

INSTRUCTIONS FOR
GE-MARC V™ REPEATER STE FIELD KIT
19A144639G1

TABLE OF CONTENTS

	<u>Page</u>
DESCRIPTION	1
OUTLINE DIAGRAM (19C331734G1 STE BOARD)	2
SCHEMATIC DIAGRAM (19C331734G1 STE BOARD)	3
PARTS LISTS	4
INTERCONNECTION DIAGRAM (TRANSMITTER-EXCITER)	5
INTERCONNECTION DIAGRAM (RECEIVER-SYSTEM)	6
INSTALLATION INSTRUCTIONS	7

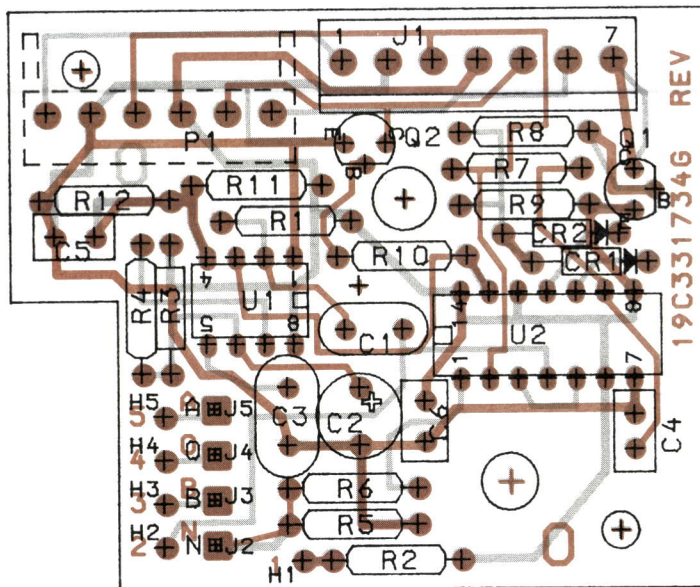
DESCRIPTION

The Repeater Squelch Tail Eliminator (STE) Board (19C331734G1) mounts on the GE-MARC V Repeater Tone Encoder Board. Field Installation Kit 19A144639G1 permits installing the STE board in existing repeaters. Connections are made by directly plugging the board onto the Encoder board and connecting a harness to the Encoder. The station harness plugs into the Repeater STE board. Strapping for testing tones in the field are now part of the STE board.

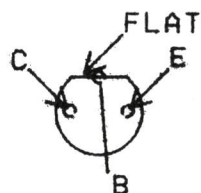
The Repeater STE Board provides approximately 900 milliseconds of carrier without BUSY TONE prior to unkeying the transmitter. As long as the TX OSC CONTROL signal is at logic 1, the low at NAND gate U2 (pin 10) holds Q1 on, keeping the transmitter keyed. When TX OSC CONTROL goes to logic 0, NAND gate U2 (pin 4) goes low, triggering the 555 timer U1. The high output of U1 at pin 3 operates Q2, muting the receiver. The logic 0 at U2 (pin 11) keeps Q1 operating for the duration of the 555 timer (approximately 900 ms) before the transmitter is unkeyed.

GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
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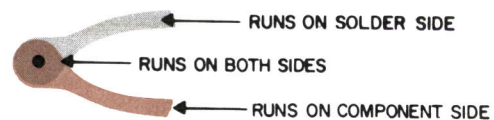
LEAD IDENTIFICATION FOR Q1 & Q2



