Realgain - 1

Realgain-1 system is an HDSL modem, which provides 2.048Mbps connectivity over Two/Single unconditioned twisted copper pairs/pair (leased lines). The system provides full duplex connectivity using echo cancellers and other modern digital techniques. The digital services provided through this modem may include interconnection of routers, multiplexers etc.

Features

- Provides 2.048 Mb/s connectivity on Two/Single unconditioned twisted copper pairs/pair.
- Supports P2P & P2MP applications.
- Feature of Two pairs or single pair selection for 2Mb connectivity is either through DIP Switch or VT-100.
- Tolerates bridge taps and cable gauge changes (Up to a maximum of two each).
- Provides G.703, 120 ohms interface, & various client side interfaces like V.35, V.36 etc.
- ISDN-PRA is supported by G.703 interface.
- Various types of enclosures including tabletop rack / standard 19" shelved available.
- Structured and unstructured modes, locally settable, provided.
- Various Loop-backs can be generated from LTU or through SMC for fault diagnostics.
- Provides BER comparable to fiber-optics link.
- Complies EMI/EMC specifications CFISPR 22 {1993} for Class B equipment.
- OAM operations through VT 100 dumb terminal.
- Management software available for 19" Rack & shelf mounted systems.
- 160 V to 240 V AC and −36 V to −60 V DC operations possible. Battery back-up with battery charging (Optional).
- Remote Powering (Optional).
- LCD display (16x2) for system status (Optional).

Specifications

System Applications

- 2.048 Mb/s structured and unstructured. P2P & P2MP applications.
- Public switch to ISDN/PABX switch.
- Client-to-Client @ 2.048 Mb/sec and N x 64 Kb/s (where N= 2 to 32).
- Network to Client @ 2.048Mb/sec and N x 64 Kb/s (where N= 2 to 32).
- ISDN-PRA
- Option of operating from standard 19" Shelf or Single Slot Enclosure indoor type (table – top).

Network/Client Interfaces

- G.703, 120 ohms balanced network interface.
- Structured / Unstructured leased Line
- Line Code: HDB3
- CRC-4 Mode: User selectable Detection and Regeneration
- V.35, V.36, X.21/V.11 client interface providing up to 2.048 Mb/sec data.
- N x 64 Kb/s (N=2 to 31) user configurable as bandwidth requirements.
- DTE, DCE soft configurable (Optional).

Fault Diagnostics

- Loop-Backs
    - Exchange-to-Exchange loop back at LTU.
    - Exchange-to-Exchange loop back at NTU.
    - Customer-to-Customer loop back at NTU.
    - Customer-to-Customer loop back at LTU.
- Line Quality Test.
- Front panel LED & Display/ LCD (optional).

Clock Options

- Internal Clock
- External Clock @ 2.048 Mb/s
- Recovered Clock

LTU / NTU Transmission

- Conforms to specifications ITU G.991.1
- 1168 Kb/s per pair for two pair operations.
- 2320Kb/s for single pair operation.
- 2B1Q coding

Front Panel Indications

- SYNC 1   Indicates Sync of Pair-1
- SYNC 2   Indicates Sync of pair 2
- MARG (1,2)   Indicates status of link as marginal on pair-1 & pair-2.
- TD   Transmit Data
- RD   Receive Data
- TEST   Indicates system under test.
- FAULT   Indicates presence of fault conditions (like AIS and LOS at Remote end).
- LOS   Indicates loss of signal at user interface
- +5V   Indicates presence of 5V D.C. or power supply.

Switches & Displays

- Single digit seven segment display for system status.
- DB 9 for RS 232 port for configuring the card through PC.
- E-1 Jack for isolation, if required.
- Front panel switch for various diagnostics.

LCD features (Optional)

- 16 character x 2-line LCD provided on the front panel.
- System Information, Configuration, Alarm Status & Fault Diagnostics can be performed through LCD control switches.

Mechanical

- Single Slot Enclosure (W x D x H)   : 245x 306 x 62 mm
- Rack with single 19" shelf (W x D x H)   : 586 x 355 x 435 mm