

# Telephone Paging Amplifier

## Model TPU600-G2

**BOGEN**<sup>®</sup>



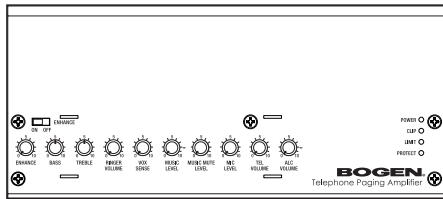
### Description

Bogen model TPU600-G2 is a telephone paging amplifier rated at 600 watts. This second generation (G2) TPU amplifier is a full-featured, wall- or rack-mounted amplifier that provides inputs for a dry-loop, 600-ohm telephone page signal, a background music source, and a low impedance microphone. Automatic background music mute is provided when making a telephone page. Background music mute level during a page is adjustable, and the music then gradually fades back in after the page is completed. A Normally Open (NO) contact closure music mute control input is provided for use with push-to-talk microphones. An adjustable Automatic Level Control system limits the output level of the telephone page channel so that differences in the volume of the paging party's voice will be less noticeable. Bass and treble controls are provided for adjusting the quality of the output signal. An Audio Enhancement feature is also provided to improve the clarity of the output signal by reintroducing the higher frequency harmonics that are normally lost through the telephone system. The TPU600-G2 amplifier includes a built-in night ringer that can be triggered by either a standard telephone (analog) ring signal or an external contact closure. The night ringer mutes the background music but does not affect paging.

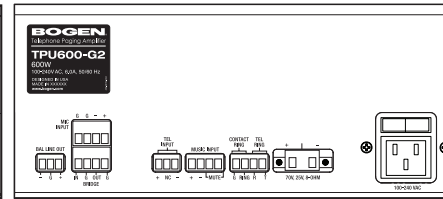
### Features

- 600 watt
- Balanced Line Output to drive 600-ohm telephone line is available
- Background Music Input (Phoenix connector)
- Integral adjustable level control (ALC) circuit for controlling pages made by persons with varying voice levels and paging techniques
- Page from telephone and/or microphone
- Signal-activated paging channel automatically mutes background music
- Adjustable background music muting level during a page
- Music gradually returns to its normal level after a page
- Audio Enhancement circuit increases intelligibility, improves perceived loudness (with no increase in power), and reduces listener fatigue
- Separate controls for page volume, music volume, night ringer, music mute, and Audio Enhancement
- Bass and treble controls
- Built-in night ringer activated by contact closure or by 90V ring signal
- Balanced line output, and 8-ohm, 25V, or 70V outputs available
- VOX sensitivity level control eliminates accidental transmission of background noise from a paging telephone
- Thermal and electronic overload protection
- Pluggable screw terminals provided for bridging additional TPU amplifiers
- The TPU600-G2, can be wall- or rack-mounted (bracket kits included)
- Clip level LED indicates when the amplifier is driven into signal clipping
- Protect LED indicates when the amplifier has entered protect mode due to overload
- Limiter LED indicates when amplifier is limiting the output to prevent square wave signal output when overdriven
- Transparent Security Cover is included to prevent tampering with front panel settings
- 100V AC - 240V AC 50/60 Hz
- Listed to UL EN62368-1:2014 for U.S. & Canada

