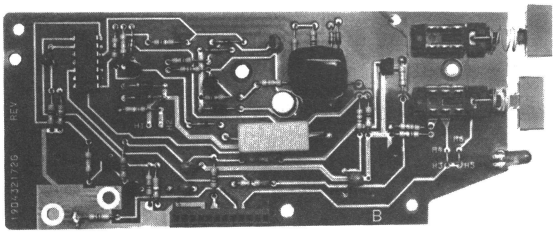
MOBILE RADIO

CENTURY II
MAINTENANCE MANUAL

Maintenance Manual LBI-30940
DATAFILE FOLDER — DF8397



PUBLIC ADDRESS BOARD

SPEAKER-AMPLIFIER

SPECIFICATIONS *

PUBLIC ADDRESS

Battery Drain	
8.5 Volts	20 milliamperes
13.8 Volts	25 milliamperes
Audio Input	
Mic Hi	100 millivolts rms
Volume/Squelch Hi	300 millivolts rms
Auxiliary Audio	100 millivolts rms
Audio Output	350 millivolts rms
Distortion (Typical)	1%

SPEAKER-AMPLIFIER

Audio Output	5 watts
Battery Drain (Maximum)	
Standby	225 milliamperes
Rated Audio	1 ampere
Distortion (Typical)	3%
Temperature Range	-30°C to +60°C (-22°F to +140°F)

*These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

PUBLIC ADDRESS & SPEAKER-AMPLIFIER

GENERAL ELECTRIC

TABLE OF CONTENTS

WARNING

Although the highest DC voltage in Mobile Radio Equipment is supplied by the vehicle battery, high currents may be drawn under short circuit conditions. These currents can possibly heat metal objects such as tools, rings, watchbands, etc., enough to cause burns. Be careful when working near energized 13.8 volt circuits!

High-level RF energy in the transmitter Power Amplifier assembly can cause RF burns upon contact. KEEP AWAY FROM THESE CIRCUITS WHEN THE TRANSMITTER IS ENERGIZED!

GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

GENERAL ELECTRIC*
U.S.A.

DESCRIPTION

The Public Address option permits the Century II radio to be used as a mobile public address system and a two way radio. The public address option consists of a public address board, an external system cable assembly, and a weatherproof five-watt speaker-amplifier. Up to four additional speaker-amplifiers can be used in the system.

Two control pushbuttons are used to select the speakers and to turn them on and off. The "EXT" pushbutton controls the external speaker-amplifier, and the "INT" pushbutton controls the internal speaker-amplifiers. The external speaker may be mounted under the vehicle hood, under the dash in the dash mounting bracket where it can be easily removed and hung on the window.

The internal speakers may be mounted in the vehicle as desired.

OPERATION

Pressing the INT or EXT pushbutton (or both) selects the speaker(s) wanted, lights the red PA light, and disables the transmitter Push-To-Talk (PTT) function (prevents operation of the transmitter).

The public address option provides the following three modes of operation:

PUBLIC ADDRESS

In the public address mode, keying the microphone disables the auxiliary audio, if present, and permits the microphone audio to be heard on any selected speaker-amplifiers. If a message is received by the radio, the message will be heard in the radio speaker during the public address.

RECEIVER AUDIO

Audio from the mobile receiver has priority over the auxiliary audio functions. Any message from the receiver will disable that function so that receiver audio is heard on the radio speaker and any selected INT or EXT speaker-amplifiers. Receiver audio can be kept from the speaker-amplifiers by removing jumpers on the public address board.

AUXILIARY AUDIO

Auxiliary audio from a tape player, FM radio, etc. can be connected to the public address board through J910, and can be switched to the selected internal or external speakers by the INT or EXT pushbuttons.

CIRCUIT ANALYSIS

PUBLIC ADDRESS

The public address board contains three audio input and switching circuits, PTT inhibit and pre-amplifier circuits. The INT and EXT speaker control switches and PA indicator LED are also mounted on the public address board.

Supply voltages consist of a continuous 8.5 volts at P1706-8, and a switched 13.8 volts from J603 on the transmitter/receiver board.

PTT INHIBIT

Pressing in the INT (S1701) or EXT (S1702) switch applies 13.8 volts to PTT inhibit stage Q1707. The current developed through R1727 also lights the PA "ON" LED D1705.

The voltage is coupled through dropping networks R1720 and R1721 to the base of Q1707, turning it on. Turning on Q1707 causes the collector to go low (near ground potential), switching off Q1708. When turned off, the collector of Q1708 (PTT SWITCHED) goes high (8.5 volts) inhibiting the PTT function. With either S1701 or S1702 pressed in, the 13.8 volts is also applied to the selected speaker-amplifier control leads (P1706-11 and P1706-12).

NOTE

The Transmitter can NOT be keyed with either the INT or EXT switch pressed in (on).

AUDIO INPUTS

Three audio input and switching circuits are located on the public address board. The inputs are Volume/Squelch Hi, Mic Hi and Auxiliary Audio.

Audio switching is provided by a quad bilateral CMOS switch, U1701.

Volume/Squelch Hi

When the receiver unsquelches, audio applied to P1706-1 is coupled through a de-emphasis network (R1728, C1702 and C1706) which provides 6 dB/octave roll off.

The audio is attenuated by R1703 and R1704, and applied to bilateral switch U1C. If the switch is on, the audio (approx. 30 milliwatts) is coupled through U1D (which is normally on) and then to the pre-amplifier

stage Q1704 and Q1705. The pre-amplifier output (350 millivolts rms) is applied to the selected speaker-amplifiers.

When the receiver unsquelches, the RX MUTE lead at P1706-4 goes high. If any of the speakers are selected (INT or EXT button pressed in), this turns on Q1701. When turned on, the collector of Q1701 goes low, turning off switch U1701B and Q1702. Turning off Q1702 allows its collector to go high which turns on switch U1701C.

The public address option is jumpered at the factory so that receiver audio will inhibit the AUX AUDIO in the INT or EXT mode (or both) if the switches are pressed in. Refer to the Schematic Diagram for instructions.

NOTE

If receiver audio is not desired in either the INT or EXT speaker, remove both jumpers. However, receiver audio will always be heard in the radio speaker.

Mic Hi

The mic Hi audio input is used in the public address mode, using the INT or EXT speakers.

Keying the microphone applies a ground to the PTT lead at P1706-3. Grounding this input turns off switch U1701D. This prevents any receiver audio or auxiliary audio from being heard in the INT or EXT speakers. The ground on the PTT lead also turns off Q1703 which allows switch U1701A to turn on. Capacitor C1708 slows down the switching time to prevent a "thump" from being heard at the speakers.

With the audio path enabled, audio from the microphone is attenuated by R1701 and R1702 and coupled through switch U1701A to the pre-amplifier. The output of the pre-amplifier is applied to the selected speaker-amplifier.

Auxiliary Audio

The auxiliary audio input circuit consists of R1705, D1701, D1702 and R1707. This circuit is designed to look like an 8 ohm load, and by removing R1707 from the circuit (by removing a jumper), will act like a high impedance input.

The limiting-matching circuit is required to protect the radio, tape player etc. driving the pre-amplifier, and to limit the input level to the circuit.

The output of the limiter-matching network is attenuated by R1706 and R1708 and coupled through switch U1701B and U1701D to the pre-amplifier. This audio path can be shut off when receiver audio is received. Refer to the Schematic Diagram for jumper information.

TRANSMIT PTT

When using the public address option, the normal PTT path on the Interconnect/Multifrequency board is replaced by the PTT SWITCHED circuit Q1706 and Q1708.

Keying the microphone applies a ground to P1706-3 which turns off Q1706. This allows Q1708 to turn on, providing the "low" required for the PTT SWITCHED output at P1706-2.

Releasing the microphone button removes the ground at the base of Q1706, allowing it to turn on. This turns off Q1708 and removes the ground at P1706-2.

