



IOC590TX / IOC590RX DATA TRANSPORT RS-422 TO SINGLEMODE FIBER MODULES



FEATURES

IOC590TX

- RS-422 Input Level
- Input illuminates Quick Look LED on AL2073 chassis
- Input drives the Daisy Chain and Global Bus
- Jumper selectable signal polarity
- Single mode SC Fiber Output
- 1300nm Wavelength Optical Output
- 15 KM optical distance

IOC590RX

- Single mode SC Fiber Input
- RS-422 Output Level
- Input illuminates Quick Look LED on AL2073 Chassis
- Input drives the Daisy chain and Global Buses
- Jumper Selectable signal polarity control
- Functions as Optical Repeater

OPERATES OVER RANGE OF 1 Mbps—30 Mbps

OVERVIEW

The IOC590 Pluggable Interface Modules (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 15kilometers) data path and reduce radiated emissions. See Figure 1and Figure 2 for block diagram.

The IOC590TX/RX modules are designed to move a single RS-422 signal across single-mode fiber cable. The conversion is done without any processing providing a latency of less that 100nS using a 1 meter fiber optic cable. Data rates from 1Mbps to 30Mbps are possible through these modules.

The IOC590TX module accepts a RS-422 level input signal and converts it to a 1300nm optic output signal. It also drives the Daisy Chain and Global bus on the 2073 providing the capability to buffer the RS-422 input signal using an output module such as the IOC004. The optical output from the IOC590TX provides a link distance of up to 15 kilometers using 9/125um single-mode fiber cable. The optical mating connector is SC.

The IOC590RX module accepts the single-mode optical input signal from the IOC590TX module and converts it to a RS-422 level. It also drives the Daisy Chain and Global bus on the 2073 backplane providing the capability to buffer the RS-422 input signal using an output module such as the IOC004. The RX module also acts as an optical repeater which can drive the received optical signal to another IOC590RX module. The optical output from the IOC590 provides another link distance up to 15 kilometers using 9/125um single-mode fiber cable. The optical mating connector for the input and output optical signals is SC.

Front panel LEDs on the 2073 chassis provide quick look status of the IOC590 modules. The IOC590TX module will show a green LED A when an active RS-422 input signal is present. The IOC590RX will show both green LED A and B when it is receiving an optical signal with active data. The B LED is tied directly to the Optical receive signal present indicator and illuminates when there is an optical signal present.

Several jumpers are available on the IOC590 modules which set signal polarities and connect signals to the Global bus in the 2073 chassis. Jumper settings are detailed in Tables 1 and 2.

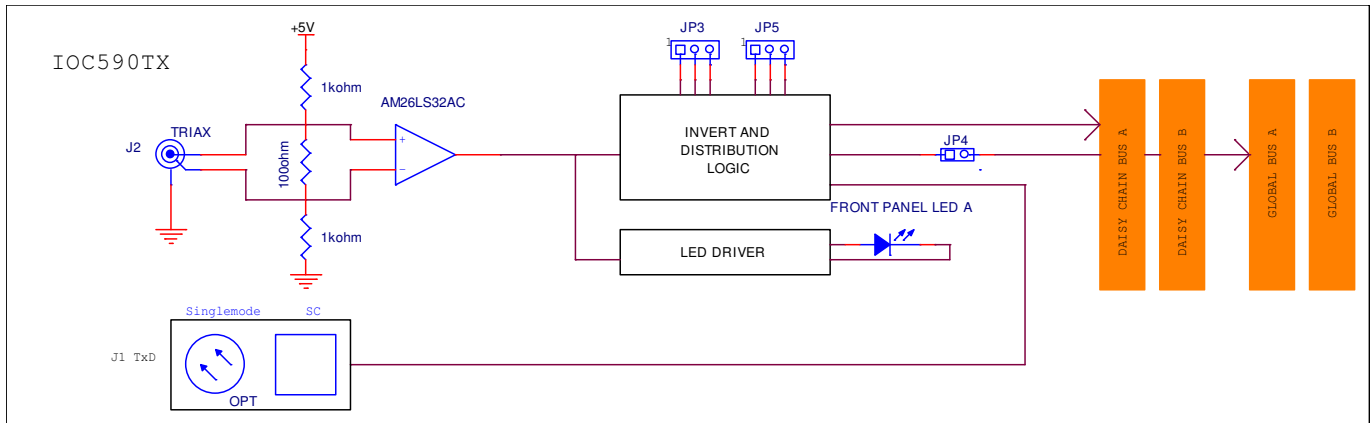


Figure 1: IOC590TX Block Diagram

Jumper	Description	Function
JP3	Optical Output Signal Polarity	1-2: NORMAL, 2-3 INVERT
JP5	Daisy Chain A Signal Polarity	1-2 INVERT, 2-3 NORMAL
JP4	Global Bus A	Short to Enable, Open Disable

