MOBILE RADIO

INSTRUCTIONS
FOR
Porta•Mobile II™
CHANNEL GUARD BUSY LIGHT KIT 19A130964G1 & G2
(OPTIONS 2111 & 2112)

TABLE OF CONTENTS

DESCRIPTION

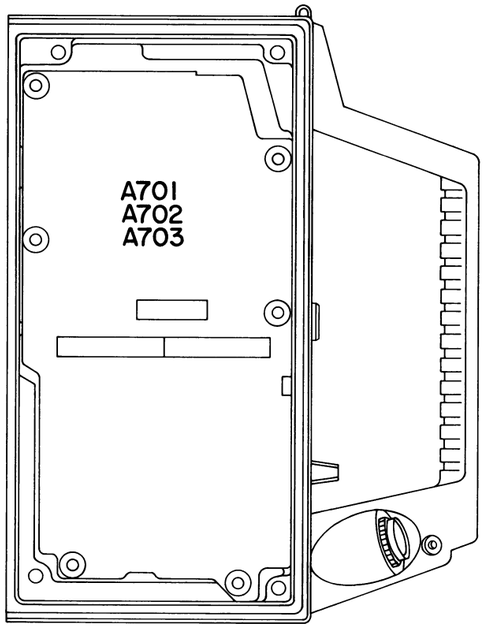
Channel Guard Busy Light Kit 19A130964G1 & G2 is used with Porta•Mobile II™ to monitor the selected RF channel and light a LED indicator when the selected RF channel is busy.

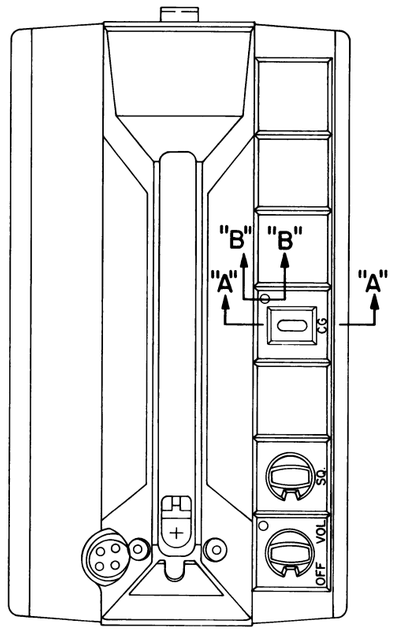
Busy Light Kit 19A130964G1 is used with one or multi tone Channel Guard operation and Busy Light Kit 19A130964G2 is used with two tone manually selected, Channel Guard operation. Busy Light Kit 19A130964G2 contains a control module with a three position switch labeled CG, A-0-B and LED indicator labeled BUSY. Both groups of the Busy Light Kit contain a circuit board mounted on the system board and an indicator module mounted on the control panel.

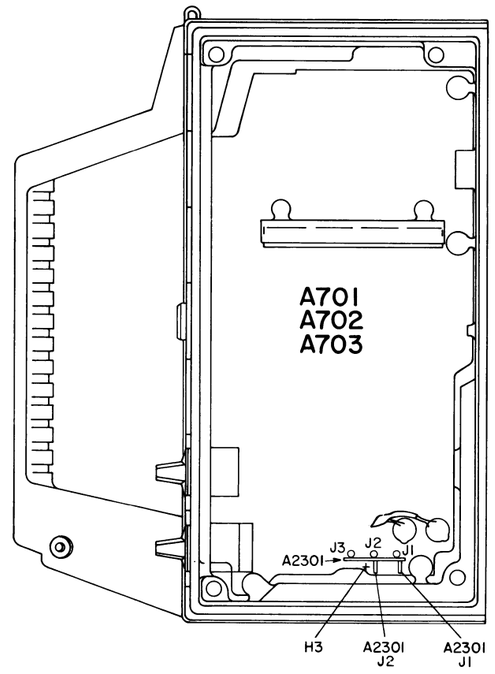
Installation and Intereonnection diagrams contain the necessary information to install a Busy Light Kit (See Table of Contents).

