

Sierra Wireless *Corporate Glossary*



2110032 Rev 2.3
September 2004

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Acronyms and Terms

This glossary makes use of various icons that indicate acronyms and terms specific to certain [data communications](#) systems or technologies. The following icons are used:



	Code Division Multiple Access (CDMA)
	Edge
	WiFi





1X		One Times Radio Transmission Technology (the "one times" refers to the frequency spectrum) - a high-speed standard for cellular packet data communications . Supports Internet connections with data rates up to 153.6 kbps (downlink from the network) and 76.8 kbps (uplink to the network). Actual speed depends on the network conditions.
1xRTT		See 1X .
1xEV-DO		A high-speed standard for cellular packet data communications . Supports Internet connections with data rates up to 2.4 Mbps (downlink from the network) and 153.6 kbps (uplink to the network). Average data rates are roughly 700 kbps (downlink from the network) and 153.6 kbps (uplink to the network). Actual speed depends on the network conditions. <i>Compare to 1X.</i>
ACK		A signal sent to acknowledge the reception of a packet .
activation		The process of setting up an account, so that you can connect to the wireless network .
AGC		Automatic Gain Control – A mechanism to automatically adjust a microphone or speaker based on input levels.
AirCard®		PC Card made by Sierra Wireless, offering data services over the cellular phone infrastructure.
airlink		The physical layer RF channel pair used for communication between the wireless device and the base station .
AMPS		Advanced Mobile Phone Service – Original name given to the analog voice cellular telephone system. The standard for cellular telephone service in North and South America plus some Pacific Rim countries.
ANSI		American National Standards Institute . Consult www.ansi.org .
AOC		Access Overload Class
API		Application Program Interface
ARDIS		A type of packet network
ASCII		American (National) Standard Code for Information Interchange – An 8-bit data code used by most PCs and many telemetry devices


ASIC	Application-specific integrated circuit – A computer chip designed specifically for a particular circuit board or piece of electronic equipment. It is intended for sale to only one company and is typically developed to meet that company’s design objectives for a particular application.
A-side carrier	One of two original AMPS service providers in each cellular geographic coverage area (the other provider is the B-side carrier). Each of these providers is a separate business entity, providing competitive services, features, and billing rates for the cellular subscriber.
asynchronous	A method of transmitting information that involves sending data one character at a time. The sending computer puts a start bit at the beginning of each character transmitted and at least one stop bit at the end. <i>Contrast with synchronous.</i>
AT command	A set of modem commands , preceded by “AT,” originally developed by Hayes, Inc. for their modems. The structure but not the specific commands, which vary greatly from manufacturer to manufacturer, is a de facto modem industry standard.
ATM	<ol style="list-style-type: none">Asynchronous Transfer Mode – A method of broadband switching. A multiplexing format, carrying voice, fax, LAN and data traffic, supporting speeds up to 2.2GB/sec, and carrying voice/fax and LAN traffic; a standard for high-speed, packet-switched networks.Automated Teller Machine
authentication	The procedure used to ensure that the user of an ESN is in fact the legitimate user of that ESN.
bandwidth	<ol style="list-style-type: none">The data transmission capacity of a line or connection. The value is expressed in bits per second; its frequency range is measured in Hz.The range of frequencies, expressed in bits per second, that can pass over a given data transmission channel within a network. The amount of bandwidth determines the rate at which information can be sent through a channel. The greater the bandwidth, the more information that can be sent in a given amount of time.
base station	<ol style="list-style-type: none">A station in the Domestic Public Cellular Radio Telecommunications Service that provides the means for mobile stations (for example, cell phones, radio modems) to access network services using radio.A cell, a sector within a cell, a Mobile Switching Centre (MSC), an Interworking Function (IWF), or another part of the cellular system located at a cellular radio tower.
baud	A measure of the number of signal-state changes per second; for example, voltage or frequency changes. It is sometimes, but not always, the same as the number of bits per second.
BLER	Block Error Rate – A measure of the percentage of data blocks that could not be fully corrected by the Forward Error Correction scheme.
bps	bits per second – The actual data speed over the transmission medium. <i>See also baud.</i>
B-side carrier	One of two original AMPS service providers in each cellular geographic coverage area (the other provider is the A-side carrier). Each of these providers is a separate business entity, providing competitive services, features, and billing rates for the cellular subscriber.

