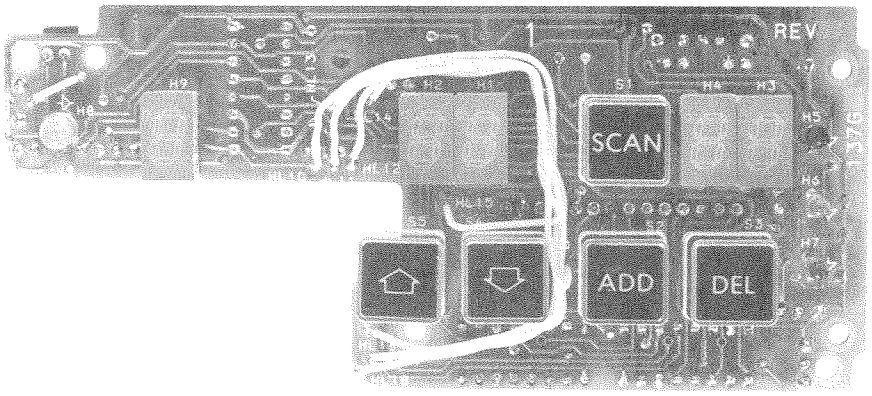
MOBILE RADIO

MAINTENANCE MANUAL

SIXTEEN CHANNEL DUAL PRIORITY SCAN
(Used with PHOENIX™ SX Mobile Radios)



SIXTEEN CHANNEL PROGRAMMABLE DUAL PRIORITY SCAN 19D901137G4

SPECIFICATIONS *

Controls	SCAN On-Off Channel Select Up Channel Select Down Scan Channel Add Scan Channel Delete
Indicators	SCAN On-Off Selected Channel Scanned Channel Priority 1 Channel Priority 2 Channel
Channel Scan Rate	Priority 1, every half second Priority 2, every two seconds Non-priority, 100 milliseconds per channel
Hang Time	2 seconds
Priority Signal Override	8 dB SINAD
Voltage Input	13.8 VDC ±20%
Memory Current (Radio Off)	120 mA Nominal

These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

GENERAL ELECTRIC

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ILLUSTRATIONS

Figure 1 - Phoenix-SX with Programmable Scan 2

CAUTION

SCAN is compatible with Tone Channel Guard only. DO NOT attempt to use Digital CG with SCAN.

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DESCRIPTION

The Dual Priority Scan is designed to monitor selected or designated channels in the Phoenix-SX mobile radios.

A Scan/Display Board located behind the Phoenix-SX radio front panel, provides control and display circuits for user selection of the following operating characteristics:

Channel Scan

- Any or all available channels (up to 16) may be selected for scanning.
- The scanned channels may be anywhere within the frequency band of the radio.

Dual Priority

- Priority 1 - The scan locks on this channel whenever a signal is present.
- Priority 2 - The scan locks on this channel except when a signal is present on the Priority 1 channel.

The Dual Priority Scan/Display board provides the following unique user features:

Front Panel Programming

- Select any of 16 channels for scanning.
- Establish Priority channels.
- Easy addition/deletion of channels to/from the Scan list.
- Easy channel selection.

The Dual Priority Scan/Display board also provides the following status displays:

- Selected transmit channel
- Channel being received
- Scan ON (red)
- Priority 1 channel being received (yellow)
- Priority 2 channel being received (green)
- Channel busy indicator (yellow)

Frequency Selection

The selection of channel frequencies is controlled by the CHANNEL select switches. When the CHANNEL up (∧) switch is pressed, the display will be incremented and when the CHANNEL down (∨) switch is pressed, the display will be decremented. If a switch is held for less than 660 milliseconds, the display is incremented/decremented to the next channel. If the display is on Channel 16, then it will be reset to Channel 1 when the up switch is pressed. If the CHANNEL select switch is held in, the channel display will ramp (up or down) until the switch is released. When the switch is released, the synthesizer is loaded with the frequency bit code corresponding to the indicated channel.

NOTE

If any switch is pressed while the radio is keyed (PTT), the microcomputer will ignore the switch command and take no action.

Channel Memory

In radios equipped with a type 8749 microcomputer, channel memory allows channel selection and display at any time. It is not dependent upon switched A+ (ignition turn on). Channel memory is enabled by removing W801 and adding insulated DA jumper from H63 to H64 - all on the Interconnect/Synthesizer board.

In radios equipped with a type 8049 microcomputer a separate 5 volt regulator, U2, on the display board, supplies current for channel memory. When the type 8049 microcomputer is used, J4 is connected to J810, J3 is connected to J811, and R832 is removed.

SCAN OPERATION

1. Front Programmable Priority (Option G0)

Three momentary push buttons on the display board are used to control SCAN functions. The SCAN ON/OFF button is a toggle type function which changes the SCAN state; on if off and off if already on. The ADD and DELETE buttons are used to select channels to be scanned. To add or delete a channel, the scan must be turned off. Use channel up (∧) or down (∨) buttons to select channels (1-16). A channel may be added by pressing ADD button once (Non-Priority). That channel will appear on the SCANNED CHANNEL DISPLAY. To add a level 2 Priority channel, press ADD button twice. PRI 2 indicator will come on. To select a level 1 Priority channel, press ADD button three times. PRI 1 indicator will come on. Any channel may be removed from SCAN by pressing the DELETE button once.

