



MCP35A

Master Control Panel

Installation & Use Manual

NOTICE: Every effort was made to ensure that the information in this guide was complete and accurate at the time of printing. However, information is subject to change.

WARNING: To reduce the risk of Fire or Electric Shock, Do Not Expose this apparatus to rain or moisture.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases shall be placed on the apparatus.

WARNING: Only connect unit to AC mains outlet providing protective earthing connection.

NOTE: Mains plug is used as disconnect device from the mains and shall remain readily accessible and operable.

CAUTION: DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET, OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT THE RISK OF SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

Always follow these basic safety precautions when installing and using the unit:

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade, or the third prong, are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE ANY FRONT/BACK COVERS OR PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions.

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Introduction

The **Bogen Model MCP35A Master Control Panel** provides facilities for instantaneous two-way communication and distribution of emergency pages, background music or other program material to speaker-equipped locations. The control panel has two built-in amplifiers. The intercom amplifier, rated at 20 watts, features a frequency response shaped for maximum intelligibility. The 35-watt program amplifier ensures that program material and/or emergency announcements are clearly heard and easily understood. Front panel step-by-step instructions and color-coded lines make the MCP35A easy to operate.

Distribution of program material is accomplished by simple push-button program selection, following the color-coded guidelines. Emergency announcements to all locations take precedence over program distribution and are accomplished with a single (EMERGENCY PAGE) push button selection.

Inputs are provided for two Lo-Z balanced microphones, a Hi-Z unbalanced AUX program source (CD player/tuner, etc.), and telephone paging accessories. Booster amplifier IN/OUT connections are also provided. Provision are included to supply phantom power to microphones, distribute time signals to speakers, and make emergency all-call page announcements from telephone or remote microphone. Rear-panel-mounted and internal controls are provided to adjust the gain level of individual inputs and to enable/disable system features.

A console microphone (built-in) is normally used to communicate with a station over the intercom channel, to send emergency page announcements to all stations, and may be used as program MIC 1. It is easily defeated for external microphone applications. A built-in speaker is used for intercom communication and for monitoring program material before distribution. Provision is included to mute the speaker when the MIC 1 switch is pressed.

The MCP35A uses room selector panels to direct intercom or program to selected staff stations. Panels are provided with switches to place each room on a program channel, intercom channel, or off. Each switch position on the panel includes an LED call-in annunciator.

When a staff station is called from the control panel, a supervisory tone alerts the staff member to the call. The tone repeats at regular intervals to prevent unauthorized monitoring. Calls from staff stations may be initiated through call-in switches and can include privacy control to positively prevent monitoring. Provision is included for voice call-in from stations equipped with voice call-in switches.

The MCP35A control panel permits the user to:

Establish direct two-way communication between the control panel and any speaker-equipped location via a room selector panel and the press-to-talk/release-to-listen push button, while maintaining simultaneous distribution of program material to any other speaker-equipped location.

Make a program source selection by pressing the appropriately labeled push button corresponding to the input from either of two microphones (MIC 1, MIC 2) or one high-impedance program source (AUX), such as a tuner or CD player.

Transmit a program selection or voice announcement simultaneously to all speaker-equipped locations by pressing a program source push button and the ALL ROOMS push button.

The program level can be monitored audibly (speaker) and visually (LED).

Instantaneously transmit emergency messages to all speaker-equipped locations by pressing the red EMERGENCY PAGE push button. The emergency page feature overrides all system controls and functions and transmits the emergency message at a predetermined level.

Distribute time signals to all speaker-equipped locations.

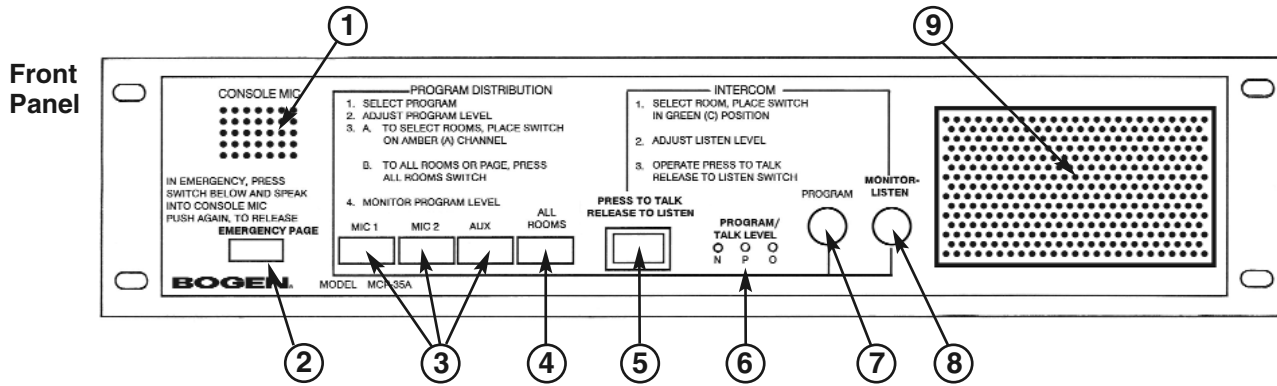
Provisions have been made for:

- Sounding a supervisory tone over any loudspeaker selected from two-way communication. The tone alerts staff to a call and repeats at regular intervals to prevent unauthorized monitoring from the control panel.
- Staff call origination through the use of a call origination switch, which causes a repetitive tone signal to sound at the control panel and lights the annunciator lamp on the associated switch bank corresponding to the calling location. The annunciator system functions until the call is answered.
- Voice-call origination to the control panel from any location equipped with a voice call-in switch.
- Prevention of monitoring any location from the control panel when that location is equipped with a Bogen Call/Privacy switch.
- Transmission of page announcements from remote locations using the Telco Page feature, which overrides all system functions except the emergency page feature. The Telco Page may be used with the TELCO PAGE input or the MIC 2 input (internally selected).

