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# SELECTIVE WIRED INTERCOMMUNICATING UNITS

MI-6372, MI-6373, MI-6374, or MI-6375

6 and 12 BUTTON MASTER UNITS WITH MI-6358 REMOTE UNIT

## OPERATION, INSTALLATION AND SERVICE DATA

SERVICE DIVISION • RCA MANUFACTURING COMPANY, INC. • CAMDEN, N. J., U. S. A.

*A Service of the Radio Corporation of America*

### Electrical and Mechanical Specifications

MI-6372—MI-6373—MI-6374—MI-6375

Power Supply Voltage .....	105-125 volts, a-c or d-c			
Power Consumption .....	30 watts			
Output Impedance (Voice Coil) .....	12 ohms			
RCA Tube Complement	RCA-50L6-GT			Output
RCA-12SC7 .....	Double Triode Amplifier	RCA-45Z5-GT	Rectifier	
<b>Over-all Dimensions,</b>	<b>MI-6372</b>	<b>MI-6373</b>	<b>MI-6374</b>	<b>MI-6375</b>
Height .....	6¼	6¼	6¾	6¾ inches
Depth .....	5½	6¾*	6½	7½* inches
Width .....	8	8¾*	10	10¾* inches

\* Including earphone.

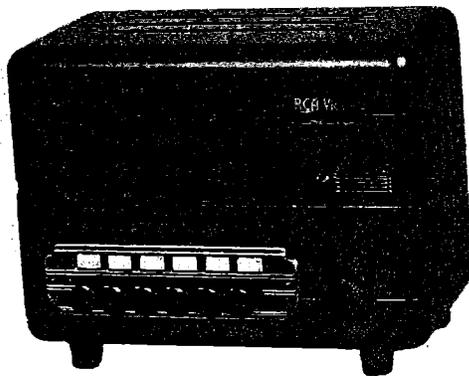


Figure 1—MI-6372

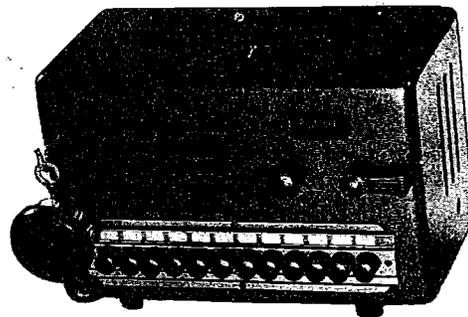


Figure 2—MI-6375

### General Description

The RCA Victor Selective, Wired Intercommunicating System consists of Master units MI-6372, MI-6373 (six push buttons), MI-6374, MI-6375 (twelve push buttons), and MI-6358 Remote units. Models MI-6373 and MI-6375 are identical to models MI-6372 and MI-6374 respectively, except that an earphone has been added for privacy. A separate volume control is provided on these models for earphone volume adjustment without affecting the operation of the remainder of the system. Master units MI-6372 and MI-6373, when used with MI-6358 Remote units, can be

used to interconnect a maximum of sixteen stations. When MI-6374 or MI-6375 units are used with MI-6358 Remote units, a maximum of forty-nine stations can be interconnected. Remote units can communicate only with the Master unit to which they are connected. A Master unit can communicate with any other Master unit in the system or to any Remote unit to which it is connected, depending upon the push button operated. A Master unit can communicate with only as many stations as it has push buttons.

Erratum

Stock #13611 Capacitor (C-7) should be Stock #34965.  
Please change Replacement Parts List page 6.

