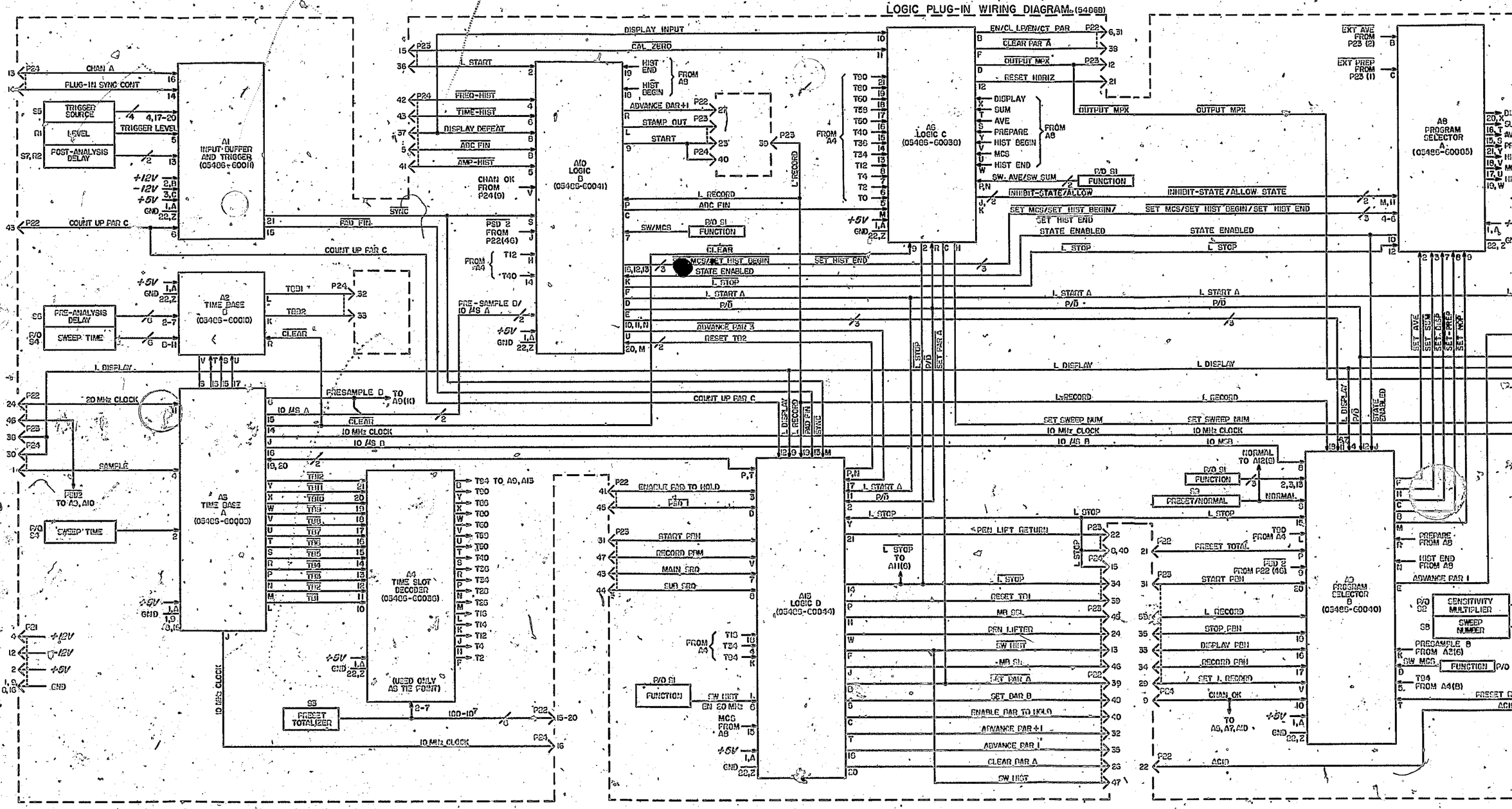
LOGIC PLUG-IN WIRING DIAGRAM (5496B)



LOGIC PLUG-IN WIRING DIAGRAM (5486B)

A6 LOGIC C (05486-60039)

A8 PROGRAM SELECTOR A (05486-60005)

A7 LOGIC A (05486-60039)

A5 LIGHT DRIVER CONTROL (05486-60037)

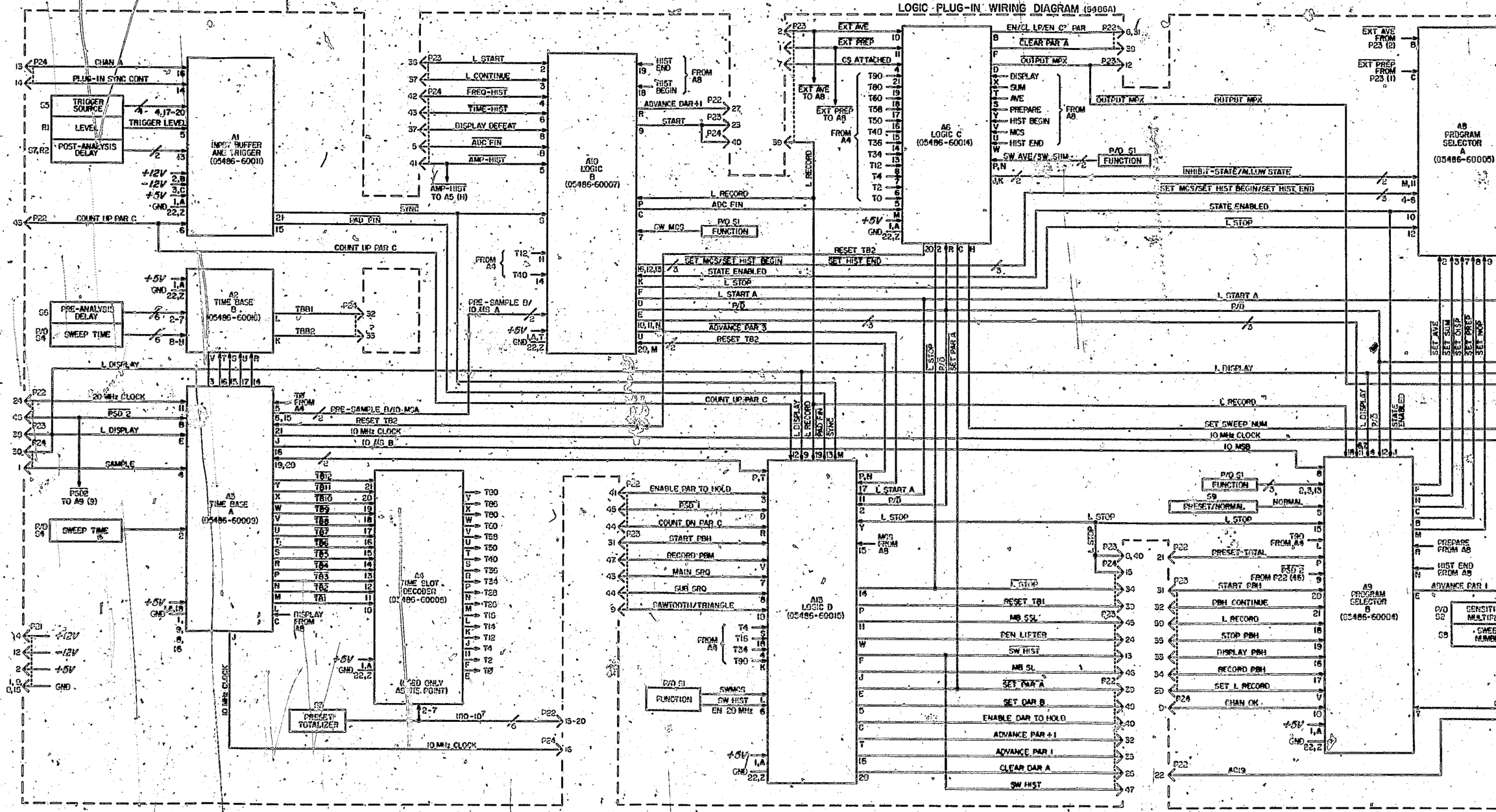
A9 PROGRAM SELECTOR B (05486-60040)