BS/MSC		The base station (BS) and the mobile switching centre (MSC) functioning as a single entity in the sending and receiving of data .
buffer		An area in a device used to store data temporarily.
byte		An 8 bit data symbol that has 256 possible combinations. Bytes are usually represented by two hexadecimal (0-F) digits. If the symbol can be displayed, printed, or is used for control purposes, it can also be referred to as a character , for example, ASCII . Not all bytes are characters by this definition.
Caller ID		A feature that sends the names and phone numbers of callers between the first two rings using V.21 protocol .
carrier		The frequency that is modulated by the data .
CCITT		Consultative Committee on International Telegraphy and Telephony – A United Nations organization that establishes electronic communications standards.
CDMA		Code Division Multiple Access – A wideband spread spectrum technique used in digital cellular, personal communications services, and other wireless networks . Wide channels (1.25 MHz) are obtained through spread spectrum transmissions, thus allowing many active users to share the same channel. Each user is assigned a unique digital code, which differentiates the individual conversations on the same channel. <i>See also</i> Edge and TDMA .
CDMA 1X		See 1X .
cdmaOne		The IS-95 CDMA standard developed by Qualcomm Inc.
CDPD		Cellular Digital Packet Data – wireless radio frequency (RF) packet switched data communication services. Also, a communications system, operating over the existing AMPS cellular infrastructure, that provides services between Fixed End Systems (F-ES) and Mobile End Systems (M-ES).
cell		The RF area controlled by one cellsite. Cells are usually hexagonal and can be anywhere from 0.4 to 15 miles in radius.
character		Any symbol that can be displayed as text on the screen, printed, or used for control purposes. Generally it is represented by an 8-bit element of data .
checkbox		A list in a dialogue box that, unlike radio buttons , allows the user to select more than one option at the same time.
checksum		A way of detecting data transmission errors by finding the sum of the data as represented by numbers.
client		A computer originating a data conversation (to request service from a server).
CLNS		Connectionless Network Service – A service that routes each packet individually within the network based on the destination address carried in the packet and knowledge of the current network topology. Also referred to as a datagram service.
COM		The serial communications port of a computer.
command		The exchange of data in AT commands between the host (DTE) and modem (DCE).




command buffer	Distinct from the data receive and transmit buffers , it retains the contents of the last issued command until the AT command prefix is received for the next command. This allows the repeating of the last issued command by entering A/ instead of AT.
compression	A technique used to reduce the number of bits that have to pass over the data communication link in order to get a message from one end to the other. The modem converts a stream of data bits from the host into a shorter stream of bits by applying special compression algorithms.
CONNECT	A message indicating that the modem has made the transition from command state to data state. In other words, commands have been exchanged with the modem and data is being sent through it.
connection	<ol style="list-style-type: none">1. A physical link between two pieces of hardware.2. A logical link that connects the modem to the network.
CRC	Cyclical Redundancy Check – An error detection scheme in which a block check character is generated for a block of transmitted data and sent across the link. The CRC is recalculated at the receiving end and then compared with the received CRC; if they do not match, the received block is not acknowledged.
CSC	Circuit Switched Cellular – V.xx modem communications over a cellular network . It uses a dedicated connection circuit, in contrast to packet-switched . The user is charged by the carrier for the duration of the connection.
CTS	Clear To Send – An RS-232 control signal used in hardware flow control , issued in response to RTS .
data	Information exchanged between a source and destination. This can consist of a single bit or a long string of bits, depending on the application.
data block	A unit of data sent by the mobile/base station that transports user data and signaling traffic.
data communication	The modem protocol layer that is closest to the hardware and deals with the modulation scheme used to transmit and receive the raw data that is presented to the layer above. It is concerned mainly with establishing the modulation scheme that will give the highest throughput (bps) on a given physical point-to-point connection .
datagram	A packet that may or may not contain other packets and is transmitted via the Internet Protocol.
DB-9	A 9-pin serial connector type commonly found on communications cables and used by PCs and modems .
DB-25	A 25-pin serial connector type commonly found on communications cables and used by PCs and modems .
dBm	A logarithmic (base 10) measure of relative power (dB for decibels); relative to milliwatts (m). A dBm value will be 30 units (1000 times) larger (less negative) than a dBW value because of the difference in scale (milliwatts vs. watts).
dBW	A logarithmic (base 10) measure of power (dB for decibels); relative to one watt.




