BOGEN®

The Challenger Series

MODEL CHB10A

10 WATT PUBLIC ADDRESS AMPLIFIER

LEAR SIEGLER, INC. / LSi® *BOGEN DIVISION*
P.O. BOX 500
PARAMUS, N. J. 07652

INSTALLATION AND OPERATING MANUAL

READ THOROUGHLY BEFORE OPERATING EQUIPMENT

INTRODUCTION

The Model CHB10A is a general purpose 10 watt public address amplifier. Separate microphone and phono inputs and volume controls permit mixing of the two inputs. Outputs are provided for all standard speaker impedances and for operation with 25-volt and 70-volt long-line speaker systems. A treble control is provided for adjusting tonal balance.

TECHNICAL SPECIFICATIONS

OUTPUT POWER: 10 Watts; 14 Watts Peak
FREQUENCY RESPONSE: 40 to 12,000 Hz ±2 db
HUM & NOISE:
MIC Input: 60db below rated power
PHONO Input: 75db below rated power
GAIN:
MIC Input: 110db
PHONO Input: 90db
SENSITIVITY:
MIC Input: 6 millivolts
PHONO Input: 0.2 volts
INPUTS: 1 microphone (high impedance)
1 phono (high impedance, high level) can be converted to 500/600 ohm line (wired music systems) using BOGEN model WMT-1 matching transformer accessory.
OUTPUTS: Speaker-- 4 Ω, 8 Ω, 16 Ω, 25 Volt and 70 Volt lines. Quick-Disconnect type socket and connector provided, in addition to screw-type terminals. By utilizing a BOGEN WMT-1 transformer a zero-level output may be obtained at 500/600 ohms for feeding to a telephone line.
CONTROLS: Microphone Volume, Phono Volume, Treble and Power.
TUBES: 12AX7/ECC83, 7868 and 2 silicon rectifiers
POWER CONSUMPTION: 50 Watts, 105-125 Volts, 50 to 60 cycles AC
DIMENSIONS:
MODEL CHB10A: 11¼" wide, 5¾" high, 8½" deep
WEIGHT:
MODEL CHB10A: 10 lbs.

ACCESSORIES

BOGEN MODEL WMT-1 LINE MATCHING TRANSFORMER

Used in conjunction with Bogen model CHB10A amplifier for distribution of background music directly from leased telephone line wired music systems, the WMT-1 provides a perfect impedance match between a 500/600-ohm balanced line and the high-impedance PHONO input of the amplifier. This transformer can also be utilized as an output accessory for feeding a 500/600-ohm zero-level signal to a telephone line.

The transformer is housed in a compact metal enclosure which is attached directly to the amplifier chassis. It is furnished with a three-screw terminal strip for line input or output connections, and with a shielded cable terminated in a phono plug for output. The WMT-1 is screw-mounted to the amplifier chassis, and no wiring or soldering is required to connect it to amplifier.

The WMT-1 accessory is normally connected to the PHONO input of the CHB10A amplifier. If this input is already in use, the WMT-1 transformer may be connected to the MIC input of the amplifier. However, it is first necessary to modify the WMT-1 wiring as described in the instruction sheet furnished with the accessory.

INSTALLATION

UNPACKING

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

CONNECTIONS BETWEEN COMPONENTS

Use single-conductor, low-capacity shielded wire for connecting the record player, tape recorder, and other components (except speakers) to amplifier. Keep leads under 35 feet in length.

Speakers may be connected with standard flexible line cord ("zip cord") and up to 100 feet of cable may be used without appreciable loss.

Make certain that all audio cables are kept away from speaker cables, power cables, and power transformers, and that speaker cables are kept away from power cables.

POWER AND GROUNDING

The amplifier is furnished with an ac line cord terminated in a three-prong plug. Plug the line cord into a three-wire grounded outlet providing a nominal 120-volt, 50-60 cycle power source. This will ground the amplifier as well as supply power to it.

It is advisable to ground the amplifier. Therefore, if a three-wire outlet is not available, an adapter such as Leviton No. 5017 should be used to convert a standard two-wire outlet for use with three-wire plugs. The adapter is provided with a grounding pigtail, which should be connected to the screw holding the wall plate to the receptacle.

INPUT CONNECTIONS

MICROPHONE

Any high-impedance type microphone (ceramic, crystal, etc.) may be connected to the Microphone receptacle on the rear panel of the amplifier. Use a

Bogen 85-0130-01 connector (Amphenol 75-MC1F or equivalent) and single-conductor shielded cable under 35 feet in length for connection of microphone.

