MOBILE RADIO

MAINTENANCE MANUAL

GENERAL ELECTRIC PAGECON CONTROL UNIT
MODEL 4EC80A10

SPECIFICATIONS *

AC POWER INPUT:	10 Watts at 117 VAC ±10%, 50/60 Hz
DIMENSIONS:	4-1/8"H X 9-1/4"W X 7-7/8"D
WEIGHT (Approximate):	6 lbs.
TEMPERATURE RANGE:	Operable over a temperature range of -10°C to +50°C (+14°F to +122°F)
Microphone:	Speaker-Microphone; Desk Microphone-Controlled reluctance
Threshold of Compression:	10 mv Maximum; 1 mv Maximum (Speaker-Microphone)
Frequency Response:	±3 dB, 300 to 3000 Hz Reference, 1000 Hz
Compression:	With audio input increase of 30 dB beyond start of compression, output level increases less than 3 dB.
Hum-Noise Level:	50 dB down
Audio Output:	500 mW with less than 3% distortion
Input Impedance:	600 ohm line
Output Impedance:	18 ohms load

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

GENERAL ELECTRIC

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GENERAL ELECTRIC PAGECON CONTROL UNIT
MODEL 4EC80A10

DESCRIPTION

The General Electric Pagecon Control Unit is used with the General Electric Paging Terminal, Model 4EC58B10, to select the proper digital code for tone selective calling of personal paging receivers. Up to five Pagecon Control Units may be interfaced with the Paging Terminal. The Pagecon is fully transistorized -- utilizing silicon transistors for added reliability. An executive type telephone case designed for desk top mounting is used to package the control unit.

The audio section of the Pagecon Control Unit contains a compression amplifier for equalizing audio output levels over a wide range of input levels. When sending messages, the compression amplifier helps compensate for variations in speech levels. When incoming audio signals are passed through the compression amplifier, speaker blasting -- large differences in speaker volume resulting from signals arriving at different levels -- is avoided.

Switches are provided on the front panel of the Pagecon Control Unit for connecting to and disconnecting from the Paging Terminal. A supervisory switch function is provided for rejecting the transmission from other Pagecons connected to the system, as well as a transmitter keying switch for sending voice messages through the Paging Terminal to the base station transmitter.

A group of ten push-button switches on the front panel of the Pagecon permits selection of the assigned two-or three-digit selective call codes assigned to the personal receivers. These switches are used in a manner similar to the popular touch-tone dialing system.

The Pagecon may use either the speaker-microphone or a desk microphone as the audio input source. The Pagecon speaker is used as a microphone when the transmit switch is depressed. Three lamps are located on the front panel of the Pagecon: BUSY, which is illuminated when the Paging Terminal is interfaced with the PBX or a Pagecon; READY, which is illuminated when the terminal has been set for receiving the digital selection information; TRANSMIT, which is illuminated when the transmitter at the base station is keyed.

CONNECTIONS

The Pagecon Control Unit is connected to the terminal by means of a pigtail with a blue ribbon connector. This arrangement is used to facilitate ease of installation. These connectors were chosen because of their common use by the telephone companies. Cabling is available with connectors at both ends in 25-foot and 50-foot lengths for installation.

Five mating connectors are mounted on the rear apron of the Dial Paging Terminal to accommodate the Pagecon connectors. The No. 1 jack position is normally wired as the highest access priority in the system. If at any time a temporary change in Pagecon priority is desired in the system, the cable for that Pagecon may be simply interchanged at the first jack position, or the strapping at the Pagecon jacks in the terminal may be changed.

Power to operate the Pagecon is provided by a standard two-wire zip cord and plug. This plug may be connected to any convenient 117 VAC outlet.

OPERATION

To Page a Personal Receiver

1. If the terminal is busy, the BUSY lamp on the front panel will be illuminated. If the terminal is not busy, depress the connect (C) switch on the front panel.

2. When the terminal is set for encoding, the READY lamp on the front panel of the Pagecon will be illuminated. Sequentially depress the two (or three) push buttons on the panel corresponding to the assigned directory number of the personal receiver desired. When the selective-call tone transmission is complete, the TRANSMIT lamp will be illuminated and the READY lamp will be extinguished.

3. Depress the TRANSMIT switch and give the voice message. Talk into the speaker from a distance of 12 to 15 inches using a normal speaking voice.

4. After completing the message, depress the disconnect (D) switch on the front panel to disconnect the Pagecon from the terminal. If this is not accomplished within the time-out period of the terminal (30 seconds), the Pagecon will be automatically disconnected at the terminal.

Supervisory Function

The Pagecon may be used to reject any message being transmitted through the

terminal by depressing the SUPV switch on the front panel of the Pagecon.

Two-Way Pagecon Operation

The Pagecon may be used as a two-way mobile control unit by simply depressing the TRANSMIT switch on the Pagecon (without first connecting with the terminal). This directly keys the base station transmitter and allows the operator to call a mobile radio unit. If the station is equipped with a receiver, the operator may engage in a two-way conversation with the mobile.

CIRCUIT ANALYSIS

The Pagecon Control Unit circuitry consists of audio stages, a self-contained power supply, and controls for paging the desired personal portable receiver.

AUDIO CIRCUITS

The audio circuits consist of the Audio Compressor Board A808 and the Audio Power Amplifier mounted on the Power Supply Board A807. The Audio Compressor Board is used as a mike-to-line amplifier in the transmit mode and as a line-to-speaker amplifier in the receive mode. This board also has a high-gain microphone pre-amplifier.

Audio Compressor

The compressor amplifier consists of gain control stage Q2, high gain audio amplifiers Q3 through Q6, and DC amplifier Q7. When audio is applied to the compressor amplifier, resistor R11 and the AC impedance of transistor Q2 act as a voltage divider for the AC input signal. The output of Q2 is amplified by a four stage, direct coupled amplifier (Q3 through Q6). Both AC and DC feedback in the amplifier circuit provides for extremely stable operation.

A portion of the amplified output is fed through LINE OUTPUT control R32 to the audio PA stage on the Power Supply Board. The remainder of the amplified output is rectified by detector CR1, filtered by C10 and amplified by DC current amplifier Q7. This DC output is fed back to the base of gain control transistor Q2.

The amount of DC feedback to the gain control stage determines the AC impedance of Q2. When the input level rises, the AC amplifier output starts to increase. The output is detected, amplified, and fed back to the base of Q2. The increase in feedback reduces the AC impedance of Q2 which, in turn, decreases the audio applied to the input of the amplifier, keeping the amplifier output constant.

When the audio input decreases, the output of the amplifier starts to decrease, reducing the feedback to Q2. This raises the AC impedance of Q2 and increases the audio input to the amplifier, keeping the amplifier output constant. The External Tone Switch (Q10) is provided for connecting an external tone source to the Pagecon at J31 and J32 if this should ever be required.

