

FOR

SQUELCH OPERATED RELAY

OPTION 9523

TM
(FOR MASTR II STATIONS)

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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

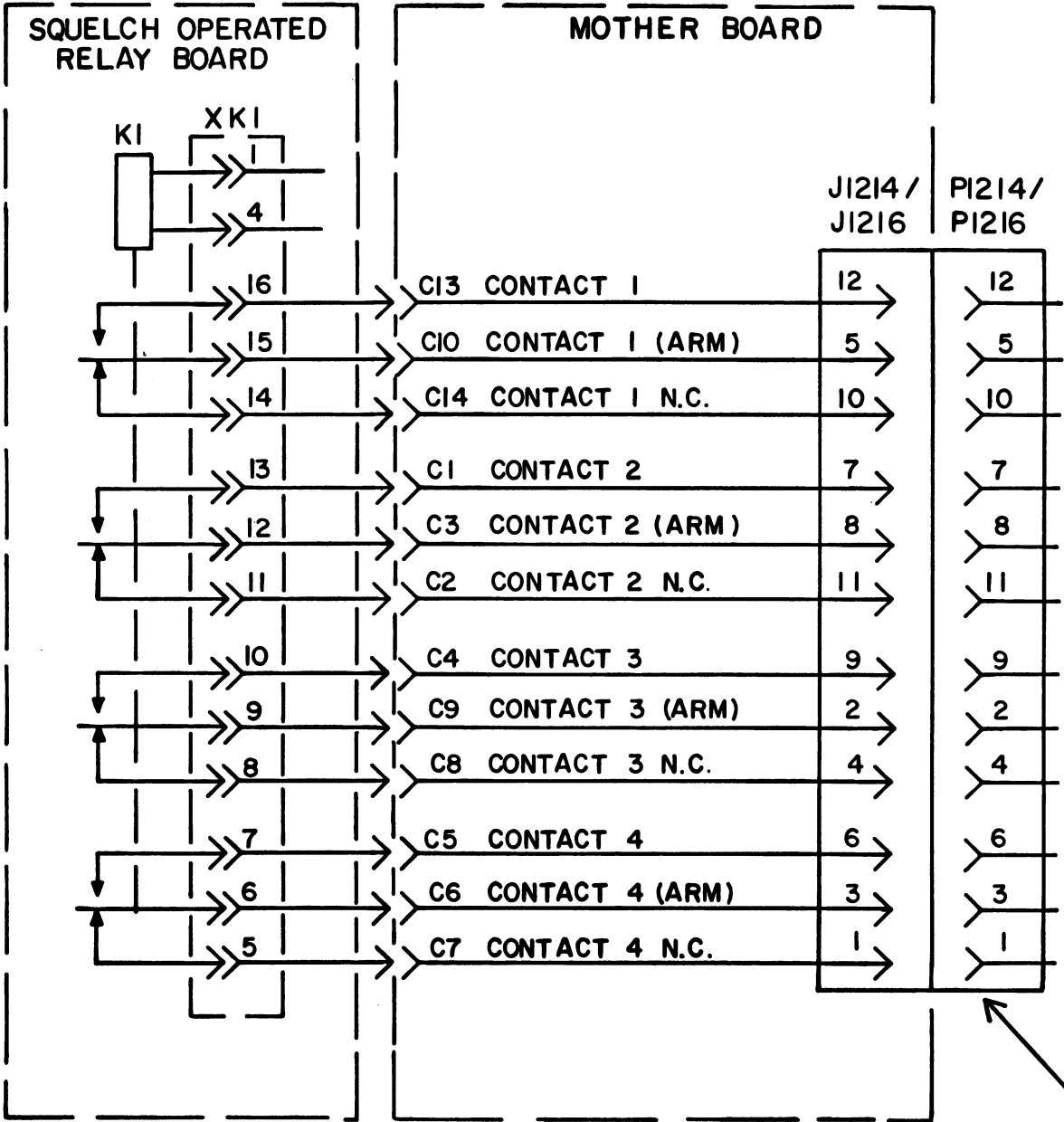
GENERAL  **ELECTRIC**

PARTS LIST

LBI-30644

MODIFICATION KIT
19A129520G1
(P1214/P1216)

SYMBOL	GE PART NO.	DESCRIPTION
	19B209288P20	Connector. Includes: Shell.
	5496809P17	Contact, electrical: female; sim to Molex Products 1381-T. (Quantity 11).
	5496809P18	Contact, electrical: male; sim to Molex Products 1380-T. (Quantity 1).