TRIANGULAR TOP VIEW

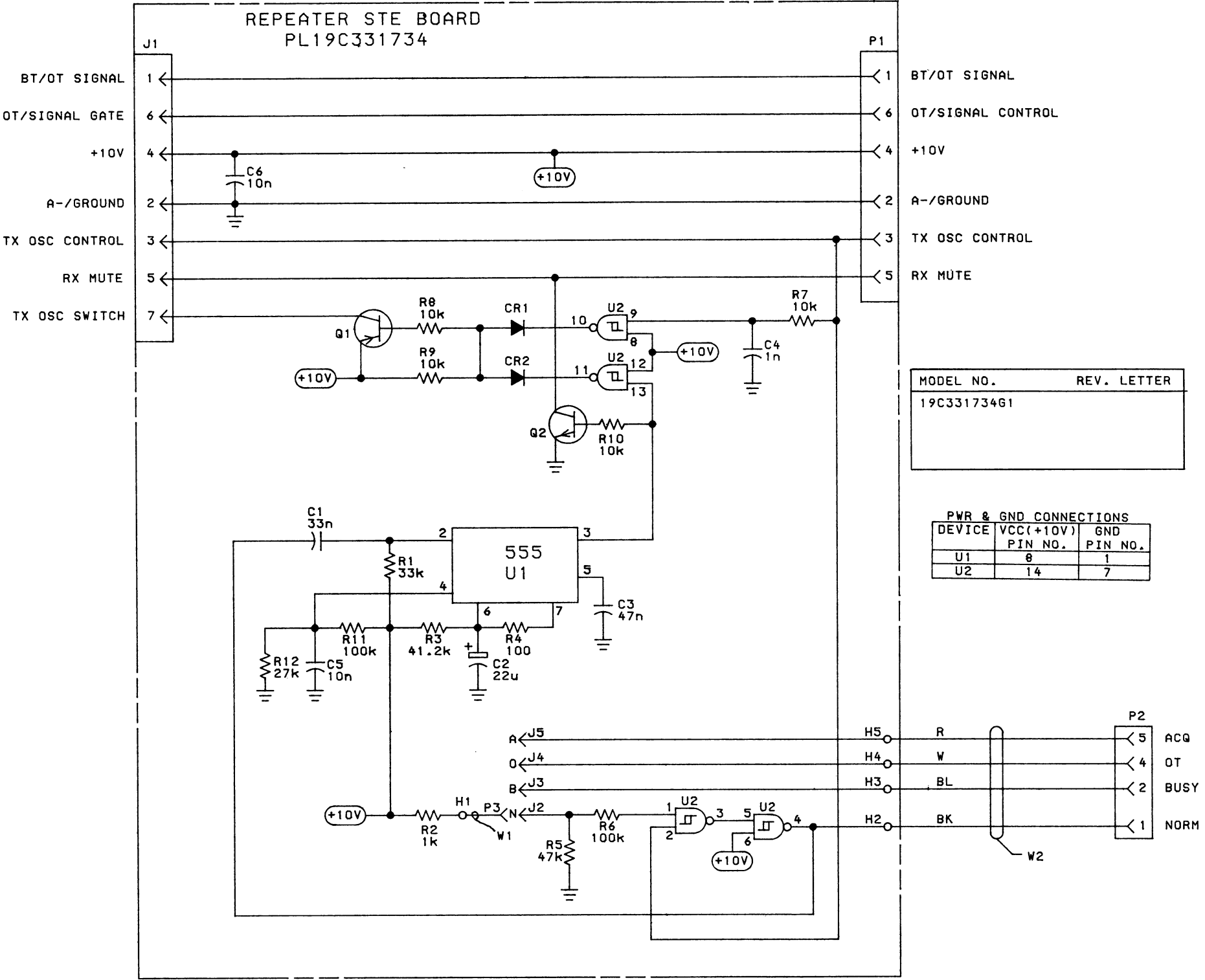
NOTE: LEAD ARRANGEMENT, AND NOT
CASE SHAPE, IS DETERMINING
FACTOR FOR LEAD IDENTIFICATION.

(19C331735, Rev. 0)
(19A144525, Sh. 1, Rev. 0)
(19A144525, Sh. 2, Rev. 0)



OUTLINE DIAGRAM

STE BOARD 19C331734G1



SCHEMATIC DIAGRAM
STE BOARD 19C331734G1
Issue 1

PARTS LIST

REPEATER STE FIELD KIT
19A144639G1
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
	19C331734G1 N80P13016C6	Repeater STE Board. Machine screw. No. 6-32 x 1. (Secures Repeater STE Board to mounting surface).
		CABLE ASSEMBLY 19B234109G2
	19A116659P82	Connector.
	19A116781P6	Contact, electrical. (Located on pin 7 of connector & loose end of cable).

