IWAP-2000

802.11b WiFi to RS232/422/485 Adapter

Integration Guide and Users Manual

Version 1.0

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1. About IWAP-2000

1.1. IWAP-2000 Overview

The IWAP-2000 Wi-Fi to RS232/422/485 adapter is a complete, stand alone and embedded serial to wireless LAN access device. The device has on board TCP/IP stack and applications. It can operate with internal battery without external power for 8 hours. Once initial configuration is set, the radio can automatically access the WiFi network and send/receive serial data over RS232/422/485 interfaces.

1.2. IWAP-2000 Features

- Battery operation
- Support low power deep sleep mode with serial port wake up function
- Fully Qualified 2.4GHz IEEE 802.11b Wireless LAN radio
- RS232/422/485 interfaces
- TCP socket client or server support
- SMA Antenna connector for custom antennas
- Conforms to FCC, IC, and CE.
- Baud rate speeds: 1200bps up to 230.4Kbps and non-standard baudrates.
- Ultra low power consumption (120mA TX, 60mA RX, 7mA deep sleep).
- Real time clock for time-stamping, auto-sleep and auto-wake modes.
- UART local configuration using simple ASCII commands.
- Over the air firmware upgrade (FTP), and data file upload.
- 4 LEDs for status. (Charging LED is muxed together with On LED)
- RoHS compliance.

1.3. LED Indication

Item / Status	On	Fast Blink	Slow Blink	Off
Link Status	NOT ASSOCIATED		ASSOCIATED, but no Internet	ASSOCIATED and Internet OK
Data		WiFi Receive Packet		
On/Charging	CONNECTED over TCP Charging LED: AC adapter Plugged	No IP ADDRESS	No IP ADDRESS	No power

1.4. Electrical Characteristics

	Min	Typ.	Max.	Unit
Supply Voltage	3.5	5.0	5.5	VDC
Average power consumption				

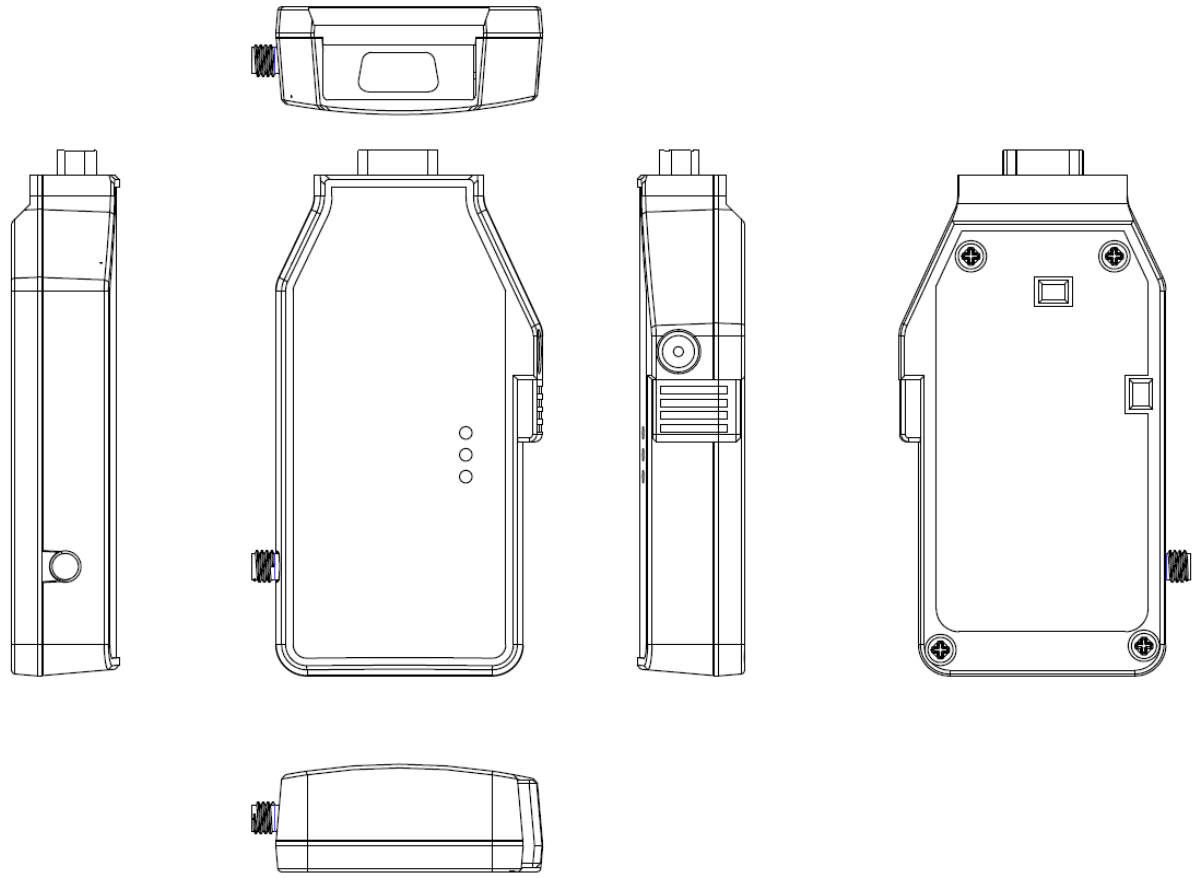
Sleep	2	7	30	mA
Connected(idle, RX)	50	60	75	mA
Connected(TX)		120	180	mA

