Visit us at : http://www.lgservice.com

LG
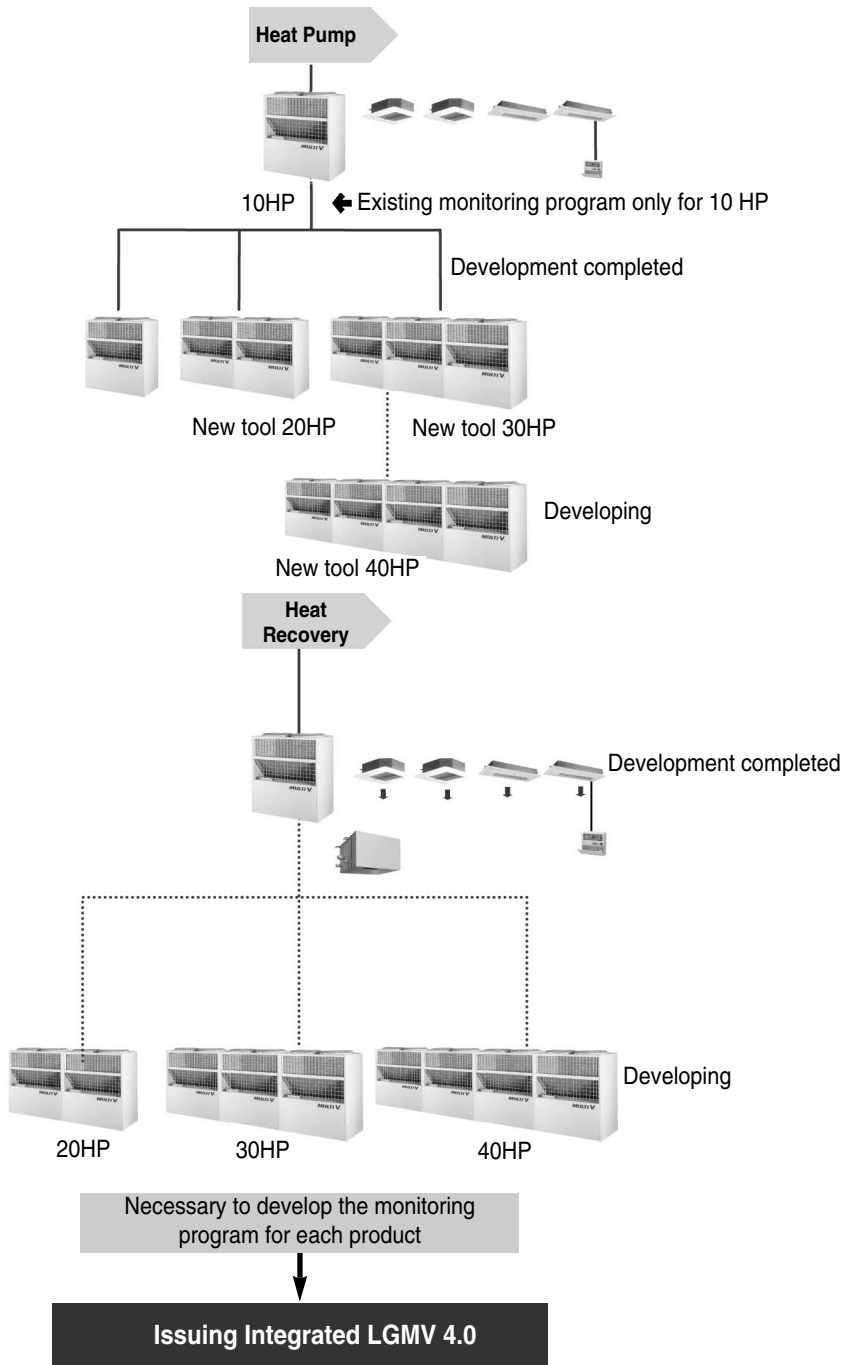# LGMV 4.0

Installation Manual

Model : PRCTSL1

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.

TABLE OF CONTENTS

LGMV 4.0 Overview

Heat Pump

10HP ← Existing monitoring program only for 10 HP

Development completed

New tool 20HP   New tool 30HP

Developing

New tool 40HP

Heat Recovery

Development completed

Developing

20HP   30HP   40HP

Necessary to develop the monitoring
program for each product

Issuing Integrated LGMV 4.0

Parts

• Parts of LGMV

LGMV 4.0 CD **HARD LOCK Key**
(Program + Install manual)

* NOTE : Recommended PC Specification to install LGMV Main program

- • CPU : Over Pentium IV 1.6GHz
- • Main Memory : Over 256MB
- • Operating System : Windows NT/ 2000/ XP/ 2003 (include Microsoft Java VM)
- • Hard Disk : More than 600MB when operating
- • Web browser : Over Internet Explore 5.0

Programs in CD

1. Check below files listed in CD

Name △	Size	Type	Modified
hdd32		File Folder	2005-04-01 오전 1:58
LGMV Installation Manual	753 KB	Adobe Acrobat Doc…	2005-04-01 오전 1:58
LGMV_TOTAL4.0	1,902 KB	Windows Installer P…	2005-04-01 오전 1:58

2. Description of file in CD

■ LGMV Installation Manual   : LGMV 4.0 Installation Manual

■ hdd32   : Hard Lock Program(LGMV 4.0 Security Program)
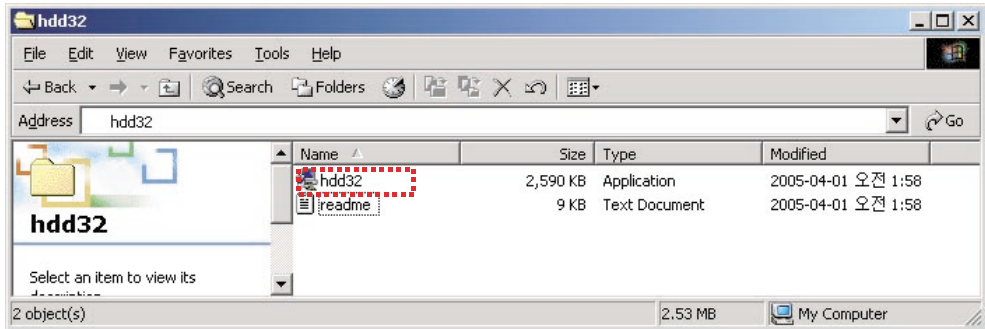
hdd32.exe
readme.txt

hdd32

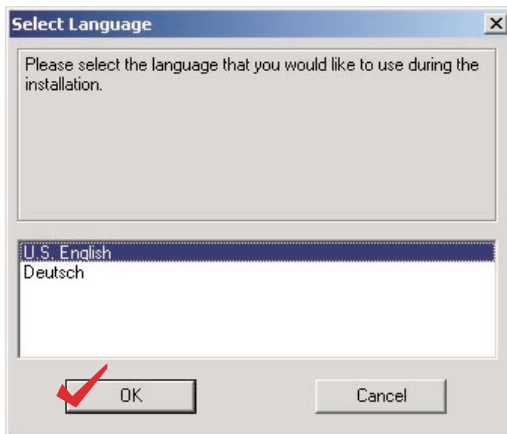■ LGMV_TOTAL4.0.msi : LGMV 4.0 Main Software Installation file

