MANUAL CHANGES

MANUAL IDENTIFICATION

Model Number: 8690B
Date Printed: May 1972
Part Number: 08690-90018

This supplement contains important information for correcting manual errors and for adapting the manual to instruments containing improvements made after the printing of the manual.

To use this supplement:

Make all ERRATA corrections

Make all appropriate serial number related changes indicated in the tables below.

Serial Prefix or Number	Make Manual Changes
1114A	1, 2
1124A	1, 3
1143A02906 thru 1143A03055	1, 2, 4, 5
1202A03056 thru 1202A04045	1, 3—6
1202A04046 thru 1202A04345	1, 3—7
1202A04346 thru 1202A04585	1, 3—8

Serial Prefix or Number	Make Manual Changes
1349A04586 thru 1349A05215	1, 3 — 9
1349A05216 thru 1349A05275	1, 3 — 10
1445A	1, 3 — 11
1513A05426 thru 1513A05545	1, 3 — 12
1513A05546 thru 1513A05605	1, 3 — 13
►1513A05606 thru 1513A05695	1, 3 — 14
►1513A05696 thru 1513A prefix	1, 3 — 15

►NEW ITEM

ERRATA

Inside front cover:

Insert new information regarding SAFETY, CERTIFICATION, and WARRANTY AND ASSISTANCE immediately inside front cover of manual (new information sheet supplied in this Manual Changes Supplement).

Page 1-1, General Information:

Add the following information preceding Paragraph 1-1:

1-A. SAFETY CONSIDERATIONS

General

This instrument has been designed and tested according to IEC Publication 348, "Safety Requirements for Electronic Measuring Apparatus," and has been supplied in safe condition. This is a Safety Class I instrument.

Operation

BEFORE APPLYING POWER, make sure the instrument's ac input is set for the available ac line voltage, that the correct fuse is installed, and that all normal safety precautions have been taken.

Service

Although the instrument has been designed in

Manual change supplements are revised as often as necessary to keep manuals as current and accurate as possible. Hewlett-Packard recommends that you periodically request the latest edition of this supplement. Free copies are available from all HP offices. When requesting copies quote the manual identification information from your supplement, or the model number and print date from the title page of the manual.

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ERRATA (Cont'd)

accordance with international safety standards, the information, cautions, and warnings in this manual must be followed to ensure safe operation and to keep the instrument safe. Service and adjustments should be performed only by qualified service personnel.

Adjustment or repair of the opened instrument with the ac power connected should be avoided as much as possible and, when inevitable, should be performed only by a skilled person who knows the hazard involved.

Capacitors inside the instrument may still be charged even though the instrument has been disconnected from its source of supply.

Make sure only fuses of the required current rating and type (normal blow, time delay, etc.) are used for replacement. Do not use repaired fuses or short circuit the fuse holders.

Whenever it is likely that the protection has been impaired, make the instrument inoperative and secure it against any unintended operation.

WARNING

If this instrument is to be energized through an autotransformer (for voltage reduction), make sure the common terminal is connected to the earthed pole of the power source.

BEFORE SWITCHING ON THE INSTRUMENT, the protective earth terminals of the instrument must be connected to the protective conductor of the mains power cord. The mains plug shall only be inserted in a socket outlet provided with protective earth contact. The protection must not be negated by using an extension cord (power cable) without a protective grounding conductor.

Any interruption of the protective (grounding) conductor, inside or outside the instrument, or disconnection of the protective earth terminal is likely to make this instrument dangerous. Intentional interruption of the earth ground is prohibited.

Servicing this instrument often requires that you work with the instrument's protective covers removed and with ac power connected. Be very careful; the energy at many points in the instrument may, if contacted, cause personal injury.

With the ac power cable connected, the ac line voltage is present at the terminals of the power line module and at the LINE power switch. Be very careful. Bodily contact with this voltage can be fatal.

CAUTION

BEFORE SWITCHING ON THIS INSTRUMENT, make sure instrument's ac input is set to the voltage of the ac power source.

BEFORE SWITCHING ON THIS INSTRUMENT, make sure that all devices connected to the instrument are connected to the protective earth ground.

BEFORE SWITCHING ON THIS INSTRUMENT, make sure the line power (mains) plug is connected to a three-conductor line power outlet that has a protective (earth) ground. (Grounding one conductor of a two-conductor outlet is not sufficient.

BEFORE SWITCHING ON THIS INSTRUMENT, make sure the ac line fuse is of the required current rating and type (normal-blow, time-delay, etc.).

SAFETY

This instrument has been designed and tested according to IEC Publication 348, "Safety Requirements for Electronic Measuring apparatus," and has been supplied in safe condition. This is a Safety Class I instrument. To ensure safe operation and to keep the instrument safe, the information, cautions, and warnings in this manual must be heeded. Refer to Section I for general safety considerations applicable to this instrument.

CERTIFICATION

The Hewlett-Packard Company certifies that this instrument was thoroughly tested and inspected and found to meet its published specifications when it was shipped from the factory. The Hewlett-Packard Company further certifies that its calibration measurements are traceable to the U.S. National Bureau of Standards to the extent allowed by the Bureau's calibration facilities, or to the calibration facilities of other International Standards Organization members.

WARRANTY AND ASSISTANCE

This Hewlett-Packard product is warranted against defects in materials and workmanship. This warranty applies for one year from the date of delivery. Hewlett-Packard will repair or replace products which prove to be defective during the warranty period provided they are returned to Hewlett-Packard. No other warranty is expressed or implied. We are not liable for consequential damages.

Service contracts or customer assistance agreements are available for Hewlett-Packard products that require maintenance and repair on-site.

For any assistance, contact your nearest Hewlett-Packard Sales and Service Office.