A12 SHIFT CONTROL (05486-60043)

A11 SHIFT CONTROL (05486-60042)

Figure 4-12
5486A/B (Sheet 1 of 2)
Wiring List: Table 4-2, Part H

LOGIC PLUG-IN WIRING DIAGRAM (5486A)



LOGIC PLUG-IN WIRING DIAGRAM (5486A)

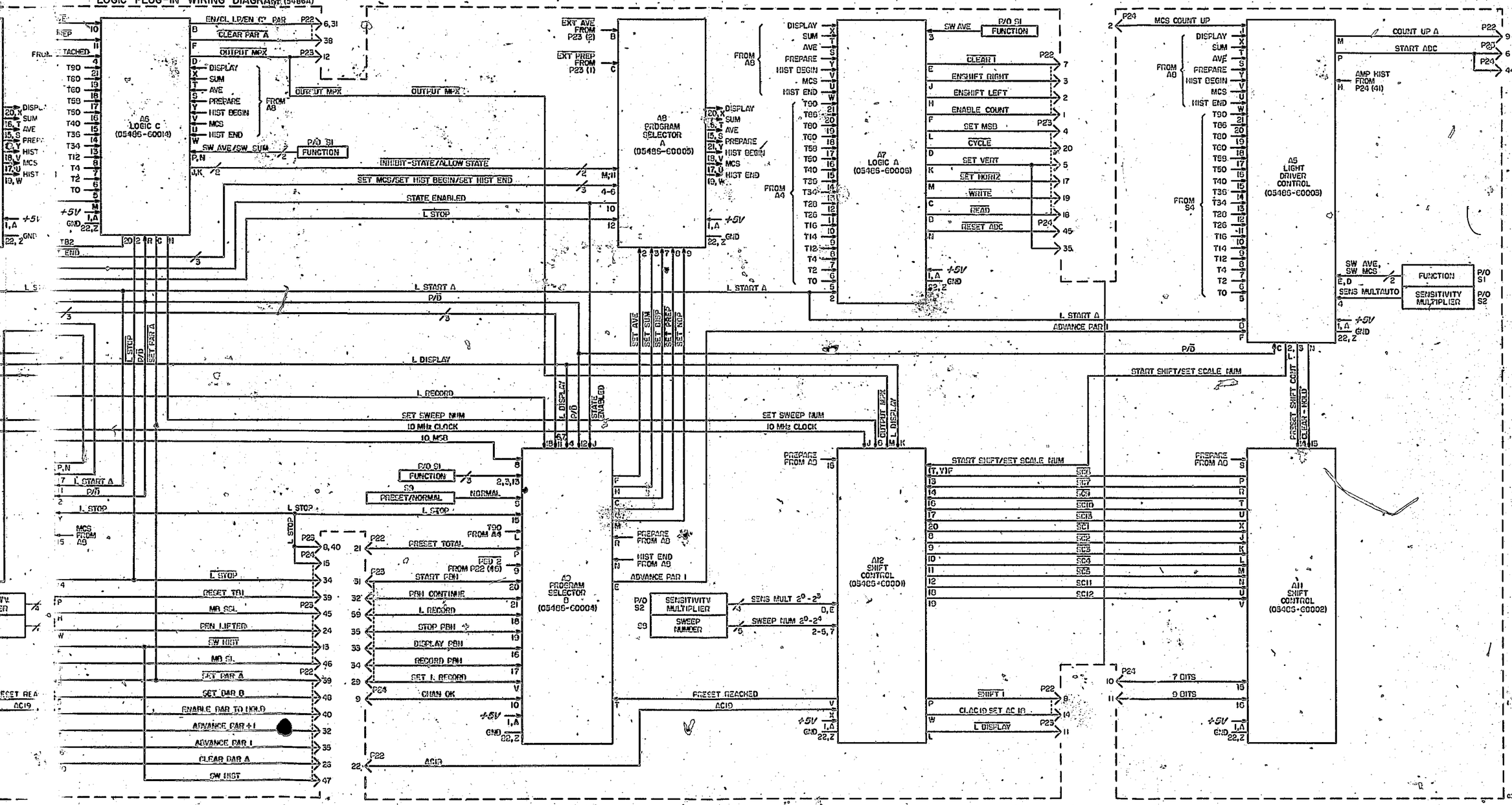


Figure 4-12
5486A/B (Sheet 2 of 2)
Wiring List: Table 4-2, Part H

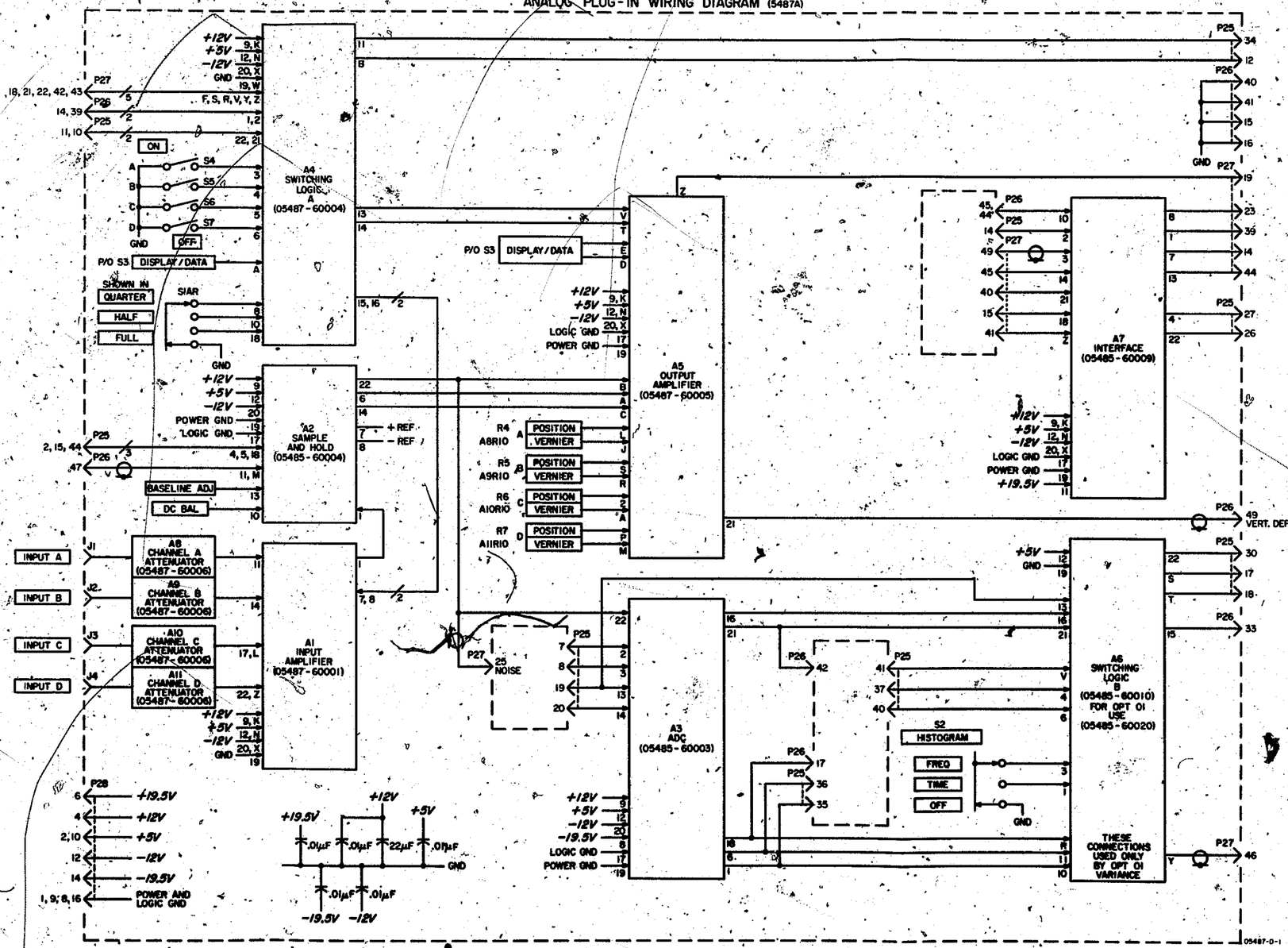


Figure 4-13
5487A
Wiring List: Table 4-2, Part I

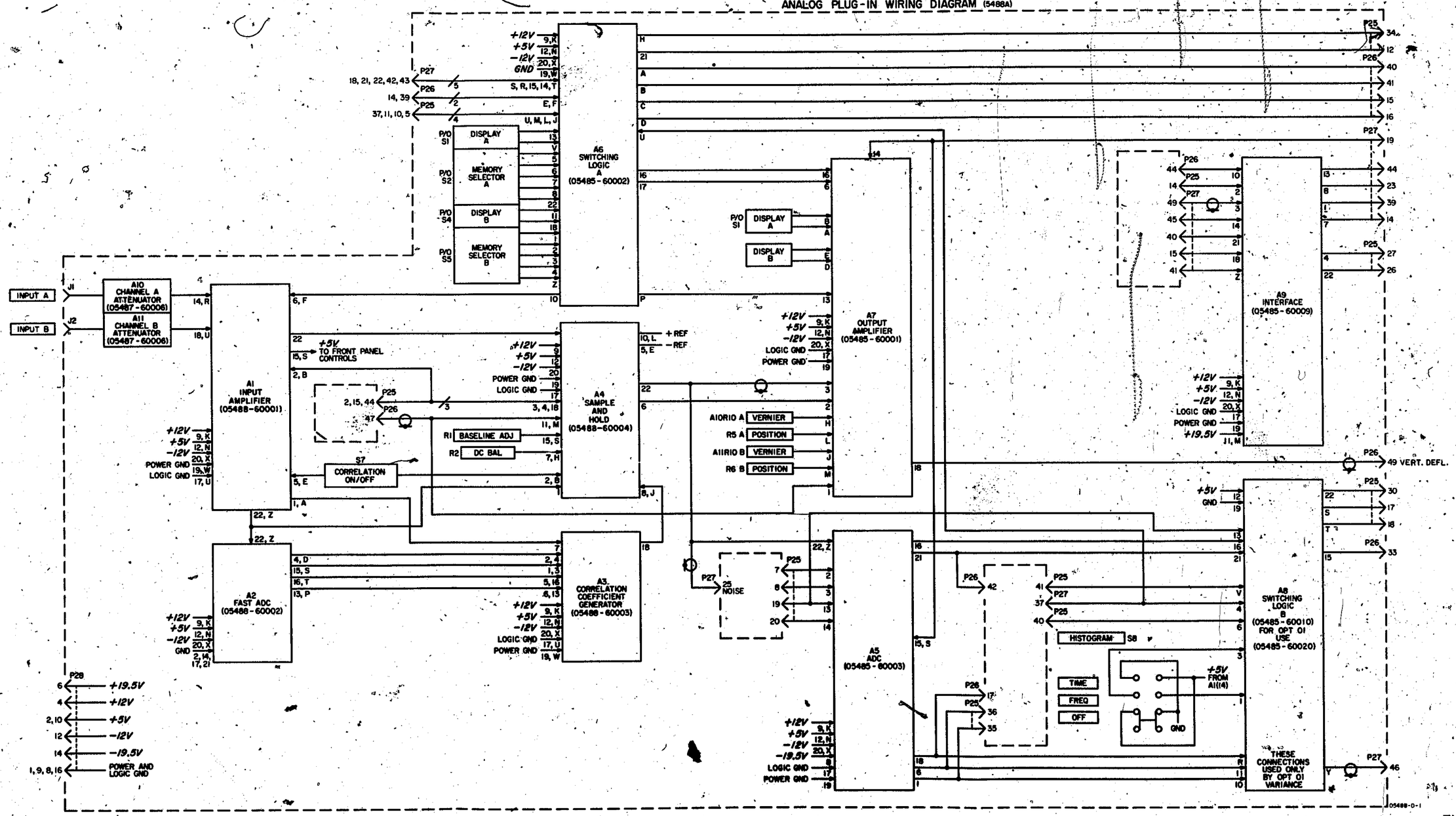


Figure 4-14
5488A
Wiring List: Table 4-2, Part J

Table 4-3. Replacing Pushbutton Indicator Lamps

DESCRIPTION

This table describes how to replace the lamps in the 5480 PROCESS START, PROCESS STOP, OUTPUT DISPLAY, or OUTPUT RECORD pushbuttons.

LAMP PART NUMBER

The pushbuttons named above use an incandescent 6.0 V, T 1-3/4 bulb (2140-0039)

REPLACEMENT PROCEDURE

Normally, the pushbutton may be removed from the front of the 5480 without removing the instrument top cover. Simply grasp two opposite sides of the button with your fingers, and pull the button out; the indicator lamp will come out with it. Remove lamp from button by holding button and pulling on lamp flange. Install new lamp in button, then replace button on switch; be sure to press button firmly onto switch.

