Glossary of Terms & Abbreviations

Term	Stands For....	Meaning
802.11	802.11 Standard	An IEEE LAN standard for wireless Ethernet replacement technology in the ISM band. Runs at up to 10 Mbps.
ACC	Access Channel or Access Code Channel	AKA, Paging Channel. The signal path that tells a mobile to prepare for an incoming call.
ACK	Acknowledge	Positive message sent by a protocol to acknowledge reception of a transmitted packet
AP	Access Point	Wireless LAN transceiver that acts as a center point of an all-wireless network or as a connection point between wireless and wired networks.
AMI	Alternate Mark Inversion	Old method for encoding data on a 64 kbps channel, which requires 8 kbps to maintain synchronization, leaving only 56 kbps available to transmit data
ARP	Address Resolution Protocol	The function of the ARP is to match higher-level network IP addresses with the physical hardware address of a piece of equipment.
ARQ	Automatic Repeat reQuest	A protocol for error control in data transmission that automatically requests the transmitter to resend a packet when the receiver detects an error in the packet.
ASYNCH	Asynchronous	Not occurring at regular intervals, as in data piped over a network
AWG	American Wire Gauge	A measure of thickness of copper, aluminum or other wiring in the U.S.
ATM	Asynchronous Transfer Mode	Transporting a broad range of user data at irregular intervals over network facilities
B8ZS	Biploar 8-Zero Substitution	An encoding method used on T1 circuits that inserts two successive ones of the same voltage - referred to as a *bipolar violation* - into a signal whenever eight consecutive zeros are transmitted.
BB	Broadband	RF system with constant data rate of 1.5 Mbps or higher.
BBU	Battery Backup Unit	Equipment used to keep a BTS operating in the event of a power outage
BCC	Broadcast Code (or Control) Channel	A channel of data transmitted by one entity and received by many devices.
BoM	Bill of Materials	List of the actual equipment to be manufactured and shipped to the installation site.
BS	Base Station	Network Access equipment and software that transmits and receives, as well as processes, voice or data calls from mobile units to network connections. A Ripwave Base Station consists of the Base Transceiver Station (BTS) and the Radio Frequency Subsystem (RFS), or antenna, plus a Global Positioning System (GPS) antenna for timing.
BTS	Base Transceiver Station	The Ripwave BTS is a two-shelf rack that holds the RF modules and digital circuit cards that interpret radio signals into computer language and sends messages to and from the local or wide area network. It functions between the RFS and the EMS to handle the signaling.
BW	Bandwidth	Frequency spectrum usable for data transfers. It describes the maximum data rate that a signal can attain on the medium without encountering significant loss of power. Usually expressed in bits per second (digital) or Hertz (analog).
BYTE	Byte	8 bits

Term	Stands For....	Meaning
CAM	[1]Configuration & Alarm Manager or [2]Content Addressable Memory	[1]An EMS functionality that is handled through a Graphical User Interface for purposes of configuring elements in the system and handling other OAM requirements. [2]Module of the BTS software used to provide mappings of users to channels.
CBR	Constant Bit Rate	One of the two service categories available for the Management PVC in the ATM/T1 BTS configuration (the other one is UBR)
CC	[1]Communications Controller or [2]Cross-check	[1]A type of circuit card that resides in the Digital shelf of the Ripwave BTS. It handles all interfaces between BTS and network. [2]An EMS functionality that allows the system to perform an automated sanity check of the datafill.
CD	[1]Compact Disk or [2]Change Directory	[1]An optical disk capable of storing large amounts of data (700x floppy disk). It can be inserted into most PCs and "read" to load files onto a computer [2]A software programming term in "C" language that tells the computer to go to a different location in the computer's memory.
CDMA	Code Division Multiple Access	Digital cellular technology that uses a spread-spectrum technique where individual conversations are encoded with a random digital sequence. Increases capacity and speed of communications messages between mobile units over other types of wireless networks.
CD-ROM	Compact Disk - Read Only Memory	See "CD." If a CD is not Read Only, computers can write data to it with that capability.
CDVT	Cell Delay Variation Tolerance	Delay variation parameter required by UBR and CBR.
CHP	Channel Processor Card	A card in the digital shelf of the BTS that performs the first stage of signal processing for up to 4 antennae. One Navini 2.4 GHz BTS has 8 antennae. The card performs digital-to-analog conversion (DAC) and analog-to-digital conversion (ADC) for up to 10 carriers.
CLEC	Competitive Local Exchange Carrier	A telephone company that competes with an incumbent Local Exchange Carrier (LEC).
CLI	Command Line Interface	A text-based programming language through which a user communicates with an operating system or an application.
CORBA	Common Object Request Broker Agent	A standard for Network Management Systems that allows integration with NMS regardless of programming language or Operating System.
CPE	Customer Premise Equipment	Communications equipment (Modem) that resides at the customer's location.
D4	D4	A framing standard for traditional time-division multiplexing, which standard describes user channels multiplexed onto a trunk that has been segmented (framed) into 24 bytes of 8 bits each. (See also ESF.)
dB	Decibel	A logarithmic expression of the ratio between two signal power, voltage, or current levels. A decibel is one-tenth of a Bel, a seldom-used unit named for Alexander Graham Bell, inventor of the telephone.
dBd	Decibel/Dipole	A ratio, measured in decibels, of the effective gain of an antenna compared to a dipole antenna (2 horizontal rods in line with each other). The greater the dBd value the higher the gain and therefore the more acute the angle of coverage.