DCD		Data Carrier Detect – An RS-232 status signal usually used to indicate the presence of the carrier frequency.
DCE		Data Communication Equipment – When the modem is connected to a computer running a terminal emulation program, the computer and terminal emulation program perform the role of the DTE , while the modem fills the role of the DCE.
DHCP		Dynamic Host Configuration Protocol – A protocol used to automatically assign IP addresses and related information. DHCP also provides safe, reliable TCP/IP network configuration.
DLL		Dynamic Link Library – a module that contains functions and data . A DLL is loaded at run time by its calling modules (.exe or .dll). When a DLL is loaded, it is mapped into the address space of the calling process.
DNS		Domain Name Server – Internet server that supplies the mapping of domain names to IP addresses .
download		The receiving of information through a modem from the host server to the client . Contrast with upload .
DSR		Data Set Ready – An RS-232 control signal used to signal the attached host device (DTE) that the modem (DCE) is powered on and ready to communicate.
DTE		Data Terminal Equipment – The device that generates or is the final destination of data . When the modem is connected to a computer running a terminal emulation program, the computer and terminal emulation program perform the role of the DTE while the modem fills the role of the DCE .
DTMF		Dual Tone MultiFrequency – The tone generation system used by standard telephone networks . Each key is allocated a row and column tone; both are played at once to create the DTMF signal.
DTR		Data Terminal Ready – A RS-232 control signal used to signal the modem (DCE) that the attached host device (DTE) is powered on and ready to communicate.
DUN		Dial-Up Networking – a Windows [®] protocol for connecting a computer to a server via the telephone network .
Ec/Io		Energy per chip / Total Noise Density – a measurement of the pilot channel's signal strength as a function of the total interference density in the CDMA carrier band.
ECM		Error Correction Mode – A mode of operation for T.30 fax service that reliably provides end-to-end data transport.
Edge		Enhanced Data Rates for Global Evolution – A third-generation packet network that supports data rates of up to 384 kbps . The capacity of cellular networks is increased by allowing callers to share a channel. Each channel, divided into time slots, can be used for six transmissions. Scheduled to be available in 2001. <i>See also</i> CDMA and TDMA .
EEPROM		Electrically Erasable Programmable Read Only Memory – A memory chip that can be recorded or erased by an electric signal while attached to the circuit board, but does not lose its content when electrical power is removed. firmware is stored in EEPROMs. <i>See also</i> RAM and flash memory .

EIA		Electronic Industries Alliance – a standards body. Comprised of over 2,500 members, EIA represents over eighty percent of the \$550 billion electronics industry. Consult www.eia.org .
error control		The modem protocol layer that implements one of a number of error encoding and detection schemes on outgoing and incoming data frames respectively. This layer also takes care of the retransmission of corrupted packets to ensure that data delivered to the layer above it is error free.
error detection		A protocol that allows the modem to detect errors in a transmission. If an error is found the receiving modem requests the sending modem to re-transmit the data .
ESN		Electronic Serial Number – The unique serial number assigned to the modem for circuit switched cellular network use.
ETC [®]		Enhanced Throughput Cellular Protocol – Enhanced V.32bis and V.42 usage for improved performance in CSC mode.
facsimile		See fax .
fax		The process by which a document is scanned, converted into electrical signals, transmitted, and recorded or displayed as a copy of the original.
FCC		Federal Communications Commission – The U.S. federal agency that is responsible for interstate and foreign communications. The FCC regulates commercial and private radio spectrum management, sets rates for communications services, determines standards for equipment, and controls broadcast licensing. Consult www.fcc.gov .
FER		Frame Error Rate
firmware		Software stored in ROM or EEPROM ; essential programs that remain even when the system is turned off. Firmware is easier to change than hardware but more permanent than software stored on disk.
first order effects		The distortions and resulting data limitations introduced by the equipment in cellular networks . Most notable is the baseband processing (pre-emphasis, de-emphasis, compression and expansion) used to optimize voice quality in AMPS . See also second order effects .
flash memory		A small printed circuit board that stores large amounts of data (for example, NEIs and other user data) in non-volatile memory.
flow control		Also known as handshaking , a standard for controlling the flow of data , in either direction, between a modem and an attached device to prevent overruns. Implementation can be by hardware (RTS/CTS) or software (X-ON/X-OFF).
Forward Fundamental Code Channel		A Fundamental Code Channel that operates in the forward direction; from base station to mobile .
Forward Supplemental Code Channel		A Supplemental Code Channel that operates in the forward direction; from base station to mobile .
Forward Traffic Channel		One Forward Fundamental Code Channel and optionally up to seven Forward Supplemental Code Channels used to transport data blocks from the base station to the mobile station . See also Reverse Traffic Channel .
frame		A block of data formed from binary codes to be sent with a header and error detection information over a communications channel.





