

823760 Optical High Speed Unit Features

The 823760 is an IMACS Optical High Speed Unit (OHSU) card, which complies with the new IEEE C37.94 standard for optical fiber interfaces between teleprotection and multiplexer equipment. This product is similar in architecture to the IMACS HSU data cards.

The IEEE C37.94 standard defines a fiber-optic plug interface that specifies clock recovery, jitter tolerances, physical connection method and equipment failure actions for all communication link failures. The optical interface eliminates EMI/RFI interference.

The OHSU has 2 ports, each with a pair of optical fiber connectors, and each can be configured to run at $N \times 64$ kbps, $N = 1$ to 12, for a throughput of up to 768 kbps. The ports connect to the IMACS backplane and can send the data to any remote location.

The data rate on the optical media is 2.048MHz, and framed as that of E1 (G.704), without signaling. As defined by C37.94, each port contains a maximum of 12 time slots of data.

An IMACS system can accept up to 8 OHSU cards for a total of 16 ports.

Optical Requirements

Optical fiber core size:	50um; 62.5um
Operational distance:	up to 2km.
Optical fiber connector:	BFOC/2.5 (ST)
Optical wavelength:	830 +/- 40nm
Optical output signal level:	< -11.0dBm, >-23.0dBm (50um fiber) or >-19.0dBm(62.5um fiber)
Optical input sensitivity:	< -11.0dBm, > -32.0dBm
Optical data sense:	light 'ON' for logic '1' bits.

Clock Requirements

Optical signal data rate:	2048 kbps
Normal XMT clock source:	from IMACS system source.
Normal RCV clock source:	form external equipment synchronized to the IMACS system source.
At fault RCV clock source:	from external equipment's internal source.
Jitter:	from IMACS system, +/- 50 nS. IMACS should tolerate +/- 100 nS.
Wander:	IMACS should tolerate round trip wander of +/- 250 nS.