MAINTENANCE MANUAL
DISPLAY BOARD 19D901903G1

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FIGURES

FIGURE 1 - DISPLAY BOARD BLOCK DIAGRAM 1

DESCRIPTION

The Display board for the EDACS™ Desk Top Station provides the operator with information about the status of the radio. There are four seven-segment displays used as System and Group indicators, and 16 indicators which display the operation status of the Desk Top Station. The following indicators and displays are provided by the display board:

- GROUP
- SYSTEM
- EMERGENCY
- CONV
- CALL ID
- REMOTE INHIBIT
- STANDBY POWER
- SPEC CALL
- VOICE GUARD
- XMIT
- BUSY
- INCOM
- NC
- MUTE
- SCAN
- CG MONITOR
- PRIORITY 1
- PRIORITY 2

The Display board is mounted directly behind the front panel with the indicators visible.

CIRCUIT ANALYSIS

A block diagram of the Display board is shown in Figure 1. The Display board is driven by the latched data output from the System board received at connects J1 and J2. The data present at J1 and J2 depends on when the software latches the microprocessor data bus. Power is supplied to the board at J2-4(+13.8 Vdc) and J2-7(+5 Vdc). Ground connections are made at J2-9.

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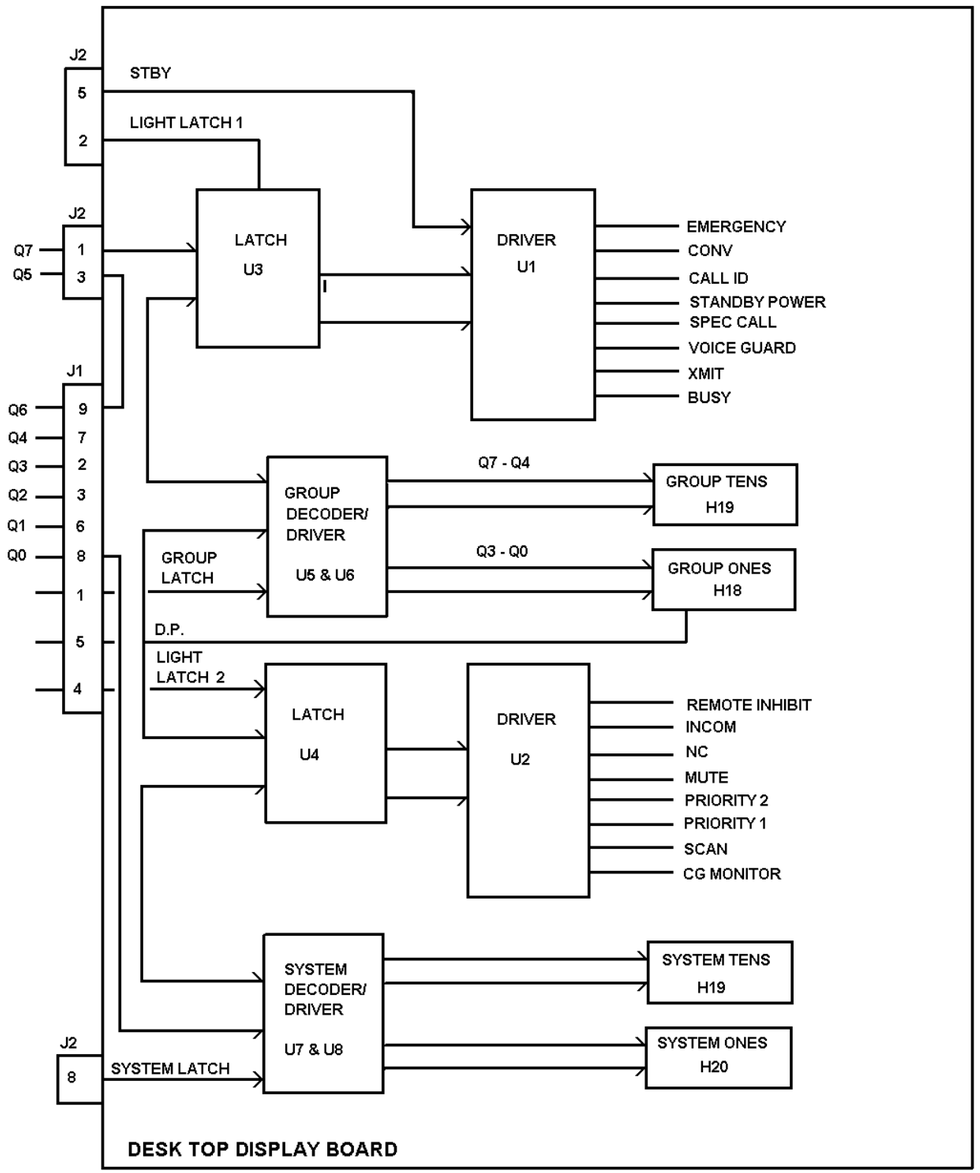