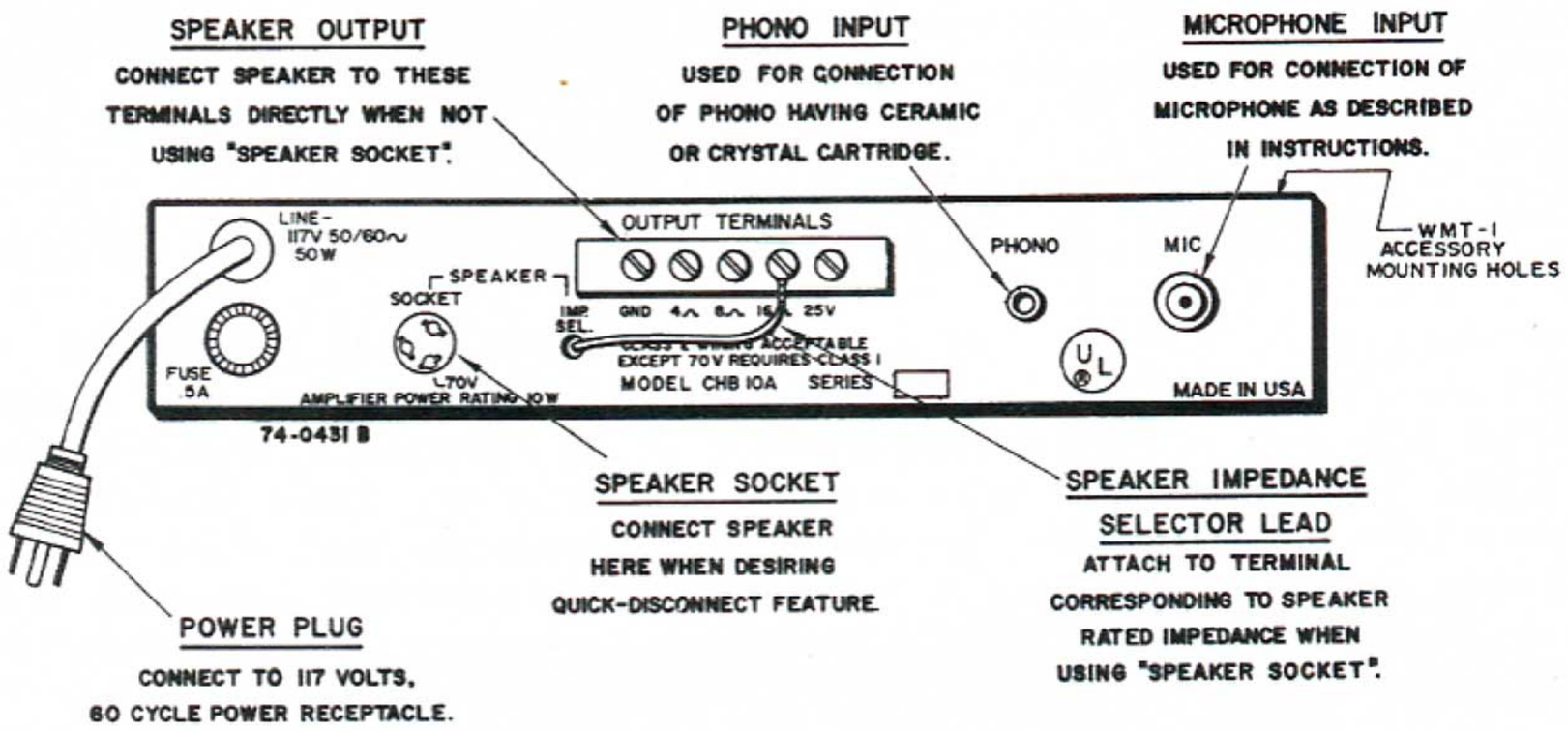


Figure 1 – Input and output connections.

PHONO

Any phonograph employing a ceramic or crystal type cartridge may be connected directly to the PHONO receptacle on the rear panel of the amplifier, using single-conductor shielded cable terminated in a standard single-prong phono plug. It is recommended that a separate ground wire be connected between the phono player base and the amplifier GND terminal to minimize hum pickup.

If desired, the PHONO input may be used for sources other than a phonograph. Any signal source having a high-level, high-impedance output may be connected to the PHONO input. This includes virtually all tuners and tape recorders having preamplifiers. An input signal level of approximately 0.20 volt is required to obtain full output from the amplifier.

The amplifier may be used in conjunction with a low-impedance, high-level signal source such as a wired background music by connecting a Bogen Model WMT-1 Line Matching Transformer between the source and the PHONO input, as described under ACCESSORIES on page 2. See the instruction sheet furnished with the WMT-1 accessory for connection details.