Unpacking

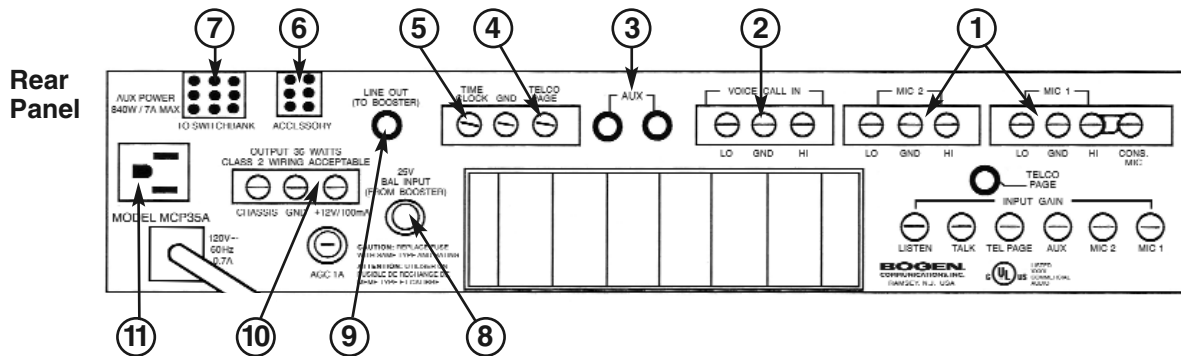
The MCP35A was carefully checked before leaving the factory. Inspect the shipping carton and unit for damage caused by improper handling. If damage is found, you must file a claim with the transportation company that delivered the product.

Front & Rear Panel Connection Diagrams



- 1. Console MIC** - Used for intercom and emergency page functions. Normally configured (via terminal link) as microphone 1. Provision has been made to optionally mute the monitor speaker when the MIC 1 switch is depressed.
- 2. Emergency Page** - Red push button used to make announcements to all speaker stations; overrides program distribution and room selector panel settings.
- 3. MIC 1, MIC 2, AUX** - Push buttons used to select input source; choose from MIC 1 (console or external microphone), MIC 2 (external microphone), or AUX, as desired.
- 4. All Rooms** - Push button used to distribute program to all speaker stations with room selector panel switches set to the PROGRAM or OFF positions.
- 5. Press to Talk/Release to Listen** - Push button used to communicate with speaker station selected for intercom communication. Does not affect the distribution of program material to other stations.

- 6. Program/Talk Level** - LED Indicators: N (normal) lights green to indicate proper signal level; P (peak) lights amber to indicate higher than normal signal level; O (overload) lights red to indicate possible signal clip.
- 7. Program** - Amber color knob used to adjust level of program material.
- 8. Monitor/Listen** - Green color knob used to adjust volume level to front panel speaker.
- 9. Front Panel Speaker** - Used to monitor a program or to listen to a station via the INTERCOM channel.



- 1. Microphone Inputs** - A terminal strip provides connection for two-low impedance balanced microphones. May (optionally) provide phantom power. The console microphone is used as MIC 1; however, this feature may be disabled. Use two-conductor shielded microphone cable.
- 2. Voice Call-In** - Connects parallel lines from station call-in switches with a two-conductor shielded cable.
- 3. AUX** - Two phono jacks accept an unbalanced line-level input from CD player, tuner, etc.
- 4. Telco Page** - Shorting the TELCO PAGE terminal to ground activates the Telco page feature. The associated TELCO PAGE jack accepts an unbalanced line input from Model WMT1A telephone interface device. This input has priority over all other system functions except for the front-panel-mounted EMERGENCY PAGE.
- 5. Time Clock** - Shorting the TIME CLOCK Terminal to ground provides single-circuit time signal capability.

- 6. Accessory** - Mounting port for optional connector used to interface the Model MCPB Control Panel.
- 7. Switch Bank** - 9-pin connector accepts three audio pairs and three control wires from room selector panels.
- 8. 25V BAL. INPUT** - (From Booster) Stereo phone jack accepts input from a booster amplifier. Refer to Figure 6.
- 9. LINE OUT** - Unbalanced line-level output to recorder or booster amplifier. The output level is adjustable with the front panel LEVEL control.
- 10. 12V DC & GND Terminals** - For powering SCR25A and other accessories.
- 11. AUX Power** - 840-watt, three-wire auxiliary power receptacle for accessory equipment.

Installation

Power and Grounding

The MCP35A Master Control Panel operates from a 120 volt, 60Hz AC source and consumes approximately 100 watts. The AC line cord is terminated in a three-prong plug, and should be plugged into a three-wire grounded outlet providing nominal 120 volts, 60 Hz AC. It is important that the control panel be grounded properly.

Auxiliary Power Receptacle

An 840-watt, three-wire grounded outlet is provided on the rear panel to supply power to accessory equipment. Auxiliary equipment connected to this outlet will be grounded, provided the MCP35A line cord has been properly grounded.