- 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.

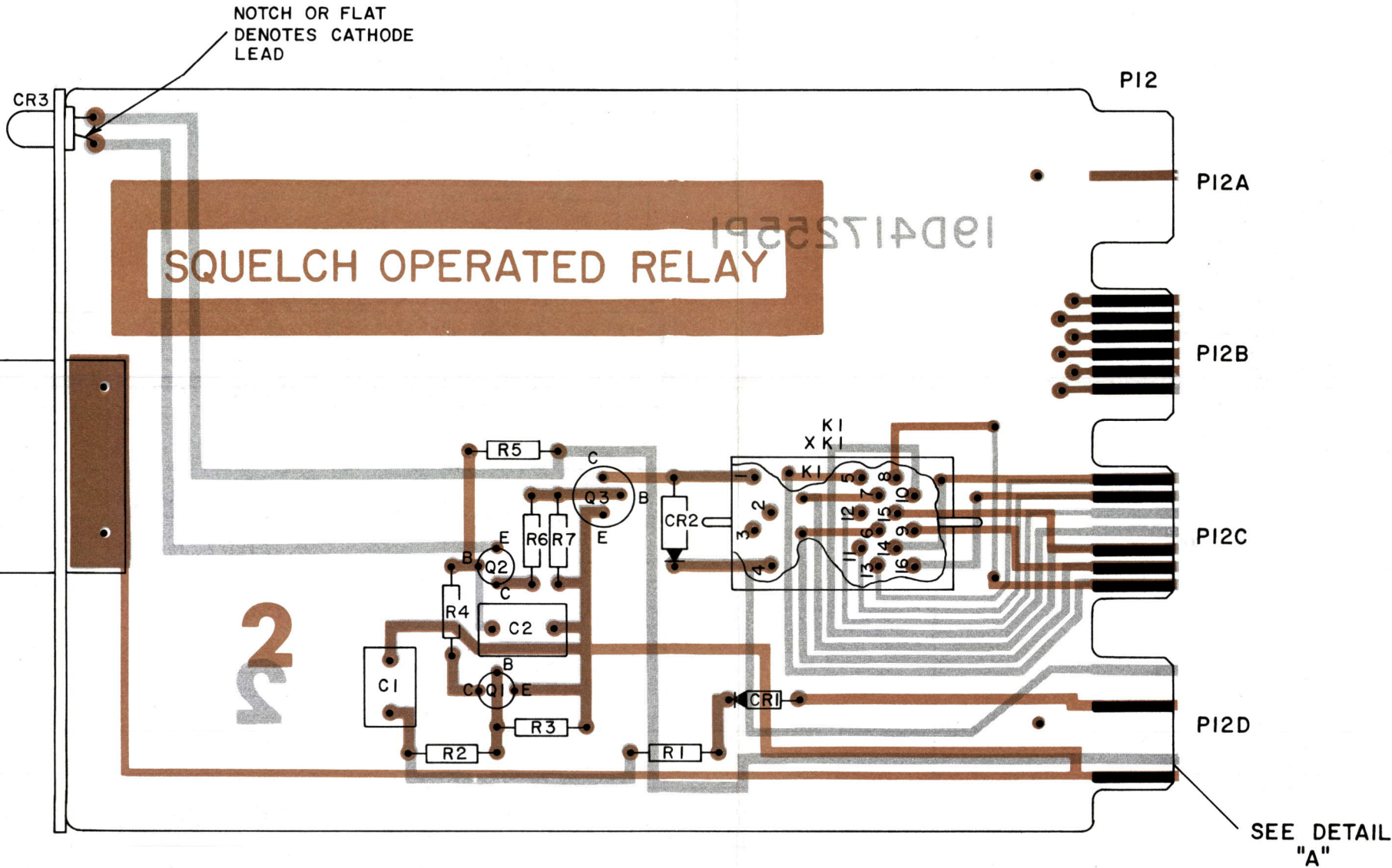
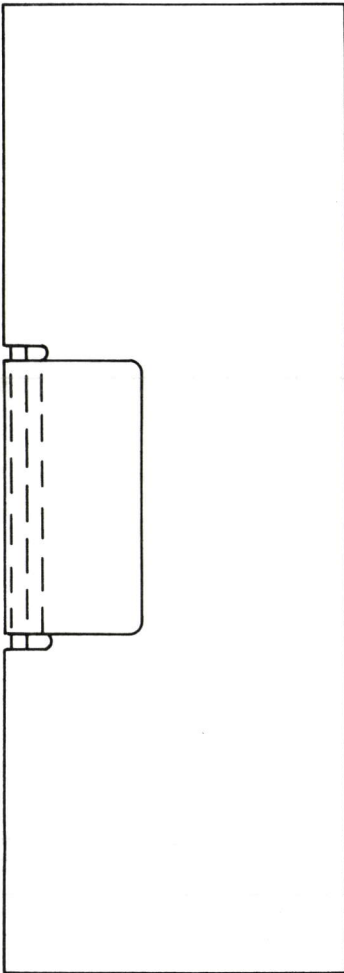
10	11	12
7	8	9
4	5	6
1	2	3