OUTPUT CONNECTIONS

The amplifier may be used in conjunction with speaker systems rated at 4, 8 and 16 ohms, 25-volt and a 70-volt constant-voltage speaker system. For detailed information on installation of multiple speaker systems, refer to the Speaker Installation Bulletin No. 54-5001-02 included with this unit.

In permanent installations, where speakers will remain connected to the amplifier permanently, connect the speaker system directly to the Speaker Output terminals. Connect one lead to the GND terminal and the other to the terminal corresponding to the speaker system's impedance. In systems that are moved continually, use the Speaker Socket. A speaker plug is enclosed for use with the socket to provide quick disconnect of speaker system. When speaker socket is used, secure the Speaker Impedance Selector lead to the appropriate speaker impedance terminal. In systems where 70-volt output is used this is not necessary.

Wire to the connector as follows: For 70-volt operation, connect leads to pins 1 and 3. For standard systems and 25 volts, connect leads to pins 1 and 2. See figure 2.

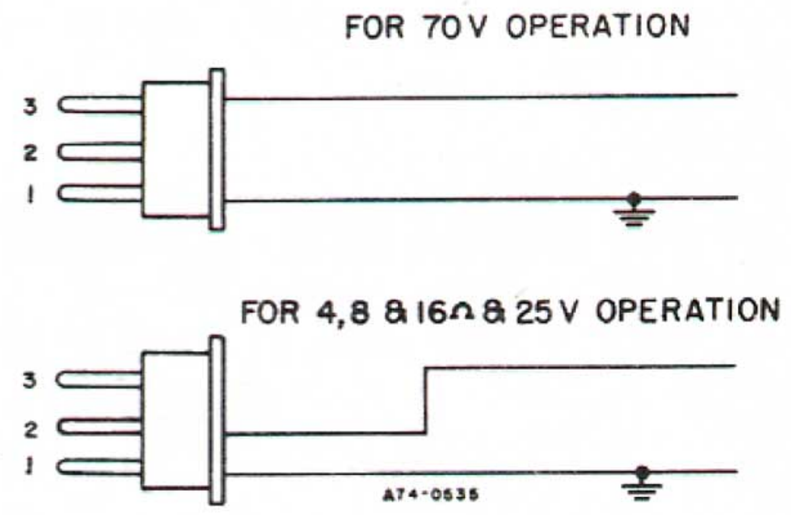


Figure 2 – Speaker output plug wiring.

By utilizing a Bogen WMT-1 bridging transformer, a zero-level output at 500/600 ohms may be obtained for feeding a telephone line. The WMT-1 accessory is connected across the 25-volt output. For making connections, see instruction sheet furnished with the WMT-1 transformer.

CONTROL FUNCTIONS

MICROPHONE

This control adjusts the volume level of the microphone input. Rotate the control clockwise (to higher numbers) to increase volume. Set the control to the minimum position (0) when the microphone input is not used.

PHONO

This control adjusts the volume level of the phono input and is operated in the same manner as the MICROPHONE control.

TREBLE

This control adjusts the tonal balance of the amplifier output. The extreme clockwise position provides full frequency response and is generally used when program sources and speaker system is of highest quality. Rotation of the control in a count-

erclockwise direction reduces the high-frequency response of the amplifier. Hence, the control would be used to remove high-frequency noise such as record scratch, to compensate for speakers having poor low-frequency response or to reduce the likelihood of acoustic feedback (howling).

POWER

This slide-type switch turns the amplifier on and off.

INSTALLATION & OPERATING HINTS

FEEDBACK

If speakers are located too close to microphone, acoustic feedback (squealing or howling) may result. In this case, adjust the volume and/or treble controls to the point where feedback is eliminated. In addition, move the speakers to increase the distance between the speakers and microphone.

HUM

Hum-type interference can occur if the connections between the signal sources and amplifier are incorrect or defective. Recheck all connections and test for continuity, in cases where hum occurs. Try reversing the amplifier power plug, and those of units used in system (e.g. phono player) in wall outlet. Check for broken wires, shields and poor connector contacts. Keep input cables away from speaker cables. Keep speaker cables away from transformers and AC power lines. In the case of a phono player, it may be necessary to connect a separate ground wire from the chassis of the phono player to the GND on the rear of the amplifier.