ERRATA (Cont'd)

Page 6-2, Table 6-1:
Change A2C3 to HP Part No. 0160-2675 C: FXD MICA 3900 pF 1% 300 VDCW, Factory selected part.
Change A2R8 to HP Part No. 2100-0672 R: VAR COMP 2K OHM 20% LIN 1/2W
A2R19 to HP Part No. 2100-0674 R: VAR COMP 20K OHM 20% LIN 1/2W
A2R22 to HP Part No. 2100-0673 R: VAR COMP 5K OHM 20% LIN 1/2W
A2R23 to HP Part No. 2100-0673 R: VAR COMP 5K OHM 20% LIN 1/2W
A2R24 to HP Part No. 2100-0673 R: VAR COMP 5K OHM 20% LIN 1/2W
A2R25 to HP Part No. 2100-0672 R: VAR COMP 2K OHM 20% LIN 1/2W
A2R28 to HP Part No. 2100-0676 R: VAR COMP 50K OHM 20% LIN 1/2W

Page 6-3, Table 6-1:
Change A2R30 to HP Part No. 2100-0673 R: VAR COMP 5K OHM 20% LIN 1/2W
A2R31 to HP Part No. 2100-0673 R: VAR COMP 5K OHM 20% LIN 1/2W

Page 6-4, Table 6-1:
Change A3R53 to HP Part No. 2100-0674 R: VAR COMP 20K OHM 20% LIN 1/2W.

Page 6-7, Table 6-1:
A4XV6 HP Part No. 1200-0062 SOCKET:TUBE 9 PIN.

Page 6-10, Table 6-1:
Add A8XV2 and A8XV3 HP Part No. 1200-0053 SOCKET:TUBE 7 PIN.

Page 6-11, Table 6-1:
Add A9MP1, MP2, HP Part No. 1205-0011 Heat Sink.

Page 6-13, Table 6-1:
Change A11R2 to HP Part No. 2100-0675 R: VAR COMP 25K OHM 20% LIN 1/2W
A11R8 to HP Part No. 0757-0128 R: FXD MET FLM 200K OHM 1% w/2W
A11R18 to HP Part No. 2100-0675 R: VAR COMP 25K OHM 20% LIN 1/2W

Page 6-14, Table 6-1:
Add A12XV1 HP Part No. 1200-0062 SOCKET:TUBE 9 PIN

Page 6-15, Table 6-1:
Change B1 to HP Part No. 3160-0056 recommended replacement.
Change C1 and C2 to HP Part No. 0160-0669 C: FXD Mylar 2 mf ±10% 2000 VDCW

Page 6-16, Table 6-1:
Change F1 to HP Part No. 2100-0420 FUSE 0.032A 250V

Page 6-17, Table 6-1:
Change XF1 and XF2 to HP Part No. 2110-0464
Add HP Part No. 2110-0465 FUSEHOLDER CAP
Add HP Part No. 2100-0467 NUT-HEX 1/2-28
Add HP Part No. 7120-4162 LABEL INFO QTY 2
Add HP Part No. 7120-4163 LABEL INFO QTY 1

Page 6-18, Table 6-1:
Change HP Part No. 1400-0084 to:
HP Part No. 2110-0464 FUSEHOLDER
Add HP Part No. 2110-0465 FUSEHOLDER CAP
Add HP Part No. 2110-0467 NUT-HEX 1/2-28

ERRATA (Cont'd)

Add the following:

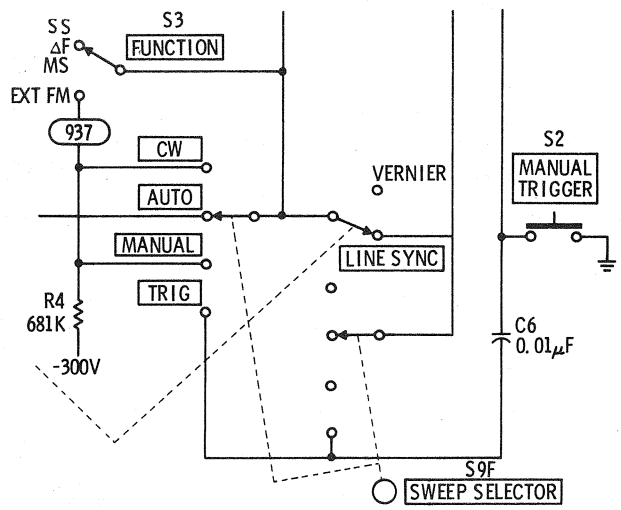
A3 HP Part No. 08690-60066 Replacement Kit Reciprocal Amplifier Board Assembly
A4 HP Part No. 08690-60063 Replacement Kit Helix Amplifier Board Assembly
A5 HP Part No. 08690-60065 Replacement Kit Low Voltage Power Supply Board Assembly
A6 HP Part No. 08690-60064 Replacement Kit Regulator Board Assembly
A8 HP Part No. 08690-60071 Replacement Kit High Voltage Power Supply Board Assembly (not pretested)
A9 HP Part No. 08690-60061 Replacement Kit Rectifier Board Assembly (not pretested)
A10 HP Part No. 08690-60059 Replacement Kit Sweep Generator Board Assembly
A12 HP Part No. 08690-60062 Replacement Kit ALC Amplifier Board Assembly

Page 6-23, Table 6-2:

Change HP Part No. 1400-0084 to:
HP Part No. 2110-0464 FUSEHOLDER

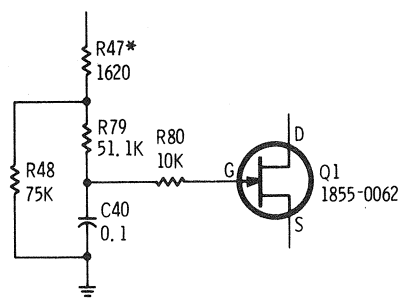
Page 7-3, Figure 7-2:

Change switch labeling as shown below:



Page 7-5, Figure 7-3:

