MOBILE RADIO

INSTRUCTIONS

FOR

SQUELCH OPERATED RELAY

OPTION 9523

(FOR MASTR II STATIONS)

CONTENTS

DESCRIPTION

The Squelch Operated Relay is a relay board that plugs into the MASTR II Station Control Shelf and provides four sets of form "C" Relay contacts which are controlled by the Receiver Unsquelch Sensor (RUS) on the receiver. A light emitting diode is provided on the front panel to give a visual indication when the relay is energized.

CIRCUIT ANALYSIS

When an incoming signal with or without Channel Guard causes the receiver to unsquelch, a positive voltage appears on the RUS line (D12). This positive voltage appears on the base of Q1 turning it on. When Q1 is on, this grounds R4 turning Q2 on. When Q2 conducts the light emitting diode CR3 is turned on and Q3 is turned on energizing the relay K1. Diode CR2 is connected across the relay coil for spike suppression. For hook-up information refer to the Interconnection Diagram.

MAINTENANCE

To troubleshoot the Squelch Operated Relay check for proper voltages listed on the Wiring Diagram.

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY
LYNCHBURG, VIRGINIA 24502

Printed in U.S.A.

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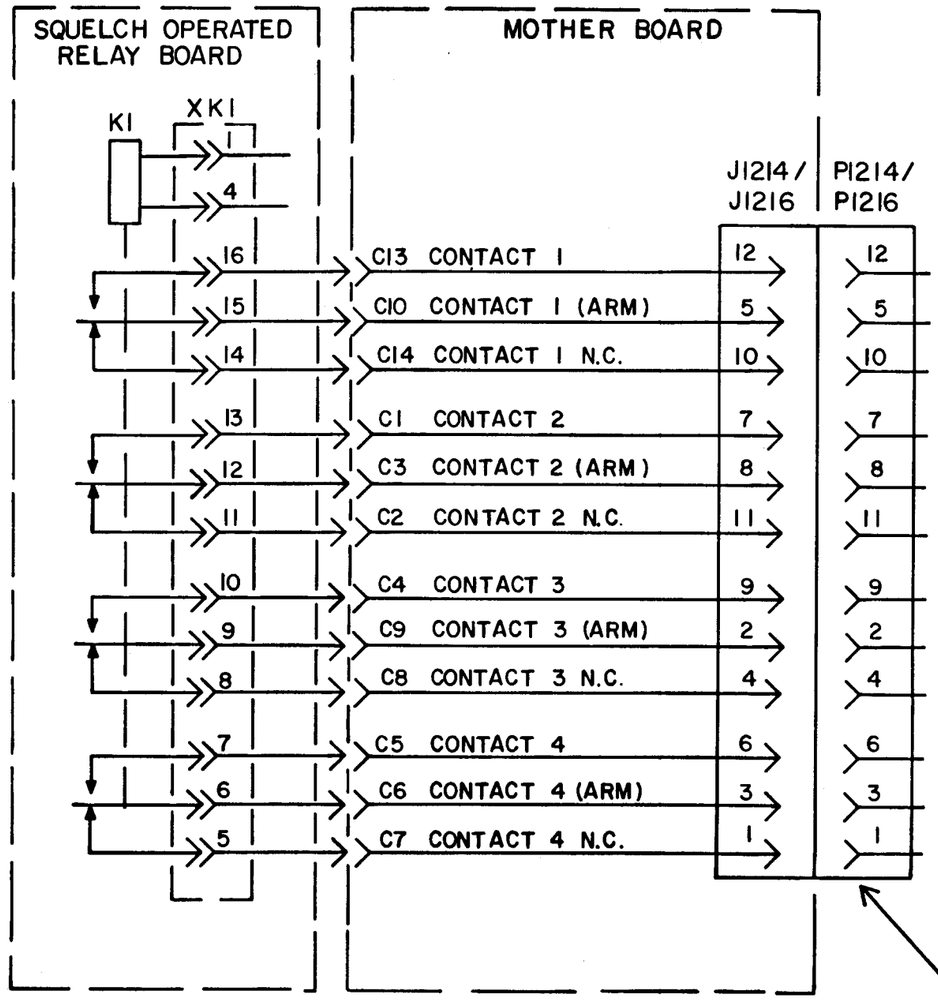


NOTES: 1. J1216 AND P1216 ARE USED IF THE SOR IS INSTALLED IN THE FIRST POSITION ON THE LEFT OF THE CONTROL SHELF.