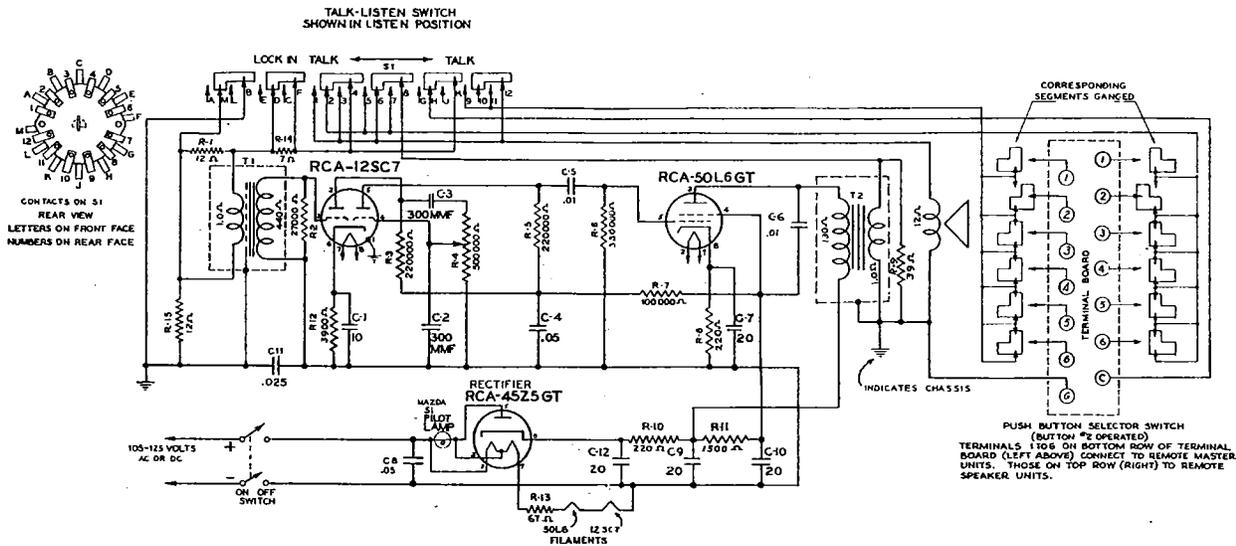


Figure 3—Schematic Diagram MI-6372

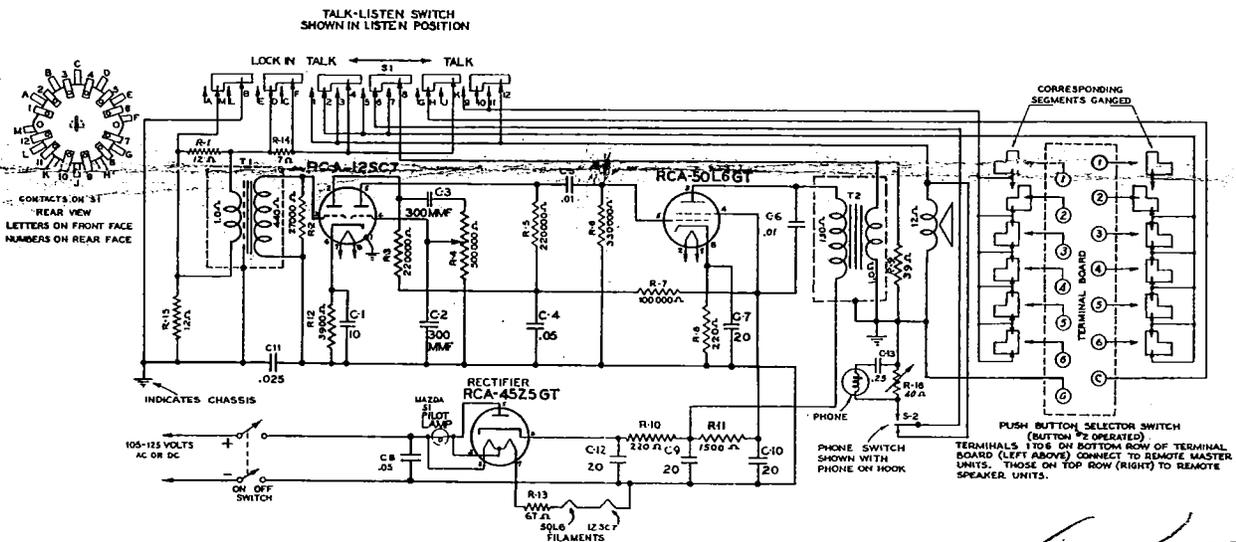


Figure 4—Schematic Diagram MI-6373

The control switch on each Master unit has three positions.