Installation

1. Hard Lock Program Installation

(1) 2 files appear when the hdd32 folder is opened

(2) Execute hdd32.exe file. The following window pops up.
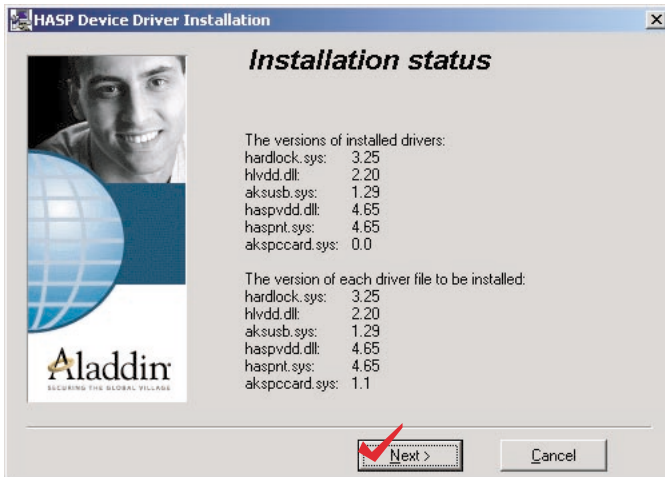   **- Follow the below mentioned procedure**

Select U.S.English and then click 'OK' button
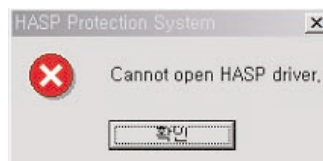
Click 'Next' button

Click 'Next' button

Click 'Finish' button to complete the installation of Hard Lock program

(3) Insert Hard Lock Key in PC Parallel Port

* NOTE : If you don't insert Hard Lock Key before LGMV main program execution,
   below error message will appear.

Hard Lock Key

2. Installation of Main LGMV Program

(1) Select LGMV_TOTAL4.0

Name △	Size	Type	Modified
hdd32		File Folder	2005-04-01 오전 1:58
LGMV Installation Manual	753 KB	Adobe Acrobat Doc...	2005-04-01 오전 1:58
LGMV_TOTAL4.0	1,902 KB	Windows Installer P...	2005-04-01 오전 1:58

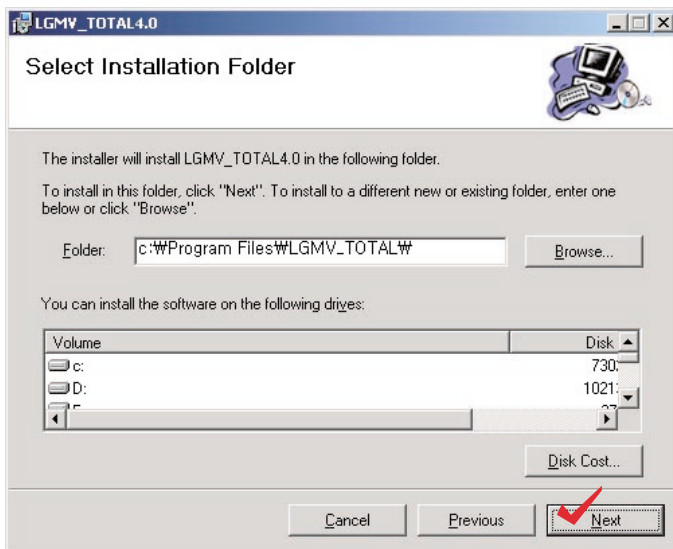## (2) Execute LGMV_TOTAL4.0.msi file. The following window pops up.

- Follow the below mentioned procedure
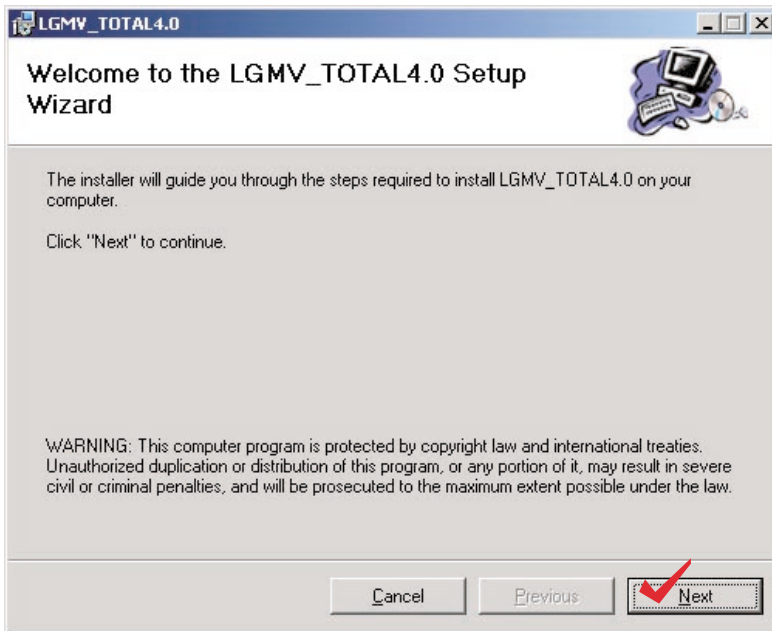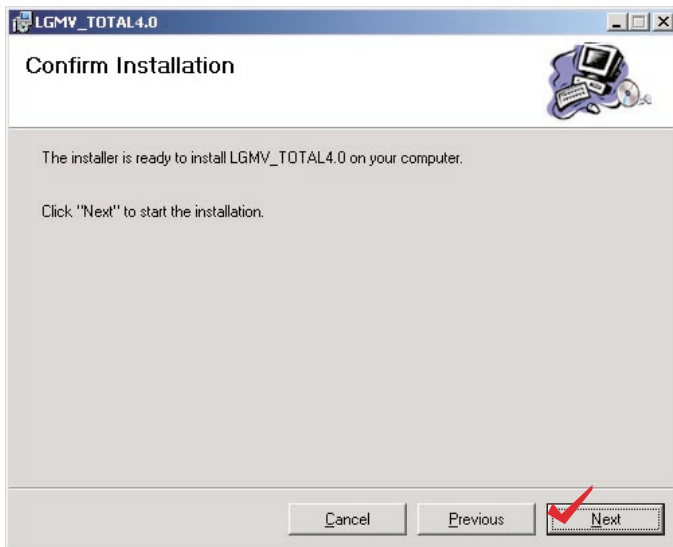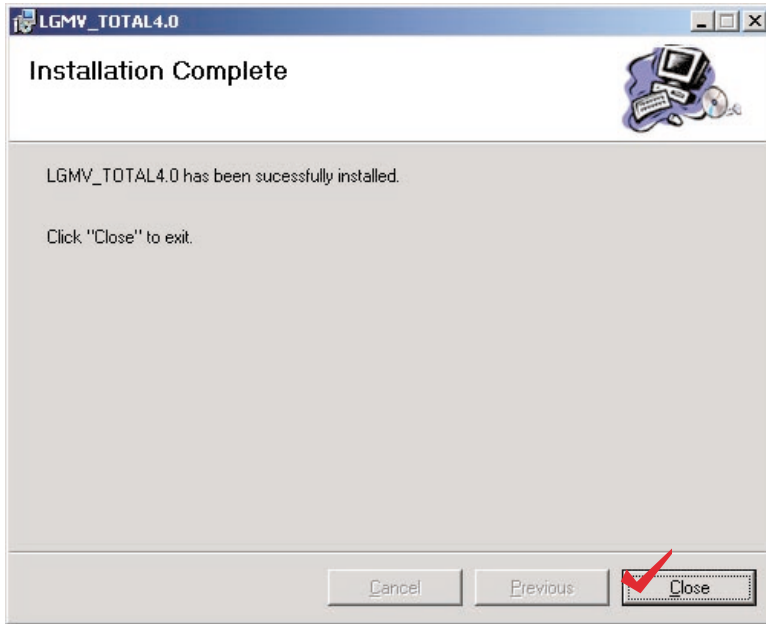

