

# Multi-Graphic

## Centralized School Sound System



### Model: Series 115B

Model 115B-2 Dual Section Cabinet shown with 125-station capacity, CD Player/Receiver, and optional program clock.\*

#### Features

- Custom-engineered; multiple configurations and options available
- Cost-effective communication control for 25 to 125 stations
- Separate program and intercom channels
- Color-coded for easy operation
- Instant EMERGENCY and ALL ROOMS announcements
- Two-way voice communications between the Control Center and any classroom or speaker-equipped location
- Distribution of voice announcements from the Control Center to any or all speakers
- Supervisory tone signal for two-way communications, to alert the teacher to the call, and to prevent unauthorized monitoring
- Distribution of program material to any or all classrooms
- Separate inputs for two low-impedance balanced microphones and one high-impedance auxiliary program source
- Optional expander provides eight (8) additional microphone and/or auxiliary inputs
- Monitor program material aurally and visually
- Light annunciation and tone signal at the Control Center
- Prevent the Control Center from monitoring any classroom whose call origination switch is in the "Privacy" position
- Distribution of a single circuit classroom change signal
- Built-in CD Player and AM/FM Receiver

#### Description

The Bogen Multi-Graphic Series 115B Centralized School Sound System offers a customized approach to filling the intercom, paging, and program distribution needs of small or large schools and institutions. Cost-effective for schools with as few as 25 to 75 rooms, the Series 115B is also readily adaptable to serve up to 125 rooms.

Control of the system is centered in the Bogen MCP35A Master Control Panel, which has two separately amplified channels to provide complete intercommunications and program material distribution facilities between the Control Center and loudspeaker - or handset-equipped locations.

The use of SBA225 Room Selector Panels offers a compact package for increasing room selection capability in increments of 25 as the facility grows. Installation has been made easier through the use of an innovative connection design, which also facilitates service procedures. Series 115B system flexibility allows it to be configured as a complete communications facility for smaller schools and institutions or as a customized original system for larger facilities.

Step-by-step instructions and color-coded guidelines, in accordance with the operating method of Bogen Multi-Graphic equipment, are permanently printed on the control and room selector panels to ensure that even inexperienced operators are able to operate the system easily.

The Series 115B provides separate program and intercom channels (35 watts and 20 watts, respectively) to permit intercommunication to any speaker-equipped location, without interrupting the distribution of program material to the remaining stations. The system features a built-in CD Player and AM/FM Receiver and provides input facilities for external microphones. Program sources are selected by the simple operation of the appropriate push-button and are distributed to selected rooms through the SBA225 panels. Facilities are provided to monitor and adjust the level of program material prior to its distribution. Series 115B systems also provide an emergency page function, which permits the distribution of emergency announcements to all locations with the operation of a single push button. These announcements take precedence over all other system

**ENGINEERED SYSTEMS**  
**BOGEN®**

Part No. 54-7788-04C 0807  
Specifications subject to change without notice.  
© 2001 Bogen Communications, Inc.

\* Image is subject to change.

---

## Description, continued

functions and are transmitted at a predetermined level. Provisions are included to permit emergency paging from a telephone or microphone.

Facilities for either light and tone signal or voice call-in from classrooms are also included, along with the provision to sound a supervisory tone (beep signal) over the loudspeaker whenever a classroom is selected for intercommunication or monitoring. Classroom call-in switches having a selective privacy mode are also available.

The flexibility of the Series 115B allows it to meet the special requirements of the facility. Options available include alarm signaling, loop priority (interfacing with separate sound systems in

gyms, etc.), expander(s) to increase the number of microphone and/or auxiliary inputs, six-circuit time signaling, two-wire call-in and handset communications (permitting control center-to-classroom and classroom-to-classroom phone communications via the control center). The use of the optional Bogen Model SCR25A Call-in Module permits the use of existing call-in switches, which do not contain SCR holding circuits. (The SCR25A does not preclude the use of telephone handsets.)

The system provides a 25V balanced line output and operates from a 120V, 60 Hz AC source. It is available in a sturdy single- or dual-section cabinet, models 115B-1 and 115B-2 respectively, and fits easily on a desk or counter top.

---

## Architect & Engineer Specifications

The school communication Control Center shall be a Bogen Series (enter 115B-1, 115B-2), or equivalent. The Control Center shall be engineered for maximum simplicity of operation, made possible by the use of function-identified push buttons with associated color-coded guidelines, and supported by step-by-step instructions permanently printed on the front panels.