NOTE

To operate the radio with the public address board removed, refer to the Interconnect/Multifrequency Schematic and Outline Diagrams for jumper connections.

SPEAKER-AMPLIFIER

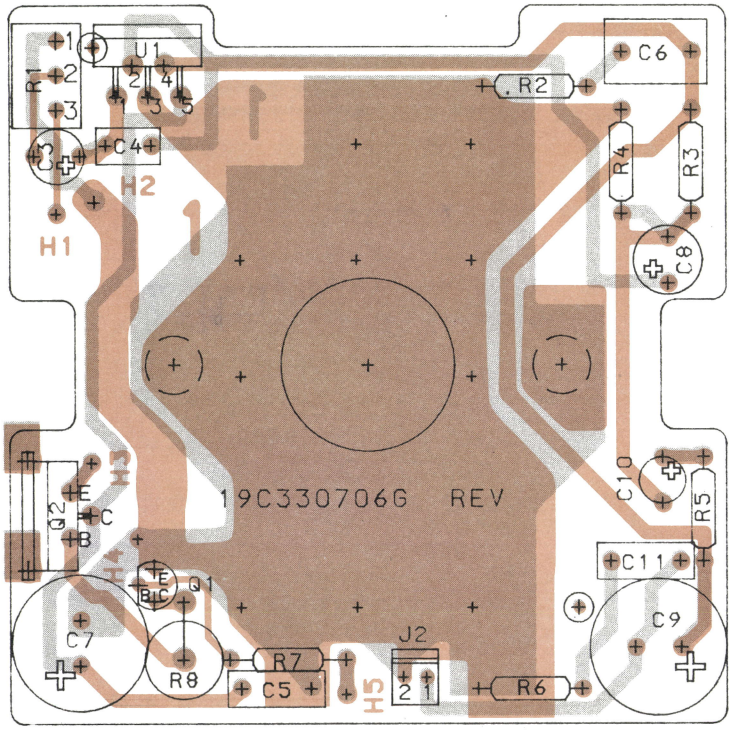
The speaker-amplifier is turned on and off by the INT or EXT switches on the public address board. Pressing in either switch applies 13.8 volts to the base of Q1, turning it on. Turning on Q1 causes its collector to go low, turning on PNP transistor Q2. This applies 13.6 volts to monolithic amplifier U1, turning it on.

Audio from the pre-amplifier is coupled through Output Level Adjust potentiometer R1 to U1-1. The amplifier output is applied to the two ohm speaker, LS1. R1 can be adjusted through a hole in the speaker housing.

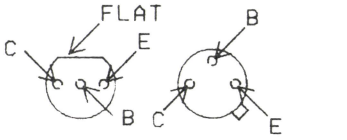
The speaker amplifier connects to system connector J910 through a 15-foot cable assembly. One end of the cable is terminated in a 12-pin molex connector. The other end can be cut to length and terminated with terminals and splice connector provided.

A single lead with a molex terminal on one end and a splice connector is provided for connecting the auxiliary audio source to J910.

Refer to the Installation Instructions for complete instructions.



LEAD IDENTIFICATION
FOR Q1

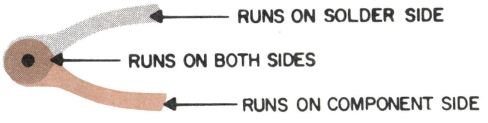


OR

IN-LINE TRIANGULAR

TOP VIEW

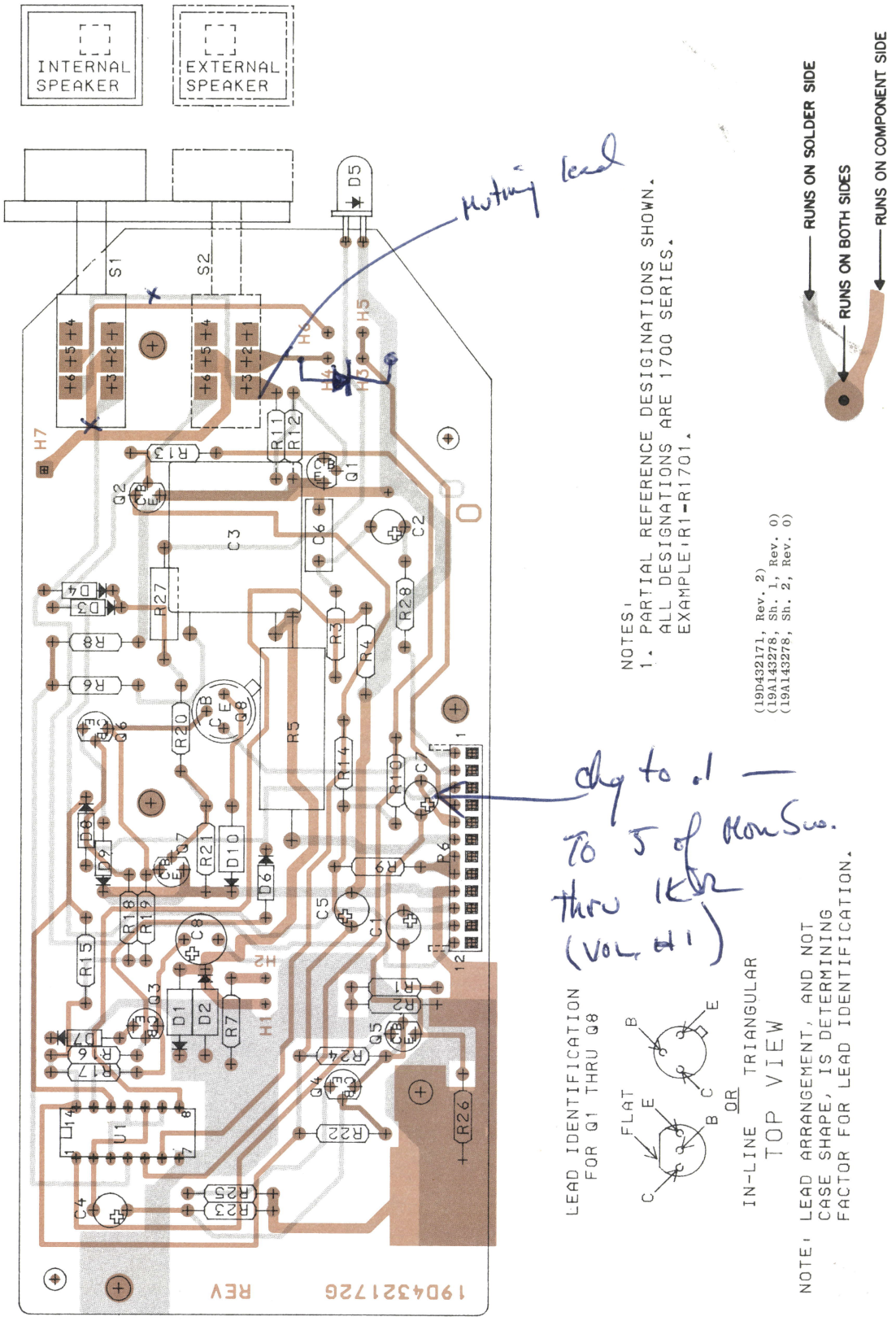
(19C330705, Rev. 1)
(19A143242, Sh. 1, Rev. 1)
(19A143242, Sh. 2, Rev. 1)



OUTLINE DIAGRAM

SPEAKER-AMPLIFIER

Issue 1



NOTES:
1. PARTIAL REFERENCE DESIGNATIONS SHOWN. ALL DESIGNATIONS ARE 1700 SERIES. EXAMPLE: R1-R1701.