Click 'Next' button

Click 'Next' button

Click 'Next' button

Click 'Close' button to complete the LGMV_TOTAL4.0
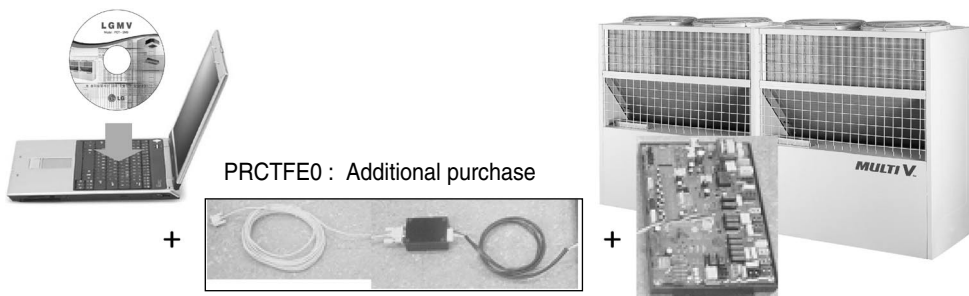
3. Port set-up

LGMV 4.0 Program will be operated correctly when it is connected COM1

Serial port : COM1 port only

In case that there is not RS232 Serial port in your notebook, use USB port of your PC.
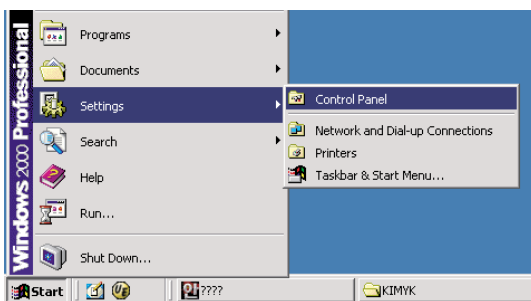Refer to '(2) Setting the USB port as the serial port' on page 14.

(1) Check COM1 port

PRCTFE0 : Additional purchase

+   +

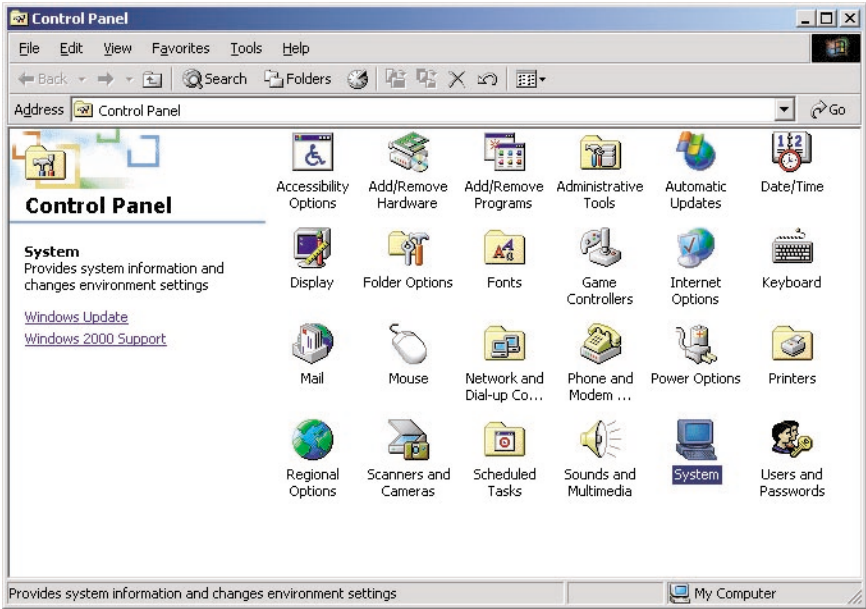> **System Overview In case of RS 232 Serial PORT In PC**
>
> PRCTFE0 connection should be done as the above picture and it would be connected to the main PCB connector of outdoor unit.

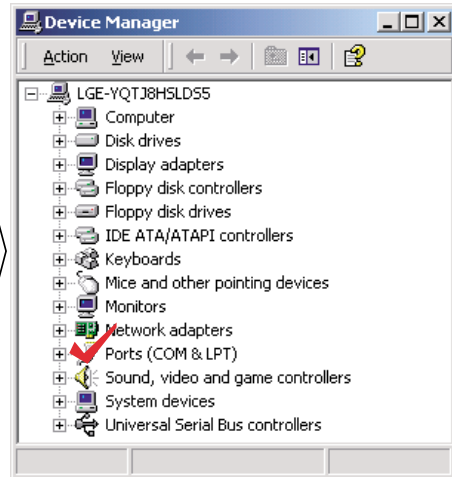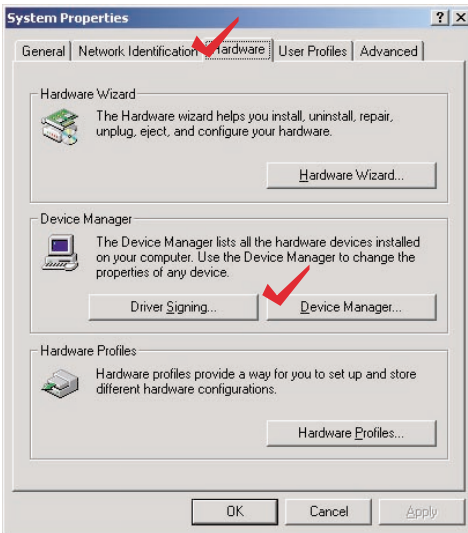To check COM1 port, follow the below Procedure

