

ABX

COMPARATOR



The **ABX Comparator** allows a user to reliably and confidently conduct or perform side-by-side blind listening tests of two audio power amplifiers for the purpose of determining if there are actual audible differences between them, not necessarily to determine whether one sounds better than the other.

Handling up to 25 trials per test session, the ABX Comparator randomly selects unknown amp X from either amp A or amp B. The listener then compares X with A and B and tries to identify it. The ABX Comparator keeps track of the answers, and at the end of the session it reports the number of trials, number of correct

answers, and the percentage of correct answers.

To prevent evaluation errors caused by unequal sound levels, the ABX Comparator contains an internal calibration signal generator and a front panel output voltmeter with 0.1-volt resolution. Passive signal path circuitry ensures that the audio quality remains uncolored.

Containing three internal 8-bit microcontrollers and A/D converters, the ABX Comparator is a powerful evaluation tool for the discerning audio professional. It may be used not only with amplifiers, but with line-level equipment as well.

PROCEDURE	FUNCTION
1. Calibrate	<p>Calibrate Mode</p> <p>The ABX Comparator routes a fixed-level sine signal to each unit under test and displays their output voltages, allowing precise gain matching between the two devices.</p>
2. Listen 3. Evaluate 4. Register decision 5. Loop to #2	<p>Trial Mode</p> <p>The ABX Comparator randomly presents either device A or B as X, the unknown. The listener's challenge then is to identify X by comparing it to A and B, and then enter his or her guess on the infrared remote control</p>
6. Score/Finish	<p>Review Mode</p> <p>After a session of up to 25 trials, the ABX Comparator displays the results and percentage of correct answers. The listener can also review each individual listening trial.</p>

- Microprocessor controlled
- Completely passive signal path to preserve audio integrity
- High-current relay switching
- Allows truly impartial side-by-side comparisons of audio devices
- Passive cooling
- Handheld infrared remote control included
- Liquid crystal display for calibrate, trial, and review modes
- Three-digit voltage calibration display
- Calibration resolution of 0.1 volt rms
- Soft-touch keypad
- Review mode allows statistical analysis of results
- Neutrik "Combo" XLR & 1/4" TRS connectors for line-level connections
- "Touchproof" binding posts for speaker-level connections
- Serial RS-232 interface for computer control
- Single rack space

QSC[™]
AUDIO

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ABX Comparator Specifications



CALIBRATION MODE

- Amplifier A selectable; both channels individually selectable.
- Amplifier B selectable; both channels individually selectable.
- ABX Comparator selects calibration signal automatically.
- Calibration signal voltmeter display range: 0.0–99.9 Vrms

TRIAL MODE

- Trials in each session begin with number 1 and go up to a maximum of 25.
- In each trial the ABX Comparator's processors randomly and automatically selects signal X from either A or B. To compare X to A and B, the listener may freely switch among them.
- When the listener is ready to make a judgment of whether X is A or B, he or she presses the corresponding button—A or B—on the remote control, then ENTER.
- The next trial begins immediately, up until trial number 25. After 25 trials, or when the session is ended, the LCD will display the results and percentage of correct answers.

REVIEW MODE

- Review starts with trial number 1 and goes up to last trial of the session, with the ABX Comparator recalling data from memory.
- With each trial reviewed, the LCD displays the trial number and identifies both X and the listener's selection.

AUDIO INPUT AND OUTPUT

- Small-signal section (line-level): mechanically balanced DPDT relay switching; Input impedance: 200 kilohms balanced; 100 kilohms unbalanced.
- Heavy-duty section (speaker-level or line-level): mechanically balanced DPDT relay switching
- THD+N (20 Hz–20 kHz): <0.05%.
- Frequency response: 20 Hz–20 kHz +0, -0.1 dB

CALIBRATING SIGNAL

- 1 kHz, 1 Vrms sine wave (factory preset; internally adjustable)

SWITCHING RELAY PERFORMANCE

- Small-signal relay: Contacts rated at 1.0 A; expected electrical life at rated load approximately 100,000 contact cycles.
- Heavy-duty relay: Contacts rated at 30 A; expected electrical life at rated load approximately 100,000 contact cycles.

CONTROLS

- AC switch and 8 function keys on front panel
- IR remote control with function keys

INDICATORS

- Operational & mode status: LCD display
- Calibration level readout: 7-segment LEDs, 3 digits
- Remote status indicators: miniature LEDs

CONNECTORS

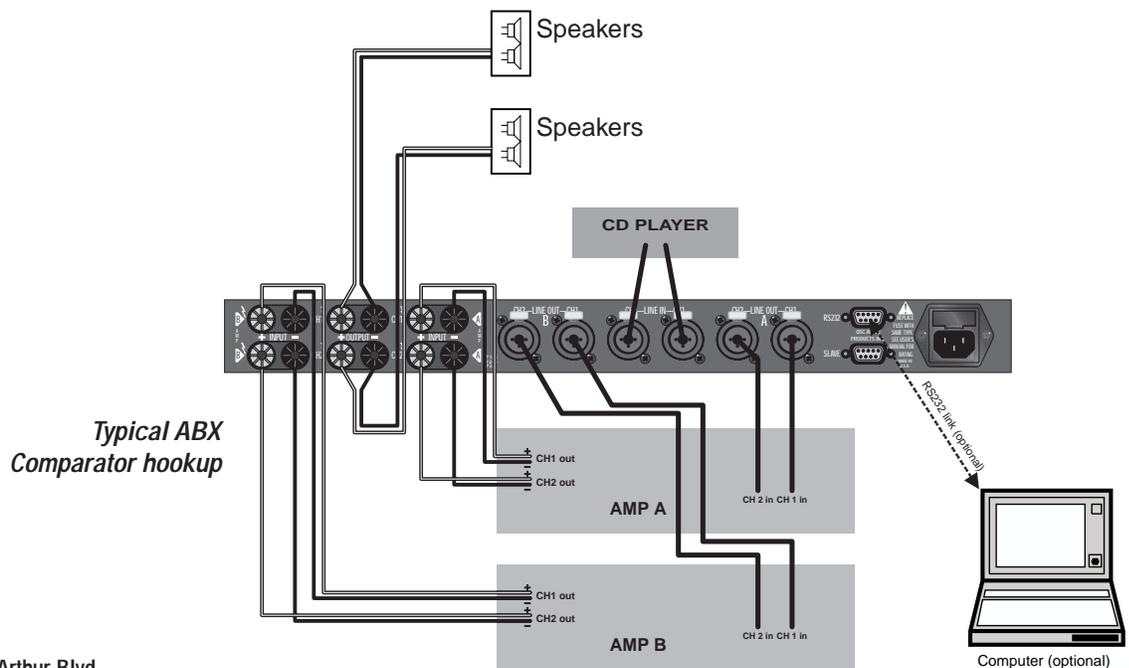
- Line-level audio inputs and outputs: Neutrik "Combo" XLR female and ¼" TRS connectors
- Speaker-level audio inputs and outputs: Cliff "Touchproof" binding posts.
- Control port for slave unit: DB9 female RS-232
- RS-232 port for remote computer control: DB9 male

POWER REQUIREMENTS

- AC line voltage: 80–260 V (autosensing), 50–60 Hz
- Power consumption: 40 W

PHYSICAL

- Dimensions: 19" (48.26 cm) × 1.75" (4.44 cm) × 12" (30.48 cm)



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