



BB512 High-Bit- Rate Digital Subscriber Line (HDSL) Equipment

Product Description

Nokia BB512 is a high-speed point-to-point baseband modem designed for full duplex data transmission over metallic four-wire leased lines. It provides data rates from 64 kbit/s to 512 kbit/s in steps of 64 kbit/s. BB512 employs 2B1Q line coding standardized by ANSI for ISDN BRI access.

BB512 is equipped with effective diagnostic capabilities offering complete end-to-end testing without any external test devices. Automatic data rate adaptation and detection and reporting of faults are automatically provided. The testing and configuration parameters are controlled via the front panel keys and menu-based display.

The modem is available as a stand-alone and a rack-mounted version, the latter of which can be installed in a standard 19" Nokia modem subrack. Different plug-in units offer versatile DTE interfacing possibilities including the G.704 framed fractional E1 interface.

Fractional G.704/2M Equip- ment Interface Adapter

Often the customer does not have use for the full 30 to 31 time slot capacity of a E1 link. In such cases the unused time slots do not have to be transported over the and this fact can be exploited to extend the length of the link far beyond what can be achieved using conventional HDB3 (PCM) code.

This is exactly can be achieved with the Nokia BB512 512 kbit/s baseband modem's G.703/G.704 adapter card. A partially filled data presentation of 8 time slots will be extracted from the 2 Mbit/s E1 signal and converted into a 512 kbit/s signal based on the 2B1Q line code for unrepeated and unconditioned transport over distances up to 6.5 km.

At the receiving end the signal is converted back to the standard E1 2Mbit/s signal by filling the unused time slots with idle data. Thus the BB512 equipped with the new interface card acts as a fractional G.703/G.704 interface extender.

Technical Highlights

- 2B1Q line coding •*
- 512 kbit/s of aggregate •
bandwidth*
- Interchangeable port •
adapters*
- Optional fractional •
(G.704/2M) interface*

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Technical Data

BB512

Product Codes	Stand-alone Rack-mounted	DS60160 DS60170
Line Rates	64,128, 192, 256, 320, 448, 512 kbit/s	
Applications	Point-to-point connections Synchronous 4-wire	
Line Coding	2B1Q	
Equalizer	Automatic adaptive	
Diagnostics	ITU-T V.54/V.52	
Power Consumption	10/5 W	
MTBF	25/45 years	
Terminal Interface	V.28, V.11, V.35, X.21, G.703/64k	
Special Features	Automatic data rate detection Remote alarm signalling Menu-driven front panel operation	

Operational Range		Maximum cable length for different bit rates. White noise 5 $\mu\text{V}/\sqrt{\text{Hz}}$							
Cable Diameter	Pair Capacitance	64 kbit/s	128 kbit/s	192 kbit/s	256 kbit/s	320 kbit/s	384 kbit/s	448 kbit/s	512 kbit/s
0.4 mm	37 nF/km	8.1	6.9	5.5	4.8	4.1	3.9	3.7	3.6
0.5 mm	25 nF/km	10.9	10.2	8.7	8.2	6.8	6.6	6.5	6.2
0.6 mm	35 nF/km	14.0	12.4	10.3	9.4	8.1	7.7	7.5	7.1
0.8 mm	38 nF/km	20.5	18.5	15.7	14.3	12.5	12.0	11.5	11.1

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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