Select 'Start' -> 'System' -> 'Control Panel' then you can see and choose the 'System' icon in 'Control Panel'
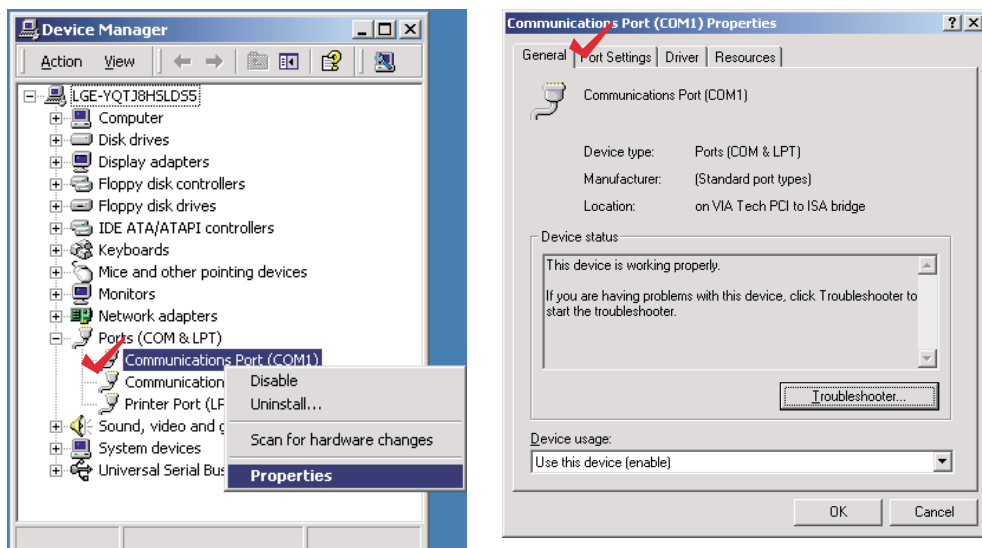
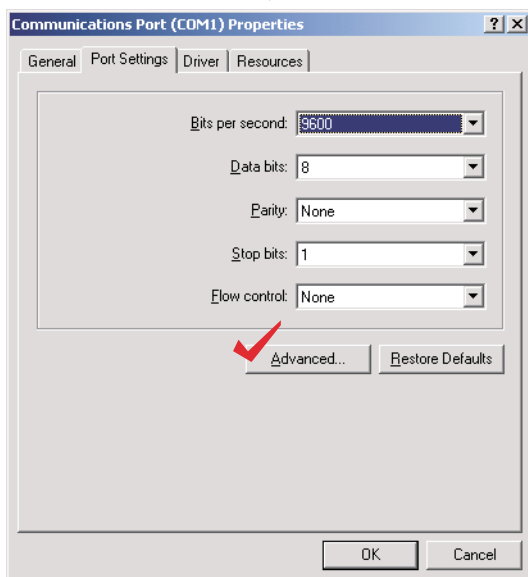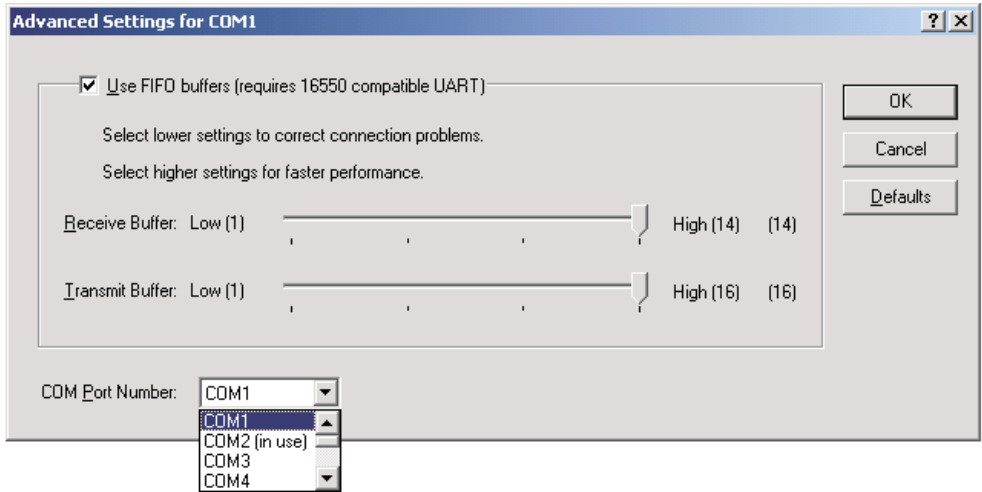Select 'Hardware' in 'System Properties' window

Select 'Device manager' and then 'Device Manager' window appears.

Then select 'Ports(COM & LPT)' in 'Device manager' window

Select 'Communication Port', click right button of your mouse,
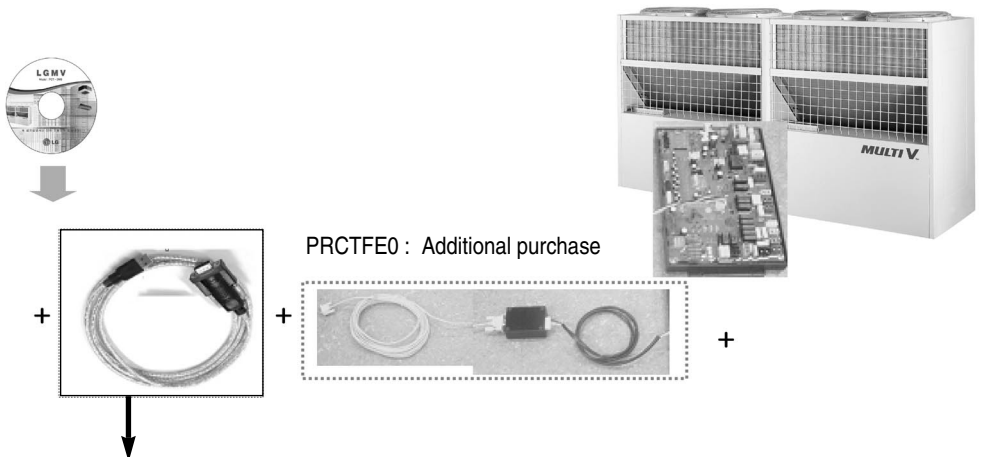and choose 'Properties' as shown above

Select 'Port Settings' in 'Communication Port' window and click 'Advanced' button.

Check 'COM1' port and click 'OK' Button

## (2) Setting the USB port as the serial port

PRCTFE0 : Additional purchase

* NOTE : Purchase 'USB to 232 Serial Converter' by yourself.(Local sourcing)

System Overview in case of using USB-Serial converter in PC

PRCTFE0 connection should be done as shown above and it would be connected to main PCB connector of the outdoor unit.