(19D432171, Rev. 2)
(19A143278, Sh. 1, Rev. 0)
(19A143278, Sh. 2, Rev. 0)

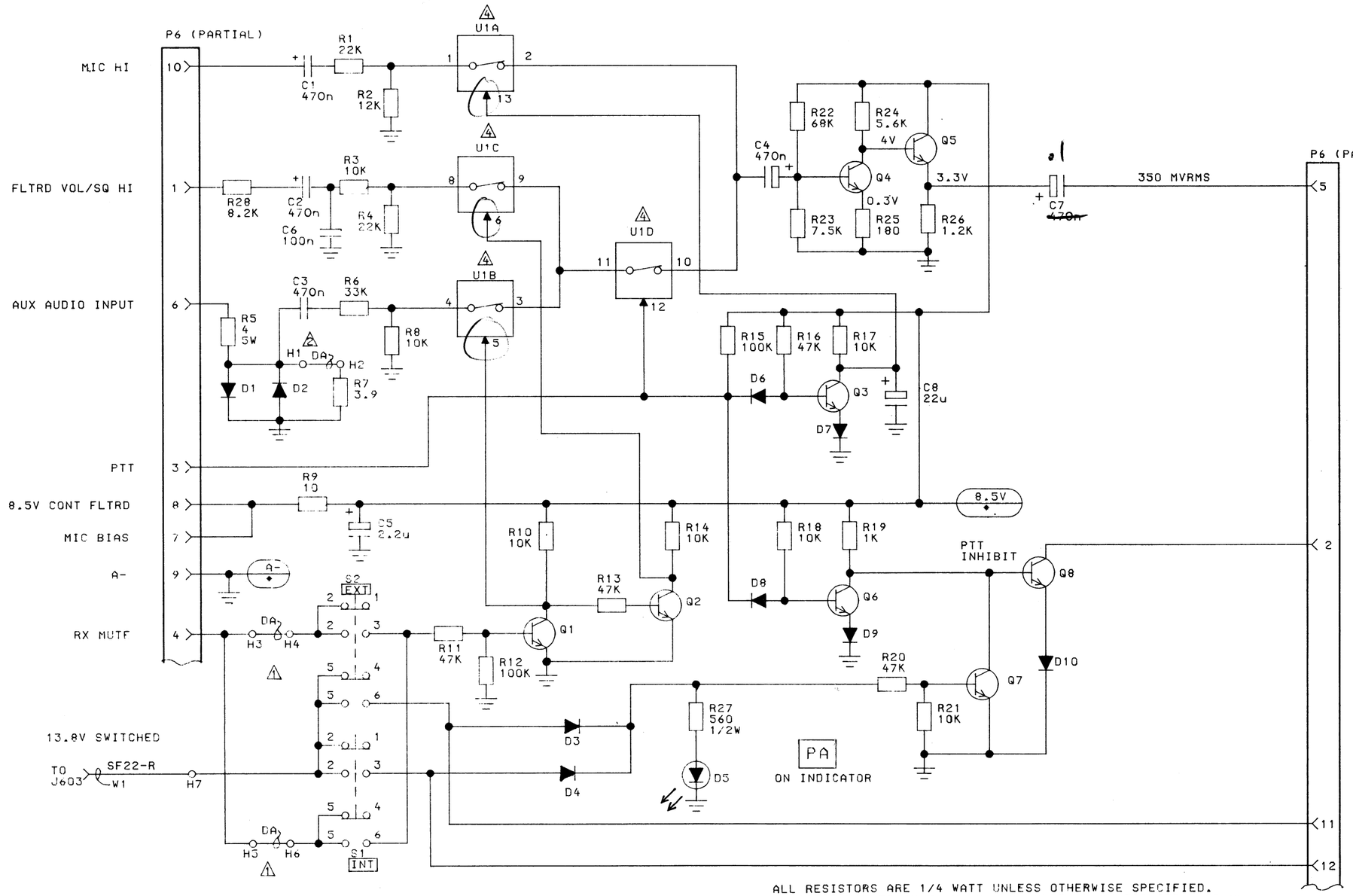
LEAD IDENTIFICATION FOR Q1 THRU Q8

IN-LINE TRIANGULAR
TOP VIEW

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

OUTLINE DIAGRAM

PUBLIC ADDRESS BOARD



NOTES:

1. JUMPER H3 TO H4 INHIBITS AUX AUDIO FOR RX AUDIO IN "EXT" ONLY MODE. JUMPER H5 TO H6 INHIBITS AUX AUDIO FOR RX AUDIO IN "INT" ONLY MODE. IF EITHER JUMPER IS IN PLACE, AUX AUDIO IS INHIBITED FOR RX AUDIO IF BOTH "INT" AND "EXT" MODES ARE SELECTED.
2. REMOVE JUMPER H1 TO H2 WHEN AUX AUDIO SOURCE IS A HIGH IMPEDANCE OR A BRIDGED SPEAKER CONNECTION.
3. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN. FOR COMPLETE DESIGNATION PREFIX WITH 1700 SERIES. EXAMPLE C1=C1701, R1=R1701, ETC.
4. CMOS ANALOG SWITCHES SHOWN WITH CONTROL LEAD IN HIGH STATE.

◆ POWER & GND CONNECTIONS

DEVICE	V+(8.5V) PIN NO.	GND PIN NO.
U1	14	7

MODEL NO.	REV. LETTER
19D432172G1	

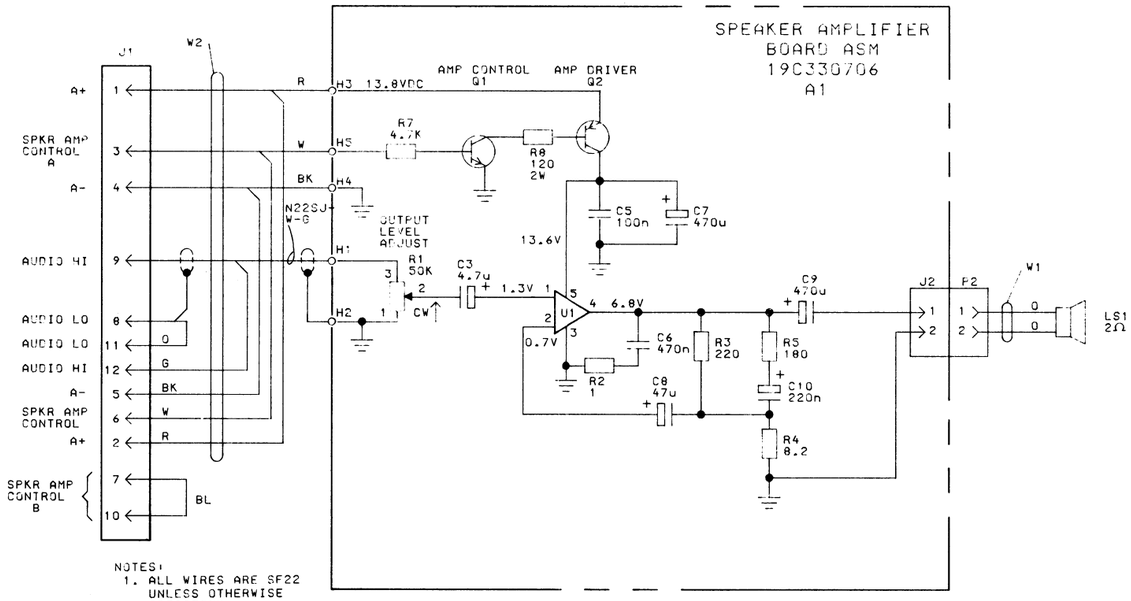
ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES IN Ω UNLESS FOLLOWED BY MULTIPLIER k OR M.
CAPACITOR VALUES IN F UNLESS FOLLOWED BY MULTIPLIER μ, n OR p.
INDUCTANCE VALUES IN H UNLESS FOLLOWED BY MULTIPLIER m OR μ.

Switches
Gnd switch input to turn off
Hi to turn-on

(19D432191, Rev. 2)

SCHEMATIC DIAGRAM

PUBLIC ADDRESS BOARD



NOTES:
1. ALL WIRES ARE SF22 UNLESS OTHERWISE SPECIFIED.

ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES IN Ω UNLESS FOLLOWED BY MULTIPLIER k OR M.
CAPACITOR VALUES IN F UNLESS FOLLOWED BY MULTIPLIER µ,n OR p.
INDUCTANCE VALUES IN H UNLESS FOLLOWED BY MULTIPLIER m OR µ.

MODEL NO.	REV. LETTER
19C330706G1 19D432315G1	

(19C330745, Rev. 3)

SCHEMATIC DIAGRAM

SPEAKER-AMPLIFIER

PARTS LIST

SPEAKER AMPLIFIER 19D432315G1
DASH MOUNTING BRACKET 19D432315G2
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
		SPEAKER AMPLIFIER 19D432315G1
A1		SPEAKER AMPLIFIER BOARD 19C330706G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C3	19A700003P6	Tantalum: 4.7 µf ±20%, 35 VDCw.
C5	19A700004P2	Metallized polyester: 0.1 µf ±10%, 63 VDCw.
C6	19A700004P6	Metallized polyester: 0.47 µf ±10%, 63 VDCW.
C7	19A134730P3	Electrolytic: 470 µf +100 -10%, 16 VDCW.
C8	19A700003P9	Tantalum: 47 µf ±20%, 6.3 VDCW.
C9	19A134730P3	Electrolytic: 470 µf +100 -10%, 16 VDCW.
C10	19A700003P2	Tantalum: 0.22 µf ±20%, 35 VDCW.
C11	19A700004P2	Metallized polyester: 0.1 µf ±10%, 63 VDCw.
		- - - - - - - - - JACKS AND RECEPTACLES - - - - - -
J2	19A134736P1	Contact, electrical; sim to Molex 6410 (22-27-2021).
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A700023P1	Silicon, NPN; sim to Type 2N3904.
Q2	19A116375P1	Silicon, PNP.
		- - - - - - - - - - - RESISTORS - - - - - - - - - -
R1	19A116559P224	Variable, cermet: 50K ohms ±20%, 0.25 w; sim to CTS Series 360.
R2	19A700019P1	Deposited carbon: 1 ohms ±5%, 0.25 w.
R3	19A700019P29	Deposited carbon: 220 ohms ±5%, 0.25 w.
R4	19A700019P12	Deposited carbon: 8.2 ohms ±5%, 0.25 w.
R5	19A700019P17	Deposited carbon: 22 ohms ±5%, 0.25 w.
R6	19A700019P1	Deposited carbon: 1 ohms ±5%, 0.25 w.
R7	19A700019P45	Deposited carbon: 4.7K ohms ±5%, 0.25 w.
R8	19A700111P41	Composition: 120 ohms ±5%, 2 w.
		- - - - - - - - INTEGRATED CIRCUITS - - - - - - - -
U1	19A134769P2	Linear, Audio Amplifier; sim to TDA 2002.
		- - - - - - - - - LOUDSPEAKERS - - - - - - - - -
LS1	19A143389P1	Permanent magnet: 5 inch, 2 ohms ±10% imp. at 1000 Hz at 7.5 w.
		- - - - - - - - - - - CABLES - - - - - - - - - - -
W1	19A143414G1	Cable. Includes:
P2	19A700041P28	Shell.
	19A134152P11	Contact, electrical; sim to Molex 08-50-0113. (Quantity 2).
W2	19B233630G1	Cable. Includes:
J2	19B209288P24	Shell.
	19B209288P2	Contact, electrical; sim to Molex 02-09-2101. (J1-1, 3, 4, 8, 9).
	5496809P18	Contact, electrical; sim to Molex 1380-T. (J1-2, 5, 6, 10, 11, 12).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19B219692G2	Grille.
	19C330828G1	Housing.
	19C330827P1	Support. (U1).
	19C320016P2	Mounting bracket.
	19A116986P112	Screw, thd. forming, assembled washer: Phillips Pozidriv®, HI-LO® thd., No. 7-19 x 3/4. (Secures grille to housing).
	19A116986P108	Screw, thd. forming, assembled washer: Phillips Pozidriv®, HI-LO® thd., No. 7-19 x 1/2. (Secures speaker).
	N187P16010C6	Machine screw: slotted, hex/washerhead No. 10-32 5/8. (Secures mounting bracket to housing).
	N130P1610C6	Tap screw: No. 10-16 x 5/8. (Secures mounting bracket to mounting surface).
	19B2p1074P406	Tap screw, Phillips POZIDRIV®: No. 8-32 x 3/8. (Secures U1 support).
	19A116768P17	Strain relief. (Used with W2).
	N80P13005C6	Machine screw: No. 6-32 x 5/16. (Secures A1 to housing).
	N404P13C6	Lockwasher, internal tooth: No. 6. (Secures A1 to housing).
	N80P9006C6	Machine screw: No. 4-40 x 3/8. (Secures U1 to support).
	N402P39C6	Flatwasher: No. 10. (Secures mounting bracket to housing).
	N403P19C6	Lockwasher: No. 10. (Secures mounting bracket to housing).
		DASH MOUNTING BRACKET 19D432315G2
	19B226185P2	Support.
	19B226190P1	Plate.
	N193P1408C6	Tap screw, phillip head: No. 8-18 x 1/2.

PARTS LIST

PUBLIC ADDRESS BOARD
19D432172G1
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1701 and C1702	19A700003P3	Tantalum: 0.47 µf ±20%, 35 VDCW.
C1703	19A116080P11	Polyester: 0.47 µf ±20%, 50 VDCW.
C1704	19A700003P3	Tantalum: 0.47 µf ±20%, 35 VDCW.
C1705	19A700003P5	Tantalum: 2.2 µf ±20%, 35 VDCW.
C1706	19A700004P2	Metallized polyester: 0.1 µf ±10%, 63 VDCW.
C1707	19A700003P3	Tantalum: 0.47 µf ±20%, 35 VDCW.
C1708	19A700003P8	Tantalum: 22 µf ±20%, 16 VDCW.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - -
D1701 and D1702	4037822P1	Silicon, 1000 mA, 400 PIV.
D1703 and D1704	19A700028P1	Silicon, fast recovery, 75 mA, 75 PIV.
D1705	19A134354P2	Diode, optoelectronic: yellow; sim to HEW. Packard 5082-4655.
D1706 thru D1709	19A700028P1	Silicon, fast recovery, 75 mA, 75 PIV.
D1710	4037822P1	Silicon, 1000 mA, 400 PIV.
		- - - - - - - - - - - PLUGS - - - - - - - - - -
P1706	19A134152P63	Connector, printed wiring: sim to Molex 22-02-2121.
		- - - - - - - - - - TRANSISTORS - - - - - - - - -
Q1701 thru Q1707	19A700023P1	Silicon, NPN; sim to Type 2N3904.
Q1708	19A115300P4	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1701	19A700019P53	Deposited carbon: 22K ohms ±5%, 0.25 w.
R1702	19A700019P50	Deposited carbon: 12K ohms ±5%, 0.25 w.
R1703	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1704	19A700019P53	Deposited carbon: 22K ohms ±5%, 0.25 w.
R1705	5493035P32	Wirewound: 4 ohms ±5%, 5 w; sim to Hamilton Hall Type HR.
R1706	19A700019P55	Deposited carbon: 33K ohms ±5%, 0.25 w.
R1707	19A700019P8	Deposited carbon: 3.9 ohms ±5%, 0.25 w.
R1708	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1709	19A700019P13	Deposited carbon: 10 ohms ±5%, 0.25 w.
R1710	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1711	19A700019P57	Deposited carbon: 47K ohms ±5%, 0.25 w.
R1712	19A700019P61	Deposited carbon: 0.1 megohm ±5%, 0.25 w.
R1713	19A700019P57	Deposited carbon: 47K ohms ±5%, 0.25 w.
R1714	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1715	19A700019P61	Deposited carbon: 0.1 megohm ±5%, 0.25 w.
R1716	19A700019P57	Deposited carbon: 47K ohms ±5%, 0.25 w.
R1717 and R1718	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1719	19A700019P37	Deposited carbon: 1K ohms ±5%, 0.25 w.
R1720	19A700019P57	Deposited carbon: 47K ohms ±5%, 0.25 w.
R1721	19A700019P49	Deposited carbon: 10K ohms ±5%, 0.25 w.
R1722	19A700019P59	Deposited carbon: 68K ohms ±5%, 0.25 w.
R1723	3R152P152J	Composition: 1.5K ohms ±5%, 1/4 w.
R1724	19A700019P46	Deposited carbon: 5.6K ohms ±5%, 0.25 w.
R1725	19A700019P28	Deposited carbon: 180 ohms ±5%, 0.25 w.
R1726	19A700019P38	Deposited carbon: 1.2K ohms ±5%, 0.25 w.
R1727	19A700113P57	Composition: 560 ohms ±5%, 1/2 w.
R1728	19A700019P48	Deposited carbon: 8.2K ohms ±5%, 0.25 w.
		- - - - - - - - - - SWITCHES - - - - - - - - -
S1701	19B800563P2	Push: DPDT, 1 station, alternate action; sim to Schadow Co. Series "F".
		- - - - - - - - INTGRATED CIRCUITS - - - - - - -
U1701	19A134097P52	Digital, Quad Switch (Improved CD4016AE): Identification No. 4066.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1701	19A701340G5	Cable, stranded No. 24 AWG, includes 19A115871P34 terminal.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - -
	4036555P1	Insulator, washer: nylon. (Used with Q1708).
	19C328587P1	Pushbutton. (S1701).
	NP280878P3	Nameplate. (INTERNAL SPEAKER - Used with S1701).
	19A701743P1	Pad. (Used with S1701 & S1702).
	19A143463P2	Spacer, sleeve. (Located at P1706 on Public Address board).
	19A143463P3	Spacer, sleeve. (Located towards the front of Public Address board).
	19B232859P1	Bushing. (Used with D5).
	19A700036P422	Screw, thd. forming, POZIDRIV: M3-0.5. (Used with spacers to secure Public Address board).
	19A131589P3008	Tap screw, thd. forming: 3-0.5 x 8MM. (Secures Public Address board at back).
		ASSOCIATED PARTS
	19D900134P3	Nameplate. (PA with 1 switch).
	19D900134P7	Nameplate. (PA with 2 switches).
		S1702 EXTERNAL SPEAKER SWITCH 19A143490G1
	19B800563P2	Switch, push: DPDT, 1 station, alternate action; sim to Schadow Co. Series "F".
	NP280878P4	Nameplate (EXTERNAL SPEAKER).
	19C328587P1	Pushbutton.

