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3.6SP
4.8SP



PROTEA™ SYSTEM PROCESSORS

24-BIT DIGITAL PROCESSING W/ PROTEA™ DSP

The **3.6SP** is a 3-input by 6-output system processor; the **4.8SP** is the 4-in by 8-out model. With active front panel controls, SP's are at home in a dynamic, live sound environment. The USB inputs (front and rear panel) provide set-up via *Protea™ Software*, making SP's a great choice for permanent installations.

A backlit 2 x 20-character LCD displays channel and function settings. Dedicated front panel controls provide access to all audio functions and system tools. There is a rear panel RS-232 port in addition to the USB ports.

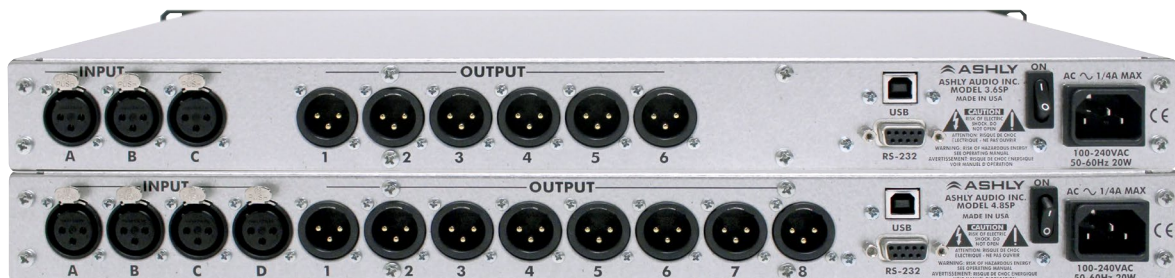
Advantages of using the software include greater preset capacity, and a very intuitive visual representation of the audio routing and control process. A 6-foot (1.8m) USB-A to USB-B cable is provided.

3.6SP & 4.8SP Features:

- Front Panel Parameter Control
- Single rack space with XLR audio connections
- Extremely intuitive user interface
- Crossover, EQ, delay and limiter functions
- Outputs assignable to any input
- Front panel or PC programming and control with 4 levels of security
- USB and RS-232 interface
- Third-party control friendly
- Balanced inputs and outputs
- Linkwitz-Riley, Bessel and Butterworth filters
- 12, 18, 24 and 48dB/octave slopes
- Parametric EQ: 1/64th to 4 octave range
- 682ms input and output delay (1,364ms total)
- Limiter on each output
- Individual input and output metering
- Safety/Compliance: CE, FCC, RoHS

Specifications		Note: $0dBu = 0.775 VRMS$
Input	Active Balanced, 18k Ohms	
Input Level	+20dBu (Max)	
Input Gain Range	-40dB~+12dB	
Output	Active Balanced, 112 Ohms	
Output Level	+20dBu (Max)	
Output Gain Range	-40dB~+12dB	
<i>Weights, Dimensions & Power</i>		
Unit Weight	SP3.6: 7lbs (9.54kg) SP4.8: 7.3lbs (3.3kg)	
Shipping Weight	SP3.6 / SP4.8: 10lbs (5kg)	
Environmental	40°F~120°F (4°C~49°C) noncondensing	
Dimensions	19" L x 1.75" H x 8.5" D (483mm x 89mm x 216mm)	
AC Requirements	Universal Power Supply, 100~240VAC, 50/60Hz, 20W	
<i>Equalizer</i>		
EQ Filter Types	1st or 2nd Order High or Low Shelf, Parametric	
Shelving Filter Boost/Cut Range	±15dB	
Shelving Filter Frequency Range	Low Shelf: 19.7Hz~2kHz, High Shelf: 3.8kHz~21.9kHz	
Parametric Filter Boost/Cut Range	+15dB/-30dB	
Parametric Filter Frequency Range	19.7Hz~21.9kHz, 1/24 Octave Steps	
Parametric Filter Bandwidth	Four Octaves to 1/64 Octave	

<i>Delay</i>	
Input/Output Delay	0~682ms
<i>Crossover</i>	
HPF/LPF Frequency Range	19.7Hz~21.9kHz, Off
Available Filter Types	12dB/Oct Butterworth 12dB/Oct Bessel 12dB/Oct Linkwitz-Riley 18dB/Oct Bessel 18dB/Oct Linkwitz-Riley 24dB/Oct Butterworth 24dB/Oct Bessel 24dB/Oct Linkwitz-Riley 48dB/Oct Butterworth 48dB/Oct Bessel 48dB/Oct Linkwitz-Riley
<i>Limiter</i>	
Threshold Range	-20dBu~+20dBu
Ratio Range	1.2:1 to ∞:1
Attack Time Range	0.5ms~50ms
Release Time Range	10ms~1Sec
Frequency Response	20Hz~20kHz, ±0.25dB
THD	<0.01% @ 1kHz, +20dBu
Dynamic Range	>110dB, 20Hz~20kHz unweighted
Audio Sampling Rate	48kHz
Propagation Delay	1.46ms
<i>Signal LEDs (dBu or VU)</i>	
Inputs	-20/Mute, -10, 0, +10, Clip
Outputs	-20/Mute, -10, 0, Limit Threshold, Clip





PROTEA™ SYSTEM PROCESSORS

ARCHITECT & ENGINEERING SPECS

Protea System Processor (3.6)

The system processor shall consist of three inputs and six outputs. It shall utilize 48-bit double-precision fixed-point DSP filtering with 24 bit, 48kHz, 128x oversampling delta-sigma A/D and D/A converters. Digital processing includes Gain, Parametric EQ, Shelving Filters, Time Delay, Crossover Functions, Compression, Limiting, and Matrix Routing. All inputs and outputs are RFI-protected precision balanced on XLR connectors. The processor shall have a front panel interface that allows quick access to all control parameters by offering dedicated function buttons, eliminating the need for hidden sub-menus. The front panel shall have a large white-backlit LCD text display for easy viewing. Front panel LED meter bars shall also be provided on all inputs and outputs. A USB port shall be provided on the front and rear panels for even faster set-ups and stronger visualization of input/output routing, EQ, and filter curves using freely available control software. The back panel shall also provide an RS-232 data port for control and monitoring. The digital processor shall be capable of storing up to 30 preset file "snapshots". It shall include four security modes; Off, Preset Lock, Parameter Lock, and Full Lockout. When connected to a PC via the USB port, security settings made on the unit are read and used within the software security section. The DSP processor shall mount in a standard 19" rack using 1 space (1.75" high).

The system processor shall be an Ashly model Protea **3.6SP**

Protea System Processor (4.8)

The system processor shall consist of four inputs and eight outputs. It shall utilize 48-bit double-precision fixed-point DSP filtering with 24 bit, 48kHz, 128x oversampling delta-sigma A/D and D/A converters. Digital processing includes Gain, Parametric EQ, Shelving Filters, Time Delay, Crossover Functions, Compression, Limiting, and Matrix Routing. All inputs and outputs are RFI-protected precision balanced on XLR connectors. The processor shall have a front panel interface that allows quick access to all control parameters by offering dedicated function buttons, eliminating the need for hidden sub-menus. The front panel shall have a large white-backlit LCD text display for easy viewing. Front panel LED meter bars shall also be provided on all inputs and outputs. A USB port shall be provided on the front and rear panels for even faster set-ups and stronger visualization of input/output routing, EQ, and filter curves using freely available control software. The back panel shall also provide an RS-232 data port for control and monitoring. The digital processor shall be capable of storing up to 30 preset file "snapshots". It shall include four security modes; Off, Preset Lock, Parameter Lock, and Full Lockout. When connected to a PC via the USB port, security settings made on the unit are read and used within the software security section. The DSP processor shall mount in a standard 19" rack using 1 space (1.75" high).

The system processor shall be an Ashly model Protea **4.8SP**