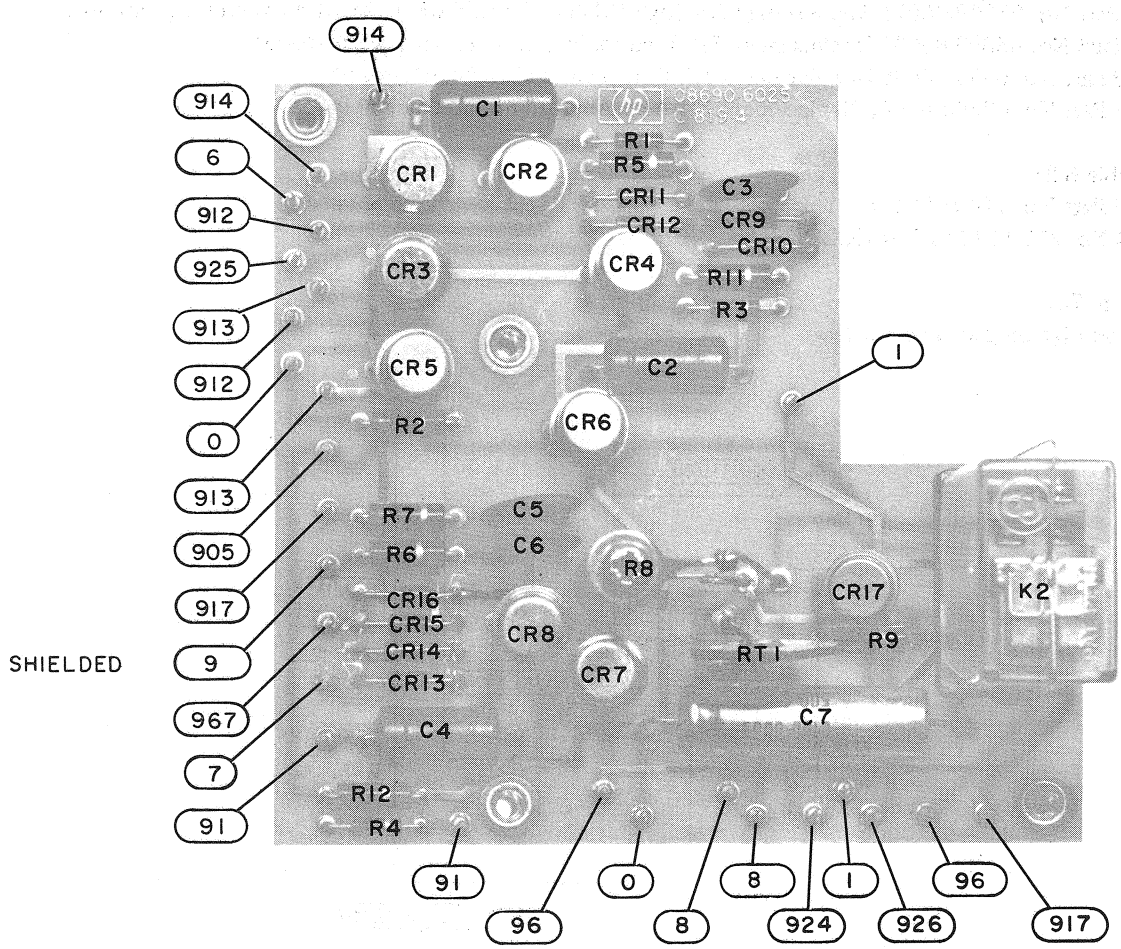
Change the A3 Assembly Component Identification Photo indicate R77 and R78 designations are swapped.
Change F1 to 0.032A
Change the A3 Assembly Resistor Reference Designations to read R30-34, 40-45, 47-80.
Change the circuitry of A3Q1 as shown in the attached drawing:



P/O Figure 7-3. Frequency Control Section Reciprocal Amplifier

ERRATA (cont'd)

Page 7-14 and 7-16, Component Identification, Assembly A9:
Substitute the attached A9 Component Identification board for that shown in the 8690B Manual.



Component Identification, Assembly A9

Page 7-15, Figure 7-8:
Change the wire color code of the wire between XA14 pin 6 and A9CR2, from (913) to (6).
The wire color code of the wire at T2 pin 13, 26 VAC winding, is (913).

►Page 1-4, Table 1-2, Furnished:
Delete all references to Rack Mounting Kit.

►Page 2-2, Paragraph 2-22:
Change to read:
"A Rack Mounting Kit is available to install the instrument in a 19-inch rack. Rack Mounting Kits may be obtained through your nearest Hewlett-Packard Office by ordering HP Part Number 5060-8742."

CHANGE 1

Page 5-17, Table 5-4, Power Supply Adjustment:
Change the power supply adjustment sequence as indicated below:

Old Adjustment Sequence	New Adjustment Sequence
a, b, c, d, e, f, g, h, i.	a, b, c, f, g, h, i, d, e

Page 6-4, Table 6-1:
Add diodes A3CR56, A3CR57 and A3CR58, HP Part No. 1901-0033 DIODE: SILICON 100 mA 180 WV.

Page 6-6, Table 6-1:
Add diode A4CR11, HP Part No. 1902-3400 DIODE: BREAKDOWN 78.7V 2% 400 mW.
Change resistors A10R17/A10R18 to HP Part No. 0698-3136 R: FXD 17.8K 1% 1/8W.

Page 6-10, Table 6-1:
Change A8 Assy to HP Part No. 08690-60053.
Add A8Q2 HP Part No. 1884-0073 THYRISTOR, SCR.
Add Resistor A8R15 HP Part No. 0757-1000 R: FXD MET FLM 51.1 OHM 1% 1/2W.
Add Resistor A8R16 HP Part No. 0757-0280 R: FXD MET FLM 1.0K OHM 1% 1/8W.
Change Capacitor A8C6 to HP Part No. 0180-0183 C: FXD ELECT 10 UF +75 —10% 50 VDCW.
Change A8Q1 to HP Part No. 1855-0010 UNIJUNCTION: SILICON.
Change Resistor A8R13 to HP Part No. 0698-4348 R: FXD MET FLM 4.99M OHM 1% 1/2W.
Change Resistor A8R14 to HP Part No. 0698-3444 R: FXD MET FLM 316 OHM 1% 1/8W.

Page 6-11, Table 6-1:
Change Transistors A10Q3 and A10Q4 to HP Part No. 1853-0020 TRANSISTOR: PNP SILICON (Recommended replacement for 1850-0062).

Pages 6-12, and 6-13, Table 6-1:
Add diode A11CR19 HP Part No. 1901-0033 DIODE: SILICON 100 mA 180 WV.
Change Transistors A11Q2, A11Q3, A11Q4, A11Q6, A11Q7, A11Q8 and A11Q11 to HP Part No. 1853-0020 TRANSISTOR: PNP SILICON (Recommended replacement for 1850-0062).

Page 6-16, Table 6-1:
Add chassis mounted diodes CR6 and CR7 HP Part No. 1901-0033 DIODE: SILICON 100 MA 180 WV.
Change chassis mounted Fuse F3 to HP Part No. 2110-0002 FUSE: 2A, 250V.
Change chassis mounted Fuse F4 to HP Part No. 2110-0036 FUSE: 8A 125V.