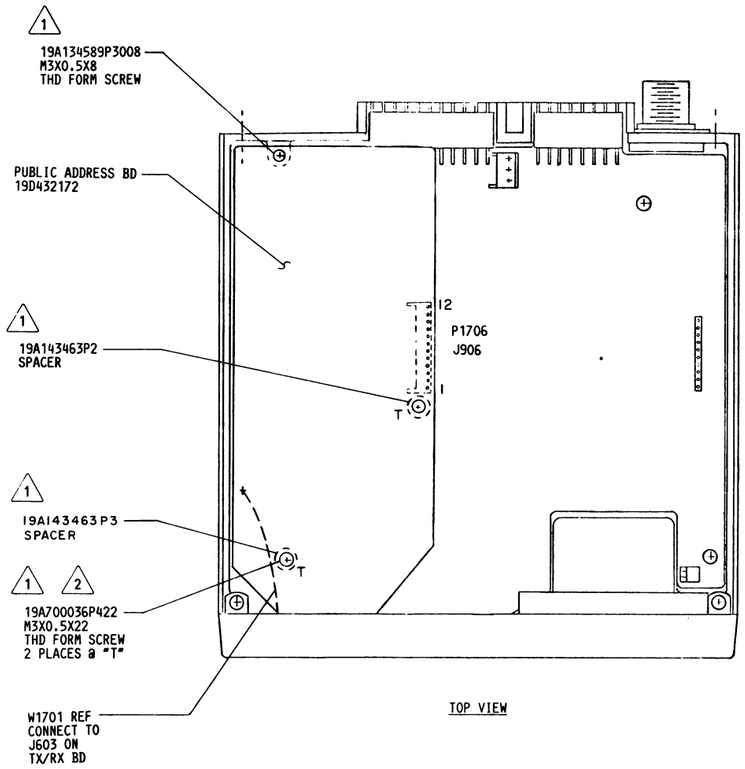
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST

SPEAKER AMPLIFIER CABLE KIT
19A701387G1
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
	19B800594G1	Speaker Amplifier Cable. Includes P1.
P1		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 6).
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19A116781P5	Contact, electrical: sim to Molex 08-50-0106. (Quantity 5- part of P910).
	19A116849P1	Splice, conductor.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 6- Used with P1).
	19B226411G1	Retainer strap. (Secures Speaker Amplifier Cable 19B800594G1).

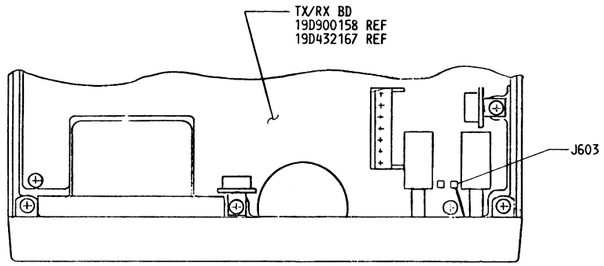
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



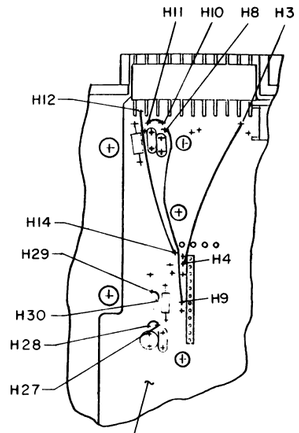
TOP VIEW

INTERCONNECT/MULTI-FREQ BD'S CONNECTION CHART

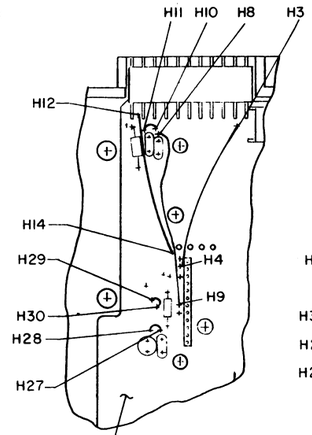
FROM	TO	ADD	DELETE	WIRE & INSTRUCTION
H3	H4	X		#22-W (1)
H8	H9	X		#22-W (1)
H12	H14	X		#22-W (1)
H10	H11		X	
H27	H28		X	
H29	H30		X	