1. Listening position (Normal).
2. Talk position, Non-locking (Down).
3. Dictating or Talk position, Locking (Up).

A combined volume control and power switch is also located on the front panel of all Master units. Earphone volume level (on Models MI-6373 and MI-6375) can be set with a screwdriver. The control is reached through the small hole in the right side of the cabinet.

At the rear of the six- and twelve-button Master units are terminal strips containing fourteen and twenty-six terminals respectively for interconnecting the various units. Looking at the rear of the chassis, the upper row of terminals is for the connection of Remote units to the Master unit. The extreme right terminal is the "C" or Call connection. The lower row of terminals is for the interconnection of Master units. The extreme right lower terminal is the "G" or

Ground connection. The push buttons at the front of the unit, reading from left to right, correspond to the terminals at the rear in the same order. Any one particular push button, through its corresponding terminals, can be connected either to a Master or a Remote unit, but not to both. For example, if push button No. 3 is used for connecting to another Master unit, then the No. 3 Remote unit terminal (top row) on the rear of the chassis corresponding to push button No. 3 (both reading from left to right) cannot be used.

Remote units may call their Master unit at any time by depressing their control switch to the "Call" position, *PROVIDING* the Master unit is "on" and does not have its control switch thrown to the "Talk" or "Dictation" position. In an "All Master" or "Mixed" system, any of the above type Master units may be called by any of the other Master units providing the amplifier at the called station is "on." Consequently the volume level of each Master unit can be controlled, at that unit, by its own volume control.