frame relay		A high-speed, packet-switching technology that transmits data between intelligent end-points like routers or FRADs at speeds between 56kbps and 1.544Mbps . Data is divided into variable-length frames by the sending device; each frame contains a header with address information. The frames are transmitted intermittently over digital circuits and reassembled at the receiving end.
Friends Only		A security mechanism that does not allow the device to service requests from stations not on a list of user-defined “friends.”
FTP		File Transfer Protocol – A TCP/IP based protocol for transferring files.
full duplex		Simultaneous two-way independent transmission of data in both directions across the link. This type of connection exists in both the wireline PSTN and wireless cellular links. While the user is sending data to another computer, that computer can be simultaneously sending data back to the user.
Fundamental Code Channel		A portion of a Forward Traffic Channel or Reverse Traffic Channel that is always present. It carries primary and secondary traffic, signaling, and power control information.
Fundamental Data Block		A data block , potentially containing primary, secondary and/or signaling traffic, transmitted on the Fundamental Code Channel by the base/ mobile station .
Fundamental RLP Frame		An RLP frame carried in a Fundamental Data Block .
gateway		A device that connects two or more incompatible network protocols .
GPRS		General Packet Radio Services – A 2.5-generation technology (being implemented in GSM networks) that may offer wireless data access speeds of up to 144 kilobits per second in end-user devices.
GPS		Global Positioning System – A system that uses a series of 24 geosynchronous satellites to provide navigational data .
GSM		Global System for Mobile Communications –an international standard for cellular networks ; used mainly in Europe and Asia. <i>Consult www.gsm.org.</i>
GUI		Graphical User Interface
half duplex		A link where transmission occurs in either direction, but not at the same time. While the user is sending data to another computer, that computer cannot be sending data back to the user.
handoff		The process of changing radio channels in a cellular system. The user device switches from one radio frequency in the old cell to a new radio frequency in the new cell.
handshaking		The process in which a modem negotiates or exchanges basic information with another modem to determine which protocols will be used for connectivity.
HDML		Hand-held Device Markup Language – A derivative of Hypertext Markup Language for hand-held wireless devices.
header		Control information that ensures the datagram is sent to the correct address.




home area		The area in which the subscriber has registered their device with a service provider.
host		<ol style="list-style-type: none">1. A computer that uses a modem or a similar device to answer a calling computer.2. A source or destination in the communication network.3. A computer that contains data or files to be accessed by client computers. Also known as a server.
hotspot		<p>A wireless LAN node that provides Internet connection and VPN access from a given location.</p> <p>A WiFi hotspot can be “broadcasting” or “non-broadcasting”.</p> <p>Broadcasting WiFi hotspots transmit their SSID, allowing any WiFi network adapter within coverage to detect them.</p> <p>Non-broadcasting hotspots do NOT transmit their SSIDs.</p>
HTTP		Hypertext Transfer Protocol
ICMP		Internet Control Message Protocol – A protocol included in the network layer for CDMA analog fax services.
IEEE		Institute of Electrical and Electronic Engineers – A standards setting organization. Consult www.ieee.org .
IMSI		International Mobile Station Identity
Internet address		A 32-bit source or destination address that is given an IP number and is assigned to hosts using IP.
IP		Internet Protocol – The basic Internet transport mechanism.
IP address		A unique address on the Internet. Each modem must have one, to operate on a packet network . The IP address is a unique number consisting of four parts separated by dots. See also DNS .
IPCP		Internet Protocol Control Protocol – A protocol that negotiates a temporary IP address for the mobile station whenever a transport layer connection is actively opened. See also DHCP .
IRC		Internet Relay Chat
IrDA		InfraRed Data Access – A port on many portable computers used to exchange information.
IS		<ol style="list-style-type: none">1. In Service2. Interim Standard – After receiving industry consensus, the TIA forwards the standard to ANSI for approval.
IS-41		A network standard that allows all switches to exchange information about subscribers.
IS-54		The first generation of the digital standard time division multiple access (TDMA) technology.
IS-95		The standard for CDMA .
ISO		International Standards Organization – A standards setting group. Consult www.iso.ch .
ISP		Internet Service Provider – an organization that provides network connectivity for client computers.




IWF		Interworking Function – A function that converts information for one or more network entities. A data service IWF enables a mobile station to communicate with data terminal equipment connected to the network.
kbps		kilobits per second – Actually 1000, not 1024, as used in computer memory size measurements of kilobytes. <i>See also</i> bps , Mbps .
LAN		Local Area Network
LAP-M		Link Access Protocol for Modems – An error correction protocol for V.42bis .
LCP		Link Control Protocol – used in PPP .
LED		Light Emitting Diode – A semiconductor diode that emits visible or infrared light.
logic sleep		A mode of operation that reduces power consumption when the logic functions are idle.
MAS		Mobile Application Subsystem –The combination of the Sierra Wireless modem and the attached remote device (PC or user terminal device).
Mbps		Millions of bits per second, or Megabits per second. <i>See also</i> bps , kbps .
MCC		Mobile Country Code
MFC		Microsoft Foundation Classes
MIB		Multipurpose Interface Board – A component of the Sierra Wireless OEM Developer's Toolkit .
MIN		Mobile Identification Number – A number that identifies a specific mobile unit within a wireless carrier's network .
MNP		Microcom Networking Protocol – Ten levels (MNP-1 through MNP-10) of data compression and error correction techniques that allow a modem to communicate at a faster than normal rate.
MNRP		Mobile Network Registration Protocol
mobile		(noun) <i>See</i> MS .
mobile station		<i>See</i> MS .
modem		A modulator/demodulator . The modem takes a digital signal from a host computer and modulates it on a carrier frequency in analogue. At the receiving end, the modem demodulates the analogue signal, extracting the data from the carrier.
Modem Emulation Service		A wireless data service in which the mobile termination appears as a standard telephone modem to a data terminal.
modem pool		A wireless data service that inserts a modem tuned for cellular operation between the mobile modem and wireline modem for improved performance.
modulation		The process of changing the carrier's amplitude, frequency, or phase to impose the transmission of a signal on a carrier wave.
MP200		A high-powered CDPD cellular modem made by Sierra Wireless, designed for mobile and fixed cellular data communications .

