ERICSSON ≥ | GE

Mobile Communications

KEY/DISPLAY BOARD
19D901905G1

KEYPAD/DISPLAY BOARD
19D901905G1
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - - LEDS - - - - - - - - - -
H1 thru H4	19A703607P4	Display, Optoelectronic green; 7 segment, sim to Hewlett Packard HDSP-7803
H5 thru H10	19A134354P4	Diode, optoelectronic: Green; sim to Hew. Packard 5082-4992.
H11	19A134354P5	Diode, optoelectronic: red; sim to Hew. Packard 5082-4693.
H12	19A134354P4	Diode, optoelectronic: Green; sim to Hew. Packard 5082-4992.
		- - - - - - - - - - - JACKS - - - - - - - - - - -
J1 and J2	19A700041P8	Printed wire: 9 contacts, sim to Molex 22-14-2094.
J3	19A700041P9	Printed wire: 10 contacts rated @ 2 1/2 amps; sim to Molex 22-14-2104.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	H212CRP310C	Deposited carbon: 10K ohms + or -5%, 1/4 w.
R2 thru R9	H212CRP168C	Deposited carbon: 680 ohms + or -5%, 1/4 w.
R10 thru R37	H212CRP122C	Deposited carbon: 220 ohms + or -5%, 1/4 w.
		- - - - - - - - - - SWITCHES - - - - - - - - -
S1 thru S9	19A701324P1	Push: contacts rated 1 mA at 10 volts; sim to IEE/Schadown 210091.
		- - - - - - - - INTEGRATED CIRCUITS - - - - - - -
U1	19A700029P53	Digital: HEX D FLIP-FLOP. 4174B.
U2	19A134693P2	Interface: sim to ULN-2803A.
U3 thru U6	19A700029P204	Digital: BCD-TO-SEVEN SEGMENT LATCH/DECODER/DRIVER.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19A143578P208	Spacer, threaded metallic.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

Maintenance Manual

DESCRIPTION

The Key/Display board for the EDACS Wall Mount Station provides an operator interface for local control of the station. There are four seven-segment displays used as System and Group indicators, and eight indicators (two unused) which display the operational status of the Wall Mount Station. The following indicators and displays are provided by the Key/Display board:

- GROUP
- SYSTEM
- INTERCOM
- REMOTE INHIBIT
- SCAN
- STANDBY POWER
- SYSTEM DOWN
- PTT

The Key/Display board is mounted directly below the radio unit. The board is accessible when the weather-resistant front panel is opened.

CIRCUIT ANALYSIS

A block diagram of the Key/Display board is shown in Figure 1. The Key/Display board is driven by the latched data output from the System board received at connectors 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 J1-4 (+13.8Vdc) and J1-7 (+5 Vdc). Ground connections are made at J1-9.

GROUP AND SYSTEM DISPLAYS

The GROUP display consists of two seven-segment displays (H1 and H2) and two corresponding BCD decoder/drivers (U3 and U4). 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 endabled, the BCD value at the input of U3 and U4 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 H3 (tens) and H4 (ones), with corresponding BCD decoder/drivers U5 and U6. In this case when the SYSTEM LATCH (J1-8) line is enabled, the BCD value at the input of U5 and U6 is latched and displayed as a two-digit SYSTEM number.

OPERATIONAL INDICATORS

There are eight operational indicators (H5 thru H12). The indicators are driven when their data is latched by software. Indicators H5 thru H12 are driven by latch U1 and driver U2. When the LIGHT LATCH 0 (J2-4) line is enabled, the data present at the input of U1 will drive the indicators on. The STBY line comes from an open-collector driver on the System board, and drives the STANDBY POWER indicator (H12). The PTT indicator (H11) is driven by the PTT line (J1-6).

