INSTRUCTIONS
FOR
CHANNEL GUARD FILTER BOARD 19C320627G1

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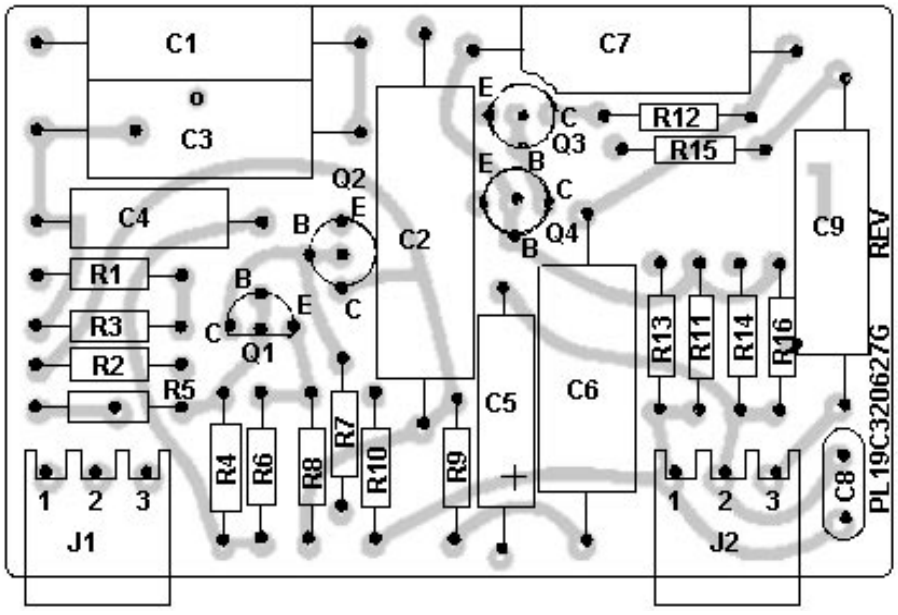
DESCRIPTION

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.

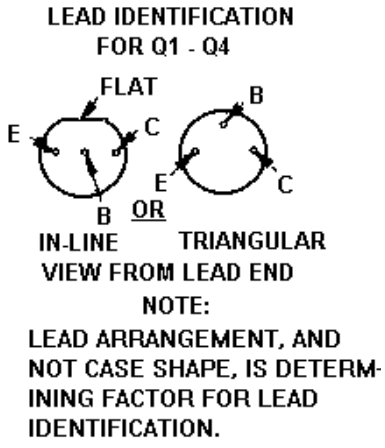
CIRCUIT ANALYSIS

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.



(19C321338, Rev. 1)
(19C320625, Sh. 3, Rev. 1)



CHANNEL GUARD FILTER
19C320627G1

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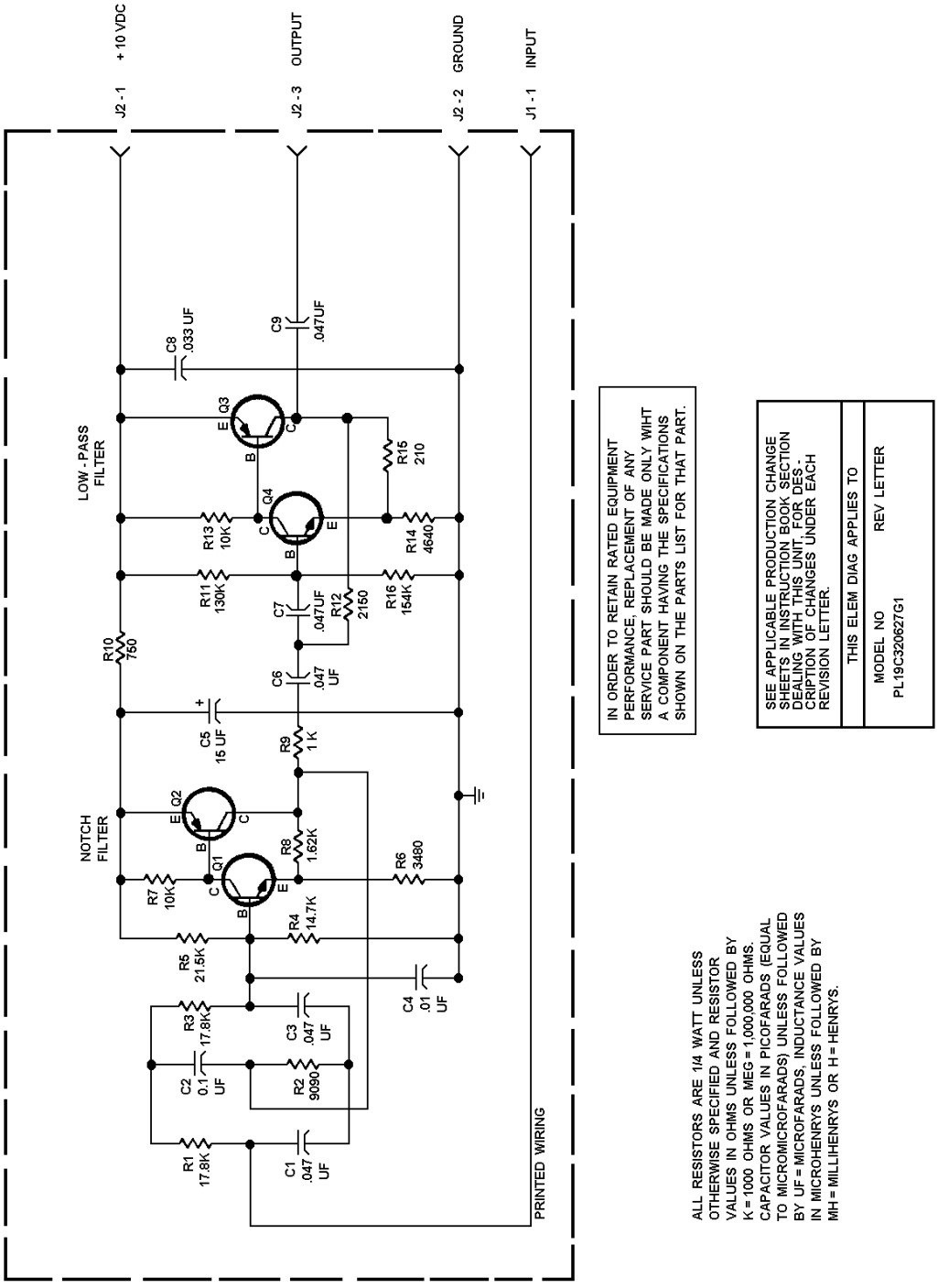

