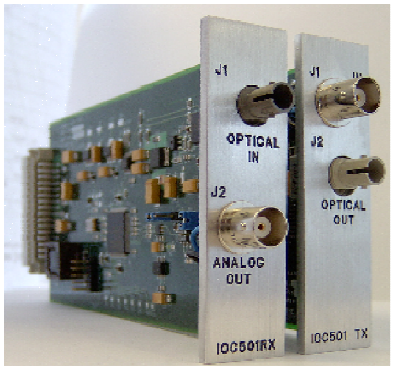
APOGEE LABS

IOC501
FIBER OPTIC ANALOG SIGNAL TRANSMIT / RECEIVE MODULES



FEATURES

- DC to 100 KHz analog input / output
- IRIG time code compatible
- ST multi-mode or SC single mode fiber connection
- BNC connectors
- Jumper selectable impedance
- DC isolated link
- AC or DC input coupling
- Less than 6us signal latency with 3 meter optical cable
- Remote status via Ethernet

OVERVIEW

The IOC501TX and IOC501RX Pluggable Interface Modules (PIM) provide the ability to transfer electrical signals over optical cables. These modules are used to provide a DC isolated data link over a medium length (up to a few miles) data path and reduce radiated emissions. The IOC501TX transmitter module accepts analog data in the frequency range of DC to 100 KHz and converts it to an optical signal for transmission over multi-mode or single-mode fiber cable. The IOC501RX receiver module accepts the optical signal from the transmitter and converts the optical signal back to analog. The IOC501TX input signal can be strapped for AC or DC coupled input signals. DC level inputs can be strapped for 10 Vp-p bipolar, 10 Vp-p unipolar, 5 Vp-p bipolar and 5 Vp-p unipolar operations. The AC coupled inputs are set for a maximum input level of 1 Vrms. The IOC501RX module contains jumper selections for unipolar or bipolar output range. The IOC501 modules use industry standard BNC connectors for analog signals, ST or SC connectors for optical signals, depending on the type of fiber, and require 1 of the 14 available slots in the 2073 chassis or individually installed in the 2073-S chassis. LED front panel indicators provide status of the IOC501 modules function. The A LED on the IOC501TX will be lit when the module receives power. The A LED on the IOC501RX will be lit when connected to a properly operating IOC501TX module. If using the AL2873 chassis, status can also be obtained using the chassis front panel or via the Ethernet port.

CONFIGURATION TABLES

IOC501TX Input Termination Jumper

Value	JP1
75 Ohm	1-2
600 Ohm	2-3
10 k Ohm	OPEN ALL (Note: Not to be used when AC coupled input is selected)

IOC501TX Input Range Jumpers

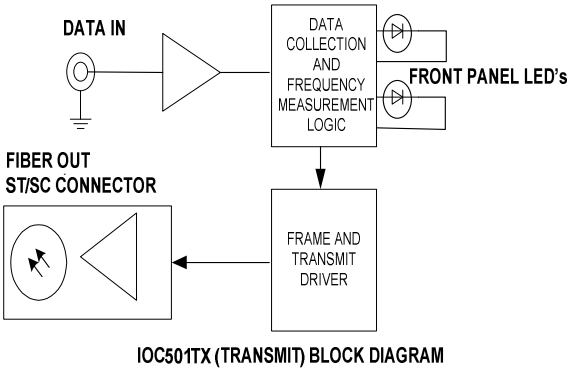
Input Range	JP2	JP3	JP4
AC Coupled	3-4	3-4	1-2
-10V - +10V	5-6	5-6	1-2
0 - +10V	7-8	7-8	2-3
-5V- +5V	7-8	7-8	1-2
0 - +5V	9-10	9-10	2-3

IOC501RX Output Range Jumpers

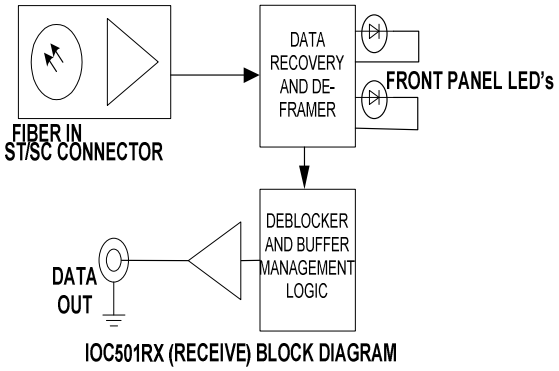
Output Range	JP1	JP2
AC Coupled (Bipolar)	1-2	1-2
-10V - +10V	1-2	2-3
0 - +10V	2-3	2-3
-5V - +5V	1-2	1-2
0 - +5V	2-3	1-2

IOC501TX and IOC501RX JTAG Port
JH1 – Factory Set

BLOCK DIAGRAMS



IOC501TX (TRANSMIT) BLOCK DIAGRAM



IOC501RX (RECEIVE) BLOCK DIAGRAM

SPECIFICATIONS

GENERAL
Model 2073 Pluggable Interface Module
Multi-mode or Single-mode fiber
Single slot module (3" x 6" x 0.9")
Status via Ethernet

ELECTRICAL I/O TYPE
Analog on BNC connector
DC to 100 KHz bandwidth
DC to 10Vp-p level
AC or DC coupled

ELECTRICAL SIGNAL OUTPUT
Analog on BNC connector
DC to 100 KHz
High current

OPTICAL SIGNAL I/O
ST—Multi-mode (820 nm wavelength)
SC—Single-mode (1310 nm wavelength)

APPLICATION INFORMATION

The IOC501 is used to distribute data across long lengths (several miles) of fiber cable. It utilizes industry standards for both the electrical and optical signal interfaces.

These modules can be plugged into Apogee Models:
2873: *Data Acquisition Mux/Demux*
2073-S: *Single Module Chassis*