CIRCUIT ANALYSIS

When an RF signal is not present and the receiver is squelched, a positive voltage is applied to the base of PNP transistor Q1 holding Q1 off. With Q1 held off NPN transistor Q2 will not conduct and LED indicator CR1501 will not light. When a RF signal with no Channel Guard tone causes the receiver squelch circuit to open, the positive voltage on the base of Q1 is removed. Q1 will conduct causing Q2 to conduct and CR1501 to light indicating the RF channel is busy.

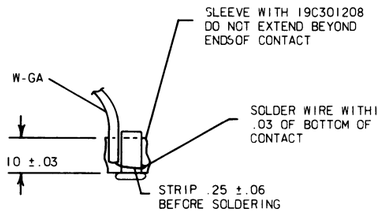




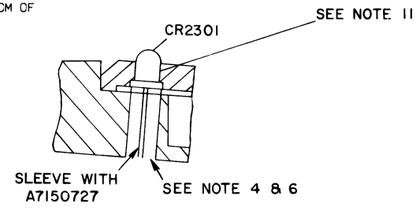


THESE INSTRUCTIONS COVER THE INSTALLATION OF OPTION PL19A130964G1, BUSY LIGHT FOR C.G.

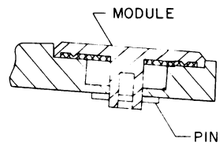
CONNECTIONS CHART			
FROM	TO	WIRE COLOR	TERMINATE
CR2301	A2301-J1	T28-W-GA	P2301
CR2301	A701, A702, A703-H3	T28-V	



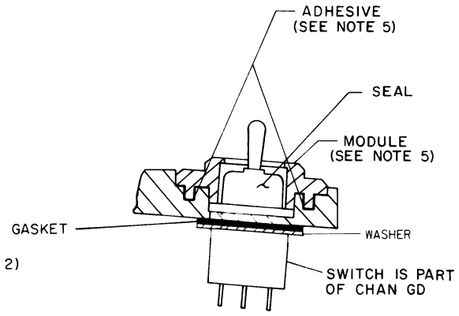
TERMINATION OF
P2301



SECTION "B-B"
(ENLARGED)



SECTION "A-A"
BEFORE SWITCH ASM
(PARTIAL)



SECTION "A-A"
AFTER ASM OF MODULE
(PARTIAL)

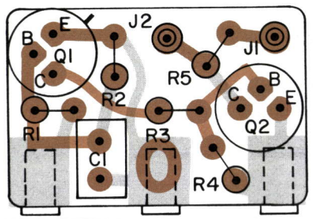
(19B423745, Rev. 7)

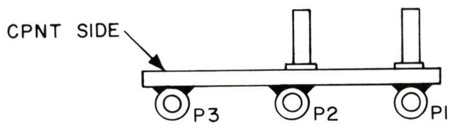
(1) INSTRUCTIONS:

1. REMOVE FRONT AND BACK COVERS IF PRESENT.
2. REMOVE PIN, GASKET AND DUMMY MODULE AT POSITION SHOWN AND DISCARD.
3. ASSEMBLE BUSY LIGHT BOARD A2301 TO J1, J2, J3 AS SHOWN.
4. ASSEMBLE CR2301 TO MODULE.
5. REMOVE RTV FROM HOLE IN CASE. THEN ASSEMBLE WASHER, GASKET, SWITCH, SEAL AND MODULE (PART OF KIT PL19A130972G1) IN POSITION SHOWN. FILL KEYING SLOT IN THREADED SWITCH BUSHING WITH RTV PER P15F-EA106P1 OR P2. DISCARD LOCKING RING THAT IS PART OF SWITCH. APPLY ADHESIVE TO CAVITIES AS SHOWN PER CSD PROCESS P15F-EA106P4 AND ASSEMBLE MODULE TO CASE. OVERFLOW OF ADHESIVE BETWEEN MODULE AND CASE SURFACES IS PERMISSIBLE. PARTS TO BE CLAMPED TOGETHER DURING CURING CYCLE.
6. SLEEVE LEADS OF CR1701 AND RESEAL HOLE IN CASE AND OPEN END OF SLEEVING THAT THE LEADS PASS THRU PER P7A-EA1005 OR P15F-EA106.
7. MAKE CONNECTIONS PER CHART ABOVE.
8. SOLDER ALL ELECTRICAL CONNECTIONS.
9. ASSEMBLE FRONT AND REAR COVERS IF REQUIRED.
10.
11. FORM A WATERPROOF SEAL AROUND FACE OF CR2301 WHERE IT IS IN CONTACT WITH HOLE IN MODULE PER CSD PROCESS P7C-EA126.
12. FOR CONTROL WIRE CLAMPING INFORMATION REFER TO DRAWING 19D423115 NOTE 7.

