

### Scalable Capacity

Witcom WitLink wireless licensed radio supports scalable data rates from 2\*DS1 to DS3+4\*DS1 or 2\*E1 to E3+E1 with one IDU. Integrating a fully digital design, Witcom WitLink is the first system to offer a scalable solution, eliminating the need to match IDUs to specific capacity requirements. The compact, aesthetic WitLink ODU is capacity independent as well, resulting in quicker deployment and redeployment, simplified logistics and reduced sparing requirements.



### Superior Performance

- High system gain of up to 108dB provides superior link availability, robustness, data integrity and increased range
- Spectrum efficiency CPM modulation with digital filtering eliminates the need to "back off" from maximum device power, which prevents power loss and adds system gain
- Reed Solomon FEC (Forward Error Correction)- first in the market that can correct up to 20 errors

### Flexible Plug-Ins

Witcom's plug-in design enhances IDU flexibility and enables future expansion according to dynamically growing and changing needs. Unlike existing solutions that require a different IDU for different services, capacities and interfaces, Witcom WitLink is the first radio system that incorporates front-loadable plug-ins to support diversified network requirements. With the WitLink plug-ins, operators and end-users can determine IDU capacity and interface flavors. WitLink delivers one platform for three different environments: PDH, Wireless Bridge (10/100Base-T LAN) and entry-level SONET/SDH.

All plug-ins are "field upgradeable".

#### PDH

PDH plug-ins support DSX (16\*DS1/DS3) or CEPT (16\*E1/E3) interfaces. WitLink plug-ins enable software controlled "reduced capacity" utilizing "Spectrum-by-Demand". WitLink-2000 can scale from low capacity (such as 4\*DS1) to high capacity without the need to change existing hardware and without losing sensitivity. The system adjusts the spectrum used according to the selected capacity. The DS3+16\*DS1 plug-in for example can be configured via software to 4\*DS1, 8\*DS1, 16\*DS1, DS3, DS3+1/2/4 DS1's. The 8\*DS1 mode uses a 12.5MHz channel spacing, compared to DS3+4\*DS1 which uses 50MHz channel spacing. This seamless upgradeability optimizes capital investments while simplifying logistics and reducing spare parts and product stocking.

#### Wireless Bridge (LAN-to-LAN)

The Ethernet 10/100 Base-T interface plug-in supports wireless bridge (LAN-to-LAN) applications, significantly driving down the cost-of-operation by eliminating expensive leased lines. This application is ideally suited for ISPs and private networks. Using 100Base-T interfaces on a Router instead of DS3/E3 interfaces saves additional costs. The expensive high-end routers on both ends can be eliminated in some circumstances. This plug-in comprises two 10/100 Base-T ports (incl. full duplex) + 4\*DS1 or E1 ports and utilizes software configurable channel spacing according to the required maximum throughput in the air (max. 51 Mbps). Full transparent bridging is performed. The 4\*DS1 or 4\*E1 enable seamless convergence of the LAN as well as for existing PBX/Video lines, saving the need for additional parallel radio links.

#### Entry-level SONET/SDH

The STS-1/STM-0 plug-in provide an entry to SONET/SDH transport rates capable of supporting data rates of 51.84 Mbps. This applications is ideally suited to customers wanting to connect PCS/PCN and WLL backbones using ring topology, last mile extensions in fiber networks and links between LMDS hubs.

#### Simple to Use and Reliable

Witcom WitLink wireless licensed radio uses an innovative, software controlled, scalable digital modem, eliminating the long calibrations and system tuning required in conventional radios. The system's digital design assures performance stability, superior aging characteristics and boosts system reliability.

All parameters can be easily controlled from the front panel touch-keys or via the WitView™ SNMP Network Management System. WitLink incorporates powerful built-in tests, as well as near- and remote-end loop-back functions. A pseudo random bit sequence generator enables the insertion of a standard test signal for bit error rate (BERT) measurements.

### Low Cost and Low Cost-of-Operation

Combining innovative architecture and cutting-edge digital implementation and software technology, Witcom WitLink offers advanced features at the best price/performance ratio in the market.