Pagecon Monitoring

The Pagecon serves as a monitor on the terminal Base Station line pair when not in the transmit mode. Audio from the terminal Base Station line pair is applied to T802, to LINE INPUT control R13, to the input of the compression amplifier. The output of the compression amplifier is applied to the VOLUME control R801, to audio PA (Q2-Q4) on the Power Supply Board, and then to the speaker. Thus, if a receiver is provided in the base station equipment, received signals from a two-way mobile unit may be heard. This feature provides an opportunity for two-way conversations from the Pagecon.

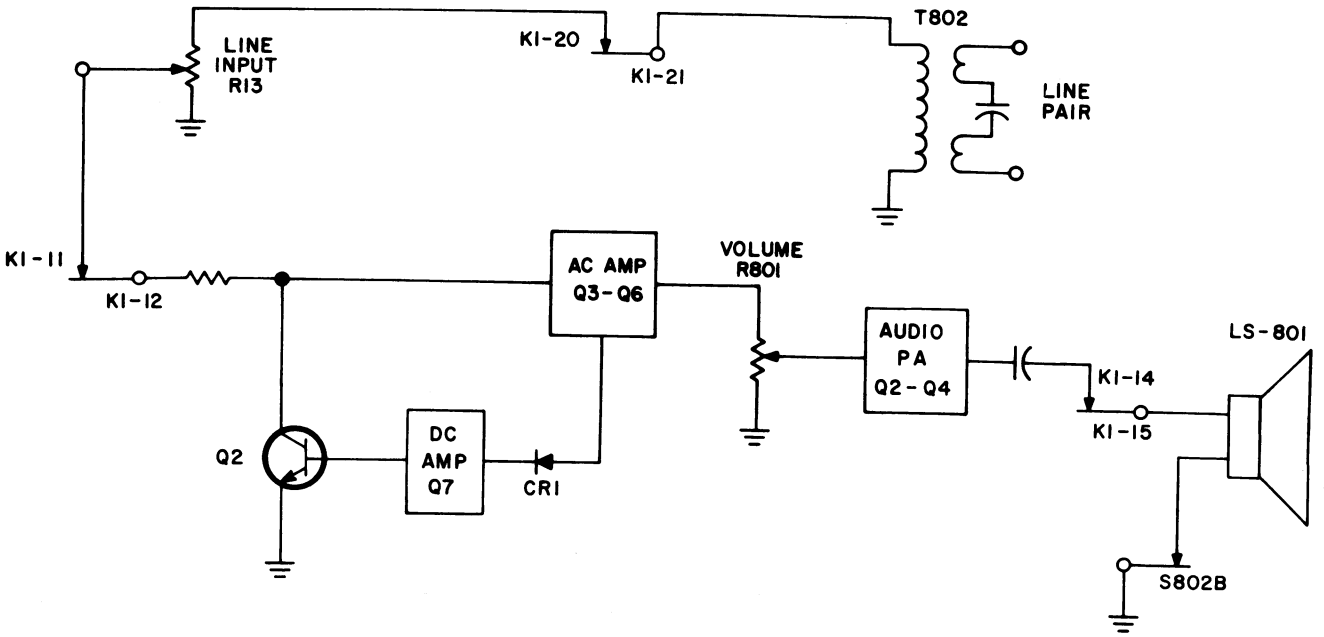
Transmit Mode

Depressing the TRANSMIT switch S802-A energizes relay K1. The contacts of K1 disable the audio PA and apply the audio from the speaker-microphone to common-emitter preamplifier Q1 and then to MIKE GAIN control R10. The audio across R10 is applied to the compressor amplifier. The output of the compressor amplifier is applied through LINE OUTPUT control R32 and K1 contacts to the audio output line connected to the Paging Terminal.

If the TRANSMIT switch is operated without first connecting the Pagecon to the terminal, a timer (Q8-Q9) is activated which holds the IN SERVICE leads of the terminal open for approximately ten seconds after the switch is released. This permits a mobile to respond to a call without a land line call interrupting the two-way conversation. Contacts of K1 also connect -12 VDC supplied by the terminal to the transmitter keying circuits in the terminal.

Supervisory Mode

Depressing the SUPV switch S802-B provides a short across the Paging Terminal audio line pair, thus interrupting any message that may be on the line.



(RC-2086)

Figure 1 - Pagecon Monitoring Circuit

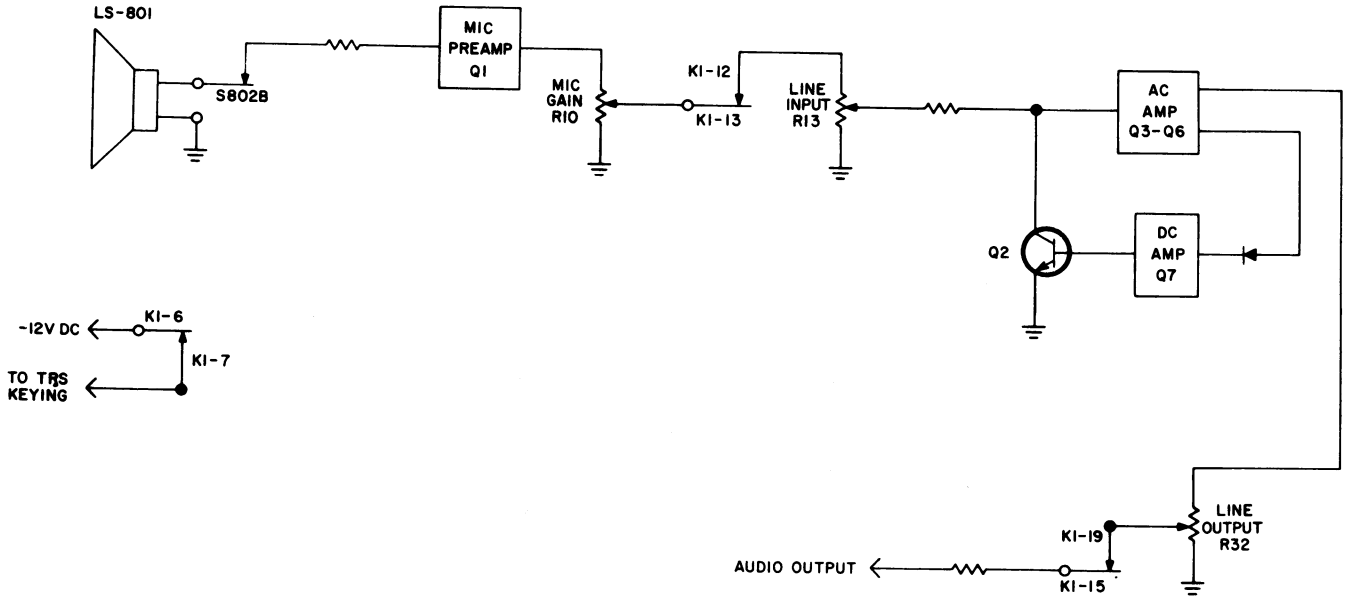


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Figure 2 - Pagecon Transmit Mode