Term	Stands For....	Meaning
dBi	Decibel/Isotropic	A ratio, measured in decibels, of the effective gain of an antenna compared to an isotropic antenna (measured along axes in all directions). The greater the dBi value the higher the gain and therefore the more acute the angle of coverage.
DHCP	Dynamic Host Configuration Protocol	A protocol for dynamically assigning IP addresses to devices on a network.
DiffServ	Differentiated Service	Different Quality of Service (QoS) descriptions for different types of traffic, i.e., voice, video, email. The DiffServ table is where each level of QoS is defined. Equivalent to Class of Service (COS) in POTS.
DIR	Directory	A special kind of file used to organize other files into a hierarchical structure.
DL	DownLink	In this case, data messages transmitted from the BTS to the Modem.
DNS	Domain Name Server	TCP/IP networking term that is a protocol for matching objects to network (IP) addresses.
DS-1	Digital Signal - 1	Also "T1" or "E1". Digital transmission equipment that can handle up to 1.544 Mbps.
DSL	Digital Subscriber Line	A type of service whereby users gain access to the Internet through high-speed data networks.
DSP	Digital Signal Processing/Processor	Compressing or manipulating analog signals to digital signals and vice-versa.
EID	Equipment Identifier	Field in EMS for assigning IP address or name to individual pieces of equipment for purposes of configuring the system.
EMS	Element Management System	An application that allows the user to define and manipulate managed objects as a system within an overall network.
enet	Ethernet	The most widely-installed local area network (LAN) technology. Ethernet is specified in the IEEE 802.3 standard and typically uses coaxial cable or special grade of twisted pair wires.
ERP	Effective Radiated Power	The actual power in Watts radiated from a transmitter's antenna.
ESF	Extended Superframe	In T-carrier, a synchronization frame that delineates 24 DS1 frames *Note:* ESF requires less frequent synchronization than the T-carrier D4 superframe format. (See also D4.)
FCC	Federal Communications Commission	United States government regulatory agency that supervises, licenses and otherwise controls electronic and electromagnetic transmission standards.
FE	Far End	A relative term that refers to the receiving element in a network, as opposed to the near-end element that is transmitting data.
FEC	[1]Forward Error Correction or [2]Fast Ethernet Controller	[1]A system of error control for data transmission wherein the receiving device has the capability to detect and correct any character or code block that contains fewer than a predetermined number of symbols in error. [2]A process created and attached during BTS booting for the 10/100 Ethernet ports on the BTS.
FTP	File Transfer Protocol	A TCP/IP method consisting of a client and server and used to transfer files between two or more sites or elements in a network.