Figure 1 - Display Board Block Diagram

GROUP AND SYSTEM DISPLAYS

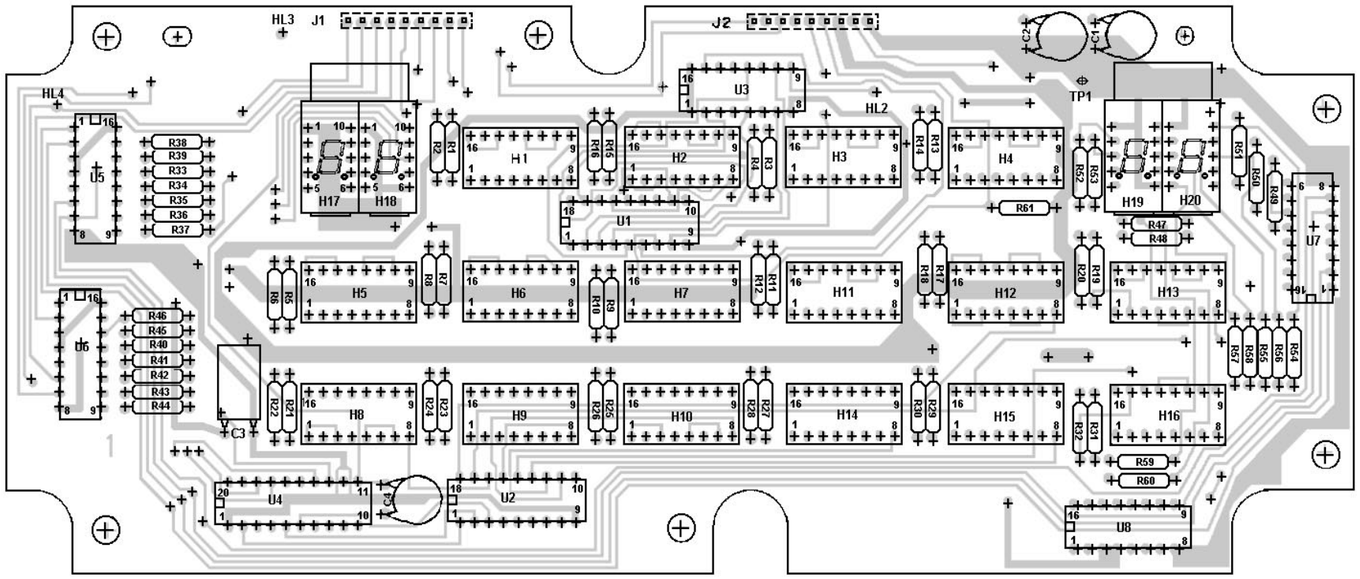
The GROUP display consists of two seven-segment displays (H17 and H18) and two corresponding BCD decoder/drivers (U5 and U6). Data lines Q4 thru Q7 drive the GROUP tens display, and data lines Q0 thru Q3 drive the GROUP ones display. When the GROUP LATCH line is enabled, the BCD value at the input of U5 and U6 is latched and displayed as a two-digit GROUP number. The D.P. (decimal point) line is driven by a microprocessor I/O port (2.7). When this line is low, the GROUP decimal point is displayed.