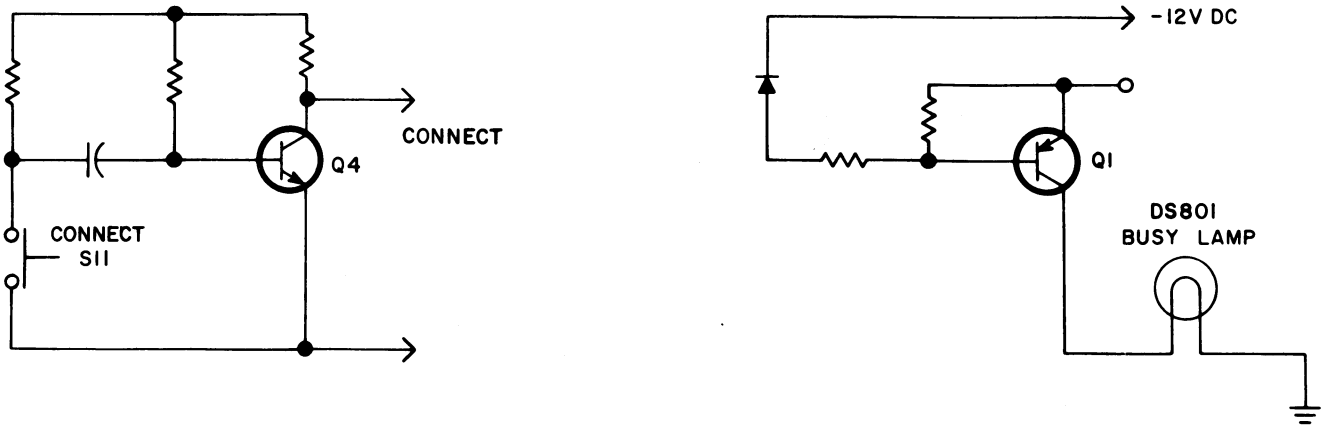

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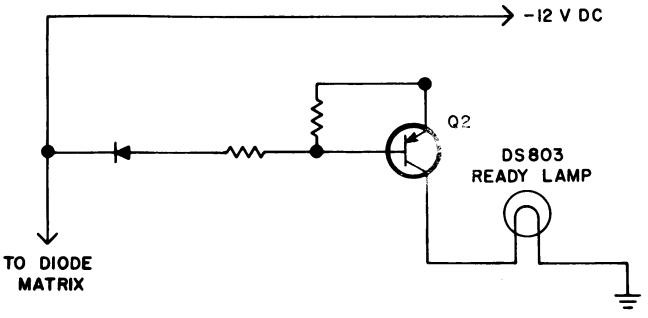
Figure 3 - Terminal Connect and Busy Lamp Circuits

CONTROL CIRCUITS

Terminal Connect

Depressing the connect (C) switch S11 on the Pagecon causes Q4 on the Matrix Board A809 to conduct. Conduction of Q4 provides a connect signal to the Paging Terminal interface circuits. This provides access by the Pagecon to the terminal while busying any other access units. -12 VDC is supplied from the terminal to the base of Q1 on the Matrix Board. Conduction of Q1 turns on the BUSY lamp DS801.

Terminal Ready



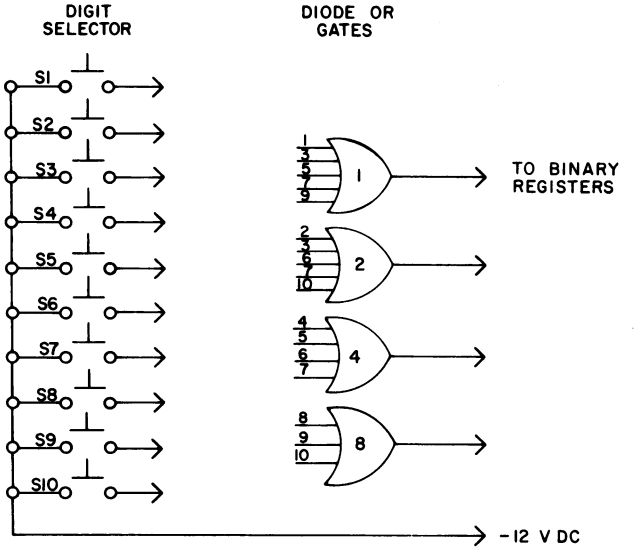
(RC-2089)

Figure 4 - Terminal Ready Lamp Circuit

When the Paging Terminal circuits have been set by the connect signal, the terminal supplies a remote READY lamp control signal to the base of Q2 on the Matrix Board. Conduction of Q2 turns on READY lamp DS803. This same -12 VDC from the terminal is also applied to the diode OR gates on the Matrix Board.

Code Selection

Depressing the digital select switches (S1-S10) on the Matrix Board forward biases the diodes connected as OR gates to load the register circuits in the terminal. For example, if the number 5 is depressed as the first digit of a three digit code, diodes CR5 and CR7 are forward biased. These diodes perform as OR gates to load the "1" and "4" flip flops of the first digit register board in the terminal, corresponding to the selected "5".



(RC-2091)

Figure 5 - Pagecon Paging Code Selection

POWER SUPPLY

The self-enclosed Power Supply Board A807 provides the operating voltages for the transistorized audio stages, indicator light control circuits, and relay K1.

Turning ON-OFF switch S801 to the ON position applies 117 volts AC to the primary of transformer T801. The primary of this transformer is fused by F801. Unregulated output from the rectifier (CR5 - CR8) operates the indicator lamp control circuits and relay K1. Three regulated outputs supply the microphone preamplifier, the AC and DC amplifiers, and the audio PA circuit. The voltage regulator is composed of Q1, R4 and zener diode VR1.

ADJUSTMENT PROCEDURE

Disassembly

To remove the cover of the Pagecon Control Unit, follow the procedure shown in Figure 6. To gain access to the components mounted beneath the power supply board, first remove power to the control unit and then remove the three Phillips-head screws holding the board to the chassis.

LINE INPUT

The LINE INPUT has been adjusted at the factory for an input of 120 millivolts RMS (-16 dBm for threshold of compression). Use of excessive compression will accent background and line noise during pauses in transmission. A reading of 0.4 volt DC should be obtained on a 20,000 ohms-per-voltmeter connected from the emitter of Q7 (or top of R29) to ground.

1. If this reading is not obtained, feed a 1000 Hz signal onto the audio pair from the terminal. Adjust audio generator to produce -16 dBm on the audio pair.

2. Adjust the LINE INPUT control R13 for threshold of compression as indicated by a reading of 0.4 volt DC on a 20,000 ohms-per-volt meter connected from the emitter of Q7 (or top of R29) to ground.

MIC GAIN

The MIC Gain has been adjusted at the factory for 3.0 millivolts for threshold of compression. Use of excessive compression will accent background and line noise during pauses in transmission.