Page 6-17, Table 6-1:
Add chassis mounted resistor R26 HP Part No. 0812-0019 R: FXD WW 0.33 OHM 5% 3W.
Add chassis mounted resistor R27 HP Part No. 0812-0020 R: FXD WW 0.39 OHM 5% 3W.

Page 7-3/7-4, Figure 7-2:
Change A10Q3 and A10 Q4 to HP Part No. 1853-0020 (Recommended replacement for 1850-0062).
Change value of resistors A10R17/A10R18 to 17.8K ohms.

Page 7-5, Figure 7-3:
Add diode A3CR56. (Connect anode to source of A3Q2A and cathode to emitter of A3Q3.)
Add diode A3CR57. (Connect anode to source of A3Q2B and cathode to emitter of A3Q4.)
Add diode A3CR58. (Connect anode to base of A3Q5 and cathode to emitter of A3Q5.)
Change the A3 column of REFERENCE DESIGNATIONS Table to include diodes A3CR56, A3CR57 and A3CR58.
Substitute the attached Component Identification Assembly A3 board photo (Figure 5) for the photo shown in the manual.

CHANGE 1 (cont'd)

Pages 7-9/7-10, Figure 7-5:
Substitute the attached A8 Assy board photo (Figure 3) for the photo shown in the manual.
Add 78.7V breakdown diode A4CR11. (Connect anode to ground and cathode to A4R34, A4C8 junction.)
Change the A4 column of REFERENCE DESIGNATIONS Table to include diode A4CR11.

Pages 7-11/7-12, Figure 7-6:
Change Transistors A11Q2, A11Q3, A11Q4, A11Q6, A11Q7, A11Q8 and A11Q11 to HP Part Number 1853-0020. (Recommended replacement for 1850-0062).
Add diode A11CR19. (Connect anode to base of A11Q11 and cathode to emitter of A11Q11.)
Add chassis mounted diode CR6. (Connect anode to center conductor of MARKER output jack and cathode to ground.)
Add chassis mounted diode CR7. (Connect anode to center conductor of BLANKING output jack and cathode to ground.)
Change A11 column of REFERENCE DESIGNATIONS Table to include diode A11CR19.
Change chassis mounted component column (no heading) of REFERENCE DESIGNATIONS Table to include diodes CR6 and CR7.

Page 7-14:
Substitute the attached A8 Assy, Component Identification board photo (Figure 1) for the photo shown in the 8690B Manual.

CHANGE 2

Pages 6-14 and 6-15, Table 6-1:
Change A14 Heater Supply Assy to HP Part Number 08690-60054 (New board).
Add the following A14 Assy Components (Parts list for new A14 Assy).

C1	0160-3534	C: FXD MICA 510 PF 5% 100 VDCW.
C3	0180-0089	C: FXD ELECT 10 UF −10% +100% 150 VDCW.
C4	0160-3539	C: FXD MICA 820 PF 5% 100 VDCW.
C5	0180-0141	C: FXD ELECT 50 UF +75 −10% 50 VDCW.
C6	0160-2205	C: FXD MICA 120 PF 5%.
C7	0180-0094	C: FXD ELECT 100 UF 25 VDCW.
CR1	1902-0041	DIODE, BREAKDOWN: 5.11V 5% 400 mW.
CR2	1901-0025	DIODE, SILICON 100 MA/1V.
CR3	1901-0025	DIODE, SILICON 100 MA/1V
CR4	1901-0025	DIODE; SILICON 100 mA/1V.
IC1	1820-0196	IC: VOLTAGE REGULATOR.
IC2	1820-0196	IC: VOLTAGE REGULATOR.
IC3	1820-0196	IC: VOLTAGE REGULATOR.
Q1	1854-0062	TRANSISTOR: SILICON NPN.
R1	0757-0418	R: FXD MET FLM 619 OHM 1% 1/8W.
R2	0757-0440	R: FXD MET FLM 7.5K OHM 1% 1/8W.
R3	0757-0438	R: FXD MET FLM 5.11K OHM 1% 1/8W.
R4	0757-0461	R: FXD MET FLM 68.1K OHM 1% 1/8W.
R5	0757-0473	R: FXD MET FLM 221K OHM 1% 1/8W.
R6	0757-0401	R: FXD MET FLM 100 OHM 1% 1/8W.
R7	0757-0416	R: FXD MET FLM 511 OHM 1% 1/8W.
R8	0698-3156	R: FXD MET FLM 14.7K OHM 1% 1/8W.
R9	0757-0447	R: FXD MET FLM 16.2K OHM 1% 1/8W.
R10	2100-1759	R: VAR WW 2K OHM 10% LIN 1/2W.
R11	0757-0441	R: FXD MET FLM 8.25K OHM 1% 1/8W.
R12	0757-0199	R: FXD MET FLM 21.5K OHM 1% 1/8W.
R13	0698-3154	R: FXD MET FLM 4.22K OHM 1% 1/8W.
R14	0757-0416	R: FXD MET FLM 511 OHM 1% 1/8W.
R15	0757-0280	R: FXD MET FLM 1.0K OHM 1% 1/8W.
R16	0757-0289	R: FXD MET FLM 13.3K OHM 1% 1/8W.
R17	0698-3152	R: FXD MET FLM 3.48K OHM 1% 1/8W.

CHANGE 2 (cont'd)

R18 2100-1758 R: VAR WW 1K OHM 10% LIN 1/2W.
R19 0757-0440 R: FXD MET FLM 7.5K OHM 1% 1/8W.

Page 7-14/7-15, Component Identification photo and Figure 7-8:

Substitute the attached A14 Assy board photo and schematic (Figures 2 and 3) for those shown in the 8690B Manual.

CHANGE 3

Page 6-8, Table 6-1:

Add 9 pin tube socket for A5V1 (HP Part No. 1200-0062).

Page 6-10, Table 6-1:

Change capacitor A8C6 to HP Part No. 0180-2268 C: F 140 UF 30 WVDC.
Change resistor A8R13 to HP Part No. 0757-0868 R: F 562K OHM 1% 1/2W.
Change resistor A8R16 to HP Part No. 0757-0422 R: F 909 OHM 1% 1/8W.

Page 6-12, Table 6-1:

Add 7 pin tube socket for A10 V1 (HP Part No. 1200-0053).

