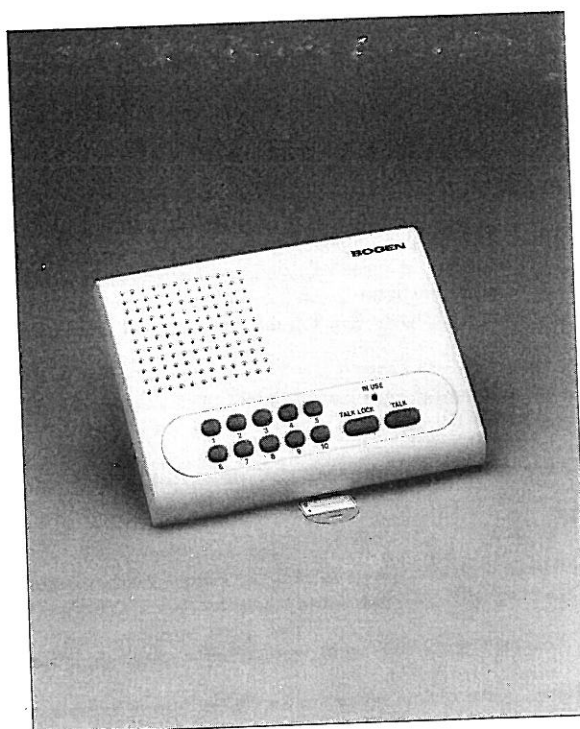# BOGEN®
COMMUNICATIONS, INC.

OPERATION INSTRUCTIONS

ADMINISTRATIVE INTERCOM SYSTEM

MODELS:

CM-805—MASTER STATION
CM-810—MASTER STATION
CM-801—REMOTE STATION

OPERATION INSTRUCTIONS

ALL-MASTER SYSTEMS

CALLING OTHER STATIONS

1. Ensure that the in-use LED is not on (if it is on, release the depressed call button and/or TALKLOCK push button). Press the call button corresponding to the station desired. To speak with more than one station (conference call), simultaneously press the desired buttons. The in-use LED will light and an electronic call tone will sound at the called station(s). Press the TALK button when speaking and release to listen. To speak hands-free, or to permit monitoring of the master location from a remote, press the TALKLOCK button.

2. Following the call, press the same call button(s) and TALKLOCK, if applicable, to release the system and extinguish the in-use LED.

RECEIVING A CALL

1. When the call tone sounds, press the TALK button and speak into the intercom. Release the TALK button when you want to listen.

SINGLE MASTER/MULTIPLE REMOTE SYSTEMS

MASTER STATION

1. To call a remote station, ensure that the in-use LED is not on (if it is on, release the depressed call button or TALKLOCK button*). Press the CALL button(s) corresponding to the station(s) desired. The in-use LED will light and an electronic call tone will sound at the called station(s). Press the TALK button when speaking and release when listening. To speak hands-free, press the TALKLOCK button.

2. Following a call, press the same call button(s) and TALKLOCK, if applicable, to release the system and extinguish the in-use LED.

3. To answer a call from a remote station, press the TALK button when speaking and release it to listen.

REMOTE STATION

1. To call the master station, depress the two-position CALL button (down position). The in-use LED will light and an electronic call tone will sound at the master station. Speak and listen hands-free.