If the pushbutton cannot be removed using the procedure described above, use the following procedure:

a. Remove 5480 top cover.
b. Open memory deck.
c. Remove plug-in card A4A1, located immediately behind the pushbuttons.
d. Using a phillips or pozi-drive screwdriver, remove the pushbutton switch mounting plate.
e. Remove pushbutton from switch.
f. Replace lamp as described above.
g. Reverse procedure of steps a through d to re-assemble 5480.

02850-1

Table 4-4. Replacement Parts

NOTE: For detailed listing, see Service Manual Volume for specific unit.

FUSE: LINE, 115V: 2.5A, SB, (2110-0015)
LINE, 230V: 1.25A, SB, (2110-0021)
+5V SUPPLY (only on 5480B and 5480A Serial Prefix 920- and higher): 10 Amp (2110-0051).

LAMP: For pushbuttons: Incandescent 6.0V, T1-3/4 bulb (2140-0039)

CRT: P31 Phosphor, Internal Graticule, (5083-1853)

CORD, LINE: (8120-0078)

KIT, RACK MOUNT: (5060-0779)

Boards 5480A/B

Reference Designation	HP Stock No.	Note	Description
A1A1	05480-60013		Deflection Amplifier
A1A2	05480-60025		Calibrator Assembly
A1A3	01200-66505		High Voltage Transformer & Rectifier
A1A4	01200-66515	A, B	High Voltage Oscillator & Regulator
A2A1	05421-6001		Sense Amplifier
A2A2	05421-6002		Inhibit Generator
A2A3	05421-6001		Sense Amplifier
A2A4	05421-6002		Inhibit Generator
A2A5	05421-6003		"X" Decoder Gate
A2A6	05421-6003		"Y" Decoder Gate
A2A7	05421-6004		"X" Read-Write Generator
A2A8	05421-6004		"Y" Read-Write Generator
A2A9	05480-60010		Horizontal DAC
A2A10	05480-60009		Vertical DAC
A2A11	05480-60020		±19V Regulator
A2A12	05480-60073	A, C	20 MHz Time Base
A2A13	05480-60011		Memory Time Decoder
A2A14	05480-60022		Memory Logic
A3A1	05480-60001		Preset Detector
A3A2	05480-60004		Accumulator Control
A3A3	05480-60002		Accumulator Bits 0-3
A3A4	05480-60003		Accumulator Bits 4-7
A3A5	05480-60003		Accumulator Bits 8-11
A3A6	05480-60003		Accumulator Bits 12-15
A3A7	05480-60003		Accumulator Bits 16-19
A3A8	05480-60005		Accumulator Bits 20-23
A3A9	05480-60077	A, E	Address Register Bits 0-1
A3A10	05480-60006		Address Register Bits 2-5
A3A11	05480-60006		Address Register Bits 6-9
A3A12	05480-60075	D	Address Control Board
A4A1	05480-60012		Light Driver Assembly
A5A1	05480-60014		Power Supply "A"
A5A2	05480-60015		Power Supply "B"

A. Current Board is preferred replacement.
B. 01200-66506 in older instruments.
C. 05480-60021 in older instruments.
D. 05480-60008 in 5480A.
E. 05480-60007 in 5480A.

Table 4-4. Replacement Parts (Cont'd)

Boards 5485A

Reference Designation	HP Stock No.	Description
A1	05485-60005	Input Amplifier
A2	05485-60004	Sample & Hold
A3	05485-60003	Analog-to-Digital Converter
A4	05485-60002	Switching Logic
A5	05485-60001	Output Amplifier
*A6	05485-60010	Switching Logic B
*A6	05485-60020	Variance Option
A7	05485-60009	Interface

*NOTE: A6 assembly may be either 60010 or 60020 board, depending on customer order.

Boards 5486A/B

Reference Designation	HP Stock No.	Description
A1	05486-60011	Sync and Delay
A2	05486-60010	Time Base "B"
A3	05486-60009	Time Base "A"
A4	05486-60036	Time Slot Decoder
A5	05486-60037	Light Driver Control
A6	05486-60038	Logic Matrix "C"
A7	05486-60039	Logic Matrix "A"
A8	05486-60005	Program Selection "A"
A9	05486-60040	Program Selector "B"
A10	05486-60041	Logic Matrix "B"
A11	05486-60042	Shift Control "B"
A12	05486-60043	Shift Control "A"
A13	05486-60044	Logic Matrix "D"

The A4-7 and A9-13 assemblies are not interchangeable between 5486A and B models.

Boards 5487A

Reference Designation	HP Stock No.	Description
A1	05487-60001	Four Channel Input
A2	05485-60004	Sample and Hold
A3	05485-60003	Analog-to-Digital Converter
A4	05487-60004	Four-Channel Logic
A5	05487-60005	Four-Channel Output Amplifier
A6	05485-60010 or 05485-60020	Switching Logic B Variance Option (Option 01)
A7	05485-60009	Interface

Table 4-4. Replacement Parts (Cont'd)

Boards 5488A

Reference Designation	HP Part No.	Description
A1	05488-60001	Input Amplifier
A2	05488-60002	Fast ADC
A3	04388-60003	Correlation Coefficient Generator
A4	05488-60004	Sample and Hold
A5	05485-60003	Analog-to-Digital Converter
A6	05485-60002	Switching Logic A
A7	05485-60001	Output Amplifier
A8	05485-60010	Switching Logic B
	or 05485-60020	Variance Option
A9	05485-60009	Interface

Table 4-5. Service Kit

GENERAL

A comprehensive service kit for the 5480 system is available under HP Part Number 10646A. It contains one each of subordinate kits which may be ordered separately using the HP Part Number shown. Boards in the kit will be for Models 5480B, 5485A, and 5486B.* Other kits for extender cables and isolated spares are identical for both models.

Plug-in Models 5487A and 5488A require a mixture of 5485A boards and boards unique to the particular model. The unique boards are available as separate kits.

*Model 5480A and Model 5486A boards are compatible in most cases with the 5480B and 5486B boards, respectively. Substitution of non-compatible 5480A, 5486A boards will be made upon request. Refer to Table 4-6 for cross reference list of non-compatible boards.

