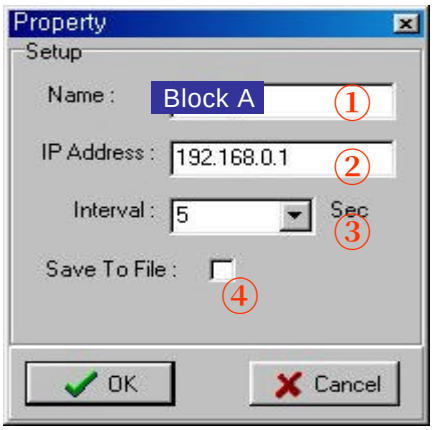


Fig5

① Set up the name of equipment to be managed.
② Enter IP Address of FWB2411 to be managed.
③ Set up the interval to be managed.
(Too much short interval may degrade the system performance, and too much long interval may cause incorrectness of data. Usually, approximately five second is recommended.s)
④ Save the status of the reported FWB2411 as a file.

In the same method as above, register all equipments to be managed.

Fig6 shows the window that all registrations are finished.

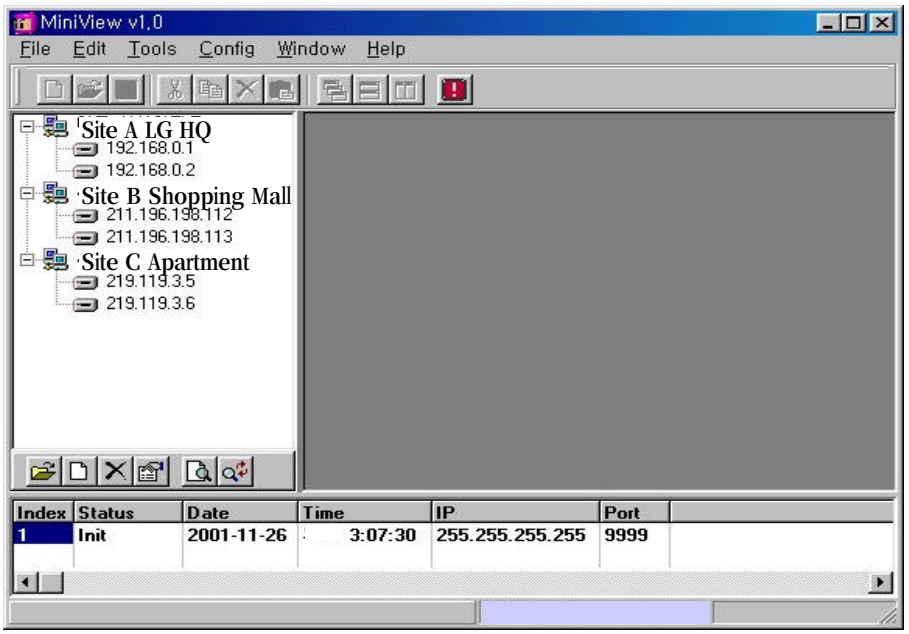


Fig6

There is no limit to the number of equipment that can be registered.

1) Viewing FWB2411' s Status

When the registration is completed on stage 1), you can view the status of the equipment. Double-click the IP of the equipment to be managed and the window as shown in Fig7 is created to display various information.