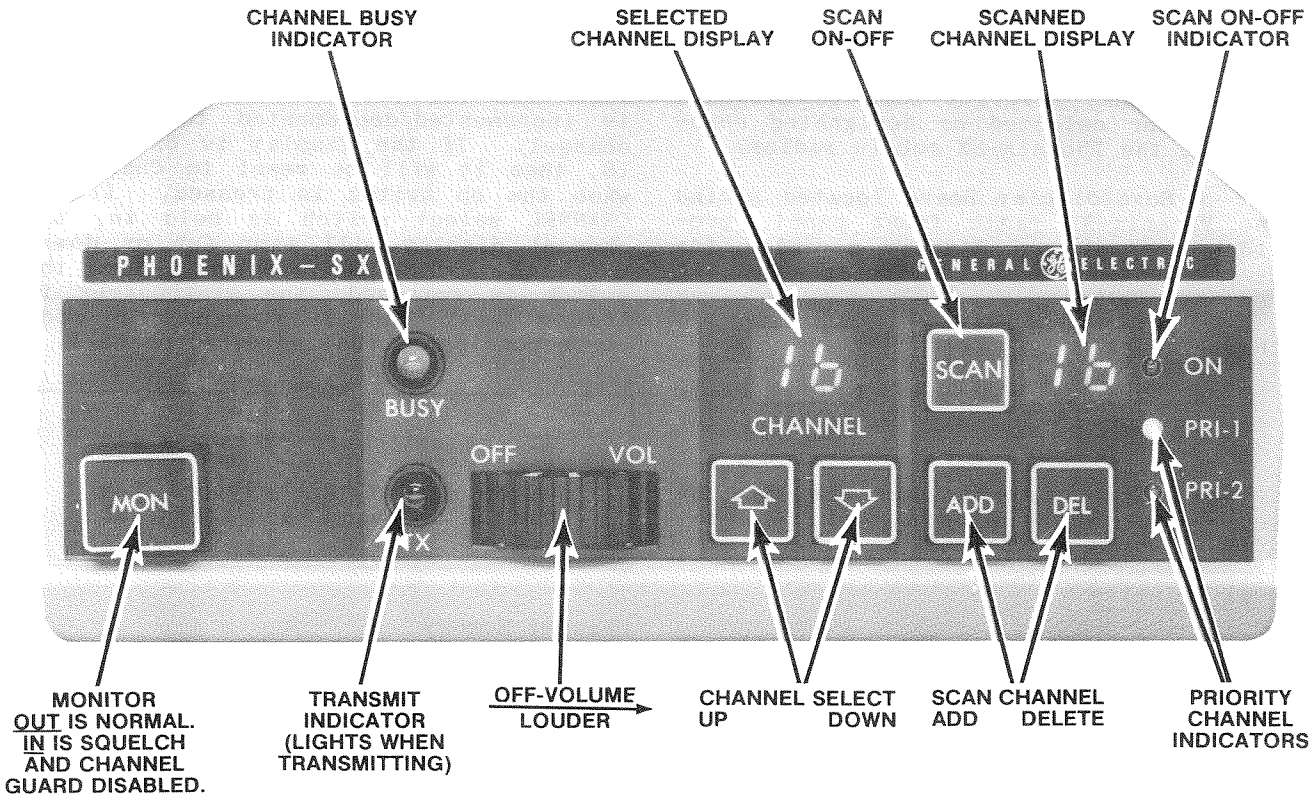

Figure 1 - Phoenix-SX With Programmable Scan

NOTE

A channel may be removed from SCAN when SCAN is ON if there is a carrier present on that channel.

2. Fixed Priority - Set in EEPROM (Option G1)

The Non-Priority and Level 2 Priority channels are selected, added or deleted as described for Front Programmable Priority.

The Level 1 Priority channel is programmed and fixed in the EEPROM in Channel 1 in the factory and can only be changed by reprogramming the EEPROM. Refer to PHOENIX-SX programming instructions for details.

3. Fixed Priority - Set by Channel Selection (Option G2)

The Non-Priority and Level 2 Priority channels are selected, added or deleted as described for Front Programmable Priority.

The Level 1 Priority follows the SELECTED channel when SCAN is turned on. To change, select another channel.

Scanning

It should be noted that, if desired, all 16 channels can be scanned with or without priority level. When SCAN is turned on, scanning of the selected channels starts immediately. Scan time is approximately 100 milliseconds per channel. If no carrier is on any scanning channel, then the order of scan is as follows:

N-N-N-N-P1-P2-N-N-N-N-P1-P1-N-N-N-N-P1-P2

where N is a scanning channel, P1 is the Level 1 Priority channel and P2 is the Level 2 Priority channel. As an example, consider channels 1-8 to be the scanned channels, with P1 being Channel 1 and P2 being Channel 8. The scanning order then would be:

N-N-N-N-P1-P2-N-N-N-N-P1-P2-N-N
1 2 3 4 1 8 5 6 7 8 1 8 1 2

since it takes approximately 100 milliseconds to scan each channel, then the Priority channels are sampled every 500 milliseconds and the Non-Priority channels get sampled at least once every 2 seconds.

Once a carrier is detected, the Receive Channel display will light up with that channel. If the channel is a Non-Priority channel, and there are no Priority channels, then scanning is halted. If only a Level 2 Priority channel is present, then it is scanned every two seconds. If there is only a Level 1 Priority channel, then it is sampled every 500 milliseconds. If there are Level 1 and Level 2 Priority channels, the sample rate is 500 milliseconds, where P1 is sampled 3 times in succession and then P2 is sampled once.

Hang Time

If the carrier on a Non-Priority channel disappears before a carrier is detected on a Priority channel, then a 2-second hang time is applied before scanning is resumed. However, during this time the Priority channels are still being sampled. The hang time is to prevent fades from causing big gaps in the audio signals.

If a carrier is detected on a Priority channel during the sample period, then the channel is immediately switched to the Priority channel and either the PRI-1 or PRI-2 indicator will turn on. If the carrier is on Priority 1 channel, scanning is stopped until the carrier goes away (plus the 2-second hang time). If the carrier is on Priority 2 channel, then Level 1 Priority channel is still sampled every 500 milliseconds. If there is no Priority 1 channel then scanning is stopped until the carrier disappears. Once a carrier is detected on the Level 1 Priority channel, the channel is switched to Priority 1 regardless of what is being received on another channel (Non-Priority or Priority 2).

Other Operating Characteristics

1. When the microphone is removed from the hookswitch, scanning will stop and revert to the SELECTED channel.

2. When PTT is pressed, scanning will stop and revert to the SELECTED channel before the transmitter is keyed.

3. SCAN ignores the presence of Channel Guard. This means scanning is stopped as soon as a carrier is detected and will remain on this channel regardless of whether the correct Channel Guard tone is present.

4. When scanning channels without a carrier, a slow squelch with hysteresis is used. This is why it takes 100 milliseconds on each channel. When sampling a Priority channel, a fast squelch circuit is switched in. If this squelch detects the Priority carrier, the Priority channel is switched in but the audio is muted until the slow squelch detects and the correct Channel Guard tone is present. This switching is done through the Hex D Flip-Flop which switches a capacitor in and out of the Squelch circuitry on the TR board. This same line is used to mute the audio signal while sampling the Priority channel to prevent speaker noise. The audio mute time is 50 milli seconds.

DISPLAYS

The Scan/Display board has four 7-segment displays, H1, H2, H3 and H4; a 7-segment display driver, U1, and a Hex D flip-flop, U2. H1-H2 show the selected channel and H3-H4 show the scan receive channel.