PARTS LIST

REPEATER STE BOARD
19C331734G1
ISSUE 1

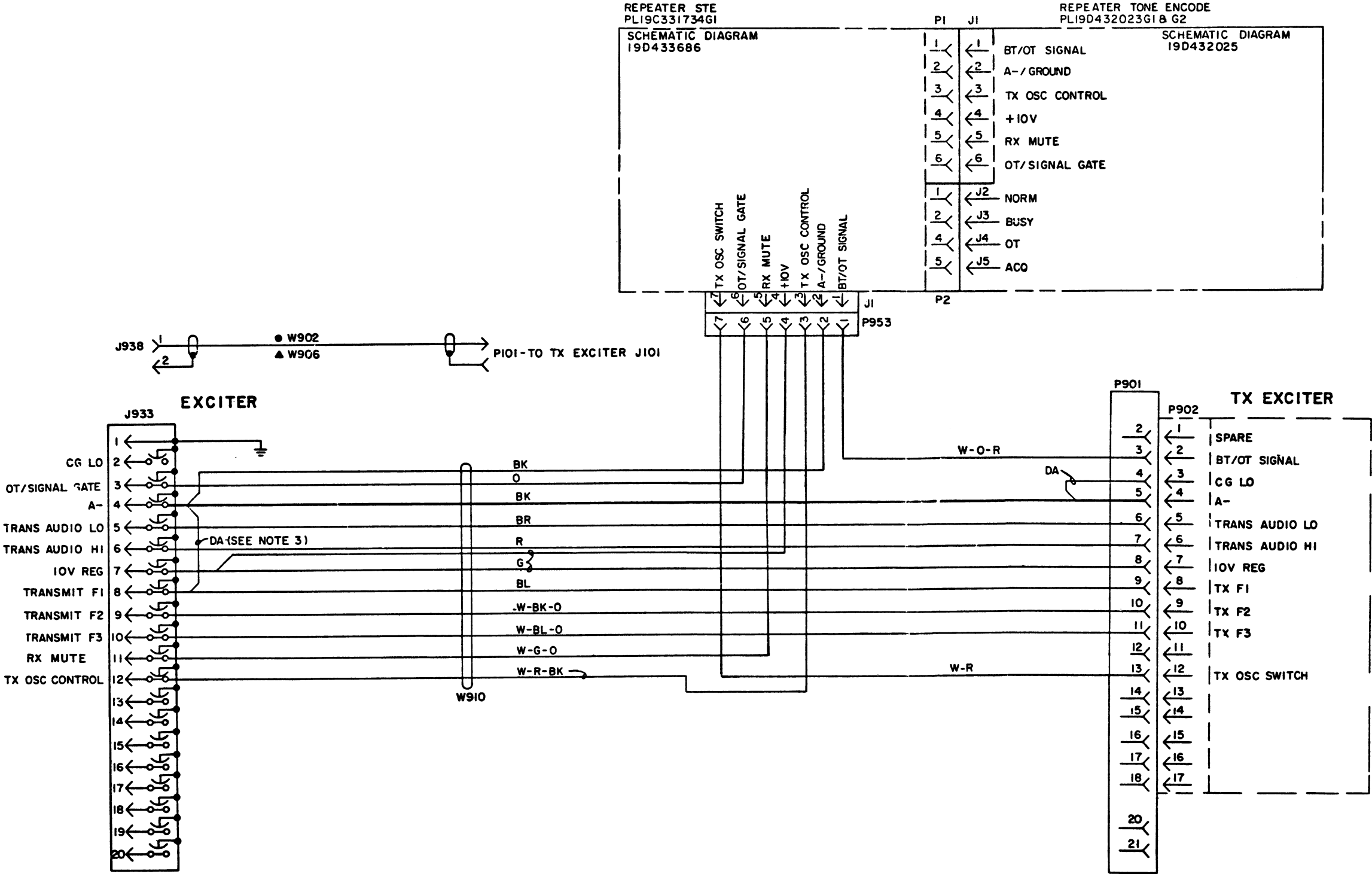
SYMBOL	GE PART NO.	DESCRIPTION
		----- CAPACITORS -----
C1	19A700005P10	Polyester: 0.033 μ f $\pm$ 10%, 50 VDCW.
C2	19A700003P8	Tantalum: 22 μ f $\pm$ 20%, 16 VDCW.
C3	19A700005P11	Polyester: 0.047 μ f $\pm$ 10%, 50 VDCW.
C4	19A700005P1	Polyester: 1000 pf $\pm$ 10%, 50 VDCW.
C5 and C6	19A700005P7	Polyester: 0.010 μ f $\pm$ 10%, 50 VDCW.
		----- DIODES -----
CR1 and CR2	19A700028P1	Silicon, fast recovery: Fwd. current 75 mA, 75 PIV; sim to Type 1N4148.
		----- JACKS -----
J1	19A116659P106	Printed wire: 7 contacts rated at 5 amps; sim to Molex 09-60-1071.
J2 thru J5	19A701785P5	Contact, electrical.
		----- PLUGS -----
P1	19A700102P26	6 contacts rated at 5 amps; sim to Methode 3000-006-2101.
P2	19A127042P2	Solderless terminal. (Part of W2).
P3	19A116781P6	Contact, electrical. (Part of W1 - Quantity 4).
		----- TRANSISTORS -----
Q1	19A700022P1	Silicon, PNP; sim to Type 2N3906.
Q2	19A700023P1	Silicon, NPN; sim to Type 2N3904.
		----- RESISTORS -----
R1	19A700019P55	Deposited carbon: 33K ohms $\pm$ 5%, 1/4 w.
R2	19A700019P37	Deposited carbon: 1K ohms $\pm$ 5%, 1/4 w.
R3	19A701250P358	Metal film: 39.2K ohms $\pm$ 10%, 1/4 w.
R4	19A700019P25	Deposited carbon: 100 ohms $\pm$ 5%, 1/4 w.
R5	19A700019P57	Deposited carbon: 47K ohms $\pm$ 5%, 1/4 w.
R6	19A700019P61	Deposited carbon: 100K ohms $\pm$ 5%, 1/4 w.
R7 thru R10	19A700019P49	Deposited carbon: 10K ohms $\pm$ 5%, 1/4 w.
R11	19A700019P25	Deposited carbon: 100 ohms $\pm$ 5%, 1/4 w.
R12	19A700019P54	Deposited carbon: 27K ohms $\pm$ 5%, 1/4 w.
		----- INTEGRATED CIRCUITS -----
U1	19A701865P1	Linear. 555 TIMER.
U2	19A700029P56	Digital. QUAD 2-INPUT NAND SCHMITT TRIGGER.
		----- CABLES -----
W1	19B233428G2	Cable. (Includes P3).
W2	19B234109G1	Cable. (Includes P2).
		----- MISCELLANEOUS -----
	19A701235P4	Spacer. (Located on printed board).