1.5. Specifications

Hardware	
CPU	G2 Microsystems
Flash	512kb
External Ports	
Antenna	SMA connector
Serial Port	DB9 Female RS232/422/485 1200bps to 230400bps
Switches	
Slide Switch	Power on/off
DIP Switch 1	RS422/485 switch
DIP Switch 2	1. RS422/485 switch 2. RS232/485 switch
Power	
DC adapter	5V 1.5A
USB DC cable	Optional
Battery	1000mAh Lithium Polymer, 12 hours operating time
LED Indicators	
RED	Link Status
GREEN/ORANGE	Power/Charging
YELLOW	Data
Environment & Safety	
Operation Temperature	-10 to 50 degree C
Storage Temperature	-20 to 60 degree C
Operating Humidity	0-95% non-condensing
EMI and Safety	CE / FCC Class A

Wireless	
IEEE Standard	802.11b
Operation mode	WiFi Client
Frequency	2402 ~ 2480 MHz
Modulation	DSSS(CCK-11, CCK-5.5, DQPSK-2, DBPSK-1)
Channel Interval	5 MHz
Security	WEP128, WPA-PSK, and WPA2-PSK
Number of channels	13
Transmission rate	1/2/5.5/11Mbps
Receive Sensitivity	-93dBm
Max TX Power	12dBm
Antenna	2dBi omni SMA
Network	
IP Address	Fixed or DHCP
Supported Protocol	ICMP, Telnet, TFTP, DHCP, FTP, UDP Time server clients
Dimension	
Weight	100 g
Size	10.5 cm x 5 cm x 2.2 cm
Device Management	
Console Port	Serial Port
F/W upgrade	FTP client “over the air”

1.6. Enclosure



2. Hardware Installation

This chapter will explain how to install the IWAP-2000 and connect IWAP-2000 to RS232/RS422/RS485 serial port devices for data applications. The connection to Wifi network is done by software configuration and will be described in next chapter. IWAP-2000 requires physical mounting and installation on the site, following a prescribed placement design to ensure optimum operation.

The IWAP-2000 package includes the following items:
- IWAP-2000
- Mounting bracket
- DB9 break-out adapter for RS422/485
- 5VDC 1.5A AC adaptor
- DB9 serial cable
- Documentation as PDF files (in CD-ROM)
- Registration and Warranty cards

2.1 Power Interface

There are 3 ways to power the IWAP-2000.

1. Supply 5VDC power from the 3.5mm main power jack. The power supply current requirement is 1A.
2. Use internal rechargeable battery.
3. Use RTS signal current from standard RS232 host port. This current is limited to 15mA. This is not sufficient to run the device in full power mode. However, it can help extend the battery life when running on power-saving mode with battery.

When the power is plugged in, the battery will be charged no matter the main switch is on or off. IWAP-2000 will run when the main power switch is turned on no matter the external DC power is plugged in or not. It will run on battery when the power is not plugged in. It will run on external power when the power is plugged.