Line-Matching Transformers

The MCP35A Master Control Panel is designed for 25-volt constant-voltage distribution systems. All system loudspeakers must be provided with line-matching transformers. See Figure 1.

Caution: Speakers and transformers must be properly matched with respect to power requirements. The internal 35-watt amplifier of the MCP35A should not be connected to a load of more than 75 loudspeakers, each tapped at 1/2 watt (approx. 18 ohm). If a BPA60 booster amplifier is used, the load should not exceed 125 loudspeakers, each tapped at 1/2 watt (approx. 10 ohm). If loudspeakers are tapped at greater than 1/2 watt, either the total number of loudspeakers must be reduced, or a more powerful amplifier used.

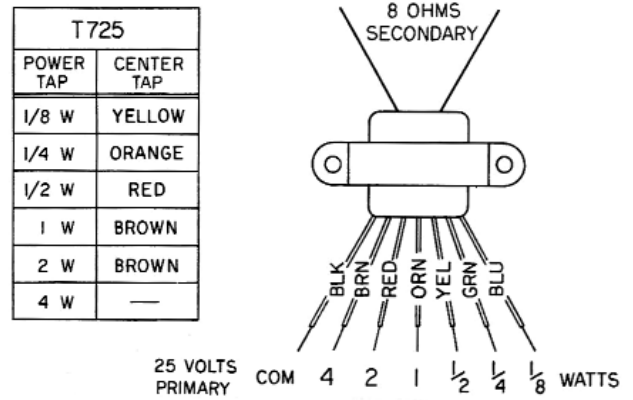


Figure 1 – Model T725 Transformer

Adjustments/Modifications

Caution: To avoid electric shock, be sure to disconnect AC Power Cord before removing the cover of the amplifier unit.

Warning: DO NOT perform any function requiring the removal of the cover of the unit unless you are qualified to do so.

Gain Adjustments (Internal)

Internal controls are provided to set the level of emergency page volume, privacy tone volume, and time tone volume. These controls are factory set; under normal circumstances no further adjustment is required. Schematic/Circuit board designations: Emergency Page Volume, R39; Supervisory Tone Volume, R74; Time Tone Volume, R75.

Phantom Power (Internal)

Phantom power may be supplied to MIC 1 and MIC 2 inputs to permit use of phantom-powered condenser microphones. To enable, move shunts J1 (for MIC 1) and J2 (for MIC 2) to the ON position.

TELCO Page/MIC 2 (Internal)

Shunt J3 selects the TELCO PAGE input jack or the MIC 2 input terminals for the telephone page function. Place the shunt at the MIC 2 position when using the MIC 2 terminals for telephone paging applications.

Supervisory Tone Defeat (Internal)

Shunt J5 enables/disables the supervisory tone feature. Move the shunt to the OFF position to disable the supervisory tone.

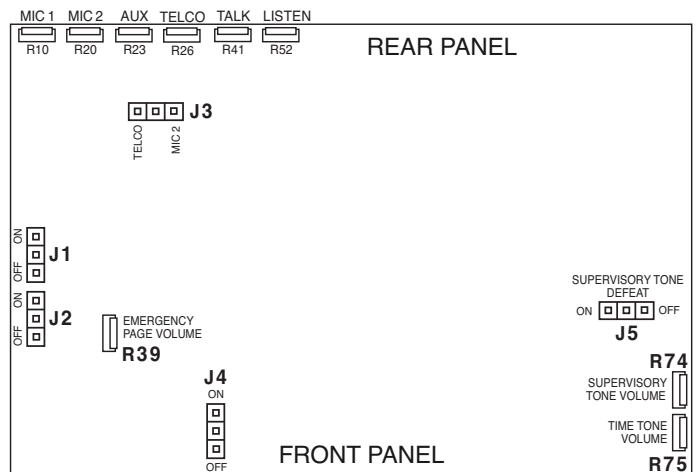


Figure 2 – Jumper Locations on MCP35A Card

Gain Adjustments (Rear Panel)

Screwdriver-adjustable INPUT GAIN controls are accessible via the rear panel for MIC 1, MIC 2, AUX, Tel Page, Talk, and Listen. Set the controls so that signal clipping cannot occur.

Proceed as follows:

1. Apply input(s) to the desired channel(s).
2. Set the corresponding front panel control(s) to maximum.
3. Adjust the appropriate Input Gain control (looking at the rear panel, turn clockwise to increase or counterclockwise to decrease gain) so that the red O (overload) LED lights; then turn counterclockwise only until the LED is extinguished.

Note: Talk and Listen controls should be set for adequate intercom level (not indicated by an LED).

External MIC for MIC 1/Console MIC (Rear Panel)

1. Locate and loosen the two screws securing the jumper link on the rear chassis terminal strip connecting MIC 1 HI terminal to the CONS MIC terminal.
2. Move the link away from the CONS MIC terminal.
3. Connect a balanced or unbalanced low-impedance microphone to the MIC 1 terminals. Connect the cable shield to the GND terminal.
4. Move the shunt on J4 to the OFF position to disable the monitor speaker muting feature when the MIC 1 push button is selected (see Fig. 2).

Note: J1 should be in the OFF position when the console mic is connected to the MIC 1 input (see Fig. 2).