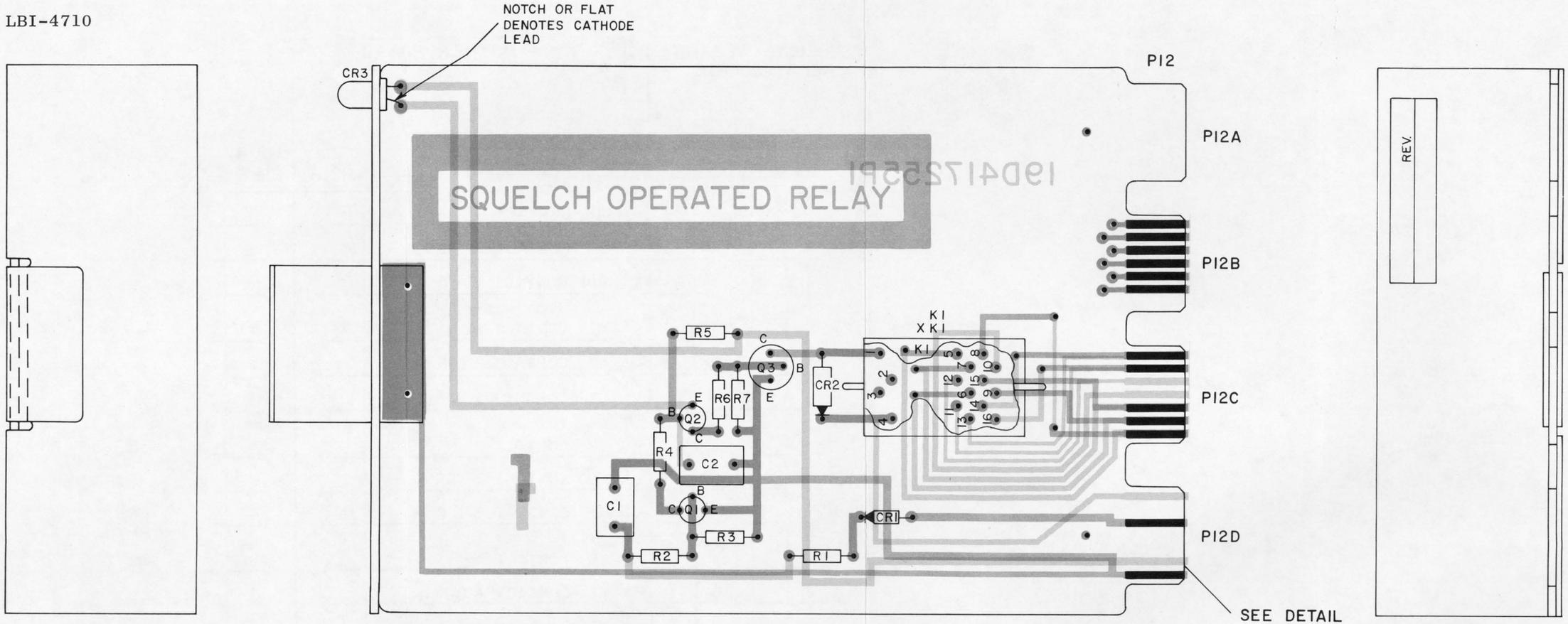
2. J1214 AND P1214 ARE USED IF THE SOR IS INSTALLED IN THE SECOND POSITION ON THE LEFT OF THE CONTROL SHELF.

RC-2633

TYPICAL NUMBERING OF P1214/P1216 BACK VIEW

INTERCONNECTION DIAGRAM

SQUELCH OPERATED RELAY

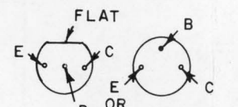


(19D423047, Rev. 0)
(19D417255, Sh. 2, Rev. 1)
(19D417255, Sh. 3, Rev. 1)

8 9 10 11 12 13 14
7 6 5 4 3 2 1
SOLDER SIDE

DETAIL "A"
TYP. NUMBERING OF CONT. FINGERS

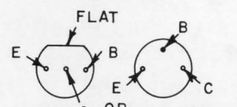
LEAD IDENTIFICATION FOR Q2, Q3



VIEW FROM LEAD END

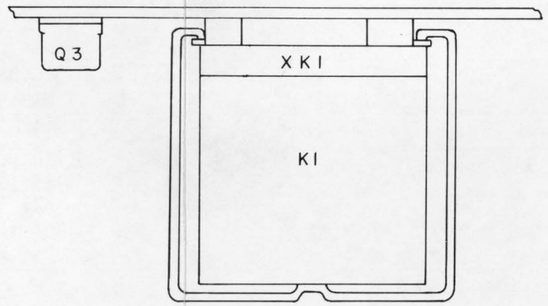
NOTE: LEAD ARRANGEMENT, AND NOT CASE SHAPE, IS DETERMINING FACTOR FOR LEAD IDENTIFICATION.

