

REALQ2™ Dual-Channel Real-Time Adaptive Equalizer

The dual-channel real-time adaptive equalizer shall automatically sense and adapt to changes in room acoustics during performances, monitoring and re-adjusting the sound system's frequency response using masked, sub-audible reference tones within the program material. The equalizer shall maintain indefinitely any specified response curve, ignoring any signal processing that occurs before it in the signal path.

The equalizer shall include the following: a remote control RS232 serial port data indicator; a remote control MIDI data indicator; a clip level LED display for each channel, which indicates clip level; an LCD display for interaction with the unit and viewing menus and graphs; soft key selectors for quickly selecting various menu items; a MORE button for choosing additional REAL-Q menus or soft key selections; an online context-sensitive HELP button; cursor movement arrow keys; a data wheel for selecting values; an ENTER button for initiating action; and a two-position push button power switch. The unit shall also be provided with an internal power supply and power cord, reference microphone inputs, and program channel inputs and outputs. Options include MIDI input/output connectors, an RS232 remote control connector, an RS232 REQ network connector, digital input/output connectors and REQ2-SLU Slave Unit for remote master control with the REAL-Q or a computer. The REAL-Q shall also incorporate ClipGuard™ adaptive clip level control with TURBO setup mode, which automatically matches the REAL-Q's internal dynamic range to the program level.

The following performance criteria shall be met:

GRAPHIC EQUALIZERS — 31 digital filters on ISO center frequencies, width from 0.5 to 1.0 octave in .01 octave increments, +/-15 dB boost and cut. Simultaneous display and control of REAL and Adaptive EQs. Simultaneous display of RTA and REAL EQ. Independent display and control of A & B channels, with LINK and COPY functions.

REAL-TIME ANALYZER — 31 band 1/3-octave digital analyzer, 20Hz - 20KHz on ISO center frequencies. A, C or flat weighting. Fast/slow, peak/hold displays. 60, 30 or 15 dB full scale displays with adjustable position. Source selectable: reference mic, channels A or B, input or output. Reference mic input: ISO phantom power, +48VDC @ 10mA, 1.2K Ohm impedance. Includes pink & white noise generator.

FILTERS — High Pass filters with cutoff frequency selectable in 1/3-octave interval between 20 Hz and 1 KHz, 12 dB/octave roll-off. Low Pass filters with cutoff frequency selectable in 1/6-octave intervals between 3.15 KHz and 20 KHz, 12 dB/octave roll-off.

COMPRESSOR/LIMITER — Threshold: +26 dBV to 0dBV in 0.5 dB steps. Ratio: 1:1, 1.4, 2, 4, 8, 16, 32 or 4. Knee: hard/soft. Attack: 1 to 100 mSec. in 1 mSec. steps. Release: .05 to 5 sec. in .05 sec steps. Peak limits: 0 dBV peak to 26 dBV peak in 0.5 dB steps. Dual mono or linked stereo.

NOISE GATE — Threshold: 0 to -75.0 dBV in 0.5 dB steps. Knee: hard/soft. Attack: .5 to 100 mSec. in .5 mSec steps. Release: .05 to 5 sec. in .05 sec. steps. Dual mono or linked stereo.

DIGITAL DELAY — 0-0.05 seconds in 20 microec. steps. Programmable in milliseconds, feet or meters. Dual mono or linked stereo.

LOAD & RECALL CONFIGURATIONS & RESPONSE CURVES — 98 user defined, 1 factory default, 1 most recent configuration (power down save). Password protection.

INPUT/OUTPUT — Input impedance: balanced >10K Ohms, PIN 2 high. Output impedance: balanced 10 Ohms nominal, PIN 2 high. Input/output maximum signal levels: balanced +29dBV peak. Output drive: +28 dBV peak into 600 Ohm load (balanced). Bypass: true power-off bypass. I/O connectors: XLR-3.

PERFORMANCE — Frequency response: +/-0.20 dB, 20 Hz to 20 KHz. Signal to noise ratio: >105 dB (with ClipGuard). Total harmonic distortion: <0.02% @ +22 dBV @ 1KHz. Dynamic range: >110 dB (with ClipGuard). Headroom: +22 dB peak @ 4 dBV nominal input.

POWER — 50/60Hz available in 100V, 120V, 230V; 25W.

DIMENSIONS — 2-U rack mount; 19 x 3.5 x 9 in.; 48.3 x 9 x 22.9 cm. Weight: 9.0 lb. (3.9 kg).

OPTIONS — Serial (RS232) full remote control with REALQ2 for Windows; Jensen balanced line I/O isolation transformers.

The equalizer shall be the Sabine REALQ2 Real-Time Adaptive Equalizer.