Time Tone (Rear Panel)

A tone signal sounds through all speakers when the time clock terminal is grounded through a closure. (The tone may be used as a class change signal or for other purposes, such as a telephone night ringer or alarm signal.)

External Booster Amplifier (Rear Panel)

Model BPA60 provides increased power output. To install, connect a cable terminated in a male phone plug from the MCP35A Line Out jack to the Hi-Z input jack on the rear panel of the amplifier. Connect the 25V output from the amplifier to input jack labeled 25V BAL INPUT. Refer to Fig. 6.

Remote Emergency Telephone Paging (Rear Panel)

Figures 3 and 4 show the connection of a telephone to the TELCO page feature of the MCP35A.

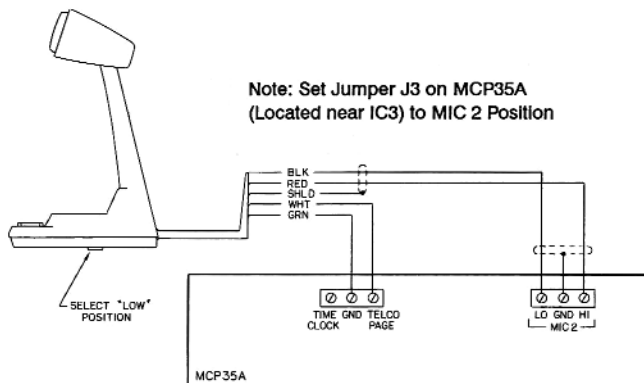


Figure 5 – Remote Emergency Microphone Page with MBS1000A

Remote Emergency Microphone Paging (Rear Panel)

The MIC 2 input may optionally be used in place of the Telco Page input for use with a remote microphone (internal jumper). Figure 5 shows the connection of the MBS1000A to the MIC 2 terminals. Refer to TELCO PAGE/MIC 2 above for the proper configuration when the MIC 2 input terminals are used for telephone page applications.

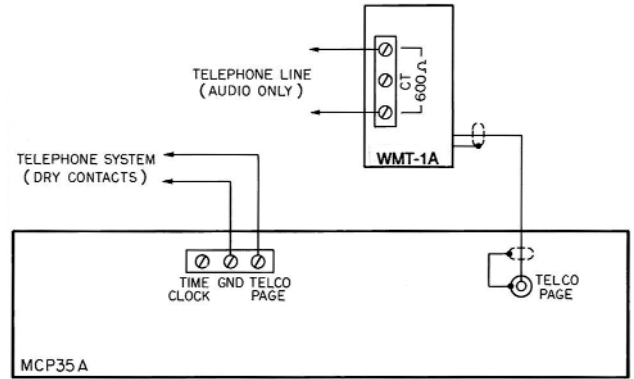


Figure 3 – Remote Emergency Page from Telephone System Page Port

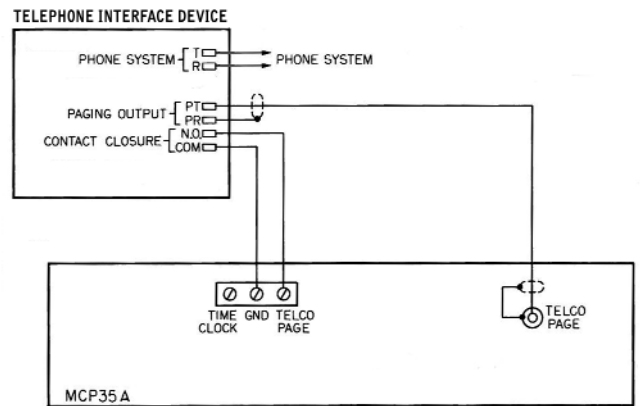


Figure 4 – Remote Emergency Page using Telephone Interface Device

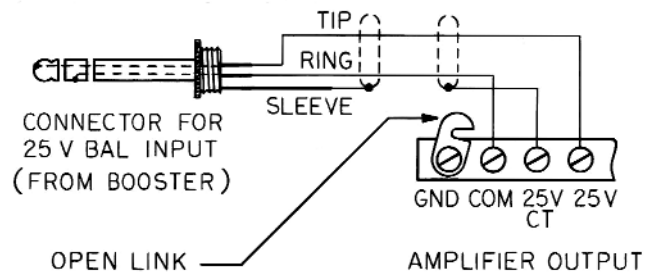


Figure 6 – Booster Amplifier Output Connection for MCP35A

Caution: Do not insert or remove this connector while power is on; amplifier failure may result.

Associated Equipment

SBA225 Room Selector Panel

Bogen Model SBA225 Room Selector Panels are capable of connecting up to 25 speaker-equipped locations to a PROGRAM, INTERCOM channel, or off. Each unit provides 25 lever-action, three-position, four-pole selector switches with positive detents, and red LED indicators.

Switch positions are graphically identified as PROGRAM A, OFF O, and INTERCOM C, each with color-coded guidelines.

Each switch functions as follows:

PROGRAM / A – (Up position, amber color-code) Connects the speaker station to the Program channel for distribution of program from microphone or other program source. Overridden by Emergency Page, Telco Page, and Time Signaling.

OFF / O – (Center position, white color-code) Disconnects the speaker station from the system; overridden by Emergency Page, Telco Page, All Rooms, and Time Signaling.

INTERCOM / C – (Down position, green color-code) Connects the speaker station to the intercom channel. Overridden by Emergency Page, Telco Page, and Time Signaling.

