade selectable from 10 to 10 ⁹ .	-
	. Set Counter controls as follows	-
	SENSITIVITY to . 1 VOLT SAMPLE RATE to slightly clockwise out of POWER OFF. TIME BASE to 10 sec.	
	FUNCTION to MAN START. - LEVEL + to PRESET MODE (rear panel) to SCALER OUTPUT (rear panel) to SCALER RATIO 10.	
k		
c		
, d	. Set Frequency Synthesizer output for 50 Mhz at 0.1V rms.	
e	. Rotate rear panel OUTPUT switch through SCALER RATIO positions from 10 through 10^9 . The OUTPUT should reduce by a factor of 10 for each setting. Record results on test card.	
	PERIOD MEASUREMENTS	ł
Ŧ	REQUENCY RANGE SINGLE PERIOD: 0 to 1 MHz	
a b. c. d.	SENSITIVITY to . 1 VOLT SAMPLE RATE to slightly clockwise out of POWER OFF TIME BASE to . 1 #sec FUNCTION to 1 PERIOD AVERAGE - LEVEL + to PRESET Connect output of Frequency Synthesizer to Counter DC SIGNAL INPUT. Set Synthesizer Frequency for 1 Mhz at 0. 1V rms.	
2. F	REQUENCY RANGE MULTIPLE PERIOD: 0 to 300 kHz.	
a.	Set Counter controls as follows: SENSITIVITY to . 1 VOLT SAMPLE RATE to slightly clockwise out of POWER OFF TIME BASE to 10 sec. FUNCTION to PERIOD AVERAGE - LEVEL + to PRESET	
b.	Connect output of Frequency Synthesizer to Counter DC SIGNAL INPUT.	
c.	Set Frequency Synthesizer for 300 kHz at 0.1V rms.	i
d,	PERIOD AVERAGE and rotate TIME BASE switch counterclockwise through 10 sec observing count at each setting. Repeat rotation of TIME BASE switch at each position of PERIOD AVERAGE	
Tł	switch. Record results on test card. is check also checks item 5, OUTPUT DISPLAY.	,

e,

(Table
: · ·	Table 3-2. In-Cabinet Performance Check (cont'd)
	3. PERIOD MEASUREMENT ACCURACY: ± 1 count \pm time base accuracy \pm trigger error where the trigger error is expressed as $\pm 0.3\%$ over 1 period divided by the number of periods averaged for signals with a signal to noise ratio of greater than 40 dB.
	a. Set Counter controls as follows:
	SENSITIVITY to .1 VOLT SAMPLE RATE to slightly clockwise out of POWER OFF
	TIME BASE to .1 μsec FUNCTION to 1 PERIOD AVERAGE - LEVEL + to PRESET
·	b. Connect putput of Frequency Synthesizer to Counter DC SIGNAL INPUT.
	c. Set Frequency Synthesizer for 1 MHz at 0.1 V rms.
1 - 1 1	d. Counter should display 1 μ s ± 1 count. Record results on test card.
	4. PERIODS AVERAGED: 1 to 10 ⁵ periods in decade steps.
	a. Set Counter controls as follows:
	SENSITIVITY to .1 VOLT SAMPLE RATE slightly clockwise out of POWER OFF
	TIME BASE to . 1 µsec FUNCTION to 1 PERIOD AVERAGE
	- LEVEL + to PRESET
	b. Connect output of Frequency Synthesizer Counter DC SIGNAL INPUT.
	c. Set Frequency Synthesizer for 300 kHz at 0.1V rms.
ing The s	d. Rotate FUNCTION switch from 1 PERIOD AVERAGE through 100K (10 ⁵) PERIOD AVERAGE and observe count in each setting. Record results on test card.
	5. OUTPUT DISPLAY: 8 significant figures with decimal point and units of measure (sec, ms, or μ s).
	This is checked by Item 2, FREQUENCY RANGE MULTIPLE PERIOD. If check is satisfactory, mark test card OK.
	6. SELF CHECK: Gate time is 10 μ s to 1 sec (periods averaged of 100 kHz); counts 100 kHz from the time base.
	Use Self Check Table 6-5, page 6-5. Record results on test card.
	FREQUENCY RATIO MEASUREMENTS
	1. F1 FREQUENCY RANGE: 0 to 50 MHz
, <mark>, 1</mark> ,	a. Set Counter controls as follows: SENSITIVITY to . 1 VOLT SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to EXT.
,	FUNCTION to 1 PERIOD AVERAGE - LEVEL + to PRESET
	b. Connect Frequency Synthesizer to Counter TIME BASE EXT connector and set output to 0.1V rms
	c. Connect HP 5245L 100 Hz OUTPUT STD FREQ to Counter AC SIGNAL INPUT (F2 INPUT).
	d. Observe ratio of F/1 MHz by selecting F1 on Frequency Synthesizer as shown in table on the following page; record readings.
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	tion III le 3-2		· · · · · · · · · · · · · · · · · · ·	· · ·			Mode	1 5245L	4
140			Table 3-2. In-	Cobinat Dami	ormonos Chos	Ir (nontri)	· · · · · · · · · · · · · · · · · · ·	3	· /
—							· •		
		<u>F1</u> 50 MHz		F2 100 Hz	.!	Ratio F1/F	2		
1	1	10 MHz	- 	100 Hz		500,000 100,000	n an		1
		1 MHz 100 kHz		100 Hz 100 Hz		10,000 1,000	:		, , r
		10 kHz 1 kHz		100 Hz		100			
1		500 Hz	• •	100 Hz 100 Hz		10 5	r .		
		100 Hz	· · · · · · · · · · · · · · · · · · ·	100 Hz	1	1			
2.	F2 FREQUEN	ICY RANGE:	0 tò 300 kHz.					,	5 F
1	a. Set Coun	ter controls :				•			,
			SENSITIVITY to SAMPLE RATE		lockwise out o	I POWER OFF	· · ·		
			TIME BASE to FUNCTION to 1	EXT.	X .		۰ ۲۰۰۱ کې ۲۰۰۱	19 - C	
1	4 (13) (13)		- LEVEL + to I		· Annue.				٩
	b. Connect	Frequency Sy	nthesizer set fo	r 1 MHz (F ₁)	at 0, 1V rms	to the Counter '	TIME BASE EX	T	
	connector	¢.				х 1 с. –			l de la composición de la composición de la composición de de la composición de
	c. Connect I	Low Frequen	cy Generator to at 0, 1V rms. C	Counter DC	SIGNAL INPUT	. Vary Low F	requency Gener	ator '	
	test card	·, and 10 HZ	aco, iv rms, "C	Daerve Coun	ter display for	1410 F 1/F2.	necora results	on	
	d. Replace l	Low Frequen	cy Generator wil	h Synthesize	r and set to fr	equencies as sl	iown (F2). Use		
	1 MHz fr	om OUTPUT	STD FREQ for	F1. Record	readings on te	st card.		ý -	
	• •		F2		Ratio F1/F	2	н <u>у</u>		
			2		500000	$\frac{1}{10} = \frac{1}{10} \frac{1}{10}$	14		
		1	5 0	н. Нас	20000 100000			, , ,	+ + -
		10	0	•	10000			n in the second se	· •
		10	1 kHz 10 kHz	,	1000 ⁹ 10 9	, , , , , , , , , , , , , , , , , , ,	<u>р</u> і		
ł		30	10 kHz		3				e Start
3.	MULTIPLE I	PERIOD: 1 to	o 10 ⁵ in decade s	steps.		<u> </u>	· · ·		1 I.
,	a. Set Counte	er controls as	s follows:						
	· , ·		SENSITIVITY to SAMPLE RATE		lockwise out of	POWEROFF	I		
	1. (C.)		TIME BASE to I FUNCTION to I	EXT	- 1		1		
		, and the second	- LEVEL + to P		INNUE				
7	c. Connect l	Frequency Sy	nthesizer set to	1 MHz (F1) 5	it 0, 1V rms to	Counter TIME	BASE EXT inn	at.	
	d, Connect C	Oscillator set	to 100 kHz at 0, y the ratio of F1,	. IV rms to C	ounter DC SIG	NAL INPUT	· · · · · · · · · · · · · · · · · · ·		
					• · · · · · · · · · · · · · · · · · · ·				
			IME BASE: FRE			MHz			
1.	Stability: Agi	ing Rate: Le	ss than 3 parts i	n 10 ⁹ per 24 e voltares 1-	hours.	ta in 10 -	1		
		As	a function of lin a function of am	bient temper	ature: less th	an ± 2 parts in	nanges of ± 10% 1010 per °C fro)+)m	
	1 .	· · · ·	-20°C to +55°C.				* *		2
E.	, 1-		······································		• • • • •				
							1		
			$A_{\rm eff} = A_{\rm eff}$. · · · · · · · · · · · · · · · · · · ·	· .		
		r v star			$1 \le k \le 1$. 4		· · · •	1
3-6		n an		1		* *		''	



. 13.

Model 5245L Section III Table 3-2 Table 3-2. In-Cabinet Performance Check (cont'd) 2. TIME BASE-Output-FRONT PANEL: 0.1 Hz to 1 MHz in decade steps; 1V peak-to-peak. (See specifications Table 1-1.) Set Counter controls as follows: а. SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to 1 μ s FUNCTION to FREQUENCY Connect Oscilloscope to EXT input jack. b. Oscilloscope should display 1 MHz rectangular wave of 1 V peak-to-peak. Record on test card C. the frequency and amplitude of the TIME BASE output. Set the TIME BASE switch to each position, 10 μs through 10s. The displayed frequency should decrease by a factor of 10 for each successive setting of the TIME BASE. The amplitude should be 1V peak-to-peak for all settings. Record on test card frequency and amplitude of TIME BASE output for each successive setting. 3. TIME BASE-Output-REAR PANEL: 0.1 Hz to 10 MHz in decade steps 5V peak-to-peak rectangular wave with 1000- $\Omega\,$ source at 1 MHz and lower; 1V rms sine wave with 1000- Ω source impedance only at 10 MHz. (See specifications , Table 1-1.) Set Counter controls as follows: а. SAMPLE RATE slightly clockwise out of POWER OFF MODE (rear panel) to INT STD FREQ OUTPUT (rear panel) to 10 MHz 10 b. Connect Oscilloscope to the OUTPUT connector (J5) on the rear panel. Oscilloscope should display 10 MHz at 1V rms. Record the frequency and amplitude on test card. c. d. Set the OUTPUT switch to each position, 1 MHz 10² through . 1 Hz 10⁹. The displayed frequency should decrease by a factor of 10 for each successive setting of the OUTPUT switch. "INPUT ATTENUATION 1. Range: Three ranges 0.1, 1.0, and 10 volts. Set Counter controls as follows: SENSITIVITY to . 1 VOLT SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to . Is FUNCTION to FREQUENCY - LEVEL + to PRESET Connect Oscillator to Counter DC SIGNAL INPUT. Set Oscillator for 100 kHz at 100 mV b. (. IV) rms, Counter should count and display 100 kHz, Change Counter SENSITIVITY to 1.0 volt. Increase Oscillator output to 100 kHz at 1V rms. **c**. The Counter should count and display 100 kHz. Record results on test card, Change Counter SENSITIVITY to 10 volts. Increase Oscillator output to 100 kHz at 10V rms. **d**. . The Counter should count and display 100 kHz. Record results on test card, DISPLAY STORAGE Set Counter controls as follows: a. SENSITIVITY to CHECK SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to . 1s FUNCTION to FREQUENCY STORAGE (rear panel) to OFF - LEVEL - to PRESET 3 - 8

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	Table 3-2. In-Cabinet Performance Check (cont [*] d)
b.	Counter should count 10,000.000 kHz. The change in count should be visible on each digital displa tube.
ć.	Set Counter STORAGE switch to the STORAGE position. The Counter should count, display, and hold 10,000,000 kHz count providing a continuous display of the most recent count. Record results on test card.
	SAMPLE RATE
1. Sa	mple Rate: Variable from less than .2 sec to greater than 5 seconds.
а.	Set Counter controls as follows:
	SENSITIVITY to CHECK SAMPLE RATE to POWER OFF
an an Ar	TIME BASE to 10 ms
	FUNCTION to FREQUENCY - LEVEL + to PRESET
b.	Connect Oscilloscope to J11 Pin 48.
c.	Turn the Counter SAMPLE RATE control slightly clockwise out of POWER OFF, and note that the
	Counter turns on.
d.	With the SAMPLE RATE control in maximum position (ccw), observe with oscilloscope the negative
1940 - 1940 1944 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 -	mulas duration between meta statum of the filler is the fi
	pulse duration between gate closing and the tollowing gate opening; it should be less than 200 milli-
	pulse duration between gate closing and the following gate opening; it should be less than 2.0 milli- seconds (. 2 sec).
é e.	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscillosco
е.	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscoj the negative pulse duration between gate closing and the following gate opening; it should be more
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscoj the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds.
e. 	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscoj the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds.
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscoj the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds.
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscoj the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds.
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscillosco the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds.
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscillosco the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis-
	seconds (.2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card.
	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V
	seconds (.2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line
	seconds (.2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V "1" State Level +18V
f. 1. Ou	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V
f. 1. Ou	seconds (. 2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V "1" State Level +18V The impedance is determined by a fixed value 100K resistor, which can be seen in schematic diagrams Figures 7-9, 7-11, and 7-14.
f. 1. Ou	seconds (.2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V "1" State Level -8V "1" State Level +18V The Impedance is determined by a fixed value 100K resistor, which can be seen in schematic diagrams Figures 7-9, 7-11, and 7-14. Set Counter controls as follows: SAMPLE RATE slightly clockwise out of POWER OFF
f. 1. Ou	seconds (.2 sec). Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V "1" State Level +18V The impedance is determined by a fixed value 100K resistor, which can be seen in schematic diagrams Figures 7-9, 7-11, and 7-14. Set Counter controls as follows: SAMPLE RATE slightly clockwise out of POWER OFF SENSITIVITY to .1 V
f. 1. Ou	Increase the SAMPLE RATE control clockwise to minimum sample rate. Observe with Oscilloscop the negative pulse duration between gate closing and the following gate opening; it should be more than 5 seconds. Set the SAMPLE RATE control to the Hold position. The last Counter reading should remain dis- played indefinitely. Record results on test card. DIGITAL OUTPUT put 4 line 1-2-2-4 BCD: Impedance 100K each line "0" State Level -8V "1" State Level +18V The impedance is determined by a fixed value 100K resistor, which can be seen in schematic diagrams Figures 7-9, 7-11, and 7-14. Set Counter controls as follows: SAMPLE RATE slightly clockwise out of POWER OFF

Model 5245L

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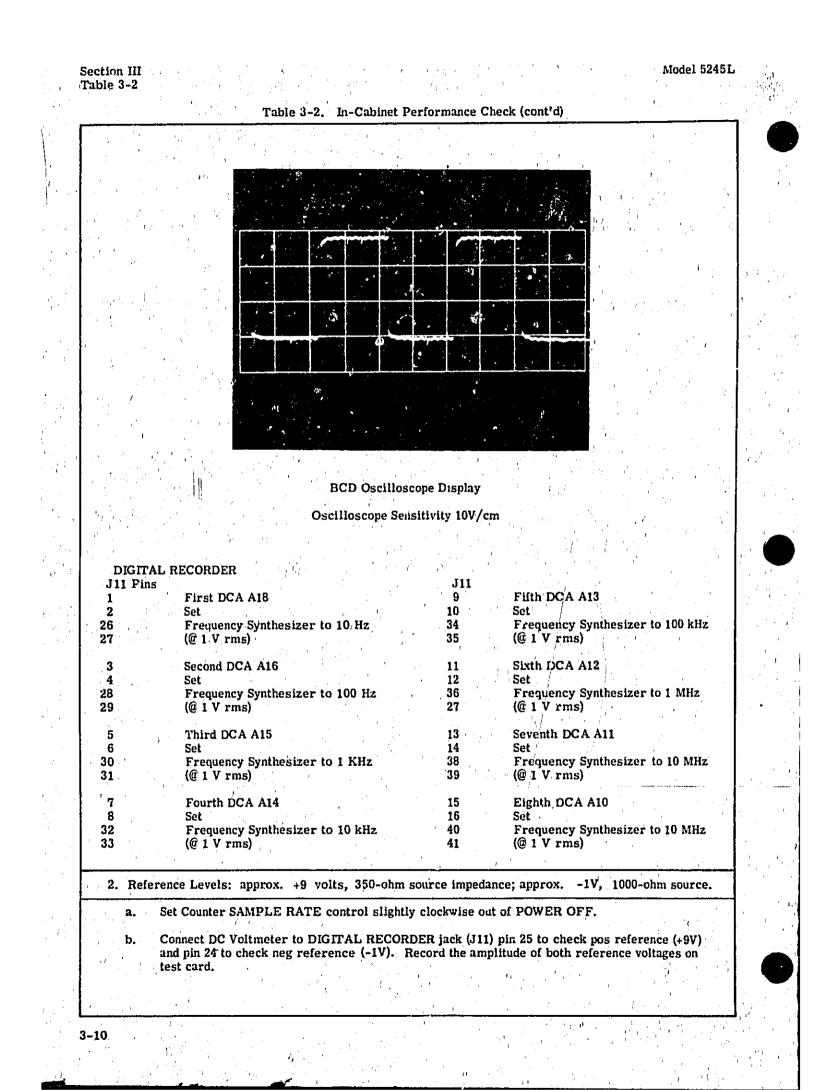
20. j. j

c. Connect Frequency Synthesizer to Counter AC INPUT connector. Set output level at 1 V rms.

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d. Connect Oscilloscope to following points to verify "0" state and "1" state levels. Oscilloscope will display the switch from "0" state (-8 volts) to "1" state (+18 volts) as a positive 26 volts step. Check all recorder outputs for "0" state and "1" state and mark the test card ok.

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	3. F	Print Command: Negative step from +13 volts to 0 volts, DC-coupled.	
, .	а.		
9 1 10	· · · b,	Set Counter controls as follows: SAMPLE RATE slightly clockwise out of POWER OFF	1
		SENSITIVITY to CHECK	
		TIME BASE to 10 ms FUNCTION to FREQUENCY	· .
	c.	The Oscilloscope should display the print command step (-13 volts for each counting cycle Record the amplitude of this negative step on test card.	;).
	4. Ho	old-Off Requirements: +15V min. , +25V max. [rom chassis ground (1000-ohm source).	
	а.		· · · · · · · · · · · · · · · · · · ·
	1	SAMPLE RATE slightly clockwise out of POWER OFF SENSITIVITY to CHECK	
	лан Из	TIME BASE to 10 s STORAGE (on rear panel) to non-storage	
		FUNCTION to FREQUENCY	
	b.		
	·	DIGITAL RECORDER jack (J11) Pin 22 on the rear panel. The Counter should stop until the hold-off voltage is removed from J11, pin 22. Record hold-off voltage on test card.	he
	с.	Repeat step b, using +15 hold-off voltage. Record hold-off voltage on test card. Note this check can be made using any hold-off voltage from +15 volts to +25 volts.	5
		check can be made using any hold-on voltage from +15 volts to +25 volts.	· ·
	GATE	E INDICATOR. Front panel indication of main gate "open" state	
	a.	Set Counter controls as follows:	
		SENSITIVITY to CHECK	
		SAMPLE RATE slightly clockwise out of POWER OFF TIME BASE to 10 s	
		FUNCTION to MANUAL STOP	, , , ,
1997 - 19	, tri €	LEVEL + to PRESET	
	} b.	Set Counter FUNCTION switch to MANUAL START, the Counter gate lamp should turn on. Record results on test card.	
	12 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -	· 이상 · 1965년 전 문화가 이상 물건을 얻는 것을 수 있는 것을 하는 것을 하는 것을 하는 것을 하는 것을 수 있는 것을 수 있는 것을 수 있는 것을 하는 것을 수 있는 것을 수 있다. 것을 것을 것을 수 있는 것을 수 있다. 것을 것을 것을 것을 수 있는 것을 것을 수 있다. 것을 것을 것을 것 같이 것을 것 같이 것을 것 같이 않는 것을 것 같이 않는 것을 것 같이 없다. 것을 것 같이 없는 것 같이 없다. 것 같이 것 같이 않는 것 같이 없다. 것 같이 없는 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없는 것 같이 없다. 것 같이 없다. 것 같이 없는 것 같이 없다. 않은 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없다. 것 같이 없는 것 같이 없다. 않았다. 것 같이 없다. 것 같이 없다. 것 같이 않았다. 않았다. 것 같이 없다. 하는 것 않았다. 것 같이 없다. 것 같이 없다. 것 같이 없다. 것 같이 없다. 않았다. 것 같이 없다. 것 같이 없다. 것 같이 않았다. 않았다. 것 같이 않았다. 않았다. 않았다. 것 같이 않았다. 않았다. 않았다. 것 같이 않았다. 않았다. 것 같이 않았다. 않았다. 것 같이 없다. 않았다. 않았다. 않았다. 않았다. 않았다. 않았다. 않았다. 않았	
	RE-SI	ET CAPABILITY. A momentary control on the front panel that returns both the displayed an internal count to zero.	ที่
	<u>'</u> га,	Set Counter controls as follows:	
	· •	SENSITIVITY to CHECK SAMPLE RATE slightly clockwise out of POWER OFF	
		TIME BASE TO 10s	
	۰.	FUNCTION to FREQUENCY - LEVEL + to PRESET	
1. A.	b	Push front panel RESET pushbutton. Counter should reset and then start a new count. Re	cord
$\mathcal{L} = \{ f \in \mathcal{L} \}$		result on test card.	
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	Model 5245L	ALLEY TELT CARD
	Hewlett-Packard Model 5245L	CHECK TEST CARD
	Electronic Counter	Tests performed by Date
	Serial No	
i		
	Description	Check
	A. FREQUENCY MEASUREMENTS.	
	1. RANGE: Dc coupled: 0 to 50 MHz Ac coupled: 25 Hz to 50 MHz	0 Hz to 50 MHz 25 Hz to 50 MHz
	2. GATE TIME: selectable from $1 \mu s$ to 10s.	00000010. 0010000.0
		0000010.0 010000.00
		000010.00 10000.000
	3. ACCURACY: ± 1 count, \pm time base	
	accuracy	$50 \text{ MHz } \pm 1 \text{ count}$ $50 \text{ MHz } \pm 12 \text{ counts}$
	4. OUTPUT DISPLAY: 8 significant figures	00000010. MHz
	with decimal point and units of measure	0000010. 0 MHz
	(kHz or MHz)	000010.00 MHz 00010000. kHz
	SELF-CHECK: counts 10 MHz for the gate time chosen by the TIME BASE switch.	0010000.0 kHz
(x, ξ)		010000.00 kHz 1000.0000 kHz
		0000.0000 kHz
	P. 0041 N/2	
	B. SCALING.	TIME BASE OUTPUT JACK (J5)
	1. RANGE: 0 to 50 MHz 2. EACTOR: his decoder as 4 ± 10^9	5 MHz
	2. FACTOR: by decades up to 10^9	5 MHz in 10 MHz ^ position .5 MHz in 1 MHz 10 ² position
-		50 kHz in 100 kHz 10 ³ position
1 1		5 kHz in 10 kHz 10 ⁴ position .5 kHz in 1 kHz 10 ⁵ position
		50 Hz in 100 Hz 10 ⁶ position
12 - 1 1 - 1		5 liz in 10 Hz 107 position # Hz in 1 Hz 108 position
· ·		.A5 Hz in . 1 Hz 10 ⁹ position
1970) 1970 -	C., PERIOD MEASUREMENTS 1. FREQUENCY RANGE SINGLE PERIOD:	SINGLE PERIOD
90 B	0 to 1 MHz.	
	2. FREQUENCY RANGE MULTIPLE PERIOD:	MULTIPLE PERIOD
	0 to 300 kHz	.1 μs 0000003; 3 μs 1 μs 0000003, μs
· [10 µs 000000.00 ms
÷ .	· · · · · · · · · · · · · · · · · · ·	.1 ms 0000000.0 ms
		10 ms 000000, 00 sec
	i anti anti anti anti anti anti anti ant	1 s 0000000 0 sec 1 s 00000000. sec
		10 s
15		10 PERIOD AVERAGE .1 μs 000003 33 μs
1		1 μs 0000003.3 μs
		10 μs 00000003. μs .1 ms 0000000.00 ms
		1 ms 0000000.0 ms
		10 ms 00000000. ms

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PERFORMANCE CHECK	(TEST CARD (Cont'd)	
Description	Check	
	100 PERIOD AVERAGE	· · · · · · · · · · · · · · · · · · ·
MULTIPLE PERIOD CHECK (cont'd)	.1 μs 00003,333 μs	
	1 μs 000003.33 μs 10 μs 0000003,3 μs	
	.1 ms 00000003, μs	· · · · ·
	1 ms 000000.00 ms	۰. · · · ·
	10 ms 0000000, 0 ms	
	1 s *	
	1 K PERIOD AVERAGE	
	.1 μs 0003, 3333 μs 1 μs 00003, 333 μs	
	10 ⁻ µs 000003.33 µs	
	$\begin{array}{c c} .1 \text{ ms} \\ 1 \text{ ms} \\ \hline 00000003.3 \ \mu s \\ 00000003. \ \mu s \\ \end{array}$	
	10 ms 000000, 00 ms	
	.1s *	
	10 5	
	10 K PERIOD AVERAGE	
$\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum_{i=1}^{n} \frac{1}$, 1 μs 003.33333 μs	e de la companya de
	1 μs 0003.3333 μs 10 μs 00003.333 μs	
	.1 ms 000003.33 µs	
	1 ms 0000003.3 μ5 10 ms *	
	.1s +	
	1 s 10 s	
	100 K PERIOD AVERAGE	
	.1 μs 03.333333 μs	
$\frac{1}{1+1} \left\{ \begin{array}{c} 1 \\ 0 \end{array} \right\} \left\{ \left\{ \left\{ H_{1} \right\} \right\} \left\{ \left\{ H_{1} \right\} \right\} \left\{ \left\{ H_{1} \right\} \right\} \right\} \left\{ \left\{ H_{1} \right\} \right\} \left\{ \left\{ H_{1} \right\} \right\} \left\{ \left\{ H_{1} \right\} \right\} \left\{ H_{1} \left\{ H_{1} \right\} \left\{ H_{1} \right\} \left\{ H_{1} \right\} \left\{ H_{1}$	1 µs 003, 33333 µs	
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
	1 ms +	1
	10 ms	
	1 s * 10 s *	
3. PERIOD MEASUREMENT ACCURACY:	0000001: 0 μs :	1 count
± 1 count \pm time base accuracy \pm trigger error where the trigger error is expressed as $\pm 0.3\%$		
over 1 period, divided by the number of periods averaged for signals with a signal-to-noise		
ratio of greater than 40 dB.		
4. PERIODS AVERAGED:	PERIODS AVERAGED	
4. PERIODS AVERAGED: 1 to 10^5 in decade steps	1 0000003.3 μs	
	10 000003, 33 μs 100 00003, 333 μs	· · · · · · · · ·
	1K 0003, 3333 μs	1 ¹
	10K 003, 33333 μs 100K 03, 33333 μs	
 OUTPUT DISPLAY: 8 significant figures with decimal point and units of measure (sec, 	OUTFUT DISPLAY	a a
ms, or μ s).	See Item C-2	
3-11b	$\frac{1}{2} = \frac{1}{2} \left(\frac{1}{2} + 1$	
(4) The second s second second secon second second sec		4. 4. 4.
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Aodel 5245L PERFORMANCE CHEC	K TEST CARD (Cont'd)	
 SELF CHECK: /Gate time is 10 µs to 1 sec (periods averaged of 100 kHz); counts 100 kHz from time base. 	PERIOD AVERAGE DISPLAY 1 00000001 10 00000010 100 00000010 100 00000010 100 00000000 100 00000000 10K 00010000 100K 00100000	
 D. FREQUENCY RATIO MEASUREMENTS 1. F1 FREQUENCY RANGE: 0 to 50 MHz 2. F2 FREQUENCY RANGE: 0 to 300 kHz 	RATIO F1, 52 500000 100000 10000 1000 100 100	
3. MULTU-LE PERIOD: 1 to 10 ⁵ in decade steps	100000 10000 1000 1000 10 3 RATIO F1/F2 = 1 MHz/100 kHz PERIOD AVERAGE 1 00000010. 10 100 00000010. 0000010.0 0000010.0	
4. INPUT SENSITIVITY: 0.15V rms	1K $00010, 000$ 10K $0010, 0000$ 10CK $0010, 0000$ 1 $0000003, 3$ 10 $0000003, 3$ 10 $000003, 3$ 10 $000003, 3$ 100 $000003, 333$ 10K $0003, 3333$ 10K $003, 33333$ 10K $003, 33333$ 10K $003, 33333$ 10K $003, 100$ 0, 1 V rms	
 5. ACCURACY: ±1 count of the larger frequency ± the trigger error E. TIME BASE: FREQUENCY (INTERNAL) 1 MHz 	F1/F2 ± 1 count ± trigger error	
 E. TIME BASE: FREQUENCY (INTERNAL) 1 MHz 1. STABILITY: As a function of ambient temperature: Less than ±2 parts in 10¹⁰ per °C from -20°C to +55°C b. As a function of line voltage: less than ±5 parts in 10¹⁰ for changes of ± 10%. 	Parts in 10 ⁹ (frequency offset at beginning of test) Less than ± 2 parts in 10 ¹⁰ per °C (stability) Less than ±5 parts in 10 ¹⁰ (stability)	
c. Stability: aging rate: less than 3 parts in 10 ⁹ per 24 hours	Parts in 10 ⁹ (frequency offset 24 hours later at same temperature and line voltage)	an a

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(-1)TEST CARD (Cont'd) DRMANCE CHECK TIME BASE: Cutputs, front panel: 2. TIME BASE EXT JACK (J3) - 5 0,1 Hz to 1\MHz in decade steps; 1 MHz (1 μs) 100 kHz (10 μs) 1 V peak-to-peak 10 kHz (.1 ms) La 1 1 kHz (1 ms). 1V p-p 1 Hz (10 ms) 1.27 10 Hz (.1 s) greater Ŷ, 1 Hz (1s) .1 Hz (10s) TIME BASE: Outputs, rear panel: TIME BASE OUTPUT JACK (J5) 0. 1 Hz to 10 MHz in decade steps, Ą 10 MHz (10) 1V rms 5V peak-to-peak rectangular wave with 1 MHz (10²) 100-ohm source at 1 MHz and lower; 1V $100 \text{ kHz} (10^3)$ rms sine wave with 1000-ohm source $10 \text{ kHz} (10^4)$ 5V p-p impedance only at 10 MHz. $1 \text{ kHz} (10^5)$ 100 Hz (10⁶) $10 \text{ Hz} (10^7)$ 1 Hz (10⁸) 1 Hz (10⁹) ĝ. **INPUT ATTENUATION:** Three ranges F. 0.1, 1.0, and 10' volts. 0.1 volt A. 1.0 volt ĥè ÷. 10 volts G. DISPLAY STORAGE! Storage off: count change visible Storage off Storage on: count change not visible Storage on . 1.1 H. SAMPLE RATE: < .2 sec to > 5 seconds <.2 sec to > 5 seconds -11 \mathbf{L}^{\perp} BCD CODE: 1. Output 4-line 1-2-2-4 BCD: Ę "0" State Level: approx -8 volts "0" state approx -8 volts "1" State Level: approx +18 volts "1" state approx +18 volts 2. Reference Levels: approx -9 volts, 350 DIGITAL RECORDER JACK (J11) Pins 25 and 24 ohms source impedance, and approx 41 approx +9 volts £, volts, 1000-ohm source impedance approx -1 volts 3. Print Command: negative step from +13 DIGITAL RECORDER JACK (J11) Pin 48 ł volts to 0 volts, de coupled negative step 13 volts Hold-off Requirements: +15 volts min, 4 DIGITAL RECORDER JACK (J11) Pin 22 ٠. +15 volts +25 volts max from chassis ground (1000 ohm source) +25 volts J. GATE INDICATOR: Front panel indication of Gate light indicates main gate "open" state, ì K. RESET CAPABILITY: Momentary control on the front panel that returns both the dis-11 Reset switch functions played and internal count to zero.

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3-11d

Model 5245L



Section IV Paragraphs 4-1 to 4-6

SECTION IV

4-1. INTRODUCTION.

Model 5245L

4-2. This section contains information for ordering replacement parts. Table 4-1 lists parts in alphanumerical order of their reference designators and indicates the description and HP stock number of each part, together with any upplicable notes. Table 4-2 lists parts in alpha-numerical order of their HP stock number and provides the following information on each part;

a. Description of the part (see list of abbreviations below).

b. Typical manufacturer of the part in a five-digit code; see, list of manufacturers in Table 4-5.

c. Manufacturer's part number.

d. Total quantity used in the instrument (TQ column).

4-3. Miscellaneous parts are listed at the end of Table 4-1.

4-4. ORDERING INFORMATION.

4-5. To obtain replacement parts, address orde: or inquiry to your local Hewlett-Packard Field Office (see, lists at rear of this manual for addresses). Identify parts by their Hewlett-Packard stock numbers.

4-6. To obtain a part that is not listed, include:

- a. Instrument model number.
- b. Instrument serial number.
- c. Description of the part.
- d. Function and location of the part

:				REFERENCE DESI	GNATORS		10 10	
•	A =	assembly	E .	misc electronic part	P	plug	v	vacuum, tube, neon
<u>ن</u>	B	motor	P -	fune	`o	translator		bulb, photocell, etc.
1.1	BT +	battery	FL =	filter	R	resistor	VR	voltage regulator
9	C () +	capacitor	5	jack	RT *	thermistor	w C	coble
· •	CP =	coupler	K.	relay	S +	switch	X .	socket
	CR =	diode		Inductor	T	transformer	Ŷ.	crystal
5g -	DL' =	delay lin v	Milan	meter	тв	terminal board	• • • •	CITEDIAL
	DS -	device signaling (lamp)	MP .	mechanical part	TP -	test point		5
1	it it p				i di si si si			
				ABBREVIATI	ONS	$M = M_{\rm eff} + $		
۰.	A =	amperes	H	henries			RMS .	and the second
	A.F.C.	automatic frequency control	HEX .	hexagonal	NPN =	negative-positive-	RWV +	root-mean square
	AMPL *	amplifier	HG =	mercury	NRFR =	hegative	KWY F	reverse working
		· · · · · · · · · · · · · · · · · · ·		hcur(s)	anra 🗧 🖛	not recommended for		voltage
· .	B.F.O. =	beat frequency oscillator			NSR =		5-B *	slow-blow
1.5	BE CU =	beryllium copper	, IF	intermediate freq	aan =	not separately	SCR .	SCIEW.
11	вн 🔹	binder head	IMPG 📜 =	impregnated	· · · · ·	replaceable	SE *	selenium
÷	BP =	bandpass	INCD 🐁 📼	incandescent			SECT	section(s)
	BRS =	brass	INCL .	include(s)	OBD .	order by description	SEMICON #	semiconductor
	BWO =	backward wave oscillator		insulation(ed)	OH .	oval head	SI	Nilicon
	te i i	· · · ·	INT ' +	internal	• XO	oxide	SIL -	allver
	CCW =	countes-clockwise	K .	kilo = 1000				ailde .
1	CER =	ceramic ·		M10 H 1000	A		SPG -	apring
	CMO =	cabinet mount only	LH / =	left hand	P	peak	SPL *	special
	COEF -	coefficient		linear taper	PC =	printed circuit	SST -	stainless steel
All .	COM =	common	LK WASH =	lock washer	PF -	picolarade = 10	SR P	split ring
ij	COMP =	composition	LOG	logarithmic taper		farada	STL	steel
	COMPL =	complete	LPF +	low pass filter	PH BRZ	phosphor broaze	TA +	**********
	CONN .	connector	M =	milli = 10-3	PHL •	Phillips	TD	tantalum
	CP 🚽	cadmium plate		meg = 106	PIV =	peak inverse voltage		time delay
11	CRT () =	cathode-ray tube	MET FLM +	meg = 100	PNP. =	positive-negative-		toggle
	CW =	clockwise '	MET OX =	metallic oxide	1 A 1	positive		thread
	DEPC =	deposited carbon	METOA	manulacturer	P/O =	part of		titarium
	DR -	drive		miniature	POLY =	polystyrene		tcierance
	1		MOM =		PORC .	porcelain		trimmer
,	ELECT =	electrolytic	MTG =	momentary	POS =	position(s)	TWT	traveling wave tube
	ENCAP -	encapsulated '		mounting	FOT =	potentiometer		
·	EXT =	external	MY =	"mylar"	PP =	peak-to-peak	υ	micro = 10-0
	F =	farais	N 12 1 -	nano (10-9)	PT =	point	VAR -	variable
	FH -	flat head	•• -		PWV .	peak working voltage		de working volts
·	FILH =	fillister head		normally closed				
· ·		fixed		neon nickel plate	nrom	rectifier		with
		ILACY .			RECT =			watts
1	GE 🛸 =	germanium		normally open	RF	radio frequency		working inverse
	GL	glass	NPU	negative positive zero	RH () ⁽¹⁾ =	round head or		voltage
	GRD =	ground(ed)		(zero temperature	-	right hand		wirewound
. (_.		Riomo(60)		coefficient)	RMO =	rack mount only	₩/0 ×	without '
,		2.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					e de la companya de l

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lection IV Table 4–1			MO	del 5245L
	Tab	e 4-1. Reference Designation Index		
Reference Designation	Stock No.	Description #	ı	Note
				1
A1 (.).	05245-6016	SWITCH ASSY ATTENUATOR (PART OF W2)		
A1C1 A1C2 A1C3 A1C4 A1C5	0160-2262 0160-2260 0150-0069 0160-2550 0160-2248	CIFXD CER 16 PF 5% 500VDCW CIFXD CER 13 PF 5% 500VDCW CIFXD CER 0.001 UF +100-20% 500VDCW CIFXD CER 1.0 PF 500VDCW CIFXD CER 4.3 PF 500VDCW		
A1C6 A1C7	0140-0169 0150-0115	CIFXD MICA 100 PF 5% 500VDCW CIFXD CER 27 PF 10% 500VDCW		
A1CR1 A1CR2 A1CR3 A1CR3 A1CR4 A1CR5	1910-0016 1910-0016 1910-0016 1910-0016 1910-0016	SEMICON DEVICEIDIODE GERMANIUM DIODEIGERMANIUM 100MA AT 0.85V 60PIV SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM		
A1L1 A1L2	9100-0346 9100-0346	COIL:FXD 0.05 UH 20%		
AIR1 AIR2 AIR3 AIR4 AIR5	0683-2245 0757-0344 0757-0368 0757-0368 0757-0972	RIFXD COMP 220K OMM 5% 1/4W RIFXD MET FLM 1 MEGOHM 1% 1/4W RIFXD MET FLM 34 OHM 1% 1/8W RIFXD MET FLM 34 OHM 1% 1/8W RIFXD MET FLM 100K OHM 2% 1/6W		
A1R6 A1R7 A1R8 A1R9 A1R10	0686-1055 0757-0350 0757-0972 0757-0946	RIFXD COMP 1 MEGOHM 5% 1/2W RIFXD MET FLM 909K OHM 1% 1/4W RIFXD MET FLM 100K OHM 2% 1/8W NOT ASSIGNED RIFXD MET FLM 10K OHM 2% 1/8%		
IRLI	2100-1924	RIVAR COMP SK OHM 20% 1/5W		, <i>i</i> .
151 152 12	3100-2036	SWITCHIRGTARY NSR PART OF R11 TIME BASE SWITCH ASSY(PART OF W2)		
201	0150-01 2	CIFXD CER 2000PF 20% 500VDCW		
2R1	0683-1045	RIFXD COMP 100K OHM 58 1/4#		t at a
251	3100-2029	SWITCHIROTARY		
3		SWITCH ASSY FUNCTION (PART DE W2)		
3R1 3R2	0683-2025 0683-2025	R*FXD COMP 2000 OHM 5% 1/4W R*FXD COMP 2000 ONM 5% 1/4W	•	
351	3100-1874	SWITCHIROTARY & SECT 10 POSITION		
4	5245L-19B	ASSY MODE SWITCH	· '	
401	0150-0093	CIFXU CER 0.01UF +80-20 100VDCW		
4R1	0683-1025	RIFXU COMP 1000 OHMS 58 1748		
451	3100-0389	SWITCHIROT 1-SECT 3-POS HP SPEC		

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Section IV Table 4-1

Table 4-1. Reference Designation Index (Cont'd)

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	Reference Designation	🕏 Stock No.	Description #	Note
ĺ				
Ì	A5	5245L-19A	ASSYLOUTPUT SWITCH	1
	A5C1	0170-0094	CIFXD HY 8.047UF 20% SOVDCH	
-	A5C2	0170-0094	CIFXD MY 0.047UF 20% SOVDCW	
	ASCR1	1910-0016	SEMICON DEVICE DIODE GERMANIUM	ļ
	A501	1850-0062	TRANSISTOR	
	A5R1 A5R2	0683-3315	RIFXD COHP 330 OHHS 5% 1/4W]
	ASR3	0683-4335 0683-1025	RIFXD COMP 43K OMM 5% 1/4W RIFXD+Comp 1000 OMMS 5% 1/4W	1.1
	ASR4	0683-1025	RTFX0+COHP 1000 0HMS 5% 1/4W	
	ASRS	0683-6225	RIFXD COMP 6200 OHMS 5% 1/4W	· ·
	A501	3100-0390	SWITCHIROT 2-SECT 9-POS HP SPEC	
	46	5243A-65L	ASSYIRECTIFIER	
.		5243A-65L-1	BOARDIBLANK P.C.	
	A6C1	0170-0040	CIFXD HY .047 UF LOW 200VDCW	İ
	A6C2	0160-0314	CIFXD MY 0.01 UF 5% 400VDCW	
1	A6C3	0160-0314 0170-0040	C*FXD HY 9-01 UF 5% 400VDCW C*FXD HY -047 UF 10% 200VDCW	
			1 044 05 111 0044 0F TOW COORDEM	
	A6CR1	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PIV	
1	A6CR2	1901-0028	SEMICON DEVICE:DIODE SI 750 mA 400 PIV	•
\cdot	AGCR3 AGCR4	1901-0028 1901-0028	SEMICON DEVICE:DIODE SI 750 mA 400 PIV SEMICON DEVICE:DIODE SI 750 mA 400 PIV	
	AGCR5	1901-0029	SEMICON DEVICE:DIODE SI 750 mA 600 PIV	
	A6CR6	1901-0029	SEMICON DEVICE:DIODE SI 750 mA 600 PIV	
	A6CR7	1901-0029	SEMICON DEVICE: DIODE SI 750 mA 600 PIV	1.10
'	A6CR8 A6CR9	1901-0029 1901-0028	SEMICON DEVICE:DIODE SI 750 mA 600 PIV SEMICON DEVICE:DIODE SI 750 mA 400 PIV	i
1	A6CR10	1901-0028	SEMICON DEVICE:DIODE SI 750 mA 400 PIV	
	AGCR11	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PLV	
	A6CR12	1901-0028	SEMICON DEVICE:DIODE SI 750 mA 400 PIV	
	A6CR13	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PIV	
	A6CR14	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PIV	
·	A6CR15	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PIV	
	A6CR16	1901-0028	SEMICON DEVICE: DIODE SI 750 mA 400 PIV	
•	A7	5243A-65H	ASSYIREGULATOR	
		5243A-65H-1	BOARDIBLANK P.C.	
	A7C1	0170-0040	CIFXU MY +047 UF 10% 200VDCW	
	A7C2	0180-0097	CIFXD ELECT 47 UF 10% 35VDCW	
1	A7C3	0170-0040	L CIFXO MY +047 UF 10% 200VDCW	
	A7C4 A7C5	0180-0098 0180-0098	CIFXD ELECT 100UF 20% 20VDCW CIFXD ELECT 100UF 20% 20VDCW	
	A7CR1	1902-0017	SEMICON DEVICE DIOSE SI	
	A7CR2	1902-0214	DIODEISILICON BREAKDOWN 56,2V 10% 1.5W	
	A7CR3	1902-0017	SEMICON DEVICE: DICOE SI	
	A7CR4	1902-0057	SEMICON DEVICE IDIOLE SILICON	
	A701	1853-0001	TRANSISTORIPHP SILICON TOV SOOMW	
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	,	e 4-1. Reference Designation Index (Cont'd)		
Reference Designation	🕸 Stock No.	Description #	Note	(
				2
A702	1850-0062	TRANSISTORIGERMANIUM		• ,
A7Q3 A7Q4	1853-0001 U 1850-0062	TRANSISTORIENP SILICON 30V 900MW TRANSISTORIGERMANIUM		
A705	1850-0048	TRANSISTORIGERMANIUM 20650 PNP		
A7R1 A7R2	0758-0015	RIFXO MET FLM 220 OHMS 5% 1/2W		
47R3	0686-1025	RIFXD COMP 1000 ONH 5% 1/2W RIFXD COMP 22K ONN 5% 1/2W		
A7R4 A7R5	0758-0015	RIFXD HET FLM 220 OHMS 5% 1/2W	}	
17R6	· · ·	RIVAR COMP 500 OHM 20% LIN 1/4W		
17R7	0758-0015	RIFXU MET FLM 220 OHMS 5% 1/2W RIFXU COMP 20K OHM 5% 1W		
17R8 17R9	0758-0015	RIFXD MET FLM 220 OHMS 5% 1/2W RIFXD COMP 620 OHM 5% 1/2W		
7R10	0686-7525	RIFX0 COMP 7500 ONN 5% 1/2W		
7R11	0758-0015	RIFXO HET FLM 220 OHMS 5% 1/2W		
7R12 7R13	2100-1412 0758-0028	REVAR COMP 500 OHM 20% LIN 1/4W REFXD MET FLM 270 OHMS 5% 1/2W		
7R14 7R15	0686-8215 0686-2735	RIFXD COMP 820 OHN 5% 1/2W		
7R16	14	RIFXD COMP 27K CHM 5% 1/2W		
7817	0686-6215 2100-1412	RIFAD COMP 620 OHM 5% 1/2W RIVAR COMP 580 OHM 20% LIN 1/4W	·	
7R18 7R19	0686-2025 0686-1525	RIFXD COMP 2000 OWN 5% 1/2W RIFXD COMP 1500 OWN 5% 1/2W		
7R20	0683-1525	RIFXO COMP 1500 CMM 5% 1/2W	, Į	
8	5243L-65A	ASSYIDECIMAL POINT	· · [ر ک
BCRI	1901-0025	SEMICON DEVICE DIODE JUNCTION		
8CR2 8CR3	1901-0025 1901-0025	SEMICON DEVICEIDIODE JUNCTION SEMICON DEVICEIDIODE JUNCTION		
BCR4 BCR5	1901-0025	NOT ASSIGNED		
BCR6		SEMICON DEVICEIDIODE JUNCTION	· [2
BCR7	1901-0025 1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION	· [
BCRB BCR9	1901-0025 1901-0025	SEMICON DEVICEIDIODE JUNCTION		
BCR10	1901-0025	SEMICON DEVICE: DIODE JUNCTION SEMICON DEVICE: DIODE JUNCTION		
BCR11	1901-0025	SEMICON DEVICE IDIODE JUNCTION		1
BCR12 BCR13	1901-0025 1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION		
BCR14 BCR15	1901-0025	NOT ASSIGNED		
CR16		SEMICON DEVICE DIODE JUNCTION		
CR17	1901-0025	SEMICON DEVICE:DIODE JUNCTION		
CR18	1901-6025	SEMICON DEVICE IDIODE JUNCTION	· ·	
051 THRU 052	. 1 .			
IDSJ	2140-0028	NOT ASSIGNED LAMPIGLOW 1/15W		
10\$4 10\$5	2140-0028 2140-0028	LAMPIGLOW 1/15W LAMPIGLOW 1/15W		
D56	2140-0028	LAMPIGLOW 1/15W		1
0\$7	2140-0028	LAMPIGLOW 1/15W		• .
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Section IV Table 4-1

Table 4-1. Reference Designation Index (Cont'd)

Reference Designation	🕸 Stock No.	Description #	Note
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
ABDSB	2140-0028	LAMPIGLOW 1/15W	
A8059	2140-0025	LAMPIGLOW 1/15W	
			· ·
A8R1 THRU			
ABR2	••• ••••	NOT ASSIGNED	1.1
A8R3	0683-1055	RIFXD COHP 1 MEGOHM 5% 1/4W	
A6R4	0683-6835	RIFXD COMP 68K OHH 5% 1/4W	· ·
ABRS	0683-1055	RIFXD COMP 1 MEGOHM 5% 1/4W	.
A8R6	0683-6835	RIFXD COMP 68K OWN 5% 1/4W	
A8R7	0407 1086		· ·
ASRB	0683-1055 0683-6835	RIFXD COMP 1 MEGOHM 5% 1/4W	1
ABRO	0683-1055	RIFXU COMP 68K OHH 5N 1/4W RIFXU COMP I NEGOHH 5N 1/4W	t i
ABRIO	0683-6835	RIFXD COMP 68K OMM 5% 1/4W	
ABR11	0683-1055	RIFXD COMP 1 HEGOHH 5% 1/4W	
	· · ·	North Con Through 24 1/41	
AGR12	0683-6835	RIFXD COMP 66K OHM 5% 1/4W	
A6R13	0683+1055	RIFXD COMP I MEGDHM 5% 1/4%	
A8R14	0683-6835	RIFXD COMP 68K OHM 5% 1/4W	
A8R15	0693-1055	RIFXD CONP 1 MEGDHM 5% 1/4W	
A8R16	0683-6835	RIFXO COMPIESK OHM 58 1/4W	· .
40017			
A8R17	0683-1245	RIFXU COMP 120K OHM 58 1/4W	
A8R18	0683-1245	RIFXD COHP 120K OHH 5% 1/4W	
ABR19 Abr20	0683-1245	RIFXD COHP 120K OHM 5% 1/4W	
NUREV .	0683-1245	RIFXD COHP 120K OHM 5% 1/4W	
A9	5243L-65B	ASSY MEASUREMENT UNITS	
· · · · ·	5243L-658-1	BOARDIBLANK P.C.	
$\mathcal{D}_{\mathcal{D}} = \mathcal{D}_{\mathcal{D}}$	ATAR ARR.T		
4901	0150-0012	CIFXD CER 0.01UF 20% 1000VDCW	. '
1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	an di Karana		
A9CR1	1001-0535	SEMICON DEVICEIDIODE JUNCTION	. s
A9CR2	1901-0535	SEMICON DEVICEIDIODE JUNCTION	
A9CR3	1901-0535	SEMICON DEVICEIDIODE JUNCTION	
A9CR4	1901-0535	SEMICON DEVICEIDIODE JUNCTION	
A9CR5	1901-0535	SEMICON DEVICE DIODE JUNCTION	
OCDA	1001 0895		Í
A9CR6	1901-0535	SEMICON DEVICE DIODE JUNCTION	ĺ
A9CR7	1901-0535	SEMICON DEVICE DIODE JUNCTION	·
A9CR8	1901-0535 1901-0535	SEMICON DEVICE DIODE JUNCTION	
APCRIO	1901-0535	SEMICON DEVICE DIODE JUNCTION	
	1001-0000	SEMICON DEVICE DIODE JUNCTION	5
A9CRII	1901-0535	SEMICON DEVICE LOTODE HINGTTON	
A9CR12	1901-0535	SEMICON DEVICEIDIODE JUNCTION SEMICON DEVICEIDIODE JUNCTION	
and the second sec	· ·	A THAT A	
A9DŠ1 THRU			
A9059	· · · · ·	NOT ASSIGNED	
A9D\$10	2140-0015	LAMPIGLOW NEON NE-2H	
A9D\$11	2140-0015	LAMPIGLOW NEON NE-2H	I
90512	2140-0015	LAMPIGLOW NEON NE-2H	· · ·
90\$13	2140-0015	LAMPIGLOW NEON NE-2H	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9DS14	2140-0015	LANDARI AM LICOLI MIL AN	
		LAMPIGLOW NEON NE-2H	
	2140-0015	LAMPIGLOW NEON NE-2H	
19R1	0686 -5135	RIEYD COMP BIN ONNE EN 1700	
	0683-1055	RIFXD COMP 51K OHNS 5% 1/2W RIFXD COMP 1 MEGOHM 5% 1/4%	1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (
	0686-5135	RIFXD COMP 51K OHNS 5% 1/2W	Í
		NERV CONF DAR UNRS DE 1720	
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Table 4-1. Reference Designation Index (Cont'd)

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	Reference Designation	🖗 Stock No.	Description #	Note	
	49R4 49R5 49R6 49R7 49R8	0683-1055 0686-5135 0683-1055 0683-1055	RIFXD COMP 1 NEGOHM 5% 1/4% RIFXD COMP 51K OHMS 5% 1/2W RIFXD COMP 1 MEGOHM 5% 1/4% RIFXD COMP 1 MEGOHM 5% 1/4%		
	A9R9 A9R10 A9R11 A9R12 A9R13	0683-1055 0686-5135 0682-1055 0686-5135 0683-1055 0683-1245	RIFXD COMP 1 MEGDWH 58 1/4W RIFXD COMP 51K OHMS 58 1/2W RIFXD COMP 1 MEGDWM 58 1/4W RIFXD COMP 51K OHMS 58 1/4W RIFXD COMP 1 MEGOHM 58 1/4W RIFXD COMP 120K OHM 58 1/4W		
1	A9R14 A9R15 A9R16	0683-1245 0683-1245 0683-1245	R#FXD COMP 120K 0HM 5% 1/4% R#FXD COMP 120K 0HM 5% 1/4% R#FXD COMP 120K 0HM 5% 1/4%		
,	014	05212-6036 05212-2016 05212-6011	ASSYIDECIMAL BOARD BOARUIBLANK PC READOUT BLCCK ASSY		· · · ·
	A10C1 A10C2 A10C3 A10C4 A10C5	0140-0190 0140-0145 0140-0193 0140-0193 0140-0204	CIFXU HICA 39 PF 5% CIFXU MICA 22 PF 5% CIFXU MICA 22 PF 5% CIFXU MICA 22 PF 5% CIFXU MICA 22 PF 5% CIFXU MICA 47PF 5% NPO 500VDCW		
с 	A10C6 A10C7 A10C8 A10C9 A10C10	0140-0197 0160-2203 0140-0192 0140-0197 0140-0217	CIFXÚ MICA 180 PF 5% CIFXÚ MICA 91 PF 5% CIFXÚ MICA 68 PF 5% CIFXÚ MICA 180 PF 5% CIFXÚ MICA 140 PF 2% 300VDCW		
	A10C11 A10C12 A10C13 A10C13 A10C14 A10C15	0160-2203 0140-0193 0160-2206 0140-0195 0160-2206	CIFXU MICA 91 PF 5% CIFXU MICA 82 PF 5% CIFXU MICA 160 PF 5% CIFXU MICA 130 PF 5% 300 VDCW CIFXU MICA 160 PF 5%		
	A10CR1 A10CR2 A10CR3 A10CR4 A10CR5	1901-0025 1901-0025 1901-0025 1901-0025 1901-0025	DICDEISILICON 100WV 10GMA DICDEISILICON 100WV 100MA DIODEISILICON 100WV 100MA DIODEISILICON 100WV 100MA DIODEISILICON 100WV 100MA		
	A10CR6 A10CR7 A10CR8 A10CR9 A10CR10	1901-0025 1901-0025 1901-0025 1910-0016 1910-0016	DIODEISILICON 100WV 100MA DIODEISILICON 100WV 100MA DIODEISILICON 100WV 100MA DIODEIGERMANIUM 1 MICROSEC 60 WIV DIODEIGERMANIUM 1 MICROSEC 60 WIV		• : · · ·
	A10CR11 A10CR12 A10CR13 A10CR13 A10CR14 A10CR15	1910-0016 1910-0016 1910-0016 1910-0016 1910-0016	DIODE:GERMANIUM I MICROSEC 60 WIV DIODE:GERMANIUM I MICROSEC 60 WIV DIODE:GERMANIUM I MICROSEC 60 WIV DIODE:GERMANIUM I MICROSEC 60 WIV DIODE:GERMANIUM I MICROSEC 60 WIV		
	ALOCR18	1410-0010	DICDEIGERMANIUM 1 MICROSEC 60 WIV DIODEIGERMANIUM 1 MICROSEC 60 WIV DIODEIGERMANIUM 1 MICROSEC 60 WIV		
	LIODSI		NSR PART OF READOUT BLOCK ASSY		1

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	I	1	Table	4-1.	Reference	Designation	Index (Cont'o	d)

	Reference Designation	Stock No.	Description #	Note
		, , , , , , , , , , , , , , , , , , ,		
	A10D52 A10D53 A10D54 A10D55	l î,	NSR PART OF READOUT BLOCK ASSY NSR PART OF READOUT BLOCK ASSY NSR PART OF READOUT BLOCK ASSY NDT ASSIGNED	
	A10D\$6	1970-0009	ELECTRON TUSE: INDICATOR 10 DIGIT	
	A1001 A1002 A1003 A1004 A1005	5080-0060 5080-0060 5080-0060 5080-0060 5080-0060	TRANSISTOR: GERMANIUM PNP SELECTED TRANSISTOR: GERMANIUM PNP SELECTED TRANSISTOR: GERMANIUM PNP SELECTED TRANSISTOR: GERMANIUM PNP SELECTED TRANSISTOR: GERMANIUM PNP SELECTED	
	A1006 A1007 A1008	5080-0060 5080-0060 5080-0060	TRANSISTORI'GERMANIUM PNP SELECTED TRANSISTORIGERMANIUM PNP SELECTED TRANSISTORIGERMANIUM PNP SELECTED	
	Alori Alori Alori	0686-4735	RIFXD COMP 47K JHM 5X 1/2W NSR PART OF READOUT BLOCK ASSY	
	Alors Thru Alors Alor6 Alor7	0683-3945 0683-3945	NOT ASSIGNED RIFXD COMP 390K OHMS 5% 1/4W RIFXD JCMP 390K OHMS 5% 1/4W	
	Alorb Alor9 Alor10 Alor11 Alor12	0683-3945 0683-3945 0686-7525 0683-5635 0683-5635	RIFXD COMP 290K OHMS 58 1/4W RIFXD COMP 390K OHMS 58 1/4W RIFXD COHP 7500 OHMS 58 1/2W RIFXD COMP 56K OHMS 58 1/4W RIFXD COMP 56K OHMS 58 1/4W	
	A10R13 A10R14 A10R15 A10R16 A10R16 A10R17	0686-7525 0683-4735 0683-4735 0683-3925 0683-1815	RIFXD COMP 7500 ONMS 5% 1/2W RIFXD COMP 47K OMMS 5% 1/4W RIFXD COMP 47K OMMS 5% 1/4W RIFXD COMP 3900 OMM 5% 1/4W RIFXD COMP 180 OMM 5% 1/4W	
	A10R18 A10R19 A10R20 A10R21 A10R22	0683-4735 0683-3925 0683-1045 0683-3025 0683-3025	RIFXD COMP 47K OMMS 5% 1/4W RIFXD COMP 3900 OMM 5% 1/4W RIFXD COMP 100K OMMS 5% 1/4W RIFXD COMP 3000 OMM 5% 1/4W RIFXD COMP 47K OMMS 5% 1/4W	
-	A10R23 A10R24 A10R25 A10R26 A10R27	0683-4735 0683-3025 0686-7525 0683-5635 0683-5635	RIFXD COMP 47K OHMS 5% 1/4% RIFXD COMP 3000 OHM 5% 1/4% RIFXD COMP 7500 OHMS 5% 1/2% RIFXD COMP 56K OHMS 5% 1/4% RIFXD COMP 56K OHMS 5% 1/4%	
ц Т.	Alor28 Alor29 Alor30 Alor31 Alor32	0686-7525 0683-4735 0683-4735 0683-4735 0683-3925 0683-3925	RIFXD COMP 7500 DHMS 5% 1/2W RIFXD COMP 47K OHMS 5% 1/4W RIFXD COMP 47K OHMS 5% 1/4W RIFXD COMP 3900 OHM 5% 1/4W RIFXD COMP 3900 DHM 5% 1/4W	
	A10R33 A10R34 A10R35 A10R35 A10R36 A10R37	0683-1815 0673-2735 0683-3925 0683-8225 0683-1045	RIFXD COMP 180 ONN 5% 1/4W RIFXD COMP 27K ONNS 5% 1/4W RIFXD COMP 3900 ONN 5% 1/4W RIFXD COMP 8200 ONNS 5% 1/4W RIFXD COMP 100K ONNS 5% 1/4W	
1. 1. 2	A10R38	0686-7525	RIFXD CCMP 7500 DHM5 5% 1/2W	

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Table 4-1. Reference Designation Index (Cont'd)

Reference Designation	Stock No.	Description #	Note	
Rollinging			đ	
		FARM COND FEW OWNE FOR 1784		1
UR39	0683-5635	RIFXD COMP 56K OHMS 5% 1/4% RIFXD COMP 56K CHMS 5% 1/4%		
OR40 -	0683-5635	RIFXU COMP 7500 0HMS 5% 1/2#		
0R42	0683-4735	RIFXD COMP 47K OHMS 5% 1/4W		
0R43	0683-4735	RIFXD COMP 47K CHMS 5% 1/4W	-) ⁻	
69.00 69.00	0683-8225	RIFXU COMP 200 DHMS 5% 1/4%	· · ·	
OR44	0683-3925	R:FX0 COMP 3900 0HM 5% 1/4W		{ ·
OR46	0683-1815	R:FXD COMP 180 CHM 5% 1/4W		1
LOR47	0683-4735	RIFXD COMP 47K CHMS 5% 1/4W	1	
0R48	0683-3925	RIFXU COMP 3900 OHM 5% 1/4%		1 . · ·
0R49	0683+1035	RIFND COMP TOK CHM 5% 1/4W		· .
0R50	0683-1045	RIFXD COMP LOOK OHMS 5% 1/4W	· .	Ì
IOR51	0686-7525	RIFXD COMP 7500 DHMS 5% 1/2W		۰.
IOR52	0683-5635	RIFAD COMP 56K CHMS 5% 1/40		
lor53	0683-5635	RIFXD COMP 56K CHMS 5% 1/4W		
0R54	0686-7525	RIFXD CONP 7500 OHMS 5% 1/2%		<u> </u>
0R55	0683-4735	RIFXD COMP 47K CHHS 5% 1/4W	· · ·	
0R56	0683-4735	RIFXD COMP 47K CHHS 5% 1/4%	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
0R57	0663-1035	RIFXD CONF 10K'OHN 5% 174W RIFXD COMF 3900'OHN 5% 174W		
0R58	0683-3925			.
UR59	0683-1615	RIFXD COMP 180 OHM 5% 1/4W	· ·	ł
UR60	0653-4735	RIFXD COMP 47K OHNS 5% 1/4W		ļ
OR61 (0683-3925	RIFXU COMP 3900 0HM 5% 174% RIFXD COMP 10K 0HM 5% 174%		
0R62 0R63	0683-1035 0683-6835	REFAD COMP FOR ONE 54 1/4W		! .
411 W				
.0R64	0683-1045	RIFXU COMP 100K DHMS 5% 1/4W		
LOR65	0683-2025	RIFXD COMP 2000 OHM, 5% 1/4%		
IVO		NSR PART OF READOUT BLOCK ASSY		.
11		SAME AS AIG, USE PREFIX ALL	and A.	
	1	SAME AS A10, USE PREFIX A12	,	1 1
3		SAME AS A10. USE PREFIX A13	· · ·	
14		SAME AS A10, USE FREFIX A14		
15		SAME AS A10, USE PREFIX A15		ľ
16	05232-6010	DECIMAL COUNTER ASSEMBLY		
·	05232-2010	BOARDIBLANK PC] .
•	05212-6011	READOUT BLUCK ASSEMBLY		1
- C 1	0160-0369	CIFXD MICA 17 PF 58		Ι.
16C1	0160-0369	CIFXD MICA 17 PF 5%		1
603	0140-0204	CIFXD MICA 47PF 5% NPO 500VDCW	1 · · · ·	
6C4	0140-0204	CIFXU MICA 47PF 5% NPO 500VDCW	() () () () () () () () () ()	1
605	0130-0204	CIFXD MICA 47PF 5% NPO 500VDCW		1 1.
606	0140-0204	CIFXD MICA 47PF 5% NPO 500VDCW		•
6C7	0140-0194	CIFXU MICA 110 PF 5% 300 VDCW	· • •	1
LoCB	0140-0204	CIFXD MICA 47PF 5% NPO 500VDCW CIFXD MICA 47PF 5% NPO 500VDCW		1
16C9 16C10	0140-0204	CIFXD MICK 47PF DR NPO BOOVDCH		
			· · ·	· .
16011	0160-2563	CIFXD CER 2000 PF 20% 500VDCW		
16012	0140-0191	CIFXD MICA 56 PF 5% 300 V0CW		
16013	0160-2306	UIRAU TIUM ET FF DA		
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See list of abbreviations in introduction to this section 4-8

Reference	场 Stock No.	Description #	Note
Designation	SLOCK NO.		
A16C14	0140-0190	CIFXD MICA 39 PF 5% 300 VDCW	ĺ
A16C15	0140-0190	CIFXU MICA 39 PF 5% 300 VDCW	
A16C16 A16C17	0140-0191 0140-0191	CIFXD MICA 56 PF 5% 300 VDCW CIFXD MICA 56 FF 5% 300 VDCW	
AIOCRI	1901-0025	DIODE+JUNCTION+100 HA AT 1y 100PIV	ļ.,
AISCR2	1901-0025	DIODE JUNCTION 100 MA AT 1V 100PIV	
A16CR3	1901-0025	DIODE JUNCTION 100 MA AT 1V 100PIV	. .
A16CR4 A16CR5	1901-0025	DIODE JUNCTION 100 HA AT 1V 100PIV	
A16CR6	1901-8025	DIODE JUNCTION 100 HA AT IV 100PIV	5
A16CR7	1901-0025	DIODE-JUNCTION:100 MA AT IV LOOPIV	
A16CR8	1901-0025	DIODE - JUNCTION : 100 MA AT 1V 100PIV	
A16CR9	1901-0040	DIODE+SILICON:30 MA AT 1V 30 PIV DIODE+SILICON:30 MA AT 1V 30 PIV	1 N
A16CR11	1901-0040	DIODE+SILICONISO HA AT IV 30 PIV	ŀ
A16CR12	1901-0040	DIODE+SILICON: 30 MA AT IV 30 PIV	ļ.,
AlecR13	1901-0040	DIODE SILICON: 30 NA AT IV 30 PIV	,
A16CR14 A16CR15	1901-0040	DIODE+SILICON:30 MA AT IV 30 PIV DIODE+SILICON:30 MA AT IV 30 PIV	
A16CR16	1901-0040	DIODE+SILICON:30 MA AT 1V,30 PIV	·
A16CR17	1901-0040	DIODE+SILICONISO HA AT 1V 30 PIV	¦''
A16CR18	1901-0040	DIODE+SILICCN130 MA AT 1V 30 PIV	ļ, i
A16CR19	1901-0040	DIODE+SILICONISO MA AT 1V 30 PIV	
A16CR21	1901-0040	SEMICON DEVICEIDIODE SILICON	
A16051		NSR PART OF READOUT BLOCK ASSY	1 1
A16052		NSR PART OF READOUT BLOCK ASSY	
A16DS3 A16DS4		NSR PART OF READOUT BLOCK ASSY	
A16055		NOT ASSIGNED	
A16056	-970-0009	ELECTRON THEE INDICATOR 10 DIGIT	· .
A1601 A1602	1853-2034	TRANSISTORISILICON PNP	1:
A1603	1853-0034	TRANSISTORISILICON PNP	1 · `
A1604	1853-0034	TRANSISTORISILICON PNP	ĺ
A1605	1853-0034	TRANSISTORISILICON PNP	· ·
A1606	1853-0034	TRANSISTORISILICON PNP	
A1607	1053-0034	TRANSISTORISILICON PNP	
A1608	1853-0034	TRANSISTORISILICON PNP	
A16R1	0686-4735	RIFXD COHP 47K CHH 58 1/28	1
A16R2 A16R3 THRU		NSR PART OF READOUT BLOCK ASSY	
A16R3 THRU		NOT ASSIGNED	
ALGRO	0683-3945	RIFXD COMP 390K OHM 5% 1/4%	•
A16R7	0683-3945	RIFAD COMP 390K 0HM 5% 1/4%	
A1688	0683-3945	R:FX0 COMP 390K DHM 58 1/4%	1
A16R9	0683-3945	RIFXD COMP 390K OHM 58 1/48	
A16R10	0683-5635	RIFXD COMP 56K CHM 5% 1/4W RIFXD COMP 56K CHM 5% 1/4W	
AlGRII			

See list of abbreviations in introduction to this section

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Section IV

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Model 5245L

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Light 3 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 4 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 5 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Lig	Designation	🕏 Stock Ne.	Description #	Note
Light 3 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 4 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 5 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Lig	a de la compañía de la			
Light 3 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 4 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 5 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 6 Obes 3-50.35 RIFXD COMP 56K OHM 55 1/4W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET CA LBCO OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD VET FLJ 2700 OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-50.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Light 7 Obes 3-16.35 RIFXD COMP 16K OHM 55 1/2W Lig				
Lisk 14 Oce3-5035 RIFXD COMP 56K CMH 56 1/4# Lisk 15 Oce3-5037 RIFXD COMP 56K CMH 56 1/4# Lisk 16 Oce3-5037 RIFXD COMP 56K CMH 56 1/4# Lisk 16 Origl-Oci0 RIFXD COMP 56K CMH 56 1/4# Lisk 16 Origl-Oci0 RIFXD COMP 56K CMH 56 1/4# Lisk 16 Origl-Oci0 RIFXD MET CA LISCO CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD MET CA LISCO CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD MET FLH 2700 CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD MET FLH 2700 CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Origl-Oci0 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Oci2-1635 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Oci2-1635 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Oci2-1635 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Oci2-1635 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 Oci2-1635 RIFXD CMP TLH 2700 CMH 58 1/2# Lisk 20 <td>16R12</td> <td>1 T T T T T T T T T T T T T T T T T T T</td> <td></td> <td></td>	16R12	1 T T T T T T T T T T T T T T T T T T T		
LiGR15 Oc63-5635 RIFXD COMP 56K OHM 56 1/48 LIGR15 Oc63-5635 RIFXD CCMP 56K OHM 56 1/48 LIGR16 O761-6010 RIFXD MET CX 1800 OHM 58 1/48 LIGR16 O761-6010 RIFXD MET CX 1800 OHM 58 1/28 LIGR20 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR21 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR22 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR23 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR23 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR24 O758-0044 RIFXD MET FLM 2700 OHM 58 1/28 LIGR25 O758-0044 RIFXD COMP 16K OHM 58 1/28 LIGR26 O663-1635 RIFXD COMP 16K OHM 58 1/28 LIGR27 O663-1635 RIFXD COMP 16K OHM 58 1/48 LIGR28 O663-1635 RIFXD COMP 16K OHM 58 1/48 LIGR30 O663-1635 RIFXD COMP 16K OHM 58 1/48 LIGR31 O663-1635 RIFXD COMP 16K OHM 58 1/48 LIGR31 O663-1635 RIFXD COMP 16K OHM 58 1/48 LIGR31 O663-1635 RIFX		1		
Light is Code 3-5632 RiFAD COMP Sek OHM 5% 1/4% Light is O761-0010 RiFAD CMP Sek OHM 5% 1/4% Light is O761-0010 RiFAD HET CK 1800 OHM 5% 1/4% Light is O758-0044 RiFAD HET CK 1800 OHM 5% 1/2% Light is O758-0044 RiFAD HET FLH 2700 OHM 5% 1/2% Light is O758-0044 RiFAD HET FLH 2700 OHM 5% 1/2% Light is O758-0044 RiFAD HET FLH 2700 OHM 5% 1/2% Light is O758-0044 RiFAD HET FLH 2700 OHM 5% 1/2% Light is O758-0044 RiFAD COMP Isk OHM 5% 1/4% Light is O758-0044 RiFAD COMP Isk OHM 5% 1/4% Light is Ords -Light isk OHM 5% 1/4% Light is RiFAD COMP I				} . [
10R17 0603-5635 RIFX0 COMP 56K OHM 55 1/4% 10R18 0761-6010 RIFX0 PET CX 1800 OHM 5% 18 10R20 0758-6044 RIFXU PET CX 1800 OHM 5% 1/2% 10R21 0758-6044 RIFXU PET CX 2200 OHM 5% 1/2% 10R22 0758-6004 RIFXD PET FLM 2700 OHM 5% 1/2% 10R23 0758-6004 RIFXD PET FLM 2700 OHM 5% 1/2% 10R23 0758-6004 RIFXD PET FLM 2700 OHM 5% 1/2% 10R24 0758-6004 RIFXD PET FLM 2700 OHM 5% 1/2% 10R25 0758-0004 RIFXD PET FLM 2700 OHM 5% 1/2% 10R26 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R27 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R28 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R30 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R31 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R32 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R32 0683-1635 RIFXD COMP 16K OHM 5% 1/2% 10R32 0683-1635 RIFXD COMP 16K OHM 5% 1/4% 10R33 0683-1635 RIFXD COMP 16K OHM 5% 1/4% 10R34 0683-1635 RIFXD COMP 160 O				
16R18 0761-0010 RIFX0 MET CK 1600 OHH 5% 1% 16R20 0756-0044 RIFX0 MET CK 1600 OHH 5% 1/2% 16R21 0756-0044 RIFXD MET FLA 2700 OHH 5% 1/2% 16R22 0756-0044 RIFXD MET FLA 2700 OHH 5% 1/2% 16R22 0756-0044 RIFXD MET FLA 2700 OHH 5% 1/2% 16R23 0756-0044 RIFXD MET FLA 2700 OHH 5% 1/2% 16R24 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R25 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R26 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R27 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R26 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R27 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R28 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R30 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R31 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R32 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R31 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R32 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 16R34 0683-1635 RIFXD COMP 15% 1/2% <td>SUR SU</td> <td></td> <td></td> <td></td>	SUR SU			
10R19 0761-0010 RIFXU MET CA 1600 OHH 5% 1% 116R21 0758-0004 RIFXU MET CA 2200 OHH 5% 1/2% 116R21 0758-0004 RIFXU MET FLH 2700 OHH 5% 1/2% 116R23 0758-0004 RIFXU MET FLH 2700 OHH 5% 1/2% 116R23 0758-0004 RIFXU HET FLH 2700 OHH 5% 1/2% 116R24 0758-0004 RIFXD HET FLH 2700 OHH 5% 1/2% 116R25 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R26 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R26 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R26 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R31 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R31 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R31 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R33 0683-1635 RIFXD COMP 16K OHH 5% 1/2% 116R34 0683-1015 RIFXD COMP 16K OHH 5% 1/2% 116R35 0683-1015 RIFXD COMP 100 OHH 5% 1/2% 116R36 0683-1015 RIFXD COMP 100 OHH 5% 1/2% 116R36 0683-1015 RIFXD COMP 100 OHH 5% 1/2% 116R40 0683-1025 RIFXD	16R17	0603-5635	RIFXD COMP 56K OHN 5% 1/4%	
16R20 0758-0044 RIFKD MET CA 2200 OHH 5% 1/2# 16R21 0758-0004 RIFKD MET FLH 2700 OHH 5% 1/2# 16R23 0756-0004 RIFKD MET FLH 2700 OHH 5% 1/2# 16R23 0756-0004 RIFKD MET FLH 2700 OHH 5% 1/2# 16R25 0758-0004 RIFKD MET FLH 2700 OHH 5% 1/2# 16R26 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R27 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R28 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R31 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R32 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R30 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R32 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R33 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R34 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R35 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R34 0663-1635 RIFKD COMP 16K OHH 5% 1/4# 16R35 0663-1635 RIFKD COMP 100 OHH 5% 1/4# 16R36 0663-1635 RIFKD COMP 100 OHH 5% 1/4# 16R35 0663-1635 RIFKD COMP 100 OHH 5% 1/	16R18	0761-0010		
16R21 0758-0004 RIFXD MET FLH 2700 OHM 58 1/2# 16R22 0756-0004 RIFXD MET FLH 2700 OHM 58 1/2# 16R23 0756-0004 RIFXD MET FLH 2700 OHM 58 1/2# 16R26 0756-0004 RIFXD MET FLH 2700 OHM 58 1/2# 16R26 0768-1055 RIFXD COMP 16K OHM 58 1/2# 16R26 0683-1635 RIFXD COMP 16K OHM 58 1/2# 16R27 0663-1635 RIFXD COMP 16K OHM 58 1/2# 16R28 0663-1635 RIFXD COMP 16K OHM 58 1/2# 16R29 0663-1635 RIFXD COMP 16K OHM 58 1/2# 16R30 0663-1635 RIFXD COMP 16K OHM 58 1/2# 16R31 0663-1635 RIFXD COMP 16K OHM 58 1/2# 16R31 0663-1635 RIFXD COMP 16K OHM 58 1/4# 16R34 0663-1635 RIFXD COMP 16K OHM 58 1/4# 16R35 0663-1635 RIFXD COMP 16K OHM 58 1/4# 16R36 0663-1635 RIFXD COMP 18K OHM 58 1/4# 16R36 0663-1635 RIFXD COMP 18K OHM 58 1/4# 16R41 0663-1635 RIFXD COMP 1900 OHM 58 1/4# 16R42 0663-1635 RIFXD COMP 100 OHM 58 1/4# 16R41 0663-1635 RIFXD COMP 100 OHM 58 1/4#		1		· • • •
16R22 0758-0004 RIFXD MET FLM 2700 OHM 5% 1/2W 16R23 0758-0004 RIFXD MET FLM 2700 OHM 5% 1/2W 16R24 0758-0004 RIFXD MET FLM 2700 OHM 5% 1/2W 16R25 0683-1635 RIFXD COMP 16K OHM 5% 1/2W 16R26 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R27 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R27 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R30 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R31 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R32 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R31 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R32 0683-1635 RIFXD COMP 16K OHM 5% 1/4W 16R33 0683-1635 RIFXD COMP 1000 OHM 5% 1/4W 16R34 0683-9755 RIFXD COMP 1000 OHM 5% 1/4W 16R36 0683-9825 RIFXD COMP 1000 OHM 5% 1/4W 16R34 0683-115 RIFXD COMP 1000 OHM 5% 1/4W 16R40 0683-9825 RIFXD COMP 1000 OHM 5% 1/4W 16R41 0683-115 RIFXD COMP 1000 OHM 5% 1/4W 16R42 0683-115 RIFXD COMP 1000 OHM 5% 1/4W<		i i ī i i i i i i i i i i i i i i i i i		
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16R55 0683-1025 R:FXU COMP 1000 OHM 5% 1/4% 16R56 0683-3625 R:FXU COMP 3600 OHM 5% 1/4% 16R57 0683-3625 R:FXU COMP 3600 OHM 5% 1/4% 16R58 0683-1025 R:FXU COMP 1000 OHM 5% 1/4% 16R59 0683-1045 R:FXU COMP 1000 OHM 5% 1/4% 16R60 0683-1125 R:FXU COMP 100K OHM 5% 1/4% 16R61 0683-2735 R:FXU COMP 27K OHM 5% 1/4%				·
16R56 0683-3625 R#FXD COMP 3600 OHM 5% 1/4% 16R57 0683-3625 R#FXD COMP 3600 OHM 5% 1/4% 16R58 0683-1025 R#FXD COMP 1000 OHM 5% 1/4% 16R59 0683-1045 R#FXD COMP 1000 OHM 5% 1/4% 16R60 0683-1125 R#FXD COMP 1100 OHM 5% 1/4% 16R61 0683-2735 R#FXD COMP 27K OHM 5% 1/4%			R:FXU COMP 1000 DHM 5% 1/4W	
16R58 0683-1025 RIFXD COMP 1000 OWN 5% 1/4% 16R59 0683-1045 RIFXD COMP 100K OWN 5% 1/4% 16R60 0683-1125 RIFXD COMP 1100 OWN 5% 1/4% 16R61 0683-2735 RIFXD COMP 27K OWN 5% 1/4%	16R56 💠 🗉	0683-3625	R*FXD COMP 3600 OHM 5% 1/4W	· · · · ·
16R58 0683-1025 RIFXD COMP 1000 OHM 5% 1/4% 16R59 0683-1045 RIFXD COMP 100K OHM 5% 1/4% 16R60 0683-1125 RIFXD COMP 1100 OHM 5% 1/4% 16R61 0683-2735 RIFXD COMP 27K OHM 5% 1/4%	14057			.]
16R59 0683-1045 R#FXD COMP 100K OHM 5% 1/4% 16R60 0683-1125 R#FXD COMP 1100 OHM 5% 1/4% 16R61 0683-2735 R#FXD COMP 27K OHM 5% 1/4%				
16R60 0683-1125 REFXD COMP 1100 OWN 5% 1/4W 16R61 0683-2735 REFXD COMP 27K OWN 5% 1/4W				·
16R61 0683-2735 RIFXU COMP 27K OHH 5% 1/4W				· · ·
				[
16R62 0663-1045 RIFXD COMP 100K OWH 5% 1/4%				
	16R62	0683-1045	RIFXD COMP 100K OHM 5% 1/4%	·
그는 것은 것에서 다시 가지 않는 것에서 가지 않는 것이 것이 가지 않는 것이 같이 가지 않는 것이 없다. 나는 것이 같은 것이다.	1	• · · ·		
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= See list of abbreviations in introduction to this section

Section IV Table 4-1 1

Table 4-1. Reference Designation Index (Cont'd)

	Reference Designation	Stock No.	Description #	Note
	*			
	A16R63	0683-1235	RIFXD COMP 12K OHN 5% 1/4W	
	A16P64	0683-3025	RIFXD COMP 3000 DHH 5% 1/4W	
· · · ·	A16R65	0683-3935	RIFXD COMP 39K OHH 5% 1/4W	1. T
	A16V1		NSR PART OF READOUT BLOCK ASSY	
1				
	A17	5245A-65C	ASSYNDECIMAL COUNTER BOARDIBLANK P.C.	
		52454-650-1	BUARD-BLAND FACA	l. i
	A17C1	0150-0093	C:FXD CER 0.01UF +80-20 100VDC*	
	A17C2	0150-0050	CIFXD CER 1000PF 600 VDCW	
	A17C3	0140-0196	CIFXD MICA 150 PF 5% 300 VDC#	
· · ·	A17C4	0140-0034	CIFXD MICA 22 PF 5% 500 VDCW	
	A17C5	0140-0210	CIFXD MICA 270PF 5% 300VDCW	
n na Asiatri	A17C6	0140-0145	CIFXD MICA 22 PF 5% 500 VDCW	
$\langle \gamma \rangle$	A17C7	0140-0196	CIFXD MICA 150 PF 58 300 VDCW	
2010 - 100 1	A17C8	0140-0202	CIFXD MICA 15 PF 5% 500VDC%	[
	A17C9	0140-0208	CIFXD NICA 6BOPF 5% JOOVDCW	l
1967	A17C10	0140-0202	CIFXD MICA 15, PF 5% 500VDCW	.
· · · ·	A17C11	0140-0204	CIEXO NICA 47PE 58 NPO BOOVDEW	
	A17C12	0140-0145	CIFXD MICA 22 PF 5% 500 VDCW	
	A17C13	0140-0214	CIFXD MICA COPF 5% 300VDCW	
	A17C14	0140-0210	CIFXD MICA 270PF 5% 300VDCW	
5. 5	A17C15	0140-0145	CIFXD MIGA 22 PF 5% 500 VDCW	1
	, 1 ' i	1 2 2 2 2 2 2 2		. '
	A17C16	0140-0214	CIFXU MICA COPF 58 300VDCW	
<u>}</u>	A17C17	0140-0203	CIFXÔ MICA 30PF 58 500VDCW CIFXÔ MICA 15 PF 58 500VDCW	· ·
	A17C18 A17C19	0140-0202	CIFXD MICA 270PF 5% 300VDCW	
	A17C20	0140-0202	CIFXD MICA 15 PF 5% 500VDCW	
		·		
	A17C21	0140-0193	CIFXD MICA 82PF 38 JOOVDCW	
	A17C22	0160-6958	CIFXD MICA 390PF 5% 300VDCM	Į
1. 1. C.	A17C23	0140-0200	CIFXD MICA 390PF 58 300VDCW	
	A17C24	0140-0200	CIFXD MICA 390PF 5% 300VDCW CIFXD CER 0.01UF +80-20 100VDCW	1
	A17C25	0190-0073	A HUR ARD ARTON TOALEA TOALAN	· ·
	A17C26	0150-0093	CIFXU CER 0.01UF +80-20 100VDCW	
1 <u>1</u>	A17C27	0150-0093	CIFXD CER 0.01UF +80-20 100VDCW	
·	A17C28	0150-0093	C15XD CER 0.01UF +80-20 100VDC#	
	A17C29	0150-0093	CIFXD CER 0.01UF +80-20 100VDCW	
	A17CR1	1910-0022	SEMICON DEVICE DIODE GE 100MA 6PIV 3-5NS	
	A17CR2	1910-0022	SEMICON DEVICE:DODE GE 100MA 6PIV 3.5NS	1 .
	A17CR3	1910-0022	SEMICON DEVICE DIODE GE 100MA 6PIV 3.5NS	· ·
	A17CR4	1901-0535	SEMICON DEVICE IDIODE	
· 1''	A17CR5	1910-0022	SEMICON DEVICE DIODE GE 100MA 6PIV 3.5NS	ł
· · · · ·	AITCR6	1901-0535	SEMICON DEVICE DIODE	
	AITCRD AITCR7	1910-0022	SEMICON DEVICE DIODE GE 100MA 6PIV 3.5NS	
4	A17CR8	1910-0022	SEMICON DEVICE: DIODE GE 100MA 6PIV 3.5NS	ľ
	A17CR9	1901-0535	SEMICON DEVICE DIODE	1
	A17CR10	1901-0535	SENICON DEVICE DIODE	1 '
ener in E		1010 0022	SEMICON DEVICE DIODE GE 100MA 6PIV 3.5NS	
	A175R11 A17CR12	1910-0022	SEMICON DEVICEIDIDE GE ICOMA OPIV SISNS	1
ette i	A17CR12	1910-0022	SEMICON DEVICEIDIODE GE 100MA 6PIY 3-5NS	
	A17CR14	1910-0022	SEMICON DEVICE DIODE GE 100MA OPIV 3.5NS	
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Model 5245L

Table 4-1, Reference Designation Index (Cont'd)

1.

