

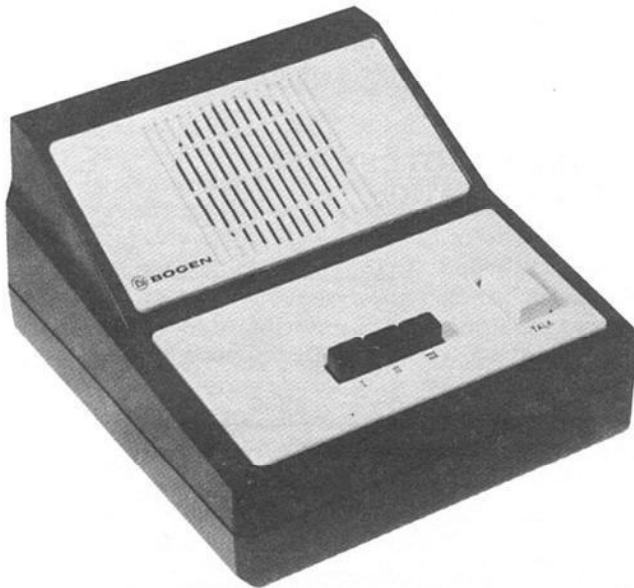


BOGEN®

Model IE-4A

INSTALLATION AND OPERATING MANUAL

Series IE-A Intercom



DESCRIPTION

The Bogen IE-4A Intercom Master is a versatile solid state unit designed for small factory and office applications. The units can be connected in either Single Master To Multiple Remote, or All-Master configurations. In a Single Master System, private communication is possible between the master and up to three remote locations. The Model RIE-1A Remote is furnished with a call switch and a privacy switch. Provision is also made to defeat the privacy function if desired. The All-Master System offers communication between any two stations in the system, with two simultaneous private conversations possible in a four-station system. Three or four stations may also join in a conference.

NOTE

The Master is furnished wired for single master operation, with a simple modification required for an All-Master installation—see figure 2.

Bogen has a non-private outdoor remote (Model RF-1) available for use with the IE-4A. This remote is used in the Single Master - Multiple Remote System. Calls cannot be initiated from the RF-1. Two back boxes, the Bogen Model RBR-F flush-mounting and the Model RBR-S surface mounting box, are available for installing this remote.

The Bogen IE-4A stations are connected by multi-conductor cables run inside walls or tacked along baseboards. The master stations are designed for desk-top operation, but may be wall mounted by utilizing the two key-way slots under the cabinet. Each master station requires a standard 120 vac outlet to provide operating power. The Remote stations require no power and may be located anywhere inside the building.

OPERATION

These operating instructions cover both Single Master and All-Master systems. Refer to the paragraph heading that corresponds to the type of system you have.

Each master station has a volume control located under the unit. The volume control is preset at the time of installation and usually does not require any attention. If the output from a particular Master is not as desired, adjust the volume control while talking to the other stations—not while listening to another station. Turn the control clockwise to increase output level or counterclockwise to decrease output level to the other stations.

ALL-MASTER SYSTEM

1. TO CALL ANOTHER STATION

- a. Depress button number corresponding to station you wish to call.
- b. Hold down TALK button and talk into speaker from a distance of about two feet. Speak in a normal voice and *identify* your station so person at other end may depress proper station button.
- c. To hear reply, release TALK button. Do not touch station number button.

NOTE

Press station selector buttons once to operate and once again to release.

