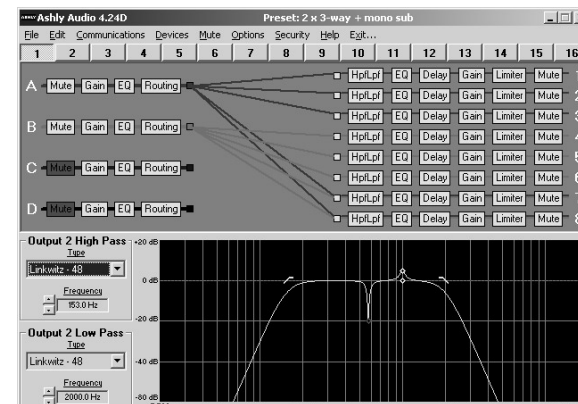
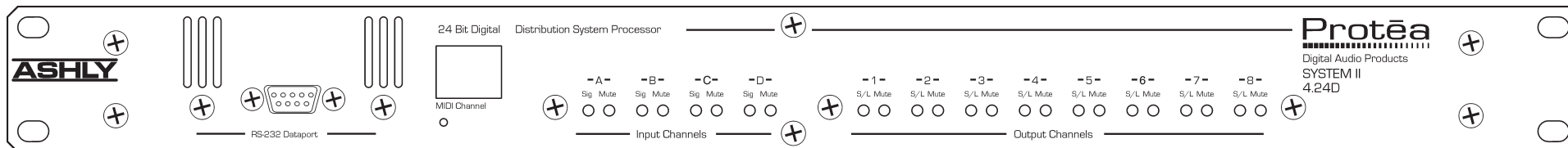




Protea System II 4.24D Digital Distribution Processor

Technical Notes & Specifications



Architects Specifications

Protea System II 4.24D

The programmable digital distribution processor shall consist of four inputs and eight outputs with the ability to assign any input to any output. Each input channel shall include: a routing stage allowing the user to assign the input to any or a combination of output(s), a gain stage capable of +12dB boost and -40dB cut; six filter stages configurable to be a parametric filter with a frequency range of 19.7Hz to 21.9KHz, 1/24th octave step and a +15dB boost, -40dB cut, or a 6 or 12dB/octave high or low shelf filter. Each output channel shall include: a high pass/ low pass crossover filter stage with selectable slopes of 12, 18, 24 and 48dB per octave using Linkwitz-Riley, Bessel or Butterworth filter configurations; four filter stages configurable to be a parametric filter with a frequency range of (Off) and 19.7Hz to 21.9KHz, 1/24th octave step and a +15dB boost, -40dB cut, or a 6 or 12dB/octave high or low shelf filter; a delay stage with a maximum delay of 682.54ms; a gain stage capable of +12dB boost and -40dB cut and the ability to invert the phase; a full function compressor/limiter with a threshold range of -20dBu to +20dBu. Each input and output shall have individual mute capability. The programmable digital distribution processor shall

have a maximum in/out level of +20dBu. Frequency response shall be ± 0.25 dB 20Hz to 20kHz. Dynamic Range shall be greater than 110dB (20-20KHz, unweighted) and SMPTE intermodulation distortion or THD shall be less than 0.01% at 1KHz, +20dBu. Input impedance shall be 18K ohms active balanced. Output impedance shall be active balanced, 112 ohms. Inputs and outputs shall be balanced type on euroblock connectors. LED indicators shall show signal present, limiter threshold, clip and mute conditions. Full programming and control of the unit shall be from the front or rear panel accessible RS-232 serial port using Ashly Protea System Software, or via MIDI. There shall be 30 factory presets that may be overwritten by the user and stored. External recall of up to eight scenes via contact closure shall be accessible through a euroblock connector. There shall also be a four levels of password protected security lockout. The programmable digital crossover shall weigh 9.0 lbs net and mount in a standard 19" rack using 1 space (1.75" high). The power requirement shall be 80-260VAC, 50-60Hz, 30W. The unit shall be an Ashly Audio Protea System II 4.24D Digital Distribution Processor.

Features:

- One Rack Space
- Four Inputs - Eight Outputs
- Inputs Assignable to Any Output
- Crossover, EQ, Delay and Limiter Functions
- Linkwitz-Riley, Bessel and Butterworth Filters
- 12, 18, 24 and 48dB/Octave Slopes
- Parametric EQ: Full Bandwidth, 1/64th to 4 Octave Range
- 682.54ms Output Delay
- Limiter on Each Output
- Programmable by PC or MIDI
- Individual Input and Output Signal Present/Limiter Threshold/Clip LEDs
- Balanced Inputs and Outputs
- Euroblock Audio Connections
- Contact Closure for External Recall of 8 Scenes
- Password Protected System Security
- Five Year Warranty

General Specifications Protea System II 4.24D

INPUT: Active Balanced, 18 Kohms
MAX. INPUT LEVEL: +20 dBu
OUTPUT: Active Balanced, 100 ohms
MAX. OUTPUT LEVEL: +20 dBu
FREQUENCY RESPONSE: 20 Hz-20KHz, ± 0.25 dB
THD: <0.01% @1 KHz, +20 dBu
DYNAMIC RANGE: >110 dB (20 Hz-20 kHz) unweighted
OUTPUT NOISE: <-90 dBu unweighted

EQ FILTERS:

NUMBER: 6 per Input, 4 per Output
Selectable As:
PARAMETRIC
BANDWIDTH: 1/64th Octave to 4 Octave
RANGE: +15/-30dB, 0.1 dB increments
RESOLUTION: 1/24th Octave
HIGH-SHELF
SLOPE: Selectable 6 or 12dB/Octave (1 High Shelf, 2 High Shelf)
FREQUENCY RANGE: 19.7Hz to 2KHz
RANGE: +/-15dB, 0.1dB increments
LOW-SHELF
SLOPE: Selectable 6 or 12dB/Octave (1 Low Shelf, 2 Low Shelf)
FREQUENCY RANGE: 3.1886KHz to 20.1587KHz
RANGE: +/-15 dB, 0.1dB increments

CROSSOVER FILTERS:

HIGH PASS FILTER
TYPE: Linkwitz-Riley, Bessel, Butterworth
SLOPE: 12, 18, 24 and 48dB/Octave
FREQUENCY RANGE: Off to 21.983.3KHz, 1/24 Octave
LOW PASS FILTER
TYPE: Linkwitz-Riley, Bessel, Butterworth
SLOPE: 12, 18, 24 and 48dB/Octave
FREQUENCY RANGE: Off to 21.983.3KHz, 245 step increments

DELAY:

OutPUt MAXIMUM DELAY: 682.5ms
INCREMENT: 20 μ s
INPUT and OUTPUT GAIN:
RANGE: +12/-40dB, 0.1dB increments

POLARITY

0 or 180 degrees (selectable in the Output Gain Stage)

COMPRESSOR/LIMITER:

THRESHOLD: -20dBu to +20 dBu, 1.0dB increments
RATIO: 1.2 :1 to Infinity (1.2, 1.5, 2., 3, 4, 6, 10, 20, Infinite:1)
ATTACK: 0.5 ms to 50 ms per dB
RELEASE: 10 ms to 1 sec. per dB

PROCESSOR:

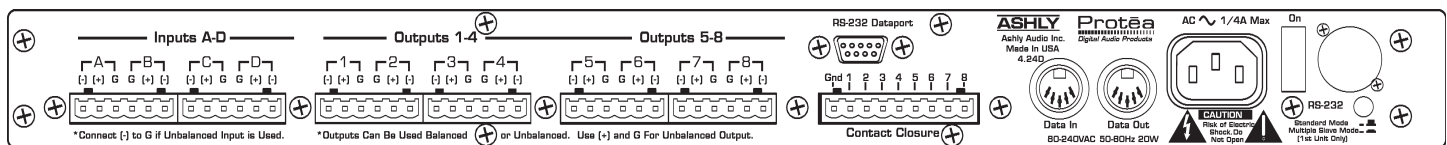
INPUT A TO D: 24 bit
OUTPUT D TO A: 24 bit
PROCESSOR: 24 bit, 56 bit accumulator
SAMPLE RATE: 48 kHz
PROPAGATION DELAY: 1.46 ms

OTHER:

SIGNAL AND CLIP LEDs: Inputs: -20/Mute, -10, 0, +10, Clip (dBu or VU)
 Outputs: -20/Mute, -10, 0, Limit, Threshold, Clip (dBu or VU)
RS232 CABLE DISTANCE: 1300ft (Max)
MIDI CABLE DISTANCE: 500ft (Max)
POWER REQUIREMENTS: 80 - 260VAC, 30W max
SHIPPING WEIGHT: 10lbs
DIMENSIONS: 19.0"L x 1.75"H x 6.0"D
I/O CONNECTORS: Euroblock
ENVIRONMENTAL: 40-120 deg. F, noncondensing

Notes: 0dBu = 0.775V RMS

Rear Panel Protea System II 4.24D



Applications:

Distributed Sound, Sound Masking, Multi-Room Installations for Lobby or Under Balcony Speaker Management, FOH Speaker Management, Delay Towers and Side Fills, Monitor Systems (wedge and in-ear) Tuning and Protection

Misc:

Protea System Software for PC control of the Protea 4.24D 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, XP and NT 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.

Ashly Audio Inc., 847 Holt Road, Webster, NY 14580-9103, Toll Free (800) 828-6308, Telephone (585) 872-0010, FAX (585) 872-0739
 Internet: <http://www.ashly.com>, email: info@ashly.com