

BOGEN®

Classic Series Public Address Amplifiers



Models C10 & C20

Installation & Operation Instructions

TECHNICAL SPECIFICATIONS

Power Output:

C10 — 10W RMS

C20 — 20W RMS

Distortion: Less than 1% @ RPO

Frequency Response: 70Hz to 16KHz \pm 1dB

Hum and Noise: (20Hz to 20KHz)

MIC — 55dB below rated output

AUX — 70dB below rated output

TEL — 70dB below rated output

Input Sensitivity:

MIC — Lo-Z Balanced 600 μ V

AUX — 85mV

TEL — 75mV

Outputs: 4, 8, 16 ohms, 25V, 70V

Output Connections: Screw terminal strip

Input Connections: Two MIC Lo-Z terminals, AUX Hi-Z jack, 500/600-ohm line with WMT-1A accessory

Controls: MIC 1, MIC2/AUX (switch selected)
TREBLE

Tone Control: TREBLE — -11dB @ 10KHz

Power Requirements: 120VAC, 60Hz

C10 — 38 watts

C20 — 50 watts

Dimensions: 11-3/8"W x 2-7/8"H x 7-3/8"D

(28.9 x 7.3 x 19.7 cm)

Shipping Weight:

C10 — 5 lbs. (2.27 kg)

C20 — 6 lbs. (2.7 kg)

DESCRIPTION

The Bogen Models C10, and C20 solid-state public address amplifiers are rated at 10 watts and 20 watts, respectively, and are UL and CSA listed.

The amplifiers accommodate low-impedance microphones. A front-panel selector switch offers a choice of either two low-impedance balanced microphones (MIC 1, MIC 2), or one microphone and one auxiliary input (MIC 1, AUX). The AUX input can be muted when a customer-supplied SPST normally open switch is used for microphone precedence. Independent volume controls and a treble control, for tonal balance, are provided.

Balanced and unbalanced outputs are provided for 4-, 8-, and 16-ohm speaker and for 25-volt and 70-volt constant-voltage systems. An accessory transformer, Bogen Model WMT-1A, can be installed to provide input- and output-matching to a telephone line.

The amplifiers operate from a 120VAC, 60Hz source. A thermostat enclosed in the power transformer protects the unit against overloads.

INSTALLATION

UNPACKING

The amplifier was carefully checked before leaving the factory. Inspect the shipping container and unit carefully for indication of improper handling. If the unit has been damaged, make an immediate claim to the distributor from whom it was purchased. If the amplifier was shipped directly to you, notify the transportation company without delay and place your claim.

POWER AND GROUNDING

The AC line cord has a three-prong plug which must be plugged into a three-wire grounded 120-volt, 60Hz outlet. **It is important to ground the amplifier properly.**

INPUT CONNECTIONS

MICROPHONES: Two low-impedance balanced microphones may be connected simultaneously to the screw terminals on the rear panel of the amplifier.

MICROPHONE PRECEDENCE: A built-in circuit provides microphone precedence over the AUX channel. For this function, a customer-supplied normally-open SPST switch must be connected to the MUTE terminals. When the contacts are closed, the microphone will have precedence.

AUXILIARY: The AUX inputs may be used for any signal source having a high-level (85mV) output, such as the Bogen TP-50A and TP-100A AM/FM Tuners, CR-100 Cassette Player/Tuner, and TG-4C Multiple Tone Generator.

TEL: A balanced isolating transformer input for a telephone line is provided. A 600-ohm telephone line may be connected to the TEL terminals. If two-conductor shielded wire is used, connect the shield to the adjacent GND (ground) terminal, which is to the left of the TEL terminals.

OUTPUT CONNECTIONS

SPEAKERS: The amplifier may be used with most conventional speaker systems. Connect one speaker lead to the screw terminal which corresponds to the impedance of the speaker system and the other lead to the COM terminal. If the line is shielded, connect the shield to GND. For balanced output lines, remove the link between the COM and GND output terminals. Class 2 wiring may be used.

OPERATION

POWER: The front panel ON/OFF switch applies power to the amplifier.