Term	Stands For....	Meaning
Gain	Gain	Ratio of the output amplitude of a signal to the input amplitude of a signal, expressed in decibels (dB).
Gb	Gigabit	One billion (1,000,000,000) bits.
GB	Gigabyte	One billion (1,000,000,000) bytes.
GHz	Gigahertz	One billion (1,000,000,000) hertz - cycles per second. Ultra high frequency (UHF) signals, including microwave signals.
GPS	Global Positioning System	A constellation of 24 well-spaced satellites that orbit the earth and enable users with GPS antennas to pinpoint their exact geographical position.
GUI	Graphical User Interface	A graphic rather than purely text based user interface to a computer or computing system.
HW	Hardware	Physical, tangible equipment
Hz	Hertz	1 cycle per second.
I&C	Installation & Commissioning	Term used to describe the procedures of physically installing technical equipment then powering up the equipment to make sure it will operate (to put it "into commission").
IEC	Inter-exchange Carrier	Also IXC. Public switching network service provider (carrier) that connects across and between local exchange carriers (LEC).
IF	Interface Card	Card on the digital shelf of the Ripwave BTS that takes the analog signal from the Channel Processor card (CHP) and converts it to a baseband signal before sending it on to the RF modules for transmission (forward link), and vice-versa (reverse link).
IMA	Inverse Multiplexing over ATM	A method of building dynamic routes of 2 or more T1s to increase bandwidth so that PVCs can share the IMA resources, as needed, for data transmissions.
inet	Internet	A worldwide system of computer networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers.)
IP	Internet Protocol	A TCP/IP protocol used to route data from its source to its destination.
ISM	Industrial, Scientific and Medical	Unlicensed band around 2.4 MHz
ISP	Internet Service Provider	A company that provides access to the Internet.
Kb	Kilobit	1,024 bits
KB	Kilobyte	1,024 bytes
KHz	Kilohertz	1,000 hertz.
L1	Layer 1	Physical Layer. Part of the OSI rules and standards for network management. L1 describes the physical layer, or electrical and mechanical port-to-port connections, in the network.
L2	Layer 2	Data Link Layer. Part of the OSI rules and standards for network management. L2 describes the data link layer where data is set up and torn down in a specific format (frames), through the overall network. Also responsible for detecting and correcting errors by requesting retransmission.
L3	Layer 3	Network Layer. Part of the OSI rules and standards for network management. L3 describes the network addressing that gets data to its destination within the network, i.e., IP addressing.
LAN	Local Area Network	A data network of interconnected computers, servers, printers, and other peripherals that communicate at high speeds over short distances, usually within the same building. Also allows for sharing of resources.

Term	Stands For....	Meaning
LCP	Link Control Protocol	Basis of the Point-to-Point Protocol (PPP) scheme for negotiating and establishing connections.
LED	Light-emitting Diode	An electronic device that lights up when electricity passes through it. Often used to indicate equipment or system state.
LLC	Logical Link Controller	A protocol that governs the transition of frames between data stations regardless of how the medium is shared. It's the upper sub-layer that further defines the Media Access Control (MAC) protocol. It provides the basis for an unacknowledged connectionless service on a LAN - i.e., error correction, multiplexing, broadcasting.
LOS	Line-of-sight	Describes laser, microwave, RF, and infrared transmission systems that require no obstruction in a direct path between the transmitter and the receiver.
MAC	Media Access Control	Protocol that governs access to a network in order to transmit data between nodes. In a wireless LAN, the MAC is the radio controller protocol (L2).
Mb	Megabit	One million (1,000,000) bits.
MB	Megabyte	One million bytes. Literally - 1,048,576 bytes.
Mbps	Megabits Per Second	Transmission speed at rate of one million bytes per second.
MCBS	Multi-Carrier Beam Forming Synchronized	Multiple Access technology used by Navini Ripwave systems
MDM	Modem Card	A card in the Navini BTS that converts digital signals into analog so the signals can be transmitted over telephone lines, and vice-versa. Modem stands for modulator/demodulator.
MHz	Megahertz	One million (1,000,000) hertz - cycles per second. Normally used to refer to how fast a microprocessor can execute instructions.
MIB	Management Information Base	A collection of managed objects used in SNMP-based networks. MIBs carry information in a standard format so external tools can analyze network management and performance.
MMDS	Multipoint Multi-channel Distribution Service	Fixed wireless, high-speed local service that operates at 2.1 - 2.7 GHz. Speed 10 Mbps. Originally conceived for cable TV service.
NE	[1]Near-end or [2]Network Element	[1]The transmitting end, versus the receiving end, of a signal transmission. [2] A router, switch, or hub in an ISDN network.
NEC	National Electrical Code	Official rules and regulations that apply to the installation of electrical equipment in the U.S.
NIC	Network Interface Card	A computer circuit board or card that is installed in a computer so that it can be connected to a network. Network interface cards provide a dedicated, full-time connection to a network.
NLOS	Non Line-of-site	Describes laser, microwave, RF, and infrared transmission systems that can penetrate obstructions in the path between the transmitter and the receiver.
NMS	Network Management System	A product that helps manage a network generally hosted on a well-equipped computer such as an engineering workstation. The system tracks network statistics and resources.
NOC	Network Operations Center	A centralized point, much like a traffic control tower, where technicians or engineers can monitor network activity, alarms, and statistics, as well as make network configuration and other changes dynamically. For Internet, the NOC is often a hub for ISP services.