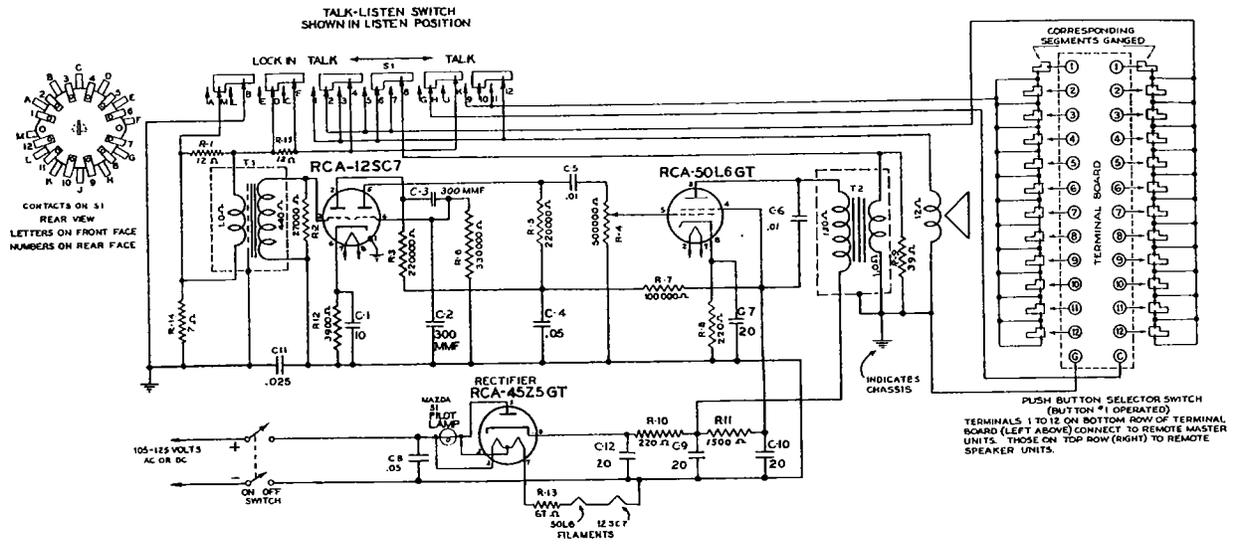


Figure 5—Schematic Diagram MI-6374

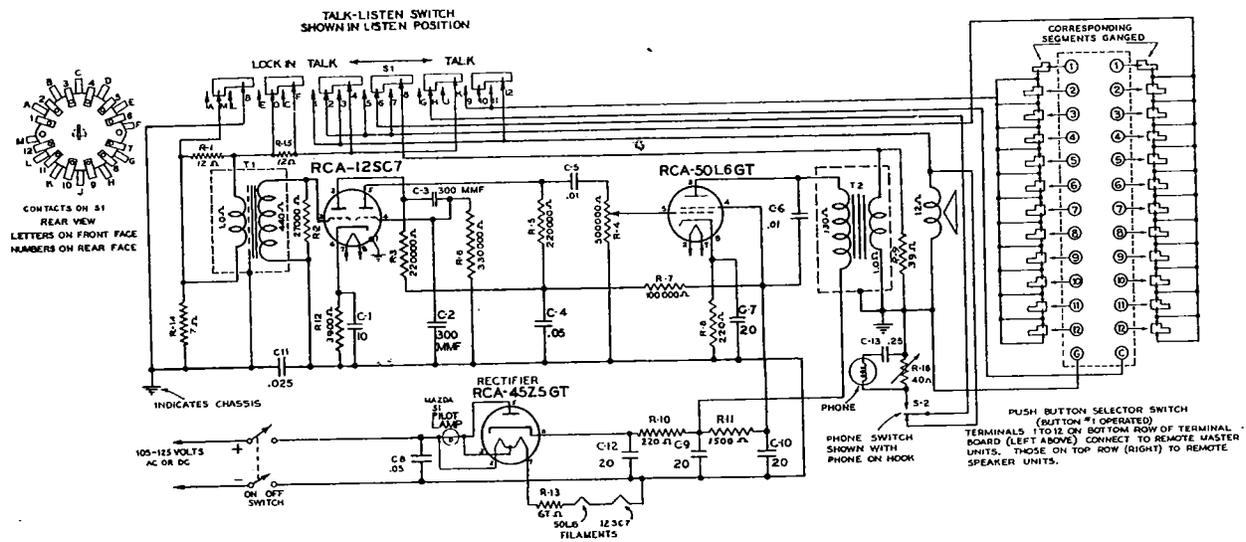


Figure 6—Schematic Diagram MI-6375

## Socket Voltages

MI-6372—MI-6373—MI-6374—MI-6375

117-volt line using meter with 20,000 ohms per volt d-c. and 1000 ohms per volt a-c.

Tube	Plate Volts	Screen Grid Volts	Cathode Volts	Heater Volts
12SC7	58* 58**	—	1.6	11.9
50-L6-GT	104	104	8.5	51.5
45Z5-GT	—	—	122	43.0
Mazda 51	—	—	—	3.55

\* Second triode plate No. 5 terminal.

\*\* First triode plate No. 2 terminal.

All plate and screen voltage measured to cathode.