Communication Control Centers which are complicated to operate, and which do not provide push-button operation, color-coded guidelines and operating instructions printed on the front panels shall not be considered. The Control Center shall provide at least the following features and functions:

1. Direct two-way voice communications between the Control Center and any classroom or speaker-equipped location, with simultaneous distribution of program material to any other classroom/location.
2. Distribution of voice announcements from the Control Center to any or all speakers.
3. Facilities for automatically sounding a supervisory tone signal over any loudspeaker selected for two-way communications, to alert the teacher to the call, and to prevent unauthorized monitoring. The tone shall sound whenever the classroom is being monitored and shall repeat at regular intervals.
4. Distribution of program material to any or all classrooms.
5. Ability to transmit a program or announcement simultaneously to all classrooms by a simple operation of a program source push button and the ALL ROOMS push button.
6. Separate inputs for two low-impedance balanced microphones and one high-impedance auxiliary program source (CD Player/AM/FM Receiver). Program source selection shall be accomplished by simply pressing the appropriately labeled push button.
7. Provision for optional expander(s); each expander shall provide eight (8) additional microphone and/or auxiliary inputs.
8. Aural (monitor speaker) and visual (LED) monitoring of all program material.
9. Facilities for voice-call origination to the Control Center from any classroom equipped with a suitable spring-loaded DPDT voice-call origination switch.

10. Facilities for classroom call-origination with light annunciation and tone signal at the Control Center from any classroom equipped with a call-origination switch. The annunciator lamp shall remain lit until the call is answered and then automatically cancelled. (Note: Specify Bogen CA10A Call Switch for this feature.)
11. Facilities to positively prevent the Control Center from monitoring any classroom whose call origination switch is in the "Privacy" position. (Note: Specify Bogen CA11A Call/Privacy Switch for this feature.)
12. Facilities for the instantaneous distribution from the Control Center of emergency messages to all locations equipped with loudspeakers, simply by pressing a single red push button. This action shall override all other programs and bypass all other controls. The emergency message shall be transmitted at a predetermined level.
13. Facilities for distribution of a single circuit classroom change signal to all speaker-equipped locations.
14. Functionally identified knobs, push buttons, etc., and color-coded guidelines shall be provided for each function of the Control Center. The intercom channel shall be identified by green guidelines; the program channel guidelines shall be amber. The emergency page push-button shall be red.
15. A built-in CD Player and AM/FM Receiver shall be included as standard equipment.
16. Provision shall be made to include an optional FM/AM tuner. (Note: Specify Bogen Model TP30D FM/AM Tuner and RPK46A.)

To fulfill these requirements, a Bogen Series 115B or equivalent Control Center shall be provided, meeting the following technical requirements:

It shall be designed for continuous duty service in institutional and industrial applications on line voltages of 120V, 60 Hz AC. The Control Center shall include two separately amplified channels. The program channel shall be capable of producing 35 watts RMS at less than 1% distortion. The frequency response shall be within +1 to -3 dB from 80 Hz to 15 kHz. The intercom channel shall have an output rating of 20 watts RMS; the frequency response shall be shaped for maximum intelligibility. Both amplifiers shall have a balanced 25V output.

---

## Architect & Engineer Specifications, continued

The Control Center shall provide two Lo-Z balanced microphone inputs, one Hi-Z unbalanced auxiliary input and a 25-volt booster input. Terminals shall be provided for the time signaling and telephone page features.

The Control Center shall include all controls necessary for two-way communications with any classroom, the distribution of general announcements or program material to any or all classrooms, and the distribution of emergency announcements to all classrooms. Provision shall be included to permit emergency all-call announcements from a telephone or microphone.

Complete facilities for aural (monitor speaker) and visual (LED) monitoring of all program material shall be provided.

The Control Center shall also include three-position (Program Off-Intercom) room selector switches with associated LEDs, and PRESS TO TALK, ALL ROOMS, and EMERGENCY push buttons. The EMERGENCY switch shall gather all station lines to permit single push-button distribution of announcements to all speaker locations. Similarly, the ALL ROOMS switch shall per-

mit single push-button distribution of program material to all speaker locations, except any station(s) connected to the intercom channel.

The Control Center shall also include facilities for call origination from classrooms and for selective classroom privacy; the latter shall permit the room to be called, but prevent the Control Center from monitoring any classroom whose call-origination switch is in the "Privacy" position.