Term	Stands For....	Meaning
OAM	Operation, Administration, Maintenance	A set of network management functions. Also describes the human-machine interface tasks - i.e., to operate the system, to administer the system, and to maintain the system.
OS	Operating System	A software program that manages the basic operation of a computer. Most Operating Systems are either based on
OSI	Open Systems Interconnection	An ISO model for worldwide communications that defines 7 layers of network protocol: L1 Physical Layer; L2 Data Link Layer; L3 Network Layer; L4 Transport Layer; L5 Session Layer; L6 Presentation Layer; L7 Application Layer.
OTA	Over-the-Air	A standard for the transmission and reception of application-related information in a wireless communications system.
PC	Personal Computer	Any IBM-compatible computer, so named because IBMs first commercial end user computer was called a PC.
PCB	Printed Circuit Board	A hardware module that holds electronic circuitry and usually fits into a larger frame where the various PCBs are interconnected electronically.
PDU	Packet Data Unit or Protocol Data Unit	A data packet. Refers to that which is exchanged between peer-layer entities. Contains header, data, and trailer information.
Ping	Ping	Generalized term from sonar science, where a short sound burst is sent out and an echo or "ping" is received. Used to determine if signals or packets have been dropped, duplicated, or reordered.
PPPoE	Point-to-point Protocol Over Ethernet	A protocol that allows dial-up Internet connections. Includes the Link Control Protocol as well as Network Control Protocols.
Propagation	Propagation	To spread out and affect a greater area; travel through space, as in radio waves.
PSK	Phase Shift Keying	Digital transmission term that means an angle modulation where the phase of the carrier varies in relation to a reference or former phase. An encoded shift. Each change of phase carries one bit of information, where the bit rate equals the modulation rate.
PSN	Packet Switched Network	A network in which data is transferred in units called packets. Packets can be routed individually and reassembled to form a complete message at the definition.
PSTN	Public Switched Telephone Network	Typically used in the same context as POTS. Analogous to a network of major highways originally built by a single organization but added to and expanded by multiple organizations. AKA, backbone networks.
PVC	Private Virtual Circuit	A software-defined logical connection between end points in a network.
QAM	Quadrature Amplitude Modulation	A bandwidth conservation process routinely used in modems. Creates higher throughput but decreased coverage area.
QoS	Quality of Service	A guaranteed throughput for critical network applications, such as Voice over IP. Term primarily used in an ATM environment. Five classes of service: Class 1 Video; Class 2 Audio; Class 3 Data Connection.
RAM	[1]Random Access Memory or [2]Responsibility Assign Matrix	[1]Computer memory that can be accessed randomly. [2]A document created during the BTS installation and Commissioning, defining who is responsible for performing each task.
RBW	Resolution Band Width	A parameter set on the spectrum analyzer during insertion loss measurements

Term	Stands For....	Meaning
RF	Radio Frequency	A portion of the electromagnetic spectrum in the frequency range between audio and infrared: 100 KHz to 20 GHz. RF measurements are expressed in Hz (unit for measuring frequency); MHz = 1 Million Hz; GHz = 1 Billion Hz.
RFS	Radio Frequency Subsystem	A term for the antenna portion of the base station.
RH	Relative Humidity	The amount of water vapor in the air, given as the percent of saturation humidity, generally calculated in relation to saturated vapor density.
RMS	Root mean Square	The most common mathematical method of defining the effective voltage or current of an AC wave
RS	Reed-Solomon	Reed-Solomon codes are block-based error correcting codes with a wide range of applications in digital communications.
RSSI	Receiver Signal Strength Indicator	A term that describes the measure of the signal strength in kilohertz or gigahertz between the transmission and the receiving end.
Rx	Receive	An abbreviated way of expressing the term, receive, as in to receive a transmission.
S-CDMA	Synchronous Code Division Multiple Access	Wireless technology based on data being transferred at a fixed rate using Code Division Multiple Access algorithms.
SELV	Safety Extra Low Voltage	A secondary circuit which is designed and protected in such a way that, under normal operative conditions or under a single fault condition, its voltage does not exceed a safe value.
SLIP	Serial Line Internet Protocol	A TCP/IP protocol used for communication between two machines that are previously configured for communication with each other.
SMDS	Switched Multi-megabit Data Service	Connectionless service for MAN/WAN based on 53-byte packets that target the interconnection of different LANs into a public switched network at speeds higher than T1.
SMS	[1]Short Message Service or [2]Systems Management Server	[1]A protocol that allows mobile users to send text-based messages from one device to another. The text appears on a device's screen and may be a maximum 160 characters in length. [2]A Windows NT process that allows a network administrator to inventory all hardware and software on the network, then perform software distribution over the LAN.
SNMP	Simple Network Management Protocol	Standard management request-reply protocol for managing TCP/IP networks. A device is said to be SNMP compatible if it can be monitored or controlled using SNMP messages.
SNR	Signal-to-noise Ratio	Related to RSSI, a measurement of the intended signal being transmitted against the other entities that can interfere with the signal.
SO/HO	Small Office/Home Office	Small, remote office with a MAN or WAN connection back to a larger corporate network and/or the Internet.
SoW	Statement of Work	A document outlining the general activities that must be conducted in order to complete the installation and commissioning tasks for a Ripwave Base Station
SSI	Signal Strength Indicator	See "RSSI".
SW	Software	Computer instructions or data.
SYN	Synthesizer Card	A circuit card in the Navini BTS digital shelf that provides a local oscillator and system clock with a single calibration transceiver. The card is used to calibrate the Base Station so that no external spectrum analyzer or signal generator is required.
SYNCH	Synchronous	Digital packets or signals that are sent at the same, precisely clocked fixed rate of speed.