2.2 Serial Port Connection

Use the 2 switches on the back of the enclosure to select desire serial port mode. The following table shows how to select the mode:

Mode	RS232/422 SW	RS422/485 SW (Next to the DB9 Connector)
RS232	RS232	Don't care
RS422	RS422	RS422
RS485	RS422	RS485

The default factory setting is set to RS232 mode. The RS232, RS422 and RS485 pin assignment of the DB9 connector is as following:

Pin	RS232	RS422	RS485
1	N/C	TX-	B
2	RXD	N/C	N/C
3	TXD	N/C	N/C
4	N/C	RX-	N/C
5	GND	GND	GND
6	N/C	RX+	N/C
7	CTS	N/C	N/C
8	RTS	N/C	N/C

9	N/C	TX+	A

2.2.1 RS232

RS232 pin out is a sub set of a standard DCE. You can connect IWAP 2000 to a DTE (e.g. PC) with a standard DB9 cable. If you want to connect to a DCE, you will need a null modem cable.

2.2.2 RS422

The RS422 is a 5-pin interface. The easiest way to connect to RS422 is to use the RS422/485 break-out adapter comes with IWAP2000. Use the 5-pin terminal connector on the adapter. The connection is shown clearly on the break-out adapter. You can also connect to the host device according to the DB9 pin assignment above.

The RS422 port is not terminated with 120Ohm resister. Please terminate the TX+/- and RX+/- pins with 120Ohm resisters if necessary.

2.2.3 RS485

The RS485 is a 3-pin interface. The easiest way to connect to RS485 is to use the RS422/485 break-out adapter comes with IWAP2000. Use the 3-pin terminal connector on the adapter. The connection is shown clearly on the break-out adapter. The connection is shown clearly on the break-out adapter. You can also connect to the host device according to the DB9 pin assignment above.

The RS485 port is not terminated with 120Ohm resister. Please terminate A and B pins with a 120Ohm resister if necessary.

2.3 Mounting Kit

IWAP-2000 comes with a mounting bracket for easy mounting. The bracket is not installed on the IWAP-2000 by default. The user must install the mounting bracket if the user needs to use it for installation. The following is the procedure to install the mounting bracket.

1. Unscrew the two machine screws on the top of the backside of IWAP-2000 as shown in the following picture. The location of mounting screws is indicated by red arrows. When you unscrew the machine screws, make sure do not damage the warranty sticker on the side of the box. Otherwise, the warranty could be voided.

2. Put the mounting bracket on the backside of IWAP-2000. The two mounting holes on the mounting bracket must be aligned with the screw holes on the IWAP-2000. There are two bumps on the mounting bracket to aid alignment. The location of mounting holes is indicated by red arrows.

3. Screw the machine screws back to the screw holes on the IWAP-2000 through the mounting bracket screw holes. The location of the mounting screws is indicated by red arrows.

4. You can use any type of #6-#8 screws to mount IWAP-2000 depending on the mounting surface.

The IWAP-2000 is not weather proof. Please make sure that the enclosure is away from water and heavy moisture.

IMPORTANT NOTE:

To comply with FCC RF exposure compliance requirements, the antennas used with the IWAP-2000 must be installed with a minimum separation distance of 20 cm from all persons, and must not be co-located or operated in conjunction with any other antenna or transmitter. Installation should be accomplished using the authorized cables and/or connectors provided with the device or available from the manufacturer/distributor for use with this device. Changes or modifications not expressly approved by the manufacturer or party responsible for this FCC compliance could void the user's authority to operate the equipment.

3 Configuration

3.1. Command Mode

Configuration of the IWAP-2000 can only be done in command mode no matter which serial interface is selected.

3.1.1. Command Mode v.s. Normal Data mode

Upon powerup, the device is in data mode. To enter command mode, the characters "$$$" must be sent. The device will respond with "CMD". To exit command mode, send "exit<cr>". The device will respond with "EXIT". Parameters, such as the SSid, Channel, IP address, Serial Port settings, and all other settings can be viewed and configured. While in command mode, the device will accept ASCII bytes as commands.

3.1.2. How to Get into Command Mode?

Use a standard RS-232 pass through cable from PC passing ASCII characters through the terminal to the IWAP-2000. The communications settings should match the settings used when IWAP-2000 connects, for example: the default is 9600bps, 8 bits, No Parity, 1 stop bit, and hardware flow control disabled.

Run your favorite terminal emulator. Atech Technology suggests using a free terminal software, Teraterm.

