

CHANNEL GUARD FILTER BOARD 19C320627G1LB130727
(DF4098)**TABLE OF CONTENTS**

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DESCRIPTION

The Channel Guard Filter attenuates frequencies below 203.5 Hertz to prevent the Channel Guard tone from being applied to the line. The filter board is plugged into the Audio Board at J3 and J4.

CIRCUIT ANALYSIS

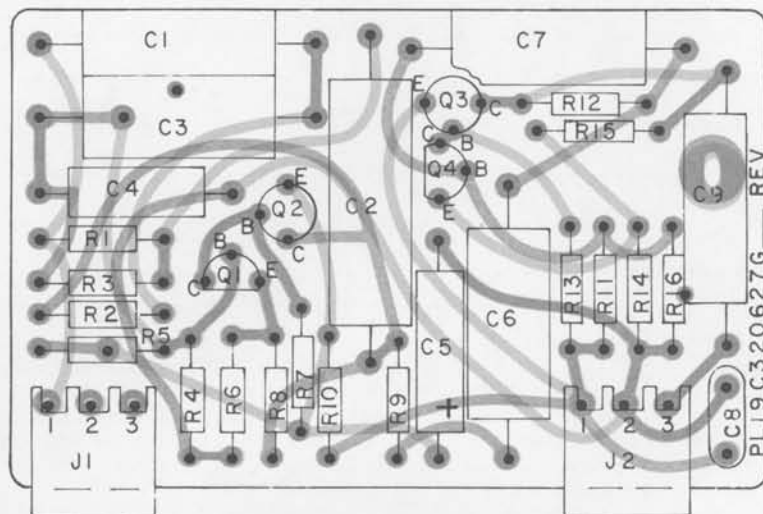
Audio and tone are applied to the Channel Guard Filter input (J1-1) from the Audio Board. The audio is coupled to the

187 Hertz NOTCH FILTER, composed of Q1, Q2 and associated circuitry. Negative feedback for the NOTCH FILTER is connected from the collector of Q2 to the junction of C2-R2.

The NOTCH FILTER output is applied to a LOW-PASS FILTER consisting of Q3 and Q4. Negative feedback is developed across R12. The output of Q3 is coupled to the output lead J2-3 through C9 and returned to the Audio Board.

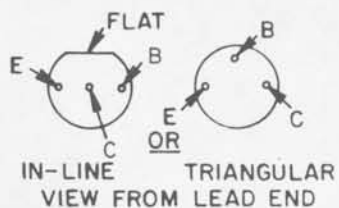
MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

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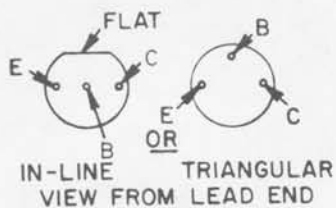
(19C321338, Rev. 0)
 (19C320625, Sh. 2, Rev. 0)
 (19C320625, Sh. 3, Rev. 0)

LEAD IDENTIFICATION FOR Q2 & Q3

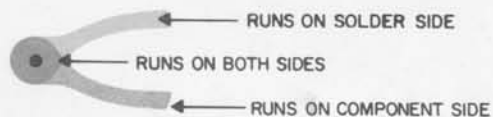


NOTE: LEAD ARRANGEMENT, AND NOT CASE SHAPE, IS DETERMINING FACTOR FOR LEAD IDENTIFICATION.