Description	HP Part Number
Comprehensive Kit containing: Replacement Board Kit Isolated Spares Kit Extender Cable Kit for Plug-ins	10646A
Replacement Board Contains one each boards for Models 5480B, 5485A, and 5486B.* These are listed separately below. Where both new and rebuilt boards are available, the kit may contain either board but not both.	10646-60001
Isolated Spares Kit: Includes replacement transistors, IC's, diodes and lamps for one year's isolated service of the 5480 system. These parts are listed below.	10646-60002
Extender Cable Kit: Includes 3 only 05480-60052 cables, and 1 only 05480-60051 cable. Allows operation of the 5485A or 5486A/B outside its plug-in compartment.	10646-60003

REPLACEMENT BOARD KIT (10646—60001):

Includes one each of the following boards

5480B

Reference Designator	Board Assembly Description	HP Part Number
A1A1	Deflection Amplifier	05480-60013 (new); 05480-60067 (rebuilt)
A1A2	Calibrator Assembly	05480-60025 (new)
A1A3	High Voltage Transformer and Rectifier	01200-66505 (new)
A1A4	High Voltage Oscillator and Regulator	01200-66515 (new)
A2A1, A2A3	Sense Amplifiers	05421-6001 (new); 05421-6039 (rebuilt)
A2A2, A2A4	Inhibit Generators	05421-6002 (new); 05421-6040 (rebuilt)
A2A5, A2A6	"X" and "Y" Decoder Gates	05421-6003 (new); 05421-6041 (rebuilt)
A2A7, A2A8	"X" and "Y" Read-Write Generators	05421-6004 (new); 05421-6042 (rebuilt)
A2A9	Horizontal DAC	05480-60010 (new); 05480-60064 (rebuilt)

Table 4-5. Service Kit (Cont'd)

5480B (Cont'd)

Reference Designator	Board Assembly Description	HP Part Number
A2A10	Vertical DAC	05480-60009 (new); 05480-60063 (rebuilt)
A2A11	±19V Regulator	05480-60020 (new); 05480-60070 (rebuilt)
A2A12	20 MHz Time Base	05480-60073 (new);
A2A13	Memory Time Decoder	05480-60011 (new); 05480-60065 (rebuilt)
A2A14	Memory Logic	05480-60022 (new); 05480-60072 (rebuilt)
A3A1	Preset Detector	05480-60001 (new); 05480-60055 (rebuilt)
A3A2	Accumulator Control	05480-60004 (new); 05480-60058 (rebuilt)
A3A3	Accumulator Bits 0-3	05480-60002 (new); 05480-60056 (rebuilt)
A3A4, A3A5 A3A6, A3A7	Accumulator Bits 4-7, 8-11, 12-15, 16-19	05480-60003 (new); 05780-60056 (rebuilt)
A3A8	Accumulator Bits 20-23	05480-60005 (new); 05480-60059 (rebuilt)
A3A9	Address Register Bits 0-1	05480-60077 (new); 05480-60061 (rebuilt)
A3A10, A3A11	Address Register Bits 2-5, 6-9	05480-60006 (new); 05480-60060 (rebuilt)
A3A12	Address Control Board	05480-60075 (new); 05480-60076 (rebuilt)
A4A1	Light Driver Assembly	05480-60012 (new); 05480-60066 (rebuilt)
A5A1	Power Supply "A"	05480-60014 (new); 05480-60068 (rebuilt)
A5A2	Power Supply "B"	05480-60015 (new); 05480-60069 (rebuilt)
5485A		
A1	Input Amplifier	05485-60005 (new); 05485-60025 (rebuilt)
A2	Sample and Hold	05485-60004 (new); 05485-60024 (rebuilt)
A3	A to D Converter	05485-60003 (new); 05485-60023 (rebuilt)
A4	Switching Logic A	05485-60002 (new); 05485-60022 (rebuilt)
A5	Output Amplifier	05485-60001 (new); 05485-60021 (rebuilt)
A6	Switching Logic B	05485-60010 (new); 05485-60027 (rebuilt)
A7	Interface	05485-60009 (new); 05485-60026 (rebuilt)
5486B		
A1	Sync and Delay	05486-60011 (new); 05486-60033 (rebuilt)
A2	Time Base "B"	05486-60010 (new); 05486-60032 (rebuilt)
A3	Time Base "A"	05486-00009 (new); 05486-60031 (rebuilt)
A4	Time Slot Decoder	05486-60036 (new); 05486-60045 (rebuilt)
A5	Light Driver Control	05486-60037 (new); 05486-60046 (rebuilt)
A6	Logic Matrix "C"	05486-60038 (new); 05486-60047 (rebuilt)
A7	Logic Matrix "A"	05486-60039 (new); 05486-60048 (rebuilt)
A8	Program Selector "A"	05486-60005 (new); 05486-60027 (rebuilt)
A9	Program Selector "B"	05486-60040 (new); 05486-60049 (rebuilt)
A10	Logic Matrix "B"	05486-60041 (new); 05486-60050 (rebuilt)
A11	Shift Control "B"	05486-60042 (new); 05486-60051 (rebuilt)
A12	Shift Control "A"	05486-60043 (new); 0546-60052 (rebuilt)
A13	Logic Matrix "D"	05486-60044 (new); 0546-60053 (rebuilt)

ISOLATED SPARES KIT (10646—60002):

Includes replacement components as listed below.

Resistors

Part No.	Quantity
0698-6224	2
0698-6225	2
0811-1397	2
0811-1398	2
0698-3146	2
0698-5131	2
0698-5132	2

Table 4-5. Service Kit (Cont'd)

ISOLATED SPARES KIT (10646—60002 (Cont'd)

Capacitors

Part No.	Quantity
0180-0042	1
0180-0268	1
0180-1809	1
0180-1871	1
0180-1968	1
0180-2130	1

Lamps

Part No.	Quantity
2140-0021	1
2140-0039	2

Fuses

Part No.	Quantity
2110-0015	1
2110-0021	1

Diodes

Part No.	Quantity	Part No.	Quantity
1901-0025	2	1902-0064	1
1901-0026	2	1902-0071	1
1901-0028	2	1902-0126	1
1901-0033	1	1902-0210	1
1901-0039	5	1902-0243	1
1901-0040	5	1902-3002	1
1901-0045	1	1902-3003	1
1901-0049	1	1902-3059	1
1901-0179	2	1902-3070	2
1901-0341	1	1902-3094	1
1901-0376	1	1902-3104	1
1901-0409	2	1902-3290	1
1902-0041	2	1902-3256	1
1902-0049	1	1902-3268	1
1902-0052	1	1902-3337	1
1902-0057	1	1910-0034	

Transistors

Part No.	Quantity	Part No.	Quantity
1853-0001	1	1854-0071	2
1853-0015	1	1854-0072	1
1853-0016	4	1854-0092	2
1853-0020	4	1854-0094	2
1853-0034	1	1854-0221	2
1853-0036	2	1854-0246	4
1853-0037	1	1854-0330	1
1854-0005	4	1855-0020	1
1854-0009	1	1855-0049	1
1854-0019	1	1855-0050	1
1854-0022	1	1855-0057	1
1854-0039	2	1884-0046	1
1854-0045	1	1884-0054	1
1854-0063	1		

Table 4-5. Service Kit (Cont'd)

(10646—60002)(Cont'd) Integrated Circuits

Part No.	Quantity	Part No.	Quantity
1820-0054	2	1820-0085	2
1820-0055	2	1820-0304	1
1820-0063	1	1820-0370	2
1820-0068	2	1820-0371	2
1820-0069	2	1820-0373	1
1820-0070	2	1820-0375	1
1820-0071	2	1820-0376	1
1820-0072	2	1820-0378	1
1820-0074	2	1820-0380	1
1820-0075	1	1820-0381	1
1820-0077	2	1820-0383	1
1820-0084	2	1820-0387	2

REPLACEMENT BOARD KIT (10646-60004):

Includes one each of the following boards, unique to the 5487A.