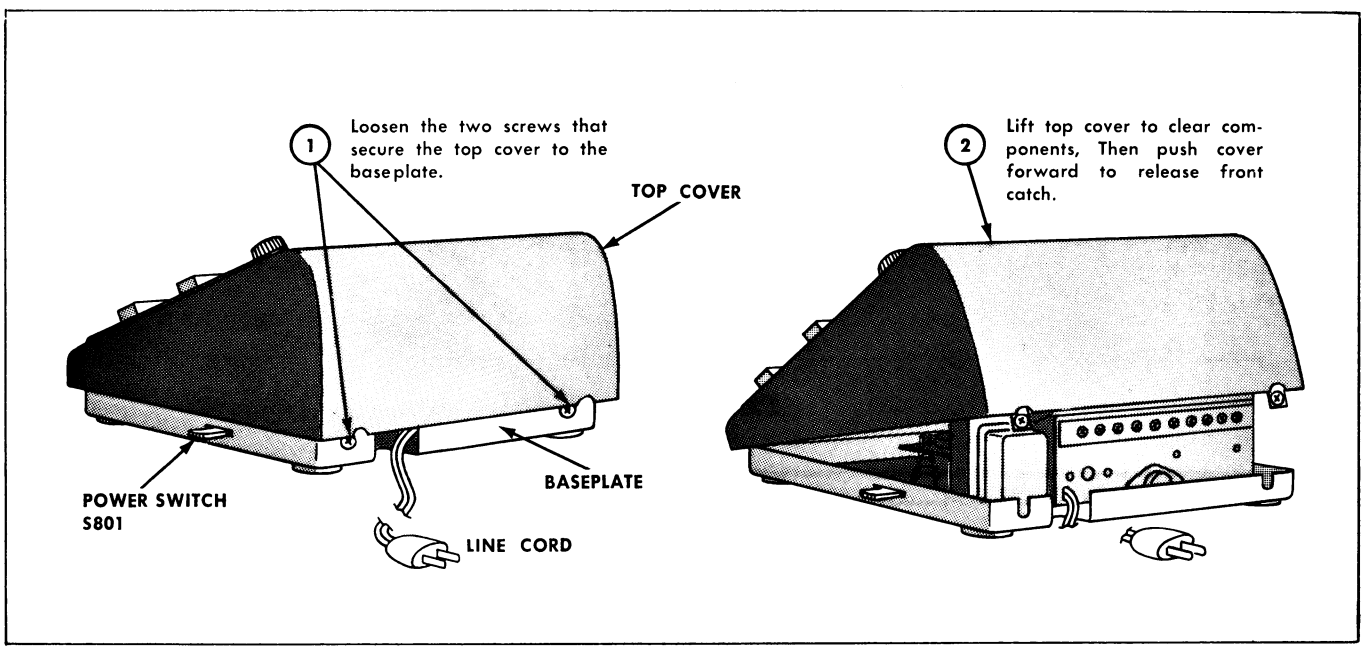
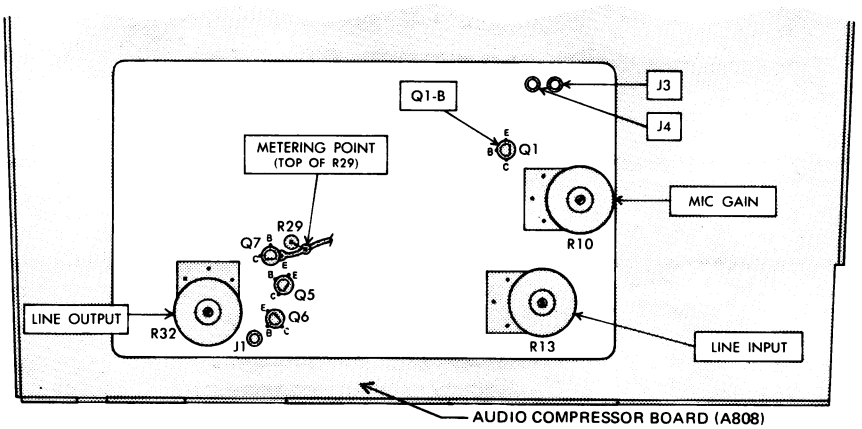


Figure 6 - Disassembly



1. Key the transmitter by depressing the TRANSMIT switch.

2. Talk into the speaker-microphone from a normal distance.

3. Adjust the MIC GAIN control R10 for threshold of compression as indicated by a reading of 0.4 volt DC on a 20,000 ohms-per-volt meter connected from the emitter of Q7 (or top of R29) to ground.

LINE OUTPUT

The Pagecon has been set at the factory for a line output of 1 volt RMS (0 dBm). The line output may be reduced when required by local telephone company regulations or whenever line losses and noise pickup permit an adequate signal to noise ratio.

1. Apply an input signal as follows:

   a. For Pagecon with desk microphone: Feed a 1000 Hz, 30 millivolt signal into J3 and J4 of A808.

   b. For Pagecon with speaker-microphone: Feed a 1000 Hz, 3 millivolt signal through a series connected 100K resistor and 50 uf capacitor into the base of Q1 and J4 (ground) of A808.

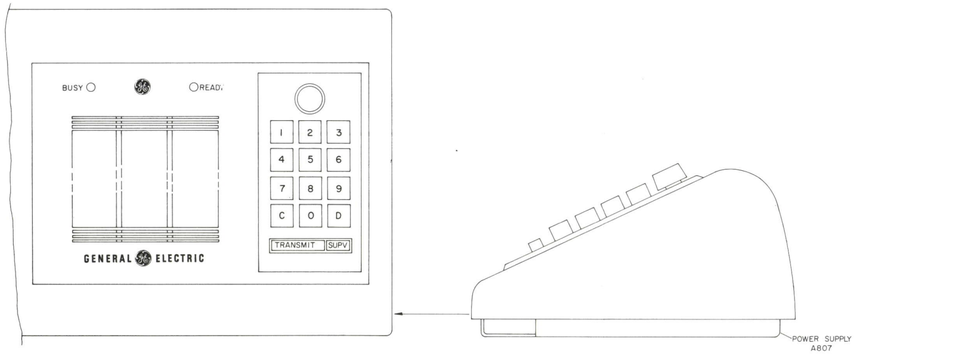
2. Connect an AC-VTVM from TB801-8 to TB-801-10.

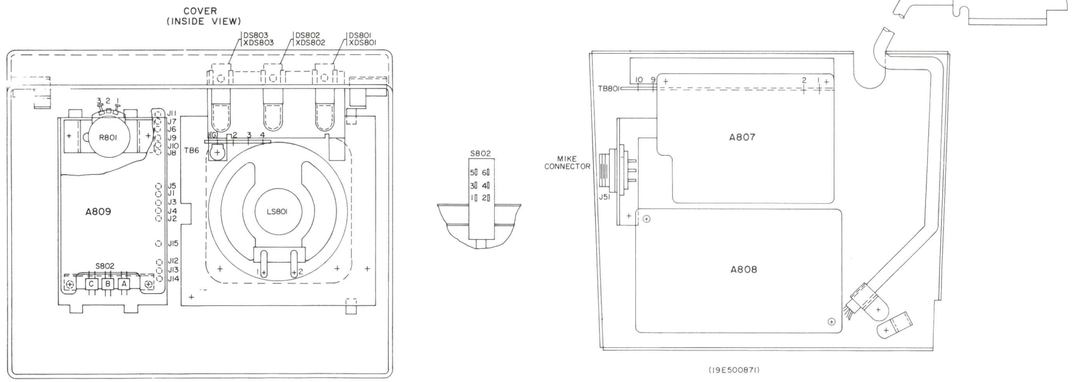
3. Adjust LINE OUTPUT control R32 for the desired output.