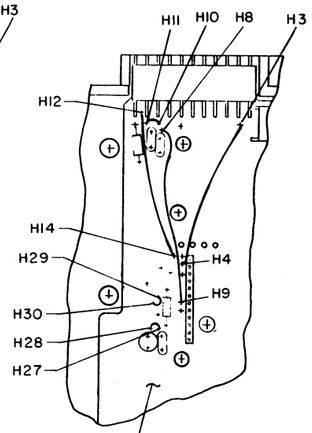
BOTTOM VIEW



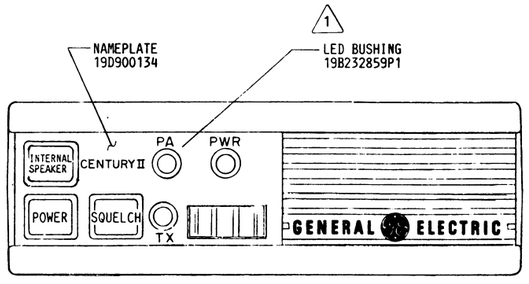
INTERCONNECT BD
19D900138 REF
SEE INTERCONNECT/MULTI-FREQ
BD'S CONNECTION CHART



4 FREQ BD
19D900128 REF
SEE INTERCONNECT/MULTI-FREQ
BD'S CONNECTION CHART



6 FREQ BD
19D900126 REF
SEE INTERCONNECT/MULTI-
FREQ BD'S
CONNECTION CHART



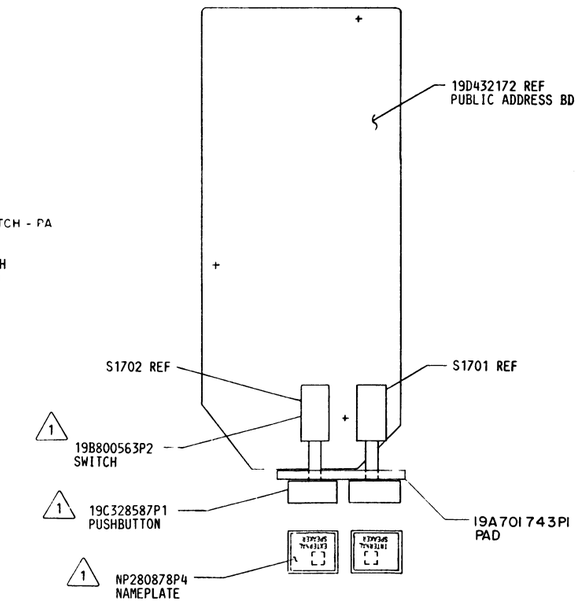
(22) PUBLIC ADDRESS

NOTES: (1) 1. PART OF OPTION KIT PL19D432172

(2) 2. DISCARD ONE 19A134589P3008 SCREW AT "T" AND REPLACE WITH 19A700036P422 SCREW.

(23) EXTERNAL SPEAKER SWITCH - PA

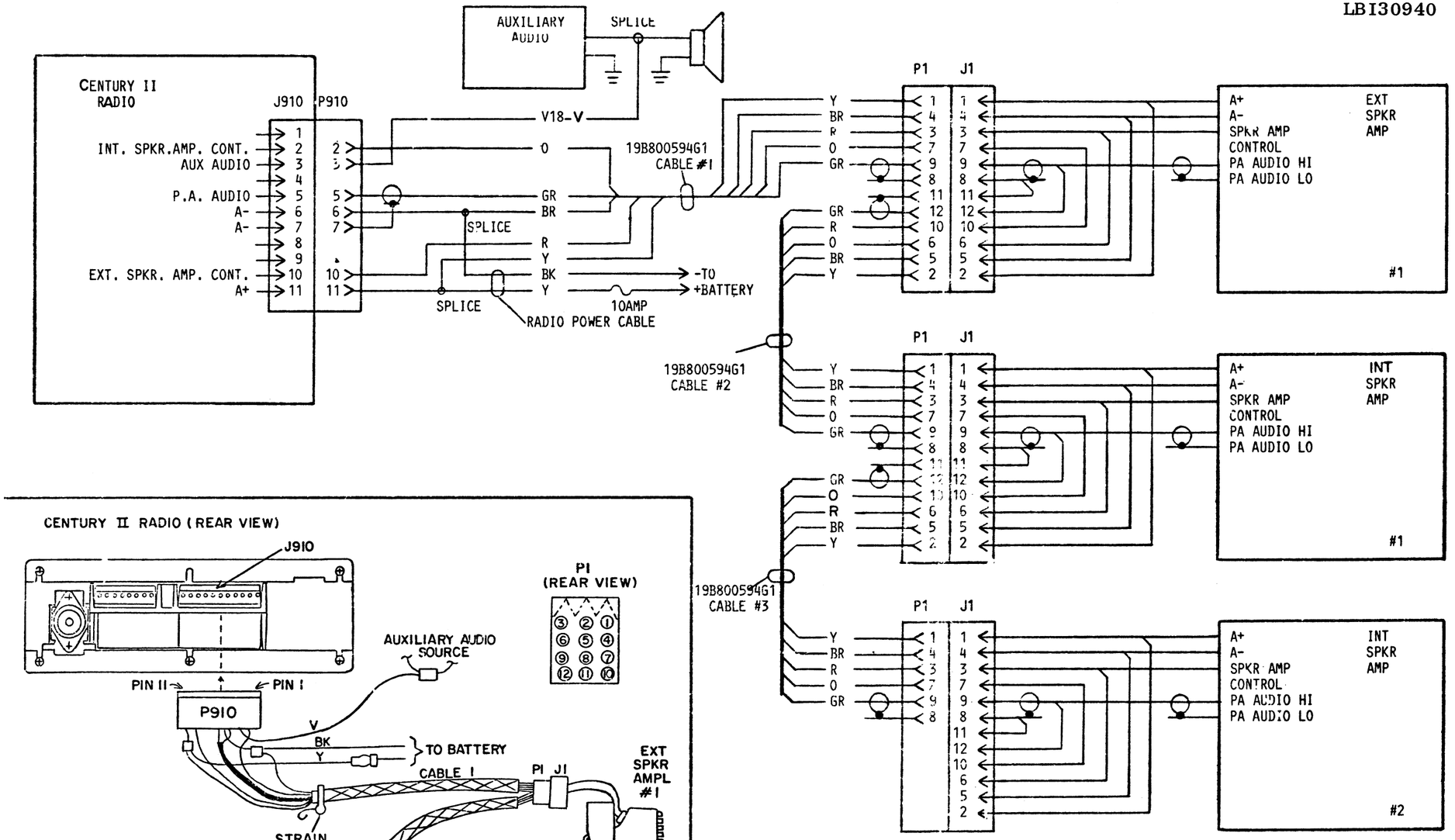
NOTES: (1) 1. PART OF SWITCH KIT 19A143490



COMPONENT VIEW

(19D432543, Sh. 6, Rev. 1)