CONTROL BUTTONS

There are nine pushbutton switches mounted on the Key/Display board that may be used for local control of the station. These switches connect to the System board through connector J3. When a switch is pressed, the corresponding line is held low (momentarily). The following pushbutton controls are provided:

- GROUP ▲
- SYSTEM ▲
- VOL ▲
- VOL ▼
- INTERCOM
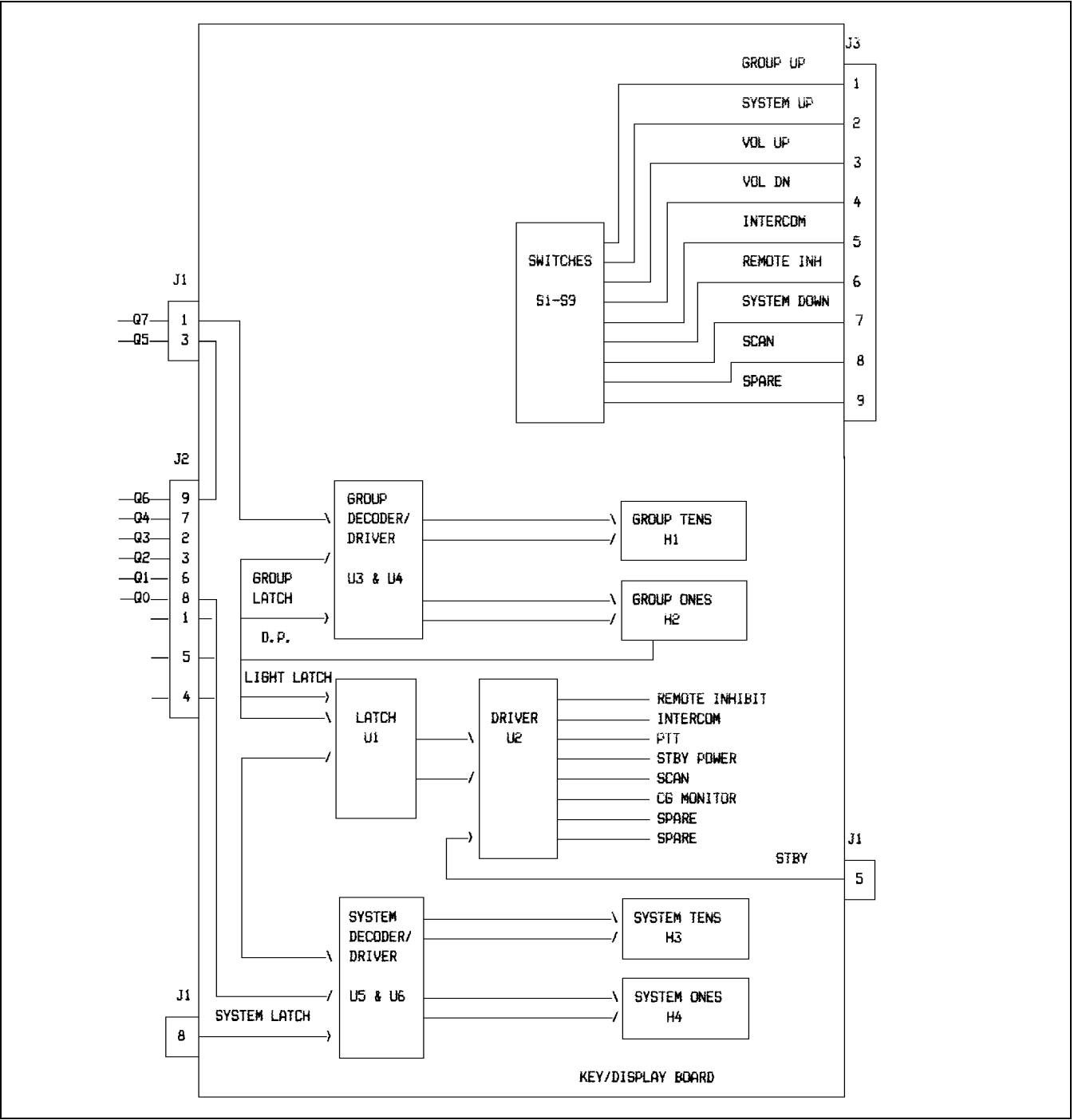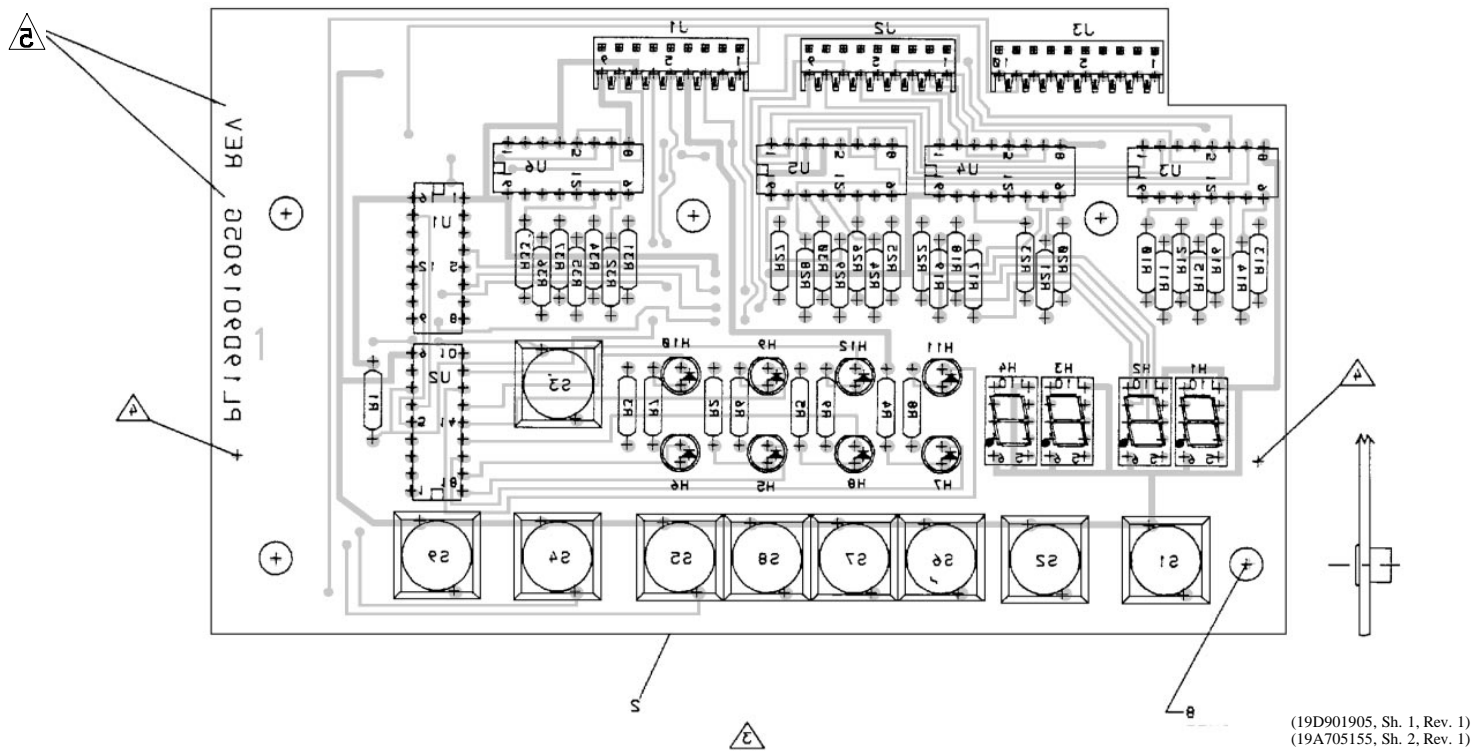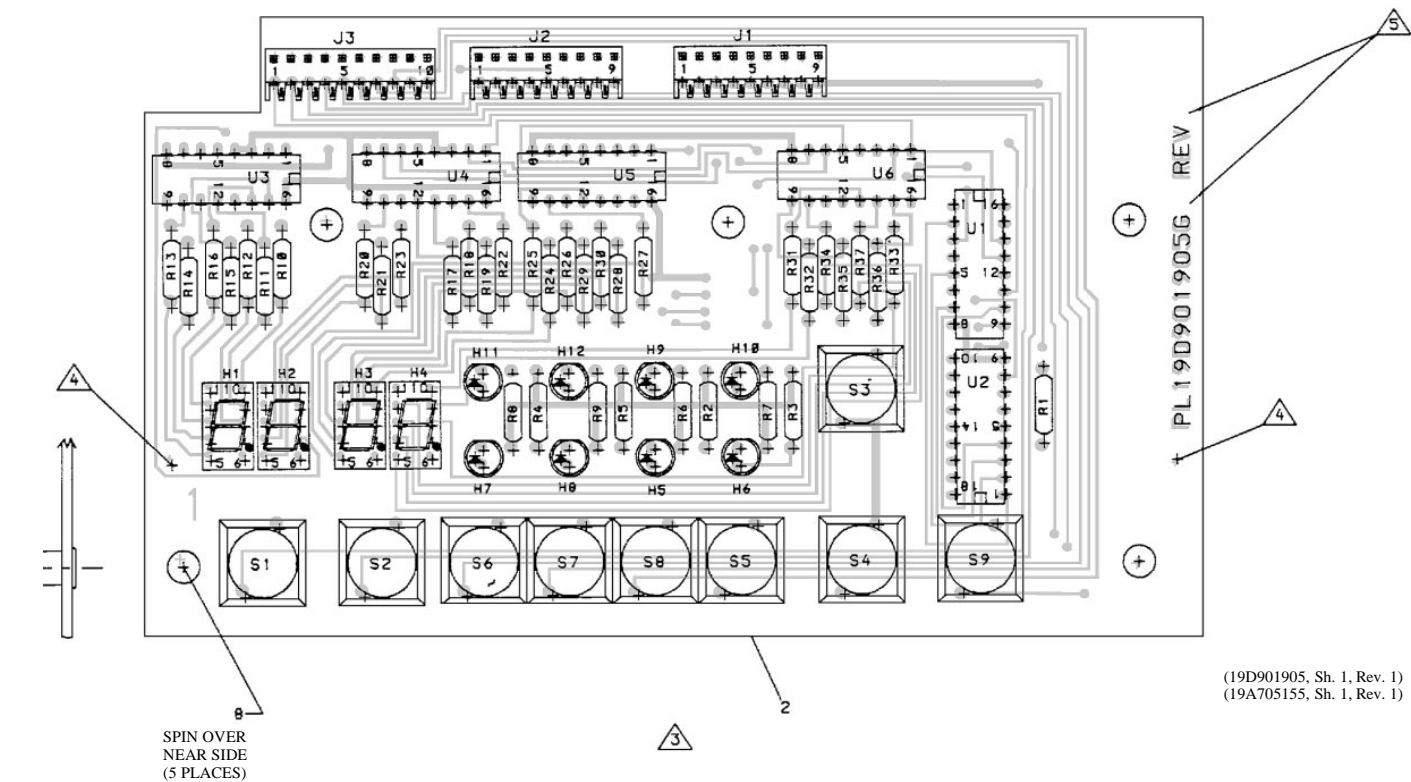- REMOTE INHIBIT
- SYSTEM DOWN
- SCAN