2. Following a call, press the CALL button again (up position) to release the system.

3. To answer a call from a master station, ensure that the PRIVACY push button is in the up position. Speak and listen hands-free of controls. If the PRIVACY push button is in the depressed position, you will hear the call tone but the calling party will not be able to listen in on the remote area.
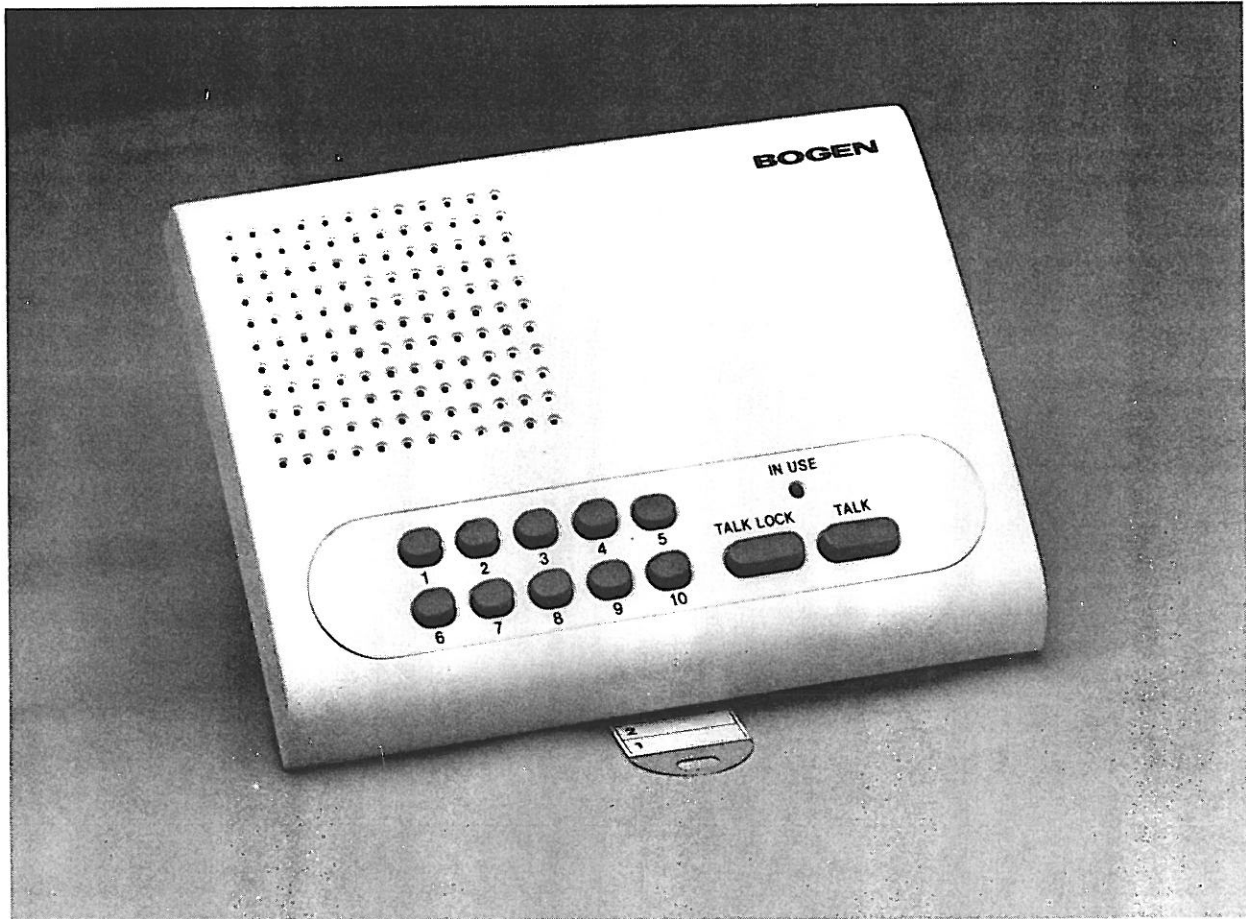
*The in-use LED will also light if a remote station call button is depressed. In this case, press the TALK button and request that the call button be released.

INSTALLATION INSTRUCTIONS

MASTER STATIONS CM-805 & CM-810
REMOTE STATION CM-801

DESCRIPTION

The CM-Series Administrative Intercoms are versatile intercommunication devices designed to operate as an all-master system, or as a single-master/multiple remote system. Each station in an all-master system can selectively call any other station(s). The single-master/multiple remote configuration lets the master station call any remote and any remote call the master station.

All-master systems use the Model CM-805 or CM-810 master station for capacity of up to 6 or 11 stations, respectively. Full-trunkage permits multiple conversations—up to five simultaneous two-way conversations are possible in an 11 station system. Each master has push-on/push-off call buttons to select a station and sound an electronic call tone. Conference calls are established by simultaneously pressing the desired call buttons. If two stations are engaged in conversation and a third party calls one of those stations, he is automatically included in the conversation. A privacy feature alerts the parties when their conversation has been joined by sounding the call tone at both stations.

Each master station has a TALK push button which is pressed when speaking and released when listening. A TALKLOCK push button

is provided for dictation or monitoring. A control is provided to adjust the volume of the call tone and of speech transmitted and received over the speaker. A red (IN-USE) LED illuminates when a call button is pressed, as a reminder to release the call button following conversation.

Single-master/multiple remote systems use the CM-801 remote station and either the CM-805 master or CM-810 master. Each remote station has a single push-on/push-off CALL button to call the master station. Once the CALL button has been depressed, speaking and listening at the remote unit is hands-free. A PRIVACY push-on/push-off button is provided and permits the party at the master station to call the remote; but prevents listening in on the remote area.