FIELD MODIFICATION



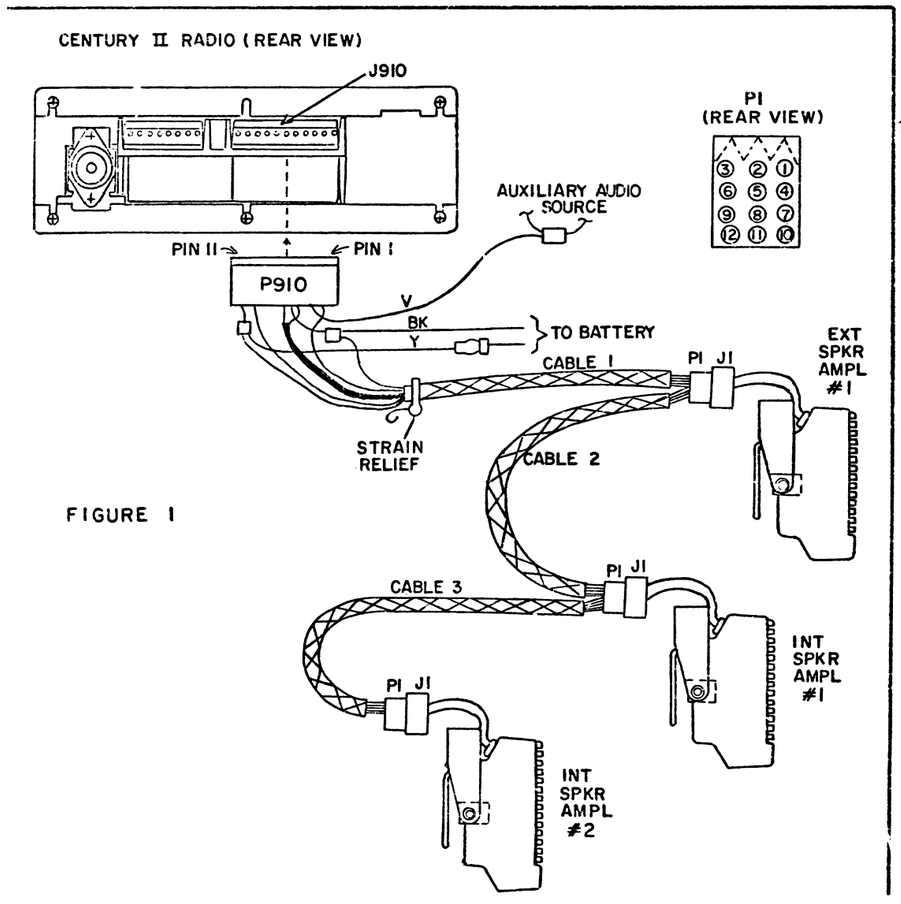
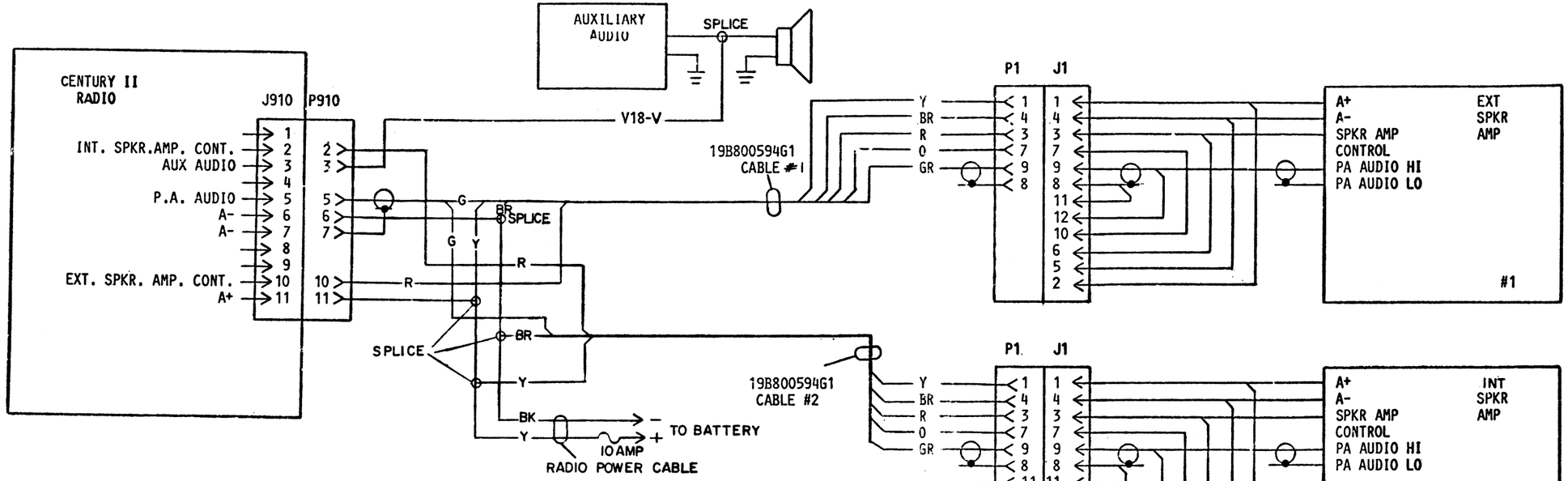


FIGURE 1

SYSTEM INTERCONNECT DIAGRAM

METHOD "A"

(19C330943, Sh. 1, Rev. 1)



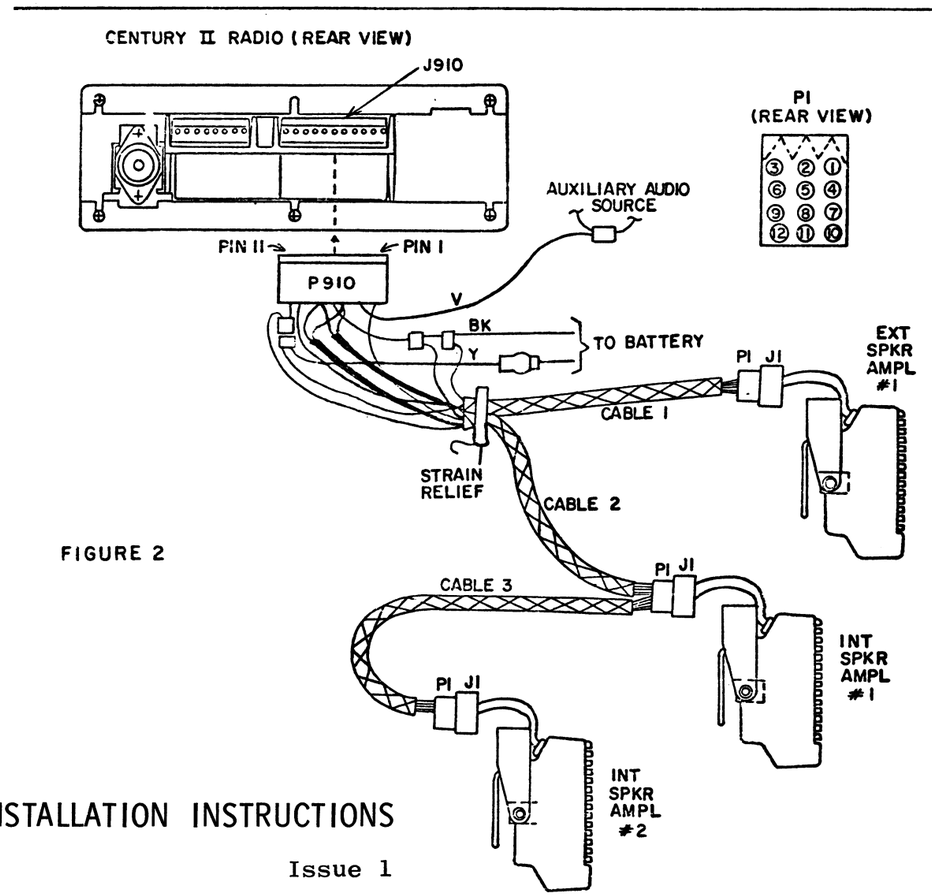


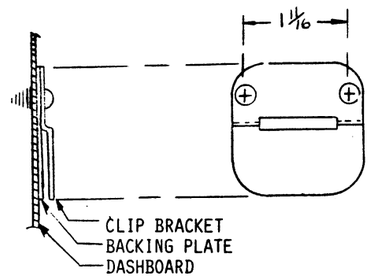
FIGURE 2

SYSTEM INTERCONNECT DIAGRAM

METHOD "B"

(19C330943, Sh. 2, Rev. 1)

FIGURE 3
DASH MOUNTING BRACKET



CHOOSE CONVENTENT LOCATION FOR THE SPEAKER ON THE DASH BOARD OR OTHER VERTICAL SURFACE AND SECURE THE CLIP BRACKET AND BACKING PLATE USING THE 2 #8 SHEET METAL SCREWS SUPPPLIED AS SHOWN **ABOVE** USE #31 OR 1/8" DRILL, DISCARD THE PLASTIC BRACKET NORMALLY USED TO MOUNT THE SPEAKER AMPLIFIER.

PURPOSE

THIS INSTALLATION INSTRUCTION COVERS THE FIELD INSTALLATION OF THE CENTURY II PUBLIC ADDRESS SYSTEM, MOST OF WHICH INVOLVES THE TERMINATION AND WIRING OF THE SPEAKER AMPLIFIER CONTROL CABLES.

TWO SUGGESTED METHODS OF INSTALLATION ARE SHOWN. METHOD "A" IS A SERIES HOOK UP AND SIMPLEST TO PERFORM. METHOD "B" IS RECCOMENDED IF THE EXTERNAL SPEAKER AMPLIFIER IS DASH MOUNTED VIA THE DASH MOUNT BRACKET AND CAN BE HUNG ON THE WINDOW GLASS FACING OUT WHEN OPERATOR IS OUT OF THE VEHICLE.