Term	Stands For....	Meaning
TCC	[1]Traffic Channel or [2]Transmission Control Code	[1]A portion of a radio channel used to enable transmission of one direction of a digitized voice conversation (as opposed to the Voice Channel). [2]A way of segregating traffic in order to define controlled communities of interest among subscribers.
TCP	Transport Control Protocol	A standardized transport protocol between IP-based network nodes that allows two hosts to establish a connection and exchange streams of data. TCP operates on top of Internet Protocols and handles the multiplexing of sessions, error recovery, reliability and flow; it guarantees packets are delivered in the same order in which they were sent.
TCP/IP	Transport Control Protocol/Internet Protocol	A set of protocols that allows cooperating computers to share resources across the network. TCP provides the reliability in the transmission, while IP provides connectionless packet service.
TDD	Time Division Duplex	A digital transmission method that combines signals from multiple sources and allows a single channel to alternately carry data in each direction of a link.
TFFS	True Flash File System	Memory in a computing device that does not lose its information when powered off. Available as a SIMM or PCMCIA card, it usually stores router Operating System (OS) software. Can be easily updated.
TTL	Time-to-live	A field in the Internet Protocol that specifies how many more hops a packet can travel before being discarded or returned.
Tx	Transmit	To send by wire or other medium electronically or through air via electromagnetic waves to a receiving communications device.
UBR	Unspecified Bit Rate	One of the two service categories available for the Management PVC in the ATM/T1 BTS configuration (the other one is CBR)
UDP	User Datagram Protocol	A communications protocol that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet Protocol (IP). UDP is an alternative to the Transmission Control Protocol (TCP.)
UL	UpLink	Describes the direction of signal flow being sent from a subscriber to a network system, as in from a mobile device (Modem) to a base station.
USB	Universal Serial Bus	An external bus standard for plug-and-play interfaces between a computer and add-on devices, such as a mouse, modem, keyboard, etc. One USB port can connect up to 127 devices.
VCC	Virtual Channel Circuit	AKA, Virtual Channel Connection or Virtual Circuit Connection. A logical circuit made up of Virtual Channel Links, which carry data between two end points in an ATM network.
VCI	Virtual Channel Identifier	A 16-bit value in the ATM cell header that provides a unique identifier for the Virtual Channel that carries that particular cell.
VCL	Virtual Channel Link	A connection between two ATM devices.
Vector	Vector	A quantity representative of both magnitude and direction (energy + orientation in space)
VPC	Virtual Private Channel	AKA, Virtual Path Connection. A grouping of Virtual Channel Connectors, which share one or more contiguous VPLs.
VP	Virtual Path	A set of Virtual Channels grouped together between cross-points (i.e., switches).

Term	Stands For....	Meaning
VPI	Virtual Path Identifier	An 8-bit value in the cell header that identifies the VP as well as the VC to which the cell belongs. The VPI + VCI identify the next destination of a cell as it passes through a series of ATM switches.
VPL	Virtual Path Link	A group of unidirectional VCLs with the same end points in a Virtual Path. Grouping VCLs into VPLs reduces the number of connections to be managed. One or more VPLs makes up a VPC.
WAN	[1]Wide Area Network or [2]Wireless Access Network	[1]A communications network that spans geographically separate areas and which provide long-haul services. Examples of inter-networked connections are frame relay, SMDS, and X.25 protocols. [2] General term for any product primarily used to gain access to the Internet, as opposed to being part of the actual Internet devices or software.
WCS	Wireless Communication Service	Licensed band around 2.3 GHz
WEC	WAN Ethernet Controller	Process created during BTS booting and attached to the stack to perform RFC1483 Ethernet bridging onto the ATM interface.