MS		Mobile Station – A wireless terminal, such as a cell phone, pager, or radio modem , that is considered a station in the Domestic Public Cellular Radio Telecommunications Service.
MSC		Mobile Switching Center – The MSC switches traffic originating from or terminated by mobile stations . Usually connected to at least one base station , the MSC may also be connected to other public networks (PSTN, ISDN, etc.), other MSCs in the same network, or those in different networks.
MSE		Mean Squared Error – The value returned from the AT command AT&&R4C . Supported by the MP family of modems , the MSE is in hexadecimal format and is a measure of noise. Thus, the higher this value, the lower the connection speed.
MSL		Master Subsidy Lock – A password that allows a user to configure parameters that are normally not accessible. <i>See also</i> OTSL .
MTSO		Mobile Telephone Switching Office
MUX		multiplexer – A telecommunications device that temporarily combines two or more signals into a single signal and transmits it onto one physical channel.
NAK		Negative Acknowledge
NAK List		A list maintained by RLP that associates a missing data frame 's 12-bit sequence number with the retransmitted data frame's 8-bit sequence number.
NAM		Number Assignment Module – Semi-permanent information stored in the NOVRAM , including the modem 's Mobile Identification Number, the station class mark, carrier code, and other cellular identifiers. Essentially the phone number, it should be treated as confidential information and should not be disclosed to anyone other than the cellular service provider.
NDIS		Network Driver Interface Specification – A programming interface specification for connecting network interface cards in Windows.
NEMA		National Electrical Manufacturer's Association – A standards setting body. <i>Consult</i> www.nema.org .
network		A group of hosts or computers linked by logical connections .
NIC		Network Interface Card
NID		Network ID
NMEA		National Marine Electronics Association – A standards setting body that has created the standards for exchanging GPS data between navigation devices. <i>Consult</i> www.nmea.org .
NOVRAM		Non-volatile Random Access Memory – Random Access Memory that remembers its contents even if the power is removed.
octet		A standard byte of 8 bits.
OEM		Original Equipment Manufacturer – A company that manufactures a product and sells it to a reseller.
offline		The modem is disconnected from any remote terminal or without an active network session.


OK	On a system with a Hayes-compatible modem , this message appearing on the console indicates that the command entered by the user was accepted and processed.
online	The modem is actively connected to a remote terminal or with a network session open.
option button	See radio button .
OSI	International Standard Reference Model of Open Systems Interconnection – The OSI model divides the communications process into seven distinct layers, stacked one above the other, hence the term “ protocol stack ”.
OTSL	One-Time Subsidy Lock – A password that allows a user to configure parameters that are normally not accessible. The OTSL is in effect for only one session. See also MSL .
packet	A short fixed-length block of data including a header that is transmitted as a unit in a communications network .
PAD	Packet Assembler / Disassembler – A hardware device that makes it possible for a data terminal not set up for packet switching to use a packet switching network . It assembles data into packets (and adds header information) for transmission, and disassembles the packets on arrival so they can be used.
parity	A simple method of detecting if the character just received over the link is what was transmitted. A single bit is added to the binary string of bits representing the character to be transmitted. This bit is set to make the total number of binary ones in the character string plus the parity bit equal to an even or an odd number. There are five types of parity: (E)ven, (O)dd, (M)ark, (S)pace, and (N)one.
PBX	Private Branch Exchange – A private telephone system that provides switchboard service, phone extensions, and access to the public telephone network .
PC Card™	Add-in memory and communications cards for portable computers. PC Card is a trademark of the Personal Computer Memory Card International Association (PCMCIA).
PCMCIA	Personal Computer Memory Card International Association – The organization that standardizes PC Cards .
PCS	Personal Communications Services – A cellular communication infrastructure that uses a different frequency range than AMPS .
PDA	Personal Digital Assistant – A handheld device for managing appointments, phone lists, and other personal data such as e-mail.
PDF	Portable Document Format – A method of exchanging documents with preserved formatting between different systems. Based on postscript, it is proprietary to Adobe Systems Incorporated.
PIN	Personal Identification Number – Part of the optional security system for certain products.
Ping	A program used to test network connectivity by sending data that is then echoed by the remote station. Ping is handled in the protocol stack that is transparent to the application layer.



