



## THE ITX18U AND OTX18U SERIES OF UPSTREAM TRANSMITTERS

- **Provides return path to the headend for the upstream signals from cable modems**
- **Coherent pilot-tone locked operation and Pilot-Tone controlled AGC**
- **Accepts 5 to 42 MHz DOCSIS compatible upstream signals from standard coaxial cable plant**

### PRODUCT APPLICATION:

The ITX18U and OTX18U series of transmitters provides for the transmission of upstream data as part of a wireless return path, enabling cable operators to offer the same DOCSIS-compatible, high-speed internet connection to subscribers served through systems with wireless AML links as those served exclusively by HFC.

Cable systems using conventional downstream AML links can easily implement two-way capability without interrupting service on the existing system. These transmitters are typically installed at or near existing AML receive sites. The ITX18U is the indoor version, and the OTX18U is the outdoor version. They can be implemented for a single AML path or for multiple AML paths (from each existing AML receiver) to the headend.

These transmitters return to the headend the QPSK or 16 QAM modulated upstream signals from subscribers' cable modems using the 18 GHz band. They accept an input signal in the 5 to 42 MHz band directly from the two-way cable and they are powered from the conventional 60 VAC running on the coaxial cable plant.

The transmitters provide Pilot Tone functionality for coherent link operation, so that the signal at the output of the upstream receiver has exactly the same frequency as at the input, thus avoiding the potential loss of frequency lock at the headend's CMTS.

The transmitters also feature Pilot Tone controlled AGC (Automatic Gain Control) to ensure constant signal gain, as required by the bursty nature of the upstream traffic.

# Product Specification<sup>1</sup>



<b>Transmitter</b>			
Input Frequency:	5 to 42 MHz		
Nominal Input Level:	+20 dBmV (-29 dBm)		
Output Frequency <sup>2</sup> :	18,198 to 18,235 GHz		
Pilot Tone:	18,267.167 MHz		
Total Output Power for QPSK carriers:	ITX18U-000 OTX18U-000	ITX18U-001 OTX18U-001	ITX18U-002 OTX18U-002
Total Output Power for 16-QAM carriers:	22 dBm	25 dBm	28 dBm
Nominal Gain:	20 dBm	23 dBm	26 dBm
Power Consumption:	40 dB	43 dB	46 dB
Frequency Response:	100 VA RMS	150 VA RMS	175 VA RMS
Frequency Stability:	±1 dB		
Input Return Loss:	0.0005%		
Input Connector:	15 dB		
Output Return Loss:	Type "F"		
Output Connector:	18 dB		
Temperature Range:	WR-42 Waveguide		
Humidity:	-40° to 120°F ( -40° to 49°)		
Primary Power:	100% max.		
Weight (indoor units):	60/120/240/ VAC @ 50/60 Hz or 12/24 VDC (per customer specification)		
Weight (outdoor units):	30 lbs. (13.6 kg)		
Dimensions (indoor units):	50 lbs. (22.7 kg)		
Dimensions (outdoor units):	19"W x 7"H x 20"D (48.3cm W x 17.8cm H x 50.8cm D)		
	16"W x 13"H x 7"D (40.6cm W x 33cm H x 17.8cm D)		

<sup>1</sup> Specifications subject to change without prior notice.

<sup>2</sup> Other frequencies available.