A single power supply (Bogen Model RF-12) is required for each installation. Wiring for all-master systems is simplified through the use of junction boxes and multi-conductor cable; the number of conductors required equals 3, plus the number of master stations. Wiring for single-master/multiple remote systems consists of a three-conductor cable from each remote to the master station junction box.

SPECIFICATIONS

Operating Voltage: 12VDC
Supply Current: Maximum 120mA
Audio Output Power: 450mW
Output Impedance: 8 ohms
Station Operation: *Master*—Push-button station selection; TALK button operation; TALKLOCK button; IN-USE LED
Remote—CALL push-button; hands free operation; PRIVACY button
Call Signal: Electronic call tone
Mounting: Desk or wall
Dimensions: 5.46"H x 7.09"W x 1.67"D (14x18.2x4.3cm)
Wiring Required: Multi-conductor cable (See page 5 for wiring details)
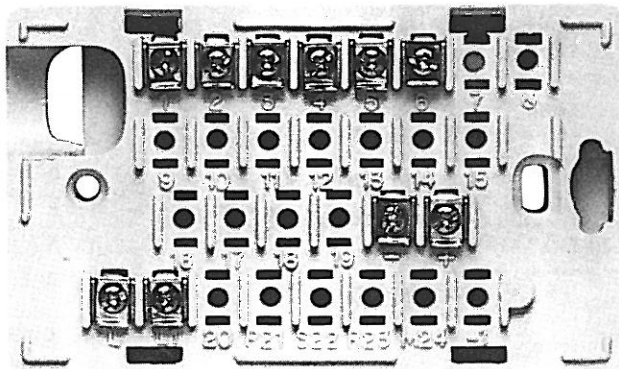**Accessories:** Bogen Model RF-12 regulated power supply—12VDC @ 1A

INSTALLATION

CAUTIONS
- *Do not expose any equipment to rain or moisture.*
- *Do not hammer on or staple through cables.*
- *Route cables away from excessive heat and high-voltage cables.*
- *Do not connect the power supply until system wiring is complete.*
- *Do not alter component wiring.*
- *Except for the power supply AC power cord plug, do not connect wires to AC power sources.*

Read these instructions before beginning the installation.

Lay out the system before beginning the installation. Draw a diagram showing the location of each station and the power supply. Decide on the most efficient cable routing and assign station numbers.

CM-805

Station Mounting

Each CM-Series station has keyhole slots to facilitate wall mounting. Locate two screws 5-3/16" apart, allowing the screw heads to protrude 1/8" to 1/4". Fit the keyhole slots over the screw heads and pull the station down slightly to secure.
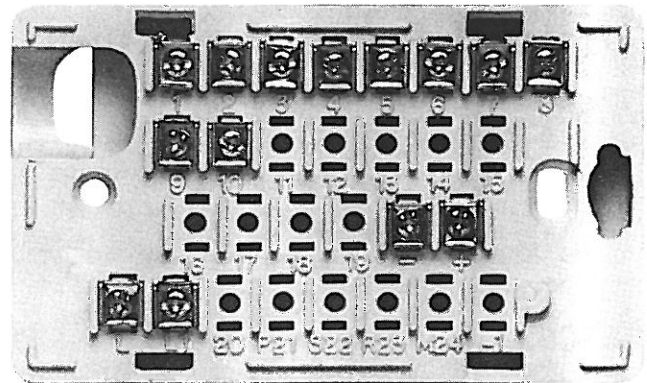
Junction Boxes

The junction box supplied with master stations may be mounted directly to a wall or over a single-gang outlet box. Remove the cover of the box by inserting a screwdriver into the slot on the side of the box and prying upward. Two screw holes are provided for mounting to a wall or single-gang outlet box. Cables are inserted into the box through the knockout on the side (wall mounted) or underside (outlet-box mounted) of the junction box.

The actual terminal locations are shown in Figure 1. Use a 3/16" flat blade screwdriver or Phillips-type screwdriver to loosen and tighten the screw terminals. Insert wires under the hold-down clip and tighten the screw.

Power Supply

A single power supply is required for each installation. The Bogen Model RF-12 regulated power supply provides 12VDC @ 1 amp from a 120VAC, 60Hz source. A bracket is provided for mounting to a wall. A pilot lamp on the supply illuminates when power has been applied. BE SURE TO OBSERVE CORRECT POLARITY WHEN CONNECTING THE POWER SUPPLY TO THE JUNCTION BOX.

