

IWAP2000 Serial Port Cable replacement

You can use 2 IWAP2000s to replace a RS232/422/485 cable. Because IWAP2000 is a low power WiFi client-only device, there must be a WiFi Access point to connect the 2 IWAP2000s. This application note shows how to configure the WiFi AP and the 2 IWAP2000s to do cable replacement.

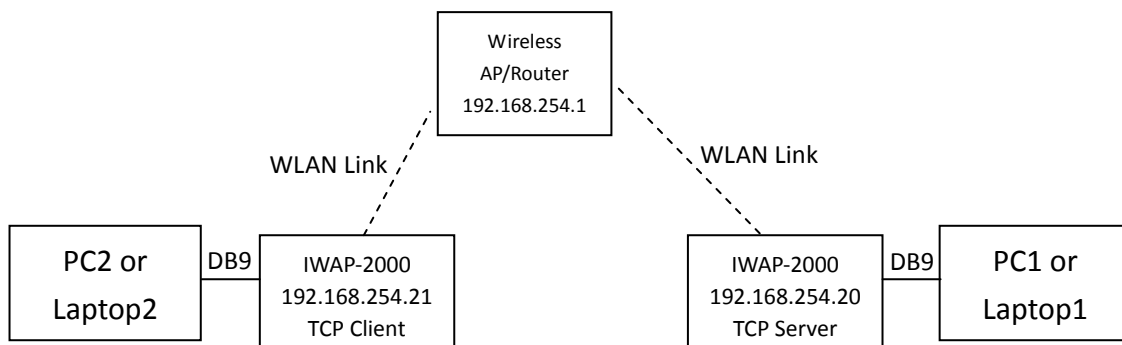
Test setup

Equipment List for test set up:

Item	Qty	comment
PC or Laptop	2	With WLAN and RS232 interface
IWAP 2000	2	
WiFi AP	1	802.11b, b/g, or a/b/g Access Point
DB9 cable	2	

The WiFi AP can be any commercially available economical WiFi AP.

The test setup is as the following picture:



PC configuration

Turn on the PC that will be connected to the IWAP2000

Connect the IWAP2000 to a PC through the RS232 cable coming with IWAP2000.

Turn on your preferred terminal application like Hyper Terminal or TeraTerm. Set the terminal to use serial communication. The assigned serial port should be the serial port connected to the IWAP2000. The configuration of the serial port is as following:

Item	Setting
Baudrate	9600
Data Bits	8
Stop Bits	1

Parity	None
Flow Control	None

AP/Gateway Configuration

The best configuration to do cable replacement for IWAP2000 is to have static IP address. You need to make sure that the IP addresses of the IWAP2000s are not in the range of the DHCP IPs to avoid possible IP collision.

Connect the PC to the AP through Ethernet or wireless. Set the AP so that it is in the same subnet of the PC.

Make sure your AP/Gateway has IP addresses in not in the range of DHCP IPs.

Set the IP of the AP/Gateway to be 192.168.254.1

Set the DHCP range to be 100 to 150 to avoid IP collision if the DHCP server is on.

Set the SSID of your AP/Gateway to Atech.

Set the security to open mode.

IWAP 2000 configuration

There are 2 IWAP2000s in this set up. One of them is set to TCP server. The other is set to TCP Client. The Client should connect to the server when a connection is established. After the connection is established, the data traffic is a full-duplex two-way traffic.

IWAP 2000 TCP Server

Set IWAP2000 to RS232 mode by setting the DIP switch on the back.

Turn on IWAP2000. Connect this IWAP2000 to PC1 through RS232.

The WLAN status light should be off. It stays red if the IWAP2000 cannot connect to the AP.

The IP Status/Charging light should blink slowly (0.5-1Hz). If it blinks fast, it means that it cannot get the IP address from the DHCP server

Type “\$\$\$” in the terminal application to put IWAP2000 into configuration mode.

Type “get i” in the terminal application and press enter. You should something like this:

DHCP=ON

IP=192.168.254.127:2000

NM=255.255.255.0

GW=192.168.254.1

PROTO=TCP-Server

HOST=0.0.0.0:2000
 FTP=208.109.78.34:21
 HOST2=0.0.0.0

Type “set i d 0” to turn off DHCP client.
 Type “set i a 192 168 254 20” to set the IP address to 192.168.254.20.
 Type “set i g 192 168 254 1” to set the gateway IP address to 192.168.254.1.
 Type “set i p 2” to set the protocol to TCP socket server.
 Type “save” to save the setting.

Type “get i” in the terminal application and press enter. You should something like this:

DHCP=OFF
 IP=192.168.254.20:2000
 NM=255.255.255.0
 GW=192.168.254.1
 PROTO=TCP-Server
 HOST=0.0.0.0:2000
 FTP=208.109.78.34:21
 HOST2=0.0.0.0

Type “reboot” to reboot IWAP2000.
 Open a command window from the PC. Type “ping 192.168.254.20” in the command window. If you get the response from IWAP2000, the configuration is complete.

IWAP 2000 TCP Client

Set IWAP2000 to RS232 mode by setting the DIP switch on the back.
 Turn on IWAP2000. Connect this IWAP2000 to PC2 through RS232.
 The WLAN status light should be off. It stays red if the IWAP2000 cannot connect to the AP.
 The IP Status/Charging light should blink slowly (0.5-1Hz). If it blinks fast, it means that it cannot get the IP address from the DHCP server
 Type “\$\$\$” in the terminal application to put IWAP2000 into configuration mode.

Type “set i d 0” to turn off DHCP client.
 Type “set i a 192 168 254 21” to set the IP address to 192.168.254.20.
 Type “set i g 192 168 254 1” to set the gateway IP address to 192.168.254.1.
 Type “set i p 1” to set the protocol to TCP socket client.

Type "set i h 192 168 254 21" to set the TCP socket server IP address.
Type "save" to save the setting.

Type "get i" in the terminal application and press enter. You should see something like this:

```
DHCP=OFF
IP=192.168.254.21:2000
NM=255.255.255.0
GW=192.168.254.1
PROTO=TCP-Client
HOST=192.168.254.20:2000
FTP=208.109.78.34:21
HOST2=0.0.0.0
```

Type "reboot" to reboot IWAP2000.

Open a command window from the PC. Type "ping 192.168.254.21" in the command window. If you get the response from IWAP2000, the configuration is complete.

Data Transmission Test

Open a HyperTerminal window in both PC1 and PC2 to connect to the IWAP2000.

Type "\$\$\$" in the terminal application on PC2 to put IWAP2000 into configuration mode.

Type "open".

The IWAP2000 TCP client should connect to IWAP2000 TCP server.

Type "Hello World" in the HyperTerminal window on PC2.

The HyperTerminal window on PC1 should show "Hello World".

Type "Hello World" in the HyperTerminal window on PC1.

The HyperTerminal window on PC2 should show "Hello World".

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