Reference Designation	🕏 Stock No.	Description #	Note
	1		
17CR15	1901-0535	SEMICON DEVICE DIODE	
17CR16	1910-0022	SEMICON DEVICEIDIODE GE 100HA 6PIV 3.5NS	
17CR17	1910-0022	SEMICON DEVICE: DIODE GE 100MA OPIV 3.5NS	
17CR19	1910-0022	SEMICON DEVICE DIODE GE 100MA EPIV 3.5NS SEMICON DEVICE DIODE GE 100MA EPIV 3.5NS	1
17CR20	1901-0025	SEMICON DEVICE DIODE JUNCTION	
17L1			
1712	9140-0159	COILIFXD 8-47UH 20% Coilifxd 1-guh 10%	
17L3	9140-0159	COIL:FXD 0.47UH 208	
17L4	9140-0158	COILIFXD 1.GUH 10%	
1715	9140-0143	COILIFXD HF 3.3 UH	
17L6	9140-0159	COIL:FXD 0.470H 20%	
1717	9140-0159	COILIFXD 0.470H 20%	
1718	9140-0143	COIL:FXD RF 3.3 UH	1
1719	9140-0143	COILIFXD RF 3.3 UH	
1701	1854-0009	TRANSISTOR 201709 NPN SILICON	
1702	1854-0009	TRANSISTOR #2N709 NPN SILICON	·
1703	1854-0009	TRANSISTOR 12N709 NPN SILICON	. .
1704	1854-0009	TRANSISTORIZNTOO NPN SILICON TRANSISTORIZNTOO NPN SILICON	I
1706	1854-0009	TRANSISTER # 2N7C9 NPN SILICON	' I'
1707	1854-0009	TRANSISTOR 2N709 NPN SILICON	
1708	1854-0009	TRANSISTORIZNTOS NPN SILICON	
1709 17010	1850-0158 1850-0102	TRANSISTORIPHP GERMANIUM	
	1020-0105	TRANSISTOR:GE2N2455	· · ·
17011	1854- 0009	TRANSISTOR: 2N709 NPN SILICON	· · · · · ·
17012	1854-0009	TRANSISTOR 2N709 NPN SILICON	
17013	1854-0009	TRANSISTOR 2N702 NPN SILICON	
17R1	0687-5115	RIFXD COMP 510 OHMS 5% 1/4W	·
17R2	0683-4725	R #FXD COMP 4700 OHM 58 174%	· · · · [·
17R3	0683-2015	RIFXD COMP 200 0HMS 5% 1/4W	
17R4	0683-1225	RIFXD COMP 1200 OHMS 58 1/48	
17R5	0683-3315	RIFXD COMP 330 OHMS 58 1748	
17R6	0683-2025	R#FXD COMP-2000 OHMS 58 1/4W	· · ·
17R7	C683~3305	RIFX0 COMP 33 OHMS 5% 1/4%	
17R8	0683-2025	HIFX0' COMP 2000 OHHS 5% 1/4#)
17R9 17R10	0683-4725 0683-2015	RIFXD COMP 4700 OHM SN 1/4W	
,	2007-2013	RIFXD COMP 200 OHMS 5% 1/4W	,
17R11	0683-1225	RIFXD COMP 1200 OHMS 5% 1/4W	
7R12	0683-3315	RIFXD COMP/330 OHHS 55 1/4W	· [
17R13	0683-2025	RIFXU COMP 2000 OHHS 5% 1/4W	
7R15	0683-2225	RIFXD COMP 10K 0HMS 5% 1/4% RIFXD COMP 2.2K 0HM 5% 1/4%	
	•		
17R16	0683-3315	RIFXD COMP 330 CHMS 5% 1/4W	
17R17 17R18	0683-1825 0683-2725	RIFXD COMP 1800 DHMS 5% 1/4W	
17819	0683-5105	RIFXD COMP 2700 OMMS 5% 1/4% RIFXD COMP 51 OMM 5% 1/4%	
17R20	0683-2415	RIFXD COMP 240 OHNS 5% 1/4W	
17R21	0683-1825	RIFXD COMP 1800 DHMS 5% 1/4W	
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`			1 J v	Table 4-1,	Reference	e Design	ation Index	(Cont'

Reference Designation	Stock No.	Description	n #
A17R22 068	3-2725 RIFXD COMP		
A17R23 068	3-2225 RIFXÜ COMP	2700 OHMS 5% 1/4% 2.2K OHM 5% 1/4%	, A
		2000'0HMS 5% 1/4W 10K CMMS 5% 1/4W	· · · · · · · · · · · · · · · · · · ·
		220 OHMS 5% 1/4W	
	3-1015 NIFXD COMP	100 OHMS 58 1/48	
		470 CHM 5% 1/4% 240 CHMS 5% 1/4%	
A17R30 068	3-1025 RIFXD COMP	1000 OHM 5% 1/4w	
A17R31 068	3-8215 RIFXD COMP	820 OHMS 5% 1/4%	
	3-3025 RIFND COMP	3000 OHMS 5% 1/4W	
1		51 OHM 5% 1/4W 240 OHMS 5% 1/4W	
	3-1025 R:FXD COMP	1000 OHM 5% 1/4W	
· · · · · · · · · · · · · · · · · · ·		620 CHHS 5% 1/4W	
A17R38 0683	3-1625 R*FXD COMP	3000 OHNS 5% 1/4W 5 1600 OHN 5% 1/4W	1
	3-1035 R:FXD COMP	10K OHMS 5% 1/4m	
	3-3315 RIFXD COMP	470 CHM 58 1/48 330 CHNS 58 1/48	
	-1825 RIFXD CUMP	1800 OHNS 5% 1/4W	and the second sec
	-2725 RIFXD CCMP	2700 OHMS 5% 1/4W	
A17R45 0683	5-3315 👘 RIFXÔ COHP 🗄	51 OHM 5% 1/4w 330 Ohms 5% 1/4w	
A17R46 0683	2225 RIFXD COMP 2	2200 OHMS 5% 1/4W (FAC	TORY SELECTED PART)
	2225 R:FXD COMF 2	200 DHMS 5% 1/4W	1 2 <u>1</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1
A17R49 0683	-2025 RIFXD COMP 2	470 OHM 5% 1/4W	
	-1035 RIFXD COMP	LOK OHMS 5% 1/4W 170 OMMS 5% 1/2W,	
	-5115 RIFXD COMP	10 OHN 5% 1/4W	
	-0475 RIFXD COMP 4 -5615 RIFXD COMP 5	++7 0MMS 5% 1/4% 200 0HMS 5% 1/4%	t () €
	-4315 RIFXD COMP 4	30 OHNS 5% 1/4%	
		50 OHMS 58 174W	$(1,1)^{n+1} = (1,1)^{n+1} + $
1	-7515 R*FXD COMP//7 -4315 R*FXD COMP	50 OHMS 5% 1/4W 50 OHM 5% 1/4W	
A17859 0683	-7515 RIFXD COMP 7	50 CHMS 5% 1/4m	1
	-0020 RIFXD MET FL -1015 RIFXD CCMP J	M 91 OHN 5% 1W	1 (1997) 1 (1997)
A17R62 0683		8 OHHS 5% 1/4W	
A18 5245	L-48 ASSY READOUT		en e
5243	A-65A-1 BOARDIELANK	P.C.	· · ·
	2-6011 READOUT BLCC		
I save and the second s	-0925 SEMICON DEVI -0025 SEMICON DEVI	CENDIODE JUNCTION	
A18CR3 1901	-0025 SEMICON DEVI	CEIDIODE JUNCTION CEIDIODE JUNCTION	
	-0025 SEMICON DEVI	CE + DIODE JUNCTION SE + DIODE JUNCTION	
ter et			
1901	SEMICON DEVI	CEIDIODE JUNCTION	

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Table 4-1. Reference Designation Index (Cont'd)

Reference Designation	Stock No.	Description #		Note	
5 (³ -			• ,		
A18CR7 A18CR8	1901-0025 1901-0025	SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION			
A18051		NSR PART OF READOUT BLOCK ASSY.			
A18D52 A18D53		NSR PART OF READOUT BLOCK ASSY.			
A18054		NSR PART OF READOUT BLOCK ASSY. NSR PART OF READOUT BLOCK ASSY.	n fan Ingele N		, . [.]
A16D55	$\frac{1}{6} = \frac{1}{6} \frac{1}{9} \frac{1}{10} $	NOT ASSIGNED	, EST and Constraints In Statistics of the Antonio Anto		2
A18D36	1970-0009	ELECTRON TLEE: INDICATOR 10 DIGIT			
A1801	1854-000>	TRANSISTORINPN SILICON	1		
A1802 A1803	1854-0003	TRANSISTORINPN SILICON TRANSISTORINPN SILICON	2 s j		. ·
A1604 A1805	1854-9003	TRANSISTORINPN SILICON	· · · ·		
$\overline{\mathcal{H}}_{2}^{-}$	1854-0003	TRANSISTOR INPN SILICON			Į.
A1806 A1807	1854-0003 1854-0003	TRANSISTORINPN SILICON TRANSISTORINPN SILICON			
A1808	1854-0003	TRANSISTOTINPN SILICON		· · .	
Aleri	0686 4735	RIFAU COMP 47K CHH 58 1/2W			
A16R2 A16R3		NSR PART OF REACOUT BLOCK ASSY.			с ^у .,
18R5		NOT ASSIGNED			
18R6	0683-3945	RIFXD COHP 390K OHMS 5% 1/4W			
1887 1888	0683-3945 9683-3945	RIFXD COMP 390K OWNS 5% 174W	, ,		
18R9	0683-3945	RIFXD COMP 390K OHMS 5% 1/4% RIFXD COMP 390K OHMS 5% 1/4W			
18R10 18R11	0683-5635 0683-5635	RIFXD COMP 56K CHMS 5% 1/48 RIFXD COMP 56K CHMS 5% 1/48			
	r^{1}			1	
18R12 18R13	0683-5635 0663-5635	RIFXD COMP S6K CHMS 5% 1/4% RIFXD COMP 56K CHMS 5% 1/4%			
18R14 18R15	0683-5635 0683-5635	RIFXD COMP 56K OHNS 5% 1/4%			
18R16	0683-5635	RIFXU COMP 56K CHNS 5% 1/4W			
18R17	0683-5635	RIFXD COMP SOK CHNS 5% 1/4%			
18918 18819	0683-2025	RIFXU COMP 2000 OHM 5% 1/4#			
18R20	0663-7525 0683-1545	RIFXD COMP 7500 OHMS 5% 1/4% RIFXD COMP 150K OWM 5% 1/4%	. ,		
18R21	0683-5135	RIFXD COMP SIK OHM 5% 1/4W		7	
18R22	0683-6805	RIFXO COMP 68 OHM 58 1/48			
10R23 16R24	0683-7525	NOT ASSIGNED RIFXU COMP 7500 OHMS 5% 1/4W			
18R25	0683-1045 0683-2025	RIFXU COMP 100K OHM 5% 1/4%			•
		RIFX0 COMP 2000 OHM 51 1/4#	· · · · · ·		
18R27	0653-7525	RIFXO COMP 7500 0005 5% 1/4% RIFXU COMP 150% 000 5% 1/4%			
18R29	0683-5135	RIFXD COMP 51K OHM 5% 1/4W			
18R30 18R31	0683-9105	RIFXD COMP 91 OHM 5% 1/4% Not Assigned			•
18R32	0683-7525	RIFXD COMP 7500 DHMS 5% 1/4W			
18R33	0683-1045	RIFXD COMP LOOK OWN 5% 1/4W		din di	
18834	0683-2025	RIFXD COMP 2000 OHM 5% 1/4W		;	
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Level M. Co.		$\frac{1}{2} = \frac{1}{2} \left[
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1.1	Model	5245L

Table 4-1. Reference Designation Index (Cont'd)

	Reference Designation	Stock No.	Description #	Note	
$E_{\rm eff} = E_{\rm eff} + E_{\rm$	4		$\left\{ \begin{array}{ccc} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ \end{array} \right\} = \left\{ \begin{array}{ccc} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array} \right\} = \left\{ \begin{array}{ccc} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array} \right\} = \left\{ \begin{array}{ccc} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array} \right\} = \left\{ \begin{array}{ccc} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array} \right\}$		2
			$\left\{ \left\{ 1, \dots, n_{k} \right\} : \left\{ 1, \dots, n_{k} \right\} \in \left\{ 1, \dots, n_{k} \right\} \right\}$ (1)		
	(A18R35	0683-7525	R#FXD COMP 7500 DHMS 5% 1/4%		· .
	A18R36	0683-1545	RIFXO COMP 150K OWM 5% 1/4m	i i	· ·
	A18R37 A18R38	0693-5135	RIFXO COMP 51K CHN 5% 1/4%		,
$\frac{1}{2} \frac{1}{2} \frac{1}$	A18R39	0003-7105	NOT ASSIGNEL		
	A18R40 (* 1 A18R41 - 1999)	0683-7525	RIFXD COMP 7500 OWNS 5% 1/4% RIFXD COMP 100K OWM 5% 1/4%		
ан х 1 с. т. т. т.	A18842.	0683-2025	RIFXD COMP 2000 CHM 5% 1/4%	1	
1. 1.	A18R43	0683-7525	RIFX0 COMP 7500 OWNS 5% 1/4%		
	A18R44	0683-1545	RIFXU COMP 150K OHM 5% 1/4w		•
din	A18845	0683-5135	RIFXD COMP 51K ONH 5% 1/4W		×
el el c	A18846	0683-9105	RIFXD COMP 91, OHM 58 1/4%	1 A. 1	· · ·
$x \in [0, \infty]$	A18847	0407 7575	NCT ASSIGNED REFXD COMP 7500 OHMS 5% 1/4%		<u>,</u> ,
•	A18846 A18849	0683-7525	RIFXD COMP 100K OWM 5% 1/4W		
	A18V1		NSR PART OF READOUT BLOCK ASSY.	· · · .	
	A19	05245-6014	BOARD ASSY INPUT AMPLIFIER	·	
		05245-2014	BOARDIBLANK PC		
	1		CARAD COD NO DOL CONOCH		
	A19C1 A19C2	0160-0127	C #FXD CER 11" 20% 25VDCW C #FXD CER 0.01UF +80-20 100VDCw	Sugar Sec.	
	A19C3	0150-0042	CIFXO TI 4.7 PF 5% 500VDCW		
an a	A19C4	0150-0093	C * FXD CER 0.01UF +80-20 100VDC*		
	A19C5	0150-0093	CIFXO CER G.01UF +80-20 100VDC+		
10.17	A1906	0150-0073	CIFXD CER 100 PF 10% SOOVDCW		
	A19C7	0160-0127	CIFXO CER ILF 20% 25VDCW		
	A19C8 A19C9	0150-0093	C # FXD CER 0.01UF +80-20 100VDCW C # FXD CER 20 PF 10% 100VDCW		· .
5	A19010	0150-0093	C IFXD CER G.01UF +80-20 100VDCW		
1.					
in the second	A19CR1 A19CR2	1901-0376	DIODE:SILICON 35V SEMICON DEVICE:DIODE SILICON		
	A19CR3	1901-0376	DIODE:SILICON 35V		
$\sim 10^{-1}$	A19CR4	1901-0040	SEMICON DEVICEIDIODE SILICON	'	
1 (<u>1</u> 4)	A19CR5	1902-0580	DIODE BREAKCOWNISILICON		
22120	A19CR6	1901-0040	SEMICON DEVICE DIODE SILICON		5
na phi	A19CR7	1901-0040	SEMICON DEVICEIDIODE SILICON		
	A1901	1855-0047	TRANSISTORICUAL N-CHANNEL FET		,•
	A1902	1854-0249	TRANSISTORIDUAL NP SILICON		
$\hat{\chi}_{i}, \hat{\chi}_{j}$	A1903 A1904	1853-0015	TRANSISTORISILICC. PNP 2N3640 TRANSISTORISILICON PNP 2N3640		
$\{ i_{i_1}, \ldots, i_{i_n} \}$	A1905	1854-0009	TRANSISTORIZNTON NEW SILICON		
de la					
	A19Q6	1854-9009	TRANSISTOR 20709 NPN SILICON		2
an,fistoria da La seconda da seconda d	AISRI	0757-0898	RIFXU HET FLM 82 OHH 2% 1/8W		
	A19R2	0683-1625	RIFXD COMP 1600 DHN 5% 1/4%		
i sha as	A19R3 A19R4	0757-0948	RIFXO MET FLM ICK OHH 2% 1/8% RIFXO MET FLM 12K OHM 2% 1/8%		
4	AlgR5	0757-0940	RIFXU MET FLN 4.7K OHM 28 1/6W		·
				1, 1	•
	AI9R6 AI9R7	0757-0952	RIFXD MET FLM 15K OHM 28 1/80 RIFXD MET FLM 240 OHM 28 1/80		
	PATRI	0757-8509	TO POP THE FIRM AND AN AVON		
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See list of abbreviations in introduction to this section

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Section IV Table 4-1

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Table 4-1. Reference Designation Index. (Cont'd)

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Designation Ø SLOCK NO Al9R8 0757-0932 Al9R9 0757-0936 Al9R10 0757-0916 Al9R11 0757-0900 Al9R12 0757-0904 Al9R13 0757-0936 Al9R14 0757-0904 Al9R15 0757-0936 Al9R16 0757-0932 Al9R17 0757-0932 Al9R18 0757-0952 Al9R19 0757-0972	RIFXD MET FLM 2.2K OHM 2% 1/8W RIFXD MET FLM 3.3K OHM 2% 1/8W RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 100 OHM 2% 1/8W RIFXD MET FLM 150 OHM 2% 1/8W RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 240 OHM 2% 1/8W RIFXD MET FLM 2.2K OHM 2% 1/8W RIFXD MET FLM 680 OHM 2% 1/8W RIFXD MET FLM 15K OHM 2% 1/8W	
A19R9 0757-0936 A19R10 0757-0916 A19R11 0757-0900 A19R12 0757-0904 A19R13 0757-0936 A19R13 0757-0936 A19R13 0757-0916 A19R14 0757-0916 A19R15 0757-0909 A19R16 0757-0932 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0972	RIFXD MET FLM 3.3K OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 100 OHM 28 1/8W RIFXD MET FLM 150 OHM 28 1/8W RIFXD MET FLM 3.3K OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 2.2K OHM 28 1/8W RIFXD MET FLM 680 OHM 28 1/8W	
A19R9 0757-0936 A19R10 0757-0916 A19R11 0757-0900 A19R12 0757-0904 A19R13 0757-0936 A19R13 0757-0936 A19R13 0757-0916 A19R14 0757-0916 A19R15 0757-0909 A19R16 0757-0932 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0972	RIFXD MET FLM 3.3K OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 100 OHM 28 1/8W RIFXD MET FLM 150 OHM 28 1/8W RIFXD MET FLM 3.3K OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 2.2K OHM 28 1/8W RIFXD MET FLM 680 OHM 28 1/8W	
A19R11 0757-0900 A19R12 0757-0904 A19R13 0757-0904 A19R14 0757-0916 A19R15 0757-0909 A19R16 0757-0909 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0952	RIFXU MET FLM 100 OHM 2% 1/8# RIFXU MET FLM 150 OHM 2% 1/8W RIFXD MET, FLM 3.3K OHM 2% 1/8W RIFXD MET, FLM 470 OHM 2% 1/8W RIFXD MET, FLM 240 OHM 2% 1/8W RIFXD MET, FLM 2.2K OHM 2% 1/8W RIFXD MET, FLM 680 OHM 2% 1/8W	
A19R12 0757-0904 A19R13 0757-0936 A19R14 0757-0916 A19R15 0757-0909 A19R16 0757-0932 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0972	RIFXD MET FLM 150 OHM 2% 1/8W RIFXD MET FLM 3.3K OHM 2% 1/8W RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 240 OHM 2% 1/8W RIFXD MET FLM 2.2K OHM 2% 1/8W RIFXD MET FLM 680 OHM 2% 1/8W	
A19R13 0757-0936 A19R13 0757-0916 A19R15 0757-0916 A19R15 0757-0909 A19R16 0757-0932 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0972	RIFXD MET, FLM 3.3K OHM 28 1/8W RIFXD MET FLM 470 OHM 28 1/8W RIFXD MET FLM 240 OHM 28 1/8W RIFXD MET FLM 2.2K OHM 28 1/8W RIFXD MET FLM 680 OHM 28 1/8W	
A19R14 0757-0916 A19R15 0757-0909 A19R16 0757-0932 A19R17 0757-0920 A19R18 0757-0952 A19R19 0757-0972	RIFXD MET FLM 470 OHM 2% 1/8W RIFXD MET FLM 240 OHM 2% 1/8W RIFXD MET FLM 2.2K OHM 2% 1/8W RIFXD MET FLM 680 OHM 2% 1/8W	
A19815 0757-0909 A19816 0757-0932 A19817 0757-0920 A19818 0757-0952 A19819 0757-0972	RIFXD MET FLM 240 0HM 2% 1/8W RIFXD MET FLM 2.2K 0HM 2% 1/8W RIFXD MET FLM 680 0HM 2% 1/8W	
A19817 0757-0920 A19818 0757-0952 A19819 0757-0972	RIFXD MET FLM 680 OHM 2% 1/8W	· ·
A19R18 0757-6952 A19R19 0757-0972		
A19R19 0757-0972	RIFXD MET FLM 15K OHM 28 1/8W	
A19820 2100-1754	RIFAD MET FLM 100K CHM 28 1/8W RIVAR WW 50 OHM 5% 1W	
A19821 0757-0930	RIFXD MET FLM 1.8K OHM 28 1/8W	
A19R22 0757-0914	RIFXD MET, FLM 390 OHM 2% 1/8+	
A19R23 0757-0902	RIFXD MET FLM 120 OHM 2% 1/8%	- K
A19R24 0757-0930	RIFXD MET FLM 1.8K OHM 2% 1/8W FACTORY SELECTED PARTITYPICAL VALUE GIVEN	
A19825 0757-0948	RIFXD MET FLM 10K OHM 2% 1/8W	
A19R26 0757-0950	RIFXD PT FLM 12K OHM 28 1/8W	
A20	SAME AS A19HUSE PREFIX A20	
A21 05245-6015	BUARD ASSY FUNCTION	
05245-2015	BOARD:BLANK PC	
A21C1 0160-0127	CIFXD CER 10F 20% 25VDCW	
A21C2 0150-0093	CIFXD CER 0.01UF 480-20 100VOCW CIFXD CER 0.01UF 480-20 100VDCW	
A21C3 0150-0093 A21C4 0170-0084	CIFXD MY 0.068UF 20% 50VDCW	
A21C5 0160-0127	CIFXD CER JUF 20% 25VOCW	ļ
A21C6 0160-0127	C:FXD CER 10 208 25YDCW,	ł
A21C7 0160-0127	CIFXD CER 1LF 208 25VDCW	
A21C8 0160-0205 A21C9 0140-0203	CIFXD MICA 10 PF 5% CIFXD MICA 30PF 5% 500VDCW	
A21C10 0140-0203	CIFXD MICA 30PF 5% 500VDCW	
A21C11 0160-0205	CIFXD MICA 10 PF 5%	
A21C12 0150-0093	CIFXU CER C.01UF +80-20 100VDCW	
A21C13 0140-0149 A21C14 0140-0149		
A21C14 0140-0149 A21C15 0140-0149	CIFXD MICA 470 PF 5% 300 VDCW	
	CIFXD HICA 470 PF 58 300 VDC#	4 S. 1
A21C16 0140-0149 A21C17 0150-0093	C1FXD CER 0.01UF +80-20 100VDCW	2
A21C18 0160-0370	CIFXD MICA 20 PF 5%	
A21CR1 1910-0016	SEMICON DEVICE DIDDE GERMANIUM	- 1 A
A21CR2 1910-0016	SEMICON DEVICEIDIODE GERMANIUM	
A21CR3 1910-0016 A21CR4' 1910-0016	SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM	
A21CR5 1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A21CR6 1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A21CR6 / 1910-0016 A21CR7 / 1910-0016	SEMICON DEVICEIDIODE GERMANIUM	
A21CR8 1910-0016	SENICON DEVICE DIDDE GERMANIUM	• /
A21CR9 1901-0040	SEMICON DEVICE DIODE' SILICON	
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Section IV Table 4-1

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Table 4-1.	Reference	Designation	Index	(Cont	'd)	•
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	Reference Designation	😽 Stock No.	Description #	Note
				1
	A21CR10 A21CR11 A21CR12 A21CR13 A21CR13 A21CR14	1910-0016 1910-0016 1910-0016 1901-0025 1901-0025	SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM DICDE JUNCTION:100 MA AT 1V 100PIV DICDE JUNCTION:100 MA AT 1V 100PIV	1
	A21CR15 A21CR16 A21CR17	1910-0016 1910-0016 1910-0016	SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM	
	A21L1 A21L2 A21L3 A21L3 A21L4	9140-0146 9140-0146 9140-0095 9140-0159	COILIFXD RF 10 UH COILIFXD RF 10 UH COILIFXD RF 0.27 UH COILIFXD RF 0.47 UH	
	A21Q1 A21Q2 A21Q3 A21Q4 A21Q4 A21Q5	1854-0019 1854-0005 1854-0073 1854-0073 1854-0073	TRANSISTORISILICON NPN TRANSISTORIZNTOB NPN SILICON PLANAR TRANSISTORISILICON NPN TRANSISTORISILICON NPN TRANSISTORIZNTOB NPN SILICON PLANAR	
	A2106 A2107 A2108 A2109 A21010	1854-0005 1854-0005 1854-0005 1854-0009 1853-0015	TRANSISTORI2N708 NPN SILICON PLANAR TRANSISTORI2N708 NPN SILICON PLANAR TRANSISTORI2N708 NPN SILICON PLANAR TRANSISTORI2N709 NPN SILICON TRANSISTORI2N709 NPN SILICON	
	A21011 A21012 A21013	1853-8015 1854-0005 1854-0019	TRANSISTORISILICON PNP 2N3640 Transistori2N708 NPN Silicon planar Transistorisilicon NPN	
	A21R1 A21R2 A21R3 A21R3 A21R4 A21R5	0683-1615 0683-1615 0683-1035 0683-5125 0683-5125	RIFXD COMP 160 CHM 5% 1/4W RIFXD COMP 160 CHM 5% 1/4W RIFXD COMP 10K CHMS 5% 1/4W RIFXD COMP 5100 OHM 5% 1/4W RIFXD COMP 5100 OHM 5% 1/4W	
• (*	A21R6 A21R7 A21R3 A21R3 A21R9 A21R10	0683-5125 0683-5125 0683-5125 0683-5125 0683-1035	RIFXD COMP 5100 OHM 5% 1/40 RIFXD COMP 510C OHM 5% 1/40 RIFXD COMP 10K OHMS 5% 1/40	
	A21R11 A21R12 A21R13 A21R13 A21R14 A21R15	0683-1035 0683-1035 0683-1035 0683-1035 0683-1035 0683-1035	RIFXD COMP 10K CHMS 5% 1/4% RIFXD COMP 10K CHMS 5% 1/4% RIFXD COMP 10K CHMS 5% 1/4% RIFXD COMP 10K CHMS 5% 1/4% RIFXU COMP 10K CHMS 5% 1/4%	
legen († 1997) 1990 – Leffer 1990 – Leffer 1	A21R16 A21R17 A21R18 A21R18 A21R19 A21R20	0683-2025 0683-6225 0683-2025 0683-6225 0683-1025	RIFXD COMP 2000 OHM 5% 1/4W RIFXD COMP 6200 OHMS 5% 1/4W RIFXD COMP 2000 OHM 5% 1/4W RIFXD COMP 6200 OHMS 5% 1/4W RIFXD COMP 1000 OHM 5% 1/4W	
	A21R21 A21R22 A21R23 A21R23 A21R24 A21R25	0683-1025 0683-1815 0683-1815 0683-1815 0683-1815 0683-4315	RIFXD COMP 1000 OHM 5% 1/4W RIFXD COMP 180 OHM 5% 1/4W RIFXU COMP 430 CHMS 5% 1/4W	
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Reference Designation	Stock No.	Description #	Note
	· · · ·		
21R26	0683-4315	RIFXD COMP 430 OHMS 5% 1/4W	
21R27	0683-4315	RIFXD COMP 430 OHMS 5% 1/4%	a si ta
21R28	0683-3915	RIFXD COMP 390 OHMS 5% 1/4%	
21R29	0683-6815	RIFXD COMP 680 UHMS 5% 1/4%	
121R30	0683-5615	R:FXD COMP 560 OHM 5% 1/4 W (FACTORY SELECTED PART)	
21R31	2100-1771	RIVAR WW 200 OHM 5% 1W	
21732	0683-3615	R:FXD COMP 360 OHMS 5% 1/4W (FACTORY SELECTED PART)	
21R33	0683-6815	RIFXD COMP SBO OHHS 5% 1/4%	
21R34	0683-3915	RIFXD COMF 390 OHMS 5% 1/4%	
21R35	0683-1115	RIFXD COMP 110 OHM 55 1/4W	1.0
21R36	0683-4715	RIFXD COMP 470 0HM 58 1/48	- 1 - L
21837	0683-4715	RIFXD COMP 470 OHN 5% 1/4W	,
21838	0683-2725	RIFXD COMP 2700 OHM 5% 1/4W	
A21839	0583-5115	REFXD COMP 510 OHHS 5% 1/4%	
121R40	0003-4723	RIFXD COMP 4700 OWN 5% 1/4W	1.
21R41	0683-4725	RIFXD COMP 4700 OHN 5% 1/4W	
21R42	0683-5115	RIFXD COMP 510 OHNS 5% 1/4W	1
21843	0683-4725	RIFXU COMP 4700 OHN 5% 1/4%	
21R44	0683-4725	RIFXD COMP 4700 DHM 5% 1/4% RIFXD COMP 6800 DHMS 5% 1/4%	
·*************************************	0003-0023	RIFAD CUMP COUCUMNS DA 1748	· · · ·
21R46	0683-4735	RIFXD COMP 47K OHMS 5% 1/4%	
21R47	0683-4735	RIFXD COMP 47K OHMS 5% 1/4W	
21R48	0683-5115	RIFXD COMP 510 OHMS 5% 1/4W	
21R49 21R50	0663-2415	RIFXO COMP 240 OHN 5% 1/4W RIFXO COMP 180 CHM 5% 1/4W	
	0000-1010	REFAD CODE 100 CDA 38 1748	
21R51	0683-3315	R:FXU COMP 330 OHM 5% 1/4W (FACTORY SELECTED PART)	
21R52	0683-1015	RIFXD COMP 100 CHM 5% 1/4W (FACTORY SELECTED PART)	
21R53 21R54	0683-7515	RIFXD COMP 750 OHM 5% 1/4W RIFXD COMP 100 OHM 5% 1/4W	
21R55	0683-6805	RIFXD COMP 68 OPMS 5% 1/4%	
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22	5243A-65R	ASSYLGATE CONTROL	
	5243A-65R-1	BOARDIBLANK P.C.	
2201	0140-0192	CIFYD MICA 68PF 5W 300VDCW	'
2202	0140-0192	CIFXD MICA 68PF 5N 300VDCW	
2203	0140-0191	CIFXD MICA 56 PF 5% 300 VDCW	
2204	0160-0369	CIFXU MICA 17PF 58	
	0140-0208	CIFXD MICA 680PF 5% 300VDCW	
2206	0180-0100	CIFXD ELECT TA 4.7UF 10% 35VDCW	
2207	0140-0194	CIFXD MICA 110 PF 5% 300 VDCW	
2208	0140-0200	CIFXD HICA 390PF 5% 300VDCW	
2209	0140-0159	CIFXD NICA 3000PF 300VDCW CIFXD MICA 12PF 5% 500VDCW	
		CIFNE NICH IEFF DA DUGULU,	
22011	0140-0205	CIFXD MICA 62 PF 5% 3COVDCH	
		FACTORY SELECTED PARTITYPICA'. VALUE GIVEN	
22012 . 22013	0160-0163	CIFXD HY 3300PF 10%	
22014	0150-0047	C3FXD TI 6.8 PF 10% 500 VDCW C3FXD TI 6.6 PF 10% 500 VDCW	
22CR1	1910-0034	DICDLIGERMANIUM	
22CR2	1910-0034	DIODEIGERHANIUM	
22CR3	1901-0040	SEMICON DEVICE DIODE SILICON	
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4-1.	Reference Designation	on Index	(Cont'd)		

Reference	г	4-1. Reference Designation Index (Cont'd)	Note
Designation	🖗 Stock No.	Description #	
A22CR4	1901-0040	SEMICON LEVICE LIDDE SILICON	,
A22CR5 A22CR6	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A22CR7	1901-0040	SEMICON DEVICE IDIODE SILICON	
A22L1	9140-0142	COILIFXD RF 2.2 UH COILIFXD RF 2.2 UH	
A22L2 A22L3'	9140-0142	COLLIFAD RF 2.2 UH	
A2201	1854~0005	TRANSISTOR 120708 NPN SILICON PLANAP	н. 17
A2202	1854-0005	TRANSISTURIANTON NPN SILICON PLANAR TRANSISTORIANTON NPN SILICON PLANAR	
A2204	1854-0009	TRANSISTORISILICON NPN 2N709	7
A2205	1854-0009	TRANSISTORISILICON NPN 2N709	
A2206	1854-0005 1854-0005	TRANSISTORIZNTUG NPN SILICON PLANAR TRANSISTORIZNTUG NPN SILICON PLANAR	
A2208 A2209	1851-0017 1851-0017	TRANSISTOR #2N1304 TRANSISTOR #2N1304	
A22010	1651-0017	TRANSISTOR = 2N1 304	
A22011	1854-0022	TRANSISTOR 120V	
A22R1	0653-3325 0683-7535	RIFXD COMP 3300 CHM 5% 1/4W RIFXD COMP 75K CHM 5% 1/4W	
A22R2 A22R3	0683-1035	RIFXD COMP 10K CHMS 5% 1/4W	
A22R4 A22R5	0683-2425 0683-1035	RIFXD COMP 2400 OHMS 5% 1/4W RIFXD COMP 10K OHMS 5% 1/4W	· ·
A22R6	0683-2425	RIFXD COMP 2400 0HMS 58 1/4W	.
A22R7 A22R8	0683-1325 0683-2425	RIFXD COMP 1300 OHMS 5% 1/4W RIFXD COMP 2400 OHM 5% 1/4W	ļ
A22R9 A22R10	0663-6235 0683-6235	RIFXD COMP 62K OHM 5% 1/4W RIFXD COMP 62K OHM 5% 1/4W	1
A22R11	0683-2425	RIFXD COMP 2400 OHM 5% 1/4W	
A22R12	0683-1325	R#FXD COMP 1300 OHMS 5% 1/4W	
A22R13 A22R14	0683-1035 0683-3325	RIFXD COMP 10K 0HMS 5% 1/4% RIFXD COMP 3300 0HM 5% 1/4%	P
A22R15	0683-4725	RIFXD COMP 4700 DHM 5% 1/4%	
A22R16 A22R17	0683-3325 0683-4725	RIFAD COMP 3300 0HM 5% 1/4W RIFAD COMP 4700 0HM 5% 1/4W	
A22R18 A22R19	0683-1035 0683-1035	RIFXU COMP 10K OMMS 5% 1/4W RIFXU COMP 10K OMMS 5% 1/4W	1
A22R19 A22R20	0683-1545	RIFXD COMF 10K OHMS 5% 1/4W	
A22R21	0683-2015	RIFXD COMP 200 OHMS 5% 1/4%	
A22R22 A22R23	0686-9115 0683-1025	RIFXD COMP 910 OHNS 5% 1/2W RIFXD COMP 1000 OHM 5% 1/4%	
A22R24 A22R25	0683-1325 0683-1035	RIFXD COMP 1300 DHMS 5% 1/4W RIFXD COMP 10K DHMS 5% 1/4W	
A22R25	and produced and the second		a a se
A22R27	0683-4735 0683-1035	RIFXD COMP 47K CHMS 5% 1/4% RIFXD COMP 10K CHMS 5% 1/4%	
A22R28 A22R29	0683-1325 0683-1525	RIFXD COMP 1300 OHHS 5% 1/4W RIFXO COMP 1500 OHH 5% 1/4W	
A22R30	0683-2735	RIFXD COMP 27K OHM 58 1/48	
A22R31 A22R32	0683-1045 0683-1825	RIFXO COMP 100% OHM 5% 1/4W R:FXD COMP 1300 OHM 5% 1/4W	

, ⁶ 4-20 Table 4-1. Reference Designation Index (Cont'd)

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Reference Designation	🖗 Stock No.	Description #	Note
22R33	0683-2735	RIFXO COMP 77K OHM 54 1/4W	
22R34	0683-4725	RIFXD COMP 4700 OHM 58 1/4W	
22R35	0683-1625	RIFXD COMP 1600 OHMS 58 1/4W	
22R36	0683-4725	RIFXD COMP 4700 OHM 58 1/4W	
22R37	0683-9135	RIFXD COMP 91K CMM 5% 1/4%	
22R38	0683-4725	RIFXD COMP 4700 OHM 5% 1/4%	
23	5243A-655 5243A-655-1	ASSYISAMPLING CONTROL BOARDIBLANK P.C.	2-3-
23C1	0140-0159	C4FXU MICA 3000FF 300VDCW	
23C2	0150-0093	C1FXD CER C+01UF +80-20 100VUCW	
2JC3	0140-0156	C1FXD MICA 1500 PF 28 300 VDCW	
2JC4	0180-0137	C1FXD ELECT TA 100 UF 208 10VCCW	
23C5	0180-0100	C1FXD ELECT TA 4+7UF 10% 35VUCW	
23C6 23C7 23C8 23C9 23C10	0140-0149 0140-0162 0180-0100 0160-0161	CIFXU MICA 470 FF 5% 300 VDCW CIFXD MICA 4700 /PF 10% 300 VDCW CIFXD ELECT TA 4.7UF 10% 35VDCW CIFXD MY 0.61 UF 10% 200VDCW NOT ASSIGNED	
23C11	0140-0200	CIFXD MICA 390PF 5# 300VDC#	
23C12	0150-0121	CIFXD CER 0.1UF +80%-20% 5CVDC#	
23C13	0156-0121	CIFXD CER 6.1UF +80%-20% 50VDC#	
23CR1	1901-0025 ¹	SEMICON DEVICE DIODE JUNCTION	
23CR2	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR3	1901-0040	SEMICON DEVICE DIODE SILICON	
23CR4	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR5	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR6	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR7	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR8	1901-0025	SEMICON DEVICE DIODE JUNCTION	
23CR9	1901-0040	SEMICON DEVICE DIODE SILICON	
2301	1851-0017	TRANSISTOR 12N1304	
2302	1850-0040	TRANSISTOR 1GERMANIUM 2N363 PNP	
2303	1850-0062	TRANSISTOR 1GERMANIUM	
2304	1850-0062	TRANSISTOR 1GERMANIUM	
2305	1853-0001	TRANSISTOR 1FNP SILICON 30V 900MW	
2306	1850-0101	TRANSISTOR ISPL20582	
2307	1850-0040	TRANSISTOR IGERMANIUM 20363' PNP	
2308	1851-0024	TRANSISTOR IGE NFN 20388A	
2309	1850-0062	TRANSISTOR IGERMANIUM	
23010	1850-0062	TRANSISTOR IGERMANIUM	
23011	1854-0005	TRANSISTORISILICON NPN 2N708	
23012	1851-0017	TRANSISTORIZNI304	
23R1	0686-3025	RIFXD COMF 3000 OHM 5% 1/2W	
23R2	0686-1325	RIFXD COMP 1-3K OHM 5% 1/2W	
23R3	0686-2725	RIFXD COMP 2700 OHM 5% 1/2W	
23R4	0686-1025	RIFXD COMP 1000 OHM 5% 1/2W	
23R5	0686-1035	RIFXJ COMP 1000 OHM 5% 1/2W	
23R6	0686-1035	RIFXU COMP LOK CHM 5% 1/2W	

= See list of abbreviations in introduction to this section , '

Section IV

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$\{1,\ldots,n^{(n)}\}$	Model 5245L	$V_{i_1} \geq$
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 $\dot{\beta}_{1}^{(1)}$

 $\{f_{i}\}_{i\in I}$

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Table 4-1, - Reference Designation Index (Cont'd)

Reference Designation	🖗 Stock No.	Description #		Note	[,]
		$\begin{bmatrix} -\frac{1}{2} \frac{1}{2} \frac$	· · ·		
A23R7	0666-2225	RIFXO COMP 2200 OHM 5% 1/2%	•		
A23R8 A23R9 5	0686-2225	RIFXD COMP 2200 0HM 5% 1/2% RIFXD COMP 47K 05M 5% 1/2%			
A23R10	0586-1035	RIFXU COMP LOK OHM 5% 1/2W			
A23R11	0686-4735	RIFXD COMF 47K CHM 5% 1/2W			
A23R12 A23R13	0686-4735 0686-7525	RIFXU COMP 47K OHM 58 1/2+ RIFXU COMP 7500 OHM 57 1/24	المعالم المالي في المراجع (المحمد الم		- -
A23R14	0686-3625	RIFXU COMP 3600 0HM 5% 1/2%			
A23R15 A23R16	Q686-2035	NOT ASSIGNED RIFXU COMP 20K OHM 58 1/2W	s and a second	الديدين ر	
A23R17					10 a.e.
A23R17 A23R18	0155-0015	RIFXU COMP 9100 OHN 5% 1/20 RIFXU MET FLM 220 OHNS 5% 1/20			(2,N)
A23R19 A23R20	0684-1025	FRIFXU COMP 1000 ONN 58 1/20 ASSA ASSA ASSA	h i di t Ma		
A23R20	0686-2225	RIFXU COMP. 2200 CHH 5% 1/2% NOT ASSIGNEL			
A23R22	0686-1325	RIFXD COMP 1.3K OHH 58 1/20			
A23R23	0686-4735	RIFX0 COMP. 47K OHN 5% 1/2W	2월 1999년 1997년 1999년 - 1997년 1997		
A23824 A23825	0686-2035	RIFXU COMP 20K OHM 5% 1/2W RIFXD COMP 10K OHM 5% 1/2W	an Eisterne Maria		1
A23R26	0686-1525	RIFXD COMP 1500 OHM 5% 1/28			
A23R27	0758-0015	RIFAU HET FLM 220 OHMS 5% 1/2W	ана 1910 г. – 1917 г. – 1	•	
A23R28 A23R29	0686-1035 0686-2225	RIFXD COMP 10K OHM 5% 1/2W RIFXD COMP 2200 OHM 5% 1/2W			1
A23R30	0686-2225	RIFXD COMP 2200 OHM 5% 1/2W			
A23R31	9686-1225	RIFXU COMP 1200 OHH 58 1/2W			
A23R32 A23R33	0686-4725 0686-4725	RIFXU COMP 4700 0HH 58 1/2W RIFXU COMP 4700 0HM 58 1/2W	ang	1.999 (1.999) 1.997 (1.999)	1 .
A23R34	0686-2735	RIFXU COMP 27K OHM 5% 1/2W			[1] [1]
A23R35 A23R36	0686-4715	RIFXU COMP 470 ONM 58 1/28 RIFXD COMP 470 CHM 58 1/28			1
A24		化羟基胺 经公司 计输入系统输出 网络马马斯马马马斯			. · · · ·
A 4 4	5243A-69A 5243A-69A-1	BOARDIBLANK P.C.	a 5.5 - 5 - 5 - 5		12.11
A24C1	0130-0001	CIVAR CER 7-45PF SOOVDCW			1
A24C2	0160-0126	CIFXD PORC 160PF 2% SOOVDCW			p e el
A24C3 A24C4	0140-0151 0140-0166	CIFXD MICA 820PF 28 300VDCW CIFXD MICA 0-017 UF 28 300 VDCW		$\gamma^{(1)} \rightarrow \gamma^{(2)}$	6 6
A2405	0140-0159	CIFXD HICA BOOOPF BOOVDCW		(
A24C6	0170-0055	C + FXU MY 0-10F 208 200VDCW			i entre E s
A24C7	6170-0040	CSFXD MY .G47 UF 108 200VDCW	1 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -		;
A24R1	0727-0081	RIFXD DEPG EOO OHN 18 1/2W	يىتىن مەركىكىنىڭ		. 18 .
A2473	0727-0387	RIFXO DEPC 442 OHN 18 1/20			•
A24R4	2100-0354	REVAR WE, LUCO OHM LON LIN 2W			
A2471		NSRIPART OF READOUT BLOCK ASSY	a de la composition de la composition de br>de la composition de la		
A25	5243A~65T	ASSYLOVEN, CONTROL	n Althe	· · · · · · · · · · · · · · · · · · ·	20 - 1 *
	5243A-65T-1	BOARDIBLANK P.C.	e da angelaria. Tanang kanalaria	len en e	
A25C1	0180-0100	CIFXD ELECT TA 4.70F 10% 35VDCW	ten selection		ing ang Sang ang sang sang sang sang sang sang sa
A25C2	0180-0100	CIFXU ELECT TA 4.70F 108 35VDCW			
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25C3 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C4 0180-0104 CIFXD ELECT TA 4.7UF 108 35VDC# 25C5 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C5 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C6 0180-0100 CIFXD FW 0.6C2 UF 208 200VDC# 25C7 0180-0100 SEMICON DEVICE 10100E JUNCTION 25C81 1901-0025 SEMICON DEVICE 10100E JUNCTION 25C84 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C81 1850-0054 TRANSISTOR/GEMANIUM 2NDS2A PNP 2523 1853-0012 TI:ANSISTOR/GEMANIUM 2NDS2A PNP 2524 1853-0012 TI:ANSISTOR/GEMANIUM 2NDS2A PNP 2524 1853-0014 TI:ANSISTOR/GEMANIUM 2NDS2A PNP 2587 0683-1235 RIFXD COMP 4300 OHM 58 1/48 2587	Description © MOCK NO. Description # Internation 23C3 0180-0100 CIFND ELECT 7.0.4.70F 108 35V0C# 35V0C# 23C4 0180-0100 CIFND ELECT 200F 500DF 8 35V0C# 35V0C# 23C5 0180-0100 CIFND WLCE 700F 80 200VC# 35V0C# 23C7 0180-0100 CIFND WLCE 700F 80 200VC# 35V0C# 23C7 0180-0100 CIFND WLCE 10100E JUNCT100 35V1C# 25C7 1910-0025 SEMICON DEVICE 10100C SILICON 200PIV 35C77 25C78 1901-0026 SEMICON DEVICE 10100C SILICON 200PIV 35C77 25C71 1850-0076 TRANSISTOR 100C MH 38 1/4# 3500 25C7 1850-0076		Tabl	e 4-1. Reference Designation Index (Cont'd)	n nga san an
25C3 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C4 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C5 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C6 0180-0100 CIFXD ELECT TA 4.7UF 108 35VDC# 25C7 0180-0100 CIFXD RV 0.622 UF 208 200VDC# 25C81 1901-0025 SEMICON DEVICE 10100E JUNCTION 25C82 1901-0026 SEMICON DEVICE 10100E JUNCTION 25C84 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C81 1850-0054 TRANSISTOR/EMANUM 2M252A PNP 2523 1850-0054 TRANSISTOR/EMANUM 2M252A PNP 2584 0683-1235 RIFXD COMP 4300 OHM 58 1/4# 258	25C3 0180-0100 CiFX0 ELECT TA 4.7UF 108 35V0C# 25C4 0180-0100 CiFX0 ELECT TA 4.7UF 108 35V0C# 25C5 0180-0100 CiFX0 ELECT TA 4.7UF 108 35V0C# 25C6 0180-0100 CiFX0 ELECT TA 4.7UF 108 35V0C# 25C7 0180-0100 CiFX0 PV 0.622 UF 208 200V0C# 25C81 1901-0025 SEMICON DEVICE 101002 JUNCTION 25C82 1901-0026 SEMICON DEVICE 101002 SILICON 200PIV 25C84 1901-0026 SEMICON DEVICE 101002 SILICON 200PIV 25C87 1901-0026 SEMICON DEVICE 101002 SILICON 200PIV 25C87 1901-0026 SEMICON DEVICE 101002 SILICON 200PIV 25C81 1855-0054 TRANSITYOR/HPF SILICON 30V 500MF 2523 1855-0054 TRANSITYOR/HPF SILICON 30V 500MF		🖗 Stock No.	Description #	Note
2504 Oldo-Oney CIFXD ELECT 20UF SOUCCE 2505 Oldo-Oldo CIFXD MU 0.022 UF 200 200V0CE 2507 J901-0025 SEMICON DEVICE IDIODE JUNCTION 2507 J901-0026 SEMICON DEVICE IDIODE SILICON 200PIV 25075 J901-0026 SEMICON DEVICE IDIODE SILICON 200PIV 25076 J901-0026 SEMICON DEVICE IDIODE SILICON 200PIV 25078 J901-0026 SEMICON DEVICE IDIODE SILICON 200PIV 25078 J901-0026 SEMICON DEVICE IDIODE SILICON 200PIV 25081 J800-0034 TRANSISTORIHER NUM 2N552 PMP 25021 J850-0054 TRANSISTORIHER NUM 2N552 PMP 2503 J850-0054 TRANSISTORIHER NUM 2N552 PMP 25043 J850-0012 TINNSISTORIHER NUM 2N552 PMP 25043 J850-0012 TINNSISTORIHER NUM 2N552 PMP 25043 J850-0054 TFXN COMP 450 OMM 58 JV48 25045 RIFXD COMP 4500	25C4 Oldbo-Douw CIFXD ELECT 20UF SOUCCE 25C5 Oldbo-DioC CiFXD PV 0.622 UF 20% 200VOCE 25C6 Oldbo-DioC CiFXD PV 0.622 UF 20% 200VOCE 25C7 Oldbo-DioC SEMICON DEVICE DIODE JUNCTION 25C8 Semicon DEVICE DIODE JUNCTION 25C7 Semicon DEVICE DIODE SILICON 200PIV 25C8 1901-0025 SEMICON DEVICE DIODE SILICON 200PIV 25C7 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV 25C8 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV 25C8 1901-0026 TRANSISTOR/HUCR NOFSALAPP 25C9 1901-0026 TRANSISTOR/HUCR NOFSALAPP 25C1 1850-0054 TRANSISTOR/HUCR NOFSALAPP 2522 1850-0054 TRANSISTOR/HUCR NOFSALAPP 2523 1850-0054 RIFXD COMP 5400 HM 54 1/48	B			
25C4 0180-0049 CIFXD ELECT 20UF SOUCCE 25C5 0180-0100 CIFXD FW 0.622 UF 200 200VCE 25C6 0180-0100 CIFXD FW 0.622 UF 200 200VCE 25C7 0180-0100 CIFXD FW 0.622 UF 200 200VCE 25C8 1901-0025 SEMICON DEVICE 10100E JUNCTION 25C7 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C8 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C85 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C86 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C87 1901-0026 SEMICON 200PIN 25C87 1901-0026 SEMICON DEVICE 10100E SILICON 200PIN 2521 1850-0054 TRANSISTORINEGRMANTUM 20052A PNP 2523	25C4 0180-0049 CIFXD ELECT 20UF SOUDCE 25C5 0180-0100 CIFXD PU 0.622 UF 200 3500Ce 25C6 0180-0100 CIFXD PU 0.622 UF 200 3500Ce 25C7 0180-0100 CIFXD PU 0.622 UF 100 3500Ce 25C81 1901-0025 SEMICON DEVICE 10100E JUNCTION 25C73 1901-0026 SEMICON DEVICE 10100C ENALUM 25C74 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C75 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C76 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C76 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C76 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 25C77 1901-0026 SEMICON DEVICE 10100E SILICON 200PIV 2521 1853-00054 TRANSISTORIHER NUM 2N652A PNP 2523 1853-00054 TRANSISTORIHER NUM 2N652A PNP 2544 0643-4325 RIFXD COMP 4300 OHM 5% 1/4% 2547 0643-1325 RIFXD COMP 4300 OHM 5% 1/4% 2548 0643-1335 RIFXD COMP 530 OHM 5% 1/4%	2603	01+0-0100	CIEVE ELECT TA BUDIE LOR BEVOCH	
2506 0170-0024 CIFX0 MV 0-C22 UF 20% 200VDC# 2507 0180-0025 SEMICON DEVICE 1010DE JUNCTION 2507 1001-0025 SEMICON DEVICE 1010DE JUNCTION 25073 1910-0016 SEMICON DEVICE 1010DE JUNCTION 25073 1910-0016 SEMICON DEVICE 10100E SILTCON 200PIV 25073 1901-0026 SEMICON DEVICE 10100E SILTCON 200PIV 25074 1901-0026 SEMICON DEVICE 10100E SILTCON 200PIV 25075 1801-0026 SEMICON DEVICE 10100E SILTCON 200PIV 25074 1901-0026 SEMICON DEVICE 10100E SILTCON 200PIV 25075 1805-0054 TRANSISTORIGERMANIUM 20524 PNP 2503 1850-0054 TRANSISTORIGERMANIUM 20524 PNP 2503 1850-0054 TRANSISTORIGERMANIUM 20524 PNP 2504 1850012 TI-MANSISTORIGERMANIUM 20524 PNP 2503 1850-0054 TRANSISTORIGERMANIUM 20524 PNP 2504 1850-0054 TRANSISTORIGERMANIUM 20524 PNP 2505 0683-8125 RIFAD COMP 350 OHM 5% 1/4% 2504 1804-0054 TI-MANSISTORIGERMANIUM 20524 PNP 2507	25C6 0170-0024 CIFK0 MV 0.C22 UF 206 200VDC# 25C7 0180-0100 CIFK0 ELECT 4.7 UF 104 35VDC# 25C81 1901-0025 SEMICON DEVICE:0100E JUNCTION 25CR3 1910-0016 SEMICON DEVICE:0100E JUNCTION 25CR4 1901-0026 SEMICON DEVICE:0100E SILICON 200PIV 25CR5 1901-0026 SEMICON DEVICE:0100E SILICON 200PIV 25CR6 1901-0026 SEMICON DEVICE:0100E SILICON 200PIV 25CR1 1950-0054 TRANSISTORIGERMANIUM 206524 PNP 25Q2 18500075 TI-ANSISTORIGERMANIUM 206524 PNP 25Q3 1850-0054 TRANSISTORIGERMANIUM 206524 PNP 25Q4 18500075 TI-ANSISTORIGERMANIUM 206524 PNP 25R3 0683-1535 RIFAD COMP 350 OMH 58 1/48 25R4 0683-1635 RIFAD COMP 350 OMH 58 1/48 25R3	2504	0180-0049	CIFXD ELECT 20UF SOVDCW	
SERI 1901-0025 SEMICON DEVICE DIODE JUNCTION SEGR3 1901-0026 SEMICON DEVICE DIODE GUNCTION SEGR5 1910-0016 SEMICON DEVICE DIODE GENANUM SEGR5 1901-0026 SEMICON DEVICE DIODE GILLICON 200PIV SEGR5 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV SEGR5 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV SECR5 1901-0027 TRANSISTORIGERMANIUM 200524 PNP SEQ3 1850-0054 TRANSISTORIGERMANIUM 200524 PNP SER5 0683-8125 RIFAD COMP 4300 OMH 58 1/48 SER6 0683-1025 RIFAD COMP 56 OMH 58 1/48 SER7 0683-1635 RIFAD COMP 56 OMH 58 1/48 SER7 0683-1515 RIFAD COMP 196 OMH 58 1/48 SER7 0683-1635 RIFAD COMP 56 OMH 58 1/48 SER7 0683-16	SERI 1901-0025 SENICON DEVICEIDIDE JUNCTION SEGRI 1901-0025 SENICON DEVICEIDIDE JUNCTION SEGRI 1910-0016 SENICON DEVICEIDIDE JUNCTION SERI 1910-0016 SENICON DEVICEIDIDE JUNCTION SERICI SENICON DEVICEIDIDE JUNCTION SERICI SENICON DEVICEIDIDE SILICON 200FIV SERICI SENICON DEVICEIDIDE SILICON 200FIV SECRI 1901-0026 SENICON DEVICEIDIDE SILICON 200FIV SERICON TANNSITORIGERMANIUM 20652A PNP SERICON TANNSITORIGERMANIUM 20652A PNP SERICON DESCIDE SILICON 200 PM 58 1/48 SERICON DESCIDE PATATYSIC	,			'
25CR2 1901-0025 SERICON DEVICE ROIDOE JUNCTION 25CR3 1901-0026 SERICON DEVICE ROIDOE SERMANIUM 25CR4 1901-0026 SERICON DEVICE ROIDOE SERMANIUM 25CR5 1901-0026 SERICON DEVICE ROIDOE SILICON 200PIV 25CR6 1901-0026 SERICON DEVICE ROIDOE SILICON 200PIV 25CR6 1901-0026 SERICON DEVICE ROIDOE SILICON 200PIV 25CR6 1901-0026 SERICON DEVICE ROIDOE SILICON 200PIV 25CR1 1901-0026 SERICON DEVICE ROIDOE SILICON 200PIV 25CR1 1950-0026 TRANSISTORIGERMANIUM 2052A PAP 2501 1855-0054 TRANSISTORIGERMANIUM 2052A PAP 2502 1855-0054 TRANSISTORIGERMANIUM 2052A PAP 2503 1850-0054 TRANSISTORIGERMANIUM 2052A PAP 2504 1853-0012 TI'ANSISTORIGERMANIUM 2052A PAP 2581 0683-1835 RIFAD COMP 300 OHH 5% 1/4% 2584 0683-1635 RIFAD COMP 18C OHH 5% 1/4% 2587 0683-1635 RIFAD COMP 18C OHH 5% 1/4% 2587 0663-1635 RIFAD COMP 18C OHH 5% 1/4% 2587 066	25CR2 1901-0025 SERICON DEVICE FDIDDE JUNCTION 25CR3 1910-0016 SEMICON DEVICE FDIDDE SERMANIUM 25CR4 1901-0026 SEMICON DEVICE FDIDDE SILICON 200PIV 25CR5 1901-0026 SEMICON DEVICE FDIDDE SILICON 200PIV 25CR6 1901-0026 SEMICON DEVICE FDIDDE SILICON 200PIV 25CR6 1901-0026 SEMICON DEVICE FDIDDE SILICON 200PIV 25CR6 1901-0026 SEMICON DEVICE FDIDDE SILICON 200PIV 25CR1 1855-0054 TRANSISTORIGERMANIUM 2052A PMP 2501 1855-0054 TRANSISTORIGERMANIUM 2052A PMP 2503 1850-0054 TRANSISTORIGERMANIUM 2052A PMP 2504 1853-0012 TI:ANSISTORIGERMANIUM 2052A PMP 2581 0683-4325 RIFAD COMP 300 OMH 5% 174% 2582 0683-1635 RIFAD COMP 300 OMH 5% 174% 2584 0683-1635 RIFAD COMP 18K CMM 5% 174% 2587 0683-1635 RIFAD COMP 18K CMH 5% 174% 2587 0683-1635 RIFAD COMP 18K CMH 5% 174% 2587 0683-1635 RIFAD COMP 18K CMH 5% 174% 25880 0683-2205 <td></td> <td></td> <td></td> <td></td>				
25CR3 1910-0016 SENICON DEVICE 10100E GERMANUM 25CR4 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR5 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR6 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE 10100E SILICON 200PIV 25CR1 1855-0054 TRANSISTORIGERMANUM 20652A PNP 2502 1855-0054 TRANSISTORIGERMANUM 20652A PNP 2503 1850-0054 TRANSISTORIGERMANUM 20652A PNP 2504 1853-0012 TIXANSISTORIGERMANUM 20652A PNP 2587 0683-1835 RIFAD COMP 4300 OMH 58 1/48 2588 0683-1635 RIFAD COMP 1300 OMH 58 1/48 2587 0683-1635 RIFAD COMP 18K GHH 58 1/48 2587 0683-1635 RIFAD COMP 18K GHH 58 1/48 2587 0683-1635 RIFAD COMP 58 1/48 2587 0683-1635 RIFAD COMP 58 1/48 2587 0683-1635	25CR3 1910-0016 SENICON DEVICE NOIDOR GERMANUM 25CR4 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR5 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR6 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR7 1901-0026 SENICON DEVICE NOIDOR SILICON 200PIV 25CR1 1855-0054 TRANSISTORIGERMANIUM 20652A PNP 2502 1855-0054 TRANSISTORIGERMANIUM 20652A PNP 2503 1850-0054 TRANSISTORIGERMANIUM 20652A PNP 2504 18530012 TIXANSISTORIGERMANIUM 20652A PNP 2587 0683-4325 RIFAD COMP 4300 OMM 5% 1/4% 2587 0683-1635 RIFAD COMP 4300 OMM 5% 1/4% 2588 0683-1635 RIFAD COMP 55.0 MM 5% 1/4% 2587 0683-1635 RIFAD COMP 55.0 MM 5% 1/4% 2587 0683-205 RIFAD COMP 55.0 MM 5% 1/4% 2588 0683-10.5 RIFAD COMP 55.0 MM 5% 1/4% 2589 0683				
25CR5 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR7 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR6 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR7 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR1 1850-0054 TRANSISTORIGERMANUM 206524 PNP 2502 1850-0054 TRANSISTORIGERMANUM 206524 PNP 2503 1850-0054 TRANSISTORIGERMANUM 206524 PNP 2504 1853-012 TINNSISTORIGERMANUM 20504 PNP 2504 1853-012 TINNSISTORIGERMANUM 20504 PNP 2583 0683-4325 RIFAU COMP 4000 OHM 5% 1/4% 2584 0683-1535 RIFAU COMP 4000 OHM 5% 1/4% 2587 0683-1635 RIFAU COMP 18K OHM 5% 1/4% 2587 0683-1635 RIFAU COMP 100 OHM 5% 1/4% 2587 0683-155 RIFAU COMP 100 OHM 5% 1/4% 2587 0683-151 RIFAU COMP 100 OHM 5% 1/4% 2587 0683-151 RIFAU COMP 100 OHM 5% 1/4% 2587 0683-151 RIFAU COMP 422 OHM 5% 1/4% 2587 0683-151 RIFAU COMP 420 OHM 5% 1/4% 25870 0683-151 RIFAU CO	25CR5 1901-0026 SEMICON DEVICE DIDOE SILICON 200PIV 25CR7 1901-0026 SEMICON DEVICE DIDOE SILICON 200PIV 25CR7 1901-0026 SEMICON DEVICE DIDOE SILICON 200PIV 25CR7 1901-0026 SEMICON DEVICE DIDOE SILICON 200PIV 25CR1 1850-0054 TRANSISTOR/GERMANUM 206524 PNP 2502 1853-0076 TRANSISTOR/GERMANUM 206524 PNP 2503 1850-0054 TRANSISTOR/GERMANUM 2050 OWH 58 1/4W 2594 1853-0012 TI:ANSISTOR/GERMANUM 2050 OWH 58 1/4W 2583 0683-4325 RIFAU COMP 4300 OWH 58 1/4W 2584 0683-1535 RIFAU COMP 4300 OWH 58 1/4W 2587 0683-555 RIFAU COMP 18K OWH 58 1/4W 2587 0683-555 RIFAU COMP 100 OWH 58 1/4W 2587 0683-10.5 RIFAU COMP 100 OWH 58 1/4W 2587 0683-1515 RIFAU COMP 100 OWH 58 1/4W				
25CR6 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV 25CR8 1901-0026 SEMICON DEVICE DIODE SILICON 200PIV 2523 1850-0054 TRANSISTORIGERMANIUM 20652A PNP 2523 1850-0054 TRANSISTORISLICON 2N2904 PNP 2531 1850-0054 TRANSISTORISLICON 2N2904 PNP 2582 2683-4325 RIFXD COMP 4300 ONH 5% 1/4% 2582 2683-4325 RIFXD COMP 4300 ONH 5% 1/4% 2584 0683-155 RIFXD COMP 18C ONH 5% 1/4% 2587 0683-1635 RIFXD COMP 18C ONH 5% 1/4% 2587 0683-1635 RIFXD COMP 100 ONH 5% 1/4% 2588 0683-0555 RIFXD COMP 100 ONH 5% 1/4% 2587 0683-16.2 RIFXD COMP 100 ONH 5% 1/4% 2588 0683-01.2 RIFXD COMP 100 ONH 5% 1/4% 2589 0683-2055 RIFXD COMP 5.00 MI 5% 1/4% 2581 0683-2051 RIFXD COMP 5.00 MI 5% 1/4% 2587 0683-20565 R	25CR6 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR8 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 2523 1850-0054 TRANSISTORIGERMANIUM 20652A PNP 2523 1850-0054 TRANSISTORISHLOON 200904 PNP 2531 1850-0054 TRANSISTORISHLOON 200904 PNP 2582 2683-4325 RIFXD COMP 4300 ONH 5% 1/4% 2582 2683-4325 RIFXD COMP 4300 ONH 5% 1/4% 2584 0683-155 RIFXD COMP 150 ONH 5% 1/4% 2587 0683-1635 RIFXD COMP 16K OMH 5% 1/4% 2587 0683-1635 RIFXD COMP 100 ONH 5% 1/4% 2588 0683-16.2 RIFXD COMP 100 ONH 5% 1/4% 2589 0683-16.2 RIFXD COMP 100 ONH 5% 1/4% 2581 05245-601.3 ASSTI 05CLLATOR BOARD 05245-2008 BARDI BLANK PC 05245-201.3 2601 010-0194 CIFXD MY 0-015UF 10% 0100VUC# 2625 0150-0093	25CR4			
25CR7 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 25CR8 1901-0026 SEMICON DEVICEIDIODE SILICON 200PIV 2501 1850-0054 TRANSISTORIGERMANUUM 2N652A PNP 2503 1850-0054 TRANSISTORIGERMANUUM 2N652A PNP 2504 1850-0054 TI: ANSISTORISERNAUUM 2N652A PNP 2504 1850-0054 TI: ANSISTORISERNAUM 2N652A PNP 2582 2683-4125 RIFAD COMP 4300 OHH 58 1/48 2584 0683-4125 RIFAD COMP 4300 OHH 58 1/48 2584 0683-1835 RIFAD COMP 4300 OHH 58 1/48 2584 0683-1835 RIFAD COMP 4300 OHH 58 1/48 2584 0683-1835 RIFAD COMP 4300 OHH 58 1/48 2587 0683-1835 RIFAD COMP 136 OHM 58 1/48 2587 0683-1835 RIFAD COMP 166 OHM 58 1/48 2587 0683-1835 RIFAD COMP 120 OHM 58 1/48 2587 0683-1635 RIFAD COMP 20 OH 58 1/48 2587 0683-205 RIFAD COMP 20 OH 58 1/48 2587 0683-205 RIFAD COMP 20 OH 58 1/48 2588 0663-10.5 RIFAD COMP 20 OH 58 1/48 2589 0663-2050 RIFAD COMP 58 1/48	25CR7 1901-0026 SEMICON DEVICEIDIODE SILICON 200FIV 25CR8 1901-0026 SEMICON DEVICEIDIODE SILICON 200FIV 2501 1850-0054 TRANSISTORIGERMANUU 2N652A PNP 2503 1850-0054 TRANSISTORIGERMANUU 2N652A PNP 2504 1853-0076 TRANSISTORISERNUO 2N2904 PNP 2503 1850-0054 TRINSISTORISERNUO 2N2904 PNP 2582 2683-4325 RIFAD COMP 4300 OHH 5% 1/4% 2584 0683-4325 RIFAD COMP 4300 OHH 5% 1/4% 2584 0683-1835 RIFAD COMP 4300 OHH 5% 1/4% 2584 0683-1835 RIFAD COMP 4300 OHH 5% 1/4% 2584 0683-1835 RIFAD COMP 4300 OHH 5% 1/4% 2585 0683-1835 RIFAD COMP 130C OHH 5% 1/4% 2587 0683-1835 RIFAD COMP 14% OHM 5% 1/4% 2587 0683-1835 RIFAD COMP 20 OH 5% 1/4% 2587 0683-1835 RIFAD COMP 20 OH 5% 1/4% 2587 0683-205 RIFAD COMP 20 OH 5% 1/4% 2587 0683-205 RIFAD COMP 20 OH 5% 1/4% 2587 0683-2053 RIFAD COMP 20 OH 5% 1/4%				
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2502 1853-0076 TRANSISTORISHING SILICON SOU GOONW 2503 1853-0012 TI:ANSISTORISHICON SOU GOONW 2594 1853-0012 TI:ANSISTORISHICON 2N2904 PNP 2587 0663-4325 RIFAU COMP 4300 OHM 5% 1/4% 2587 0663-4325 RIFAU COMP 4300 OHM 5% 1/4% 2587 0663-2153 RIFAU COMP 520 OHM 5% 1/4% 2587 0663-2153 RIFAU COMP 55 OHM 5% 1/4% 2586 0663-1635 RIFAU COMP 56 OHM 5% 1/4% 2587 0663-10.5 RIFAU COMP 56 OHM 5% 1/4% 2587 0663-10.5 RIFAU COMP 50 OHM 5% 1/4% 2587 0663-2005 RIFAU COMP 50 OHM 5% 1/4% 2587 0663-21515 RIFAU COMP 50 OHM 5% 1/4% 25870 0663-2205 RIFAU COMP 50 OHM 5% 1/4% 25870 0663-2063 CIFAU CAR 0.0104 +80-20 100VUC* 2621 0160-0194 CIFAU MY 0.06680F 20% 50VUC% 2621 0160-0194 CIFAU MY 0.06680F 20% 50VUC%	2502 1853-0076 TRANSISTORISHICON 300 500MW 2503 1853-0012 TI:ANSISTORISHICON 300 500MW 2504 1853-0012 TI:ANSISTORISHICON 2N2904 PNP 2581 0663-4325 RIFAU COMP 4300 0HM 5% 1/4% 2582 9663-4325 RIFAU COMP 4300 0HM 5% 1/4% 2583 0663-2615 RIFAU COMP 4300 0HM 5% 1/4% 2584 0663-2615 RIFAU COMP 520 0HM 5% 1/4% 2585 0663-1835 RIFAU COMP 56 0HM 5% 1/4% 2586 0663-10.5 RIFAU COMP 5, 6 0HM 5% 1/4% 2587 0663-2055 RIFAU COMP 5, 6 0HM 5% 1/4% 2587 0663-10.5 RIFAU COMP 5, 6 0HM 5% 1/4% 2588 0663-1515 RIFAU COMP 150 0HM 5% 1/4% 2589 0663-2205 RIFAU COMP 150 0HM 5% 1/4% 25810 0663-21515 RIFAU COMP 150 0HM 5% 1/4% 2582 05245-6013 ASSY1 0SCILLATOR BOARD 05245-6013 ASSY1 0SCILLATOR BOARD 05245-2008 HOARDT 160 AHM 5% 0000C% 26C1 0160-0194 CIFAD MY 0.0668UF 20% 50VDC% 26C2 0150-0093 CIFAD MY 0.0668UF 20% 50VDC% 26C4 0170-0084 </td <td>25CR8</td> <td>1901-0026</td> <td>SEMICON DEVICE DIODE SILICON 200PIV</td> <td>ч. -</td>	25CR8	1901-0026	SEMICON DEVICE DIODE SILICON 200PIV	ч. -
2503 1850-0054 TF. NSISTOR:GEMANTUM 206524 PNP 2504 18530012 TI:ANSISTOR:SULCON 2N2904 PNP 2581 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2582 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2583 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2584 0683-1835 RIFAU COMP 15% OHM 5% 1/4% 2585 0683-1835 RIFAU COMP 15% OHM 5% 1/4% 2586 0683-1635 RIFAU COMP 5,6 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 5,6 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 100 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 100 OHM 5% 1/4% 2588 0663-1515 RIFAU COMP 100 OHM 5% 1/4% 2589 0663-200 RIFAU COMP 150 OHM 5% 1/4% 25810 0663-1515 RIFAU COMP 150 OHM 5% 1/4% 2581 0663-013 ASSY1 0SCILLATOR BOARD 05245-2008 WGARDI BLANK PC 2622 0150-0093 CIFAU RU 0-058UF 20% 5000C% 2622 0150-0093 CIFAU RU 0-068UF 20% 5000C% 2625 0150-0093 CIFAU RU 0-058UF 20% 5000C% 2626 015	2503 1850-0054 TF.NSISTOR:GEMANTUM 2N652A PNP 2504 18530012 TI:ANSISTOR:SILICON 2N2904 PNP 2581 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2582 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2584 0683-4325 RIFAU COMP 4300 OHM 5% 1/4% 2584 0683-1835 RIFAU COMP 5% OHM 5% 1/4% 2585 0683-1835 RIFAU COMP 15% OHM 5% 1/4% 2586 0683-0565 RIFAU COMP 5,6 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 5,6 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 150 OHM 5% 1/4% 2587 0767-0001 RIFAU COMP 150 OHM 5% 1/4% 2588 0663-1515 RIFAU COMP 150 OHM 5% 1/4% 2589 0663-2005 RIFAU COMP 150 OHM 5% 1/4% 25810 0663-1515 RIFAU COMP 150 OHM 5% 1/4% 2581 0663-013 ASSYI 0SCILLATOR BOARD 05245-2008 BOARD 40.0150F 10% 1/4% 2622 0150-0093 CIFAD MY 0.0680F 20% 5000C% 2622 2623 0170-0084 CIFAD MY 0.0680F 20% 5000C% 2626 2624 0160-0127 CIFAD MY 0.0680F 20%	2501			
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2582 0683-4325 RiFXD COMP 4300 OHM 5% 1/4% 2583 0683-8215 RiFXD COMP 4300 OHM 5% 1/4% 2584 0683-1835 RiFXD COMP 150 OHM 5% 1/4% 2585 0683-1835 RiFXD COMP 150 OHM 5% 1/4% 2586 0683-1835 RiFXD COMP 150 OHM 5% 1/4% 2586 0683-10.5 RiFXD COMP 100 OHM 5% 1/4% 2587 0767-0001 RiFXD COMP 100 OHM 5% 1/4% 2588 0663-10.5 RiFXD COMP 100 OHM 5% 1/4% 2589 0663-1515 RiFXD COMP 100 OHM 5% 1/4% 25810 0663-1515 RiFXD COMP 150 OHM 5% 1/4% 25810 0663-1515 RiFXD COMP 150 OHM 5% 1/4% 2582 05245-6013 ASSY1 OSCILLATOR BOARD 2621 0160-0194 CiFXD MY 0.050F 10% 2622 0150-0093 CiFXD MY 0.0680F 20% 50VDC% 2625 0150-0093 CiFXD MY 0.0680F 20% 50VDC% 2626 0170-0084 CiFXD MY 0.0680F 20% 50VDC% 2626 0150-0093 CiFXD MY 0.0680F 20% 50VDC% 2626 0150-0093 CiFXD MY 0.0680F 5% 30VDC% 2626 0150-0093 CiFXD MY 0.0610F 10% 26210 <td>2582 0683-4325 R FFXD COMP 4300 OHM 5% 1/4W 2583 0683-8215 R FFXD COMP 500 OHM 5% 1/4W 2584 0683-1835 R FFXD COMP 160 OHM 5% 1/4W 2585 0683-1835 R FFXD COMP 105 OHM 5% 1/4W 2586 0683-1835 R FFXD COMP 106 OHM 5% 1/4W 2587 0767-0001 R FFXD COMP 106 OHM 5% 1/4W 2588 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2588 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2580 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2581 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2580 0500-0134 ASSY1 0SCILLATOR BOARD 2621 0160-0194 C FFXD MY 0.0150F 10% 2622 0150-0093 C FFXD MY 0.068UF 20% 50VDCW</td> <td>2504</td> <td></td> <td></td> <td></td>	2582 0683-4325 R FFXD COMP 4300 OHM 5% 1/4W 2583 0683-8215 R FFXD COMP 500 OHM 5% 1/4W 2584 0683-1835 R FFXD COMP 160 OHM 5% 1/4W 2585 0683-1835 R FFXD COMP 105 OHM 5% 1/4W 2586 0683-1835 R FFXD COMP 106 OHM 5% 1/4W 2587 0767-0001 R FFXD COMP 106 OHM 5% 1/4W 2588 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2588 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2580 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2589 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2581 0663-10 R FFXD COMP 100 OHM 5% 1/4W 2580 0500-0134 ASSY1 0SCILLATOR BOARD 2621 0160-0194 C FFXD MY 0.0150F 10% 2622 0150-0093 C FFXD MY 0.068UF 20% 50VDCW	2504			
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25R4 0683-1535 RiFXD COMP 15K OHM 5% 1/4W 25R5 0683-1835 RiFXD COMP 16K CHM 5% 1/4W 25R6 0689-0565 RiFXD COMP 5,6 OHM 5% 1/4W 25R6 0689-0565 RiFXD COMP 5,6 OHM 5% 1/4W 25R6 0683-10.5 RiFXD COMP 100 OHM 5% 1/4W 25R7 0767-0001 RiFXD COMP 100 OHM 5% 1/4W 25R8 0683-12.5 RiFXD COMP 100 OHM 5% 1/4W 25R9 0683-1515 RiFXD COMP 150 OHM 5% 1/4W 25R10 0683-1515 RiFXD COMP 100 OHM 5% 1/4W 264 05245-6013 ASSY1 05C1LLATOR 80ARD 05245-2008 WOARDI BLANK PC 264 0160-0194 CIFXD CER (JUF #80-20 100VUC# 2622 0150-0093 CIFXD CER (JUF #80-20 100VUC# 2624 0160-0127 CIFXD CER (JUF #80-20 100VUC# 2625 0150-0093 CIFXD CER (JUF #80-20 100VUC# 2626 0170-0084 CIFXD MY 0.668UF 20% 50VDC# 2626 0170-0084 CIFXD MY 0.668UF 20% 50VDC# 2626 0150-0093 CIFXD CER 0.01UF #80-20 100VUC# 2626 0150-0093 CIFXD WY 0.058UF 10% 2626 01	25R4 0683-1535 R:FX0 COMP 15K OHM 5% 1/4W 25R5 0683-1835 R:FX0 COMP 15K OHM 5% 1/4W 25R6 0689-0565 R:FX0 COMP 5,6 OHM 5% 1/4W 25R6 0689-0565 R:FX0 COMP 5,6 OHM 5% 1/4W 25R7 0767-0001 R:FX0 COMP 100 OHM 5% 1/4W 25R8 0683-10.5 R:FX0 COMP 100 OHM 5% 1/4W 25R9 0683-2205 R:FX0 COMP 100 OHM 5% 1/4W 25R10 0683-1515 R:FX0 COMP 150 OHM 5% 1/4W 264 05245-6013 ASSY1 0SCILLATOR BOARD 05245-2008 WOARDI BLAKK PC 264 0160-0194 C:FX0 CEM 10% 2622 0150-0093 C:FX0 CEM 10% 2624 0160-0127 C:FX0 MY 0.668UF 20% 50VDCW 2625 0150-0093 C:FX0 CEM 0.01UF +80-20 100VUC# 2626 0170-0084 C:FX0 MY 0.668UF 20% 50VDCW 2626 0170-0084 C:FX0 MY 0.668UF 20% 50VDCW 2626 0150-0093 C:FX0 CEM 0.01UF +80-20 100VUC# 2626 0150-0093 C:FX0 CEM 0.01UF +80-20 100VUC# 2627 0140-019U C:FX0 V 0.01UF +80-20 100VUC# 2628 0150-0093	25R2			
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26C10 0160-0194 CIFXJ MY U-C15UF 103 26C11 0140-0190 CIFXU MICA 39 PF 5% 300 VDCW 26C12 0160-0194 CIFXU MY U-C15UF 10% 26C13 0170-0084 CIFXU MY U-C68UF 20% 50VDCW 26C14 0160-0194 CIFXJ MY U-C68UF 10% 26C15 0150-0093 CIFXJ CER C-01UF 480-20 100VDCW 26C16 0150-0093 CIFXJ CER C-01UF +80-20 100VDCW 26C17 0150-0093 CIFXJ CER U-01UF +80-20 100VDCW 26C18 0160-0194 CIFXD CER U-01UF +80-20 100VDCW 26C19 0150-0093 CIFXD CER U-01UF +80-20 100VDCW	26C10 0160-0194 CIFXU MICA 39 PF 5% 300 VDCW 26C11 0140-0190 CIFXU MICA 39 PF 5% 300 VDCW 26C12 0160-0194 CIFXU MY 0.015UF 10% 26C13 0170-0084 CIFXU MY 0.068UF 20% 50VUCW 26C14 0160-0194 CIFXU MY 0.015UF 10% 26C15 0150-0093 CIFXU CER C.01UF +80-20 100VDCW 26C16 0150-0093 CIFXU CER C.01UF +80-20 100VDCW 26C17 0150-0093 CIFXU CER U.01UF +80-20 100VDCW 26C18 0160-0194 CIFXD MY 0.015UF 10% 26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDCW	2608			1
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26C12 0160-0194 CIFXU MY 0.015UF 10% 26C13 0170-0084 CIFXU MY 0.068UF 20% 50VDC% 26C14 0160-0194 CIFXU MY 0.015UF 10% 26C15 0150-0093 CIFXU CER 0.01UF +80-20 100VDC% 26C16 0150-0093 CIFXU CER 0.01UF +80-20 100VDC% 26C17 0150-0093 CIFXU CER 0.01UF +80-20 100VDC% 26C18 0160-0194 CIFXD CER 0.01UF +80-20 100VDC% 26C19 0150-0093 CIFXD CER 0.01UF +80-20 100VDC%	26C12 0160-0194 C1FXU MY 0.015UF 10% 26C13 0170-0084 C1FXU MY 0.068UF 20% 50VDC% 26C14 0160-0194 C1FXU MY 0.015UF 10% 26C15 0150-0093 C1FXU CER 0.01UF +80-20 100VDC% 26C16 0150-0093 C1FXU CER 0.01UF +80-20 100VDC% 26C17 0150-0093 C1FXU CER 0.01UF +80-20 100VDC% 26C18 0160-0194 C1FXD CER 0.01UF +80-20 100VDC% 26C19 0150-0093 C1FXD CER 0.01UF +80-20 100VDC%	26011	0140-0190	CIFAU MICA 39 PF 58 300 VDCW	Ì
26C14 0160-0194 CIFXJ MY 0.015UF 10% 26C15 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C16 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C17 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C18 0160-0194 CIFXD CER 0.01UF +80-20 100VDCM 26C19 0150-0093 CIFXD CER 0.01UF +80-20 100VDCM	26C14 0160-0194 CIFXJ MY 0.015UF 10% 26C15 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C16 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C17 0150-0093 CIFXJ CER 0.01UF +80-20 100VDCW 26C18 0160-0194 CIFXD CER 0.01UF 10% 26C19 0150-0093 CIFXD CER 0.01UF +80-20 100VDCW	26012		CIFXU, MY 0-015UF 108	
26C16 0150-0093 CIFXU CER C.01UF +80-20 100VDCW 26C17 0150-0093 CIFXU CEN U.01UF +80-20 100VDCW 26C18 0160-0194 CIFXD MY U.015UF 10X 26C19 0150-0093 CIFXU CER C.01UF +80-20 100VDCW	26C16 0150-0093 CIFXU CER C.01UF +80-20 100VDCW 26C17 0150-0093 CIFXU CEN U.01UF +80-20 100VDCW 26C18 0160-0194 CIFXD MY U.015UF 10% 26C19 0150-0093 CIFXU CER C.01UF +80-20 100VDCW	26014			
26C17 0150-0093 CIFXU CEN U.01UF +80-20 10GVDCs 26C18 0160-0194 CIFXD MY U.015UF 10s 26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDCs	26C17 0150-0093 CIFXD CEN U.01UF +80-20 10GVDC# 26C18 0160-0194 CIFXD MY U.015UF 10% 26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDC#	26015	0150-0093	CIFXJ CER G.01UF +80-20 100VDCW	
26C18 0160-0194 CIFXD MY 0+015UF 10% 26C19 0150-0093 CIFXD CER C+01UF +80-20 100VDCW	26C18 0160-0194 CIFXD MY 0.015UF 10% 26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDCW	26016			
26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDCW	26C19 0150-0093 CIFXD CER G.01UF +80-20 100VDCW	26017			. · · · •
		26019		CIFXD CER C.01UF +80-20 100VDCW	
		- LOLEV	0120-0042	C-FAN CEN 0.010F +80-20% IODVDCW	
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Section IV Table 4-1

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Reference			
Designation	🐵 Stock No.	Description #	Note
A26C21		NOT ASSIGNED	
A26C22	0140-0152	CIFXD MICA 1000 PF 5% 300VDCW	
A26C23 A26C24	0150-0050	CIFXU CER LOOOPF 600 VDCW CIFXU MICA JOPF 5% SCOVDCW	
A26C25	0150-0093	CIFXU CER G.01UF 480-20 100VUC	
A26C26	0180-0100	CIFXD ELECT TA 4.7UF 108 35VDCW	
A26CR1	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A26CR2	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A26L1	9140-0138	COILIFXD RF 180 UH	
A2612 A2613	9140-0137 9140-0137	COILIFXD RF 100 UH	
A2614	9140-0138	COILIFXD RF 180 UN	
A261.5	9140-0138	COLLIFXO RF 180 UH	Х., с.
A2601	1853-0009	TRANSISTORISILICON PNP	
A2602	1853-0009	TRANSISTORISILICON PNP	
A2603 A2604	1853-0009	TRANSISTORISILICON PNP	•
A2605	1853-0009	TRANSISTORISILICON PNP	
A2606	1653-0009	TRANSISTORISILICON PNP	
A2607	1853-0009	TRANSISTORISILICON PNP	
A26R1	0683-1825	RIFXD COMP 1800 OHMS 5% 1/4W	
A26R2	0683-2225	RIFXU COMP 2.2K UHM 5% 1/4%	
A26R3 A26R4	0663-3915 0683-3915	RIFXD COMP 390 OHNS 5% 1/4W RIFXD COMP 390 OHNS 5% 1/40	
A26R5	0683-3915	RIFXD COMP 390 OHMS 5% 174W	
A26R6	0683-3915	RIFXD COMP 390 OHMS 58 1/48	£
A26R7	0683-1025	R#FXD COMP 1000 OHM 5% 1/4w	
A26R8	0683-3925	RIFXD COMP 3900 OHMS 5% 1/4W	
A26R9 A26R10	0583-1535 0683-4725	R#FXD COMP 15K OHMS 5% 1/4W R#FXD COMP 4700 OHM 5% 1/4W	
	0407 0706		. h
A26R11 A26R12	0683-2725	RIFXU COMP 1700 DHMS 5% 1/4W Rifxd Comp 2.2k ohm 5% 1/4W	
A1-913	0683-1235	RIFXD COMP 12K OHN 5% 1/4W	
A26R14 A26R15	0683-2725	RIFXD COMP 2700 OWNS 5% 1/4W Control of the state of the	
A26816 A26817	0683-1825 0683-1025	RIFXU COMP 1800 ONNS 5% 1/4W	f "f
A26R18	0683-2715	RIFXD, COHP. 270 OHHS 5% 174W	1 1 1 1 1 1 1
A26R19	0683-6225	RIFX0 COMP 6200 OHM 5% 1/4%	
A26R20	0683-2725	RIFXD COMP 13 OPHS 5% 1/4W RIFXD COMP 1800 OHHS 5% 1/4W RIFXD COMP 270 OHHS 5% 1/4W RIFXD COMP 270 OHHS 5% 1/4W RIFXD COMP 2700 OHHS 5% 1/4W RIFXD COMP 2700 OHHS 5% 1/4W RIFXD COMP 1000 OHH 5% 1/4W RIFXD COMP 150 OHHS 5% 1/4W RIFXD COMP 150 OHHS 5% 1/4W RIFXD COMP 100 OHH 5% 1/4W	,
A26R21	0683-2215	RIFXU COMP 220 OHM5 5% 1/4%	
A26R22 A26R23	0683-1025	RIFXD COMP 1000 DNM 55% 1/4% AND THE A	
A26R24	0683-1015	RIFXD COMP 100 CHN SH 1/4W	
A26R25	9683-1025	RIFXD COMP 2200 OHM 5% 1/4% RIFXD COMP 2700 OHMS 5% 1/4% RIFXD COMP 200 OHMS 5% 1/4% RIFXD COMP 1000 OHM 5% 1/4% RIFXD COMP 150 OHM 5% 1/4% RIFXD COMP 100 OHM 5% 1/4% RIFXD COMP 1000 GHM 5% 1/4% RIFXD COMP 1500 OHM 5% 1/4% RIFXD COMP 330 OHM 5% 1/4% RIFXD COMP 330 OHM 5% 1/4% RIFXD COMP 9100 OHM 5% 1/4% RIFXD COMP 2700 OHMS 5% 1/4%	
A26R26	0683-1525	RIFXU COMP 1500 OHM 5% 1/48	
A26R27	0683-3315	RIFXU CONP 330 OHM Sh I/4h	
A26R28 A26R29	0683-9125	REFXU COMP. 9100.00M 5781740 and 200	¶ ⁴
	0003-2123	an a	1.1.1.1.1.1.1
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Reference Designation	Stock No.	Description #	Note	`¶
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			а – с	•
A2GR30 A26R31	0757-0937	RIFXO MET FLM 3.6K OHM 2% 1/8W RIFXD MET FLM 395 OHM 2% 1/8W		
A26R32	0683-1825	R*FXD COMP 1800 OWNS 5% 1/4W	,	
A26R33 A26R34	0683-3025 0683-9115	R # FXD' COMP 3000 OHM 5% 1/4W R # FXD COMP 910 OHM 5% 1/4W		
			· .	
A26R35 A26R36	0683-9105	RIFXD COMP 91 OHM 5% 1/4% RIFXD COMP 820 OHM 5% 1/2%		
A26R37	0758-0014	RIFXU MET CX 180 OHM 5%		
A26R38	0683-1825	RIFXD COMP 1800 0HM 5% 1/4%		
A27	5243A-65C	ASSYIMULTIFLIER		
	5243A-65C-1	BOARDIBLANK P.C.		
A27C1	0150-0093	C = FXD CER 0.01UF +80-20 100VUCW	' '	
A27C2	0140-0196	CIFXD MICA 150 PF 5% 300 VDCW	· · · ·	· ·
A27C3	0150-0093	CIFXD CER 0.01UF +80-20 100VDCW CIFXD CER 0.01UF +80-20 100VDCW		
A27C5	0140-0200	CIFXD MICA 390PF 5% 300VDCW		1 . · ·
2766	0160-0194	CIFXD MY O.CISUF LON	÷ .	
A27C7	0140-0201	CIFXD MICA 12PF 5% 500VDCW	н .	
A27C8 A27C9	0140-0206	CIFXO MICA 680PF 5% 300VDCW	۰.	
A27C10	0160-0155 0150-0093	CIFXD MY 3360 PF 10% CIFXD CER G.01UF +80-20 100VDCW		· ·
27011	0140-0192	CIFXU MICA COPF 5% 300VDCW		. *
A27C12	0160-0194	C \$ FXD MY 0.015UF 103		1
A27C13 A27C14	0140-0195	CIFXD MICA 130 PF 5% 300 VDCW		
A27C15	0160-0157 0150-0093	CIFXD MY 4700 PF 10% CIFXD CER 0.01UF +80-20 100VDCW		
27016	0140-0199	CIFXD MICA 240PF 5% 300VDCW		
A27C17	0160-0194	C1FXD MY C+015UF 103	1 A.	l
A27C18	0140-0209	CIFXU MICA SPF 10% SOOVDCW	•	l
A27C19 A27C20	0140-0199 0140-0200	CIFXD MICA 240PF 5% 300VDCW CIFXD MICA 390PF 5% 300VDCW		
A27L1	9140-0127	COIL:VAR 8-3-18-7 UH		
A27L2	9140-0127	COIL: YAR 8-3-18-7 UH		
27L3	9140-0126	CCILIVAR 1.76-4.02 UH		
127L4 127L5	9140-0126	COIL‡VAR 1.76-4.02 UH Coil‡Var G.5-1.9 UH		
27L6	is the part of the second			
	9140-0125	C7IL:VAR 8.9-1.9 UH		1
2701	1850-0091	TRANSISTURICERMANIUM 2N2048 PNP		
2703	1850-0091 1850-0091	TRANSISTORICERMANIUM 2N2048 PNP TRANSISTORIGERMANIUM 2N2048 PNP		
27R1	0663-1525			
27R2	0683-1015	RIFXD COMP 150 CHMS 5% 1/4% RIFXD COMP 100 CHMS 5% 1/4%	· .	
27R3	0683-1015	RAFXD COMP 100 CHNS 5% 1/4W		
27R4 27R5	0683-1635 0683-5125	RIFXD COMP 16K CHHS 5% 1/4W RIFXD COMP 5100 OHMS 5% 1/4W		
2786	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		0.2	an a
	0683-2225 0683-4715	RIFXD COMP 2+2K OHM 5% 1/4W RIFXD COMP 470, OHM 5% 1/4W	· ,	
2788	0683-1135	RIFXD CCMP 11K CHM 5x 174W	1.	10 1
2789	0683-2225	RIFXU COMP 2.2K OHM 5% 1/4#		1 e - 1 - 1
1417 13464		$\frac{\partial f}{\partial t} = \frac{\partial f}{\partial t} + $		
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S. P. P. S.	= See	list of abbreviations in introduction to this section		
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Section IV Table 4-1

Table 4-1. Reference Designation Index (Con	nt'd)	

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Desi	erence gnation	🐵 Stock No.	Description #	Note
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A27R:	o 12	0403 2025	DEFUS COND & BY DIM CO. S. M.	
		0683-2225	RIFXD COMP 2.2K OHM 5% 1/4%	
A27R1		0683-1015	RIFXD COMP 100 CHMS 5% 1/4%	
A27R1		0683-9125	RIFXD COMF 9100 0HM5 5% 1/4W	1
A27R1		0683-2225	R # FXD COMP 2.24 OHM 52 1/4%	
A27R1	.4	0683-6815	RIFXU COMP 680 UHMS 5% 1/4W	
	-			1
A27R1		0683-1015	RIFXD COMP 100 CHHS 5% 1/4%	
A27R1		0683-4715	RIFXD COMP 470 CHM 5% 1/4%	
A27R1	7 👘	0683-1015	RIFXD COMP 100 OHMS 5% 1/4w	
	1.19			
A28	1	05232-6009	DECADE DIVICER ASSEMBLY	1
1 43961	a de la sec	1		
A28C1		0140-0191	CIFXD MICA 56 PF 3% 300 VDCW	
A28C2	1.1	0140-0193	CIFXO MICA 82 PF 58 300 VDCW	
A28C3		0150-0121	CIFXD CER G.1UF 4803-208 50VDC#	
A28C4	· · · · · · · · · · · · · · · · · · ·	0140-0191	CIFXD MICA 56 PF 5% 300 VOLW	1 '
A28C5	· · · · · · · · · · · · · · · · · · ·	0150-0122	CIFXD CER 2000PF 208 500VDCW	
1	a de la c			1
A28C6		0140-0191	CIFXD HICA 56 PF 5% JOO VDCW	
A28C7	20 ⁴ - 14	0160-0181	CIFXD MICA BOPF 5% BOOVDCW	
A28CB		0140-0192	CIFKD MICA 68PF 5% 300VDCW	la di L
A28C9		0140-0192	CIFXU MICA 68PF 58 300VDCN	[· · · ·] ·
A28C1	0	0140-0193	CIFXD MICA 82 PF 5% 300 VDCW	1
1	2			1 a 🕴
A28C1		0140-0193	CIFXD MICA 62 PF 5% 300 VDCW	
A2aC1	2	0140-0195	CIFXU MICA 130 PF 58 300 VDCW	
A28C1	3 -	.0140-0193	CIFYD MICA 62 PF 5% 300 VDCW	J . 1
A2901	4	0140-0193	CIFXD MICA 62 PF 58 300 VDCW	1 · 1
A29C1	5 🦯	0140-0176	CIFXD MICA 100 PF 28 300 VDCW	1 1
1.				
A28C1	6 K. S. S.	0140-0195	CIFXU HICA 130 PF 5% 300 VDCW	
		· · · · ·		
A28CR		1901-0040	DIODE+SILICCN:30 NA AT IV 30 PIV	i
A28CR	2	1901-0040	DIODE SILICONISO MA AT 1V 30 PIV	
A28CR		1901-0040	DIODE SILICONISO MA AT 1V 30 PIV	[]↑
A28CR		1701-0040	DIODE SILICONISO NA AT 10 30 PIV	F . }
A28CR	5	1901-0040	L'IODE+SILICCNIGO MA AT IV 30 PIV	
1	і.			
A28CR		1901-0040	DIODE SILICONIJO MA AT IV 30 PIV	
A28CR		1901-0040	LIDE+SILICON: 30 MA AT IV 30 PIV	
A28CR		1901-0040	DIODE SILICCNISO MA AT IV 30 PIV	, ,
A28CR	9	1901-0040	DIODE SILICONISO MA AT IV 30 PIV	
A28CR		1901-0040	DIODE+SILICON:30 MA AT 1V 30 PIV	
				. ·
A28CR	11 E E	1901-0040	DIODE SILICONISC MA AT 1V 30 PIV	
A2801		1853 0034	TRANSISTORISILICON PNP	
A2802	14 A.	1653-0009	TRANSISTOR SILICON PNP	· · [
A2803		1853-0009	TRANSISTOR:SILICON PNP	L.
A28Q4		1853-0009	TRANSISTORISILICON PNP	Ľ
A2805		1853-0009	TRANSISTORISILICON PNP	
1				
A2806		1853-0009	TRANSISTOR IS LICON PNP	
A2807		1853-0009	TRANSISTOR SILICON PNP	· · · · · · · · · · · · · · · · · ·
A2808		1853-0009	TRANSISTORISTLICON PAP	
A28R1		0683-2725	RIFXD COMP 2700 OHM 52 1/40	
A28R2	1	0758-0024	RIFXD MET FLM 100 0HM 5% 1/2#	:
A28R3		0758-0043	PIEND NET EIN 100 ONN EN 1728	
A28R4		0633-1035	RIFXU MET FLM 1800 OHM 5% 1/2W	1
	. V – 4	CC01-1022	RIFXD COMP 10K OHN 5# 1/4 W	·]
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Designation	🕸 Stock No.	Description #	· · · · · · · · · · · · · · · · · · ·	Note	
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28R5	0683-3325	RIFXD COMP 3300 DHM 5% 1/4%		,	
28R6	0683-2235	RIFXU COMP 22K OHN 5% 1/4W			
28R7	0683-6205	RIFXD COMP 62 OHM 58 1/48	•		
28R8 28R9	0683-1115 0683-2235	RIFXD COMP 110 OHM 5% 1/4W RIFXD COMP 22K OHM 5% 1/4W			
28R10	0683-6205	RIFXD COMP 62 OHM 5% 1/4W			
28R11	0683-2235	RIFXD COMP 22K' OHN 54-1/4W			
28R12 28R13	0758-0043	RIF D NET FLM 1800 OHM 5% 1/2W	· · · · · · · · · · · · · · · · · · ·		
28R14	0683-1035 0683-3325	RIFXO COMP 10K OHN 5% 1/4 W RIFXU COMP 3300 OHN 5% 1/4W			
28R15	0683-2735	REFE COMP 27K CHM 5% 1/4%			
28R16:	0758-0043	RIFXG MET FLH 1800 OHM 5% 1/2W	1	· · ·]
28R17 28R18	0683-1035 0683-3325	RIFXD COMP 10K CHM 5% 1/4 # RIFXD COMP 3300 OHM 5% 1/4m	· · · ·	- 4 C	1
26R19	0683-2235	RIFXD COMP 22K CHM 5% 1/4W			
28R20	0683-6205	RIFXD COMP 62 0HM 5% 1/4%		∤ , 2,	
28R21	0683-1115	RIFXD COMP 110 OHM 5% 1/4W			ĺ.,
28R22	0683-1025	R*FXD COMP 1000 OHM 5% 1/4%	· · · ·		
28R23	0683-6205	HIFXD COMP 62 OHM 5% 1/4W			
28R24	0683-2235	RIFAD COMP 22K CHH 58 1748			
28RC5	0758-0043	RIFXD MET FLM 1800 OHM 5% 1/2W			l
28R26	0683-1035	RIFXD COMP 10K OHM 5# 1/4 W.			1
28R27 28R28	0683-3325 0758-0004	RIFXD COMP 3300 OHM 5% 1/4% RIFXD MET FLM 2700 OHM 5% 1/2W			
28R29	0683-1235	RIFXU COMP 12K OHN 5% 1/4W			
8R30	0683-2725	RIFAD COMP 2700 OHM 58 1748			
28R31	0683-2235	RIFXU COMP 22K OHM 5x 1/4W	k	i	
28RJ2 28RJ3 /	0683-2205	RIFXU COMP 22 OHM 5% 1/4#			
28R34	0683-1115 0683-1025	RIFXU COMP 110.0HM 5x 1/4W RIFXU COMP 1000 0HM 5% 1/4W], [ļ
8R35	041 5-003L				
BR36	0663-2235	RIFXU COMP 22K CHM 5% 1/4% RIFXD COMP 47. 0HM 5% 1/4%			
28R37	0683-2235	RIFXD COMP 22K OHM 58 1/4W	1		
28R38	0758-0004	RIFXU MET FLM 2700 OHM 5% 1/2W			
28R39	0683-1235	RIFXU COMP 12K CHM 5% 1/4W			
8R40	0683-2725	RIFXD COMP 2760 OHM 5% 1/4W			
28R41. 28R42	0683-5635 0663-3025	RIFXÚ COMP 56K OHM 53 1/4W RIFXU COMP 3000 OHM 58 1/4W			
8843	0758-0004	RIFXU MET FLM 2700 0HM 5% 1/2W			١,
BR44	0693-1235	RIFAD COMP 12K CHM 5% 1/4W	•		
8845	0683-2725	RIFAU COMF 2700 OHM 5% 174W			i f st
8R46	0683-2235	RIFXD COMP 22K OHM 5% 1/4%			
BR47	0683-6805	RIFXD COMP 68 OHM 5% 1/4#			
8R48 8R49	0683-1025	RIFXO COMP 1000 OHM 5% 1/4W RIFXD COMP 22K OHM 5% 1/4W			,
· ·					
8R50 8R51 /	0663-2235 0758-0004	R#FXU COMP 22K OHM 5% 1/4W R#FXU MET FLM 2700 OHM 5% 1/2W	· · · · · · · · · · · · · · · · · · ·		d Prod
8852	0683-1035	RIFXU COMP 10K CHMS 52 1/4			1.1.1
8R53	0653-3325	RIFXD COMF 3300 OHM 5% 1/4#			
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Section IV Table 4-1

Table 4-1. Reference Designation Index (Cont'd)

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	Reference Designation	🕸 Stock No.	Description #	Note
	$\left \frac{1}{2} \frac$	4a		
	129	5212A-65C	ASSY:DECADE DIVIDER	
		5212A-65C-1	BGARUIBLANK P.C.	
Mehh	A29C1	0150-0121	CIFXD CER U-1UF 50 VUCW	· ·
	A29C2 A29C3	0140-0194 0140-0195	CIFXD MICA' 110 PF 58 300 VICL	t_{ij} (
	A29C4	0140-0195	CIFXU MICA 130 PF 5% 300 VDCW CIFXU MICA 130 PF 5% 300 VDCW	
$\mathcal{X}_{\mathcal{A}}$	A29C5	0140-0196	C:FXD MICA 150 PF 5% 300 VDCW	
	A29C6	0140-0196	CIFXD MICA 150 PF SH 300 VDCW	
9.9	A29C7	0140-0196	CIFXD MTCA 150 FF 5% 300 VDCh	
	A2909	0140-0195	CIFXU MICA 240PF 5% 300VDCW CIFXU MICA 130 PF 5% 300 VDC#	
	A29C10	0140-0195	CIFXU MICA 130 FF 5% 300 VDCW	
30.55	A29011	0140-0193	CIFXU MICA 82 PF 58 300 VOCH FACTORY SELECTED VALUE	
	A29C12 A29C13	0140-0198	CIFXD MICA 200PF SH 300V0CW	
	A29C14	0140-0195	CIFXU MICA 200PF 58 300VDCW CIFXU MICA 390PF 58 300VDCW	E
Х	A29CR1	1910-0016		
	A29CR2	1910-0016	SEMICON DEVICE DIODE GERMANIUM SEMICON DEVICE DIODE GERMANIUM	
1. Start	A29CR3	1910-0015	SEMICON DEVICEIDIODE GERMANIUM	
1	A29CR5	1910-0016	SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM	
	A2901	1850-0052	TPANSISTORICERMANIUM	
	A2902	1850-0052	TRANSISTORIGERMANIUM	
	A2903 A2904	1850-0062	TRANSISTUR JERMANIUM	
	A2905	1850-0062	TRANSISTORIGERMANIUM TRANSISTORIGERMANIUM	
	A2906	1850-0062	TRANSISTORIGERMANIUM	
	A2907	1850-0062	TRANSISTOR	· • · · ·
	A2908	1850-0062	TRANSISTORICERMANIUM	
	A29R1	0683-3915	RIFXD COMP 390 CHMS 5% 1/4%	
	A29R2 A29R3	0683-4735 0683-6825	RIFXD COMP 47K CHMS 5% 1/4% N. RIFXD COMP 6800 OHMS 5% 1/4%	
	A29R4	0683-4735	RIFXU COMP 47X 0HH5 5% 1/4w	
	A29R5	0683-1035	RIFXO COMP 10K CHMS 5% 1/4W	
	A29R6 A29R7	0683-3925	RIFXD COMP 3900 OHMS 5% 1/4#	2 - E
n da di Nari Nari	A29R8	0683-2015 0683-3925	RIFXD COMP 200 OHMS 5% 1/4% RIFXD COMP 3900 OHMS 5% 1/4%	
k	A29R9	0683-6825	RIFXU COMP LBOO OHMS 5% 1/4W	
	A29R10	0683-4735	RIFXU COMP 47K OHMS 5% 1/4W	
	A29R11 A29R12	0683-1035	RIFXD COMP 10K OHMS 5% 1/4W	
	A29R13	0683-4735 0663-4735	RIFXU COMP 47K OHMS 5% 1/4W RIFXU COMP 47K OHMS 5% 1/4W	
- 10 ¹ - 1	A29R14	0683-6825	RIFAD COMP 6800 OWNS 5% 1/2W	
	A29R15	0683-4735	RIFXU COMP 47K OHMS SR 1/40	
	A29R16 A29R17	0683-8225 0683-3925	RIFXD COMP B200 DHMS 58 1/4W	-i -
	A29R18	0683-2015	RIFXU COMP 3900 0HMS 5% 1/4W RIFXU COMP 200 0HMS 5% 1/4W	1. 1
	A29R19	0683~3925	R#FX0 COMP 3900 UHMS 5% 1/4W	
an a	A29R20	0683-6825	RIFXD COMP CBOO DHMS 5% 1/4W	
	A29R21	0683-4735	RIFAD COMP 47K OHMS 5% 1/4%	
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Section IV Table 4-1

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Table 4-1. Reference Designation Index (Cont'd)

Reference Designation	🗑 Stock No.	Description #	Note
			1. j. j.
A29R22	0683-1035	PIEVE COMP LOW OWNER TO A ME	
A29R23	0683-4735	RIFXD COMP 10K OHMS 5% 1/4W RIFXD COMP 47K OHMS 5% 1/4W	4 A. A.
A29R24	0683-6835	RIFXD COMP 68K OHN 5% 1/4W	
A29R25	0683-4735	R#FXD COMP 47K OHMS 58 174W	
A29R26	0683~6325	RIFXD COMP 6800 CHHS 5% 1/4W	
A29R27	0683-4735		
A29828	0683-1035	RIFXD COMP 47K OHNS 5% 1/4% RIFXD COMP 10K OHNS 5% 1/4%	
A29R29	0683-3925	R#FXD COMP 3900 0HMS 5% 1/4W	1. j. i.
A29830	0683-2015	RIFXD COMP ,200 0HH3 5% 1/4W	
A29R31	0683-3925	RIFXD COMP 3900 OHNS 5% 1/4W	
A29R32	0683-6825	RIEVE CONR LODG ON THE	
A29R33	0683-4735	RIFXO COMP 6800 OHMS 5% 1/4% RIFXD COMP 47K OHMS 5% 1/4%	
A29834	0683-8225	RIFXU COMP E200 OHMS 5% 1/4W	
A29R35	0683-4735	RIFXD COMP 47K OHMS 5% 1/4%	
A29R36	0683-4735	RIFXD COMP 47K CHMS 5% 1/4%	
A29R37	0683-6825		•
A29R38	0683-4735	RIFXU COMP 6500 DHMS 5% 1/4W RIFXU COMP 47K OHMS 5% 1/4%	
A29R39	0683-1035	RIFXO COMP 10K OHMS 5% 1/4%	
A29R40	0683-3925	RIFXD COMP/3900 CHMS 5% 1/4W	
A29841	0683-2015	RIFAD COMP 200 OHMS 5% 1/4%	
A29842	0683-3925		
A29R43	0683-6825	RIFXD COMP 3900 DHMS 5% 1/4W RIFXD COMP 6800 DHMS 5% 1/4W	
A29R44	0683-4735	RIFXD COMP 47K CHNS 5% 1/4W	
A29845	0683-1035	RIFXD COMP 10K OHNS 5% 1/4W	· · · ·
A29R46	0683-4735	RIFXD COMP 47K CHMS 5% 1/4%	
A30	5212A-65C	SAME AS A29, USE PREFIX A30	
A31	5212A-65C	SAME AS A29+USE PREFIX A31	
A32	5212A-65C	SAME AS A29+USE PREFIX A32	
A33	5212A-65C	SAME AS A29+USE PREFIX A33	
A34	5212A-65C	SAME AS A25, USE PREFIX A34	
A35 ·	5243A-65J	ASSYITIME-LASE CONTROL	• • •
	5243A-65J-1	BOARUIBLANK P.C.	. '
A35C1	0160-0134	CIEVS MICA SPARE PL SANNA	· ·
A35C2	0160-0134	CIFXÚ MICA 220PF 5% 300VDCW CIFXÚ MICA 220PF 5% 300VDCW	-
A35C3	0140-0194	CIFXD MICA 110 PF 5% 300 VDCW	4
A35C4	0160-0134	CIFXD MICA 220PF 5% 300VDCM	
A35C5	0160-0134	CIFXD MICA 220PF 58 300VDCW	1
A35C6	0140-0194	CIFXJ MICA 110 PF 5% 300 VDCh	
A35C7 /	9160-0134	CIFXÚ MICA 220PF 5% 300 VOCH	- a - a - 1
A35C8	0160-0134 /	CIFXU MICA 220PF 5% 300VUCW	
A35C9	0140-0194	C#FXD MICA 110 PF 5% 300 VDC#	·
A35C10	0160-0134	CIFAU MICA 220PF 5% 300VDCW	
A35C11	0160-0134	CIFAD MICA 220PF 5% 300VDCW	
A35C12	0140-0194	CIFXD MICA 110 PF 5% 300 VDC#	
A35C13	0160-0134	CIFXU, MICA 220PF 5% 300VDCW	
A35C14 A35C15	0160-0134	CIFX0 MICA 220PF 58 300V0CW	· · [
	0140-0194	CIFXU MICA 110 PF 58 300 VOCH	
A35CR1	1910-0016	SEMICON DEVICE DIODE GERMANIUM	- i - 1
A35CR2	1910-0016	SEMICON DEVICEIDIODE GERMANIUM	
A35CR3	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
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Reference Designation	🖗 Stock No.	Description #	Note
et al series	1		
A35CR4	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A35CR5	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
A35CR6 '	1901-0025	SEMICON DEVICE DIODE JUNCTION	
A35CR7	1901-0025	SEMICON DEVICE DIDDE JUNCTION	
435CR8	1901-0025	SEMICON DEVICE ICTODE JUNCTION	
A35CR9	1901-0025	SEMICON DEVICE DIODE JUNCTION	
A35CR10	1901-0025	SEMICON DEVICE DIODE JUNCTION	
A35CR11 //	1901-0025	SEMICON DEVICE DIDDE JUNCTION	
A35CR12	1901-0025	SEMICON DEVICE:DIODE JUNCTION	
A35CR13	1901-0025	SEMICON DEVICE DIODE JUNCTION	
A35CR14	1901-0025	SEMICON DEVICE DIODE JUNCTION	
A35CR15	1901-0025	SEMICON DEVICEIDIODE JUNCTION	
A35CR16	1901-0025	SEMICON DEVICE:DIODE JUNCTION	
A35CR17	1901-0025	SEMICON DEVICE DIDDE JUNCTION	
A35CR18	1901-0025	SEMICON LEVICE IDIODE JUNCTION	
A35CR19	1901-0025		1
A35CR20	1901-0025	SEMICON DEVICE:DIODE JUNCTION Semicon device:diode junction	
435CR21	1901-0025	SEMICON DEVICE DIDDE JUNCTION	· · ·
A35CH22	1901-0025	SELICON DEVICE DIODE JUNCTION	
A35CR23	1901-0025	SEMICON DEVICE DIODE JUNCTION	
3651	9170-0016		
35E1	41/0-0019	BEADIMAGNETIC	
3501	1850-0040	TRANSISTUR JEERMANIUM 2N383 PNP	
3502	1254-0003	TRANSISTURIENTOB NPN SILICON PLANAR	
43503	1850-0062	TRANSISTORIGERMANIUM	
43504	1850-0062	TRANSISTORIGERMANIUM	
43505	1850+0062	TRANSISTOR FGERMANIUM	
A35Q6	1850-0062	TRANSISTOR	1
A3507	1850-0062	TRANSISTORICERMANIUM	
43508	1850-0062	TRANSISTORICERMANIUM	
3509	1850-0062	TRANSISTURICERMANIUM	
35010	1854-0005	TRANSISTORIZNTOB NON SILICON PLANAR	
35011	1854-0005	TRANSISTOR 2N708 NPN SILICON PLANAR	
A35012	1854-0005	TRANSISTOR 2N708 NPN SILICON PLANAR	
2 . Second			
35R1	0696-4715	RIFXU COMP 470 OHM 5% 1/2W FACTORY SELECTED VALUE	
435R2 435R3	0686-3025	RIFXO MET CA 3000 OHM 5% 1/2% FACTORY SELECTED VALUE	
35R4	9683-2025 9683-3025	RIFXD COMF 2000 OHMS 5% 1/4W	
35R5	0686-1825	RIFXU COMP 3000 GHMS 5% 1/4W RIFXD COMP 1800 OHM 5% 1/2W	
		ATT NO COOP 1000 0MM 30 172W	
35R6	0683-3025	RIFXD COMP 3000 OHMS 5% 1/4#	
35R7	0683+1035	RIFXD COMP 10K OHMS 5% 1/4.	
35R8 35R9	0683-3025	RIFXO COMP 3000 OHMS 5% 1/4W	,
35R10	0683-1035 0683-3025	RIFXD COMP 10K OHMS 5% 1/4W	
		RIFXD COMP 3000 OKHS 5% 1/4%	
35R11	0683-1535	RIFXD COMP 15K OHMS 5% 1/4%	
35R12	0683-1035	RIFXD COMP 10K CHMS 58 1/4W	
35R13	0683-3025	RIFXU COMP 3000 DHM5 5% 1/4W	
35R14	0683-1535	RIFXD COMP 15K OHMS 5% 1/4%	
35815	0683-1035	RIFXU CONF 10K OHMS 5% 1/4%	
35R16	0683-4735	RIFX0 COMP 47K 0HMS 58 1/4%	
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Model 5245L