Note: To preserve intelligibility, only one station at a time should be connected to the intercom channel.

A white tabular strip, protected by a clear plastic snap-off cover, is provided for labeling the station controlled by each selector switch. When stations are identified by numbers, it is common practice to connect and label the switches from left to right (viewed from the operator's position), starting at the uppermost panel.

When a station makes a call to the control panel, the corresponding LED lights on the SBA panel and a repetitive tone alerts the operator to the call. The LED remains on until the call is acknowledged by placing the appropriate switch to the **C** position.

Each room selector panel has provisions for accommodating the add-on Bogen Model SCR25A Call-In Module, providing the circuits necessary when using the call-origination switches which do not contain silicon-controlled rectifiers.

SBA225 Wiring

Across the rear of each switch bank is a row of male centerline terminals. Each individual selector switch corresponds to the four terminals directly behind it.

Note: The first three pins on the left (looking from the rear) and the last pin on the right provide special functions and should not be connected to speakers. Connectors used to connect speaker or handset wiring to the SBA panel are standard parts stocked by many electronic parts distributors. We use Panduit .156 centerline connectors; however, equivalent connectors are available by AMP or MOLEX. Wires are attached to connectors using Panduit tool MRT-156F, or MCT with CTD-156F nose, or equivalent.

Wire switch banks, as shown in Figure 12, using one female centerline plug to terminate wires from the speaker and/or call switch. Connect the shield to the ground terminal. **This is the only place where speaker cable shields should be grounded.**

SCR25A Call-In Module

Caution: The installation of accessory equipment requires the removal of protective covers; exposure of internal components presents an electrical shock hazard. Accessory equipment should be installed by qualified service personnel only.

The Model SCR25A Call-In Module is an annunciator latching control bank designed for use with Bogen SBA-Series Room Selector panels. The SCR25A provides 25 silicon-controlled rectifiers and programmable jumpers, and permits the use of either a momentary switch (such as the Bogen Model CA17) or a telephone handset with fixed closure for call-in from each staff location.

The SCR25A provides annunciator latching (as needed) to keep the appropriate LED lamp illuminated until the call is acknowledged. Jumpers are provided to select the method of call-in (momentary switch or fixed closure handset).

The module is connected to the switch bank by a plug-in method and is constructed of G-10 glass epoxy. Power supply is selectable by a jumper and is taken from the switch bank or from an external power source. Termination is via centerline connectors (Panduit or equivalent).

SCR25A Installation

Connections

1. Align the SCR25A module with the connector pins at the rear of the SBA-Series panel and carefully press into place.
2. Make speaker and annunciator connections directly to the SCR25A module as you would to the room selector panel.

Note: The pins that normally would not have been used on the SBA-series panel do not appear on the SCR25A panel.

Power Requirements

1. Jumper J26 in the upper right-hand corner of the SCR25A printed circuit board must be in the Multi-Graphic position, as illustrated in the diagram on the PC board.
2. Connect a wire from one of the pins marked P12, in the lower right-hand corner, to the positive (+) terminal on an external 12V DC power supply. Connect the negative (-) terminal on the power supply to ground on the MCP35A. If more than one SCR25A is used, parallel P12 to each SCR25A.

Note: If only one or two SCR25A modules are used, they can be powered from the +12V terminal on the rear of the MCP35A.

Mode Selection

For each channel using momentary switch contacts (no SCR) for call-in, set the corresponding jumper (J1-J25) to the TOGGLE position (towards the left, as looking at the rear).

For each channel to which a phone or SCR-equipped call-in switch (Bogen CA10A or CA11A) is connected, set the corresponding jumper (J1-J25) to the PHONE position (towards the right, as looking at the rear).

For clarity, two diagrams showing the relative positions of jumpers J1-J25 and J26 are screened onto the PC board.

TWK351 Option

The TWK351 option permits light call-in on 2-conductor shielded cable. See Figure 7 for wiring diagram.

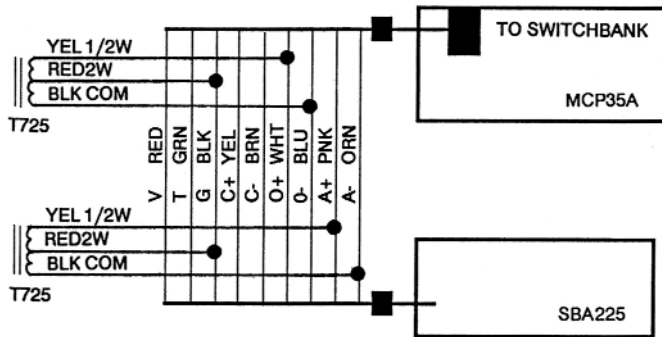


Figure 7 – Wiring Diagram: TWK351 Option

Staff Station Equipment

Staff station equipment may include wall- or ceiling-mounted cone loudspeakers, or horn-type loudspeakers (used to ensure clear, intelligible communication in areas with relatively high noise levels). Figure 9 shows a wiring diagram for a loudspeaker. To initiate calls, locations are provided with call-origination switches. The voice call-in option may be used when stations are equipped with a customer-supplied DPDT momentary switch.

Call-Origination Switches

Voice Call-In Option – A customer-supplied double-pole, double throw, momentary contact switch maybe used to connect a staff station speaker to the call-in line when the switch is actuated. See Figure 8.