Reference Designator	Board Assembly Description	HP Part Number
A1	Four Channel Input Amplifier	05487-60001 (new); 05487-60012 (rebuilt)
A4	Four Channel Logic	05487-60004 (new); 05487-60013 (rebuilt)
A5	Four Channel Output	05487-60005 (new); 05487-60014 (rebuilt)

REPLACEMENT BOARD KIT (10646-60005):

Includes one each of the following boards, unique to the 5488A.

Reference Designator	Board Assembly Description	HP Part Number
A1	Input Amplifier	05488-60001 (new); 05488-60012 (rebuilt)
A2	Fast ADC	05488-60002 (new); 05488-60013 (rebuilt)
A3	Correlation Coefficient Generator	05488-60003 (new); 05488-60014 (rebuilt)
A4	Sample and Hold	05488-60004 (new); 05488-60015 (rebuilt)

Table 4-6. Non-Compatible Board Number Cross Reference List*
(Models 5480A/5486A to 5480B/5486B)

5480 Main Frame

Reference Designator	5480A Board Number	5480B Board Number
A2A12	05480-60021 (below Serial #928-0176)	05480-60073**
A3A12	05480-60008	0580-60075

5486 Logic Plug-in

Reference Designator	5486A Board Number	5486B Board Number
A4	05486-60008	05486-60036
A5	05486-60003	05486-60037
A6	05486-60014	05486-60038
A7	05486-60006	05486-60039
A9	05486-60004	05486-60040
A10	05486-60007	05486-60041
A11	05486-60002	05486-60042
A12	05486-60001	05486-60043
A13	05486-60015	05486-60044

*These boards are not directly interchangeable
**Substitution requires the wiring of +5V to pin 15

Figure 4-15. 5480A/B Rear Panel Connections

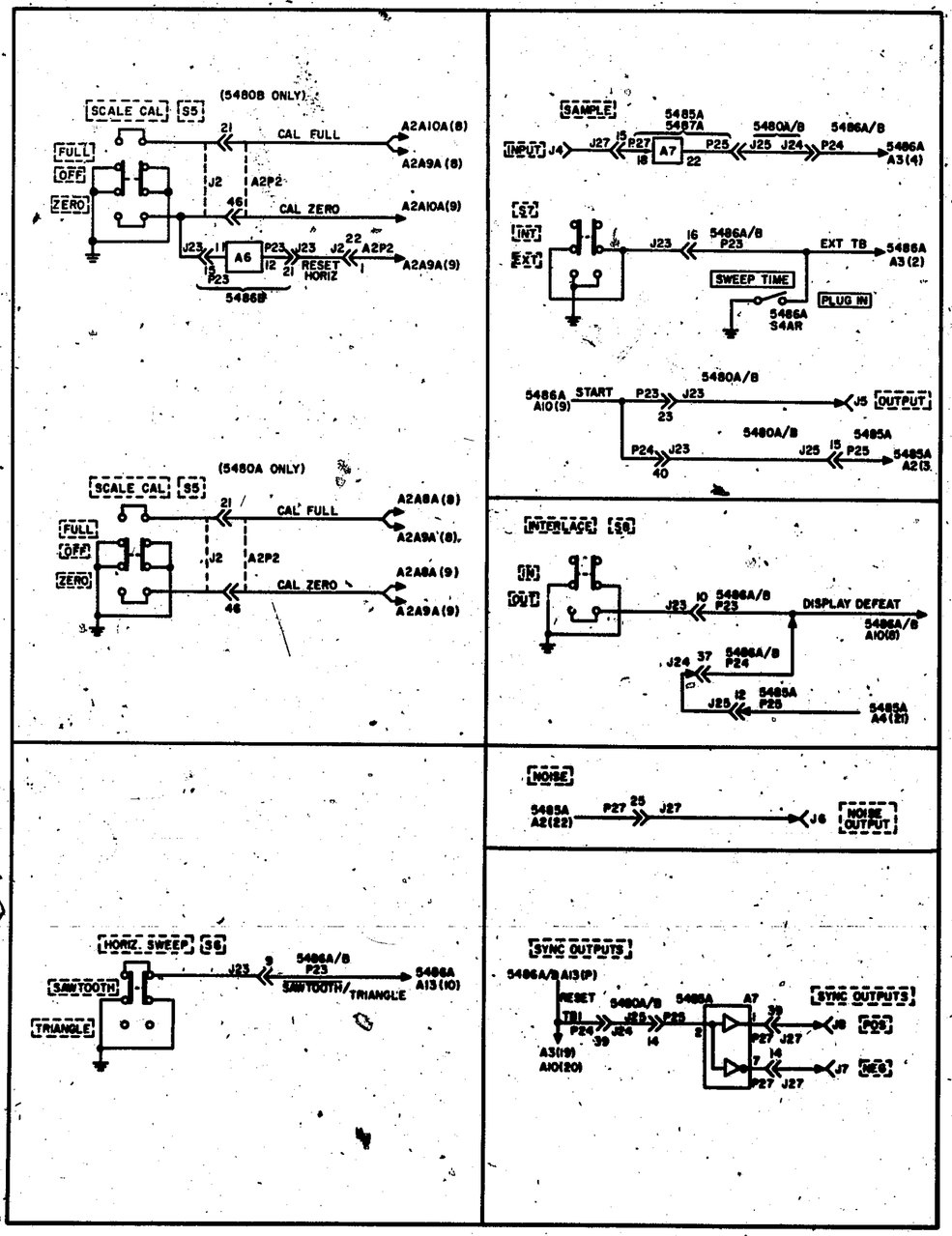


Figure 4-15. 5480A/B Rear Panel Connections (Cont'd)