Reference Designation	🗑 Stock No.	Description #	Note
	1		
· · · · ·			
A35R17	0683-4735	RIFXU COHP 47K OHMS 5% 1/4%	
A35R18	0683+1845 0683-4725	REFAD COMP 180K OHMS 5% 1/4W	5 - 16 - 1
A35R20	0003-4725	RIFXD COMF 4700 OHM 5% 1/4W RIFXD COMP 4700 OHM 5% 1/4W	
A35R21	0683-3025	RIFXD COMP 3000 OHHS 58 1748	
in the second			
A35R22	0683-1535	RIFXD COMP 15K OHMS 5% 1/4%	
A35R23	0683-1035	RIFXD COMP 10K OHMS 5% 1/4W	
A35R24	0683-4735	RIFAD COMP 47K OHHS 5% 1/4W	
A35R25 A35R26	0683-4735	RIFXU COMP 47K CHMS 5% 1/4% RIFXU COMP 180K OHMS 5% 1/4%	,
JJAZO	0003-1845	TICAD CORF IBUN UNAS DA 1748	1
35R27	0683-4725	RIFXD COMP 4700 OHH 58 1/4%	
A35R28	0683~4725	RIFXD COMP 4700 OHM 5% 1/4%	1
35R29	0683-3025	RIFXU COMP 3000 OHMS 58 1/48	1.1
A35R30	0683-1535	RIFXD COMP 15K CHMS 5% 1/4W	
35R31	0683-1035	RIFAD COMP 10K CHMS 5% 1/4%	
35R32	0683-4735	RIFXO COMP 47K OHMS 5% 1/4%	· ·
35R33	0683-4735	RIFXD COMP 47K OHNS 5% 1/4%	
35R34	0683-1845	RIFXD COMP IBOX OHMS 5% 1/4W	
35835	0683-4725	RIFXD COMP 4700 OHM 5% 1/4W	:
35R36	0683-4725	RIFXD COMP 4700 CHM 5% 1/4W	
35R37	0663-3025	RIFXD COMP 3000 OHMS 5% 1/4W	i .
35R38	0683-1535	RIFXD COMF 15K OHMS 5% 1/4%	
35R39	0683-1035	RIFXD COMP 10K OHNS 5% 1/4%	
35R40	0683+4735	RIFXU COMP 47K OHMS 5% 1/4%	1.
35R41	0683-4735	RIFXO COMP 47K OHMS 5% 1/4m	,
35R42	0683-1845	RIFXU COMP 180K OHMS 5% 1/4#	
35R43	0683-4725	RIFXD COMF 4700 OHM 5% 1/4%	
35R44	0683-4725	RIFXD COMP 4700 OHN 5% 1/4m	
35R45	0653-3025	RIFXD COMP 3000 OHMS 5% 1/4%	
35R46	0683-1535	RIFXD COMP 15K OHMS 5% 1/4%	
35R47	0683-1035	RIFXD COMP. 10K OHMS SH 124W	
35R48	0683-4735	RIFXD COMF 47K CHMS 5% 1/4%	
35R49	0663-4735	RIFXU COMP 47K CHMS 5K 1/4W	
35R50	0683-1845	RIFXU COMP 180K OHMS 5% 1/4N	
35R51	0683-4725	RIFXD COMP 4700 OHM 5% 1/4W	
35852	0683-4725	RIFXL COMP 4700 OHN 5% 1/4%	
35R53	0683-3025	RIFXU COMP 3000 OHHS 5% 1/4W	
35R54	0683-1535	RIFXD COMP 15K OHMS 5% 1/4#	
35R55	0683-1035	RIFXU COMP 10K OHMS 5% 1/4#	
35R56	0683-5635	RIFXD COMP S6K OHMS 5% 1/4W	
35R57	0683-2435	RIFAD COMP 24K OHM 5% 1/4W	
35R58	0683-2025	RIFXU COMP 2000 OHNS 5% 1/4%	
35R59 .	0683-3025	RIFXD COMP 3000 OHMS 5% 1/4W	1
35R60	0663-2025	RIFXU COMP 2000 OHMS 5% 1/4W	
35R61	0683-4715	RIFXU COMP 470 CHM 5% 1/4W	
35R62	0683-1025	HIFAU COMP 1000 OHM 58 1/48	
35R63	0683-2025	RIFAU COMP 2000 UHMS 5% 1/4W	
35864	0683-2025	RIFXD COMP 2000 OHMS 5% 174W	
35R65	0683-2025	RIFXU COMP 2000 OHMS 5% 1/4%	
1	3140-0052	MOTORIELECTRICAL SHADED FOLE 115V 3470 RPM	
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Table 4-1. Reference Designation Index (Cont'd)

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Reference Designation	🕸 Stock No.	Description #	No
			1
			- i.
1	0170-0043	CIFXD MY 0.022 UF 10% 600VDCW	
2	0130-0003	CIVAR CER 1.5-7 PF SCOVDCW	1
3	0121-0013	CIVAR AIR 6-100.5PF	
5	0150-0119	CIFXU ELECT 500UF 75VUCW CIFXD CER 2X(+01UF) 20% 250VUCW	1
			[
6	0180-0129	CIFXU ELECT 975UF -10+50% 40VDCW	
;7'	0180-0107	CIFXD ELECT 20UF -10/+100% 200VDCW	
9	0180-0107	CIFXD ELECT 20UF -10/+100% 200VDCW CIFXD ELECT 975UF -10+50% 40VDCW	
10	0180-0130	C4FXD ELECT 1500UF -10+50% 15VDCW	
1			
11 (0150-0093	C:FXD CER 0.01UF +80-20 10049CW	
12 13	0150-0095	C/FXD CER C.D1UF +80-25 100VDC#	ł
.19	0150-0121	C+FXD+CER+G+1UF 50 VD'W C+FXD CER; 0+01UF 20% 1000VDC#	
15	0160-0127	CIFXD CER LUF 20% 25VDCW	
18 .	0150-0009	C:FXD CER 10PF ±0.5PF 500 VDCW	
16	0160-0174	CIFXO CER C.47 UF +80-20% 25VDCW	
17 8	0160-0174	C#FX0 CER C.47 UF +80-20% 25VDCW	1
R1	1902-0039	SEMICON DEVICE DIODE IN1597A	
) 51 . • • • • •	1450-0049	INDICATORIGLOW-LAMP NEON	
- 1	2110-0303	· · · · · · · · · · · · · · · · · · ·	
	7110+0303	FUSEICARTRILGE 2AMP 250V SLOW BLOW	j
1 - 1 - 1 - 1	2110 0007	(115V OPERATION ONLY) FUSEICARTRIEGE 1 AMP 250V SLOW BLOW	ł
		(230V OPERATION DNLY)	l
	lionn at the		· ·
11)2	1250-0118	CONNECTORIENC	
13	1250-0116 1250-0118	CONNECTORIENC	
j4 e ¹	1250-0118	CONNECTORIENC	
)5 (1250-0118	CONNECTORIENC	
16	1251-0101	CONNECTORIELMALE ED. CONTACT	
17	1250-0118	CONNECTORIFEMALE 50-CONTACT	
B	1250-0116	CONNECTORIERC	
19 [·] THRU			
10	1751 0000	NOT ASSIGNED	
111	1251-0087	CONNECTOR FEMALE 50-PIN MINAT	
1. 4	9140-0136	CONNECTOR: POWER 3-PIN HALE COILIFXD RF 22 UH	
2	9140-0136	COILIFXD RF 22 UH	
.3 .	9100-2830	COIL: FXD 40 UH	
4	9100-2830	COIL: FXD 40 UH	
.5	9140-0137	COILIFXD RF 1000UM	
PL	0370-0077	KNOB11/4 BAR WITH ARROW	` ,
IP <u>2</u>	0370-0077	KNOB11/4 BAR WITH ARROW	
IP3 1	0370-0077	KNOBII/4 BAR AITH ARROW	İ
	0370-0077	KNOBII/4 BAR WITH ARROW	
1P5A · · · · · · · · · · · · · · · · · · ·	0370-0099	KNOB: 1/4 BAR WITH ARROW AND CENTER HOLE	
P6	0370-0084	KNOB:ROUND HED 0.5" D 0.125" SHAFT KNOB:ROUND BLACK	
P7	0510-0123	RETAINER PUSH-ON TYPE FASTENER	
Pa	1200-0043	INSULATOR TRANSISTOR ANODIZED ALUHINUH	
P9	1200-0043	INSULATORITRANSISTOR ANODIZED ALUMINUM	
P10	1200-0043	INSULATOR TRANSISTOR ANODIZED ALUMINUM	
1	· ·	\mathcal{I}_{i} , \mathcal{I}_{i} , \mathcal{I}_{i} , \mathcal{I}_{i}	
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See list of abbreviations in introduction to this section

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Table 4-1. Reference Designation Index (Cont'd)

Designation	Stock No.	Description #	Note
	1		
			1.111.6
MP11	0340 0162	INSULATORITAANISTOR	
MP12	1200-0081	BUSHING INSULATOR NYLON	
MP13	1200-0081	BUSHINGEINSULATOR NYLON	
MP14	1200-0081		
MP15	1200-0081	BUSHINGIINSULATOR NYLON	,
···· • • •	1200-0081	BUSHING INSULATOR NYLON	
MP16	1000 0001		
	1200-0081	BUSHING: INSULATOR NYLON	
MP17	1200-0081	BUSHING: INSULATOR NYLON	
MP18		NOT ASSIGNED	
NP19 -	1200-0092	BUSHINGITRANSISTOR	
MP20	1200-0092	BUSHINGITRANSISTOR	
·			
MP21	1520-0001	PLATE: MOUNTING ELECTROLYTIC CAPACITOR	
MP22	1520-0001	PLATE MOUNTING ELECTROLYTIC UAPACITOR	
MP23	1520-0001	PLATE MOUNTING ELECTROLYTIC APACITOR	
MP24	1520-0001	PLATE MOUNTING ELECTROLYTIC CAPACITOR	
MP25	1520-0003	MOUNTING PLATE & CAPACITOR	
		THE TRACE AND TH	
MF26	1520-0003	MOUNTING PLATE CAPACITOR	
MP27	2190-0046		
MP28		WASHERISPLIT LOCK	
	2190-0046	WASHERISFLIT LOCK	
MP29	2190-0046	WASHERISFLIT LOCK	
MP30	2190-0046	WASHERISPLIT LCCK	
ini. I	D 100 000		
MP31 1	2190-0046	WASHERISPLIT LOCK	
MP32	2190-0046	WASHER SPLIT LOCK	
MP33	2390-0015	SCREWIMACHINE	
MP.54	3160-0060	FANTIMPELLER AXIAL	
MP35	5212L-83A	SUPPURTIKEALOUT	
1 . 1	ť .		
MP36	5212L-836	READUUTIUNITS	
MP37	05243-6042	PANEL:PLUG IN (MINT GRAY)	
MP38		NOT ASSIGNED	
MP39	1	NOT ASSIGNED	
MP40	05245-0012	BRACKETISNITCH	
	VULTU VUIL		
MP41	05245-0012	BRACKET:SWITCH	
MP42			
MP43 1	05245 0012	BRACKETSSWITCH	
MP43	5243A-12E	SUPPURTICAFACITOR	· · ·
	5243A-12F	BRACKET CRYSTAL OVEN	
MP45	5243A-20A	HOUSINGIFAN	
undu i l			
MP46	5243A-47C	SUPPORTIPANEL	
MP47 . ;	5243A-55A	SHIELD:05CILLATOR	
MP48	5040-0170	SUPPORT: PRINTED CIRCUIT BOARD	
MP49	5243L-126	BRACKET: BOARD	
MPSO		NOT ASSIGNED	
		HOT ASSIGNED	
MP51	5243L-17A	BUSHINGILATCH	
MP52		NOT ASSIGNED	
MP53	05243-2018		
MP54	05243-2014	HGUSINGIFLLG-IN	
MP55	~JC7J~CV14	SHAFTILATCH	
ся ц ар	I. I.	NOT ASSIGNED	
MP56 1	5203L		
	5243L-41A	PLATEICASTING	
MP57	05245 0014	SHIELDIINPUT	
MP58	05243-2015	KNOB:PLUG IN LATCH	
MP59	I	NOT ASSIGNEL	
MP60	5243L-83A	HOLDERIDECIMAL	
1961		NOT ASSIGNED	

= See list of abbreviations in introduction to this section

Model 5245L a 10 打

Reference Designation	🕀 Stock No.	Description #	Note
1			
P62 P63 THRU	05245-4001	INSERT:MEASUREMENT UNITS READOUT	
P64		NOT ASSIGNED	
P65 P66	5243L-91A	SPRINGILATCH NOT ASSIGNED	
P67	05245-4003 ,	WINDOW: READOUT AMBER	,
P68 P69	5243L-107A 05243-2013	BARIREADOUT	
P70		NOT ASSIGNED	
P71 P72	5243L-110A 5243L-1106	GUIDETBOARD FRONT GUIDETBOARD REAR	
P73		NOT ASSIGNED	
P74 P75	05245 2027 05245 0022	PANEL:FRONT (MINT GRAY) PANEL (REAR	•
P76 F77	05245-0015 05243-0008	SHIELDIAMPLIFIER RETAINER:FRONT PLUG-IN PANEL	
P78	05243-0007	RETAINERILATCH	
1	1853 0052	TRANSISTOR: SILICON PNP 2N3740	
3	1850-0036 1850-0038	THANSISTORIPNP GERMANIUM TRANSISTORIPNP GERMANIUM	
4	1850-0038	TRANSISTCRIFNP GERMANIUM	
2	0683-2235 0683-2245	RIFXU COMP 22K OHM 58 1/4W RIFXU COMP 220K OHM 58 1/4W	
3 · 4	0683-8235	RIFXD COMP 52K OMM 5% 1/4%	
5	0683-2735 2100-0318	RIFXD COMP 27K OHM 5% 1/4W RIVAR 250K CHM 20% 1/4W/SPST 5%	
5	0686-1045 0686-3325	RIFXU COMP 100K OHM 5% 1/2%	
	0683-6215	RIFXD COMP 3300 UHM 5x 1/2W RIFXD COMP, 620 CHM 5x 1/4W	
10	0683-5105 0683-1055	RIFXD COMP 51 OHM 5% 1/4W RIFXD COMP 1 MEGOHM 5% 1/4W	
	3101-0036	SWITCHITOG SPST 3 AMP 125V	
3	3101-0014	SWITCHIPUSH SPDT NE	
•	3101-1272	SWITCHISLICE 4 POT 0.5 AMP 250 VAC	
2	9100-0166 9100-2829	TRANSFORMEN I POWER TRANSFORMEN I POWER	
1	8120-1378 8120-1348	CABLE: POWER SVT-18-3 7.5 FT JADE GRAY	
	05245-6018	CABLE POWER SVT-18-3 7.5FT. GRAY MAIN CABLE AND SWITCH ASSY GRAY	۰,
7	1251-0159 1251-0135	CONNECTORIZXIS CONTACT Connector-Frinted Circuit 15 Contacts	
8 THRU		NOT ASSIGNEL	
10	1251-0135	CONNECTOR-PRINTED CIRCUIT 15 CUNTACTS	
	1251-0135	CONNECTOR-FRINTED CIRCUIT 15 CONTACTS	
12	1251-0135 1251-0135	CONNECTOR-FRINTED CIRCUIT 15 CUNTACTS CONNECTOR-FRINTED CIRCUIT 15 CONTACTS	
14	1251-0135	CONNECTOR-FRINTED CIRCUIT 15 CONTACTS	
15	1251-0135 1251-0135	CONNECTOR-FRINTED CIRCUIT 15 CONTACTS CONNECTOR-FRINTED CIRCUIT 15 CONTACTS	
3			

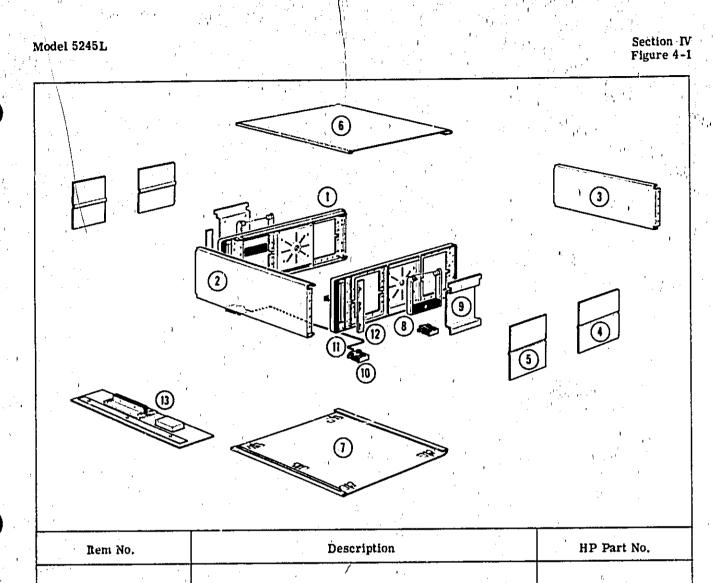
 \pm See list of abbreviations in introduction to this section

Section IV Table 4-1

Table 4-1. Reference Designation Index (Cont'd)

Reference Designation	🕀 Stock No.	Description #	Note
XA17 XA18 XA19 XA20 XA21	1251-0135 1251-0135 1251-1669 1251-1665 1251-1665	CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTORIFC 10 CONTACTS CONNECTORIFC 10 CONTACTS CONNECTORIFC 10 CONTACTS CONNECTORIFC 15 CONTACTS(2 REQID)	
KA22 XA23	1251-0135 1251-0135	CONNECTOR-FRINTED CIRCUIT 15 CONTACTS Connector-Frinted Circuit 15 Contacts	e.
(A24 THRU (A25 (A26 (A26	1251-0135 1251-0158	NOT ASSIGNED Connector-Frinted Circuit 15 Contacts And Connector#6-Contact	
(A27 (A28 (A29 (A30 (A31	1251-0135 1251-0135 1251-0135 1251-0135 1251-0135 1251-0135	CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTOR-FRINTED CIRCUIT 15 CONTACTS CONNECTOR-FRINTED CIRCUIT 15 CUNTACTS	
XA32 XA33 XA34	1251-0135 1251-0135 1251-0135	CONNECTOR-PRINTED CIRCUIT 15 CONTACTS CONNECTOR-FRINTED CIRCUIT 15 CONTACTS CONNECTOR-FRINTED CIRCUIT 15 CONTACTS	
KF1	1400-0084	FUSEHOLDER EXTRACTOR POST TYPE	
		MISCELLANEOUS	
	05243-6043 8500-0059 3150-0037 05243-6036	KIT:5-1/4 " RACK MOUNT SILICONE GREASE (FOR TRANSISTOR HEAT-SINK) AIR FILTER ASSY PANEL:PLUG-IN (LIGHT GRAY)	
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See list of abbreviations in introduction to this section



Item No.	Description	HP Part No.
1	Frame Assembly	5060-0732
2	Front Panel	05245 -2027
3	Rear Panel	05245-0022
4	Cover: Rear Side	5000-8709
5	Cover: Front Side	5000-8711
6	Cover Assembly: Top	05243-0010
7	Cover Assembly: Bottom	05243-0009
8	Handle Assembly: Side	5060-0222
9	Handle Assembly: Retainer	5060-8737
10	Foot Assembly	5060-0767
11	Stand: Tilt	1490-0030
12	Plate: Fluted	5000-0051
13	Kit: Rack Mounting	05243-6043

Figure 4-1. Modular Cabinet Parts

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Replaceable Parts Table 4-2.

Stock No.	Description #	Mfr.	Mfr. Part No.	TQ
	1		1	
				1.0
0121-0013	CIVAR AIR 6-106-5PF		085#	1
0130-0001	CIVAR CER 7-45PF 500VDCW		50300D2P0	
0130-0003	CIVAR CER 1.5-7 PF 500VDCW		503-000c0P0-10R	11
0140-0145	CIFXD MICA'22 PF 5%		0140-0145	9
0146-0149	CIFXD MICA 470 PF 5% 300 VUCH	84171	DM15F471J	5
11 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CIFXD MICA SZOFF 28 300VDCM	04171	DM15FB21G	
0140-0151		84171		
0140-0152	CIFYU MICA 3000 PF 58 300VDCW		0140-0152	
0140-0156	CIFXD HICA 1500 PF 28 300 VDCW	84171	DM19F152G 300V	I I
0140-0159	CIFXD MICA JUOUPF JOOVDCH	84171	UM19F302G	1.3
0140-0162	CIFXD MICA 4700 PF 10% 300 VDEW	84171	DM2CF472K	1
0140-0166	CIFXD MICA 0.017 UF 28 300 VUCH	84171	INNIOCITIC	
			DM30F173G	
0140-0169	CIFXD MICA 100 PF 5% 500VDCW	00853		
0140-0176	CIFXD MICA 100 PF 2% 300 VDCW	84171		
0146-0190	CIFXD MICA 39 PF 5%	28480	• • • • • • • • •	8
0140-0191	CIFXD MICA 56 PF 5% 300 VDCW	84171	RDH15E560J3C	7
0140-0192	CIFXO MICA 66 PF 5%	28480	0146-0192	10
0140-0193	CIFXD MICA 82 PF 5%	_		
U140-0195	CIFXD MICA 62 PF 5% CIFXD MICA 110 PF 5% 300 VUCW	28480		21
0140-0195		84171		19
0140-0195	CIFXD MICA 130 PF 5% 300 VDCW CIFXD MICA 150 PF 5% 300 VDCW	84171 84171	DM15F131J 300V DM15F151J 300V	32
	STING REGRIEDO TE DA DOU TUUR	04171	0.17-1310 3004	21
0140-0197	CIFXD MICA 180 PF 5%	28480	0140-0197	10
)140-0198 /	CIFXD MICA 200FF 5% 3COVDCW	84171		12
0140-0199 '	CIFXD MICA 240PF 5% 300VUCW	84171	DM15F241J 300V	E .
0146-0200	LIFXD MICA 390PF 5% 300VDCW	84171	0M15F391J 300V	14
0140-0201	CIFXD MICA 12PF 5% 500VDCW	84171	DM15C120J	2
0140-0202	CIFAD MICA 15 PF 5% 500VOCW	84171	UM15C150J	4
0146-0205	CIFXD MICA JUPF 5% 500VDCW	84171	UM15E300J 500V	4
0146-0204	C#FXD MICA 47PF 5% NPO 500VDCW	84171	RDM15E470J5C	12
v146-0205 [°]	CIFXD MICA 62 PF 5% 300VDCW	84171	UM15E620J	1
0146-0208	CIFXD MICA 660PF 5% 300VUCW	84171	DM15F681J	3
J14C-0209	CIFXD MICA SPF 10% SOOVDCW	84171	DM15C050K 500V	1
0146-0210	CIFXD MICA 270PF 5% 300VDCW	B4171	DM15F271J 300V	3
0140-0214	CIFXD MICA 60PF 5% 300VDCW	84171	DM15E600J 300V	2
0146-0217	CIFXD MICA 140 PF 2% 300VDCW	84171	DM15F141G-300V	5
0150-0009	C:FXD CER 10PF ± 0.5 PF 500 VDCW	28480	0150-0009	1
0150-0012	C:FXD CER 0.01 UF 20% 1000 VDCW	56289	H 1038	2
0156-0042	CIFXD TI 4.7 PF 5% 500VDCW	78488		2
0156-0047	CIFXD TI 6.8 PF 108 500 VDCW	78488		2
150-0050	CIFXD CER 1000PF 600 VDCW		CO67B102E102ZS26-CDH	2
156-0061	CIFXU CER 20 PF 10% 100VDCW		53047	2
150-0069	CIFXD CER 0.001 UF +100-20% 500VDCm		801-010x5601022	1
				1 .
150-0073	C:FXU CER 100 PF 10% 500VDCW	56289	40C200A2	2
150-0095	L:FXD CER 0.010F +80-20 100VDCw	91415		39
0150-0115	C#FXD CER 27, PF 10% 500VDCW		CC20TCN27	1
0150-0119	CIFXD CER 2X1.010F1 20% 250VDCM		41C159A	1
0150-0121	CIFXD CER 0+10F 50 VUCW		5C50A	10
150-0122	CIFXD CER 2000PF 20% 500VDCW		801-000-Y55-202M	2
0160-0126	CIFXU PORC 160FF 2% SOUVDCA	95275	VY13C161G	1
0160-0127	CIFYD CER LUF 20% 25VDCW	56289		10
0166-0130	CIFAD MY 0.022 UF 28 600VDCW		TYPE 663-UW	1
0160-0134	CIFXD MICA 220FF 5% 300VDCW	14655	CD15F221J(300V)	10
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= See list of abbreviations in introduction to this section

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Section IV Table 4-2

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Table 4-2. Replaceable Parts (Cont'd)

🐵 Stock No. 👘	Description #	Mír.	Mír. Part No.	TQ
				┦╌╴┤
		A l	1	
0160-0155	CIFXD MY 3300 PF 108	28/180	0160-0155	
0160-0157	CIFXD MY 4700 PF 10%	20400	0160-0155	11
0160-0161	CIFXD MY 0.01 UF 10% 2000DCW	28480	0160 0157	1
0160-0163	CIFXD MY '330UPF 108'	28480	7160 0161	1 1
0160-0174	CREAD CED D 117 HILLING DO DOUDE	28460	0166-0163	1 1
	CIFXD CER 0.47 UF +80-20# 25VDCW	56289	5C11B7	2
0160-0181	CIFXD MICA JOPF 5% JOOVDCW	14655	RDM15E470J3S	
0160-0194	CIFAD MY 0.015UF 108	20000	0160-0194	[], ↓
0160-0205	CIFXD MICA 10 PF 5%	20400	0100-0194	8
0160-0314	CIFXD MY 0.01 UF 5% 400VDCW	28480	0160-0205	2
0160-0369	CIFXD MICA 17 PF 5%	84411	TYPE 663UW	2
140-0170		20480	0160-0369	3
	CIFXD MICA 20 PF 5%	28480	0160-0370	1.1
0160-2203	CIFXO MICA 91 PF 52	26460	0160-2203	1
0160-2206	CIFXD MICA 160 PF 58	20400	0160-2203	10
0160-2248	CIFXD CER 4.3 FF 500VDCW	20400	0160-2206	10
0160-2260	CIFAD CER 13 PF 5% 500VDCW	72982	301-NPO 4.3 PF 301-NPO 13 PF	1
0160-2262				1
0160-2306	CIFXD CER 16 PF 5% 500VDCW CIFXD MICA 27 PF 5%	72982	301-NP0 16 PF	
0166-2550	CIFXD CER 140 PF 500VDCW	28480	0160-2306	
160-2563	CIEVE CER LOU PR DUUVUUW	72982	301-000-C0K0-109B	
	CIFXD CER 2000 PF 20% 500VDCW	72982	801-012-Y55-202M	
170-0024	CIFXD MV 0.022 UF 20% 200VDCW	56289	192F22302A	2
0170-0040	CIFXD MY .047 UF 10% 200VDCW			е т
170-0055	CIFXD MY 0-10F 208 200VDCW	28480	0170-0040	5
170-0084	CIEWD MM O DADLE COR 200VDCW	56289	192F10402	1
)170-0094	CIFXD MY 0.068LF 20% SOVUCW	84411	601FE STYLE 3	4
	CIFXU MY 0.047UF 20% SOVDCW	AULII	TYPE 602	
180-0047	CIFXD ELECT SOUUF 75VDCW	56289	D32443	2
180-0049	CIFXD ELECT 200F SOVDC+		- A	1
180-0097	CIFXD ELECT 47 UF 10% 35VDCW	56289	30D198A1	- 1
180-0098	CIEVE LECT HOULE DON SOUDE	28480	0160-0097	1
180-0100	CIFAD ELECT 100UF 208 20VDCW	56289	1500107x002052	
	CIFAD ELECT TA 4.70F 10% 35VDCM	66280	150C475X9035B2	29
180-0107	C:FXD ELECT 200F -10/+100% 208VDCW	56289	90803	9
186-0129	CIFXU ELECT 9750F -10+50# 40VDCM			
180-0130	CIFXU FIFT ISOME TOTOUS 40VUCK	56289	\$37006	2
180-0137	CIFXU ELECT. 1500UF -10+50% 15VLCM	00853	PLI 505 1007 02	
370-0077	STEAD ELECT TA 100 HE 20% LOVDOW	56289	150C107X0010R2	-1
	KNUBIIZA BAR WITH ARROW	280.80	U370-0077	1
370-0084	KNOB:ROUND BLACK	20400		4
370-0099	KNOB:BAR WITH CENTER HOLE	×0480 (0370-0084	1
370-0134	KNOB: ROUND RED	28480	0370-0099	1
		28480	0370-0134	1
510-0123	RETATING DUPLICATION			
683-0475	RETAINER PUSH-ON TYPE FASTENER	78553 0	12008-014-4	,1
68-1015 - د	RIFXD COMP 4.7 OHMS 5% 1/4W		8 4765	1
	RIFXU COMP IOD OHM 5% 1/0%	01121		1
583-1025	RIFXU COMP 1000 OHM 5% 1744	01121		13
583-1035	RIFXD COMP TOK OHM 5% 1/4W	01121 0		24
83-1045				83
83-1055	RIFND COMP 100K OHMS 5% 1/4W	01121 0	B 1045	30
83-1115	RIFXD COMP 1 MEGOHM 5% 1/4#	01121 0		-
83-1125	RIFED COMP 110 OHN 5% 1/4W	01121 0	8 1115	14
83-1135	KIFXU COMP 1100 OHM 5% IZUW	01121		6
	RIFXD COMP 11K OHM 5% 174W	01121	B 1135	1
83-1225	RIFXD COMP 1200 OHMS 5% 1/4W			•
1235	RIFXD COMP 12K OHM 5% 1/4W	01121 0	8 1225	2
683-1245	RIFXD COMP 120K OHM 5% 1/4W	01151 0	B 1235	6
83-1305	READ COND IN OHM DE 1/4%	01121 0	B 1245	8
83-1325	RIFXD COMP 13 OHMS 5% 1/4W RIFXD COMP 1300 OHMS 5% 1/4W	01121 0	B 1305	1
	Com Luco Offers DR 1/4W	01121 0	B 1325	4
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See list of abbreviations in introduction to this section

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Table 4-2. Replaceable Parts (Cont'd)

De Stock No.	Description [#]	Mfr.	Mfr. Part No.	TQ
2		2		
			. A	
0683-1515	RIFXD COMP 150 OHM 5% 1/4W	01121	CB 1515	1 1 .
0683-1525	R:FXD COMP 1500 OHM 5% 1/4%	01121	CB 1525	4 .
0683-1535	RIFXD COMP 15K CHMS 52 1/4#	01121	CB 1535	8 🕔
0683-1545	RIFXD COMP 150K OHM 5% 1/4W	01121	CB 1545	5
0683-1615	RIFXD COMP 150 OHM 5% 1/4W RIFXD COMP 1500 OHM 5% 1/4W RIFXD COMP 15K CHMS 5% 1/4W RIFXD COMP 150K OHM 5% 1/4W RIFXD COMP 160 OHM 5% 1/4W			2
0683-1625	RIFXD COMP 1600 OHM 5% 1/4W RIFXD COMP 16K OHM 5% 1/4W RIFXD COMP 180 OHM 5% 1/4W RIFXD COMP 1800 OHMS 5% 1/4W RIFXD COMP 15K OHM 5% 1/4W	01121	CB 1625	4
0683-1635	RIFXD COMP 16K OHM 5% 1/4W	01121	CB 1635	9
0683-1815	RIFXD COMP 180 OHM 5% 1/4W	01121	CB 1815	24
0683-1825	RIFXD COMP 1600 OHMS 5x 1/4w	01121	CB 1825	9
0683-1835	RIFXU COMP 15K OHM 5% 174W	01121	CB 1835	5
0685-1845	RIFXD COMP 180K OHMS 5% 1/4W RIFXD COMP 200 OHMS 5% 1/4W RIFXD COMP 2000 OHM 5% 1/4W RIFXD COMP 22 OHM 5% 1/4W RIFXD COMP 220 OHMS 5% 1/4W	01121	CB 1845	5
0683-2015	R#FXD, COMP 200 0HMS 5% 1/4#	01121	CB 2015	27
0683-2025	RIFXD COHP 2000 OHM 5% 1/4W	01121	CB 2025	20
0683-2205	RIFXU COMP 22 OHM 5% 1/4W	01121	CB 2205	2
0683-2215	RIFXD COMP 220 OHMS 5% 174W	01121	CB 2215	,2
0683-2225	RIFXD COMP 2.2K OHM 58 1/4W RIFXD COMP 22K OHM 58 1/4W RIFXD COMP 22OK OHM 58 1/4W RIFXD COMP 24O OHMS 58 1/4W RIFXD COMP 24OO OHMS 58 1/4W	01121	GB 2225	6
0683-2235	RIFXD COMP 22K OHM 5% 174W	01121	CB 2235	12
0683-2245	RIFXD COMP 220K OHM 5% 1/4W	01121	CB 2245	2
0683-2415	RIFXD COMP 240 OHMS 5% 1/4W	01121	CB-2415	4
0683-2425	RIPAU CUMM 2400 UHMS 5% 1/4W	01151	CE 2425	4
0683-2435	RIFXD COMP 24K OHM 58 1/4W	01121	CB 2435	
0683-2715	RIFXD COMP 270 OHMS 5% 1/4W	01121	CB 2715	l īl
0683-2725	RIFXD COMP 2700 OHMS 5% 1/4W	01121	CB 2725	13
0683-2735	RIFXD COMP. 27K OHM 5% 1/4#	01121	CB 2735	5
0683-3025	R:FXD COMP 24K OHM 5% 1/4W R:FXD COMP 270 OHMS 5% 1/4W R:FXD COMP 270G OHMS 5% 1/4W R:FXD COMP 27K OHM 5% 1/4W R:FXD COMP 3000 OHM 5% 1/4W	01121	CB 3025	26
6683-3305	RIFYD COMP 35 OHMS 5% 1/4W RIFXD COMP 330 OHMS 5% 1/4W RIFXD COMP 3300 OHM 5% 1/4W	01121	CB 3305	
0683-3315 🦯 👘	R:FXD COMP 330 OHMS 5% 1/4W	01121	CB 3315	8
0683-3325	RIFXD COMP 3300 OHM 5% 1/4W	01121	CB 3325	8
0683-3615	RIFXD COMP 360 OHM 5% 1/4W	01121	CB 3615	1
		01121		2
0683-3915	R FXD COMP 390 OHMS 5% 1/4W	01121	CB 3915	13
0683-3925	RIFXD COMP 3900 OHM 5% 1/4W	01121	CB 3925	102
0683-3935	RIFXD COMP 39K OHN 5% 1/4W	01121	CB 3935	Ţ,
0683-3945	RIFAD COMP 390K OHMS 54 1/4#	01121	CB 3945	28
0683-4315	RIFXD COMP 390 OHMS 52 1/4W RIFXD COMP 3900 OHM 52 1/4W RIFXD COMP 39K OHM 52 1/4W RIFXD COMP 39K OHMS 54 1/4W RIFXD COMP 430 OHMS 52 1/4W	01121	CB 4315	5
0683-4325	RIFAD COMP 4300 OHM 5% 124W RIFAD COMP 43K OHM 5% 124W RIFAD COMP 43K OHM 5% 124W	01121	CB 4325 CB 4335 CB 4705	2
0683-4335	R FXD COMP 43K OHM 58 1/4W	01121	CB 4335	1
0683-4705	RIFXD COMP 47 OHM 5% 1/4	01121	CB 4705	i
0683-4715	R#FXD 170 OHMS 5x 1/4W	01121	CB-4715	9
0683-4725	AIFXD COMP 4700 OHM 58 1/4W		C5 4725	22
0683-4735	RIFXD COMP 47K OHMS 5% 1/4W	01121	CB 4735	179
0683-5105	RIFXD COMP 51 OHM 5% 1/4#		CB 5105	4
0683-5115	RIFXD COMP 510 OHMS 5% 1/4W		CB 5115	ŝ
0683-5125	RIFXD COMP SIDG OHM 5% 1/4#	01121	CB 5125	7
0683-5135	RIFXD COMP 51K OHMS 52 1/4#	01121	CB 5135	10
0683-5615	RIFXD COMP 560 OHMS 58 174W	01121	CB 5615	1
0683-5635	RIFXU COMP SOK OHMS SR 1/44		CB 5635	58
U£83-6205	RIFND COMP 62 UHM 58 1/4W	01121	CB 6205	5
	HIFXD COMP 620 OHM 5% 1/4%		CB 6215	1
0683-6225	RIFXD COMP 6200 UHMS 5% 174%	01121	CB 6225	4
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= See list of abbreviations in introduction to this section

Model 5245L

Table 4-2. Replaceable Parts (Cont'd)

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🗇 🕸 Stork No. 👘	Description #	Mír.	Mfr. Part No.	Т
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		· · ·		
681-6235	RIFXD COMP 62K OHM 5% 1/4W			
0683-6805	REFAU COMP 68 UMMS 5% 1/4W		CB 6235	
0683-6815	RIFAD COMP OF UMAS 3% 174W		CB 6805	1.1
0683-6825	RIFXD COMP 660 OHMS 5% 1/4%		CB 6615	
	RIFXD COMP 6800 UHMS 54 1/4W		CB 6825	49
0683-6835	RIFXD COMP 66K OHM 5% 1/4W	01121	CB 6835	118
Sec. miles 1				
0663-7515 A	RIFAD COMP 750 CHMS 5% 1/44	01121	СВ 7515	1 4
0683-7529	RIFXD CONP 7500 UHMS 5% 1/4W		CB 7525	1.8
0685-7535	RIFXD COMP 75K OHM 5% 1/4W		CB 7535	1
0683-62139		01121	CB 8215	
0683-8225	RIFYD COMP 5200 DHMS 5x 1/4W	01121	CO 0210	
ι		01121	CD 2225	22
0683-8235	REFAD COMP BER OHM 5% 174W	1	EB £235	1.
0683-9105	RIFXD CONP 91 UHM 59 1/4W		_	1 1
0653-9115	REFAD COMP 910 OHM 5% 1/4W		CB 9105	4
0683-9125	0+FAU LUME 710 UHM 3% 1/4%		CB 9115	1 1
	RIFXD CCMP 9100 0HM 5% 1/4W		CB 9125	2
0683-9135	RIFXD COMP 91K OHM 5% 1/4W	01121	CB 9135	1
1686-103F	READ COND LOOP WITH TO A TO A			
0686-1025	RIFXD COMP 1000 UHM 5% 1/2W	01121	EB 1025	3
0686-1035	REFAU COMP LOK OHM 5% 1/2W	01121	EB 1035	5
0686-1045	RIFXD COMP LOOK OHM 5% 1/2W		LB 1045	1 7
0686-1055	RIFXO COMP 1 MEGOHM 5% 1/2%		<u>c</u> 8 1055	1.5
0686~1225	RIFXD COMP 1206 UHM 5% 1/2#		EB 1225	1. ‡
		· · · · · · · · · · · · · · · · · · ·		²
0686-1325	RIFXD COMP 1.3K UHM 5% 1/2W	01121	EB 1325	_
0686-1525	RIFXD COMP 1500 OHM 58 1/24		LU IJEJ 20 jego	1 2
0686-1825	RIFXD COMP 1500 0HM 5% 1/2W		EB 1525	1. 1
0686-2035	RIENL COMP. 1000 UNN DR 1728 .		EB 1825	1
· · ·	RIFXL COMP 20K OHM 5% 1/2W		EB 2035	2
0686-2225	RIFXD COMP 2200 UHM 5% 1/2%	01121	EB 2225	5
0404-9334				1
0686-2235	RIFXD COMP 22K OHM 5% 1/2W		EB 2235	1 1
0686-2725	RIFXD COMP 2700 0HM 5% 1/2W		LB 2725	1
0686-2735	RIFXD COMP 27K OHM 5% 1/2W		EB 2735	1.5
0686-3025	RIFXD COMP JOOL UHM 5% 1/2#		EB 3025	7
0686-3325	RIFAD COMP 330C OHM 5% 1/2W		EB 3325	! !
	and the second second second second second second second second second second second second second second second			11
0686-3625	RIFXD COMP 3600 OHM 5% 1/2%	01121	LB 3625	
0686-4715	RIFXD COMP 470 OHMS 5% 1/2%		EB 4715	2
0680-4725	RIFXU COMP 4706 UHM 5% 1/24			3
0686-4735	RIFXD COMP 47X OHM 5% 1/2W		LB 4725	_2
0686-5115	DIEVD CONDIEIR DR. 1/28		EB 4735	11
	R:FXD COMP 510 OHM 5% 1/2W	01121	EB 5115	ľ
			<i>C</i>	
0686-6215	ALEVA COND ALL OUR TO LAND			
0680-7525	RIFXD COMP 620 OHM 5% 1/2W		EB 6215	1
	RIFXD COMP 750C OHMS 5% 1/2W		EB 7525	42
06866215	RIFXD COMP 820 OHM 5% 1/2W		EB 8215	
3686-9115	RIFXD COMP 910 0HM5 5% 1/2W		EB 9115	1
0686-9125	R:FXD COMP 9100 OHM 5% 1724			្រា
0689-0565	RIFXD COMP 5.6 OHM 5% 1W	01121	EB 9125	1
0689 2075	RIFXS COMP 20K OHM 5% IN	01121	GB 0565	11
· · · · · ·			GB 2035	, 1 , ,
0727-0081	RIFAD DEFC 600 OHM 1% 1/2W	- Local		× .
0727-0105	FIFXD C-FLM 1200 OHM 1% 1/2W	1 18/01	DC 1/2 AR5	- 1
1	THE STEEL LEVE UNIT 13 1/48	26480	0727-0105	. I
0727-0367	RIFID DEPC 442 OHM 1% 1/2W			
0757-0344	DIEVINE DEFU 742 UND 13 1/28	19701	UC 1/2A R5	1
0757-0350	RIFXD MET FLM 1 MEGOHM 18 1/48		0757-0344	1
	RIFXD HET FLM 909K OHM 1x 1/4W	26480	0757-0350	ī
0757-0368	RIFXD MET FLM 34 OHM 1% 1/8W		0757-036B	2
0757-0898	RIFXD MET FLM 62 OHM 2% 1/8W	28460	0757-0898	5
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Model 5245L

Table 4-2. Replaceable Parts (Cont'd)

Stock No.	Description #	Mfr,	Mir. I	Part No,	TQ
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0757-0500	PIETD NET ELNI LOO OLN DE LAD		1.2.3		
0757-0902	RIFXD MET FLM 100 OHM 28 1/88		0757-0900		2
6757-0904	RIFXD MET FLM 120 OHM 28 1/88 RIFXD MET FLM 150 OHM 28 1/88		0757-0902		.2
0757-0909	PIEVE NET FLM IDU UNH 28 1/88		0757-0904		2
0757-0914	RIFXD MET FLM 240 CHM 2% 1/8W		0757-0909		.4
VI31-V914	RIFXD HET FLM 390 OHM 2% 1/8%	28480	0757~0914	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3
0757-0916		1			1
0757-0920	REFAD MET FLM 470 OHM 28 1/88 CH 4 CH	28480	0757-0916	j la l'E	4
0757-0930	RIFXD HET FLM 680 OHM 2% 1/8W		0757-0925		2
0757-0\$32	RIFXD MET FLH 1.8K OHM 2% 1/8%		0757-0930 -		- 4
	RIFXD HET FLM 2.2K OHM 2% 1/8W	28460	0757-0932	11 - E. M. 1	. 4
0757-0936	RIFXD MET FLM 3.3K OHM 2% 176W	28480	0757-0936		4
				e e se	
0757-0937	RIFXD MET FLH 3.6K OHM 25 1/8W	28480	0757-0937	' ,	1
0757-0940	RIFXD HET FLH 4.7K OHM 2% 1/8W	28480	0757-0940		2
0757-0948	RIFXD MET FLM 10K OHM 2% 1/8%		0757-0948	5 I.	5
0757-0950	REFXD HET FLM 12K OHM 2% 1/8%	28480	0757-0950		4
0757-0952	RIFXD MET FLM 15K OHH 28 1/8%		0757-0952		4
		南京の開	$(1,2,\ldots,2) \in \mathbb{R}^{n}$	· • • • •	
0757-0972	RIFXD HET FLM 100K OHM 28 1/60	28480	0757-0972	· ·	4
758-0004	RIFXD MET FLM 2700 OHM 5% 1/2W	26480	0758-0604	1 () () () () () () () () () (10
758-0014	RIFID MET OX 160 OHM 52	28480	0758-0014		Ĩ
758-0015	RIFXU MET FLM 220 OHMS 53 1/2%	28480	0758-0015		7
0758-0024	RIFXD MET FLM 100 OHM 5% 172W		0758-0024		
		P.,		y di se se se se se se se se se se se se se	
758-0028	RIFXD HET FLN 270 OHHS 54 1/2W	26480	0758-0028	i s i	
758-0043	RIFID MET 5'LM 1800 OHM 58 1/28	28480		2 4 ¹ 4 ¹	1
758-0044	RIFXD MET OX 2200 CHH 5% 1/2W	26460		,	5 1
761-0010	RIFXD MET OX 1800 CHM SHIIN		0761-0010	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5
761-0020	RIFXU MET FLM 91 OHM 5% 1W	28480	0761-0020		· •
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767-0001	RIFXD HET FLH 400 OHMS 58 3W	28480	0767-0001	E and a second sec	, *
200-0043 (1/1/1)	INSULATORITRANSISTOR ANCOIZED ALUNINUM	76530	294457	1.1.1	
0340-0162	INSULATORITRANISTOR	28480	9340-0162	V = - V	-1
200-0081	BUSHINGLINSULATOR NYLON	28480	1200-0081		
1. Galak - 697 d			······································	1989 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	P
白色的岩色的 说明	后的 对 那些法律的话题,在这些问题,这些话题的,我们就是是一个	- t		i p	- L -
200-0092	BUSHINGETRANSISTOR	294.90 L	1209-0092	the shall	
250-0118	/ CONNECTOR +BNC	91737		·) ·	2
251-0087	CONNECTOR FEMALE SU-PIN MINATO		57-4057-405	00/376	_ <u>.</u>]_,
251-0101	CONNECTOR FEMALE SD-CONTACT	02000	57-20500	0013751	
251-0135	CONNECTOR-PRINTED CIRCUIT 15 CONTACTS		S0-615UR		11
建立 建成 日本語	医脊髓溃疡溃疡 化辐射性力 锻炼输行 热出 计分词正式计		PO-OTOOK		21
251-2357	CONNECTOR POWER, 3-PIN MALE	lipagon	EAC 201		
251-0158	CONNECTORIG-CONTACT	182389			-1
251-0159	CONNECTORIZX15 CONTACT		CD-6C6S	1	4
251-1669	CONNECTOR IPG 10 CONTACTS		FD-6305		· I
251-1670	CONNECTOR IPC IS CONTACTS		1251-1669	. i i	2j*
· · · · · · · · · · · · · · · · · · ·		20480	1251-1670		7 1
400-0064	FUSEHOLDERIEXTRACTOR POST TYFE				- [
450-0049	INDICATOR IGLOW-LAMP NEON		342014		1
520-9001	PLATEINCUNTING ELECTROLYTIC CAFACITCR		1450-0049	10 A A	_ ↓ [
20-0003	HOUNTING PLATE CAPACITOR		1520-0001		4 .
50-0038	TRANSISTORIPAP GERMANIUM		TYPE BP2	• • •	2
		86684	1850-0038		3
850-0040				. 1	: i
50-0048	TRANSISTORIGERHANTUH 20383 PND	94154			3
850-0054	TRANSYSTORIGERMANIUM, 20650 PNP	CH713		i	il -
ション 白い とうていてい しょしいいし	TRANSISTORIGERMANIUN 2N652A PMP	04713	2N652A		2
850-0062	TRANSISTORISPLZMO4A	28480	1850-0062 /		94
850-0090	TRANSISTORIGERMANIUM 2N11838 PAP		2N11838	- <u>11</u>	
5 S S S S S S S S S S S S S S S S S S S	新闻·马斯勒提的"有关"的"马斯斯"的"高斯特殊"。在1991年	5 S S 1			•
(1, 2, 4, 2, 2, 3, 4)	经保持利润 化合理合理 网络拉根花属 化转移电子 计分子	1			· ·
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	二氟乙酯 化乙酰氨酸氨酸盐 化乙酰氨酸乙酯 计正式通道 计算法	· ·	그는 아이에 가지 않는 것이 같이 많이 많이 했다.	1	

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Table 4-2. Replaceable Parts (Contid)

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🕸 Stock No.	Description #	Mfr.	Mfr. 1	Part No.	T
1850-0091	TRANSFORMED AND AND AND AND AND AND AND AND AND AN	. <u>.</u>		1	· .
	TRANSISTON GERMANIUM 212048 PNF	87210	2N2C46		
1850-0092	TRANSISTORIGERMANIUH 2N2043A FNF		3 2N2C43	•	
1856-0101	TRANSISTOR: SPL2N582		1850-0101	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
1850-0102	TRANSISTOR: GE2N2455	28480	1854-0102		
1850-0158	TRANSISTOR PNP GERMANIUM		1850-0158	1. A.	
a da ser da da ser da ser da ser da ser da ser da ser da ser da ser da ser da ser da ser da ser da ser da ser d	[1] A. Martin and A. Martin a And A. Martin and A. Mart		1 1000-0190	· · ·	
1851-0017	TRANSISTOR: 2N1304	-			
1851-0024	TRANSISTOR GE NPN 2N356A		2N1304		1 :
1853-0001	TRANSISTOR PNP SILICON JOV 900M		2N388A	1	
1853-0009	TRANSISIONIFNE SILICUN SUV GOUND	28480	1853-0001		1
1853-0015	TFANSISTOR: SILICON PNP	28480	1853-0009		1:
222-0012	TRANSISTORISILICON PNP 2N3640	07263	2N3640		1.5
053 000					1
853-0034	TRANSISTORISILICON PNP	1. 28480	1853-0034		1.
854~0003	TRANSISTORINPN SILICON	28480	1854-0003		· 6
854-0005	TRANSISTOR: 2N/08 NPN SILICON PLANAR	1.07943	2N708		8
654-0009	TRANSISTORIEN709 NPN SILICON				16
854-0019	TRANSISTORISILICON NPN		2N7C9		18
1.		28480	1854-0019	,	4
854-C022	TRANSISTOR: 120V			1 I I I	
854-0073	TRANSISTORISILICON NPN		1854-0022	ł.	1 1
854-0249			1854-0073	1	
855-0047	TRANSISTORIDUAL NPN SILICON		1854-0249	· /	2
901-0025	TRANSISTOP DUAL N-CHANNEL FET	28480	1855-0047	• ,	
-VI-VV23	DIOCEISILICON ICOWV LOOMA	28480	1901-0025	i	413
001-000-	A-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-				1.1.2
901-0026	SEMICON DEVICE DIODE SI	14099	SA-783	1. 1. 1	1
901-0029	DIOCEISILICON COC PIV	281180	1901-0029		<u>'</u> 5
901-0040	SEMICON DEVICE IDIODE SILICON	20400	1901-0040		4
901-0045	SEMICON DEVICE DIODE SI				38
901-0049	SEMICON DEVICE INIODE SI		SA-788		8
· · ·		1 14099	50-05		4
901-0376	DIOCEISILICON 35V	1			1
902-0017	SEMICON DEVICEIDIODE SI	28480	1901-0376		4 4
902-0039	SENTCON DEVICENTIONE SI	28480	1902-0017	÷	2
902-0057	SEMICON DEVICE IDIODE IN1597A	04713	1N1597A		1.
902-0214	SEMICON DEV CEIDIODE SILICON	28480	1902-0057	· .	17
V. V. IV	DIOCEISILICON BREAKDOWN 56-2V 10% 1-5W	28480	1902-0214		1.1
902-0580	DIODE DOCTORING				1
910-0015	DICDE BREAKDOWNISILICON	28480	1902-0580		2
910-0016	EMICON DEVICEIDIODE GERMANIUM	73293	HD-1409		5
010 0C0	DIODE GERMANIUM I MICROSEC 60 AIV	28480	1910-0016		
910-0021	SEMICON DEVICE:DIODE	73201	HPS 1672A		164
910-0022	SEMICON DEVICE IDIODE GE 100MA OFIN 3.5NS	2848/	1910-0022	I	5
			- 710-0022 A	i	14
910-0034	DIODEIGERMANIUM	20000	1010 000	1 .	
70-0009	ELECTRON TUBE INDICATOR 10 DIGIT	1 _ m _ m 1	1910-0034	÷	2
00-0318	RIVAR 250K OHN 208 1/4#/SPST SA	83594	65991	· ·	8
100-0354	RIVAR WW 1000 OHM 108 LIN 2W	28480	210010318		1
00-0737	RIVAR WE SOO OLD RE VE	28480	2100 0354		
	RIVAR WW 200 OHH 55 18	28480	2100-0737	1.41	1
06-1412	Paula paula and and and and and and and and and an			, ·	•
	RIVAR COMP 500 OHM 20% LIN 1/4%	28480	2100-1412		3
00-1513	REVAR WW 50 OHM 5% 1W	28480	2100-1513		
00-1924	REVAR COMP 5K OHM 208 1/5W	28480	2100-1924	· · · ·	2
10-0303	FUSEICARTRIDGE 2AMP 125V SLOW ELOW	71400	NDI 2		1
10-0312	FUSEICARTRIDGE 1 AMP 250V SLOW SLOW	71400			1
			tinger 1	· · · [1
40-0015	LAMP SLOW NECH NE-2H	2011			·
40-0628 👌 🔡	LAMPIGLOW 1/15W	24455	NE AR BAAR	1	6
90-0046	WASHERISPLIT LOCK	24455	NE 2E FROST	ED	7
90-0015	SCRENIMACHINE	28486	2190-0046	ł	6
00-0389	SWITCHIROTARY 1 SECT 3 POS	73076		. [1
	THIS TRUTANT & SECT 3 PUS	28480	3100-0389		ī
		1 A.		1	•]
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See/Est of abbreviations in introduction to this section

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Model 5245L

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Table 4-2. Replaceable Parts (Cont'd)

🕏 Stock No.	Description #	Mfr.	Mir. Part No.	ΤQ	Ĺ
			· , .	Ì	
5100-0390	SWITCHIROT 2-SECT 9-POS	28480	3100-0390	1 1	
5100-1874	SWITCHEROT 6-SECT 10 POS	28480	310C-1874	1	
100-2029	SEITCHIROTARY		3100-2029	1 ī	e.
100-2036	SWITCHEROTARY		3100-2036	l î	
101-0014	SWITCH: PUSH SPUT NE		45-1106	Î	ĺ
101-1272	SWITCHISLIDE 4 PUT 0.5 AMP 125 VDC	42100	6633	Ι,	
101-0037	SWITCHITCG SPST 3 AMP 125V		83050-A		
140-0052	MOTORIELECTRICAL SHADED POLE 115V 3470 RPM		3140-0052		
160-0060	FANTIMPELLER AXIAL		3160-0060	1	Į
040-0170	SUPPORTS PRINTED CIRCUIT BOARD		5040-0170		ſ
080-0060	TRANSISTOR: GERMANIUM PNP SELECTED	28480			
·				8	
3120-0078	CABLE POWER SVT-18-3 7.5FT.		KH4147	1	
500-0059	SILICONE GREASE (FOR TRANSISTOR HEAT-SINK	71984	#5 COMPOUND	1	
100-0166	TRANSFORMERIPONER		9100-0166	1	
100-0346	CCILIFXD 0.05 LH 20%	24226	9377	2	
100-2829	TRANSFORMER: POWER	28480	9100-2529	1	
100-2830	COIL: FXD 4e UH	28480	9100-2430	2	
146-0095	COIL FXD RF 0.27 UH		9140-0095	l īl	
140-0125	COLLIVAR, 0.9-1.9 UH		9146-0125	أوا	
140-0126	COILIVAR 1.76-4.02 UH		9140-0126	5	
146-0127	CDILIVAR 0.3-18.7 UH		9140-0127	1 2 2 2	
146-0136	COILIFXD PF 22 Un	20000	9140-0136		
146-0137	COILIFXD RF 100 UH		9140-0137	<u> </u>	
140-0138	COILFEXD RF 180 UH	20400	0140-0170	김	
140-0142	CCILIFXD RF 2.2 UH		9140-0138	2	
146-0143	COILIFAD RF 3.3 UH		9140-0142 9140-0143	2333	
		20400	7140-0143		
140-0146	COILFEXD RF 10 UH		9140-0146	2	
146-0158	COLLIFXD 1.OUH 10N		1025-20	2	
140-0159	COILIFXD 0.47UH 20%		1025-SERIES	5	
170-0016 5212-2016			56-590-6513B	1	
-21E-2010	BOARDIBLANK PC	28480	05212-2016	5	
5212-6011	READOUT BLOCK ASSY	28480	05212-6011	8	
5212-6016	ASSYIDECIMAL BCARD	28480	05212-6016	5	
5232-2010 👘	BCARDIBLANK PC		05232-2010	ī	
5232-6009	DECADE DIVIDER ASSEMBLY		05232-6009	i	
5232-6010	DECIMAL COUNTER ASSEMBLY		05232-6010	î	
5243-0007	RETAINER LATCH	۰.			
5243-0008	RETAINER FRONT PANEL	Senen	05243-0008		
5243-2013	PAWL		05243-2013	<u>+</u>	
5243-2014	SHAFTILATCH		05243-2013	1	
5243-2015	KNOE		05243-2014	1	
5243-2018	HOUSINGEPLUG-IN		J5243-2018	1	
5243-6036	PANEL:PLUG-IN (LIGHT GRAY)	28480	05243-6036	1	
5243-6042	PANEL:PLUG-IN (MINT GRAY)	25480	05243-6042	ī	
5245-2008	BCAPD: BLANK PC	28480	05245-200B	1	
5245-2014	SCARDIBLANK PC	28480	05245-2014	2	
5245-2015	BOARDIBLANK PC		05245-2015	1	
5245-6013	ASSY: OSCILLATOR BOARD		05245-6013	1	
5245-6014	BOARD ASSY: INPUT AMPLIFIER	26480	05245-6014	2	
5245-6015	BOARD ASSYSFUNCTION		05245-6015	-	
5245-6016	SWITCH ASSY:ATTENUATOR		05245-6016	1	
5245-4001		28480			
5245-4001 5245-4003	INSERT: MEASUREMENT UNITS READOUT	28480	05245-4003		
	WINDOW: READOUT AMBER				

= See list of abbreviations in introduction to this section

Section IV Table 4-2

Table 4-2. Replaceable Parts (Cont'd)	Table 4-2.	Replaceable Parts	(Cont'd)
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🕸 Stock No.	Description #	Mfr.	Mfr. Part No.	TQ
05245-6018	MAIN CABLE AND SHITCH ASSY	28480	05245-6018	
3150-0037	AIR FILTER ASSY	28480	3150-0037	
5212A-65C 5212A-65C-1	ASSYIDECADE DIVIDER	28480	5212A-65C	6
5212L-83A	BOARDIGLANK P.C. SUPPORTIREADOUT		5212A-65C-1	6
	SOFFORTINEADOUT	28480	5212A-83A	[1]
52121-838	READOUTIUNITS	ี วดแดด	5212L-838	
5243A-12C	BRACKETISWITCH		5243A-12C	
5243A-12E	SUPPORTICAPACITOR		5243A-12E	
5243A-12F	BRACKETICRYSTAL OVEN		5243A-12F	
5243A-20A	HCUSINGIFAN	28480	5243A-20A	$ \bar{\mathbf{i}} $
5243A-44A	KIT+5-1/4 " RACK MOUNT			
52434-470	SUPPOPT + PANEL		5243A-44A 5243A-47C	
5243A-55A	SHIELDIOSCILLATOR	28480	5243A-47C 5243A-55A	
5243A-65A-1	BOARDIBLANK P.C.		5243A-65A-1	
5243A-65C	ASSYMULTIPLIER		5243A-65C	
5243A-65C-1	BOARDIBLANK P.C.			
5243A-65H	ASSYIREGULATOR	28480	5243A-55C-1	
5243A-65H-1	BOARDIBLANK P.C.	28480	5243A-65H	1
5243A-65J	ASSYITIME-BASE CONTROL	28480	5243A-65H-1 5243A-65J	1 1
5243A-65J-1	BOARDIBLANK P.C.	28480	5243A-65J-1	
53834 484				
5243A-65L 5243A-65L-1	ASSYIRECTIFIER Boardiblank P.C.		5243A-65L	1
5243A-65R	ASSYIGATE CONTROL	28480	5243A-65L-1	1
5243A-65R-1	BOARDIBLANK P.C.	28480	5243A-65R	1
52434-655	ASSY SAMPLING CONTROL	28480	5243A-65R-1 5243A-655	1
		, ,		1
5243A-655-1 5243A-65T	BOARDIBLANK P.C.	28480	5243A-655-1	
5243A-65T-1	ASSYLOVEN CONTROL BOARDIBLANK P.C.		5243A-65T	ī
5243A-69A	ASSYICRYSTAL OVEN	28480	5243A+65T-1	1
52434-69A-1	BOARDIBLANK P.C.		5243A-69A	1
,		20400	5243A 69A 1	
C 0 1 2 1 4 2 1				
5243L~107A 5243L-110A	BARIREADOUT	28480	5243L-107A	1
5243L-110B	GUIDE BOARD, FRONT	28460	5243L-110A	ī
	GOIDE BOARD REAR	28480	5243L-110B	1
· · · ·			1	
5243L-128	BRACKETEBOARD	28480	5243L-128	
- EQUA. 171				-
5243L-17A 5243L-41A	BUSHINGILATCH		5243L-17A	1
05245-0014	SHIELDIINPUT		5243L-41A	1
		28480	05245-0014	1
5243L-65A	ASSYIDECIMAL POINT	26480	5243L-65A	
5243L-65B	ASSYTMEASUREMENT UNITS		5243L-65B	A
5243L-658-1 5243L-83A	BCARDIBLANK P.C.	28480	52431-658-1	i
J27J2-0JA	HOLDERIDECIMAL	28480	5243L-83A	ī
and the pro-	$\left(\left([· ·].		1
5243L-91A	SPRINGILATCH	28480	5243L-91A	,
5245A-65C	ASSY DECIMAL COUNTER	·		•
5245A-65C-1	BOARDIBLANK P.C.	28480	5245A-65C	1
		28480	52454-650-1	L I
				J
and the second second		1		
	in the second second second second second second second second second second second second second second second			
	$\sim 10^{10} M_{\odot}$, $\sim 10^{10} M_{\odot}$, $\sim 10^{10} M_{\odot}$, $\sim 10^{10} M_{\odot}$	· ·	.	
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See list of abbreviations in introduction to this section 2)

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身 Stoch No.	Description	#		Mfr.	Mfr.	Part No.	ΤQ	
5245L-19A 5245L-198 5245L-46 05245-0015	ASSY:OUTPUT SWITCH ASSY:MODE SWITCH ASSY:FEADOUT SHIELD:AMPLIFIER			28450	5245L-19A 5245L-19B 5245L-48 05245-0015	· · ·	1 1 1 1 1	
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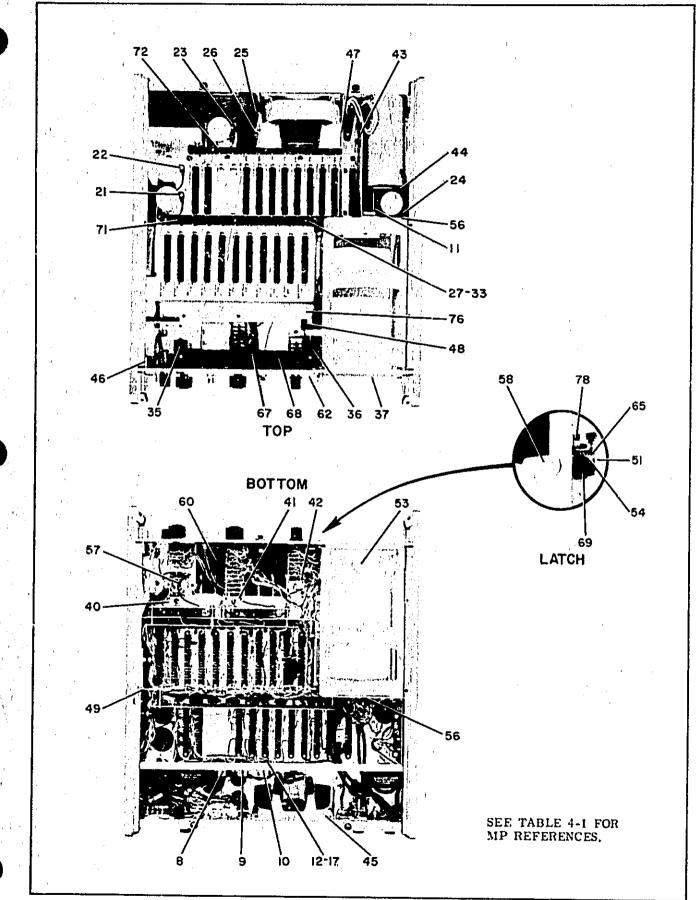


Figure 4-2, Mechanical Parts Locations

Address

Berne, Ind

So Pasadena Cal. Waltham, Masa

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Table 4-3. Manufacturer's Code List

The following code numbers are from the Federal Supply Code for Manufacturers Cataloging Handbooks H4+1 (Name to Code) and H4+2 (Code to Name) and their latest supplements. The date of revision and the date of the supplements used appear at the bottom of each page. Alphabetical codes have been arbitrarily assigned to suppliers not appearing in the H4 Handbooks.

Cour No.	Manufarturer	Address	Code No.	Manufasturer
00000 00135 00213	U.S.A.Common	Springs, Pa.	05347 05397	Vitronis, Inc
00287	Cemco, Inc Dat	delson, Conn	05574	Viking Ind. Inc
00334	Humidial and an and an and an and an and an and an and an and an an an and an an an an an an an an an an an an	Colton, Calil.	05593	Icore Electro-Plastics In
00348	Mictron, Co., Inc Valley 8	Aream, N.Y	05516	Cosmo Plastic (e o Elect
00373	Garlock Inc. Cheri Astrovox Corp New B	ry BHE, No	05624	Spec.Co.)
00779	Amp. Inc	risburg. Pa.	05728	Tillen Optical Co.
00781	Aircraft Radio Corp	wonton, N.J.		
00809	Crowen, Ltd Whitby, On	tario, Canada	05720	Mriro-Tel Corp.
00815	Northern Engineering	dinatan Win	05783 05820	Stewart Engineering Co. Wakelield Engineering Inc
00853	Laboratories, Inc Bui Sangamo Electric Co. , Pickens Div	-	05004	Baasirk Co., Div. of Stev Warner Corp.
00368	Goe Engineering Co City of h	ndustry, Cal.	06090	Bayenem Corp.
00891	Carl E. Holmes Corp Los A		06175	Bausch and Lomb Optical
00929	Microlab Inc Liv) General Electric Co	ngston, N.J.	05402	E.T.A. Products Co. of
	Caparitor Dept.	Falls, N.Y.	0.1405	America
01009	Alden Products CoBri	exton, Mars.	06540	Assalom Electronic Hardy
01121	Alden Producis Co. Bri Allen Bradley Co. Mi	lwauker, Win		Co., Inc.
01255	Litton Industries, Inc Bever		06555	Beede Electrical Instrume
012:15	TRW Semiconductors, Inc La Texas Instruments, Inc	wnosie, cal.	06666	Co., Inc
	Transistor Products Dir.	allas, Texas	04751	Componenta Inc. , Ariz. Di
01343	The Alliance Mig. Commun. A	lliance, Ohio	06B12	Torrington Mig. Co. ,West
01538	Small Pirts Inc Los A	ingeles, Cal.	06960	Varian Assor. Etmac Div.
01589 01670	Parific Relays, Inc	н Маун, Сар. . Vash - N M	0708B 07126	Kelvin Electric Co., . Digitran Co.,
01930	Amerock Corp.	arktord. III.	07137	Transistor Electronics
	Pulse Engineering Co Santa	Clara, Cal.		Corp. 75 and a contract
02114	Ferroacube Corp. of America Saur	ertius N V	07118	Westinghouse Electric Corp., Electronic Tube D
02116	America	ranch, N.J.	07149	Filmohm Corp.
02286	Cole Rubber and Plastics for - Sun	syvale, Cal.	07233	Filmohm Corp
02660	Amphenol-Borg Electronics		07256	Silicon Transistor Corp
02735	Corp Bre Radio Corp. of America, Semi- conductor and Materials	MOVIPW, III.	0726) 07263	Avnet Corp., Fairchild Camera & Inst. Semironductor Div.
	Division	rville, M.J.	07322	Minnesota Rubber Co.
02771	Vocaline Co. 51 America, Inc. Old Sayli		07387 07397	Birtcher Corp. The Sylvania Elect. Piod. Inc. Mt. View Operations
D2675	Hopkins EngineeringCo San Fer Hudson Tool & Die		07700	Technical Wire Products
03296	Nylon Molding Corp	nytield, N. J.		Inc
03508	G.E. Semironductor Prod.		07829	Bothe Elect. Co
03705	Dept	acuse, N.Y.	07910 07933	Continental Device Corp. Haytheon Mig. Co., Semi-
03797	E dema Corp.	ston. Calif.	01000	conductor Day
0381B	Parker Seal Co Los As	ngeles, Cal.	07080	Hewlett-Packard Co.
03677	Transitron Electric Corp Wake	lield, Mass,		New Jerkey Division
OJPAR	Pyrofilm Resistor Co. ,		08145 08289	U.S. Engineering Co
03954	line,	49111 8 1 19.91	08358	Dinn, Delbert Co
	Finderne Plant	rville, N.J.		
01009	Arrow, Hart and Hegeman	4	08524 08664	Deutsch Fastener Corp
04013	Elect. Co	nora, Conn. avilta N.J.	08717	Bristol Co., The
04062	Arro Electronic Inc. Great	Neck N Y	08718	ITT Cannon Electric Inc.,
04217	Eanex Wire	ngele#, Cal.		Phoenix Div.
04222 04354	 III-Q Division of Aerovox. Myrtle 1 Precision Paper Tube Co. W 	Beach, S.C.	08727 08792	National Radio Lab Inc CBS Electronics Semicond
04404	Pao Alto Division of Revieit-	and draught a real	COIPE	Operations, Day, of CBS In
04651	Packard Co		06806	General Electric Co., Miniature Lamp Dept
	Microwave Device Div Mountain	View, Cal.	08964	Mel-Hain
04673 04713	Dakota Engr, Inc	r City, Cat.	09026 09037	Babrock Helays Div Electronic Enclosures Inc.
04113	Print. Div Phore	us Arizona	09134	Traas Capacitor Co.
04732	Filtrow Co. , Inc. Western		09145	Tech. Ind. Inc. Atohm
04773		r City, Cal. rthlake, Ill.	09250	Elect
04796		d City, Cal.	09353	C & K Components Inc.
04811	Precision Coil Spring Co El	Montr, Cal.	09569	Mallory Battery Co. of
04870 04810		chester, IIL	00101	Canada, Lid To
04519	Component Mfg. Service Co W, Bridgew	aler, Mass	09795 09922	Pennsylvania Florocarbon Burndy Corp.
05006	Twentieth Century Plastics,		10214	General Transistor Wester
05277	Inc. Los Ar Westingtouse Electric Corp.	gries, Cal.	10411	Corp
	Semiconductor Dept	ngwood, Pa.	10546	Carborundum Co.
00015-0 Revised	89 1° May, 1970			

lasturer	Adiress	Cintr No.	Manufacturer
orp Elect.	San Maten, Cal	1123e 11737	Chirago Telephone of
	New York, N.Y.		California, Inc.
	New York, N. Y. Caroga Park, Cal Sunnyvale, Cal	11242	
ABILEB IDE	bunnyvale, Cal	11217	Teledyne Inc. , Miczowave Div.
o Electrical		11314	
o	Royatord, Onto Royatord, Ill. Long Island, N.Y. Westbury, N.Y.	11453	
		11534	
alyn Heighta,	Long Island, N.Y.	11711	General Instrument Corp
	Wentbury, N. Y. . Santa Cruz, Cal.		Semiconductor Davision Pr
ing Co.	Santa Cruz. Cal.		Group
ering Inc	Wakefield, Mass.	11717	
nt Sewart		11870	
	Bridgeport, Conn. Redwood City, Cal.	12136	Philadelphia Handle Co
Optical	travina city, cat.	12574	
	Rochester, N.Y.		Div
Co. ut	Bochenter, N.Y.	12607	Charostat Mfg Co.
	Chirago, 11.	1272 2	Elman Filter Corn
ue Hardsare	-	12859	Nippon Electric Co., 11d.
A.A. Ne	* Rochelle, N. Y.	12583	Meley Electronics Corp
Instrument		12030	
	Fenacook, N H	12954	
Co., Inc	 Penacook, N H Indianapolis, Ind. Phoenia: Artzona 	12019	
	Phoenix, Arizona Van Nuys, Cal.	13061	Wilco Products Thermolloy
	. San Carlos, Cal.	13327	
D	Van Nuxe, Cal	10396	
0, 	Van Nuyn, Cal Pasadena, Cal	13835	
mhice			Parific Industries, Inc.
	Anneapolis, Minn.	14099	Sem-Tech
ritic		14193	Calif. Resistor Corp
r Tube Div.,	Elmira, N.Y.	14298	American Components, Inc.
	New York, N.Y. yol Industry, Cal.	14433	ITT Semiconductor, a Div o
) Cill • Com	y of Industry, CAL		Inf. Telephone and Telegraph Corporation We
	Carle Place, N.Y. Culver City, Cal	14493	Hewlett-Parkard Company
& Inst. Corp	Conver City, Cat	14655	Cornell Dublier Electric Cor
hv. M	ountain View, Cal	14674	Corning Glass Works
Co	ountain View, Cal. Jinneapolis, Minn. mierry Park, Cal.	14752	Electro Cube Inc.
hr	mierry Park, Ca).	14860	
Lund Tree		15106	Williams Mfg - 30. The Sphere Co., Inc.
lons M	ountain View, Cal.	15203	Webster Electronics Co
e confine tra		15287	Scionics Corp
	Cramerd, N.J.	15291 15558	Adjustable Bushing Co
- Corn	Cranford, N.J. Chirago, III. Jawihorne, Cal.	15566	Mirron Electronics: Garden C Amprobe Inst. Corp.
, Eemi-	anawingerne, Cal.	15671	Cabletronics
	suntain View, Cal.	15772	Tyrelli th Century Cial
Co.	Rorkaway, N.J. Los Angeles, Cal. Pomona, Cal. Ontario, Canada		
100 · · ·	Rockaway, N.J.	15801	Spring Co Fenwal Elect Inc
Co	LOB Angeles, Cal.	15B1H	Amelco Inc
5 <i></i>	 Pomona, Cal 	16037	Spruce Pine Maca Co
Co	12 1 1 1 2 1 1 1	16179	Omni-Spertra Inc
Niagara Falle	, Ontario, Canada	16352	Computer Dusle Corp
Corp	Watanbunu Pasa	16585	· · · · · · · · · ·
	, Ontario, Canada Los Anceles, Cal. Waterbury, Cons Son Valley, Cal.	16688	Ideal Prev Meter Co., Inc.,
ric Inc.	con rainy, car.	1.1	De Jur Meter Div
	Phornix, Arizona	16758	Debin Ratio Div. of G.M. Cor
b Inc	Paramus, N.J.	17109	Thermonetics Inc.
iemiconductor		17474	Tranes Company
of CBS Inc	Lowell, Maxa	17675	Bardin Metal Products Corp.
Ľυ.,	PL	17745	Angstrohm Prec. Inc. 3 Subconia Inc.
pepi	. Cirveland, Ohio	17870	McGraw -Edison Co
	Indianapolis, Ind Costa Mesa, Cal. 5 Angeles, Calit	15042	Power Design Parilie Inc
ures Inc La	a Ancelen, Calif	18083	Clease Corp Semiconductor 1
20	Houston, feans	16724	Signetics Corp
n n		1. 16	Ty-Car Mig Co. Inc.
	. Durban 1, Cal.	11405	TRW Elect Comp Day
em, Inc.,	Chirago, III.	18565	Chometics
elne	Newton, Mann.	18583	Cartin Instrument, Jun
o of		18612	Vishay Instruments Inc.
	, Ontario, Canada	18873 16911	E.J. DuPont and Co., Inc
	on Heights, Penn.	19315	Durant Mig. Co. The Bendix Corp., Navigation
r 'Arslern	Norwalk, Conn.		Control Div
T PT PTT II	Los Angeles (Co)	19500	Thomas A. Ediam Industries.
	Berkeley, Cal		Div of MrGraw-Educo
Ni	Los Angeles, Cal. Berkeley, Cal. Agara Falls, N-Y	19589	Concua

Paly Alto, Col. Downey, Cal. Jamaira, N. Y. Costa Mesa, Cal. or Corp n Ine Co it Corp avision Products eris - Newark, N.J. Buena Park, Cal, - Paln Allo, Cal. - Camden, N.J. - Shaity Grove, Pa, ir , tar . In Ca n Albuyuerque, N. M. Daver, N. H. W. Haven, Conn. Tekyo, Japan Clark, N.J. Newport Beach, Cal. Sentudale, Arizona Withita, Kansa Detroit, Mich Dullan, Texan Tappan, N. Y. Hausser, Germany ata System p o , Lid s Corp tur Inc cs Corp , Inc ٦٢. ы Kansas City, Kansas Newtory Park, Cal. Santa Monica, Cal. Conshohorken, Pa , Inr 'p ents, Inc constantiant Carlo rents, Inc. Constantiant Carlo d Tetegraph West Palm Beach, Fla Company Losefand, Colo lectric Corp. Nivark, N.J. rks. Coroing, N.Y. San Gabriel, Call San Jose, Cal Co. Nicolysond, Cal. Co. Nicolysond, Cal. Costa Mesa, Cal. Cost. Coal Santa Clara, Cal Framingham, Mann Mountain Vien, Cal Sprure Pine, N C Detroit, IB Loth, N J Union, N J Pasadena, Cal Ъъ «p --Corp . To the . Co., Ior , Iro-kl/m, N. Y. G M Corp Kolomo, Iod, Canega Park, Cal Mountain View, Cal Mountain View, Cal Neth Corp Akrin, Ohio m Nn Hollywood, Cal Nani bester, N. H. Hir Inc Palo Alto, Cal ronductor Iby Palo Alto, Cal ronductor Iby Palo Alto, Cal no, Hollywood, Cal Nani bester, N. H. Hirine Palo Alto, Cal ronductor Iby Palo Alto, Cal no, Hollywood, Cal Numviale, Brooklyn, N.Y Navigation & Trierboro, N.J. Industries, Industries, Industries, N.J. Daldwin Park, Cal.

From Handbook Supplements H4-1 Dated January 1970

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Section IV Table 4-3

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Table 4-3. Manufacturer's Code List (Cont'd)

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	ſ		•				I.	
	Code	Manufacturer	Address	Code	Manufacturer Addres	a Code	n Address Address	
	No			No	(Mathical of the l	50	Manufai turer Autoresi	·
	19644	LBC Electroment	racheada, N.Y.	71483	C.P. Clare & Co Chicago, Il	. 768°	52 Thompson-Brinner & Co. Chicago, Di	
	19701	Electra Mig. Co Indepe General Atronics Corp	ndence, Kansas	71590	Centralab Div - 64	7647	71 Thiny Mig. Co San Primitian 4 at	
1	21226	Exercitore, Inc Long Isla	ind City, N Y	71616	Globe Union Inc Milwaukov, Wib Gommercial Plastics Co	- 7648	18 Markpole Carbon Co St. Maryn, Pa.	
	21355	Fathir Bearing Co., The New	Britian, Conn.	71700	Curnish Wire Co., The New Yorks N &		D. Standard Thomson Corp	
	21520 23020	Fanshel Metallurginal Corp. 8 General Roed Co. 1999 - AM	Chicago, 14. Joincheo - N. 1	71707	Colo Coil Co. Inc. Providence, R. J. Chirago Miniature Lan /Works Chirago III	7675	 Tinnerman Products, Inc. Cleveland, Ohu Transformer Engliseers Sin Gabrier, Cal 	,
	23042	 Tessnan Corp. 1997 (1997) and 	banapolas, Ind.	71785	Chicago Miniature Lan Zworks Chicago In	4 15 17 19	14 ULBHO LO. Newbowille, Mass.	
	237H3 24455	— Heilish Radio Electronics Lld., ".W	ashington, DC.		Heward B. Jones Div Chiesen Hi	7914	 Waldes Kohinoor Inc. Lond Island City, N. Y. Vieder Root, Inc. Nattord, Conn. 	
	24655	- C. E., Lamp Divisions, Nela Park, C. General Badio Cn., Sources, West I	Teveland, Ohio Concord Mass	72116	Dos Corning Corp	6 - 7 p 8	n manno pang, co	
	2468)	Memory Inc. Comp. Div	Hustington Ind		a Willimantic, Cosn	7972	 Continental-Wirt Electronics Corp. Distribution m. 	
i	26365 26462	Gries Reproducer Corp. Neg F Grobert File Co. of America, Inc. C	Bonhelle, N.Y.	12619 77686	Dialaght Corp	7996	 Ziernik Mig. Corp New Roctelle . N.Y. 	
	26851	Compar Hollister Co	dolliger, Cal.	121/04	Entiana General Borp . Electronics Div	8003	 arepro Distation of Sessions Clock Co. 	
	26992	Bansillon Watch Co. L	Laneuster, Pa	72699	General Instrument Corp.	ылиз.	J. Prestide Corp	
	28480 28520	Hewlett-Parkarit Co. 2010 1 Deyman Mig. Co. 2010 1 Kei	Palo Alto, Cat mbatante S. U	79745	Cap Division	BO12	0 Schultzer Alloy Products Co. Flizabeth, N.F.	,
	10817	butramed Specialturs Co.,		12+23	 Drake Mig. Co Barwood Heights, 111 Bigh R. Eby Inc Philadelphia: Pa 	ነበነጋ	Electronic Industries Association	
	33173	lor. Litt	le Falla, N.J.	72928	Godeman Co		Standard tube or pemi-romballer device, any manufacturer,	
	35434	G.E. Berriving Julie Dept	Chirago, Hi	72963	Elastic Slop Nut Corp Union, N.J. Robert M. Hadley Co. Los Angeles, Cal.	80 20 1	7. Poimax Seatch, Dix, Maxon Electronics	
	36196	Slanwych Coil Products.		72982	Erin Trehnological Products, Inc. Erin, Pa		Corp Wallingford, Cona	
	36287	Lift Haskesbury, On Cunningham, W.P. & Hitt.	stario, Canada	73061	HARBOR MIG 100. Inc Cranceton, Ind.	60241	 United Transformer Corp. New York, N.Y. Oxford Electric Corp	
		Lid	ilarin. Cusada	731.8	H.M. Barper Co	80294	le Doutine Inc	
	37942	P. R. Mallory & Co., Inc Inda	lanapolas, Ind.		Filterton, Cat	9041	Arco Div. of Robertshaw Controls Co. Columbus, Obio	
	39543 40920	Mechanical Industries Prod. Co Muniature Precision Bearings, Inc	Akron Ohio Vising N U	73293	Huches Products Division of	10186	All Star Products Inc. Defaince, Onto	
	40731	Honeywell Inc Manne	apolia, Minn,	73445	Hachris Aircraft Co	10.03	Avery Label Co Mostricia Cat	
	42190 43990	Noneywell Inc	Chirago, III.	73506	Bradity Semiconductor Corp	h0640	Hammarlund Co., Inc. Mark Hill, N.C. Streens, Araold, Co. Inc. Boston, Mass.	
	1655	C. A. Norgren Co. Engl Ohmste Mig. Co.	Breamil, Creas Skiskie 112	73559	Certinal Electric, Inc	80613	i Dimin Grav Fo	
- 1	46384	Pron Eng & Mig. Corp Do)Jestown, Pa	11200	Circle F Mig. Co. Treation N. 1	nichic	r ann ruaiteasas anns, ann	
_ I	47904 48620	Polarised Cirp. Camb Provision Thermometer &	bridge, Mass	73682	George S. Garrett Co.,		Triad Transformer Corp . Venire, Cal	
- I		Inst. Co	has pron. Pa	73734	Div MSL Industries, Inc. Philadelphia., Pa Federal Screw Products, Inc. Chirago III.	01312	Winchester Eler Div. Litton Ind Inc	
ł	49956	MICTORIAN & POWER TUDE DIV	illham, Mass	73743	Fischer Special Mig. Co Cincinnati, Ohio	81349	Military Specification	
- 1	52090 52983		ininaire, Mil liham, Maan	13193	General Industries Co., Thr. Elyria, Ohio Goshim Stamping & Tiol Co	61483	International Rectificr Corn	
- {	54294	Shalteroas Mig. Co	Selma, N.C.	73899	JED Electronics Corp	61941	Airpax Euritomics, Inc., Cambridge, Maryland	
	55026 55033	Simpson Electric Co. Sonotone Corp	Chirago, 111	11303	TOBRIDGE RATED MIG. CODB		Barry Controls, Drz. Darry Wright Corp.	
	55938	Restores Co Commercial Apparatus		12331	Grosse-Pin Corp	82042	Carter Precision Electric Co. Statis III	
ļ	56137	A System Day is a set So No	walk, Com	14433	- I MINDS, AND DODA WINCHESTER, MILES	82047	Sperit Faraday Inc., Copper Hewitt Electric Div., Boboken, S.J.	
	56289	Spaulding Fibre Co., Inc.,	awanda, N. Y. Jamir - Masiri	7469	Industrial Confenser Curp Chicago, III If F. Products Division of	82116	Electric Regulator Corp . Norwalls Com	
	58474	Soperior Elect Co	risht. Com	,,,,,,	Amphenel-Borg Electronic Corp.	F2142	Jellers Electronics Division of Speer Carling Co	
` I	59446 50730	Trinx Corp Thomas & Bells Co Eli	Tulsa, Okla.	14010	P. F. I. Manual, Cons.	82170	Fairchild Camera & Inst. Corp ,	
ł	60743	- Fraphett Elles Prical Just. Co	Builton, Ohio	1.042	E. F. Johason Co		SDAFP & Deleting Systems Div Paramus N 1	ł
1	61775	Union Switch and Signal Div. of		75263	Keystone Carbos Co., Inc, St. Marsis, Pa.,	h2219	Magarie Industries, Inc	
- 1	62119	Westinghouse Air Brake Co. Pit Universal Electric Co Os	ньючер, ра.	12911	CTS Brightn, Inc. Sandwich, III Rulka Electric Corp. Mt. Vernon, N.Y.		Electronic Tabe Distation . Emporium, Pa	-
	63743 64959 -	-Ward-Loward Electric Co. Mr. V	fernos, N.Y.	10018	LENZ EDUTIC MR. Co Chiraen, III.	82389	Astron Corp East Newark, Harrison, N.J. Switcheralt, Inc. Charago, III	
- I	65092	Western Electric Co., Inc. New Western Inst. Inc. Wester-Newark, N	V TOPK, IV. Y.	40.930	Enthefuse, he	82647	Melala & Controla Inc	
1 E	66295	With K Mig. C	Chicago, III.	10410	Lord Mig. Co	8276 N	Burner Priducia Altieboro, Masa,	1
1	66346	Minnesota Mining L Mig. Cu.		76433	urneral festrument Corp.	82566	Phillips-Advance Controt Co	
	70276	Revere Mincom Div Si. Alten Mig. Co Bar	tland, Conn	76487	Micamold Division	62611	Bollon Mg, Co., Inc Woodstock, N.Y.	
	70399 703 B	Allied Control	·York, N.Y.	16433	P. W. MIDPE CO. LANSING LOS Angeles, Cal.	12893	Vertor Electronic Co	
		Alimital Serve Product Co., Jnc.		765 10	Cim h-Monaducck, Div of United Carr	82084	New Hampshire Ball	
	704 : 7	Amplex, Div. of Christer Corp. Dr	rtrast. Mich	76545	Fastener Corp		Bearing, Inc	Į
1	704 H 7056	Allantic India Rubber Works, Inc	Chirago, III.				General Instrument Corp., Capacitor Div., Darlington, S.C.	
	70674	Amperite Co., Ior	wichty, N.J. 👘	76854 (Dak Manulacturing Co	63148	ITT Wire and Cable Div. Los Anceles, Cal	
	70903	Brides Mig. Co	Chicago III.		Electrodynamics Do N. Hollys and Col.	03100	Victory Eng. Corp	
'I	70098 71002	Bird Electric Corp Birobach Radio Co	sulant. Ohio	77075	Parille Melals Co San Francisco, Cal.	61713	Hubbert Corp . Montele e lui	ł
	71034	Bliley Sector Co. Get. 1997.	Yi thi N. Y	• • • • • •	Phaosiran Instrument and Electronic Co	03324	HUNDER New York Dates ()	1
	71041	Dokton Gear Works Div. of		77252	a substance i feature care de la maine	1 83332	Tech Labs Direction Data Street Decking N Y	Į
	71218	Matrav Co. of Tryas	outhly, Ohio 📑	77342	Wire Corp Philadelphia, Pa American Machine & Foundy Co.	83385	Central Screw Co. Chierco, fit	ł
	71279	Combraige Thermionics Corp. Cambr	посе. Мавь		Potter & Brumfield Div Princeton, Ind.	92201	Givitt Wire and Cable Co., Div. of	
	11400	Camlor Fastener Corp	ramus, N.J. 7	77630 77630	1866 Electronic Components Div. Camden, N.J.	83594	Amerare Corp Drockheld, Mass	
Í		Lindenhurst.	LLNY		General Instrument Corp., Rectifier Division		Tube Div	I
	71400	Bussmann Mig. Div. of	1	17764	Trainfance Printeria Cir - Harrishure Da		Union Carbide Corp. Consumer Prod. Div. New York, N.Y.	
	71436	McGraw-Edison Co. St. Chirago Condenser Curp. C	LOUIR, Mo. (11000	Public reall Corp. of Calif. Torranee, Calif.	H3777	Model Eng. and Mig., Inc	
1	73447	Calif. Spring Co., Inc Picu-F	Rivera, Cal.		Illinois Tool Works	UJUZI	Luyd Scruege Co. Festus, Mo Arronaulical Inst. & Radio Co. Ludi, N.J.	Í
	71450	CTS Corp. E ITT Cannon Elerivir Inc. Los Ar	Skhart, Ind. 7	18277 :	Semannere, Mass	04111	AFFIT LITTERING Inc. Great Neck N Y	1
		Cinema, Div. Aeros. i Corp	arbank, Cal. 7	18290 J	Sgnal Indicator Corp	84396	A. J. Ulesener Co., inc. San Francisco, Cal.	ł
						04411	TRW Capacitor Div Ogallala, Neb	l
	00015-49							I
I	Revised.	May, 1970	1				From - Handbook Supplementa H4-1 Dated January 1970	
			·				119-1 Carro samuary 1910	Ł

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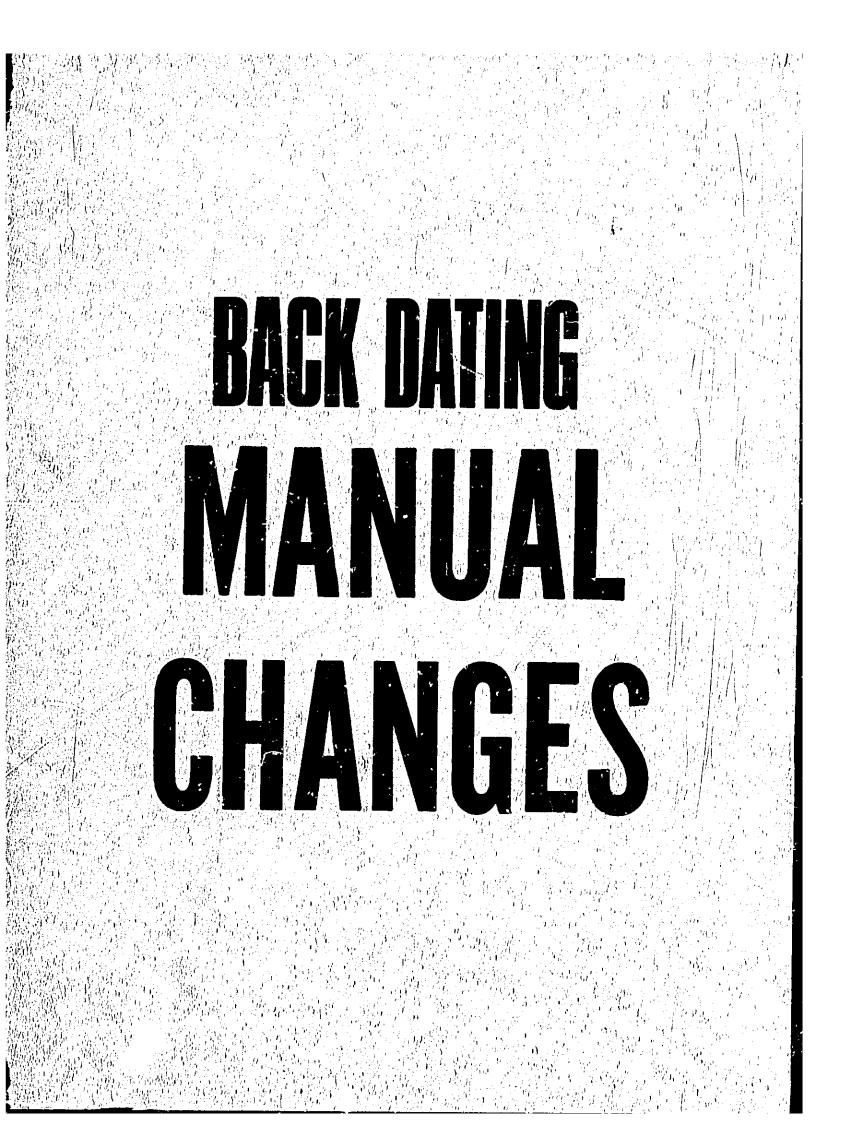
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Table 4-3. Manufacturer's Code List (Cont'd)

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Code No.	Manufacturer	Address	Code No	Manufacturer	Афіреви	Code No.	Manufarturer Add
870 454	Sarken Tarzian, Ioc	unington, jud Ikonion, NJ	01929	Honeywell Inc. , Micro Switch Division		96095 95255	Hi-Q Div. of Arrowne Curp Olean, N Thordarson-Meissner Inc Mt. Carmel,
476 474	A. D. Boyd Co	ranciscu, Cal. ranciscu, Cal.		Nalm-Bros. Spring Co	land, Cal.	96296	Solar Mig. Co., Los Argeles, t Microswitch, Div. of
560 911	Kulled Kords, Inc	amden, Conn.	92367	Elge Copycal Co., Inc Roches Tensolité Insulated Wire Co., Inc.	der, N.Y.		Minn Roneywell Freeport, Carlton Screw Co Chicago,
174 197	Fainir Bearing Co	nertra, Calif		IMC Magnetics Corp , Westbury, L.	man, N.Y.	96341	MICROWAVE ASSOCIATES, Inc. , Darlington, Ma
79	Precision Rubbert Products Corp	Heights, Pa	0291.6	Hudson Lange Co	ney, N.J.		Xcelite, Inc
64	Radio Corp. of America, Electronic A Devices Division	Comp.		Semiconductor Div	rn. Makk. 1	96581 97464	Thomson Ind. Inc Long Island, N Industrial Hetaining Ring Co Irvington, N
928 934	Seastrom Mig. Co	Skridale, Mal.	93410	Benco Controls, Div. of Essen Wire Corp.		97538	Automatic & Prevision Mig. , . Englewood, 5
16	Philco Corporation (Lansdale Divisional)	ont	03632 93929	Waters Mig. Compared a Colver	City, Cal 1		Reon Resistor Corp Yonkers, N Litton System inc., Adler-Westrex Common. Disc
173	Western Fibrian Glass Products Co.		D4137	General Cable Corp Baye Raytheon Co., Comp. Div.,	nne, N.J. – I	98159	R-Tronics, Inc. Jamaica, N Rubber Teck, Inc. Gardena, C
664 930	Van Waters & Rogers Inc. San Fr. Tower Mig. Corp. Pro	arcisco, Cal		Ind. Comp. Operations	гу, Макк, - 1	08220	Restett-Parkard Co., Medical Flev, Dis
40 24	Cutler-Hammer, Inc	Lincoln, 10	'	Products, Inc Loorda Wagner Elect. Corp.,	uid, Colo 1	9K27K 0K291	Microdot, Inc. So Pasadena, C Scaleriro Corp
.98 !31	- General Mills, Inc	Bultalo, N. 7. Dakland, Cal		Tung-Sol Div, New, Curriss-Wright Corp. ,	ark, S.J. – S	00076	Zero Mig. Co. Burbank, C Etc. Inc. Cleveland, D
CT: 979	G.E. Distributing Corp Schim Security Co D	erlady, N.Y. Etroit, Mirh.		Electronics Div	NR. N.J. 5	987J]	General Mills Inc., Electronica Dis Minneapelis, My
65 130	United Transformer Co	Chicago, 111 verty, Mass.	94130	Wire Cloth Proberts, Inc	waaad, 31). 🛛 🛛	06734	Pareno Division of Hewlett-Packard Co Palo Alto, C
79	[U.S. Rubber Co.; Consumer Ind. 4 Plastics Prod. Doc. 2010, 1997 P.	1	04082	Worrester Pressed Aluminum Corp.	r. Mann, B		North Hills Electronics, Inc
55	Believille Sprimity Tool Mig., Inc.	elleville, 11.		Magneeralt Electric Co	(A2D, 4)		Burbank, 4 Columbia Technical Corp New York, S
63 ' 70	United Carr Fastener Corp	Chirago, III. ancisco, Cal.		Alco Elect. Mig. Co Lawrenc	in, Maxx – O)91 I I	Varian Absorbles, Palo Alto, C. Atlee Corp
46	EFT Cannon Elect. Inc., Salem Div. S	ialem, Mass.	95236	Allies Products Corp	inia, Fla, - 5	19515	Marshall Ind., Caparitor Div. Monrovia, C. Control Switch Division, Controls Co.
бD 45	Connor Spring Mfg. Co	nichero, Cal. I Monte, Cal.	95213	Literatt Mig. Co., Inc	nd, N.Y.		of Amotica El Sigundo, C Defevan Electrismos Corp — East Aurora, N
1B 06	Radio Materials Co	tairis, Mann	05275	Vitramon, Inc Bridgenet Gordos Corp Bloon fa	rt. Coun. – Ø	15848	Wilto Corposition bidianapelis, le Branson Corp Whippare, N
37 62	Eles Corp. 1 Column 2010 Column	unnus, sepr. 8 Grose, Pa	9 1354 95566	Methode Mig. Co Bolling Mead Arneld Engineering Co Mare	dowa, 111 – 9 enero, 111 – 9	9534	Rembrandt, Inc
73 37	Epiphone Inc	i York, N. Y. Hirld, Mass.	95712	Dage Electric Co., Inc Frank Siemon Mig. Co	Alin, Ind		Semiconductor Division El Monte, C, Technology Inscrument Corp
27	K F Development Co Redwoo		959KT	Werkesser Co	rago, DL		of California
66	Matro Mig., Inc	C.04. 9460 - 1141	Barrent: 1	SHARE FOR ALL	ale, Cal.		
126	BLAIFO BSIR, , INC. , , , , , , , , , , , , , , , , , , ,	Ciarago, Dr.	Break, 1	ана сталат мани , тек, ш жылуы	ale, Cal.	,	
126	MAIPO Mig., Inc.,.,.,.,.,.	e la jakar Dr.	Brent, 1	ни сомалт мария . , теру, ші. — зализы	ale, Cal.	,	
	Mairo Mig., Inc.,	, к иса к а, ре	B 144:1	ina annast naonn , rens, ini sainnsa	ajr, Cal,	•	
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586 • follo 90F	wing HP Vendors have no number and	igned in the late	i na na na na na na na na na na na na na	lement to the Fosteral Supply Code (or M	lanutarturere	Hanstle	
of OF OZ	wing HP Venkors have no number axa Mateo Tool and Die	igned in the Jak gelen, Calif iewark, N.J Englant	ны вирр ролсь	lement to the Federal Supply Code for M Hewlett-Packard Col., Colorado Springs Discolato Springs, Colorado Springs, Discolato Springs, Spr	lanutarturera D Colorado D	Handb	Ciudtrin,
tolli OF DZ AB	wing BP Venders have be number ass Maten Tool and Die	igned in the Jak gelen, Calif iewark, N.J Englant	est supp DOOCS DOOMM	lement to the Fisicial Supply Code (or M Hewlett-Packard Co., Orborada	D D Colorado – D ard, Cal. – O	Handb	Chultzin,
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folli DF DZ MB BR	wing HP Venkors have no number axa Mateo Tool and Die	igned in the Jak gelen, Calif iewark, N.J Englant	est supp DOOCS DOOMM	lement to the Federal Supply Code (or M Hewlett-Packard Co., Colorado Springs Disc Colorado Springs, J Rubber Eng. & Development	D D Colorado – D ard, Cal. – O	Handb	Cooltron, Oakland, Ca California Fastern Lab Burlington, Ca S K. Smith Co. Jos Angeles, Ca j
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foll) F 27 313 317 317	wing HP Vendors have to number and Maleo Tool and Die, Los An Willow Leather Products Corp N ETA	igned in the Jak gelen, Calif iewark, N.J Englant	est supp DOOCS DOOMM	lement to the Federal Supply Code (or M Hewlett-Packard Co., Colorado Springs Disc Colorado Springs, J Rubber Eng. & Development	D D Colorado – D ard, Cal. – O	Handb	Diolitron. Oakland, Ca Califormia Fastern Lab Burlington, Ca S K. Smith Co. Los Angrica, Ca j
follo DF DZ JB JB	wing HP Vendors have to number and Maleo Tool and Die, Los An Willow Leather Products Corp N ETA	igned in the Jak gelen, Calif iewark, N.J Englant	est supp DOOCS DOOMM	lement to the Federal Supply Code (or M Hewlett-Packard Co., Colorado Springs Disc Colorado Springs, J Rubber Eng. & Development	D D Colorado – D ard, Cal. – O	Handb	Diolitron. Oakland, Ca Califormia Fastern Lab Burlington, Ca S K. Smith Co. Los Angrica, Ca j
5-49	wing HP Vendors have to number and Maleo Tool and Die, Los An Willow Leather Products Corp N ETA	igned in the Jak gelen, Calif iewark, N.J Englant	est supp DOOCS DOOMM	lement to the Federal Supply Code (or M Hewlett-Packard Co., Colorado Springs Disc Colorado Springs, J Rubber Eng. & Development	D D Colorado – D ard, Cal. – O	Handb	Diolitron. Oakland, Ca Califormia Fastern Lab Burlington, Ca S K. Smith Co. Los Angrica, Ca j



Section V Paragraphs 5–1 to 5–17

SECTION V PTIONS AND MANUAL CHANGES

5-1. OPTIONS.

