



Our communication products and solutions come ready with many features and an unseen tag: the idea that nothing should come between knowledge and its spread.

A judicious blend of its own R&D and strategic alliances with technology leaders enables Avantel to reduce time-to-market and create value to customer by offering innovative, cost effective solutions.

In line with our mission of enabling access to knowledge, Avantel offers products that provide access to media-rich content and applications requiring high bandwidth.

### Strategic Alliances

In order to realize our mission of providing better solutions in communications, our key strategy is the building of alliances with renowned enterprises like:

- Space Applications Center (SAC), India
- National Remote Sensing Agency, India
- Signion Systems, India
- L 3 Communications - Narda, USA

### Development Environment

Avantel's R&D center with its 40 member team of engineers is recognized by the Department of Scientific and Industrial Research (DSIR), Government of India, as a research and development center for technology development in telecommunications. The design, development and integration of wireless and access products is carried out using standard and proprietary software tools.

### Test Facilities

The company has a test and measuring facility for design, development and manufacture of wireless products (up to 20 GHz) and various access products. The range of test equipment include Network Analyzers, Spectrum Analyzers, Signal Generators, Radio Communication Test sets,

XDSL Testers, PCM Analyzers, ATE, In-circuit Emulators, Multi-Function Testers, Digital Transmission Analyzers and Communication Performance Analyzers.

#### Areas of Operation

- Wireless
- Network Access

### Wireless

The company started with design and manufacture of RF / Microwave products and diversified into radio communication systems and satellite communication products

#### RF / Microwave Components

Avantel takes the lead in providing state-of-the-art RF/Microwave products such as Filters, Couplers, Power Dividers, Power Amplifiers, Switches etc, the building blocks for a wide variety of Communication Systems like Digital Microwave Radio, Microwave links, Satellite Receivers, Cellular Systems to name a few.

#### Satcom Products

Avantel has developed INSAT based messaging terminals integrated with GPS for data communication from remote/ inaccessible areas of India and various subsystems like Out Door Unit (ODU), Solid State Power Amplifiers and Demodulators for applications in Distance Learning through satellite communication.

**Reporting Terminal** : INSAT reporting terminal operates in TDMA mode and is suitable for sending low density short messages. Each Reporting Terminal with unique ID code operates at S-band and transmits short messages up to 40 characters at 600 BPS.

INSAT reporting network consists of S / C transponder (with coverage over the Indian subcontinent and the surrounding seas and ocean), C - band Hub Station, Public Switched Telephone Network (PSTN), Reporting Terminals and User Terminal (PC / FAX) at the destination.

**Software Radio** : Avantel in collaboration with Signion Systems offers Software Radios based on Very Long Instruction Word (VLIW) Digital Signal Processor (DSP). With technological upgrades that improve the bandwidth efficiency, this platform will be ideal for using SATCOM modems for internet access.

#### Radios

Avantel has developed various analog radios for point-to-multipoint communication in rural areas and 2 GHz Digital Microwave Radios for point-to-point communication between exchanges.

## Network Access

Avantel is home to a broad range of access technologies that go to meet the rising demand for voice, video and data over a single network. We have taken a leader's position in HDSL products and are delivering access products for Basic, Cellular and Internet services.

Working on the edge of the Network, our access products mirror the best of both worlds: high quality hardware; world class software. We are currently working on design and manufacture of Customer Premises Equipment (CPE) such as Integrated Access Devices (IAD), ADSL modems and wireless modems.

### DSL Voice Data Pair Gain Systems

Utilizing HDSL technology, new pair-gain techniques allow 10 to 15 subscribers to be connected on a single copper loop. In addition, the subscribers can benefit from value added services such as ISDN, 64 Kbps Internet access, hotlines and PCOs. We have developed HDSL systems that can serve up to 30 subscribers on 2/3 pairs.

## DSL Modems

Avantel's DSL Modem employs HDSL transmission technique and supports data rates of N x 64 Kbps up to 2.048 Mbps. It operates full duplex on 2-pair local loop and is suitable for last mile connectivity applications. The available data interface options are E1 interface operating at 2.048 Mbps and V.35/V.11/V.36/RS530 user data interface operating at N x 64 Kbps

### Interface Converters / ADM

Interface Converter provides seamless connectivity between user interface devices such as routers, multiplexers etc. and the PSTN. It offers interface conversion between a user device operating at rate from 64 Kbps to 2.048 Mbps and E1 or fractional E1. This can also be configured as drop insert multiplexer with E1 and Fractional interfaces to provide digital services to subscribers located at different places.

## Line Drivers

Avantel's baseband modem provides full duplex connectivity over 2-wire copper circuit at speeds of 64 Kbps and 128 Kbps for long-haul point-to-point digital circuits.

## Wireless Products



Directional Couplers



Power Dividers



Filters



Power Amplifiers



Reporting Terminal



Software Radio

## Network Access Products



HDSL Modem



Multiplexer (ADM)



E1 Modem



Baseband Modems



Voice Data Pair Gain (HDSL)



Interface Converter

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