DNT1M/ILT1M Line Equipment

The Nokia DNT1M/ILT1M line equipment provides highly efficient and cost-effective nx64 kbit/s High-bit-rate Digital Subscriber Line (HDSL) transport using standard, unconditioned copper-wire local loop facilities.

Product Concept

The Nokia DNT1M/ILT1M is a 1.024 Mbit/s HDSL line equipment for repearterless nx64 kbit/s transport over the subscriber loop using two twisted copper pairs. The line equipment provides nx64 kbit/s (n=1...16) access to the digital trunk network.

The equipment supports both structured (G.704) and unstructured interfaces. The proprietary line rate can be configured according to the aggregate equipment rate requirements, and therefore the range can be optimized against the bandwidth requirement.

The DNT1M is a stand-alone device situated at the subscriber's premises and it connects to the network node's line terminal unit.

It provides nx64 kbit/s (n=1...16) access to the digital trunk network through three independently configurable ports. Thus three different nx64 services can be delivered with a single network terminal.

The ILT1M is a card unit that integrates into the DYNACARD subrack. The line terminal interfaces into the 2 Mbit/s internal DYNACARD bus and provides efficient 64 kbit/s multiplexing into the 2 Mbit/s aggregate channel of any equipment supporting the DYNACARD bus architecture.

The line equipment can be used in the following applications:

- fractional PBX connections
- LAN-IC
- terminal-host connections
- subscriber access over copper to access nodes

Network Management

The DNT1M/ILT1M as well as other Nokia DYNANET products can be managed locally with the Nokia Service Terminal or a Windows-based node manager on a PC. Remote management is accomplished with the service terminal or with the Nokia Transmission Management System TMS4. The management features comprise remote configuration, test loop activation, line quality monitoring and alarms.

Full TMS remote configuration reduces installation requirements to a minimum line and power connection and address configuration; full device configuration can be done from the central management site, and installation personnel is no longer required.

Technical Highlights

- *DYNANET integrated network terminal*
- *2B1Q line coding*
- *Up to 1.024 Mbit/s of aggregate bandwidth*
- *Adaptive line rate for range extension*
- *3-port nx64 data interface with TDM multiplexing (DNT1M)*
- *2 tranceivers per line terminal unit (ILT1M)*
- *Interchangeable port adapters (DNT1M)*
- *V.110 adaptation*
- *Complies with the Nokia TMS4 management system*

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Product Codes	DNT1M ILT1M	T65000 T65100
Interfaces	*Line interfaces* Line code Line rate Signal bandwidth Line interface Line impedance TX power Equipment interfaces	 2B1Q dual simplex 128, 320, 576, 832, 1088 kbit/s (incl. 64 kbit/s overhead) 40-280 kHz 4-wire 135 ohm 13.5 dBm/10.5 dBm/@135 ohm V.11, V.28, X.35, X.21, 2M/G.704 (fractional), G.703/64k
Operational Range	Maximum cable length for different bit rates. White noise 10 µV/uHz	

Cable diameter	*64 kbit/s*	*256 kbit/s*	*512 kbit/s*	*768 kbit/s*	*1024 kbit/s*
0.4 mm	5.4 km	4.3 km	3.4 km	2.8 km	2.6 km
0.5 mm	8.0 km	7.0 km	5.8 km	4.8 km	4.4 km
0.6 mm	9.8 km	8.3 km	6.4 km	5.2 km	4.4 km
0.8 mm	15.0 km	13.0 km	10.0 km	8.2 km	6.9 km

Operation and Management	Local management interface Remote NMG (DYNANET TMS4) interface	
Power	Power supply Power consumption	90-264 V (AC) 20-75 V (DC) max. 10 W
MTBF	>25 yrs	
Mechanical Construction	DNT1M	90 x 290 x 265 mm (H x W x D)
Environmental Specifications	Transportation Storage Operation	ETSI ETS 300019-1-2 class 2.3 ETSI ETS 300019-1-1 class 1.2 ETSI ETS 300019-1-3 class 3.2
Electromagnetic Requirements	prETS 300386 table 4 (July, 1994) prETS 300246 (July, 1993)	

All Nokia products are subject to continuous research and development; we therefore reserve the right to alter technical specifications without prior notice.

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