Basic operation of the SYSTEM display is identical to the GROUP display. The SYSTEM display consists of seven-segment displays H19 (tens) and H20 (ones), with corresponding BCD decoder/drivers U7 and U8. In this case when the SYSTEM LATCH (J2-8) line is enabled, the BCD value at the input of U7 and U8 is latched and displayed as a two-digit SYSTEM number.

OPERATION INDICATORS

There are sixteen operational indicators (H1 thru H16). The indicators are driven eight at a time, depending on when their data is latched by software. Indicators H1 thru H7 and H11 are driven by data latch U3 and driver U1. When the LIGHT LATCH 1 (J2-2) line is enabled, the data present at the input of U3 will drive the indicators on. The STBY line comes from an open-collector driver on the System board, and drives the STANDBY POWER indicator (H6). The XMIT indicator (H1) is driven by the PTT line (J2-6).

Indicators H8, H9, H10, H13 thru H16 are driven by data latch U4 and driver U2. When the LIGHT LATCH 0 (J1-4) line is enabled, the data present at the input of U4 will drive the corresponding indicators.



DISPLAY BOARD
19D901903G1

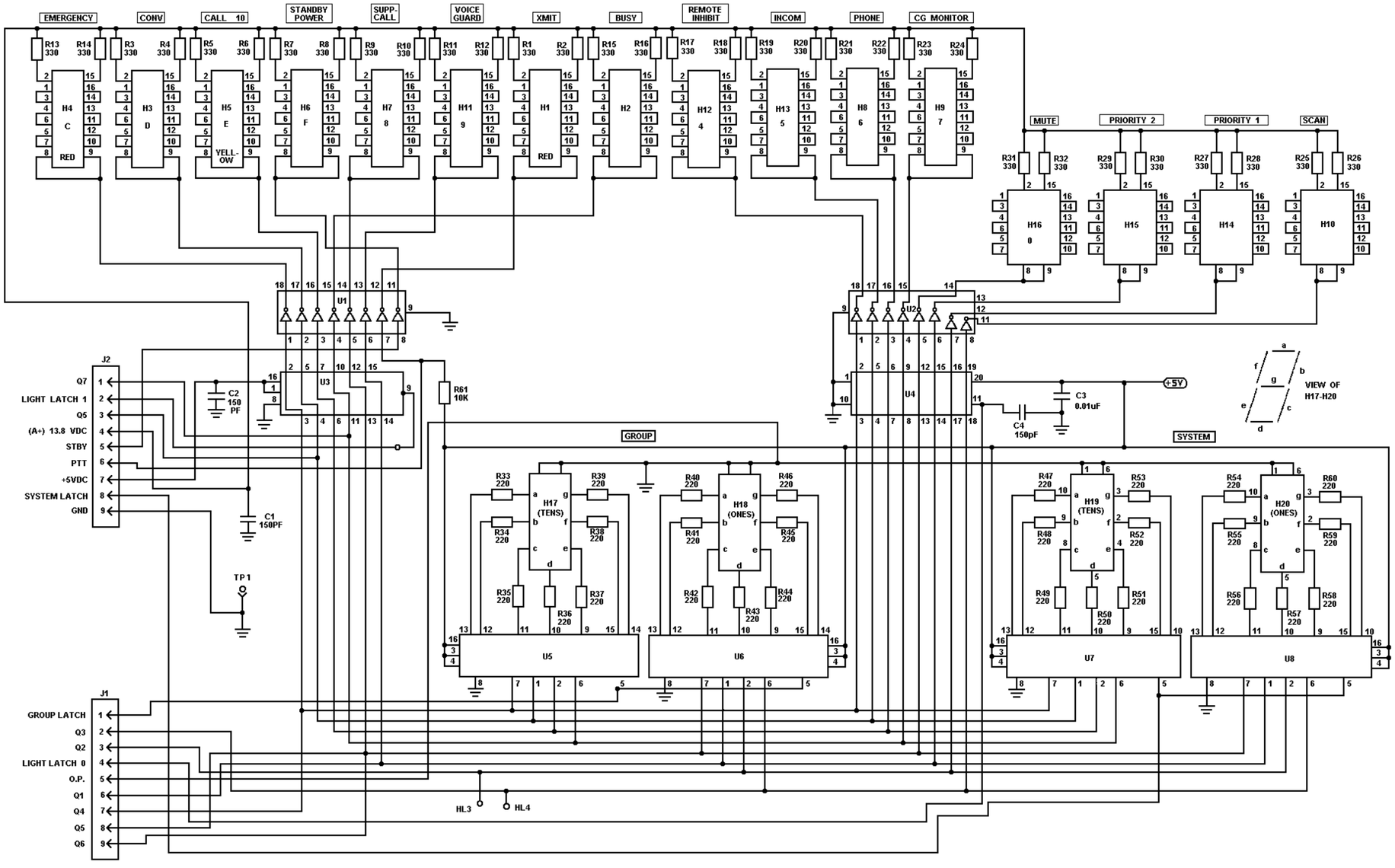
(19D901903, Sh. 1, Rev. 1)
(19A705151, Sh. 1, Rev. 1)