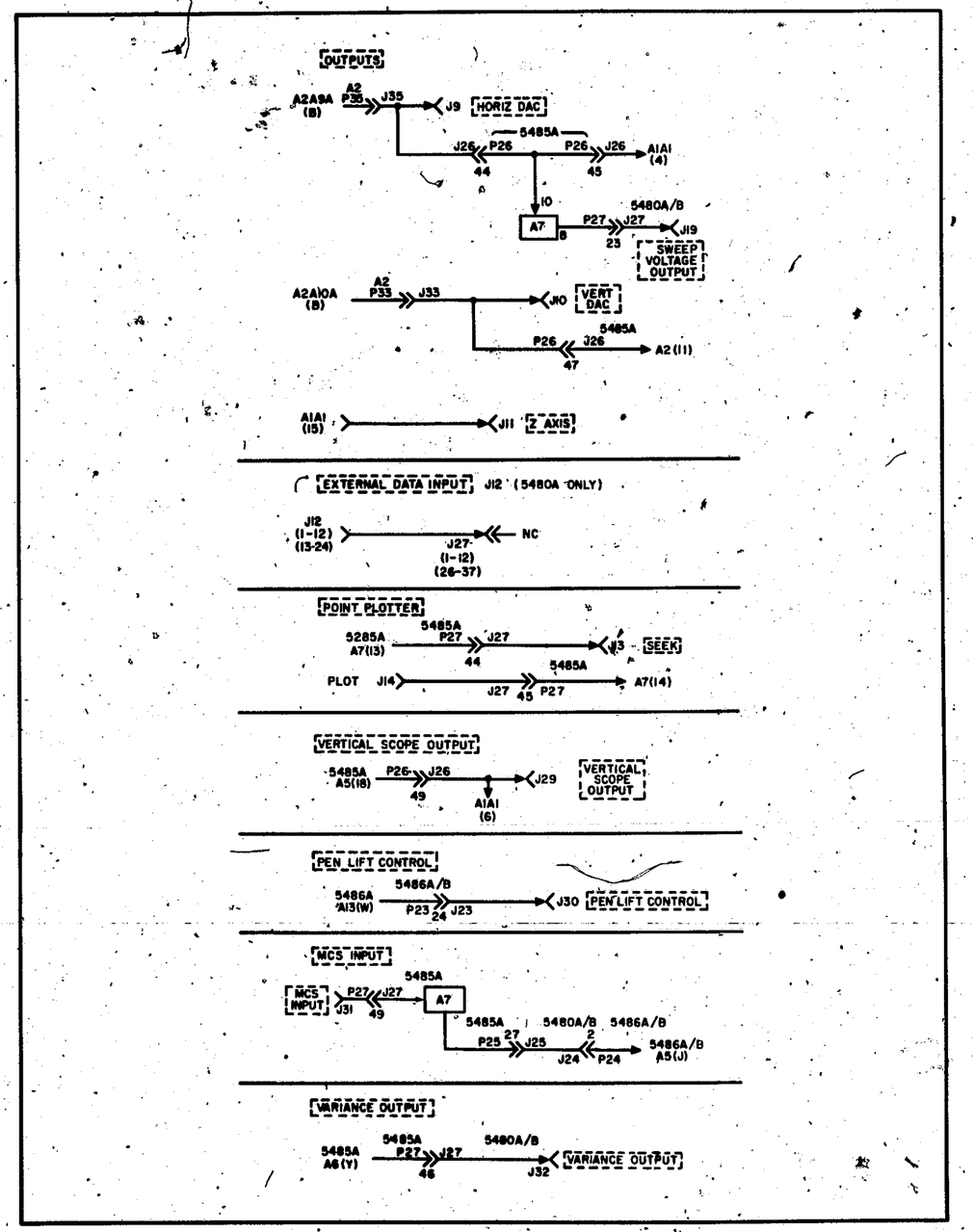
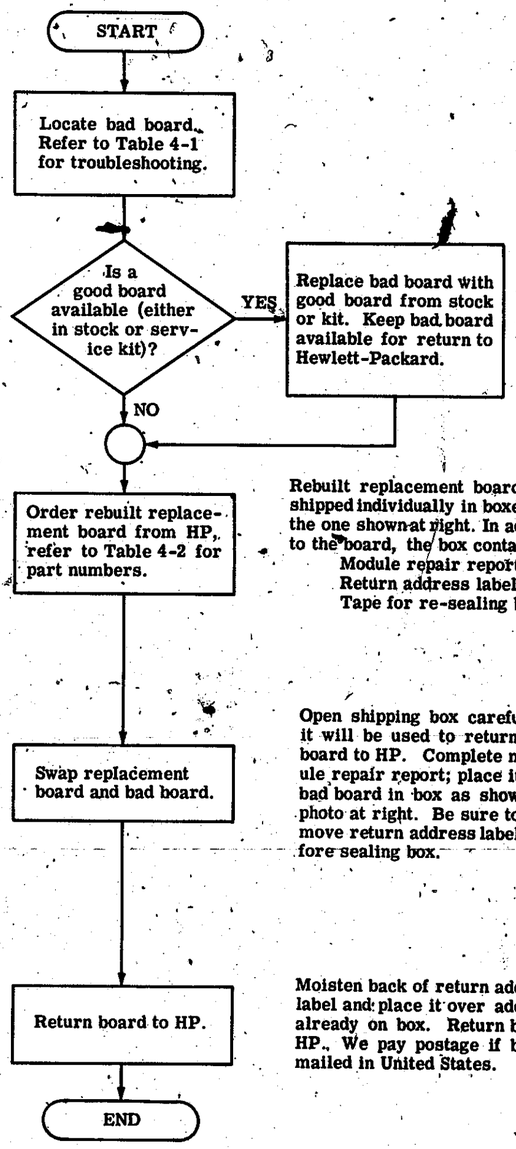


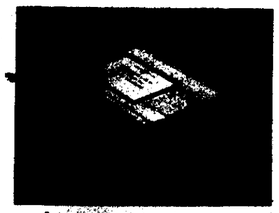
Table 4-16. Board Replacement Program

The Board Exchange Program described in this table provides the quickest way to achieve "on-site" repair/replacement of bad boards in the 5480A/B System.



Rebuilt replacement boards are shipped individually in boxes like the one shown at right. In addition to the board, the box contains:

- Module repair report
- Return address label
- Tape for re-sealing box



Open shipping box carefully; it will be used to return bad board to HP. Complete module repair report; place it and bad board in box as shown in photo at right. Be sure to remove return address label before sealing box.

Moisten back of return address label and place it over address already on box. Return box to HP. We pay postage if box is mailed in United States.

MANUAL CHANGES

HEWLETT hp PACKARD

MANUAL CHANGES

MODEL 5480A/B
SIGNAL ANALYZER SYSTEM
(SYSTEM SERVICE MANUAL, Volume I)
All Serials
Manual Printed: FEB 1970

MAKE ALL CORRECTIONS IN THIS MANUAL ACCORDING TO ERRATA BELOW, THEN CHECK THE FOLLOWING TABLE FOR YOUR INSTRUMENT SERIAL PREFIX (3 DIGITS) OR SERIAL NUMBER (8 DIGITS) AND MAKE ANY LISTED CHANGE(S) IN THE MANUAL.

► NEW ITEM.

SERIAL PREFIX OR NUMBER	MAKE MANUAL CHANGES	SERIAL PREFIX OR NUMBER	MAKE MANUAL CHANGES

ERRATA

Page 1-3, Under CALIBRATOR (middle of page):
Change "6.4" to ".64".

Page 1-5, Under VERTICAL SCALE (bottom third of page):
Change first sentence to read "Range ±8.38 cm at 10^6 counts/cm."

NOTE: To keep information in proper order, contents of Pages 1-4 and 1-5 should be swapped.

Page 1-6, replace SIGNAL TO NOISE IMPROVEMENT (top quarter of page) with the following:

Proportional to the square root of the number of sweeps averaged. For white gaussian noise the improvement is 3 dB times SWEEP NUMBER setting, N. Up to 60 dB (1000 to 1 ratio) is possible under many circumstances. For a given experiment, the ultimate is determined by the synchronous component of the Noise specification (Calibrated Averaging).

Page 1-7, replace MAXIMUM INPUT (bottom third of page) with the following:
(Linear Operation) Equivalent to CRT deflection of ±5 cm for individual samples.