CA10A and CA11A – These momentary, rocker-type Call Switches are used to signal the control panel operator to establish communications through a two-way speaker. The CA11A incorporates a privacy mode to prevent monitoring. See Figure 10.

Appendix

General Wiring

Where possible, locate the MCP35A centrally, relative to the rooms being served, in order to minimize the length of speaker cables. Orient the unit so that the operator, program director, or other parties are able to see the controls at all times. Provide adequate lighting and ventilation. Do not locate the unit close to heat sources (radiators, warm air ducts, etc.), or a wall which would impede air flow through or around it.

Wires – Class II wiring may be used for all audio and annunciator lines. Support cables to prevent sagging or strain. Keep wires clear of objects that would subject them to heat, friction, or other abuse.

Use No. 22 AWG shielded pairs with insulated outer jacket for speaker lines. Annunciator lines require a third wire, which usually is No. 22AWG insulated wire with clear insulation. The number and type of wire running from each room to the control center are dependent upon the type of speaker operation required. See Table 1.

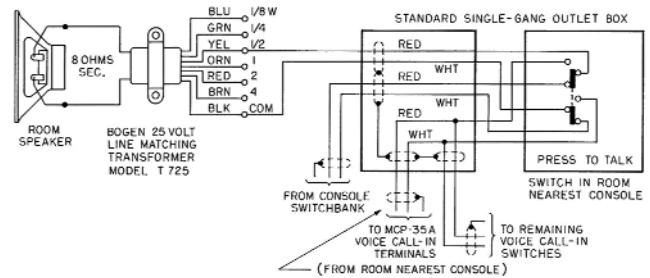


Figure 8 – Wiring Diagram: Room Speaker with Customer-Supplied Voice Call-In Switch

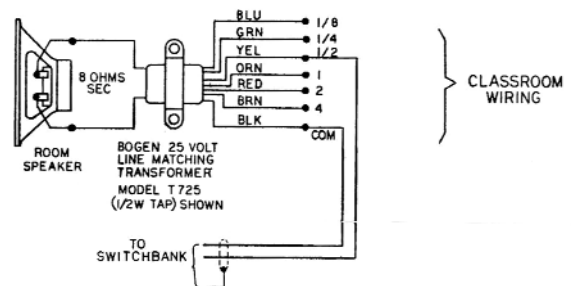


Figure 9 – Wiring Diagram: Loudspeaker (only)

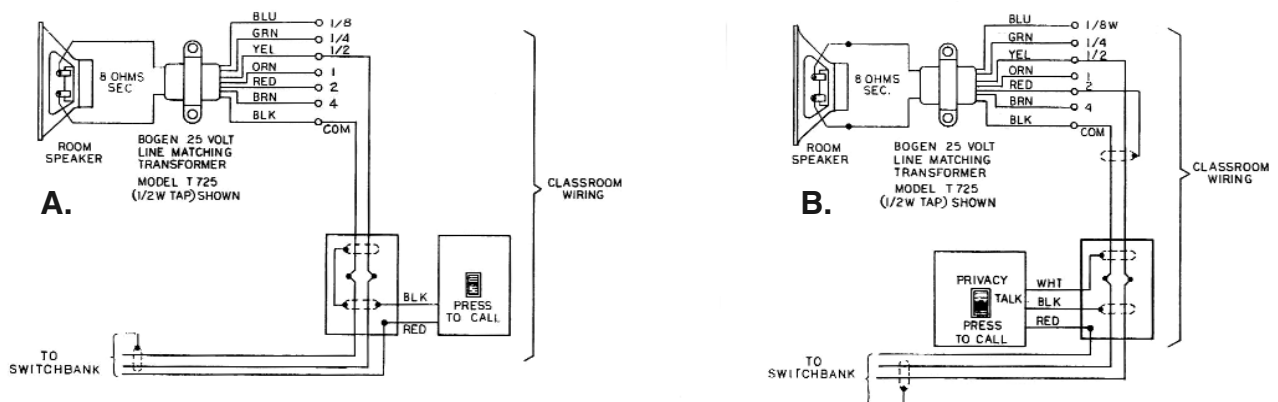


Figure 10 – Wiring Diagram: A: Model CA10A; B: Model CA11A

Call Switches and Speakers

Flush-mounted switches require single-gang outlet boxes. Install outlet boxes about four feet from the finished floor, in a location which will allow personnel easy access to the switch for call-in and/or communicating via the room speaker. Wall-mounted speakers should be installed at a recommended height of 7-1/2 feet above the finished floor.

Grounds – Do not connect cable shields to earth grounds or convenient metal objects. It is important to connect cable shields only as shown in the wiring diagrams.

Voice Call-In Option

Figure 8 shows room connections and the customer-supplied switch required for voice call-in. The wiring must be completed by connecting the shielded pair from the switch to the terminal strip at the rear of the MCP35A chassis. The polarity of the inner conductors is not critical, but make certain to connect this cable shield to the shield already connected to the terminal strip.

Note: Only one cable goes to the terminal strip. Usually, cables from all room switches utilizing this function are connected by a common control cable and one cable is run to the control panel. If this type of installation is not practical, the control cables for two or more switches are run to the control center and are connected in parallel at a junction box; a single control cable is then run to the terminal strip at the rear of the MCP35A chassis.

Call/Privacy Option

Figure 10 shows the room connections and the switch required for incorporating the optional privacy feature in the system.