NOTE

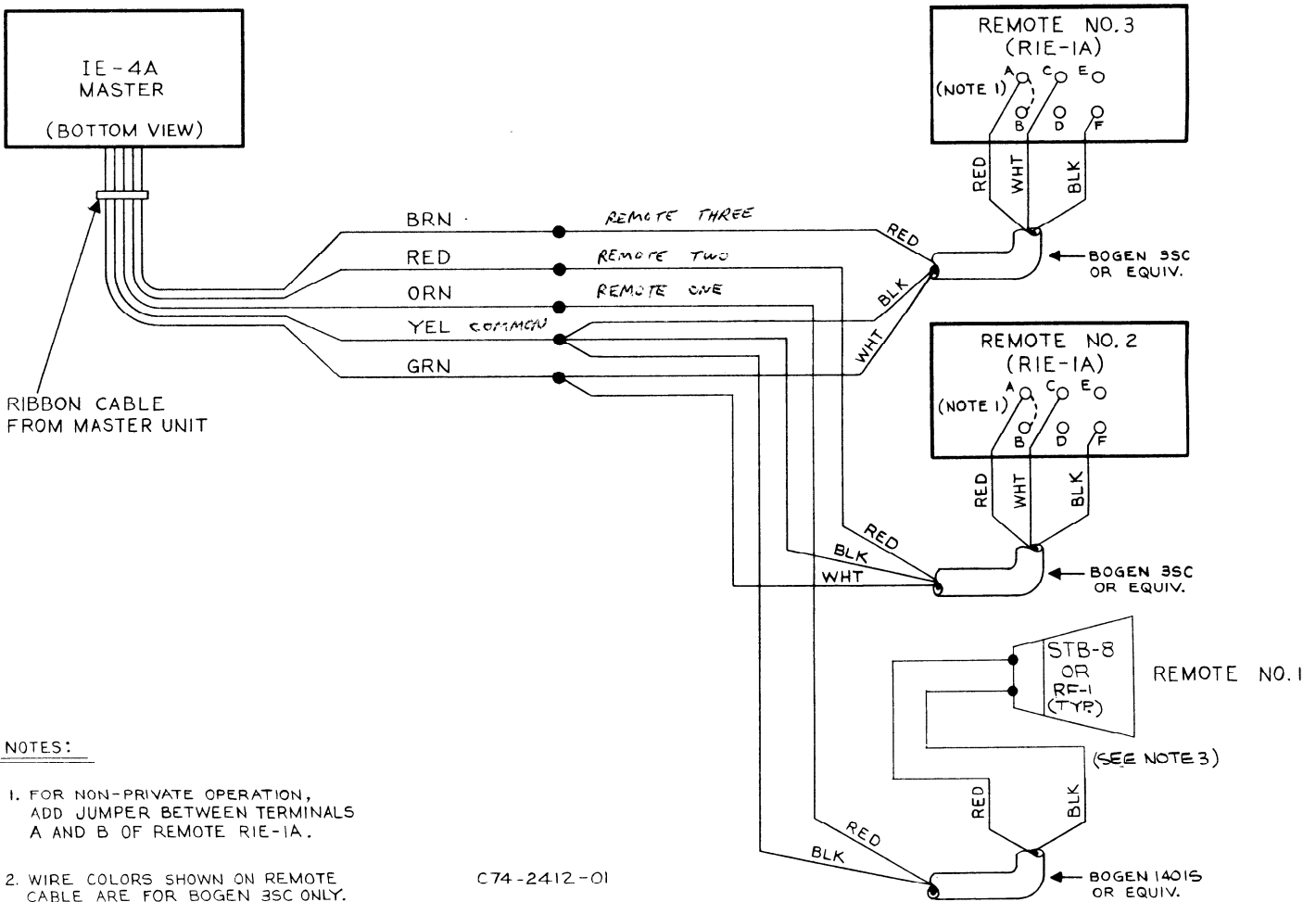
If you leave intercom in TALK position, other stations will be unable to call you.

2. TO ANSWER ANOTHER STATION
 - a. Depress button number corresponding to station calling you.
 - b. Hold down TALK button to talk. Release TALK button to hear reply.
3. TO TALK "HANDS FREE" TO ANOTHER STATION
 - a. Call station as described in Step 1.
 - b. Depress TALK button and slide up. The TALK button will lock in depressed position, allowing you to talk with hands free of intercom.
 - c. When you have finished talking, slide TALK button down to release.

4. TO MAKE A CONFERENCE CALL
 - a. Depress buttons corresponding to stations included in call. Notify each station to depress all appropriate buttons.
 - b. Any one station may talk to all other conference stations by holding down TALK button.
 - c. Only one station may talk at a time. Any station having TALK button in down position will not be able to hear other stations.

MASTER-REMOTE SYSTEM

1. MASTER STATION



NOTES:

1. FOR NON-PRIVATE OPERATION, ADD JUMPER BETWEEN TERMINALS A AND B OF REMOTE R1E-1A.
2. WIRE COLORS SHOWN ON REMOTE CABLE ARE FOR BOGEN 35C ONLY.
3. IF CALL-IN IS REQUIRED WITH STB-8 HORN OR RF-1 SPEAKER, OPTIONAL CA-13 CALL SWITCH IS REQUIRED WITH 3-CONDUCTOR CABLE.