REQUIRED PARTS

19A701387G1 CABLE KIT
19D432315G1 SPEAKER AMPLIFIERS
19D432315G2 DASH MOUNT BRACKET (IF REQUIRED)

INSTALLATION

REFER TO SYSTEM INTERCONNECT DIAGRAM ON PAGE 1 AND 2 AND SELECT EITHER METHOD "A" WITH FIGURE "1" OR METHOD "B" WITH FIGURE "2".
SELECT THE DESIRED LOCATIONS FOR THE SPEAKER AMPLIFIER ON THE VEHICLE AND MOUNT, IF A SPEAKER AMPLIFIER IS TO BE MOUNTED EXTERNAL TO THE VEHICLE, MOUNT IT IN AS PROTECTED A PLACE AS POSSSIBLE OUT OF THE WEATHER. IF DASH MOUNTING IS DESIRED, USE THE DASH MOUNT BRACKET AND REFER TO FIGURE "3". AT EACH SPEAKER AMPLIFIER, PLUG P1 TO J1 AND ROUTE THE CABLES AS SHWON. CUT THE CABLES TO LENGTH AND TERMINATE AS FOLLOWS:

INSTALLATION (CONT) METHOD "A"

AT THE RADIO POWER CONNECTOR P910 TERMINATE THE 19B800594G1* CABLE AS FOLLOWS:

CABLE #1 WIRE	TERMINATE WITH CONTACT	TO P910-PIN	COMMENTS
ORANGE	19A116781P5*	2	
RED		10	
GREEN (SHIELDED)		5	
SHIELD		7	
BROWN	19A116849P1 SPLICE*	6	SPLICE TO BLACK GND LEAD
YELLOW	19A116849P1 SPLICE*	11	SPLICE TO YELLOW PWR LEAD

CUT OFF ALL UNUSED WIRES IN THE CABLE FLUSH TO THE JACKET.
USE 19B226411G1* STRAIN RELIEF, ATTACH AS SHOWN, AND ATTACH NEAR THE RADIO TO PROVIDE STRAIN RELIEF FOR THE CABLE.

AT P1 ON THE EXTERNAL SPEAKER, TERMINATE THE 2ND 19B800594G1* CABLE AS FOLLOWS:

CABLE #2 WIRE	TERMINATE WITH CONTACT	TO P1-PIN	COMMENTS
ORANGE	5496809P17*	6	
RED		10	
GREEN (SHIELDED)		12	
SHIELD		11	
BROWN		5	
YELLOW		2	

CUT OFF ALL UNUSED WIRES IN THE CABLE FLUSH TO THE JACKET

AT P1 ON THE 1ST INTERNAL SPEAKER, TERMINATE THE 3RD 19B800594G1* CABLE AS FOLLOWS:

CABLE #3 WIRE	TERMINATE WITH CONTACT	TO P1-PIN	COMMENTS
ORANGE	5496809P17*	10	
RED		6	
GREEN (SHIELDED)		12	
SHIELD		11	
BROWN		5	
YELLOW		2	

CUT OFF ALL UNUSED WIRES IN THE CABLE FLUSH TO THE JACKET

* PART OF 19A701387G1 CABLE KITS

INSTALLATION (CONT) METHOD "B"

AT THE RADIO POWER CONNECTOR P910 TERMINATE TWO 19B800594G1* CABLES AS FOLLOWS:

CABLE #1 & #2 WIRE	TERMINATE WITH CONTACT	TO P910-PIN	COMMENTS
RED	19A116781P5*	2	CABLE #2
RED	↓	10	CABLE #1
GREEN (SHIELDED)	↓	5	CABLE #1 & #2
SHIELD	↓	7	CABLE #1 & #2
BROWN	19A116849P1 SPLICE *	6	CABLE #1, SPLICE TO BLACK LEAD
BROWN	↓	6	CABLE #2, SPLICE TO BLACK LEAD
YELLOW	↓	11	CABLE #1, SPLICE TO YELLOW LEAD
YELLOW	↓	11	CABLE #2, SPLICE TO YELLOW LEAD

CUT OFF ALL UNUSED WIRES IN THE CABLE FLUSH TO THE JACKET.
USE 19B226411G1* STRAIN RELIEF, ATTACH AS SHOWN, AND ATTACH NEAR THE RADIO TO PROVIDE STRAIN RELIEF FOR THE CABLE.

AT P1 ON THE 1ST INTERNAL SPEAKER, TERMINATE THE 3RD 19B800594G1* CABLE AS FOLLOWS:

CABLE #3 WIRE	TERMINATE WITH CONTACT	TO P1-PIN	COMMENTS
ORANGE	5496809P17*	10	
RED	↓	6	
GREEN (SHIELDED)	↓	12	
SHIELD	↓	11	
BROWN	↓	5	
YELLOW	↓	2	

CUT OFF ALL UNUSED WIRES IN THE CABLE FLUSH TO THE JACKET.

IF AUXILIAY AUDIO IS DESIRED OVER THE SYSTEM (FM MUSIC, TAPEPLAYER, ETC)
TERMINATE THE VIOLET WIRE* SUPPLIED WITH A 19A116781P5 * CONTACT AND CONNECT TO P910-3. USING A SPLICE CONNECTOR 19A116849P1* CONNECT TO THE AUDIO SOURCE, NORMALLY BEING THE DEVICES SPEAKER LEAD.

* PART OF 19A701387G1 CABLE KIT.

(19C330943, Sh. 4, Rev. 0)

TEST AND ADJUSTMENTS

1. IF AUXILIARY AUDIO IS CONNECTED TO THE PUBLIC ADDRESS SYSTEM, SELECT THE PROPER LOAD IMPEDANCE ON THE PUBLIC ADDRESS OPTION BOARD IN THE RADIO. REFER TO THE APPROPRIATE MAINTEANCE MANUAL FOR LOCTION AND ACCESS OF THE PUBLIC ADDRESS OPTION BOARD.
   THE UNIT IS SHIPPED TC LOOK LIKE A 8Ω LOAD WITH JUMPER H1 TO H2 IN PLACE
   IF A HIGH IMPEDANCE INPUT IS REQUIRED (40K OHMS) REMOVE JUMPER H1 TO H2.

2. IF AUXILIARY AUDIO IS DESIRED, AND YOU WOULD LIKE RECEIVED RADIO MESSAGES HEARD OVER THE PUBLIC ADDRESS SYSTEM WHILE IN THE PA MODE, DELETE THE FOLLOWING JUMPERS ON THE PUBLIC ADDRESS OPTION BOARD.
   JUMPER H3 TO H4 INHIBITS AUX AUDIO FOR RX AUDIO IN "EXT" ONLY MODE. JUMPER H5 TO H6 INHIBITS AUX AUDIO FOR RX AUDIO IN "INT" ONLY MODE. IF EITHER JUMPER IS IN PLACE. AUX AUDIO IS INHIBITED FOR RX AUDIO IF BOTH "INT" AND "EXT" MODES ARE SELECTED.

3. TURN ON THE SYSTEM BY DEPRESSING EITHER THE "INTERNAL" OR "EXTERNAL" SPEAKER SWITCH. THE PA INDICATOR SHOULD BE ON.

   DEPRESS THE MICROPHONE PTT SWITCH. THE TRANSMITTER IS INHIBITED (TX LED NOT ON).
   AT EACH SPEAKER AMPLIFIER SET THE OUTPUT ADJUST ACCESSABLE THEN A HOLE IN THE SIDE OF THE HOUSING TO DESIRED LISTING LEVEL. UNKEY THE MICROPHONE.
   RECEIVE MESSAGES, IF SELECTED BY JUMPERS IN STEP 2, SHOULD BE ABOUT THE SAME LEVEL.
   WITH AUXILIARY AUDIO INPUTED, ADJUST THE LEVEL AT THAT DEVICE FOR PROPER LISTING LEVEL.