When SCAN is off, the Receive Channel display indicates if the selected channel is a scanning channel. If the selected channel is a scanning channel then the display shows the same number as the selected channel. If the selected channel is not a scanning channel, then the display is blank. When SCAN is on, the display indicates the channel currently being received. If there is no carrier on any of the scanning channels, the display will be blank.

Other displays are LED indicators H5, H6, H7 and H8. H5 is the SCAN ON/OFF indicator (red) and is lit when SCAN is on and is off when SCAN is off. H6 is the PRIORITY 1 indicator (yellow) and is on when the channel received is the Priority 1 channel. H7 is the PRIORITY 2 indicator (green) and is on when the channel received is the Priority 2 channel. These three indicators along with the tens digit of the selected and receive channel displays are driven from the Hex D flip-flop U2. H8 is the BUSY (CAS) indicator (yellow) and is driven from the squelch circuit on the associated transmitter/receiver board.

MAINTENANCE

DISASSEMBLY (Refer to Application Assembly)

- To remove the Scan/Display board:

  1. Remove the top and bottom cover.
  2. Remove the four screws securing the front panel to the "H" frame and remove the front panel.
  3. Disconnect P1/J1 (W1) and P1-A,B,C/J801 (W2) connectors.
  4. Remove five screws securing Scan/Display board to the front panel.

REPLACING CHIP COMPONENTS

Replacement of chip capacitors should always be done with a temperature-controlled soldering iron, using a controlled temperature of 700°F (371°C). However, do NOT touch black metal film of the resistors or the ceramic body of capacitors with the soldering iron.

NOTE

The metalized end terminations of the parts may be touched with the soldering iron without causing damage.

REMOVING CHIP COMPONENTS

1. Grip the component with tweezers or needle nose pliers.
2. Alternately heat each end of the chip in rapid succession until solder flows, and then remove and discard the chip.
3. Remove excess solder with a vacuum solder extractor or Solder-wick®.
4. Carefully remove the epoxy adhesive and excess flux to prevent damage to the printed board.

TO REPLACE CHIP COMPONENTS

1. Using as little solder as possible, "tin" one end of the component and one of the pads on the printed wiring board.
2. Place the "tinned" end of the component on the "tinned" pad on the board and simultaneously touch the component and the pad with a well "tinned" soldering iron while pressing the component down on the board.
3. Place the "tinned" soldering iron on the other end of the component and the pad simultaneously. Apply solder to the top of the end of the component until the solder starts to flow. Use as little solder as possible while getting a good joint.
4. After the component has cooled, remove all flux from the component and printed wiring board area with alcohol.

REMOVING IC'S

Removing IC's (and all other soldered-in components) can be easily accomplished by using a de-soldering tool such as a SOLDA●PULLT® or equivalent. To remove an IC, heat each lead separately on the solder side and remove the old solder with the de-soldering tool.

CAUTION

The COMOS Integrated Circuit devices used in this equipment can be destroyed by static discharges. Before handling one of these devices, the serviceman should discharge himself by touching the case of a bench test instrument that has a 3-prong power cord connected to an outlet with a known good earth ground. When soldering or de-soldering a CMOS device, the soldering iron should also have a 3-prong power cord connected to an outlet with a known good earth ground. A battery-operated soldering iron may be used in place of the regular soldering iron.

GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

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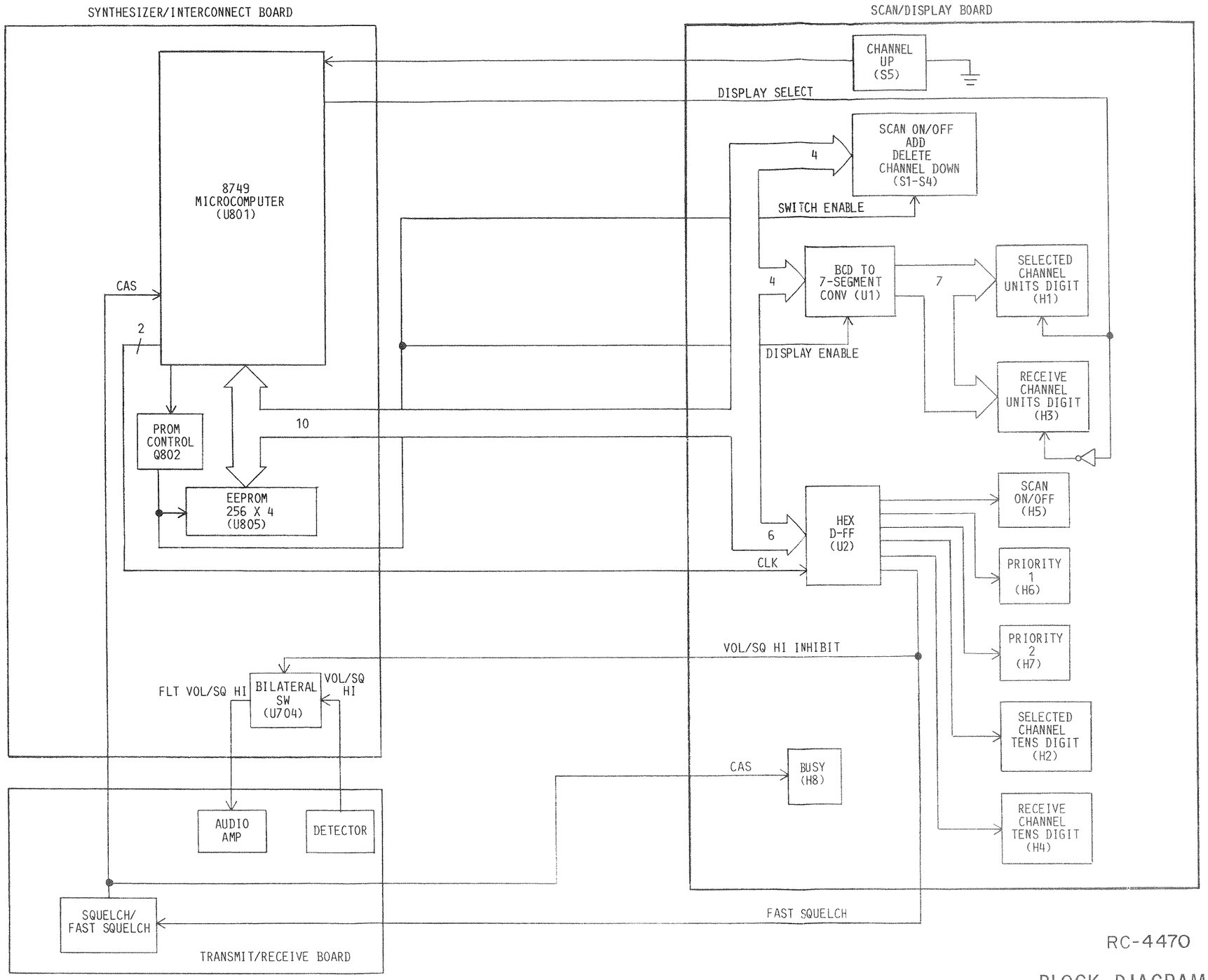
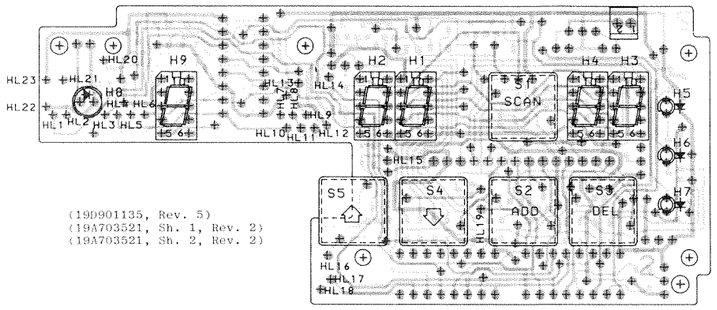
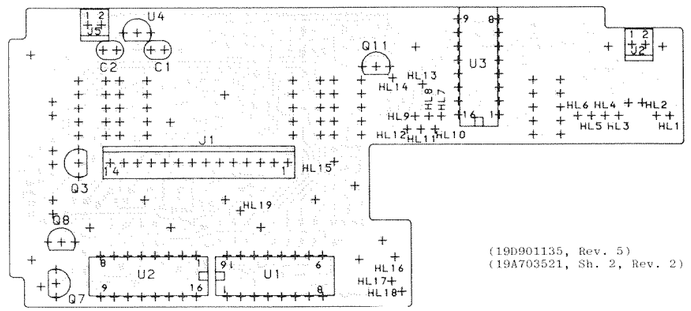


