



AM Fiber Optics AM Fiber Optic Transmitters



The Meret FybrNode™ Series of AM fiber optic transmitters are high performance laser transmitters capable of launching up to 80 AM-VSB television channels, plus future digital carriers in the 550 to 750 MHz frequency band, into a singlemode optical fiber. When coupled with the Meret FybrNode™ FR-1 receiver, FybrNode™ transmitters provide high quality transmission links with applications in broadband, CCTV, distance learning and cable television systems.

The Meret FybrNode™ optical transmitter incorporates up to two laser modules in one compact rackmount, 3.5" high chassis. The design of the chassis provides full compatibility with all Meret FybrNode™ optical transmitter laser modules. This allows systems to be designed with a mixture of transmitters (60 or 80 AM channels). Laser modules are plug-in and easily replaced or reconfigured on site.

Each laser module utilizes a high performance DFB laser, with an internal opto-isolator, operating at 1310 nm to convert VSB-AM modulated RF signals into light. The laser is incorporated in a module which includes a back facet photodetector, thermoelectric cooler, temperature sensor and fiber pigtail. An optoelectronic feedback loop maintains a constant optical output. The temperature of the laser is maintained at 20°C for long life and stability.

Input signals for each laser module are AGC controlled for optimum laser drive level. A rear panel switch is provided to allow operation in a manual gain mode.

The system includes the ability to monitor key operating parameters of each laser diode. Front panel displays provide immediate visual indication of the transmitter status. The status monitoring circuits can also be read remotely through a rear panel connection on the transmitter.

Model FybrNode™ Series

APPLICATIONS

- CATV
- CCTV
- Campus networks
- Surveillance
- Distance learning

FEATURES

- Up to 750 MHz bandwidth
- 80 AM channels
- 10 dB loss budget
- High performance 1310 nm DFB opto-isolated laser
- Choice of optical pigtail or optical connector
- Dual lasers in 3.5" rack space
- AGC or manual operation

BENEFITS

- Simplified operation
- Supports multiple locations
- Improved AM performance
- Choice of integration method
- Reduced space requirements
- Plug-and-play setup

Model FybrNode™ Series

The output of each transmitter module is coupled to its system fiber through an optical pigtail or optional precision optical connector. The optical connector provides optimum coupling with excellent return loss.

FybrNode™ is available with either a precision FC/APC connector or an SC connector.

Convenient laser on/off switches are located on the rear panel of the transmitter. The unit meets all applicable US government safety requirements.

Specifications

RF Input (Each Laser Module)

Bandwidth	50 - 750 MHz - FybrNode™ 60 50 - 750 MHz - FybrNode™ 80
Input Impedance	75 ohms, unbalanced
Connector	Type F
Return Loss	>16 dB, 50 - 750 MHz
Input Level	+30 dBmV, ±5 dB (50-750 MHz), all carriers equal level
AGC	±5 dB
RF Test Point	Front panel, type F connector, -20 dB below laser drive

Optical Output (Each Laser Module)

Wavelength	1310 nm
Avg. Output Power	+6 dBm minimum
Connection	Optical pigtail standard, or optional optical connector with less than 0.5 dB loss

Electrical/Mechanical

Power	115/230 VAC, 50/60 Hz, 40 W single/70 W dual, maximum
Operating Range	0 to +50°C.
Size	19"W x 3½"H x 14"D 483mmx89mmx355mm
Weight	12.5 lb. (5.7 kg)

Specifications are subject to change without notice

FybrNode™ System Performance

Channel Loading	80 AM channels, with FybrNode™ 80 Transmitter
Receiver type	FybrNode™ FR-1 Receiver
Path Length	10 dB
C/N Ratio	>50 dB
CTB	-63 dBc
XMod	-63 dBc
CSO	-60 dBc
RF Flatness	2 dB max

Channel Loading	60 AM channels with FybrNode™ 60 Transmitter
Receiver type	FybrNode™ FR-1 Receiver
Path Length	10 dB
C/N Ratio	>50 dB
CTB	-63 dBc
XMod	-63 dBc
CSO	-60 dBc
RF Flatness	2 dB max

Typical Configuration

FybrNode™ 80* ** Transmitter

* add "-D" to equip with dual laser modules

** add for choice of optical interface:

"-P" for three (3) meter pigtail

"-SL" for FC/APC connector

"-SC" for SC connector