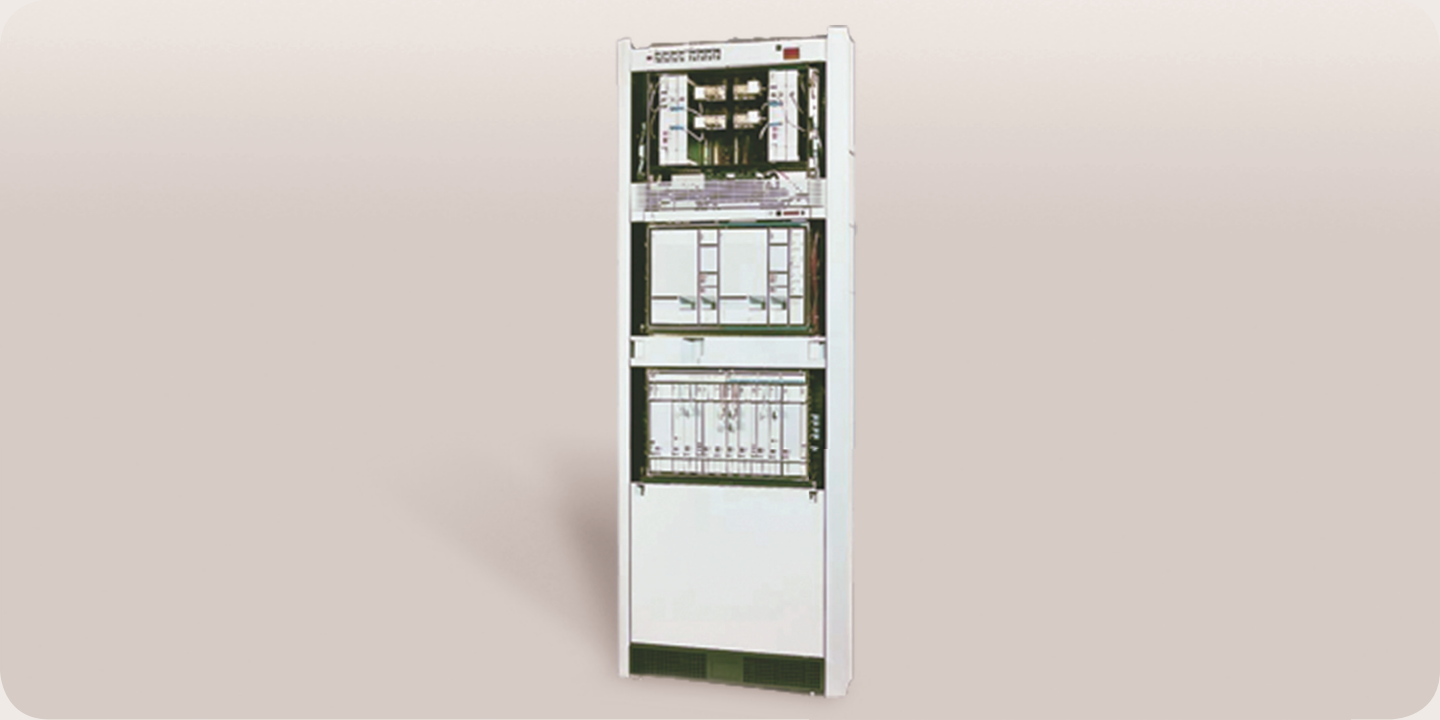
Advantech Wireless

AMR TN-X/40

322 Mbps SDH Transmission



Features

- Standard optical interfaces for seamless interconnectivity with other SDH network elements
- Flexible architecture: Add/Drop Multiplexer (ADM) terminal, pass-through terminal, end terminal and regenerator configurations
- High traffic capacity: 2xSTM-1 per 40 MHz channel; or STM-4 capacity per bay/rack
- Optional wayside traffic of up to 2xE1 per RF channel
- Integrated 1:N frequency diversity errorless protection switch
- Adaptive transmit power control
- Optional space diversity operation with two or three receiver inputs
- Local and express order wire embedded in the SDH overhead
- Local and remote Operations, Administration, Maintenance and Provisioning (OAM&P) facilities
- Extension of OAM&P through Nortel Networks Integrated Network Management system

Key benefits

- Simple frequency coordination since two STM-1s fit into a single 40 MHz channel.
- Most economical solution for deploying SDH networks over adverse terrain, when infrastructure exists or when capacity doesn't warrant optical fiber.
- Flexible system scaling for incremental growth without staggering start-up costs.
- Rapid deployment for fast time-to-market and quick return on investment.
- Low operating costs attributed to high component reliability, standby protection and centralized network management

Overview

Operating in frequency bands L4, 5 and U6 GHz, the TN-X/40 radio transceivers lead the technological revolution in broadband transport products. Using leading-edge 512 QAM technology, these radios pack two STM-1s into a single 40 MHz channel, achieving optimum spectral efficiency within standard ITU-R interleaved frequency plans. This and other key features give network planners selectivity and flexibility when building their high-capacity transport and access networks.

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System

	L4 GHz	5 GHz	U6 GHz
Frequency Range (MHz)	3620-4180	4430-4970	6460-7080
Channel Bandwidth (MHz)	40	40	40
Maximum Two-Way Channels (ITU-R)	7	7	8
Minimum T-T or R-R Channel Spacing (MHz)			
Same Polarization	80	80	80
Opposite Polarization	40	40	40
System Gain at 10^{-3} BER* (dB)			
Single Port (non diversity)	100	100	100
Dual Port	103	103	103
Triple Port	105	105	104
T-R Spacing (MHz)	320	300	340
Forward Error Correction	BCH triple error correction on each data rail of a Gray-coded 512 QAM modem		
Frequency Stability	±10 ppm		

Transmitter

RF Power Output* (dBm)	+37	+37	+37
Adaptive Transmit Power Control (ATPC) Range	20 dB	20 dB	19 dB
Modulation	512 QAM for a spectral efficiency of 8 b/s/Hz		

Receiver

Threshold at 10^{-3} BER* (dBm)			
Single Port (non diversity)	-63	-63	-63
Dual Port	-66	-66	-66
Triple Port	-68	-68	-67
Noise Figure for inputs less than -50 dBm (dB)	1.7	2.1	2.32

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Product Specifications

Input Voltage	-48 VDC or ±24 VDC
Power Consumption† (W)	
Radio Terminal with STM-4 Line Access & two RF Channelsj	595 typical; 760 maximum
Radio Regenerator with Two RF Channels	560 typical; 720 maximum
OAM & P rack with One OPC	165 typical; 190 maximum
Mechanical	
Bay Dimensions (ETSI frame)	66 cm W x 220 cm H x 37.6 cm D, or 66 cm W x 260 cm H x 37.6 cm D
Weight	325 kg for a fully-loaded bay
Environmental	
Operating Temperature	0 to +50°C
Relative Humidity	10 to 95%

† Typical power consumption is measured at an output power of +22 dBm and maximum at +37 dBm.

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