5-2. The 5245L has two options available. They are Option 002, 4-line BCD 1248 "1" state positive and Option 003,4-line BCD 1248 "1" state negative. These options change the BCD output code of the digits. The decimal point and measurement units BCD output code is 1224 "1" state positive.

5-3. <u>OPTION 002 +1248 BCD CODE.</u>

5-4. Option 002 consists of changing the assemblies listed in Table 5-1. Circuit diagrams for the Option 002 assemblies are shown in Figures 7-10, 7-12, and 7-15.

Table 5-1. Option 002 Replacement Assemblies

Option 002 Assemblies
A10-A14 DCA05212-6002
A15-A16 DCA 35232-6014
A18 Readout 05245-6001

5-5. OPTION 003 -1248 BCD CODE.

1 I.

5-6. Option 003 consists of changing the assemblies listed in Table 5-2. Circuit diagrams for the Option 003 assemblies are shown in Figures 7-10, 7-12, and 7-16.

1

Table 5-2. Option 003 Replacement Assemblies

Standard Assemblies	Option 003Assemblies
A10-A15DCA05212-6016	A10-A14 DCA 05212-6003
A16 DCA 05232-6010	A15-A16 DCA 05232-6012
A18 Readout 5245L-4B	A18 Readout 05245-6003

5-7. The parts lists for the Option 002 and 003 assemblies are listed in Tables 5-4, 5-5, 5-6, and 5-7.

5-8. Figures 7-10 and 7-12 are used for both Option 002 \div 1248 BCD output and Option 003 -1248 BCD output. The boards are identical with one exception. The DCA's with "1" state positive BCD output have resistors marked with a double asterisk (**) connected to collectors as shown by -+-+ — lines. The DCA's with "1" state negative BCD output have these resistors connected to opposite collectors as shown by ---- — lines. Table 5-3. 1-2-4-8 Code Truth Table

Digit	4	-Line Coo	ie, 1-2-4-8	
	D = 8	C = 4	B = 2	A = 1
0) 1/	0 0	0	0, 0	0 1
2 3 4	0 0 // 0 //	0 0 1		0
5	0		0	1 0
8 // 8 //		1 0 0		, 1 0 1
Option (Option ()02: Output)03: Output	Code: 0 Code: 1	= -8V, 1 = = -8V, 0 =	+ 18V + 18V

5-9. SPECIALS.

5-10. Decimal Point and Measurement Units assemblies with either "1" state positive or negative 1248 BCD output may be obtained by special order. Specification J35-5245L is a modified 5245L that provides a 1248 "1" state positive BCD code for all eight digits, decimal point assembly, and measurement units assembly. Specification J36-5245L is a modified 5245L that provides a 1248 "1" state negative BCD code for all eight digits, decimal point assembly, and measurement units assembly, and measurement units assembly.

5-11. Circuit diagrams for these specials are shown in Figures 5-1 and 5-2. Parts lists for the specials are listed in Tables 5-8 and 5-9.

5-12. Remote control operation is also available by special order. Programming information is covered in the Model 5245L Operating Manual, Paragraphs 3-14 through 3-17, page 3-11. Circuit diagram showing additional wiring is shown in Figure 5-3.

5-13. MANUAL CHANGES.

5-14. CURRENT INSTRUMENTS.

5-15. This manual applies directly to standard Model 5245L Electronic Counter having serial prefix number 716- (refer to Paragraph 1-6).

5-16. OLDER INSTRUMENTS.

5-17. This manual applies directly to the 5245L Electronic Counters having serial prefix number 716-. This manual with the changes listed in Table 5-10 also applies to 5245L Electronic Counters having serial prefix numbers 648 and 628. For information covering 5245L Electronic Counters having serial prefix numbers 544 or below, refer to 5245L Operating and Service Manual serial prefixed 544.

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Section V Table 5-4

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 Table 5-4
 Reference Designation Index (A18 Option 002)
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	Reference	Stock No.	Description #	Note	
	Designation	G DOCK NO.)	
.1911.	1 1		$\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i$	*	·
	A18	05245-6001 05212-6014	50 ×C +1248 READOUT ASSEMBLY Readout block assy		
;	C1	0120-0093	CIFXD CER 0.01 UF +80-20% 100VDCW		
	CR1 CR2	1901-0025 1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION	· · ·	•
	CR3 CR4	1901-0025 1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION		
	CR5 CR6	1901-0025	SEMICON DEVICE:DIODE JUNCTION SEMICON DEVICE:DIODE JUNCTION		
	CR7 CR8	1901-0025 1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION		
	CR9 THRU CR10 CR11	1901-0025	NOT ASSIGNED SEMICON DEVICE: DIODE JUNCTION		۰.
$2a_{\rm s}r$	CR12	1901-0025	SEMICON DEVICE DIODE JUNCTION		
	CR13 CR14	1901-0025 1901-0025 1901-0025	SENICON DEVICE:DIODE JUNCTION SEMICON DEVICE:DIODE JUNCTION SEMICON DEVICE:DIODE JUNCTION		
	CR15 CR16	1901-0040	SEMICON DEVICE DIODE SILICON		
.	CR17 CR18 THRU	1901-0040	SEMICON DEVICE DIODE SILICON		
	CR23 CR24 CR25	1901-0025	NOT ASSIGNED SEMICON DEVICEIDIODE JUNCTION SEMICON DEVICEIDIODE SILICON JUNCTION	' <u>'</u>	
, ,	DSI		NSR PART OF READOUT BLOCK ASSY NSR PART OF READOUT BLOCK ASSY		
	DS2 DS3 DS4		NSR PART OF READOUT BLOCK ASSY NSR PART OF READOUT BLOCK ASSY NSR PART OF READOUT BLOCK ASSY		
	DS5		NOT ASSIGNED		
, , ,	D 56 Q1	1970-0009	ELECTRON TUBE INDICATOR 10 DIGIT TRANSISTOR NPN SILICC		
	Q2 Q3	1854-0003 1854-0003	TRANSISTOR NPN SILICON TRANSISTOR NPN SILICON		
	04 05	1854-0003 1854-0003	TRANSISTOR NPN SILICON TRANSISTOR NPN SILICON	n na star €n na star	i
	Q6 Q7	1854-0003 1854-0003	TRANSISTOR NPN SILICON TRANSISTOR NPN SILICON		198 1997 - 1997 1997 - 1997 - 1997
	Q8 G9 (010)	1854-0003 1854-0003 1854-0003	TRANSISTOR NPN SILICON TRANSISTOR NPN SILICON TRANSISTORINPN SILICON		
	011	1854-0003	TRANSISTOR NPN SILICON		$\mathcal{A}_{\mathcal{A}}^{(1)}(\mathcal{B})$
	R1 R2	0686-4735	RIFXD COMP 47K OHM 5% 1/2W NSR PART OF READOUT BLOCK ASSY	1 I I	
	R3 THRU R5		NOY ASSIGNED	an an an an an an an an an an an an an a	
	R6 R7	0683~3945 0683-3945	RIFXD COMP 390K OHM 5% 1/4W RIFXD COMP 390K OHM 5% 1/4W	189 ¹⁴ 1997	
	R8	0683-3945	RIFXD COMP 390K OHM 5% 1/4W		
				·· · · · · · · · · · · · · · · · · · ·	
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	$(T_{1})^{-1} \stackrel{(n-1)}{\longrightarrow} s$	•		3	· · · · · · · · · · · · · · · · · · ·
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Section V Table 5-4

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Table 5-4. Reference⁾Designation Index (A18 Option 002) Cont'd

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Reference Designation	🕏 Stock No.	Description #	Note
1			
	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		
		TRACKD COND TOON OUN EN 1200	
R9	0683-3945	RIFXD COMP 390K OHM 5% 1/4W	, 1
R10	0683-5635	RIFXD CONP 56K OHM 5% 1/4W	1
R11	06B3-5635	RIFXD COMP 56K OFN 5% 1/44	
R12	0683-5635	RIFXD CONP S6K OHN 5% 1/4W	
R13 - , [0683-5635	RIFXD COMP 56K OHM 5% 1.4W	
R14	0683~5635	RIFXD COMP 56K OHM 58 1/4W	
R15 [0683-5635	RIFXD COMP S6K OHM 5% ,1/4W	
R16	0683+5635	RIFXD COMP 56K OHM 5% 1/4W	
R17	0683-5635	RIFXD COMP 56K OHM 5% 1/4W	
R18	0683-2025	RIFXD COMP 2000 OHM 5% 174W	1
	in the second second second second second second second second second second second second second second second		
R19	0683-7525	RIFXD COMP 7500 OHM 5% 1/4W Notes 1	
R20	0683-1545	RIFXD COMP 150K OHM 5% 1/4W	
R21	0683-5135	RIFXD COMP 51K OHM 5% 1/4W	
R22	0683-6805	RIFXD COMP 68 CHM 5% 1/4W	
R23	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NOT ASSIGNED	
R24	0683-7525	RIFXD CONP 7500 OHM 58 1/4W	
R25		NOT ASSIGNED	Ì
R26	0683-2025	RIFXD COMP 2000 OHM 5% 1/4W	
R27	0683-7525	RIFXD COMP 7500 OHM 5% 1/4W	
R28	0683-1545	RIFXD COMP 150K OHM SN 1/4W	
		$\left[\left(\left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} \right)^{2} \right] = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \left\{ \frac{1}{2} \right\} \right\} \right\} = \left\{ \frac{1}{2} \left$	
R29	0683-5135	RIFXD. COMP 51K OHM. 5% 1/4W	.
RYO	0683-9105	RIFXD COMP 91 OHM 5% 1/4W	'
R31		NOT ASSIGNED	
R32	0683-7525	RIF 10 COMP 7500 OHH 5% 1/4W	
R33		NOT SSIGNED	
	a a tagina a		
R34	06B3-2025	RIFXD COMP 2000 GHM 5% 1/4%	
R35	0683-7525	RIFXD COMP 7500 OHM 5% 1/4W	1
	0683-1545	RIFXD COMP 150K 0HM 5% 1/4W	
R36		RIFXD COMP 150K OHN 5% 1/4W	
R37	0683-5135	RIFXD COMP 91 OHN 5# 1/4W	
R38	0683-9105	The second second second second second second second second second second second second second second second se	
830		NOT ASSIGNED	ļ
R39	0483-787F	RIFXD COMP. 7500 OHM 5% 1/4%	
840	0683-7525	NOT ASSIGNED	- F
R41	0403.0005	RIFXD COMP. 2000.000 5% 1/4W	
R42	0683-2025		1
R43	0633-7525	REFXD COMP 7500 OHM 5% 1/4W	
nun (RIFXD COMP SOK OHN SK 1/4W	· ·
R44	0683-1545		
R45	0683-5135	RIFXD COMP, LK OHN 5% 1/4W	
R46	0683-9105	RIFXD COMP 91" OHM 5% 1/4W	
R47	adam mener 191	NOT ASSIGNED	
R48	0683-7525	RIFXD COMP 7500 OHM 5% 1/4%	
R49 THRU	and the state of the state of the state of the state of the state of the state of the state of the state of the		
R50		NOT ASSIGNED	1
R51	0683-4735	RIFXO COMP 47K OHM 58 1/4W	
R52 1	0683-4735	RIFXD COMP 47K OHM 5% 1/4W	
R53	0683-4735	RIFXD COMP 47K OHM 58 1/4W	
R54 · ·	0683-4735	RIFXD COMP 47K OHM 5% 1/4W	· ·
p			
R55	0683-4735	RIFXD COMP 47K OHM 5% 1/4W	
R56	0683-1245	RIFXD COMP 120K OHM 5% 1/4W	
R57 THRU	a		
R61		NOT ASSIGNED	
R62	0683-4735	REFXD COMP 47K OHM 5% 1/4W	
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Table 5-4. Reference Designation Index (A18 Option 002) Cont'd

	Reference Designation	🖗 Stock No.	Description #	Note] e 🚺
	R63 R64 R65 R66 R67	0683-7525 0623-7525 063-7545 0683-7525	NOT ASSIGNED RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 750K OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W		
	R68 R69 R70 R71 R72	0683-1045 0683-1045 0683-1045 0683-1045 0683-2735	RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 15K OHM 5% 1/4W RIFXD COMP 27K OHM 5% 1/4W		
	R73 R74 R75 R76 R77	0683-3335 0683-2735 0683-2735 0683-2735 0683-1835	RIFXD COMP 33K OHM 5% 1/4W RIFXD COMP 27K OHM 5% 1/4W RIFXD COMP 27K OHM 5% 1/4W RIFXD COMP 27K OHM 5% 1/4W RIFXD COMP 18K OHM 5% 1/4W		
ĺ	V1		NSR PART OF READOUT BLOCK ASSY		
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Reference Designation Index (A18 Option 003) Table 5-5.

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	Refere		🕀 Stock No.	Description #	Note
		i -			
	2.1				
	A18		05245-6003	-1248 READOUT ASSY	
		· •	05212-6011	READOUT BLOCK ASSY	
	Ci	THRU)		
	C2 C3		0150-0093	NOT ASSIGNED C:FXD CER 0.01 UF +80-20% 100VDCW	
				DIGDE JUNCTION 100 HA AT 1V 100PIV	
	CR1 CR2		1901-0025 1901-0025	SEMICON DEVICEIDIODE JUNCTION	
	CR3	ĺ	1901-0025	SEMICON DEVICE DIODE JUNCTION	
	CR4 CR5	ł	1901-0025 1901-0025	SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION	
		,			
	CR6 CR7		1901-0025 1901-0025	SEMICON DEVICE:DIODE JUNCTION SEMICON DEVICE:DIODE JUNCTION	
	CR8		1901-0025	SEMICON DEVICE IDIODE JUNCTION	ł
ļ	CR9 CR10	THRU		NOT ASSIGNED	
	CR11		1901-0025	SEMICON DEVICE + DIODE JUNCTION	
	CR12		1901-0025	SEMICON DEVICE DIODE JUNCTION	
	CR12 CR13		1901-0025	SEMICON DEVICE DIODE JUNCTION	· ·
ļ	CR14		1901-0025	SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION	
	CR15 CR16		1901-0025 1901-0040	SEMICON DEVICE DIODE SUCCESSION	ļ
	CR17		1901-0040	SEMICON DEVICE DIODE SILICON	
	CR18		1901-0025	SEMICON DEVICE:DIODE JUNCTION	
	CŖ19]	1902-0032	SEMICON DEVICE DIODE SILICON JUNCTION	
ł	DS1	· · · [NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY	
L	D52 D53			NSRIPART OF READOUT BLOCK ASST	
ſ	D54			NSRIPART OF READOUT BLOCK ASSY	
	055	{		NOT ASSIGNED	
	D56	* L 📲	1970-0009	ELECTRON TUBE INDICATOR 10 DIGIT	
	Q1	4	1854-0003	TRANSISTOR NPN SILICON	
	Q2		1854-0003	TRANSISTOR NPN SILICON Transistor NPN Silicon	
	03 04		1854-0003 1854-0003	TRANSISTOR NPN SILICON	
	Q5		1854-0003	TRANSISTOR NPN SILICON	
լի	66	. ' · [1854-0003	TRANSISTOR NPN SILICON	
Ì	07		1854-0003 1854-0003	TRANSISTOR NON SILICON TRANSISTOR NON SILICON	
. ,	08 09		1854-0003	TRANSISTORINPN SILICON	
	010	;	1854-0003	TRANSISTORINPN SILICON	
	011		1854-0003	TRANSISTOR NPN SILICON	
	RI		0686-4735	RIFXD COMP 47K OHM 58 1/2W	
	R2 R3	THRU		NSRIPART OF READOUT BLOCK ASSY	
	R5			NOT ASSIGNED	
}	R6		0683-3945 0683-3945	R#FXD COMP 390K OHM 5% 1/4W R#FXD COMP 390K OHM 5% 1/4W	
	san r Tar				
	F S	ν.,	0683-3945	RIFXD COMP 390K OHM 5% 1/4W	
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	$\left\{ i, j, j \right\}$	j			[
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Section V Table 5-5

Table 5-5. Reference Designation Index (A18 Option 003) Cont'd

Reference Designation	🕏 Stock No.	Description #	Note
R9 R10	0683-3945	RIFXD COMP 390K OHM 5% 1/4W RIFXD COMP 56K OHM 5% 1/4W	1
R11	0633-5635	RIFXD COMP 56K OHM 5% 1/4W	
R12	0683-5635	RIFXD COMP 56K OHM 5% 1/4W	
R13	0683-5635	REFXD COMP 56K OHM 5% 1/4W	
			
R14	0683-5635	RIFXD COMP 56K OHM 5% 1/4W RIFXD COMP 56K OHM 5% 1/4W	1
R15 R16	0683-5635	RIFXD COMP 56K OHM 5% 1/4W	
R17	0683-5635	RIFXD CONP 56K CHH 58 1/4W	
RIB	0683-2025	RIFXD COMP 2000 OHM 5% 1/4W	
8+0	0403 3515	DECKD COND REAG AUN BE LAUM	
R19 R20	0683-7525 0683-1545	RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 150K OHM 5% 1/4W	
R21	0683-5135	RIFXD COMP 51K OHM 5% 1/4W	
R22	0663-6805	RIFXD COMP 68 OHM 5% 1/4W	
R23		NOT ASSIGNED	
R24	0683-7525	R#FXD COMP. 7500 OHM 5% 1/4W	
R25		NOT ASSIGNED	
R26	0683-2025	RIFXD COMP 2000 OHM 5% 1/4W	
R27	0683-7525	RIFXD COMP 7500 OHM SN 1/4W	
R28	0683-1545	RIFXD COMP 150K OHM 5% 1/4W	
R29	0683-5135	RIFXD COMP 51K OHM 5% 1/4W	
R30	0683-9105	RIFXD COMP 91 OHM 5% 1/4W	
R31		NOT ASSIGNED	
R32 R33	0683-7525	RIFXD COMP 7500 OHM 5% 1/4W	1
~~?		NOT ASSIGNED	
R34	0683-2025	R#FXD COMP 2000 OHM 5% 1/4W	1
R35	0683-7525	R = FXD COMP 7500 OHM 58 1/4W	1
R36 R37	0683-1545	RIFXD COMP 150K OHM 5% 1/4W	
R38	0683-9105	RIFXD COMP SIK OHM 5% 1/4W RIFXD COMP 91 OHM 5% 1/4W]
,			
R39		NOT ASSIGNED	
R40 R41	0683-7525	RIFXD COMP 7500 OHM 5% 1/4W Not Assigned	
R42	0683-2025	R FXD COMP 2000 OHM 5% 1/4W	1
R43	0683-7525	RIFXD COMP 7500 OHM 5% 1/4%	
244 245	0683-1545	RIFXD COMP 150K OHM 5% 1/4W	
346	0683-5135	RIFXD COMP 51K OHM 5% 1/4W RIFXD COMP 91 OHM 5% 1/4W	
147		NOT ASSIGNED	- P -
148 - L	0683-7525	RSFXD COMP 7500 OHM 5% 1/4W	
149 THRU	i i	6 · · · · · · · · · · · · · · · · · · ·	· ·
150		NOT ASSIGNED	
851	0683-4735	RIFXD COMP 47K OHM 5% 1/4W	
852	0683-8235	RIFXD COMP 82K OHM 5% 1/4W	
353	0683-8235	RIFXD COMP 82K OHH 5% 1/4W	
254	0683-4735	RIFXD COMP 47K CHM 5% 1/4W	1
R55	0683-2735	RIFXD COMP 27K OHM 5% 1/4W	
156	0683-1245	RIFXD COMP 120K OHM 5% 1/4W	
R57	0683-2735	RIFXD COMP 27K OHM 5% 1/4W	
158 159	0683-1035	RIFXD COMP 10K OHM 5% 1/4W RIFXD COMP 10K OHM 5% 1/4W	
		T TALE AND AND AND AND AN AVAIL	
		· · · · · · · · · · · · · · · · · · ·	

Section V Table 5-5

Table 5-5. Reference Designation Index (A18 Option 003) Cont'd

0683-1295 RiFXD COMP 120K OWH 5% 1/4W 0683-1045 RiFXD COMP 100K OWH 5% 1/4W 0683-7255 RiFXD COMP 100K OWH 5% 1/4W 0683-7355 RiFXD COMP 7500 OWH 5% 1/4W 0683-7355 RiFXD COMP 7500 OWH 5% 1/4W 0683-7355 RiFXD COMP 7500 OWH 5% 1/4W 0683-7355 RiFXD COMP 7500 OWH 5% 1/4W 0683-7355 RiFXD COMP 100K OWH 5% 1/4W 0683-1045 RiFXD COMP 100K OWH 5% 1/4W 0683-1045	Reference Designation	🚱 Stock No.	Description #	Note
0683-1045 R#FXD COMP 100K OHM 5% 1/4W 5 0683-1535 R#FXD COMP 15K OHM 5% 1/4W	R60 R61 R62 R63 R64 R65 R66 R67 R68 R69	0683-1045 0683-1045 0683-7525 0683-7525 0683-7545 0683-7525 0683-1045	RIFXD COMP 100% OHM 5% 1/4W NOT ASSIGNED RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 750K OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 100K OHM 5% 1/4W	
	R70 R71	0683-1045 0683-1535	R#FXD COMP 100K OHM 58 1/4W R#FXD COMP 15K OHM 58 1/4W	
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Section V Table 5-6

Table 5-6. Reference Designation Index (A15, A16 Options 002 & 003)

Designation	🐵 Stock No.	Description #	· · · · · · · · · · · · · · · · · · ·	Note
, <i>i</i>			. 1	1 1
۶.	1 .			
A15A16	05232-6014	ASSYIDECIMAL COUNTER (+1248)		
A15A16	05232-6012	ASSYIDECIMAL COUNTER(+1248)		
	05232-2012	BOARDIDECTMAL COUNTER BLANK		
			,	
	05212-6014	READUUT BLUCK ASSY		
c1	0140-0145	CIFXU MICA 22 PF 5% SOOVDCW		
C2	0140-0145	CIFXD MICA 22 PF 5% 500VDCW		
C3	0160-0196	CIFXD MICA 24 PF 5% 500VDCh		
C4	0160-0196	CIFXD MICA 24 PF 5% 500VDCW		
C5	0160-2306	CIFXD MICA 27 PF 5%		
C6	0160-2306	CIFXO MICA 27 PF 58		
C7	0160-0369	CIFXU MICA 17 PF 5%		1
C8 C9	0160-2306	CIFXD MICA 27 PF 5%		ł j
C10	0160-2563	CIFXD CER C.002 UF 20% 500VDCW CIFXD MICA 33 PF 5% 300VDCW		
				i (
C11 :	0140-0145	CIFXD MICA 22 PF 5% 500VDCW		ļ
C12 C13	0160-2306 0160-2563	CIFXD MICA 27 PF 55	i	i [
C14	0140-0190	CIFXU CER C.002 UF 20% 500VDCW CIFXD MICA 39 PF 5% 300VDCW		i
C15	0140-0190	CIFXU MICA 39 PF 5% 300VDCW		
C16				
C17	0140-0191 0160-0179	CIFXO MICA 56 PF 5% 300VDCW		
· ·	3.1	CIFXD MICA 33, PF 5% 300VDCW	ļ	
CR1	1901-0025	DIODERSILICON LOOWV LOOMA	· · · ·	· 1
CR2	1901-0025	DIODE:SILICON 100WV 100MA		· .]
CR3 CR4	1901-0025 1901-0025	DIODEISILICCN 100WV 100MA		1
CR5	1901-0025	DIODEISILICON ICOWY ICOMA DIODEISILICON 100WV 100MA		
	•			
CR6	1901-0025	DIODEISILICON 100WV 100MA		
CRa	1901-0025 1901-0025	DIODEISILICON 100WV 100MA	and the second	
CR9	1901-0040	DIODE:SILICON 100WV 100MA DIUDE:SILICON		
CRIO	1901-0040	DIODEISILICON	. [1
CR11	1001-0040	ATAN APRI TANK	1	
CR12	1901-0040 1901-0040	DIODE#SILICON DIODE#SILICON		
CR13	1901-0040	DIODEISILICON		
CR14	1901-0040	DIODEISILICON	1	· · ·
CR15	1901-0040	DIODEISILICON		
CR16	1901-0040	DIODEISILICON		
	1901-0040	DIODEISILICON	·	1
CR18	1901-0040	DIODESILICON		,
1	1901-0040	DIODEISILICON		
CR20	1901-0040	DIODEISILICON		
R21	1901-0040	DIODEISILICON		
R22	1901-0040	DIODEISILICON		l l
R23	1901-0040	DIODEISILICCN		
051	1	NED BADT DE STADBUT IN DAM - SUM		
52		NSR PART OF READOUT BLOCK ASSY NSR Part of Readout Block Assy		
53	1	NSR PART OF READOUT BLOCK ASSY		
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See list of abbreviations in introduction to this section

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Table 5-6. Reference Designation Index (A15, A1	6 Options 002 & 003) Cont'd
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Designation	🕸 Stock No.	Description #	Note
DS4		NSR PART OF READOUT BLOCK ASSY	
DS5		NOT ASSIGNED	
DS6	1970-0009	ELECTRON TUEES INDICATOR 10 DIGIT	
a1	1853-0034	TRANSISTOR: SILICON PNP	
02 03	1853-0034	TRANSISTORISILICON PNP	,
03 04	1853-0034 1853-0034	TRANSISTORISILICON PNP	
95	1853-0034	TRANSISTURISILICON PNP	
26	1853-0034	TRANSISTORISILICON PNP	· [
	1853-0034	TRANSISTORISILICON PNP	
QB	1653-0034	TRANSISTORISILICON PNP	
RL	0686-4735	RIFXU COMF 47K OWH 5% 1/2%	
k2 R3 THRu		ASR PART OF READOUT BLOCK ASSY	
R5 '	0683-3945	NOT ASSIGNED RIFXD COMP 390K OHM 5% 1/4%	ч.
R7	0683-3945	REFAD COMP 390K OHM 5% 1/4%	
RB	0683-3945	RIFXD COMP 390K OHM 5% 1/4%	
19 - 10	0683-3945	RIFXD COMP 390K OHM 58 1/4W	
R10 R11	0761-0005	RIFXD MET CX 220 OHH 5% 1W RIFXD COMP 56K OHH 5% 1/4%	ļ
R12	0683-5635	RIFXD COMP 56K OHM 54 1/4W	
R13	9761-0010	RIFXO MET FLM 1800 0'11 5% 1W	
R14 R15	0758-0004	RIFXD MET FLM 2700 OHN 5% 1/2W RIFXD COMP 56K OHM 5% 1/4W	
R16	0683-5635	RIFXD COMP 56K OHN 5% 1/4W	
R17	0758-0004	RIFXD HET FLH 2700 CHM 5% 1/2W	
R18	0758-0045	RIFXD MET FLM 3.9K OHM 5% 1/2W	
R19 R20	0683-5635 0683-5635	RIFXD COMP 56K OHM 5% 1/4W RIFXD COMP 56K OHM 5% 1/4W	
R21	0758-0045	RIFXD MET FLM 3.9K OHM 5% 1/2W	
R221	0761-0005	RIFXD MET CX 220 OHN 5% 1W	
R23	0683-5635	RIFXD COMP SOK OHM 5% 174%	
R24 R25	0683-5635 0761-0010	RIFXD COMP 56K OHM 5% 174W RIFXD MET FLM 1800 OHM 5% 1W	
R26	0683-1635	R#FXD COMP 16K OHM 5% 1/4W	
R27	0683-1635	RIFXD COMP. 16K OHM 5% 1/4W	
R28	0683-2035	RIFXD COMP 20K OHN 5% 1/4W	
R29 R30	0683-2035	RIFXD COMP 20K OHM 5% 1/4W RIFXD COMP 27K OMN 5% 1/4W	
R31	0663-2735	RIFXD COMP 27K OHN 5% 1/4W (
R32	0683-1635	RIFXD COMP 16K OHH 5% 1/4W	
R33	0683-1635	REFXD COMP 16K OHM 5% 1/4W	
R34 R35	0683-1015 0683-3325	RIFXD COMP 100 OMM 5% 1/4% RIFXD COMP 3.3K OMM 5% 1/4%	
R36	Ó683-2235	RIFXO COMP 22K OHM 5% 1/4W	
R37	0683+5625	RIFXD COMP 5.6K OHM 5% 174W	
R38	0663-3025	RIFXD COMP 3K OHM 5% 1/4W	
R39 R40	0683-1045	RIFXO COMP 100K OWN 5% 174% RIFXD COMP 47 OHM 5% 174%	
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See list of abbreviations in introduction to this section ·.

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Section V Table 5-6

Table 5-6. Reference Designation Index (A15, A16 Options 002 & 003) Cont'd

Reference Designation	🕏 Stock No.	Description #	Note
R41 R42 R43 R44 R45	0683-1025 0663-2235 0683-3025 0683-3925 0683-1025	RIFXU COMP 1K OHM 5% 1/4W RIFXU COMP 22K OHM 5% 1/4W RIFXU COMP 3K OHM 5% 1/4W RIFXU COMP 3.9K OHM 5% 1/4W RIFXU COMP 1K CHM 5% 1/4W	
R46 R47 R48 R49 R50	0683-4705 0683-3925 0683-2235 0683-1045 0683-4715	RIFXG COMF 47 CHM 5% 1/4W RIFXG COMF 3.9K OHM 5% 1/4W RIFXD COMF 22K CHM 5% 1/4W RIFXD COMF 100K OHM 5% 1/4W RIFXD COMP 476 CHM 5% 1/4W	
R51 R52 R53 R54 R55	0683-2725 0683-2235 0663-1025 0683-4705 0683-5625	RIFXO COMP 2.7K OHM 5% 1/4W RIFXO COMP 22K CHM 5% 1/4W RIFXD COMP 1K OHM 5% 1/4W RIFXD COMP 1K OHM 5% 1/4W RIFXD COMF 47 OHM 5% 1/4W	
R56 R57 R58 R59 R60	0683-3625 0683-4715 0683-4715 0683-3625 0683-1045	RIFXD COMP 3.6K OHM 5% 1/4W RIFXD COMP 470 OHM 5% 1/4W RIFXD COMP 470 OHM 5% 1/4W RIFXD COMP 3.6K OHM 5% 1/4W RIFXD COMF 100K OHM 5% 1/4W	
R61 R62 R63 R64 R65	0683-9115 0683-2735 0683-1535 0683-2735 '0683-8225	RIFXD COMP 910 OHM 5à 1/4W RIFXD COMP 27K OHM 5% 1/4W RIFXD COMP 15K CHM 5% 1/4W RIFXD COMP 15K CHM 5% 1/4W RIFXD COMP 27K CHM 5% 1/4W	
R66 R67 R68	0683-2715 0683-2735 0683-1045	RIFXD COMP 270 OHM 5% 1/4% RIFXD COMP 27K CHM 5% 1/4% RIFXD COMP 100K OHM 5% 1/4%	"
۷1	· · · · · · · · · · · · · · · · · · ·	NSR PART OF READOUT BLOCK ASSY	
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.. 75 Table 5-7. Reference Designation Index (A10-A14 Options 002 & 003)

Reference Designation	🐵 Stock No.	Description #	· •	Note
A10-A14	05212-6002 05212-6003 05212-6014	+1248 DECIMAL COUNTER ASSY -1248 DECIMAL COUNTER ASSY READOUT BLOCK ASSEMBLY		- -
C1 C2 C3	0140-0194 0140-0217 0140-0194	CIFXD MICA 110 PF 5% 300 VDCW CIFXD MICA 140PF 2% 300VDCW CIFXD MICA 110 PF 5% 300 VDCW	n an	
C4 C5	0140-0197 0140-0194	CIFXD MICA 180 PF 5% 300 VDCW CIFXD MICA 110 PF 5% 300 VDCW		· .
C6 C7 C8 C9 C10	0140-0194 0140-0196 0140-0194 0140-0194 0140-0194 0140-0196	CIFXD MICA 110 PF 58 300 VDCW CIFXD MICA 150 PF 58 300 VDCW CIFXD MICA 110 PF 58 300 VDCW CIFXD MICA 110 PF 58 300 VDCW CIFXD MICA 150 PF 58 300 VDCW		1 - 1 - 1 - 1
C11 C12 C13	0140-0198 0140-0198 0150-0121	CIFXD MICA 200PF 5% 300VDCW CIFXD MICA 200PF 5% 300VDCW CIFXD CER 0.1UF 50 VDCW		
CR1 CR2 CR3 CR4 CR5	1901-0025 1901-0025 1901-0025 1901-0025 1901-0025	SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION SEMICON DEVICE DIDDE JUNCTION		
CR6 CR7 CR8 CR9 CR10	1901-0025 1901-0025 1901-0025 1910-0025 1910-0016 1910-0016	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIGDE GERMANIUM SEMICON DEVICE DIODE GERMANIUM		r
CR11 CR12 CR13 CR14	1910-0016 1910-0016 1910-0016 1910-0016	SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM SEMICON DEVICEIDIODE GERMANIUM		- - - - -
051 052 053 054 055	6	NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NOT ASSIGNED		•
D\$6	1970-0009	ELECTRON TUBE INDICATOR 10 DIGIT		
41 91 92 93	9140-0161 5080-0060 5080-0060 5080-0060	COILIFXD 3600UH 5% TRANSISTOR GERMANIUM PNP SELECTED TRANSISTOR GERMANIUM PNP SELECTED TRANSISTOR GERMANIUM PNP SELECTED		, I
04 05	5080-0060 5080-0060	TRANSISTOR GERMANIUM PNP SELECTED TRANSISTOR GERMANIUM PNP SELECTED		
66 07 98	5080-0060 5080-0060 5080-0060	TRANSISTOR GERMANIUM PNP SELECTED TRANSISTOR GERMANIUM PNP SELECTED TRANSISTOR GERMANIUM PNP SELECTED	$\frac{1}{C_{\rm eff}} = \frac{1}{2} \frac{1}{C_{\rm eff}} + \frac{1}{2} \frac{1}{C_{\rm eff}} $	
R1 R2	0686-4735	RIFXD COMP 47K OHM 5% 1/2W NSRIPART OF READOUT BLOCK ASSY	<i>i</i>	

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Table 5-7. Reference Designation Index (A10-A14 Options 002 & 003) Cont'd

Reference Designation	🖗 Stock No.	Description #	Note
4 a.	1. A. C.		
R3 THRU	and the second sec		
R5		NOT ASSIGNED	
R6	0683-3945	RIFXD COMP 390K OHM 5# 1/4#	
R7	0683-3945	RIFXD COMP 390K CHM 5% 1/4W	1
RB	0683-3945	RIFXD COMF 390K OHM 5% 1/4%	
R9 👘 👘	0683-3945	RIFXD COMP 390K OHM 5% 1/4W	
10	0683-5635	RIFXD COMP 56K OHM 5% 1/4W	
R11	0683-5635	RIFXD COMP 56K CHM 5% 1/4%	
R12 ,	0683-5635	RIFXD COMP 56K OHM 51 1/4W	1
R13	0683-5635	RIFXD COMP 56K OHM 52 1/4W	
R14 (0683-5635	RIFXD COMP 56K OHM 5% 1/4W	1
R15	0683-5635	RIFXD COMP 56K OHM 58 1/4W	
R16	0683-5635	RIFXD COMP 56K OHM 58 1/4W	
R17	0683-5635	RIFXD COMP 56K CHM 5% 1/4W	1.
R18	0686-7525	RIFXD COMP 7500 OHM 5% 1/2W	
R19	0683-4335	RIFXD COMP 43K OHM 5% 1/4%	
R20 ⁻	0683-1035	RIFXD COMP LOK OHM 5% 1/4W	
R21	0683-4735	RIFXD COMP 10K CHM 5% 1/4W	
R22	0683-3925	RIFAD COMP 47K CMM 5% 174%	
223	0683-1815	RIFKD COMP 180 OHM 5% 1/4W	· ·
124	0683-1045	RIFXD COMP 100K OHM 5% 1/4W	ľ
DOE L	0407 3006		1
R25	0683-3925	RIFXD COMP 3900 OHM 5% 1/4W	· ·
126	0686-7525	RIFXD COMP 7500 OHM 5% 1/2W	}
R27 R28	0683-4335	RIFXD COMP 43K OHM 5% 1/4%	1
R29	0683-1035/ 0683-1035	R*FXD COMP 10K OHM 5% 1/4% R*FXD COMP 10K OHM 5% 1/4%	
	_'		
R30	0686-7525	RIFXD COMP 7500 OHM 5% 1/2W	
R31	0683-4335	RIFXD COMP 43K OHM 5% 1/4W	. 1
R32	0683-4735	RIFXD COMP 47K OHM 58 1/4W	Ļ
R33	0683-3925	RIFXD COMP 3900 OHM 5% 1/4%	· ·
334	0683-1815	REFXD COMP 180 OHM 5% 1/4W	
35	0683-1045	RIFXD COMP 100K OHM 5% 1/4%]
36	0683-3925	RIFXD COMP 3900 OHM 5% 1/4W	D
37	0686-7525	R#FXD COMP 7500 0HM 5% 1/2w	1.11.1
38	0683-4335	RIFXD COMP 43K OHM 5% 1/4W	
39	0683-1035	RIFXD COMP 10K OHM 5% 1/4W	
40	0683-1035	RIFXD COMP LOK OHM 5% 1/4W	leta de
41	0686-7525	RIFXD COMP 7500 OHM 5% 1/2%	
42	0683-4335	RIFXD COMP 43K OHM 54 1/4W	
43	0683-4735	RIFXD COMP 47K OHN 5% 1/4W	
44	0683-3925	RIFXD COMP 3900 OHM 5% 1/4W	
45	0683-1815	RIFXD COMP 180 0HM 5% 1/4W	
46	0683-1045	RIFXD COMP 100K OHN 5% 1/4w	ł
47	0683-3925	R*FXD COMP 3900 OHM 5% 1/4W	
48	0686-7525	R#FXD COMP 7500 OHN 5% 1/2%	
149	0683-4335	RIFXD COMP 43K OHM 5% 1/4%	
50	0683-1035	RIEXO COMP LOK OHN SE LAW	
51		RIFXD COMP 10K OHM 5% 1/4W	
52	0683-1035	RIFXD COMP 10K OHM 5% 1/4W Rifxd Comp 7500 ohm 5% 1/3W	
152	0686-7525	RIFXD COMP 7500 OHM 5% 1/2W Rifxd Comp 43% CHM 5% 1/2W	Į .
54	0683-4735	R#FXD COMP 43K GHM 5% 1/4W R#FXD Comp 47K GHM 5% 1/4W	
		INTERNA GOTTE TETE OTTE OF AFON	
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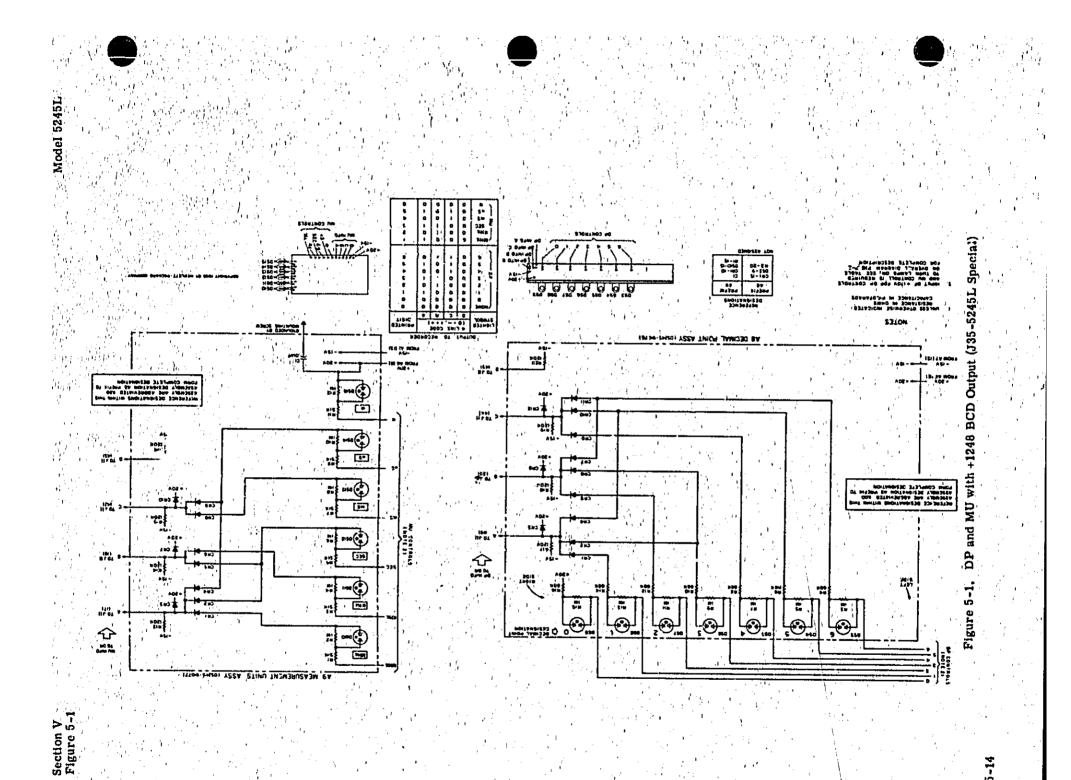
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	 /	Options 002 & 003) Cont'd
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Reference Designation	🕏 Stock No.	Description #
P.55 R.56 R.57 R.58 R.59	10683-3925 0683-1815 0683-1645 0683-3925 0686-7525	RIFXD COMP 3900 OHM 5% 1/4W RIFXD COMP 180 OHM 5% 1/4W RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 3900 OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/2W
R60 R61 R62 R63	0683-4335 0683-1035 0683-7525 0683-7525	RIFXD COMP 43K OHM 5% 1/4W RIFXD COMP 10K OHM 5% 1/4W RIFXD COMP 7500 OHM 5% 1/4W RIFXD COMP 4700 OHM 5% 1/4W
R64 VI	0683-4335	REFXD COMP 43K OHM 5% 1/4W NSREPART OF READOUT BLOCK ASSY
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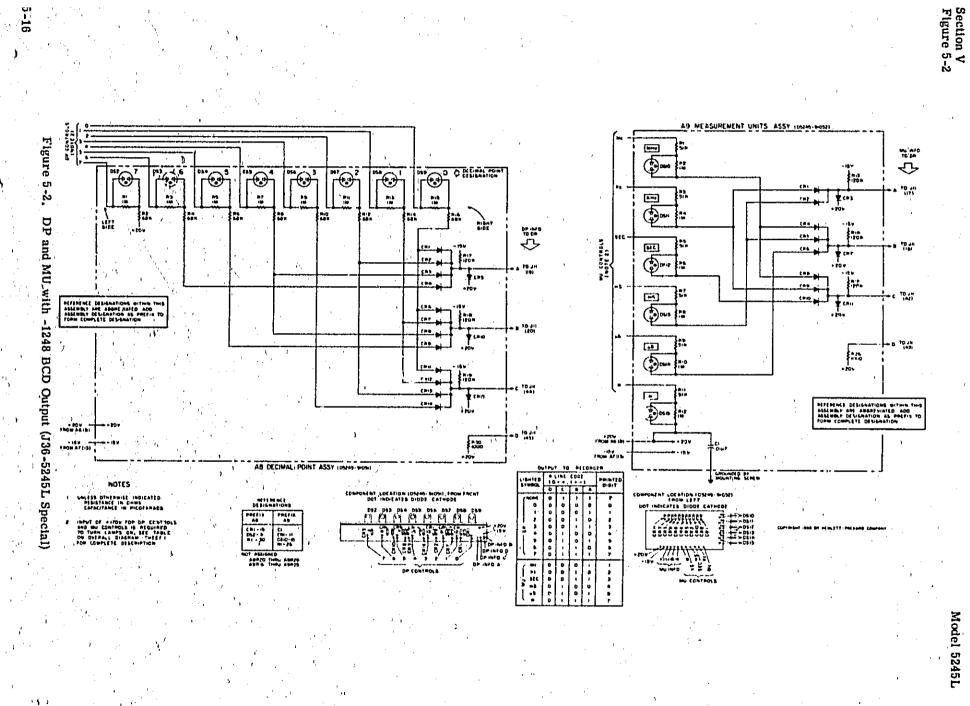
\$ } Section V Table 5-8

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Table 5-8.	Reference	Designation	Index	(J35-5245L)
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Designation	Stock No.	Description #	in a s	Note
	05245-91076	Assembly: decimal lights, with +1248 BCD output	1.	
A8CR1 thru			· • •	
A8CR12	1901-0025	Semicon Device: diode junction, silicon		
A8DS1, A8DS2		Not assigned		
A8DS3 thru	16 - 19 - C		1	· .
A8DS9	2140-0028	Lamp: glow, 1/15W		
A8R1		Not assigned	1	
A8R2	e de la seconda de	Not assigned	1	
ABR3	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W		
ABE4	0683-0835	R: fxd, comp, 68K ohms 5%, 1/4W		
A8R5	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W		
l All States			· · · · ·	
A8R6	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W		'
ASR7	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W		
A8R8	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	S	
A8R9	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	4. (
A8R10	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	а ¹	2.1
A8R11	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W		
A8R12	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	•	
ABR13	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W		
A8R14	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W		
A8R15	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	τ.	· ·
A8R16	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W		
ABR17	0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	1.1	
A8R18	0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	en en en en en en en en en en en en en e	
A8R19	0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W		
A8R20	0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	· · · · · · · · · · · · · · · · · · ·	· · ·
				a (1976)
A9	05245-91077	Assembly: measurement units, with +1248 BCD output		a (1) (1)
A9 A9C1	05245-91077 0150-0012	Assembly: measurement units, with +1248 BCD output C: fxd, cer, 0.01 μ f 20%, 1000 vdcw		1 I
A9 A9C1 A9CR1 thru	0150-0012	C: fxd, cer, 0.01 µf 20%, 1000 vdcw		1 I
A9 A9C1 A9CR1 thru A9CR10		C: fxd, cer, 0.01 µf 20%, 1000 vdcw		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru	0150-0012	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon		, , ,
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9	0150-0012	C: fxd, cer, 0.01 µf 20%, 1000 vdcw		1
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru	0150-0012 1901-0025	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15	0150-0012 1901-0025 2140-0015	C: fxd, cer, 0.01 µf 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1	0150-0012 1901-0025 2140-0015 0686-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nt assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135 0683-1055 0688-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135 0683-1055 0686-5135 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135 0683-1055 0688-1055 0683-1055 0688-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R8	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0686-5135 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0686-5135 0683-1055 0688-1055 0683-1055 0688-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R8 A9R9	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-5135	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R8 A9R9	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R9	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R9 , A9R10 A9R10 A9R11 A9R12	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
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A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R9 , A9R10 A9R10 A9R11 A9R12	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055	 C: fxd, cer, 0.01 μf 20%, 1000 vdcw Semicon Device: diode junction, silicon Nc* assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W 		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R9 A9R10 A9R10 A9R11 A9R12 A9R13 A9R14	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1245	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 20K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R7 A9R8 A9R9 A9R10 A9R10 A9R12 A9R13 A9R15	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1245 0683-1245	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 20K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R9 A9R10 A9R10 A9R11 A9R12 A9R13 A9R14	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1245	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 20K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R7 A9R8 A9R9 A9R10 A9R10 A9R12 A9R13 A9R15	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1245 0683-1245	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 20K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W		
A9 A9C1 A9CR1 thru A9CR10 A9DS1 thru A9DS9 A9DS10 thru A9DS15 A9R1 A9R2 A9R3 A9R4 A9R5 A9R6 A9R7 A9R6 A9R7 A9R8 A9R7 A9R8 A9R9 A9R10 A9R10 A9R12 A9R13 A9R15	0150-0012 1901-0025 2140-0015 0686-5135 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1055 0683-1245 0683-1245	C: fxd, cer, 0.01 μ f 20%, 1000 vdcw Semicon Device: diode junction, silicon Not assigned Lamp: glow, neon, NE2E R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/2W R: fxd, comp, 51K ohms 5%, 1/2W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 51K ohms 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 1 20K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W		

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Model 5245L

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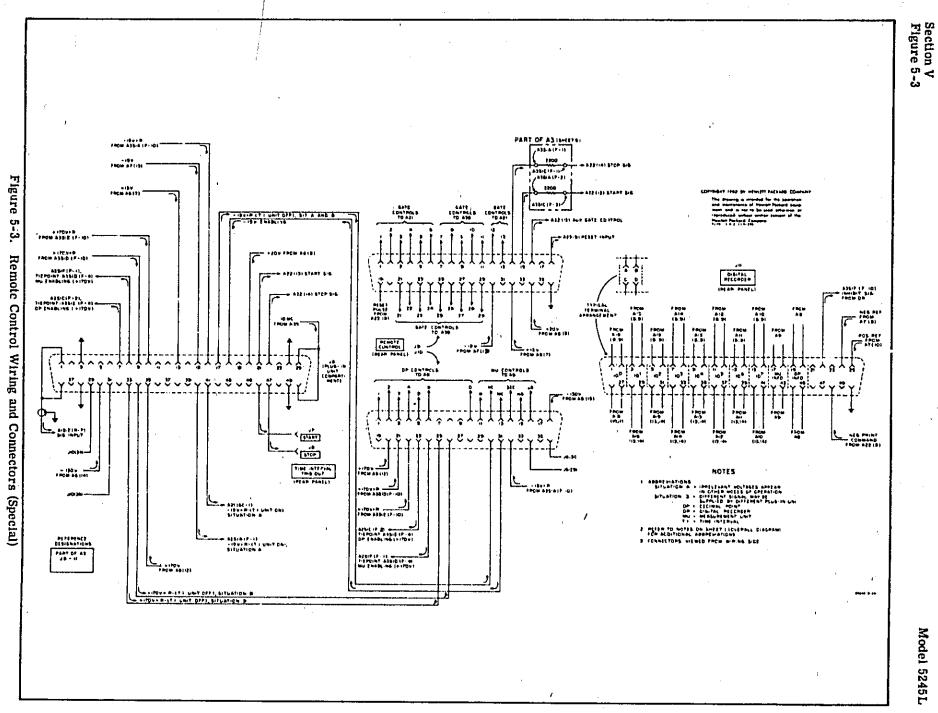
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Section V Table 5-9

Table 5-9. Reference Designation Index (J36-5245	Table 5-9.	Reference	Designation	Index	(J36-5245L
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Reference Designation	🖶 Stock No.	Description #	Not
АВ	05245-91051	Assembly: decimal lights, with -1248 BCD output	
A8CR1 thru			
	1001.0075	Scaling Daving, diada jumphin -thisse	· ·
ABCR15	1901-0025	Sention Device: diode junction, silicon	
A8DS1 A8DS2	2140-0028	Not assigned	
AUDGA	2140-0020	Lamp: glow, 1/15W	
A8R1	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A8R2	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	
A8R3	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A8R4	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	
A8R5	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
ABR6	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	
A8R7	0683-1055		
A8R8	0683-6835	R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 68K ohms 5%, 1/4W	ĺ
A8R9	0683-1055		
ABR10	0683-6835	R: fxd, comp, 1 megohm 5%, 1/4W R: fxd, comp, 68K ohms 5%, 1/4W	
A8R11	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A8R12	0683-6835	R: fxd, comp, 68K ohrns 5%, 1/4W	
A8R13	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A8R14	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	
A8R15	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A8R16	0683-6835	R: fxd, comp, 68K ohms 5%, 1/4W	
A8R17	0683-1245	R: fxd, comp, 120K ohms 5% , $1/4W$ R: fxd, comp, 120K ohms 5% , $1/4W$	
A8R18	0683-1245	R: fxd, comp, 120K ohms 5% , $1/4W$ R: fxd, comp, 120K ohms 5% , $1/4W$	
A8R19	0683-1245	R: fxd, comp, 120K ohms 5% , 1/4W R: fxd, comp, 120K ohms 5%, 1/4W	,
,		ser sing coupy those on the 1/1W	
A8R20 thru			
A9R29		Not assigned	
1	0002 1005		
A8R30	0683-1025	R: fxd, comp, 1000 ohms 5%, 1/4W	
A9	05245-91052	Accombly marginament units with 1949 DOD -	
A9C1	0150-0012	Assembly: measurement units, with -1248 BCD output C: fxd, cer, 0.01 μ f 20%, 1000 vdcw	
A9CR1 thru	0100-0014	o, ing, cer, u, vi µ i &u /0, 1000 VUCW	
A9CR11	1901-0025	Semicon Device: diode junction, silicon	
A9DS1 thru			
A9DS9		Not assigned	
A9DS10 thru	, ¹		
A9DS15	2140-0015	Lamp: glow, neon, NE2E	
A9R1	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
A9R2	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A9R3	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
A9R4	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A9R5	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
	47		
A9R6	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A9R7	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
A9R8	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
A9R9	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
A9R10	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
	0686-5135	R: fxd, comp, 51K ohms 5%, 1/2W	
A9R11	0683-1055	R: fxd, comp, 1 megohm 5%, 1/4W	
	0069-1000		
A9R11	0683-1245	1 R: 1X0, COMP, 120K 0nm5 5%, 1/4W	
A9R11 A9R12 A9R13	0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	
A9R11 A9R12 A9R13 A9R14	0683-1245 0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	
A9R11 A9R12 A9R13 A9R14 A9R15	0683-1245		
A9R11 A9R12 A9R13 A9R14 A9R15 A9R16 thru	0683-1245 0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W R: fxd, comp, 120K ohms 5%, 1/4W	
A9R11 A9R12 A9R13 A9R14 A9R15	0683-1245 0683-1245	R: fxd, comp, 120K ohms 5%, 1/4W	



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Model 5245L

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	Tuble 0 10; .	Manual Changes	
Instrument	Serial Prefix No.	Change No.	
	628-	1, 2, 3, 4, 5	
	648-	2, 3, 4, 5	
• • •	716-	3, 4, 5	:
÷	960-	4, 5	J. The second second second second second second second second second second second second second second second
•	0980A	5	
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CHANGE 1	Figure 7-9, Replace Figure 7-9 A10-A14 (5212L-4A).	A10-A15 (05212-6016) with Figure 7	-27
	Table 4-1, Replace A10-A15 po Change A15 to read A1	rtion of Table 4-1 with Table 5-11 A1 5 same as A16 prefix A15.	0-A14.
	Figure 7-11, Change prefix des	ignation from A16 to A15, A16.	
	Figure 7-12, Replace Figure 7- A15,A16 (05232-6002/6	12 A15, A16 (05232-6014/6012) with E 6003).	figure 7-28,
· 4	Table 5-6, Replace Table 5-6 ()5232-6014/6012) with Table 5-12 (05	232-6002/6003).
. : 1			
CHANGE 2	Figure 7-3, Renumber the conta as follows:	acts on A1S1A (FRONT) and A1S1B (F	RONT)
	Move contact 1 to 8 Move contact 2 to 1 Move contact 3 to 2 Move contact 4 to 3 Move contact 5 to 4 Move contact 6 to 5 Move contact 7 to 6 Move contact 8 to 7 The change is the same	e for both wafers.	· · ·
	Figure 7-4, Change contacts as	indicated:	
	A2S1B (REAR) Move contact 1 to Move contact 2 to Move contact 8 to	4-1/2 2-1/2	•
n 19 - Andrea Start, and an 19 - Andrea Start, and and and and and and and and and and	A2S1J (FRONT) ' Move contact 3 to	4	1.
	A2S1J (REAR) Move contact 2 to Move contact 11 to Move rotor 1 posi	b 10	
	A2S1K (FRONT) Move contact 9 to Move contact 11 to Move contact 12 to Move rotor 90° cv	o 2 o 3	, '
	Table 4-1, Change A1S1 to HP Change A2S1 to HP Pa	Part No. 3100-1860. rt No. 3100-0319.	
CHANGE 3	Page 4-22, Table 4-1: Change A25R6 to 0699 Change A26C20 to 0150		ч. — с.

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Section IV Table 5–10

CHANGE 4

- Page 4-18, Table 4-1: Change A21R32 to 0683-3915 390 OHM Change A21R30 to 0683-6215 620 OHM
- Page 7-35, Figure 7-18, A21 Schematic: Change A21R32 to 390 Change A21R30 to 620

CHANGE 5

- Pages 4-31 and 4-33, Table 4-1: Change J12 1251-2357 to 1251-0148 Change S4 3101-1272 to 3101-0034 Change W1 8120-1348 to 8120-0078 Change F1 2110-0303 to 2110-0006 Change F1 2110-0312 to 2110-0007
- Page 4-40, Table 4-2: Change 1251-2357 to 1251-0148
- Page 4-41, 4-42, Table 4-2: Change 3101-1272 to 3101-0034 Change 2110-0303 to 2110-0006
- Page 7-13, Figure 7-7: Use primary power supply schematic titled "PRE-IEC PRIMARY SUPPLY"
- Page 4-35, Figure 4-1: Replace table of Modular Cabinet Parts with Table 5-13.
- Page 4-34, Table 4-1, MISCELLANEOUS: Delete from 05243-6036 description (LIGHT GRAY) Delete 05243-6042 PANEL: PLUG-IN (MINT GRAY)
- mge 4-42, Table 4-2:
 - Delete from 05243-6036 description (LIGHT GRAY) Delete 05243-6042 PANEL: PLUG-IN (MINT GRAY); 28480; 05243-6042; TQ 1.
- Page 4-33, Table 4-1:
 - Delete from W1 description (GRAY) Delete W1 8120-1378 CABLE: POWER (JADE GRAY)

Section V Table 5-11

TUDE 3-11. Reference Depresention mach with the point inder,	Table 5-11.	Reference Designation Index	(A10-A14 DCA +1224)
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2	Reference Designation	🐵 Stock No.	Description #	Note
	A10	5212L-4A 5212L-4A-1 05212-6011	ASSYIDECIMAL COUNTER Blank Boarlip.c. Reacout block Assembly	
·.	A10C1 A10C2 A10C3 A10C4 A10C5	0140-0194 0140-0217 0140-0194 0140-0195 0140-0194	C:FXD MICA 110 FF 5% 300 VDCW C:FXU MICA 140 FF 2% 3GOVDCW C:FXJ MICA 110 PF 5% 300 VDCW C:FXD MICA 130 PF 5% 300 VDCW C:FXD MICA 110 PF 5% 300 VDCW	
۰	A10C6 A10C7 A10C8 A10C9 A10C10	0140-0194 0140-0196 0140-0194 0140-0194 0140-0194	CIFXU MICA 110 PF 5% 300 VDCW CIFXU MICA 200PF 5% 300VDCW CIFXD MICA 110 PF 5% 300 VDCW CIFXU MICA 110 PF 5% 300 VDCW CIFXU MICA 130 PF 5% 300 VDCW	
	A10C11 A10C12 A10C13	0140-0195 0140-0195 0140-0199	CIFXU MICA 200PF 5% 300VDCW CIFXD MICA 200PF 5% 300VDCW CIFXD MICA 240PF 5% 300VDCW	1
ı	A10CR1 A10CR1 A10CR2 A10CR2 A10CR2 A10CR3	1901-6025 1901-0025 1901-0025 1901-0025 1901-0025	SEMILON DEVICE:DIODE JUNCTION DIODE JUNCTION:100 MA AT 1V 100PIV SEMICON DEVICE:DIODE JUNCTION DIUDE JUNCTION:100 MA AT 1V 100PIV SEMICON DEVICE:DIODE JUNCTION	
	A10CR3 A10CR4 A10CR4 A10CR5 A10CR5	1901-0025 1901-0025 1901-0025 1901-0025 1901-0025	DIUDE JUNCTION:100 MA AT 1V 100PIV SEMICON DEVICE:DIODE JUNCTION DIODE JUNCTION:100 MA AT 1V 100PIV SEMICON DEVICE:DIODE JUNCTION DIGDE JUNCTION:100 MA AT 1V 100PIV	
	Alocr6 Alucr6 Alocr7 Alccr7 Alccr8	1901-0025 1901-0025 1901-0025 1901-0025 1901-0025	SEMICON DEVICE:DIODE JUNCTION DIODE JUNCTION:100 MA AT IV 100PIV SEMICON DEVICE:DIODE JUNCTION DIODE JUNCTION:100 MA AT IV 100PIV SEMICON DEVICE:DIODE JUNCTION	
· : · .	AIUCRB AIUCR9 AIUCR10 AIUCR11 AIUCR12	1961-0025 1910-0016 1910-0016 1910-0016 1910-0016	DIODE JUNCTION:100 MA AT IV 100PIV SEMICON DEVICE:DIODE SERMANIUM SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM SEMICON DEVICE:DIODE GERMANIUM	
	A10CR13	1910-0016	SEMICON DEVICE DIODE GERMANIUM	
	A10D51 A10052 A10D53 A10054 A10055		NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NSRIPART OF READOUT BLOCK ASSY NCT ASSIGNEL	
	A10056	1970-0009	ELECTRON TLEE INDICATOR 10 DIGIT	
	A1001 A1002 A1003 A1004 A1005	1850-0062 1850-0062 1850-0062 1850-0062 1850-0062	TRANSISTUR IGERMANIUM TRANSISTOR IGERMANIUM TRANSISTOR IGERMANIUM TRANSISTUR IGERMANIUM TRANSISTOR IGERMANIUM	
	A1006	1850-0062	TRANSISTURICERMANIUM	ļ
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= See list of abbreviations in introduction to this section

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Section V Table 5–11

Model 5245L

Reference, Designation	🕸 Stock No.	Description #	Note
A1007	1850-0062	TRANSISTORIÇERMANIUM	
A1008	1650+0062	TPANSISTON CERMANIUM	1_{2}
Aluri Aluri Aluri Thrui	0666-4735	RIFXD COMP 47K OHM 5% 1/2W NSRIPART UF READOUT BLOCK ASSY	
Alor5 Alor6 Alor7	0663-3945 0663-3945	NUT ASSIGNED RIFXD COMP 290K DHMS 52 1/4# RIFXD CUMP 390K OHMS 53 1/4W	
AIORB AIOR9 AIJRIO AIJRIO	0683-3945 0663-3945 0663-5635 0663-5635 0663-5635	RIFXU CUMP 390K DHMS 5% 1/4W RIFXU COMP 390K DHMS 5% 1/4W RIFXU COMP 56K DHMS 5% 1/4W RIFXU COMP 56K DHMS 5% 1/4W	t .
Aluri2	0683-5635/	RIFXD COMP 56K OHMS 5% 1/4%	
A10R13 A10R14 A10R15 A10R16	0683-5635 0683-5635 0683-5635 0683-5635	RIFXU COMP 56K OHMS 5% 1/4W RIFXU COMP 56K CHMS 5% 1/4W RIFXU COMP 56K OHMS 5% 1/4W RIFXU COMP 56K OHMS 5% 1/4W	
AIOR17	0683-5635	RIFXD COMP 56K CHMS 5% 1/4W	
A10R18 A10R19 A10R20 A10R20	0682-7525 0683-4335 0683-1035 0683-1045	RIFXD COMP 7500 OHM 5% 1/2% RIFXD COMP 43K OHM 5% 1/4% RIFXD COMP. 10K CHMS 5% 1/4% RIFXD COMP. 100K OHM 5% 1/4%	
A10R22	0683-4735	RIFXD COMP 47K OHMS 5% 1/4%	
A10R23 A10R24 A10R25 A10R26	0683-3925 0683-1815 0663-3925 0666-7525	RIFXU COMP 3900 OHMS 5% 1/4% RIFXU COMP 180 OHM 5% 1/4% RIFXU COMP 3900 OHMS 5% 1/4% RIFXU COMP 7500 OHM 5% 1/2%	
10R27	0683-4335	RIFXD COMP 43K OHM 5# 1/4%	1 ¹
10R28	0683-1035 0686-7525	RIFXD COMP 10K 0HMS 5% 1/4% RIFXD COMP 7500 0HM 5% 1/2%	1
A 10R30 A 10R31 A 10R32	0683-4335 0683-8225 0683-1045	RIFXD COMP 43K OHM 5% 1/4% RIFXD COMP 2200 OHMS 5% 1/4% RIFXD COMP 100K OHM 5% 1/4%	
10R33	0683-4735	RIFXD COMP 47K OHMS 5% 1/4W	
10R34	0683-3925 9683-1815	RIFXD COMP 3900 OHMS 5% 1/4W RIFXD COMP 180 OHM 5% 1/4W	
10R36 10R37	0683-3925 0686-7525	RIFXD COMP 3900 GHMS 5% 1/4# RIFXD COMP 7500 OHM 5% 1/2#	
10R38	0683-4335	RIFXD COMP 43K OHM 5% 1/4W	
10R39	0683-1035 0686-7525	RIFXU COMP 10K OHMS 5% 1/4% RIFXD COMP 7500 OHM 5% 1/2%	
10R41 10R42	0683-4335 0683-1035	RIFXD COMP 43K OHM 5% 1/4% RIFXD COMP 10K OHMS 5% 1/4%	
10R43	0683-1045	RIFXD COMP 100K OHM 5% 1/4#	
IOR44	0683-4735 0683-3925	R#FXU COMP 47K OHMS 58 1/48 R#FXD COMP 3900 OHMS 5% 1/48	
10R46 10R47	0683-1815 0683-3925	RIFXU COMP 180 OHM 5x 1/4w RIFXU COMP 3900 OHMS 5x 1/4w	
10R48 10R49	0686+-7525 0683+4335	RIFXU COMP 7500 OHM 5% 1/2# RIFXU COMP 43% OHM 5% 1/4W	
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= See list of abbreviations in introduction to this section

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Table 5-11. Reference Designation Index (A10-A14 DCA +1224) Cont'd.

Reference Designation	👳 Stock No.	Description #	Note
A10R50 A10R51	0663-8225 0683-6835	RIFXU COMP 2200 OHMS 5% 174W RIFXD COMP 68K OHM 5% 174W	,
A10R52 A10R53 A10R54	0686-7525 0683-4335 0683-1035	RIFXU COMP 7500 OHM 5% 1/2% RIFXU COMF 43K CHM 5% 1/4% RIFXU COMP 10K CHMS 5% 1/4%	
A10R55 A10R56 A10R57 A10R57 A10R58 A10R59	0683-1045 0686 4735 0683-3925 0683-1815 0683-3925	RIFXD COMP 100K OHM 5% 1744 RIFXD COMP 47K OHM 5% 1728 RIFXD COMP 3900 OHMS 5% 174% RIFXD COMP 180 OHM 5% 174% RIFXD COMP 180 OHM 5% 174%	
A10R60 A10R61 A10R62	0686-7525 () 0683-4335 0683-1035	R:FXU COMP 7500 OHM 5% 1/2% F:FXU COMP 43K OHM 5% 1/4% R:FXU COMP 10K OHMS 5% 1/4%	
AJOVI		NSRIPART OF READOUT BLOCK ASSY	
A11 + A12 A13 A14		SAME AS ALU: USE PRFIX ALL SAME AS ALC: USE PRFIX ALZ SAME AS ALL: USE PRFIX AL3 SAME AS ALC: USE PRFFIX A 14	
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Table 5-12,	Reference	Designation	Index (A15,	A16 O	ptions 002 & 003)
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Reference Designation	🕀 Stock No.	Description	#	Note
			1	
с. с. н				
15-A16	05232-6002	ASSY:DECIMAL COUNTER +1248	· · · · · · · · · · · · · · · · · · ·	
т. т. 1	05232-6003	ASSYIDECIMAL COUNTER -1248		
	05212-5014	READOUT BLOCK ASSY		
1 :	0140-0203	CIFXD MICA 30PF 5% 500VDCW		
2	0160-0178	CIFXD MICA 27PF 5% 300VDCW	,	
3	0140-0191	CIFXD MICA 56 PF 5% 300 VDCW		
; ц	0150-0023	C:FXD CER 2000 PF 20% 1000VDCW	· · · ·	
5 1 1	0140-0203	CIFXD MICA 30PF 5% 500VDCW		
. •	•			
.6	0160-0179	CIFXD MICA 33PF 5% 300VDCW	Ì	
.7	0160-0178	CIFXD MICA 27PF 5% 300VDCW		
8	0150-0023	CIFXD CER 2000 PF 20% 1000\DCW		
9	0150-0196	CIFXD MICA 24PF 5% 300VDCW		
10 '	0140-0145	CIFXD MICA 22 PF 5% 500 VDCW		
	A b b b b b b b b b b			
11	0140-0214	CIFXD MICA COPF 5% 300VDCW		
12	0140-0214	CIFXD MICA COPF 5% 300VDCW		
13	0140-0204	CIFXD MICA 47PF 5% NPO 500VDCW		
14	0140-0214	CIFXO MICA 60PF 5% 300VDCW		
15	0140-0219	CIFXD MICA 180 PF 2% 300VDCW		
61 ·	1001-0025	SEMICON DEVICE DIODE JUNCTION		
R2	1901-0025		ł	
R2 R3	1901-0025	SEMICON DEVICE DIODE JUNCTION		1
R4	1901-0025	SEMICON DEVICE DIODE JUNCTION SEMICON DEVICE DIODE JUNCTION		
R5	1901-0025	SEMICON DEVICE DIODE JUNCTION	· · · · ·	
	- FUA-UVEJ	C	· · · · · ·	,
R6	1901-0025	SEMICON DEVICE DIODE JUNCTION		
.R7	1901-0025	SEMICON DEVICE DIODE JUNCTION		
Re	1901-0025	SEMICON DEVICE DIODE JUNCTION	· · · · · ·	
R9	1901-0040	SEMICON DEVICE DIODE SILICON		
RIO	1901-0040	SEMICON DEVICE DIODE SILICON		
R11 - 1	1901-0040	SENICON DEVICE DIODE SILICON	1	
R12) (1901-0040	SEMICON DEVICE:DIODE SILICON.		
R13	1901-0040	SEMICON DEVICE + DIODE .SILICON		
R14	1901-0040	SEMICON DEVICE DIODE SILICON	ł	
R15 '	1901-0040	SEMICON DEVICE DIODE SILICON	14 · · · ·	
	•		$-\alpha_{0}$	
R16	1901-0040	SEMICON DEVICE DIODE SILICON	$1 - \sum_{i=1}^{n} (i - i)$	
R17 '	1901-0040	SEMICON DEVICE +DIODE SILICON	· · · · · · · · · · · · · · · · · · ·	
RIB	1901-0040	SEMICON DEVICE DIODE SILICON	· · · · · · · · · · · · · · · · · · ·	
R19	1901-0040	SEMICON DEVICE +DIODE SILICON		
R20 .	1901-0040	SEMICON DEVICE +DIODE SILICON	х.	
			1 · · · · · · · · · · · · · · · · · · ·	
R21	1901-0040	SEMICON DEVICE DIODE SILICON	' <u>I</u>	
R22	1901-0040	SEMICON DEVICE : DIODE SILICON	ľ	
R23	1901-0040	SEMICON DEVICE DIOL. SILICON		
R24	1901-0040	SEMICON DEVICE DIODE SILICON		
R25 .	1901-0040	SEMICON DEVICE DIODE SILICON		
R26	1901-0040	SEMICON DEVICE DIODE SILICON		
51		NSR PART OF READOUT BLOCK ASSY	:	
52	•	NSR PART OF READOUT BLOCK ASSY		
53		NSR PART OF READOUT BLOCK ASSY		
54		NSR PART OF READOUT BLOCK ASSY		
S5 🔄		NOT ASSIGNED		
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Reference Designation © Stock No. Description # Note 056 1970-0009 ELECTROM TUBE INDICATOR 10 DIGIT Inside the second sec		E BE SE ANDRES	5-12. Reference Designation Index (A15, A16 Options 002 & 003) C	/0112 01
01 1853-0009 TRANSISTORISLICON PNP 02 1853-0009 TRANSISTORISLICON PNP 03 1853-0009 TRANSISTORISLICON PNP 04 1853-0009 TRANSISTORISLICON PNP 05 1853-0009 TRANSISTORISLICON PNP 06 1853-0009 TRANSISTORISLICON PNP 07 1833-0009 TRANSISTORISLICON PNP 08 1833-0009 TRANSISTORISLICON PNP 08 1835-0009 TRANSISTORISLICON PNP 1833-0009 TRANSISTORISLICON PNP 183 068-0735 RIFZO COMP 47K OMH'SS 1/28 068 0632-3945 RIFZO COMP 300K OMHS 58 1/48 R1 06632-3945 RIFZO COMP 300K OMHS 58 1/48 R1 0632-5035 RIFZO COMP 300K OMHS 58 1/48 R1 0632-5035 RIFZO COMP 50K OMHS 58 1/48		🕏 Stock No.	Description #	Note
01 1853-0009 TRANSISTORISLICON PNP 02 1853-0009 TRANSISTORISLICON PNP 03 1853-0009 TRANSISTORISLICON PNP 04 1853-0009 TRANSISTORISLICON PNP 05 1853-0009 TRANSISTORISLICON PNP 06 1853-0009 TRANSISTORISLICON PNP 07 1833-0009 TRANSISTORISLICON PNP 08 1833-0009 TRANSISTORISLICON PNP 08 1835-0009 TRANSISTORISLICON PNP 1833-0009 TRANSISTORISLICON PNP 183 068-0735 RIFZO COMP 47K OMH'SS 1/28 068 0632-3945 RIFZO COMP 300K OMHS 58 1/48 R1 06632-3945 RIFZO COMP 300K OMHS 58 1/48 R1 0632-5035 RIFZO COMP 300K OMHS 58 1/48 R1 0632-5035 RIFZO COMP 50K OMHS 58 1/48				
02 1853-0000 TRANSISTORISLICON PMP 03 1853-0000 TRANSISTORISLICON PMP 04 1853-0000 TRANSISTORISLICON PMP 05 1853-0000 TRANSISTORISLICON PMP 05 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 07 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 07 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 06 1853-0000 TRANSISTORISLICON PMP 10 0633-5945 RIFXD COMP 300K OHHS 58 1/4W R1 0633-5045 RIFXD COMP 300K OHHS 58 1/4W R1 0633-5635 RIFXD COMP 50K OHHS 58 1/4W R1 0633-5635 RIFXD COMP 50K OHHS 58 1/4W R1 0633-5635 RIFXD COMP 50K OHHS 58 1/4W R1 0643-5635 RIFXD COMP 50K OHHS 58 1/4W	D56	1970-0009	ELECTRON THEE INDICATOR 10 DIGIT	
23 1883-0009 TRANSISTORISTICON PNP 24 1883-0009 TRANSISTORISTICON PNP 25 1883-0009 TRANSISTORISTICON PNP 26 1883-0009 TRANSISTORISTICON PNP 27 1883-0009 TRANSISTORISTICON PNP 27 1883-0009 TRANSISTORISTICON PNP 28 1883-0009 TRANSISTORISTICON PNP 28 1883-0009 TRANSISTORISTICON PNP 28 0680-37945 RIFXD COMP 370 OH 5% 1/2% 29 THRU NOT ASSIGNED 20 0633-3945 RIFXD COMP 390K OHMS 5% 1/4% 20 0633-3945 RIFXD COMP 390K OHMS 5% 1/4% 20 0633-3945 RIFXD COMP 50K OHMS 5% 1/4% 210 0633-5945 RIFXD COMP 50K OHMS 5% 1/4% 211 0663-5035 RIFXD COMP 50K OHMS 5% 1/4% 212 0663-5035 RIFXD COMP 50K OHMS 5% 1/4% 213 0663-6355 RIFXD COMP 50K OHMS 5% 1/4% 214 0663-5035 RIFXD COMP 50K OHMS 5% 1/4% 215 06653-1235 RIFXD COMP 50K OHMS 5% 1/4% <	01	1853-0009	TRANSISTORISILICON PNP	
Cu 1853-0009 TRANSISTORISTICON PNP CS 1853-0009 TRANSISTORISTICON PNP C6 1853-0009 TRANSISTORISTICON PNP C7 1853-0009 TRANSISTORISTICON PNP R1 0686-0735 RIFXD COMP 47K OHM 5% 1/2W R2 THRU NOT ASSIGNED R3 THRU NOT ASSIGNED R6 0683-5945 RIFXD COMP 50K OHMS 5% 1/4W R6 0683-5945 RIFXD COMP 50K OHMS 5% 1/4W R7 0683-5945 RIFXD COMP 50K OHMS 5% 1/4W R11 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R12 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R12 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R12 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R13 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R14 0683-5635 RIFXD COMP 56K OHMS 5% 1/4W R15 0683-6135 RIFXD COMP 56K OHMS 5% 1/4W R14 0683-6135 RIFXD COMP 56K OHMS 5% 1/4W R15 0683-61235 RIFXD COMP 120 OHM 5% 1/4W				
G6 1853-0009 TRANSISTOR*SILICON PNP G7 1853-0009 TRANSISTOR*SILICON PNP G8 1853-0009 TRANSISTOR*SILICON PNP R1 0666-4735 RIFXD COMP 47X OHM 58 1/2W R2 THRU NSR.PART OF READOUT BLOCK ASSY R3 THRU NSR.PART OF READOUT BLOCK ASSY R6 0683-5945 RIFXD COMP 300K OHMS 58 1/4W R7 0685-5945 RIFXD COMP 300K OHMS 58 1/4W R6 0633-5945 RIFXD COMP 300K OHMS 58 1/4W R1 0683-5635 RIFXD COMP 56K OHMS 58 1/4W R10 0-35-6535 RIFXD COMP 56K OHMS 58 1/4W R11 0683-5635 RIFXD COMP 56K OHMS 58 1/4W R13 0683-5635 RIFXD COMP 56K OHMS 58 1/4W R14 0683-5635 RIFXD COMP 56K OHMS 58 1/4W R15 0683-51825 RIFXD COMP 56K OHMS 58 1/4W R14 0683-6125 RIFXD COMP 56K OHMS 58 1/4W R14 0683-6125 RIFXD COMP 56K OHMS 58 1/4W R14 0683-1235 RIFXD COMP 12M OHM 58 1/2W R15 0683-1235 <td>04</td> <td>1853-0009</td> <td></td> <td></td>	04	1853-0009		
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R36 C683-1235 RIFXD COMP' 12K OHN 5% 1/4W R37 O683-1825 RIFXD COMP' 1800 OHMS 5% 1/4W R38 O683-1825 RIFXD COMP 1800 OHMS 5% 1/4W R39 O758-0043 RIFXD HET FLM 1800 OHM 5% 1/2W R40 O683+1235 RIFXD COMP 12K OHM 5% 1/4W R41 O683-1635 RIFXD COMP 16K OHMS 5% 1/4W	R34 (14) (1	0683-1045	RIFXD COMP 100K OHM 5% 1/4W	
R38 0683-1823 R#FXD COMP 1800 OHMS 5% 1/4W R39 0758-0043 R#FXD MET FLM 1800 OHM 5% 1/2W R40 0683-1235 R#FXD COMP 12K OHM 5% 1/4W R41 0683-1635 R#FXD COMP 16K OHMS 5% 1/4W	R36	0683-1235	RIFXD COMP' 12K OHN 5% 1/4W	
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R41 0683-1635 RIFXD COMP 16K OHMS 5% 174W	R39	0758-0043	RIFXD HET FLM 1800 OHM 5% 1/2W	* • •
R42 0663-1015 RAFXD COMP. 100 OHH 5% 1/4W			RIFXD COMP 12K OHM 5% 174W RIFXD COMP 16K OHMS 5% 174W	
	R42	0653-1015		

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Section V Table 5-12

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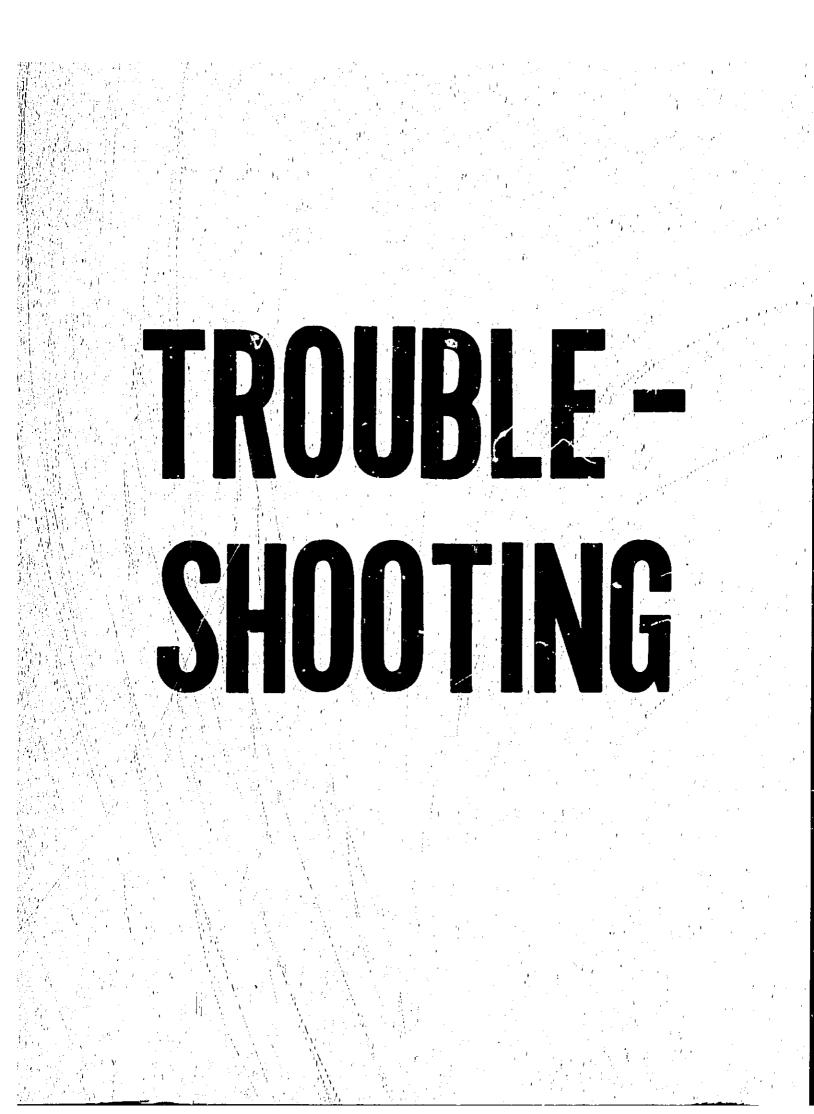
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4.1	Table 5-12.	'Reference	Designation	Index (A15,	A16 Optio	ns 002 &	003) Cont'd.
14	1 1		1			1997 - 19	

Reference		Description #	Note
R43 R44	0683-1045 0758-0043	RIFXD COMP 100K 0HM 5% 1/4W RIFXD HET FLM 1800 0HM 5% 1/2W	
R45 R46 R47	0683-1235 0683-1825 0683-1825	RIFXD COMP 12K OHM 5% 1/4W RIFXD COMP 1800 OHMS 5% 1/4W RIFXD COMP 1800 OHMS 5% 1/4W	
R48	0758-0043	RIFXD MET FLM 1800 OHM 5% 1/2W RIFXD COMP 12K OHM 5% 1/4W	
R50 R51 R52	C683-1515 C683-1335 C683-1015	REFXD COMP 150 OHM 5% 1/4W REFXD COMP 13K OHM 5% 1/4W REFXD COMP 100 OHM 5% 1/4W	1. A. I.
R53 R54 R55 R56	0683-1045 0683-1025 0758-0043 0683-1825	RIFXD COMP 100K OHM 5% 1/4W RIFXD COMP 1000 OHM 5% 1/4W RIFXD MET FLM 1800 OHM 5% 1/2W RIFXD COMP 1800 OHMS 5% 1/4W	
R57 R58	0683-3325	RIFXD COMP 3300 OHM 5% 1/4W RIFXD COMP 5100 OHM 5% 1/4W	
Vi	\mathbf{r}	NSR PART OF READOUT BLOCK ASSY	

Table	5-13.	Modular	Cabinet	Parts
		1110 II 0014A	A11 1 11 11	

- 1	Item No.	Description	Part Number
,	1	Frame Assembly	5060-0732
	2	Front Panel	05245-2017
	3	Rear. Panel	05245-0022
	4	Cover: Rear Side, perforated	5000-0738
	5	Covert Front Side, perforated	5000-0739
	6 .	Cover Assembly: Top Cover Assembly: Bottom	5243A-1C 5243A-1B
	8	Handle Assembly: Side Handle Assembly: Retainer	5060-0222 5060-0766
	10	Foot Assembly	5060-0767
	11	Stand: Tilt	1490-0030
	12	Plate: Fluted	5000-0051
	13	Kit: Rack Mounting	5243A-44A



SECTION VI

ADJUSTMENT AND TROUBLESHOOTING

6-1. INTRODUCTION.

6-2. This section provides maintenance, adjustments, and troubleshooting information for the Model 5245L Electronic Counter.

6-3. MAINTENANCE.

6-4: AIR FILTER. Inspect the air filter (center of rear panel) regularly and clean it before it becomes dirty enough to restrict air flow. Proceed as follows:

a. Remove top cover (unlock the two quarter turn fasteners and slide cover to the rear).

b. Remove four screws holding filter in place.

c. Wash filter in warm water and detergent.

d. Allow filter to dry completely.

e. DO NOT APPLY ANY COA'TING COMPOUND TO NON-METAL FILTERS. Coat metal filters with light film of filter oil. We recommend No. 3 Filter Coat from Research Products Company. This achesive is available in "Handi-Koter" sprayer cans at most heating supply stores or from your Hewlett-Packard Sales and Service Office.

6-5. FUSE REPLACEMENT. (Table 6-1, lists fuse rating and HP Part No. (for proper operation with either 115V or 230Vac.

Table 6-1. Fuse Replacement

Conversion	115 Volt	230 Volt
Slide switch	Left ("115")	Right (''230'')
AC LINE FU	JSE 2 ampere slow-blow (HP2110-0303)	1 ampere slow-blow (HP2110-0312)

6-6. FAN MOTOR. Two drops of light machine oil should be applied to the fan . wor shaft once a year.

6-7. TEST EQUIPMENT.

6-8. Recommended test equipment for adjustments and troubleshooting is listed in Table 6-2. Test instruments other than those listed may be used if their specifications are equal to or exceed the required characteristics.

6-9. ASSEMBLY CONNECTION IDENTIFICATION.

6-10. Throughout the manual, connections to primed circuit assemblies are referred to in abbre vated form. For example, the connection to pin 15 of assembly A6 is A6(15).

Table 6-2	Recommended	Test	Equipment
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'Instrument Type	Required Characteristics	Use	Instrument Recom,			
Oscilloscope	50 MHz bandwicth, dual trace plug- in, ext sync capability	Observe waveforms during troubleshoot- ing and adjustment. Performance Check.	HP Model 175A Oscilloscope HP Model 1750B Dual Trace Vertical Amul HP AC-21C Voltage Divider Probe (two) HP 15003 A 10:1 Probe			
Test Oscillator	Continuously variable from 10 Hz to 50 MHz, 100 mV output	Performance Check Adjustments Troubleshooting	HP Model 204B Oscillator HP Model 606A Test Oscillator			
Low Frequency Generator	Continuously variable from 2 Hz to 10 Hz, 100 mV output	Performance Check Troubleshooting	HP Model 202A Low Frequency Function Generator			
Pulse Generator	1 µsec wide, 1V negative, 1kHz repetition rate	Periormance Check Troubleshooting	HP Model 212A Pulse Generator			
DC Voltmeter	0V to ± 170V, 10 megohm input impedance, 1% accuracy	Troubleshooting Adjustments	HP Model 412A			
Digital to Analog Converter	1-2-2-4 BCD code	Performance Check Troubleshooting	HP Model 581A			
Strip-Chart Recorder		Performance Check Troubleshooting	Moseley 680			

Section VI

Paragraphs 6-11 to 6-18

6-11. INSTRUMENT COVER REMOVAL.

6-12. To remove top or bottom cover, unlock two quarter turn fasteners which secure cover to instrument. Then slide cover toward rear of instrument. To replace cover, reverse procedure.

WARNING

115/230 VAC AND DC SUPPLY WIRES ARE EXPOSED WHEN EITHER INSTRUMENT COVER IS REMOVED. EXERCISE CAUTION DURING TROUBLESHOOTING, ADJUST-MENT, OR REPAIR. REMOVE POWER FROM INSTRUMENT BEFORE REMOVING OR REPLACING COVERS OR ASSEMBLIES.

6-13. ASSEMBLY LOCATION.

6-14. Top and bottom internal views of the Counter are shown in Figures 6-5 and 6-6. These figures show the location of the assemblies, connectors, chassis parts and test points.

Table 6-3. Assembly Designations

A1	INPUT SWITCH ASSEMBLY (SENSITIVITY)
A2,	TIME BASE SWITCH ASSEMBLY
A3	FUNCTION SWITCH ASSEMBLY
A4	MODE SWITCH ASSEMBLY
A5	OUTPUT SWITCH ASSEMBLY
A6	RECTIFIER ASSEMBLY
A7	REGULATOR ASSEMBLY
A8	DECIMAL POINT ASSEMBLY
A9	MEASUREMENT UNITS ASSEMBLY
A10- A14	LOW FREQUENCY DECIMAL COUNTER
A15- A16	MEDIUM FREQUENCY DECIMAL COUNTER
A17	HIGH FREQUENCY DECIMAL COUNTER
A18	HIGH FREQUENCY READOUT
A19- A20	INPUT AMPLIFIER ASSEMBLIES
A21	FUNCTION CONTROL ASSEMBLY
A22	GATE CONTROL ASSEMBLY
A23	SAMPLING CONTROL ASSEMBLY
A24	CRYSTAL OVEN ASSEMBLY
A25	OVEN CONTROL ASSEMBLY
A26	OSCILLATOR ASSEMBLY
A27	MULTIPLIER ASSEMBLY
A28	MEDIUM FREQUENCY DECADE DIVIDER
A29- A34	LOW FREQUENCY DECADE DIVIDERS
A35	TIME BASE CONTROL ASSEMBLY

6-15. PRINTED CIRCUIT COMPONENT REPLACEMENT.

6-16. Component lead holes in the Model 5245L circuit boards have plated walls to ensure good electrical contact between conductors on the opposite sides of the board. To prevent damage to this plating and to the replacement component, apply heat sparingly and work carefully. The following replacement procedure is recommended.

a. ' Remove defective component,

b. Melt solder in component lead holes. Use clean dry soldering iron to remove excess solder. Clean holes with toothpick or wooden splinter. Do not use metal tool for cleaning as this may damage throughhole plating.

c. Bend lead of replacement component to the correct shape and insert component leads into component lead holes. Using heat and solder sparingly, solder leads in place. Heat may be applied to either side of board. A heat sink (longnose pliers, commercial heat-sink tweezers, etc) should be used when replacing transistors and diodes in order to prevent conduction of excessive heat from the soldering iron to the component.

d. Through-hole plating breaks are indicated by the separation from the board of the round conductor pad on either side of the board. To repair breaks, press conductor pads against board and solder replacement component lead to conductor pad on both sides of the board.

6-17. ADJUSTMENTS.

6-18. REGULATOR ASSEMBLY A7.

CAUTION

When troubleshooting or adjusting the power supply, do not short supplies to ground or to each other. This will damage the diodes and transistors.

a. Set line voltage to normal value (115 or 230 Vac).

b. Connect dc voltmeter (Table 6-2) to buss wire between A16(11) and A18(6).

c. Voltmeter should read +20 Vdc ± 0.5 Vdc. If voltage is outside this range, adjust A7R17 (Figure 7-7).

d. Vary line voltage from 103 to 127 Vac (207 to 255 Vac). The +20 Vdc supply should not vary more than 0.5 Vdc.

e. Check all supply voltages at locations, and under conditions shown in Table 6-4.

Note

Input sensitivity levels must be rechecked if power supply voltages are readjusted.

Table 6-4. Power Supply Voltages

	Line Volta	Adjustment			
103	115	127			
-117	-138	-149	None		
+157	+179	+190	None		
-15.0	-15, 0	-15.0	R5		
'+13.0	+13,0	+13.0	R12		
+20.0	+20.0	+20.0	R17		
-0,83	-0.82	-0.81	1 4		
+9.4	+9,5	i+9.6	*		
	103 -117 +157 -15.0 '+13.0 +20.0 -0.83	103 115 -117 -138 +157 +179 -15.0 -15.0 '+13.0 +13.0 +20.0 +20.0 -0.83 -0.82	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		

6-19, INPUT AMPLIFIER A19,

6-20. The following procedure sets the output level and checks the gain, frequency response, and sensitivity of the input amplifier,

a. Turn counter on and set LEVEL to PRESET; SENSITIVITY to . 1V.

b. With no input connected, measure the output dc voltage at A19(6).