PAGECON TROUBLESHOOTING PROCEDURE

SYMPTON	PROCEDURE
No Audio from the speaker	1. Check the audio input with an AC-VTVM across TB801-1 & 2. 2. Make sure that VOLUME control R801 is not set at minimum (fully counterclockwise). 3. Check to see that the control unit is not in the transmit mode (red transmit light on). If the light is on, check for a short in the transmit switch circuit. 4. Check the audio input with an AC-VTVM at A808-J7. If no audio, check T802 and T803. 5. Check the setting of LINE INPUT control R13 (refer to the Adjustment Procedure). If R13 cannot be adjusted for the correct reading, check relay contacts K1-11, -12 and -13. 6. Check the audio output of A808 at J6. If no output, check supply voltage at J1 and the DC voltages on Q3 thru Q7 (refer to the Schematic Diagram). 7. Check PA audio output at TB801-9. If no output, check DC voltages on Q2 thru Q4 on Power Supply Board A807.
No audio on the line when the transmitter is keyed.	1. Check relay contacts K1-11 thru -22. Check transmit switch contacts. 2. Check the setting of MIC GAIN R10 and LINE OUTPUT R32 (refer to the Adjustment Procedure). 3. Key the transmitter and check the DC voltages on Mic Preamp Q1 (refer to the Schematic Diagram).
Control circuits do not function properly.	1. Check remote control voltage input from terminal corresponding to failed function. 2. If indicator lamp fails, check lamp and control transistor associated with lamp. 3. If register in terminal cannot be loaded when a digit swlector switch is depressed, check switch contacts and associated OR gate diodes on Matrix Board A809. 4. If connect cannot be accomplished, check DC voltages on connect transistor Q4.

PAGECON CONTROL UNIT





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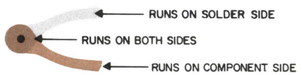
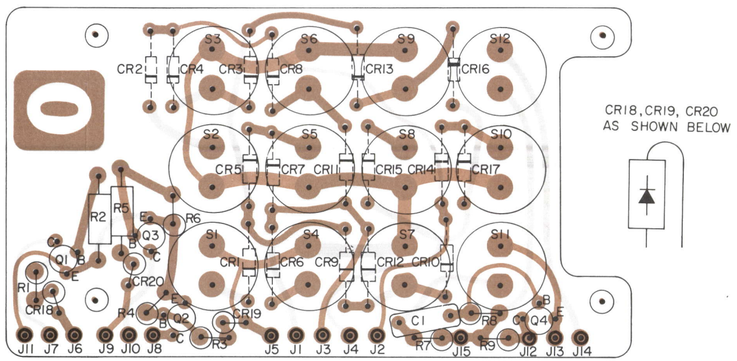
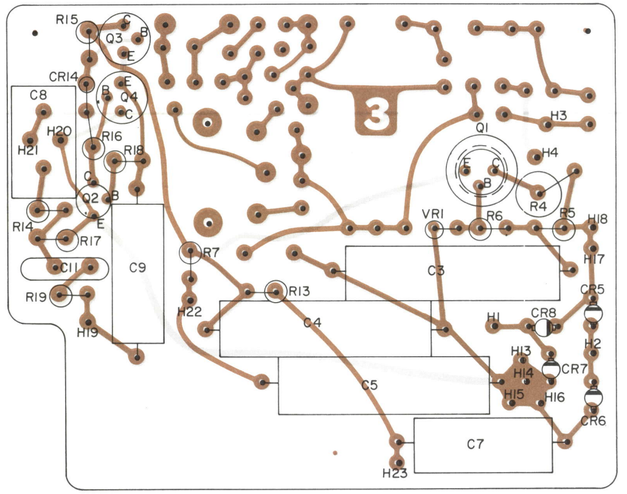


MATRIX BOARD A809



(19C317841, Rev. 0)
(19B216831, Sh. 1, Rev. 0)
(19B216831, Sh. 2, Rev. 0)

POWER SUPPLY BOARD A807



(19C317837, Rev. 1)
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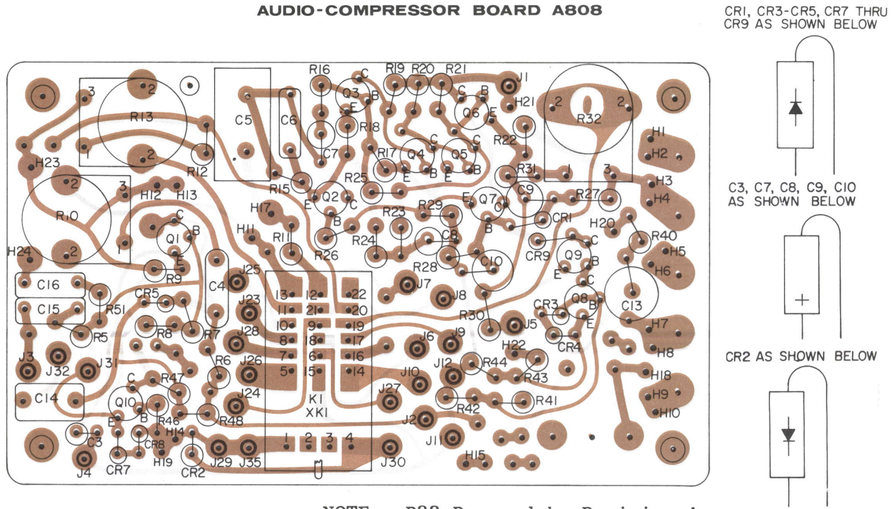
(19C311785, Sh. 2, Rev. 3)

AUDIO-COMPRESSOR BOARD A808



(19C317843, Rev. 2)
(19C317488, Sh. 1, Rev. 0)
(19C317488, Sh. 2, Rev. 0)

NOTE: R33 Removed by Revision A.