Figure 1 - Key/Display Board Block Diagram

(19D901905, Sh. 1, Rev. 1)
(19A705155, Sh. 1, Rev. 1)

SPIN OVER
NEAR SIDE
(5 PLACES)

NOTES:
1. SOLDER ALL ELECTRICAL CONNECTIONS.
2. COMPONENT LEADS TO PROTRUDE 1.5 MAX.
   BELOW SOLDER SIDE OF BOARD.
3. INDICATES FRONT OF COMPONENT AUTO-INSERTION
   MACHINES.
4. BOARD ERROR CORRECTION HOLES.

5. MARK APPLICABLE GROUP NUMBER AND REVISION
   LETTER PER 19A700154P1. SEE 19C851051 SH.4
   FOR LATEST REV. LTR.

(19D901905, Sh. 1, Rev. 1)
(19A705155, Sh. 2, Rev. 1)

KEY/DISPLAY BOARD
19D901905
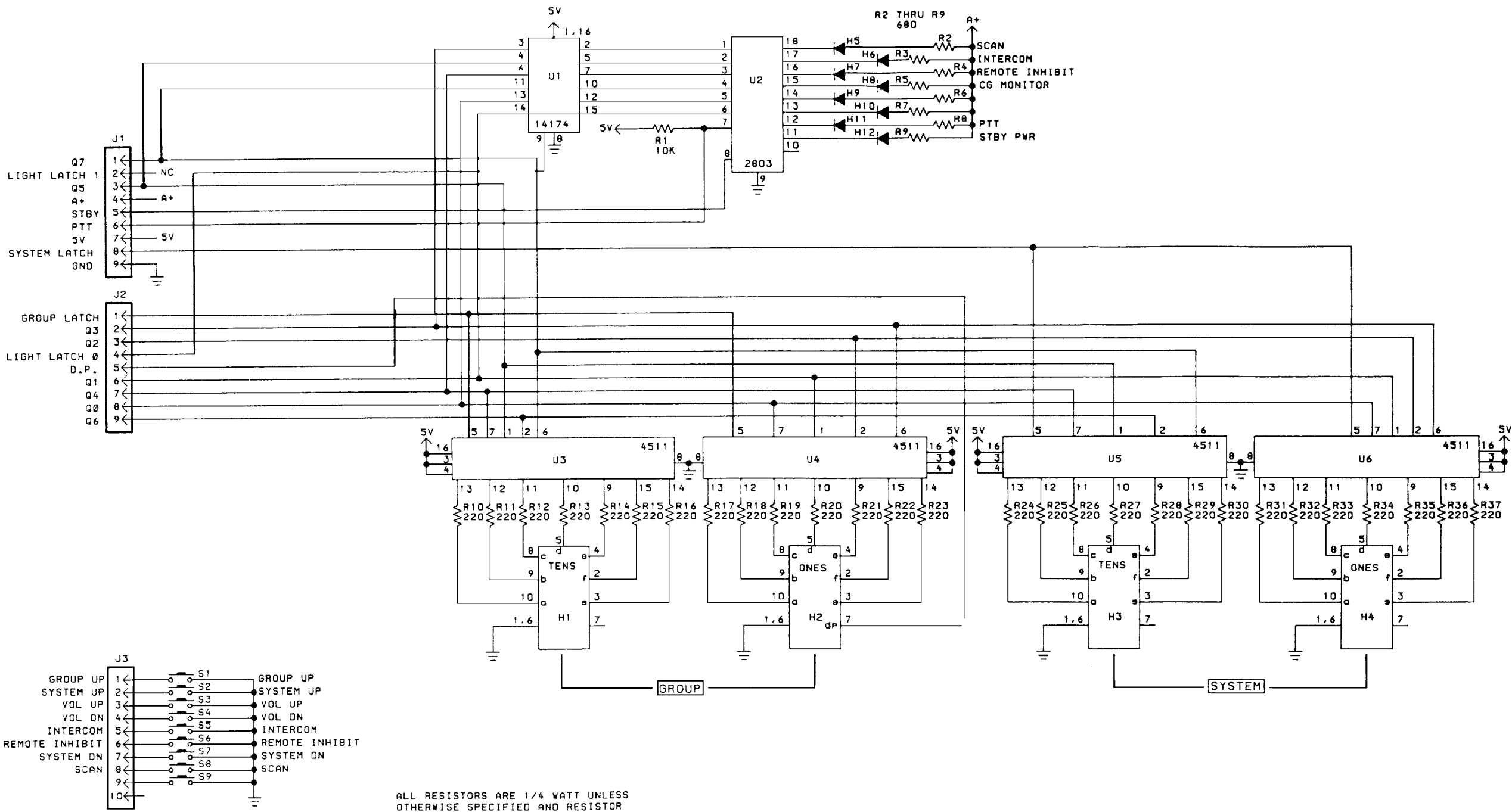
ALL RESISTORS ARE 1/4 WATT UNLESS
OTHERWISE SPECIFIED AND RESISTOR
VALUES IN OHMS UNLESS FOLLOWED BY
K-1000 OHMS OR MEG-1,000,000 OHMS.
CAPACITOR VALUES IN PICOFARADS (EQUAL
TO MICROMICROFARADS) UNLESS FOLLOWED
BY UF-MICROFARADS. INDUCTANCE VALUES
IN MICROHENRYS UNLESS FOLLOWED BY
MH-MILLIHENRYS OR H-HENRYS.

MODEL NO.	REV. LETTER
19D901905G1	A

KEY/DISPLAY BOARD
19D901922

(19D901922, Sh. 1, Rev. 2)