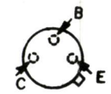
INSTALLATION INSTRUCTIONS

CHANNEL GUARD BUSY LIGHT
19A130964G1 & G2





LEAD IDENTIFICATION
FOR Q1 & Q2

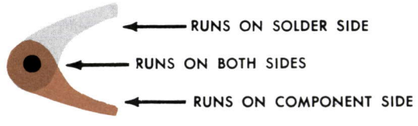


TRIANGULAR

TOP VIEW

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

(19B232121, Rev. 0)
(19C321544, Sh. 2, Rev. 0)
(19C321544, Sh. 3, Rev. 0)



OUTLINE DIAGRAM

CHANNEL GUARD BUSY LIGHT
19A130964G1 & G2

4 Issue 1

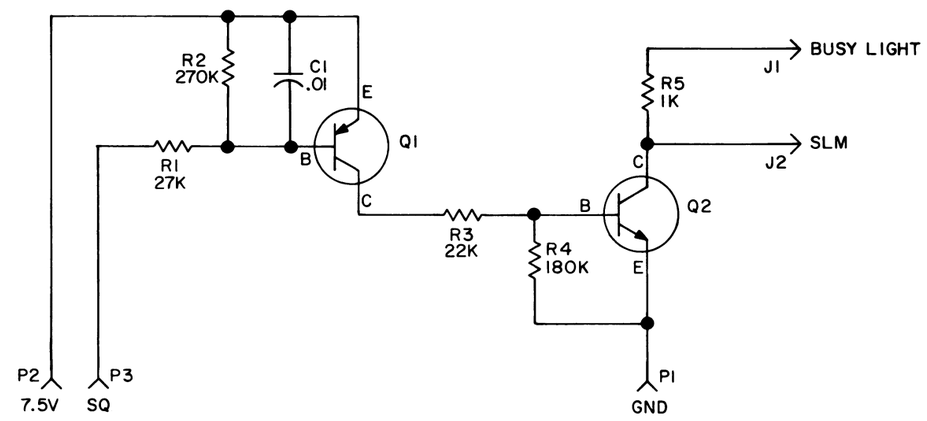
PARTS LIST

LBI-30427

BUSY LIGHT KIT
19A130964G1 BUSY LIGHT
19A130964G2 BUSY LIGHT - 2 TONE

SYMBOL	GE PART NO.	DESCRIPTION
A2301		COMPONENT BOARD 19B226813G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	19A116192P1	Ceramic: 0.01 µf ±20%, 50 VDCW; sim to Erie 8121 SPECIAL.
		- - - - - - - - - JACKS AND RECEPTACLES - - - - - -
J1 and J2	19A116366P2	Contact, electrical: sim to Cambion 460-3233-01-03.
		- - - - - - - - - - - - PLUGS - - - - - - - - - - - -
P1 thru P3	19A115834P4	Contact, electrical: sim to AMP 2-332070-9.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A129187P1	Silicon, PNP.
Q2	19A129184P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	3R151P273J	Composition: 27,000 ohms ±5%, 1/8 w.
R2	3R151P274J	Composition: 0.27 megohm ±5%, 1/8 w.
R3	3R151P223J	Composition: 22,000 ohms ±5%, 1/8 w.
R4	3R151P184J	Composition: 0.18 megohm ±5%, 1/8 w.
R5	3R151P102J	Composition: 1000 ohms ±5%, 1/8 w.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - -
CR2301	19A130470G2	Diode, optoelectronic: red light emitting.
		- - - - - - - - - - - - PLUGS - - - - - - - - - - - -
P2301	19A115834P4	Contact, electrical: sim to AMP 2-332070-9.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - -
	NP276504P2	Nameplate. (BUSY)
	NP276504P11	Nameplate. (BUSY - 2 TONE)
	19B226358G2	Busy Light Lens.
	19B226358G14	Two Tone Busy Light Lens.
	4035306P11	Insulator, fiber. (Used with Q1 and Q2).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