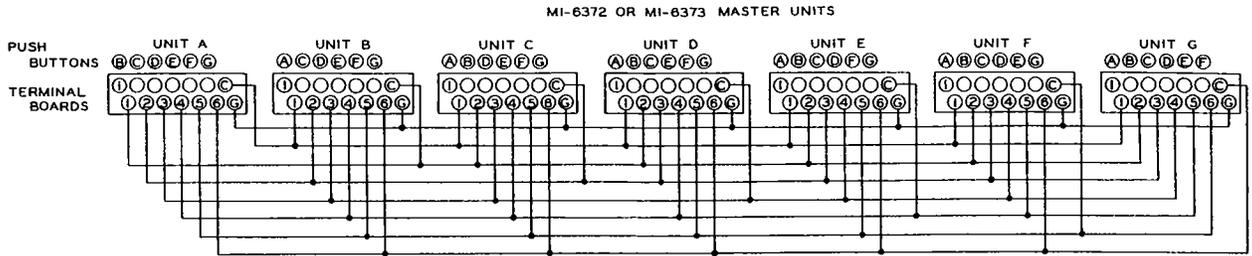


Figure 7—Connection Diagram, Six Button All Master System

## Operating Instructions

### MASTER UNITS

1. Turn combined on-off switch and volume control "on" (clockwise) on all units, and leave "on" while system is to be in use.
2. To call a particular station, depress associated push button and throw control switch to either talk position, up (locking), or down (non-locking).
3. Speak in a normal voice directly into the grille on the front of the unit.
4. Return control switch to normal position for reply from called unit. Adjust volume control for proper operating level.