- NOTES:
- 1. ALL WIRE SF22 UNLESS NOTED.
 - 2. JUMPER FROM A90I-47 TO A90I-48 PRESENT IN SINGLE FREQUENCY RECEIVE STATIONS.
 - 3. DA FROM J933 PIN 4 TO PIN 8 PRESENT IN SINGLE FREQUENCY TRANSMIT STATIONS.
 - 4. JUMPER FROM A90I-H4I TO A90I-H42 AND A90I-H69 TO A90I-H68 NOT PRESENT IN GE MARC V REPEATERS.
 - 5. JUMPER FROM A90I-H45 TO A90I-H46 NOT PRESENT WITH INTERCOM.
 - 6. CARRIER CONTROL TIMER NOT USED IN GE MARC V REPEATERS.
 - 7. IN 2 WIRE DC CONTROL SYSTEMS WITH VOTING TONE BOARD. JUMPER FROM A90I-H74 TO A90I-H75 IS NOT PRESENT. JUMPER FROM A90I-H72 TO A90I-H73 IS PRESENT. IN 4 WIRE STATIONS WITH VOTING TONE BOARD. JUMPERS H74-H75, H72-H73 ARE NOT PRESENT
 - 8. ▲ 800 MHZ
● LB, HB, & 450 MHZ.