POP3		Post Office Protocol, Version 3 – A protocol , by which a client machine can retrieve mail from a mail server . <i>See also</i> SMTP .
port		<ol style="list-style-type: none"> 1. A standard piece of the TCP address structure. The port serves as an extension of the IP address to permit a single host (one IP address) to provide multiple servers (applications), each defined by its unique port number. The port number is used to direct TCP traffic to the correct application. 2. The socket on the computer that allows external devices such as a modem or printer to be attached. 3. The process of modifying software to bring it from one type of computer system to another; for example, to translate a Windows program so that it will run on a Macintosh computer.
POS		Point of Sales – Terminal devices often connected to a network .
ppm		Parts Per Million
PPP		Point-to-Point Protocol – An alternative communications protocol used between computers, or between computers and routers on the Internet. PPP is an enhanced SLIP .
PRI		Product Release Instructions
PRL		Preferred Roaming List – An account configuration item set by your service provider. It controls the radio channels used by the device. <i>See also</i> roaming .
protocol		A defined procedure for determining the proper way of exchanging information on a network .
PSTN		Public-Switched Telephone Network – The public telephone system.
QAM		Quadrature Amplitude Modulation – This form of modulation uses amplitude, frequency, and phase to transfer data on the carrier wave. For more information on modulation schemes, visit www.v90.com .
radio button		The round button in the dialog boxes in Windows that is selected to make <i>one</i> choice from among several items, same as option button . <i>Contrast with</i> checkbox .
RAM		<ol style="list-style-type: none"> 1. Random Access Memory – The working memory of a computer in which data is temporarily stored. Data in the RAM will be lost if electrical power is removed before the data is saved to disk. 2. A type of packet network
registration		The process of an ESN signing on to an available base station . Network registration must be performed before communication across the network can begin. Registering on the network is distinct from opening a communication session. The registration process involves an exchange of identification, authentication , and encryption keys.
Reverse Fundamental Code Channel		A Fundamental Code Channel that operates in the reverse direction; from mobile to base station .
Reverse Supplemental Code Channel		A Supplemental Code Channel that operates in the reverse direction; from mobile to base station .

Reverse Channel	Traffic		One Reverse Fundamental Code Channel and optionally up to seven Reverse Supplemental Code Channels used to transport data blocks from the mobile station to the base station .
RF			Radio Frequency
RFC			Request for Comments – The generic name that refers to a series of specifications developed by the Internet Engineering Task Force (IETF). The specifications include surveys, measurements, proposed and accepted TCP/IP protocol standards.
RI			Ring Indicator – An RS-232 control signal used to indicate an incoming call or packet .
Ricochet			A wireless high-speed 128 kbps technology, which uses a frequency-hopping network architecture. Allows you to stay connected while moving at speeds up to 70 mph.
RJ-11			A four-conductor jack used to connect to the PSTN .
RLP			Radio Link Protocol – This protocol improves the error characteristics of the wireless link, thereby reducing the need for transport layer retransmission due to lost data .
RMA			Return Material Authorization
roaming			A cellular subscriber is in an area where service is obtained from a cellular service provider that is not the subscriber's provider. This may be subject to roaming charges.
RS-232			An EIA hardware standard. Defining the most common type of serial communications port hardware, it covers signal definitions, pin assignments, voltage and impedance levels, and inter-device signaling rules.
RS-232-C			The most common type of serial transmission standard. EIA RS-232-C is a set of data transfer procedures, and more importantly, a set of standards for voltages and pin usage on a serial connector.
RSSI			Received Signal Strength Indication – The signal power level at the antenna of the modem , usually measured in dBm . <i>See also</i> dBm and dBW .
RTS			Request to Send – An RS-232 control signal used in hardware flow control .
RTT			Return Trip Time
RTU			Remote Terminal Unit – Another name for a MAS ; usually implies a fixed location telemetry device.
RXD			Received Data – One of the RS-232 data lines used to send data from the remote terminal to the host . <i>See also</i> TXD .
SDK			Software Developers Kit
second order effects			Interference that is caused by poor signal coverage in a region or by a cellular phone in a different cell , but on the same channel, leaking signals into a cell. Second order effects will sporadically limit the communications link, leading to momentary loss of data , or a dropped call. <i>See also</i> first order effects .
SER			Symbol Error Rate – Percentage of symbols in error. <i>See also</i> SIE .

