APOGEE LABS

IOC502
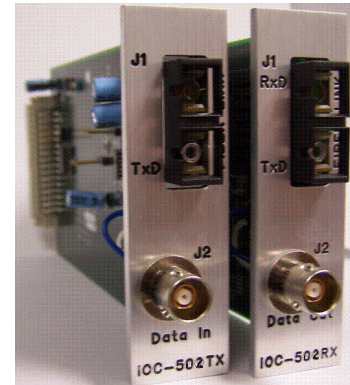## FIBER OPTIC ASYNCHRONOUS SIGNAL TRANSMIT / RECEIVE MODULES

Sample Picture

FEATURES

- 100 to 100Kbaud input / output
- ST multi-mode or SC single mode fiber connection
- Standard DB-9 signal connector
- Jumper selectable input impedance
- DC isolated link
- Selectable I/O type (TTL, RS-232, RS-422)
- Less than 6us signal latency with 3 meter optical cable
- Remote status via the AL2873 and APEX

OVERVIEW

The IOC502TX and IOC502RX 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, a medium length (up to a few miles) data path, and reduce radiated emissions. The IOC502TX transmitter module accepts data in the frequency range of 100 to 100Kbaud and converts it to an optical signal for transmission over fiber cable. The IOC502RX receiver module accepts the optical signal from the transmitter and converts the optical signal back to the original signal type and data rate. The IOC502TX/RX modules can be configured to receive and transmit either RS-232, TTL, or RS-422 asynchronous data streams. The fiber optic interface can be ordered as ST multi mode or SC single mode. The IOC502 modules 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 IOC502 modules function. The A LED on the IOC502TX will be lit when the module receives power. The A LED on the IOC502RX will be lit when connected to a properly operating IOC502TX module. If using the AL2873 chassis, status can also be obtained using the chassis front panel or via the Ethernet port using Apogee Lab's APEX software package.

Table 1 shows J1 user interface pin out. Table 2 shows the strapping of JP1 for the various input and output combinations. If desired the modules can be strapped to output a different protocol than is input, for instance, TTL can be selected on the TX module while RS422 can be selected on the RX module.

CONFIGURATION TABLES

J1 - DB9P I/O Interface Connector (TX and RX Module)

Pin	Signal
1	Open
2	TTL, RS-232, RS-422 +
3	OPEN
4	OPEN
5	GND/Signal Return
6	GND/Signal Return
7	RS422 –
8	OPEN
9	OPEN

Table 1

IOC502TX I/O Selection Jumper

JP1	I/O Selection
1-2	RS-422
3-4	RS-232
5-6	TTL

IOC502TX and IOC502RX JTAG Port JH1 – Factory Set

Table 2

BLOCK DIAGRAMS

IOC502TX (TRANSMIT) BLOCK DIAGRAM

IOC502RX (RECEIVE) BLOCK DIAGRAM
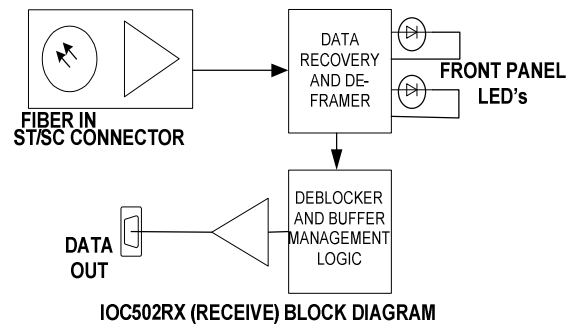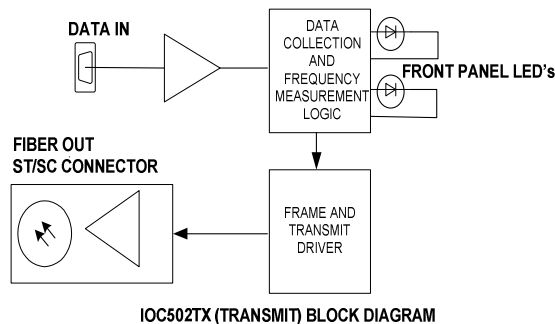
SPECIFICATIONS

GENERAL

Model 2073 Pluggable Interface Module

Multi-mode or Single-mode fiber

Status via AL2873 and APEX

ELECTRICAL I/O TYPE

TTL on a DB9 connector

RS232 on a DB9 connector

RS422 on a DB9 connector

100 to 100Kbaud

ELECTRICAL SIGNAL OUTPUT

100 to 100Kbaud

High current

OPTICAL SIGNAL I/O

ST—Multi-mode (820 nm wavelength)

APPLICATION INFORMATION

The IOC502 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.

This module can also be plugged into Apogee Models:

2873: *Data Acquisition Mux/Demux*

2073-S single module chassis

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