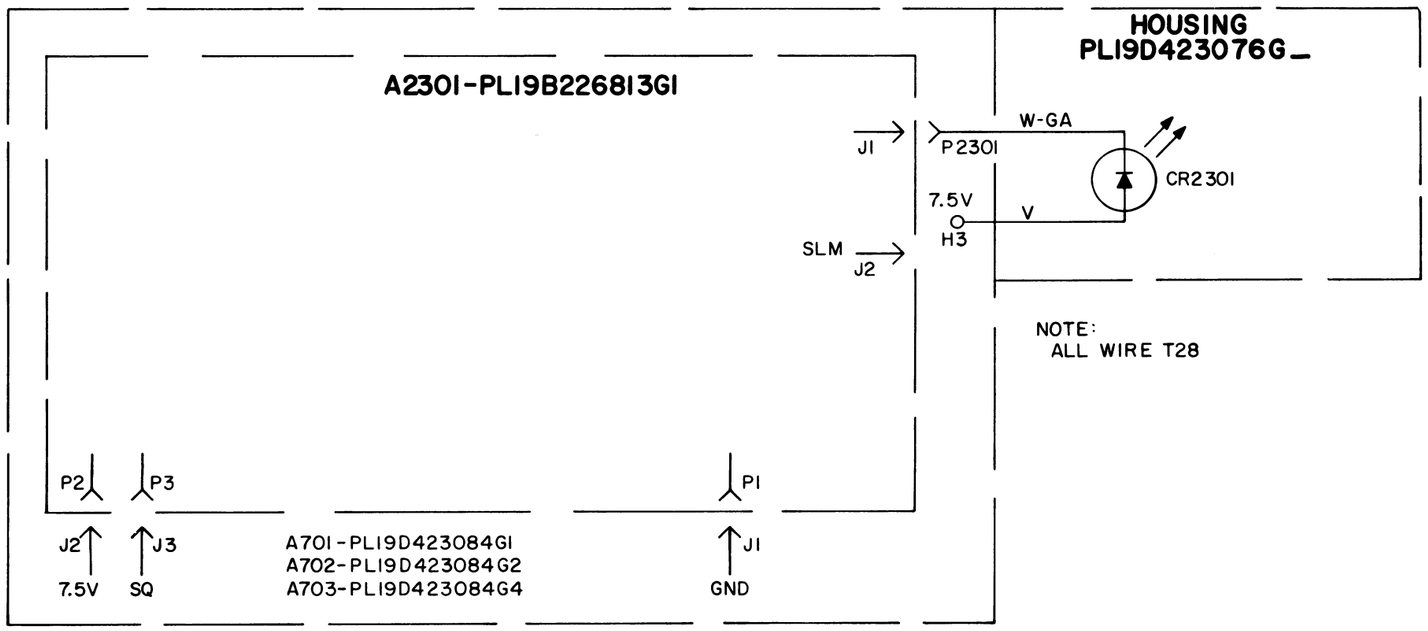
ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF=MICROFARADS.

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.

(19B226814, Rev. 1)

SCHEMATIC DIAGRAM

CHANNEL GUARD BUSY LIGHT
19A130964G1 & G2



ALL RESISTORS ARE 1/8 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.

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.

(19B227283, Rev. 1)

INTERCONNECTION DIAGRAM

CHANNEL GUARD BUSY LIGHT
19A130964G1 & G2