CHANGE 4

Page 6-18, Table 6-1, under MISCELLANEOUS:
Add the following note to define the 8690B color scheme.

NOTE

This change implements a different color scheme for the standard instrument. Colors prior to this change are now available as options. Refer to listing below.

8690B STANDARD. Indicates color scheme for the 8690B beginning with this change. (Includes MINT GRAY front panel and OLIVE GRAY cabinet.)

8690B Option A85. Indicates combination color scheme for the 8690B. (Includes LIGHT GRAY front panel and OLIVE GRAY cabinet.)

8690B Option X95. Indicates color scheme for the 8690B prior to this change. (Includes LIGHT GRAY front panel and BLUE GRAY cabinet.)

Add the following 8690B parts or description changes.

08690-4105	CORNER GLIDE (LIGHT GRAY)
# 08690-40002	CORNER GLIDE (MINT GRAY) (STANDARD (COLOR)
08690-6041	ASSY: FRONT PANEL (LIGHT GRAY)
# 08690-60055	ASSY: FRONT PANEL (MINT GRAY) (STANDARD COLOR)
08690-6042	DRIVE ASSY: DIAL (LIGHT GRAY)
# 08690-60056	DRIVE ASSY: DIAL (MINT GRAY) (STANDARD COLOR)

#Denotes standard color for 8690B part beginning with this change.

Page 6-19, Table 6-1, under MISCELLANEOUS:
Add the following 8690B parts or description changes.

08690-0016	TOP COVER ASSY (BLUE GRAY)
#08690-00033	TOP COVER ASSY (OLIVE GRAY) (STANDARD COLOR)
08690-00031	REAR PANEL (LIGHT GRAY)
# 08690-00035	REAR PANEL (MINT GRAY) (STANDARD COLOR)
5000-0746	SIDE COVER 8 X 16 (BLUE GRAY)
#5000-8725	SIDE COVER 8 X 16 (OLIVE GRAY) (STANDARD COLOR)

CHANGE 4 (cont'd)

08690-0017	BOTTOM COVER ASSY (BLUE GRAY)
#08690-00034	BOTTOM COVER ASSY (OLIVE GRAY) (STANDARD COLOR)
5060-0777	RACK MOUNT KIT 8H (LIGHT GRAY)
#5060-8742	RACK MOUNT KIT 8H (MINT GRAY) (STANDARD COLOR)
5060-0765	RETAINER HANDLE ASSY (BLUE GRAY)
#5060-8735	RETAINER HANDLE ASSY (OLIVE GRAY) (STANDARD COLOR)

#Denotes standard color for 8690B part beginning with this change.

CHANGE 5

Page 6-4, Table 6-1:
Change transistor A3Q6 to HP Part No. 1854-0079, TRANSISTOR: SILICON NPN, 2N3439.

Page 6-6, Table 6-1:
Add diode A4CR12 1901-0033 DIODE: SILICON 100 mA 180 WV.

Page 6-9, Table 6-1:
Change transistors A6Q1/A6Q2 to HP Part No. 1854-0079, TRANSISTOR: SILICON NPN, 2N3439.

Page 6-12, Table 6-1:
Change resistors A10R17/A10R18 to HP Part No. 0698-3126; R: FXD 17.8K OHM 1% 1/8W. (Recommended replacement for 8690B instruments with serial prefixes 1114A and 1124A.)

Page 7-3, Figure 7-2:
Change value of resistors A10R17/A10R18 to 17.8K ohms.

Page 7-5, Figure 7-3:
Change transistor A3Q6 to HP Part No. 1854-0079.

Page 7-9, Figure 7-5:
Add diode A4CR12 in series with zener diode A4CR11. Connect cathode of A4CR12 to ground, and anode to A4CR11.

Page 7-17, Figure 7-9:
Change transistors A6Q1/A6Q2 to HP Part No. 1854-0079.

CHANGE 6

Page 6-7, Table 6-1:
Change A5Q2 to HP Part No. 1854-0475.

Page 6-14, Table 6-1:
Change A12Q4 to HP Part No. 1854-0475.

Page 7-13, Figure 7-7:
Change A12Q4A and A12Q4B to HP Part No. 1854-0475.

Page 7-17, Figure 7-9:
Change A5Q2 to HP Part No. 1854-0475.

CHANGE 7

Page 6-18, Table 6-1:
Add HP Part No. 3160-0092 GUARD: FAN BLADE.

CHANGE 8

Page 6-10, Table 6-1:
Change A8R14 to HP Part No. 0698-3402, R: FXD MET FLM 316 OHM 1% 1/2W.

CHANGE 9

Page 6-10, Table 6-1:
Change A8C4 and A8C5 to HP Part No. 0160-4051 C: FXD .01 UF 4 kV.

