

### ARCHITECTS SPECIFICATIONS

#### Protea System II 4.24GS

The programmable graphic equalizer shall consist of four independent channels of 24 bit digital graphic equalization. Each channel shall consist of 28 bands centered on standard ISO frequencies at intervals of 1/3 octave and covering a frequency range of 31Hz to 16kHz. The range of equalization per band shall be  $\pm 15$ dB in 0.5dB increments. The equalizer shall have a gain of unity with all bands set at zero, and shall have a maximum in/out level of +20dBu. Frequency response shall be  $\pm 2.5$ dB 20Hz to 20kHz. Dynamic Range shall be greater than 110dB (20Hz-20kHz, unweighted) and SMPTE intermodulation distortion or THD shall be less than 0.01% at 1kHz, +20dBu. Input impedance shall be 18K ohms balanced. Output impedance shall be 200 ohms. Inputs and outputs shall be balanced type on XLR and 1/4" phone jacks. Individual filters shall be of a constant Q reciprocal filter design. Boost and cut characteristics shall be fully symmetrical. The equalizer shall also include on each channel a 24dB per octave high pass filter adjustable from 20Hz to 10.6kHz, a 24dB per octave low pass filter adjustable from 33Hz to 20kHz, a full function, pre/post switchable compressor/limiter with adjustable threshold, ratio, attack and release controls, and a time delay capable of a maximum of 1.364 seconds adjustable in 20us increments. LED indicators shall show signal present, clip and MIDI channel number. Channel gain shall be adjustable over a range of +6dB to -infinity in 0.5db increments.

Control of the unit shall be from the 4.24G, via the optional 4.24RD remote control, via RS-232 serial port using Ashly Protea System Software, or via MIDI. External recall of up to six scenes via contact closure shall be accessible through a db9 connector. The equalizer shall weigh 13 lbs net and mount in a standard 19" rack using 2 spaces (3.50" high). The power requirement shall be 90-125VAC (180-250VAC, switchable), 50-60Hz, 27W. The unit shall be an Ashly Audio Protea System II 4.24GS.

The optional remote controller shall operate all functions of the Protea unit using push-buttons and shall be phantom powered from the Protea unit so that no batteries or AC line cords are needed while controlling the Protea unit. Connections between the controller and Protea unit shall be accomplished using standard XLR mic cables. A 240 X 64 fluorescent backlit LCD display shall show all parameter, function and utility information. LED indicators shall show channel and mute conditions. The remote controller shall have a low profile for desk-top operation. The remote controller shall be the model Protea System II 4.24RD.

- 24 Bit A/D - D/A Audio Resolution
- 24 Bit/100MHz (x2) Digital Signal Processing
- Four 28-Band 1/3 Octave Channels of EQ
- Programmable Compressor/Limiter
- Programmable Delay up to 1.364 Seconds
- Programmable High and Low Pass Filters
- Control From 4.24G, 4.24RD, PC or MIDI
- Contact Closure for External Recall of 6 Scenes
- Balanced XLR and 1/4" Inputs and Outputs
- Linkable Channels
- Constant Q/Reciprocal Filter Design
- +/- 15dB Boost and Cut, 0.5dB increments
- 128 Preset Locations, 50 Scenes
- RS-232 Computer Interface
- Full MIDI Implementation
- 5-Year Worry-Free Warranty

## General Specifications 4.24GS

### INPUT

Type: Active Balanced  
 Impedance: 18 K ohms  
 Max. Level: +20dBu

### OUTPUT

Type: Pseudo-Balanced  
 Impedance: 200 ohms  
 Max. Level: +20dBu

Frequency Response:  $\pm 0.25$ dB 20Hz-20kHz  
 THD (20Hz-20kHz): <0.01% @ 1kHz, +20dBu  
 Dynamic Range: >110dB (20Hz-20kHz) unweighted  
 Output Noise: <-90dBu unweighted