Caution: To avoid electric shock, be sure to disconnect AC Power Cord before removing the cover of the amplifier unit.

Warning: DO NOT perform any function requiring the removal of the cover of the unit unless you are qualified to do so.

Table 1 – Cable Running Chart

Type of Call Switch or Device used with Speaker	Wires from Room to Control Panel		Wires from Room Switch to Room Speaker	
	No. 22 AWG Shielded	No. 22 AWG	No. 22 AWG	Refer to Fig.
Voice Call-In, Non-Private (Customer-supplied DPDT Switch)	2*	0	1	8
None (Loudspeaker)	1	0	0	9
Call Switch (CA10A)	1	1	1	10A
Call Switch (CA11A)	1	1	1	10B

* Alternative Method: Run two cables from room nearest the control panel and one cable from each remaining room. Run one cable in a loop or branch circuit connecting all room switches.

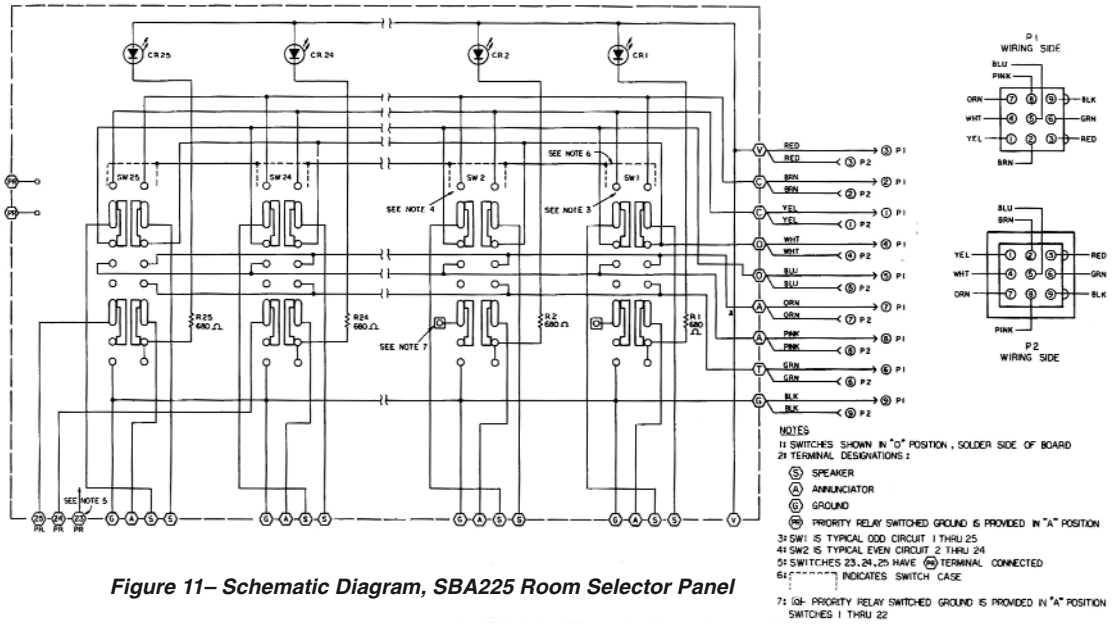


Figure 11— Schematic Diagram, SBA225 Room Selector Panel

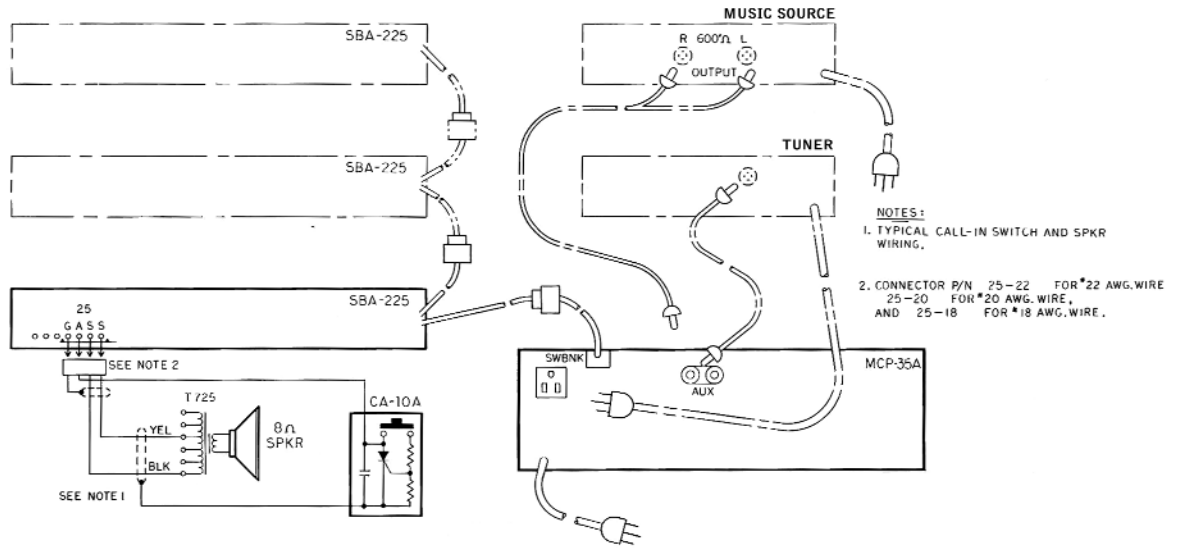


Figure 12— Typical Interconnection Diagram

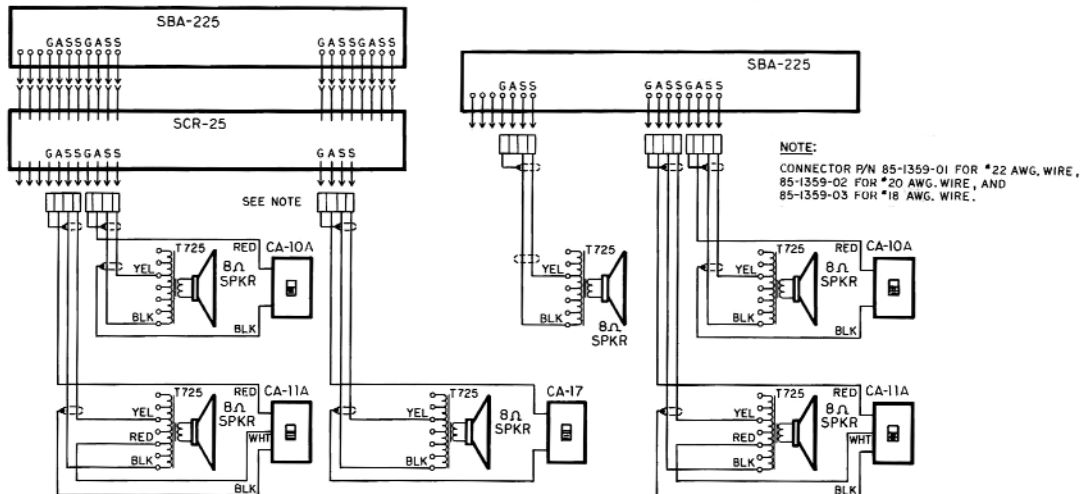


Figure 13— Typical Wiring Diagram

Technical Specifications

Rated Output	
<i>Program</i>	35W RMS
<i>Intercom</i>	20W RMS
Frequency Response	
<i>Program</i>	+1,-3 dB from 80 Hz to 15 kHz
<i>Intercom</i>	Shaped for maximum intelligibility
Distortion	Less than 1% @ RPO and bandwidth
Inputs	Two Lo-Z balanced microphones; Hi-Z unbalanced AUX; TELCO PAGE; 25V BOOSTER
Output	25V balanced line
Controls	
<i>Front Panel</i>	Program Selection: MIC 1, MIC 2, AUX Level: MONITOR/LISTEN, PROGRAM Distribution: ALL ROOMS, EMERGENCY PAGE, PRESS TO TALK Indicators: PROGRAM/TALK LEVEL
<i>Rear Panel</i>	Input Gain: MIC 1, MIC 2, AUX, TELCO PAGE, TALK, LISTEN
<i>Internal</i>	Gain: Emergency Page, Supervisory Tone, Time Tone; Enable/Disable: MIC1/CONSOLE MIC, MIC 2/TELCO PAGE, Phantom Power, Supervisory Tone
Tone Specifications	Time Tone: 750 Hz; Supervisory Tone: Repeating, 500 Hz; Call-in Tone: Repeating, oscillates between 500 Hz and 750 Hz (Switching Frequency, 16 Hz)
Power Requirements	120V, 60 Hz AC, 100W maximum
Dimensions	19" W x 3-1/2" H x 10" D, 2 Rack spaces
Weight	6 lb.
Optional Equipment:	Model MCP-EXP Input Expander Panel, Model TWK351 adapter

Limited Warranty; Exclusion of Certain Damages

