



# **Telephone Paging Amplifier**

## **Model TPU15A**

Installation and 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:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

**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 unit 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 not used 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

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The Bogen Model TPU15A is a 15-watt wall-mounted amplifier, specifically designed for telephone paging applications. This compact unit includes voice-activated muting of music when paging. The page channel features Automatic Level Control (ALC) as channel input varies, which is particularly advantageous where persons of varying voice levels and paging techniques have access to the system. A night ringer (tone generator) is provided; a steady ringing tone, indicating incoming calls, can be transmitted through the public address system during other than regular business hours. This alerts security personnel to answer the call.

Input terminals are furnished for a 600-ohm balanced telephone line, a background music source, and normally-open dry contacts for the night ringer. Output terminals offer a choice of 25V, 70V, and 8 ohms for connection of various types of loudspeakers.

Model TPU15A features screwdriver-adjustable controls for page, music, night ringer levels, and amplifier tone. Protective devices include an LED overload indicator and a low-cut switch for use with horn loudspeakers.

# Installation

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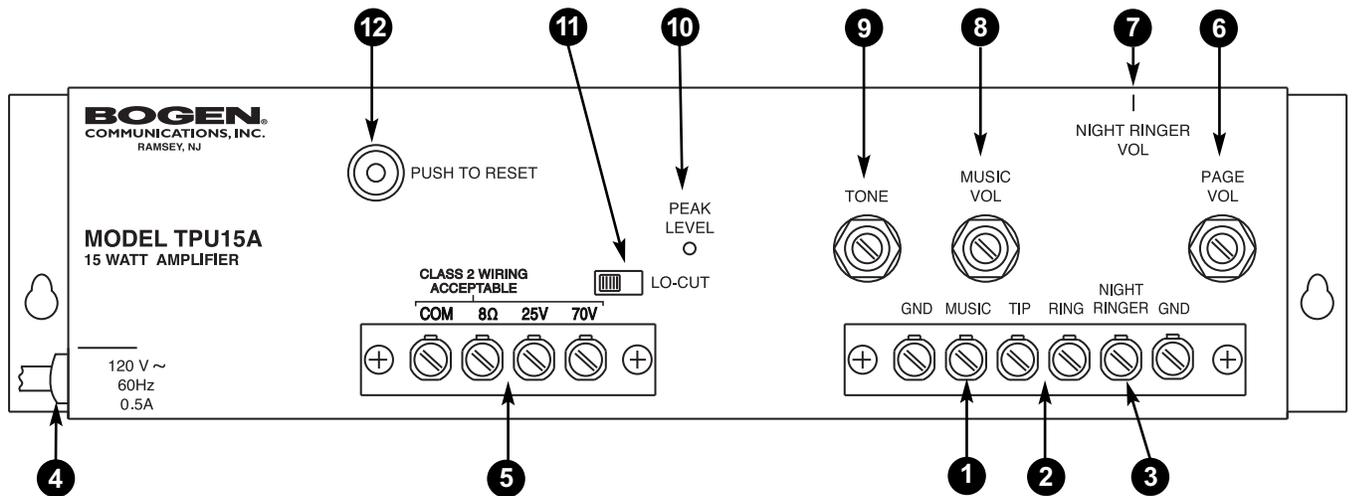
**CAUTION:** *The following installation instructions are for use by qualified personnel only. To avoid an electric shock hazard, do not perform any functions requiring the removal of the cover of the amplifier unless you are qualified to do so. To prevent fire or shock hazard, do not expose this unit to rain or excessive moisture.*

**Unpacking** Your unit was carefully checked before leaving the factory; inspect the shipping container and unit closely for improper handling. If the unit has been damaged, make an immediate claim to the distributor from whom it was purchased. If the unit was shipped directly to you, save all the shipping material and notify the carrier immediately and place your claim.

The AC line cord has a three-prong plug which should be plugged into a three-wire, grounded 120V ~, 60 Hz outlet. It is important to ground the unit.

**Mounting** Model TPU15A is designed for surface wall-mounting. When mounting the unit consider the proximity to heat sources and allow adequate air flow for chassis heat dissipation, and allow for access to controls and terminal wiring. Where possible, secure to wall studs or on a suitable back brace. Use self-fastening or molly-type hardware on plasterboard and other thin materials.