RC-4470

BLOCK DIAGRAM



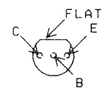
(19D901135, Rev. 5)
(19A703521, Sh. 1, Rev. 2)
(19A703521, Sh. 2, Rev. 2)



(19D901135, Rev. 5)
(19A703521, Sh. 2, Rev. 2)

BACK VIEW

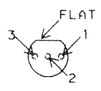
LEAD IDENTIFICATION
FOR Q3,Q7,Q8,AND Q11



IN-LINE
TOP VIEW

NOTE: CASE SHAPE IS DETERMINING FACTOR FOR LEAD IDENTIFICATION.

LEAD IDENTIFICATION
FOR U4

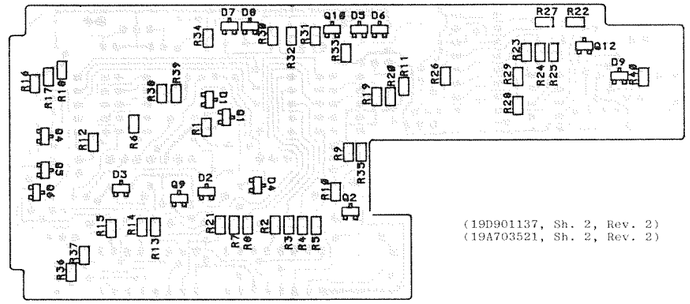


TRIANGULAR
TOP VIEW

NOTE: LEAD ARRANGEMENT IS DETERMINING FACTOR FOR LEAD IDENTIFICATION.

CONNECTION CHART

FROM	TO	WIRE
W2	HL1	SF24-O
↑	HL2	↑ -BK
|	HL3	| -BR
|	HL4	| -BL
|	HL5	| -G
|	HL6	| -R
|	HL7	| -Y
↓	HL8	↓ -V
W2	HL9	SF24-W
HL10	HL17	ST22-W
HL11	HL16	↑
HL12	HL18	|
HL13	HL19	|
HL14	HL15	|
HL20	HL21	↓
HL22	HL23	ST22-W



(19D901137, Sh. 2, Rev. 2)
(19A703521, Sh. 2, Rev. 2)

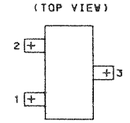
CAUTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

BACK VIEW OF COMPONENT BOARD

RUNS ON SOLDER SIDE
RUNS ON BOTH SIDES
RUNS ON COMPONENT SIDE

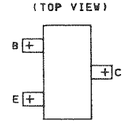
LEAD IDENTIFICATION FOR (SOT) DIODES

(TOP VIEW)



