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LG

LG PC Central Controller

Installation Manual

ENGLISH

ITALIANO

ESPAÑOL

FRANÇAIS

DEUTSCH

IMPORTANT

- Please read this Installation Manual carefully and thoroughly before installing and operating your room air conditioner.
- Please retain this Installation Manual for future reference after reading it thoroughly.

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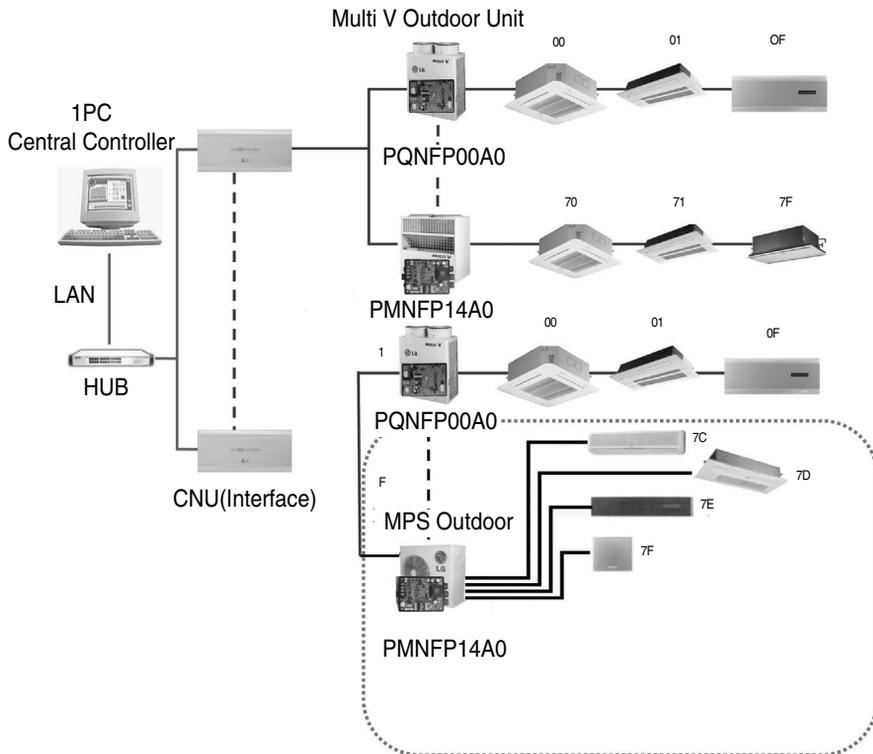
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System Structure

System Configuration

System Configuration

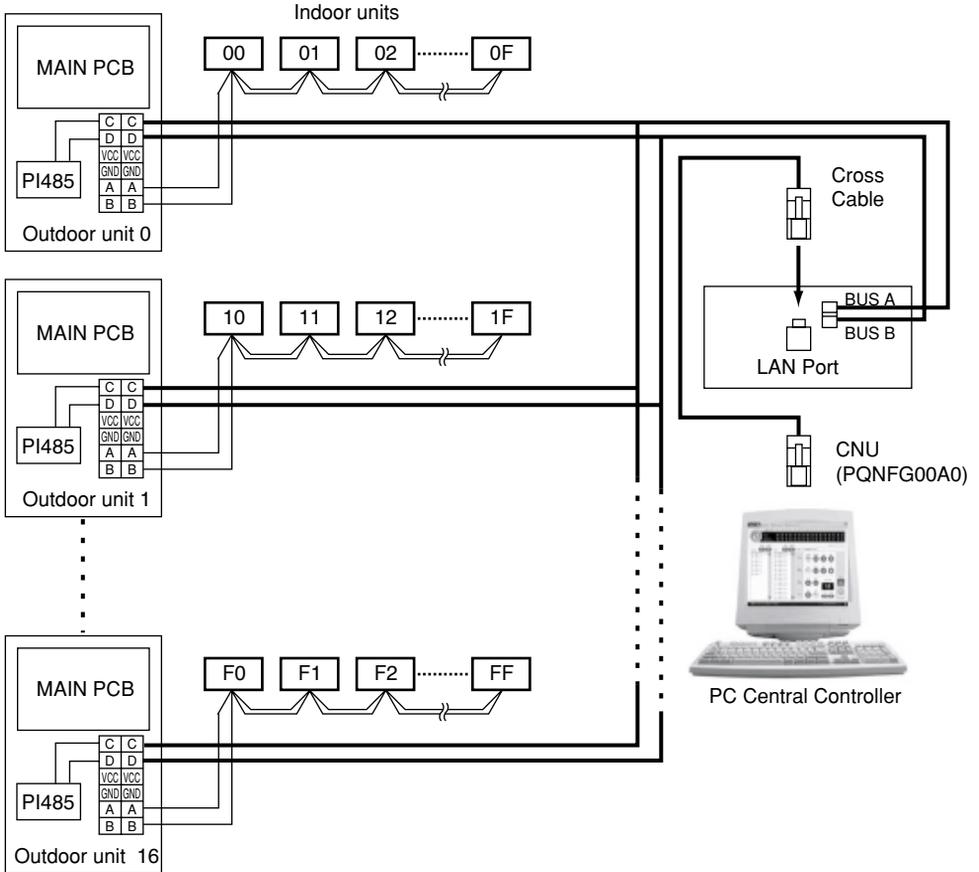
- 16 CNU / 1 PC Central Controller
 - 8 PI485 / 1 CNU
 - 1 Outdoor Unit / 1 PI485
- **NOTE** : If your requirement does not match above mentioned spec then Please Contact Air-conditioner Department for support.



External Wiring Diagram

Multi V CRU(N)N

- Refer the wiring diagram and connect the communication line accordingly

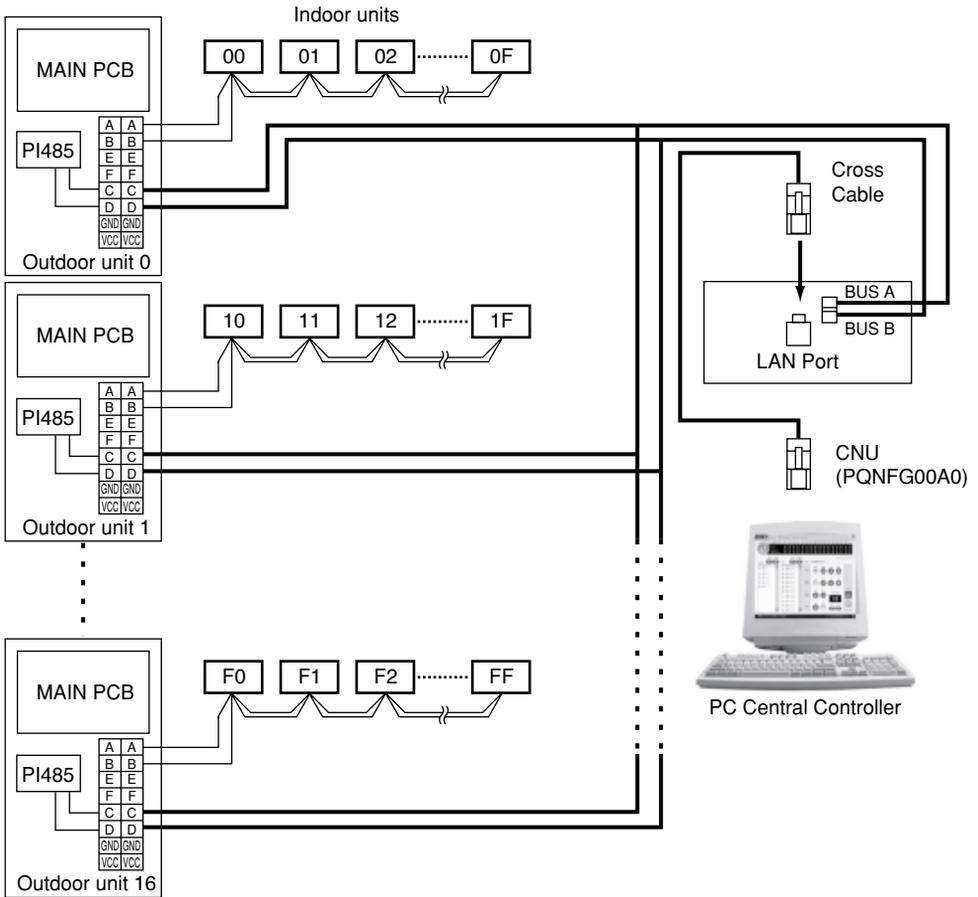


A, B terminals are for connecting to Indoor units, and C, D terminals are for connecting to CNU.

* Notice : Indoor unit address setting can be done by rotary switch in the Indoor unit PCB

Multi-V PLUS & MPS Product

- Refer the wiring diagram and connect the communication line accordingly

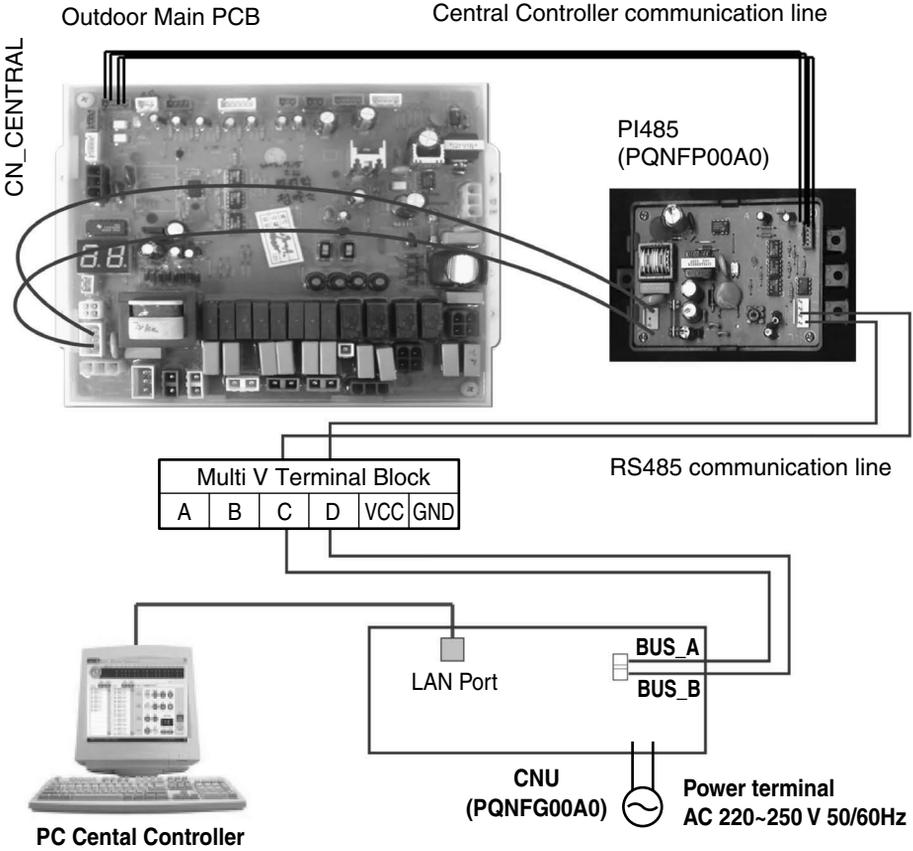


A, B terminals are for connecting to Indoor units, and C, D terminals are for connecting to CNU.

* Notice : Indoor unit address setting can be done by wired and wireless remote controller

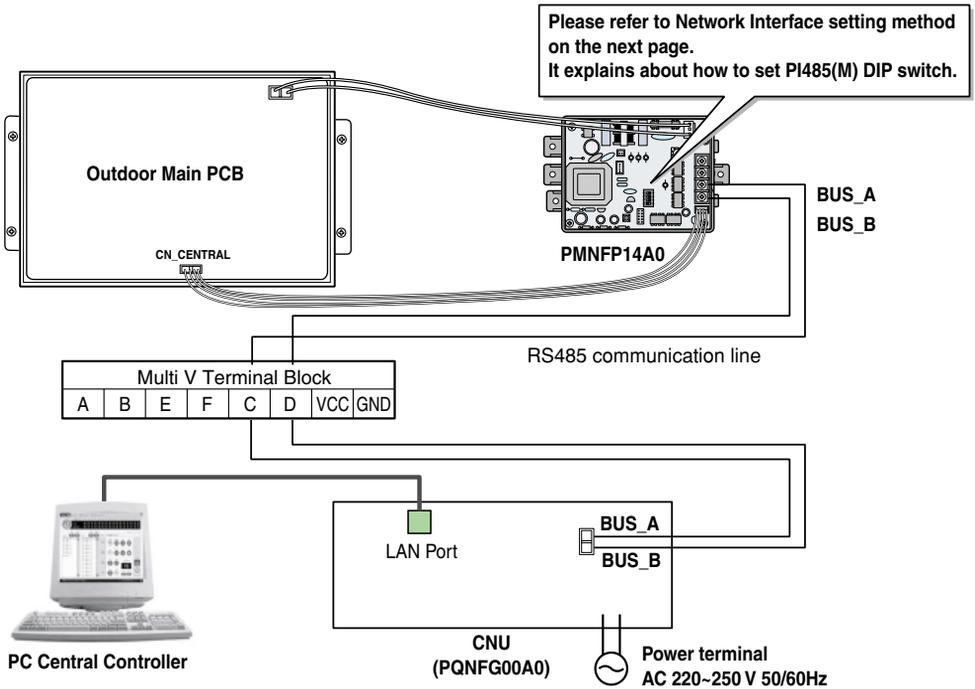
Internal Wiring Diagram

Multi V CRU(N)N



*Notice : CNU and PI485(PQNFP00A0, PQNFG00A0) should be purchased separately.

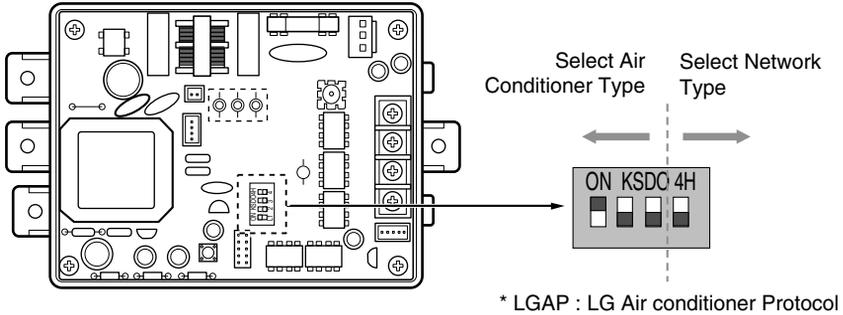
Multi V PLUS & MPS Product



Note : Terminal Block Use in case of Multi V and other models may Or may not be present. If it is not present, make direct connections.

Network Interface Connection

P1485(M) Dip Switch Configuration



MULTIV_{..}PLUS & MPS MULTI Products Configuration Methods



1 ON, All others OFF: **MULTIV_{..}PLUS** & MPS
Inverter Product + Central Controller (All types) -
Without LGAP



1 and 4 ON, All others OFF: **MULTIV_{..}PLUS** & MPS
Inverter Product + Central Controller (All types) -
Using LGAP



2 ON, All others OFF: MPS Multi Standard Product + Central Controller
(All types) - Without LGAP



2 and 4 ON, All others OFF: Multi Standard Product + Central Controller
(All types) - Using LGAP

* Please refer the corresponding Central Controller installation manual if you want to know whether your Central Controller is compatible with LGAP or not.

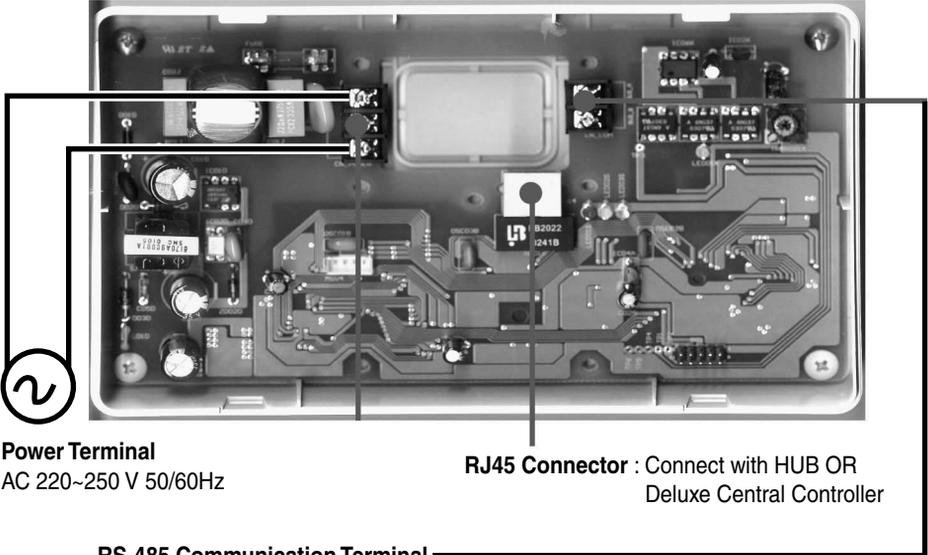


CAUTION:

The wrong setting of air-conditioner switch could cause malfunctioning.
Switch setting must be done carefully.

CNU Connection

CNU : Central Network Unit (PNFG00A0)



Power Terminal
AC 220~250 V 50/60Hz

RJ45 Connector : Connect with HUB OR
Deluxe Central Controller

RS-485 Communication Terminal

Connect with PNFP00A0 'C,D'
OR

Connect with PMNFP14A0 'A,B'

• **NOTICE**

PNFG00A0 ---- PNFP00A0 (PMNFP14A0)

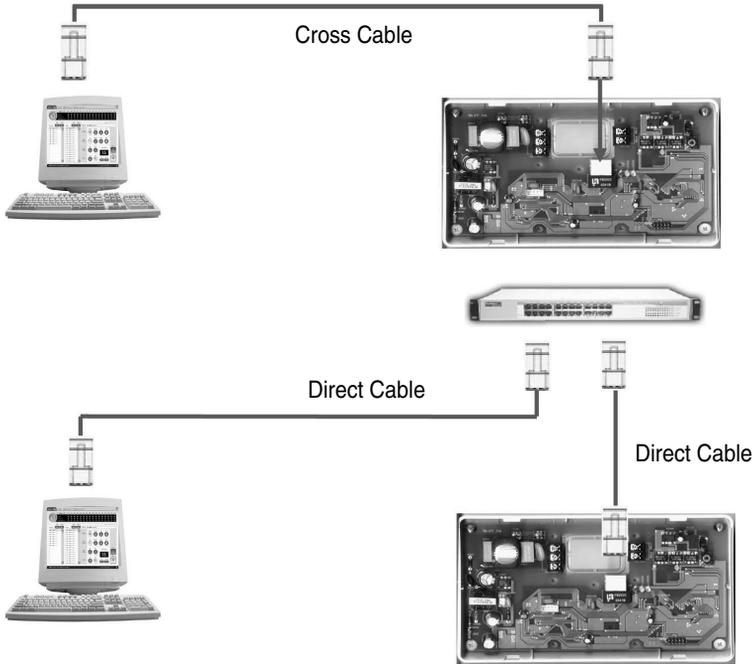
BUS_A ---- BUS_C (BUS_A)

BUS_B ---- BUS_D (BUS_B)

Use two shield lines for RS-485 connecting line.

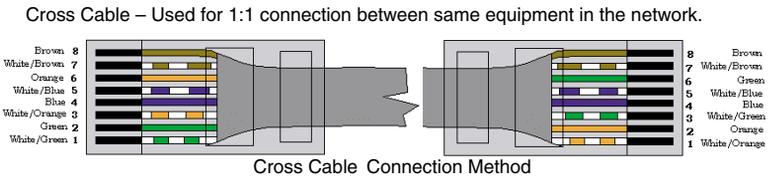
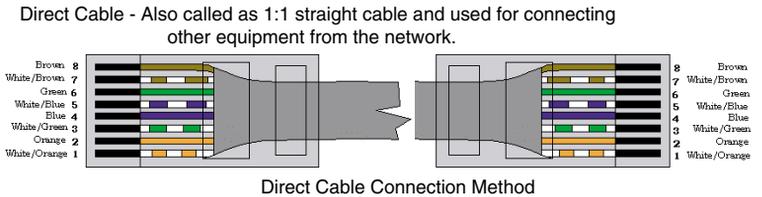
(Earth the shield line)

Wiring Diagram



* How to differentiate between Direct Cable & Cross Cable

The UTP cable consists of 8 stripes of wire and the wire actually used for data transmission in the LAN environment is the reception (Rx) No.1 and 2 wire and the transmission (Tx) No.3 and 6, consisting of 4 strands. They are classified into two types depending on method to connect wire for reception and transmission.



The Indoor Unit Address Setting method

Multi-V CRU(N)N

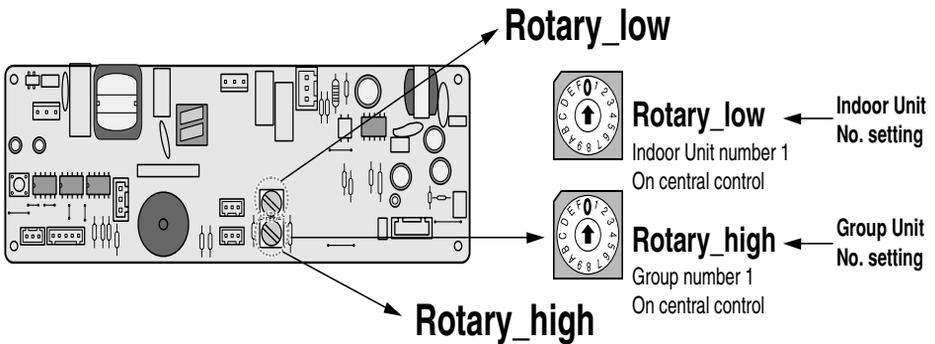
The indoor unit PCB has 2 rotary switches.

Rotary High is for Group number setting and Rotary Low is for Room number setting.

The Group number of the rotary switch of the Central Controller and the Indoor unit PCB rotary switch must match.

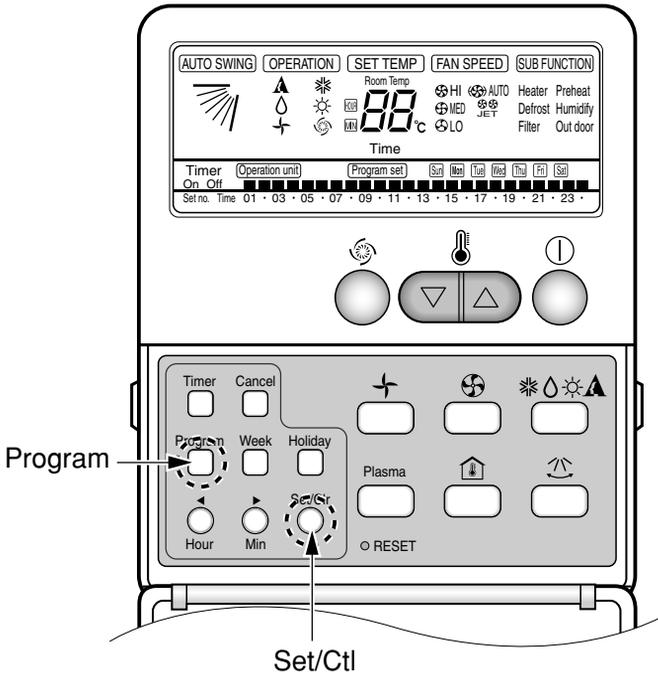
Example : Group number setting method(Central Controller Group rotary switch number 0 = The Indoor unit PCB rotary switch Group number 0)

Example : The Indoor unit number setting method (the Indoor unit PCB rotary switch number 1 = Central controller LED number 1 turns ON)



Multi-V PLUS & MPS Product

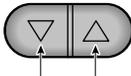
■ Using wired remote controller



1. Press Program & Set/Ctl keys at the same time.
2. Set the indoor unit address using the temperature controller.
Allowed Range : 00-FF

EX)

3 A

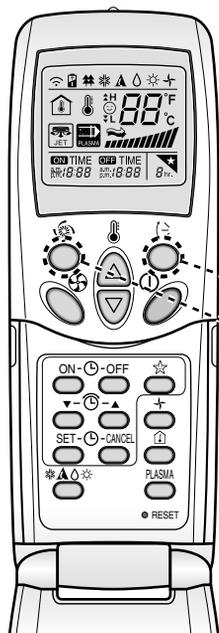


Group No. Indoor Unit No.

3. Complete the address setting to press the week Program & Set/Ctl keys at the same time for 3 seconds.

* Some remote controllers may not be supported by above functions, according to the production date of wired/wireless remote controllers. As it has no concern with customers' use, use the remote controller available for the address setting during installation.

■ Using Wireless Remote Controller



1. Address setting mode

- 1) Keep pressing upper left side key continuously and press RESET button once. Now the system is ready for address setting.
- 2) Set the Indoor unit address using the temperature controller buttons.
Allowed Range : 00-FF

ex)



Address
check

Address
setting

- 3) After setting address, press ON/OFF key once towards Indoor unit.
- 4) The Indoor unit shows the set address and it means completion of address setting process. (The address displaying time and its way can depend upon the type of Indoor unit)

2. Address check mode

- 1) Keep pressing upper right side key continuously and press RESET button once. Now the system is ready for address checking.
- 2) Press ON/OFF key once toward the Indoor unit which shows set address on the display. (The address displaying time and its way can depend upon the type of Indoor unit)
- 3) Reset the remote controller to use it for normal operation mode.

* Some remote controllers may not support above functions according to the production date of wired/wireless remote controllers. As it has no concern with customer's use, use the remote controller available for the address setting during installation.

* The remote controller having this function will be given with the purchase of central controller.

Installation of PC Central Controller Hardware

Parts of PC Central Controller



Personal Computer for PC Central Controller
(Not Provided)



USB Hard_Lock key
(52mm*15mm*7mm)

Connection USB Hard_Lock key

Connect USB Hard_Lock key in **Computer** for PC Central Controller

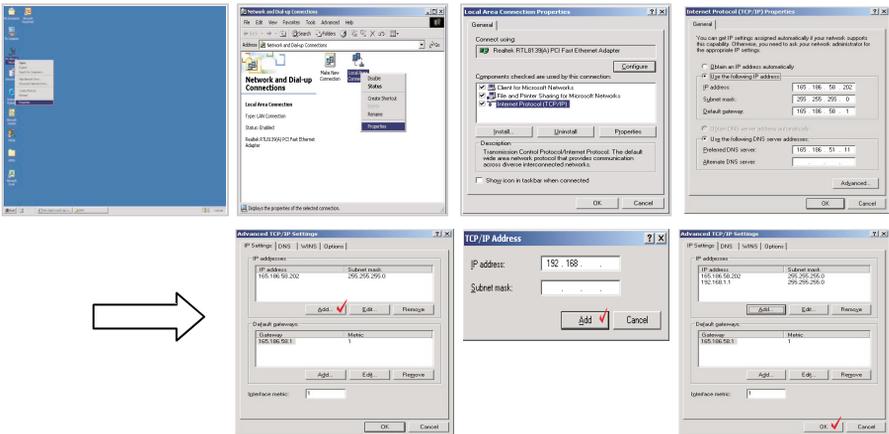
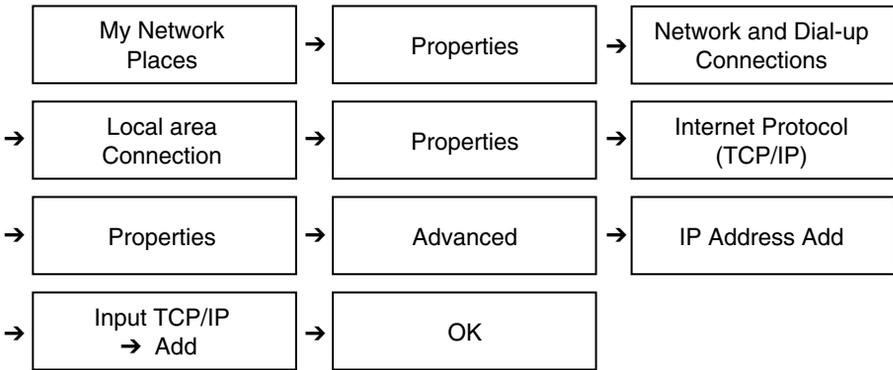
■ NOTICE : **USB** Hard_Lock key determines all functions of PC Central Controller



Installation of PC Central Controller Software

Recommended System Configuration

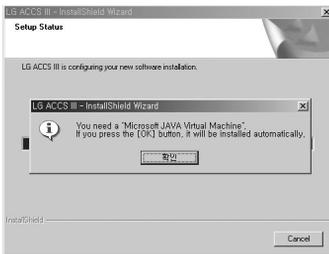
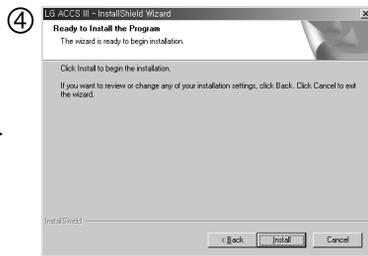
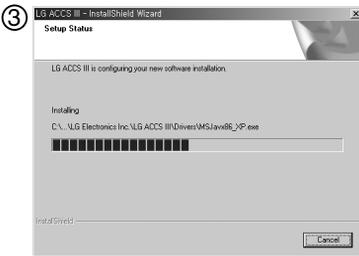
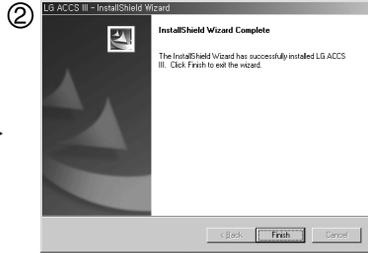
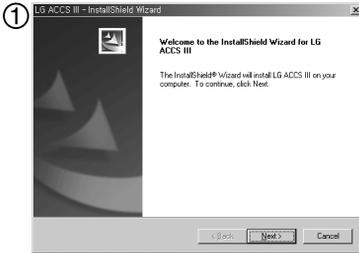
- LG PC Central Control program can be executed in Window NT, 2000, 2003, XP and while installing the program, at least 50 Mbytes memory is necessary.
 - CPU : Over Pentium IV 2.2GHz
 - Main Memory : Over 256MB
 - Operation System : Windows NT/ 2000/ XP/ 2003 (include Microsoft Java VM)
 - Hard Disk : Minimum space: 600MB (Request more 600M when operating)
 - Web browser : Over Internet Explore 5.0
- In case of using Hub, IP should be set in the PC
 - The way to set IP address(You have to get IP from IT manager)



* As far as possible, use PC exclusively for central control only.

How to install program

Insert supplied CD in CD-ROM driver, double click the Set-up icon and install the software.



- **NOTICE** : In case there is no Microsoft Java VM(MS JVM)program, Installed in the computer, a message appears as shown in left side picture. Click on 'OK' to install it.

Engine S/W Registration in service program

Installed ACCS III Program in computer is classified GUI program and Engine Program “LG ACCS III Ver[name of version]” is GUI Program, “LG ACCS III Service Manager” is program to handle the Engine.

Actual air conditioner control, monitoring and other function operate in Engine.

So Engine S/W must operate in control Inside PC at all time.

It is possible to control air conditioner.

Click [Start] → [Program] →

[LG Electronics Inc] → [LG ACCS III] →

[LG ACCS III Service Manager]

After install, Engine program is registered in Service Program, then the program is executed automatically.

If service Program is not executed, click on “Install” then click on “Start”

After becomes the execution, though window is closed by click on “OK”

S/W is executing continuously.

* Once you have set Register at the first operation, you do not need to set again.

Engine S/W which registered at the Service Program will operate automatically when PC is rebooting after



Execution of the Program

Click the Program LG ACCS in the start menu in the program menu of windows (Click the LG ACCS icon on the desktop)

When the program is started, loading image is displayed.

Afterwards, Initial display appears on the screen.



On the Login window, Insert ID and Password, click the Login button.

[At first time ID is admin Password is digital21]

when click on cancel, this program is closed

- PC Central program can be executed only when the approval hard_lock is inserted in your desktop
When the Hard_Lock is pull out, PC central Program can not be executed, Some error will be displayed.

Failed the Log-in

Loading screen is not appeared but appear fail message

"Status : Please, Input ID and a Password..."

- The case which does not put in the ID of Password

"Status : Authentication Failed. Wait a Moment..."

- In case input ID or Password is wrong.

"Status : There is No Response, Login Failed. Wait a Moment..."

- The case which does not operate Engine S/W

"Status : Connection Error, Login Failed. Wait a Moment..."

- The case where the data transmission of receipt of a message goes wrong

"Status : Client License Access Over..."

- **Access people are over than**

"Status : Permission Error. Retry Again..."

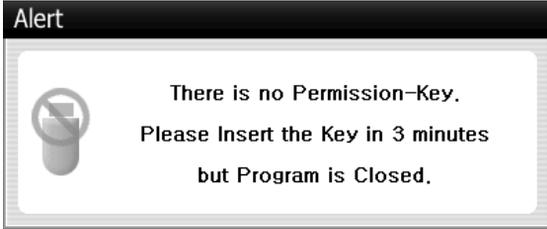
- Although succeed Log-in, it cannot receive Permission information or receive wrong Permission

How to use approval hard_lock



PC Central program can be executed only when the hard_lock is inserted in computer. When the Hard_Lock is pulled out, PC central Program can not be executed. In such a case some error will be displayed as shown in left picture. So click the OK button and insert the approval hard_lock and then execute again.

▲ Hard_lock warning window appears in case key is not inserted. (When program starting)



A when approval hard_lock is pulled out or remove it on operating program, warning message will be displayed As show in left picture.

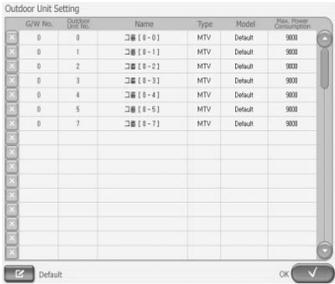
If approval hard_lock is inserted within 3 minutes, warning message is disappeared and the program is operated in the normality.

▲ Approval Hard_lock Warning Window (While program is operating)



USB Hard_Lock key
(52mm*15mm*7mm)

Click the Outdoor Unit Setting.



When you click the "default", default data is set. Enter the G/W No., Outdoor Unit No., Name, Type, Model, Max. power consumption in the Outdoor Unit Setting.

The unnecessary data is deleted automatically.

When all the input data is set, click OK

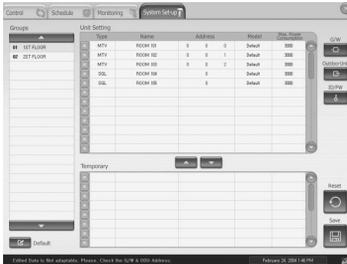
Click the "Group" and enter the group's name.

When you click the default, Default data is set. All indoor unit's data made by presetting G/W and Outdoor unit data is set automatically.

Group name(physical group data) is inherited by the outdoor name.

Click the Group name for which you want to input the indoor unit's data and the unit setting area.

Click on "Indoor Unit".



Enter the indoor unit's information.

The physical addressing format is (X1. X2. X3) where X1 is Gateway information, X2 is the outdoor information, and X3 is the Indoor unit information for the Multi_V Unit.

In the unit for school, The Type is SGL and the Physical address is the indoor unit's IP address.

To set ID and PW, click the ID/PW button and the enter your id and password in the ID/PW Window.

Click the 'Save' after setting all the data to save the information.

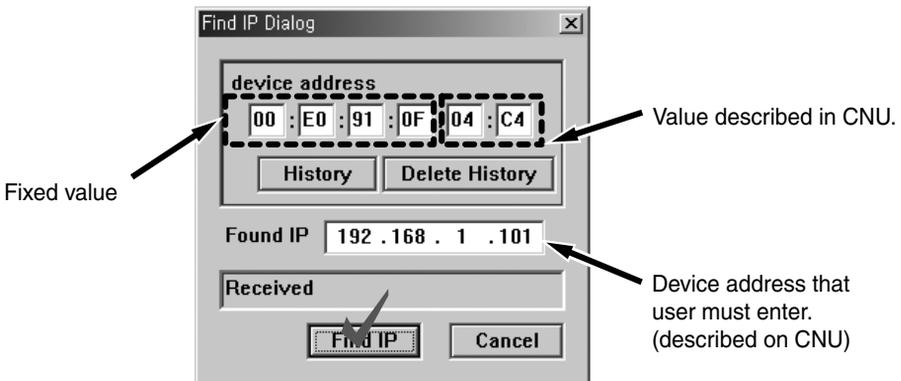
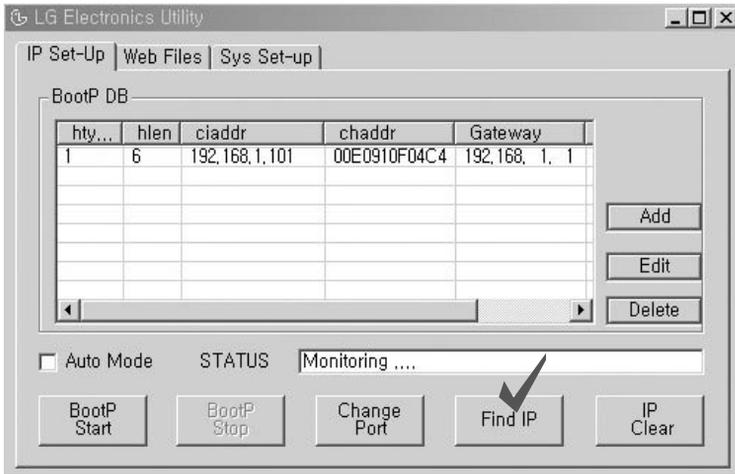
CAUTION:

When you click "Reset", the last saved data is restored.

How to search for IP which is set at the CNU (I-MODULE)

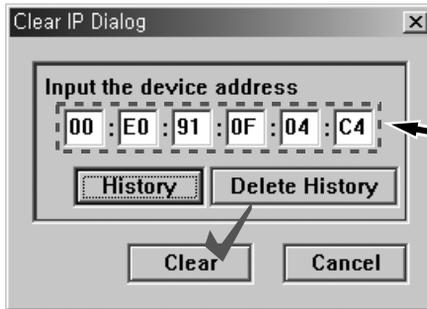
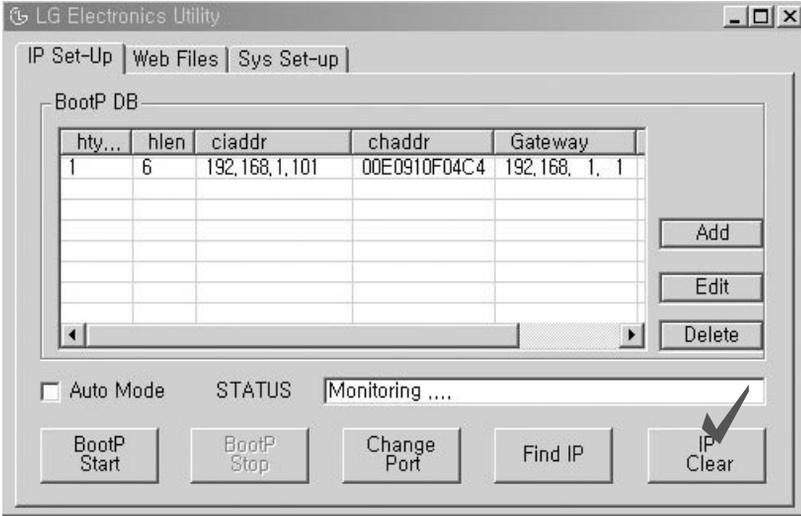
1. How to search for IP which is already set for the CNU

- Execute "LG Utility" program.
- Click the "Find IP" button.
- Click the "Find" button after entering "device address (mac address)" values to display which is already set for the CNU on the Found IP window after communication with CNU.



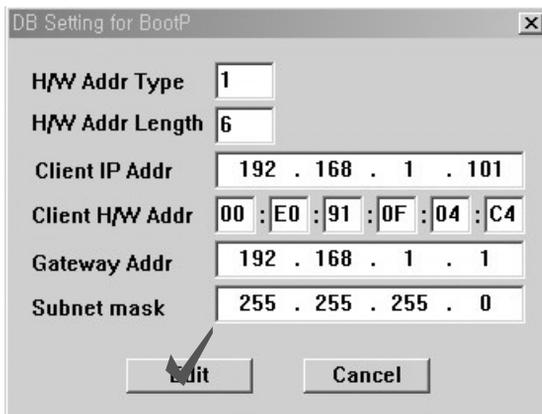
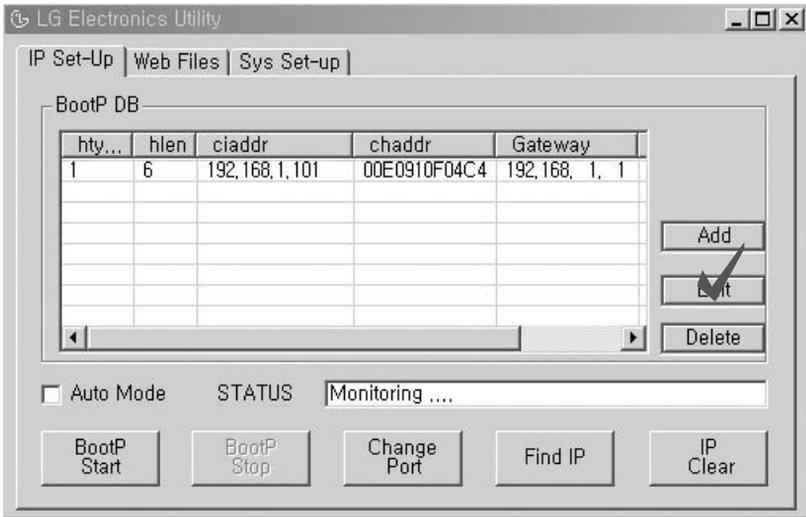
2. How to set a new IP in the CNU

1. Execute "LG Utility" program
2. Click the "IP Clear" button to clear IP already setup.
(Press the "clear" button after entering the relevant MAC address on the "Input the device address" window.)

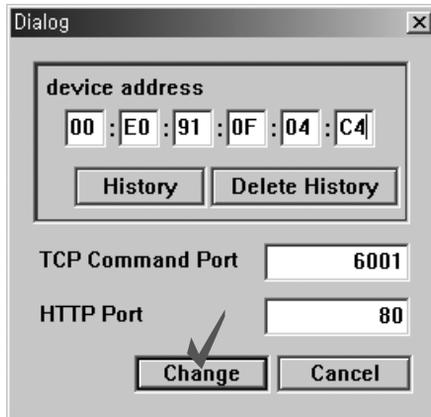
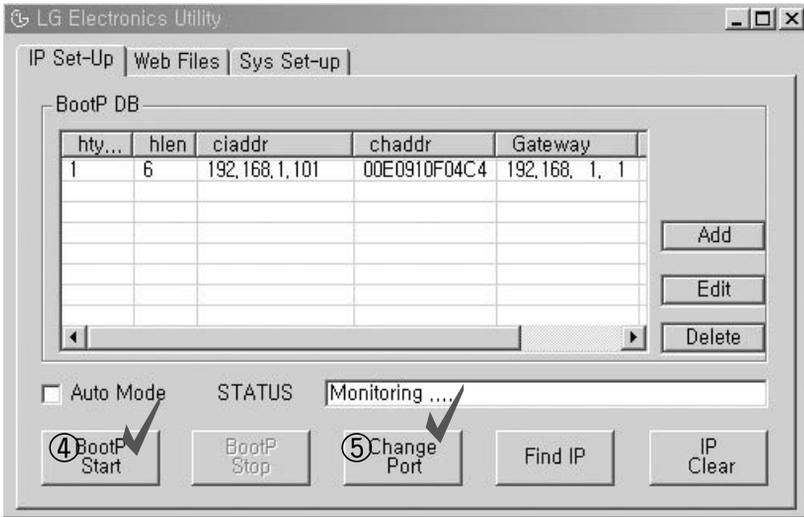


Device address that user must enter (described on CNU)

- Click the "Edit" button after entering information related with IP to setup on the "DB Setting for BootP" window that is created if pressing the "Edit" button.



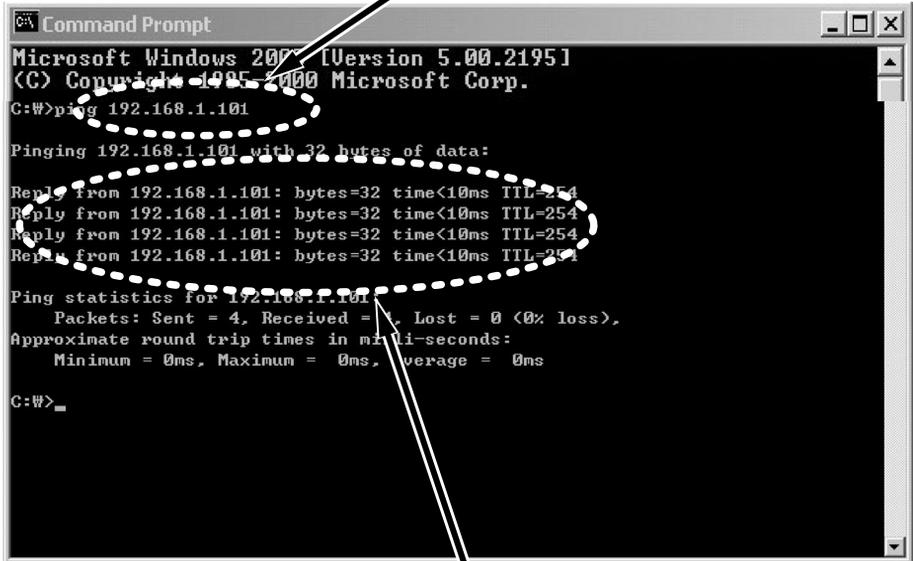
4. IP that is entered by pressing the “BootP start” button is set in the CNU.
5. Enter the mac address in the “device address” of the dialog window appearing when clicking the “Change Port” button and then click the “Change” button after entering “6001” for the TCP Command, and “80” for the HTTP Port.



IP Test Method (PING Test)

This is how to search for IP that is set in the CNU, and check that communication between central controller and CNU is possible by executing as below with IP of the relevant CNU noted.

Press the Enter key after entering the "PING IP_ADDRESS".



```
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\W>ping 192.168.1.101

Pinging 192.168.1.101 with 32 bytes of data:

Reply from 192.168.1.101: bytes=32 time<10ms TTL=254

Ping statistics for 192.168.1.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\W>
```

View when communication between central controller and CNU is normal.

INSTALLATION OF WEB SERVER

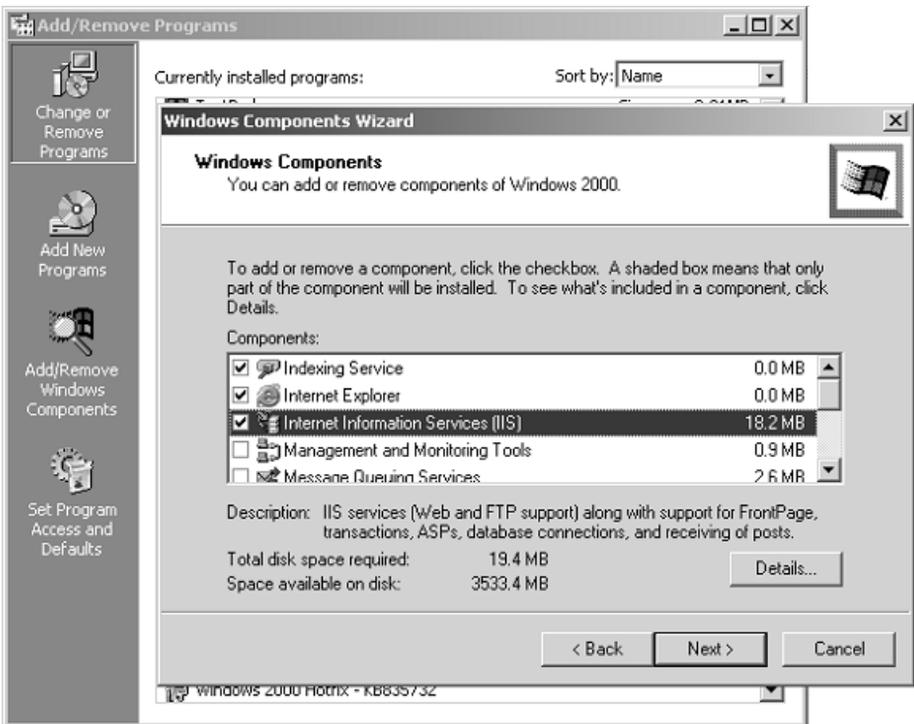
Installation of Web Server

Web server (IIS, Apache etc) must be installed in the inner PC where LG ACCS III is installed in order to remotely control I LG ACCS III air conditioner via Internet outside.

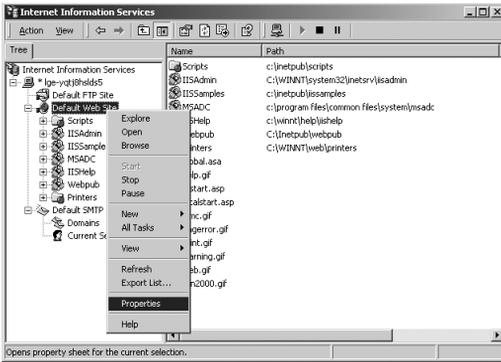
(1) Installation of IIS Web Server (Windows 2000)

Internet Information Service (IIS) is featured that construction of web server service for web service is easy and productivity is excellent.

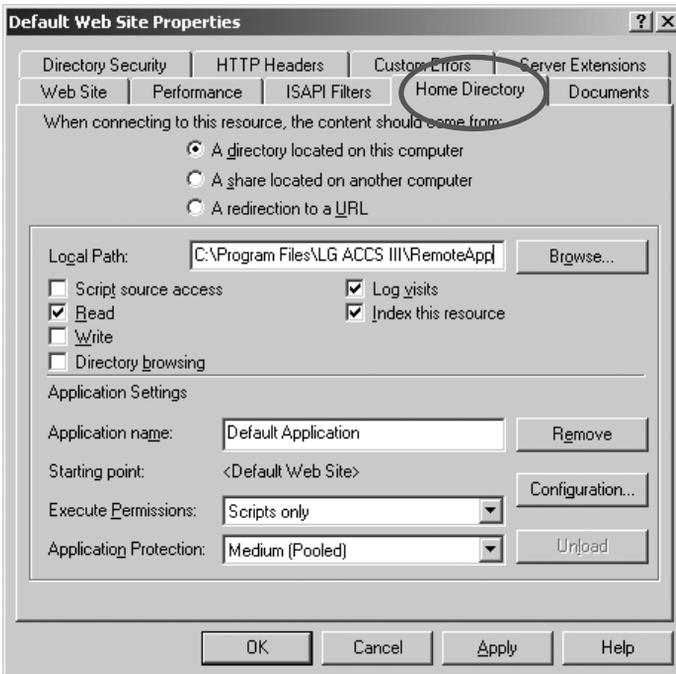
1. IIS must be installed on Windows2000 to install a Windows2000 computer with the web server. Select the left Add/Remove of Windows Configuration Factors from Setup >>Control Panel >>Program Add/Remove menu. Check and display Internet Information Service (IIS) from the [Windows Configuration Factors] window, and then select <Details>. You must select appropriate configuration factor for installation if a window to select detailed configuration factors for IIS appears.



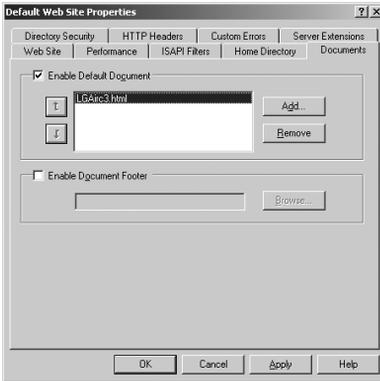
- 2.Environment Setup : Select Default Web Site after executing [Management Tool] >> [Internet Service Manager] in order to change setup of IIS if installation is completed. Select Registration Information after clicking the right mouse.



3. Home Directory Setup: Designates local path from the [Home Directory]. You must designated path as "C:\ Program Files \ LG Electronics Inc \ LG ACCS III \ RemoteApp" from the Search menu.



4. Document Setup : Check Using Basic Document from [Document] and setup it as "LGAirc3.html".



(2) Installation of Apache Web Server (for Windows)

Installation is done if executing Installation File after downloading the Apache Web Server file for windows and designating a folder to be installed. Message [Server is executed] from the DOS window appears on the DOS window if installation is completed, and HTTP access with the system where this Apache is installed from that time is available.

1. Environment Setup: For environment setup of this Apache web server, you must restart the Apache web server by clicking Control Apache Server >> Edit the Apache httpd.conf Configuration File restart after modifying Start >> Program >> Apache HTTP Server >> from the text editor.

2. Home Directory Setup : Search for followings and then modify contents of DocumentRoot.

```
#
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory, but
# symbolic links and aliases may be used to point to other locations.

#
DocumentRoot "C:\Program Files\LG Electronics Inc\LG ACCS III\RemoteApp"
```

```
#
# This should be changed to whatever you set DocumentRoot to.
#
```

```
<Directory "C:\Program Files\LG Electronics Inc\LG ACCS III\RemoteApp">
```

3. Doc. Setup : Search for followings and then modify contents of DirectoryIndex.

```
#
# DirectoryIndex: Name of the file or files to use as a pre-written HTML
# directory index. Separate multiple entries with spaces.
#\
```

```
<IfModule mod_dir.c>
  DirectoryIndex LGAirc3.html
</IfModule>
```