The DC output fuse is located in a fuse holder mounted on the power supply enclosure. An AC line fuse is located internally. Replace both fuses **only** with the same type and rating. Refer to Figure 2 for the RF-12 Schematic Diagram.

CM-810

CM-805, 810 TERMINAL DESIGNATIONS

1,2,..10	Station Identification
L	Call Line
L1	Audio Ground
+	+12VDC Connection (Red Wire from RF-12 Power Supply)
−	−12VDC Connection (Blue Wire from RF-12 Power Supply)

CM-801 TERMINAL DESIGNATIONS

1. Station Identification
2. Outgoing Call Line (Connects to Junction Box Terminal "L")
3. Audio Ground (Connects to Junction Box Terminal "L1")
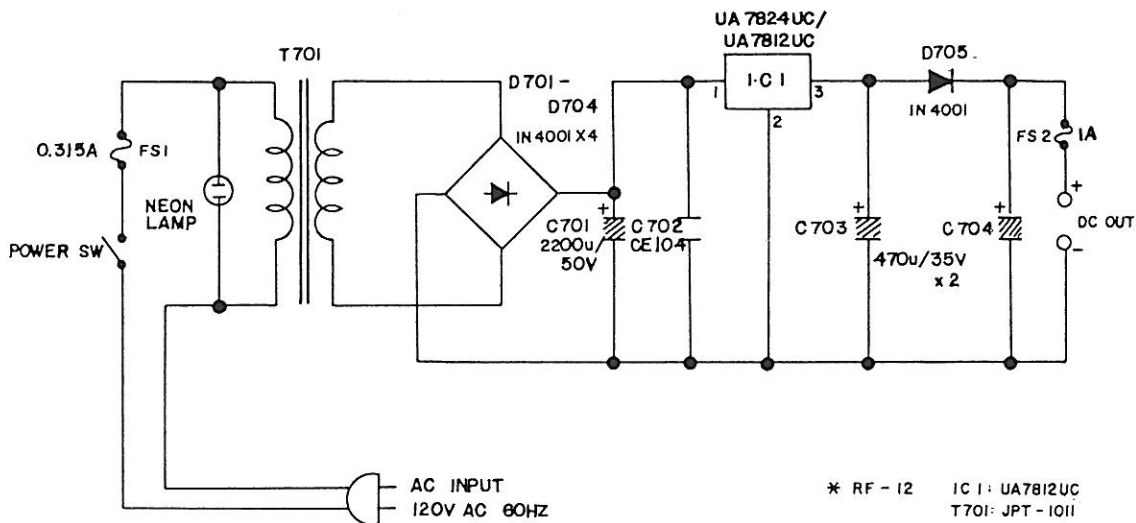
Figure 1—Junction Box, Actual Terminal Location

Figure 2—RF-12 Schematic Diagram

WIRING

Use multi-conductor cable to interconnect stations. Do not use twisted pair or shielded cable. The number of conductors required for all-master systems equals 3, plus the total number of stations. For all-master systems, it is recommended that the full complement of cable be installed to provide for future additions to the system. Single-master/remote system wiring consists of a three-conductor cable from each remote to the master (home-run wiring).

Alternate Remote Station

An 8-ohm speaker may be wired as a remote station. If call-in is not required, connect the speaker to the station identification terminal (n), in-line with a $50\mu F$ non-polarized capacitor, and the L1 (audio ground) terminal at the master station junction box. If call-in is desired, install a SPDT momentary contact switch as illustrated in Figure 6, CM-801 Schematic Diagram.

All-Master Systems

Each master station has a two-position switch labelled M and R. In an all-master system, place the switch on each master station to the M (master configuration) position.

System	No. of Conductors for Max. Capacity System	Recommended Cable *
CM-810 All-Master	14	Belden 8400/9400 Series or West Penn 500 Series
CM-805 All-Master	9	

• AWG22 gauge is recommended for all systems with a total cable length of less than 1000'. AWG24 gauge may be used for small systems.

Begin wiring with station number 1. As you wire the first junction box, write the color of each wire on the connection diagram (Figures 3 and 4). When you have finished wiring a junction box, replace the cover.

Note
If a maximum capacity all-master system is installed, one station is designated the central-master. To call the central-master, the call button corresponding to the station used to make the call is pressed (i.e., call button #4 is pressed to call the central-master from station #4).

Run the cable to the next station. Strip and connect each wire to the proper screw terminal, following your color code and the connection diagram. Be sure to connect the proper wire to the "L" terminal at each junction box.