*CAUTION—The control switch must be returned to normal position so Remote units can answer or call Master unit.*

5. When the Talk-Listen switch of a Master unit is in the locking position (up), the system may be readily used for dictating purposes. One-way communication is maintained to the unit corresponding to the push button which

is depressed as long as the switch is in the "Dictation" position.

6. The MI-6373 and MI-6375 units are equipped with an earphone for privacy. To use the earphone for listening, remove it from the hook. To reply, speak into the speaker grille and operate the "Talk-Listen" switch in the normal manner as specified above. Under these conditions the loudspeaker functions only as a microphone. A control is provided on the chassis to adjust the volume of the earphone. It is visible through a hole on the right side of the cabinet. Clockwise increases—counterclockwise decreases the volume.

### REMOTE UNITS

1. To call Master unit, depress control switch and talk directly into grille on front of unit in normal voice, giving station location. Then release control switch.
2. After contact is made the corresponding push button is depressed on Master unit, then the "Talk-Listen" switch may be released and the Master unit is in control of the system.

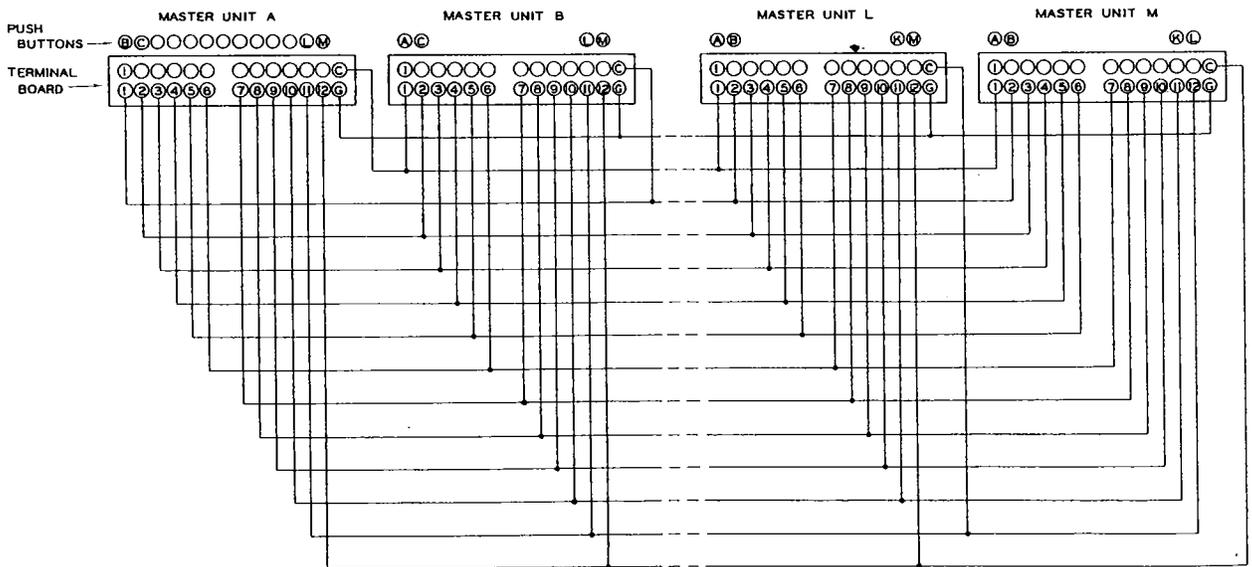


Figure 8—Connection Diagram, Thirteen MI-6374 or MI-6375 Units

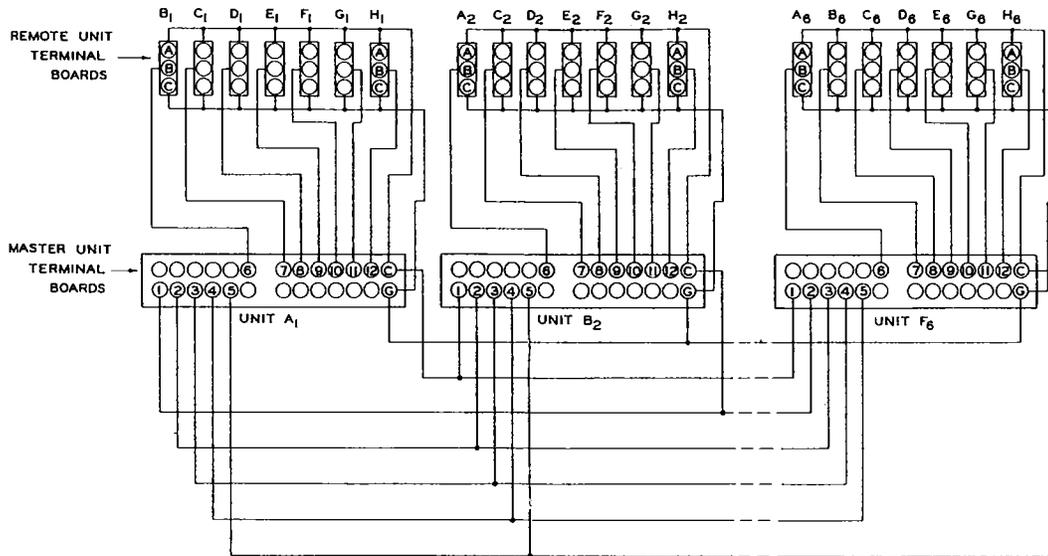


Figure 9—Connection Diagram, Twelve Button Master, Mixed System

## Installation

### GENERAL

The power line connector plug must be inserted correctly in the supply receptacle in order to:

- A. Obtain minimum hum when operated on a-c.
- B. Obtain correct polarity for d-c operation.

Connections between units should be made with individually shielded wires in order to minimize hum and cross-talk. Bond all shields together and use as the ground connection "G" between units. An earth ground should be connected to the shields at only one point. No. 18 wire is satisfactory for runs up to 100 feet. For longer runs, the wire size should be

increased so that the total resistance of any two wires between any two stations is less than two ohms.

### ALL MASTER SYSTEMS

The All Master System requires a cable or group of wires equal to the number of Master units to be interconnected, plus one—e. g., for a Master system using seven MI-6372 or MI-6373 units, eight wires are required. Figure 7 shows schematically the interconnections necessary for seven units. Figure 8 indicates schematically the interconnection of thirteen units—the maximum number possible. Note that in each case, the Call terminal "C" of each unit is connected to all terminals (and push buttons) corresponding to that station on all the remaining units. Note also that the ground connection "G" is common to all units.