TYPICAL NUMBERING
OF P1214/P1216
BACK VIEW

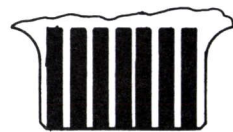
RC-2633

INTERCONNECTION DIAGRAM

SQUELCH OPERATED RELAY

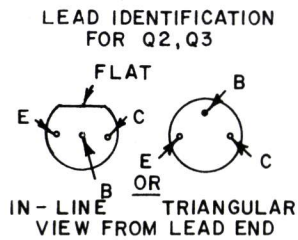


(19D423047, Rev. 0)
(19D417255, Sh. 2, Rev. 2)
(19D417255, Sh. 3, Rev. 2)

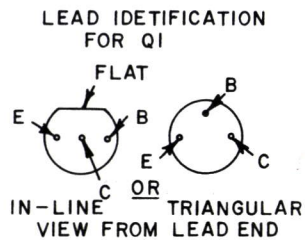


8 9 10 11 12 13 14
7 6 5 4 3 2 1

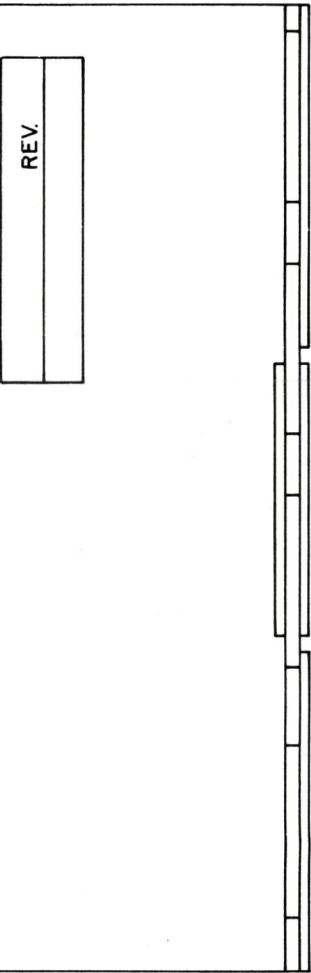
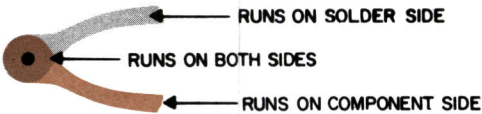
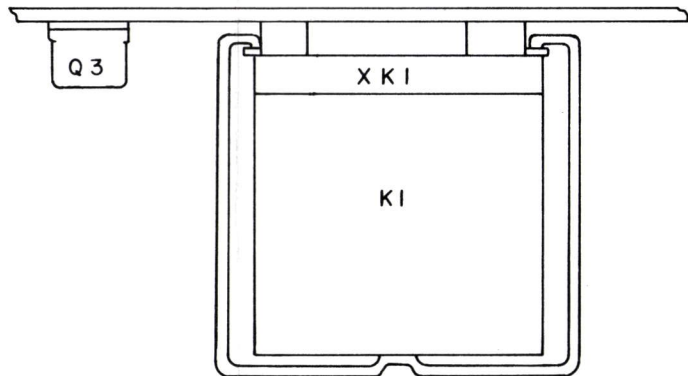
SOLDER SIDE
DETAIL "A"
TYP. NUMBERING OF CONT.
FINGERS