MIC 1, MIC 2: For two microphone inputs, the MIC 2/AUX selector switch should be in the MIC 2 mode. The MIC controls are used to adjust the volume of the microphone inputs. Rotate the controls clockwise to increase volume and counterclockwise to decrease it. Turn the controls to the minimum position if the inputs are not used.

AUX: For one auxiliary inputs, the MIC 2/AUX selector switch should be in the AUX position. The AUX control is used to adjust the volume of the auxiliary input. Rotate the control clockwise to increase volume and counterclockwise to decrease it. Turn the control to the minimum position if the input is not used.

TEL: The TEL VOLUME control on the rear panel adjusts the telephone paging level. It does not affect the microphone level. Rotate the control counterclockwise to decrease the level. Rotate the control clockwise to increase the level.

VOX SENS: The VOX SENSitivity control should be set so that only the desired signal is above the threshold level, while noise or unwanted signal is below it. When an input signal (such as voice) is detected, the music channel will be muted. To adjust the sensitivity of this circuit:

1. Rotate the control fully clockwise. While making a page announcement and talking at a low level, the sound should not be choppy nor missing parts of words. If it is choppy, or if intelligibility is poor, rotate the control counterclockwise to the point where the sound is clear and crisp (but not to the maximum counterclockwise position).
2. If the background music shuts down when no page is in progress, rotate the control clockwise until the music is restored.

MICROPHONE PRECEDENCE: Muting of AUX channel requires a customer-supplied normally-open SPST switch, which must be connected to the AUX MUTE terminals. When the contacts are closed, the microphone will have precedence over the AUX input.

TREBLE: Use the TREBLE control to adjust the tonal balance of the amplifier output.

ACCESSORIES

WMT-1A LINE-MATCHING TRANSFORMER: The Bogen Model WMT-1A provides an impedance match between the amplifier and a 0 level, 500/600-ohm line, which may be either a telephone line connected to the switchboard for internal paging or a wired music system.

To connect the input from a balanced 500/600-ohm telephone line mount the WMT-1A on the rear panel of the amplifier, using the holes indicated on the rear panel. Connect the input line to the three-screw terminal strip on the WMT-1A. Connect the phono plug on the WMT-1A cable to the AUX jack on the rear panel of the amplifier. If this jack is being used for other equipment, connect the WMT-1A to one of the MIC inputs. To do this, the WMT-1A jumper must be repositioned, as described in the instruction sheet supplied with the transformer.

MODEL RPK-35B RACK PANEL KIT: The Bogen Model RPK-35B is designed to mount the C10 and C20 amplifiers in a standard 19-inch sound rack.

Before fitting the panel to the amplifier, remove the screws and rubber feet from the bottom of the amplifier. Slide the amplifier into the rack panel from the rear. Using the screws from the feet of the unit, secure upwards through the holes in the panel and the bottom of the amplifier where the feet had been mounted.

Overall dimensions of the RPK-35B are 3-1/2"H x 19"W with side panels 6-13/32"D. Cutout dimensions are 2-5/8" x 11-7/16." The panel is fabricated from cold-rolled steel and has a black finish.

