

1 Command General Format for Wi-Core Devices

BASIC INFORMATION – READ THIS

The Command Set for all Wi-Core™ based devices is simple and easy to use for common Wireless Network applications, and yet it is also has diverse and exacting instructions available for the advanced user for complicated and exotic applications.

A complete Command Line is a string of characters sent from the host to a device (that utilizes the Wi-Core Chip Set) while it is in Command State.

The command line is composed of:

Gatekeeper plus **Command Payload** plus **Terminator**

Gatekeeper (Gatekeeper string for all Wi-Core devices is “AT+i”, (Hex 41 54 2B 69))

Command Payload (Command Code + Delimiter + Parameters + User Field)

Terminator (Carriage Return (ASCII CR = HEX 0D))

Thus each command must begin with the Gatekeeper character sequence “AT+i” and terminated by a carriage return CR (HEX 0D).

Gatekeeper | **Command Code** | **Delimiter** | **Parameters** | **User Field** | **Carriage Return**
 AT+i <cc> <parameter> #UFn <CR>

<cc> (or <par>)	2–4 letter Command Code (<cc>) or parameter name (<par>)
	Delimiter Options: = : ~ ? , = WRITES parameter into PERMANANT Wi-Core memory. : WRITES parameter into PERMANANT Wi-Core (same as “=”). ~ WRITES parameter into TEMPORARY Wi-Core memory ? READS parameter from Wi-Core memory , separates various related parameters
<parameter>	Optional parameter or data. Warning: If <parameter> includes a , as defined above, it must be enclosed in single (‘) or double (“) quotes. The terminating <CR> is considered as a terminating quote as well.
#UFn	User-field macro substitution
<CR>	Carriage Return Command Line Terminator (CR = HEX 0D)

EXAMPLE 3: WRITE Channel Number 11 (Ad Hoc Mode) to Wi-Core (WLCH= Command)

Gatekeeper | Command Code | Delimiter | Parameters | User Field | Carriage Return

AT+i WLCH = 11 CR

Equivalent Hex Code:

41 54 2B 69 57 4C 43 48 3D 31 31 0D

Wi-Core responds: I/OK <CR><LF> (Note: the < > for illustration only, not outputted.)

Wi-Core Equivalent Hex Code Response: 49 2F 4F 4B 0D 0A

(Note: All Wi-Core response strings are terminated with <CR><LF> (HEX 0D 0A).)

EXAMPLE 4: READ Channel Setting From Wi-Core (WLCH? Command)

Gatekeeper | Command Code | Delimiter | Parameters | User Field | Carriage Return

AT+i WLCH ? CR

Equivalent Hex Code:

41 54 2B 69 57 4C 43 48 3F 0D

Wi-Core responds: 11<CR><LF> (Note: < > for illustration only, not outputted.)

Wi-Core Equivalent Hex Code Response: 31 31 0D 0A

EXAMPLE 5: WRITE New SSID Wireless Network Name to Wi-Core (WLSI= Command)

Gatekeeper | Command Code | Delimiter | Parameters | User Field | Carriage Return

AT+i WLSI = Factory6 CR

Equivalent Hex Code:

41 54 2B 69 57 4C 53 49 3D 46 61 63 74 6F 72 79 36 0D

Wi-Core responds: I/OK <CR><LF> (Note: the < > for illustration only, not outputted.)

Wi-Core Equivalent Hex Code Response: 49 2F 4F 4B 0D 0A

(Note: All Wi-Core response strings are terminated with <CR><LF> (HEX 0D 0A).)

Commands Summary by Category

GateKeeper	
AT+i	Gatekeeper prefix
Host Interface	
En	Echo Mode
Parameter Database Maintenance	
FD	Factory Defaults
RP< i>	Request status report
User Fields	
UEn	User Storage field and Macro Substitution <n>: 01..12
Connection	
BDRA	Auto baud rate mode
UP	Connect to Internet
TUP	Triggered Internet session mode
DOWN	Perform a software reset
PING	PING a remote system
LAN – Local Area Network	
MACA	MAC address assigned
DIP	Default IP address
IPA	IP address assigned
IPG	IP gateway address
SNET	Subnet address assigned
Wireless LAN	
WLSI	Wireless LAN SSID (System Set ID)
WLCH	Wireless LAN Channel in ad-hoc mode
WLTR	WLAN transmission rate
WLPW	WLAN Tx power
WRFU	WLAN radio up
WRFD	WLAN radio down
WRST	Reset WLAN chipset
WLBm	WLAN b mode
WLGm	WLAN g mode
WLWm	Wireless LAN WEP Mode
WLKI	Wireless LAN Transmission WEP Key Index
WLKn	Wireless LAN WEP Key Array
WLPS	WLAN chipset Power Save mode dose time.
WLPP	Wireless LAN WPA- PSK pass phrase
WSEC	Wireless LAN WPA security
WROM	Enable Roaming mode
WPSI	Periodic scan for APs interval
WSRL	Roaming mode SNR low threshold
WSRH	Roaming mode SNR high threshold
WSIn	WLAN SSID for multiple SSIDs
WPPn	Pre-shared key passphrase for multiple SSIDs
WKYn	WLAN WEP key for multiple SSIDs
WSTn	WLAN security type for multiple SSIDs

