DUKANE™
Commercial Sound Technology

Graphic Equalizer

3A242A

Overview

The Edwards Model 3A242A One-Third Octave Graphic Equalizer has 31 active filters at the ISO frequencies from 20Hz to 20,000Hz, with “Constant Q” filtering. The 31 slide potentiometers control each individual frequency band through a range of plus and minus 12dB. Grounded, detented center-tap positions on each level control assure positive flat position of each filter section. Adjustable high and low pass shelving filters are continuously variable. The equalizer has a frequency response of +/—0.5dB and distortion of less than 0.1% @ 1Vrms with all filter controls flat.

The unit's balanced low impedance output is capable of 6Vrms (+18.0dBm) and has a nominal output of 1Vrms (+3.0dBm) into 600 ohms or greater load impedance. A 10-segment, calibrated LED display facilitates monitoring of the equalizer output level.

A lighted front panel power switch allows the input and output to be tied together to allow a fail-safe bypass circuit when the switch is OFF. A front panel equalizer bypass switch also allows for equalizer bypass with power ON. The equalizer fits a standard 19” (48.3 cm) mounting enclosure.

The optional Edwards Model 110-1976A pink noise generator can be mounted internally for use as a sound masking generator or a noise source for the equalization process.

Standard Features

- Constant Q topology
- Precision, center-tapped, slide attenuators
- Adjustable high/low shelving filters
- 12 dB cut or boost
- Color-coded, calibrated LED display

Engineering Specification

3A242A One-third Octave Graphic Equalizer

The One-Third Octave Graphic Equalizer shall be the Edwards Model 3A242A. The equalizer shall have 31 active filters at the ISO frequencies from 20Hz to 20,000Hz, with “Constant Q” filtering. The 31 slide potentiometers shall control each individual frequency band through a range of plus and minus 12dB. Each level control shall have a grounded, detented center-tap position to assure positive flat position of each filter section. Adjustable high and low pass shelving filters shall be continuously variable, having a slope of 12dB/octave with a high pass range of 10Hz to 400Hz, +/—5%, and low pass range of 10kHz to 30kHz, +/—5%, with all filter controls flat and shelving filters out of the circuit, the frequency response of the equalizer shall be +/—0.5dB.

The equalizer shall have an input impedance of greater than 15,000 ohms and a load impedance of 600 ohms or greater. The distortion shall be less than 0.1% @ 1Vrms with all filter controls flat. Noise shall be —90dB or greater below full output and —80dB below 1Vrms, with bandwidth limited to 20Hz to 20,000Hz, input shorted and all filter controls flat. The output shall be a balanced low impedance, capable of 6Vrms (+18.0dBm), with a nominal output of 1Vrms (+3.0dBm) into 600 ohms or greater load impedance. The equalizer shall have a 10-segment, calibrated LED level display to monitor the equalizer output level.

The equalizer shall include monolithic IC’s and 1% components for all frequency determining circuits. All printed circuit boards shall be computer-grade glass epoxy. A lighted front panel power switch shall allow the input and output to be tied together to allow a fail-safe bypass circuit when switch is OFF. A front panel equalizer bypass switch also allows for equalizer bypass with power ON. The equalizer shall be designed for a standard 19” (48.3 cm) mounting enclosures.

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The equalizer shall allow for an optional pink noise generator to be mounted internally for use as a sound masking generator or a noise source for the equalization process. The Pink Noise Generator shall be Edwards Model 110-1976A or equal.

The unit shall be 3-1/2" (8.9 cm) high x 19" (48.3 cm) wide x 11" (27.9 cm) deep. The equalizer shall allow the removal of the rack mounting brackets and have an enclosed package for desk or tabletop operation. The front panel shall have a protective polycarbonate overlay. The equalizer shall weigh 12 pounds (5.4 kg) or less. The equalizer shall have an optional security cover, Edwards Model 438-674 or equal, to eliminate inadvertent adjustments.

Specifications

3A242A One-third Octave Graphic Equalizer	
Input Impedance	Greater than 15,000 Ohms
Output Impedance	Approximately 100 Ohms
Gain	Unity gain (+/—1dB), filters off
Frequency Response	20Hz to 20kHz, +/—1/2dB
Distortion	Less than 0.1% @ 1Vrms, all filter controls @ 0
Noise	Greater than —90dB below full output Greater than —80dB below 1Vrms (bandwidth limited), input shorted, controls flat)
Boost/cut Range	+/—12dB @ ISO center frequencies
Rated Output	6Vrms (+18.0dBm) maximum into 600 Ohms; 1Vrms (+3.0dBm) nominal, balanced
Shelving Filters	High/Low slope of 12dB/octave: High pass tuning range of 10Hz to 400Hz, +/—5%; Low pass tuning range of 10kHz to 30kHz, +/—5%
Controls	Thirty-one 1/3 octave slide controls Equalization bypass switch Output level control Low pass control High pass control Lighted power switch

3A242A One-third Octave Graphic Equalizer	
Level Indicator	10-segment, calibrated LED level display
Terminations	Screw terminals and RCA jacks
Power Requirements	120Vac, 60Hz, 100mA
Dimensions	3-1/2" (8.9 cm) high x 19" (48.3 cm) wide x 11" (28 cm) deep
Weight	12 lbs (5.44 kg)
Finish	Cover: Textured, charcoal-colored baked enamel Chassis: Baked charcoal enamel Front: Gray polycarbonate panel overlay

110-1976A Pink Noise Generator Card	
Pink Noise Frequency Range	30Hz to 16kHz
Nominal Output Level	0dBm, +/—1dB
Output Impedance	Less than 100 Ohms
Power	Received from 3A242A

Ordering Information

3A242A	One-third Octave Graphic Equalizer

Optional Equipment for 3A242A	
438-674	Equalizer Security Cover
110-1976A	Pink Noise Generator Card
3A230	Bridging Transformer
110-1188	Line Transformer Mounting Bracket