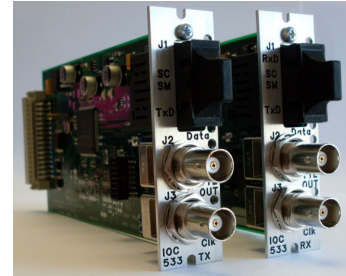




**IOC510
FIBEROPTIC
Multiplex Transport
PCM DATA/CLOCK and ANALOG**



IOC533 TX/RX Shown

FEATURES

- TTL data and clock input / output
- ANALOG Input
- 100 bps to 30 Mbps TTL data/clock rate
- DC to 10Mhz Analog rate
- Single fiber moves data and clock and analog signals
- DC isolated link
- Inputs illuminate front panel indicators (A and B LED)
- Remote control and status (2873 Chassis)
- Input/Output signal polarity control
- Built in test modes —PN 2-15
- Low latency
- Supports Daisy Chain Bus Functions

FUNCTIONAL OVERVIEW

The IOC510 Pluggable Interface Module (PIM) provides the ability to transfer electrical signals over optical cables. These modules are used to provide a DC isolated data link, provide a medium length (up to a several miles) data path, and reduce radiated emissions. The IOC510 functions in a simplex mode, it transmits in a fully isolated operation, TTL level serial synchronous data streams (data and clock) and Analog signal (NTSC) up to 10Mhz. The fiber optics are fully isolated between the receive and transmit sections. The optical receive module acts as an optical repeater for re-transmission of the received signal to another receiver module. The basic function of the IOC510TX is to convert Synchronous data and clock at TTL levels and a analog signal which are present at the BNC rear panel connectors into a one optical signal which is received. The optical signal is received by an IOC510RX which converts it back to TTL data and clock and Analog signals. The IOC510 uses industry standard DB-9 and SC connectors, operates from 100 bps to 30Mbps on TTL side and 10Mhz on analog side, and requires 2 of the 14 available slots in the AL2073 and AL2873 chassis.

CONFIGURATION

J2 PINOUT

- IOC510TX
 - J2—BNC TTL Data Input
 - J3—BNC TTL Clock Input
 - J4—BNC ANALOG Data Input
 - J1, TX —SC, Optical Output

Note: J1 includes two ports with the **BOTTOM** one labeled TX

- IOC510RX
 - J2—BNC TTL Data Output
 - J3—BNC TTL Clock Output
 - J4—BNC ANALOG Data Output
 - J1, RX—SC Optical Input

Note: J1 includes two ports with the **TOP** one labeled RX

J1, **BOTTOM**—SC, Optical Output

Note: J1 includes two ports with the **TOP** one labeled RX .
The **BOTTOM** port is not labeled but provides a repeated Optical output

J1 FIBER OPTIC I/O

- Standard SC 1x9 Optical Transceiver
 - RxD, Received Optics Input Signal
 - TxD, Transmitted Optics Output Signal
- -9 to -0dB Optical output power
- -23dB Optical Receive Sensitivity
- 1310nm Wavelength (CWDM OPTIONAL)

DAISY CHAIN BUS FUNCTION

Daisy Chain Input, Data and Clock from adjacent module.

2873 CONTROL

The IOC510 has local remote control setup and status via the AL2873 or AL6600 chassis.

Local/remote setup includes the following:

Data and Clock Input Polarity

Data and Clock Output Polarity

Input Data and Clock Source (Daisy Chain or DB9)

JUMPERS

- IOC510TX

INPUT TERMINATION SETTINGS

JP1, DATA INPUT 1-2 1KOHM, 2-3 75OHM, 3-4 50OHM

JP2, CLOCK INPUT 1-2 1KOHM, 2-3 75OHM, 3-4 50OHM

JP3, VIDEO INPUT FACTORY SET for 75 OHM

Note: Pin 1 is left most pin of all header

LED STATUS INDICATORS

- A and B Front Panel LED

OFF = NOT INPUTS, Optics or RS-422

B LED Flashing—Fiber Optic Input Detected

B LED Solid ON—Fiber Optic Input

w/ embedded RS-422 Data and Clock Detected

A LED Flashing—RS-422 Clock

Input Detected

A LED Solid On—RS-422 Clock and Data

Input Detected

2873 STATUS

The IOC510 has local/remote control setup and status via the AL2873 or AL6600 chassis.

Status

Fiber Link present

Data and Clock present on Fiber Link

Data Rate of Data and Clock on Fiber Link

Data and Clock input present

Data Rate of Input Data and Clock

SPECIFICATIONS

GENERAL

- DB9 connector
- SC fiber connectors
- Single slot (3" x 6" x 0.9")
- Single-mode
- Model AL2873 pluggable interface module (PIM)

ELECTRICAL SIGNAL INPUT

- RS-422
- 75Ω, 124Ω jumper selectable termination
- Single slot (3" x 6" x 0.9")
- Single-mode
- Model AL2073 pluggable interface module (PIM)

LINK LATENCY

The following represent the latency from input of the IOC510.

54 mS at 10 Kbps
5.4 mS at 100 Kbps
540 uS at 1 Mbps
100 uS at 5 Mbps
57 uS at 10 Mbps
39 uS at 15 Mbps
30 uS at 20 Mbps
21 uS at 30 Mbps

ELECTRICAL SIGNAL OUTPUT

- RS-422
- High current

OPTICAL SIGNAL I/O

- SC type connectors
- Single-mode
- 1300 nm wavelength

APPLICATION INFORMATION

The IOC510 is used to distribute data across long lengths (15km) of fiber cable. It utilizes industry standards for both the electrical and optical signal interfaces. The units are self adjusting to any data rate within its specified range. Setup of signal polarity is available on the front panel of the 2873 chassis or via jumpers JP3—JP6.

The AL2073 Chassis Front Panel LEDs which correspond to a specific IOC510 module offers a quick look status of the module's operation. When installed in the AL2873 chassis, RS-422 data/clock and Fiber status will be available on the front panel and via remote control port.

This module can also be plugged into Apogee Models:

AL2873

AL2073

AL2073-S

AL1073