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TPU600-G2 Front Panel



TPU600-G2 Rear Panel

## Technical Specifications

<b>Power Output:</b>	600W RMS
<b>Frequency Response:</b>	20 Hz to 22 kHz $\pm$ 1 dB
<b>Distortion:</b>	Less than 1%
<b>Hum &amp; Noise:</b>	(20 Hz to 20 kHz) Music: -54 dB; TEL: -54 dB; MIC: -50 dB
<b>Sensitivity:</b>	Music: 250mV; Tel: -14 dBm (170mV); MIC: -50dBv (3.1mV); E.I.N. -119dBv.
<b>Tone Control:</b>	Bass: $\pm$ 9 dB @ 100 Hz; Treble: $\pm$ 9 dB @ 10 kHz
<b>Inputs (all via pluggable Phoenix style connectors):</b>	
Tel:	600-ohm balanced line, transformer-isolated
Music:	Hi-Z source
Mic:	Lo-Z balanced (dynamic only)
Music Mute:	Mutes music when shorted
Contact Ring:	Sounds night ringer tone when customer-supplied dry contacts are closed
Tel Ring:	Sounds night ringer in response to 90V ring signal
Bridging:	Permits bridging of two amplifiers to increase the total output power
<b>Outputs:</b>	
Speaker:	8-ohm, 25V, 70V
Balanced Line Level:	600-ohm Telephone line
<b>Controls &amp; Indicators:</b>	CLIP, PROTECT, POWER, and LIMIT LEVEL LED indicators. ENHANCE, TREBLE, BASS, VOX SENS, RINGER VOLUME, MUSIC MUTE, MUSIC VOLUME, MIC VOLUME, TEL VOLUME, ALC controls
<b>Overload Protection:</b>	All models have thermal and electronic overload protection
<b>Power Requirements:</b>	100-240VAC, 50/60 Hz, 6.0A
<b>Thermal Emissions</b>	
<b>(Full Power):</b>	294 BTU/hr.
<b>Dimensions*:</b>	8.00" W x 3.43" H x 13.48" D
<b>Product Weight:</b>	6.2 lbs.

\* Depth Includes Phoenix connectors; width is without rack mount brackets attached; height excludes rubber mounting feet.

## Architect and Engineer Specifications

The telephone paging amplifier shall be a Bogen Model TPU600-G2, with a full power rating of 600 watts. The amplifier shall provide a frequency response of 20 Hz to 22 kHz at  $\pm$ 1dB, and shall deliver rated power at less than 1% distortion.

The amplifier shall permit paging from telephone and/or microphone. The signal-activated paging channel shall automatically mute background music during a telephone page, eliminating the need for manual activation of switches and the use of external relays. Controls shall be included to set the mute level of background music during a page. Music level shall be returned to its normal level after a page.

The telephone paging channel shall have a VOX sensitivity adjustment to eliminate transmission of background noise, and automatic output leveling (ALC) to compensate for varying voice levels and paging techniques of persons using the system.

An Audio Enhancement circuit shall be included to regenerate the harmonics lost during the amplification process and improve intelligibility. A control shall be provided to set the level of this effect.

A night ringer capability shall be included to alert personnel of incoming calls. The night ringer shall be activated by a contact closure or by 90-volt ring signal from the telephone line.

Input terminals shall be furnished for a telephone line and Low-Z balanced microphone. Pluggable screw terminals shall be provided for the music source. Pluggable screw terminals shall also be provided to control music muting, typically during a mic page, and for contact closure or ring signal activation of the night ringer. Pluggable screw terminals shall be provided to allow bridging two TPU-series amplifiers.

8-ohm, 25V, or 70V speaker line output shall be provided, along with a balanced line output.

Individual controls shall be provided to set the telephone and mic page volume, music volume, night ringer volume, VOX sensitivity, and music mute level. Bass and treble controls shall permit tonal adjustments. An automatic level control (ALC) and VOX sensitivity control shall be included. An LED Clip Indicator shall illuminate whenever the speaker output signal level approaches its maximum allowed level. A Limit LED shall indicate when the amplifier is limiting the output to prevent square wave signal output when overdriven. A Protect LED shall indicate when the amplifier has entered protect mode due to overload on the amplifier. A power indicator shall also be provided. The amplifier shall operate from a 100V to 240V 50/60Hz source.

The unit shall incorporate a removable transparent security cover to prevent accidental or malicious tampering with the calibrated settings.

Dimensions for the TPU600-G2 shall be 8.0" W x 3.43" H x 13.48" D. The amplifier shall carry the necessary safety agency listings for both the U.S. and Canada.