BNC-Panel-16-TTL
User Manual

**Used to mate TTL signals on BNC Connectors to the Digital Lynx
SX Mother Board, Digital Lynx Control Board, and DIO-24 Card.**

Revision **1.0**
12/5/2011

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List of Figures and Tables

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Document Revision History

4/19/2011   Rev 1.0   Initial Creation

1 Document Overview
This document will describe the use of the BNC-Panel-16-TTL.

2 16 BNC Patch Panel Overview
The BNC-Panel-16-TTL is a rack mount panel with 16 open female BNC connectors. This panel is intended to be used as a TTL input or output panel. Each TTL signal is routed to a single 34 pin connector. With a 34 pin ribbon cable the 16 BNC Patch Panel TTL mates directly with the Digital Lynx Control Board and the Digital Lynx Mother Board. A special cable can be made for mating with the DB-37 pin connector on the DIO-24 card.

3 Glossary
TTL – Transistor Transistor Logic.
Control Board – The Control Board is the right most board in a Digital Lynx and has 16 TTL Inputs available.
Mother Board – The Mother Board is the right most board in a Digital Lynx and has 32 TTL Inputs OR Outputs available.
DIO-24 Card – 24 Bit TTL I/O Card. Typically used in a Neuralynx Analog Acquisition System.
Acquisition System – Term referring to a Digital Lynx or a Lynx-8 Analog System.

4 Hardware Overview

4.1 Front of Panel
A picture of the front of the patch panel is shown in Figure 4-1. Notice the BNC connectors and their corresponding channels.

Figure 4-1

Channel 1 corresponds to the left most BNC connector

4.2 Back of Panel
There are four different sections on the back of the patch panel that will be discussed.

4.2.1 Section #1: Component Sockets DIP1, DIP2, DIP3, and DIP4

These sockets are used to attenuate an input signal. This is accomplished using a resistor divider as shown in Figure 4-2 or each channel.

Figure 4-2 Resistor Divider

The TTL version of this panel has a small resistor network(<50Ω) installed at DIP1 and DIP2 and DIP3 and DIP4 are left empty. This allows the signal to pass through the board to the output connector unaltered.

4.2.2 Section #2: Header Pin Blocks TP1 and TP2

TP1 and TP2 each have eight of the 16 BNC shields routed to them. TP1 contains the shields of channels 1 through 8, and TP2 contains the shields of channels 9 through 16. Refer to Figure 4-3.
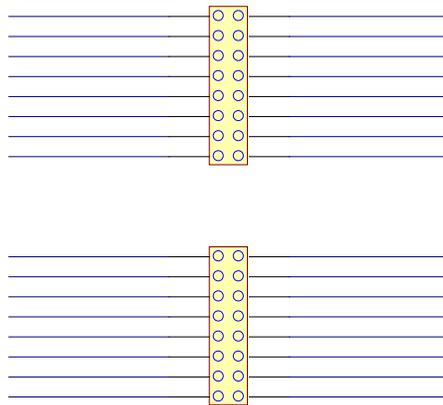

Figure 4-3 TP1 and TP2 Jumper Blocks

The bottom row of TP1 and TP2 is grounded. By placing jumpers vertically in these locations the shields of each BNC connector can be grounded. Typically these jumpers are installed when using the TTL version of this panel.

4.2.3 Section #3: Header Pin Blocks TP3 and TP4

TP3 and TP4 control the differential signal (reference) of each channel. These blocks are not used in the TTL version of the patch panel.

4.2.4 Section #4: Output Connector

JOUT2 is a 34 pin connector that matches the pinout of the TTL connectors on the Digital Lynx Control Board and the Digital Lynx Mother Board. The pinout is shown in Figure 4-4.
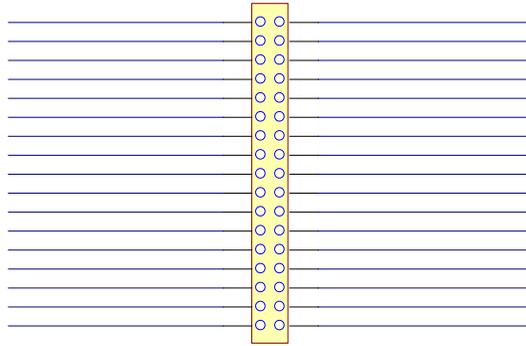
Figure 4-4 34 Pin Connector Pinout

Only a 34 pin ribbon cable is needed to mate these products. JOUT1 is used in the BNC-Panel-32-Input version of the patch panel.

5 Installation

5.1 Rack Mounting

The BNC-Panel-16-TTL is intended to be mounted on a rack just like an ERP-27 or Lynx-8 Amplifier. Hold the patch panel level against the rack and insert screws into the top two holes of the metal plate. Two screws will adequately hold the patch panel in place, but it is recommended that four be used.