Type **"$$$"** on your emulator. You should see "**CMD**" returned to you. This will verify that your cable and comm. settings are correct. Most valid commands will return an "**AOK**", response, and invalid ones will return an Error description.

Commands that are not recognized will return an "ERROR: Unknown Cmd**".**

To exit command mode, type **"exit"<cr>.**

NOTE1 :
You can enter command mode locally over the serial port at any time when not connected, and also when connected if the appropriate settings are enabled.

3.2. Command Reference

The commands begin with a keyword, and have optional additional parameters, generally space delimited. Commands and options **are** case sensitive. hex input data can be upper or lower case. String text data, such as SSID, are also case sensitive.

The first keyword is fully decoded, and the optional parameters can be short-formed.

For example,

set uart baudrate 115200 is valid,

set uart b 115200 is also valid,

set u b 115200 is also valid, however,

s uart baudrate 115200 is NOT valid.

ENTERING VALUES

Numbers can be entered as either decimal, (like 115200 above) or HEX. To enter a HEX number, use **0x<value>.** For example, the HEX value FF would be entered as 0xFF.

Commands fall into 5 general categories:

3.3 SET COMMANDS -Take effect immediately, permanently (save command issued).

3.4 GET COMMANDS -Retrieve the permanently stored information for display to user.

3.5 STATUS COMMANDS -See what is going on with the interface, IP status, etc.

3.6 ACTION COMMANDS- Perform action such as scan, connect, disconnect, etc.

3.7 FILE IO COMMANDS - Upgrade, load and save configuration, delete files, etc.

IMPORTANT: HOW CONFIGURATION WORKS

When the system boots, all configuration data is loaded into RAM variables from the file called "config". The set commands actually only modify the RAM copy of variables in the system. This allows temporary change of parameters "on the fly" to test features, minimizes power usage and saves on flash re-write cycles.

Once all configuration is complete, the user should be sure to use the save command to store the configuration data, otherwise it will not take effect upon reboot or reset. Multiple configurations can be stored by using the save <filename> command, and these configurations can be loaded using the load <filename> command. These files can be uploaded to remote FTP site, such that once a desired configuration is created, it can quickly be copied into additional devices (cloning).

3.3. SET COMMANDS

These commands begin with "set". There are 6 major categories.

1. COMM- communication and data transfer, timers, matching chars.
2. IP -IP settings.
3. SYS - system settings such as sleep and wake timers.
4. TIME - timer server settings.
5. UART - serial port settings such as baudrate and parity.
6. WLAN - wireless interface settings, such as ssid, chan, and security options.

COMM PARAMETERS – TCP connection status strings

set comm close <string> sets the string to send locally when the port is closed.

If no string is desired, use the command set comm close (without the parameter)

set comm open <string> sets the string to send locally when the port is opened.

set comm remote <string> sets the number of bytes to receive before forwarding.

COMM PARAMETERS – receive data forwarding

set comm idle <secs> sets the idle disconnect timer in seconds, causes disconnect if no transmit or receive data is seen.

set comm match <value> sets the decimal value of the matching character to search for to initiate forwarding. 0 disables.

set comm size <value> sets the number of bytes to receive before forwarding
0-1 forwards immediately. maximum value = 255 bytes.

set comm time <num *10ms> sets the number of 10 millisecond intervals after a
byte is received to begin forwarding data. 0 disables.

IP PARAMETERS

set ip address <addr> sets the IP address. Numbers are SPACE delimited.

Example : *"set ip a 10 10 10 2"*

set ip dchp <0,1> Enable or disable DHCP client.

set ip gateway <addr> sets the gateway address.

set ip host <addr> sets the remote host address.

set ip localport <num> sets the local port number.

set ip netmask <value> sets the netmask.

set ip protocol <0,1,2> sets the protocol. 0=UDP, 1=TCP client, 2= TCP server.

set ip remote <value> sets the remote host port number.

set ip ftp <addr> sets the ftp server address.

set ip uport <num> sets the ftp server port number.

SYSTEM PARAMETERS

set sys autoconn <secs> TCP mode: sets the auto-connect TCP timer. 0 disables.

set sys autosleep <num *10ms> UDP mode: sets the auto-sleep timer. 0 disables.

set sys iofunc <value> sets the IO port alternate functions. Bit-mapped value.

set sys mask <mask> sets the IO port direction mask. Bit-mapped value.

set sys printlvl <value> sets numerous print functions. Bit-mapped value.

set sys output <value> <mask> sets output PIO pins to HIGH or LOW.
Bit-mapped value. Optional mask only sets a subset of pins.

set sys sleep <secs> sets the sleep timer. 0 disables.

set sys trigger <value> sets the sensor input to wake on (1-4). 0 disables.

set sys wake <secs> sets the auto wake timer. 0 disables.