PARTS LIST

DISPLAY BOARD
19D901903G1
ISSUE 2

SYMBOL	GE PART NO.	DESCRIPTION
		-- -- -- -- -- -- -- -- CAPACITORS -- -- -- -- -- -- -- --
C1 and C2	19A700235P27	Ceramic: 150 pF ±5%, 50 VDCW.
C3	T644ACP310K	Polyester: .010 uF ±10%, 50 VDCW.
C4	19A700235P27	Ceramic: 150 pF ± 5%, 50 VDCW.
		-- -- -- -- -- -- -- -- -- -- -- LEDS -- -- -- -- -- -- -- --
H1	19A701919P4	Display, LED: Red; sim to HP HLMP-2685
H2 and H3	19A701919P6	Display, LED: Green; sim to HP HLMP-2885
H4	19A701919P4	Display, LED: Red; sim to HP HLMP-2685.
H5	19A701919P5	Display, LED: Yellow; sim to HP HLMP-2785.
H6 thru H16	19A701919P6	Display, LED: Green, sim to HP HLMP-2885.
H17 thru H20	19A134712P5	Display, LED: Green, 7-Segment; sim to HOSP 3603.
		-- -- -- -- -- -- -- -- -- JACKS -- -- -- -- -- -- -- -- --
J1 and J2	19A700072P8	Printed Wire: 9 contacts; sim to Molex 22-03-2091.
		-- -- -- -- -- -- -- -- RESISTORS -- -- -- -- -- -- -- -- --
R1 thru R32	H212CRP133C	Deposited carbon: 330 ohms ±5%, 1/4 w.
R33 thru R60	H212CRP122C	Deposited carbon: 220 ohms ± 5%, 1/4 w.
R61	H 212CRP310C	Deposited carbon: 10K ohms ±5%, 1/4 w.
		-- -- -- -- -- -- INTEGRATED CIRCUITS -- -- -- -- -- -- --
U1 and U2	19A134693P2	Interface: 7 Darlington Transistor Arrays; sim to ULN-2803A.
U3	19A700029P53	Digital: Hex Data Flip-Flop; sim to 4174B.
U4	19A700037P416	Digital: Tri-State Octal Data Flip-Flop: sim to74LS374.
U5 thru U8	19A700029P204	Digital: BCD-To-Seven Segment Latch/Decoder/ Driver; sim to 4511B.
		-- -- -- -- -- -- -- MISCELLANEOUS -- -- -- -- -- -- -- -- --
	19B800983P2	Spacer. (Used with H17-H20).
	19A701622P1	Cotter pin. (TP1).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



NOTES: 1. ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES IN Ω UNLESS FOLLOWED BY MULTIPLIER k OR M.
CAPACITOR VALUES IN F UNLESS FOLLOWED BY MULTIPLIER u, n OR p.
INDUCTANCE VALUES IN H UNLESS FOLLOWED BY MULTIPLIER m OR u.
2. MARKING SHOWN IN BLOCKS ▭ ARE PART OF DISPLAY PANEL 19D901886.

DISPLAY BOARD
19D901903G1

(19D901921, Sh. 1, Rev. 1)