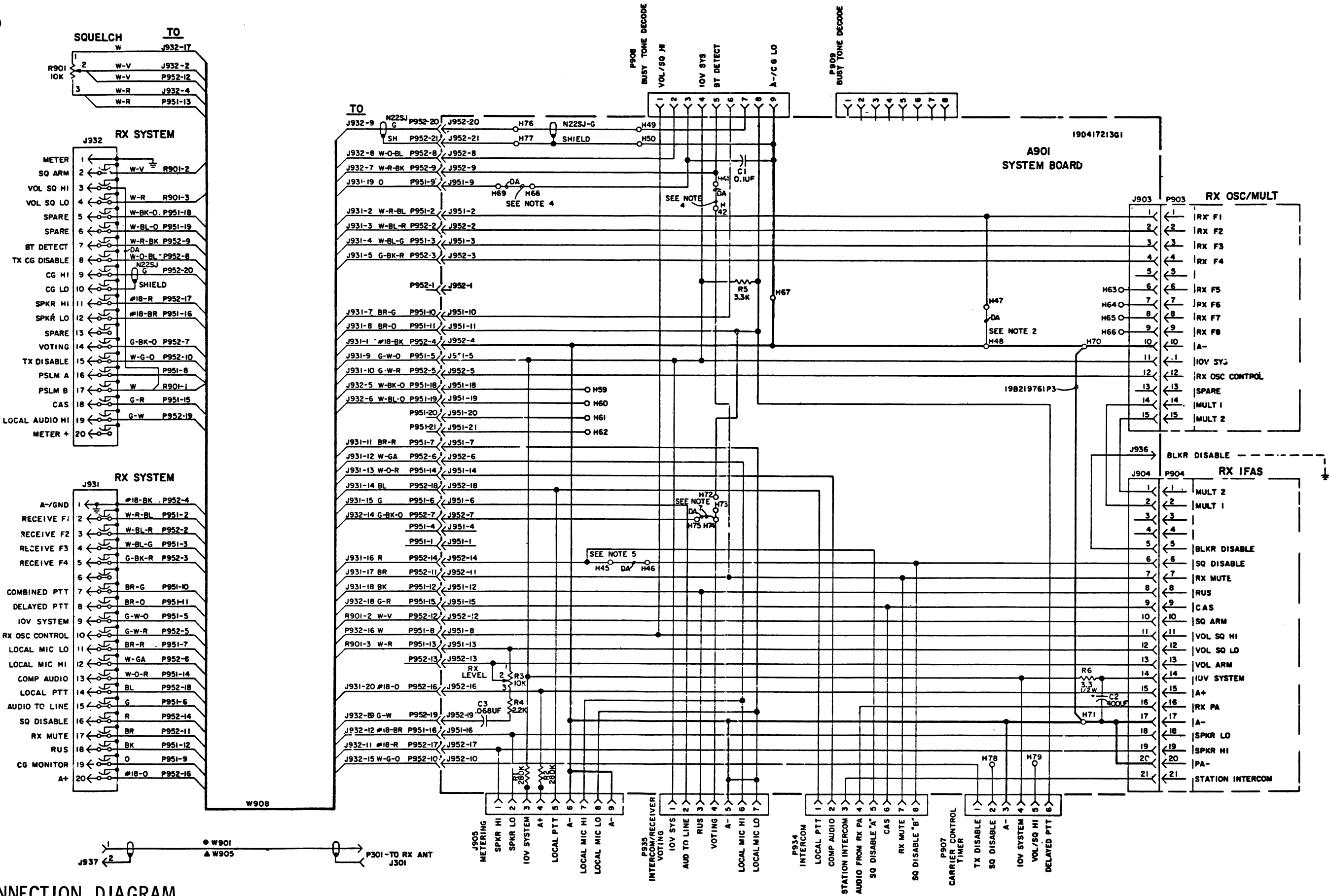
ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICO FARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H=HENRYS.