TIME SERVER PARAMETERS

set time address <addr> sets the time server address. This is also the server address for UDP packet mode.

set time port <num> sets the time server port number.

set time enable <0,1,2> Enable or disable time server. 1= get time on powerup. 2=get time continuously every 60 seconds.

UART PARAMETERS

set uart parity <n,e,o> sets the UART parity.

Example : *"set u p e"* sets even parity

set uart baud <rate> {1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400, 460800, 921600 }.

Example : "set u b 9600" sets the baudrate to 9600 baud.

set uart raw <rate> sets a RAW uart value. Used to set non-standard rates.

Example : "set u r 760" sets the baudrate to 7200 baud.

set uart flow <0,1,x> sets the flow control mode. 0=off, 1= hardware RTS/CTS, x = XON/XOFF.

set uart tx <0, 1> Disables or enables the TX pin= PIO0 of the UART. Disable will set PIO0 to an INPUT with weak pulldown.

WLAN PARAMETERS

set wlan auth <value> sets the authentication level. 0= disabled, 1=WPA-PSK, 2=WPA2-PSK, 3=WEP-128.

set wlan channel <value> sets the wlan channel, 1-13 is the valid range for a fixed channel. If 0 is set, then a probe scan is performed, using the ssid, for all the channels set in the channel mask.

set wlan key <num> <value> sets the WEP key. key must be

EXACTLY 13 bytes (26 ASCII chars). Data is expected in HEX format, "0x" should NOT be used here.

Example : "set w k 11223344556677889AABBCCDD"

Hex digits > 9 can be either upper or lower case.

set wlan mask <value> sets the wlan channel mask, bit-mapped value. Bit 0 = ch 1.

set wlan num <value> sets the default WEP key to use. 1-4 is the valid range.

Example : "set w n 2" sets the default key to 2.

set wlan phrase <string> sets the passphrase for WPA security modes. 1-64 chars. The passphrase can be alpha and numeric, and is used along with the ssid to generate a unique 32 byte Pre-shared key (PSK), which is then hashed into a 256 bit number.

However, if exactly 64 chars are entered, it is assumed that this entry is already an ASCII HEX representation of the 32 byte PSK and no such processing is done.

Example : "set w p password" sets the phrase.

set wlan ssid <string> sets the wlan ssid to associate with. 1-32 chars.

set wlan rate <value> sets the preferred wlan data rate. Default = 1. Valid settings are: 1 = 1MBit, 2 = 2Mbit, 4=5Mbit, 8 = 11Mbit. Note that the effective range will be reduced as the datarate is increased.

set wlan window <value> sets the TCP max. buffer windo size, useful when doing FTP transfers. Default is 1460 bytes.

3.4. GET COMMANDS

These commands begin with "get". They represent the stored values as configured.

get com display comm. settings.

get ip display IP address and port number settings.

get mac display the device MAC address.

get port return current value of the PIO pins in hex format.

get sys display system settings, sleep, wake timers, etc.

get time display the time server UDP address and port number.

get wlan display the ssid, chan, and other wlan settings.

get uart display the UART settings.

In addition to the above, there are a few other useful commands available.

ver return the software release version

3.5. STATUS COMMANDS

These commands begin with "show", and they return the current values of variables in the system. In some cases, for example IP addresses, the current values are received from the network, and may not match the stored values.

show net Displays current network status, association, authentication, etc.

show rssi Displays current last received signal strength.

show stats Displays current statistics, packet rx/tx counters, etc.

show time Displays number of seconds since last powerup or reboot

3.6. ACTION COMMANDS

$$$ Enter command mode Characters are PASSED until this exact sequence is seen. If any bytes are seen before these chars, or after these chars, in a 1 second window, command mode will not be entered and these bytes will be passed on to other side.

close Causes a network disconnect to occur.

exit Exit command mode. Exit command mode. “EXIT” will be displayed.

open Connect The device will attempt to connect to the remote stored address and port number.

ping <ip adr> <num> Ping remote host. Default sends 1 packet. Optional <num> sends <num> pings at 10 pings per second. If <num> = 0xFFFF, pings continuously as fast as possible to test link.
Use “Ping 0” to terminate a ping command.

