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# bc audio

hand-made all-tube non-clone guitar amps

## *Bel Air 40*

### OWNER'S MANUAL

Model BA40



The Bel Air 40 guitar amplifier features a series of Power Tube Configuration switches that allow you to reach inside the amp, so to speak, and re-wire the power section in multiple ways. Additionally, a number of unique and thoughtfully designed controls give you the power to finely tune the tonal and dynamic response of the amp. The Bel Air 40 utilizes Octal preamp tubes and true point-to-point wiring. Construction is heavy-duty, meant for real-world use and abuse. Made with the highest quality components and USA iron.

I sincerely hope you enjoy playing your new Bel Air 40 as much as I enjoyed building it.

### ESSENTIAL INFORMATION

Tube placement, left to right (facing the rear):

V1	V2	V3	V4	V5	V6	V7
6SL7	6SL7	6V6	6V6	6V6	6V6	GZ34

Your amplifier is hard-wired for the correct line voltage for your region. The following data is for 120VAC line voltage.

Power: 120VAC, 60Hz, 2A

Mains Fuse: 3A Slow Blow, Type 3AG, 1/4" x 1-1/4"

H.T. Fuse: 500mA, Type 3AG, 1/4" x 1-1/4"

When replacing power tubes, always replace with a matched quad and have the bias checked and adjusted by a qualified professional. For detailed information on setting the bias, have your amp technician contact BC Audio.

## IMPORTANT SAFETY INSTRUCTIONS



READ, FOLLOW, HEED, AND KEEP ALL INSTRUCTIONS AND WARNINGS. WE MAY COME TO YOUR HOUSE FOR VERIFICATION.

- DO NOT REMOVE SCREWS ON BOTTOM OF UNIT. LETHAL VOLTAGES LURK INSIDE. BOO! CONTACT THE MANUFACTURER FOR SERVICE INFORMATION. SERVICE MUST BE PERFORMED BY QUALIFIED PERSONNEL, NOT YOUR COUSIN WHO WIRED YOUR BASEMENT.
- THIS AMPLIFIER IS CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS. YEAH! CONTINUED EXPOSURE TO HIGH SOUND PRESSURE LEVELS CAN CAUSE PERMANENT HEARING IMPAIRMENT OR LOSS. WHAT? USER CAUTION IS ADVISED AND EAR PROTECTION IS RECOMMENDED IF UNIT IS OPERATED AT HIGH VOLUME, WHICH OF COURSE IT SHOULD BE.
- WHEN POWERED ON, THE TUBES MAY BECOME VERY HOT, HOT ENOUGH TO BURN SKIN ON CONTACT. SO DON'T TOUCH 'EM. AND KEEP OUT OF REACH OF CHILDREN AND PETS.
- DO NOT OPERATE WITHOUT SPEAKER OR OTHER SUITABLE LOAD CONNECTED TO THE SPEAKER JACK, AS DAMAGE TO THE AMPLIFIER AND YOUR REPUTATION MAY RESULT.
- DO NOT OPERATE NEAR ANY HEAT SOURCE, ESPECIALLY A SWEATY ONE.
- DO NOT OPERATE WITH VENTILATION OPENING(S) COVERED, AS THIS MAY OVERHEAT THE AMPLIFIER. DUH.
- DO NOT USE NEAR SPLASHING, FALLING, SPRAYING, OR STANDING LIQUIDS. AND DON'T EVER LET SOME FOOL SET HIS DRINK ON YOUR RIG.
- CLEAN ONLY WITH A LINT-FREE DRY CLOTH. DO NOT USE CLEANING AGENTS. WHO CLEANS THEIR AMP, ANYWAY?
- CONNECT POWER CORD ONLY TO A POLARIZED, SAFETY GROUNDED OUTLET WIRED TO CURRENT ELECTRICAL CODES AND COMPATIBLE WITH VOLTAGE, POWER, AND FREQUENCY REQUIREMENTS STATED ON THE APPLIANCE. THIS MEANS YOU.
- PROTECT THE POWER CORD FROM DAMAGE DUE TO BEING WALKED ON, PINCHED OR STRAINED. IF YOU SMELL AN ELECTRICITY LEAK, CALL THE AUTHORITIES IMMEDIATELY.
- UNPLUG THE APPARATUS DURING LIGHTNING STORMS, WHEN NOT IN USE OR FOR LATE-NIGHT SILENT OPERATION.
- REPLACE FUSE WITH CORRECT TYPE AND RATING AS INDICATED IN THIS MANUAL AND ON THE APPLIANCE. DO NOT STUFF WITH FOIL FROM YOUR CHEWING GUM.
- ONLY USE ATTACHMENTS, ACCESSORIES, STANDS OR BRACKETS SPECIFIED BY THE MANUFACTURER FOR SAFE OPERATION AND TO AVOID INJURY TO YOU AND MEMBERS OF THE AUDIENCE.

## POWER TUBE CONFIGURATION Switches

**QUAD/PAIR** Selects four or two 6V6 power tubes. This serves as a half-power switch, with the Quad setting providing more girth and punch.

**PENTODE/TRIODE** Sets the operating mode of the 6V6 power tubes, reducing power by about half in Triode mode, and also noticeably changing the tone and feel of the amp, with Pentode mode being tighter and cleaner, while Triode mode feels smooth and loose.

**FIXED BIAS/CATHODE** Selects the way the 6V6 power tubes are biased, changing the power and dynamics of the power section, cathode bias mode being slightly lower-powered, more compressed and a little bit browner.

The Power Tube Configuration switches are independent and can be set in any combination. Depending on how they are set, power output ranges from 40 clean watts down to less than 5.

## FRONT PANEL CONTROLS AND FEATURES, Right to Left

**INPUT** Standard 1/4" guitar input jack.

**VOLUME** Standard volume control, sets the overall loudness of the amplifier.

**BRIGHT Switch** 3-way switch allowing for two levels of added treble response, or none, at the input of the amplifier.

**BODY** Controls the low and low-mid frequency response of the amp. Set Body lower when driving the amp harder.

**BASS, MID & TREBLE, EQ IN/OUT Switch** Tone-shaping controls and bypass switch.

**PRESENCE & CUT, NFB Switch** Presence and Cut are complementary and interactive, offering superb control over the amplifier's top-end response. The 3-way Negative Feedback switch alters the damping and open-loop gain of the power section, with the Zero NFB setting being the most raw and touch-sensitive. Note that the effectiveness of Presence changes with the amount of negative feedback.

**POWER TUBE CONFIGURATION Switches** See above.

**POWER Switch & Indicator** Standard power switch and power-on indicator.

## REAR PANEL CONTROLS AND FEATURES, Left to Right

**IMPEDANCE** Matches the amplifier's output impedance to your speaker cabinet(s).

**SPEAKERS** Two standard 1/4" speaker output jacks. Always use speaker cables - NOT guitar cables - to connect speaker cabinets, or damage to the amplifier may occur. Do not operate the amplifier without a speaker or suitable load connected, as this can cause damage to the amplifier.

**FUSES** Replace with same type and rating only. The MAINS fuse is on the main power input to the amplifier. The HT or High Tension fuse is on the B+ plate voltage supply.

**MAINS INPUT** Standard IEC power inlet. Always use a proper grounded power cable. Your amplifier shipped with a Hospital Grade cable for reliability (US only).