¹c. Adjust dc voltage with A19R20 to +6.3V \pm .2V.

d. Connect output of Test Oscillator to Counter DC INPUT connector with 50-ohm termination at Counter.

e. Set Test Oscillator output to 50 kHz at 100 mV rms.

f. Check output at A19(6) with Oscilloscope; output should be 1.5V p-p minimum.

g. Increase output of Test Oscillator to 3V rms. The output at A19(6) is a symmetrically clipped waveform approximately 2V p-p.

h. Set SENSITIVITY to . 1V, TIME BASE to 10 ms, and FUNCTION to FREQUENCY.

i. Set Test Oscillator output to 50 MHz at 100 mV rms.

j. Adjust A19R20 until correct count appears. Reduce input signal amplitude and readjust A19R20 for maximum sensitivity.

6-21. RATIO INPUT AMPLIFIER A20.

- 7

6-22. Repeat steps a through g in Paragraph 6-20. Change A19(6) to A20(6).

a. Set SIGNAL INPUT SENSITIVITY to 1V range, TIME BASE to EXT., and FUNCTION to 1 PERIOD AVERAGE. Set OUTPUT STANDARD FREQUENCY (rear panel) to 100 Hz. Connect a coaxial cable from OUTPUT STANDARD FREQUENCY (rear panel) to AC SIGNAL INPUT (front panel). b. Connect output of Test Oscillator 50 MHz at 100 mV to Counter EXT. TIME BASE through 50-ohm termination.

c. AdjustA20R20 until correct count appears. Reduce input signal amplitude and readjust A20R20 for maximum sensitivity.

6-23, FUNCTION CONTROL A21,

a. Set TIME BASE to $.1 \ \mu$ s and FUNCTION to 1 PERIOD AVERAGE.

b. Set Test Oscillator to 1 MHz at 100 mV and connect to the Counter AC SIGNAL INPUT connector.

c. Observe correct count on counter. Reduce the Test Oscillator output and adjust A21R31 for maximum sensitivity.

Note

Do not change the setting of the output level control A19R20.

6-24. OSCILLATOR FREQUENCY CHECK.

6-25. TIME-BASE OSCILLATOR FREQUENCY.

6-26. GENERAL. The frequency accuracy of the oscillator may be determined by observing the rate of drift of the oscilloscope pattern (Figure 6-1). If the pattern moves to the right, counter oscillator frequency is lower than the standard frequency being used to trigger the oscilloscope. If the pattern moves to the left, oscillator frequency is high. The reciprocal of the time in seconds for the oscilloscope pattern to move the width of one cycle equals the frequency difference in parts in 10^6 with 1 MHz inputs (or parts in 10⁵ with 100 kHz inputs). For example, if the oscilloscope pattern drifts to the left a rate of one cycle's width every 10 seconds with 1 MHz inputs, the oscillator frequency is 1 part in 10^7 high. If the pattern moves the width of one cycle in 100 seconds, frequency error is 1 part in 10^9 with 10 MHz inputs. If the pattern moves the width of one cycle in 10 seconds with a 10 MHz input, the frequency error is 1 part in 10⁸. Movement of the pattern may be accurately checked using an oscilloscope with calibrated sweeps by timing the movement of the point at which the oscilloscope trace crosses the base line when horizontal sweep is expanded and vertical gain is increased,

6-27. To check oscillator frequency, proceed as follows:

a. Connect oscilloscope to OUTPUT STD FREQ BNC and set MODE switch to INT STD FREQ.

b. Trigger oscilloscope externally with a 1 MHz signal from a standard frequency source.

c. Set oscilloscope sweep time to $.1 \mu$ s/cm. Adjust oscilloscope controls to obtain a presentation of a 5V peak-to-peak nonsinusoidal waveform.

d. Horizontal drift of oscilloscope display in cm/sec is difference between standard frequency and counter time-base frequency in parts in 107. Section VI Paragraphs 6-28 to 6-38 Model 5245L

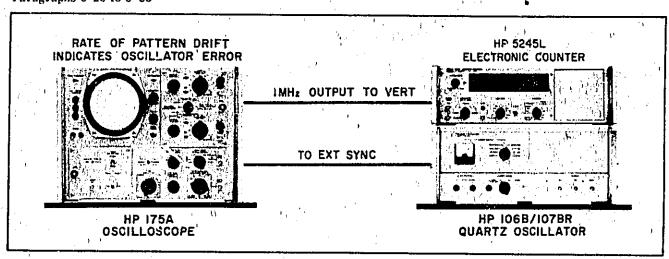


Figure 6-1. Test Setups for Checking Oscillator Frequency

e. Determine frequency difference in parts in 10^7 and record.

f. If frequency difference is excessive for the desired application of counter, see Paragraph 4-11 fc.³ time-base oscillator frequency adjustment procedure.

g. Note and record environmental temperature,

h. Repeat above steps a through g at daily intervals. Change in frequency difference between standard frequency and time-base oscillator frequency per day is frequency drift of time-base oscillator. Drift should not exceed ± 3 parts in 10^9 per day under reasonably constant environmental conditions (see Table 1-1).

6-28. OSCILLATOR CALIBRATION.

a. Connect 100 kHz output of Quartz Oscillator to EXT SYNC input on Oscilloscope.

b. Connect 1 MHz signal from OUTPUT STD FREQ BNC on rear panel of the 5245L to VERT INPUT on Oscilloscope.

c. Adjust COARSE FREQUENCY capacitor from rear panel until pattern on the oscilloscope stops drifting.

d. If necessary adjust MED or FINE FREQ ADJ (at rear of plug-in compartment) until average drift of oscilloscope pattern is zero.

6-29. TROUBLESHOOTING.

6-4

6-30. TROUBLESHOOTING AIDS.

6-31. OPERATING MANUAL. The Operating Manual provided with the HP 5245L provides general information about the instrument and its capabilities. Refer to the Operating Manual for specifications, installations, step-by-step operating procedures, and a quick operator's check of instrument operation.

6-32. PRINCIPLES OF OPERATION. Section II provides valuable information on how the instrument and its circuits function.

6-33. SCHEMATIC DIAGRAMS. Schematic diagrams, and a block diagram are provided in Section VII.

6-34. COMPONENT LOCATION. Photographs a reprovided with the schematic diagrams to aid in locating components on switches or circuit boards.

6-35. TROUBLESHOOTING "TREE". A step-by-step troubleshooting procedure is provided on pages 6-11 through 6-14. This procedure is based on the self check feature of the instrument and makes maximum use of front panel controls and indicators.

6-36. SELF CHECK TABLES. Table 6-8 provides 33 unique combinations of Go-No-Go situations possible in the Self Check function. Circuit elements to be checked are indicated for each combination. Table 6-6 lists assemblies checked in Self Check functions.

6-37. TROUBLESHOOTING PROCEDURE.

6-38. MALFUNCTION AT TURN ON. If counter fails to turn on (no display, decimal point, or measurement units) make the following checks;

a. Line voltage switch set for power source.

b. Power cord plugged into counter and power source.

c. Line fuse good.

d. Ac power available at source.

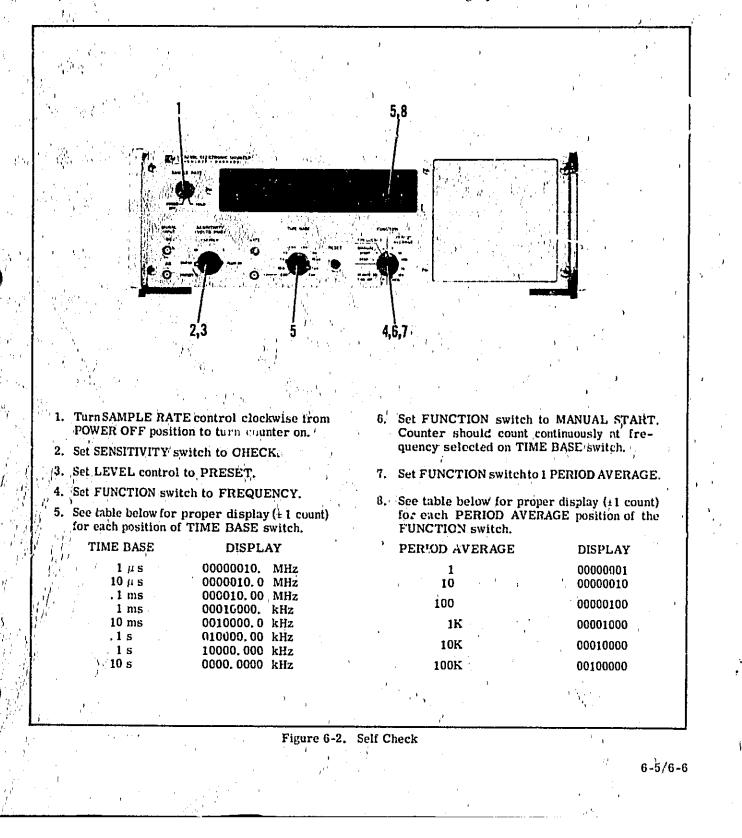
e. Power supply (A6, A7, T2, L1, L2, C5).

Section VI Paragraphs 6-39 to 6-42

6-39. MALFUNCTION DURING SELF CHECK. If counter malfunctions in some, but not all, check functions, see Table 6-8 for probable cause. If counter will not self-check for any function, see Troubleshooting "Tree", Table 6-7.

6-40. MALFUNCTION DURING OPERATION. If the counter will turn on, but malfunctions when operation is attempted, switch to Self Check for the function and time base desired. If counter will Self Check but will not function with an external signal, check setting of SENSITIVITY and LEVEL controls, input signal level, and connections to counter. 6-41. If counter will function in FREQUENCY mode but not in PERIOD (below 1 MHz) check control gate 5 (A21CR5, CR11). If counter will function in PERIOD but not in FREQUENCY, check control gate 2 (A21CR3, CR9). If counter malfunctions in both PERIOD and FREQUENCY, but self checks in both functions, check input attenuator and input amplifier.

6-42. If counter malfunctions when operation is attempted and fails to self-check in the function d_{2-} sired see Paragraph 6-39.



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Section VI Tables 6-5 and 6-6 ١

Table 6-5. Period Average Checks With External Signal

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TIME BASE		<u> </u>	E	····	E	<u>+</u>
SWITCH	1	' 10	100	ļK	10K	100K
10 <u>s</u>	• 2.2	*	· · · · · · · · · · · · · · · · · · ·	* ji	¥. ♦	
1 s	100000000, sec	0000000,0 sec	• ا	•	· · · · ·	•
.1 s	0000000,0 sec	000000,00 sec	00000000, ms	*	• .	• . 1
10 ms	000000,00 sec	00000000. ms	0000000, 0 ms	000000, CCams	. •	•
1 ms	00000000, ms	0000000, 0 ms	000000,00 ms	00000003, ms	0000003.3 μs	*
.1 ms	0000000,0 ms	000000,00 ms	00000003.μs	0000003.3 μs	000003,33 µs	00003, 333 #
10 [`] µs	$000000,00 \mathrm{ms}$	0000003. µs	0000003.3 µs	000003.33 $\mu m s$	00003,333 µs	0003, 3333 /4
1 μs	00000003, µs	0000003.3 µs	000003.33 μs	00003.333 µs	0003.3333 μs	003, 33333 μ
1 µs	0000003,2 µs	000003.33 μs	00033.333 µs	0003, 3333 μs	003, 33333 µs	03, 333333 /1

Table 6'-6, Assembly Check

		TIME			ASSEMBLIES CHECKED								GATES								
'	FUNCTION	BASE	DISPLAYS	2	3	10	11	12	13	14	15	16	27	28	29	30	31	32	33	34	CHECKED
. N	.)	1 μs	00000010. Me	x				,			,	x	,x		1						3, 6, 28
		10 µs	0000010. 0 Me	x							х	x	x	x					ŀ.		3, 6, 27
	$(\mathbf{r}_{1},\mathbf{r}_{2})$.1 ms -	000010, 00 Me	x						X	\mathbf{x}	x	x	x	х			ļ	'		3, 6, 26
+		1 ms'	0001,0009. ke	*	b	ľ.,		. '	x	x	x	x	x	х	Į X	x)			3, 6, 25
•,	Frequency	10 hs `	0010000, 0 kc	x	Ì			x	х		$ \mathbf{x}_{j} $	x	x	x	х	х	x				3, 6, 24
		.15	010000.00 kc	x			x	x	x	x	х,	x	x	x	x	×	. X a	x			3, 6, 23
`		1 ¹ 5	10000, 000 kc	x		, - ,	x	x	х	x	X	x	x	x	х	х	ΪX.	x	x		3, 6, 22
20	, ,	10 s	0000, 0000'kc	X		· X	X	x	x	, x	х	. X	x	x	х	x	x	X	x	x	3, 6, 21
<u>ب</u> د ر		; ; 1	00000001		x									x	x						12, 27
		10	00000010	1	X	•					1	x		x	x	x)	i.	,		11, 13, 27
,	Period	100	00000100		x						х	x		x	x	x	x				10, 13, 27
1	Average	1K	00001000		x		u	,	,	x)	x '	\mathbf{x}_{i}		x	x	x	\mathbf{x}	x			9, 13, 27
	ι ι	19K	, 00010000		x	'			x	x	x	x		x	X	x	X	x	x		8, 13, 27
		100K	00100000		x		i.	x	x	x	x	×,		x	x	x	, X	X	·x	x	7, 13, 27
		/ Trit	following asser	nbl	ies	are	ché	ecke	d ir	ı all	pos	itio	ns ü	sed	in t	he S	Self-	-Ch	eck	Tab	let
, '))	·, ·	6, 7, 17, 18, 7	'n	22;	23	24	, 2;) 5, 2) 6, a	nd 3	5.	,		1			÷			
55	· .,	Ass	emblies 8 and 9					,		;			elf-C	Chéc	ks.	, Ц					, ,
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,		1.06	SENSITIVITY S	w1	cn	(A1)	15	in t	ne c	neci	s po	SILI	on fo	or a	n ş	911 (Che	CK	tunc	tion	S.
1		Ass	semblies 4, 3, 1	9,	20,	are	e no	t ch	eck	ęd iı	n Se	lf C	heck	t fur	icti	uns.		, ,			, , , , , , , , , , , , , , , , , , ,

Assembly A26 is checked for operation, but not for accuracy or stability.

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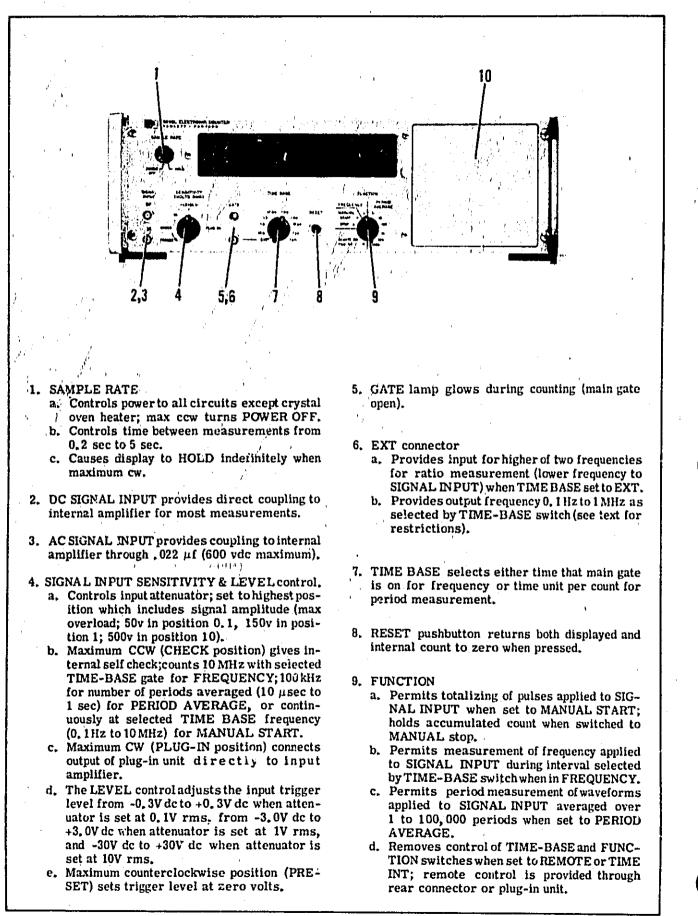
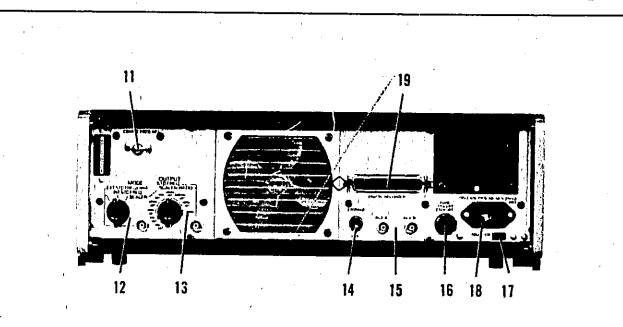


Figure 6-3. Operating Controls (Front Panel)

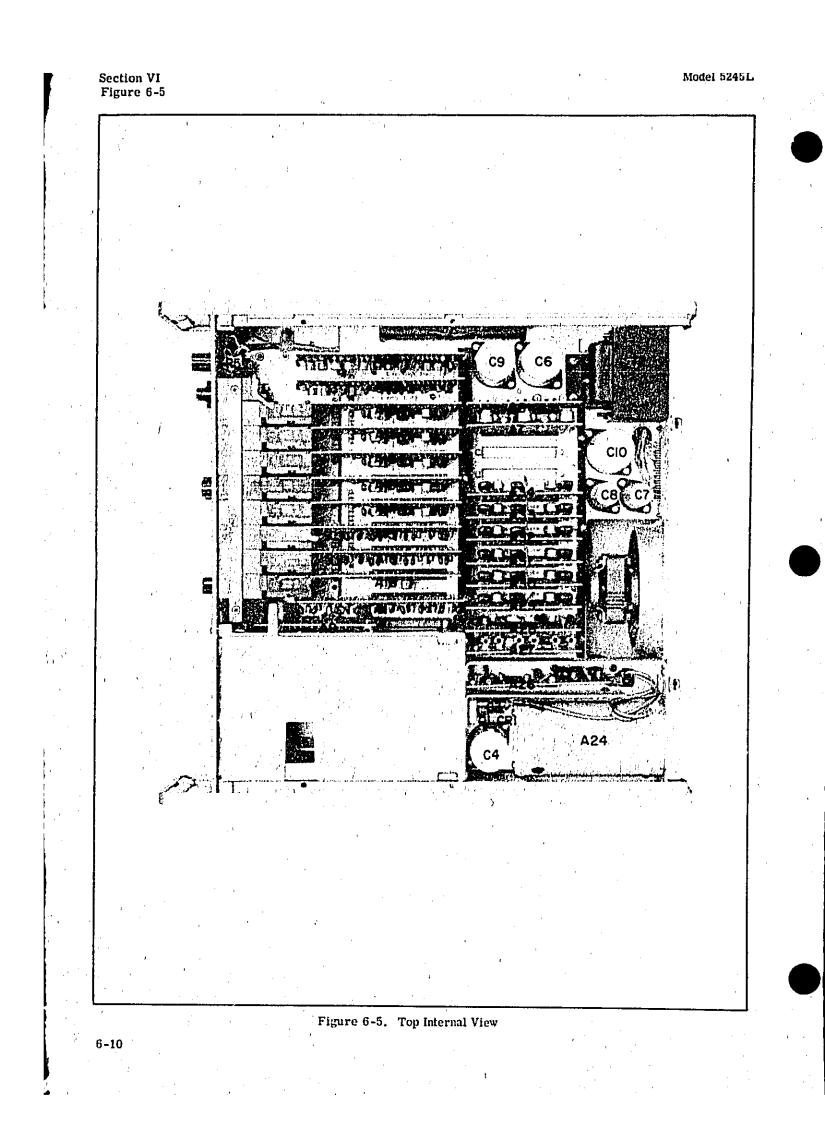


- 10. Plug-in compartment
 - a. Receives plug-in unit to extend basic counter capabilities. To install plug-in (1) turn power off, (2) loosen knurled screw at side of compartment, (3) remove blank panel or plug-in unit, (4) slide desired plug-in unit into place and tighten knurled screw.
 - b. Permits access to fine and medium frequency controls through panel at rear of compartment; FINE FREQ ADJ has range of about 5×10^{-8} ; MED FREQ ADJ has range of about 1×10^{-6} .
- 11. COARSE FREQ ADJ permits adjustment of oscillator over a range of about 1 x 10⁻⁵.
- 12. MODE
 - a. Permits use of external 1-Mc frequency standard for time-base control when set to EXT STD FREQ (1 MHz).
 - b. Permits normal operation of counter using internal oscillator when set to INT STD FREQ.
 - c. Permits scaling of input signal by factors of 10 when set to SCALER.
- 13. OUTPUT
 - a. Supplies selected frequency when MODE is set to INT STD FREQ (see text for restrictions).
 - b. Supplies scaled input frequency when MODE is set to SCALER.

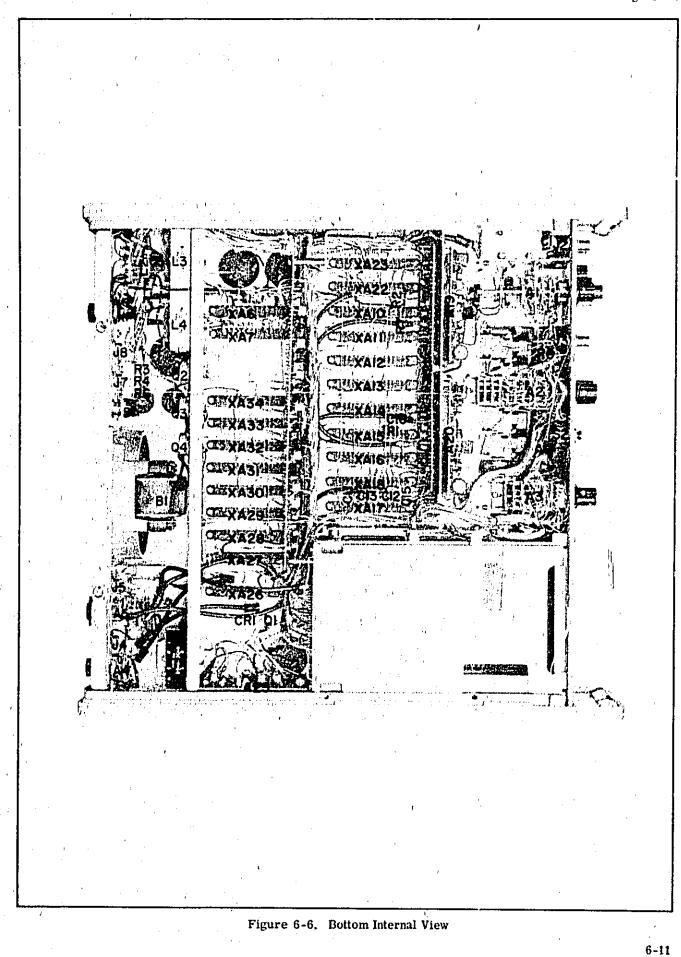
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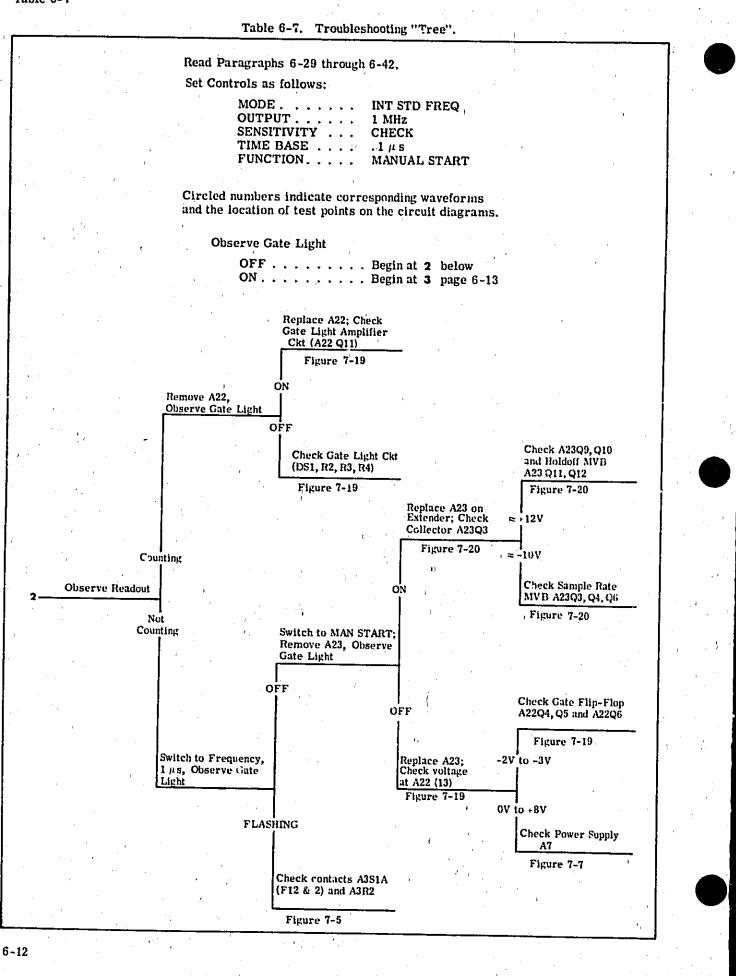
- 14. STORAGE switch provides display storage when up; continuous display of internal count when OFF (down).
- 15. AUX A/AUX B (TIME INTERVAL TRIGGER OUT - START/STOP). Auxiliary plug-in outputs. See appropriate plug-in manual.
- Fuse provides overload protection; should be 2 ampere slow-blow for 115-volt operation; 1 ampere slow-blow for 230-volt operation.
- 17. Line-voltage switch permits selection of either 115- or 230-vac line; insert narrow blade and slide to left for 115 v, slide to right for 230v.
- 18. AC LINE connector connects to flat plug on power cable.
- 19. DIGITAL RECORDER connector supplies BCD information to recorder, analog converter, or data processing equipment.

Figure 6-4. Operating Controls (Rear Panel)

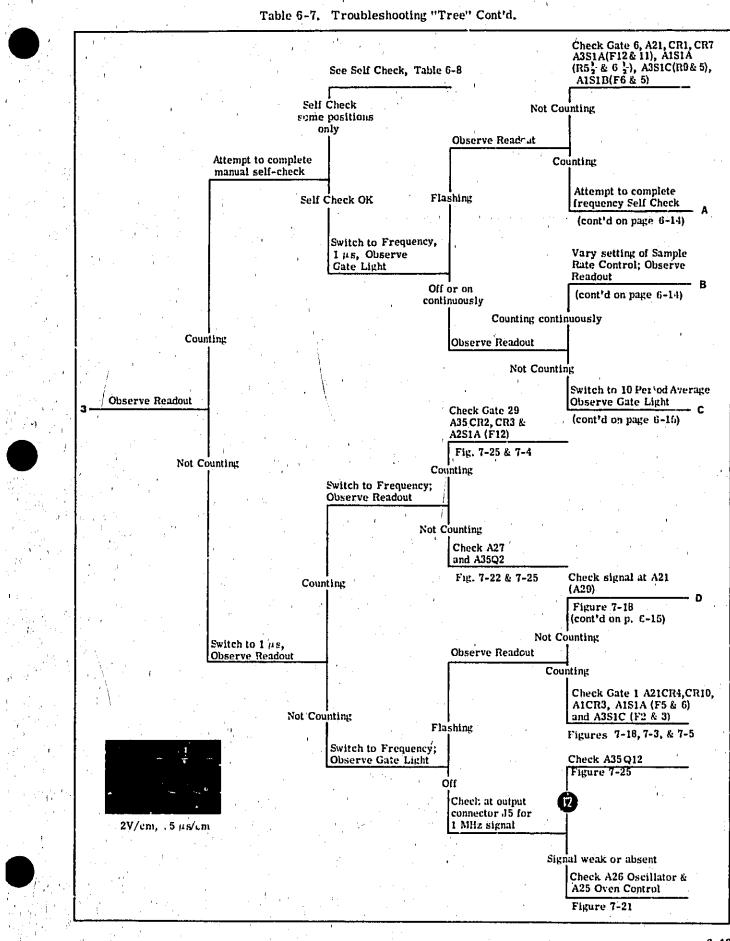


Section VI Figure 6-6



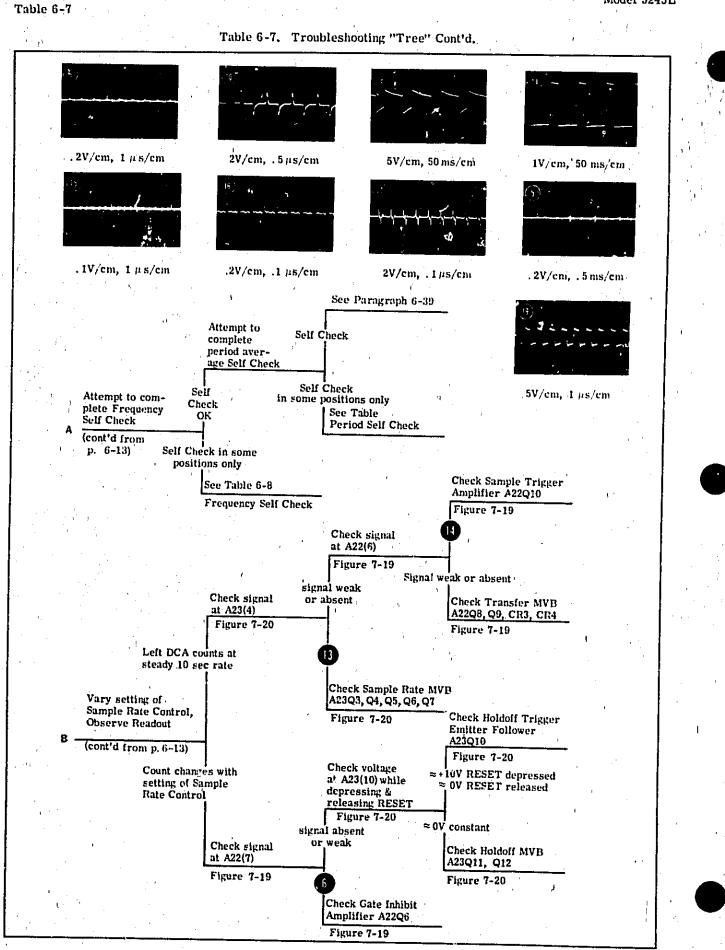


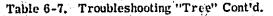
Section VI Table 6-7

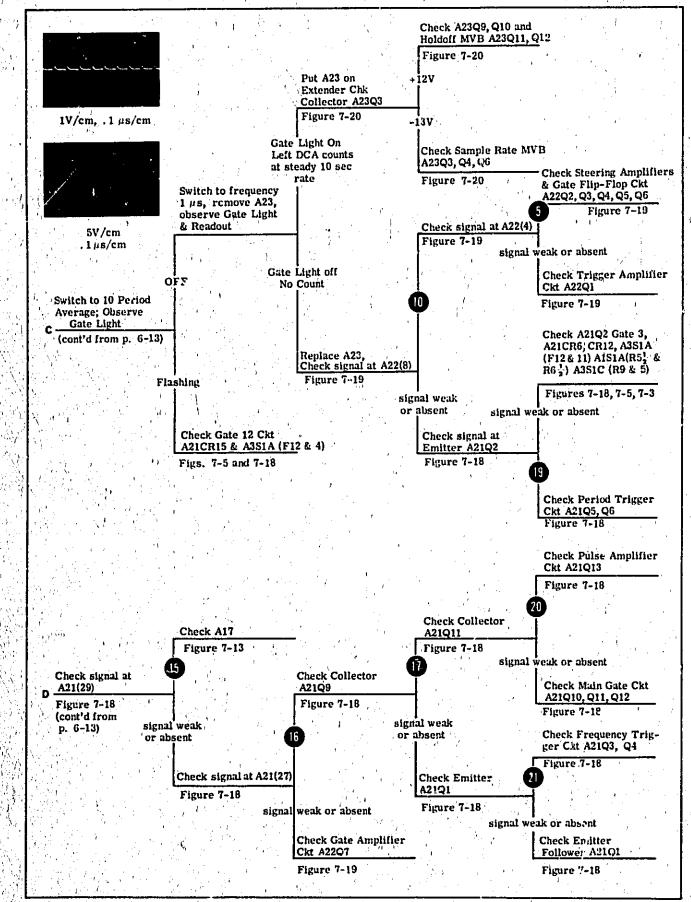


Section VI

Model 5245L







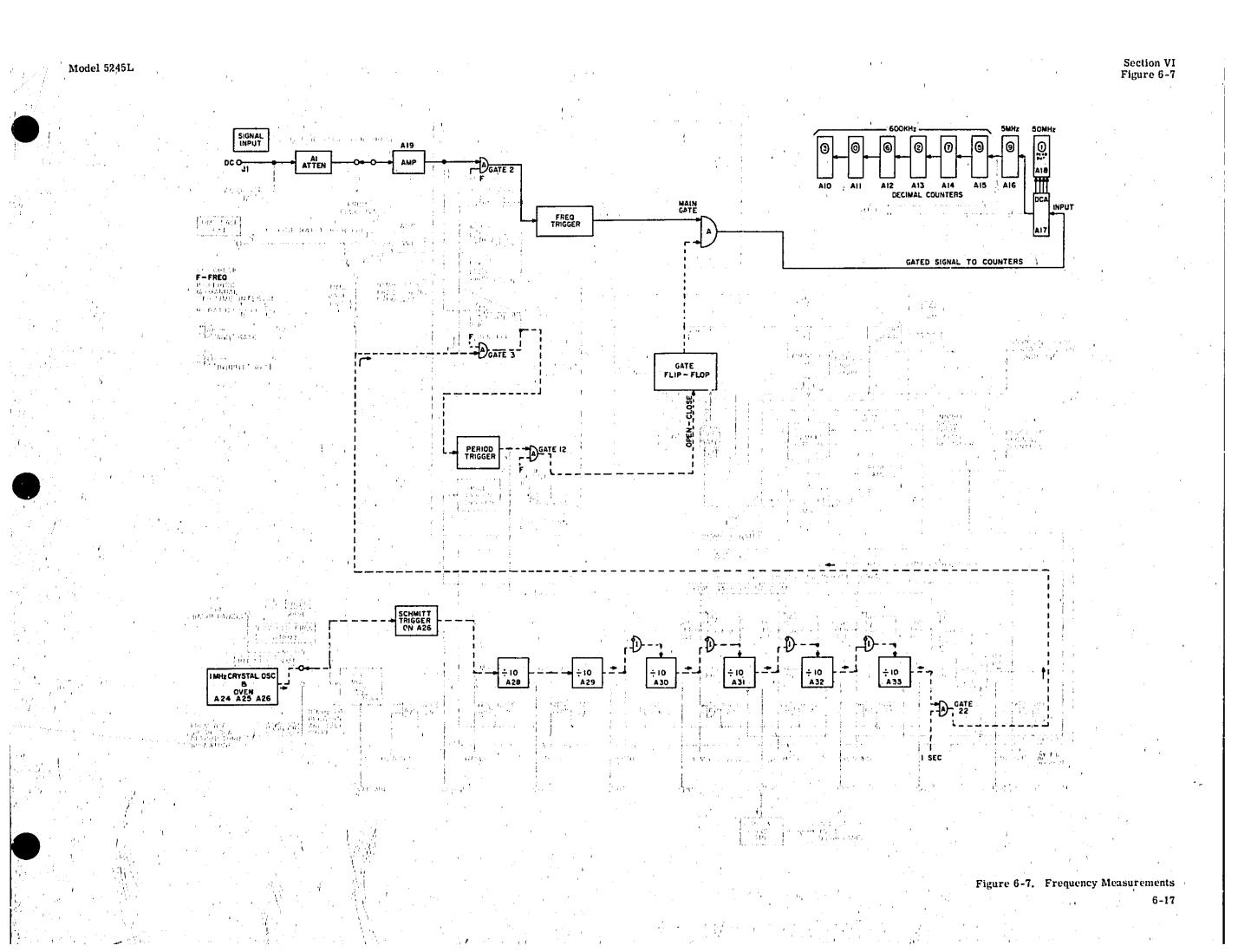
FREQUENCY MEASUREMENTS

Frequency is defined as the number of occurrences of a particular phenomenon in some length of time. Figure 6-7 shows the logic block diagram for a counter in the FREQUENCY mode. There are two signals that need to be traced - the input signal, or measured frequency, and the gating signal, which determines the length of time during which the DCA's are allowed to accumulate pulses.

The input signal is passed through an AND gate (which is enabled when the function switch is in the FREQUENCY mode) to a Schmitt trigger. Here it is converted into a square wave with rapid rise and fall time, then differentiated and clipped. As a result, the signal which arrives at the main gate consists of a series of pulses separated by the period of the original input signal.

All the DCA's and DDA's in $\frac{1}{27}$ counters with the exception of the 50 MHz DCA in the 5245L'use PNP transistors. Hewlett-Packard's practice is to count pulses in these decades which will turn a conducting transistor off so that loop gain and regeneration occur immediately. The 5245L is the only, counter where the pulses passed through the main gate to the first DCA are negative. The 50 MHz DCA will produce positive pulses which are counted in the next DCA.

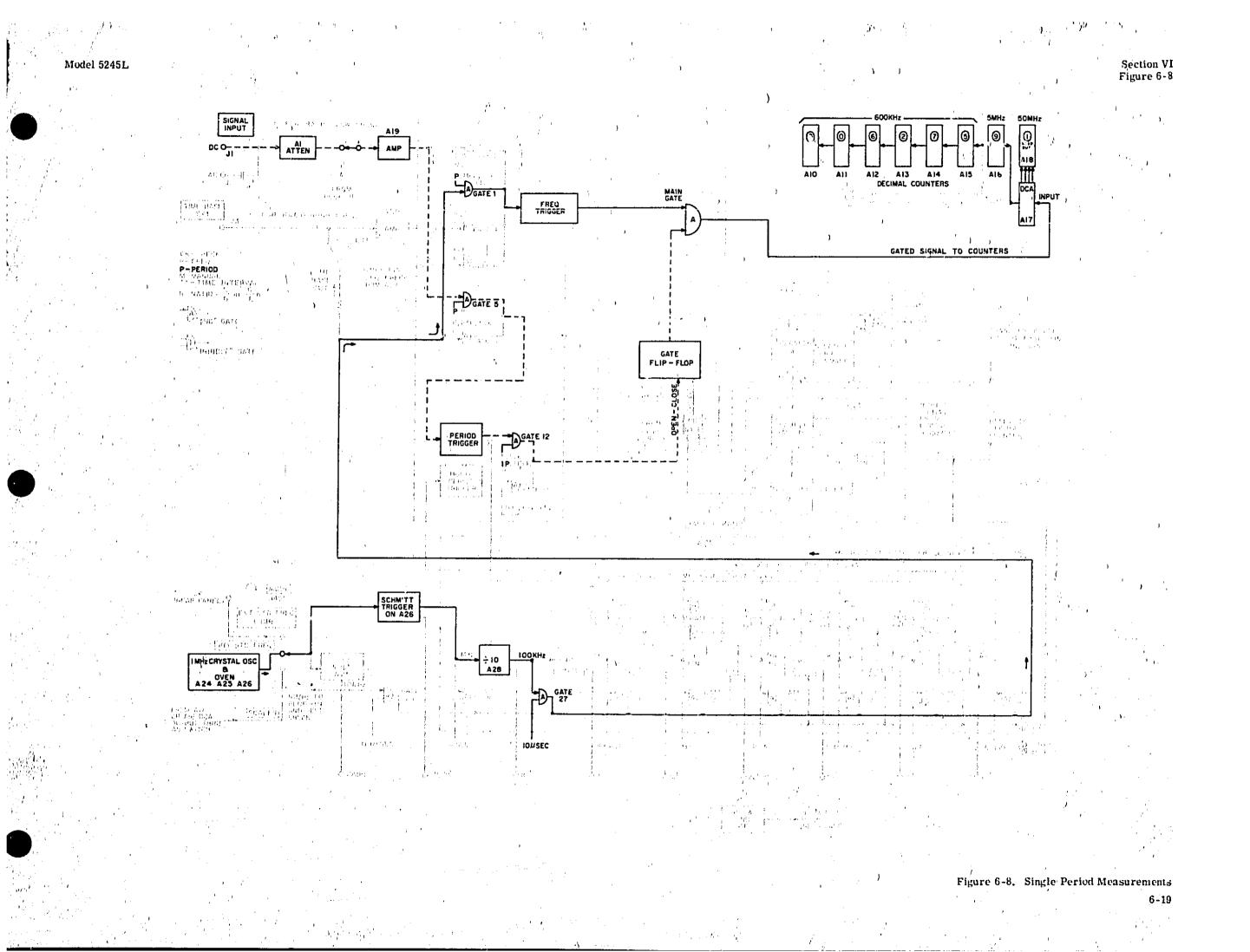
The time base output of 1 MHz is shaped so that positive spikes 1 microsecond apart are fed through the number of DDA's required to provide the selected gate time. In the example shown, six DDA's are used for a 1 second gate. The first output pulse passes through AND gate 12 (also enabled in the FREQUENCY mode) and a Schmitt trigger to the "Gate Flip-Flop". The Gate Flip-Flop assumes a state such that an enable signal is applied to the Main gate - since this is an AND gate, the input signal pulses are allowed to enter the DCA's and are totalized. This continues until the second pulse from the DDA's arrives at the "Gate Flip-Flop". The element changes and reverts to a state which removes the enable signal from the main gate, so that it closes and no further pulses are admitted. The DCA's are now in a state which corresponds to the number of input pulses received during a precise time interval which was determined by the time base. This BCD state is then analyzed by means of a decoding matrix, converted to decimal information, and fed to the display. If an 🆩 562A Digital Recorder is used with the counter, the reading is fed out directly in BCD form and decoded in the recorder.



6-18

SINGLE PERIOD MEASUREMENTS

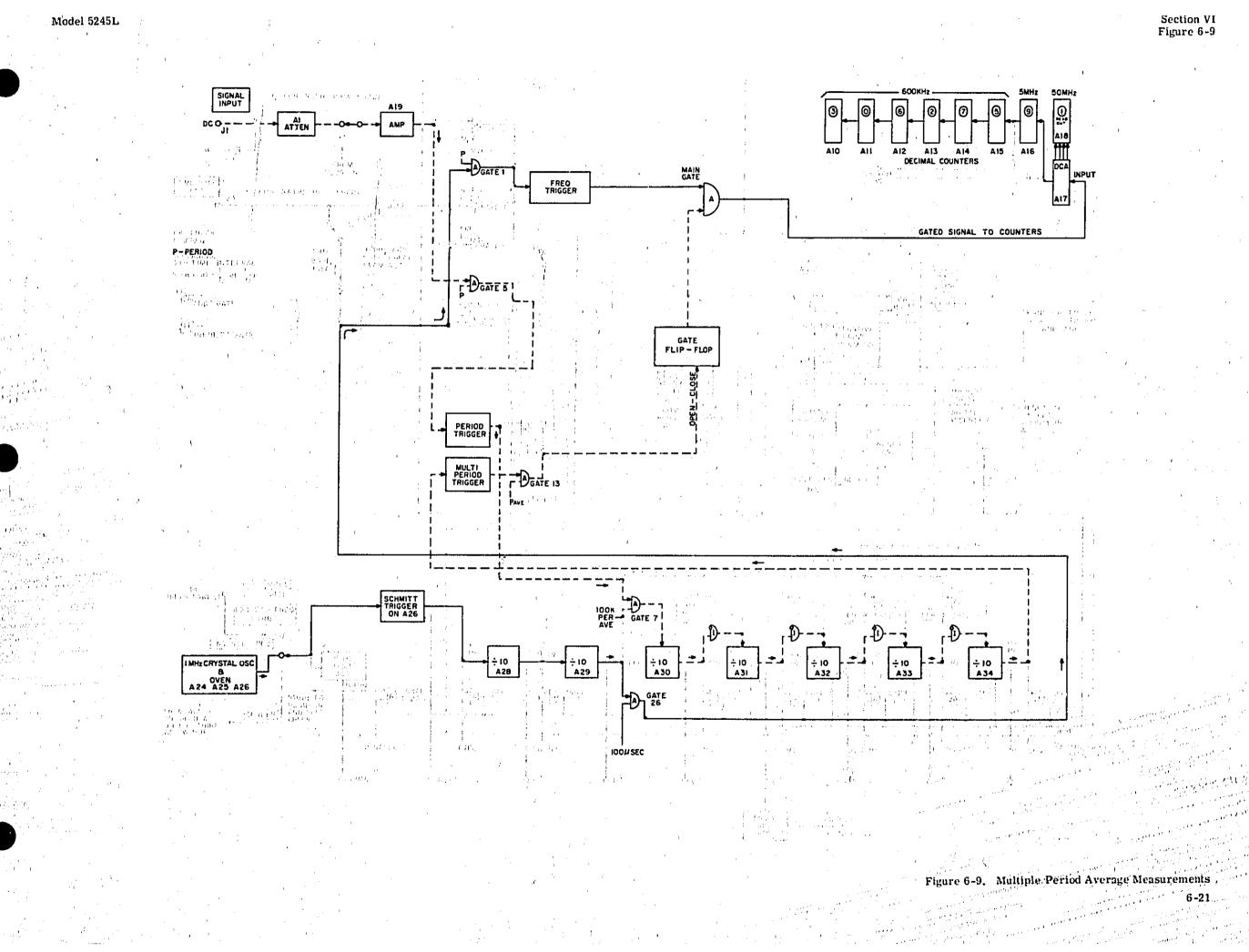
Period is defined as the time required for one cycle to occur - literally, the inverse of a frequency measurement. Accordingly, the circuitry required for a period measurement must, in effect, reverse the counted and gated signals. Figure 6-8 shows that the gating signal is, in fact, derived from the unknown input signal. It should be noted, however, that the counted signal is not only derived from the time base but is also divided by the DDA's. This is in contrast to frequency measurements where the gating signal derived from the time base is divided in the DDA's. In short, the precisely spaced pulses from the time base are counted for one period of the unknown frequency. In our example, the time base switch is set to 1 s and the number of pulses which occur during one period of the unknown signal are counted and displayed. The gate time is always equal to the period of the unknown signal.



6 - 20

MULTIPLE PERIOD AVERAGE MEASUREMENTS

This type of measurement is similar to a single period measurement in that the gating signal is derived from the unknown input signal and the counted signal is derived from the time base oscillator. The basic difference is that the gate may be held open for more than one period of the unknown signal. This is accomplished by the addition of an INHIBIT gate and an AND gate between selected DDA's (see Figure 6-9). This arrangement permits the unknown gating signal to be passed through certain DDA's and the counted time base signal to be passed through others. Any DDA's which are not used by the gating signal may be used to extend the separation of the counted pulses. In the example in Figure 6-9 there are seven DDA's - a maximum period average of 10⁵ periods is available. The time base frequency is 1 MHz. The unknown signal is passed through suitable trigger and clipping circuits, then through the AND gate which is enabled when the Function Selector is in the 100K period average position. The signal is thep passed through five DDA's so that there is one output pulse for every 10^5 input pulses; i.e., the period has been extended by a factor of 10^5 . As usual, the first output pulse enables the Main Gate and the second output pulse closes the Main Gate. The time base signal is shaped and then passed through a number of unused DDA's determined by the Time Base Selector setting. For example, if the setting is 10 microseconds, the signal will pass through one DDA. The maximum time base setting under the given circumstances is 0.1 milliseconds since the Inhibit gate will prevent the signal from passing on to the next, DDA when the Function Switch is in the 100K Period Average. These precisely spaced pulses are then passed through the main gate to the DCA's. Since the 10 microsecond position was selected, the DCA's will count the number of 10 microsecond intervals which occur during 100,000 periods of the input signal. The readout logic is so designed that the decimal point will be automatically positioned to display the proper units.



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Section VI

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RATIO AND MULTIPLE RATIO MEASUREMENTS

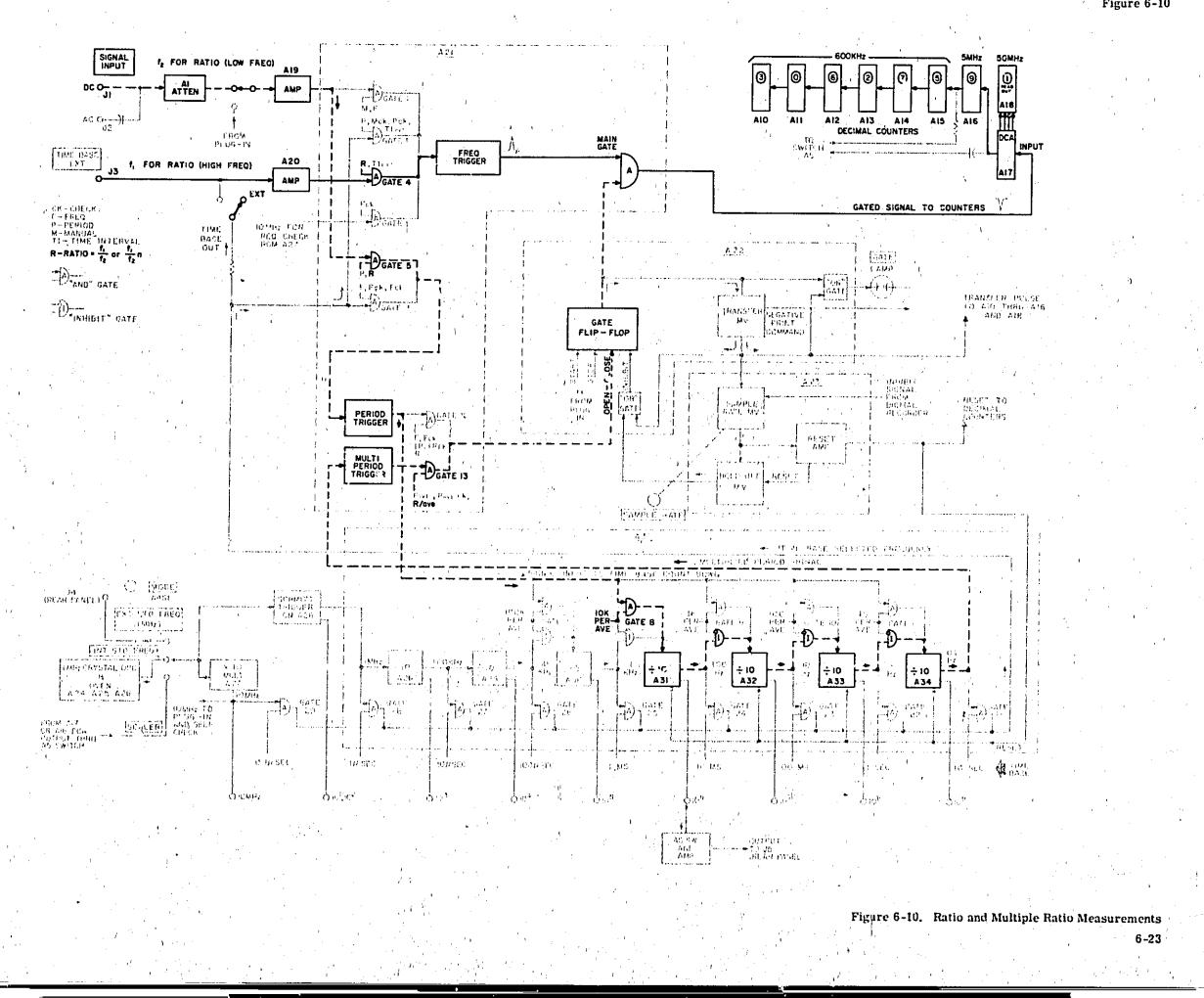
A ratio measurement is, in effect, a period measurement with the lower of the two frequencies used as the gating signal and the higher frequency signal used as the counted signal. In other words, the higher frequency signal used as the Chuncel signal. In other words, the higher frequency signal takes the place of the time base. The number of cycles of the higher frequency signal f_1 which occur during a period of the lower frequency f_2 is counted in the DCA's. A multiple ratio measurement simply extends the number of periods of the lower frequency to 10, 100, etc. The decimal point is automatically positioned but no units are displayed since ratio is unitlear. The hear the prove of the take the the standard unitless. The block diagram of Figure 6-10 applies. Note that the standard selector is in the external (E) position and f1 takes the place of the internal oscillator.

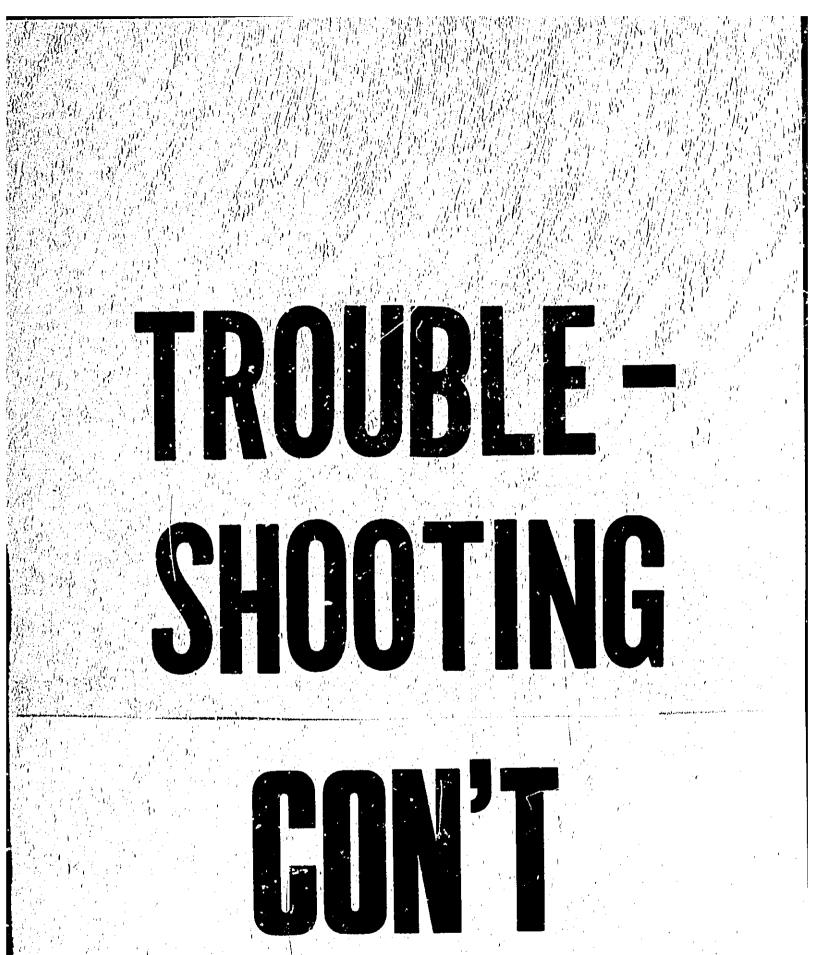
Model 5245L

Section VI Figure 6-10

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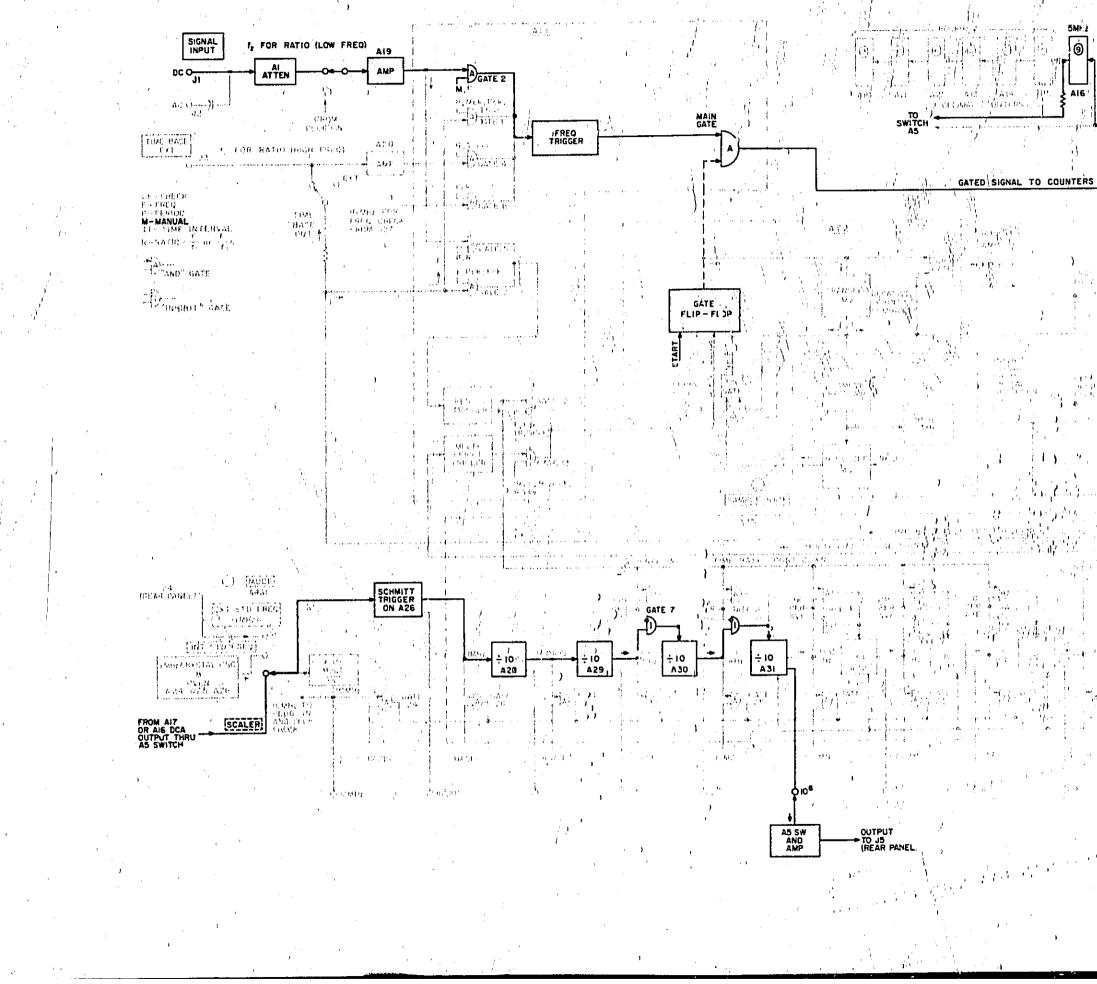
SCALING

With the Function Selector in the Manual Start position and the Mode selector on the rear of the instrument in the Scaler position, an input signal may be scaled down by factors of 10 through 1,000,000,000. The Manual Start position holds the main gate open. The input signal is converted to pulses and passed through the main gate and through the 50 MHz DCA where the first division by ten is accomplished.

With the rear panel Mode Selector in the Scaler position, and the Output Switch in the 10 position, the output of the 50 MHz DCA is passed through the time base Schmitt trigger and an amplifier and is made available at connector J5 on the rear of the instrument. With the Output Selector on any position other than 10^1 (e.g., 10^2 through 10^9) the signal is passed through both the 50 MHz and the first 5 MHz DCA to the time base Schmitt. It is then routed through a selected number of DDA's.

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Model 5245L





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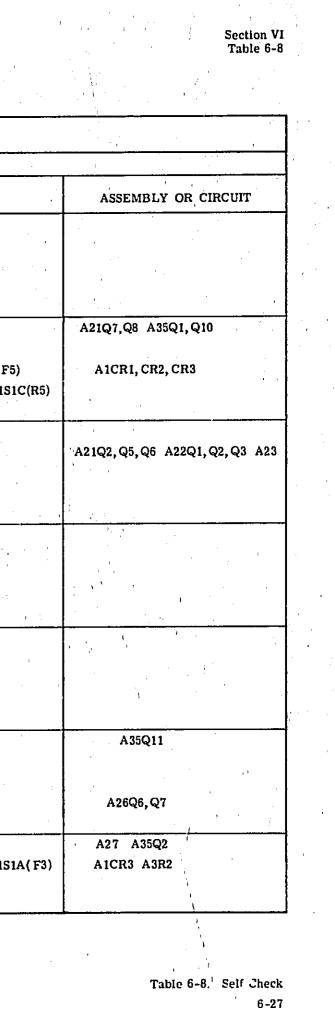
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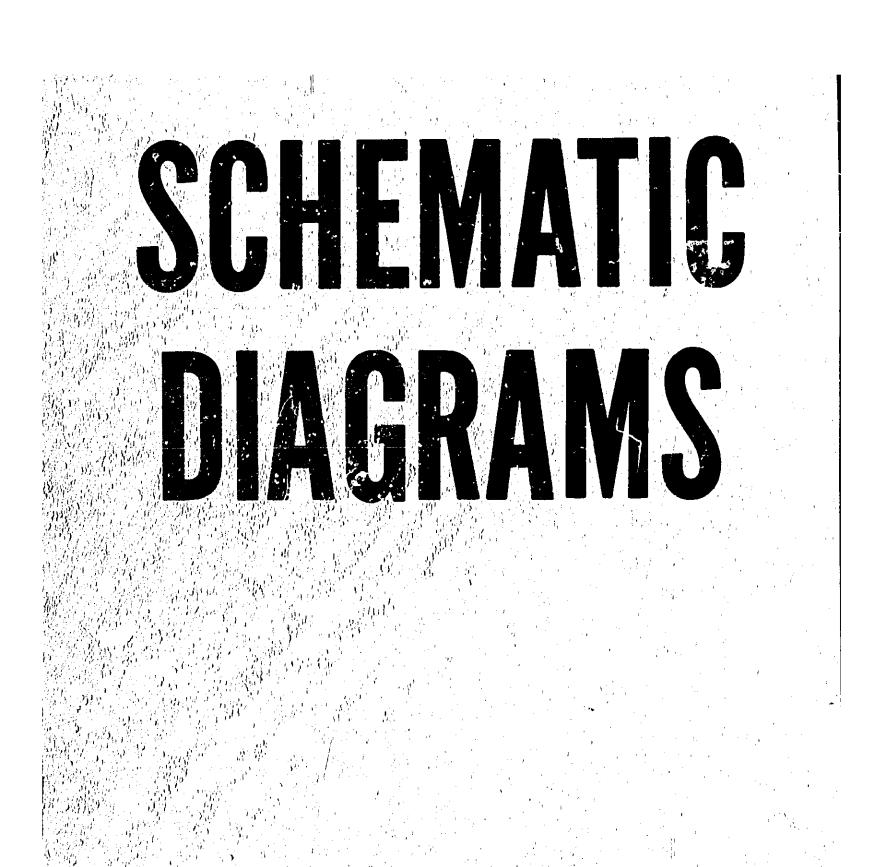
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Section VII Paragraphs 7-1 to 7-4

SECTION VII

CIRCUIT DIAGRAMS

7-1. INTRODUCTION.

7-2. This section includes the following:

a, General Notes for Schematic Diagrams (Figure 7-1).

b. Block Diagram (Figure 7-2).

c. Schematic Diagrams and Component Location illustrations of Model 5245L circuits, assemblies and connectors in the order of their assembly designation (A1 through A35, Figures 7-3 through 7-26). These figures may also include waveforms and voltages.

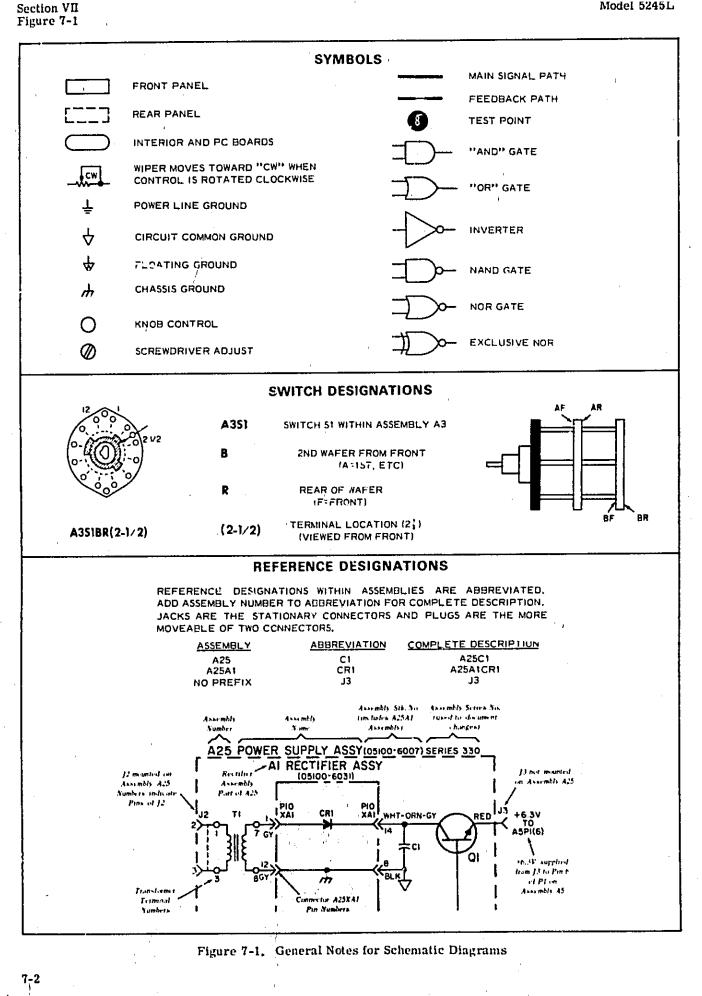
d. Schematic Diagrams and Component Location illustrations for Options 002 and 003 assemblies follow after the standard assembly they replace (Figures 7-10, 7-12, 7-15, and 7-16),

7-3. The Block Diagram or any schematic diagram, when unfolded, can be used with any other part of this manual, or with the manual closed.

7-4. DC voltages are measured with a \$\$Model 412A DC voltmeter. Typical voltages are shown.

7-1

Model 5245L



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Model 5245L

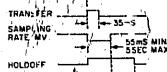
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	:	NOTES
I. SYMBOLS		

-E- COMMON EMITTER AMPLIFIER

- -B- CONMON HASE AMPLIFIER -COMMON COLLECTOR AMPLIFIER
- AND GATE, NUMBER INDICATES CONTROL, ON STATE REQUIRES 15V CONTROL, <u>Ъ</u>р-
- Lo INHIBIT GATE; OFF STATE REQUIRES

- 3. SWITCH SITUATION 'ABBREVIATIONS

- CH SITUATION 'ABBREVIATIONS AND OR INPUT SWITCH: CHECK INPUT SWITCH: NOT CHECK TIME BASE SWITCH: EXT TIME BASE SWITCH: EXT FUNCTION SWITCH: NOT EAT FUNCTION SWITCH MANUAL START OR MANUAL STOP FUNCTION SWITCH MANUAL START OR MANUAL STOP FUNCTION SWITCH PERIOD AVERAGE (FOR ANY POSITION) FUNCTION SWITCH PERIOD AVERAGE (FOR SPECIFIC FUSION) FUNCTION SWITCH REMOTE OR TIME (NT FUNCTION SWITCH NOT (REMOTE OR TIME()
- FUNCTION SWITCHI NOT (REMOTE OR TINET,)
 CP LAMPS APE'L SIGNATED, D THRIT 7 FOR EA. H POSITION FROM RIGHT TO LEFY AS VIEWED FROM FRONT
 D AND MU'LAMPS'OPERATE AS TABULATED WHEN I INPUT SWITCH IS NOT CHEEK LAMPS OPERATE, IN CHECK CH'Y IF FUNCTION SWITCH IS SET TO FREQUENCY I AMPENIAUE LIGHTED BY AUTOW
- 6. DP AND MU LAMPS AHE LIGHTED BY 4170V CONTROL SUPPLIED TO APPROPRIATE A8 10 TERMINAL FROM SWITCH OR JIO
- 7. TIME RECATIONSHIPS
- GATING De





		· • •					• •			
7	1	OOK PA			- 1	AIZEA	(F-9)		7	
8		OK PA	-			A3SIA	(F-B)		8	
9		к Рд			- 1	A3SIA	(F-7)		9	
10		00 PA			. 1	A3SIA	(F-6)		ຸເວ	
1 IP	1	0 Pa				A35IA	(F~ 5)		11	
' 12	5	+ IPA		1		AISTA	(F-3,	4)	12	
13		NY PA	EXCEP	AL T	'	A3SIA	(R-9	(2)	13	
21	1	105) (M + F +	P·Č		A251A	{F-4]		21	
22		15) · (M	• F • P	•€) ₀ (3•	- D.	A251A	(F - 5)		22	
23	1	0.15)+(M+F+	₽·2)		A2SIA	(F-6)		23	
24	1	IQmS).	(M+F+	P·C}		A251A	(F-7)		24	
25	- 10	Im5'	M + F + I	P∙€)		A251A	(F-8)		25	
26	- 10	0,1m5)	• (M + F	'+P·č)		A251A	{F-9)		26	
27	- Ie	1005)	(M+F+	P)+{P-	C)	A25IA	(F-10)	27	
26		105)-(M+F+	P·Č)		A2SIA	(F=1))	28	
29	. lt	0.105)	-{M+F	+ P-Ē}		A25IA	(F-12)	29	
								<u> </u>		
D	ECIM	AĽ Į	POIN			IONS	_	5 3,4,	5,6)	
UNCTION	-			TIN	E BAS	E SWIT	СН			
SWITCH	0.105	IUS	10115	O.ImS	im5	IOmS	0.15	15	IOS	EX.
START	_	_	1		-		_	_	_	-
N STOP	_	_	1	_	_	-	_	_	·	-
# 3102 F		o		2	0	i	2	3	4	
IPA	I	ŏ	2	ī	ō	2	Ĩ	ō	-	0
IOPA	2		ō	2	i i	0	2	1	-	L
IOOPA	3	1	1	ō	. 2	1 1	0	-	-	2
IKPA	4	3	2	1	0	2	-		-	13
IOK PA	5	4	3	2	- F	-	-	-	-	4
IOOK Pa	6	5	4	3	-	-		-		- 5
R	_	-	-	-	-	·	-		-	
ME	ASUR	EMEN	IT U	NITS	SITU	JATIC)NS (NOTES	3,5,6)	
UNCTION				TIMI	E BASI	E SWIT	СН			
SWITCH	0.105	IUS	IOUS	0.lmS	1mS	10m5	0.15	15	105	EX.
N START	-	_	-	-	· I	-	-	1	-	-
STOP		-	-	-	-	-		-	-	-
· • •	¥	MHz	MHz	MHI	KHz	KHz	KHz	KHz	KHz	X
FA .	· US	US	mŞ	-5	m\$	SEC	SEC	SEC	×	
່ ທີ່ມີ	, us	us	US	m5	mS	m\$	5EC	SEC	×	-
10014	, U\$ '	US	US	US	m5	тS	mS	*	*	-
IN Ph	ับร	us	US	US	US	. mS	¥	¥	*	- 1
IOKPA	J5	us	U 5	US	υs	*	¥	*	+	-
HOK &	115	115	115	115	¥	H	*	*	• * I	-

GATE CONTROL SUMMARY (MOLE 3)

ON STATE (-ISV), WITH (PLUG IN OFF)

(M·E·C)+(P·E·C)+(P·E)

(N+F) Č

FĒC

(F+E)+(P+C)

(M+F)·E+(P·E·Č) P·Č

SOURCE

AISIA (F-3)

AISIB (F-1)

AISIB (F-4)

A251A (F-3)

AISIA (F-1)

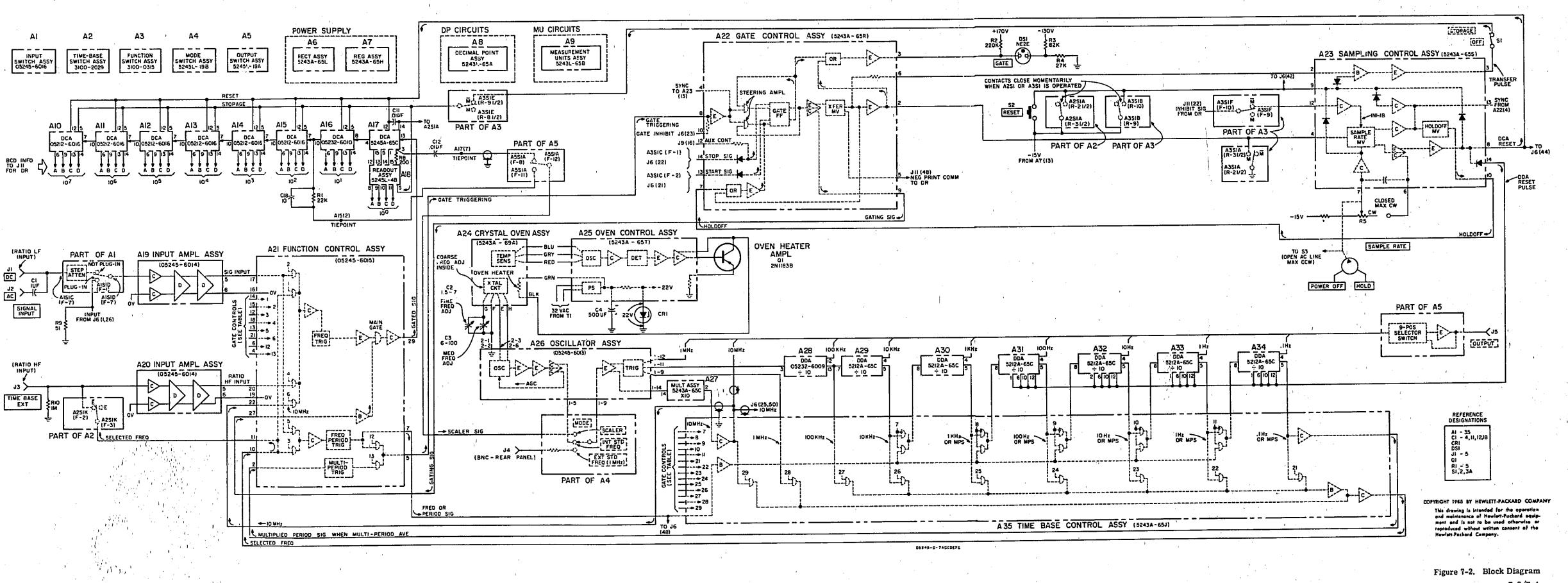
AISIB (F-2)

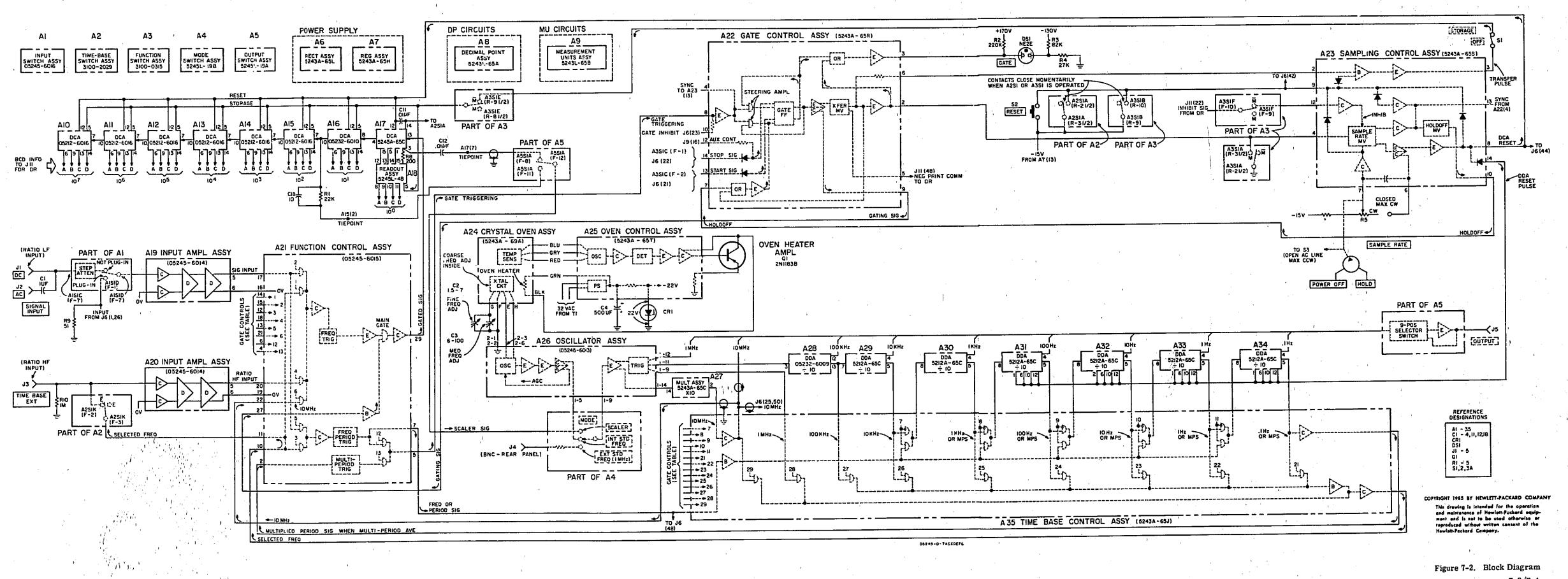
REMOTE CONTROL J9 PIN NO

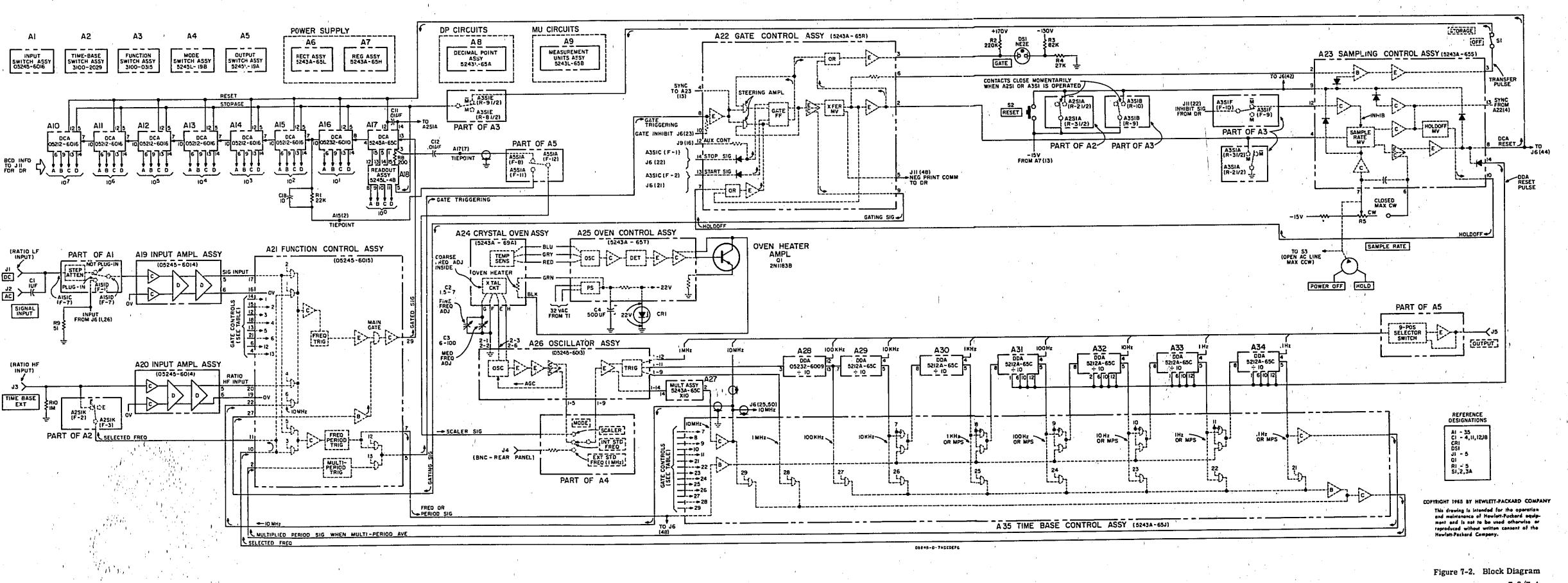
5

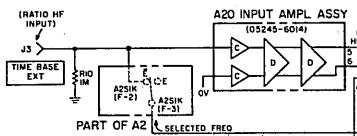
JOOKPA US US US * * * * SOURCE OF DP AND MU CONTROLS (NOTES 5.6)

	DP DESIG- NATION	INTERNAL SHURCE	REMOTE CONTROL (JIO PIN NO)	MU DESIG- NATION	INTERNAL SOURCE	REMOTE CONTROL (JIO PIN NO)
	7	·····	7	MHz	A2518 (R-2)	13
	6 '	A251E (8 - 5)	6	KHz	A251H (R-81/2)	15
	5	A2SIE (RIB)	5	5EC	A251F (R-4)	14
1	4	A2516 (F-7)	4	່ຫວ່	A251G (R77)	j 15
,	3	A2510 (R-6)	3,	US	A251G (R-10)	16
	2	A251C (F-7)	2	H	A251G (R-6)	н
		A2510 (F-9)	1 10	l '	1	1
	0	A251C (R-8))	· I0			1.1











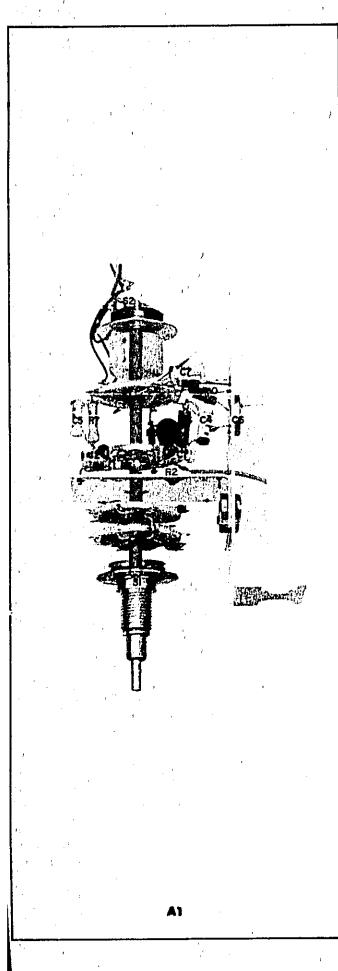


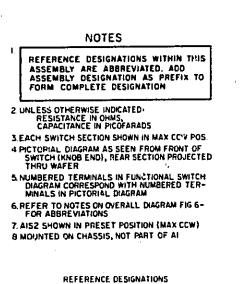


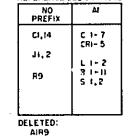
-1



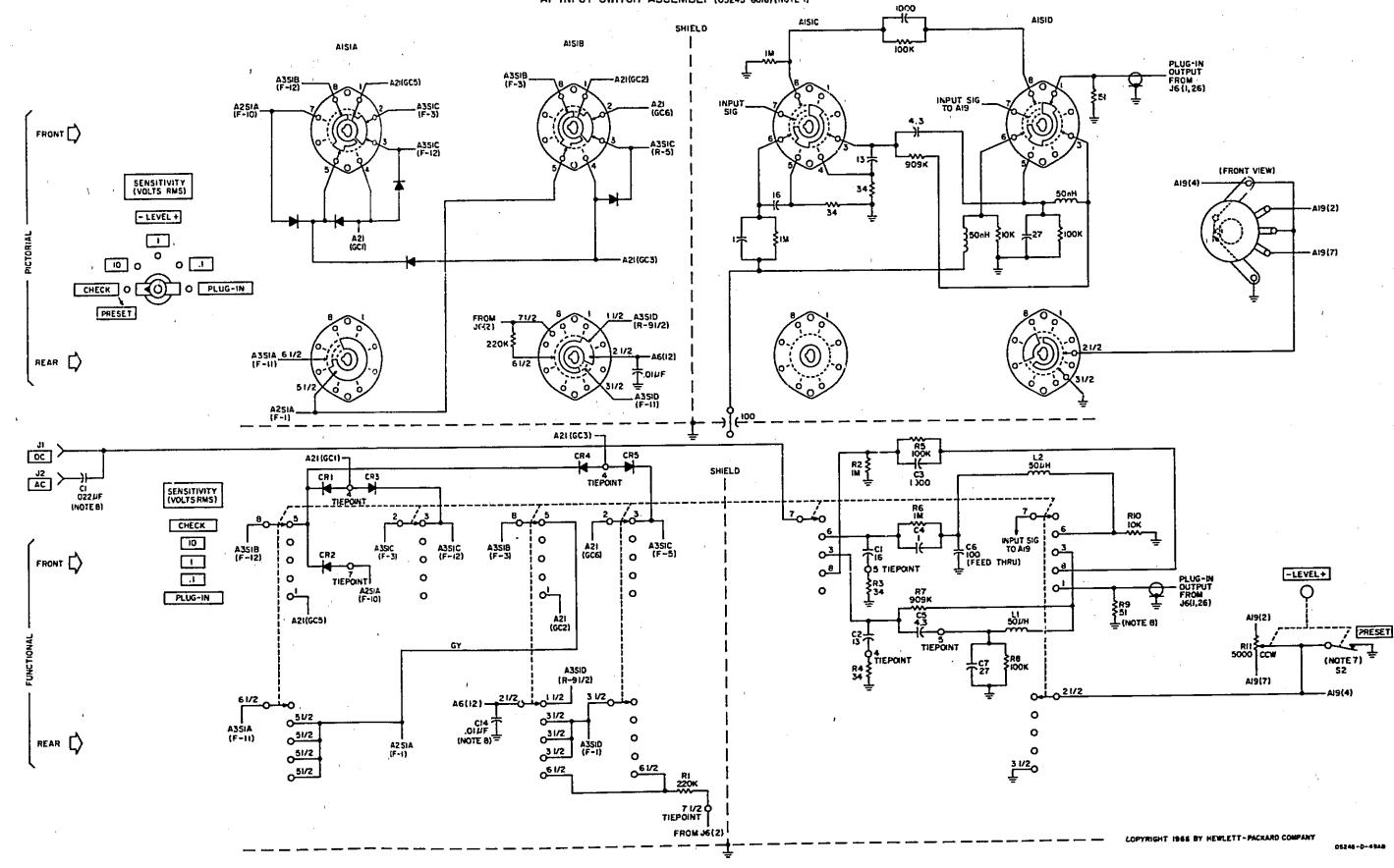








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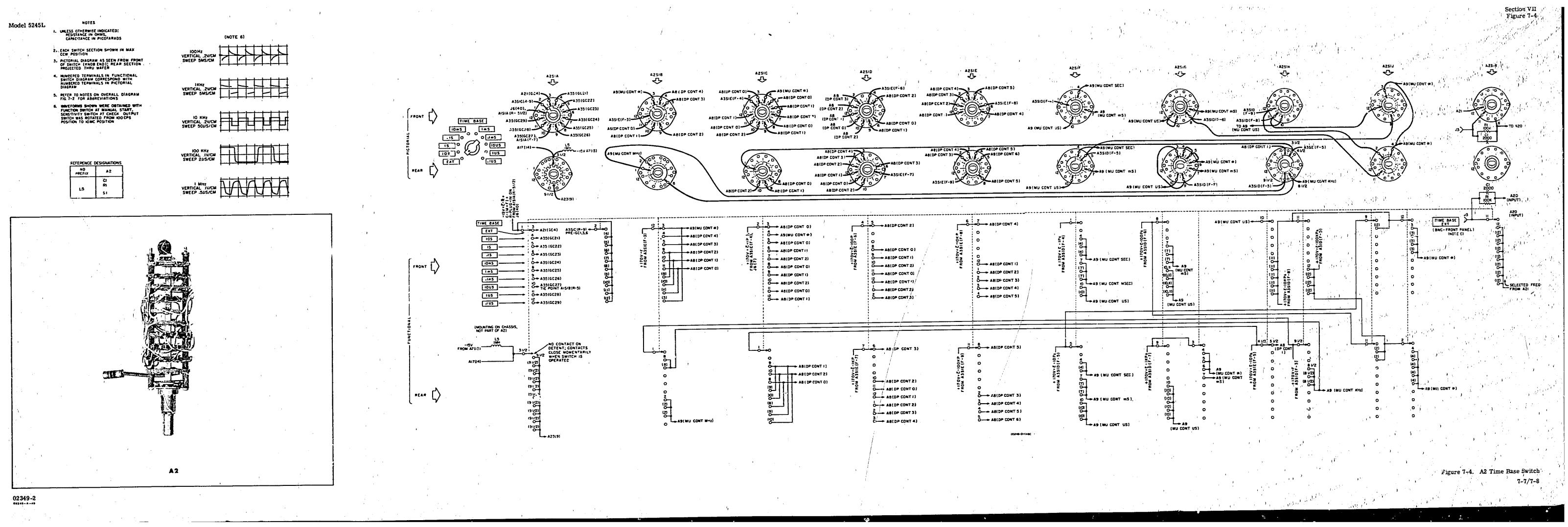


Section VII Figure 7-3

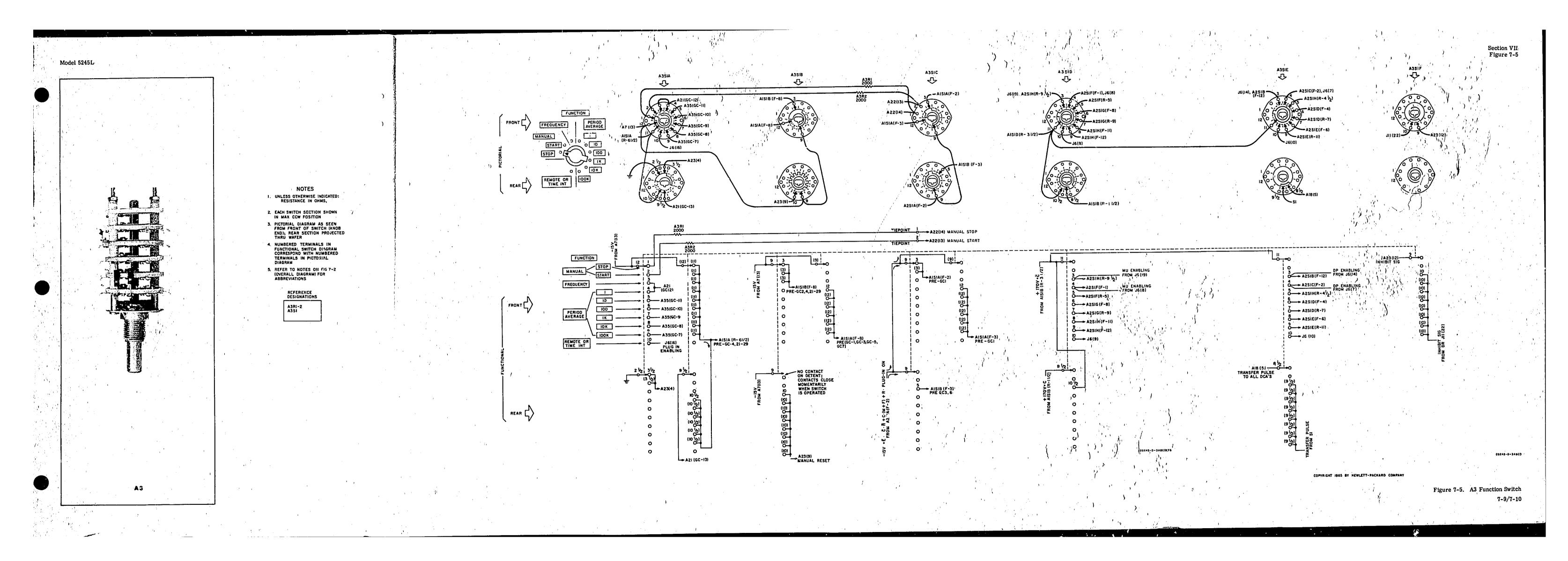
AI INPUT SWITCH ASSEMBLY (05245-6016) (NOTE 1)

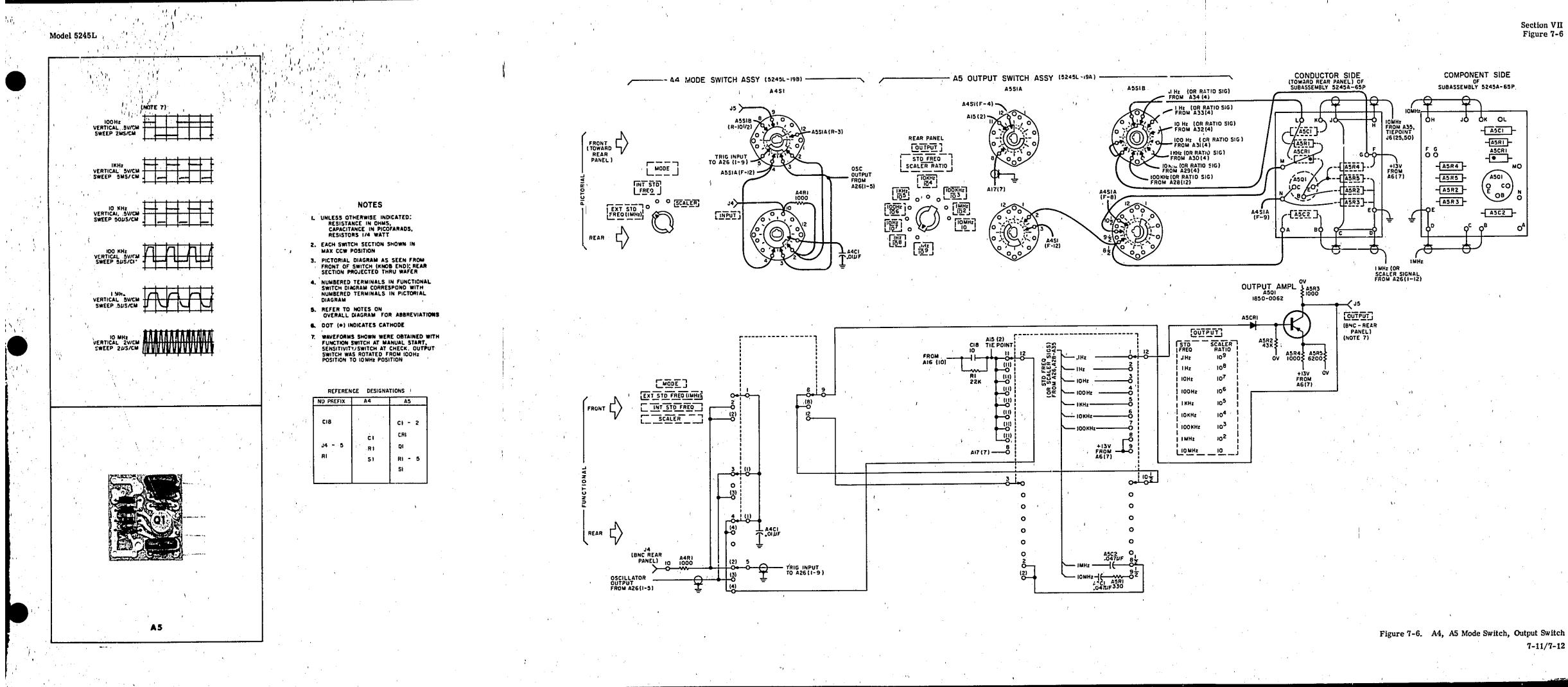


Figure 7-3. A1 Input Switch 7-5/7-6







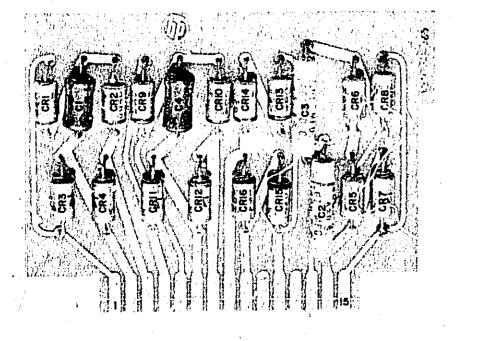


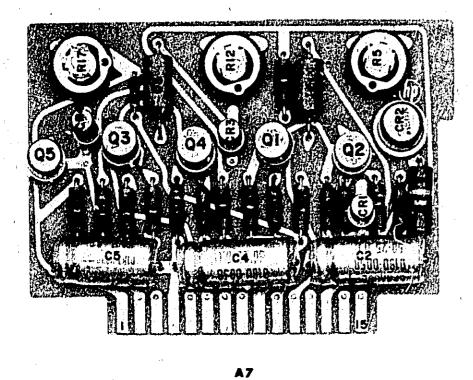
Section VII Figure 7-6

7-11/7-12



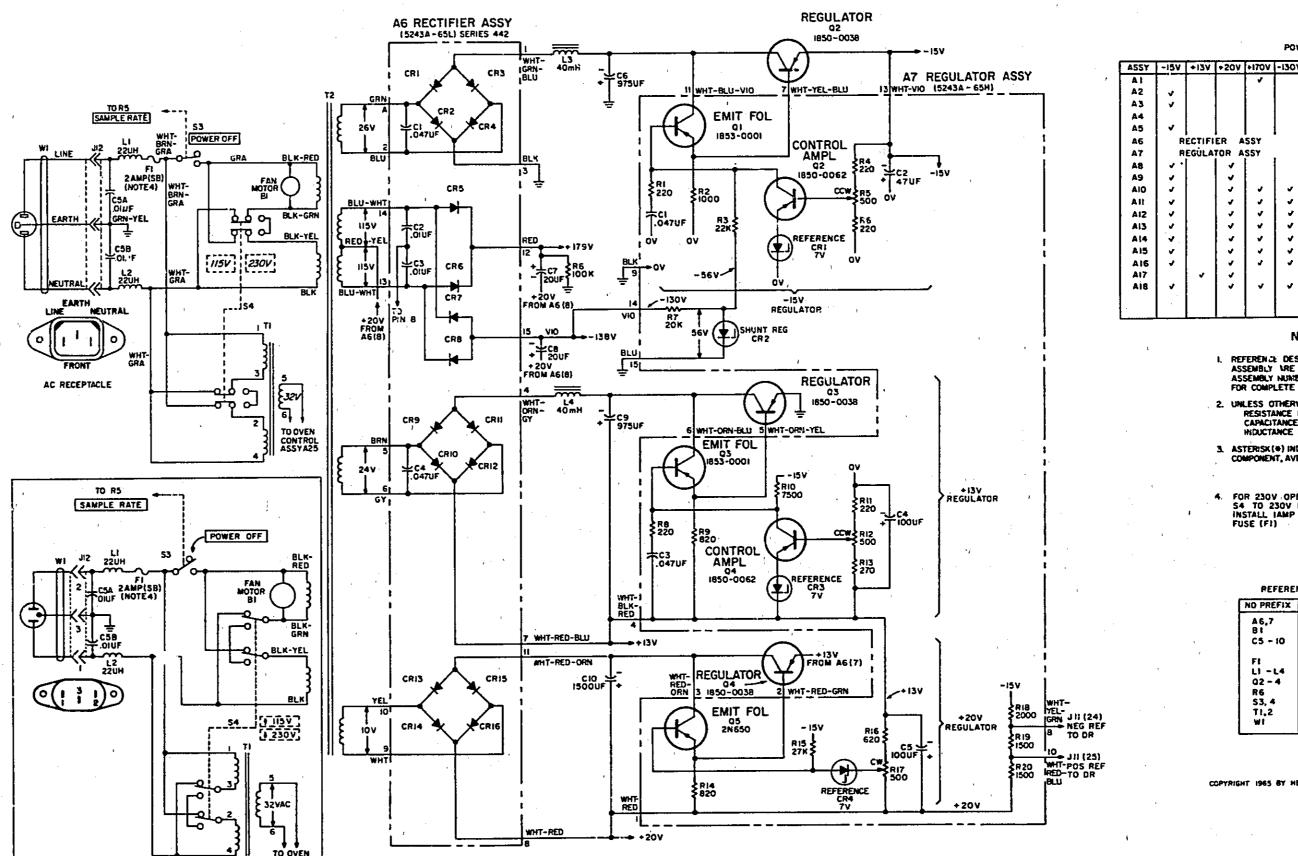


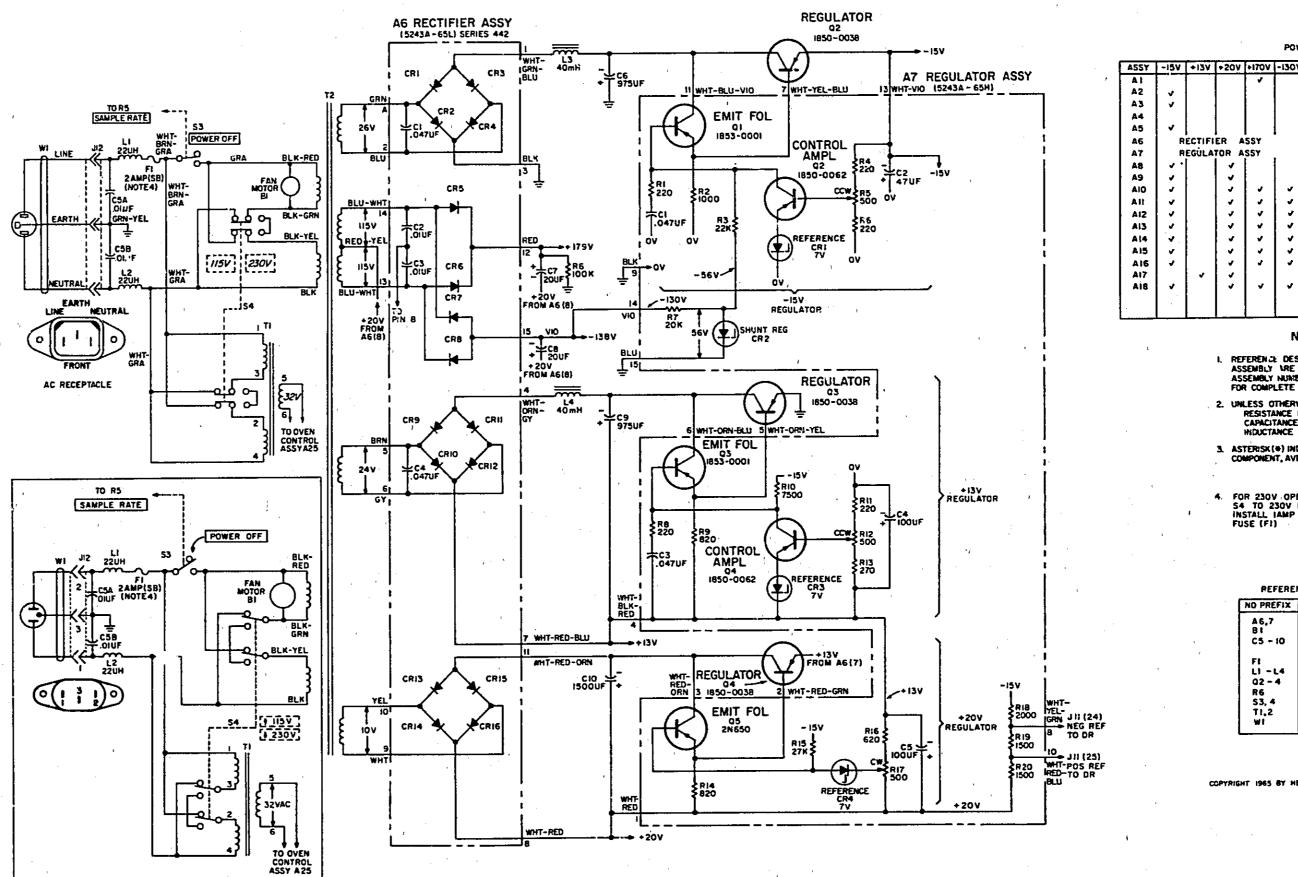




A6

TO RS SAMPLE RATE 2 AMP(SB) BRN-(NOTE4) C5A DIUF EARTH N-YEL







POWER DISTRIBUTION

ASSY	~15V	+137	+207	+170V	-1307	OV	ASSY	-15V	+137	+20V	+1704	-130
AI				v		~	A19	~	~	~		
A2							A20	v	v	v		
A3	v		1				A 21		v	v		
A4							A22	~	J	1	ł	
A5	V .	E .	l			v	- A23		v	~		ſ
A6	İ R	ECTIF	, ER A	SSY	•	· •	A24			ł		[
A7	R	EGULA	TOR A	SSY			A25	((32 VA	-)		
84	. .	1	-	E	1		A26	v	1		1	r i
A9			v				A 27	v				
AIO							A 28	~	v	· .		
Alt							A29	~	v			t
AIZ				V .			A30	~	} √	1	ļ	
AI3		ł	V .	v	v		A31	~	↓ √			
AIA	·↓			v	V .		A32					
A15	√				v		A33	v .	1 -		1	[
A16		1			v		A34		4			
A17						v	A35	v	1 .	v		
AIB	•		1	v	v	- A.	JG	~		v	v	l 🗸
							- 9L	1	~	v		
	· ·			1			J10		I	i i	~	~

NOTES

I. REFERENCE DESIGNATIONS WITHIN THIS ASSEMBLY ARE ABBREVIATED. ADD ASSEMBLY NUMBER TO ABBREVIATION FOR COMPLETE DESCRIPTION.