Page 1-8, replace FREQUENCY RANGES and COUNTING RATE (bottom third of page) with the following:

FREQUENCY RANGES (DISPLAY)

200 Hz/cm through 10 MHz/cm in 1, 2, 5 steps.

COUNTING RATE

Proportional to Frequency Range; Approximately 1 to 50,000 counts/second.

Page 1-9, replace INPUT (bottom third of page) with the following:

INPUT
At rear panel BNC.

Sensitivity: 2V; 20V Max.

Input Frequencies: Pulses; rate: DC to 1 MHz; width: 500 nsec, min; pulse pair resolution 500 nsec; rise time · 10 μsec.

Input Impedance: 3000 ohms, Min.

June 5, 1970

1-560068

Supplement A for 05480-90012

PRINTED IN U.S.A.

ERRATA (Cont'd)

Page 1-10, under SAMPLE INPUT (middle third of page):

Add "Input impedance > 2K ohms; Maximum input 20V."

Change DISPLAY OUTPUTS to ANALOG OUTPUTS.

Under VERTICAL SCOPE OUTPUT (bottom of page): change "open circuit" to "10K".

Page 1-11:

Change DISPLAY OUTPUTS to ANALOG OUTPUTS.

Under PLOTTER OUTPUTS, Y Axis: (middle third of page): delete "except output impedance ohms".

Page 1-13:

Change NUMBER OF INPUTS (top third of page) to NUMBER OF INPUTS (AVERAGING).

Under NUMBER OF INPUTS (AVERAGING): delete "Sampling sequence: Inputs A, B, C, D (repeatedly)."

Delete "Average BASELINE DRIFT $<+.2\%$ of f.s./°C for source impedance $<1K$."

Under BANDWIDTH (middle third of page): change "(max.) 25 kHz" to "Dc to 25 kHz".

Immediately above MEMORY SELECTION PRIORITY (middle of page), add the following:

MEMORY SELECTION

Same as 5485A, except Histograms can only be done using FULL memory.

Change "5488A CORRELATOR INPUT" to "5488A AVERAGE/CORRELATION INPUT".

Page 1-14:

Delete "DRIFT $\leq +.2\%$ of f.s. for source impedance $<1K$ ohm." (top third of page).

Immediately below the INPUT SENSITIVITY specification, add the following:

BANDWIDTH
Dc to 25 kHz

Under INPUT CHARACTERISTICS (middle of page), delete: "Drift $\leq +.2\%$ of f.s. for source impedance < 1K ohm".

Replace "Delay Increments" specification with the following:

Delay Increments: (↑) per point, 10 μsec to 0.5 sec in 1, 2, 5 sequence; with external time base, 50 μsec and slower.

Page 1-16:
At rear photo of instrument, change "8" at bottom to "9".

Page 1-17:
In graph at lower right-hand corner of page, change "SYNC PULSE OUT" to "READY FOR TRIGGER".

ERRATA (Cont'd)

Page 1-25:
Add the chart below to show memory section-vs-5487A channel allocations.

MEMORY switch selects whether any one Plug-in channel will be conneted to one (QUARTER), two (HALF), or four (FULL) quarters of memory.

FULL

All four memory quarters are connected to the highest priority channel that is turned "ON". Channel A has highest priority, followed, in order, by B, C, and D.

FULL MEMORY

connected to this channel when Channel is "ON".....	Unless
A	----
B	Channel A is ON
C	Channel A or B is ON
D	Channel A, B, or C is ON

HALF

Memory quarters are connected to Plug-In Channels as shown in chart below.

NOTES:

1. Numbers indicate identification numbers for the two memory quarters connected to a channel when that channel is ON.
2. ON/OFF indicates that all memory quarters are taken by higher-priority channels, and it makes no difference whether this channel is ON or OFF.
3. OFF indicates that this channel must be OFF to have this condition.

A	B	C	D
1,2	OFF	OFF	OFF
OFF	3,4	OFF	OFF
OFF	OFF	1,2	OFF
OFF	OFF	OFF	3,4
*1,2	3,4	ON/OFF	ON/OFF
1,2	OFF	3,4	ON/OFF
1,2	OFF	OFF	3,4
OFF	3,4	1,2	ON/OFF
OFF	3,4	OFF	1,2
OFF	OFF	1,2	3,4

*Recommended usage for two-channel operation.

QUARTER

Each memory quarter is connected to a specified Plug-in channel when that channel is ON. There is no change in quarter allocation when a channel is OFF.

Channel A always gets quarter 1
Channel B always gets quarter 2
Channel C always gets quarter 3
Channel D always gets quarter 4

ERRATA
(Cont'd)

Page 1-35:
In the line "rear panel will equal ±125 mV (2^2/32)." (near middle of page), replace "±" symbol with "+".

Page 2-8:
Change "Figure 2-8" (middle of page) to "Table 2-8".
In Chart at bottom of page, change "MAAR1" to "MBAR1" to correspond to A2A14(L), and change "MBAR1" to "MAAR1" to correspond to A2A14(K).

Page 2-24:
Change "Figure 2-20" to "Table 2-20" (middle of page).

Page 2-37:
Change "Figure 2-9" to "Table 2-9" (middle of center panel on page).

Page 2-38:
In the DATA STORAGE diagram at bottom of page, the boxes with the numbers "-8" through "+1/64" represent the Vertical DAC. The numbers indicate the amount of vertical deflection caused by a "1" bit in each position (see Table 2-9).

Page 4-70:
At CLOSED LOOP (bottom of page): delete "Not used".

Page 4-97:
Line 130: change $\overline{\text{MBAP0}}$ to $\overline{\text{MBAR0}}$.
Line 131: change $\overline{\text{MBAR0}}$ to $\overline{\text{MAAR0}}$.
Line 132: change $\overline{\text{MBAP1}}$ to $\overline{\text{MBAR1}}$, and change K to L under A14.
Line 133: change L to K under 14.

Page 4-112:
Change J16 (BB) connection to A4A14(10) LD and FF line 13.

Page 4-146:
Line 62: delete "n" under P26.

Page 4-170:
Change 04588- to 05488-.

Page 4-175:
Change 0580- to 05480-.

SERVICE NOTES

SUPERSEDES:
5480A-1

HP MODEL 5480A SIGNAL ANALYZER

Serial Nos. below 928-00176

20 MHz TIME BASE REPLACEMENT

The Time Base Board (A2A12) has a new design for improved reliability and the elimination of two adjustments.

The installation of the new board requires the wiring of +5V to A2XA12 from the adjacent socket A2XA11. The old board should not be replaced unless it becomes defective.

PARTS AFFECTED BY CHANGE

Old No.: 05480-60021
New No.: 05480-60073

INSTALLATION PROCEDURE

1. Remove top cover of 5480A.
2. Using #18 buss, 11/16" (1.8 cm) long, wire between terminal 15 of A2XA11 and A2XA12.
3. Swing out A2 memory deck and replace 05480-60021 board with the 05480-60073 board. Replace deck to its normal position.
4. Turn on power and check for 20 MHz sine wave (3V amplitude at A2XA12 (2).

WH/sg/WO 1/70-2

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