OUTLINE DIAGRAM

PAGECON CONTROL UNIT
MODEL 4EC80A10

PARTS LIST

LBI-8809B

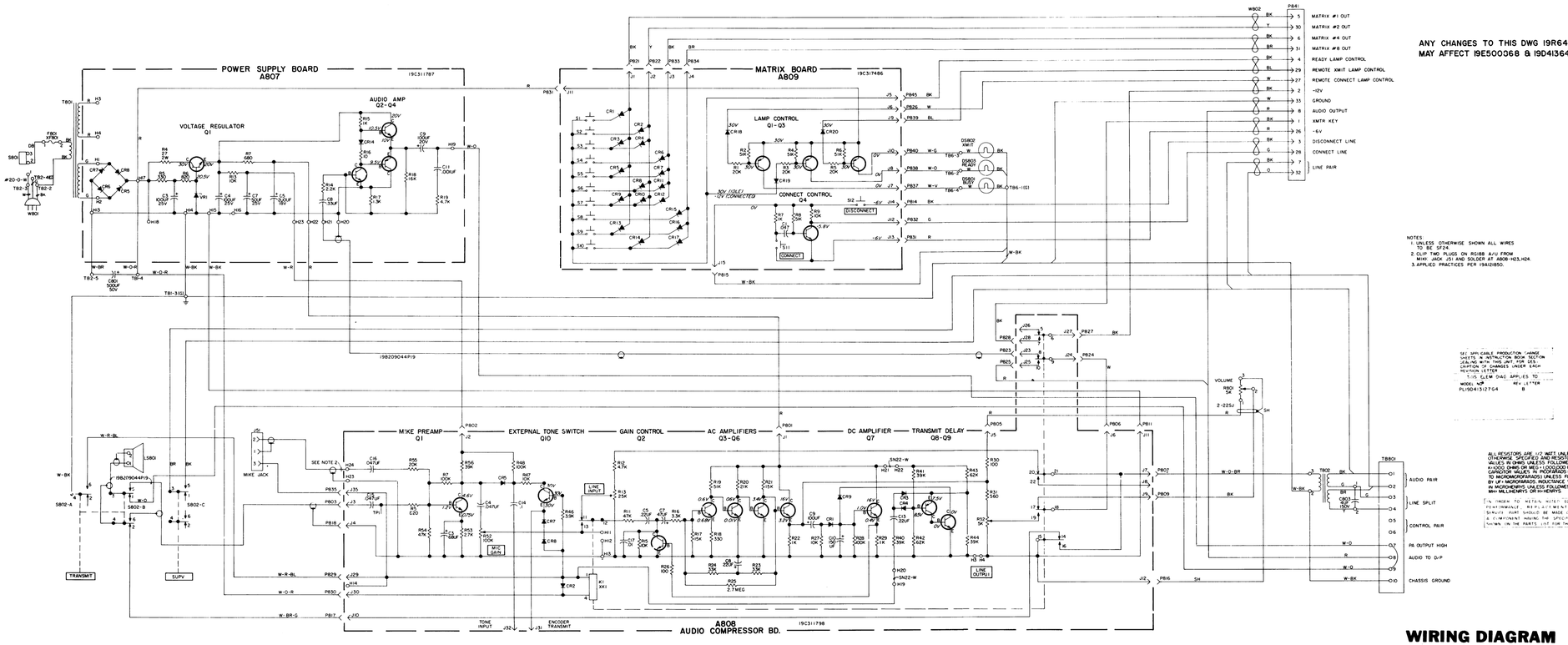
PAGECON CONTROL UNIT
MODEL 4EC80A10

SYMBOL	GE PART NO.	DESCRIPTION
A807		POWER SUPPLY BOARD 19C311787G4
		- - - - - - - - - CAPACITORS - - - - - - - - -
C3 and C4	19A115680P5	Electrolytic: 100 µf +150% -10%, 25 VDCW; sim to Mallory Type TTX.
C5	19A115680P10	Electrolytic: 200 µf +150% -10%, 18 VDCW; sim to Mallory Type TTX.
C7	19A115680P4	Electrolytic: 50 µf +150% -10%, 25 VDCW; sim to Mallory Type TTX.
C8	19A115680P10	Electrolytic: 200 µf +150% -10%, 18 VDCW; sim to Mallory Type TTX.
C9	5496267P16	Tantalum: 100 µf ±20%, 20 VDCW; sim to Sprague Type 150D.
C11	5494481P127	Ceramic disc: 2700 pf ±20%, 1000 VDCW; sim to RMC Type JF Discap.
		- - - - - - - DIODES AND RECTIFIERS - - - - - - -
CR5 thru CR8	4037822P1	Silicon.
CR14	19A115250P1	Silicon.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115300P2	Silicon, NPN; sim to Type 2N3053.
Q2	19A115362P1	Silicon, NPN; sim to Type 2N2925.
Q3	19A115300P2	Silicon, NPN; sim to Type 2N3053.
Q4	19A115562P2	Silicon, PNP.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R4	3R79P270K	Composition: 27 ohms ±10%, 2 w.
R5	3R77P331K	Composition: 330 ohms ±10%, 1/2 w.
R6	3R77P821J	Composition: 820 ohms ±5%, 1/2 w.
R7	3R77P681K	Composition: 680 ohms ±10%, 1/2 w.
R13	3R77P103K	Composition: 10,000 ohms ±10%, 1/2 w.
R14	3R77P222K	Composition: 2200 ohms ±10%, 1/2 w.
R15	3R77P102K	Composition: 1000 ohms ±10%, 1/2 w.
R16	3R77P100K	Composition: 10 ohms ±10%, 1/2 w.
R17	3R77P112J	Composition: 1100 ohms ±5%, 1/2 w.
R18	3R77P163J	Composition: 16,000 ohms ±5%, 1/2 w.
R19	3R77P472K	Composition: 4700 ohms ±10%, 1/2 w.
		- - - - - - - - VOLTAGE REGULATORS - - - - - - - -
VR1	4036887P17	Silicon, Zener.
A808		COMPRESSION AMPLIFIER 19C311798G4
		- - - - - - - - - CAPACITORS - - - - - - - - -
C3	5496267P1	Tantalum: 6.8 µf ±20%, 6 VDCW; sim to Sprague Type 150D.
C4	19A116080P5	Polyester: 0.047 µf ±20%, 50 VDCW.
C5	19A115028P116	Polyester: 0.22 µf ±20%, 200 VDCW.
C7	5496267P2	Tantalum: 47 µf ±20%, 6 VDCW; sim to Sprague Type 150D.

(Cont'd. on Page 10)

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

ANY CHANGES TO THIS DWG 19R640760 MAY AFFECT 19E500368 & 19D413649



WIRING DIAGRAM

PAGECON CONTROL UNIT
MODEL 4EC80A10

(19R640760, Rev. 6)

(Cont'd from Page 9)