2. UNLESS OTHERWISE INDICATED: RESISTANCE IN OHINS; CAPACITANCE IN PICOFARADS; HIDUCTANCE IN MICROHENRIES

ASTERISK(+) INDICATES SELECTED COMPONENT, AVERAGE VALUES SHOWN

FOR 230V OPERATION OPERATE S4 TO 230V POSITION AND INSTALL IAMP SLOW-BLOW FUSE (F!)

REFERENCE DESIGNATIONS

NO PREFIX	PREFIX 46	PREFIX A7
A6,7		
81		
C5 - 10	CI-4	CI - 5
	CRI-16	CRI-4
FL		
L1 - L4		
02 - 4	Ì Ì	QI - 5
R6		RI - 20
53, 4		
T1.2		•
WT .		

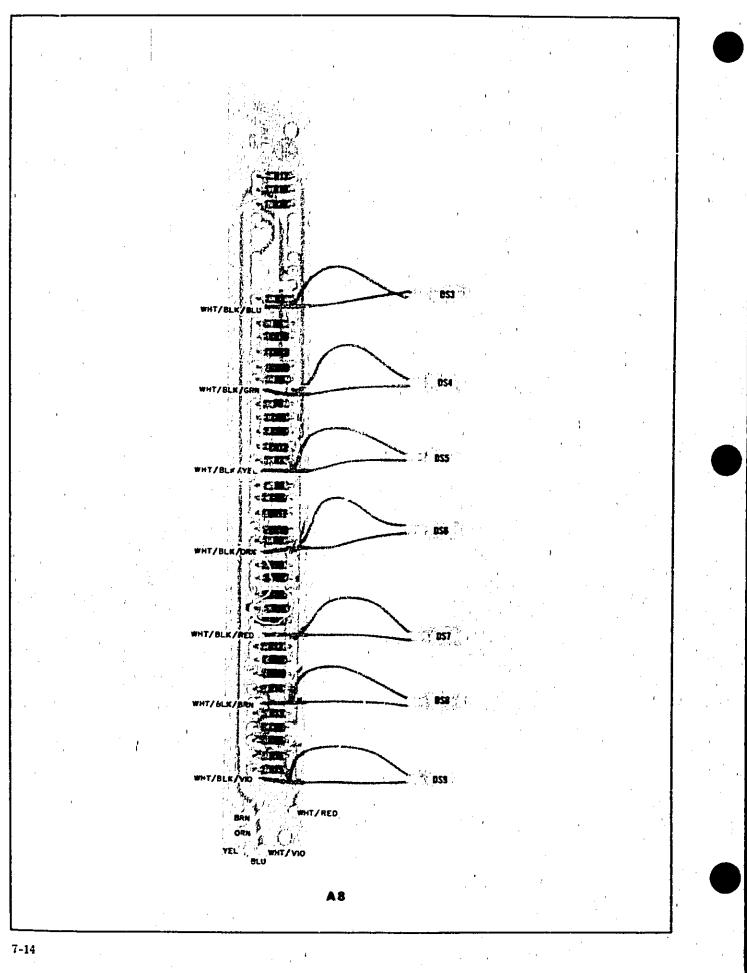
COPYRIGHT 1965 BY HEWLETT-PACKARD CON

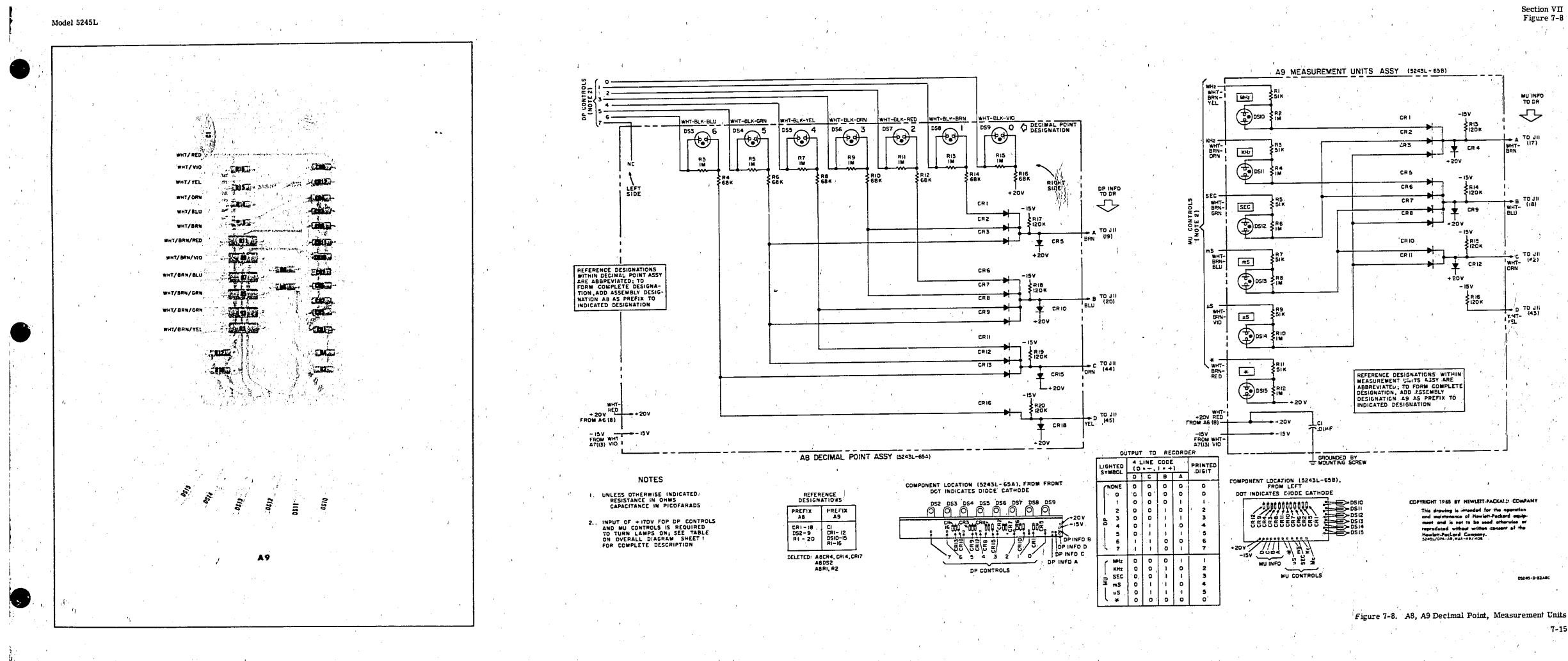
Figure 7-7. ' A6, A7 Rectifier, Regulator



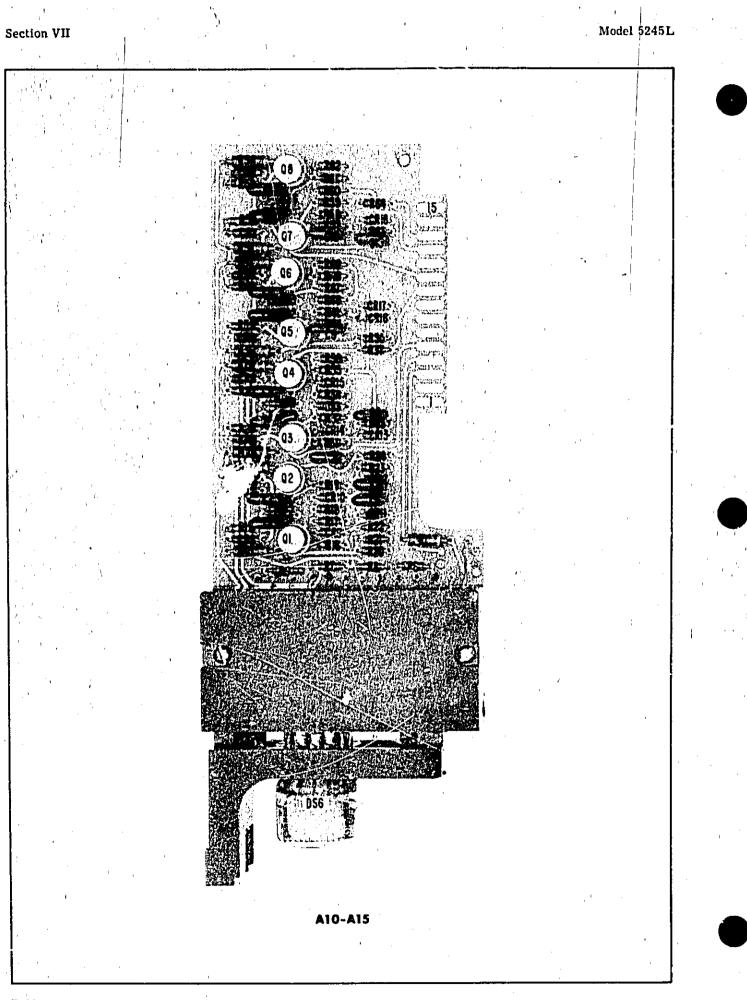
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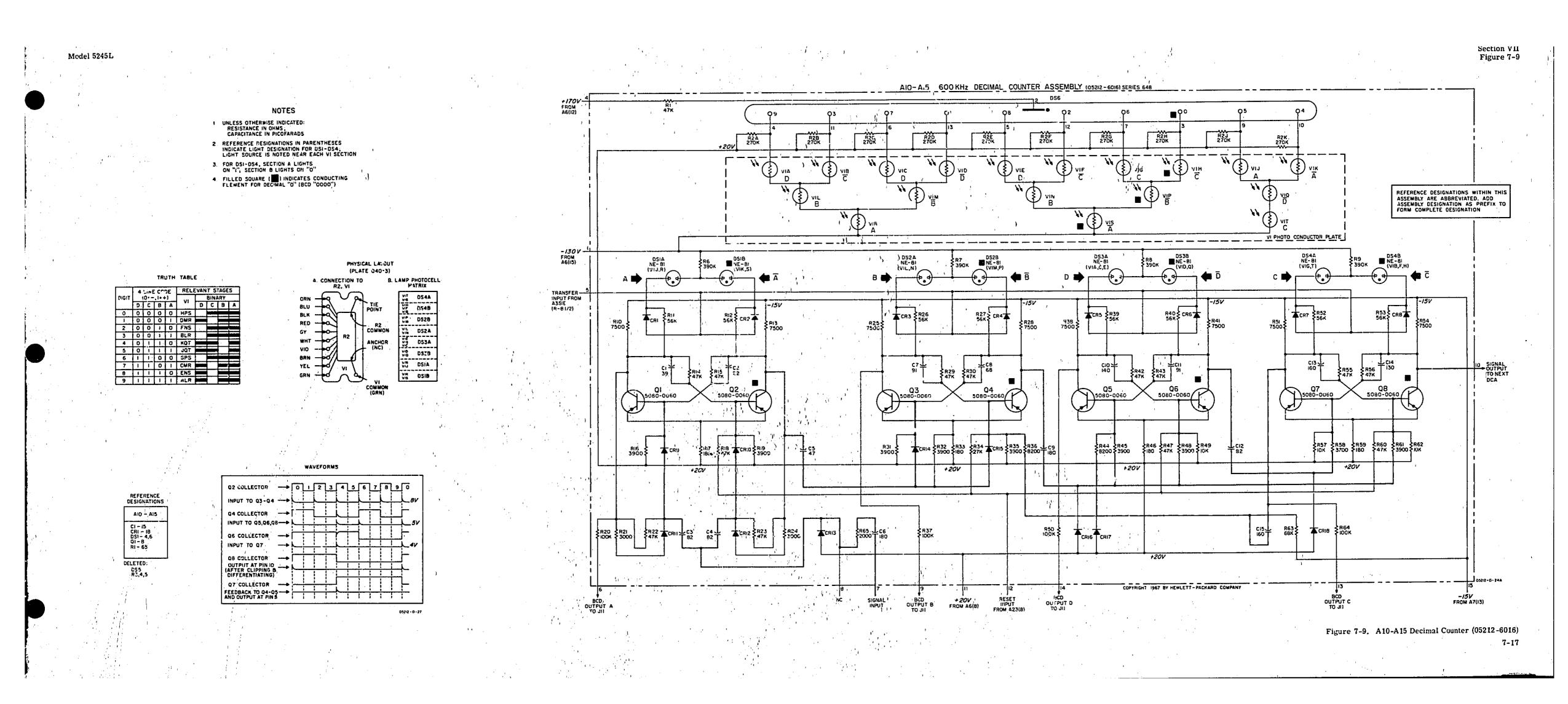
Model 5245L

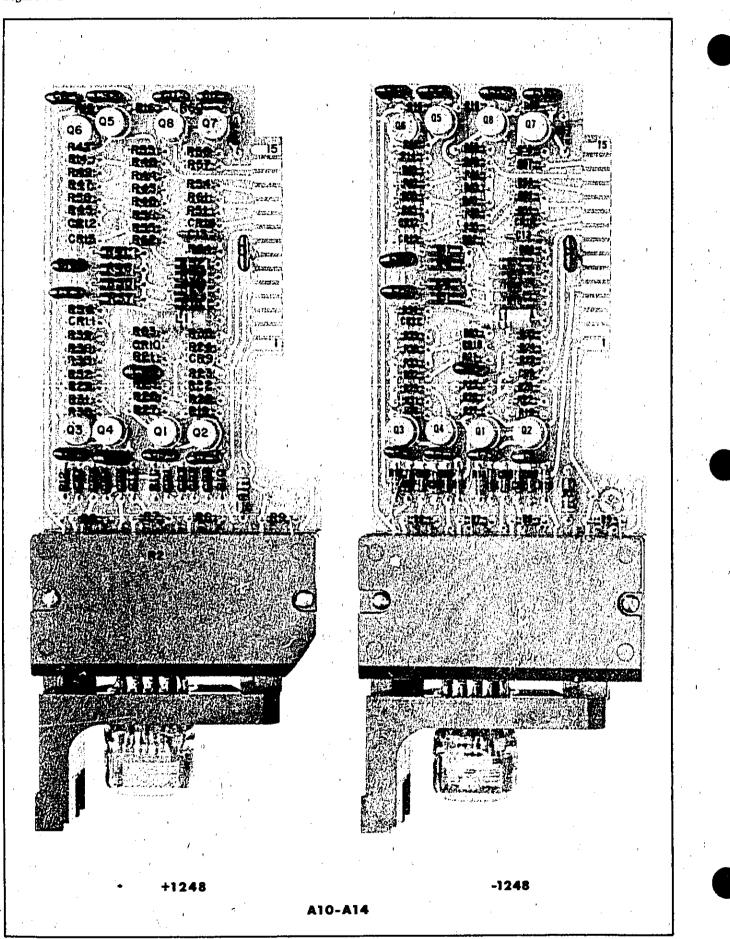




05245-D-E2ABC







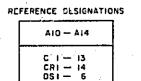
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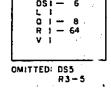
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NOTES

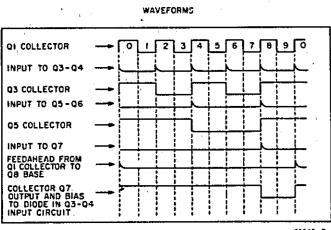
1. UNLESS OTHERWISE INDICATED RESISTANCE IN OHMS; CAPACITANCE IN PICOFARADS

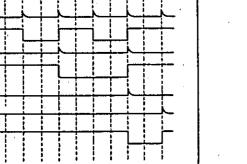
- 2. REFERENCE DESIGNATIONS IN PARENTHESES INDICATE LIGHT DESTINATION FOR DSI-DS4. LIGHT SOURCE IS NOTED NEAR EACH VI SECTION.
- 3. FOR DSI-DS4, SECTION A LIGHTS ON "I"; SECTION'B LIGHTS ON "O"
- 4. FILLED SQUARE () INDICATES CONDUCTING ELEMENT FOR DECIMAL "O" (BCD "0000")
- 5. OUTPUT CODE: OPTIONOO2:1* +18V, 0* ~8V OPTIONOO3:1* 8V, 0* +18V



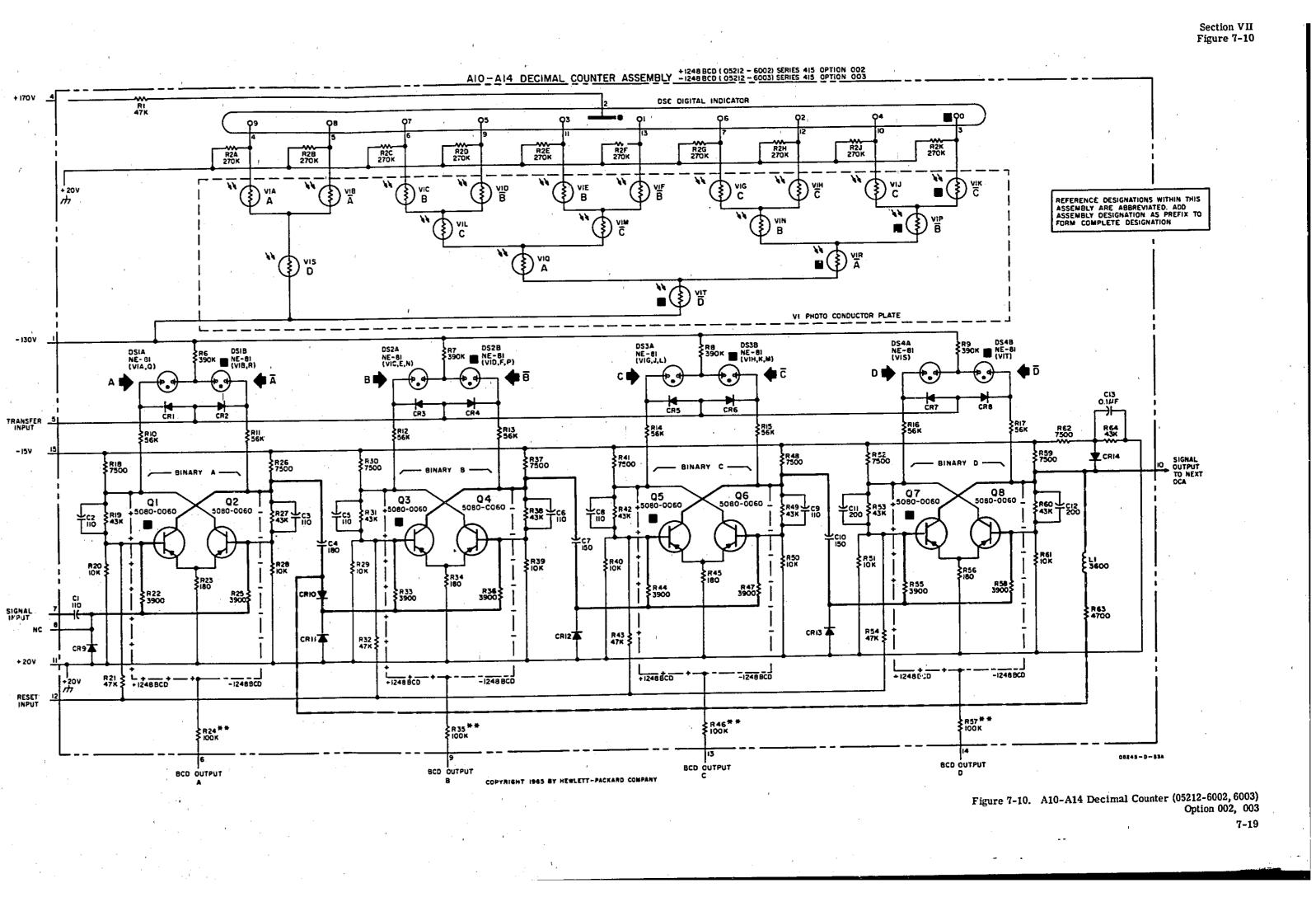


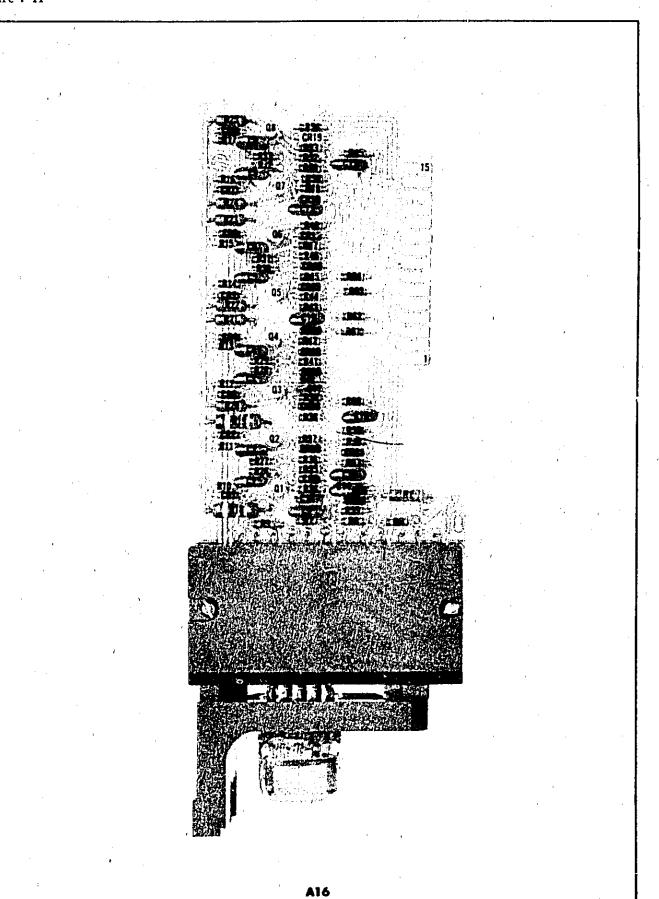
			TR	UTH	TABLE				•			
		INE	60	nr	RELEVANT STAGES							
DIGIT	* '		CO		V1	BINARY						
	D	C	B	Α		D	С	В	A			
0	0	0	0	0	KPRT			1				
1	0.	0	0	1	FMOT	ĺ			Ì			
2	0	0	1	0	HNRT							
3	0	0	1		EMOT			-				
4	0	1	0	0	JPRT							
5	0	I	0		DLOT	Ì						
6	0	1		0	GNRT				_			
7	0	1.	1	1	CLOT	-		_				
8	1	0	0	0	BS	_	1.1					
9	1.	0	0	1	AS							



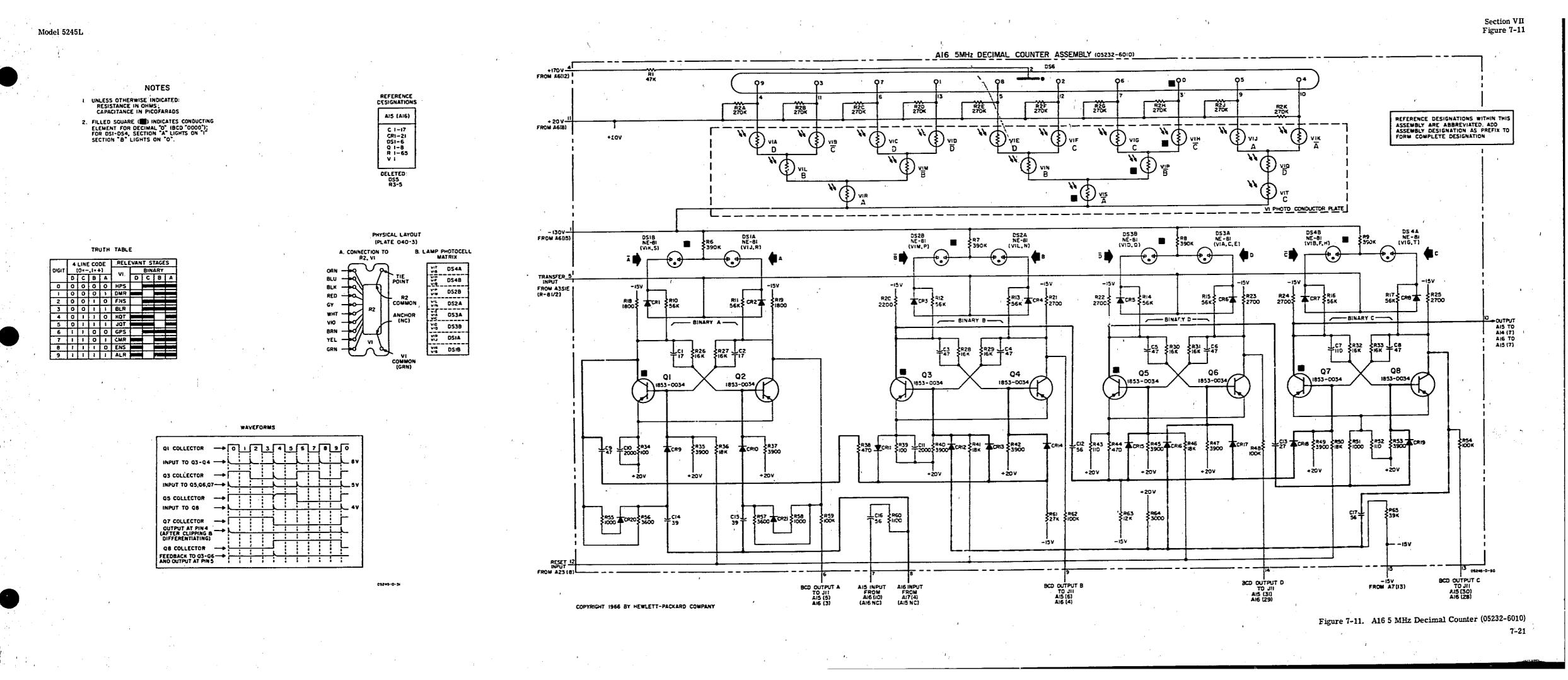


05245-D-52

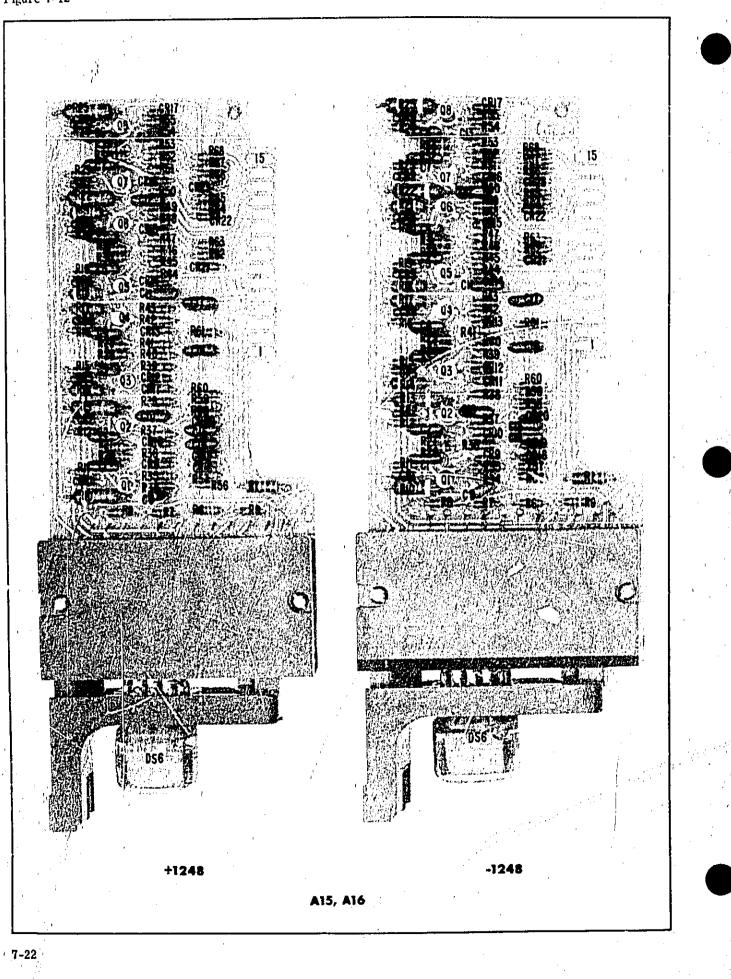


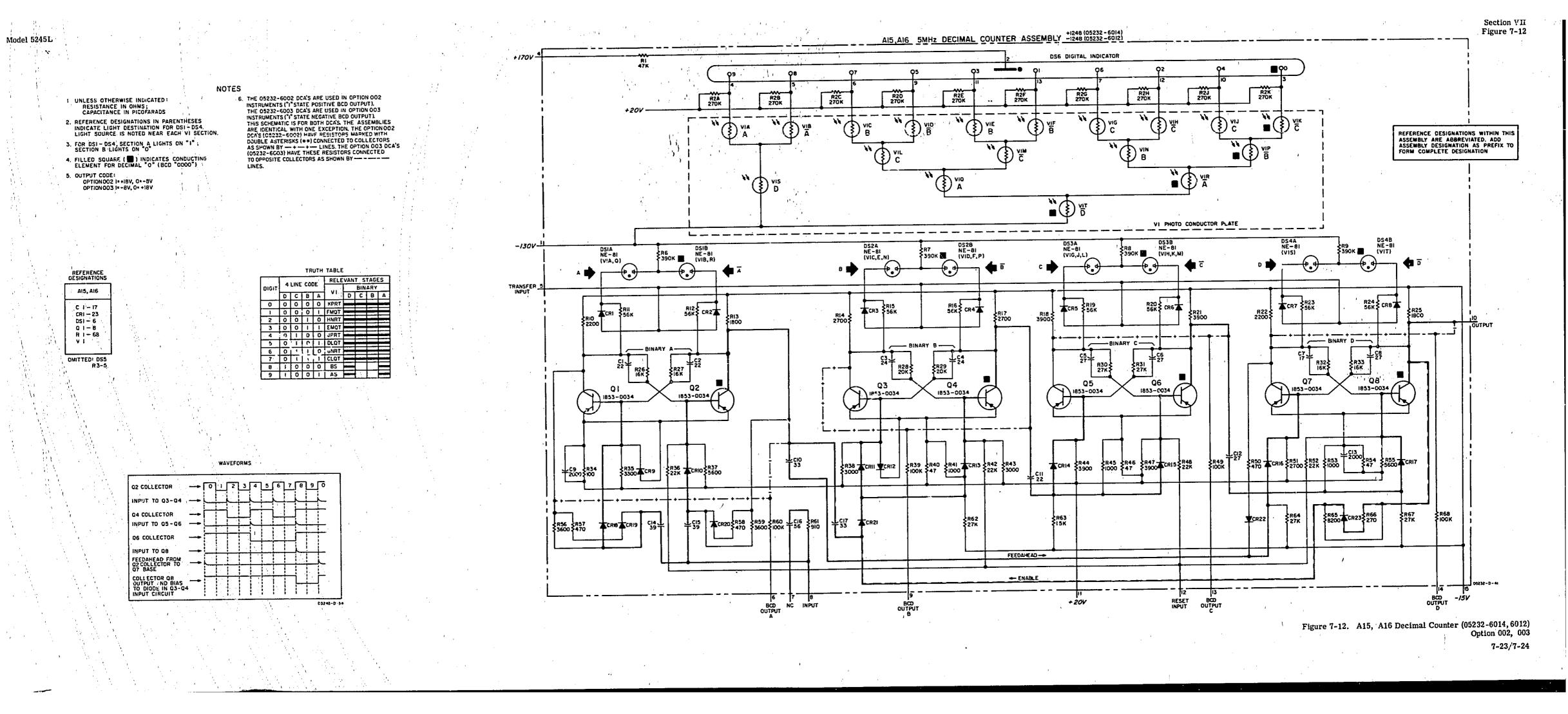


Model 5245L



Model 5245L





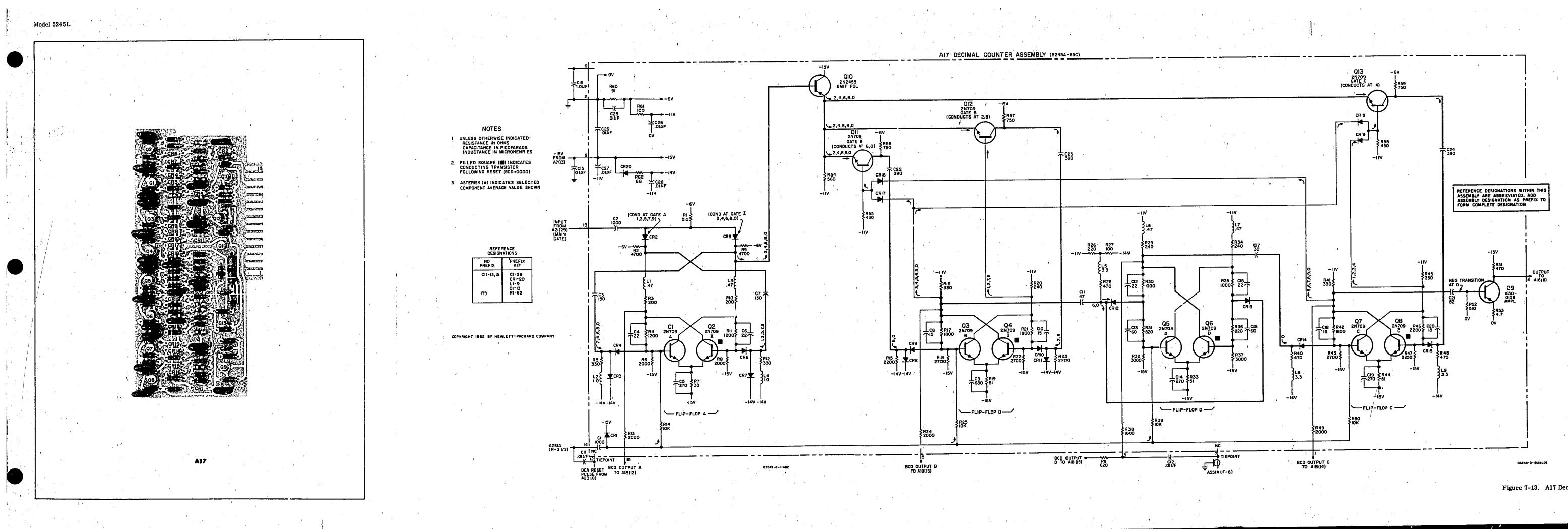
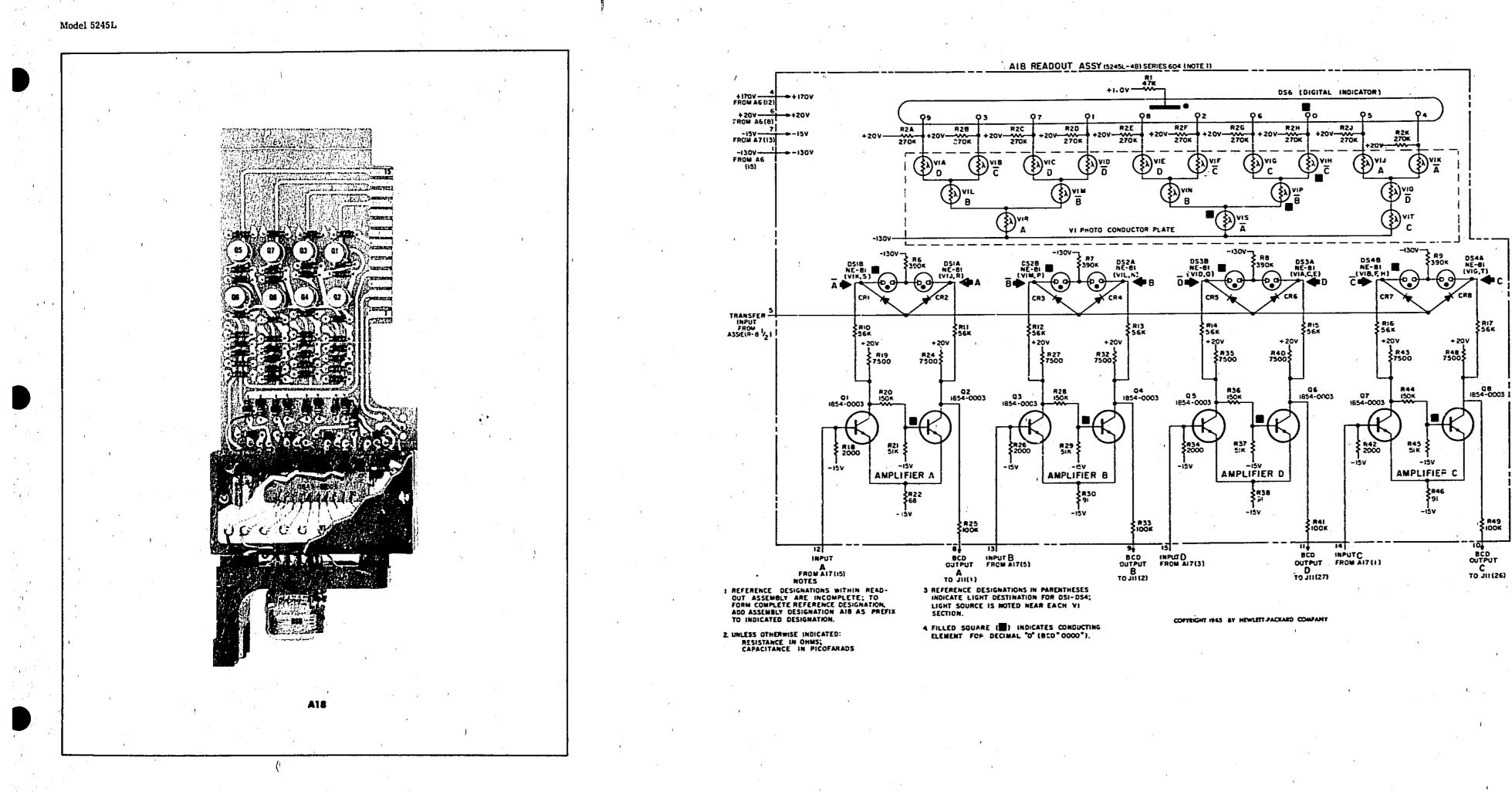
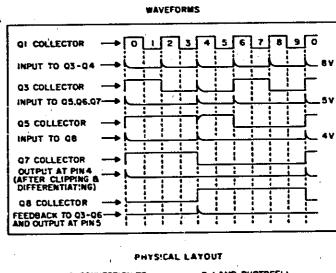
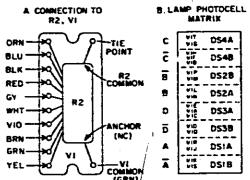
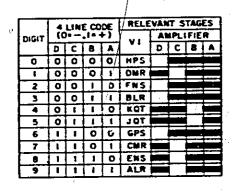


Figure 7-13. A17 Decimal Counter 7-25/7-26

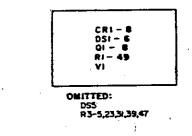




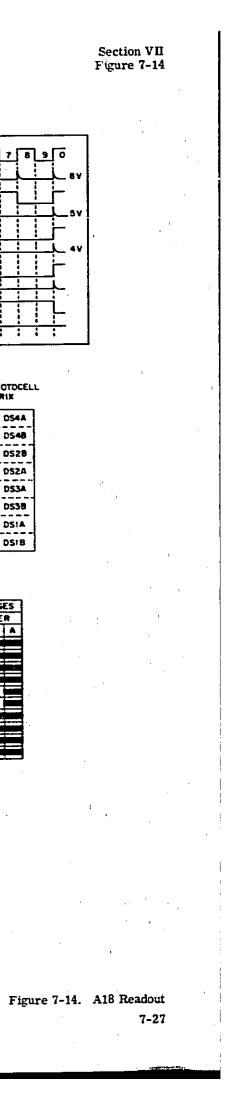




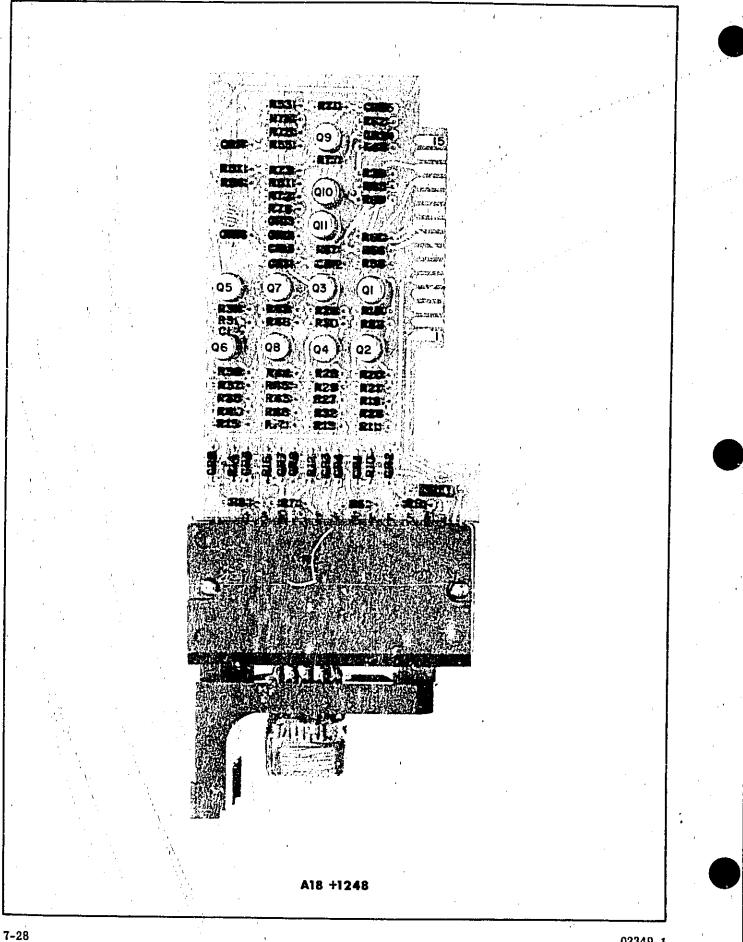
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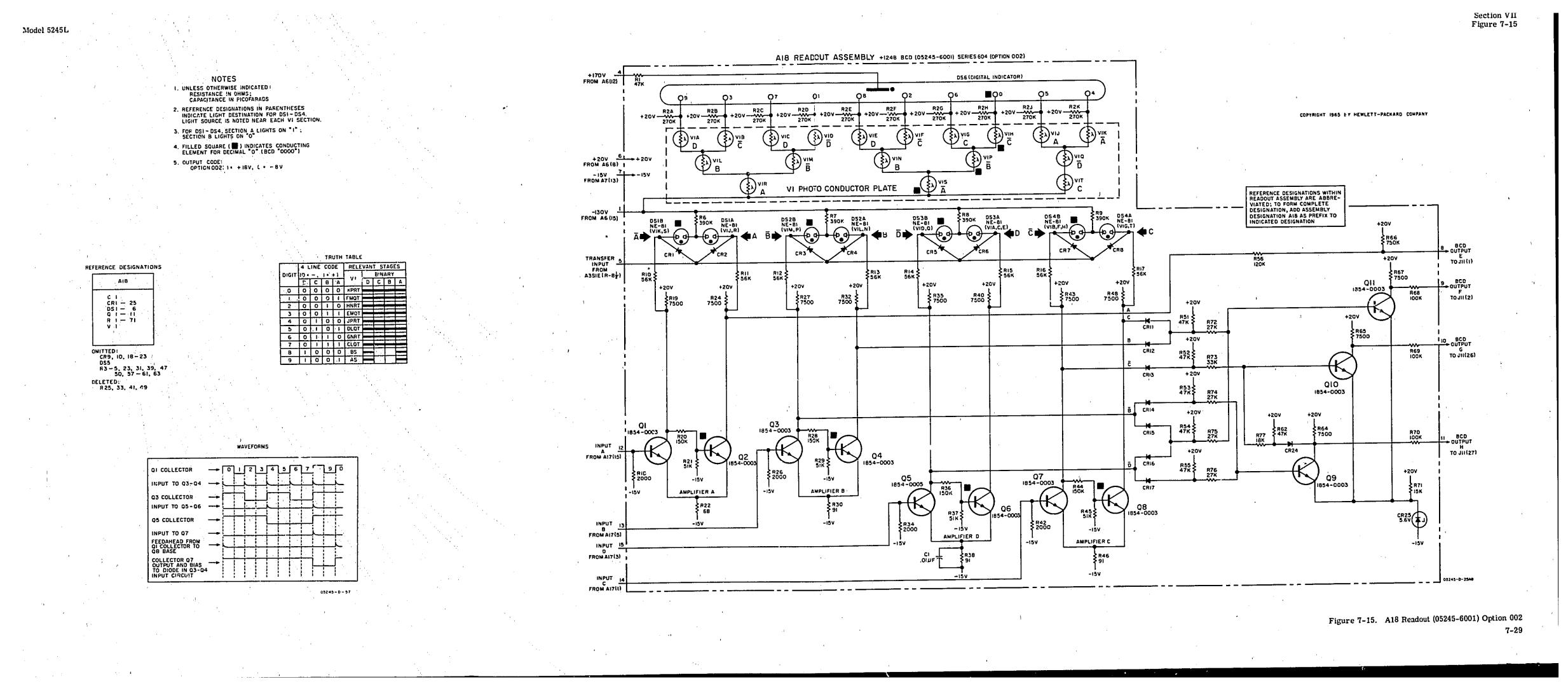


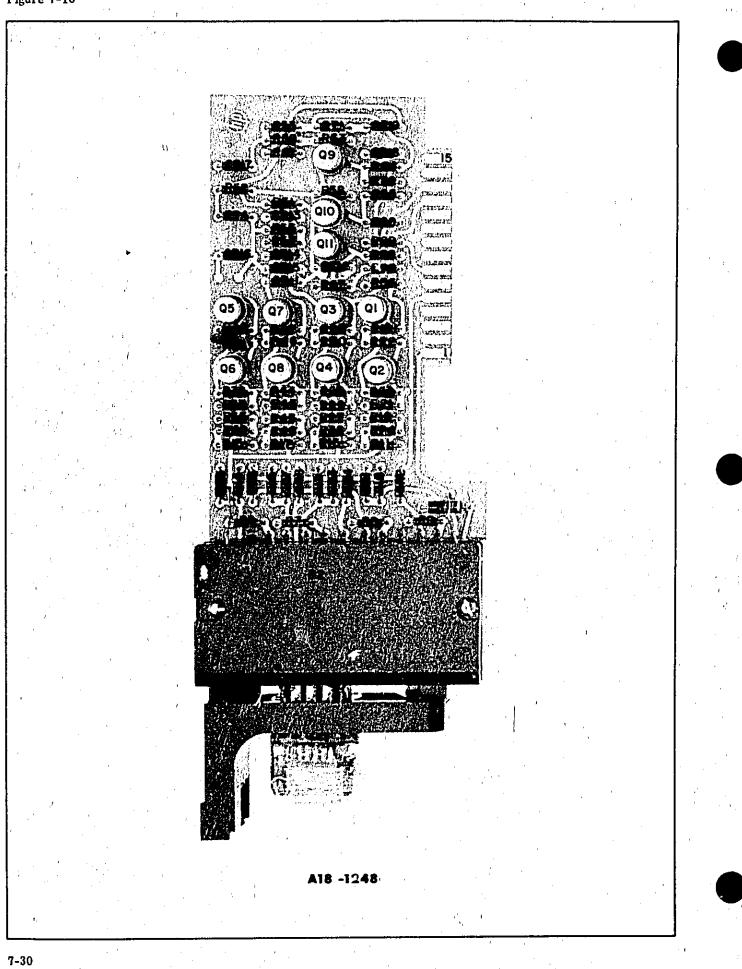
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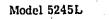


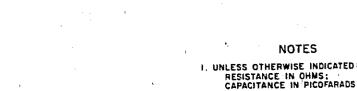
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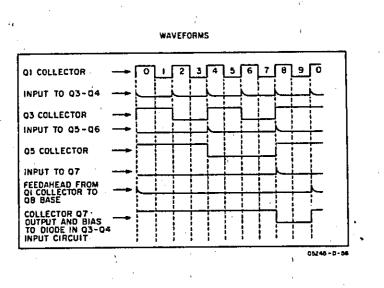
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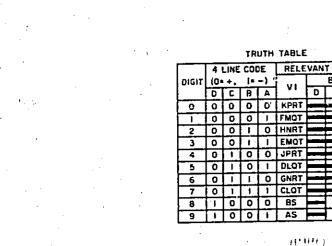
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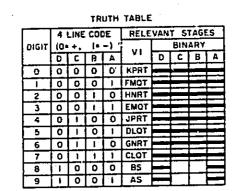
C 3 CRI-19 D51-6 Q 1-11 R 1-71 V 1

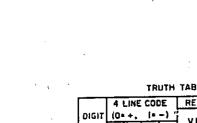
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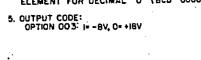
CI, 2

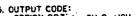


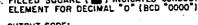




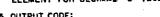




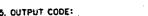


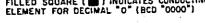


3. FOR DSI - DS4. SECTION A LIGHTS ON "I"; SECTION B LIGHTS ON "O"

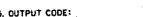


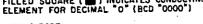


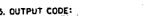


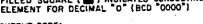


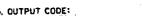


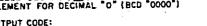




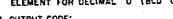




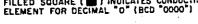




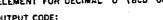




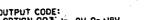


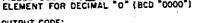


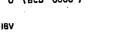


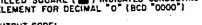


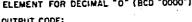


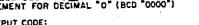


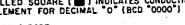




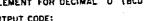




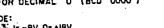


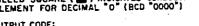


2. REFERENCE DESIGNATIONS IN PARENTHESES INDICATE LIGHT DESTINATION FOR DSI-DS4. LIGHT SOURCE IS NOTED NEAR EACH VI SECTION.

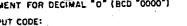


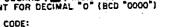
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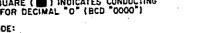


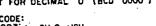


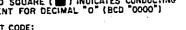


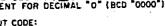


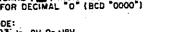


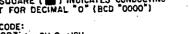


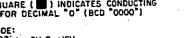


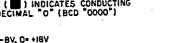


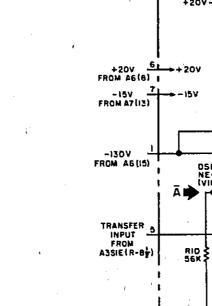


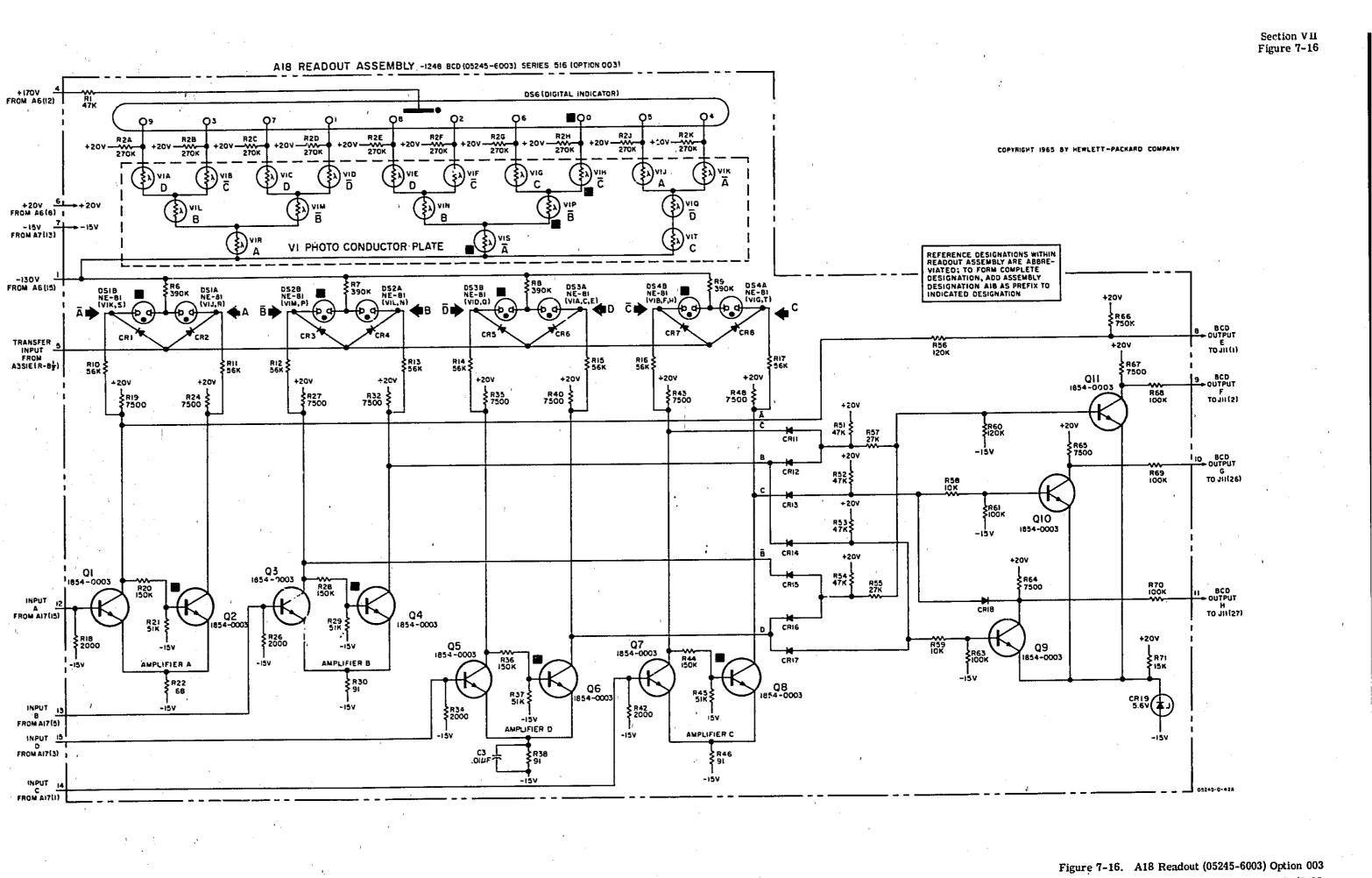










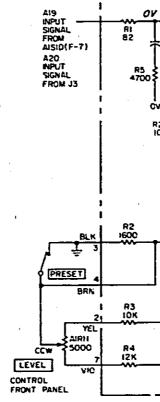


7-31/7-32

Model 5245L

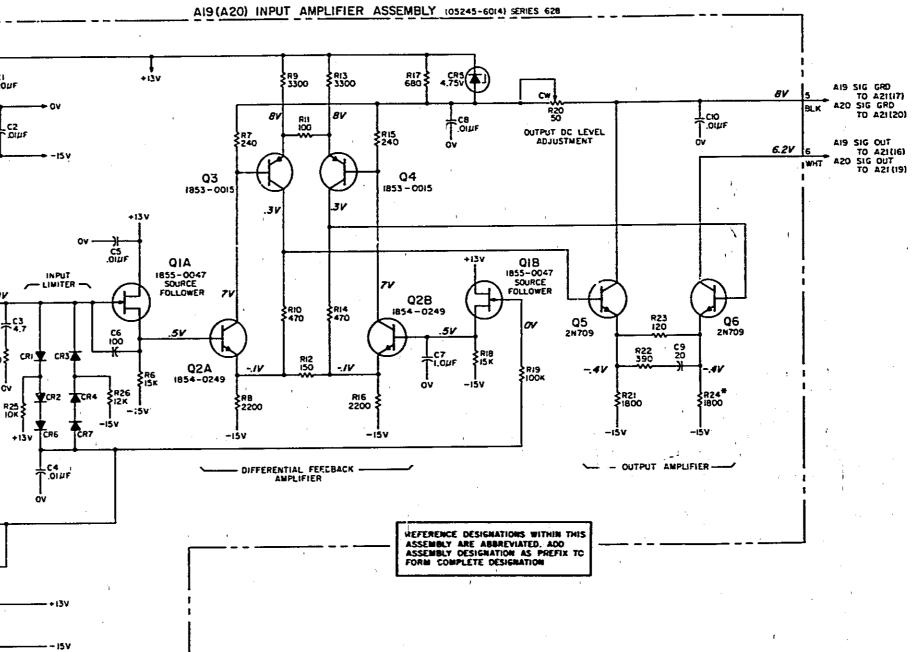
A19,A20

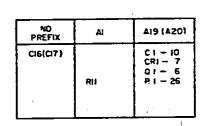
+13V BLK-FROM RED CI6(CI7) - 15V ----F-ROM A7(13)



11

VIO





AI9 (A20) INPUT AMPLIFIER ASSEMBLY (05245-6014)

1. UNLESS OTHERWISE INDICATED: RESISTANCE IN CHMS; CAPACITANCE IN PICOFARADS

2. ASTERISK (*) INDICATES SELECTED COMPONENT, AVERAGE VALUES SHOWN

3. DC VOLTAGES WITH: LEVEL-PRESET TIME BASE-EXT

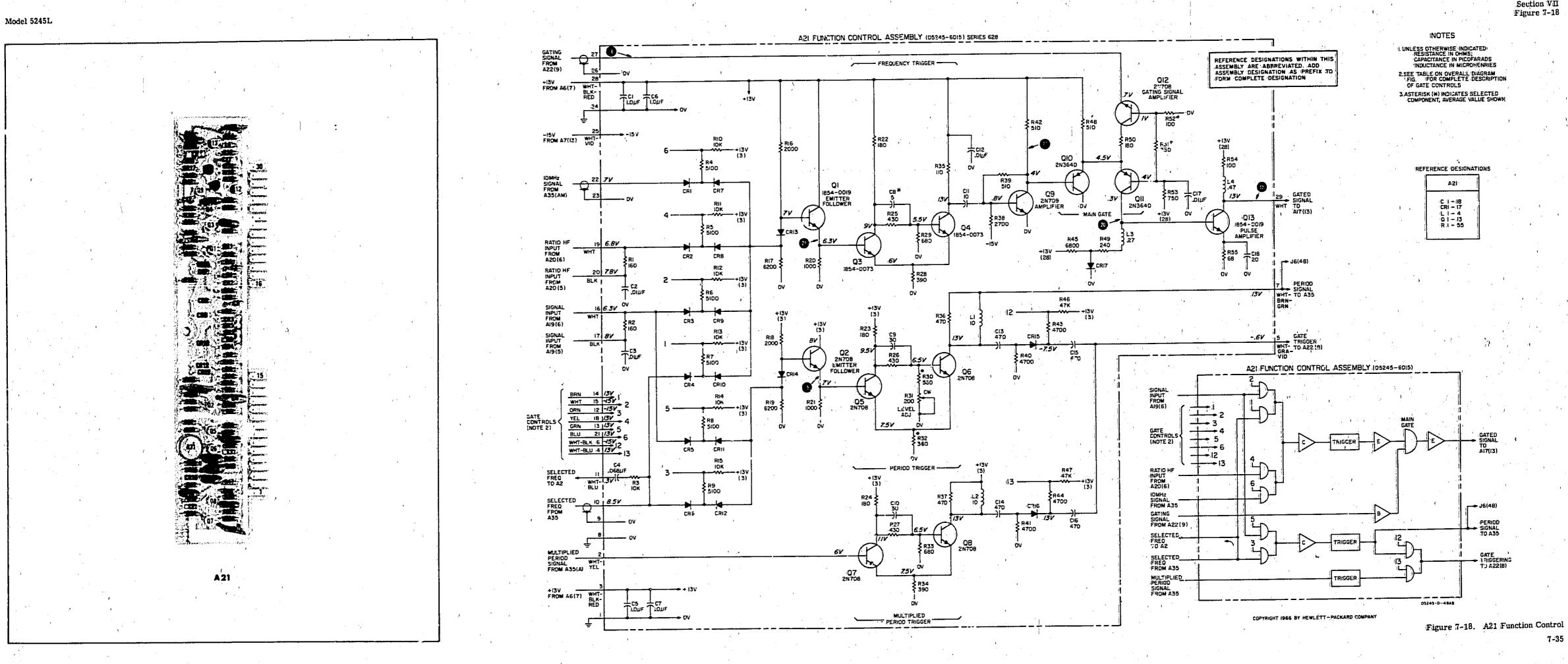
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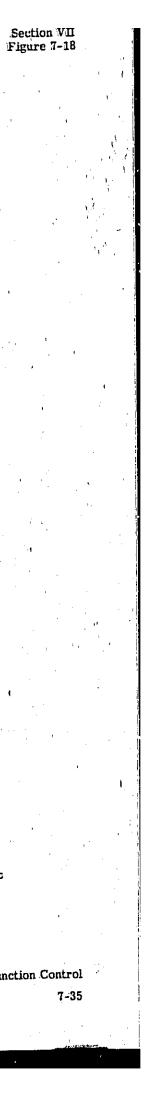
Figure 7-17. A19, A20 Input Ampl

D5245-D-4748

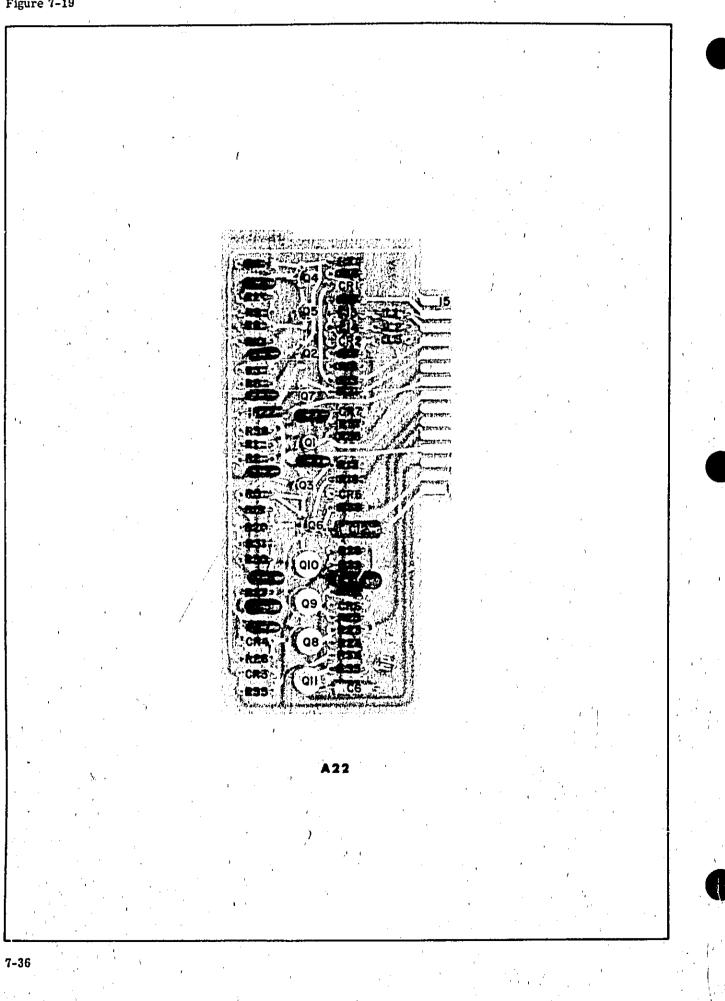
COPYRIGHT 1966 BY NEWLETT-PACKARD COMPANY



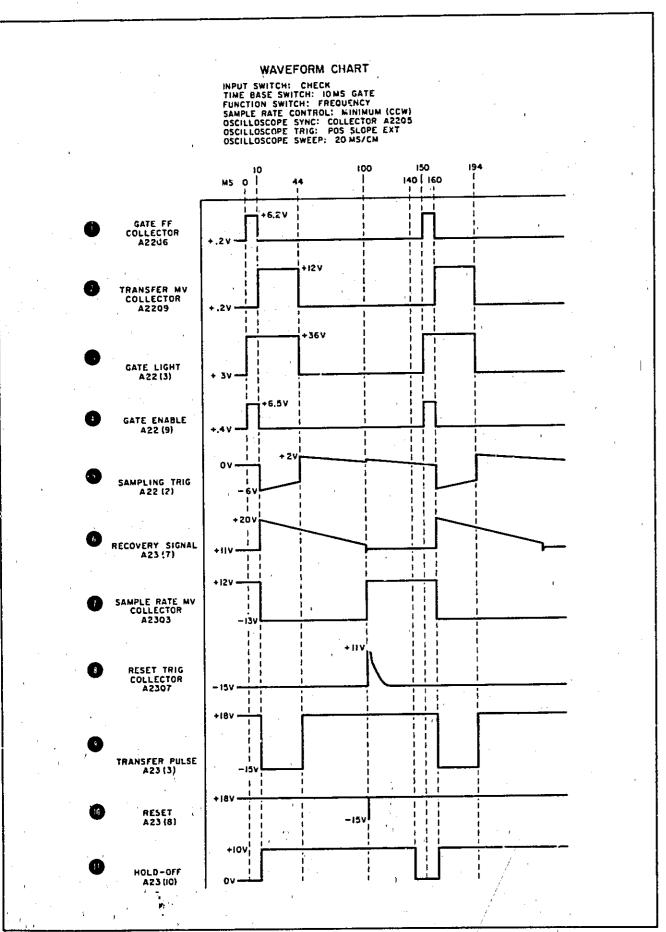




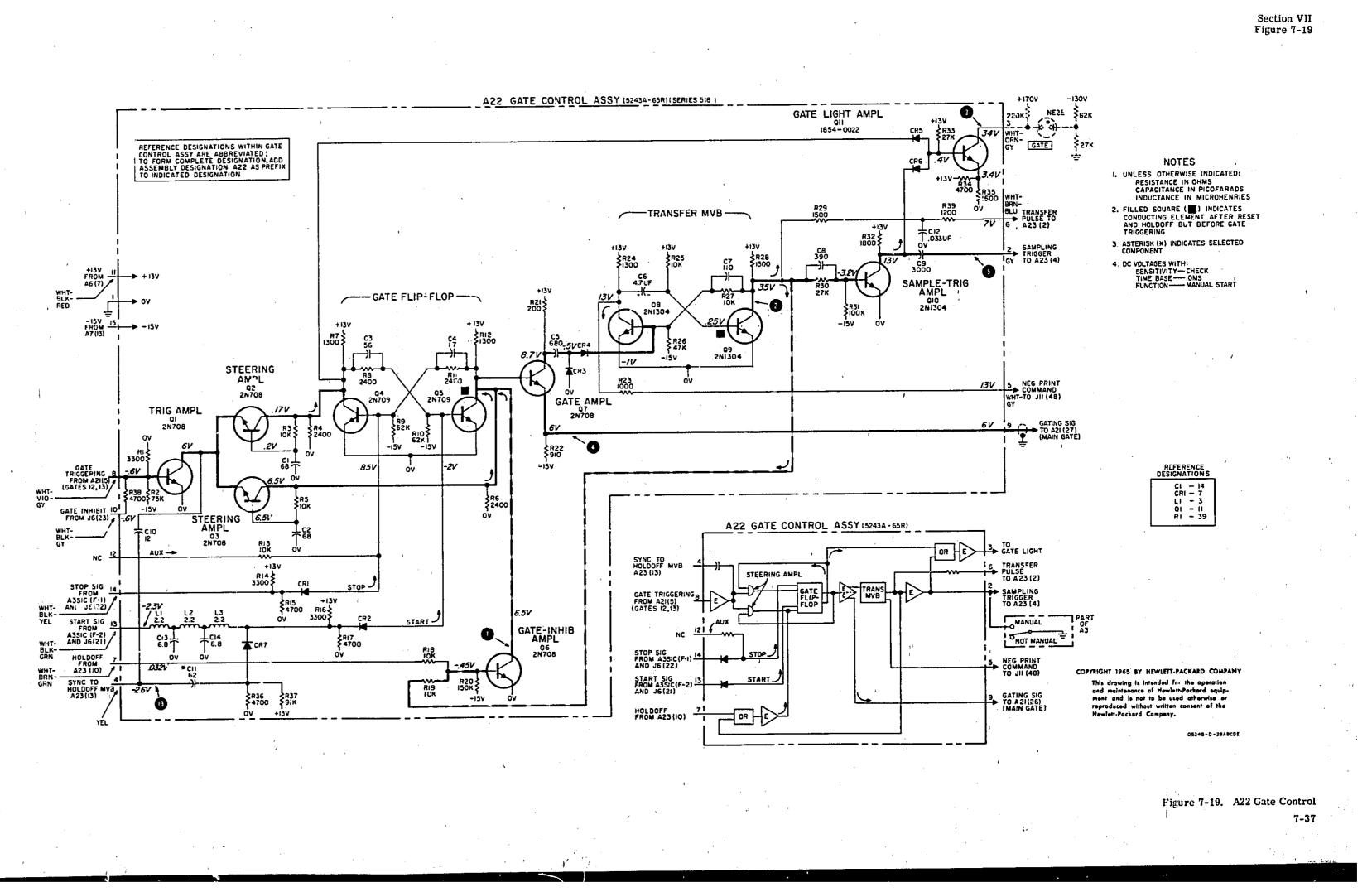
Section VII Figure 7–19 Model 5245L



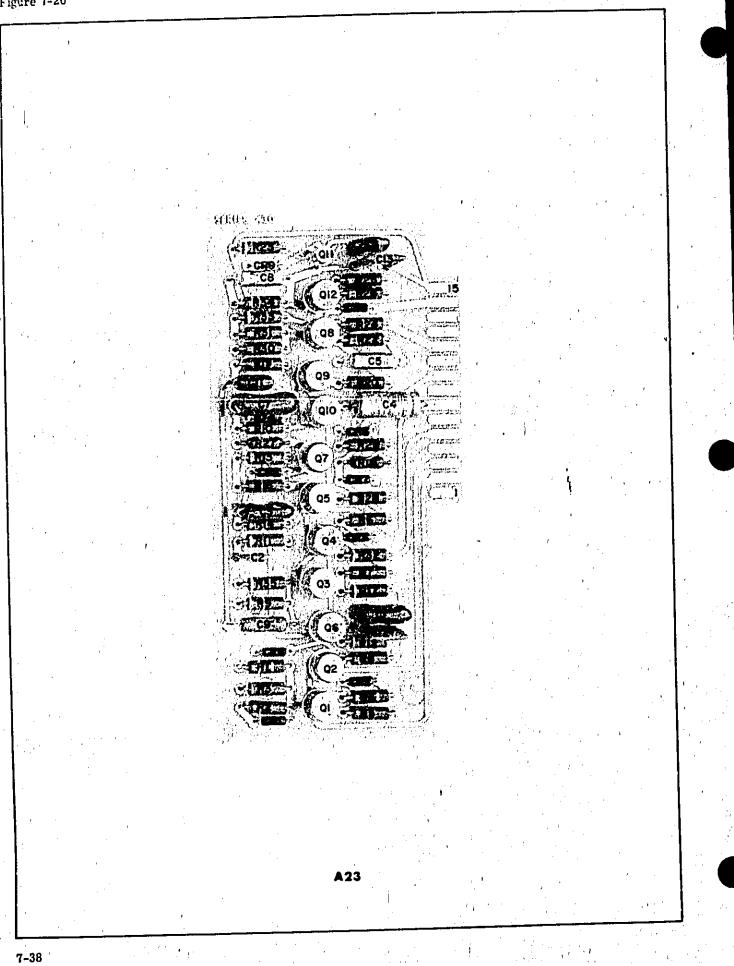
Model 5245L

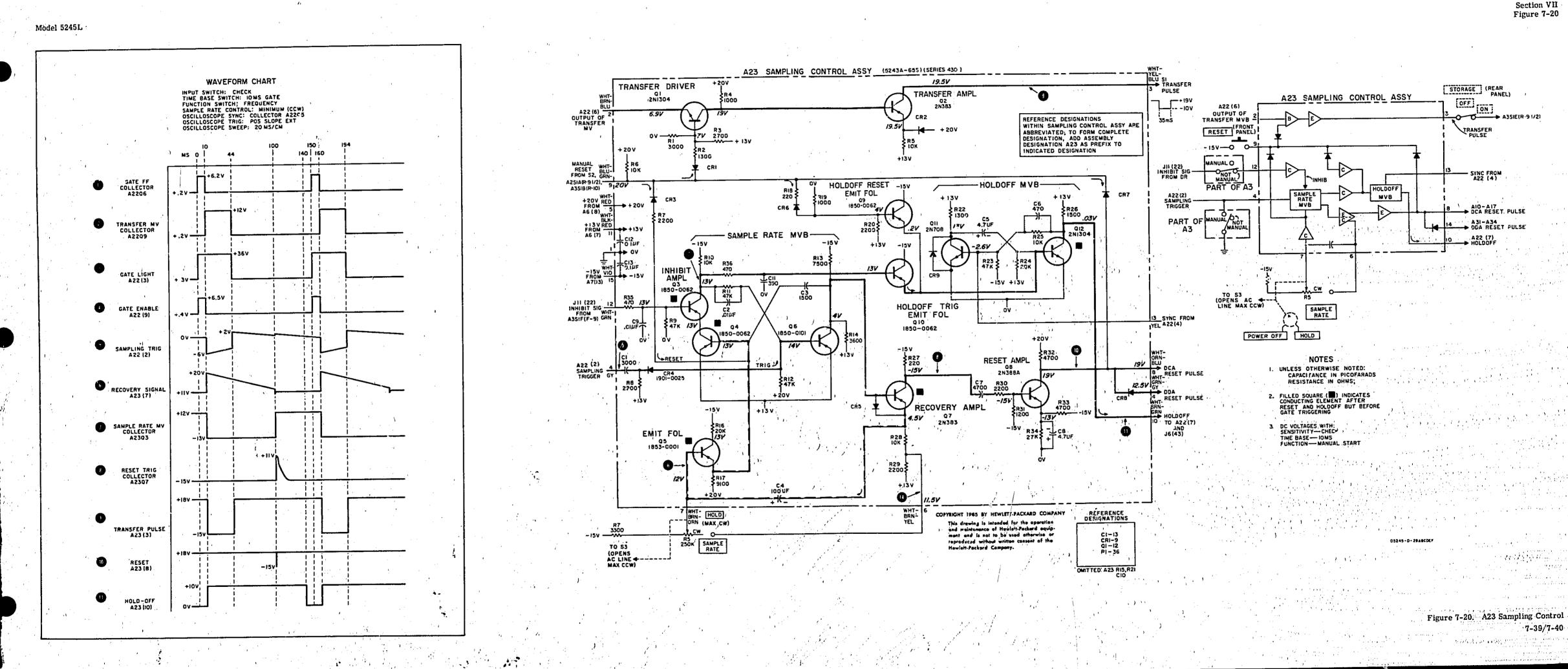












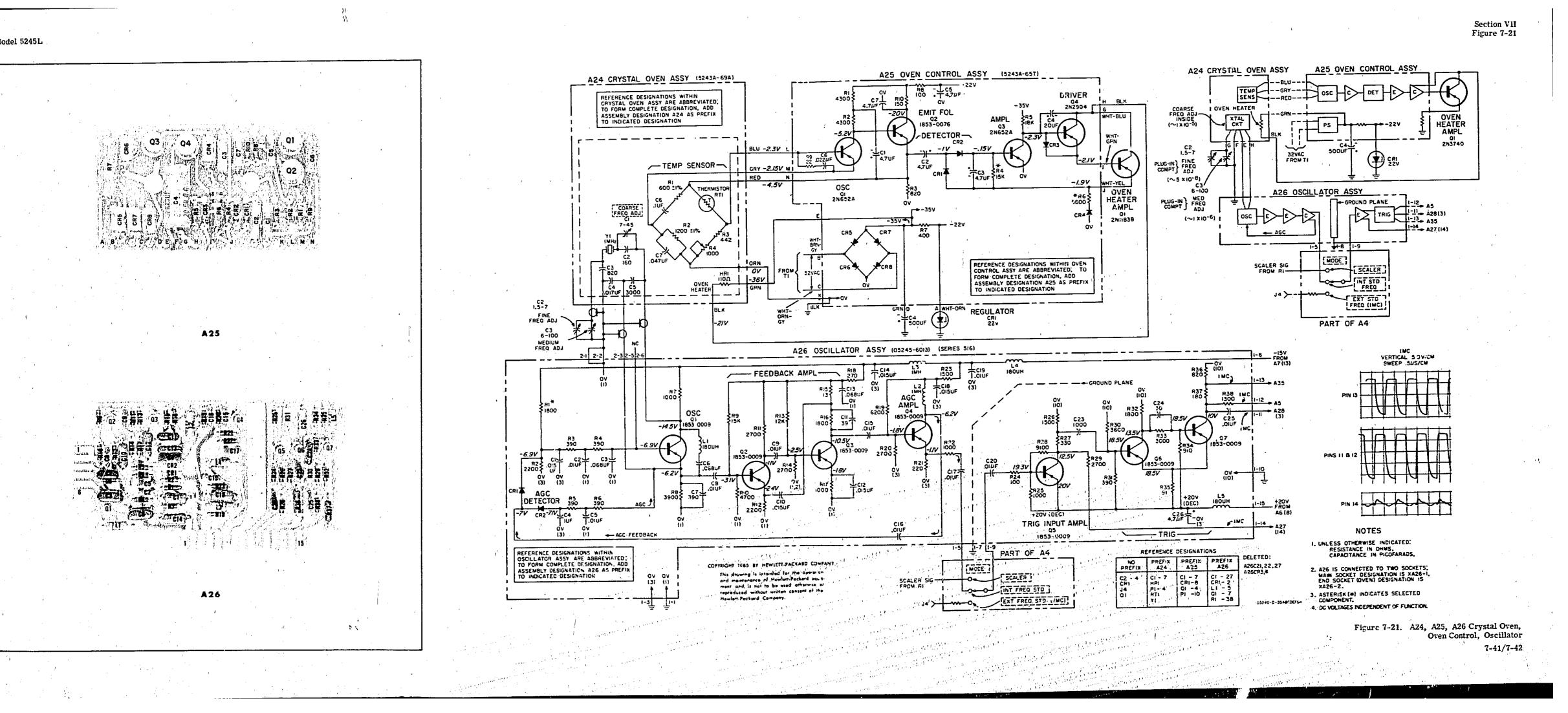
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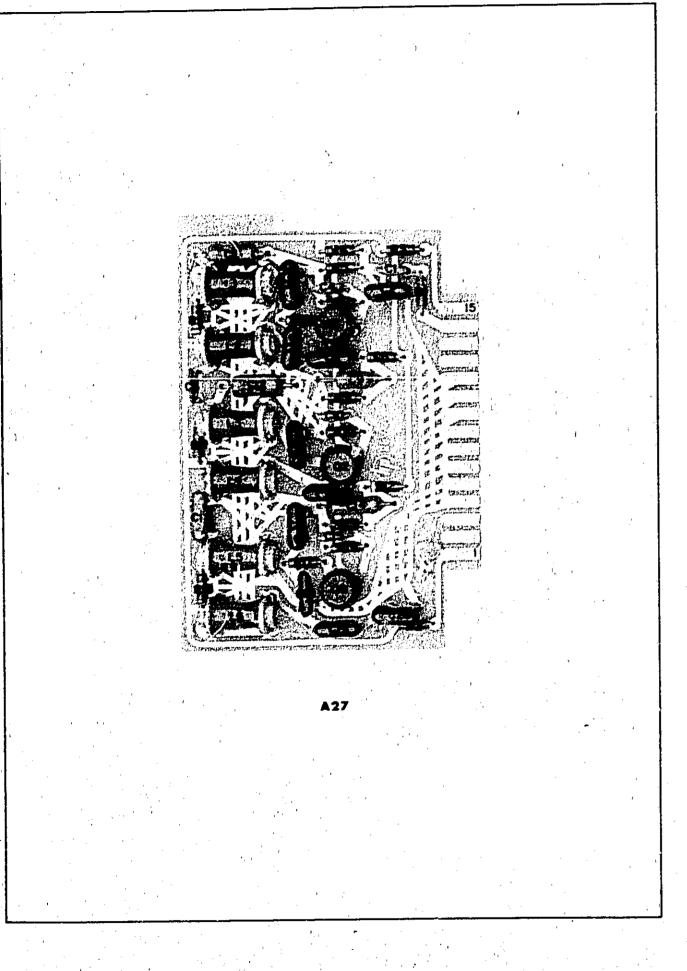
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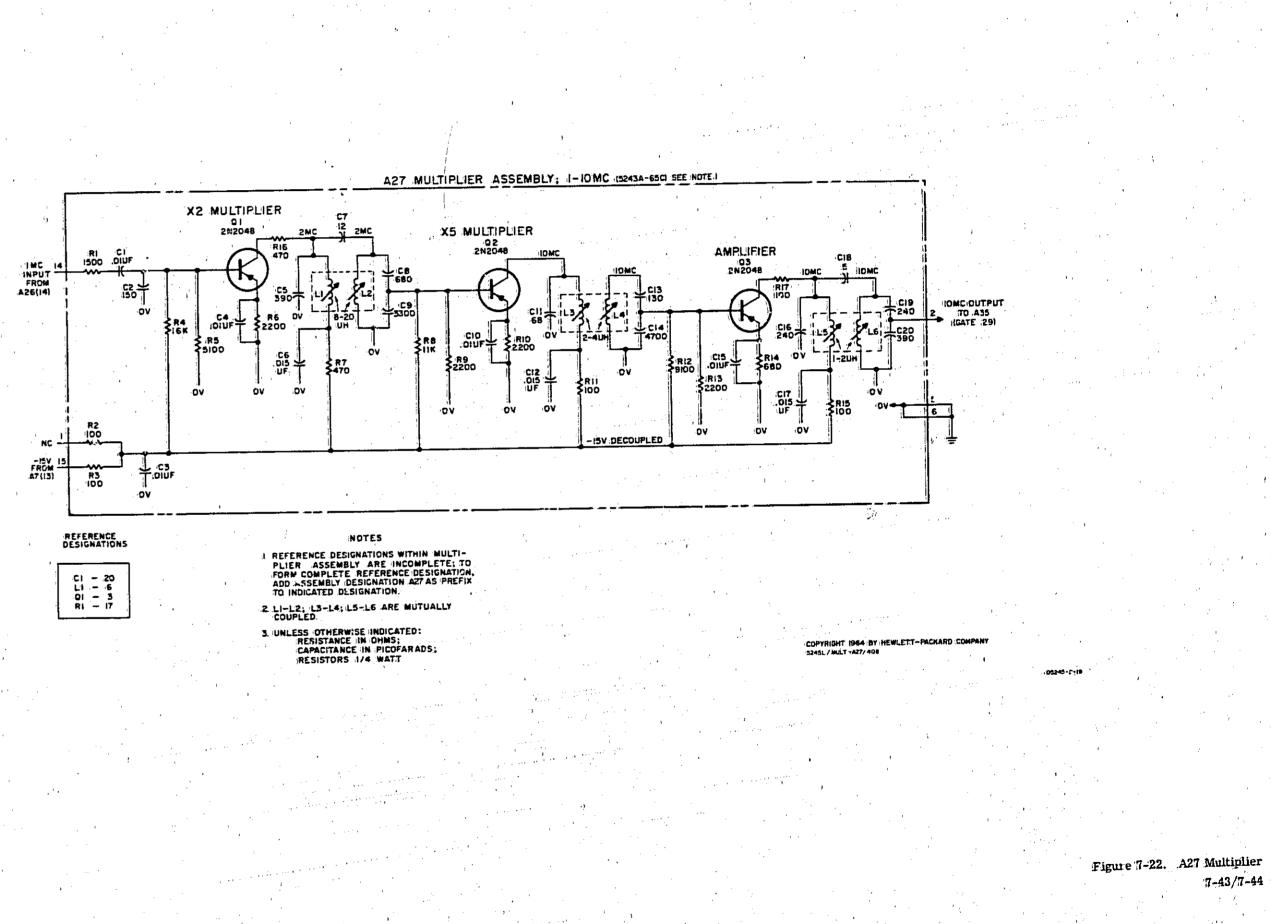
Figure 7-20

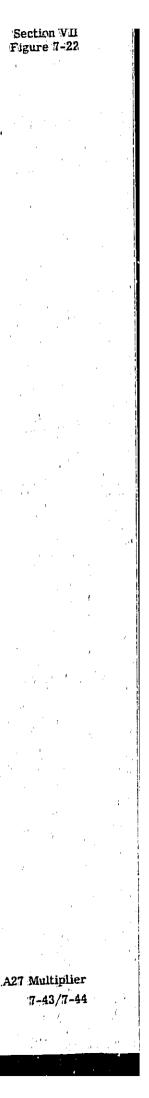
7-39/7-40

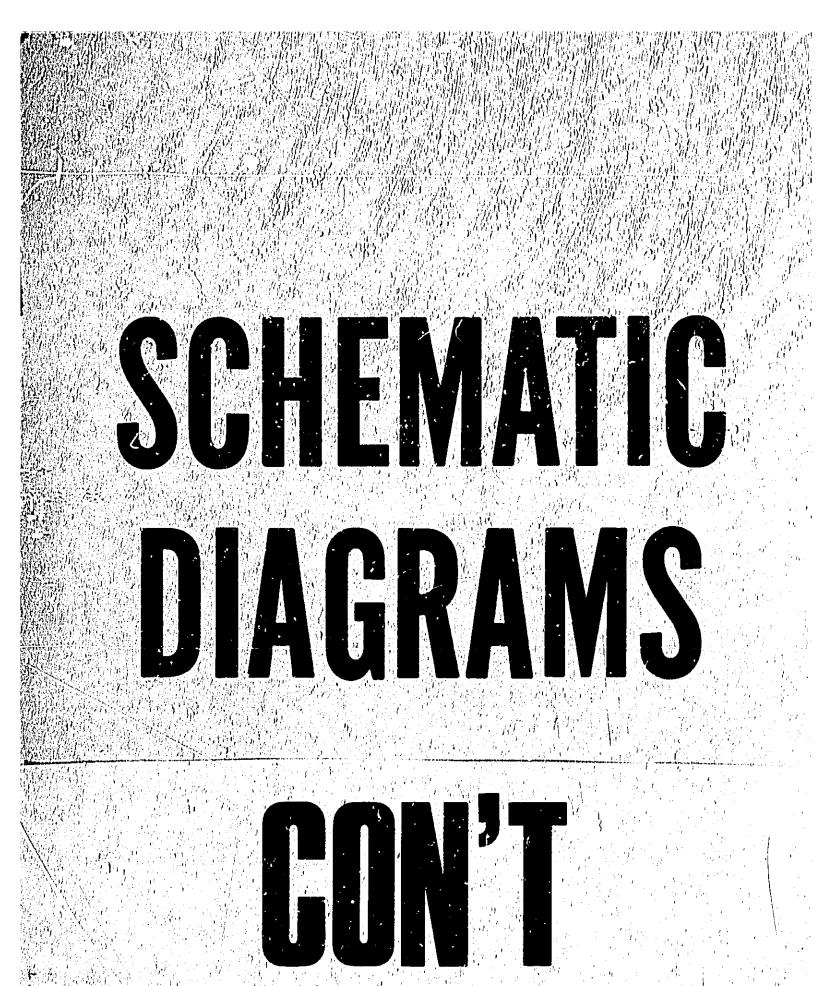
Model 5245L

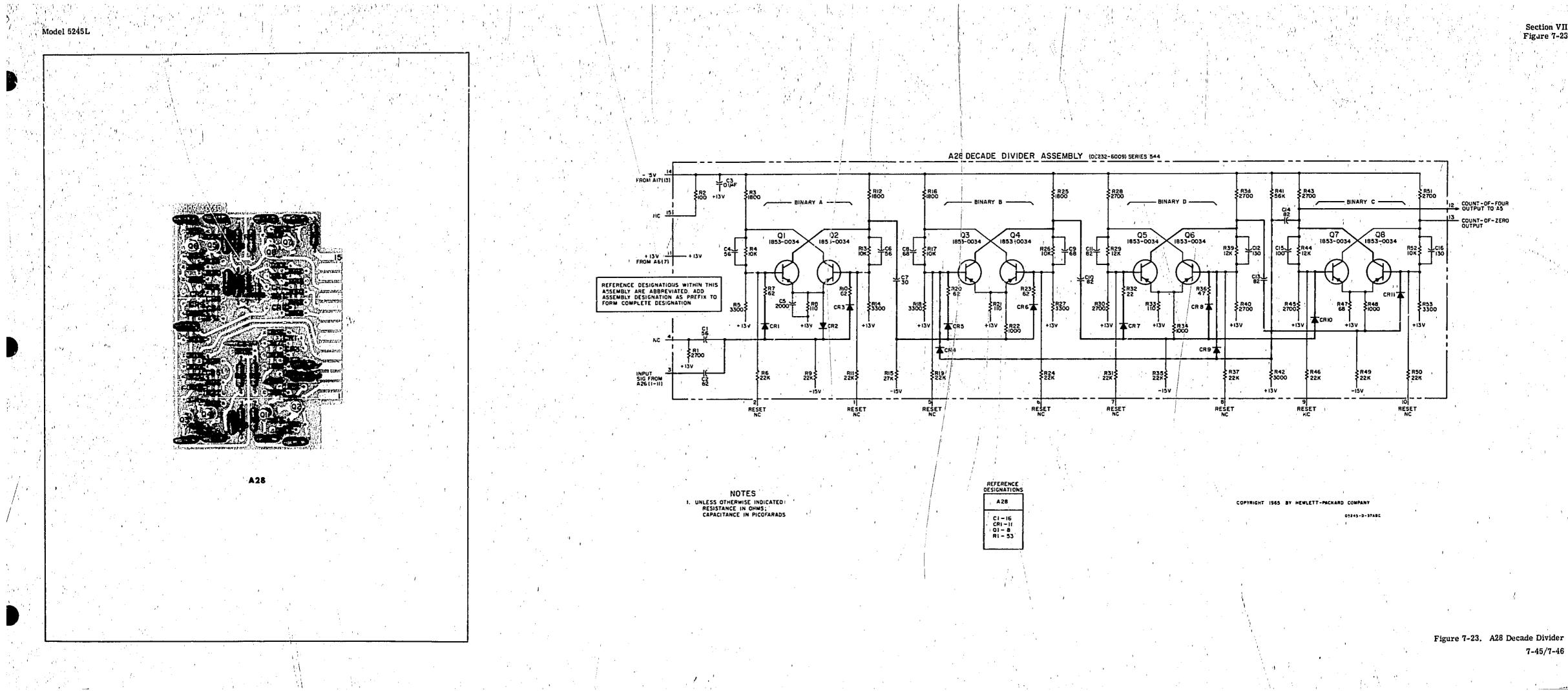




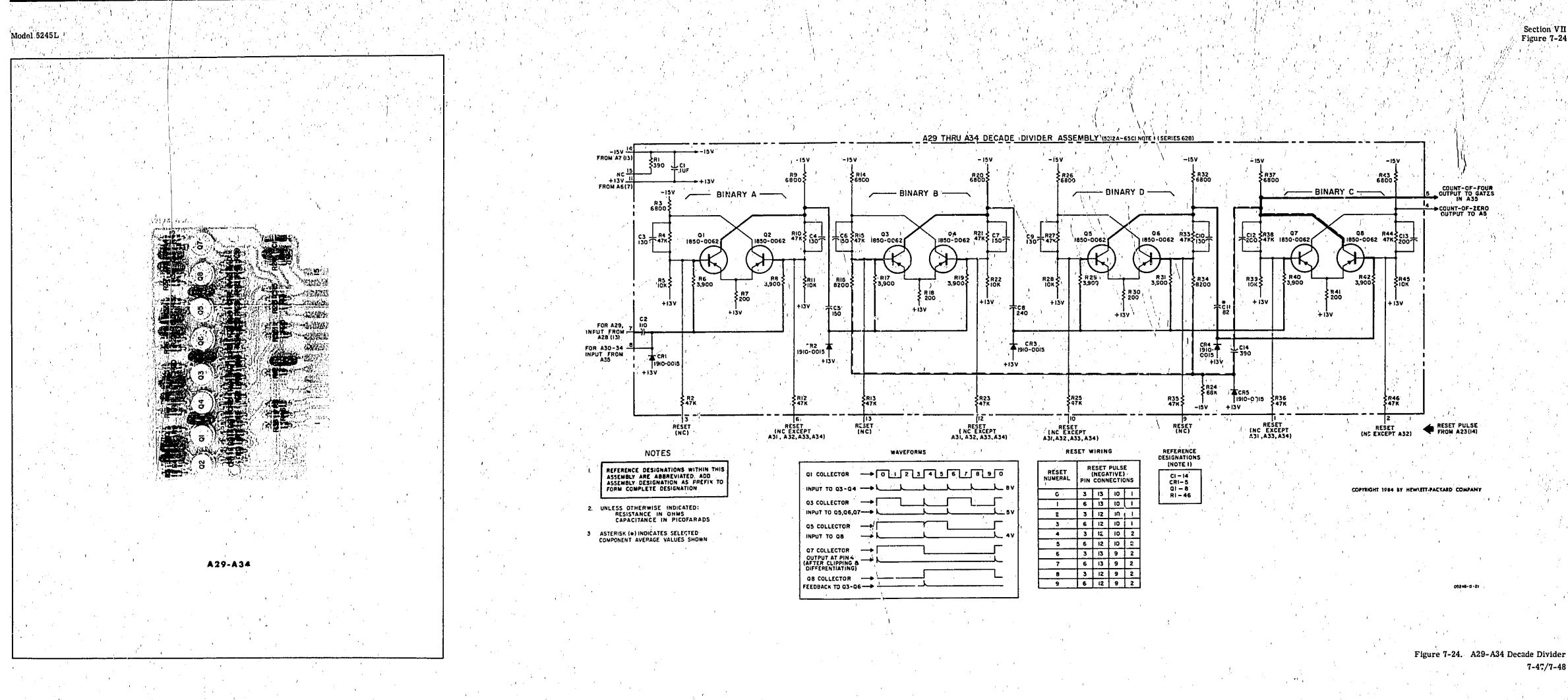


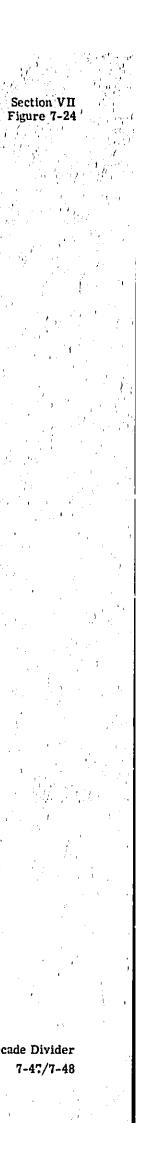


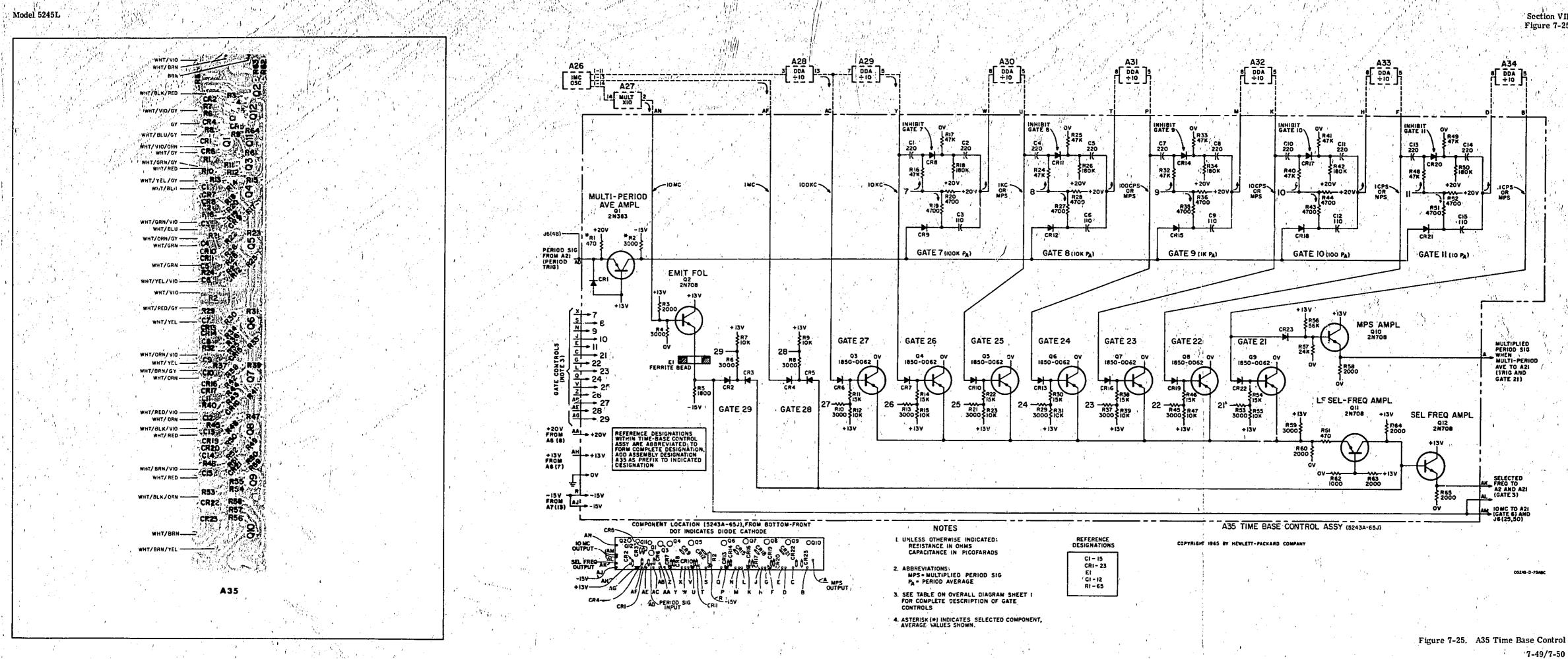






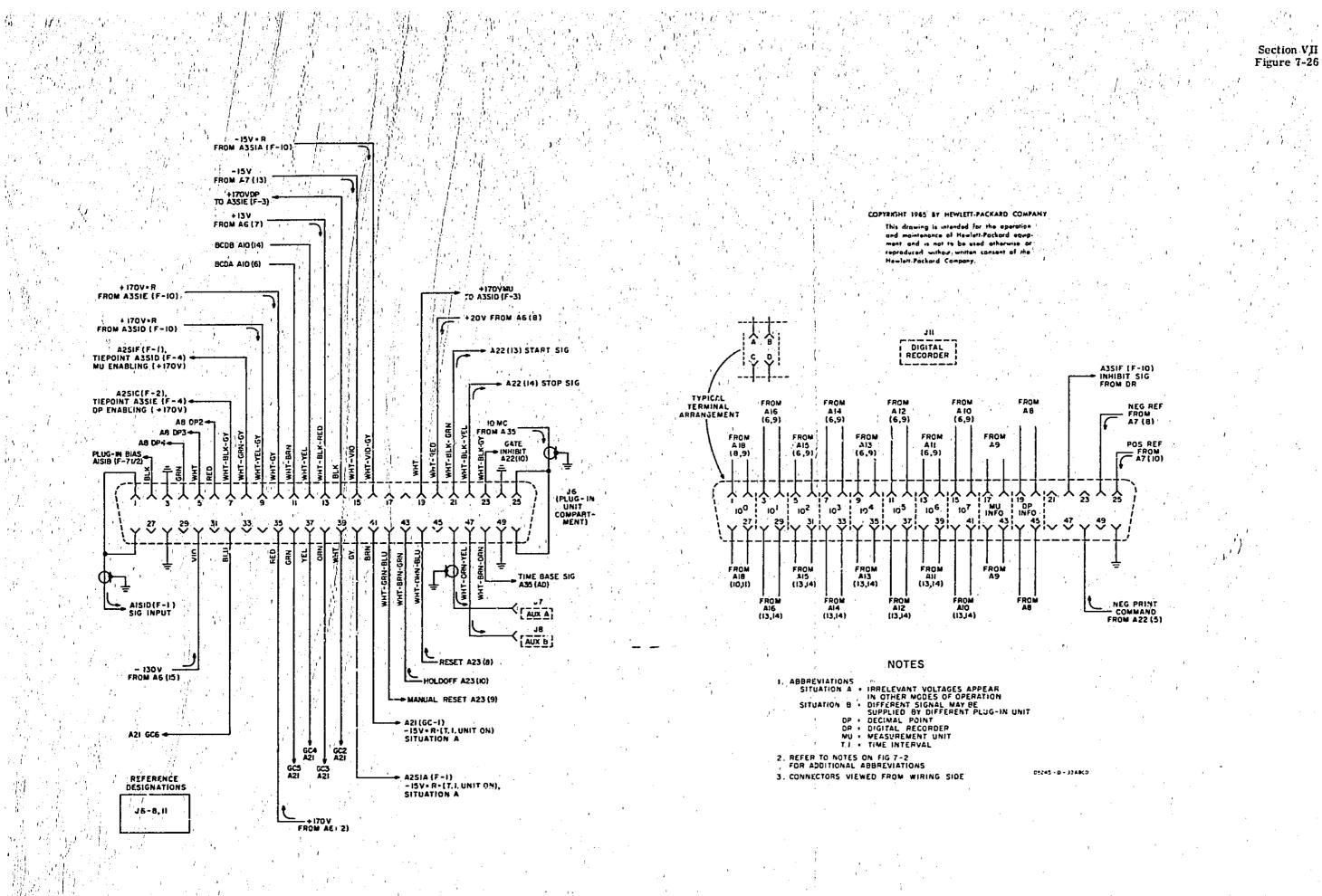






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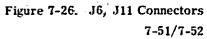


