



TRX18-002 TRANSCEIVERS

- ◆ **Extension of AML Downstream frequency range to 870 MHz**
- ◆ **2-Way Wireless DOCSIS Based Data Trunking**
- ◆ **Integrated two-way transceiver with coherent, Pilot-Tone based local oscillators**
- ◆ **Pilot-Tone driven ALC (Automatic Level Control)**
- ◆ **Indoor and Outdoor versions available**

PRODUCT APPLICATION:

The TRX18-002 Transceivers are two-way, wireless, point-to-point integrated transmitter/receiver pairs designed to extend the traditional CARS band AML downstream capacity from 552 MHz to 870 MHz *and* to simultaneously provide 2-way wireless DOCSIS-based “upstream” data trunking in 18 GHz band.

The Transceivers are the perfect choice for upgrading existing CARS band AML links to provide additional downstream channels and 2-way data service. They simultaneously transport both the downstream (forward) channels from 552 MHz to 870 MHz, and the upstream (return) channels from 5 MHz to 42 MHz.

A Transceiver pair consists of a local unit and a remote unit. The local transceiver (designated with an “L” following the model number) transmits the downstream (forward) signals and receives the upstream (return) signals. The remote unit (designated with an “R” following the model number) receives the downstream (forward) signals and

transmits the upstream (return) signals. When connected to dual-feed antennas and feed-lines, the TRX18-002 transceiver provides a reliable, 2-way radio link for the upgraded cable system operation.

All local oscillators are phase locked to a single high-quality frequency reference, so that the output signal has exactly the same frequency as the input. There is no frequency offset for either the downstream or the upstream signals. ALC functions are provided in both directions to ensure a stable signal level at the receiver output irrespective of rain fade or multipath.

As an add-on to an existing CARS band AML link, the TRX18-002 Transceiver expands the downstream frequency coverage to a full 54 to 870 MHz range, but operates independently of existing systems, thus allowing for perfect integration with legacy equipment.

The TRX18-002 series comes in indoor and outdoor mounted versions.

TRX18-002L (Local Unit)

Transmitter Section			
Input Signal Frequency:	552 to 870 MHz		
Input Level	+20 dBmV (-29 dBm) per channel		
Output Signal Frequency:	17,982 to 18,300 MHz		
Output Level (for 64 QAM: @ C/IM of 35 dB)	Channels	Power/Channel	C/N (6 MHz/Ch)
	12	11.8 dBm/Ch	66.4
	24	8.8 dBm/Ch	63.4
	36	7.1 dBm/Ch	61.7
	53	5.4 dBm/Ch	60.0
Nominal Gain ² :	34 dB		
Frequency Response:	±1.5 dB		
Receiver Section			
Input Signal Frequency:	17,703 to 17,766 MHz		
Noise Figure:	7 dB (Includes Diplexer Loss)		
Output Signal Frequency:	5 to 42		
Maximum Gain ³ :	45 dB		
Pilot-tone ALC Dynamic Range:	15 dB		
Frequency Response:	±1.5 dB		
Nominal Output Level:	20 dBmV		
Frequency Stability:	0.0005%		
IF Connector:	Type "F"		
RF Connectors:	WR-42 Waveguide Cover Flange		
Temperature Range:	60° to 100° F (16° to 38° C)		
Humidity:	99% max		
Primary Power:	Indoor Version ITRX18-002L	Outdoor Version OTRX18-002L	
	120/240 VAC, 50/60 Hz (per customer specification)	60/120/240 VAC, 50/60 Hz or 12/24 VDC (per customer specification)	
	175 VA RMS	150 VA RMS	
	30 lbs (13.6 kg)	50 lbs (22.7 kg)	
	19" W x 7" H x 20: D (48.3 W x 17.8 H x 50.8 D cm)	16" W x 13" H x 7: D (40.6 W x 33 H x 17.8 D cm)	
Power Consumption:			
Weight:			
Dimensions:			

¹ Specifications subject to change without prior notice.

² Transmitter gain may be varied with 10 dB attenuator.

³ Receiver actual gain is adjustable and can be automatically controlled by pilot-tone ALC.

TRX18-002R (Remote Unit)

Transmitter Section		
Input Signal Frequency:	5 to 42 MHz	
Pilot Frequency:	67.038461 MHz	
Input Level	+20 dBmV (-29 dBm) per channel	
Output Signal Frequency:	17,703 to 17,766 MHz	
Total Output Power	Modulation/Total Power	C/N (12 Ch Loading with 3.2 MHz/Ch)
	QPSK/19 dBm	60 dB
	16 QAM/17 dBm	58 dB
Nominal Gain ² :	40 dB	
Frequency Response:	±2.0 dB	
Receiver Section		
Input Signal Frequency:	17,982 to 18,300 MHz	
Noise Figure:	7 dB (Includes Diplexer Loss)	
Output Signal Frequency:	552 to 870 MHz	
Maximum Gain ³ :	45 dB	
Composite ALC Dynamic Range:	15 dB	
Frequency Response:	±1 dB	
Nominal Output Level:	26 dBmV	
Frequency Stability:	0.0005%	
IF Connector:	Type "F"	
RF Connectors:	WR-42 Waveguide Cover Flange	
Temperature Range:	60° to 100° F (16° to 38° C)	
Humidity:	99% max	
Primary Power: Power Consumption: Weight: Dimensions:	Indoor Version ITRX18-002R	Outdoor Version OTRX18-002R
	120/240 VAC, 50/60 Hz (per customer specification)	60/120/240 VAC, 50/60 Hz or 12/24 VDC (per customer specification)
	150 VA RMS	100 VA RMS
	30 lbs (13.6 kg)	50 lbs (22.7 kg)
	19" W x 7" H x 20: D (48.3 W x 17.8 H x 50.8 D cm)	16" W x 13" H x 7: D (40.6 W x 33 H x 17.8 D cm)

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² Transmitter gain may be varied with 10 dB attenuator.

³ Receiver actual gain is adjustable and can be automatically controlled by pilot-tone ALC.