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



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OUTLINE DIAGRAM

SQUELCH OPERATED RELAY

PARTS LIST

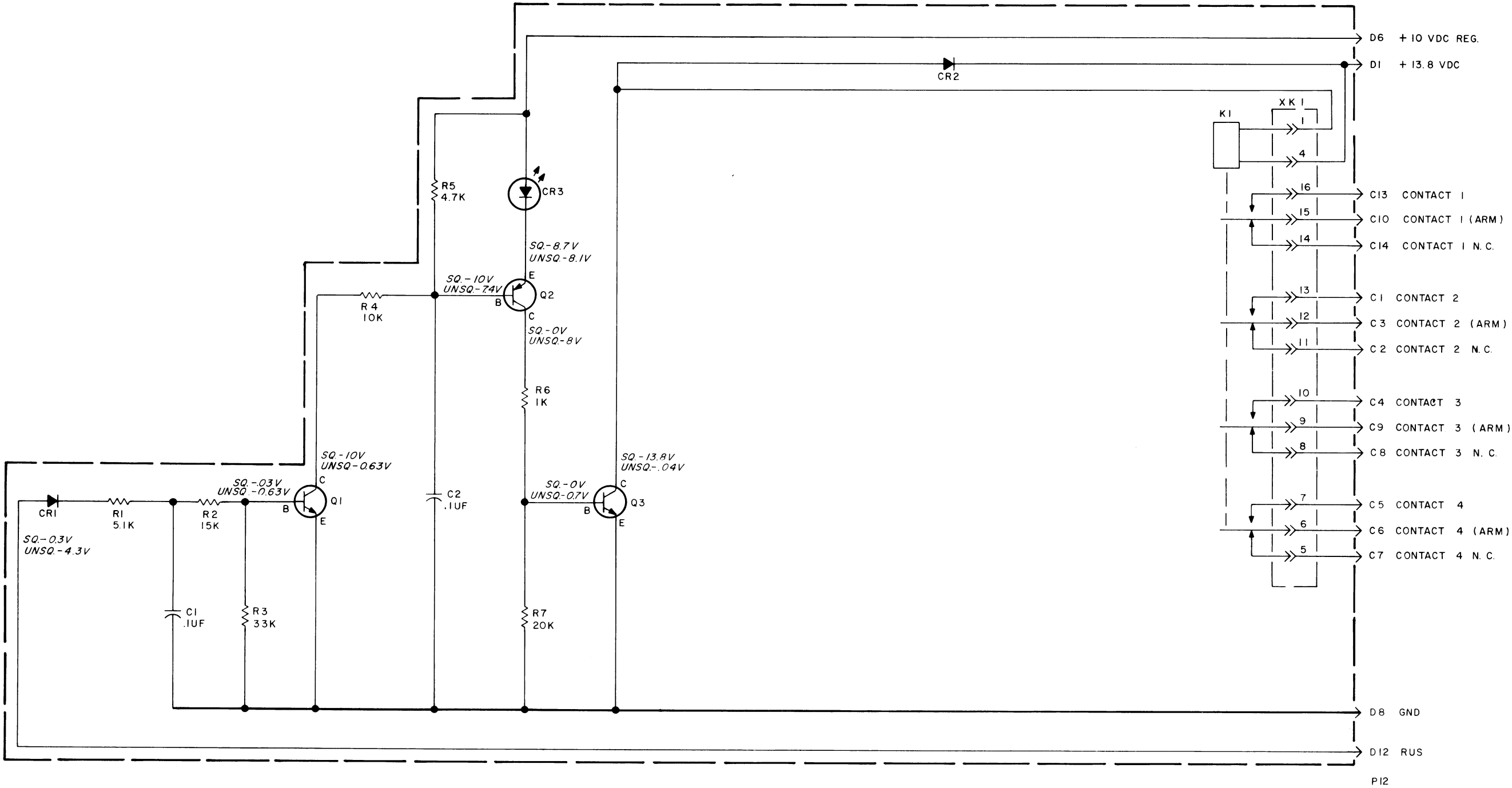
LBI-4711

SQUELCH OPERATED RELAY
19A129926G1

LBI-4710

SYMBOL	GE PART NO.	DESCRIPTION
A1		COMPONENT BOARD 19D417271G1
C1 and C2	19A116080P7	----- CAPACITORS ----- Polyester: 0.1 μ f \pm 20%, 50 VDCW.
CR1	19A115250P1	----- DIODES AND RECTIFIERS ----- Silicon.
CR2	4037822P1	Silicon.
CR3	19A129291P1	Diode, light emitting: red.
K1	19C300957P2	----- RELAYS ----- Armature: 12 VDC nominal, 1.5 w max operating, 185 ohms \pm 10% coil res, 4 form C contacts; sim to Allied Control T154X-316.
P12		----- PLUGS ----- (Part of printed board, 19D417255P1).
Q1	19A115889P1	----- TRANSISTORS ----- Silicon, NPN; sim to Type 2N2712.
Q2	19A115852P1	Silicon, PNP; sim to Type 2N3906.