- Insert the USB-Serial converter into the USB port.
  You can see the below window and setup the program.
  Follow the below mentioned procedure.
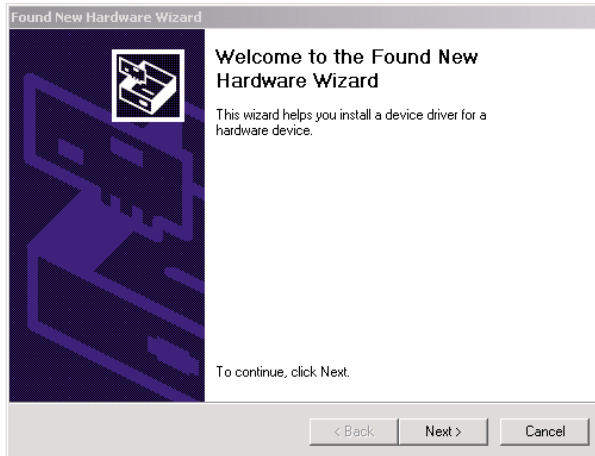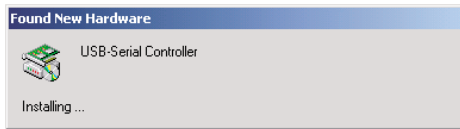
Click 'Next' button at 'Welcome to the Found New Hardware Wizard'.
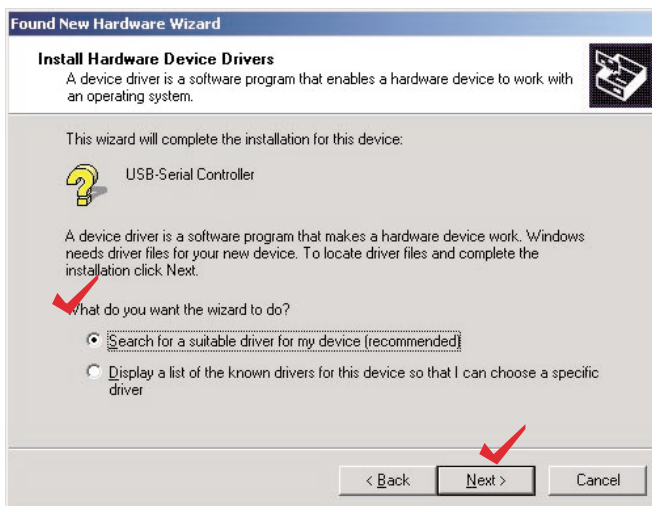
Select 'Search for a suitable driver for my device' and then click 'Next.'
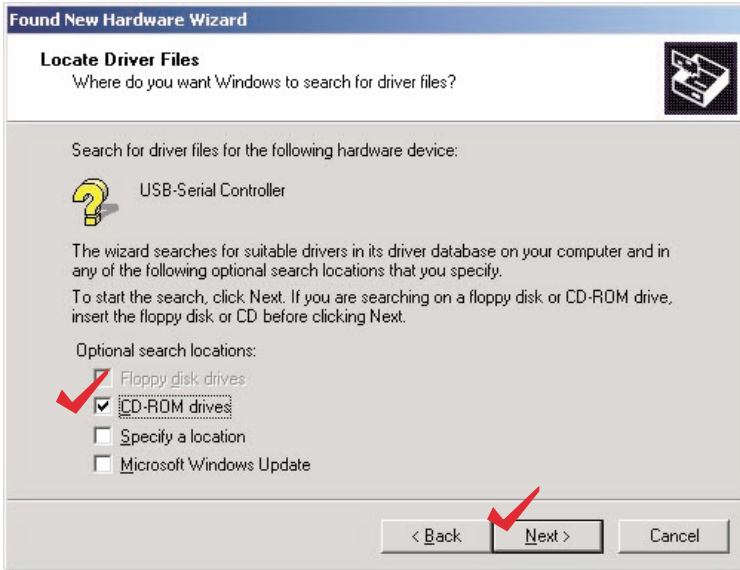
Select 'CD-ROM drive,' insert the installation CD, and then click 'Next.'
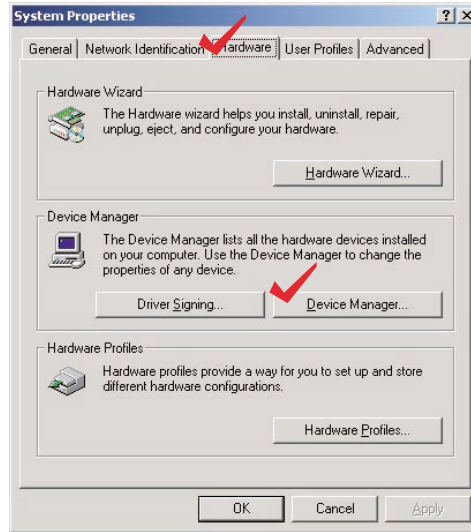
Select the registration information by selecting 'My computer' at the desktop and then click the right button of the mouse.

Select the device manager from the hardware of the registration information and select 'USB to Serial Converter' at the port as shown at the below figure
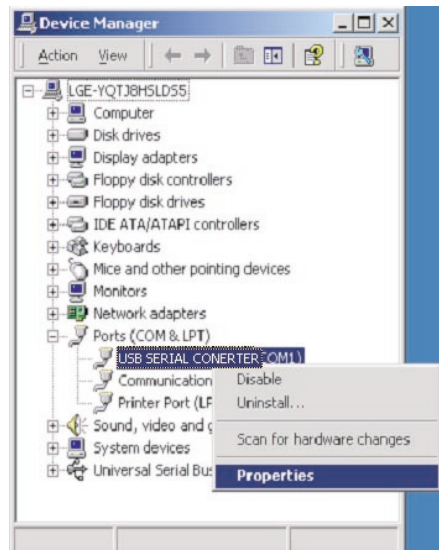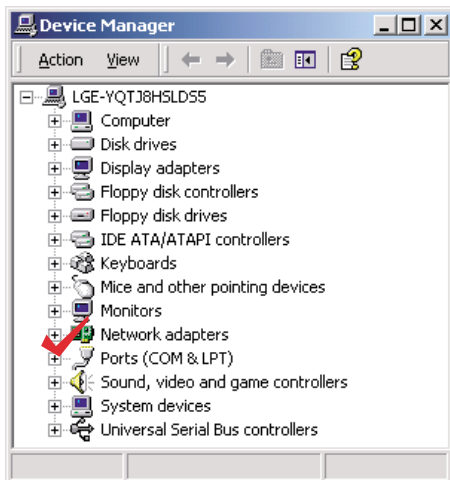
Select 'USB to Serial Converter' and click right button of your mouse and choose 'Properties'.
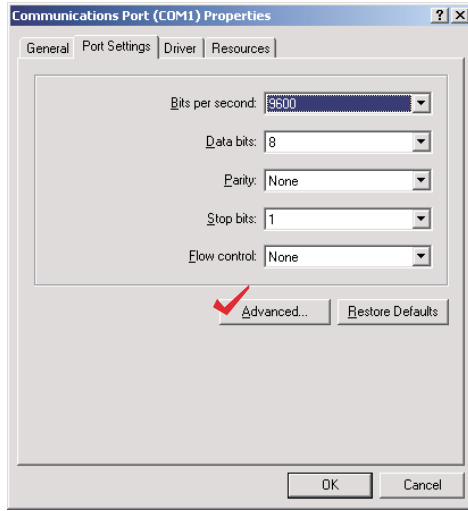
Select 'Port Settings' in 'Communication Port' window and click 'Advanced' button.
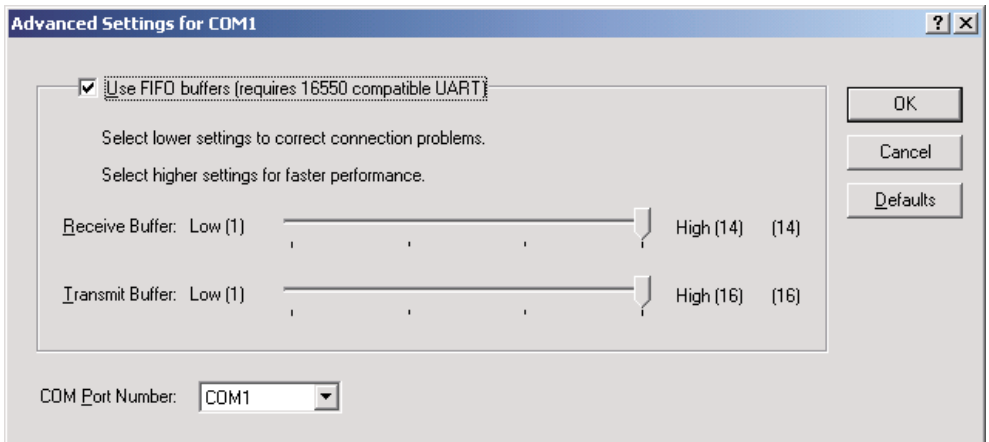
Check 'COM1' port then click 'OK' Button

4. Setting the Initial Dialog Box

(1) The initial dialog box appears every time by clicking the short cut button of LGMV on the desktop.