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Figure 1 — Series IE-4A Single Master Multiple Remote System Connection Diagram

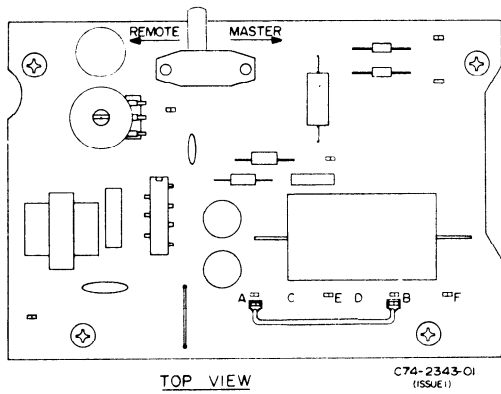


Figure 2 — Amplifier Board

- a. To call a remote station, depress button corresponding to station you wish to call.
- b. Hold down TALK button and momentarily talk into speaker in a loud voice. *This initial step is only an alerting or signaling call and no conversation should begin until an acknowledgement is received from the station called. Begin conversation in a normal voice after acknowledgement.*
- c. To hear reply, release TALK button.

- d. To answer a call from a remote station, proceed as in step a.

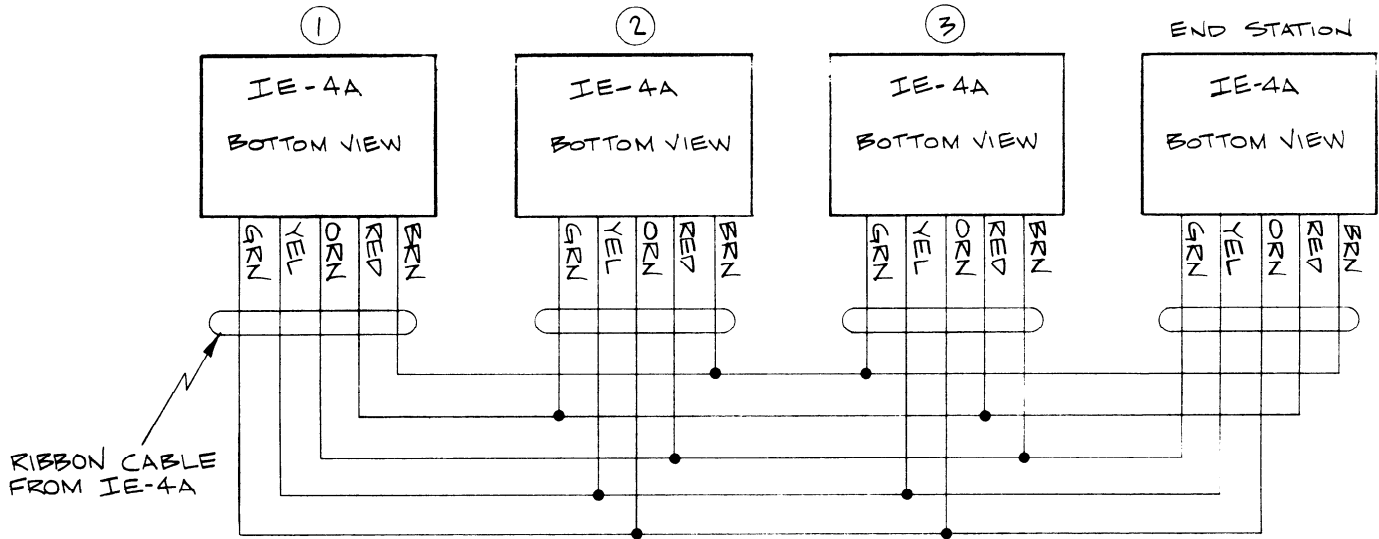
NOTE

You may converse with several remotes at once by depressing appropriate station buttons.

2. REMOTE STATION

- a. To call the master station, press CALL button and talk into speaker, identifying your station. When the person at master station replies, you converse directly with hands free of the controls. Do not depress CALL button after you have made contact with the master station, but converse "hands free" of the remote.
- b. To answer a call, depress CALL button once to release privacy switch. You may then converse hands free of controls.
- c. When a remote station CALL button is depressed, the station automatically is placed in a non-private mode. To return a remote station to the private mode, depress the PRIVATE button. In this mode, the person at the master station can signal the remote station but cannot listen in on the station.