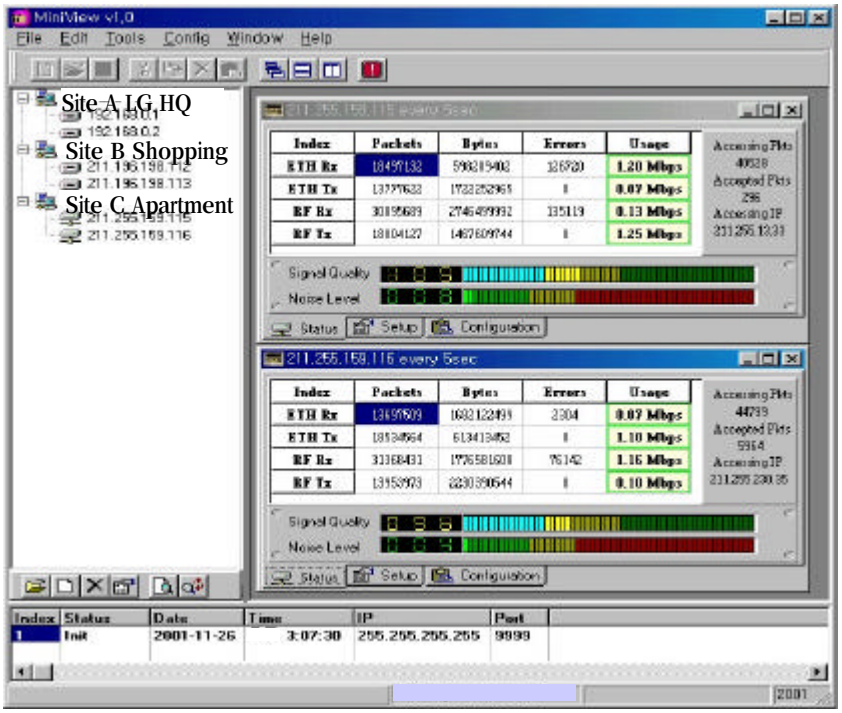


Fig7

This management window is composed of three tabs and each function is described below:

① Status display (Fig8)

Displays the number of packets transmitted and received by FWB2411, byte, usage, signal strength and noise.

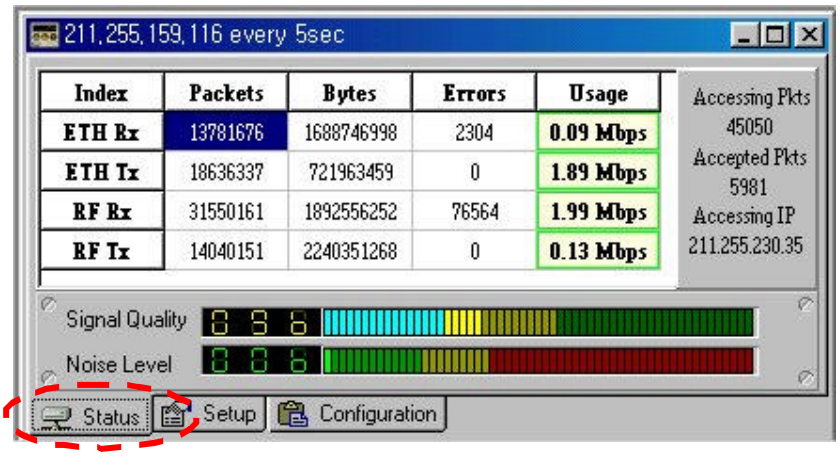


Fig8

② **Management Setup (Fig9)**

Enter the IP address of equipment to be managed, management interval, save to file, and ID and Password of equipment to be managed. You can set up an unit to display signal strength (dBm, %(0~100), decimal (0~255)).

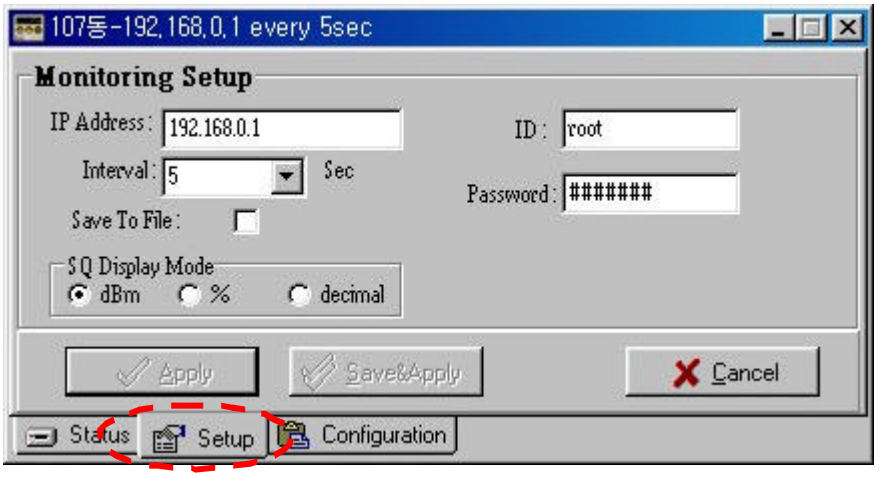


Fig9

③ **FWB2411 Configuration (Fig10)**

FWB2411 settings are displayed and they can be changed. This window operates when ID and password are entered correctly on the window as shown in Fig9.