LEAD IDETIFICATION FOR Q1



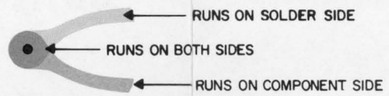
VIEW FROM LEAD END

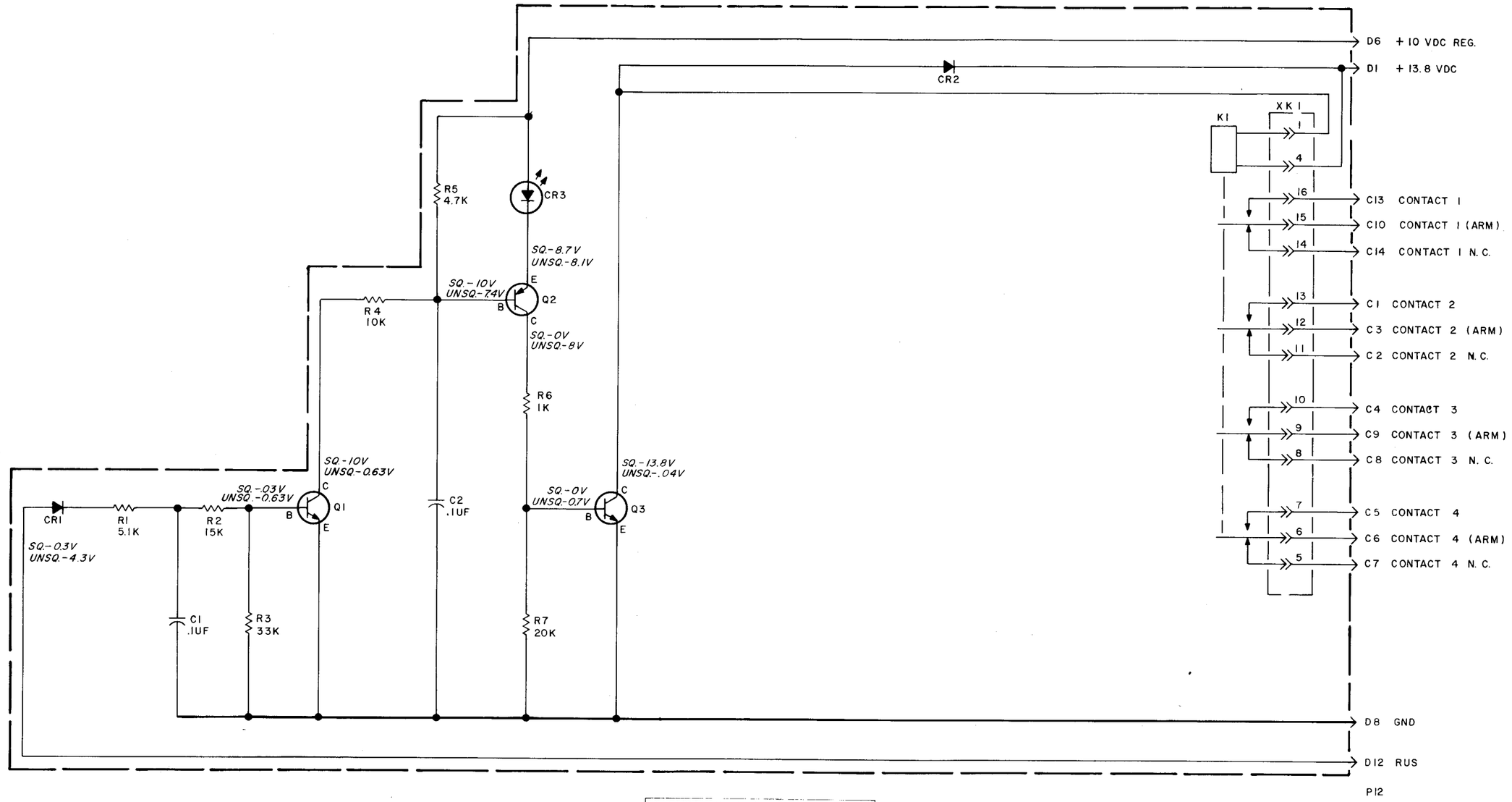
NOTE: LEAD ARRANGEMENT, AND NOT CASE SHAPE, IS DETERMINING FACTOR FOR LEAD IDENTIFICAITION.