IE-4A MASTER STATIONS



NOTES:

- 1-YELLOW IS SYSTEM GROUND.
- 2-GREEN IS CALL-IN LINE FOR CORRESPONDING MASTER UNIT.

Figure 3 — Series IE-4A All-Master System Connection Diagram

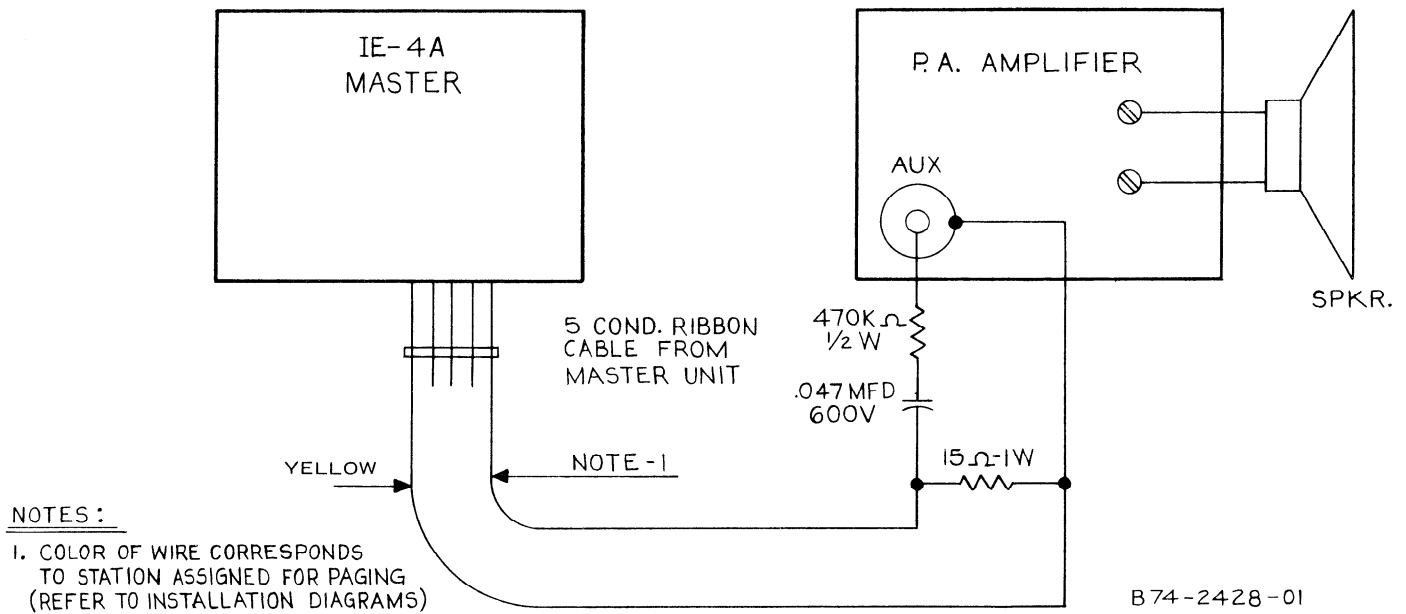


Figure 4 — Series IE-4A Connection to Paging System

NOTE

In many installations, non-private remote operation is preferred. Such stations may be wired to make the PRIVATE button inoperative. See "Installing RIE-1A Remote" in installation section for your system.

3. OUTDOOR REMOTE STATION (RF-1)

Calls are initiated from the master station to the remotes. Remotes are wired for non-private, hands-free operation.

INSTALLATION

INSTALLING SINGLE MASTER-MULTIPLE REMOTE SYSTEM

For this system to operate properly, the mode selector switch on the master unit must be set to REMOTE and the mode selector jumper on the master unit must be connected between "A" and "B" (See figure 2). This is the way the unit is shipped from the factory.

Running Cables. Run a 3-conductor unshielded cable from each Remote to the Master unit. An outdoor remote RF-1, a speaker or a horn may be used in lieu of the RIE-1A. Refer to figure 1 for system wiring information.

Installing Master Station. When installing the master station, be certain that the mode selector switch and jumper are set as directed above. Remove 4 screws holding bottom cover and refer to figure 2.

Installing RIE-1A Indoor Remotes. Each RIE-1A remote station has a 6-screw terminal strip for connecting the cable from the master station. If you wish to make a remote station permanently non-private (PRIVATE button inoperative), connect a jumper between terminals "A" and "B". Wire the remote to the system in accordance with figure 1.