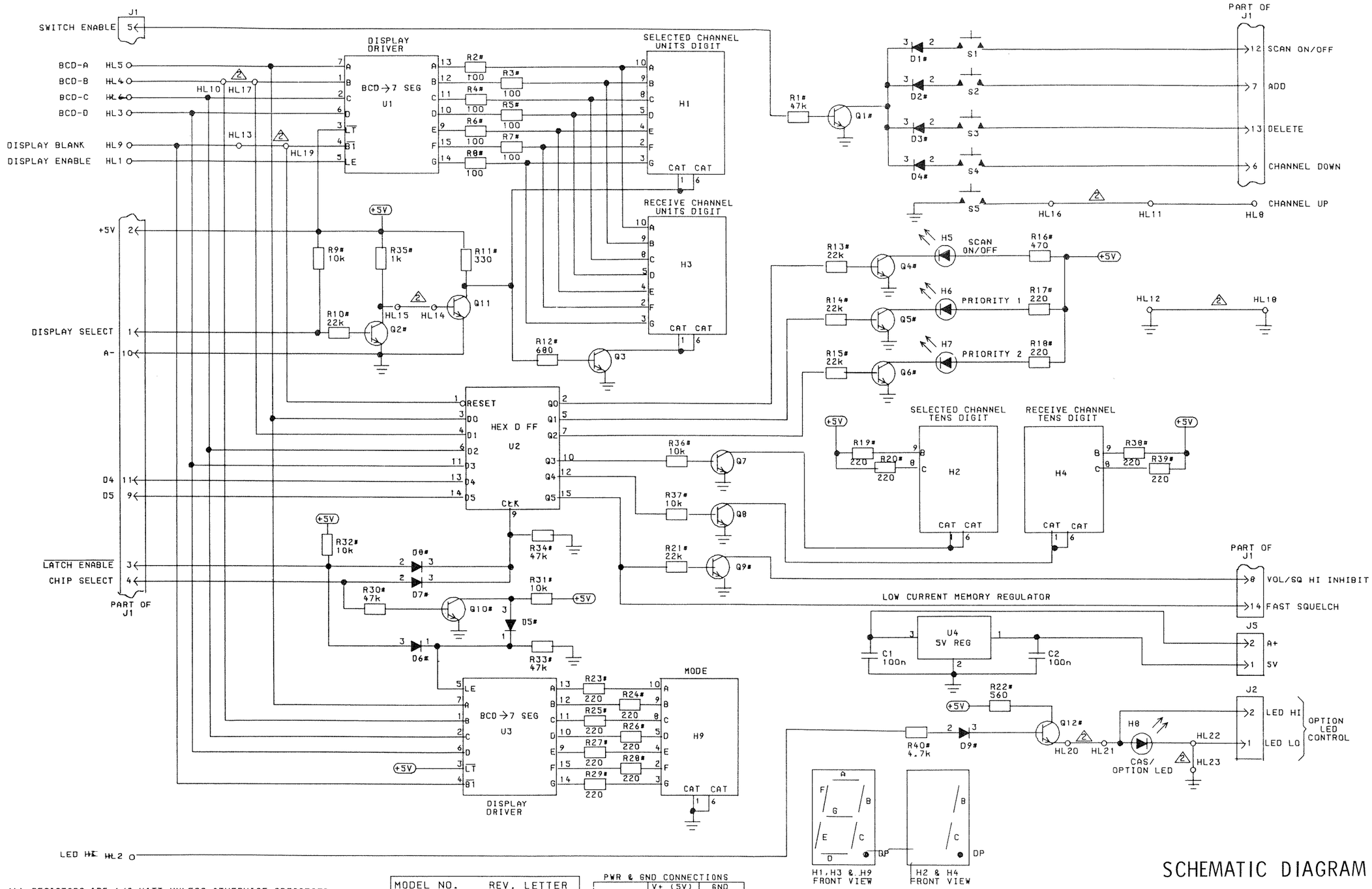
LEAD IDENTIFICATION FOR (SOT) TRANSISTORS

(TOP VIEW)



OUTLINE DIAGRAM

SCAN DISPLAY BOARD
19D901137



ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES IN Ω UNLESS FOLLOWED BY MULTIPLIER k OR M.
CAPACITOR VALUES IN F UNLESS FOLLOWED BY MULTIPLIER μ,n OR p.
INDUCTANCE VALUES IN H UNLESS FOLLOWED BY MULTIPLIER m OR μ.

MODEL NO.	REV. LETTER
PL19D901137G4	
PL19D901137G5	

PWR & GND CONNECTIONS

DEVICE	V+ (5V) PIN NO	GND PIN NO
U1,U2,U3	16	8

NOTES:
1. # IDENTFIES "CHIP" COMPONENTS (EXAMPLE: R1#) WHICH ARE LOCATED ON SOLDER SIDE OF THE PWB.
2. JUMPERS ARE ST22-W.

SCHEMATIC DIAGRAM

SCAN DISPLAY BOARD
19D901137G4

PARTS LIST

DUAL PRIORITY SCAN DISPLAY BOARD
19D901137G4
19D901137G5 (GOLD CONTACTS)

ISSUE 2

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1 and C2	19A700121P6	Ceramic: 0.1 uF ±20%50 VDCW.
		- - - - - - - - - - DIODES - - - - - - - - - -
D1 thru D9	19A700053P2	Silicon, fast recovery (2 diodes in series).
H1 thru H4	19A703607P4	Display, Optoelectronic green; 7 segment, sim to Hewlett Packard HDSP-7803
H5	19A703595P4	Optoelectronic red; sim to Hewlett Packard HLMP-1301
H6	19A703595P5	Optoelectronic yellow; sim to Hewlett Packard HLMP-1401
H7	19A703595P6	Optoelectronic: green; sim to Hewlett Packard HLMP-1503.
H8	19A134354P9	Optoelectronic: yellow: HP sim to HLMP4719.
H9	19A703607P4	Display, Optoelectronic green; 7 segment, sim to Hewlett Packard HDSP-7803
		- - - - - - - - - - JACKS - - - - - - - - - -
J1	19A700072P40	Printed wire: 14 contacts rated at 2.5 amps; sim to Molex 22-27-2141. (Group 4).
J1	19A704852P40	Printed wire: 14 contacts rated at 2.5 amps; sim to Molex 22-27-2141. (Gold Contacts - Group 5).
J2	19A700072P28	Printed wire: 2 contacts rated @ 2.5 amps; sim to Molex 22-27-2021.
J3 and J4	19A703248P1	Contact, electrical.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1 and Q2	19A700076P2	Silicon, NPN.
Q3	19A700023P2	Silicon, NPN; sim to Type 2N3904.
Q4 thru Q6	19A700076P2	Silicon, NPN.
Q7 and Q8	19A700023P2	Silicon, NPN; sim to Type 2N3904.
Q9 and Q10	19A700076P2	Silicon, NPN.
Q11	19A700023P2	Silicon, NPN; sim to Type 2N3904.
Q12	19A700076P2	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	19B800607P473	Metal film: 47K ohms ±5%, 200 VDCW, 1/8 w.
R2 thru R8	19B800607P101	Metal film: 100 ohms ±5%, 200 VDCW, 1/8 w.
R9	19B800607P103	Metal film: 10K ohms ±5%, 200 VDCW, 1/8 w.
R10	19B800607P223	Metal film: 22K ohms ±5%, 200 VDCW, 1/8 w.
R11	19B800607P331	Metal film: 330 ohms ±5%, 200 VDCW, 1/8 w.
R12	19B800607P681	Metal film: 680 ohms ±5%, 200 VDCW, 1/8 w.
R13 thru R15	19B800607P223	Metal film: 22K ohms ±5%, 200 VDCW, 1/8 w.
R16	19B800607P471	Metal film: 470 ohms ±5%, 200 VDCW, 1/8 w.
R17 thru R20	19B800607P221	Metal film: 220 ohms ±5%, 200 VDCW, 1/8 w.
R21	19B800607P223	Metal film: 22K ohms ±5%, 200 VDCW, 1/8 w.
R22	19B800607P561	Metal film: 560 ohms ±5%, 200 VDCW, 1/8 w.
R23 thru R29	19B800607P221	Metal film: 220 ohms ±5%, 200 VDCW, 1/8 w.
R30	19B800607P473	Metal film: 47K ohms ±5%, 200 VDCW, 1/8 w.
R31 and R32	19B800607P103	Metal film: 10K ohms ±5%, 200 VDCW, 1/8 w.
R33 and R34	19B800607P473	Metal film: 47K ohms ±5%, 200 VDCW, 1/8 w.
R35	19B800607P102	Metal film: 1K ohms ±5%, 200 VDCW, 1/8 w.
R36 and R37	19B800607P103	Metal film: 10K ohms ±5%, 200 VDCW, 1/8 w.
R38 and R39	19B800607P221	Metal film: 220 ohms ±5%, 200 VDCW, 1/8 w.
R40	19B800607P472	Metal film: 4.7K ohms ±5%, 200 VDCW, 1/8 w.
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S1 thru S5	19A701324P2	Push: sim to IEE/Schadow Series MDP Module.
		- - - - - - - - INTEGRATED CIRCUITS - - - - - - - -
U1	19A700029P204	Digital: BCD-TO-SEVEN SEGMENT LATCH/DECODER/DRIVER.
U2	19A700029P53	Digital: HEX D FLIP-FLOP. 4174B.
U3	19A700029P204	Digital: BCD-TO-SEVEN SEGMENT LATCH/DECODER/DRIVER.
U4	19J706031P1	Linear: POSITIVE VOLTAGE REGULATOR.
		- - - - - - - - - - CABLES - - - - - - - - - -
		CABLE ASSEMBLY 19C851186G1
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1A		Connector. Includes:
	19A700041P28	Shell.
	19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 2).
P1B		Connector. Includes:
	19A700041P30	Shell.
	19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 4).
P1C		Connector. Includes:
	19A700041P31	Shell.
	19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 3).
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19C850665P1	Pushbutton. (Used with S1-S5).
	19A701699P12	Nameplate. (ARROW).
	19A701699P16	Nameplate. (SCAN).
	19A701699P14	Nameplate. (ADD).
	19A700699P15	Nameplate. (DEL).
		ASSOCIATED ASSEMBLIES
		SCAN INTERCONNECT CABLE 19C851180G1
A1		INTERCONNECT BOARD 19C851184G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1 thru C4	19A702061P45	Ceramic: 47 pF ±5%. 50 VDCW, temp coef 0 ±30 PPM.