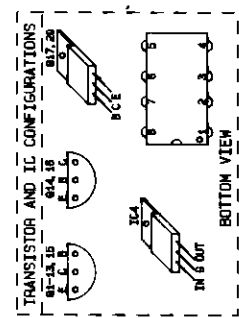
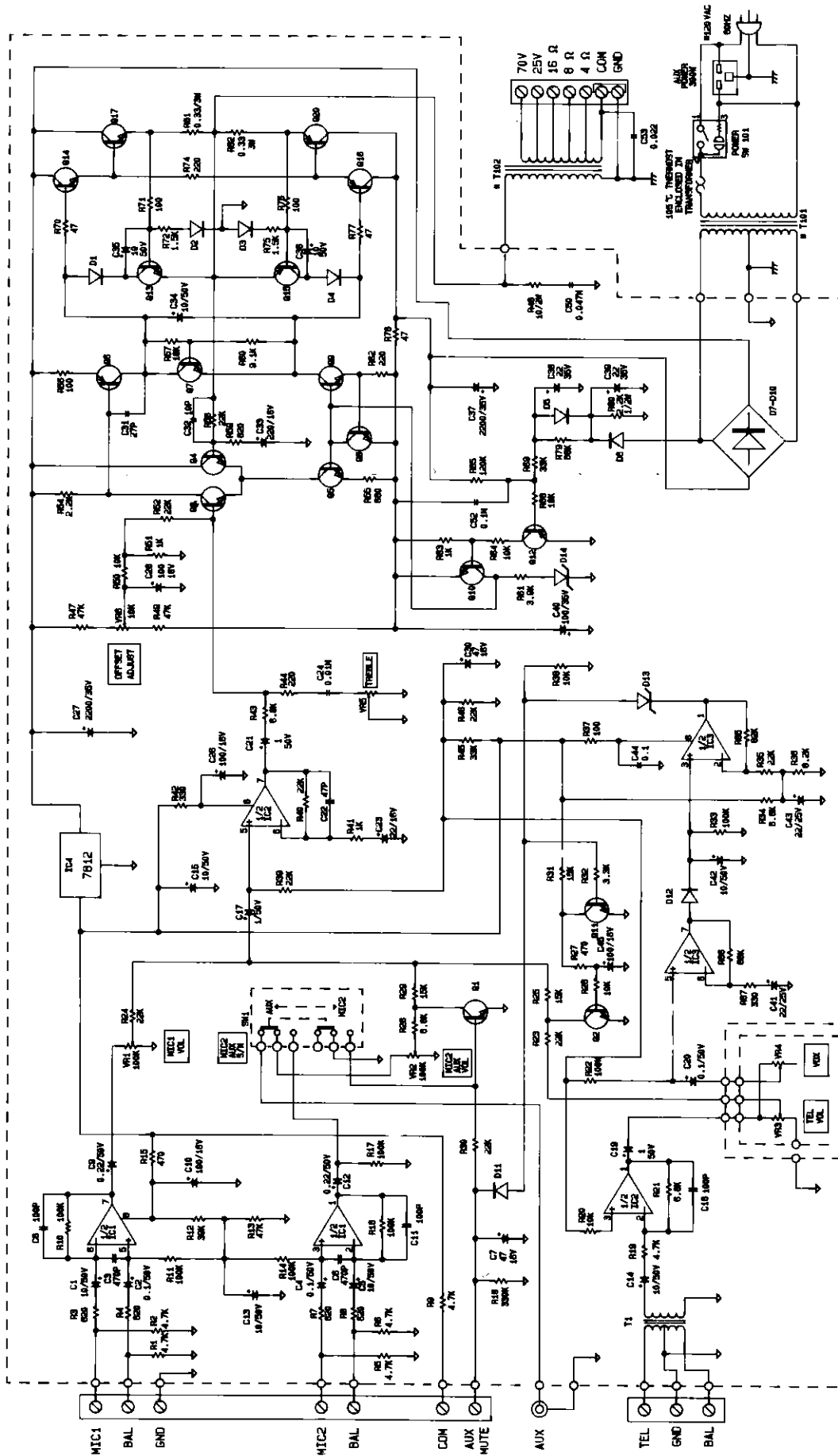
MAINTENANCE

Caution

There are no user-replaceable parts within the unit. To avoid an electric shock hazard, have all internal servicing done by qualified service personnel only.

OVERLOAD PROTECTION

The amplifier output is protected against overload and shorted speaker lines by an electronic shut down circuit and a thermostat enclosed in the power transformer. If the breaker opens, the amplifier will have no output. Set the Power switch to off and wait a reasonable time for the breaker to reset. If the breaker trips again, have the trouble investigated by a qualified technician.



MODEL	T101	T102	POKER LINE CURRENT
C10	83-876-000	83-523-000	.39A
C20	83-877-000	83-524-000	.5A

- NOTE**
1. UNLESS OTHERWISE SPECIFIED: ALL RESISTORS ARE 1/4W, ±5% CAPACITORS ARE IN MFD.
 2. * DENOTES COMMON CONNECTION.
 3. ** DENOTES CHASSIS CONNECTION.

Schematic Diagram — C10 & C20