NOTE

If no call switch is used, 2-conductor cable will suffice.

INSTALLING ALL-MASTER SYSTEMS

For this system to operate properly, mode selector switch on the master unit must be set to MASTER, the mode selector jumper on the master unit must be connected between "C" and "D". See figure 2.

Running Cables. You must run a multiconductor cable from station to station, starting at station No. 1 and ending at the last station in the system. At each station, the multiconductor cable must be wired to the cable which is coming out of the master unit. Study the wiring diagram (figure 3). The wires coming out of each master station are color-coded and are the same for all masters.

Undercapacity Systems. It is quite possible that you are installing less than 4 masters in an IE-4A system. In

these cases you may delete certain wires in the interconnecting cable between stations. If 3 stations are used, delete wires connecting to green wire at end station. With only two stations in use, wire connected to green at station 3 may also be omitted.

Installing Master Station. When installing the master station, be certain that the mode selector switch and jumper are set as directed above. Remove 4 screws holding bottom cover and refer to figure 2.

INSTALLING OPTIONAL EQUIPMENT

Outdoor Remotes. Bogen Model RF-1 outdoor remote may be installed in place of an RIE-1A or connected in parallel with an existing RIE-1A. Each RF-1 has a terminal strip for connecting it into the system. Connect the terminals with the white and pink wires to the intercom system.

Speakers or Horns. Bogen WB8/L112 indoor speakers or STB-8 weatherproof horns may be installed in place of an RIE-1A remote.

Model CA-13. The CA-13 enables personnel to initiate a call to the master from a particular speaker or horn. Place the switch about four feet above the floor at a location that permits the person to communicate via the speaker or horn while operating the switch. Switch should be mounted in a standard electrical box.

CONNECTION OF MASTER TO PAGING SYSTEM

Master stations may be connected to a paging system. One SELECTOR switch is used for this function. Proceed as follows:

1. Connect the GND (yellow) and the assigned page line to the paging amplifier through the network shown in figure 4.
2. Adjust the Aux. input volume control, on amplifier, to provide desired volume level. If hum interference occurs, reverse AC power plug of master and/or amplifier in power receptacle.

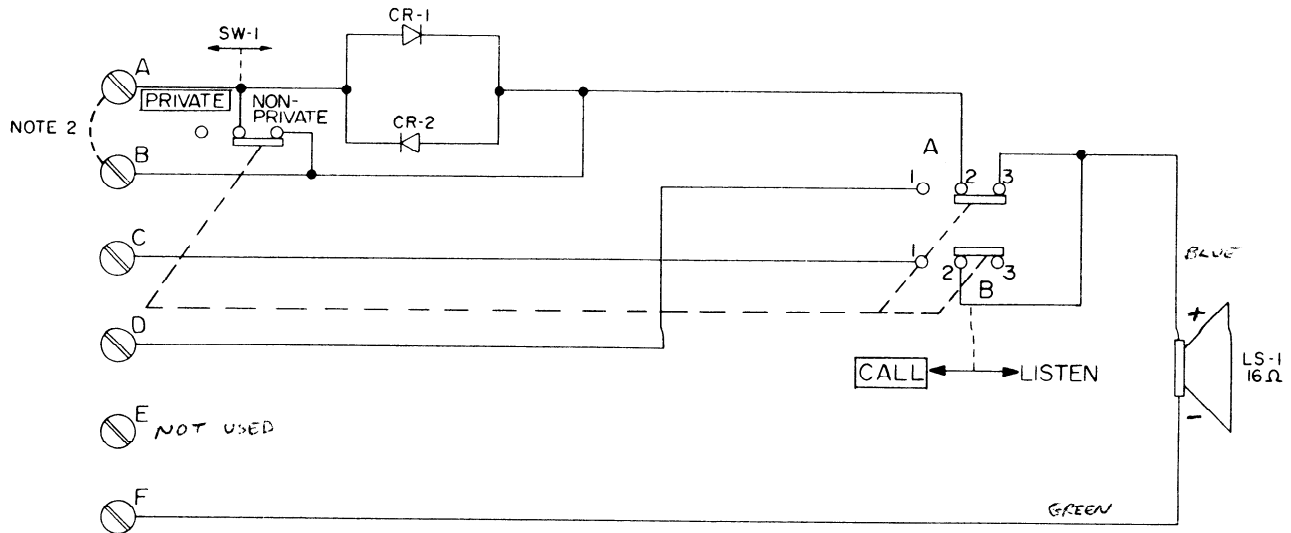
Routing Cables. The Interconnecting cables carry low voltages not hazardous to humans and the wires need not be run in conduits except where subject to physical abuse or dampness. Keep cables away from sources of heat. Wherever possible, avoid routing cables near or parallel to power lines. If a cable must cross a power line, try to cross the line at right angles. Always have about two feet of extra cable at each station to facilitate connection.