MODEL NO	REV LETTER
PLI9D417262G10	

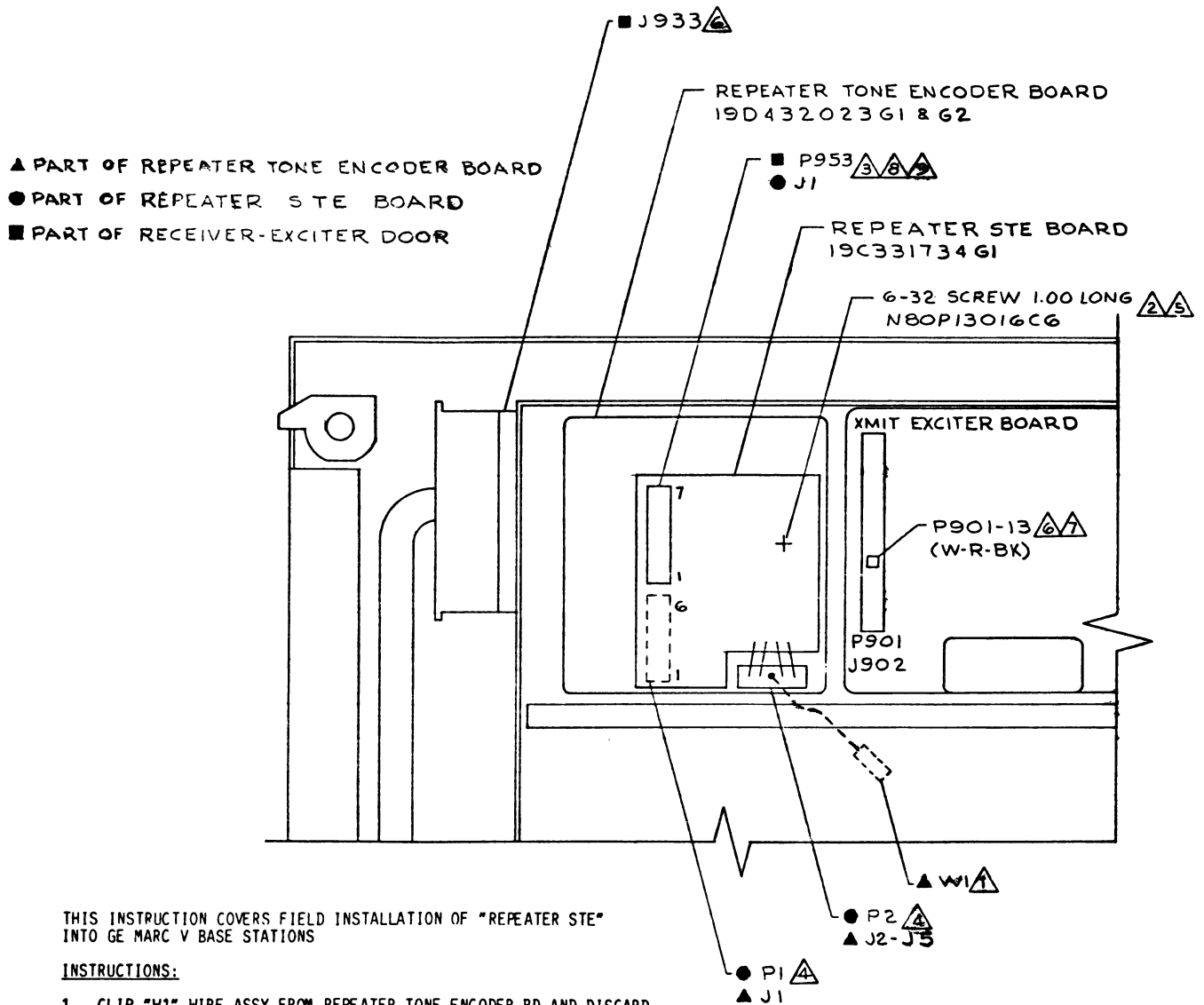
INTERCONNECTION DIAGRAM
TRANSMITTER-EXCITER
AND TONE ENCODE



(19D433689, Sh. 1, Rev. 0)



INTERCONNECTION DIAGRAM
SYSTEM BOARD AND RECEIVER



1. CLIP "W1" WIRE ASSY FROM REPEATER TONE ENCODER BD AND DISCARD.
2. REMOVE (1) #6-32 x .31 LG MACH SCREW FROM ENCODER BOARD NEAREST TO XMIT EXCITER BD. AND DISCARD.
3. UNPLUG P953 FROM J1 ON REPEATER TONE ENCODER BOARD.
4. INSTALL THE (19C331734G1) REPEATER STE BD ONTO REPEATER TONE ENCODE BD (19D432023G1 OR G2) BY PLUGGING P1 OF BUSY TONE TIMER ONTO J1 OF REPEATER TONE ENCODER BD. PLUG P2 ONTO PINS J2, J3, J4 AND J5 OF THE ENCODER BOARD.
5. ADD #6-32 x 1.00 LG SCREW INTO REPEATER STE BD.
6. UNPLUG P901 AND REMOVE (W-R-BK) WIRE FROM PIN 13 TO J933 PIN 12 AND DISCARD.
7. INSERT TERMINAL FROM (19B234109G2) CABLE ASSY INTO P901-13, REINSERT P901 ONTO J902.
8. REMOVE SIX WIRES FROM P953 AND REINSERT INTO EQUIV. SOCKETS OF ITEM 2 CABLE ASSY (PIN FOR PIN).
9. NOW PLUG REASSEMBLED P953 ONTO J1 OF REPEATER STE BD. THIS COMPLETES INSTALLATION.

(19C331806, Rev. 0)

INSTALLATION INSTRUCTIONS

FIELD KIT 19A144639G1