(19C320628, Rev. 0)

CHANNEL GUARD FILTER
19C320627G1

LBI 4813B
CHANNEL GUARD FILTER BOARD
19C320627G1

SYMBOL	PART NUMBER	DESCRIPTION
		— — — — CAPACITORS — — —
C1	19C300075P47001G	Polyester: .047 µF ±2%, 100 VDCW; sim to GE Type 61F.
C2	19C300075P10002G	Polyester: .1 µF ±2%, 100 VDCW; sim to GE Type 61F.
C3	19C300075P47001G	Polyester: .047 µF ±2%, 100 VDCW; sim to GE Type 61F.
C4	19C300075P10001G	Polyester: .01 uf ±2%, 100 VDCW; sim to GE Type 61F.
C5	5496267P14	Tantalum: 15 µF ±20%, 20 VDCW; sim toSprague Type 150D.
C6 and C7	19C300075P47001G	Polyester: .047 µF ±2%, 100 VDCW; sim to GE Type 61F.
C8	T644ACP333K	Polyester: .033 µF ±10%, 50 VDCW.
C9	19C300075P47001G	Polyester: .047 µF ±2%, 100 VDCW; sim to GE Type 61F.
		— — — — — JACKS — — — —
J1 and J2	19A700102P1	Printed wire: 3 contacts rated at 5 amps; sim to Molex 09-52-3031.
		— — — — TRANSISTORS — — —
Q1	19A116774P1	Silicon, NPN: sim to 2N5210.
Q2 and Q3	19A700022P1	Silicon, PNP: sim to 2N3906.
Q4	19A116774P1	Silicon, NPN: sim to 2N5210.
		— — — — RESISTORS — — —
R1	19A701250P325	Metal film: 17.8K ohms ±1%, 1/4 w.
R2	19A701250P293	Metal film: 90.0K ohms ±1%, 1/4 w.
R3	19A701250P325	Metal film: 17.8K ohms ±1%, 1/4 w.
R4	19A701250P317	Metal film: 14.7K ohms ±1%, 1/4 w.
R5	19A701250P333	Metal film: 21.5K ohms ±1%, 1/4 w.
R6	19A701250P253	Metal film: 3.48K ohms ±1%, 1/4 w.
R7	19A700106P87	Composition: 10K ohms ±5%, 1/4 w.
R8	19A701250P221	Metal film: 1620 ohms ±1%, 1/4 w.
R9	19A701250P201	Metal film: 1K ohms ±1%, 1/4 w.
R10	3R152P751J	Composition: 750 ohms ±5%, 1/4 w.
R11	19A701250P412	Metal film: 130K ohms ±1%, 1/4 w.
R12	19A701250P233	Metal film: 2.15K ohms ±1%, 1/4 w.
R13	19A700106P87	Composition: 10K ohms ±5%, 1/4 w.
R14	19A701250P265	Metal film: 4.6K ohms ±1%, 1/4 w.
R15	19A701250P132	Metal film: 210 ohms ±1%, 1/4 w.
R16	19A701250P419	Metal film: 154K ohms ±1%, 1/4 w.

***COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES**

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