Following installation, connect the power supply red wire to the + terminal and the blue wire to the − terminal at any junction box. If the cable run is very long, connect the power supply to a junction box mid-way through the run.

BE SURE TO OBSERVE CORRECT POLARITY WHEN CONNECTING THE POWER SUPPLY.

Single-Master/Multiple Remote Wiring

The single-master (CM-805 or CM-810) station in a single-master system has a two-position switch labelled M and R. Place the switch to the R (remote configuration) position.

Use three-conductor cable such as Belden 8443 or West Penn 230. Run the cable from each remote station to the master station junction box (home-run wiring). Connect the conductor from Terminal #1 on each remote station to the desired station identification terminal on the junction box. Use wire nuts to gather wires from Terminals #2 and #3, and connect to Terminals L and L1, respectively, on the junction box.

System	Recommended Cable
CM-805 or CM-810 Single-Master/Multiple Remote	Belden 8443 or West Penn 230

Following installation, connect the power supply red wire to the + terminal and the blue wire to the − terminal at the junction box.

BE SURE TO OBSERVE CORRECT POLARITY WHEN CONNECTING THE POWER SUPPLY.
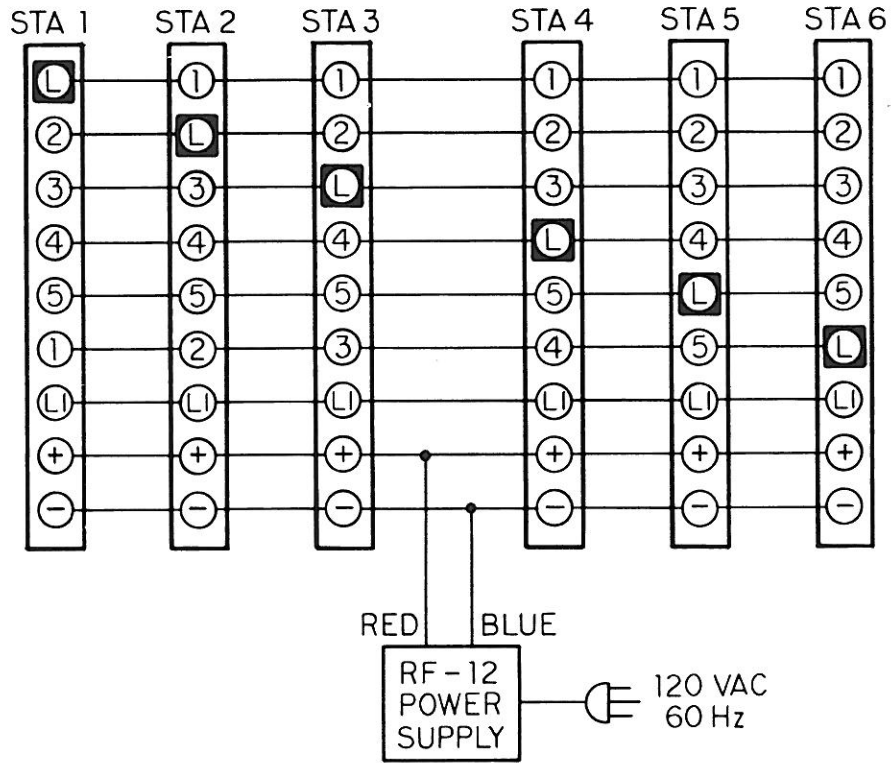
—3—

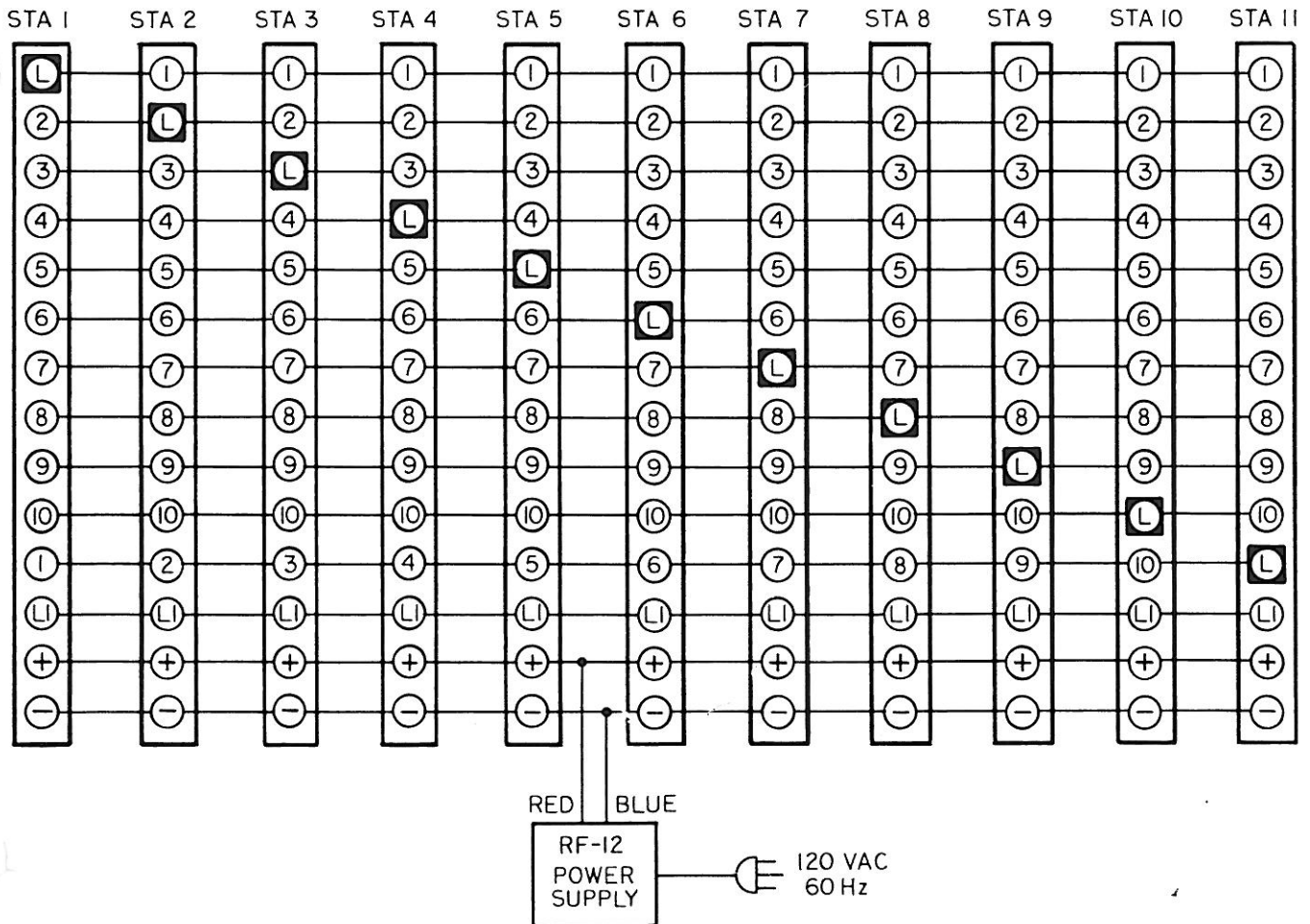Figure 3—CM-805 All-Master Connection Diagram