serial		A method of transmission where each bit of the character is sent sequentially over a link.
server		A computer answering a data request from a client .
SID		System Identifier –identifies your home network area and is used in conjunction with your phone number to determine if you are “home” or “roaming”.
SIE		Symbols in Error – Used in computing the SER .
SIM		Subscriber Identity Module – The part of the modem containing the IP address and authentication credentials.
sleep mode		A mechanism that switches off some internal components to reduce power consumption. <i>See also:</i> logic sleep .
SLIP		Serial Line Internet Protocol – The original communications protocol used between computers, or between computers and routers on the Internet. This protocol allows applications, such as Watcher , to communicate with the modem by exchanging datagrams across the serial port connection . <i>See also</i> PPP .
SMA		A standard, screw-on type radio frequency 50-ohm miniature connector.
SMB		A standard, push-on type radio frequency 50-ohm miniature conductor.
SMS		Short messaging service – A feature that allows users of a wireless device on a wireless network to receive or transmit short electronic alphanumeric messages (up to 160 characters , depending on the service provider).
SMTP		Simple Mail Transfer Protocol – A protocol used for Internet e-mail. <i>See also</i> POP3 .
SNMP		Simplified Network Management Protocol – A set of standards for communication with devices connected to a TCP/IP network. Examples of these devices include routers, hubs, and switches. SNMP permits remote monitoring and controlling of communication devices.
SNPA		SubNetwork Point of Attachment
SNR		Signal to Noise Ratio
socket		An Internet address including the IP number and especially the TCP port .
SPDU		Session Protocol Data Units.
speed buffering		The simplest form of buffering allows for line speed differences and busy conditions between the host (DTE) and modem and between the modem and the remote terminal (DCE). To prevent buffer overflows, flow control must be used.
SPK		Service Provider Key
S-Registers		Status Registers – A set of storage locations within the modem that hold status and control information for use by the modem firmware and the user’s application. Many can be set by the user when configuring the modem, or when activating diagnostic functions. <i>See also</i> WS-Registers .
SSID		Service Set Identifier – the name assigned to the network. Depending on how the hotspot is configured, an SSID and/or WEP key may be required to connect to the hotspot. You obtain these from the network operator.

stack		Refers to the TCP protocol stack, so-called because it is composed of a number of protocol layers (physical, data link , network , transport, and so on). Required to operate with Internet Protocol. Can be implemented in software (PC), or hardware (modem firmware).
start bit		The bit preceding each asynchronous character . Signals the receiving modem that a new character is starting. There is always one start bit.
stop bit		There is typically one stop bit at the end of each character to be transmitted. Resets the UART in preparation for receiving the next character.
Supplemental Code Channel		An optional portion of a Forward or Reverse Traffic Channel . It carries either primary or secondary traffic.
Supplemental Data Block		A data block , potentially containing primary, secondary and/or signaling traffic, transmitted on the Supplemental Code Channel by the base/mobile station.
Supplemental RLP Frame		An RLP frame carried in a Supplemental Data Block .
SWI		Sierra Wireless. Consult www.sierrawireless.com .
synchronous		A method developed to transmit multiple characters (a data block) at one time. Each block of multiple 8-bit characters is preceded and followed by a synchronizing bit sequence to maintain character synchronization with the modem . See also asynchronous .
TAIP		Trimble ASCII Interface Protocol – Trimble's GPS interface protocol used with many vehicle and fleet monitoring programs.
TCP		Transmission Control Protocol – The common underlying communication protocol used on the Internet. A connection handshake establishes a point to point logical connection. In contrast to UDP , TCP ensures both ends of the connection are present and active on the network . TCP ensures delivery of datagrams .
TDMA		Time Division Multiple Access – A mechanism to allow multiple users to share the same radio channel by allocating users specific time slots, thereby increasing the capacity of cellular networks . See also CDMA and Edge .
Telnet		A protocol used for remote terminal connection service. It allows users to log on to a remote host computer and operate as if they were directly connected to that host.
TIA		Telecommunications Industry Association – A standards-setting trade organization, whose members provide communications and information technology products, systems, distribution services and professional services in the United States and around the world. Consult www.tiaonline.org .
TIES		Time Independent Escape Sequence – A method of shifting the modem from data state to command state while retaining the underlying remote connection .
TNC		RF connector type. TNC is an industry standard type of threaded coaxial connectors used primarily for RF applications.
TPDU		Transport Protocol Data Units.