(2) Select 'Air conditioner' type, 'The combination of outdoor unit' , 'Refrigerant type' then click 'OK' button
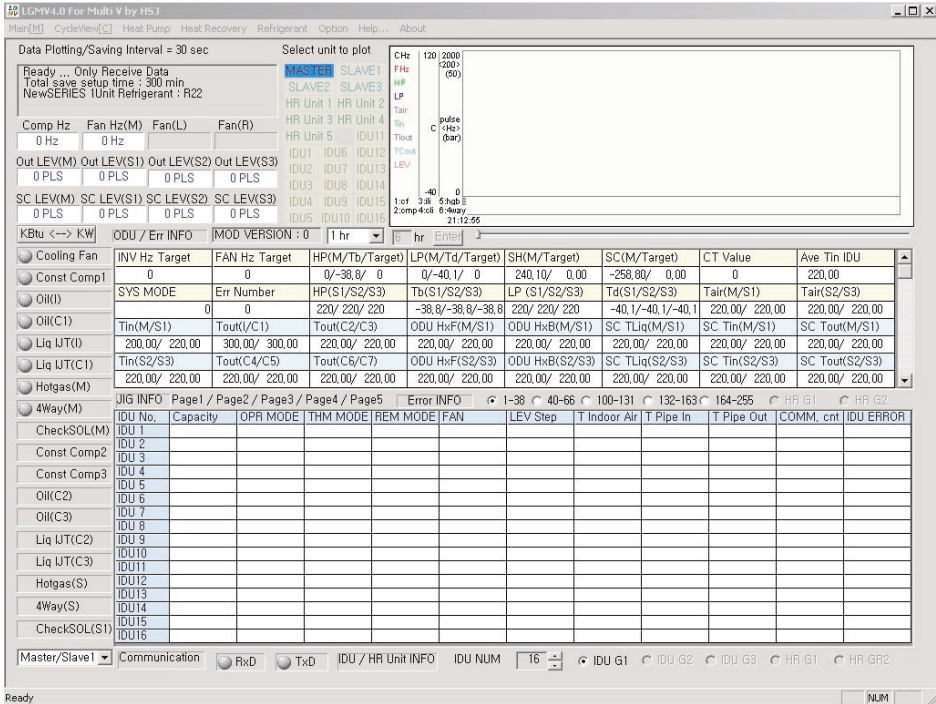
< LGMV Main monitoring >

(3) Explanation about the initial dialog box

■ **'Air conditioner Type'**

✔ Heat Pump(OLD) : Air conditioner using the conventional jig protocol
  ➜ 1 Outdoor unit combination (Old Tool,New Tool, SPACE)
  ➜ 2 Outdoor units combination (No Communication signal type)

✔ Heat Pump(NEW) : Air conditioner using the integrated jig protocol
  ➜ 1 Outdoor Unit Combination (New Tool, SPACE), 3 Outdoor units combination

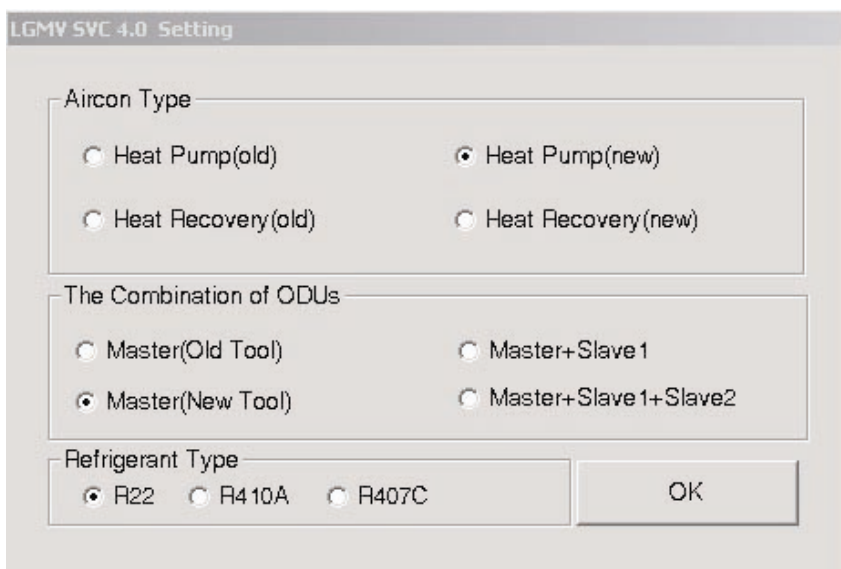✔ Heat Recovery(OLD) : Heat Recovery type Air conditioner using the convention jig protocol

✔ Heat Recovery(NEW) : Heat Recovery type Air conditioner using the integrated jig protocol

■ **'The combination of ODUs'**

✔ Select according to the combination of the Outdoor units(Master,Slave)
✔ SPACE model is separately handled

■ **'Refrigerant Type'**

✔ Pressure reference table depends on the refrigerant type(R22, R410,R407C)

5. Explanation about Integrated LGMV 4.0 display screen

• You can see the abbreviation list, meaning of error number from help in the menu bar.