The Centralized School Sound System shall be mounted in:

**(Use for Series 115B-1)** a single-turret console measuring 21-1/8" W x 15-3/4" H x 17" D.

**(Use for Series 115B-2)** a dual-turret console measuring 40-1/2" W x 15-3/4" H x 17" D.

The system shall be installed by or under the direct supervision of an authorized local distributor who has been trained by the manufacturer in the proper installation, operation and service of the equipment.

---

## Options

Certain options are available to meet the special needs of the facility.

### ASF4 Alarm-Signaling Option

The ASF4 option provides four tones for alarm signaling or other signaling functions. Alarms can be activated from the Model PBA3 panel, MCPEXP panel, or customer-supplied contact closures.

### CPP Handset Communication Option

The CPP option permits control center-to-classroom and classroom-to-classroom phone communications (via the control center). It uses the Bogen TPS4 Control Panel and HS201/2C Series handsets (HS201C & HS202C). The TPS4 has an on/off switch to disconnect the normal intercom function of the MCP35A, a call button to transmit a call tone to a classroom, an in-use LED, and a disconnect function which reminds the operator to reset the control panel once classroom-to-classroom communication is finished.

### LPC4 Loop Priority Option

The Bogen LPC4 option interfaces the Multi-Graphic system with satellite systems in gymnasiums, multi-purpose rooms, etc. (The LPC4 includes two (2) Class C contacts.) The option has three functions:

1. Distribution of program material from the main system to the satellite system;
2. Distribution of program material from the satellite system to any or all speakers of the main system;
3. Emergency seizure of the satellite system for broadcasting emergency announcements.

### MCPEXP Input Expander Panel

The MCPEXP option increases the input capabilities of the MCP35A Master Control Panel. Each MCPEXP panel adds up to eight (8) additional inputs to the MCP35A. Multiple expander panels are easily interconnected to further increase the input capabilities of the system. The panel can also be used with the ASF4 option for alarm signal activation.

### SCT Six-Circuit Time Signaling

The SCT option provides six circuits (zones) of time signaling to all system loudspeakers. Each loudspeaker can be programmed to the desired zone via DIP switches on the zone module (Model TZMA). The time signal has precedence over program distribution and is activated by contact closure (user-supplied or provided by a Master Program Clock, such as the Bogen BCMC 2000 or 3000 Series).

### TWK351 Two-Wire Call-In Option

The TWK351 option permits light annunciated call-in using 2-conductor-shielded cable. The option can be used with CA10A Call-In Switches (or equivalent) where two-conductor shielded cable has been previously installed.

---

## Technical Specifications

<b>Rated Output</b>	Program Channel: 35 to 125 watts, dependent upon system capacity and installed amplifiers; Intercom - 20W RMS
<b>Frequency Response</b>	Program: +1 to -3 dB from 80 Hz to 15 kHz; Intercom - Shaped for maximum intelligibility
<b>Distortion</b>	Less than 1% at rated power and bandwidth
<b>Inputs</b>	Two Lo-Z balanced microphones; Hi-Z unbalanced AUX; Telco page; 25V booster. Each optional MCPEXP adds up to eight (8) MIC and/or AUX inputs.
<b>Output</b>	25V balanced line
<b>Dimensions</b>	Series 115B-1: 21-1/8" W x 15-3/4" H x 17" D Single Section Cabinet; Series 115B-2: 40-1/2" W x 15-3/4" H x 17" D Dual Section Cabinet
<b>Finish</b>	Control Panel - Black, with color-coded guidelines for Program, Intercom, Emergency Page; Selector Panels - Black, with color-coded guidelines for Program, Off, Intercom
<b>Options</b>	ASF4 - Alarm-Signaling CPP - Handset Communication LPC4 - Loop Priority Circuit MCPEXP - Input Expander SCT - Six-Circuit Time Signaling TWK351 -Two-Wire Call-In Modification
<b>Accessory Equipment</b>	CA10A, CA11A, CA17 - Call-in Switches DDU250 - Dynamic Desktop Microphone MBS1000A - Remote Paging Microphone SCR25A - Call-in Module (required if using call-in switches without built-in SCR circuitry) TAMB - Telephone Access Module for Telephone Paging TWK351 - Two-wire call-in w/shield WMT1A - Line-Matching Transformer for Telephone Paging

**BOGEN®**  
**COMMUNICATIONS, INC.**

50 Spring Street, Ramsey, NJ 07446, USA  
Tel. 201-934-8500; Fax: 201-934-9832; [www.bogen.com](http://www.bogen.com)