Junction Boxes. It is good installation practice to terminate wires at each master station inside a junction box. The Bogen Model JB-EA Junction Box is specifically designed for this purpose. With the junction box, all connections can be made neatly without soldering. System testing and troubleshooting is simplified because all connection points are easily identified and accessible.

Under-Capacity Systems. All-Master Systems with less than a full complement of stations can have fewer wires in the interconnecting cable between stations. However, it is desirable not to eliminate wires between master stations if there is any possibility of expanding the system in the future. This is especially important where interconnecting cables are run inside walls or are otherwise inaccessible. Using full-capacity cables also simplifies repairs in cases where wires may be damaged during or after installation.

BOGEN INTERCOM CABLES	
Number of Unshielded Wires in Cable	Bogen Type
2	1401 S
3	3 SC
7	7 SC

NOTES: JUMPER "A" TO "C" FOR TWO WIRE OPERATION. TALK CONNECTIONS ARE "A" AND "F" TERMINALS.



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NOTES

- 1- ALL PUSH BUTTON SWITCHES ARE SHOWN IN OUT POSITION
- 2- FOR PERMANENT NON-PRIVATE OPERATION, ADD JUMPER BETWEEN "A & B".

Figure 5 — Model RIE-1A Remote Station Schematic Diagram

MAINTENANCE

CAUTION

The Bogen intercom is a solid state device with no user-replaceable parts. Parts inside the unit should be replaced by a qualified technician. Failure to observe this procedure may void the warranty.

BOGEN SERVICE

We are interested in your Bogen intercom for as long as you have it. If your unit ever develops trouble, please call your nearest Bogen authorized service agency. If you do not know the location of your nearest Bogen

agency or if the trouble is not satisfactorily corrected, do not hesitate to ask our advice or assistance. Information can be obtained by writing to Service Department, Bogen Division, P.O. Box 500, Paramus, New Jersey 07652.

REPLACEMENT PARTS

The components used in Bogen intercoms, with the exception of items listed below, are available through reputable parts jobbers. The parts listed here should be replaced from genuine Bogen distributors, service agencies or directly from the factory.

When ordering a part, specify part number and description of the part as listed below. Specify the model and give the series designation, which is a letter followed by numbers, stamped or screened on the cabinet.

Ref. No.	Part No.	Description
	<i>SERIES C-36</i>	
	<i>MASTER STATION-IE-4A</i>	
A1	45-9928-01	Amplifier Board, Complete
A2	45-9929-01	Main Switchboard, IE-4A
C3	79-008-047	Capacitor, Electrolytic, 100 μ F, 25V
C4	79-008-030	Capacitor, Electrolytic, 100 μ F, 10V
C7	79-008-045	Capacitor, Electrolytic, 330 μ F, 25V
C8	79-005-064	Capacitor, Electrolytic, 1,000 μ F, 35V
CR1,2	96-5333-01	Diode, 400 PIV @ 1 Amp <i>ECG 116</i>
IC-1 <i>TAA 621 A12</i>	96-5353-01	Integrated Circuit <i>ECG 112</i>
LS-1	93-0048-01	Speaker, <i>16Ω</i>
R1	77-001-738	Control, 100K
SW1	81-003-064	Switch, slide
T1	83-057-000	Transformer, Input
T101	83-786-000	Transformer, Power
A2	45-9929-01	Switch, P.C. Bd. Assy.
SW1	81-004-069	4-section Switch Assy.

	<i>REMOTE-RIE-1A</i>	
	<i>SERIES J-27</i>	
A1	45-9951-01	Switch, P.C. BD. ASSY.
CR1, CR2	96-5363-01	Diode <i>ECG 107</i>
LS-1	93-0048-01	Speaker, <i>16Ω</i>
SW1	81-007-072	Switch

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