(1) Menu bar

(2) Storage status window

(3) Important information of Outdoor unit

(4) System Graph

(6) Outdoor unit / Error information window

(7) Indoor unit's information window

(5) Operating status window
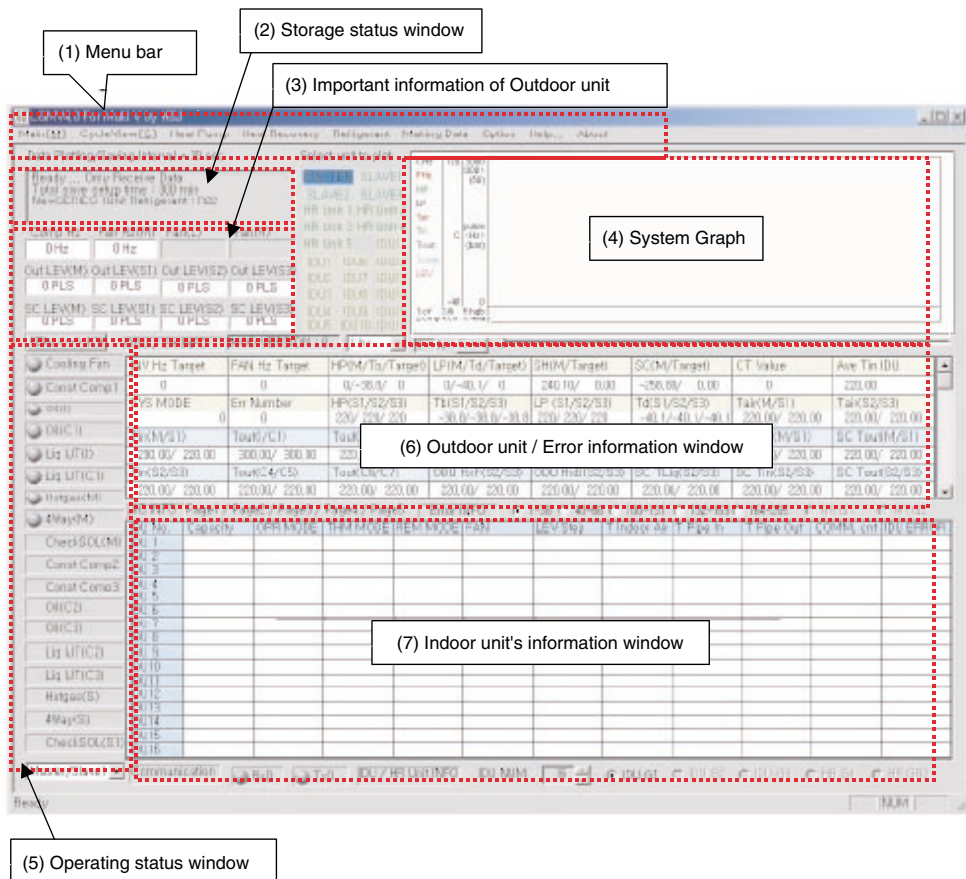
* NOTE : LGMV_TOTAL4.0 will be operated correctly when the PC COM port is set COM1
        If below Error Message Pop-up the window then check the followings.
        1) The serial cable is connected properly or not
        2) Check the PC COM port is set to COM1 or not

(1) MENU BAR

You can change the items set at the initial dialog box to the other items at the menu bar.
You can set it again.

■ **Heat Pump**

✔ It is same as selecting the Air conditioner type at the initial dialog box and toutdoor combination .
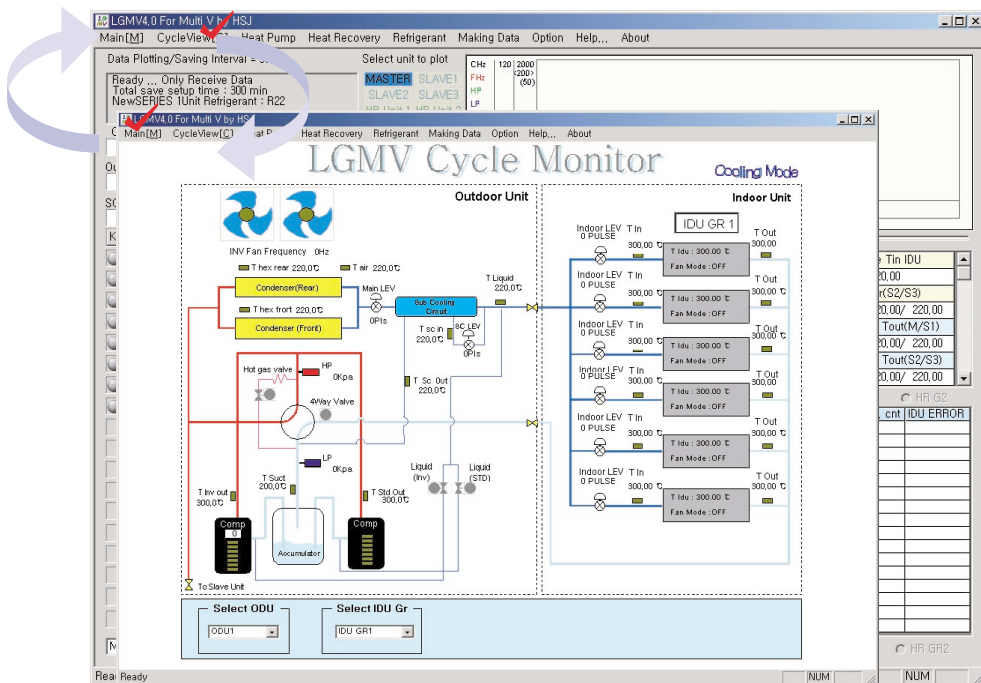
■ **Heat Recovery**

✔ It is same as selecting the Air conditioner type at the initial dialog box and outdoor combination .

■ **Refrigerant**

✔ You can select the refrigerant type(R22, R410,R407C) again.

■ **Cycle View Mode**

✔ It displays cycle diagram on the basis of current MultiV data

✔ Pipe layout color of cycle changes in accordance with characteristics of each cycle when converting to the cooling/heating

✔ Possible to select indoor/outdoor unit using 'Select Odu' and 'Select Idu Gr' from the lower part.

Select either the outdoor unit and the indoor unit.
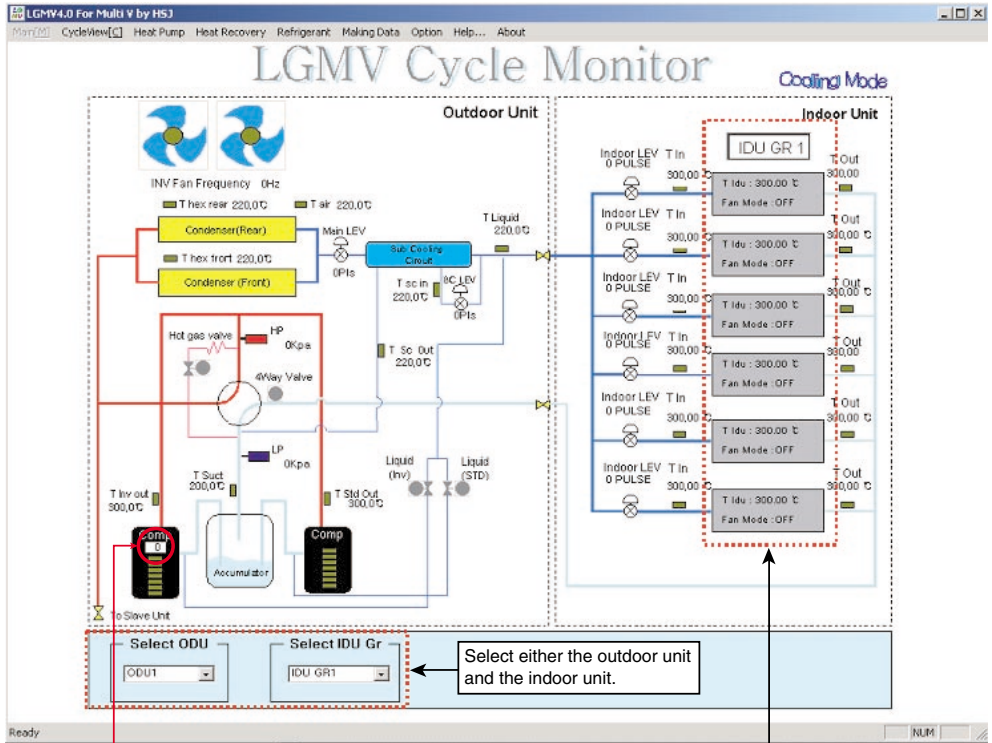
Numerical value disappears when changing Odu to Sub (inv → onst)

<Indoor Unit>
- Indicates red color while in heating and sky-blue color while in cooling mode.
- Indicates the room temperate and fan condition of indoor unit.