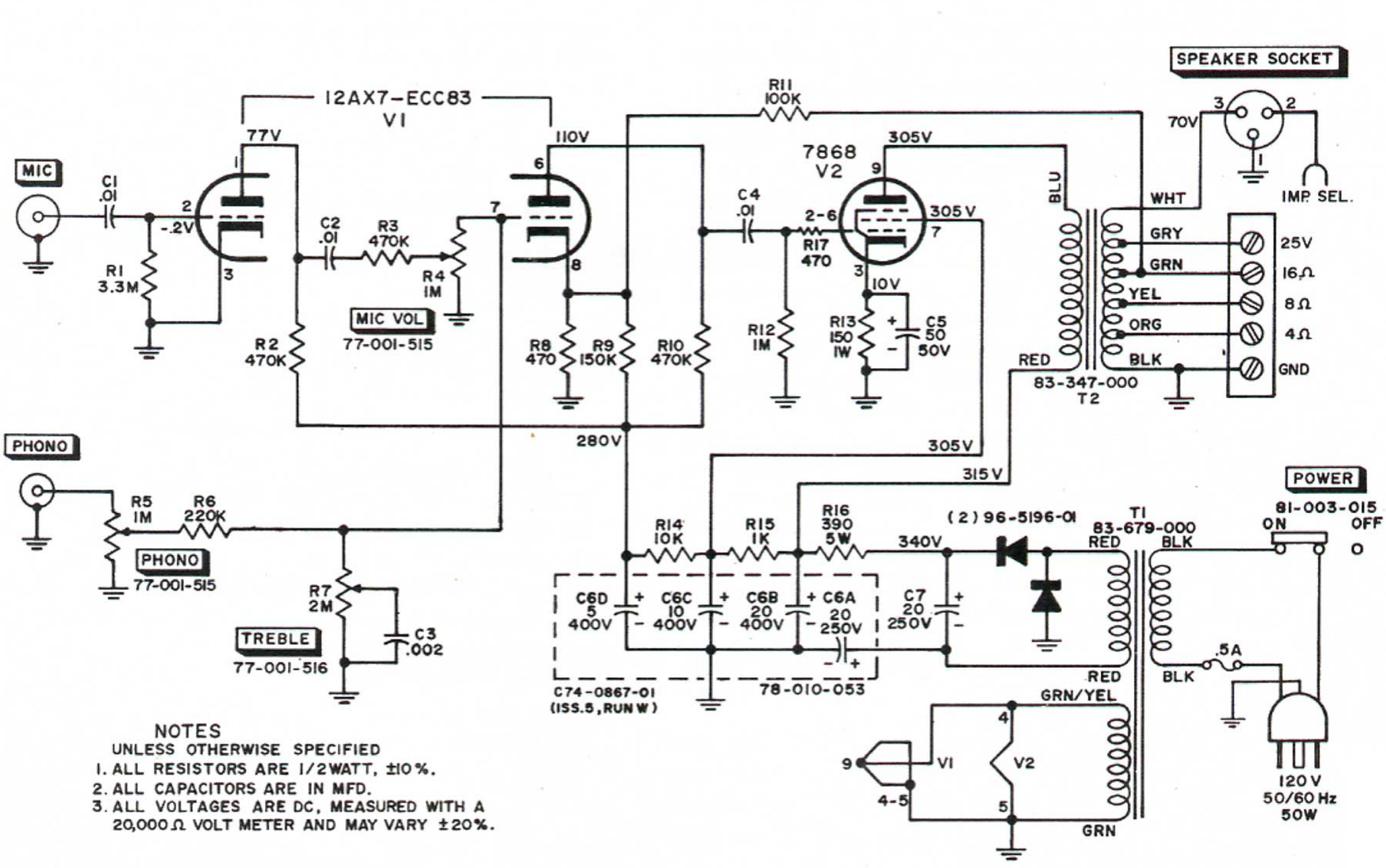
MICROPHONE TECHNIQUE

Speak directly into microphone in a normal voice, at a distance of approximately 6" to one foot from microphone. Speak deliberately with even speed and loudness. Don't shout. Leave a space between words and pronounce each word. Sound final consonants. Do not sing-song or drop words here and there.

Do not swallow or drop the last word. Speak final word with same emphasis as first word. Be conscious of sound of each word as you speak it. Each word spoken into microphone must be clearly heard for meaning to be understood.

FUSE

A 0.5 ampere slo-blo fuse is located in a holder at the rear of the amplifier. To replace fuse, press spring-loaded cap slightly inward, rotate counterclockwise, and withdraw cap and fuse. Use only a fuse of the same rating for replacement. If a second fuse blows, do not make any further attempt to operate unit. Consult a Bogen representative or other competent technician for inspection of unit.



NOTES
UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE 1/2WATT, ±10%.
2. ALL CAPACITORS ARE IN MFD.
3. ALL VOLTAGES ARE DC, MEASURED WITH A 20,000Ω VOLT METER AND MAY VARY ±20%.

Figure 3 – Schematic Diagram Model CHB10A

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