SYMBOL	GE PART NO.	DESCRIPTION
C8	5496267P10	Tantalum: 22 µf ±20%, 15 VDCW; sim to Sprague Type 150D.
C9	5496267P107	Tantalum: 100 µf ±20%, 10 VDCW; sim to Sprague Type 150D.
C10	5496267P103	Tantalum: 150 µf ±20%, 6 VDCW; sim to Sprague Type 150D.
C13	7491930P10	Polyester: 0.22 µf ±20%, 100 VDCW; sim to GE Type 61F.
C14	19A116080P7	Polyester: 0.1 µf ±20%, 50 VDCW.
C15 and C16	19A116080P105	Polyester: 0.047 µf ±10%, 50 VDCW.
C17	19A116080P101	Polyester: 0.01 µf ±10%, 50 VDCW.
		- - - - - - - DIODES AND RECTIFIERS - - - - - -
CR1	19A115250P1	Silicon.
CR2	4037822P1	Silicon.
CR3 thru CR5	19A115250P1	Silicon.
CR7 thru CR9	19A115250P1	Silicon.
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J1 thru J12	4033513P4	Contact, electrical: sim to Bead Chain L93-3.
J23 thru J35	4033513P4	Contact, electrical: sim to Bead Chain L93-3.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K1	19C307010P14	Armature: 24 VDC nominal, 1.5 w max operating, 430 ohms ±15% coil res, 6 form C contacts; sim to Parelco R10-E250-1.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115889P1	Silicon, NPN.
Q2	19A115362P1	Silicon, NPN; sim to Type 2N2925.
Q3 thru Q7	19A115889P1	Silicon, NPN.
Q8	19A115768P1	Silicon, PNP; sim to Type 2N3702.
Q9	19A115362P1	Silicon, NPN; sim to Type 2N2925.
Q10	19A115123P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R5	3R77P821K	Composition: 820 ohms ±10%, 1/2 w.
R11	3R77P473K	Composition: 47,000 ohms ±10%, 1/2 w.
R12	3R77P472K	Composition: 4700 ohms ±10%, 1/2 w.
R13	19B209358P7	Variable, carbon film: approx 800 to 25,000 ohms ±20%, 0.25 w; sim to CTS Type U-201.
R15	3R77P103K	Composition: 10,000 ohms ±10%, 1/2 w.
R16	3R77P332J	Composition: 3300 ohms ±5%, 1/2 w.
R17	3R77P153J	Composition: 15,000 ohms ±5%, 1/2 w.
R18	3R77P331J	Composition: 330 ohms ±5%, 1/2 w.
R19	3R77P513J	Composition: 51,000 ohms ±5%, 1/2 w.
R20	3R77P243J	Composition: 24,000 ohms ±5%, 1/2 w.
R21	3R77P153J	Composition: 15,000 ohms ±5%, 1/2 w.
R22	3R77P102K	Composition: 1000 ohms ±10%, 1/2 w.
R23 and R24	3R77P333J	Composition: 33,000 ohms ±5%, 1/2 w.
R25	3R77P275J	Composition: 2.7 megohms ±5%, 1/2 w.
R26	3R77P101J	Composition: 100 ohms ±5%, 1/2 w.
R27	3R77P103K	Composition: 10,000 ohms ±10%, 1/2 w.

SYMBOL	GE PART NO.	DESCRIPTION
R28	3R77P104K	Composition: 0.10 megohm ±10%, 1/2 w.
R29	3R77P102K	Composition: 1000 ohms ±10%, 1/2 w.
R30	3R77P101K	Composition: 100 ohms ±10%, 1/2 w.
R31	3R77P561K	Composition: 560 ohms ±10%, 1/2 w.
R32	19B209358P5	Variable, carbon film: approx 200 to 5000 ohms ±20%, 0.25 w; sim to CTS Type U-201.
R33*	3R77P101K	Composition: 100 ohms ±10%, 1/2 w. Deleted by REV A.
R40 and R41	3R152P393J	Composition: 39,000 ohms ±5%, 1/4 w.
R42 and R43	3R152P623J	Composition: 62,000 ohms ±5%, 1/4 w.
R44	3R152P393J	Composition: 39,000 ohms ±5%, 1/4 w.
R46	3R152P392J	Composition: 3900 ohms ±5%, 1/4 w.
R47	3R152P103J	Composition: 10,000 ohms ±5%, 1/4 w.
R48	3R152P104J	Composition: 0.10 megohm ±5%, 1/4 w.
R51	3R77P203J	Composition: 20,000 ohms ±5%, 1/2 w.
R52	19B209358P9	Variable, carbon film: approx 3000 to 100,000 ohms ±20%, 0.25 w; sim to CTS Type U-201.
R53	3R77P272K	Composition: 2700 ohms ±10%, 1/2 w.
R54	3R77P473K	Composition: 47,000 ohms ±10%, 1/2 w.
R55	3R77P104K	Composition: 0.10 megohm ±10%, 1/2 w.
R56	3R77P393K	Composition: 39,000 ohms ±10%, 1/2 w.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XK1	19B209172P1	Relay, phen: 22 contacts; sim to Allied Control 30004-24.
A809		MATRIX BOARD 19C317486G1
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1	19A116080P108	Polyester: 0.15 µf ±10%, 50 VDCW.
		- - - - - - - DIODES AND RECTIFIERS - - - - - -
CR1 thru CR17	19A115250P1	Silicon.
CR18 thru CR20	4037822P1	Silicon.
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J1 thru J15	4033513P8	Contact, electrical: sim to Bead Chain R40-1.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1 thru Q3	19A115768P1	Silicon, PNP; sim to Type 2N3702.
Q4	19A115123P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	3R77P203J	Composition: 20,000 ohms ±5%, 1/2 w.
R2	3R77P513J	Composition: 51,000 ohms ±5%, 1/2 w.
R3	3R77P203J	Composition: 20,000 ohms ±5%, 1/2 w.
R4	3R77P513J	Composition: 51,000 ohms ±5%, 1/2 w.
R5	3R77P203J	Composition: 20,000 ohms ±5%, 1/2 w.
R6	3R77P513J	Composition: 51,000 ohms ±5%, 1/2 w.
R7	3R77P102J	Composition: 1000 ohms ±5%, 1/2 w.
R8	3R77P513J	Composition: 51,000 ohms ±5%, 1/2 w.
R9	3R77P103J	Composition: 10,000 ohms ±5%, 1/2 w.

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S1	19A116485P1	Push: single pole, normally open, button marking (1); sim to Raytheon "KBPR" Series.
S2	19A116485P2	Push: single pole, normally open, button marking (2); sim to Raytheon "KBPR" Series.
S3	19A116485P3	Push: single pole, normally open, button marking (3); sim to Raytheon "KBPR" Series.
S4	19A116485P4	Push: single pole, normally open, button marking (4); sim to Raytheon "KBPR" Series.
S5	19A116485P5	Push: single pole, normally open, button marking (5); sim to Raytheon "KBPR" Series.
S6	19A116485P6	Push: single pole, normally open, button marking (6); sim to Raytheon "KBPR" Series.
S7	19A116485P7	Push: single pole, normally open, button marking (7); sim to Raytheon "KBPR" Series.
S8	19A116485P8	Push: single pole, normally open, button marking (8); sim to Raytheon "KBPR" Series.
S9	19A116485P9	Push: single pole, normally open, button marking (9); sim to Raytheon "KBPR" Series.
S10	19A116485P10	Push: single pole, normally open, button marking (0); sim to Raytheon "KBPR" Series.
S11	19A116485P11	Push: single pole, normally open, button marking (C); sim to Raytheon "KBPR" Series.
S12	19A116485P12	Push: single pole, normally open, button marking (D); sim to Raytheon "KBPR" Series.
		BASE ASSEMBLY 19D413127G4
		- - - - - - - - - CAPACITORS - - - - - - - - -
C801	5493132P7	Electrolytic: 500 µf +150% -10%, 50 VDCW; sim to Sprague D70345.
C803	7486445P1	Electrolytic, non polarized: 4 µf +100% -10%, 150 VDCW.
		- - - - - - - - - - FUSES - - - - - - - - - -
F801	1R16P13	Quick blowing: 1/4 amp at 250 v; sim to Littlefuse 312.250 or Bussmann AGC-1/4.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P801 thru P803	4029840P2	Contact, electrical: sim to Amp 42827-2.
P805 thru P809	4029840P2	Contact, electrical: sim to Amp 42827-2.
P811	4029840P2	Contact, electrical: sim to Amp 42827-2.
P816	4029840P1	Contact, electrical: sim to AMP 41854.
P817	4029840P2	Contact, electrical: sim to Amp 42827-2.
P818	4029840P1	Contact, electrical: sim to AMP 41854.
P823 thru P825	4029840P2	Contact, electrical: sim to Amp 42827-2.
P829 thru P831	4029840P2	Contact, electrical: sim to Amp 42827-2.
P837 thru P839	4029840P2	Contact, electrical: sim to Amp 42827-2.
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S801	19B209040P4	Slide: SPDT, 0.5 amp at 125 v; sim to Continental-Wirt Type 126.
		- - - - - - - - - TRANSFORMERS - - - - - - - - -
T801	19A116007P1	Power, step-down and step-up: Pri: 117 VRMS, 50/60 Hz, Sec 1: approx 29 VDC, Sec 2: approx 145 VDC.
T802	19A115731P1	Audio freq: 300 to 6000 Hz, Pri (1-4): 22 ohms ±15% DC res, Pri (2-3): 12.5 ohms ±15% DC res, Sec 1: 13 ohms ±15%, Sec 2: 13 ohms ±15%.