SerialTunnel Mode	
[! @]SNMD	Activate SerialTunnel mode
HSRV or HSRn	Set the remote host server name/IP and port.
HSS	Switches among three possible HSRV parameters.
DSTR	Set disconnect string template
LPRT	Set the SerialTunnel mode listen socket.
MBTB	Max bytes to buffer while establishing a connection.
MTIE	Max inactivity timeout in milliseconds before flushing the SerialTunnel socket.
FCHR	Flush character.
MCBF	Max. characters before flushing SerialTunnel socket.
IATO	Inactivity timeout in seconds before closing the SerialTunnel connection.
SNSI	SerialTunnel mode Serial interface configuration. Defines baud, bits, parity, stop and flow control.
STYP	Set SerialTunnel mode socket type. 0 (TCP) or 1 (UDP).
SNRD	Delay time in seconds before re-enabling SerialTunnel mode after failed connection.
SPN	SerialTunnel Phone Number to wake-up SerialTunnel Server.
SDT	SerialTunnel Dial Timeout. When waking up SerialTunnel server, Wi-Core will hang-up after SDT seconds elapsed.
SWT	SerialTunnel Wake-up Timeout. Number of seconds to allow for the SerialTunnel server wake-up procedure.
PTD	Specifies the number of Packets to Drop during a SerialTunnel session.

Operational Mode	
XRC	Extended Return Code. Same as ATXn
DMD	Modem Dial Mode: ATD<m> Tone (0); Pulse (1); None (2)
MIS	Modem initialization string. May contain several consecutive AT commands.
MTYP	Modem Type Designator
WTC	Wait Time Constant. Initialization constant for modem's S7 register.
TTO	TCP Timeout. Number of seconds wait before returning timeout error TCP transaction.
PGT	Timeout to resend a PING request.
MPS	Max PPP Packet Size.
TTR	Timeout to resend an unacknowledged TCP packet over PPP, in milliseconds.
BDRF	Sets the Wi-Core↔ Host to a fixed baud rate.
BDRM	Sets the Wi-Core↔ modem baud rate to a fixed baud.
AWS	Sets flag to define web server activation.
LATI	Remote AT+i Service, port number.
FLW	Flow Control Mode
CPF	Sets Communication Platform: Modem(0);LAN(1).
PSE	Sets Power Save Mode: Disabled(0); idle time in seconds before activating Power Save mode (1..255)
SDM	Service Disable Bitmap
DE	IP Protocol Don't Fragment Bit
CKSM	Sets checksum mode
HIF	Sets host-to-Wi-Core interface
MIF	Sets Wi-Core-to-modem interface
ADCL	A/D Converter base level
ADCD	A/D Converter delta
ADCT	Time interval between queries of A/D Converter's register
ADCP	Wi-Core's I/O pin to be asserted by the A/D Converter's polling
RRA	Wi-Core readiness indication
RRHW	Wi-Core readiness HW pin
ISP Connection	
ISPn	ISP's access phone number.
ATH	Use CHAP (2), PAP (1) or Script (0) authentication
USRN	ISP Connection User Name
PWD	ISP Connection Password
RDL	Number of Redial tries
RTO	Timeout before redialing [sec]