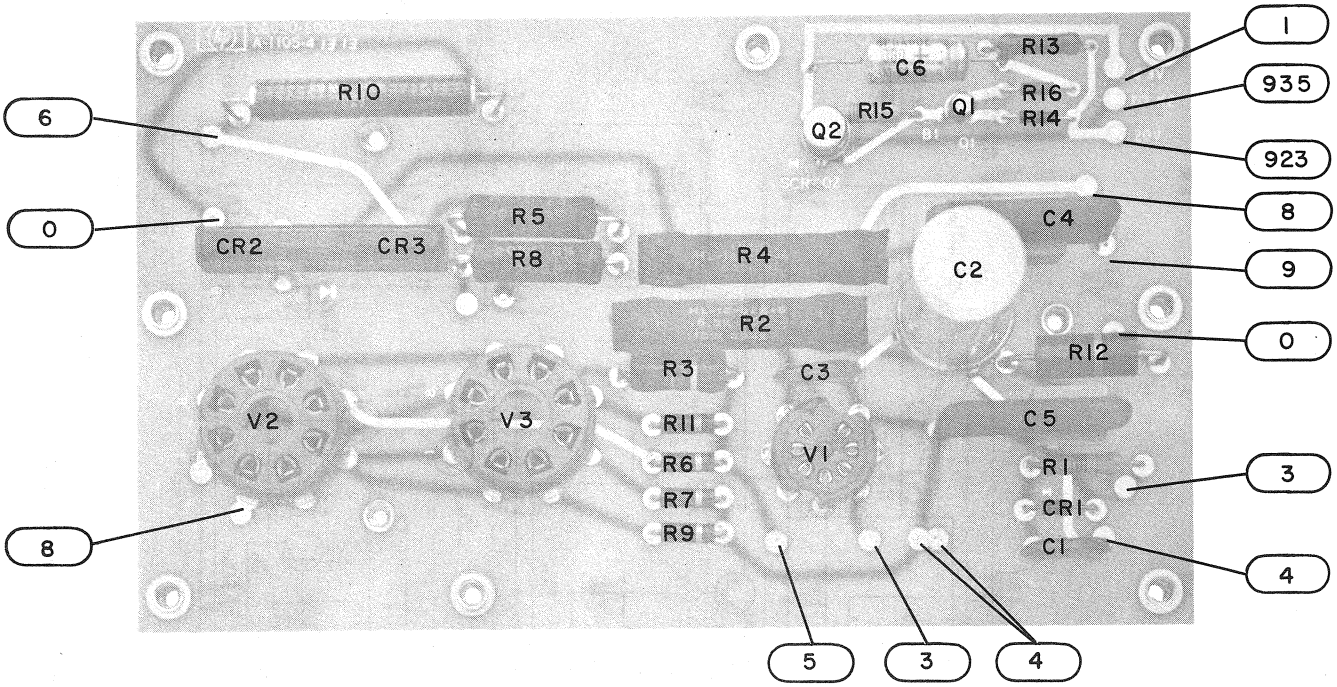


Figure 1. Component Identification, Assembly A8 (Part of Change 1)

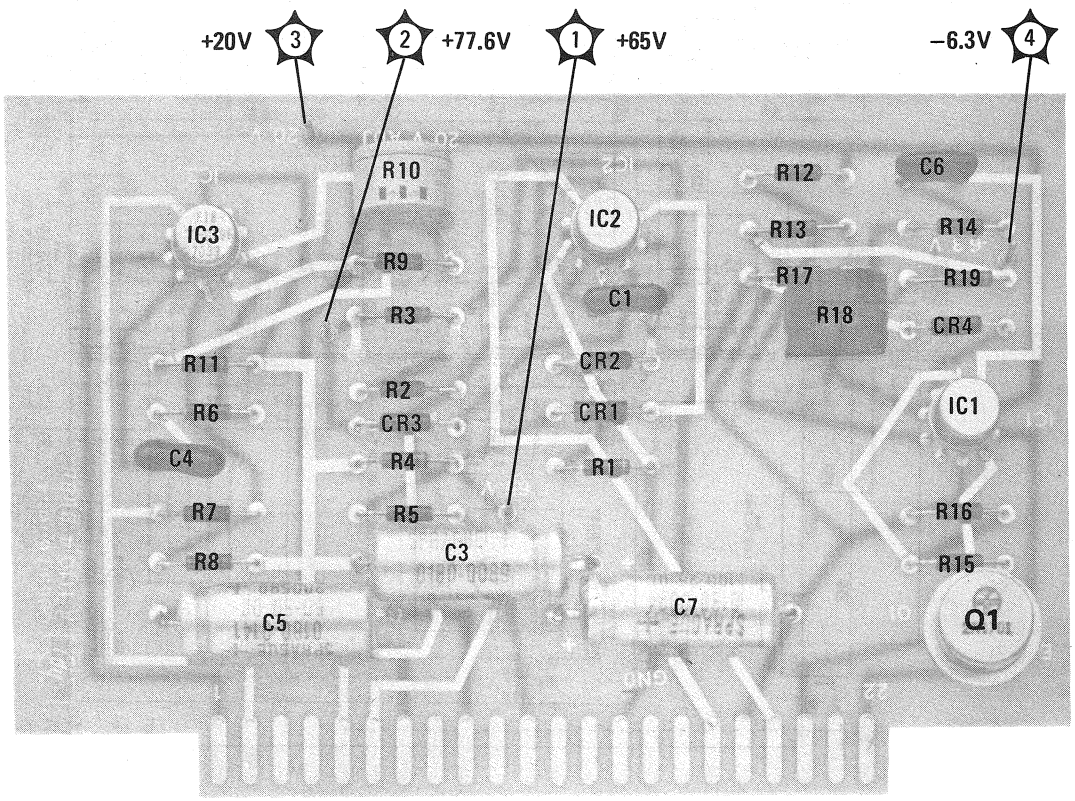


Figure 2. Component Identification, Assembly A14 (Part of Change 2)