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1	19A702517P1	Contact, electrical.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1		CABLE 19C851180G2
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1		Connector. Includes:
	19A700041P40	Shell.
	19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 14).

PARTS LIST

MIKE HANGER/HOOKSWITCH
19C320318G4
ISSUE 2

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S2	19A116676P1	Sensitive: SPDT, 5 amps at 24 VDC or 5 amps at 250 VRMS; sim to Microswitch 111SM1-T2.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1	19A129414G1	2 conductor cable: approx 5 feet long, includes (2) 19A116781P5 contacts.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19B219694P1	Base plate.
	19B219698G5	Housing.
	19A702464P2	Strain relief. (W1).
	N193P1410C6	Tap screw, phillips head: No. 8-18 x 5/8. (Secures assembly to mounting surface).
		ASSOCIATED PARTS
		MIKE KIT 714141462
	4031457P1	Support.
	4031458P1	Spring.
	N193P1408C6	Tap screw, phillips head: No. 8-18 x 1/2.
	19A116773P105	Tap screw, phillips POZIDRIV®: No. 7-19 x 5/16.

PARTS LIST

3 x 5 INCH SPEAKER
19C850550G1 DASH MOUNT - 4 OHM
19C850550G2 WINDOW MOUNT - 4 OHM
19C850550G3 DASH MOUNT - 8 OHM
19C850550G4 WINDOW MOUNT - 8 OHM
ISSUE 4

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - LOUDSPEAKERS - - - - - - - - -
LS1	19A702080P3	Permanent magnent: 3 x 5 inch, 4 ohms ±10% imp at 400 Hz, 18 w.
LS2	19A702080P4	Permanent magnent: 3 x 5 inch, 8 ohms ±10% imp at 400 Hz, 18 w.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1	19A129414G1	2 conductor cable: approx 5 feet long, includes (2) 19A116781P5 contacts.
W2	19B226189G1	Window mount: approx. 17 inches retracted, 84 inches extended. (Includes 2 19A116781P5 contacts).
		BREAKAWAY MOUNTING KIT 19A129461G1
	19C320022P1	Retaining bracket. (With locking jaws).
	19B219578G1	Safety Release Disc. (Mates with mounting surface).
	N187P16010C6	Machine screw, hexhead, slotted: No. 10-32 x 5/8. (Quantity 1 - Used with safety release disc with retaining bracket0.
	N130P1612C6	Tap screw, thd. forming: No. 10-16 x 3/4. (Quantity 3 - Used without safety release disc & retaining bracket).
	N130P1624C6	Tap screw, thd. forming: No. 10-16 x 1-1/2. (Quantity 3 - Used without safety release disc & retaining bracket - for extra thick carpet).
	N402AP9C6	Flatwasher: No. 10. (Used with 10-16 thread forming screws).
		DASH MOUNT KIT FOR WINDOW MOUNT SPEAKER OPTION 19A130023G1 & G2
	19B226192G1	Housing. (G1 only).
	19B226190P1	Backing plate.
	19B226185P1	Clip bracket.
	N193P1408C6	Tap screw, phillips head: No. 8-18 x 1/2. (Secures backing plate to mounting surface).
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19B800534G1	Housing. (DASH MOUNT).
	19B800534G2	Housing. (WINDOW MOUNT).
	19C850549P1	Grille.
	19A702464P3	Strain relief. (Used with W1 window mount cable at housing).
	19A701354P2	Nameplate. (GENERAL ELECTRIC).
	19C320016P1	Mounting bracket. (Secures speaker assembly to mounting surface).
	19A701631P516	Machine screw: No. 10-32 x 5/16. (Secures speaker housing to mounting support).
	19A701312P7	Lockwasher: No. 10. (Secures speaker housing to mounting support).
	19A700033P10	Lockwasher, external tooth: No. 10. (Secures speaker housing to mounting support).
	19A116986P112	Screw, thread forming, assembled washer: Phillips POZIDRIV®, HI-LO thread, No. 7-19 x 3/4. (Secures grille to housing).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