OUTLINE DIAGRAM

SQUELCH OPERATED RELAY





IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

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.

SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO

MODEL NO	REV LETTER
PLI9AI29926GI	

WIRING DIAGRAM

SQUELCH OPERATED RELAY

(19D417276, Rev. 1)

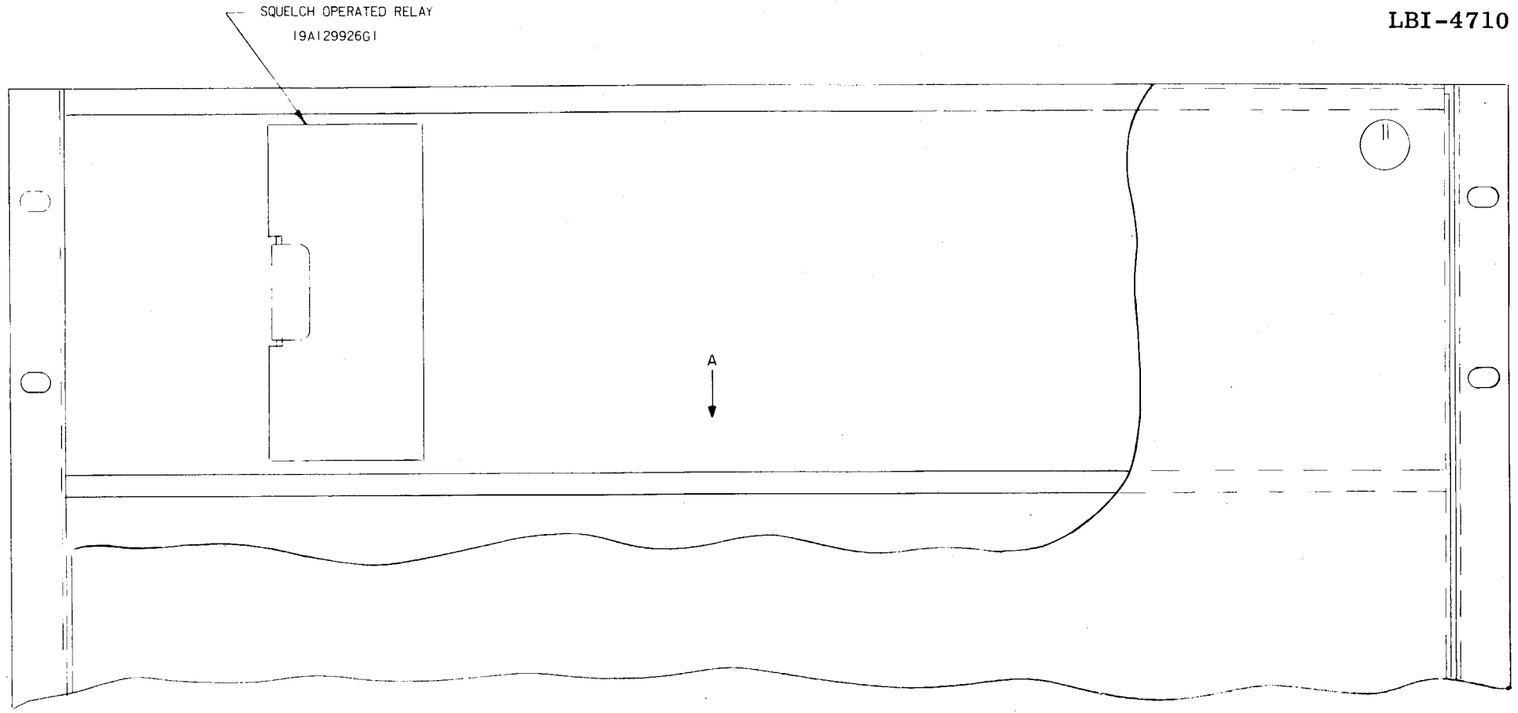
PARTS LIST

LBI-4711

SQUELCH OPERATED RELAY
19A129926G1

SYMBOL	GE PART NO.	DESCRIPTION
A1		COMPONENT BOARD 19D417271G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1 and C2	19A116080P7	Polyester: 0.1 µf ±20%, 50 VDCW.
		- - - - - - - DIODES AND RECTIFIERS - - - - - -
CR1	19A115250P1	Silicon.
CR2	4037822P1	Silicon.
CR3	19A129291P1	Diode, light emitting: red.
		- - - - - - - - - - - RELAYS - - - - - - - - - -
K1	19C300957P2	Armature: 12 VDC nominal, 1.5 w max operating, 185 ohms ±10% coil res, 4 form C contacts; sim to Allied Control T154X-316.
		- - - - - - - - - - - PLUGS - - - - - - - - - - -
P12		(Part of printed board, 19D417255P1).
		- - - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115889P1	Silicon, NPN; sim to Type 2N2712.
Q2	19A115852P1	Silicon, PNP; sim to Type 2N3906.
Q3	19A115300P1	Silicon, NPN; sim to Type 2N3053.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	3R152P512J	Compositon: 5100 ohms ±5%, 1/4 w.
R2	3R152P153J	Composition: 15,000 ohms ±5%, 1/4 w.