Low cost of operation is maintained due to the system's :

- Lowest DS3/E3 price in the market
- High MTBF and reliability resulting from Witcom's unique ASIC-based, fully digital modem
- Plug & Play installation
- Common IDU and ODU for all data rates
- Common IDU for all frequency bands
- Plug-in design for demand-based buildouts, optimizing customer investment, reducing logistics
- Scalable design for a seamless fit to a wide range of applications
- Maintenance-free

### A Versatile Solution

Designed to provide maximum scalability, Witcom WitLink provides a reliable, flexible and cost-effective solution for the following applications:

- Internet (ISP)  
ISP backbone and Internet access for business customers
- Private Networks  
Wireless Bridge for LAN-to-LAN interconnection
- Cellular and PCS Networks  
high speed links between cell sites
- Business Bypass or Local Exchange Bypass  
provided by Competitive Access Providers (CAPs)
- Wireless Local Loop Networks  
"last mile", used by Local Exchange Carriers (LECs)
- ATM and Frame Relay

### Added Value

- Compact IDU (1U high) for all capacities
- Small, light-weight and aesthetic ODU/antenna blends into the local environment
- Pole mounting provides easy installation on various types of supporting structures (mast, wall, ..) with an accurate antenna alignment system
- ODU can be replaced without affecting antenna alignment
- Standard: Alarms, Data and IDU cascading
- LCD and touchkeys - easy front panel configuration
- 1+1 Hot-Standby protection using an additional switching unit
- Complies to ITU-R, ITU-T, FCC and ETSI standards

### SNMP Network Management System

WitView™ is an intuitive, network management system with enhanced diagnostic and performance monitoring tools. It provides open, reliable and user-friendly GUI-based SNMP management. Based on a standard SNMP platform, WitView can be integrated with HP OpenView or used as a stand-alone management application. WitView supports local and remote terminal configuration, status/alarm reporting, statistics and diagnostics. WitView allows proactive management of all links from a single operator console running on Microsoft Windows 95/98/2000 or NT stations.

A unique 10Base-T Ethernet management interface on the IDU enables convenient management from any Ethernet LAN attached management station. The WitLink-2000 Management IP Network supports Routing Information Protocol (RIP) valuable in case of a multiple cascaded links topology. This implies that the creation and updates of terminal routing tables is performed automatically so that they can adjust to network changes while maintaining a steady IP path to all terminals. SNMP over SLIP and cascading between IDUs are also standard features. All radio links can be easily in-band or out-of-band controlled from the management station. IP Routing in each agent routes the management information throughout the network, allowing simultaneous management of all links from a single console. Trivial File Transfer Protocol (TFTP) enables remote software and configuration upgrading.

## Highlights

- One For All product. Support PDH, Wireless Bridge and Entry-level SONET/SDH by simply changing plug-ins.
- Plug-in design reduces logistics, spare parts and product stocking
- PDH: Scalable capacity from 2\*DS1 to DS3+4\*DS1 and 2\*E1 to E3+E1
- Wireless Bridge: Ethernet 10/100 Base-T +4\*DS1/E1 plug-in
- Entry level SONET/SDH: STS-1/STM-0 plug-in
- Common 1U high IDU for all frequencies, capacities and interface preferences
- Common IDU and ODU for all data rates
- Unique digital ASIC modem
- Software controlled reduced capacity uses Spectrum-by-Demand
- Reduced cost-of-operation
- Compatible with ATM/Frame Relay and 10Base-T/Fast Ethernet
- BIT, BERT, Loop-backs
- LCD and touchkeys - easy front-panel configuration
- Standard: Alarms, Data and IDU cascading
- Intuitive, pro-active SNMP NMS
- Intelligent GUI
- Software-configurable parameters
- IP Routing
- Stand-alone SNMP application (included) or HP-OpenView
- Runs under Microsoft Windows 95/98/2000 or NT stations
- Improved quality and performance monitoring as per ITU-T Rec.G826
- Complies with ITU-R, ITU-T, FCC and ETSI standards
- Witcom is an ISO-9000 certified company