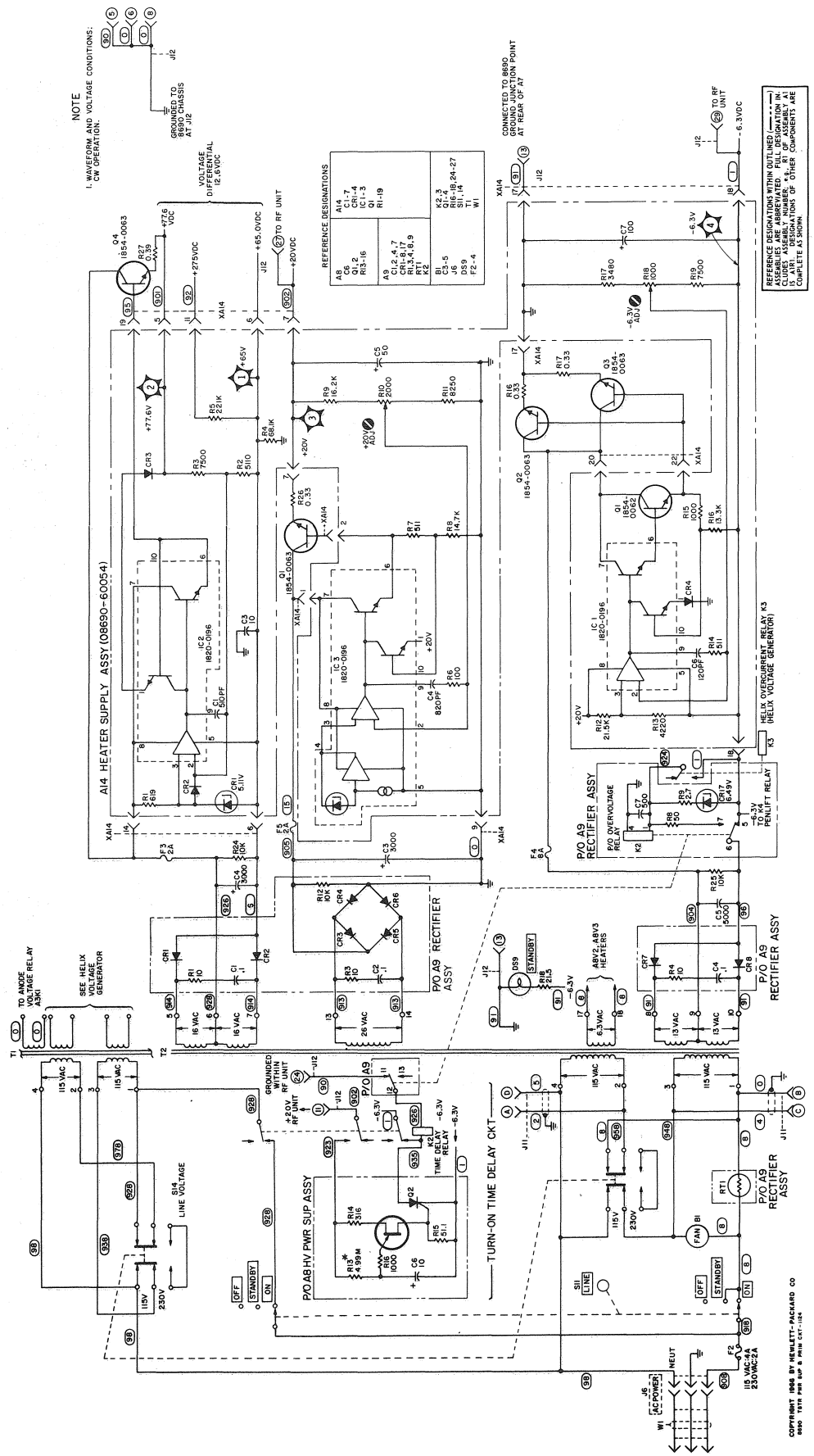
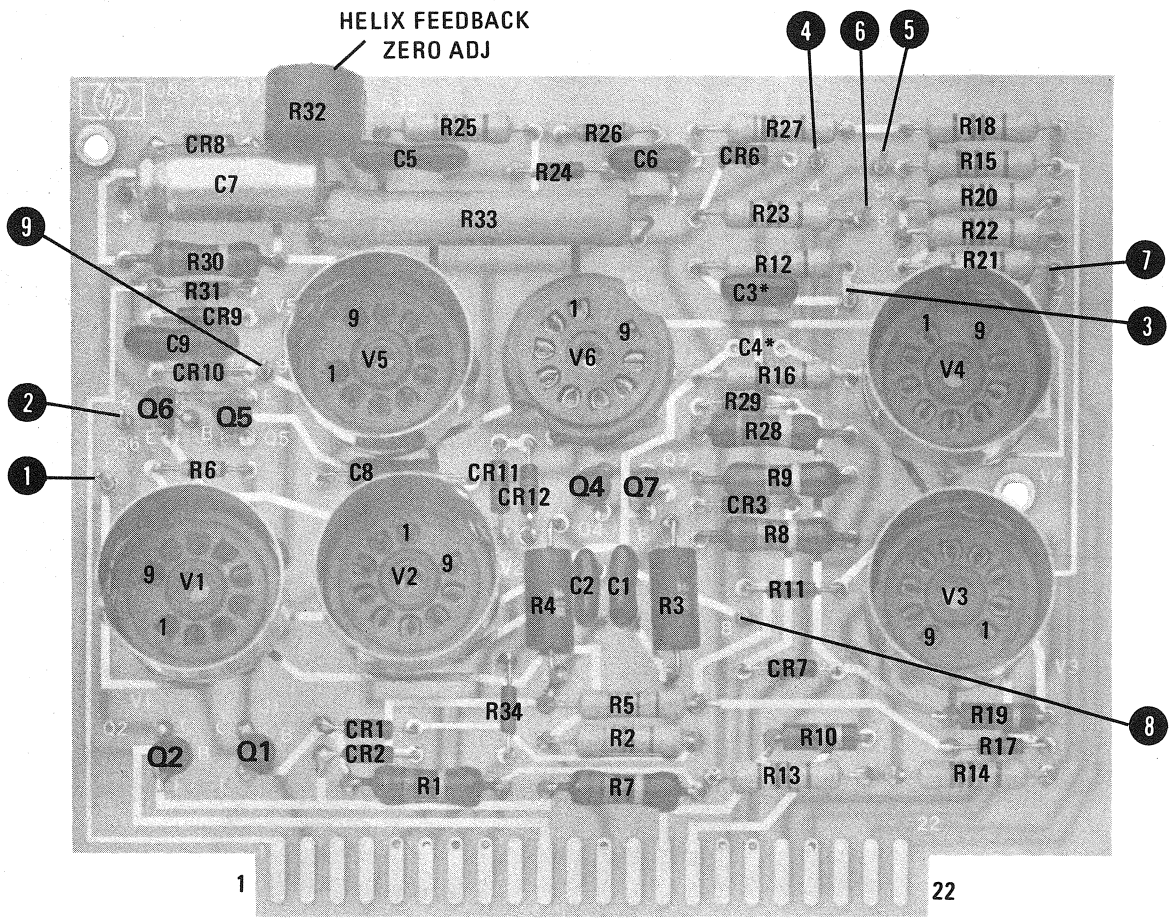


Figure 3. Power Supply Section, +20V, +12.6V and −6.3V Power Supplies (Part of Change 2)



*FACTORY SELECTED PART,MAY BE OMITTED

Figure 4. Component Identification, Assembly A4 (Part of Change 5)