traffic channel		A Forward or Reverse Fundamental Code Channel used to send user data and signaling traffic between the base station and the mobile station . It has up to seven optional Supplemental Code Channels .
TXD		Transmit data – A RS-232 signal line that transmits data from the host to the remote terminal. <i>See also</i> RXD .
UART		Universal Asynchronous Receiver/Transmitter – A chip inside the computer that converts the 8-bit character representation into a serial format, and vice versa. The UART also performs the insertion and deletion of the stop bit , start bit , and parity . It can simultaneously send and receive data in a full duplex fashion.
UDP		User Datagram Protocol – A low overhead, connectionless , packet delivery IP protocol . Unlike TCP , UDP does not guarantee delivery of datagrams .
upload		Sending a file or program from the client to the host server via the modem . Contrast with download .
URL		Universal Resource Locator – An Internet address for a web page or file. The DNS may be used to derive the Internet Protocol address of the URL.
UTC		Universal Time Coordinated – UTC replaces Greenwich Mean Time as the basis for standard time throughout the world. UTC, which uses atomic measurements rather than the earth's rotation, is the equivalent of mean solar time at the prime meridian (0° longitude).
V.17		The CCITT standard that sets fax transmissions at 14,400 bps .
V.21		A protocol for sending data at 300 bps .
V.22		A protocol for sending data at 1,200 and 600 bps .
V.22bis		The standard for 2400 bps modems .
V.27ter		The standard for 2400 bps and 4800 bps modems .
V.29		The standard for 4800 bps modems .
V.32		The standard for 9600 bps modems .
V.32bis		A modification of V.32 . It transmits data at 14,400 to 12,000 bps .
V.32terbo		A modification of V.32 not approved by CCITT , transmits data at 19,200-16,800 bps .
V.34		A protocol for transmitting data at 28,000 bps .
V.34+		A protocol for transmitting data at 33,600 bps .
V.42		An error control protocol .
V.42bis		A data compression protocol .
VPN		Virtual Private Network
WAN		Wide Area Network – A computer network that uses high-speed packet switched lines to serve a large geographic area.
WAP		Wireless Application Protocol – A set of protocols used to efficiently provide Internet information over wireless communication networks to microbrowser-based devices, such as “smart phones.”

Watcher™		A suite of programs that run on the user's Windows-based computer. This program allows the user to configure the Sierra Wireless modem for communications, and monitor various modem parameters. It is not compatible with other vendors' modems.
WEP		Wired Equivalent Privacy — A WEP key is a security code used to control access to a hotspot . Depending on how the hotspot is configured, a WEP key and/or an SSID may be required to connect to the hotspot. You obtain these from the network operator.
WiFi		Wireless Fidelity — a high-frequency wireless local area network (WLAN). <i>See also</i> hotspot .
Winsock		The Windows Socket interface between a user application and the TCP/IP stack .
wireless		A communications link that does not involve a hardwired connection . An example of a wireless link is radio.
WirelessExpert		An enabling program created by Sierra Wireless. This program allows the user to configure the modem for communications. It is not compatible with other vendor's modems.
wireline		A communications link that involves a hardwired connection . An example of a wireline link is the public switched telephone network .
WLAN		Wireless local area network. <i>See also</i> WiFi .
WS-Registers		A set of modem registers used to handle the configuration of operations specific to wireless communication. <i>See also</i> S-Registers .
WWAN		Wireless WAN
WWW		World Wide Web – An Internet-based, hypertext, graphical network created by CERN researchers in Switzerland. For more information about CERN, visit their site at www.w3.org .
X.25		A CCITT protocol that allows for communication between user devices in packet-switched mode and packet-switched Public Data Networks.
X-OFF		Transmission (of data) Off – A message sent to the transmitting computer, informing it to stop sending data to the receiving computer that has a full buffer .
X-ON		Transmission (of data) On – A message sent to the transmitting computer, indicating it may resume sending data to the receiving computer.
X-MODEM		A file-transfer protocol that works by sending blocks of data together with a checksum and then waiting for acknowledgment of the block's receipt. Useful only at relatively slow data transmission speeds (less than 4,800 bps). Enhanced versions of X-MODEM that work at higher transmission speeds are known as Y-MODEM and Z-MODEM .
Y-MODEM		An asynchronous communications protocol that extends X-MODEM by increasing the transfer block size and by supporting batch file transfers. This enables you to specify a list of files and send them all at one time. With X-MODEM, you can send only one file at a time.

Z-MODEM

A file transfer [protocol](#) that transmits [data](#) between [modems](#) in blocks of 512 [bytes](#). It is fast because it does not wait for positive acknowledgement ([ACK](#)) after each block of data, but will resend a block if it receives a negative acknowledgement ([NAK](#)). Z-MODEM allows the transfer to resume where it left off following a communications failure.

Z-MODEM is the recommended file transfer protocol for the modem in Circuit Switched Cellular ([CSC](#)) mode.