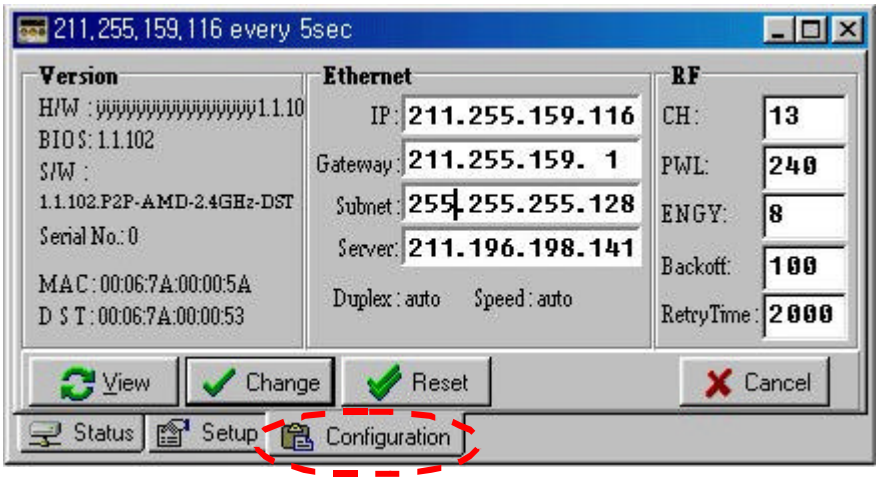


Fig10

3) FWB2411 Setup Change

In order to change the previously registered FWB2411's IP address and management interval, first click the IP address of equipment to be changed, and press Property Button at the bottom of the list window or click equipment IP to be changed with the right button of the mouse to select Property. (Fig11)

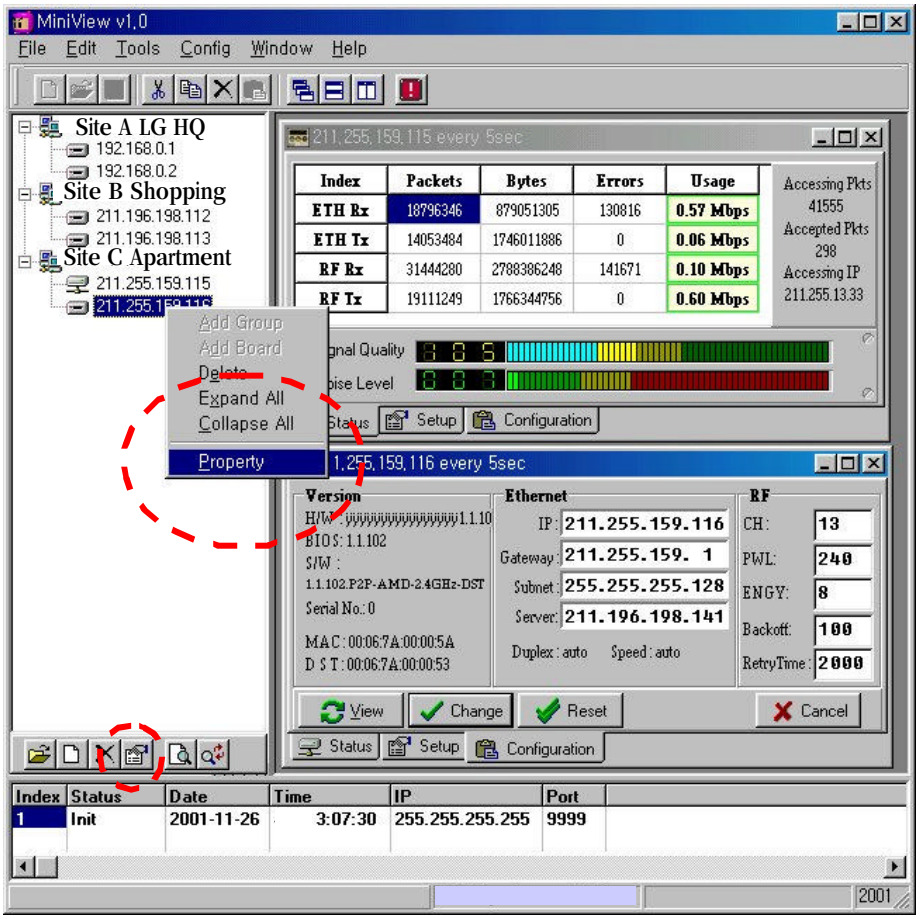


Fig11

4) Data Collection and Conversion into Excel

Select Save To File upon registration and save all data to a file from when management window appears.
File format has *.sav extension and complies with internal format of MiniView.
In order to convert *.sav to Excel(*.xls), select Tools in Menu and then select History (Fig12).

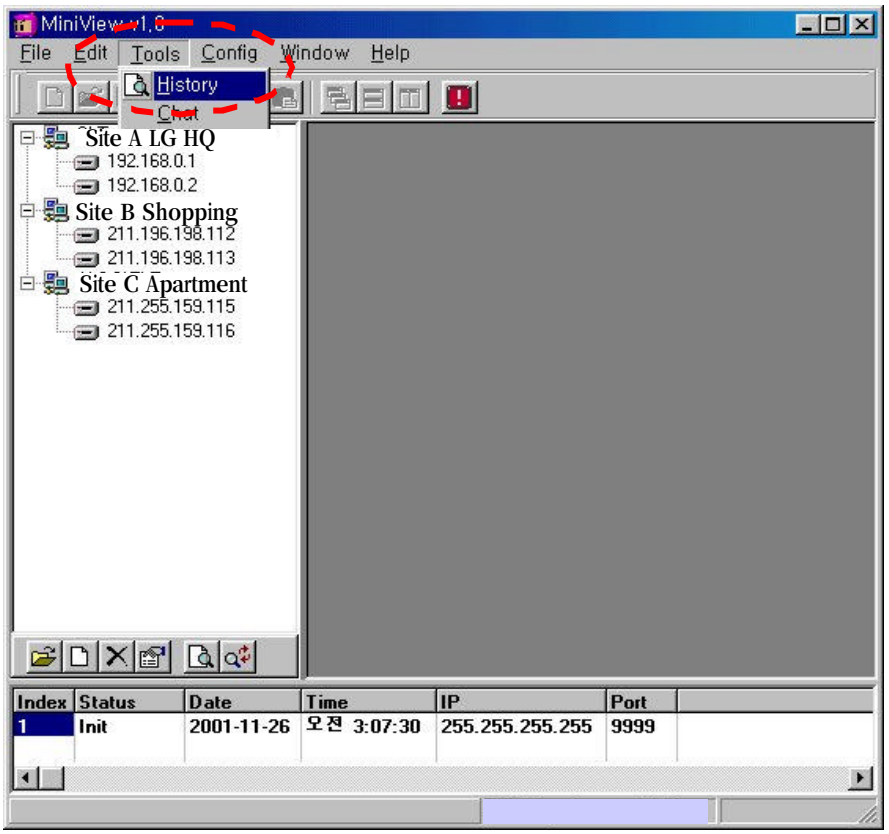


Fig12

Select History and the following Window is created.

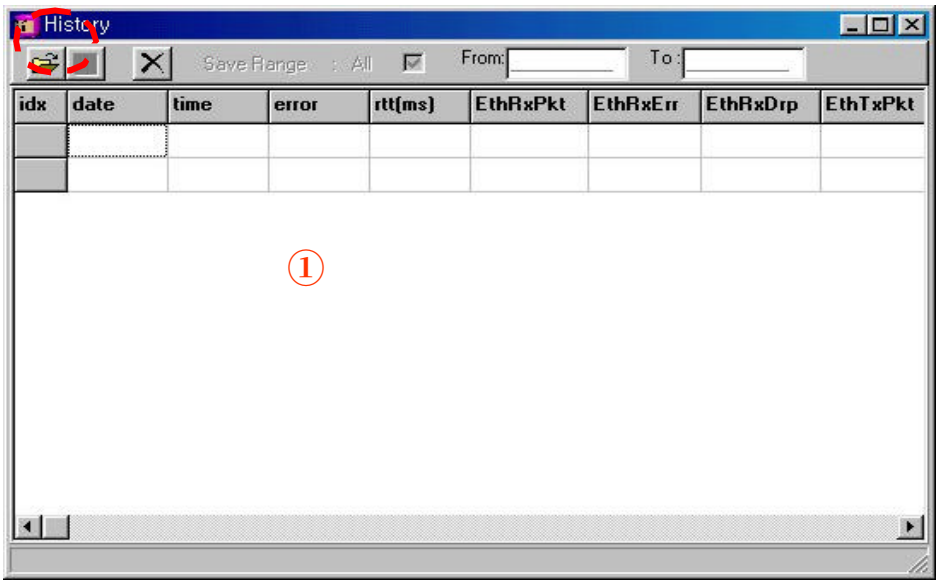


Fig13

Press Open button to display *.sav file on the sector ①.

Fig14 displays the contents of the example sav file read.

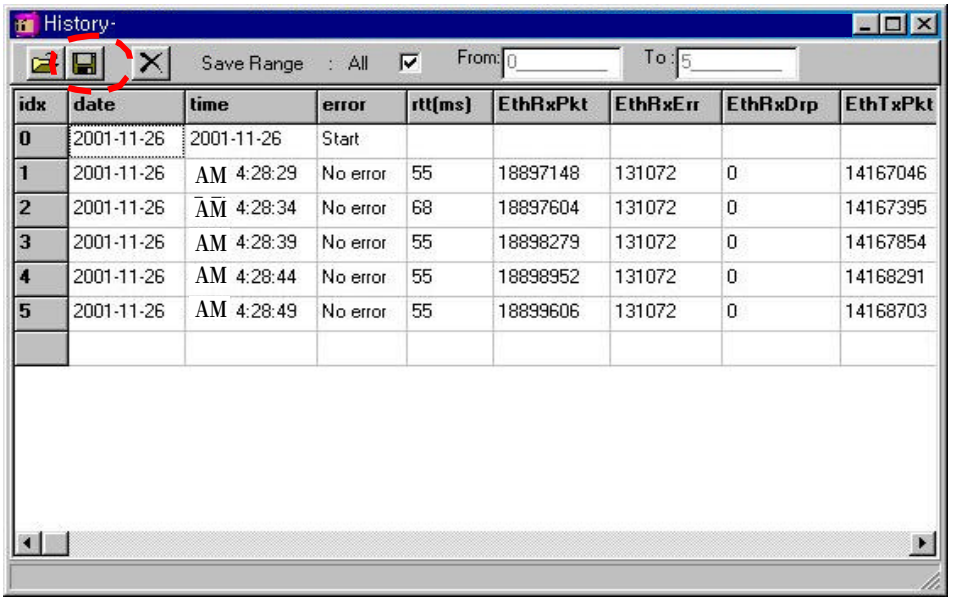


Fig14

Press Save button to convert the read sav file to Excel.
(Microsoft Excel should be already installed.)

At this time, select All in Range, and then all data are converted; if sector is selected, only data of the corresponding number are converted.

Note) Conversion speed is approximately 0.5 second per line.
It will take about one hour and 20 minutes so as to convert 10,000 lines.
(It depends on system specification)

5) Other functions

Window of Menu is used for arranging or selecting a management window.

If Sound Notice speed button is pressed, an alarm is generated by a sound card when faults occur. (Sound card should be normally operated.)

Select Config -> General -> Sound Warn in menu, and the Sound Notice function Is enabled when executing a program.

Clicking Tools ->Chat in Menu enables chatting with other computers using MiniView1.0.

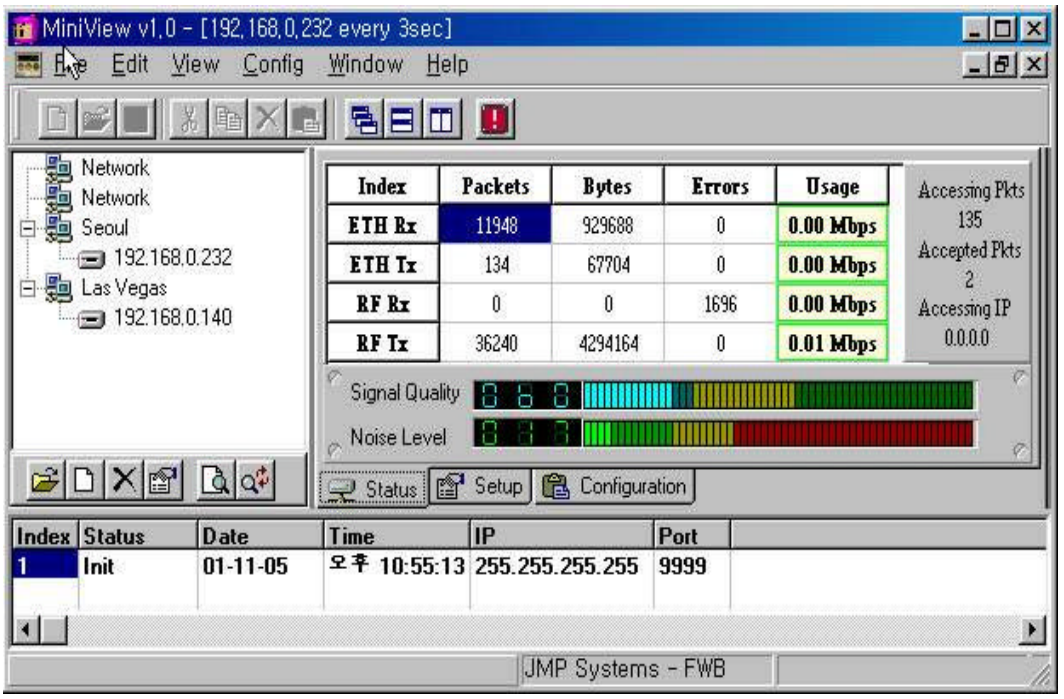
5. Uninstallation

Miniview 1.0 provides an automatic Uninstallation.

Select Add/Remove Programs in Windows control panel, and select FWB2411 to easily uninstall the program.

MiniView 1.0 does not use the registry and unnecessary information is not left in Registry even though it is uninstalled.

Installation Guide



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Contents

1. Before Installation

2. Cable Connection and Power Supply

3. Environmental Setup and Test

4. Appendix

Before Installation

STEP 1

Check if the following items are properly contained in the product package.

1. Main unit of FWB2411
2. Power Cord
3. SMPS 5V Adapter
4. RS232C Console cable
5. Manual
6. Utility Software CD

zZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ7. Antenna

(*) Please contact us or sales agency if the above items are missed or damaged in the product package.

STEP 2

Check the following items before installation.

1. Place where antenna can be easily seen.

As antenna may be fallen down and cannot be radiated.

2. Height for antenna installation

As antenna is a communication equipment using radio waves, it should be installed at the highest place for improving performance and quality of communication.

3. Securing line of sight

As communication is impossible if antennas at both ends cannot be seen straight due to obstacles such as building walls, FWB2411 should be installed at a place where line of sight is secured enough.

4. Checking distance between main unit and antenna

The further is distance between places for installing FWB2411 and other units, The less output is obtained, so that, in general, it is desirable to install units within 15m.

Cable and Power Connection

STEP 1
Connect antenna

Locate an antenna and main unit to be installed, and start to connect antenna.

Specification of FWB2411 with antenna connected is very important .
For the distance over 15m, you must place where antenna is elevated.

Connect the antenna to reverse SMA Type connector of the backplane of FWB2411 main unit on which ANT. is indicated, and fasten it tightly with spanner to prevent from being loosed.

Note that if antenna is continuously moved because of its stiffness, the main unit connector may be damaged.

STEP 2
Connect Ethernet cable

FWB2411 provides 10/100 base-T Ethernet connection.

If FWB2411 is connected to Router, Switch and Hub, UTP category 5 cables of Direct type should be used.

If FWB2411 is connected to network card (NIC) such as server or PC, it should adopt Cross over type.

STEP 3
Connect console cable

FWB2411 provides a console of RS-232C specification.

D-SUB 9 type connector is used for console cable and straight type is used for pin specification as described below:

No. 2 – No. 2

FWB2411 – No. 3 – No. 3 – PC or Server

No. 5 – No. 5

STEP 4
Connect the power cable and supply power

FWB2411 provides power adapter supplying 110V-220V free volt input and DC 5V output.

Adapter that is necessarily provided should be used and the main unit can be damaged if using other adapters.

Connect power adapter to JACK of the backplane of FWB2411 main unit on which DC 5V is indicated.

Environmental Setup and Test

STEP 1
Check LED after power supply

If power is supplied, power LED (Red) of front panel of FWB2411 is always ON.

Yellow LED next to power LED is Ethernet Link LED. If this LED is not ON, check if Ethernet line is normally connected.

The remaining 4 LEDs are related to data transmission and reception, and they turn on when data packet comes in FWB2411 or FWB2411 sends out data packet. If data is transmitted and received continuously, those LEDs may look like keeping ON.

STEP 2
Connect console and set up baud rate

FWB2411 provides a console with RS-232C specification. And users can set up Baud rate for use at random. Factory default is set to 9600bps upon shipment from the factory.

Baud rate that users can set up is from 2400bps through 57,600bps.

Users can make use of FWB2411 console function through terminal emulator program (Hyper Terminal, etc.).

If users want to change Baud rate, use 'cbaud' command.

STEP 3
IP Address setup

One IP address can be assigned to FWB2411. This IP address should be properly allocated depending on the network where FWB2411 is to be installed and should not be overlapped with other network equipment.
FWB2411 does not provide DHCP function.

Such IP Address setup does not have any influence on Ethernet packet forwarding function. In other words, even though this STEP3 is not performed, Ethernet packet is transparently delivered between two networks.

STEP 4
PING TEST

Ping test is performed in order to check if IP Address is properly assigned to FWB2411 and which is correctly connected to the wired network equipment.

Send a ping request packet from FWB2411 to PC or Server on the segment, and check if a reply is returned.

Execution example on DOS window:

C:\WINDOWS>ping 192.168.0.10 (ENTER)

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=1ms TTL=255

Reply from 192.168.0.1: bytes=32 time<10ms TTL=255

Reply from 192.168.0.1: bytes=32 time<10ms TTL=255

Reply from 192.168.0.1: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.0.1:

Packets: Sent = 4, Received =4, Lost = 0 (0% loss)

Approximate round trip times in milli-seconds:

Minimum =0ms, Maximum = 1ms, Average = 0ms

STEP 5
Enter the RF MAC Address of the opposite

The RF MAC Address of the opposite FWB2411 should be entered to enable the communication between them.
Use 'rfdst' command through console.

STEP 6
Set up the frequency for use

To make use of this product wirelessly, frequency for use should be set up.
At this time, unused frequency should be set up so as to guarantee quality of communication. Use 'rfch' command on terminal window to change the frequency.

STEP 7
Adjust antenna direction

Now, it is time to set antenna direction.

First, send ping request packet to IP Address of the opposite network equipment from PC over wired network.
The method is the same as STEP4, but the IP Address is different from network equipment on the other side.

If antenna direction is adjusted well, ping test is successfully performed and ping reply time is below 2ms in general.

If ping test is successful, connect to FTP server on opposite FWB2411 network and try to get data of 3Mbyte approximately.

For FTP, the transmission rate is usually from 700KB through 900KB per second, depending on the circumstances such as interference, installation distance, cable length and performance of wired network equipment.

<TIP> Use –t option in order to continuously send ping request packet.

STEP 8
Complete the setup and use

If FTP transmission performance normally comes out, it means FWB2411 is successfully installed and actually available by connecting to Internet through web browser, etc.
Programs such as TFTP server provided are necessary if the equipped software is changed to improve FWB2411 performance in the future.

STEP 9
Check by LED

Front LED of FWB2411 enables user to easily understand the state of FWB2411 at first sight.

Red power LED should be ON all the time if power is supplied.

And yellow Link LED means connection with wired network. If this LED is not ON,
check UTP cable and wired network equipment.

Wired	Wireless	Link LED
Abnormal	Abnormal	Always 'OFF'
Abnormal	Normal	Flickering at 2seconds interval
Normal	Abnormal	Flickering at 0.5seconds interval
Normal	Normal	Always 'ON'

Temporary ON of RD and TD on “LAN” part means that packet is received from Ethernet and packet is sent to Ethernet respectively based on FWB2411.
If packet is continuously flowed, they may look like keeping ON.

Temporary ON of RX and TX on “AIR” part means that FWB2411, at the moment, receives packet from Air Interface and sends packet to Air Interface respectively.
If packet is continuously flowed, they may look like keeping ON.

If RF LED keeps ON after power is supplied, it means that no packet is received or transmitted from or to Air.

In general, TX LED is normally flickering out of such state if packet is sent from the wired part. However, RX LED keeps ON until normal packet comes in FWB2411.
Referring to this point, it will be of much use to set antenna direction upon first installation.

Appendix : Terminal Command List

1. help
   - Help/man [command]
   - Indicate usage of [command]
   - Indicate all command lists if only help/man are entered without [command].

2. reset
   - Usage : reset
   - Resets the system using software. This command can be used when the system is remotely reset or its setup is changed.

3. info
   - Usage : info
   - Indicates system setup.

4. config
   - Usage : config
   - Changes and saves FWB2411 basic setup.
   - NOTE : The changed setup is applied after system rebooting.

5. cip
   - Usage : cip
   - Changes FWB2411 IP address and saves it in flash ROM.
   - NOTE: The changed setup is applied after system rebooting.

6. csub
   - Usage : csub
   - Changes FWB2411 subnet mask and saves it in flash ROM.
   - Note : The changed setup is applied after system rebooting.

7. cgtwy
   - Usage : cgtwy
   - Changes FWB2411 default gateway and saves it in flash ROM.
   - Note : The changed setup is applied after system rebooting.

8. chip
   - Usage : chip
   - Changes FWB2411 TFTP host IP address and saves it in flash ROM.
   - Note : The changed setup is applied after system rebooting.

9. cem
   - Usage : cem
   - Changes FWB2411 Ethernet MAC address and saves it in flash ROM.
   - Note : The changed setup is applied after system rebooting.

6. csub
- Usage : csub
- Changes FWB2411 subnet mask and saves it in flash ROM.
- Note : The changed setup is applied after system rebooting.

7. cgtwy
- Usage : cgtwy
- Changes FWB2411 default gateway and saves it in flash ROM.
- Note : The changed setup is applied after system rebooting.

8. chip
- Usage : chip
- Changes FWB2411 TFTP host IP address and saves it in flash ROM.
- Note : The changed setup is applied after system rebooting.

9. cem
- Usage : cem
- Changes FWB2411 Ethernet MAC address and saves it in flash ROM.
- Note : The changed setup is applied after system rebooting.

14. dm
- Usage: [address]
- Indicates contents of the corresponding number memory by 256 byte unit.
- Indicates from the previous number if only dm is input without [address].
- [address] value should be input hexadecimally.

15. id
- Usage: id
- Loads image to 0x100000 of the memory through TFTP.
- File name of image should be ram.bin and the image should be within 512k bytes.
- Note that if image exceeds 512k byte or error occurs during the loading, the system can be crashed.
  See)chip command, jmp command, lj command, fg command

16. jmp
- Usage: jmp [address]
- Performs by jumping to [address]
- Default is 0x100000, performs with jmp by loading a new image

17. lj
- Usage:lj
- Downloads image to 0x100000 through TFTP and performs.
- Executes ld command and jmp command in sequence.
- See) ld command, jmp command

18. fp

- Usage: fp
- Saves image loaded through ld command in flash rom and performs whenever booting the system.
- Performed immediately without prompt. Note that if wrong image is input, the system does not start. Unavailable except for image upgrade.

19. mb

- Usage: mb [address] [value]
- Converts the corresponding [address] value to 1 byte [value]
- Indicates the contents of the corresponding number if only mb [address] is input without [value].
- Indicates the previously input [address] value if only mb is input.

20. rfdst

- Usage;rfdst
- Enter RF MAC Address of opposite FWB2411 to be communicated.
- It should be necessarily entered because it is required for performing algorithm such as retransmission.

Appendix

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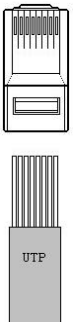
1. Ethernet Cable

① Direct

W/Orange	-	W/Orange
Orange	-	Orange
W/Green	-	W/Green
Blue	-	Blue
W/Blue	-	W/Blue
Green	-	Green
W/Brown	-	W/Brown
Brown	-	Brown



②Cross Over

W/Orange	-	W/Green
Orange	-	Green
W/Green	-	W/Orange
Blue	-	Blue
W/Blue	-	W/Blue
Green	-	Orange
W/Brown	-	W/Brown
Brown	-	Brown

2. RS-232C Pin

- D-SUB 9 type connector is used for console cable.
- FWB2411' s connector is Male and PC' s connector is Female type.
- Pin is straight type. Refer to followings.

	2	-	2	
FWB2411 --	3	-	3	-- PC or Server
	5	-	5	

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