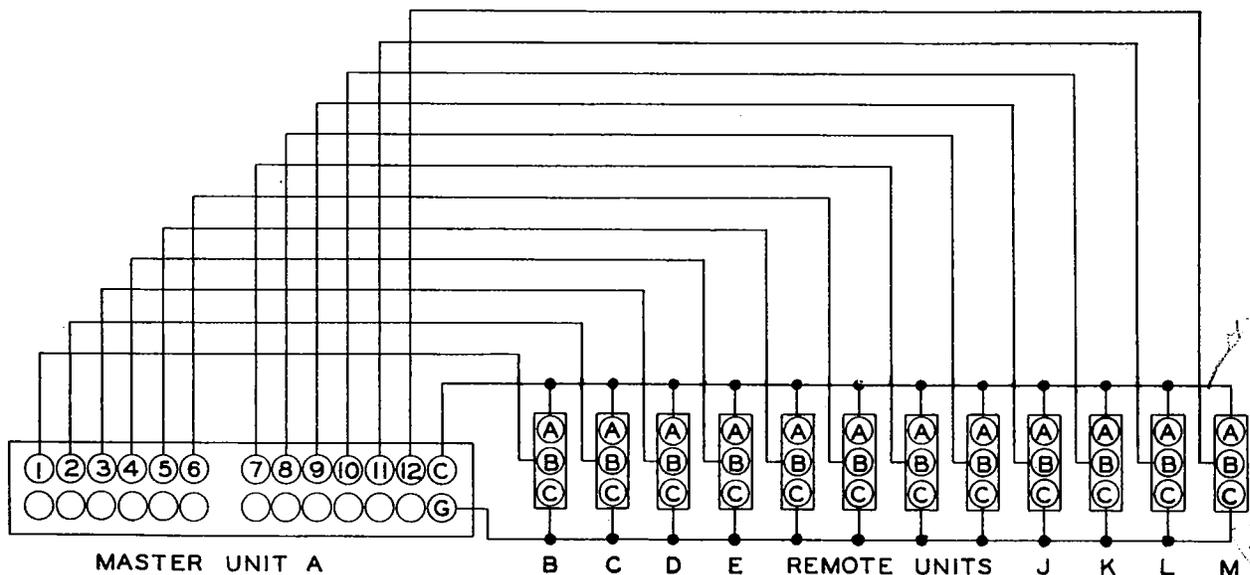


Figure 10—Connection Diagram, Twelve Button Single Master System

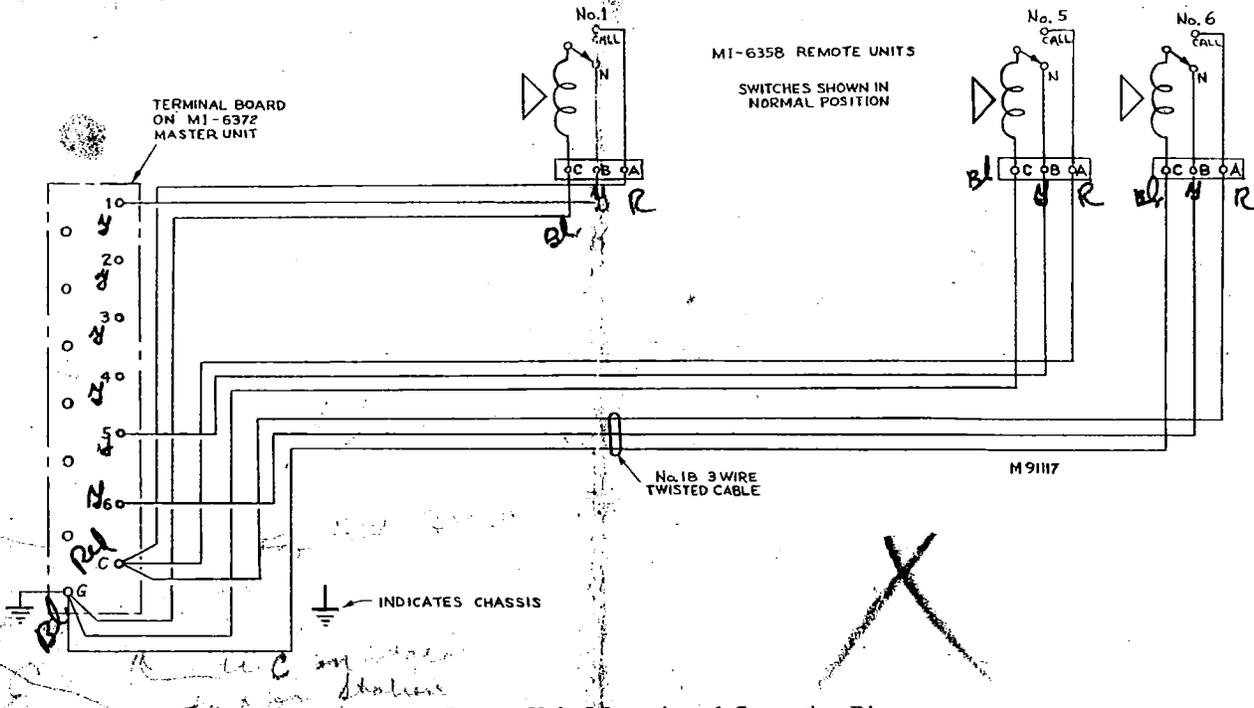


Figure 11—Remote Unit Schematic and Connection Diagram

**MIXED MASTER AND REMOTE SYSTEMS**

Master units are interconnected through the bottom row of terminals. Remote units are connected to the top row. Master unit connections are the same as described under All Master Systems. Remote units are connected as shown in Figure 9, which indicates schematically a six Master unit system. Note that the pair of terminals which correspond to one station can be connected to either a Master or a Remote unit, but not to both. The number of Remote stations possible with any number of Master units can be found from the formulae:

$$R = (7 - M)M \quad \text{For MI-6372 and MI-6373 units}$$

$$R = (13 - M)M \quad \text{For MI-6374 and MI-6375 units}$$

where

R = the number of Remote units  
M = the number of Master units

**SINGLE MASTER SYSTEMS**

A single MI-6372 or MI-6373 Master unit may be used with from one to six MI-6358 Remote units. A single MI-6374 or MI-6375 Master unit may be used with from one to twelve MI-6358 Remote units. A thirteen-station system, consisting of one MI-6374 or MI-6375 Master unit and twelve MI-6358 Remote units is shown in Figure 10. Internal wiring of MI-6358 Remote units is shown in Figure 11.

**Replacement Parts**

Insist on genuine factory-tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
12952	Capacitor—330 mmfd. (C-2, C-3)	30786	Resistor—12 ohms, 1/2 watt (R-1, R-15)
30855	Capacitor—.01 mfd., 400 volts (C-5, C-6)	11956	Resistor—39 ohms, 1/2 watt (R-9)
30847	Capacitor—.05 mfd., 200 volts (C-4, C-8)	35540	Resistor—40 ohms, variable (R-16) (Used in MI-6373 and MI-6375 only)
4870	Capacitor—0.025 mfd., 400 volts (C-11)	35321	Resistor—67 ohms, 2 watts (R-13)
30965	Capacitor—0.25 mfd., 150 volts (C-13) (Used in MI-6373 and MI-6375 only)	30496	Resistor—220 ohms, 1 watt (R-8, R-10)
34244	Capacitor—10 mfd., 25 volts (C-1)	30654	Resistor—1,500 ohms, 1/2 watt (R-11)
13611	Capacitor—20 mfd., 25 volts (C-7)	30694	Resistor—3,900 ohms, 1/2 watt (R-12)
37637	Capacitor—20-20-20 mfd. filter capacitor (C-9, C-10, C-12)	3077	Resistor—30,000 ohms, 1/2 watt (R-2)
34240	Card—Identification card	3252	Resistor—100,000 ohms, 1/2 watt (R-7)
34230	Control—500,000 ohm volume control and switch (R-4)	14583	Resistor—220,000 ohms, 1/2 watt (R-3, R-5)
35824	Cord—Phone cord (Used on MI-6373 and MI-6375 only)	30784	Resistor—330,000 ohms, 1/2 watt (R-6)
34238	Foot—Rubber foot complete with screw for cabinet	31251	Socket—8-contact tube socket
34236	Knob—Push button knob	37636	Socket—Pilot lamp socket and clip
30995	Knob—Talk-listen switch knob	34228	Speaker—Speaker complete with mounting bracket
30994	Knob—Volume control knob	34237	Spring—Spring for knob, Stock No. 34236
11765	Lamp—6-8 volts bayonet base—Mazda No. 51	31437	Spring—Spring for knob, Stock No. 30995
35539	Phone—Earphone and cord (Used in MI-6373 and MI-6375 only)	32185	Spring—Spring for knob, Stock No. 30994
34239	Plate—Identification plate	35823	Switch—Phone hook and switch (S-2) (Used on MI-6373 and MI-6375 only)
34761	Resistor—7 ohms, 1/2 watt (R-14)	37633	Switch—Six-section push button switch
		37632	Switch—Talk-listen switch (S-1)
		37634	Switch—12-position push button switch
		37635	Transformer—Input transformer (T-1)
		34227	Transformer—Output transformer (T-2)