R3	3R152P333J	Composition: 33,000 ohms ±5%, 1/4 w.
R4	3R152P103J	Compositon: 10,000 ohms ±5%, 1/4 w.
R5	3R152P472J	Composition: 4700 ohms ±5%, 1/4 w.
R6	3R152P102J	Composition: 1000 ohms ±5%, 1/4 w.
R7	3R152P203J	Composition: 20,000 ohms ±5%, 1/4 w.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XK1	5491595P7	Relay: 10 contacts; sim to Allied Control 30054-4.
		- - - - - - - - - MISCELLANEOUS - - - - - - - -
	5491595P9	Retainer: spring; sim to Allied Control 30040-2. (Used with K1).
	4036555P1	Insulator, washer: nylon. (Used with Q3).
	19D417384P5	Panel.
	19B219690G1	Handle.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



FRONT VIEW
CONTROL SHELF

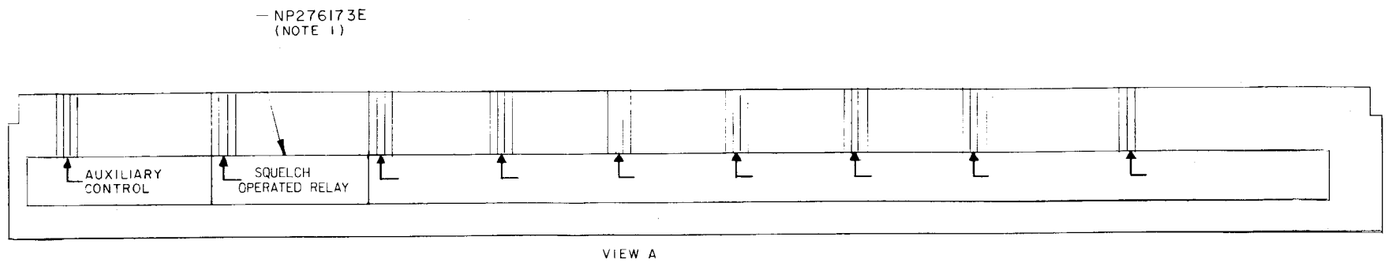
THESE INSTRUCTIONS COVER THE MODIFICATION OF THE CONTROL SHELF FOR INSTALLATION OF THE SQUELCH OPERATED RELAY BOARD.

INSTRUCTIONS:

1. AFFIX NAMEPLATE NP276173E TO SHELF AS SHOWN IN FRONT OF SLOT IN WHICH SQUELCH OPERATED RELAY IS TO BE INSTALLED.
2. INSTALL SQUELCH OPERATED RELAY IN SECOND POSITION FROM LEFT IN SHELF, UNLESS THAT SLOT IS FILLED, IN WHICH CASE THE SQUELCH OPERATED RELAY IS TO BE INSTALLED IN THE FIRST POSITION ON THE LEFT.
3. TEST PER 19A129945.

NOTES:

1. MOUNT NP276173E OVER AUXILIARY CONTROL PORTION OF EXISTING NP. ALIGN ARROW WITH CENTER OF GUIDE WITHIN .060.



VIEW A

(19D417576, Rev. 1)

INSTALLATION DIAGRAM

SQUELCH OPERATED RELAY

Issue 1