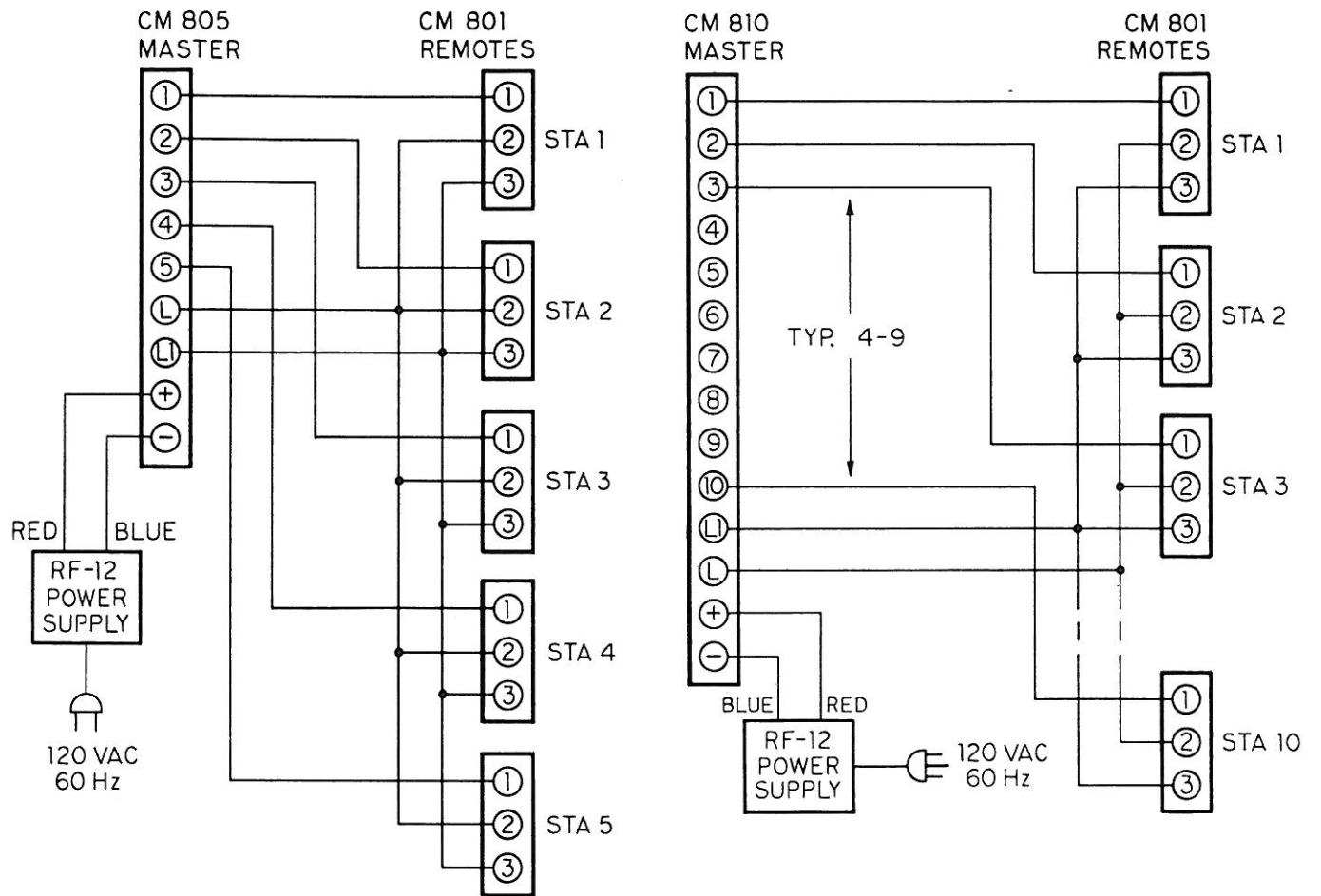Figure 4—CM-810 All-Master Connection Diagram

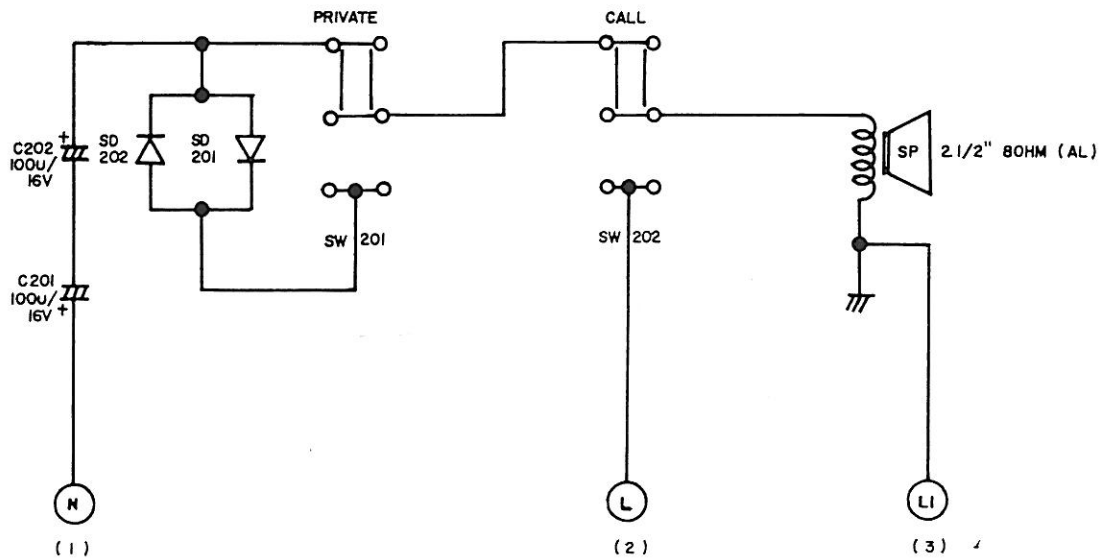Figure 5—Single Master/Multiple Remote Connection Diagram