Q3	19A115300P1	Silicon, NPN; sim to Type 2N3053.
R1	3R152P512J	----- RESISTORS ----- Composition: 5100 ohms \pm 5%, 1/4 w.
R2	3R152P153J	Composition: 15,000 ohms \pm 5%, 1/4 w.
R3	3R152P333J	Composition: 33,000 ohms \pm 5%, 1/4 w.
R4	3R152P103J	Composition: 10,000 ohms \pm 5%, 1/4 w.
R5	3R152P472J	Composition: 4700 ohms \pm 5%, 1/4 w.
R6	3R152P102J	Composition: 1000 ohms \pm 5%, 1/4 w.
R7	3R152P203J	Composition: 20,000 ohms \pm 5%, 1/4 w.
XX1	5491595P7	----- SOCKETS ----- Relay: 10 contacts; sim to Allied Control 30054-4.
	5491595P9	----- MISCELLANEOUS ----- Retainer: spring; 1m 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



WIRING DIAGRAM

SQUELCH OPERATED RELAY

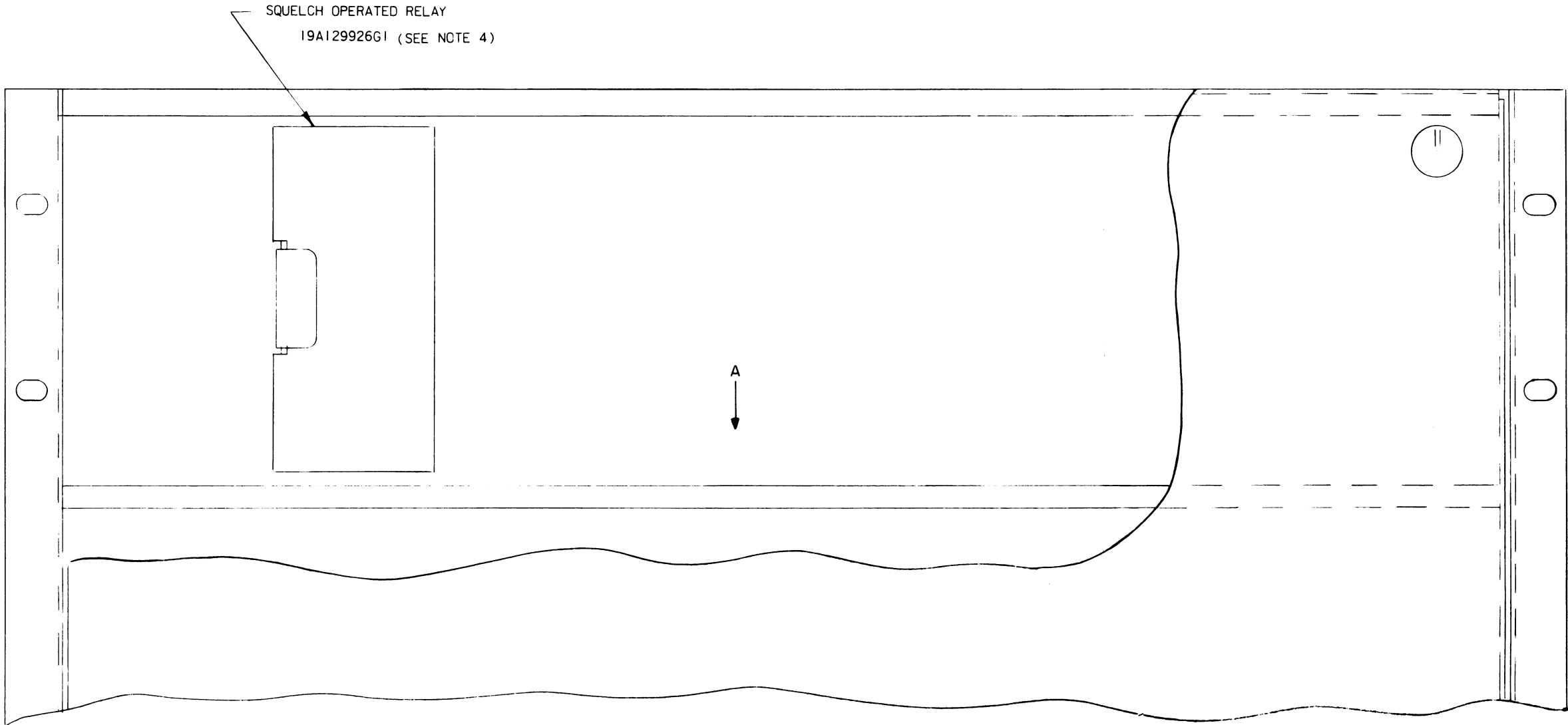
1 THESE INSTRUCTIONS COVER THE MODIFICATION OF THE CONTROL SHELF FOR INSTALLATION OF THE SQUELCH OPERATED RELAY BOARD.