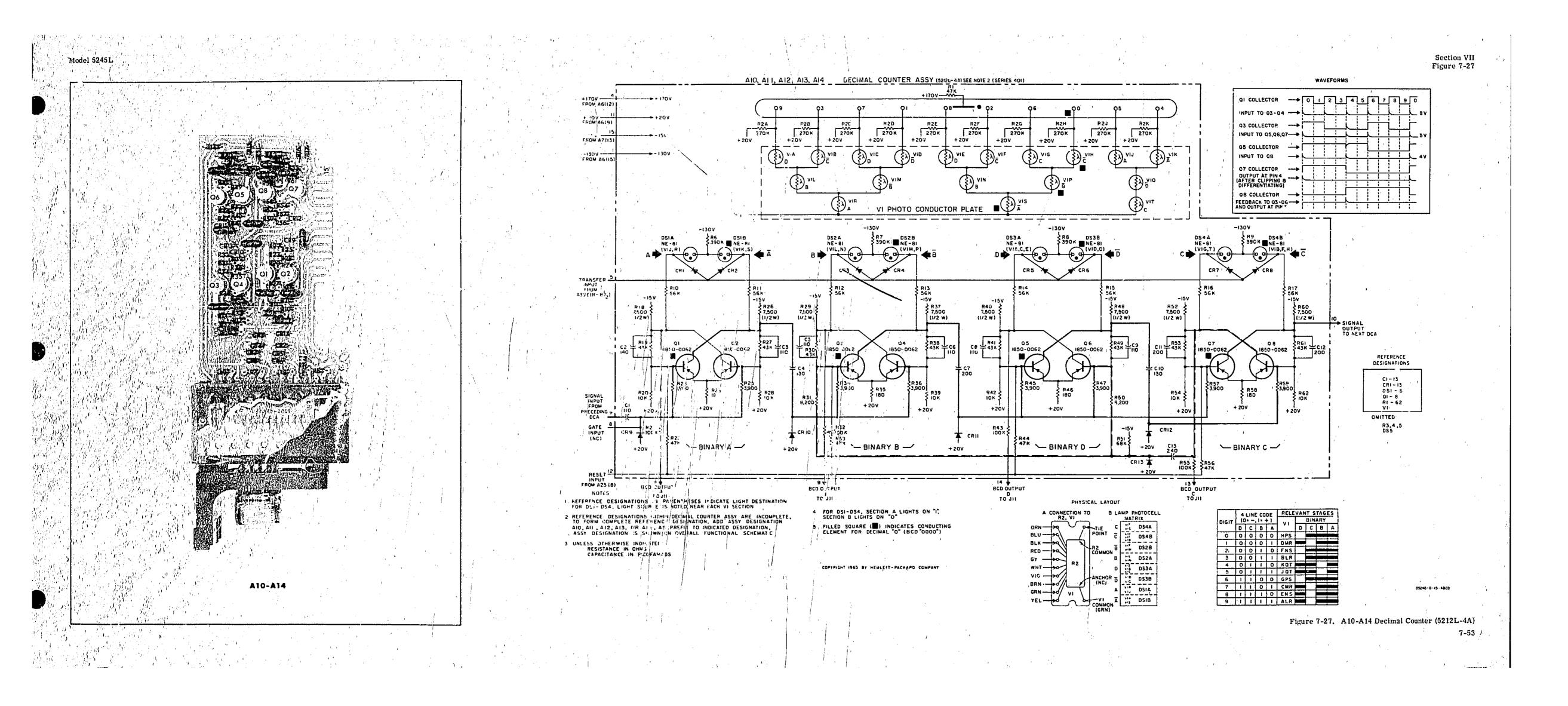


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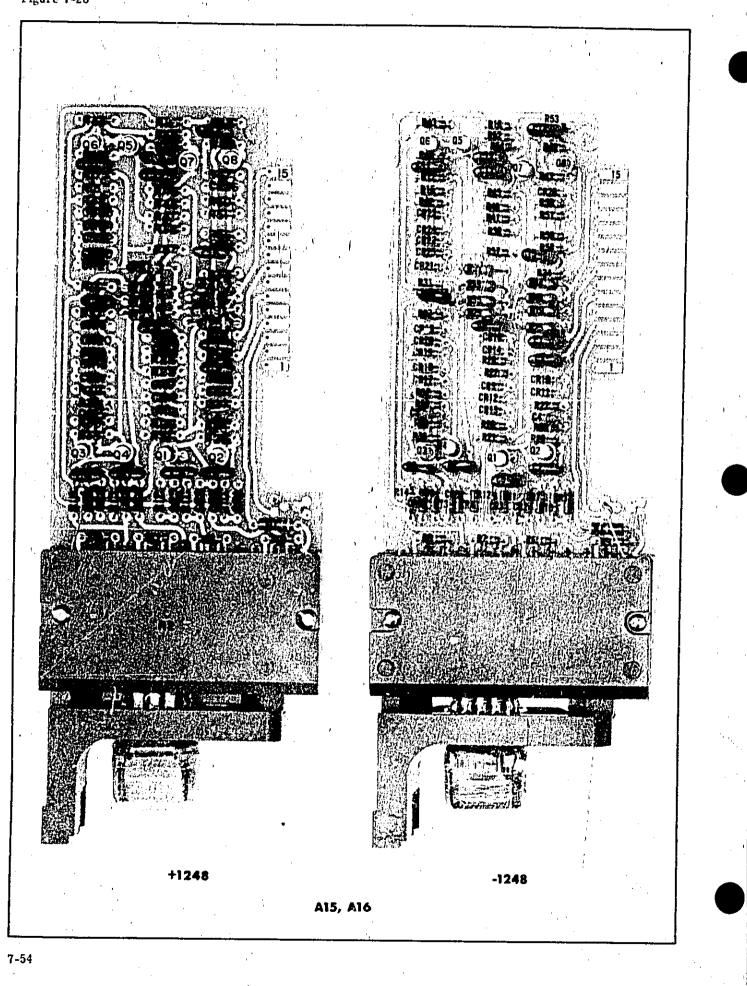
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Section VII Figure 7-28

Model 5245L



Model 5245L

NOTES

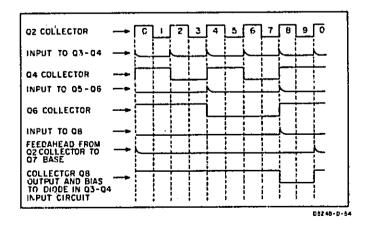
- 1, UNLESS OTHERWISE INDICATED RESISTANCE IN OHMS: CAPACITANCE IN PICOFF HADS
- 2. REFERENCE DESIGNATIO',5 IN PARENTHESES INDICATE LIGHT DESTIGATION FOR DSI-DS4. LIGHT SOURCE IS NOTED NEAR EACH VI SECTION.
- 3. FOR CSI-DS4, SECTION A LIGHTS ON "I"; SECTION B LIGHTS ON "O"
- 4. FILLED SQUARE () INDICATES CONDUCTING ELEMENT FOR DECIMAL "O" (BCD "0000")
- 5. OUTPUT CODE: OPTIONOO2 I#+IBV, O=-8V OPTIONOO3 I=-84, O=+IBV

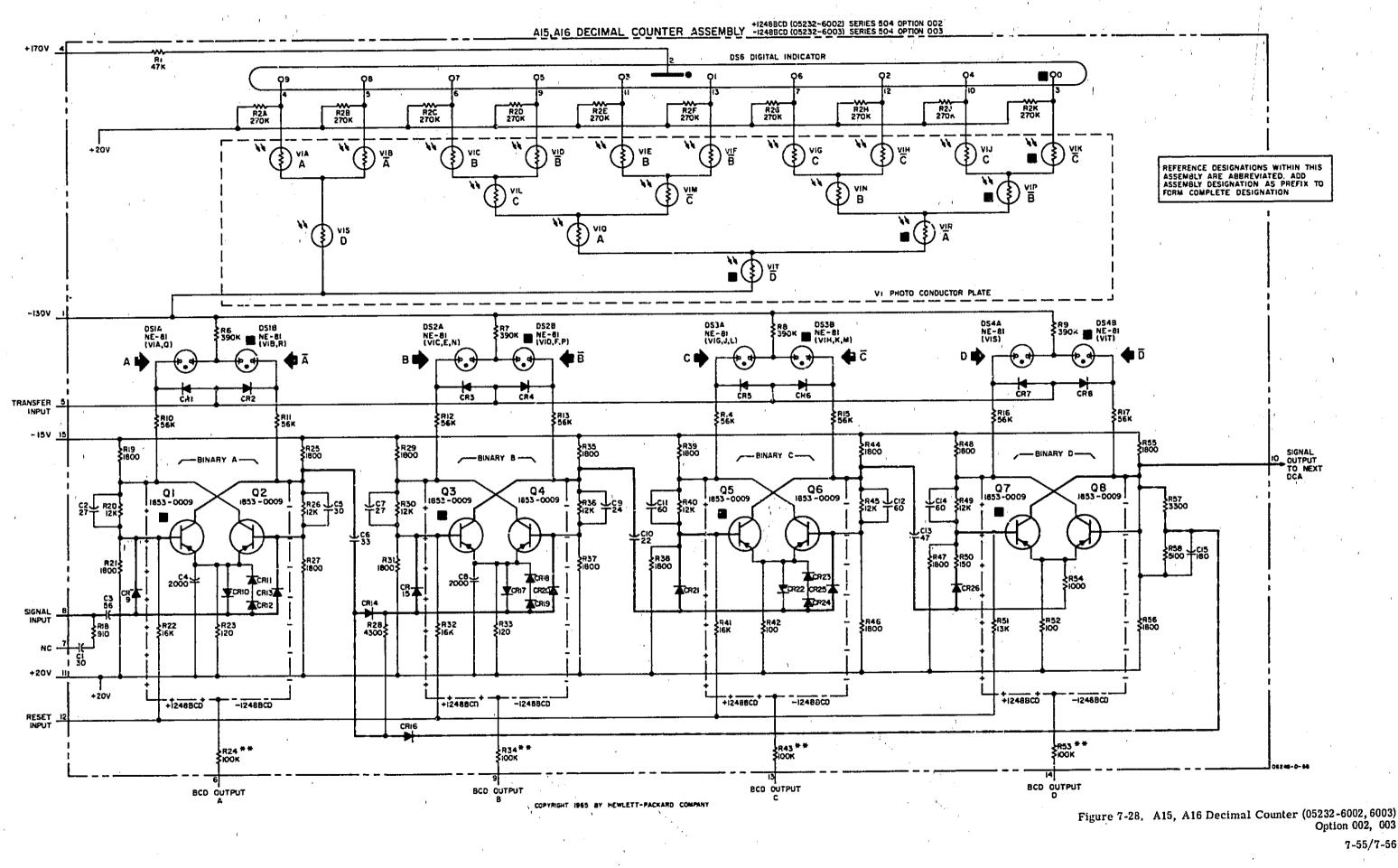
ES 6. THE 05232-6002 DCA'S ARE USED IN OPTION 002 INSTRUMENTS ("I"STATE POSITIVE BCD OUTPUT). THE 05232-6003 DCA'S ARE USED IN OPTION 003 INSTRUMENTS ("I"STATE NEGATIVE BCD OUTPUT). THIS SCHEMATIC IS FOR BOTH DCA'S. THE ASSEMBLIES ARE IDENTICAL WITH ONE EXCEPTION. THE OPTION 002 DCA'S (05232-6002) HAVE RESISTORS MARKED WITH DOUBLE ASTERISKS (**) CONNECTED TO COLLECTORS AS SHOWN BY -- +- → LINES. THE CPTION 003 DCA'S (05232-6003) HAVE THESE RESISTORS CONNECTED TO OPPOSITE COLLECTORS AS SHOWN BY -------LINES.

REFERENCE A15, A16 C I - 17 CRI - 23 DSI - 6 Q I - B R I - 68 ΥL OMITTED: DS5 R 3-5

			TR	UTH	TABLE					
		LINE	ro		RELEVANT STAGES					
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	0	0	0	-	FMQT					
2	0	0		Ō	HNRT	_				
3	0	0	1		EMOT					
4	0	1	0	0	JPRT					
5	0	;	0	1	DLOT]				
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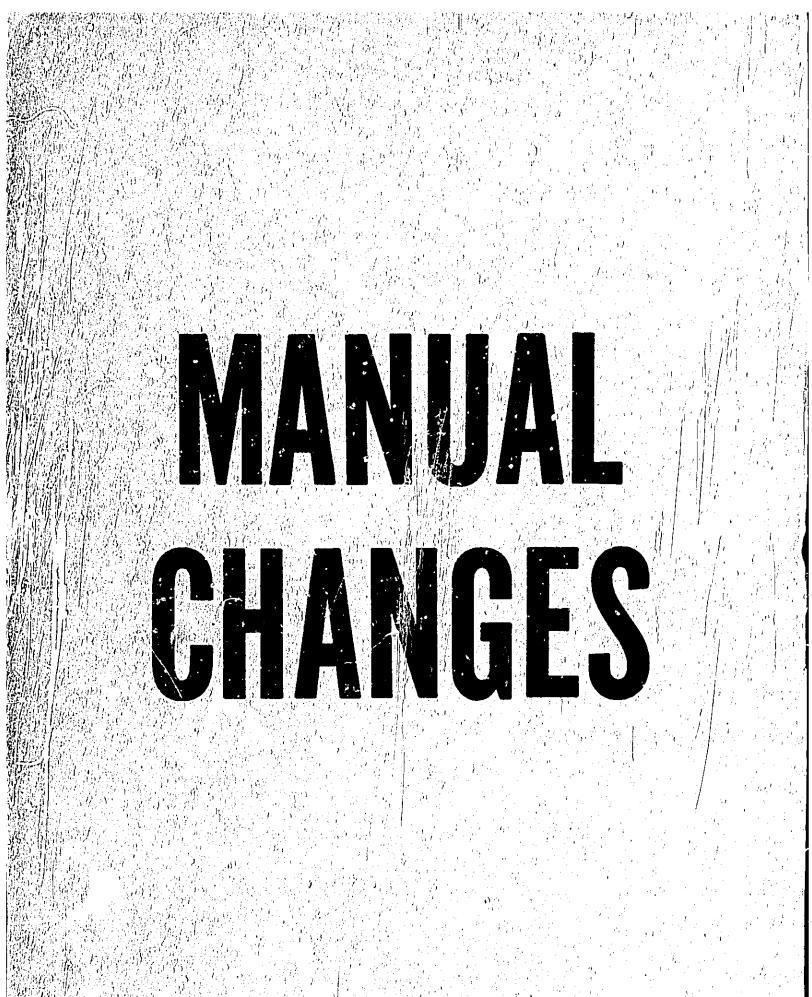
WAVEFORMS





Option 002, 003 7-55/7-56

Section VII Figure 7-28



	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		IANUAL CHANGES
INSTRUMENT: 5245L	1973	 Changes) Make all changes Check the follow instrument's serial 	seden all earlier dated s listed as ERRATA. ting table for your al prefix or serial number
MICHOFICHE NO: 05245	9047	and make listed o	change(s) to manual.
IF YOUR INSTRUMENT HAS SERIAL PREFIX OR SERIAL NUMBER	FOLLOWING CHANGES	IF YOUR INSTRUMENT HAS SERIAL PREFIX OR SERIAL NUMBER	MAKE THE FOLLOWING CHANGES
M Prote 1336A	·通行给1966、这个Exits。 44.0	1840A	1,2,3,4,5,6,7,8,9
1412A/2 《注意	1.2 小说他们	1904A	t through 10
1436A	1,2,3	1912A	22. % 1 through 10 (22. 22)
1426A26441 thru 1436A26540	1,2,3,4	1924A	1 through 12
1436A26541 thru 1436A26640	1.2,3,4,5	1932A	1 through 13
1644A	1,2,3,4,5,6	2004A	through 14
1720A		2016A	a), [3] 1 through 14,15
18204	1,2,3,4,5,6,7,8	·····································	
LEW OR REVISED ITEM	are svailable from your loc	al HP,Sales and Service Off	
Service Note No.	Descrip	a secondaria de la companya de la companya de la companya de la companya de la companya de la companya de la c	现在已是是自己的人
5425L-2	ibit Signal Modification	metal Andrews and the	· 注意教育的保護教育的主义。
5245L-3	out Amplifier Modification	until hand he was the states	家的。但在这个中心的问题。 第二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十
5245L-4	n Modification	的同時的目的	國國民族政治國際自動國際
5245L-5A	placement Transistor for A2	8Q1 hru A28Q8 in Decade	Divider (05232-6009)
	placement Transistor for A1	7Q9 in the 50 MHz Decimal	Counter (5245A-65C)
5245L-7	placement Transistor for A2	502 In Oven Control Assem	bly (5243A-65T)
5245L-JA	en Heater Transistor (Q1) R	loplacement	化过去分词 计算机

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6/7985-8205-839-· 1. 5622-5653-6023-5407-6971-6598-7034-7056-7094-7481/7486/7985-8205-8396/8414-8449 'n.,



£.

 $(-e^{-1})$

[* 'a']? _____

ERRATA Page 1-1, Table 1-1, Accessories Supplied or Available: Change 5243A-44A to 05243-6043. Change 5020-0709 35 5020-7622. Change 5020-07//8 to 5020-7621. Change 05243 4001 to 05580-2042. Change 05243-9004 to 05243-9005. Change 05243-6022 to 05245-6022. Page 1-2, Table 1-2, TIME BASE, Output Frequencies: Change next to last line from "1000 ohm" to "100 ohm". age 1-3, Table 1-2, Specifications: Deleta Options 002 and 003 listed under "OPTIONAL AND SPECIAL FEATURES" Page 3/11d, PERFORMANCE CHECK TEST CARD, E.3. TIME BASE: Change fourth line from "100-chm" to "1000-chm". Change fifth line from "1000-chm" to "100-chm". Add at right hand box, TIME BASE OUTPUT JACK (J5), under 1V rms and under 5Vp-p "or greater". Page 4-16, Table 4-1: Change A21CR9 from 1901-0040 to 1910-0016; change description from SILICON to GERMANIUM. Page 4-22, Table 4-1: Change A2502 from 1653-0076 to 1853-0086. Page 4-33, Table 4-1: Delete W1 8120-1348. Page 5-1, Paragraphs 5-15 and 5-17: Change first sentence from "number 716-" to "number 1124A" Page 4-40, Table 4-2, Replaceable Parts: Delete 1850-0090, TRANSISTOR: GERMANII'M 2N11833 PNP. Add 1853-0052; TRANSISTUR: SILICON 2N3740; 04713: 2N3740; 1. Add 0340-0162; INSULATOR: TRANSISTOR (for 2N3740); 28480; 1. Page 4-7, Table 4-1, A10 Replaceable Parts: Change A10R31 and R35 from 0683-3925 (39002) to 0683-8225; R: FXD COMP 8200 OHMS 5% 1/4W. NOTE: This change is recommended for any 05212-6016 circuit with 1853-0217 silicon transistors. Page 7-17, Figure 7-9, A10 Schematic Diagram: Change A10R31 and R35 from 3900 to 8200 ohms. Page 4-20, Table 4-1, A23 (5243A-65S) Reference Designation Index: Change A23Q8 from 1851-0624 (NPN GER.) to 1854-0642; TRANSISTOR NPN SILICON; 28480; 1854-0642. The silicon transistor is the preferred replacement part in all 5248L instruments, Page 4-41. Table 4-2. Replaceable Parts: Change 1851-0024 to 1854-0642; TRANSISTOR NPN SILICON; 28480; 1854-0642. Page 7-39/7-40, Figure 7-20, A23 (5243A-655) Schematic Diagram:) Change A2308 from 2N388A to 1854-9642. Page 4-33, Table 4-1, Reference Designation Index: Change Q2, Q3, and Q4 from 1854-0038 (PNP GER.) to 1853-0053; TRANSISTOR PNP SILICON; 28480; 1853-0053. The silicon transistor is the preferred replacement part. Page 4-40, Table 4-2, Replaceable Parts: Change 1850-0038 (PNP GER.) to 1853-0053; TRANSISTOR PNP SILICON; 28480; 1853-0053. Page 7-13, Figure 7-7, Power Supply Schematic Diagram: Change Q2, Q3, and Q4 from 1850-0038 to 1853-0053.

CHANGE 1 (1336A)

Page 4-8/7, Table 4-1:

Change A10CR9-18 from 1910-0016 to 1901-0040 DIODE: SILICON. Change A1001-8 from 5080-0060 to 1853-0217 TRANSISTOR: PNP SILICON.

Page 4-27, Table 4-1:

Change A29CR1-5 from 1910-0016 to 1901-0040 DIODE: SILICON. Change A29Q1-8 from 1850-0062 to 1853-0217 TRANSISTOR: PNP SILICON.

Page 5-11, Table 5-7, OPTIONS 002 and 003: 11

Change A10CR9-14 from 1910-0016 to 19u1 0040 DIODE: SILICON. Change A10Q1-8 from 5080-0060 to 1853-0217 TRANSISTOR: PNP SILICON.

Page 7-17/19, Figure 7-9/10: / Change A10Q1-8 from 5080-0060 to 1853-0217.

CHANGE 2 (1412A)

Page 4-13, Table 4-1:

Change A17R46 from 0683-2225 to 0683-1825 1800 OHM.

Change A17R47 from 0683-2225 to 0683-2725 2700 OHM. With those changes A17 (5245A-65C) is SERIES 1412.

Page 4-28, Table 4-1:

Change A29R38, 44 from 0683-4735 to 0683-3935 39K OHM.

- Change A29R41 from 0683-2015 to 0683-1015, 100 OHM.
- With these changes A29 (5212A-65C) is SERIES 1412.

Page 7-25/26, Figure 7-13:

Add (at top of schematic) "A17 DECIMAL COUNTER ASSY (5245A-65C) SERIES 1412". Change A17R46 value from 2200 to 1800 OHM; add asterisk (*). Change A17R47 value from 2200 to 2700.

Page 7-47/48, Figure 7-24:

Change A2938, 44 value from 47K to 39K.

Change A29R41 value from 200 to 100. All the

Change SERIES 628 to SERIES 1412 at top of schematic.

-sil

CHANGE 3 (1436A)

Page 4-6/7, Table 4-1:

Change A10CR9-18 from 1901-0040 to 1910-0016 DIODE: GERMANIUM. Change A1001-8 from 1853-0217 to 5080-0060 GERMANIUM PNP SELECTED.

Page 4-27, Table 4-1:

Change A29CR1-5 from 1901-0040 to 1910-0016 DIODE: GERMANIUM. Change A29Q1-8 from 1853-0217 to 1850-0062 TRANSISTOR: GERMANIUM.

Page 5-11, Table 5-7, OPTIONS 002 and 003: 15

Change A10CR9-14 from 1901-0040 to 1910-0016 DIODE: GERMANIUM. Change A10Q1-8 from 1853-0217 to 5080-0060 GERMANIUM PNP SELECTED.

Page 7-17/19, Figure 7-9/10:

Change A10Q1-8 from 1853-0217 to 5080-0060.

Page 7-47/7-48, Figure 7-24:

Change A29-A34Q1-8 from 1853-0217 to 1850-0062.

This change supersedes the applicable data in CHANGE 1.

Circuit boards 05212-6002/6003/6016 and 5212A-65C with these changes are SERIES 1436A.

CHANGE 4 (1438A26441 for 5245L)

Page 1-0, Figure 1-1, Model 5245L and Accessories:

The 5245L Electronic Counter is furnished less the RACK MOUNTING KIT and 10503A BNC-BNC Cable Assembly described in this manual in Figure 1-1 and Table 1-1. If ordered at the same time as the instrument, the RACK MOUNTING KIT described in the manual is available as Option 908 at additional cost. If not ordered with an instrument, the RACK MOUNTING KIT is available under HP Part No. 05243-6043. The BNC-BNC Model 10503A cable assembly can be ordered as an additional cost accessory. Disregard any manual references stating the instrument is supplied with a rack mounting kit or BNC to BNC cable assembly.

Page 4-34 and 4-40, Tables 4-1 and 4-2, Reference Designation Index and Replaceable Parts;

Change X71 fuscholder from 1400-0084 to the following recommended replacement for all instruments:

Delete 1400-0084 Fuseholder for XF1.

Add 2110-0464; FUSEHOLDER BODY UL/IEC; 75915; 345002-010.

Add 2110-0465; FUSEHOLDER BAYONET CAP; 75915; 345003-020.

Add 2950-0054; NUT FUSEHOLDER MTG 1/2-28; 28480; 2950-0054

CHANGE 5 (1438A26541 and above)

Page 4-4, Table 4-1, Reference Designation Index:

Change A705 from 1850-0048 (Germanium) to 1853-0217; TRANSISTOR: PNP Silicon.

Page 4-7, Table 4-1, A10 Replaceable Parts:

Change A10Q1 thru A10Q8 from 5080-0060 to 1853-0217 TRANSISTOR: PNP Silicon.

Page 4-20, Table 4-1, Reference Designation Index:

Change A23Q6 from 1850-0101 (Germanium) to 1853-0217; TRANSISTOR: PNP Silicon. Pages 4-40 and 4-41, Table 4-2; Replaceable Parts:

1 S. 1

Change 1854-0048 (Ge) to 1853-0217; TRANSISTOR: PNP Si; 28480; 1853-0217. Change 1850-0101 (Ge) to 1953-0217; TRANSISTOR: PNP Si; 28480; 1853-0217.

Page 7-13, Figure 7-7, A7 Schematic Diagram:

Change A705 from 2N650 (Ge) to 1853-0217 (Si).

Page 7-17/19, Figure 7-9:

Ct ange A1001-08 from 5080-0060 to 1853-0217.

Page 7-20, Figure 7-20, A23 Schematic:

Change A2306 from 2N582 (Ge) to 1853-0217 (Si).

Page 4-27, Table 4-1, A29 (5212A-65C) Reference Designation Index:

Change A29Q1 thru Q8 from 1850-0062 to 1853-0217 TRANSISTOR: PNP SILICON.

Change A29C3 and C4 from 0140-0195 (130 PF) to A29C3* and A29C4*; 0160-2203;

C: FXD MICA 91F 5% 300VDCW. FACTORY SELECTED VALUE.

Page 4-40, Table 4-2, Replaceable Parts:

Change 1850-0062 to 1853-0217; TRANSISTOR SI PNP; 28480; 1850-0062.

Page 7-47/7-48, Figure 7-24, A29-A34 Decade Divider Diagram:

Change A29Q1 thru A29Q8 to 1853-0217.

Change C3 and C4 to C3* and C4* with a value of 91 pF in place of "130".

CHANGE 6 (1644A)

Pages 4-27 and 4-28, Table 4-1, A29 (5212A-65C) Reference Designations Index:

Add "SERIES 1644" to A29 (5212A-65C) Description.

Change A29R6, R8, R17, R19, R29, R31, R40, and R42 from 0683-3925 (3900Ω) to 0683-6225; R: FXD COMP 6200 OHMS 5% 1/4W.

NOTE - This change applies to any 5212A-65C circuit board with the transistor change described in CHANGE 5.

Page 4-38, Table 4-2, Replaceable Parts:

Change TQ for 0683-3925 to 94.

Change TQ for 0683-6225 to 12.

Page 7-47/7-48, Figure 7-24, A29-A34 Decade Divider Diagram:

Change SERIES number, at top of diagram, to SERIES 1644.

Change A29R6, R8, R17, R19, R29, R31, R40, and R42 to 6200 ohms.

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CHANGE 7 (1720A)

34

NOTE: This change replaces crystal oven assembly A24 and oven control assembly A25 with a 10 MHz component oscillator for A24 and an oscillator control assembly for A25. The new oscillator control assembly supplies regulated voltages for the 10 MHz component oscillator and a decade divider integrated circuit to divide the 10 MHz output from A24 and provide a 1 MHz time base signal. The new component oscillator and control assembly will equal or better the stability specifications of the original assemblies which they replace.

Page 4-21, Table 4-1, Reference Desgination Index:

Delete A24 Part No. 5243A-69A crystal oven assembly and all components with reference designators having a prefix of A24.

Add A24: 10544-60036: OVEN OSCILLATOR ASSY (10 MHz) shown in attached Table 1 Replaceable Parts. Field repair of this oscillator is not recommended. Exchange oscillator assemblies are available for repair.

Page 4-21 and 4-22, Table 4-1, Reference Designation Index: 596

Delete A25 Part No. 5243A-65T oven control assembly and all associated components with reference State of the designations having a prefix of A25.

Add A25: 05245-60033: OSCILLATOR CONTROL ASSEMBLY and the replaceable parts listed in the attached Table 1 Replaceable Parts for the 05245-60033 assembly.

Page 4-31, Table 4-1, Reference Designation Index:

Delete part numbers for chassis mounted components C2 (0130-0003), C3 (0121-0013), and CR1 (1902-0039).

Change "Description" for C2, C3, and CR1 to NOT ASSIGNED.

Page 4-33, Table 4-1, Reference Designation Index:

Delete part number for oven heater amplifier transistor Q1 (1853-0052) and change "Description" to NOT ASSIGNED.

Page 4-34, Table 4-1, Reference Designation Index:

Add MISCELLANEOUS PARTS listed in attached Table 1 Replaceable Parts.

Page 4-36 thru 4-43, Table 4-2, Replaceable Parts:

Change Table 4-2 to reflect the above changes listed for Table 4-1.

Page 4-46, Table 4-3, Manufacturers Code List:

Add attached Table 2 Manufacturers Code List to Table 4-3.

Page 7-41/7-42, Figure 7-21, Schematic Diagram:

Delete A24 (5243-69A), A25 (5243A-65T), C2 (fine freq. adj.), C3 (medium freq. adj.), CR1 (regulator), and Q1 (oven heater amplifier). $\mathcal{A}^{(1)}$ 1

 $\{ (i,j) \} \in \{i,j\}$

Delete connections to 500 UF capacitor C4. This capacitor is used with the new oven control assembly to filter the positive dc output from the bridge rectifier.

Replace A24 and A25 in Figure 7-21 with A24 and A25 shown in attached diagram Figure 2. The 1 MHz output from A25 connects to A26 pins 2-1, 2-2, and 2-3.

The 1 MHz signal from A25 is fed into the emitter of A2601 and is coupled to the input of A2602 by capacitor A26C8. This connection bypasses A26Q1 and disables the AGC feedback circuit in 1999 A26.

Replace component locator illustration for A28 with component locator for 05245-60033 shown in attached Figure 1.

OSCILLATOR ADJUSTMENT

Oscillator adjustment for the new time base oscillator requires the same procedure as the original oscillator,

The new oscillator has only two controls for adjustments in place of three. The COARSE FREQ ADJUST ($\approx 2 \times 10^{-6}$) is located under an added plug-button on the rear of the instrument. The FINE FREQ ADJUST ($\approx 5 \times 10^{-8}$) is inside the plug-in compartment in the same basic location as before.

The 10544-60036 component oscillator for A24 and the 05245-60033 oscillator control assembly for A25 will provide a 1 MHz time base with specifications equal or better than the original 1 MHz. time base.

MANUAL CHANGES	MODEL 5245L Page 6
Table 1. Rep	laceable Parts

1

Reference Designation	HP Part	Oty	Description	Mfr Code	Mfr Part Number
	10544-60038		CRYSTAL OSCILLATOR ASSY (10 MHz) NOT RECOMMENDED FOR FIELD REPAIR OSCILLATOR IS ON THE EXCHANGE PROGRAM AS PART NUMBER 10544-60536.	25480	10644-60036
	08745-0033		BOARD ASSEMBLY, OSCILLATOR CONTROL	29480	
			CAPACITON-FRO ALVF 248 50V0C CER CAPACITON-FRO ALVF 248 50V0C CER CAPACITON-FRO ALVF 108 50V0C CER CAPACITON-FRO ALVF 108 55V0C TA CAPACITON-FRO ALVF 108 55V0C TA	28480 28480 20288 20288 20288 20280	0140+0574 0140-0574 150445×03582 150045×03582 150045×03582
	0180-1746 9180-3485 0180-8576 0182-0576 0180-0576		CAPACITOR-FXD 15UP+103 20VDC YA CAPACITOR-FXD 150PF,+103 16VDC YA CAPACITOR-FXD 100PF,+103 14VDC CER CAPACITOR-FXD 10F,+203 50VDC CER CAPACITOR-FXD 10F,+203 50VDC CER	L0540 08465 08465 08465 08465	15001552502082 0140-3666 0140-3666 010-0576 0100-0576 0100-0576
25C11	140-0485		CAMACIYOR-FED SIDFE 4-5% 900VDC MICADOTA DICCE-FR 6806 400V 18	28680 02036	C140-8485
1958) 1931	1261-2035		07005-248 5,119 51 00-7 PDP.88 754-,0088 604486708-86 8068 15-6047/864 8-8088	02036 04509	\$2 10939+98 #\$p+15+30=300
	•100+17#8 •140-0131 •100-2372		CATLS FRDS AGN-CLAED 'NF CHORES ,7504 CATL-MLD 1004 55 G000 ,2072,7418 CATL-MLD 4704 105 0455 ,00507,2816	03674 02178 02178	V#p0-20/48 P4_1313-30J 09_1328-3#
2501 2501	1474-0071 na#301115	and and	TAINSISTOR NON SI DOBSOONW PTOROOMTY AFSISTOR 110 SI 254 PC TCU-800/0800	28481 C1605	1839-0073 CAILIS
2502 - Article Andrews 2602 - Article Andrews 2506 - Article Andrews 2508 - Article Andrews	0813-2025 9756-8007 0813-8825 9757-8800		RESISTON 2.44 SX .254 FC TC==000/0700 PESISTON 150 SX .254 F TC=000/0700 RESISTON 8.2 SX .254 FC TC==000/0500 RESISTON 9.024 1X .1274 F TC=00/0500	C1606 01418 01608 03298	C\$4P5 C\$4P5 C\$4P5 C\$2F C\$2F C\$4T0-\$421-F
2580 2587 2588 2588 2588 2589 2589 2589	0757-0010 0754-0003 0403-1025 0403-3325 0403-1025		Registor Alk it 125* 7 TC=0+-100 Ntsistor 1* 51 25* 7 TC=0+-100 Registor 1* 51 25* 7 TC=0+-100 Registor 1* 51 25* 7 TC=0+-100 Registor 1* 51 25* 7 TC=0+0/0+000 Registor 1* 51 25* FC TC=-00/0+000 Registor 1* 51 25* FC TC=-00/0+000	03298 03418 01405 01405 01405	C4_1/8+TA-6811-F C5_1/4+TC+1001-J C81025 C81025 C81025 C81025
29411 25412 25413	8683-1925 6683-9105 6883-3325		Prototom 1.5% 55 .250 PC TC==800/0700 Rediatom 51 53 .250 PC TC==400/0500 Rediatom 3.53 55 .250 PC TC==400/0500 Rediatom 3.53 55 .240 PC TC==400/0700	01605 01605 01605	C91325 E84105 CR3325
RUI Nur Nur	1880-0439 1889-1440	1	BEE MISCELLANEOUS PARTS IC.V. RGLYR IC.CMTR TIL LB DECH ABYNCHRO	02236 0164H	'72jPC BN74L840W
	1251-4401		CONNECTOR MESCELLANEDUS PARTS	27264	22.15-2031
	0300-0124 0380-0099 0380-0111		TERMINAL-8700 56L-914 PRE88-476 894088-847-06 .2516 .15210 .2500 898 87460099-847-06 .2516 4-32700 .2500 898	28450 28450 28450	0340-0124 0380-0039 0380-0111
	1851-0198 008-9105		CONNECTOR-PC EDDE A-CONT/NOW 1-ROM	04506 01805	25g-08-30-210
	\$10C-3103 ,1426-0393		REBISTON-TAPA IAN IOS C BIDE-ADJ 17-TAN IČ V AGLTR	73138 0340F	89pa10K 1M337T
			CABLE ASSEMBLY, OSCILLATOR OUT/P2, R15 Gable Aggebbly, Fine Adjugt Gable Aggebbly, Dacillator Pomer Bupply	28480 28480 28480	03945-00034 03945-00035 03945-00037
	2160-3447 4960-0807 63243-00024		ADAPTEP, POT, PANEL MOUNT(FOR RIA) PLUS-HOLE DOME-ND FOR 1-D-HOLE BRS BRACKET, MOUNTING FOR A24 AND A25	73134 04210 28480	890 D-4290 05p43-00024

See introduction to this section for ordering information 1

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Table 2. Manuf. turers Code List

	MPR														ZIP
			EN-AR	ADLEY	r Co								55	WI	COD
0	2036 5674	MOT	DHOLA D-PAR	SEM KER [COND DIV A	UCTO	R PRO	MPNT C Ducts Kinson	, e 1) PI - カイ	IDENI Neur	X Y		a — 1.1.	0681
0	223G 329B	FAI	NING	D SE	HICON S HOR	IDUCT(DR: DI Bradf	ORD)		M BI	ADFO	IN VI FD		AZ Ca Pa	4 1
0	3418	COR	IONAL NING Ex pr	GLAS	B WOR	×8 (1	R CORI	NGTON			LLMIN DWNER	in 15 a	1		605
0	420J	SPR	DIV O AGUE MPSON	ELEC	TRIC In B	C0 1	NC			N (OOKL	A'DAME YN		CA Ma Ny,	
7	3134	BEC	KMAN	INST	RUMEN	178 T	NCHE	DIV LIPOT S MFG	DTV	and Pl	K GR Jllea	OVE V	LGE	TL CA	926

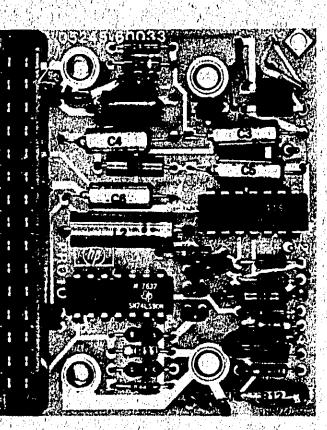
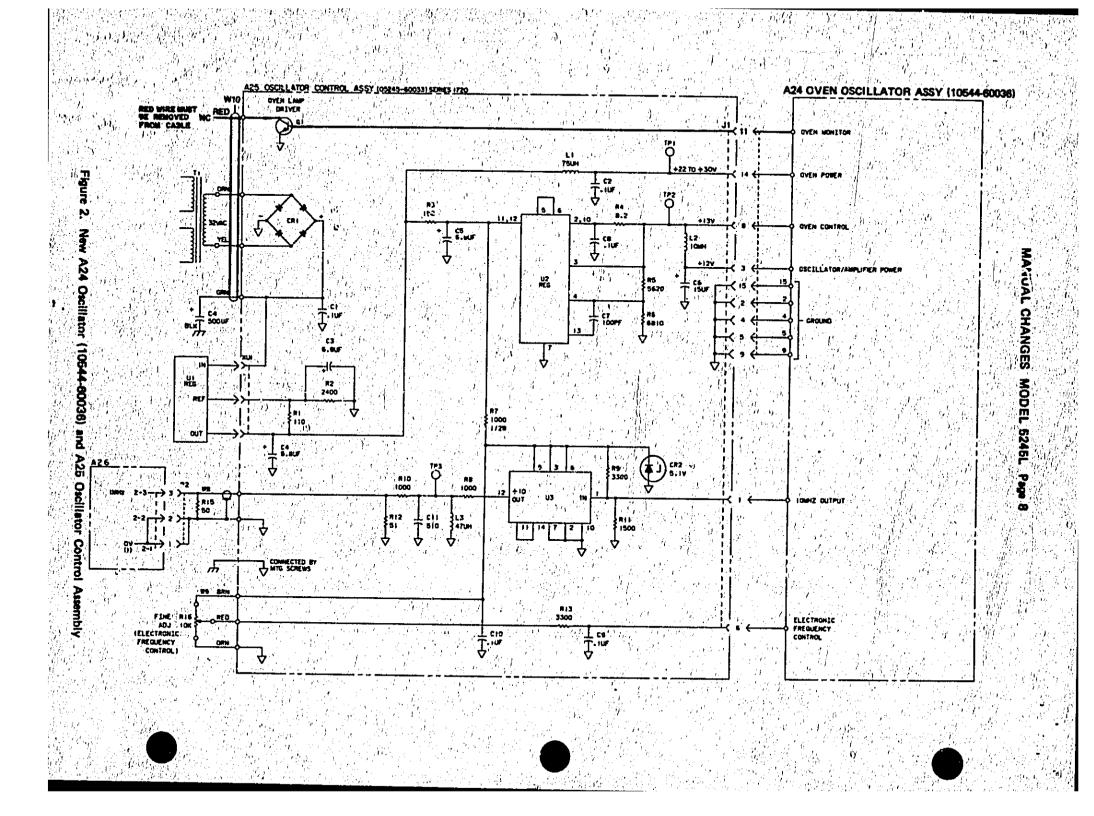


Figure 1. A25 Oscillator Control Assembly (05245-60033)



CHANGE 8 (1820A)

Pages 4-18 and 4-19, Table 4-1, A22 (5243A-65R) Replaceable Parts: Add "(SERIES 1820)" to A22 circuit board description.

Change A22Q8, Q9, and Q10 from 1851-0017 (Ger. 2N1304) to 1854-0642; TRANSISTOR-NPN Si TO-9 350 MW; 28480; 1854-0642.

Page 4-20, Table 4-1, A23 (5243A-665) Replaceable Parts: Add "(SERIES 1820)" to A23 circuit board description.

Change A23C11 from 0140-0200 (390 PF) to 3160-2930; CAPACITOR-FXD 0.01UF +80/-20 100 VDCW CER; 28480; 0160-2930.

Change A23Q1 and Q12 from 1851-0017 (Ger, NPN) to 1854-0642; TRANSISTOR-NPN SI TO-9 350 MW; 28480; 1854-0642.

Change A2302 and Q7 from 1850-0040 (2N383) to 1853-0217; TRANSISTOR-PNP SI 310 MW; 28480; 1853-0217.

Change A23R10 from 0686-1035 (10K) to 0686-2725; RESISTOR-FXD 2700 5% COMP 1/2W; 01121; EB2725.

Page 4-24, Table 4-1, A27 (5243A-65C) Replaceable Parts: Add "(SERIES 1820)" to A27 circuit board description.

Change A27Q1, Q2, and Q3 from 1850-0091 (2N2048) to 1853-0036; TRANSISTOR-PNP Si 310 MW (2N3906); 28480; 1853-0036.

Pages 4-28 and 4-29, Table 4-1, A35 (5243A-65J) Replaceable Parts: Add "(SERIES 1820)" to A35 circuit board description.

Change A35Q1 from 1850-0040 (2N383) to 1853-0217; TRANSISTOR PNP SI 310 MW; 28480; 1853-0217.

Page 7-37, Figure 7-19, A22 (5243A-658) Schematic Diagram: Change SERIES number (top of diagram) to 1820. Change A2208, 09, and Q10 to 1854-0642.

Page 7-39/7-40, Figure 7-20, A23 (5243A-65S) Schematic Diagram:

Change SERIES number (top of diagram) to 1820.

Change A23C11 from 390 pF to 0.01 UF.

Change A2301 and Q12 from 2N1304 to 1854-0642.

Change A2302 and Q7 from 2N383 to 1853-0217.

Change A23R10 from 10K to 2700 ohms.

Page 7-43/7-44, Figure 7-22, A27 (5243A-65C) Schematic Diagram: Add "(SERIES 1820)" at top of diagram.

Change A27Q1, Q2, and Q3 from 2N2048 to 1853-0036.

Page 7-49/7-50, Figure 7-25, A35 (5243A-65J) Schematic Diagram: Add "(SERIES 1820)" at bottom right corner of diagram.

Change A35Q1 from 2N383 to 1553-0217.

CHANGE 9 (1840A)

The following changes replace the HP Part No. 5245A-66C Decimal Counter Assembly for A17 with a new assembly (HP Part No. 05245-60039) with integrated circuits. The 05245-6003 incuit board is a direct plug-in replacement for the discontinued 5245A-66C circuit board.

Pages 4-11 thru 4-13, Table 4-1, A17 Replaceable Parts:

Delete A17 part number 5245-65C and all associated components for this accembly.

Add A17; 05245-60039; BOARD ASSEMBLY, DECIMAL COUNTER and the replaceable parts for this assembly listed in attached Table 3.

Page 4-46, Table 4-3, Manufacturers Code List:

Add attached Table 4 Manufacturers Code List to Table 4-3.

Page 7-25/7-26, Figure 7-13, A17 (5245A-65C) Schematic and Component Locator: Replace A17 component locator with new illustration given in attached Figure 3.

Replace A17 schematic diagram with new diagram for 05245-80039 Decimal Counter Assembly given in attached Figure 4

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			1 + 1	
Table	'3 . 1	A17 Rep	laceable	Parts

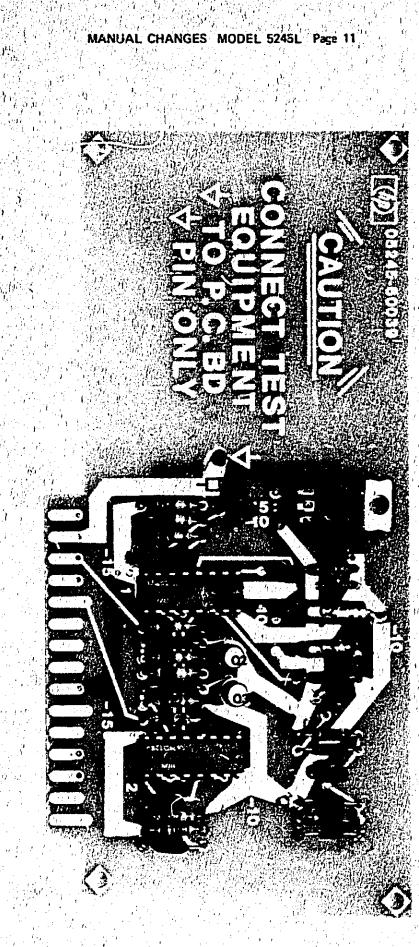
 $\chi_{ij}^{(2)}$

Reference Designation	HP Part Number	Description	Mfr Code	Mfr Part Number
A17 A17C1 A17C2 A17C2 A17C3 A17C4 A17C41	05205-44030 2 1 0150-0155 0 0150-0000 4 1901-0050 3 201000 2	ADAOD ASSE-WLV, DECIVAL COUNTER SERIES 1040 CAPACITCD-UPID AIRY +-SS JOAVDC WICA CAPACITCD-UPID AIRY +-SS JOAVDC WICA CAPACITCD-PID 2,2007+000 2000C TA CAPACITCD-FXD COUPT +000-200 KKVDC CER DIODC-DEITCMI+K Sev 2000A 200 DO-35 DIOCC-DEITCMI+K Sev 2000A 200 DO-35	20480 72130 50207 50207 20400 20400 20400	63245-+P039 GW19822-7300-+1CA 1507364702462 1507253402462 150725340242 CHEC-0000 14:1-0050 14:1-0050
A1701 A1702 A1702 A1703 A1703 A1704 A1705 A1781 A1783 A1783 A1783	1033-0015 7 1 1034-0007 1 1034-007 1 1034-007 1 1034-007 7 1034-005 2 1034-005 2 1037-005 2 0737-005 7 0737-005 7 0737-005 7 0757-005 -0057 0757-0057 0757-0057 0757-0057 0757-0057 0757-0057-0057 07577-0057 07577-0057 07577-0057 07577-0057 07577-005	TRANSISTOR PAP 31 PD21944 FT450042 TRANSISTOR MAY 31 PD21944 FT450042 TRANSISTOR MAY 24760 31 TD-16 PD30044 TRANSISTOR MAY 31 PD20444 FT620442 TRANSISTOR ANY 31 PD231044 FT620442 TRANSISTOR 470 31 224 F TC60-100 PE010708 470 23 124 F TC60-100 PE010708 164 23 1254 F TC60-100 PE010708 164 23 1254 F TC60-100	20100 20100 20100 20100 20100 20100 20100 20100 20100 20100 20100	1053-0015 1054-000 1056-000 1056-
A17M5 A17M5 A17A7 A17A0 A17A0 A17A10	0737-0920 2 2 0737-0932 2 2 0737-0932 3 2 0737-0917 3 0737-0928 8 1	ESISTON 14 21 .125# F TC00++100 PESISTON 2.84 22 .125# F TC00++100 MESISTON 5.64 22 .125# F TC00+-100 HESISTON 518 24 .125# F TC00+-100 MESISTON 518 24 .125# F TC00++100	24546 24546 24546 24546 24546	C4+1/8-14+1091+6 C4+1/8+10+2201+6 C4+1/8+10+2201+6 C4+1/8+10+501+6 C4+1/8+10+511+6 C4+1/8+10+1501+6
A17811 A17812 A17813 A17814 A17815	6757-4932 2 0757-4942 0 0757-4942 0 0757-4942 7 0757-4945 7 0757-4945 0 1	MEBISTON 2.24 28 .1294 F TC040-100 MEBISTON 5.44 23 .1294 F TC040-100 MEBISTON 1.44 28 .1294 F TC040-100 MEBISTON 1.44 28 .1294 F TC040-100 MEBISTON 7.50 28 .1294 F TC040-100 PEBISTON 9.16 28 .1294 F TC040-100	24546 24586 24586 24586 24586	C++1/4-14-2291+6 C++1/8-78+5001+8 C4+1/8+78+5001+6 C4+1/8+78+781+6 C4+1/8+78+781+6 C4+1/8+74+74+9101+6
A17818 A17818 A17819 A17818 A17818 A17820	6757-6926 6 6757-6926 2 6757-6937 7 1 6757-6937 8 6757-6938 8	#ESISTOR 104 21 ,1250 P TC800-180 #ESISTOR 14 21 ,1250 P TC800-180 #ESISTOR 3,64 23 ,1250 P TC800-180 #ESISTOR 1,24 21 ,1250 P TC800-180 #ESISTOR 1,24 21 ,1250 P TC800-180	24546 24546 24546 24546 24546 24546	C4.1/8.74.1012.6 C4.1/8.74.1012.6 C4.1/8.70.301.6 C4.1/8.70.301.6 C4.1/8.70.301.6 C4.1/8.70.301.6 C4.1/8.75.301.6
A17U1 A17U2 A17U3	1828-1212 (0 1) 1828-1486 3 1, 1, 1828-0538 1 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	IC PP, TTL LS J.K NEG-EDGE_TPIG IC FF JTL S J.K NEG-EDGE TRIG VOLTAGE REGULATOR +SV	81275 01295 20480	8474181124 SH745112H 1828-0538

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Table 4. Manufacturers Code List

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£,	Mir No.	Manufacturer Name	Address	Zip Code	
	01121 01295 24548 28480	Allen-Bradley Co. Texas Instr Inc S micond Cmpnt Div Corning Glass Works (Bradford) Hewlett-Packard Co Corporate Hq	Milwaukee, WI Dallas, TX Bradford, PA Palo Alto, CA	53204 75222 16701 94304	
	56299 72136	Sprague Electric Co Electro Motive Corp Sub IEC	North Adams, MA Willimantic, CT	01247 06226	



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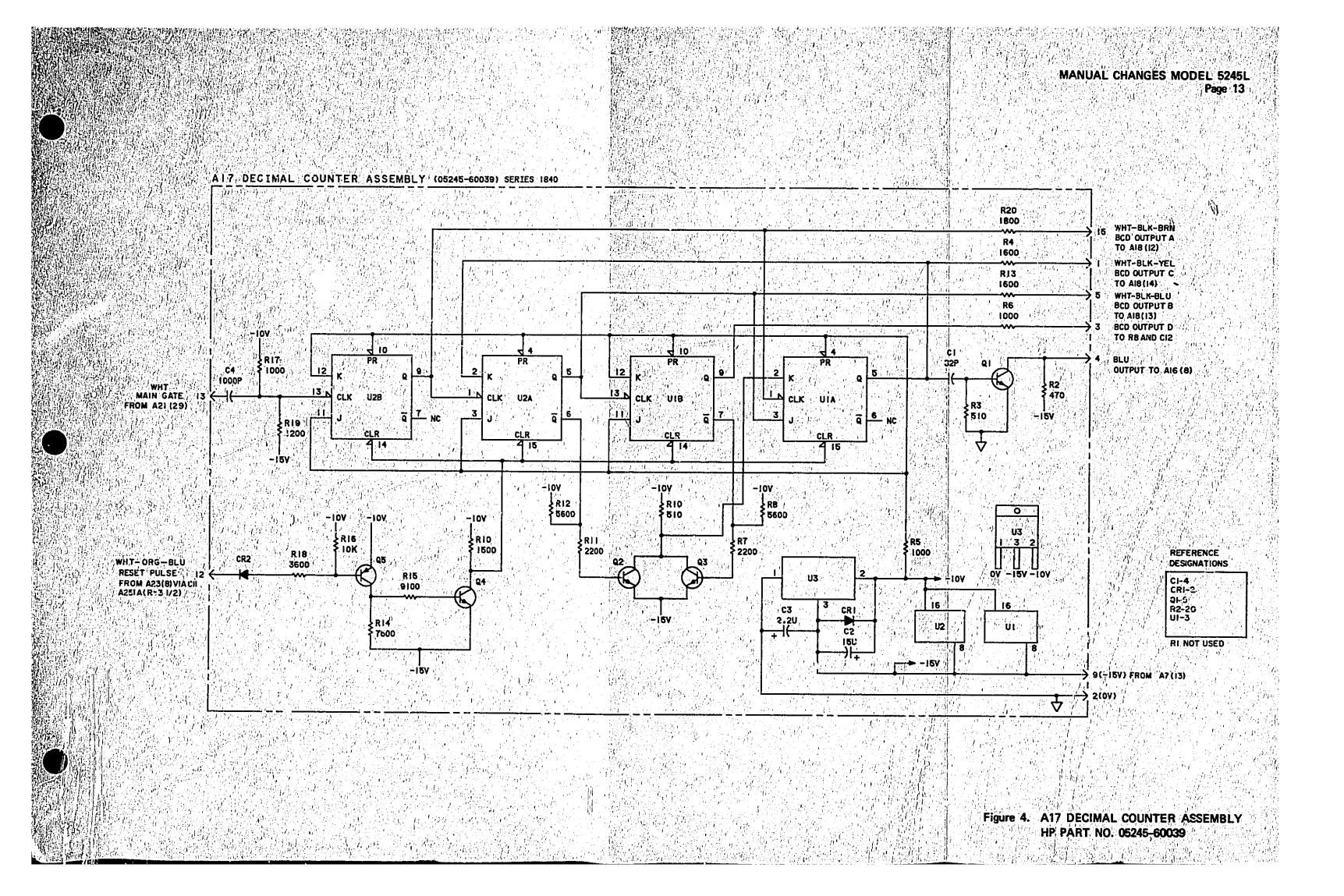
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Figure 3. Component Locator for 05245-60039 DCA (SERIES 1840) Resistor R1 added for SERIES 1904

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CHANGE 10 (1904A)

Instrument Serial Prefix Number becomes 1904A with this change which affects Decimal Counter Assembly A17 in CHANGE 9 of these MANUAL CHANGES.

Table 3 of these MANUAL CHANGES; A17 (05245-60039) Replaceable Parts: Change A17 series number from 1840 to 1904. ÷1.

Add A17R1; 0683-0475; RESISTOR 4.7Ω 5% .25W FC TC= -400/+500; 01121; CB47G5.

Figure 3 of these MANUAL CHANGES; A17 Component Locator: Add A17R1 in the approximate location shown in illustration for a SERIES 1904 circuit board. Delete A17R1 for a SERIES 1840 circuit board.

Figure 4 of these MANUAL CHANGES; A17 (05245-60039) Schematic Diagram:

Change series number (top of diagram) from 1840 to 1904."

Add 4.7 Ω resistor R1 in ceries with the emitter of transistor Q1.

Change "R2-R20" in REFERENCE DESIGNATIONS table to "R1-R20" and delete "R1 NOT USED" at bottom of this same table.

E CHANGE 11 (1912A)

Page 4-6, Tablo 4-1, A10 Reference Designation Index: (See CHANGE 14.)

Delete "5212-6016 ASSY: DECIMAL BOARD" and all associated A10 components including 05212-6011 READ-OUT BLOCK ASSY.

Add 05212-6018 ASSY: DECIMAL BOARD (SERIES 1012) for A10 and A10 parts in attached Replaceable Parts Table 5.

E Page 4-8, Table 4-1, A16 Reference Designation Index: (See CHANGE 14.)

Delete "05232-6010 DECIMAL COUNTER ASSEMBLY" and all associated A16 components including "05212-6011 READOUT BLOCK ASSEMBLY".

Add 05232-6015 DECIMAL COUNTER ASSEMBLY (SERIES 1912) for A16 and A16 parts in attached Replaceable Parts Table 6.

I Page 4-13, Table 4-1, A18 Reference Designation Index: (See CHANGE 14.)

Delete "52451-48 ASSY: READOUT" and all associated A18 components including "05212-8011 READOUT BLOCK ASSEMBLY.

Add, 05245-60040 STANDARD +1224 READOUT ASSY (SERIES 1912) for A18 and A18 parts in attached Replaceable Parts Table 7.

Page 5-2, Table 5-4, Reference Designation Index (A18 Option 002): Delete "05245-6001 50 KC +1248 READOUT ASSEMBLY" and all associated A18 components including the "READOUT BLOCK ASSY"

Add 05245-60041 OPTION 002 +1248 READOUT ASSY (SERIES 1912) for A18 and A18 parts in attached Replaceable Parts Table 8.

Page 5-5, Table 5-4, Reference Designation Index (A18 Option 003):

Delete "05245-6003 -1248 READOUT ASSEMBLY" and all associated A18 components including 05212-6011 READOUT BLOCK ASSY".

Add 05245-60042 OPTION 003 -1248 READOUT ASSY (SERIES 1912) for A18 and A18 parts in attached **Replaceable Parts Table 9.**⁴

CHANGE 11 (1912A) (Cont'd)

Page 7-17, Figure 7-9, A10-A15 (05212-6016) Schematic Diagram: (See CHANGE 14.) Change "(05212-6016) SERIES 646" at top of diagram to (05212-6018) SERIES 1912.

Delete CR1 thru CR8, D31A/B thru DS4A/B, DS6, R1, R2A thru R2K, R6 thru R9, and photoconductor V1.

Delete R12 and add "A" at top end of R11. Delete R27 and add "B" at top end of R26. Delete R40 and add "D" at top end of R39. Delete R53 and add "C" at top end of R52.

Add integrated circuit U1, transistors Q12 thru Q22, digital display tube DS6, and associated components in place of above removed parts. See Figure 5 for diagram of integrated circuit readout assembly.

Connect WHT-BLK with a to A (upper end of R11). Connect WHT-BRN wire to B (upper end of R26). Connect WHT-RED wire to C (upper end of R52). Connect WHT-ORN wire to D (upper end of R39).

Page 7-21, Figure 7-11, A16 (05232-6010) Schematic Diagram: (See CHANGE 14.) Change "(05232-6010)" at top of diagram to "(05232-6015)" SERIES 1912.

Delete CR1 thru CR8, DS1A/B thru DS4A/B, DS6, R1, R2A thru R2K, R6 thru R9, and photoconductor V1

Delete R10 and add "A" at top end of R11. Delete R12 and add "B" at top end of R13. Delete R14 and add "D" at top end of R15. Delete R16 and add "C" at top end of R17.

Add integrated circuit U1, transistors Q12 thru Q22, digital display tube DS6, and associated components in place of above removed parts. See Figure 5 for diagram of integrated circuit readout assembly.

Connect WHT-BLK wire to A (upper end of R11). Connect WHT-BRN wire to B (upper end of R13). Connect WHT-RED wire to C (upper end of R17). Connect WHT-ORN wire to D (upper end of R15).

Page 7-27, Figure 7-14, A18 (5245L-4B) Schematic Diagram: (See CHANGE 14.) Change "(5245L-4B) SERIES 604" at top of diagram to (05245-60040) SERIES 1912.

Make some deletions and additions as given for Page 7-21, Figure 7-11 schematic diagram for A16.

Page 7-29, Figure 7-15, A18 (05245-6001) Schematic Diagram: Change "(05245-6001) SERIES 604" at top of dity: am to (05245-60041) SERIES 1912.

Make same deletions and additions as given for Page 7-21, Figure 7-11 schematic diagram for A16.

Page 7-31, Figure 7-16, A18 (05245-6003) Schematic Diagram: Change "(05245-6003) SERIES 516" at top of diagram to (05245-60042) SERIES 1912.

Make same deletions and additions as given for Page 7-21, Figure 7-11 schematic diagram for A16.

MANUAL CHANGES MODEL 5245L Page 17, CHANGE 11 (1912A) (Confd)

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Reference Designation	HP Part Number	C Qty	Description	Mfr Code	Mfr Part Number
9 410	05212-0310		ABBENDLY, DIETWIL BOARD (BERIEB 1912)	20480	03217-0018
A18C1 A18C2 A18C3 A18C4 A18C5	0140-0145 0140-0145 0140-0145 0140-0193 0140-0193 0140-0193	7 1	CAPACITOR-PID 30PF51 300VDC WICA. CAPACITOR-PID 22PF51 300VDC WICA. CAPACITOR-PID 22PF51 300VDC WICA. CAPACITOR-FID 82PF51 300VDC WICA. CAPACITOR-PID 87PF51 300VDC WICA.	72136 72136 72136 72136 72136 72136	0"155100J0500#1CR 0"155280J0500#1CP 0"155280J0500#1CP 0"155280J0500#1CP 0"155280J0500#1CP
A10C6 A10C7 A10C0 A10C0 A10C0 A10C0 A10C0	0140-0197 0160-2203 0180-0192 0180-0192 0180-0197 0180-0217		CAPACITOR-FUD 18887 +-33 30840C MICA CAPACITOR-FUD 4987 +-53 30840C MICA 0+70 CAPACITOR-FUD 487753 30840C MICA CAPACITOR-FUD 1887733 38840C MICA CAPACITOR-FUD 14877 +-33 38840C MICA	72136 28440 72136 72136 72136 72136	D"13F18130300nv1CH 0180-2203 D"1319800300nv1CH D"13F1813030nv1CH D"13F18160300nv1CR
A10C11 A10C2 A10C2 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C1 A10C2			CAPACITCB-PRD 9107 +-53 100000 WICA 0+70 CAPACITCB-PRO 8207 +-53 100000 WICA CAPACITCB-PRO 10007 +-53 100000 WICA CAPACITCB-PRO 1007 +-53 100000 WICA CAPACITCB-PRO 1007 +-53 100000 WICA	28480 72136 28880 72136 28480	0100-2203 0415583040300441C# 0100-2206 01502206
AIOCRI THAU AIOCRE AIOCRE THRU AIOCRIE AIOCRIE AIOCRIE AIOCRIE	1918-0016 A. 1918-0016 A.	 a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statistical a statis	NOT ABBIENED DICCE-SE GOV SOMA 108 DO-T Not Abbiened	28460	1910-0010
A19CR26 A10CR27 A10CR28 A16CR28 A16CR20	1902-002¥ 1902-0041 192-0041 192-0041 192-0173		$\begin{array}{c} 01001-24m \ 1ev \ St \ 02-7 \ PD=, 4m \ TC++, 04t \\ 01002-24m \ S_{+}(1v \ St \ 02-7 \ PD=, 4m \ TC+-, 04t \\ 01002-24m \ S_{+}(1v \ St \ 02-7 \ PD=, 4m \ TC+-, 04t \\ 01002-24m \ S_{+}(1v \ St \ 02-7 \ PD=, 4m \ TC+-, 04t \\ 01002-24m \ 1ev \ St \ 02-15 \ PD=, 4m \ TC+-, 04t \\ 01002-24m \ 1ev \ St \ 02-15 \ PD=, 4m \ TC+-, 04t \\ 01002-24m \ 1ev \ St \ 02-15 \ PD=, 4m \ TC+-, 04t \\ 0102-24m \ 1ev \ St \ 02-15 \ PD=, 4m \ St \ St \ St \ St \ St \ St \ St \ S$	28480 78480 28480 28480	1 °02 - 0025 1 02 - 0041 1 °02 - 0041 1 °02 - 0041 1 °02 - 0175
A10D51 THRU A10D55 A10D56	1470-8884	15. Andrew 7. Juli 1.	NOT ABBIGNED Tube-Electron Bagg Ind-Humeric	28+80	1970-0009
AIGGI THRU AIGG8 AIGG9 THRU AIGGI1	1853-0217	1	TRANSISTOR PHP SI POSSIGHA NOT ASSIGNED	44713	HP3-404A
A10012 A10013 THRU	1850-0842		TRANSISTOR NPN AL POROZSMA PTUBOPHZ	04713	MPB-437
A10022 A10R1 THRU A10R9 A10R9 A10R9 A10R10 A10R11	1854-0575 8484-7525 0853-7435	 10 2 3 4 4 5 4 4 	TRANSISTER NPN SI PDEARSHE FISSMHI NET ASSIENED Resister 7.54 St ,54 CC 7C=0+547 Resister 7.54 St ,554 CC 7C=400/+800 NOT ASSIENED	01121	EU7923 C05035
A10912 A10813 A10814 A10815 A10816 A10816	0684-7525 0653-4735 0653-4735 0683-4735 0683-3925 0683-1015	2 4 13 4 7 5	REBISTOR 7,5x 5% ,5m CC 7C*C+647 REBISTOR 574 5% ,55m FC 7C*+400/+400 REBISTOR 574 5% ,75m FC 7C*+400/+400 REBISTOR 3,4% 3% ,25m FC 7C*+400/+400 REBISTOR 180 5% ,25m FC 7C*+400/+400	01121 01121 01121 01121 01121 01121	E47525 204735 C0+735 C0735 C51495 C61615
A10A10 A10A10 A10A20 A10A20 A10A22	1		REGISTCA 478 31 ,238 FC /C0-400/+800 REGISTCA 3,48 51 ,258 FC 7CL-400/+800 REGISTCA 3,48 51 ,258 FC 7CL-400/+860 REGISTCA 34 52 ,258 FC 7CL-400/+860 REGISTCA 578 52 ,258 FC 7CL-400/+860 REGISTCA 578 53 ,258 FC 7CL-400/+860	01121 01121 01121 01121 01121	CU4733 C037423 C030423 C030425 C040425 C04735
A (97 § 3 A (97 § 3 A (97 § 4 A (97 § 5 A (97 § 5))) (97 § 5 A (97 § 5))) (97 § 5)) (97	0683-4734 8883-3025 0686-7525 6893-5635		#ESISTO# 47# 98 .25# #C TC==800/+800 #ESISTO# 3# 58 .25# FC TC==600/+800 #ESISTO# 7,5# 98 .5# CC TC==60/+800 #ESISTO# 54# 53 .25# FC TC==400/+800 NOT ASISTMO	01121 01121 01121 01121 01121	C84735 C81025 E87525 C85433 C85433
A10828 A10829 A10830 A10831 A10832	6444-7525 6403-4735 6403-4735 8403-4735 8403-4735 8403-8725 8403-3725		HEBIATON 7.54 53 .54 CC TC=0+47. HEBIATON 474 53 .54 CC TC=0+40. HEBIATON 474 53 .254 FC TC=-400/+800 HEBIATON 4.74 53 .254 FC TC=-400/+800 HEBIATON 4.24 53 .254 FC TC=-400/+700 HEBIATON 3.44 53 .254 FC TC=-00/+700	,08123 12112 12112 1212 1212 1212	L#7723 C#733 C#733 C#735 C#735 C#735 C#723 C#723
A 10833 A 10834 A 10834 A 10836 A 10836 A 10837	0483-4225 6483-4225 8883-1045	5	#1818708 180 51 33 FC 1C==00/+000 #1818708 27 51 35 FC 1C==00/+000 #1818708 27 51 35 FC 1C==00/+000 #1818708 28 25 FC 1C==00/+000 #1818708 28 25 FC 1C==00/+000 #1818708 104 51 25 FC 1C==00/+000	01121 01121 01121 01121 01121 01121	C01813 C02735 C00225 C00225 C00225 C01045
A 1 0 7 3 6 A 1 0 7 3 6 A 1 0 7 4 0 A 1 0 7 4 0 A 1 0 7 4 2	0643-5635 8686-7525		PEGISTOR 7.5% 5% .5% CC TC#+++* #Egistor 54% 5% .2%# FC TC#++** Not Assisted Assistor 7.5% 5% .5% CC TC#++** #Egistor 47% 5% .5% FC TC#++*** #Egistor 47% 5% .5% FC TC#++***********************************	01121	E87323 C93633 E87323 C84733
				(A_{1}, \dots, A_{n})	

CHANGE 11 (1912A) (Cont'd)

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Table 5. A10-A15 Replaceable Parts (Cont'd)

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Reference Designation	HP Part Number	C D	Gty		Description		Mfr Code	Mfr Part Number	ي. د د د
A10805 A10845 A10846 A10845	0663-0736 2603-0275 8603-3725			AESIATOR	47K 5% ,25H PC 10+ 4,2K 5% ,25H PC 10+ 3,4K 4% ,25H PC 10+ 3,4K 4% ,24Y PC 10+	-#00/+700 -#00/+700	01121 01121 01121	L (4+735 (4+1)) C (4+735 (4+1)	• 1
Aj9806 Aj9837	0083-1818 0083-0735 0083-3988	4		ACOLOTCA	100 51 250 PC 700- 474 51 250 PC 700- 3.04 51 250 PC 700-	100/+840	01121	C01015 C04735	
A10840 A10850 A10851 A10852	6683-1935 6683-1645 6686-7925 6683-5635			RESISTON RESISTON DESISTON	104 01, 254 FC TCH- 104 31, 254 FC TCH- 7,54 11, 54 CC TCH0 544 58, 254 FC TCH0	460/+760 -800/+800 +657	01121 01121 01121 01121	C01035 C01045 C0105 C005 C0	
410893 410898 410898	8084-7826 0483-4735	1		REBIATON.	7.9x 3% \$8.50 TC+8 47x 5% .3%4 FC TC+4	abo/+800	()	LB7525	,
A10716	4633=1735 2643=1635 0643=3425			REBISTOR	47# 98 .99# FC TC#- 18# 38 .83# FC TC#- 3.9# 58 .25# FC TC#		01121	C01035	
A10850 A10860 A10860 A10860	0403-1415 0403-4735 0403-3725 0403-3725	8		PESTATOR	100 82 .054 FC TC4- 474 98 .054 FC TC4- 3.48 82 .054 FC TC4- 104 82 .054 FC TC4-	400/+b00	01121 01121 01121 01121 01121	C01015 C01735 C01735 C01735 C01735	., i
410745 410746 410745	0663-6635 0603-1645 0603-2025	- 3	1. 1. 1 . 1. <i>1.</i> 1.	REBISTOR		##00/+800 ···	01121 .41121 .71121	C06035 C010453 C02025	· · · ·
A10866 THRU A10878	8193-1045			NOT ABSI		-100/+100	01121	C01045	1.
Aj0860 Aj0861 Aj0800 Aj0800 Aj0803	0493-1035 0493-1835 0484-1935 0484-1935 0493-1045	7193		TREATOR	1644 51 23# FC TCB 108 58 38 CC TCB0+ 108 58 25# FC TCB- 124 58 38# FC TCB- 124 58 38# FC TCB- 1084 58 25# FC TCB	400/+700 765	01121 01121 01121 01121	E01035 CU1035 E01235 C01045	
ATORSA THRU ATORSS ATORSA THRU	0603-3935) 4	10	REFIETOR	39K 51 .250 PC 7C=-	400/+800	01121	C03735	
A10897	9683-2233 1829-1682	- 5 - 5 - 8	4 1	REBIBTON IC, CHOB	228 52 .250 PC 168.	400/+800	03181 01488	CD45148F	<u>д</u> -)
A102U1	1208-0941	t L	1	80C×E7-11	C 28-FONT DIP DIP-BL	CN (1. 74)	28480	1200-0541	
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	CHANGE 11	(1912A) (Co	nt's		UAL CHANGES MODEL 5245L Page 19 Table 6. A16 Replaceable Parts		
	Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
		05232-0015			DECIMAL COUNTER ABSEMALY (JERIES 1412)	28480	05/32=8035
	410 410 500	0168-0369 0160-9369	4		CAPACITOR-FED 17PP +-5% 50040C */CA CAPACITOR-FED 17PF +-5% 50040C */CA CAPACITOR-FED 17PF +-5% 50040C */CA CAPACITOR-FED 17PF +-5% 50040C */CA	28480 28480 72136	0162-0369 0160-0369 DM1928703050*441CR
	416C5 416C6 416C4	0149-0208 0149-0208 0149-0208	8 8 8		CAPACITOR-FXD LYPF 0-93 500VDC MICA CAPACITOR-FXD UYPF 0-93 500VDC MICA	72136	0415E470J03004V1CR D415E470J03004V1CR
	A10C6 A10C7 A10C8 A10C8	0140-0205 0140-0205 0140-0205 0140-0205			CAPACITOR-PRD #7PF +=5% 500VOC MICA CAPACITOR-PRD 1:0PF +=5% 500VOC MICA CAPACITOR-PRD #7PF +=5% 500VOC MICA CAPACITOR-PRD #7PF +=5% 500VOC MICA	72136 72136 72136 72136 72136	0~15E470J0500~1CP 0~15F1t1J0308~1CP 0~15E470J0508~1CP 0~15E470J0508~1CP
	AjBC10 AjBC11 AjBC11 AjBC11	0100-2903 0100-2903 0100-2903			CAPACITOR-FUD ppgoPF ++208 500VDC CER CAPACITOR-FUO 2000PF ++208 500VDC CER CAPACITOR-FUO 300PF +=38 300VDC **ICA	28480	0160-2563 0160-2563 D*152560J03204*164
	A16C3 A16C4 A16C5 A16C5	0165-2328 0160-0190 0180-0190	3777		CAPACITOR-PID 27PF +-53 100VDC MICA CAPACITOR-FID 34PF +-53 300VDC MICA CAPACITOR-FID 34PF +-53 300VDC MICA	28465 72136 72136	0140-2304 D#156300J0300#15# D#156300J0300#15#
	A10C10 A10C17	0148-8141 0148-8141	1 1 1 1 1 1		CAPACITOR-FXD 56PF +-53 300VOC MICA CAPACITOR-FXD 56PF +-53 300VOC MICA	72135	D4156360J0300441CN D4156360J0300441CN
	A16CR1 THRU A18CR3 A18CR9 THRU A16CR21	1901-0040			NOT ASSIGNED DIDDE-SPITCHING JAV SOMA 2NS DD-35	28460	1961-00 ⁻⁰
	A16CR22 THRU A16CR25	1902-0025			NOT ASSIGNED Digot-ing ing it do-7 pdm,an tC=0.dat	198460 "	E200-524
	A 6C #27 A 6C #29 A 6C #29	1982-0841 1982-0841 1982-0841 1902-0175	445		01002-IAN 5.119 51 00-7 90-44 700041 01002-IAN 5.119 51 00-7 904.44 700041 01002-IAN 5.129 51 00-7 904.44 700031 01002-IAN 1009 51 00-15 90414 700031	28480 28480 28480	1902-0041 1902-0041 1902-0041
	A16DS1 THRU A16DS5 A16DS8	1970-0009	7		NOT ABSIGNED ANY IND-NUMERIC	28480	1970-0089
	A1601 THRU A1608 A1609 THRU	1853-0034	1 1 0		TRANDISTON PHP BI TO-18 "D=300"A	28480	183-003
	A16011 A16012 A16013 THRU	1454-0642	•		NOT ABBIGHED Tanbiston APA BI PDestam Presammz	04713	Page 4 7
	A16022	1884-0875	•	10	TRANSISTOR NPN SI PDEGESS F FESOMAZ	0=713	
	A16R10 At0411 A10812 A10823	6643-5615 (0683-9638	3		RESISTON 364 SK ,254 FC TC-400/+P00 HOT SESIGNED RESISTON 364 SK ,258 FC TC-400/+P00	01121 01121	C63633
	A10814 A10015 A18710	0643-3433	5		NOT ABBIEVEC REBIEVER 364 53 ,254 FC (C=+400/+800. NOT ABBIEVEC	031\$3	C=3e35
in an Naraganan Naraganan	A. 6717 A16810 A16810	8383-9538 0761-9010 0761-9010			REDISTOR SAN SE 250 FC TC==400/+800 PEBISTOR 1.8% SE 10 MO TC=0+=200	0112L 28480 28480	C81615 (751-0010 0761-0010
	A10820 A10821 A1082	0758-0044 0758-0004 0758-0004	1		REBISTON 2.24 SE .25# F TC=0+=100 REDISTON 2.7# SE .25# F TC=0+=100 REBISTON 2.7# SE .25# F TC=0+=100	24546 24586 24586 24586	CS=[/==T0=2201=J CS=[/==T0=2701=J CS=[/==T0=2701=J CS=[/==T0=2701=J
	A10873 A10873 A10875	6718-0204 6718-0004 6758-0004			AEBIBTOR 2,74 35 ,25# F TCB0+=100 AEBIBTOR 2,74 35 ,25# F TCB0+=100 AEBIBTOR 2,74 95 ,25# F TCB0+=100	24546	C5-1/#=T0-2701-J C5-1/#=T0-2701-J
	A16R26 THRU A16R33 A16R38	0683-1635 0683-1015	, , ,		4E0181C# 104 5% .254 FC TC==400/+800 REDIBTOR 100 5% .254 FC TC==400/+800	01121	C#1635 C#1035
	A10835 A10830 A10837 A10838	0003-3725 0053-1039 0003-3725 0003-3725 0003-4715	2 .		ALBIBTOR 3,44 52 ,25m FC TC=+600/+700 ALBIBTOR 164 52 ,25m FC TC=+600/+700 BIBIBTOR 3,94 52 ,25m FC TC=+400/+700 ALBIBTOR 470 35 ,25m FC TC=+400/+600	15110 15110 15110 15110	C03+25 C01035 C03+25 C03+25 C03+25
	A10839	0043-1015 0043-3923	7	$\frac{1}{2} = \frac{1}{2} \frac{\mu}{2}$	REBISTOR 109 51 .25m FC TC==400/+500 REBISTOR 3.4x 51 .25m FC TC==400/+500 REBISTOR 14x 51 .25m FC TC==400/+500	01321 01121 01121	C01013 C01013 C01013 C01013
		069301935 069303935 069301115 069306715	. 0		REGISTOR 3.9% KS, 21% FC TC==400/+500 REGISTOR 110 5% 25% FC TC==400/+400 RECISTOR 470 5% 25% FC TC==400/+400	01121 01121 01121	CB3495 CB1117 CB1117
	Atona5 B16886	0443-3425 0843-1435	2		AEBISTOR 3.44 51 .25+ FC 10-400/+700 AEBISTOR 184 51 .75+ FC 10-400/+700	15120	CB3425 C01035

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Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number	
418A10 A18P51 41873	Calle1818 4983-1828 9683-1115			PESISTER 184 53 .55# PC 76-4483/4808 #ESISTER 184 53 .258 PC 160-200/4808 RESISTER 118 53 .258 PC 160-200/4808 RESISTER 118 53 .258 PC 768-480/4808	15110 15110 15110		
A10853	0483-3928 0483-1848 0483-1848]		PEBISTON 3,94 93 ,29# PC TC==800/0700 REGISTON 100K 33 ,25# PC TC==800/0700 REGISTON 1K 35 ,25# PC TC==600/0800	15110	C83485 C01005	
4 6896 6 6977 6 6896 6 6897 6 6896	0601-3625 0603-3625 0603-3625 0603-3625			RESISTOR 3.64 55 250 PC TC==406/+746 PESISTOR 3.64 35 250 PC TC==406/+746 RESISTOR 1.64 35 250 PC TC==406/+546 RESISTOR 1004 55 250 PC TC==406/+540	15110 15110 15110 15110	C03625 C03625 C4 025 C4 025	
A10800 A10801 A10802		8		REGISTOR 1.1K SE .25m /C TC=+406/+700 REGISTOR 27K SE .95m /C TC=+460/+700 REGISTOR 100 .5% .95m /C TC=+460/+400	01181 01181 01181 01181		
A10703	0493-1235 0493-3025	3		REDISTOR 124 58 .25# FC TC4-400/+860 REBISTOR 34 35 .98# FC TC4-400/+760	01181 01781 01181	C01738 C03028	ſ
A16866 THRU A16866 THRU A16878	***3=3*35 ****	14 	(周月時) 新聞時間 2011月9日	AEBISTON 344 52 .05# FC TC=-400/+800 HOT 48818HED REBISTON 100# 52 .25m FC TC=-400/+800	101121		
A 10801	4484-1435 448-1435 448-1435	· 7 · ·		REBIBTOR JON 3% .BN FC TC==+++++ REBIBTOR JON 5% .BN FC TC==++++++++++++++++++++++++++++++++++	01121 01121 01121	22 E01035 (2010) 201035 (2010) C01035 2010) C0105 (20	
414803 A16884 THRU A16893	\$6\$3=1045 \$6\$3=1*35	, 1 		#201870# 300# 51 ,25# PC 7C#+400/+400 #201870# 34# 51 ,25# PC 7C#+400/+400	a1121 01121	C01045 C01045	
A16794 THRU A16R97	*******		•	MEDIBTOR 22× Sb ,054 PC TC=-000/+800	01191	C02235	i.
sinele inele	1201-1403	5		IC, CHOB 14514 Bockey-IC 24-Cont DIP DIP-BLDR	98480 28480	CD=31467 3200=0541	
		5	$\sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} $				
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Reference	HP Part c			Mfr	Mfr Part Numi
Designation	Number D	Oty	Description	Code	
			BYANGED INSTRUMENT		
	65745-A0840; S		•+2Po READOUT ABLEMOLY COERTED 1918)	28#80	05245-60040
AIBCRIS AIBCRIS AIBCRIS	1982-5825 #	anger Anger Anger	NOT ABBIENED Dicoz-Inn 100 35 D.º? PDB.S. TCS085 Dicoz-Inn 6.110 35 CO-7 PDB.S. TCS085	2848n 28480	1405=0055
A18CR27 A18CR28 A18CR28	1902-0041 &		DICOE-24# 5.11V 55 DO.7 PD#.4# 75=	28+80 28480	1902-0041 1902-0041
A18051 THRU A18055 A18086	1074-000 7		NGT ABBIGNED Tube-Electrow B222 Indemumeric	28=80	1070-000
A1801 THRU A1808	1854-0003 5		TRANSISTON NEW SI .TO-SO PD-BOSMA	28480	1854-0403
A1809 THRU A18011 A18012	1091-037	99 X	NOT ABBIENED TPANAISTON MPN BI PD=2340 FT#88MHZ	0=713	м РВ+417 статура (1997) - статура (1997) - статура (1997)
A18013 THRU A180222	1854-0375	- 1840 († 1 1945 1€) 1955 († 1955	TRANSISTIN NON SI PDUGBUM FTASOMOZ	04713	MP8+44
A18R10 A18P11 A18P12	0001-1235		NOT ABSIGNED REDIGTOR TAK SE .85# FC TCR-400/+R00 NOT ABSIGNED	01171	C03035 C#3035
	0401-5635 4 3	$\frac{1}{2} \frac{1}{2} \frac{1}$	RESISTON 56K 53 .25# FC TC=+400/+800 NOT ABBISHED REBISTON 54K 53 .250 FC TC=+200/+800	01121	CDSA35
A14416 A14417 A14417 A14418	0.67-2025 1		NGT ABSIGNED NESTSTON SAK S3	01121 01121	CN2025
A10010 A10000 A10001	0483-7925 4 8483-7925 8 8483-1545 8 8003-8135 8	8 8 8	ALBIBTER 7.54 ST 256 PC TCB-aBG/+F00 REDIBTOR 1554 ST 258 PC TCB-800/+400 REDIBTOR 554 ST 558 PC TCB-800/+400	01121 01121 01121	C07525 C01545 C051345
41802 410023	8683+7524		REBISTON 48 5% .254 /C 104400/4500 NOT ABBISHED REGISTON 7.54 38 .254 /C 104400/4700	01151	C07525
A 3025 A 3026 A 3027 A 3027	0603-1045 1 6643-2025 5 8483-7525 6 8683-7525 8		#ESISTER 1044 53 284 FC 1C4-400/0800 RESISTER 24 38 254 FC 1C4-400/0700 RESISTER 7.54 38 254 FC 1C4-400/0700 RESISTER 154 38 254 FC 1C4-400/0700	n1121 (01121 (01121) (01121)	C02025 C02025 C07525
A18439 A18439	0603-\$115 0 0603-\$115 0	2.041	AESISTON SIK SE	01121 01121	C89135 C89105
414031 414032 414032	0643-7123 () 0643-1068 ()		NOT ABSIGNED RESISTOR 7.5% 5% .25m FC TC==COC/+FOO RESISTOR 100% 5% .25m FC TC==E0C/+FOO	101121 01121	C67525 ERL065
A18838 A18838 A18858 A18858 A18857	0403-2885 0483-7825 0483-1585 0483-1585 0483-1585 0483-1585		REBIBTOR 20 58, 250 FC TC0-400/6760 /// REBIBTOR 150 55 250 FC TC0-600/6760 REBIBTOR 150 FC TC0-600/600 REBIBTOR 51K 75 250 FC TC0-600/600	01121	CB2025 CB7525 CB1545 CB1545 CB135
A19839	0683-9105		ATELETOP 4) St JEW FC TER-400/+SCO	01151	Ea+103
A18848 A18841 A18842 A18843	0683=7925 6 0683=1045 3 0683=2025 1 0683=7525 0		REBIETOR 7.5K 51 258 FC TC#-200/+700 REBIETOR 1004 51 258 FC TC#-200/+700 RESIETOR 1K 55.258 FC TC#-200/+700 RESIETOR 7.54 258 FC TC#-200/+700	01121 01121 01121 01121	C87525 C81045 C82025 C87525
ALGRAG ALGRAG ALGRAG	8643-1543 8643-5135 8643-5135 8643-9165 8		REBISTOR 158" 51 .25" FC TCS-868/*968 REBISTOR 51 ST .55" FC TCS-808/*968 REBISTOR 51 ST .55" FC TCS-800/*988 REBISTOR 41 SS .25" FC TCS-840/*588	01121	C01545 C83135 C84105
AjBRAY Ajūras	0673-7525		NOT ABBIGHED RESISTON 7,5K 5X ,250,7C TC++ADB/+700	15110	C07525
A1884 A1885 THRU A18878 A18878	8883-1848 3		"41918708 108" 51 .25" /C TG#-000/+800 NOT ABBISHED REBISTOR 108 51 .250 FC TC#-000/+800	01121 01121	C01045./
416788 418788	0646-1015		RESISTOR 10% 55 56 CC TC00+765 RESISTOR 10% 5% 35% FC TC00+765 RESISTOR 12% 55 55 CC TC00+765	01121 01121 01121	EU1035 C01035 EU1238
A18882 A18883 A18884 THRU A18893	6949-1338 6943-1645 6943-2438	1	REBISTOR 100K ST .236 FC TC4+500/+840 REBISTOR 100K ST .236 FC TC4+500/+840	1111	C83435
A18898THRU A18897	1013-2235	97.00 1 1982	RESISTOR 224 53 .25# FC TCS=480/+880	01121	C02235
A LOUI A LOUI	1200-1583 (B	 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	IC. CHOS 18518 SOCKET-IC 24-CONT DIP DIP-SLOR	01458	CD451=87

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Table 8. A18 Replaceable Parts (Option 002)

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Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
	and the second s					
		1.55 C				
1 061	01249-2730	•		+1248 AEADOUT ABBEMOLY (SEATES 1912) CAPACITON-PXD .010F +38-205 1084DC CER	28480	0100-2030
ISCRI THRU	1901-0028			DICALSIANED	39494	
PCB11 PCB13 PCB13	1901-0085 1901-0025	1		DIGOLOGEN PRP 100V 200MA DO-7 DIGOLOGEN PRP 100V 200MA DO-7	28489 28489	1:1901-0028 (2019) 2019 (2019) 2019 1:1901-0028 (2019) 2019 2:1901-0028 (2019) 2019 2:1902-02019 2019
0CB18 0CB18 0CB18	1901-0025 1901-0040			DIGDC-SEN PEP 186V 286MA CO-7 DIGDC-SEN PEP 186V 286MA COS DIGDC-SENITCHIME 36V 56MA COS 00-35 BIGBC-SENITCHIME 36V 56MA 208 00-35 BIGBC-SENITCHIME 36V 56MA 208 00-35	28484 28484 28484 28484 28484	1761-6628 5791-6628 1901-6648 1901-6648
OCRIETHRU IBCRIETHRU IBCR23	19106946			HCT ABDIENED		
	1901-0025 1902-0332 1902-0325	21		DICHE-SEN PHP 108V 2004A DO-7 DICHE-2NG 9,44V 55 DO-7 PDS,40 TC+,6895 DICHE-ING 18V 35 DO-7 PDS,40 TC+,6895	28480 28480 28480	1701-0025
Ocna7 Senas	1405-0041 F405-0041	4		DIOC.ZNA 10V 31 D0-7 PD0.44 7C40.452 DIOC.ZNA 9.11V 31 D0-7 PD0.44 7C40.6593 DIOC.ZNA 9.11V 32 D0-7 PD0.44 7C40.6693 DIOC.ZNA 9.11V 32 D0-7 PD0.44 7C40.693	28489	1982-9841 1992-9841 1992-9841 1992-9841
INCSI THRU	1997-9175			DIGOE-Zha 1007 St DD-13 PD-14 7(a+,0835	28489 	
18055 1 9056 1801 THRU	1970-8969	7	ip ^{te} i t Netron, s	LABIENED SSS ING-NUMERIC	28458	1978-6889
10011 19012 19013 THRU	L894-8663 L954-8648	1		TRANGISTON NPA SI TRASY POSSAN TRANGISTON NPA SI POSSESSI PISSANI	28486 64713	10,40,803
18022 1881 THRU	1054-0578	, *	ます ▲●) 1月1日)	TRANSISTOR NPN SI POCASSAD Prosemaz	104713 J	HPS-542 The second sec second second sec
18810 (1874) (1975) 1991 (1875) (1975) 1991 (1875) (1975)	***3-5*33	5	•	NCT ABBIENED REGISTER SAK SE	01121	C09639
10018	0683-9635 0683-9635			NEBISTER SAN SX 1254 PC 154-48844484 NOT ABBISHED REBISTER SAN SX 1254 PC 154-4884484	01181	
	0003-5035 0003-2025	5		NOT ASSIGNED PERSONA SAK SB .854 PC TC4-460/+460 RESISTOR 24 BB .854 PC TC4-460/+740	61121	
UR (Q 4000 0613=7525 5843=1549			REDIATCO 7.5K 52 .05M /C TCD-466/+786 REDIATA 1964 53 .75m /C TCD-466/+786 REDIATA 1964 53 .75m /C TCD-466/+860 REDIATON 51K 58 .25m /C TCD-466/+840	01181 01181	C87525 C81565	
	8893-8135 9853-6955			RESIBTER SIN SE	01121 01121	C09139 C6440 C6440
	0083-7585 0083-2925	•		ALGIBTOR 7.5K 53 .35M 7C 7C=-488/+748 HOT ABBISHED REISTON 2K 53 .25M FC 7C=-468/+748	011#1 311#1	C07925 C02025
	0683-7826 0683-1545			REBIBTOR 7.5% 15 .35% FC TCB-420/4700 REBIBTOR 180% 3% .35% FC TCB-400/4700	01181	C07525 C01545
	843-8138 843-7185	2	3	HOT ASSISHED	01121	C09135 C07109
	8602-7988 			#201870# 7.14 St .25# PC 7C#=140/4748 ND7, A8816HED	01121	C87828
6836 6836 8836 8837	\$683-7875 \$683-7975 \$683-1985 \$683-8135			REGISTOR 3K 5% 244 FC 7C=-866/+766 REGISTOR 7,54 5% 254 FC 7C=-866/+766 REGISTOR 156K 5% 258 FC 7C=-866/+766 REGISTOR 514 9% 258 FC 7C=+866/+846	01121 01121 01121 01121 01121	C02029 C07909 C01910 C01910
	: 0043-4105	2 X.	ن پ ر	AEDISTCH OI BE BUR FC TCD-480/+804	05121	
	8683-7825 8683-2829		n der die Die State	AUBIGTON 7.5K \$1.29H FC YC==488/0788 NOY ABSIGNED REDIGTON 2K 51.25H FC TC==488/0788	01121	CO2828 - 1997 -
8863	8683-7929 8683-1849	•		REDISTOR 7.5X SE .ESH PC 750+444/780 REDISTOR 150K 55 .ESH PC 750+448/9780	01181 01181	C01988
	0683-9135 0683-9195 0683-7525	2		REGISTOR SIK SK	01121 01141 01181	C88138 C89185
使于发展的		•	3 - D		Į ₩11€3	

See introduction to this section for ordering information *Indicates factory selected value

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Table 8. A18 Replaceable Parts (Option 002) (Cont'd)

		Table 8	. A18 Replacesble Parts (Option 002) (Cont'd)	
Reference Designation	HP Part Number	C Oty	Description	Mfr Code	Mfr Part Number
	********** ********** ********		NGT ASSIGNED NGT ASSIGNED RESIGNED ATK SE "PH# PC TCC-440/+000 RESIGTER ATK SE "PH# PC TC0-400/+000 RESIGTER ATK SE "PH# PC TC4-400/+000	01121 01121 01121 01121	C64735 C04735 C64735
At 8758 At 8756 At 8756 At 8757 THRU At 8761	8683-0739 8683-0739 8683-0739 8683-0739		REGISTOR STR BE .PTS PC TER-SOS/-DSS REGISTOR STR BE .PTS PC TER-SOS/-DSS REGISTOR 1254 52 .250 PC TER-SOS/-DSS REGISTOR 1254 52 .250 PC TER-SOS/-TES NOT ASSISHED	01181 01181 01181	C40735 C40735 C01235
	8683-6738 8683-7525 8683-7525 8683-7525		MEGIGTER 47% 5% , PS# PC TC==400/0800 MEGIGTER 7,8% 5% , 2% PC TC==400/0800 MEGIGTER 7,8% 5% , 2% PC TC==400/0740 MEGIGTER 7,5% 5% , 2% PC TC==500/0700 MEGIGTER 750K 5% , 2% PC TC==400/0700	01121 01121 01121 01121 01121	C84735 C87545 C87545 C87545
A 1 80.07 A 1 80.00 A 2000 A 10070 A 20070	6483-7585 8683-7585 8683-7685 8683-7685 8683-7685 8683-758 8683-758		. RESISTOR 7.5X 51 .21% /C 70-460/0760 RESISTOR 7.5X 51 .21% /C 70-460/050 RESISTOR 104X 51 .21% /C 70-460/050 RESISTOR 104X 51 .21% /C 70-460/050 RESISTOR 104X 51 .21% /C 70-460/050 RESISTOR 104X 51 .21% /C 70-460/050 RESISTOR 104X 51 .21% /C 70-460/050	01121 01121 01121 01121 01121 01121	
	1643-2738 6643-3338 6643-2738 6643-2738 6643-2738		#651970# 27% 5% 25% 76 76~*********************************	01121 01121 01121 01121 01121 01121	C02735 C02735 C02735 C02735 C02735
A1 8077 A18778 A18778 A1978 A1978	4483+1835 6483+1848 6483+1835 9483+1835 9483+1835		REIISTOR 144 55',25# FC TC=4464/+866 NOT AGGIOMED REIISTOR 1045 55 .85# FC TC=4664/+866 REIISTOR 145 55 .55# FC TC=4664/+866 REIISTOR 145 55 .55# FC TC=4664/+766	01121 01121 01521 01521 01127	C01035 C01035 C01035 C01035
A1003 A1003 A1005 A1006 A1006 A10097	848441238 848342838 848342838 848342838		HESSETOR 124 SE .SH CC TCH+788 REDICTOR 186H SE .25M FC TCH+468/+860 REDICTOR 198 SE .754 FC TCH+468/+860 REDICTOR 244 SE .754 FC TCH+468/+860	01181 01181 01181 01181	
41801 31801 618201	1474-1483 1478-1483 1478-1483		IC, CHOB LETLE IC, CHOB LETLE BOCHET-IC DE-CONT DIP DIP-BLOR	01920 01920 28400	Costaby Costaby 1289-0841
					$ \begin{array}{c} \mathbf{T} & = \sum_{i=1}^{n} \sum_{j \in \mathcal{M}} \left\{ \mathbf{T}_{ij} \left\{$

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			Hall (le 9. A18 Replaceable Parts (Option 00		$ = \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1}
Reference Designation	HP Part Number	CD	Qty	Description.	Mfr Code	Mfr Part Number
		1.		A18 007154 883		
418 418C1	95263-68942			HOT ADDIGNED	28480	
410C3		•	1	NOT ABBISHED CAPACITON-FID . SILF +86-242 188YOC CER	24489	0100-2038
A10CR1 THRU (A10CR1) A10CR10 A10CR11 A10CR11	1901-5025 1901-5025	1		NOT ASSIGNED DIDDE-EEN PEP 1887 288MA DG-7 DIDDE-GEN PEP 1887 208MA D0-7	28484 28488	1701-8425 1701-8425
A10C#13	1901-0025			31005-0EN PAP 1467 266M4 00-7	20489	1901-0028
A:0CR15 A:0CR16 A:0CR16	1901-6025 1901-6040 1901-6040	1	1 . .	BIGGC-GEN PRP [BOY BOARS PO-7 BIGGC-GEN PRP [JOY BOARS PO-7 BIGGC-GENTFURME JAY BOARS PRE DO-38 BIGGC-BUTYING JAY SAMA PRE DO-38	28488 28489 28489	
AJOCATO	1901-6025	3	ī	DIGOE-SEN PRP 1007 2004 DO-7 DIGDE-ENR 5.49V St DO-7 PD4.40 TC0+.6493	28484	1405-6035
AIDCROS THRU AIDCROS AIDCROS AIDCROS AIDCROS	1902-0028 1902-0028			NOT A\$\$15460 DIGME-ZHA 147 58 DG-7 PD0, 68 700, 688 DIGME-ZHA 5,117 58 DG-7 PD0, 48 700, 687	28484	1982-6125 1982-0041
	1987-084) 1992-0173		nia di Pen si	DIGOE-ZNE 5.117 51 DG-7 PDe. 48 TCs	28489 28489	1982-1841 1982-1841
416301 THRU A19305				NOT ASSIGNED TUBE-ELECTACH BARR IND-MUMERIC	25454	1970-0000
A1000 THRU (1054-8003			TRANSISTOR NON ST TO-19 POSSisme	28480	1854-8883
A10612 A10613THRU A10628	1054-0442	ŀ	10	TRANSISTON NOW SI POOSSSON FILSONEZ TRANSISTON NOW SI POOSSSON FILSONEZ	04713 04713	HP8-417
A1001THRU A10010				NOT ABOTOMED		
A10018 A10018	8683-5635 1 8683-5635	, 3		NESISTON 544 53 .25# FC TC==498/+848 NOT ASSISTON 544 53 .25# FC TC==498/+848	01181 01181	C05635
A10010	0=83-5435			NGT ASSISNED RELIBTOR SAR SB .254 FC TC4-600/+800 NGT ASSISNED	01121	C05655
A 10417 A 100 je	**************************************	5		RESISTOR SAK SE	01121 01521	C05635
	0683-7928 0683-1945 0683-9139		1 F 2 F 🗸 -	RESISTOR 7.5K 52 .26W /C TC0-888/+788 RESISTOR 198K 52 .25W /C TC0-888/+988 RESISTOR 51R 52 .25W /C TC0-888/+988	01121 01121 01121	CONTRACTOR CONTRA
A 10050 A 10023	0403-6605 0603-7525	3		RESISTON DE SE JEN FC TER-SES/-SES NOT ABBIENED RESISTOR 7.5K SE JESN FC TER-SES/-SES	01121 01121	
A: Dage 4:04:05 A: 04:05 A: 05 A:	0083-2025 0083-7525			NOT ABBIENED NEBISTON PK SX "25K PC TCH-688/0788 REBISTON 7.5K SX "25M PC TCH-688/0788		C02025 C07525
A10830	**************************************			REATOR DIR SE .258 PC TEN-488/+888	01121	C013+3 C05135 C05135
A:8330 A:0031 A:0032 A:0033 A:0033	8483-7528	*		REBIGTOR OF US .25% FC TC==460/+500 NOT ABBIGNED REBIGTOR 7.5% SI .25% FC TC==460/+760 NOT ABBIGNED	01131	Carses (1) 440 (1) 10 (1) 10 (1) 10 (1)
A10754 A1275	0683-7825	1		REDISTOR DA SE .25# FC TCO-400/0700		C82025 C87525
A B # 16 A G # 16 A G # 16 A G # 16	0603-1949 0603-5137 0603-9105	,		AEBISTOR 158K SE .25# PC TC=+888/+9788 REBISTOR SIK BE .35# PC TC=+888/+888 REBISTOR 91 SE .25# PC TC=+888/+888	01121 01121 01121	C01545 /
A18434 A18440 A18440	8683-7525		· · · ·	NOT ASSISHED REGISTER 7.5% 3% .2%# FC 7C==ses/+745 NOT ASSISHED	01121	CA7525
A18442 A18443	0483-2025 0483-7525			RESISTOR 24 38 .25m FC TC=+440/+760 RESISTOR 7.54 58 .25m FC TC=+440/+780	01121 01121	C87525
A BREE A BREE A BREE A BREE A BREE	\$683+1545 \$683-\$135 \$683-\$135	3		PESISTOR 1584 ST .250 FC TC0-840/1488 RESISTOR SIN SE .250 FC TC0-840/1488 RESISTOR SI SE .250 FC TC0-440/1488 NOT ABSIENED	01121 01121 01121	C41545 C49135 C89145
A10040	8683-7525	•		42918708 7,54 91 ,259 FC 705-488/9748	01151	, CO17525
A10050 A10051 A10055	\$653-4738 4643-4235	4		NOT ABBIENED PEBIATON ATH SI 425# FC TC=+650/+868 REBIATON 424 SI 425# FC TC=+660/+868	01121	C8e735 C8e235
AIONES	868 <u>3</u> -1335	7		A 881870R 024 52 3254 FC 1C0-202/002	01121	

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Table 9. A18 Replaceable Parts (Option 003) (Cont'd)

Reference	HP Part c Number D	Qty	Description	Mfr Code	Mfr Part Number
	0003-0738 0 0003-0738 0 0003-0738 0 0003-0758 0 0003-0758 0 0003-1038 1		RESISTOR ATK SI .254 PC TC8-666/0868 RESISTOR 274 SI .254 PC TC8-666/0868 PESISTOR 1264 SI .254 PC TC8-666/0868 RESISTOR 274 SI .254 PC TC8-666/0868 RESISTOR 164 SI .254 PS TC8-666/0868	01121 01121 01121 01121 01121 01121	C84735 C92735 C92735 C92735 C92735 C92735 C92735
	2003-1035 2003-1245 603-1245 9453-1845 9453-1845 1		REISTON 108 ST .258 FC TC=-000/000 RESISTON 120K ST .258 FC TC=-000/000 RESISTON 100K ST .258 FC TC=-000/000 NOT .400 100K ST .258 FC TC=-000/000 RESISTON 100K ST .258 FC TC=-000/000	01121 91121 91121 91121	C01033 C01245 C01445 C01445
A19668 A19668 A19666 A19667 A19667 A19667	8082-7595 0 9683-7595 0 9683-7595 0 9683-7595 0 9683-7595 0 9683-1585 3	Ĩ	ALDIATON 7.5K 32 .25W FC TCM-400/+700 ALDIATOR 7.5K 51 .25W FC TCM-400/+700 ALDIATOR 750K 52 .25W FC TCM-400/+700 ALDIATOR 7.5K 53 .25W FC TCM-400/+700 ALDIATOR 7.5K 53 .25W FC TCM-400/+700 ALDIATOR 100K 53 .25W FC TCM-400/+800	01121 01121 01131 01131 01121 01121	C07878
A10040 A10070 A10071 A10072 A10072 A10072 A10075	0443-1017 3 0453-1045 3 0493-1035 0		MEDIGTOR 100K SE .20m FC TCS-888/+850 REDIGTOR 100K SE .25m FC TCS-888/+850 REDIGTOR 10K SE .25m FC TCS-488/+560 NGT AB830MED	01121	C01043 C01043 C01045
	/*************************************		RESISTOR SOR SE .230 FC TCS-486/+880 RESISTOR SE SE .250 FC TCS+765 RESISTOR SE SE .250 FC TCS+765 RESISTOR :XE SE .250 FC TCS+766 RESISTOR :XE SE .250 FC TCS+766 RESISTOR SOR SE .750 FC TCS+766/+880	01121 01121 01121 01121 01171 01171 01171	C#1045 C\$1035 C\$1035 C\$1035 C\$1035 C\$1035
A13060 7HRU A1013 A10000 THRU A10007 A1007	0083-3935 0 1530-1683 0	10 10 10 10 10 10 10 10 10 10 10 10 10 1	RCS187CR 39K 51 .254 PC 7C=+488/+868 RESISTON 224 51 .254 PC 7C=+488/+888 7C, C=08 14814	01121 15110 61020	C83435 C82235 CD05146F
AJ ŪKUJ	1000-0541 1		SOCKEY-IC SA-CONT DIP DIP-BLDR	28489	1200-0541 (1997)

See introduction to this section for ordering information *Indicates factory selected value . .