The **Bogen MCP35A Master Control Panel** is warranted to be free from defects in material and workmanship for two (2) years from the date of sale to the original purchaser. Any part of the product covered by this warranty that, with normal installation and use, becomes defective (as confirmed by Bogen upon inspection) during the applicable warranty period, will be repaired or replaced by Bogen, at Bogen's option, provided the product is shipped insured and prepaid to: Bogen Factory Service Department, 50 Spring Street, Ramsey, NJ 07446, USA. Repaired or replacement product will be returned to you freight prepaid. This warranty does not extend to any of our products that have been subjected to abuse, misuse, improper storage, neglect, accident, improper installation or have been modified or repaired or altered in any manner whatsoever, or where the serial number or date code has been removed or defaced.

THE FOREGOING LIMITED WARRANTY IS BOGEN'S SOLE AND EXCLUSIVE WARRANTY AND THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY. BOGEN MAKES NO OTHER WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED AND EXCLUDED TO THE MAXIMUM EXTENT ALLOWABLE BY LAW. Bogen's liability arising out of the manufacture, sale or supplying of products or their use or disposition, whether based upon warranty, contract, tort or otherwise, shall be limited to the price of the product. **IN NO EVENT SHALL BOGEN BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF DATA OR LOSS OF USE DAMAGES) ARISING OUT OF THE MANUFACTURE, SALE OR SUPPLYING OF PRODUCTS, EVEN IF BOGEN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES.** Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

Products that are out of warranty will also be repaired by the Bogen Factory Service Department – same address as above or call 201-934-8500. The parts and labor involved in these repairs are warranted for 90 days when repaired by the Bogen Factory Service Department. All shipping charges in addition to parts and labor charges will be at the owner's expense. All returns require a Return Authorization number. For most efficient warranty or repair service, please include a description of the failure.

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