A few handy “shortcuts”:

ping g	pings the gateway
ping h	pings the host
ping t	pings the timeserver
ping f	pings the ftp server

reboot Forces a complete reboot of the device (similar to a power cycle) forcing a WATCHDOG timeout. This action takes about 5 seconds.

scan <time> <active> Performs an active probe scan of access points on all 13 channels, and prints out MAC address, receive signal strength, and SSID name. Optional <time> in ms to scan per channel, default = 200ms. If the <active> option is set = 0, passive scan is performed. This command will cause the device to disassociate if it is connected to an AP, and the user should reboot the device once scanning is complete.

time Sends a UDP time server request packet out.

3.7. FILE IO COMMANDS

del <name> <num> deletes a file. Optional <num> will override the name and use the sector number shown in the “ls” command.

load <name> reads in a new config file.

ls Displays the files in the system

save Saves the configuration to “config” (the default file).

save <name> Saves the configuration data to a new file name

set boot <file#> Makes file# the new boot image.

set factory 1 Loads factory defaults into the RAM configuration.

ftp upload <name> Retrieves a file from the remote FTP server. If <name> not specified, “wifly.img” filename is used.

ftp upload <name> b Retrieves remote file and updates the boot image.

4. System timers and other features for Power saving mode

4.1. TCP mode sleep and wakeup timer

There are 2 timers that can be used to put the module to sleep, and perform a wake up. If the sleep timer is enabled, the module will automatically go into low power mode after the timer counts down to 0. The countdown is disabled if the module has an IP connection, or the module is in COMMAND mode. The timer is reset when characters are received on the UART.

The sleep timer is set with: **set sys sleep <time>** time=decimal in seconds.

The wake timer is set with: **set sys wake <time>** time=decimal in seconds.

4.2. autosleep timer for UDP sleep

There is another timer than can be used to put the device to sleep. In UDP protocol mode, the auto-conn timer is re-defined as an auto-sleep timer. Opon the start of transmission of the first UDP data packet this timer will count down.

set sys autosleep <value> UDP mode: sets the auto-sleep timer. 0 disables

The timer is decremented every 10 milliseconds. Because the timer is asynchronous, the actual value can vary by 10ms. Using a minimum value of 2 is recommended to ensure that the UDP packet gets transmitted. For larger packets the value should be increased.

4.3. Connection timers – autoconn and comm idle timer

In TCP-Client mode, the autoconn timer is used as a connect-out timer. If set, the device will automatically attempt a connection when the timer expires.

set sys autoconn <secs>

In TCP-Client AND TCP-Server mode, there is also a disconnect timer.

set comm idle <secs> sets the idle disconnect timer.

This causes a disconnect to the TCP-Client or TCP-server if no transmit or receive data is seen.

4.4. Wake on Serial Port

The IWAP-2000 can be wake up from sleep by sending a byte to the serial port. This feature is particular useful when the IWAP-2000 is set to TCP-client mode. The IWAP-2000 can go to sleep to conserve energy. When the host device needs to send data, just send a byte to wake up the device and connect to TCP-server. When the data transmission is finished and the connection timer is timed out, the device will go to sleep to save energy.

To enable or disable this function, use: s**et sys trig 1.**

It should be noted that the first byte sent into the module will be lost. The designer should take care to send a preamble byte to wake up the module before sending valid data bytes.

4.5. Example of using Power saving mode

To use power saving mode, the device is uaually in TCP-client mode so that no one will try to connect to it through the TCP connection while the device is sleeping. The host device of the IWAP-2000 sends a byte to wake the IWAP-2000 up. Then the host send escape command to go into command mode. The host can send connect command to connect to the TCP-server. After the connection is established, the host can send data to the TCP-server. The connection will be closed after the data transmission is finished and the comm idle timer is timed out. IWAP-2000 will go into sleep mode after the sleep timer is timed out.

The following is the setup for power saving mode with serial wake up.