Figure 6—CM-801 Schematic Diagram

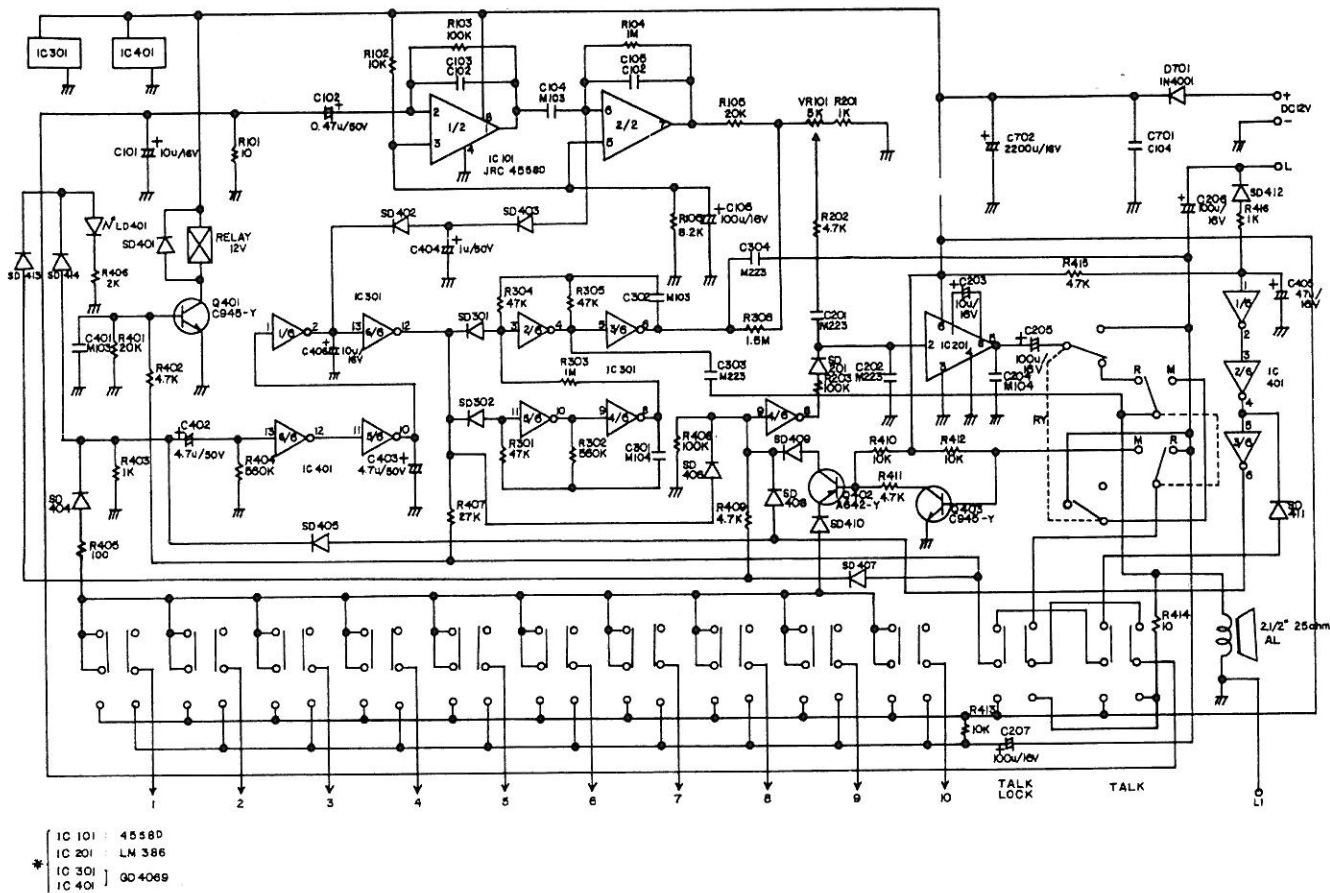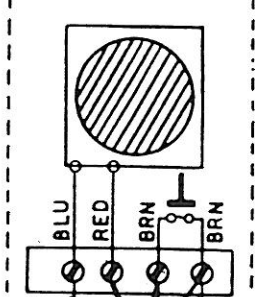Figure 7—CM-805, CM-810 Schematic Diagram

MODEL RF-2
REMOTE STATION NO 5 (TYP.)

BLU RED BRN BRN

47 m F
Non-Polarized

79-005-066.

To

CM 805 or
CM 810

(3)   (1)   (2)
L1   N   L