### FILTERS

Type: Constant Q, Reciprocating  
 Number: 4 X 28  
 Filter Spacing: 1/3 Octave  
 Range:  $\pm 15$ dB, 0.5dB Increments  
 Q: Fixed, 3.2

Power Requirements: 90-125VAC, 50-60Hz, 30W  
 180-250VAC 50-60Hz, 30W

Shipping Weight: 14 lbs  
 Dimensions: 19"L x 3.5"H x 8"D  
 I/O Connectors: XLR, 1/4"  
 Environmental: 40-120 deg. F Noncondensing

### COMPRESSOR/LIMITER

Threshold: -20dBu to +20 dBu  
 1dB increments  
 Ratio: 1.2:1 to Infinity  
 (1.2:1, 1.5:1, 2:1, 3:1, 4:1, 6:1, 10:1, 20:1, inf:1)  
 Attack: 0.5ms to 50ms per dB  
 (.5, 1, 2, 5, 10, 20, 50ms)  
 Release: 10ms to 1 sec per dB  
 (10, 20, 50, 100, 200, 500ms, 1 Sec)

HPF  
 Range: 24dB/Octave  
 20Hz to 10.6KHz

LPF  
 Range: 24dB/Octave  
 33Hz to 20.1KHz

### DELAY

Maximum Delay: 1.364 seconds  
 Increment: 20us

### PROCESSOR

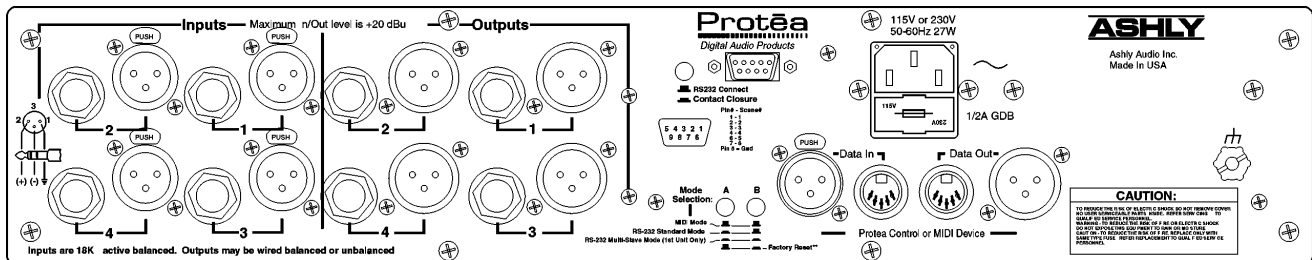
Input A to D: 24 Bit  
 Output D to A: 24 Bit  
 Processor: 24 Bit, 56 Bit Accumulator  
 Sample Rate: 48KHz  
 Propagation Delay: 1.46ms

Notes: 0 dBu = .775 V RMS

## General Specifications: 4.24RD

Shipping Weight: 5 lbs., Dimensions: 16.9"L x 1.65"H x 5.36"D, I/O Connectors: XLR, Power: Phantom

## Rear Panel 4.24GS



## Rear Panel 4.24RD



## Applications:

PA Systems - FOH & Monitors, Concerts, Outdoor Festivals, Churches, Sports Stadiums, Auditoriums, Studios, Dance/Night Clubs, Lecture Halls

**Misc:** Protea System Software for PC control of the Protea 4.24GS may be downloaded free from our website. Use it to control the 4.24C, 4.24D, 4.24G, 4.24GS, 4.24PS, 2.24GS and 2.24PS. Download it now to preview the capabilities of the Protea System II Digital Products. Protea System Software operates on Windows™ 95, 98, 2000, NT, ME and XP platforms.

Ashly manufactures a complete and comprehensive line of Graphic and Parametric Equalizers, Electronic Crossovers, Power Amplifiers, Compressor-Limiters, Mixers, and Amplifier Input Options. Please call, write or visit our web site for information on any of these Ashly Products.

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