Setting	Command	Comments
Communication protocol	set ip proto 1	Sets the protocol to 1=TCP client
Remote TCP socket server address	set ip host <addr>	Sets the remote host address
Remote TCP socket server port number	set ip remote <port>	Sets the remote host port number
Communication Idle disconnect timeout	set comm idle <secs>	Sets the idle disconnect timer in seconds, causes disconnect if no transmit or receive data is seen
IWAP wake on UART	set sys trigger 1	Sets the IWAP to wake on UART. 0 disables.
Wake up timer	set sys wake <secs>	Sets the wake up timer. This wakes IWAP from sleep after the timer expires. 0 disables
Sleep timer	set sys sleep <secs>	Sets the sleep timer. The IWAP goes to sleep after the timer expires. 0 disables

The following are the steps to run power saving mode.

Step	Acttion	Comments
0	Turn on IWAP and type “$$$“ to get in command mode	
1	Set up IWAP by following the table above	
2	Save the setting by typing “save“	
3	Type “Reboot“. The IWAP will go to sleep after reboot	
4	Send “$$$$“ to the IWAP. IWAP should send back “CMD“.	This wakes up the IWAP and put it into command mode.
5	Send “open“ to the IWAP. The IWAP should send back *OPEN*.	This should connect the IWAP to the TCP socker server. If the TCP socker server can not be be connected, the response would be “ DNS-FAIL DNS-FAIL Connect FAILED“
6	Send data bytes	The data bytes should be seen by the TCP socker server.
7	The IWAP should send back	

	CLOS after the Comm Idle timer is expired if no data bytes are transmitted or recieived.	
8	The IWAP goes to sleep after the sleep timer is expired.	

5. FTP Upgrade and Image Storage

Image Storage

IWAP-2000 contains a built file system for storing the firmware image(s). Files can be viewed with the ls command. Here is an example result:

```
File# Size
 2   13   wifly-1.23
15    1   config

 112 Free, Boot=2, Backup=22.
```

Multiple files can be stored, and the boot image can be modified per below.

FTP Upload and Upgrade

IWAP-2000 contains a built-in FTP client for getting files and updating the firmware. The client uses passive mode FTP, which allows operation thru firewalls and the Internet. There are 3 fixed settings that need to be used. The username is **roving.** The password is **password.** The default directory is **/public.**

To setup FTP, the IP address of the remote server is stored using this command:

set ip ftp <addr> sets the ftp server address. .

To use FTP, enter the following command:

ftp get <name> Retrieves remote file.

Firmware Upgrade - automatic

To use FTP to upgrade the firmware, enter the following command:

ftp upload <name> Retrieves remote file. (File name is optional)

This will overwrite the current backup image, and updates the boot image.
Here is an example of what you should see after a successful update:

```
File# Size
 2   13   wifly-1.23
15    1   config
16   13    wifly-1.23

 99 Free, Boot=16, Backup=2.
```

Firmware Upgrade – manual

If it desirable to keep old images, use FTP to retrieve the file, and then use the

Set boot <sector> command to set the current boot image number.

6. Factory Default Power up Settings

COMM PARAMETERS

Close string	“”
Open string	“”
Remote string	“”
FlushSize	16
FlushTimer	2
IdleTimer	0

IP PARAMETERS

protocol	TCP-Server
address	0.0.0.0
localport	2000
netmask	0.0.0.0
gateway	0.0.0.0
host	0.0.0.0
remoteport	2000
ftp	0.0.0.0 (port fixed at 21)
dhcp	1 (enabled)

SYSTEM PARAMETERS

sleeptimer	0
waketimer	10 (10 seconds after sleep we wake up)
trigger	1 (SENS1 pin wakes up the device)
auto connect	0
iomask	0x78 (3,4,5,6 outputs).
print level	1 (startup prints enabled)

TIME SERVER PARAMETERS

enable	0= disabled
address	158.152.1.76
port	37

UART PARAMETERS

Baudrate	9600
parity	n (none)
flow	0=disabled

WLAN PARAMETERS

authentication	0=disabled
channel	1
ssid	Atech
rate	1 (1= 1Mbit)

THIS IS THE END OF THE DOCUMENT

7. Technical Support

If you encounter any technical issues while using IWAP2000, do not hesitate to contact us at Atech. Our technical staff will help you resolve the technical issues. You can contact us by email or phone. The following is our technical contact:

Hours: 9:30AM to 5:30PM (GMT+08:00)
Email: wifi.support@atechtpe.com.tw
Phone: +886.2.6629.6667