INSTRUCTIONS:

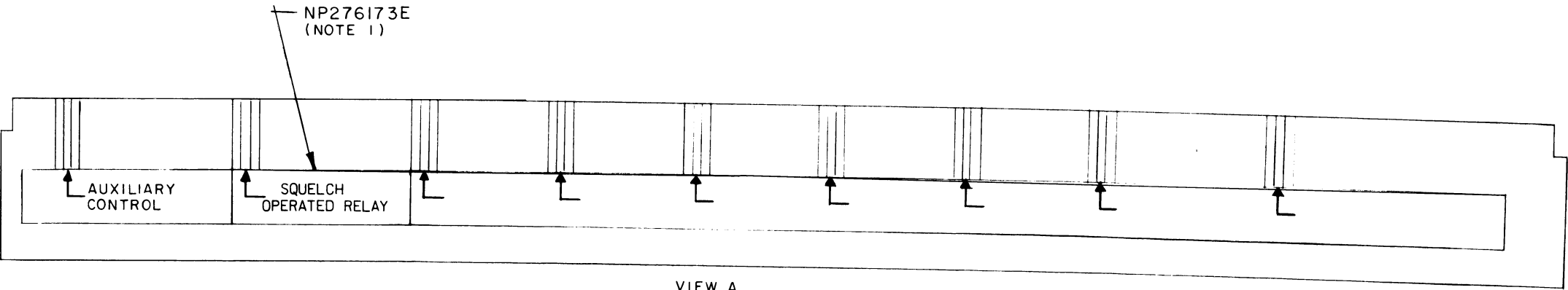
1. AFFIX NAMEPLATE NP276173E TO SHELF AS SHOWN IN FRONT OF SLOT IN WHICH SQUELCH OPERATED RELAY IS TO BE INSTALLED.
2. INSTALL SQUELCH OPERATED RELAY IN SECOND POSITION FROM LEFT IN SHELF, UNLESS THAT SLOT IS FILLED, IN WHICH CASE THE SQUELCH OPERATED RELAY IS TO BE INSTALLED IN THE FIRST POSITION ON THE LEFT.
3. TEST PER 19A129945.
4. KIT, PL19A129520G1 USED WITH THIS MODULE MUST BE SECURED TO CABLE AT MOTHER BOARD FOR SHIPPING.

NOTES:

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



FRONT VIEW
CONTROL SHELF



VIEW A

INSTALLATION DIAGRAM

SQUELCH OPERATED RELAY