# Front Panel



- 1 Music** An unbalanced, high-impedance auxiliary input is provided. Make connections to terminals marked MUSIC and GND.
- 2 Paging** A balanced transformer-isolated input for a telephone line is provided. One 600-ohm telephone line may be connected at the terminals marked TIP and RING. If two-conductor shielded wire is used, connect the shield to the GND terminal.
- 3 Night Ringer** A ringing tone can be transmitted through the public address system by shorting the NIGHT RINGER and GND terminals on the TPU15A amplifier through a pair of normally open dry contacts (which are customer supplied). A steady ringing tone will be heard as long as the dry contacts are closed.
- 4 Power** Once connection has been made to a 120V ~, 60 Hz power source, the TPU15A will remain in a power standby condition. (Also see Circuit Breaker information.)
- 5 Speakers** The unit provides 8-ohm, 25V, and 70V transformer-coupled outputs, balanced or unbalanced. Connect the system speaker to the output terminals, with one lead to the COM terminal and the other to the terminal which corresponds to the impedance of the speaker system.
- 6 Paging** The PAGE VOL screwdriver-adjustable control is used to adjust the volume of the page input. Rotate the control clockwise to increase volume and counter-clockwise to decrease it. Set the control to minimum if the input is not used.
- 7 Night Ringer Control** The NIGHT RINGER VOL is screwdriver-adjustable through the top of the unit. Rotate the control clockwise to increase volume and counter-clockwise to decrease it.

## Front Panel (cont.)

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- 8**                    **Music**            The MUSIC VOL screwdriver-adjustable control is used to adjust the volume of the background music input. Rotate the control clockwise to increase volume and counter-clockwise to decrease it. Set the control to minimum if the input is not used.
- 9**                    **Tone Control**      The TONE screwdriver-adjustable control is used to adjust the tonal characteristic of the amplifier output. Rotate the control fully clockwise to provide a nominal, flat high-frequency response and counter-clockwise to attenuate high-frequency response.
- 10**                  **Peak Level**        A front-panel LED will illuminate when the amplifier is driven into clipping. Adjust the output level of the PAGE, MUSIC, and/or NIGHT RINGER if the LED remains on.
- 11**                  **Lo-Cut Switch**     The LO-CUT filter is used to decrease low-frequency response when horn-type paging speakers are used. Move the switch to the right (toward the marking) to enable this feature.
- 12**                  **Circuit Breaker**    If the Circuit Breaker opens, the amplifier output will cease. Disconnect the plug from the outlet and momentarily depress the red circuit breaker reset button. Re-connect power. If the breaker trips again, do not attempt to reset it. Have the unit checked by a qualified technician.

# Technical Specifications

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<b>Rated Output Power:</b>	15W RMS
<b>Distortion:</b>	Less than 2%
<b>Frequency Response:</b>	Music: $\pm 2$ dB, 70 Hz to 12 kHz Paging: shaped for maximum intelligibility
<b>Input Sensitivity:</b>	Music: 70 mV Paging: -20 dBm
<b>Input Impedance:</b>	Music: Hi-Z unbalanced; 25k ohms Paging: 600 ohms balanced, transformer-isolated
<b>Outputs:</b>	8 ohms, 25V, and 70V balanced, transformer coupled
<b>Signal-to-Noise:</b>	70 dB
<b>Controls and Indicators:</b>	Screwdriver-adjustable – PAGE VOL, MUSIC VOL, NIGHT RINGER VOL, and TONE; Lo-Cut switch; PEAK LEVEL LED; CIRCUIT BREAKER
<b>Tone Control:</b>	-3 dB @ 2.5 kHz; 6 dB per octave
<b>Low Cut:</b>	-3 dB @ 350 Hz; 6 dB per octave
<b>ALC (Page Channel):</b>	+1/-3 dB output level change with 15 dB input level, change (ref. -20 dBm rated input sensitivity)
<b>Power Consumption (120V ~, 60 Hz):</b>	0.5A
<b>Thermal Emissions (Full Power):</b>	95.6 BTU/hr.
<b>Dimensions:</b>	11" W x 2-3/4" H x 2-3/8" D
<b>Product Weight:</b>	4 lb. (1.8 kg)

## Limited Warranty; Exclusion of Certain Damages

The Bogen TPU15A Telephone Amplifier is warranted to be free from defects in material or 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 will be repaired or replaced by Bogen, at our option, provided the product is shipped insured and prepaid to: Bogen Factory Service Department, 50 Spring Street, Ramsey, NJ 07446, USA. The 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.

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