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - TERMINAL BOARDS - - - - - - - - -
TB1	7775500P10	Phen: 4 terminals.
TB2	7775500P9	Phen: 5 terminals.
TB801	7117710P10	Phen: 10 terminals; sim to Cinch 1799.
		- - - - - - - - - - CABLES - - - - - - - - - -
W801*	19A116740P2	Power: approx 8 feet long. In REV A and earlier:
	4036441P7	Power: approx 7 feet long.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XF801	7141008P1	Fuseholder: 5 amps at 125 v; sim to Littelfuse E-357001.
		HOUSING ASSEMBLY 19C311796G7 BEIGE 19C311796G8 GRAY
		- - - - - - - - INDICATING DEVICES - - - - - - - -
DS801 thru DS803	19C307037P5	Lamp, incandescent: 28 v; sim to GE 1829.
		- - - - - - - - - - LOUDSPEAKERS - - - - - - - - -
LS801	19A115964P1	Permanent magnet: 3-1/2 inch, 18 ohms ±10% imp, 15 to 19 ohms ±20% DC res, resonant frequency 200 Hz; sim to Oaktron S-8847.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB6	7775500P3	Phen: 4 terminals.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XDS801 thru XDS803	4032220P1	Lampholder, miniature: sim to Drake N517.
		PLATE ASSEMBLY 19D413645G1
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R801	5496870P11	Variable, carbon film: 5000 ohms ±20%; sim to Mallory LC(5K).
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S802	19A116099P5	Push: DPDT, 3 stations, momentary action, operating currents (A) 100 MADC at 28 v; (B) 15 MADC at 130 v; sim to Schadow Series "D".
		MICROPHONE-JACK ASSEMBLY 19A127141G1
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J51	19A116061P1	Connector. Includes:
	19A116061P2	Receptacle: 4 female contacts; sim to Amphenol Type 91-PM4F-1000.
	19A116061P4	Lockwasher: internal tooth.
	19A116061P5	Nut, knurled.
J51-1	4029840P1	Contact, electrical: sim to AMP 41854.
J51-2 and J51-3	4029840P2	Contact, electrical: sim to Amp 42827-2.
		MECHANICAL PARTS (SEE RC-2118)
1	19B216981P1	Plate.
2	19A115679P2	Knob, push-on: sim to Rohden Mfg Co 27202. (Used with R801).
3	19B204949P3	Jewel: amber. (Used with DS801 and DS803).
4	19B205216P1	Jewel: red. (Used with DS802).

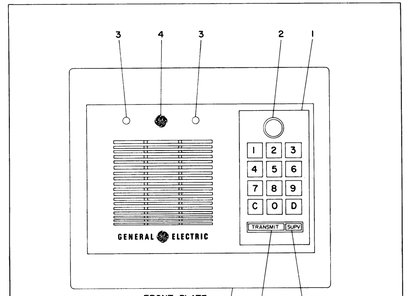
SYMBOL	GE PART NO.	DESCRIPTION
5	19B216115P2	Support. (Right rear).
6	19B216116P1	Support. (Mounts R801).
7	19C311795P7	Cover, beige.
8	19C311795P8	Cover, gray.
9	7142162P116	Spacer, sleeve: 4-40 x 1/4. (Located between cover and A809).
10	19C317492P1	Front plate.
11	19A116427P1	Reflector: sim to Amatom Electronic Hardware Co 3113. (Used with DS801-DS803).
12	19B216127G9	Button, Desk Mount. (TRANSMIT).
13	19B216127G5	Button. (SUPV).
14	19B216115P1	Support. (Left rear).
15	7160861P15	Nut, sheet spring. (Secures Cover to base plate).
16	19A127126G2	Support. (Mounts XDS801-XDS803).
17	19C311789P1	Support. (Used with A807).
18	19A115368P1	Retainer, spring: sim to Allied Control 30040-3. (Used with K1 on A808).
19	19A127124P1	Support. (Used with A807).
20	4036555P1	Insulator, disc: nylon. (Used with Q1 and Q4 on A807).
21	4035439P1	Heat sink. (Used with Q1 on A807).
22	7763541P5	Clip, spring tension.
23	19C311791G1	Base plate.
24	19A116768P8	Bushing, strain relief: sim to Heyco SR-5P-4. (Used with W801).

PRODUCTION CHANGES

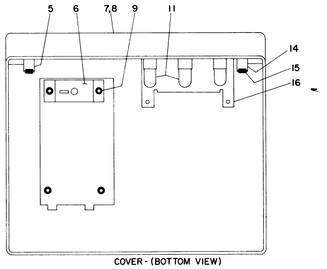
Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - To increase audio output from Pageeon. Removed R33 and white-orange wire from TB801-9 to J8 on A808.

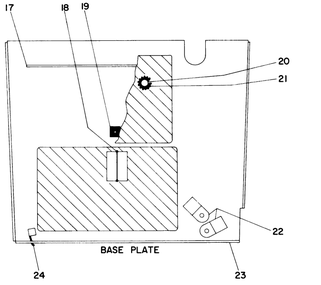
REV. B - To comply with OSHA Standards. Changed W801.



FRONT PLATE



COVER - (BOTTOM VIEW)



BASE PLATE

RC-2118

ORDERING SERVICE PARTS

Each component appearing on the schematic diagram is identified by a symbol number, to simplify locating it in the parts list. Each component is listed by symbol number, followed by its description and GE Part Number.

Service parts may be obtained from Authorized GE Communication Equipment Service Stations or through any GE Radio Communication Equipment Sales Office. When ordering a part, be sure to give:

1. GE Part Number for component
2. Description of part
3. Model number of equipment
4. Revision letter stamped on unit

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact the nearest Radio Communication Equipment Sales Office of the General Electric Company.

MAINTENANCE MANUAL

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GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

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