LEAD IDENTIFICATION FOR Q1 & Q4

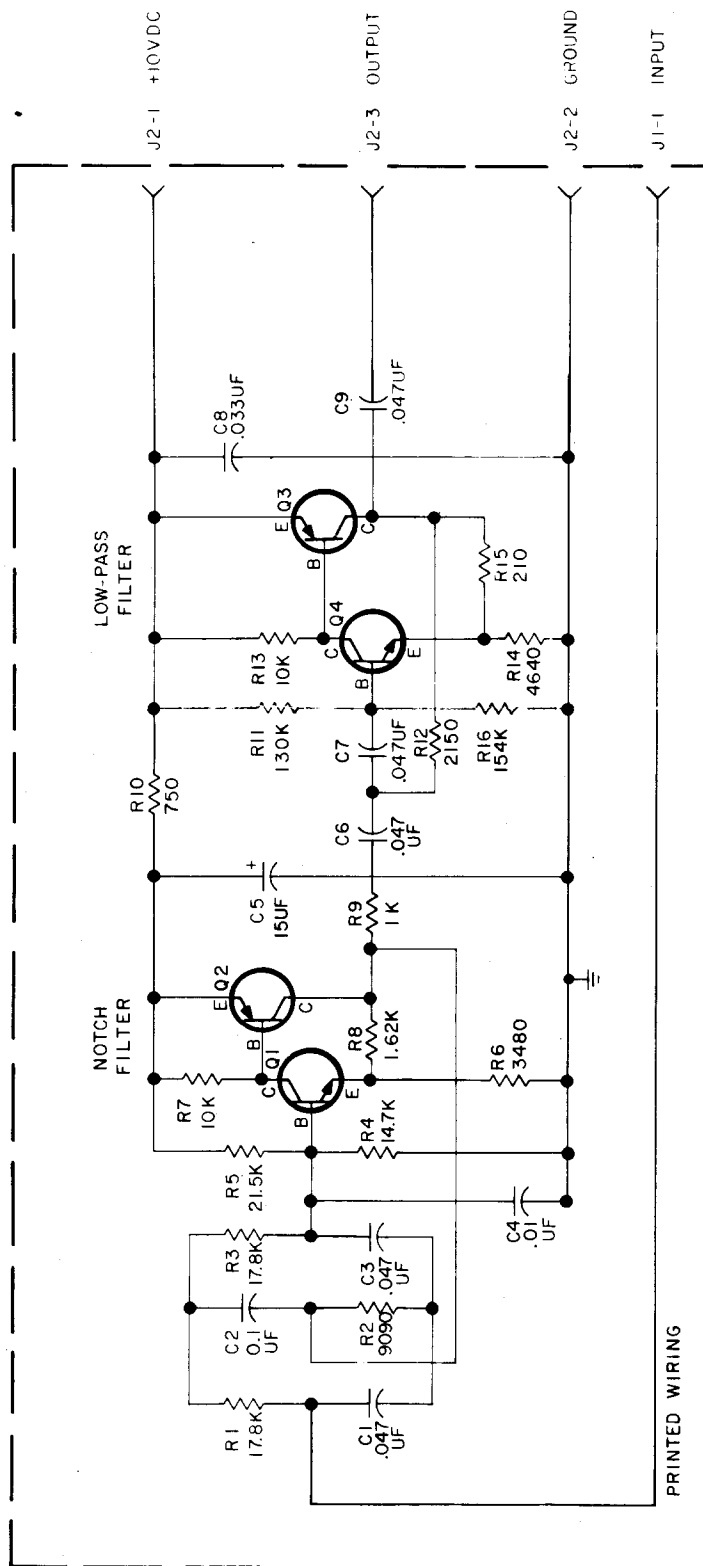


NOTE: LEAD ARRANGEMENT, AND NOT CASE SHAPE, IS DETERMINING FACTOR FOR LEAD IDENTIFICATION.



OUTLINE DIAGRAM

CHANNEL GUARD FILTER
 19C320627G1



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.

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

REV LETTER

MODEL NO

PL19C320627G1

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.

(19C320628, Rev. 0)

SCHEMATIC DIAGRAM

CHANNEL GUARD FILTER 19C320627G1

PARTS LIST

LBI-4813
CHANNEL GUARD FILTER BOARD
19C320627G1

SYMBOL	GE PART NO.	DESCRIPTION
----- CAPACITORS -----		
C1	19C300075P47001G	Polyester: 47,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
C2	19C300075P10002G	Polyester: 100,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
C3	19C300075P47001G	Polyester: 47,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
C4	19C300075P10001G	Polyester: 10,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
C5	5496267P14	Tantalum: 15 μ f $\pm 20\%$, 20 VDCW; sim to Sprague Type 150D.
C6 and C7	19C300075P47001G	Polyester: 47,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
C8	19A116080P4	Polyester: 0.033 μ f $\pm 20\%$, 50 VDCW.
C9	19C300075P47001G	Polyester: 47,000 pf $\pm 2\%$, 100 VDCW; sim to GE Type 61F.
----- JACKS AND RECEPTACLES -----		
J1 and J2	19A116659P5	Connector, printed wiring: 3 contacts; sim to Molex 09-52-3031.
----- TRANSISTORS -----		
Q1	19A116774P1	Silicon, NPN; sim to Type 2N5210.
Q2 and Q3	19A115768P1	Silicon, PNP; sim to Type 2N3702.
Q4	19A116774P1	Silicon, NPN; sim to Type 2N5210.
----- RESISTORS -----		
R1	19C314256P21782	Metal film: 17,800 ohms $\pm 1\%$, 1/4 w.
R2	19C314256P29091	Metal film: 9090 ohms $\pm 1\%$, 1/4 w.
R3	19C314256P21782	Metal film: 17,800 ohms $\pm 1\%$, 1/4 w.
R4	19C314256P21472	Metal film: 14,700 ohms $\pm 1\%$, 1/4 w.
R5	19C314256P22152	Metal film: 21,500 ohms $\pm 1\%$, 1/4 w.
R6	19C314256P23481	Metal film: 3480 ohms $\pm 1\%$, 1/4 w.
R7	3R152P103J	Composition: 10,000 ohms $\pm 5\%$, 1/4 w.
R8	19C314256P21621	Metal film: 1620 ohms $\pm 1\%$, 1/4 w.
R9	19C314256P21001	Metal film: 1000 ohms $\pm 1\%$, 1/4 w.
R10	3R152P751J	Composition: 750 ohms $\pm 5\%$, 1/4 w.
R11	19C314256P21303	Metal film: 130,000 ohms $\pm 1\%$, 1/4 w.
R12	19C314256P22151	Metal film: 2150 ohms $\pm 1\%$, 1/4 w.
R13	3R152P103J	Composition: 10,000 ohms $\pm 5\%$, 1/4 w.
R14	19C314256P24641	Metal film: 4640 ohms $\pm 1\%$, 1/4 w.
R15	19C314256P22100	Metal film: 210 ohms $\pm 1\%$, 1/4 w.
R16	19C314256P21543	Metal film: 154,000 ohms $\pm 1\%$, 1/4 w.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES