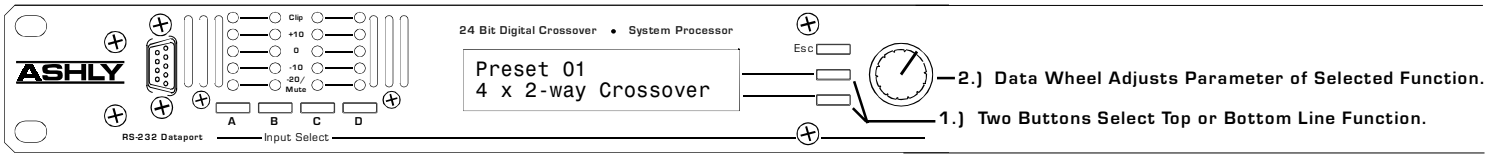
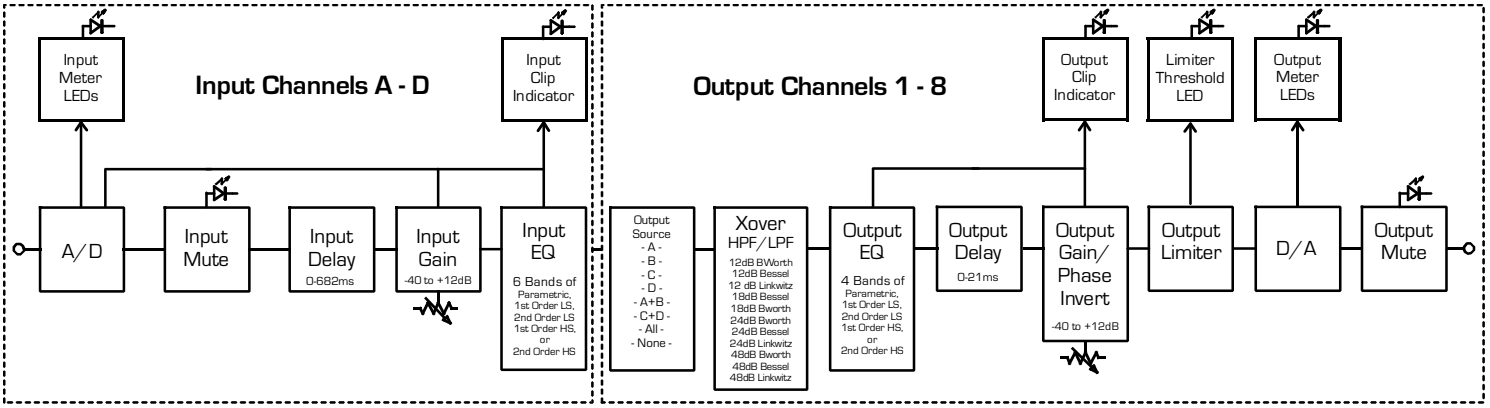
# 4.24C Quick Reference Guide




**Input** . . . . . Active Balanced, 18KΩ
**Max. Input Level** . . . . . +20dBu
**Input Gain Range** . . . . . -40dB to +12dB

**Output** . . . . . Active Balanced, 112Ω
**Max. Output Level** . . . . . +20dBu
**Output Gain Range** . . . . . -40dB to +12dB

**EQ**
**EQ Filter Types** . . . . . 1st or 2nd Order High or Low Shelf, Parametric
**Shelving Filter Gain Range** . . . . ±15dB
**Shelving Filter Freq. Range** . . . Low Shelf 19.7Hz to 2kHz, High - 3.8kHz to 21.9kHz

**Parametric Filter Gain Range** . . +15dB/-30dB
**Parametric Filter Freq. Range** . 19.7Hz to 21.9kHz, 1/24 Octave Steps
**Parametric Filter Bandwidth** . . Four Octaves to 1/64 Octave

**Input Delay** . . . . . 0-682 milliseconds
**Output Delay** . . . . . 0-21.3 milliseconds
**Crossover**
**HPF and LPF Frequency Range** 19.7Hz to 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

**Limiter**
**Threshold Range** . . . . . -20dBu to +20 dBu
**Ratio Range** . . . . . 1.2:1 to INF:1
**Attack Time Range** . . . . . 0.5ms to 50ms
**Release Time Range** . . . . . 10ms to 1 Second

**Propogation Delay** . . . . . 1.46ms
**Max RS232 Cable Distance** . . . Up to 1300 ft (using high qualtiy cable)
**Max MIDI Cable Distance** . . . . . Up to 500 ft (using high quality cable)
**AC Requirements** . . . . . Universal Power Supply, 80-260VAC, 50/60Hz

(See Troubleshooting Tips On Back)

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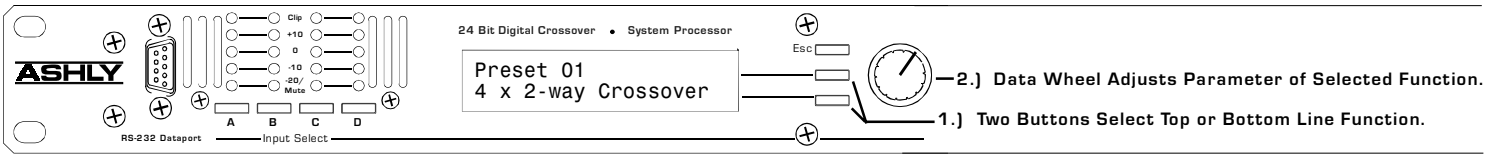


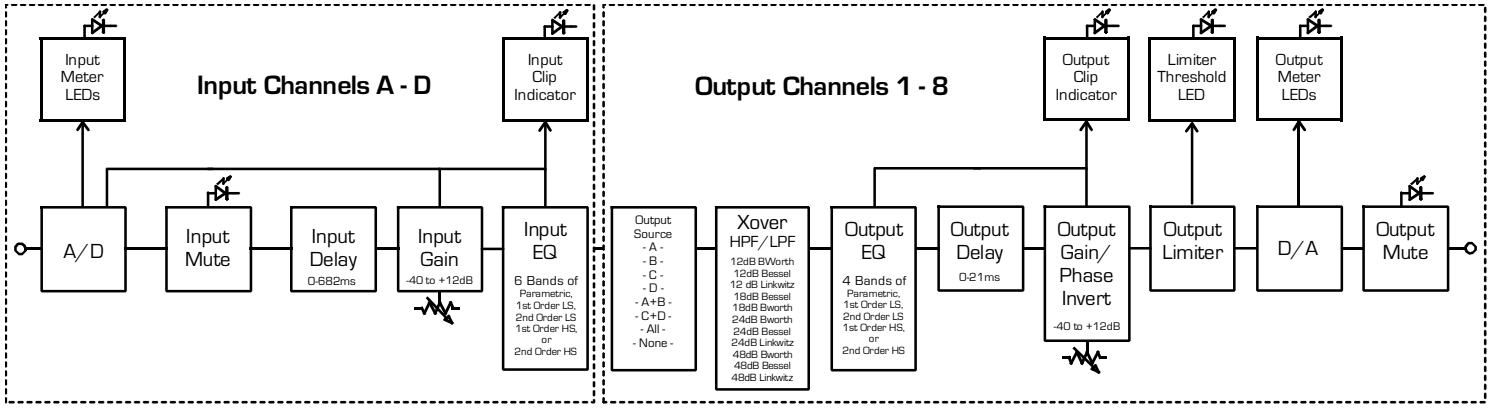


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(See Troubleshooting Tips On Back)

R2

## 4.24C TROUBLESHOOTING TIPS

### 7.1 - Audio Troubleshooting Tips

**No power** - Is the detachable AC cord fully plugged in? Is the rear panel power switch on?

**Controls don't work** - check the Security Level. If set to Full Lockout, then Protea unit is "view only". Change security settings in Util menu.

**No sound** - Check to see if the input or output is muted. Is the input or output Gain turned down? Check the selected audio source(s) for each output, making sure there is signal applied to the designated input(s). If the crossover is used, make sure the high pass filter (HPF) is set to a lower frequency than the low pass filter (LPF).

**Clip light stays on** - Is the input signal level too high? Check to see that the nominal input level is 0dBu, allowing 20dB of input headroom. Are input or output gain settings too high? Check to see if an EQ filter has too much boost.

**Distorted sound but no Clip LED**- Check individual EQ filters to see if there is excessive boost.

**Muffled sound** - If expecting full range audio on an output, make sure the crossover settings are not inadvertently set so as to limit the pass band.

**Excessive Noise** - An input signal level or an input gain setting that is too low could require the loss to be made up for at the output gain stage, producing more noise than a properly set up gain structure. Do not use the 4.24C for dramatic increases in level, but rather optimize the signal source for a nominal 0dBu output.

**Forgot the password** - See section 4.7e of Manual

### 7.2 RS-232/MIDI Troubleshooting Tips

1. Test all data cables. Use standard MIDI cables and RS232 data cables with all conductors wired straight through. Monitor cables and Null Modem cables use non-standard wiring schemes, they will not work with a Protea. See section 5.2 and 5.3 if using custom wiring.

2. Use a valid PC serial port. You must use a serial port that is not opened to any other application, such as a mouse, modem, or another program. To verify that the port exists look in: Control Panel - System - Device Manager - Ports. While you're there, make sure that the port has no warnings or conflicts. There is no need to change the port settings because Protea System Software will do this automatically. Finally, you must select the valid port in Protea System Software. This is done under the Communications heading - Com Port Assignment.

3. Make sure that the RS-232 mode switch, located on the back of 4.24C, is in the "out" position. There is just one exception to this rule: the RS-232 mode switch gets pushed in only when both the RS232 Dataport is connected to a PC, *and* the 4.24C is part of several Protea products in a MIDI chain.

4. Make sure the MIDI channel selected within the 4.24C (Util menu) matches the MIDI channel chosen for the crossover section of Protea System Software, and make sure that no other devices use that MIDI channel.


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