Table 1: IOC590TX Jumper Settings

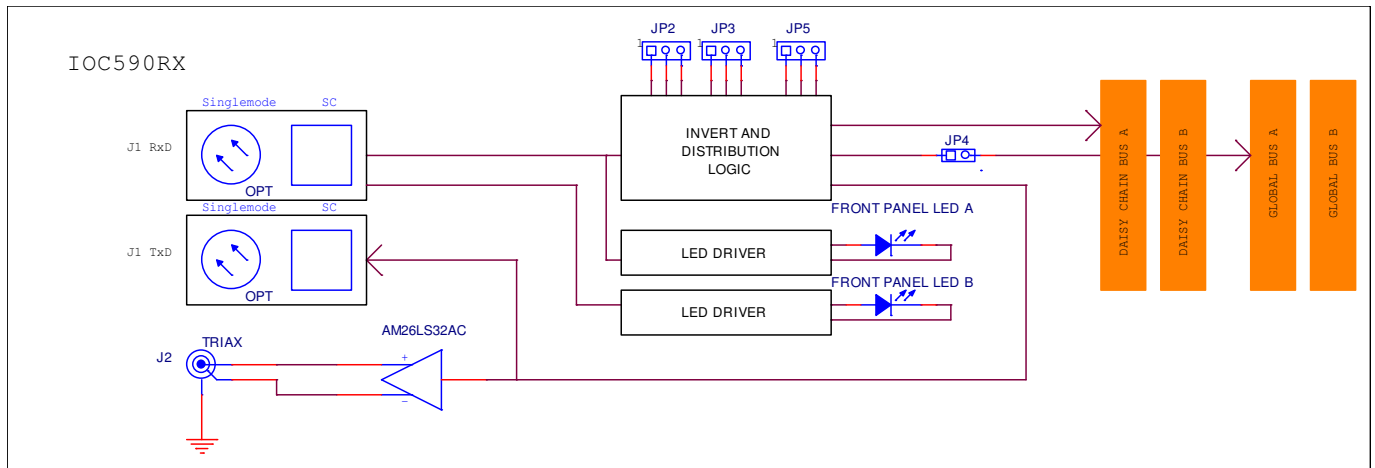


Figure 2: Model IOC590RX Block Diagrams

Jumper	Description	Function
JP2	RS-422 Output Signal Polarity	1-2: NORMAL, 2-3 INVERT
JP3	Optical Output Signal Polarity	1-2: NORMAL, 2-3 INVERT
JP5	Daisy Chain A Signal Polarity	1-2 INVERT, 2-3 NORMAL
JP4	Global Bus A	Short to Enable, Open Disable

Table 2: IOC590RX Jumper Settings

SPECIFICATIONS

GENERAL

1 conversion per card
RS-422 to Optics or Optics to RS-422/Optics
Requires one TX and one RX module for a single link
1Mbps to 35Mbps
Single Slot Modules (3" x 6" x 0.9")
Model 2073 Pluggable Interface Module

IOC590TX Input:

J2, RS-422 Triax Input

IOC590 TX Output:

J1 TxD Fiber Optic SC Output

IOC590RX Input

J1 RxD Fiber Optic SC Input

IOC590RX Output

J2 RS-422 Triax Output

J1 TxD Fiber Optic SC Output

APPLICATION INFORMATION

The IOC590TX/RX is used to convert/transmit a 422 level signal across a single-mode optical fiber at data rates from 1Mbps to 35Mbps.

The RX and TX modules provide buffering of the RS-422 signal across the 2073 Daisy Chain for signal duplication or conversion. The IOC590RX acts as an optical repeater providing additional signal distribution capabilities.

This module can also be plugged into Apogee Models:

2907 and 2908: Data Acquisition Mux/Demux

6801: 5 Channel BERT Operation

6804: Multi Channel Clock Recovery Unit

2873: Configurable Interface Unit