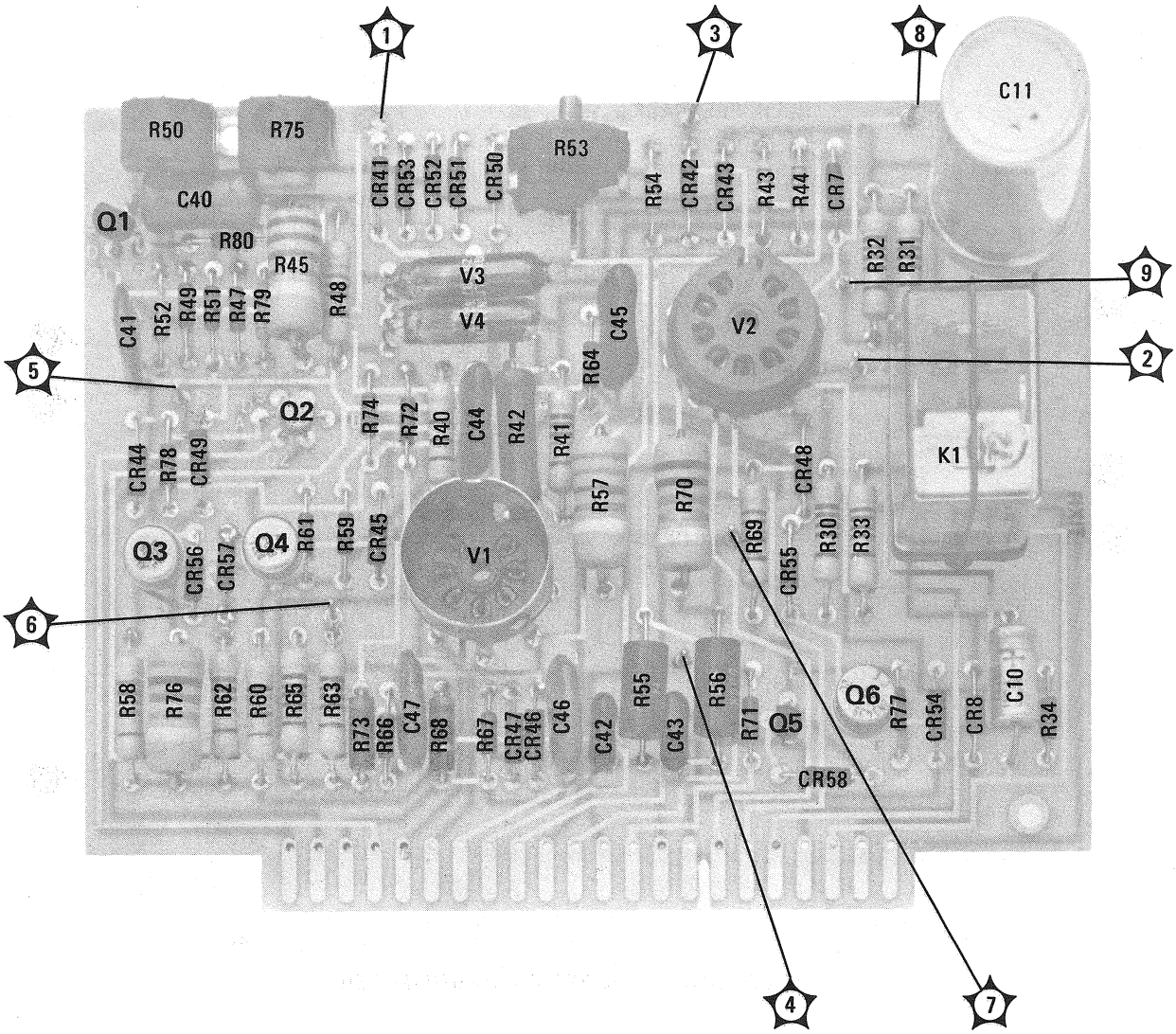


Figure 5. Component Identification, Assembly A3 (Part of Change 1)

CHANGE 10

Page 6-4, Table 6-1:
Change A3R34 to HP Part No. 0698-3431 R:FXD MET FLM 23.7 OHM 1% 1/8W.

Page 6-17, Table 6-1:
Change R18 to HP Part No. 0698-3431 R:FXD MET FLM 23.7 OHM 1% 1/8W.

Page 7-5, Figure 7-3 (Schematic Diagram):
Change A3R34 to 23.7 Ohm.

Page 7-15, Figure 7-8 (Schematic Diagram):
Change R18 to 23.7 Ohm.

CHANGE 11

Page 6-17, Table 6-1:
Add S15 3103-0041 SWITCH:THERMAL.

Page 7-15, Figure 7-8:
Add thermal switch S15 to schematic diagram of Power Supply Section as shown in Figure 6.

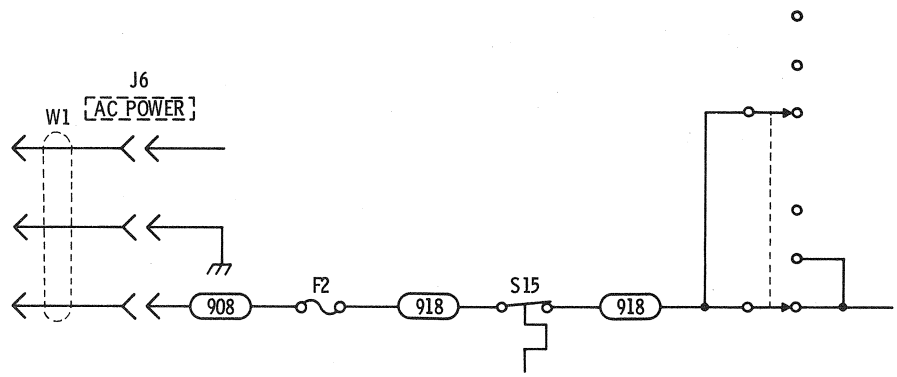


Figure 6. Partial Schematic Diagram of the Power Supply Section Showing Thermal Switch S15 (Part of Change 11)

CHANGE 12

Page 6-9, Table 6-1:
Change A6R3, A6R9, A6R11 and A6R12 to HP Part No. 0698-3442, R:FXD MET FLM 237 OHM 1% 1/8W.

Page 7-17, Figure 7-9:
Change A6R3, A6R9, A6R11, and A6R12 to 237 OHMS.

CHANGE 13

Page 6-14, Table 6-1:
Change A12 BOARD ASSY: ALC AMPLIFIER to HP Part No. 08690-60074.
Change A12XV1 SOCKET:TUBE to HP Part No. 1200-0573.

►CHANGE 14

Page 6-5, Table 6-1:
Change A4 HP Part Number to 08690-60076.
Add second A4 entry HP Part Number 08690-60077 BD ASSY: HELIX AMPL (H26).

►CHANGE 15

Page 6-10, Table 6-1:
Change A8 HP Part Number to 08690-60075.