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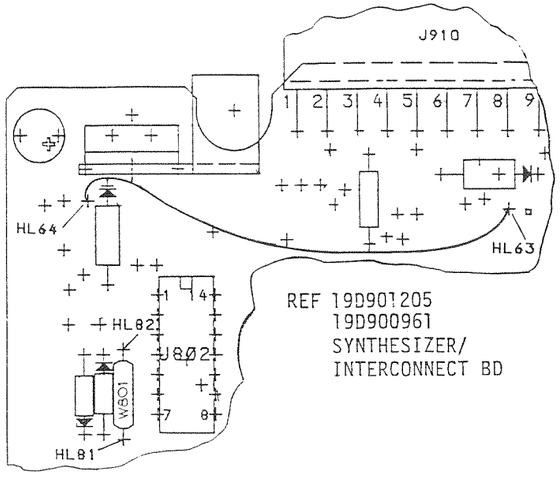
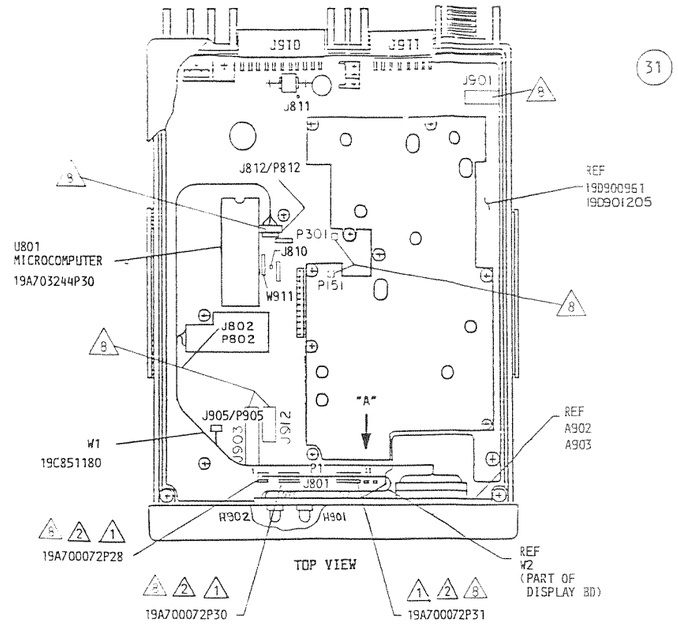


(16) CHANNEL MEMORY (200 MA MAX CONTINUOUS BATTERY DRAIN) USED WITH UV ERASABLE MICRO U801, 19A703134 ONLY.

NOTES:

1. ADD JUMPER SN22-W FROM HL63 TO HL64.
2. REMOVE JUMPER (W801) FROM HL81 TO HL82.



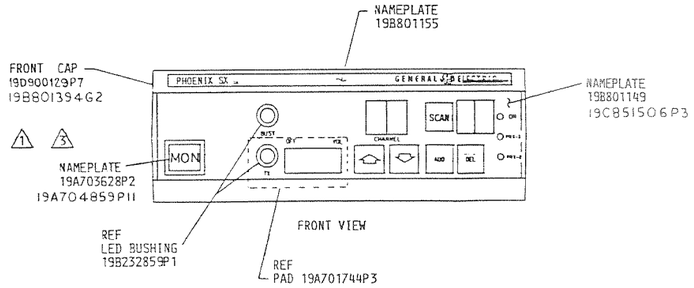
(31) 1-16 FREQ. DISPLAY/SCAN

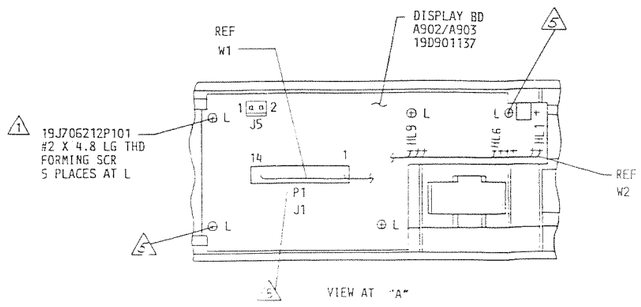
NOTES:

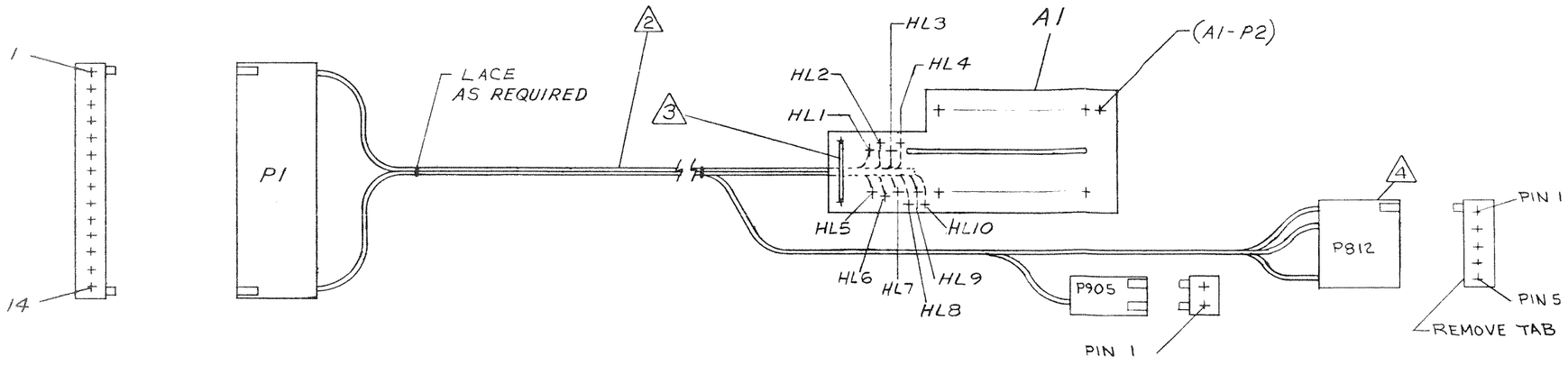
1. PART OF HARDWARE KIT 19A703634
2. SOLDER TO REARMOST HOLES OF J801 AS SHOWN PRIOR TO CONNECTION OF W2
3. REMOVE EXISTING NAMEPLATE NP280878P17, THEN INSTALL NAMEPLATE 19A703628P2.
4. DISCARD FOLLOWING ITEMS OF HARDWARE KIT 19A701522G9:

PAD	19A701744P1
SPACER	19A701328P1
BUSHING	19B232859P1 (QTY 1)

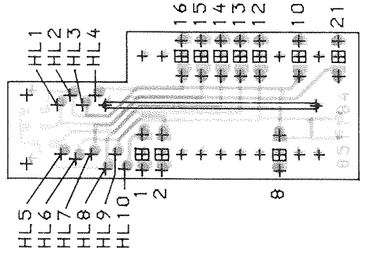
5. ASSEMBLE THESE 2 SCREWS FIRST TO LOCATE BOARD.
6. REMOVE W911
7. CONNECT CABLE 19B801312G1 FROM J5 ON A902 TO J810 (ORANGE WIRE) AND J811 (RED WIRE). WRAP WIRE AROUND J810, J811 AND SOLDER.
8. LUBRICATE J801, J802, J901, J903, J912, J812, J1, J905, P301, P151 PER PROCESS PGA-EA122 WITH 19A704532P1

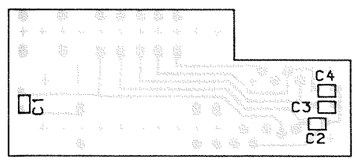




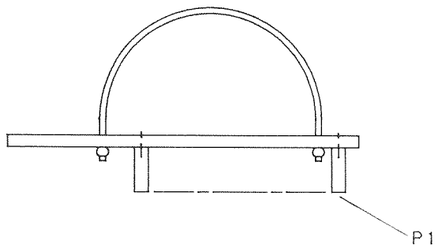


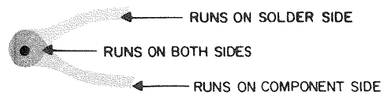
(19C851180, Rev. 4)





(19C851184, Rev. 2)
(19A703603, Sh. 2, Rev. 1)

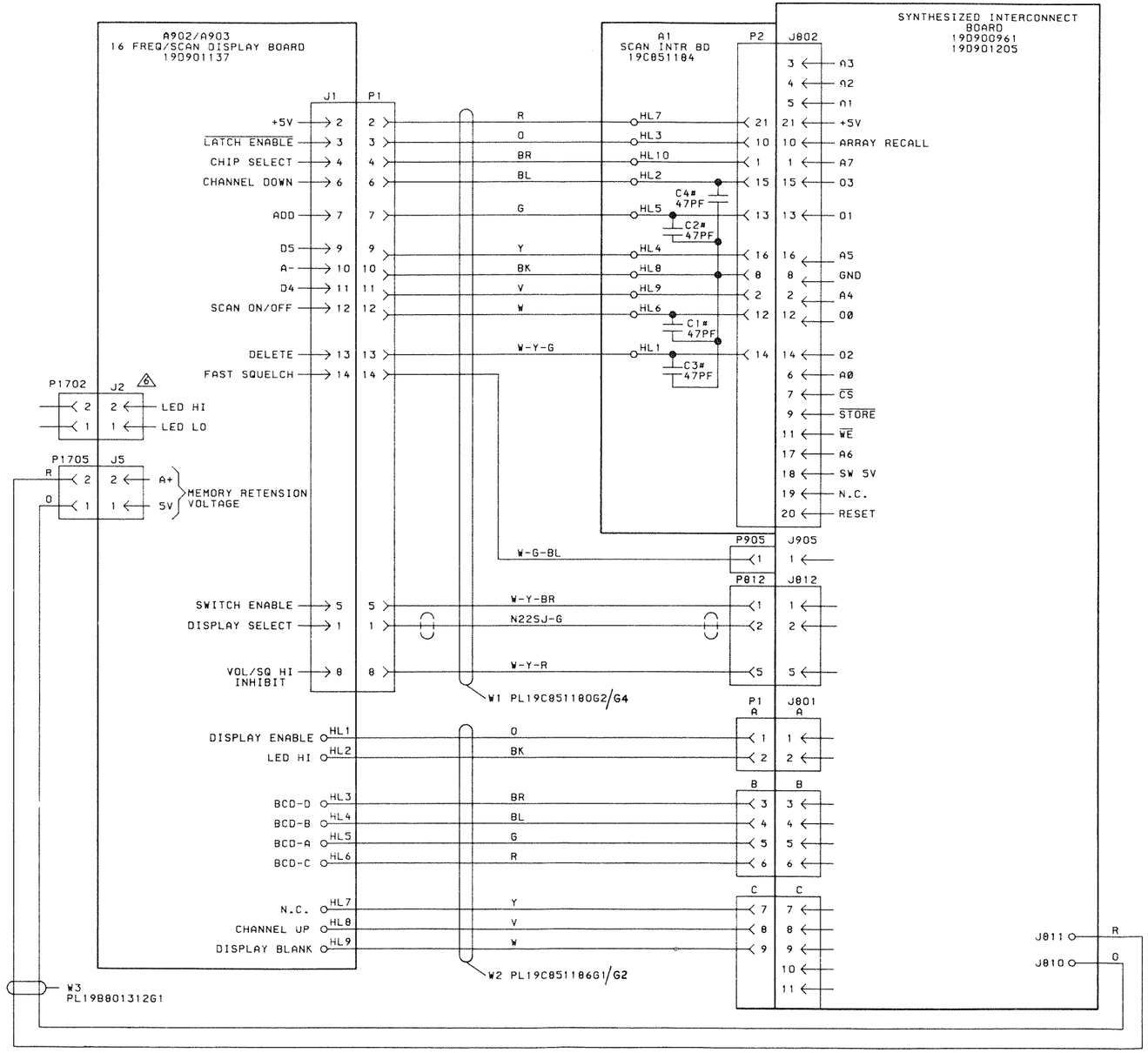




(19C851182, Rev. 1)
(19A703603, Sh. 1, Rev. 1)
(19A703603, Sh. 2, Rev. 1)

OUTLINE DIAGRAM

SCAN INTERCONNECT CABLE
19C851180G1
INTERCONNECT BOARD
19C851184G1



NOTE:
1. ALL WIRES ARE SF24 UNLESS OTHERWISE NOTED.
2. # DENOTES CHIP COMPONENT.
3. SOLDER WIRES AT J810,J811 TO SQUARE PINS.
4. REMOVE W911 ON SYNTHESIZED INTERCONNECT BOARD.