Server Profiles	
LVS	Leave on Server: 1-Yes,0-No
DNSn[p]	Domain Name Server IP address <n>:1..2
SMTP[p]	SMTP Server Name
SMA	Define SMTP Authenticated Method: 0 (None) 1(Login authentication)
SMU	SMTP Authentication User Name
SMP	SMTP Authentication Password
POP3[p]	POP3 Server Name
MBX	Mailbox User Name
MPWD	Mailbox Password
NTSt	Network Time Server name
NTOD	Network time-of-day retrieval flag
GMTO	Wi-Core location's GMT Offset
DSTD	Sets Wi-Core's Daylight Savings transition rule
PDSst	Sets Wi-Core's PING Destination servers, used for online status verification.
PFR	Sets PING destination server polling frequency.
Send E-mail	
[!]EMA	Send textual e-mail
[!]EMB	Send binary e-mail
[!]E*	Terminate binary e-mail
Retrieve E-mail	
[!]RML	Retrieve mail list
[!]RMH[:<i>]	Retrieve header
[!]RMM[:<i>]	Retrieve e-mail
E-Mail Format	
XFH	Transfers e-mail headers. 1 (Enable) 0 (Disable)
HDL	Limits number of header lines retrieved.
FLS	Filter string must exist in message header to Qualify for Retrieve.
DELE	E-mail Delete Filter
SBJ	Contents of the e-mail subject field
TOA[n]	E-mail Addressee
TO	Addressee Description/Name in e-mail header
REA	Returns e-mail address.
ERM	Sender Description/Name in e-mail header
CCn	Alternate Addressee (CC: field) <n>: 1..4
BDY	Textual body contents for MIME-encapsulated e-mail messages
MT	Media Type: 0: Text; 1: Image ; 2: Audio ; 3: Video ; 4: application
MST	Media Subtype String. For a list see Appendix A.

FN	Attachment File Name (inc. extension). If a file name is not defined, Wi-Core generates a unique filename.
IP Registration	
RRMA	Sets e-mail address to use for dynamic IP address registration after going online.
RRSV	Sets server name/IP and port to contact for dynamic IP address registration after going online.
RRWS	Sets the web server URL used for dynamic registration after going online.
RRRL	Sets the Return Link IP address to use
HSTN	Wi-Core's Network Host Name
HTTP	
URL	URL string used for subsequent +iRLNK and +iSLNK commands.
CTT	Defines "Content-type" field sent in the POST request by +iSLNK
WPWD	Password restricting host parameter updates via browser.
HTTP Client	
[!] RLNK[:<URL>]	Retrieve link
[!] SLNK:<text>	Send POST request
HTTP Server	
WWW	Activate the web server
WNXT	Retrieve next changed web parameter
Telnet Client	
TOPN	Telnet open session
TRCV	Telnet receive
TSND	Telnet send line
TBSN[%]	Telnet send binary stream
TFSH[%]	Telnet flush
TCLS	Telnet close
File Transfer Protocol (FTP)	
FOPN	Open FTP link
FOPS	Open secure FTP link
EDL	FTP directory listing
EDNL	FTP directory name list
FMKD	FTP make directory
FCWD	FTP change directory
ESZ	FTP file size
ERCY	FTP file receive
ESTO	FTP file store
EAPN	FTP file append
FSND	FTP file send

FCLE	FTP close file
FDEL	FTP delete file
FCLS	FTP close
Special Modem Command	
MCM	Interlaced modem command
Socket Interface	
STCP	Socket TCP
SUDP	Socket UDP
LTCP	Listening socket
LSST	Listening socket status
SST	Single socket status
SCS	Socket connection status
SSND	Socket send
SRCV	Socket receive
GPNM	Get peer name
SDMP	Dump socket buffer
SESH	Flush socket's outbound data
[!] SCLS	Close socket
SSL	SSL3/TLS1 socket connection
Secure Socket Protocol (SSL3/TLS1)	
CS	Set the cipher suite to be used during SSL3/TLS negotiations.
CA	Set Wi-Core's SSL3/TLS trusted Certificate Authority (CA).
CERT	Set Wi-Core's SSL3/TLS certificate.
PKEY	Set Wi-Core's private key.
DHCP Server	
DPSZ	Set number of addresses in Wi-Core's IP pool.
DSLTT	Define lease time, in minutes, granted when assigning IP addresses to clients.
Router Mode	
ARSL	Causes Wi-Core to automatically enter Router mode upon power-up or soft reset.
Remote Firmware Update	
RFU	Remote firmware update
UEN	Remote Firmware Update flag
Remote Parameter Update	
RPG	Remote Parameter Update Group/Password
RAS Server	
RAR	Number of RINGS to activate internal RAS Server.
RAU	RAS Login User Name
RAP	RAS Login Password