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	MANUAL CHANGES	MODEL 5245L Page 26
CHANGE 11 (1912A)	(Cont d)	

Soldir No.	Manufacturer Name	Address a	Zip Code
01121	Allen-Bradley Company	Milwaukee, WI	53204
01928	RCA Corp Solid State Division	Somerville, NJ	06876
94713	Motorola Semiconductor Products	Phoenix, AZ	85062
19701	Mepco/Electra Corp.	Mineral Wells, TX	75967
24546	Corning Glass Works (Bradford)	Bradford, PA	16701
25480	Hewlett-Packard Co. Corporate HQ	Palo Alto, CA	94304
72136	Electro Motive Corp Sub IEC	Willimantic, CT	06226

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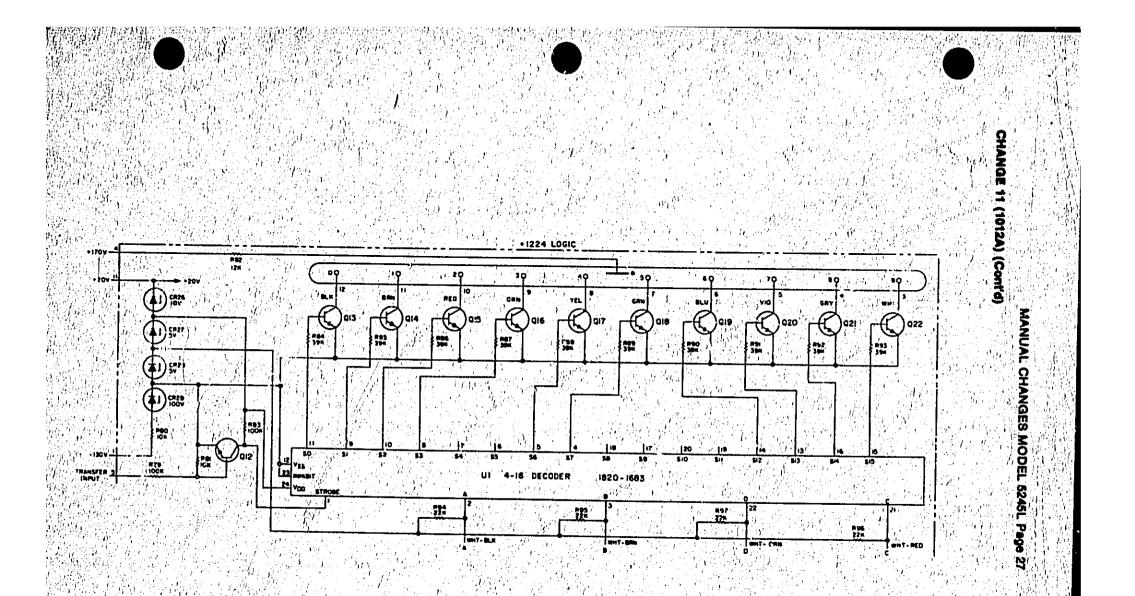


Figure 5. Integrated Circuit Readout Assembly With 1224 Logic

CHANGE 12 (1924A)

Page 4-31, Table 4-1, Reference Designation Index:

Delete HP Part No. 0150-0119 for C5 and change C5 description to NOT ASSIGNED. Add C19 and C20; 0160-4261; CAPACITOR-FXD 2200 pF ±20% 250VAC (RMS); Mfr Code 28480; Mfr Part No. 0160-4281.

Page 7-13, Figure 7-7, Schematic Diagram:

Change C5A to C19 and change value to 2200 pF.

Change C5B to C20 and change value to 2200 pF.

Instrument Serial Prefix number becomes 1924A with the above change.

CHANGE 13 (1)32A)

Page 5-1, Tables 5-1, and 5-2, Option 092 and 003 Replacement Assemblies: Change Table 5-1 to the following: $\{ e_i \}_{i \in I}$

Table 5-1, Option 002 Replacement Assemblies

Standard Assemblies	Option 002 Assemblies
A10-A15 DCA 05212-6018	A10-A14 DCA 05212-6024
A16 DCA 05232-6015	A15, A16 DCA 05232-6023
A18 Readout 05245-60040	A18 Readout 05245-60041

Change Table 5-2 to the following:

 $\odot/32$ Table 5-2. Option 003 Replacement Assemblies

Standard Assemblies	Option 003 Assemblies
A10-A15 DCA 05212-6018	A10-A14 DCA 05212-6025
A18 DCA 05232-6015	A15, A16 DCA 05232-6022
A18 Readout 05245-80040	A18 Readout 05245-60042

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Page 5-8, Table 5-8, Reference Designations Index:

Delete A15/A16 Part No. 05232-6014 (+1248) and 05232-6012 (-1248) Decimal Counter assemblies and all replacement parts in Table 5-6.

Add A15/A16 replaceable parts in attached Table 10 in place of deleted parts in Table 5-6.

Page 5-11, Table 5-7, A10-A14 Reference Designations Index:

Delete A10-A14 Part No. 0512-6002 (+1248) and 05212-6003 (-1248) Decimal Counter assemblies and all replacement parts in Table 5-7.

Add A10-A14 replaceable parts in attached Table 11 in place of deleted parts in Table 5-7.

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Table 10. Replaceable Parts (A15, A16 Options 002 & 003)

Reference Designation	HP Part Number		Qty	Description	Mfr Code	Mfr Part Number
	•5232-6023 •5232-6023 •5232-6022	•		ABARMELY, DECIMAL COUNTER (+1848) (OPTION 642) GENITA (538 ABARMELY, DECIMAL COUNTER (+1848) (OPTION 843) SENIES 10/2	28480	07232-0023 05232-0022
11861 41960 41960 41963 41964 41960	0140-0145 0140-0145 0166-0145 0166-0146 0160-0146 0160-0146			CAPACITOR-FID 22PF +-53 500VGC MICA CAPACITOR-FID 13PF +-53 500VGC MICA CAPACITOR-FID 20PF +-53 500VGC MICA CAPACITOR-FID 20PF +-53 160VGC MICA CAPACITOR-FID 27PF +-53 360VDC MICA	72136 72136 28480 28480 28480	D ^M 1 SE220 Jatos NV1 CM D ^M 1 SE220 Jatos NV1 CM 0 1 SE220 Jatos NV1 CM 0 1 Se20 1 46 0 1 Se2 1 76 0 1 Se2 2 Se4
ajsta 1067 Ajsta Ajsta Ajsta Ajsta	0169-236 C169-0369 0169-2306 0169-2503 0169-2503	34344		CAPACITOR-PHD 27PPSI 3884PC MICA CAPACITOR-PHD 17PFSI 3884PC MICA CAPACITOR-PHD 27PFSI 3884PC MICA CAPACITOR-FHD 2648PPSE 3884PC CER CAPACITOR-FHD 33PF +-SE 3884PC MICA	28480 28480 28480 28480 28480 28480 28480	
A1861) A18613 A18613 A18613 A18614 A18618	0100-01481 0100-0200 0100-0200 0140-0190 0140-0190 0140-0190	***		CAPACITOR-FID 2299 +-58 800VDC MICA CAPACITOR-FID 2399 +-58 300VDC MICA CAPACITOR-FID 20099 +-808 300VDC CER CAPACITOR-FID 3099 +-808 300VDC CER CAPACITOR-FID 3099 +-88 300VDC MICA CAPACITOR-FID 3099 +-58 300VDC MICA	72136 28880 28486 72136 72136	DH196230366804168 6168-2308 DH19623036644168 DH196399336444168 DH196399336444168
419218 419217	0169-0171 0168-0570			CAPACITOR-FRD SAFF 4-BR 388VDC #ICA CAPACITOR-FRD 33FF 4-53 388VDC WICA	72134	
A18CR1 thru A18CR8 A18CR9 A19CR10 A19CR10 A19CR11	.1961-8883 1961-8888 1981-8888 1981-8848			NOT ASSIGNED DIDEE-SHITCHING SAV SOMA DNS DO-35 DIDEE-SHITCHING SAV SOMA DNS DO-35 DIDEE-SHITCHING SAV SOMA DNS DU-35 DIDEE-SHITCHING SAV SOMA DNS DU-35	28484 29480 39484	1991-984 1991-884 1991-884 1901-8848
A156719 A136013 A156013 A156013 A156013 A156013	1901-0080 1901-0080 1901-0080 1901-0080 1901-0080			DIDBE_SHIYEMING 30Y 30MA 2NG 50-25 DIDBE_SHIYEMING 30Y 30MA 2NG 50-35 DIDBE_SHIYEMING 30Y 30MA 2NG 50-35 DIDBE_SHIYEMING 30Y 30MA 2NG 50-35 DIDBE_SHIYEMING 30Y 30MA 2NG 50-35	28486 28486 28486 28486 28486 28486	
A16617 A15610 A15610 A156010 A156010 A156010	1901-0000 1901-0000 1901-0000 1901-0000 1901-0000			DIRCE-BRITCHING JAY SAMA 2M3 DC-35 DIGDE-BRITCHING JAY SAMA 2M3 DC-35 DIGDE-BRITCHING JAY SAMA 2M8 DC-35 DIGDE-BRITCHING JAY SAMA 2M8 DC-35 DIGDE-BRITCHING JAY SAMA 2M8 DC-35 DIGDE-BRITCHING JAY SAMA 2M8 DC-35	28486 28486 28486 28486 28486 28486	1981-8848 1981-8848 1981-8848 1981-8848 1981-8848
A15C222 A15C223 A15C223 A15C220 A15C220 A15C220	1901-0040 1901-0040 1902-0045			DIGDE-SHITCHINS Dev SeMA 2MS DO-38 DIGDE-SHITCHINS Dev SeMA 2MS DO-38 NOT ASSIGNED NOT ASSIGNED DIGDE-Jum lev St DO-7 PDU, SH YC4+.682	28480 28688	1001-0040 1001-0040 1002-0045
A SCORT A SCORT A SCORT A SCORT	1902-0041 1992-0041 1992-0179			DIODE_INE 5.114 SE DO-7 PDE.5H TC#	28489 28689 28689	1902-0041 1902-0041 1902-0175
A15051 thru A10055 A15050	1970-8814	•		NOT ABBIENED	28400	1978-9034
	1053-0034 1053-0034 1053-0034 1053-0038 1053-0038	000000000000000000000000000000000000000		THANAISTON PNP SI TOAIS POUSAANN TRANSISTON PNP SI TOAIS POUSAANN TRANSISTON PNP SI TOAIS POUSAANN TRANSISTON PNP SI TOAIS POUSAANN TRANSISTON PNP SI TOAIS POUSAANN	28480 29480 28480 28480 28480 28489	103-034 4/ 12 20 20 20 20 20 20 20 20 20 20 20 20 20
A15e6 A15e7 A15e8 A15e8 A15c9 Enro A15c11	1851-0034 1853-0038 1853-0038	0 0 0		TRANSISTOR PHP SI TO-18 PD0368Mm TRANSISTOR PHP SI TO-18 PD0366Mm TRANSISTOR PHP SI TO-18 PD0366Mm NOT ASSIGNED	28480 28480 28480) 183-6030 1882-8030 1853-6030 1853-6030
A15012 A15013- A15023-	1854-8842	•		TRANSISTOR NPN SI PONSENN PTEBRUNZ TRANSISTOR NPN SI PONSESNN PTESENNE	04713	HP3+17
A15R1 INU A15R9 A15919 A15911 A15812	0741-0045 0073-5035			NOT ABBISHED SESISTOR 3.3% St IN MC TESS-200 RESISTOR 54.51 .29# FC TES-490/+848 NOT ABBISHED	28480 91121	0761-0005 C85035
818813 439010 119815 419816 419816 419817	8761-8610 0788-0834 9603-5835 8758-8884	8 1 5		REALATOR 1.8K TE 10 MO TCUBA-280 REALATOR 2.7K TE .25m F TCUBA-100 PEDIATOR DAK DE .25m FC TCU-400/+844 RCT ABUERKO REBIETOR 2.7K TE .25m F TCU0+-100	28480 24546 01181 24546	0761-0010 C5-1/4-70-3701-J C05035 C3-1/4-70-2701-J

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Reference Designation	HP Part Number	0 0	Qty	Description	Mfr Code	Mfr Part Number
AISBIAN COLONIA CO AISBIA	0788-1045 0083-5035			ALBIETON 3.94 5% .25# F TCBDD-100 REGISTON SAN SE .83# FC TCBDBD/100 NOT 48815400	16701 01181	W 52(1)4-70-3981-J 685638
A19820 A19821 A19828	0728-0845	•		RESISTON 3.4% SE .25% P TC48++188 RESISTON 2.2% SE 14 40 TC48++238	19781 28899	#752C1/4-70-3701-J 0761-4865
A19023 A19026 A19026	0083-5035 0761-0010	9 1		RESISTON SAK SE 1850 FC 150-050-0500 NOT ASSEMBD RESISTON 1.0K 55 10 MO 7C050-280 RESISTON 10K 55 10 MO 7C150-280 RESISTON 10K 55 10 MO 7C150-280	01181 26460 01181	C05035 0761-0010 C81035
A18826 A19827 A18828	0643-1639 0493-1635 0603-2035			RESISTOR INC. SE. 250 PC TENNOD/OND RESISTOR 245 SE .250 PC TENNOD/ODD	01181., 01181.	C01038
A15820 A15830 A15831	0483-2838 8483-2715 8483-2739			REDIGTON 201 33 ,258 FC.1568-468/2000 REDIGTOR 27K 32 ,258 FC 158-408/2000 REDIGTOR 27K 32 ,258 FC 758-408/2000 REDIGTOR 144 32 ,254 FC 758-408/2000	01121/. 01121 01121 01121/ 01121/	COJ035
415833 428035 415834	6483-1435 6483-1435 6683-1835			RESISTER SAK SE	01181 01181	C81030 C81019
A19838 A19836 A19837	0603-5525 0603-5625			#EBIDY% 3.34 98 .85# FC TC==688/0700 #EBIDTOR 224 88 .85# FC TC==600/0800 #EBIDTOR 9.44 98 .25# FC TC==400/0800	01121 01121 01121	
415038 415030 415848	0603-3025 0603-1045 0603-4705	3		REBISTOR 3K SE .ESM FC TC4-450/0700 REBISTOR 160K SE .BSM FC TC4-460/0800 REBISTOR 07 SE .ZSM FC TC4-400/0800	01381 91321 91381	C83835 C81845 C64785
A15841 A15842	6483-1825 6483-2235		3	REJINTER 14 %1 288 PC TEDADOFFORD REJINTER 22% St 288 PC TEDADOFFORD	01121	
419803 419808 419809 419809	0003-3025 0453-3725 0453-3725 0453-1825 0603-1825			REGISTON 3.44.54 .254 FC .768-448/4780	01121 01121 01151	C03925 C01225 C0725 C03925
ALBROY CLASSES	9683-3455 0683-5535 9643-1845			RESISTON 3.4K WE .2KW FC TCH-ABB/+708 RESISTON 22K WE .2KW FC TCH-ABB/+808 RESISTON 22K WE .2KW FC TCH-ABB/+808	01383	
19979 19979 19979 19979	\$\$\$3=\$715 \$\$\$3=2723 \$\$\$3=2235			RESISTOR 478 SE	01121 01121 01121	C64715 C10725 C12735
415853 415850 415850	6483+1838 6485+4785 8483+5625		dan Maria	RESISTON 11 SE , 250 FC TC-486/+440 RESISTON AT SE , 250 FC TC-486/+440 RESISTON 3, 45 , 250 FC TC-486/+580 RESISTON 3, 44 SE , 250 FC TC-486/+788	01121 01121 01121	C01005 C50705 C01005
415854 415857	8483-3474 8483-4715			RESISTOR 3.6K SE .254 FC TC0-688/+764 RESISTOR 476 SE .254 FC TC0-688/+660		COOPS COOPS AND AND AND AND AND AND AND AND AND AND
	0683-4718 0683-3628 0683-1988 0693-1988			REDISTOR 375 83.084 FC TC=480/080 REDISTOR 3.04 51.284 FC TC=080/080 SEDISTOR 3.04 51.284 FC TC=080/080	01181 01181	
A1988	0693-2735 0603-1837				61181 91181 91181	C18738
11986 119865 119865 119865 119865	64#3=2735 64#3=2225 4633=2715 6483=2715	5	1 - E	REDIATOR ATK SE 28% PC. TC==488/+848 REDIATOR D. 2K WE. 28% PC TC==488/+848 REDIATOR D.2K WE. 28% PC TC==488/+648 REDIATOR D.2K WE. 25% PC TC==488/+848	01181 01181 01181	CO2739
A1986		-T_		REGISTOR 1864 St .254 PC TC=486/+888	atial	COLOOB
A15700 thru A15778 A15870 A15200	8683-:548 8683-:548	3		RESTOR LOSK BE ARW FC TERASS/+858 RESISTOR LOR BE AR AR CC TERSTOR	01121 01121	Chaos Chiras
A15862 A15862 A15863	26873-1035 26873-1035 26873-1085		1	REDISTOR ISK SE SER FC TC=+486/+0786 REDISTOR ISK SE SER FC TC=+745 REDISTOR IS6K SE SER FC TC=+486/+0306	01121 01121 01123	
A15884 thru A15893	0003-3935			REDIDTOR DOK SE "254 PC TCR-608/+808 REDIDTOR DOK SE "254 PC TCR-608/+808	otiBt	(C)2233
A15205 A15866 A15867	0003-2235 0003-2235 0003-2235	5		REBIBYOR 22K SK 226 FC TCB-466/+866 REBIBYOR 22K SK 236 FC TCB-466/+866 REBIBYOR 22K SK 286 FC TCB-466/+866	01121 01121 01121	

Reference Designation	HP Part of Number	Qty	Description	Mfr Code	Mfr Part Number
A10 (Option 002) A10 (Option 002) A10 (Option 003) A10 (Option 003) A10 (Option 003) A10 (Option 003) A10 (Option 003) A10 (Option 002) A10 (Option 003) A10 (O			STRIES 1938 ALO THROUGH ALGOPTIONS 802 & 6933 +1240 DECIMAL COUNTER ASSEMBLY (SERIES 1832) -1248 DECIMAL COUNTER ASSEMBLY (SERIES 1832) CAPACITOR-FND 110PFST 300VDC WICA CAPACITOR-FND 110PFST 300VDC WICA	20450 20450 20450 72130 72130 72130 72130 72130 72130 72130 72130 72130	05213-0020 05213-0020 05213-0020 05213-0020 05157-0020
A10C11 A10C2 A10C71 thru A10CR4 A10C71 thru A10CR4			CAPACITOP-FID Reaff +-BE BeevDC MICA CAPACITOD-FID Beaff +-BE BeevDC MICA CAPACITOP-FID -1UF +Be-20E BevDC KIR NCT ABBIENED DIDDC-RE sev 4144 1UB DO-7	72136 72136 28480	DH197201J030CHV1CA DH197201J0300HV1CA 0157-0121 1916-0010
A10CR15 Ibru > 0CR25			DIGOT-SE SAV SAMA LUS DO-7 DIGDE-SE SAV SAMA LUS DO-7	20480 20400 20400 20400 20400 20400	
4:00720 4:0027 4:0027 4:0028 4:0029 4:0005:thru A10055			DIGOE	28476 28686 28686 28486 28486	1702-0025 1702-0041 1702-0041 1702-0175 1702-0175
A1968	9;40+0101 1853-0217 1853-0217 1853-0217 1853-0217 1853-0217		COIL-MLO 3.6M SE BOTE .FISDE.TALE.CO TAANSISTOR PAP OI POUSION TAANSISTOR PAP OI POUSION TAANSISTOR PAP OI POUSION TAANSISTOR PAP OI POUSION TAANSISTOR PAP OI POUSION	2048c 04713 04713 04713 04713 04713 04713	9188-0181 MP8-2008 MP8-2008 MP8-2008 MP8-2008 MP8-2008
A1886 A1887 A1888 A1809 thru A10011 A18618	1853-0217 1855-0217 1851-0217 1851-0217		TRANSISTOR PM" BI PDBIAN TRANSISTOR PMP SI PDBIAN TRANSISTOR PMP JI PDBIAN NOT ABBIENEO TRANSISTOR NPN JI PDBERN PTBEAMZ	84713 04713 04713 84713	198-0914 198-0914 198-1914 198-1914
A10013 thru A10022 (A10R1 thru A10RB A10R1 thru A10RB A10R10 A10R1 A10R12	1838-6375 0883-5835 8883-5635		TRANSISTOR NPN OT PDub2540 FTESOMHZ HOT ASSISHED RESISTOR BAN SE .254 PC TCa-488/+860 HOT ASSISHED RESISTOR SAN SE .254 PC TCa-488/+860	0=713 01121 01121	175-242 C01635
	6483-5633 6686-7525 6683-4335		INDT ABSTENED REGISTOR SAK SE "25M PC 7C=+468/+800 NDT ABSTENED PESISTOR SAK SE "25M PC 7C=+466/+840 NDT ABSTENED REGISTOR 7.5K SE "25M PC 7C=+466/+840 REGISTOR 33% SE "25M PC 7C=+460/+840	01181 01181 01181 01181	C09635 C19635 C09635 C04535
A 1070 A 1072 A 1072 A 1072 A 1072 A 1072 A 1072 A 1072 A 1072 A 1072 A 1072	8683.3925 8683.3925 8683.1815 8683.1815 8683.1845 8683.3925		PESTSTOR 10K SE 25% PC 120-866/*700 RESISTOR 47K SE 25% PC 120-866/*800 RESISTOR 5.4K SE 28% PC 120-866/*800 RESISTOR 100 SE 25% PC 120-866/*800 RESISTOR 100K SE 25% PC 120-866/*800 RESISTOR 7.5K SE 25% PC 120-867/800 RESISTOR 35K SE 25% PC 120-867/800	01121 01121 01121 01121 01121 01121 01121 01121	C01015 C00735 C00735 C01728 C01048 C01048 C01785 C01785 C01785 C01785 C01785

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CHANGE 13 (1532A (Cont'd)

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Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
A [0 # 2 0 A [0 # 2 0 A] 0 A] 0	0003-1035 0003-1035 0000-7575 0003-0335 0003-0335 0003-0735	1.20			01121 01121 01121 01121 01121	
A 1 6 8 3 4 A 1 8 8 3 4 A 1 8 8 3 4 A 1 8 8 3 6 A 1 8 8 3 6	0603-3725 0603-1015 0603-1015 0603-3727 0604-7574	-			01181 01381 01381 0181 0181	C4 1975 C4 13 15 C4 15 C
A10710 A10430 A10400 A18401 A18401 A10408	0003-4335 050701035 0745-1035 0745-1035 0404-7525 0403-0335			RESISTON AJN 81 (250 FE TES-565/786 RESISTON 16K 91 (250 FE TES-565/786 RESISTON 16K 93 (250 FE TES-566/7766 RESISTON 7.5% 58 (50 CE TES-667/786) RESISTON 414 93 (250 FE TES-667/83)	01121 01121 01121 01121 01121 01121	C11035 C1105 C1105 C1105 C1105 C1105 C1105 C1105 C1105 C1105 C105 C
A LORU 3 A LORU 3 A LORU 5 A LORU 5 A LORU 5 A LORU 5	0603-4735 0603-3925 0603-3925 0603-1815 0603-1845 0603-1925	-		REGISTOR 474 88 ,380 FC TC0-460/480 REGISTOR 374 88 ,280 FC TC0-806/480 REGISTOR 103 88 ,580 FC TC0-806/480 REGISTOR 103 88 ,800 FC TC0-806/480 REGISTOR 1,48 55 ,350 FC TC0-806/480	01121 01121 01121 01121 01121	C84718 44 C81018 C81018 C81018 C81018 C81018 C81018 C81018
A10840 A10840 A10940 A10951 A10951	0404-7585 0403-4335 0403-1785 0403-1785 0403-1055 0404-7525	20112		RESISTON 7.8% SK .8% CC TCade.447 ACDIATON 43% SK .9% F2 TCa-460/4580 MESISTON 15% SK .8% FC TCa-460/4580 RESISTON 15% SK .2% FC TCa-460/4580 RESISTON 15% SK .4% FC TCa-460/4580 RESISTON 7.5% SK .5% CC TCad.47	PIS21 91521 91521 91121 91125 91121	
A1083 A1083 A1085 A1085 A1085 A10857	\$003.4335 \$453.4735 \$453.4735 \$453.3925 \$403.1615 \$803.1845	0 1 2 5 3		REGISTOR 63K BI .ISH FC TC8-481/+888 REGISTOR 47K BI .BW FC TC8-481/+888 REGISTOR 3,7K BI .BW FC TC8-481/+888 REGISTOR 188 BI .PW FC TC8-485/+888 REGISTOR 188 BI .BW FC TC8-485/+888	01121 01121 01121 01121 01121 01121	
	8483-3928 6434-7828 8434-7828 8433-1335 8433-1335 8433-1335	2201		RESISTOR 3.9K BE .25m FC TCB-666/4740 RESISTOR 7.5K BE .5m FC TCB-6447 RESISTOR 45K SE .5m FC TCB-646/448 RESISTOR 14K SE .5m FC TCB-646/478 RESISTOR 7.5K SE .83m FC TCB-646/4788	01121 01121 01121 01121 01121 01132	 CD3701 (1997) 11 (1997)
Atunes thru Atura	8683-8728 8683-1338	8		REGISTOR 4.7K ST JUN FC FCC-480/0760 REGISTOR ASK SX JUN FC FCC-480/0760 NOT ASSIGNED	01101	
A19489 A19489 A19881 A19882 A19882 A19882	0403-1039 043-1039 043-1039 040-1239 040-1239 0403-1009	3 7 1 7 3		REALSTON LOW SX JESN PC TCD-400/400 REALSTON LOW SX JESN PC TCD-400/400 REALSTON LOW SE JEN PC TCD-400/40/ REALSTON LOW SX JESN PC TCD-400/400/ REALSTON LOW SX JESN PC TCD-400/400/	01181 01181 01121 07183 21181	
A10R84 thrù A10M93 A10R94 A10R95 A10R95 A10R95 A10R95 A10R95	6483-3935 6483-2235 6483-2235 6483-2235 6483-2235			REGISTOR 39% 5% .25#,75 TES-400/+40 REGISTOR 22% 5% .25#,75 TES-400/+40 REGISTOR 22% 5% .25# 75 TES-400/+400 ALDISTOR 22% 5% .25# 75 TES-400/+400 REGISTOR 22% 5% .25# 75 TES-400/+40		C 237037 C 23707 C 237
Alous	1820-1883 1280-0381		1	IC DCOR CHOR 4-TO-LO-LINE Bocket-IC 24-CCNT DIP DIP-BLDR	61920 28480	C045;487
Ati (17)				SAME AS A10, USE PREFIX A11 SAME AS A11, USE PREFIX A12 SAME AS A10, USE PREFIX A13		
				SAME AS A10, USE PREFIX A14		
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CHANGE 13 (1932A) (Cont'd)

Page 7-19, Figure 7-10, A10-A14 Decimel Counter Schematic Diagram: Change "+1248 BCD (05212-6002) SERIES 415 OPTION 002", at top of diagram and in caption for Figure 7-10 to +1248 BCD (05212-6024) SERIES 1932 OPTION 002.

Change "-1248 BCD (05212-6003) SERIES 415 OPTION G03", at top of diagram and in caption for Figure 7-10 to -1248 BCD (05212-6025) SERIES 1932 OPTION 003.

Delete CR1 through CR8, DS1 A/B thru DS4 A/B, DS8, R1, R2A thru R2K, R6 thru R9, R11, R13, R15, R17, and photoconductor V1,

Add "A" at top end of R10. Add "B" at top end of R12. Add "C" at top end of R14. Add "D" at top end of R16.

Add integrated circuit U1, transistors Q12 thru Q22, digital display tube DS6, and associated components in place of above removed parts. See Figure 6 for diagram of ±1248 integrated circuit readout assembly.

Connect WHT-BLK wire to A (upper end of R10). Connect WHT-SRN wire to B (upper end of R12). Connect WHT-RED wire to C (upper end of R14). Connect WHT-ORN wire to D (upper end of R16).

Pages 7-23/7-24, Figure 7-12, A15 and A16 Decimal Counter Schematic:

Change "+1248 (05232-6014)", at top of diagram and in caption for Figure 7-12 to +1248 (05232-6023) SERIES 1832 OPTION 002.

Change "-1248 (05232-6012)", at top of diagram and in caption for Figure 7-12 to -1248 (05232-6022) SERIES 1932 OPTION 003.

Delete CR1 thru CR8, DS1 A/B thru DS4 A/B, DS6, R1, R2A thru R2K, R6 thru R9, R12, R16, R20, R24, and photoconductor VI

Add "A" at top end of R11. Add "B" at top end of R15." Add "C" at top end of R19

Add "D" at top end of R23

Add integrated circuit U1, transistors Q12 thru Q22, digital display tube DS6, and associated components in place of above removed parts. See Figure 6 for diagram of ±1248 integrated circuit readout assembly.

Connect WHT-BLK wire to A (upper end of R11). Connect WHT-BRN wire to B (upper end of R15). Connect WHT-RED wire to C (upper end of R19). Connect WHT-ORN wire to D (upper end of R23).

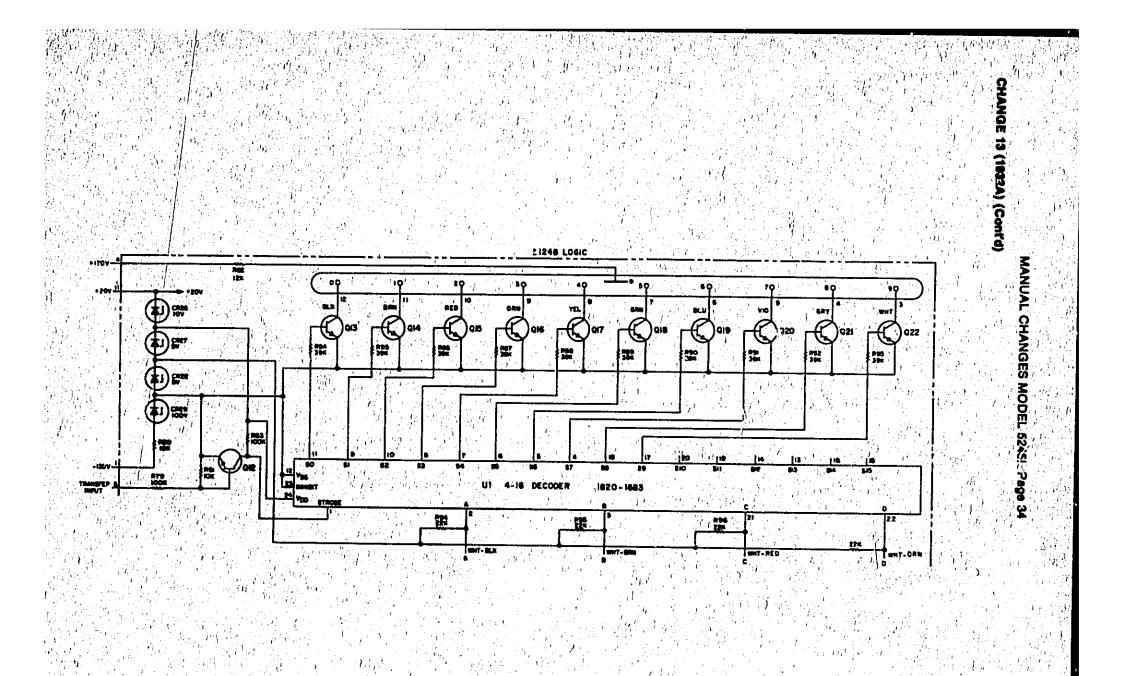


Figure 6. Integrated Circuit Readout Assembly with ±1248 Logic

CHANGE 14 (Certal Prefix 2004A)

Page 4-20, Table 4-1, A23 Reference Designation Index: Change A23 (05243A-65S) series number from 1820 to 2004.

Change A23Q11 from 1854-0005 (2N708) to 1854-0842; TRANSISTOR:SILICON NPN.

Pages 7-39/7-40, Figure 7-20, A23 Schematic Diagram: Change A23 series number from 1820 to 2004. Change "2N708" adjacent to A23Q11 to 1854-0642.

NOTE

The following part of this change negates part of the changes given in CHANGE 11.

Page 4-6, Table 4-1, A10 Reference Designation Index: Replace 05212-6018 (SERIES 1912) Replaceable Parts (part of CHANGE 11) with HP Part No. 05212-6027 (SERIES 2004) Replaceable Parts in attached Table 12 for A10-A15 Replaceable Parts.

Page 4-8, Table 4-1, A16 Reference Designation Index: Replace 05232-6015 (SERIES 1912) Replaceable Parts (part of CHANGE 11) with HP Part No. 05232-6024 (SERIES 2004) Replaceable Parts in attached Table 13 for A16 Replaceable Parts.

Page 4-13, Table 4-1, A18 Reference Designation Index: Replace 05245-60040 (SERIES 1912) Repaiceable Parts (part of CHANGE 11) with HP Part No. 05245-60044 (SERIES 2004) Replaceable Parts in attached Table 14 for A18 Replaceable Parts.

Page 7-16, Part of Figure 7-9, A10-A15 Component Locator: Replace A10-A15 Component Locator illustration with new illustration for 05212-6027 in attached Figure 7.

Page 7-17, Figure 7-9, A10-A15 Schematic Diagram:

Replace A10-A15 Schematic Diagram with new diagram for 05212-6027 in attached Figure 8.

Page 7-20, Part of Figure 7-11, A16 Component Locator: Replace A16 Component Locator illustration with new illustration for 05232-6024 in attached Figure 9.

Page 7-21, Figure 7-11, A16 Schematic Diagram: Reparce A16 Schematic Diagram with new diagram for 05232-6024 in attached Figure 10.

Page 7-27, Figure 7-14, A18 Component Locator and Schematic Diagram: Replace A18 Component Locator Mustration with new illustration for 05245-60044 in attached Figure 11. Replace A18 Schematic Diagram with new diagram for 05245-60044 in attached Figure 12. Ser.

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Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Numb
	05212-8027	8	с і	ASSEMBLY, DECIMAL BOARD (SERIES 2004)	28480	05212-8027
A10C1 A10C2 A10C3 A10C3 A10C3	0109-0190 0149-0195 0149-0193 0149-0193	7 2 2		CAPACITOR-FID 30FF 4-81 348VDC MICA CAPACITOR-FID 32FF 4-81 548VDC MICA CAPACITOR-FID 32FF 4-81 548VDC MICA CAPACITOR-FID 43FF 4-81 248VDC MICA	72136 72136 72136 72136 72136	04156349383494383444568 D41562293856644568 D41568293836844568 D41568293836844568 D41568293836844568
A10C5 A10C5 A10C5 A10C5 A10C5 A10C5	0140-0197 0150-0197 0150-0153 0140-0198 0140-0198	8	8	CAPACITOR-FUD ATPF +-58 540VDC MICA CAPACITOR-FUD 1000F +-58 540VDC MICA CAPACITOR-FUD 410F +-58 540VDC MICA 0+70 CAPACITOR-FUD 100FF +-58 540VDC MICA CAPACITOR-FUD 100FF +-58 540VDC MICA CAPACITOR-FUD 100FF +-58 540VDC MICA	72130 28489 72130 72130 72130 72130	6"1%37,36360**1CR D"197,31,40360**1CR 0160-2003 D#196,6620386**1CR D#197,61,40308**1CR D#197,61,40308**1CR
	0149-0217 0149-0292 0149-0293 0149-0294 0149-0195 0149-0195		•	CAPACITOR-JID (IFFSI JAVYOC WICA 0-70 CAPACITOR-JID JAPFSI JAVYOC WICA CAPACITOR-JID JAPFSI JAVYOC WICA CAPACITOR-JID JAPFSI JAVYOC WICA CAPACITOR-JID JAPFSI JAVYOC WICA CAPACITOR-JID JAPFSI JAVYOC WICA	28489 72130 26689 72134 28489	0100-2265 Dm1502240 Dm1502240 0100-2260 0100-2265
ALOCRI THRU ALOCRE THRU ALOCRE THRU ALOCRE ALOCRE THRU	1910-0010	•	10	NOT ABSIGNED DICOL-DE COV COMA 100 DO-T	5.000 2.0000 2.00000 2.0000 2.0000 2.0000 2.00000000	1996 - 1997 - 19
A10CR20 &10	1933-4825 1963-4841 1962-6841 1962-641 1962-6179	6 6 4 7		NOY ADDIENED DIGOC-INE 10V 31 DG-7 PD-44 760.485 DIGOC-INE 5.11V 31 00-7 PD-44 760.485 01006-INE 5.11V 31 00-7 PD-44 760.485 DIGOC-INE 5.11V 51 00-7 PD-48 760.485 DIGOC-INE 100V 52 DG-13 PD-14 760.485 DIGOC-INE 100V 52 DG-13 PD-14 760.485	28489 28869 28869 28489 28489	1902-0025 1902-0041 1902-0041 1902-0175
A10051 THRU A10058 A10058	1978-8889	7		NOT ASSIGNED Tube-Electron 6138 [ND-humffic	28480	1936-1199
Alogi THRU Aloge Aloge THRU Aloge THRU Alogi 1	1053-0317	8		TRANSISTER PAP 21 PD-310-M	04713 84713	мрдолфай мрдолфай мрдолфай мрдолцая мрдолцая
A10012 A10013 THRU A10022	1850-8648 1850-8548		10 10	TRANSISTOR NOW SI PROJETIN PIESSINIZ	84715	mg-445
	**************************************	25		NOT ASSIGNED MESSION 7.54 12 .54 CC TC000467 MESSION 7.64 25 .254 FC TC000607880	01121 01121	EDTROS COSO35
A10012 A10013 A10016 A10016	0000-7525 0003-0735 0003-0735	2	1 13	NOT 48816400 MEBISTON 7.54 38 .54 CC 1644447 MEBISTON 7.54 38 .358 FC 1644447 MEBISTON 474 58 .358 FC 16444444 MEBISTON 474 58 .254 FC 164444444	10 120 1121 101121 101121 101121 101121	E07525 C64735 C64735
	8683-3928 9683-1915 8683-4735	121		RESISTER 3,44 58 .254 FC TEN-466/+746 RESISTER 356 58 .254 FC TEN-466/+646 RESISTER 478 58 .254 FC TEN-466/+868	01121 01121	C01015 C01015
A10020 A10020 A10021 A10021	0083-3725 0083-1045 0083-3025 0083-4735	23	2	RESISTOR 3.84 JE .254 /C TCD-168//786 RESISTOR 164K ST .254 /C TCD-162/686 RESISTOR 34 ST .254 /C TCD-162/6866 RESISTOR 67K SK .254 /C TCD-261/686	01121 01121 01121 01121	C03428 C01448 C03428 C03428 C03735
A10433 A10434 A10435 A10435 A10435 A10437	0485-4735 0493-5025 0494-7525 9493-5035	4325		RESISTOR 47K SE .25m FC TC=4484/+800 FESISTOR 3K SE .25m FC TC=4404/+700 RESISTOR 3K SE .35m FC TC=4404/+700 RESISTOR 5AK SE .35m FC TC=4408-+4400 NGT 44816MED	01121 01121 01121 01121	C84733 C93025 C93025 C93025 C93035 C93035
410820 430820 80830 410831 410831 410832	0444-7535 0403-4735 0403-4735 0403-4735 0403-8785 0403-3785	2 4 4 3 2	•	RESISTOR 7.5% 51 .5% CC TC30+637 RESISTCA 47% 51 .5% FC TC30+637 RESISTCA 47% 51 .5% FC TC3-402/+396 RESISTCA 47% 51 .2% FC TC3-402/+346 RESISTCA 9.7% 53 .2% FC TC3-402/+766 RESISTCA 3.4% 53 .2% FC TC3-402/+776	01121 01121 01121 01121 01121 01121	E07525 C84739 C84739 C84735 C84225 C8325 C8325
	0003-0735 0003-0735 0003-02735 0003-0225 0003-0225 0003-11005	3053			01121 01303 01303 01321 01321 1321 1321	C01015 C00715 C00275 C00225 C0025 C005 C00
A1041	0686-7525 0633-5635	3	н. Н. Н. Н.	RESISTOR 7,54 32,54 CC 1046487 VCSIGTOR 544 32,550 FC 1064487 VC7 48518408 RESISTOR 7,54 32,50 FC 1064647 PESISTOR 7,54 32,350 FC 1064647	01121 01121 01121 01121 01121	E\$7525 C\$5635 L\$7525 C\$4735

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CHANGE 14 (3991A) (Cont'd)

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Table 12. A10-A15 Replaceable Parts (Standard) (Cont'd)

1000 1000	Reference HP Pa Designation Num		Qty	Description	Mfr Code	Mfr Part Number
1991 001-1993 0 001-1993 0 001-1993 0 001-1993 0 001-1993 0 001-1993 0 <t< td=""><td>A 10Ras A 10Ras A 10Ras A 10Ras A 10Ras</td><td></td><td></td><td>REDIATOR S. BE SI .250 FC TCO-LED/PTGE REDIATOR 3.96 SI .250 FC TCO-LED/PTGE REDIATOR 100 SI .250 FC TCO-LED/PTGE</td><td>- 01121 - 01121 - 01121</td><td>C01725 C01726 C01726</td></t<>	A 10Ras A 10Ras A 10Ras A 10Ras A 10Ras			REDIATOR S. BE SI .250 FC TCO-LED/PTGE REDIATOR 3.96 SI .250 FC TCO-LED/PTGE REDIATOR 100 SI .250 FC TCO-LED/PTGE	- 01121 - 01121 - 01121	C01725 C01726 C01726
A 10000 A 100000 A 10000 A 10000	110011	995 3 585 2		MESISTOR JOSE VI JEW PC TERANGIJONA MESISTOR 7,5K EX ,56 CC TERANGIJONA RESISTOR 56K SX ,258 PC TERANGIJONA	01121 01121 01121 01121 01121	C01335 C01048 E07545
All Page And All State of the set of the s	A 10050 A 10075 A 1007	736 4 735 4 038 / 1		atsigram 7,92 32,50 CC 75000007 Resigram 7,92 32,750 FC 75000007 Resigram art 92 ,950 FC 7500007000 Resigram art 93 ,950 FC 7500007000 Resigram 100 31 ,950 FC 750000700	01121 01121 01121	C64735 C64735 C614735 C614735
Algebin Algebin		018 9 738 4 739 1 2 039 1 2	1	MESISTOR 180 SE 254 PC TCm=000/0000 RESISTOR 0.71 SE .254 PC TCm=000/0000 BESISTOR 3.94 SE .254 PC TCm=000/0000 BESISTOR 1.64 SE .254 PC TCm=000/0000	01181 01181 01181 01181	C01019 C04734 C04734 C01035 C01035
64001 6400-1015 1 MESIBYTE 148 Sg.,250 PC TC0-082/0700 6121 C01013 610000 6400-1255 1 MESIBYTE 148 Sg.,250 PC TC0-082/0700 6121 C01013 610000 6400-1265 3 1 RESIGYED 100K Sg.,250 PC TC0-000/000 01121 C01035 ATORNE 6400-3035 2 RESIGYED 20K Sg.,250 PC TC0-000/000 01121 C03335 ATORNE 6400-3035 2 RESIGYED 20K Sg.,250 PC TC0-000/000 01121 C03335 ATORNE 6400-0035 2 RESIGYED 20K Sg.,250 PC TC0-000/000 01121 C03335 ATORNE 6400-0035 3 RESIGYED 20K Sg.,250 PC TC0-000/000 01121 C03335 ATORNE 6400-0035 3 RESIGYED 20K Sg.,250 PC TC0-000/000 01121 C03335 ATORNE 70007 7000 20K Sg.,250 PC TC0-000/000 01121 C02235 C000/000 ATORNE 100000 100000 20000 01201 C02235 C000/000 ATORNE 100000 10000 10000 20000 C00000 C00000 ATORNE 100000 10000 <t< td=""><td>41066 41860 A1065 THRU A1065 THRU A10678</td><td>005 3</td><td></td><td>NESISTON 1004 SE .254 FC TCA-400/+400 HESISTON 24 SE .254 FC TCA-400/+700 HOT ASSIGNED</td><td>01121 01121</td><td>C01003</td></t<>	41066 41860 A1065 THRU A1065 THRU A10678	005 3		NESISTON 1004 SE .254 FC TCA-400/+400 HESISTON 24 SE .254 FC TCA-400/+700 HOT ASSIGNED	01121 01121	C01003
A10853 0003-3035 4 RESISTOR 30K St 225 FC TC0-000/0000 01121 C03335 A10857 0003-0005 5 1 RESISTOR NETWORK 16-319 39K/32 01121 C02355 A10857 1010-005 5 1 RESISTOR NETWORK 16-319 39K/32 01121 C0235 A10857 1010-005 5 1 RESISTOR NETWORK 16-319 39K/32 284.00 0121 A10857 100-005 5 1 RESISTOR NETWORK 16-319 39K/32 284.00 100-005 A10957 100-005 5 1 RESISTOR NETWORK 16-319 39K/32 284.00 100-005 A10017 100-005 1 1 00CKET-1C 00-0017 019 019-04.00 284.00 A1017 1200-0581 1 1 00CKET-1C 00-0017 019 019-04.00 284.00 A1017 1200-0581 1 1 00CKET-1C 00CKET-1C 00FF1X 112 A118 84ME 40 A10, U0E PMEF1X A12 1 1 1 1 1 A108 84ME 40 A10, U0E PMEF1X A12 1 1 1 1	410466 510461 510461 410465 410465 410464 41049 5055	939 7 035 1 1 235 1 0 945 3		ME91978 16K 51, 25m FC TC=+662/+768 mE91978 19K 52 ,5m CC 1C=6+763 #E91978 196K 52 ,25m FC 7C#+662/+868 NOT ASSIGNED	01121 01121 01121 01121	 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035 C01035
AIR AIR AB AID, UDE PREFIX AII AIR AIR AIR AIR AIR AIR AIR AIR AIR	A10R83 A10R84 THRU A10R87 A10R86 1810-068	435 4 699 5 5 5		RESISTOR 204 SX .254 FC TC==662/+668 RESISTOR 224 SX .254 FC TC==662/+668 RESISTOR NETWORK 16-31P 35KI X8	01181 01181 28480	C03935 C02235 T810-0495
ALB AND AND AND AND AND AND AND AND AND AND		941 i			28450 1411 - 1412 1413 - 1414 1414 - 1414 - 1414 1414 - 1414 - 1414 - 1414 1414 - 1	
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	Reference Designation	HP Part Number	CD	Oty	Description	Mfr Code	Mfr Part Number
		05252-6024		1 1	DECIINAL COUNTER ABBENDLY (DEFIES 1412)	28412	05232-0024
	A10C3 410C7 410C7 410C3 410C3 410C3	0160-0360 0160-0300 0160-0300 0160-0300 0160-0300 0160-0300			CAPACITON-FID 1707 0-53 SAOVE #ICA CAPACITON-FID 1707 0-53 SAOVE #ICA CAPACITON-FID 1707 0-51 SAUVE #ICA CAPACITON-FID 1707 0-55 SAOVE #ICA CAPACITON-FID 1707 0-55 SAOVE #ICA	28485 26485 72134 72134 72134	0105-0340 0160-0360 D#19527030500+V1C0 D#19527035500+V1C0 D#15527035500+V1C0
	A10C0 A10C7 A10C0 A10C0 A10C0 A10C1				EAPACITED-FED ATPYSE \$90476 "ICA EAPACITED-FED 11007SE 390476 "ICA EAPACITED-FED ATPYSE 390476 "ICA EAPACITED-FED ATPYSE 304786 "ICA EAPACITED-FED 200077SE 3044786 CEE	72134 72134 72134 72134 72134 28484	Du182078J85684V1C# Du19711J88854V1C# Du98479J8984V1C# Du98479J8984V1C# S184278J8884V1C# S1842843
		0160-2563 9160-2566 9160-2566 9160-2566 9160-2566 9160-2566			CAPACITON-FID 2000 ^{PT} 203 500 ^{VD} CEN CAPACITON-FID 54 ^{PT} 31 540 ^{VD} WICA CAPACITON-FID 57 ^{PT} 51 540 ^{VD} WICA CAPACITON-FID 3 ^{VD} 71 540 ^{VD} WICA CAPACITON-FID 3 ^{VD} 71 540 ^{VD} WICA	28488 72134 28488 72134 72134 72134	\$169-2563 D*155563388441CR 150-356 D*155364388441CR D*155364388941CR D*155364388941CR
	A10C10 A10C17	\$100-9191 \$1(>+019]			CAPACITON-FED SAPFSE 305VDC WICA CAPACITON-FED SAPFSE 305VDC WICA	72130	D#195906-8388441C# D#195906-8388441C#
	AISCRI THRU AISCRS THRU AISCR2 THRU AISCR21 AISCR22 THRU AISCR25	1901-0040	1	13 13 13	NOT ASSIGNED DIDDE-BRITCHING JUT SOMA 243 DD-35 NOT ABBIENED	28489	4 401-0340 14
	A10CR00 A10CR07 A10CR07 A10CR00 A10CR00	1963-6625 1963-6685 1963-6681 1963-6681 1963-6681			DIGOC-ING 104 5% DD-7 PD0.40 7C00.358 DIGOC-ING 5.114 5% DD-7 PD0.40 7C00.647 DIGOC-ING 5.114 5% DD-7 PD0.40 TC00.6478 DIGOC-ING 1004 5% DD-18 PD010 TC00.6458	28484 28485 28488 28488	1962-6825 1982-6841 1982-6741 1982-6175
	A16DSI THRU A16DSB A16OSB	1970-000	•	, , , , , , , , , , , , , , , , , , ,	TUBERTLEYNON SARE IND-NUMERIE	28480	1973-1969
	A1003 THRU A1008 A1008 THRU	1853-1034			THANEISIDE PMP BI 70-16 PD436844	2848#	1923-223
9-04 9-04 9-0	A16011 A16012	1950-9043		$\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \int_{$	NOT ABBIENCO TRANSISTON NON SI PONSISMU PINSAMUZ		107guA17
	A16023 THRU A16022	1058-0575	•	19	TAAUSISTON NON SI POOLSS'N FIDSENNE	94713	10 galag
	A16810 416811 616812 416813	0485-3638 8483-8638	5		NOT ABBIENED SE .250 PC TC==600/+900 NOT ABBIENED NOT ABBIENED BLEIDTOR SAR SE .250 PC TC=+600/+840	01121 01121	C09635
	A10810 A10815 A10815	0683-9637	1		NC ABBIENES HEBIETON SAN SE "254 FC TENADEJ-OBE NET ABBIENES	91121 91121	175635 C25635
	A10817 A10818 B10819	0003-5035 0761-0010		. 2	ALSISTON 1.84 31 12.250 FC TC=++200 PEDISTON 1.84 31 10 MD TC=++200 PEDISTON 1.84 31 10 MD TC=++200	28480	#761-2818 #761-2818
еції. А. 1910	A10421 A10421 A10422 A10433	0761-0018 0758-0044 0758-0058 0758-0055 0758-0055		5	RESISTON 2,24 95 ,250 F TESS100 HESISTON 2,74 93 ,250 F TESS100 RESISTON 2,74 93 ,250 F TESS100 HESISTON 2,74 93 ,250 F TESS100	24546 24546 24546 24546	C5=1/8=70=281=3 C5=1/8=70=2781=3 C5=1/8=70=2791=3 C5=1/8=70=2791=3
л. 1	SIGRE ALGONS AIGRE THRU	0758-0998 9758-9994	ł		REDIBTER 2.74 SI .25# F YEAS-168 REDIBTER 2.74 SI .25# F TERS-198	24546 24586	CS-1/4-TS-3781+J CS-1/4-TS-2781+J
	A16833 A16834	0603-1635 9603-1815	17		RESISTOR 144 51 258 PC 758-288/-868 RESISTOR 188 51 258 PC 758-888/-888	#1121 #1121	CB1035 CB1035 CB1035
	A10735 A10730 A10737 A10737 A10738 A10738	0683=3925 0683=1835 0583=3925 0683=8735 0683=1015	20207	- -	MESISTOR 3.9% Size 7C TC=+680/+768 MESISTOR 3.0% Size 7C TC=+680/+768 MESISTOR 3.0% Size 7Z TC=+680/+768 MESISTOR 3.0% Size 7Z TC=+680/+768 MESISTOR 3.0% Size 7Z TC=+680/+768 MESISTOR 100 Size 7Z TC=+680/+768	01121 01121 01121 01121 01121 01121	CB1035 CB3025 CB4715 CB1015
	Albere Albere Albere Albere Albere Albere Albere	9083-3925 0083-1835 0083-3925 0083-1115 0083-1115			RESISTOR 3. WE 31 . 25m PC TC=400/+700 SESISTOR 3.WE 35 .25m PC TC=400/+700 RESISTOR 3.WE 35 .25m PC TC=400/+700 RESISTOR 10 35 .25m PC TC=400/+400 RESISTOR 479 35 .25m PC TC=400/+300	91121 91121 91121 91121 91121 91121	C83825 C91635 C91115 C84715
	A 10005 A 10005 A 10007 A 10007 A 10007	0103-3425 0403-1035 0403-1035 0403-3425 0403-1005	20 2.7.2		RESISTOR 3.44.53 .250 FC TC=4886/+788 MESISTOR 164 52 .250 FC TC=4886/+788 MESISTOR 3.44 53 .254 FC TC=488/+788 RESISTOR 3.944 53 .254 FC TC=488/+788	, 91121 31121 91121 91121	C03925 C01035 C 975 C01045

Reference Lesignation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number	
	0003-1078 003-1078 0053-1078			REDIATOR 16K 51 .556 PC TC=-466/+866 REDIATOR 1K 51 .25m PC TC=-466/+866 REDIATOR 116 51 .25m PC TC=-466/+866 REDIATOR 116 51 .25m PC TC=-866/+716	01171 01171 01371 01371 01171		
A 1 4003 A 1 5096 A 1 5095 A 1 5095	6483-1929 6483-1949 6483-1924			REGISTON LACK SK .250 PC TEN-000/+888 REGISTON 1K SL .250 PC TEN-000/+888	01121 01121 01121		
	1603-362 1603-362 6603- 620 6603- 620			REGISTOR 3.64 55.880 FC TC=+400/+709 REGISTOR 3.64 55.250 FC TC=+46/+709 REGISTOR 14 55.250 FC TC=+46/+500 REGISTOR 1084 55.254 FC TC=+400/+500	01121, 01121, 01121, 01121		2 2 2 4
	0003-1125 0003-2735 0003-1005	8		REGISTOR 3,14 SE ,254 PC TC4-400/0740 REGISTOR 374 SE ,354 PC TC4-400/0740 REGISTOR 104 SE ,254 PC TC4-400/0800 REGISTOR 104 SE ,254 PC TC4-400/0800 REGISTOR 104 SE ,254 PC TC4-400/0800	61121 01121 01121 01121		
A10405 A10400 A10400 A10400 THAU	8483-3238 8483-3985 8483-3988	3		REGISTOR 3K BE	011 81	C93939	
A19805 THRU A19878 A19879 A19889	0003-1015 000-1035			NOT AGGIENED REGISTER 104K SI .324 FC 7C0-40 /+808 REGISTER 104K SI .35 CC 7C0-C4745		C01045 E91035	
A 1045 A 1045 A 1045	8483-1038 9386-1835 9383-1848			REDISTOR 10K SE .280 PC TC=-500/+7/4 REGISTOR 12K SE .30 CC TC=6+765 REGISTOR 12K SE .28% PC TC=-400/+400	01121 01121 01121		
A16R84—A16R91 A16R82 A16R83 A16R83 A16R83	848303938 0683-3935			NOT ASSIGNED RESISTOR 3** 5% :	01121 01121 01121	C83935 C83935 C83935	1971 1971 1972 - 1974
A18297 A16790 A16910	1810-0495 1829-1493			REGISTOR 224 SE . 234 /C (28-486/488) RESISTOR NETWORK 18 DIP 39KI X8 [C, CM09 18514	28480 91928 28489	1810-0485 CDalix8F	
	1899-984L			BUCHET-IC 24-FCJH DIG DIP-BLDR			
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MANUAL CHANGES MODEL 5245L Page 41 CHANGE 14 (2004A) (Conf^{*}ci) Table 14. A18 Replaceable Parts (Standard)

Ruference Designation	HP Part Number	C D	Qty.	Description	Mfr Code	Mfr Part Number
				STANDARD INSTRUMENT		
	05245-60044,	•		OI 224 READOUT ASSEMBLY ISERIES 2004	ZJego .	D5245-80044
IBCRITHRU IBCR25 IBCR25 IBCR27	1482-6825 1982-6845			NGT AGBISHED Digbt=7mm 184 58 00-7 PCr.Am TCo+.688 Bigbt=7mm 9.114 88 00-7 PCr.Am TCo+.888	28480	1902-002 1902-002 1902-002
I BCRED	992-0943 1-08-0.78			DIDDE-INA S.LIV SI DO-7 PDa.an TCasees DIDDE-INA 100V SS DO-15 PDa10 TCa+.g83*	20430	
18051 THRU 18055 18786	1970-8889	: - 		NOT ASSISNED Tubg-Flectron 6423 Ind-Numeric	1 28480 1 28480	1070-020
1801 THRU 1808 1809 THRU	1884-9983	9 9 1 1 1	•	TRANSISTON NON SE TO-20 PD-888M	20480	1254-000
18011 18012 18013 THRU	1034-0042		2041) 201	NOT ABBIENED TRANSISTOR NON BI PD06254H PYDBENHZ	04713	1000-1000
18022 18R1 THAU 18R10	1854-8375			TRANSISTOR APN BI PD002541 FTB10412	98713	
	8683-8638 8683-8638	5	es er ∎in Ne Stati Station	RESEATOR BAK SE .28% FC 7C0-486/+886 NGT ABBIENED NESENTOR BAK SE .28% FC 7C0-486/+866	01121	C05035
	*6*3-5635			NOT ASSIGNED PESIOTA DAX 33 (28# PC TC	01121	
	8683-5633 8683-7325 8683-7525			REDIATOR 74 SE .284 F2 758-440/0765 REDIATOR 7488 52 .284 FC 758-440/0765	01181 01181	C09985
	0683-1545 0683-8135 0683-6805			REDIGTOR 1984 31 254 7C YC0-886/4986 REDIGTOR 314 34 35 254 7C YC0-886/488 REDIGTOR 314 34 354 7C YC0-886/4888 REDIGTOR 68 83 254 7C YC0-886/4888		
Capi Capi Capi	0443-77525 0483-1945 0483-2625			RESETOR 7.84 St. 25# PC 1C8-886/*760 RESETOR 1000 St. 28# PC 1C8-886/*760 RESETOR 24 St. 28# PC 1C8-886/*768	01121 01121 01121	
	663-7525 8683-1945 6673-5135			RESISTOR 7,82 (82 .858 /C. CO-406/0798. RESISTOR 1806 83 .858 /C. CO-408/0408 RESISTOR 918 83 .858 /C. TC-408/0408	01121	
0410 10431 10432	8443-9195 8443-7528 8443-1445			RESEATOR OF THE JEN PC TENADORSTED NOT AGBIENED RESEATOR 7.8% SE JEN PC TENADORSTED RESEATOR 7.8% SE JEN PC TENADORSTED	, otisti	
10038 10038	0083-9298 0083-7938			ALISTON DR. BS .254 FC TCS-286/0708 MEGIGTOR 7.54 SI .254 FC TCS-266/0708 REGISTOR 7.54 SI .254 FC TCS-266/0708 REGISTOR 1554 SI .254 FC TCS-266/0708	01121 01121 01121 03121	
10036 18917 19936	8683-1545 8683-8135 8683-8135			RESISTER 31% 31 .25P FC TC=+400/+800 RESISTER 31 38 .25M FC TC=-400/+800	01121	
18839 18849 18842 18842	8683-7525 6683-1645 6883-2825	-		RESISTOR 7.5K SE .28m FC TCS-200/4700/ HEDIOTOR 1004 SE .25m FC TCS-400/480 REDIOTOR 24 SE .25m FC TCS-400/4700	01181 01181 01181	
18883 18849	8683-1945 8683-1945 8883-5135			AESISTOR 7,54 SE.254 FC TC4-885/0700 RESISTOR 1584 St 255 FC TC4-886/0700 RESISTOR 514 St 254 FC TC4-886/0806	01121	 CA7528 Markovski Standard <
8845 18847 18740	***3-*185 ***3-7525			NEBISYON VI BE SIN FC TEA-698/6966 NOT ABSISHED RESISYON 7,54 St 284 FC 7C4-668/6760	01181	C0*105 C07585
18869 18850 THRU 18878 18879	6663-1945 8663-1945	3		#281870# 199# SK ,85# /C 7C#+499/+848 HOT A881640 HOT A881640 HOT A881640	01181	C01049
18869 18861	0686-1838 8643-1838			REBISTOR 10K SE .BM CC TEMATAS BEBISTOR 10K SE .BSM /C TEMATAS REBISTOR 10K SE .SM /C TEMATAC/*700 REBISTOR 10K SE .SM CC TEMATAS	01121	
1 8888 18884-A18891 18882	0643-3434 0643-3434	3	1 2	REGISTOR 188 SE .SF CC TO-008/08 REGISTOR 188 SE .SF FC TC-008/08 NOT ASSIGNED REGISTOR 388 SE .85 FC TC-008/080	01121	C91049

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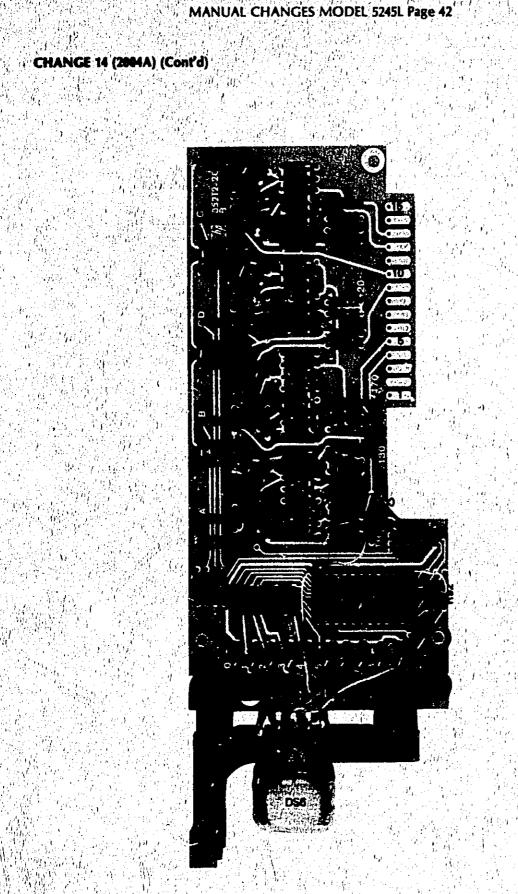
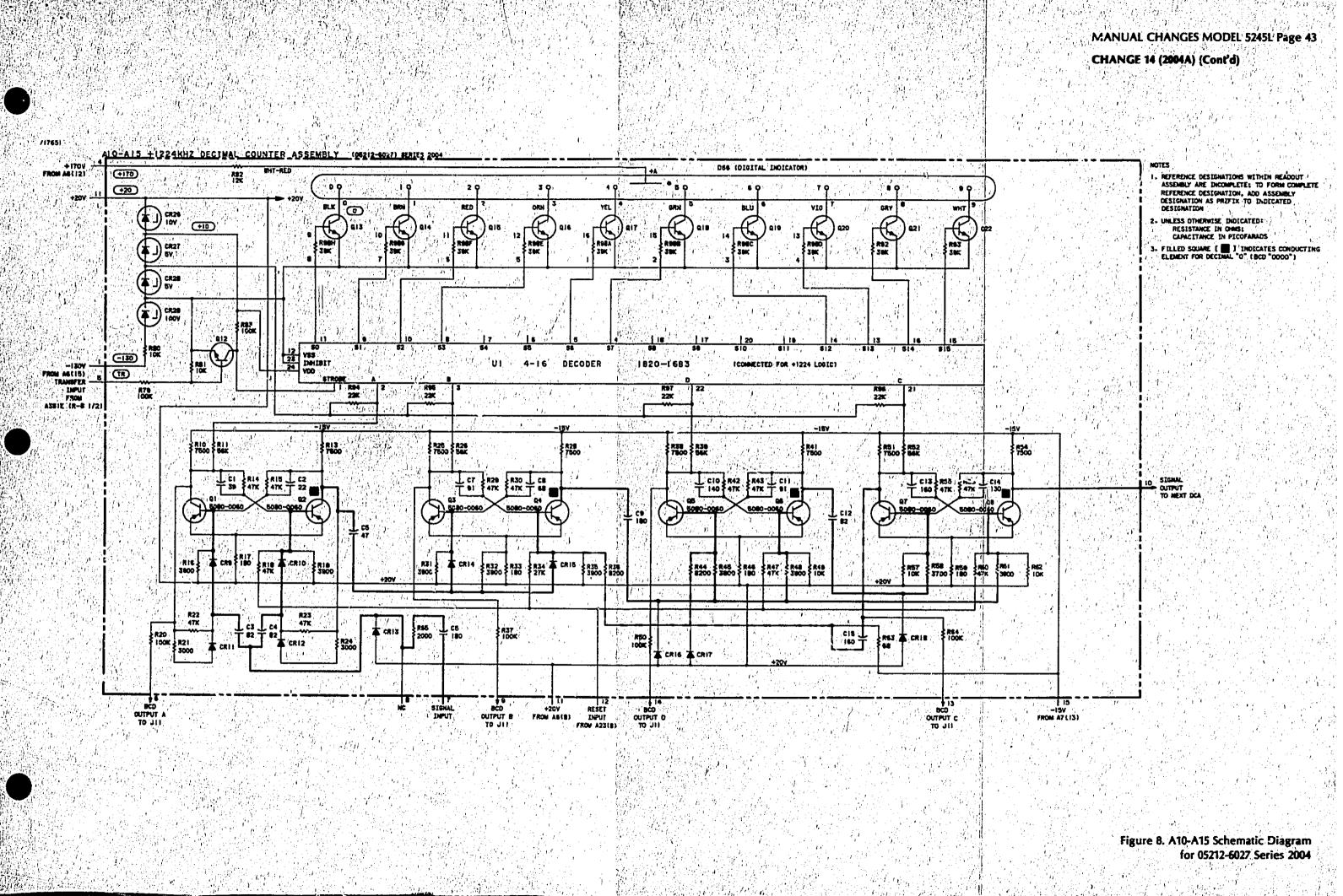


Figure 7: A10-A15 Component Locator for 05212-6027 Series 2004

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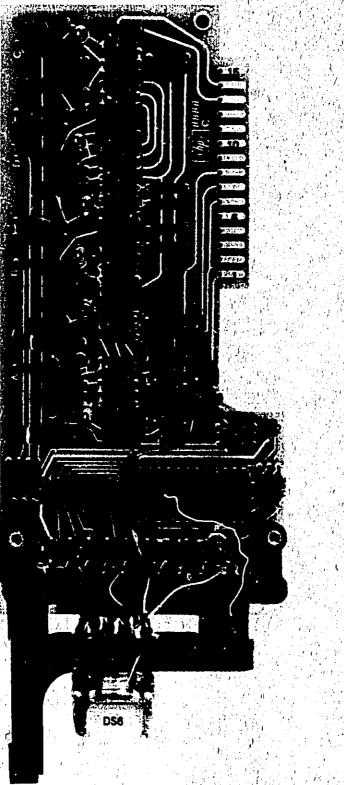
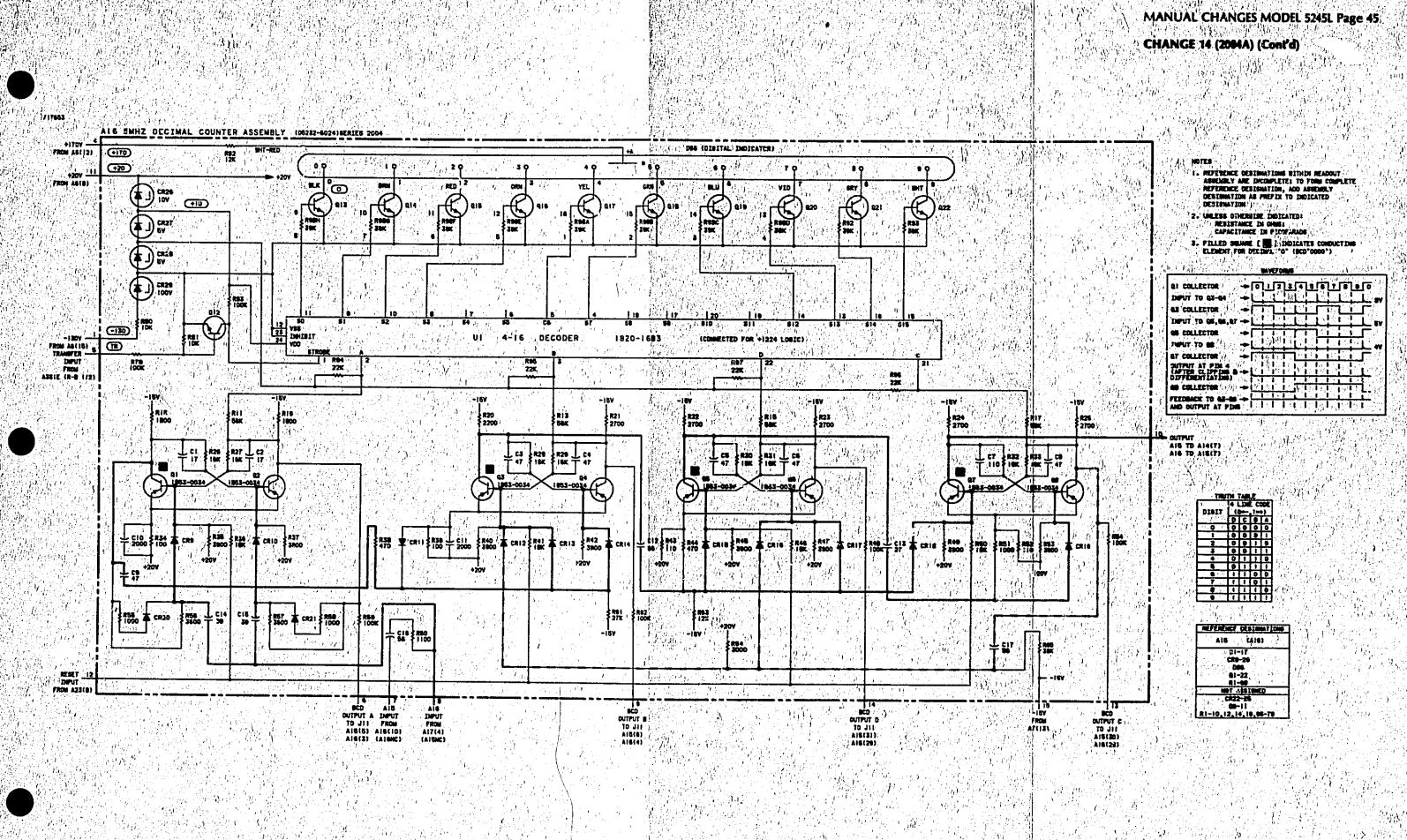


Figure 9. A16 Component Locator for 05232-6024 Series 2004

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Figure 10. A16 Schematic Diagram for 05232-6024 Series 2004

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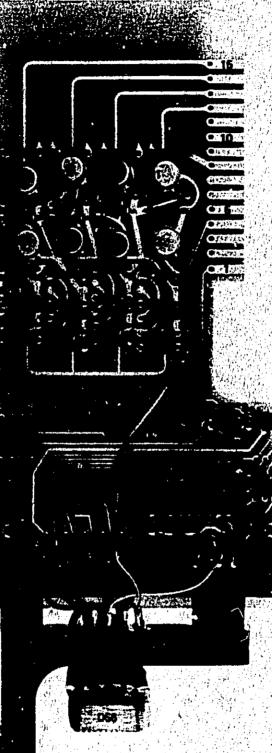
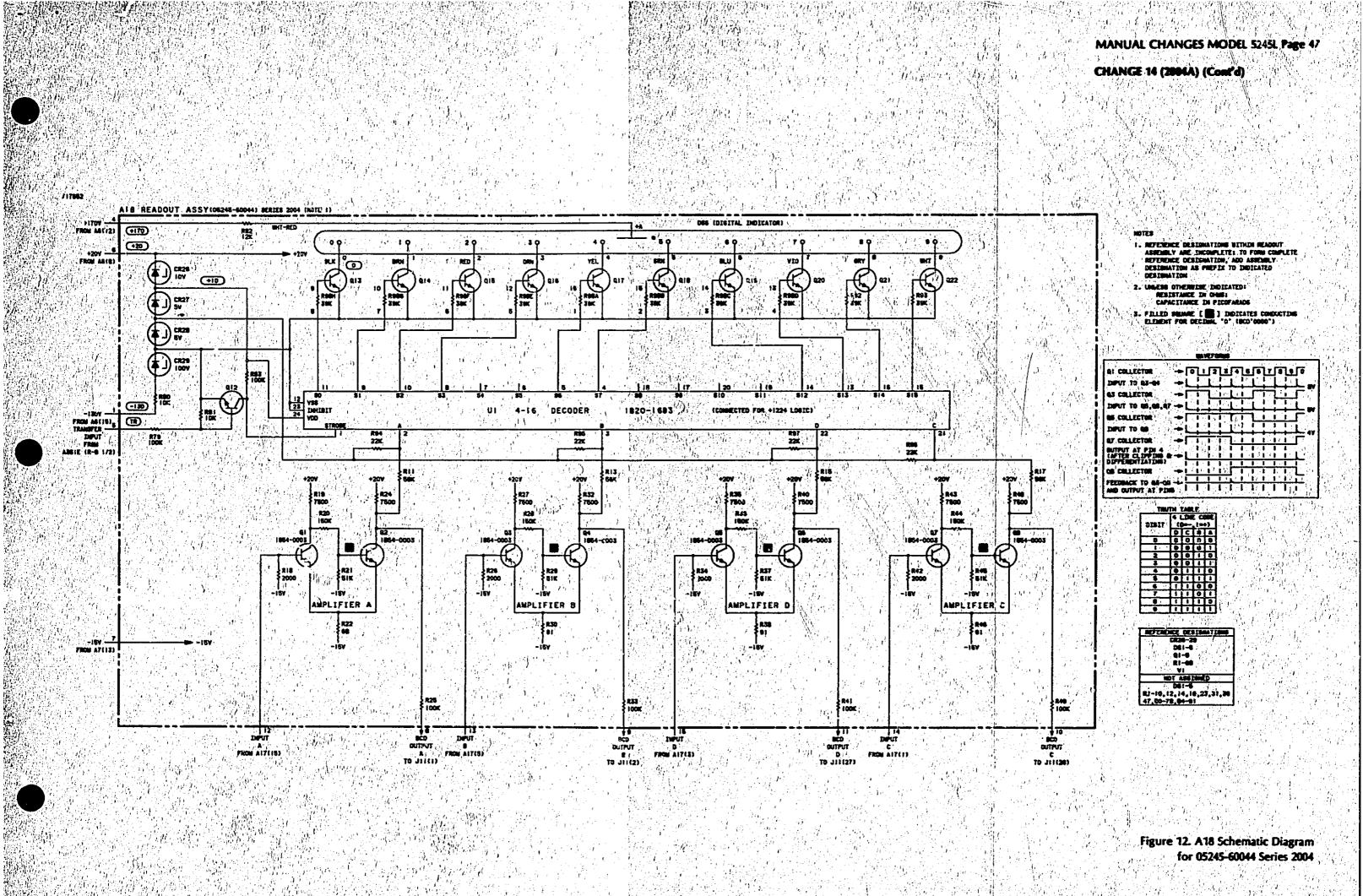


Figure 11. A18 Component Locator for 05245-60044 Series 2004

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B CHANGE 15

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Change SERIES number of the instrument to the series prefix for CHANGE 15 in the table on page to f these manual changes. Page 4-33, Table 4-1, Reference Designation index

of these manual changes. Page 4-33, Table 4-1, Reference Designation Index: Change R5 from 2100-0218 TO 2100-3891 R:VAR 250N OHM 20% 1/4W Add (below R5) 0360-1632 TERMINAL-SLDR LUG LK-MTG (R5) 79963 $\mathbb{R}^{n} = \mathbb{R}^{n}$

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Page 4-1, Table 4-2, Replaceable Parts:

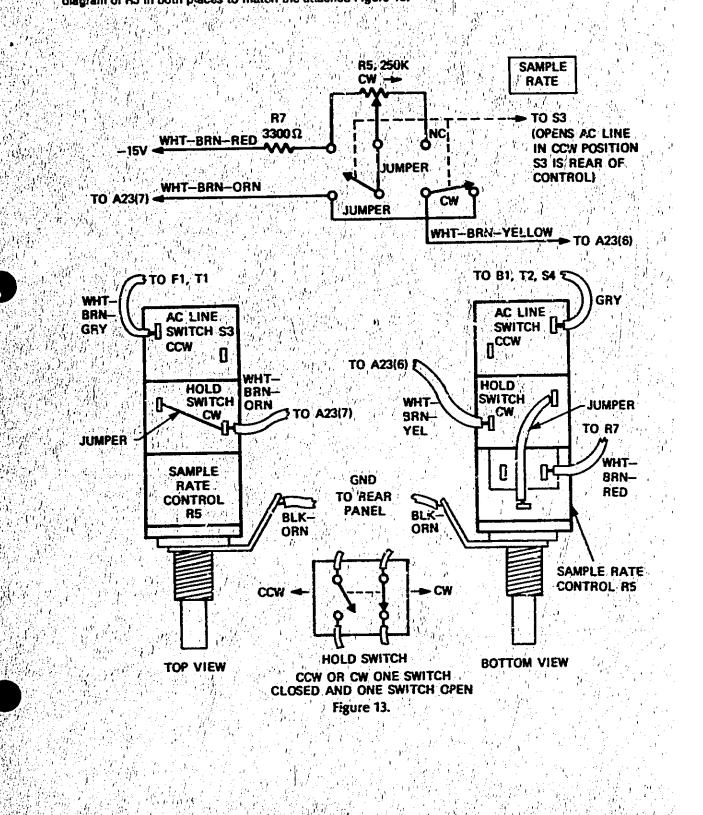
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Change 2100-0318 to 2100-389: R:VAR 250K OHM 20% 1/4W 28450 2100-3891 Add (below R5) 0360-1632 TERMINAL-SLDR LUG LK-MTG (R5) 79963 gan ya ay b

B PAGE 7-39/7-40, Figure 7-20, A23 Sample Control:

Right hand side, middle of diagram and bottom left hand corner of diagram. Change the diagram of R5 in both places to match the attached Figure 13.



MAKE ALL CORRECTIONS IN YOUR MANUAL ACCORDING TO ERRATA MANUAL TITLE: 5245L Service fix and make any 1.769 . 1.166差許 目の(明美)の

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MANUAL PRINTED: NOV 1973 Check the following table for your instrument sorial profix and make any indicated changes to the manual: CHANGE DATE: 23rd June, 1976.

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SERIAL PREFIX	MAKE CHANGE	SERIAL PREFIX	MAKE CHANGE	SERIAL PREFIX-	MAKE CHANGE
14020-03511	1	14020-03591			
14020-03561		thru 03615	1-4		
14020-03591		15280-03706	1-3.5		$ \sum_{i=1}^{N} \frac{1}{i} \sum_{$
		15280-03986	1-6	a da anti-	

	1	13200-03320 1-0
		지수 않아서 이렇게 하는 것은 것이 같이 있는 것이 같이 많이 가지 않는 것이 없는 것이 있는 것이 없 않는 것이 없 않는 것이 없는 것이 않는 것 않는 것
ERRATA	9 N N	Table 1-2
1. 11 月 代 11 月 日本 11 月 日本	Y EF	Time Base Output Frequencies
0		. Rear' Panel - was a set of the
	Change	「「山山」」「山山」と「王」「王」ない、「山山」に、「山山」」「王」を「田山」「山山」に「山山」に「山山」「山山」「山山」「田田」」
		Front Panel
	Add States	: 1 volts p-p "minimum"
Sec. A. M.		, Table 3-2 page 3-8
	Add	to para 2b input jack "via a high impedence probe"
	Change	para 2c "rectangular wave" to "signal"
	Grange a	to para 2c 1 volt p-p "minimum"
	Add	
		: to para 2d 1 volt p-p "minimum"
		; para 3 "5 volts p-p" to "3 volts p-p"
	Add	para 3 1 volts rms "minimum"
		Table 4-1
	Change	WI to part no 8120-1351 Cable Assy pwr
		: All 1850-0062 Xstr to part no 1853-0217
		"我们在这些你的你们我们就是你的。""你说,我们还是你们的你,我们就是你的你的?""你们,你们还是你们的你们,你们就是你们的你?""你们,我们就是你们的你们,你们 "我们们我们们你们,我们就是你们我们就是你们的你,我们就不是你的你?""你们我们们们的你们,你们们你们们不是你们的你们,我们们不是你们的你们,你们们不是你们的?"
t and a second		: A11 0150-0093 C Fxd to part no 0160-2930
	Add in the	part no 0340-0162 Insulator (For 01) here a second s
注目 小		
신입니다		Page 1-1 Table 1-1
	Change	: 05243-6022 to 05245-6022
		Page 1-2, Table 1-2
a_{ij}		TIME BASE. Output Frequencies:
	Change :	
		Page 3-11d,
		PERFORMANCE CHECK TEST CARD, E.3. TIME BASE:
	Change	: fourth line from "100-ohm" to "1000-ohm"
h_{1} p_{1} p_{2}		: fifth line from "1000-ohm" to "100-ohm"
e a ser en en en en en en en en en en en en en	Add	at right hand box, TIME BASE OUTPUT JACK (J5), under 1V rms and under
an tang sa pag- ang tang sa pag-	AUU	5Vp-p "or greater".
		Page 1-3 Table 1-2, Specifications:
1	Deleta	: Options 002 and 003 listed under "OPTIONAL AND SPECIAL FEATURES".
	Delete	CONTROLS ONC AND THE CANNER OF LOUAL AND SECTAL LEADARS .
	4	The 5245L (SERVICE) is furnished less the RACK MOUNTING KIT described
		in the manual. If ordered at the same time as the instrument, the
		RACKING MOUNTING KIT described in the manual is available as Option 908
9 P	1. The Alfred	at additional cost. If not ordered with an instrument, the RACK MOUNTING
Yanak		KIT is available under HP Part No. 05245-6043. Disregard any manual references
		stating the instrument is supplied with a rack mounting kit.
		1、12-14-15-14-14-17-14-14-14-1-1-1-1-1-1-1-1-1-1-1
	$\gamma = 1.25$	*The cable part no 10503A is no longer supplied as an accessory. Delete all
		reference to this in the manual.
na gy Mar B		如此后,这是他们是你可以是你们的问题,你们的问题,你们的问题,你们就是你们的。"
		梁敏超的国家把某些财产的事实。但准确地通过增给你的事实是你的事实。""你们不可能。"
		我说你是我们就是我们都能能说,你就是你们是我们的你们的,你就是我们的你们不是你们你有什么?""我们就是你们的?""你们,我们就不能能。" "我们还是你们就是你们我们就是你们的你?""你是你们就是我们能让你们就是你们的你们们还没有了你就是你们的你们,你们不是你们的?""你们,你们们不是你们。"
1977 - 1977 - 3997 1977 - 1977 - 3997		n and an an an an an an an an an an an an an

Nanual Changes 5245L Service . CHANGE 1 Table 4-1 Change : A2306 to part no 1853-0036 XSTR PNP Si GE, 2 Table 4-1 CHANGE 2 Change : On Assy A29-A34 5212A-65C · }. : R41 to part no. 0683-1015 R. FXD 1000 5% 1W : R38, 44 to part no. 0683-3935 R. Fxd 39K0 5% 1W Change : A17 R46* to part no. 0683-1825 R. Fxd 1.8Kn 5% 1W. A17 R47 to part no 0683-2725 R. Fxd 2.7KΩ 5% W Table 4-1 CHANGE 3 Change : A21C13-16 to part no 0160-2210 C Fxd 470pF 300VDC : A21C4 to part no 0160-0697 C Fxd 0.068µF 100VDC : A7R5, 12, 17 to part no 2100-0554 R Var 5000 LIN-COM NGE 4 Table 4-1 Change : A2302, 7 to part no 1853-0012 A23CR5 to part no 1901-0701 (note: use 1901-0025 with 1852 0010 CHANGE 4 (note: use 1901-0025 with 1850-0040 or 1901-0701 with 1853-0012 - do not mix) Page 4-17. Table 4-1 CHANGE 5 COM Page 4-17, Table 4-1 Change : A21L1, L2 to 9100-2265 IND FXD 10uH : A2114 to 9100-2255 IND FXD .4"uH Page 4-11, Table 4-1 ' Change : A17L1, 3, 6, 7 to 9100-2255 IND FXD .47uH Page 4-27/28, Table 4-1 Change : A29 R4, 10, 15, 21, 27, 33 to part no. 0683-3935 R FXD 39KΩ 5% ½W note this applies to A40 - A34 E 6** Page 4-35 Table 4-1 Delete : XF1 part no 1400-0084 Add : XF1 part no 2110-0464 Fuse Holder *CHANGE 6** Delete : XF1 part no 1400-0084

XF1 part no 2110-0465 Fuse Holder Cap 1400-0090 Washer Neoprene 2950-0054 Nut Hax 1-28