■ **Indoor unit Control Mode**

✔ Select IDU CONTROL from OPTION in the menu bar.

• Indicates the current condition of the current indoor unit (cooling/heating and on/off)

• On/Off status changes as you press each buttons.

• Transmits the current changed details to indoor unit if only you press the 'Execution' button

• Select the operation mode and indoor unit after control panel is ready.

• If you want to change the operation mode, choose the opposite mode after confirming that control panel is ready.

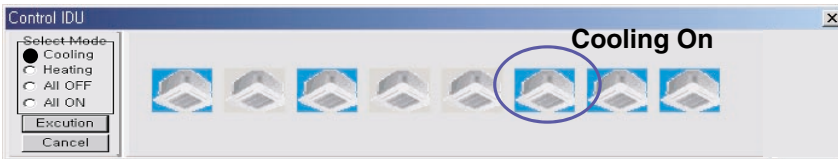• The IDU CONTROL only shows IDUs which are displayed in main of LGMV.
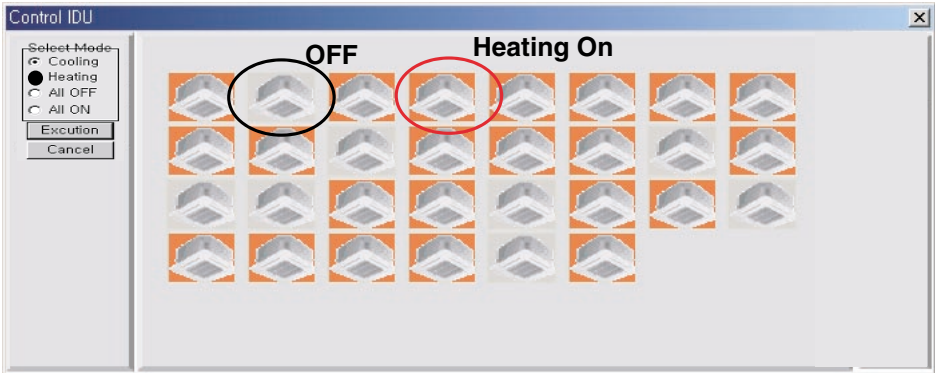
■ **LGMV Indoor unit ON/OFF Function**

• 8 indoor units connected to the current outdoor unit are all off
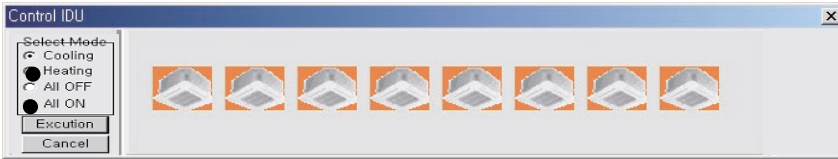
• 8 indoor units connected to the current outdoor unit are operating in heating mode

• 8 indoor units connected to the current outdoor unit are partially operating in cooling mode (5 indoor unit are on)

• 30 indoor units connected to the current outdoor unit are partially operating in heating mode (22 indoor unit are on)

■ **Help**

✔ When you select the Help, you can see and select 3 functions

(1) Abbreviation : It displays the list of abbreviations used in LGMV main display window

(2) Error Number : It displays the table of error number and what they mean

LGMV 4.0 For Multi-V

Heat Pump   Heat Recovery   Refrigerant   Making Data   Option   Help...   About

Abbreviation
Error Number
Alternativeness

Data Plotting/Saving Interval = 30 sec

Ready ... Only Receive Data
Total save setup time : 300 min
NewSERIES 4Unit Refrigerant : R22

Comp Hz   Fan Hz(M)   Fan(L)   Fan(R)
0 Hz   0 Hz

Out LEV(M) Out LEV(S1) Out LEV(S2) Out LEV(S3)
0 PLS   0 PLS   0 PLS   0 PLS

SC LEV(M) SC LEV(S1) SC LEV(S2) SC LEV(S3)
0 PLS   0 PLS   0 PLS   0 PLS

Error Group 1 (1 - 66)

0 : No error
1 : Indoor Sensor(air) open/short
2 : Indoor Sensor(I/Pipe) open/short
3 : R/C Communication Error
4 : Drain pump Badness
5 : Communication Error(IDU <-> ODU)
6 : Indoor Sensor(O/Pipe) oepn/short
7 : Wrong Driving
8 : IDU LEV Badness
9 : EEPROM
10 : IN/FAN LOCK(Bad
11 : Flicker-Alarm error
21 : Dc peak
22 : Max ct(CT 2) : Max Current Error
23 : DC link votage(low)
24 : High Voltage/Heat-Controller SW
25 : LOW / OVER
26 : DC Comp position err
28 : DC link voltage(high)
31 : CT err
32 : Inverter Tout error(high)
33 : Const Tout error(high)
34 : HP sensor error(high)
35 : LP sensor error(low)
36 : Refrigetant Leak
37 : 4way(reverse valve) Badness
38 : Outdoor LEV Badness
40 : Inverter CT sensor open/short

41 : Inverter Tout sensor open/short
42 : LP sensor open/short
43 : HP sensor open/short
44 : Toutdoor sensor open/short
45 : Outdoor Pipe(top) sensor open/short
46 : Tin sensor open/short
47 : Cont Tin sensor open/short
48 : Outdoor Pipe(bottm) sensor open/short
49 : Outdoor V sensor open/short
51 : Over Capacity error(Total Number of ODU)
52 : Comm error(inverter board->main board)
53 : Comm error(IDU -> ODU)
54 : RST [reverse statue]
55 : Comm error(Main<-CCU)
56 : Comm error(Main->CCU)
57 : Comm error(Main board->Inverter board)
58 : Product unproper combination
60 : EEPROM Check sum error
61 : Outdoor pipe T error(high)
62 : Heatsink error(high)
63 : Outdoor Pipe T error(low)
64 : Power Failure
65 : Heatsink Th Error(open/short)

66 : MisWiring/MisPiping

< Back   Next >   Cancel

(3) Alternativeness (Troubleshooting) : When an error occurs, if you select 'Alternativeness,' a window for error solution is displayed.
You can select the error number to see the error details and its troubleshoot methods.

(2) Storage status window

• It displays the air conditioner type, the protocol type, and the number of the units for the outdoor units selected at the initial dialog box of the menu bar.

```
Data Plotting/Saving Interval = 30 sec

Ready ... Only Receive Data
Total save setup time : 300 min
NewSERIES 4Unit Refrigerant : R22
```
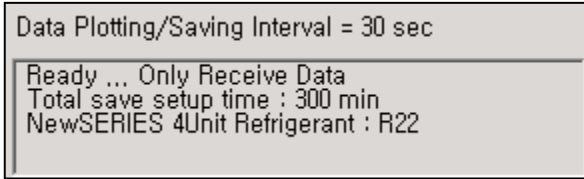
Information at the normal condition

• When you save the data, it displays the total storage time, the number of the indoor units, the file saving location and the file name.

```
Data Plotting/Saving Interval = 30 sec

Data Save to
C:₩Documents and Settings₩Administrator₩My
Elape Time : 1 min, IDU NUM : 16
Remaining Time : 299 min
```
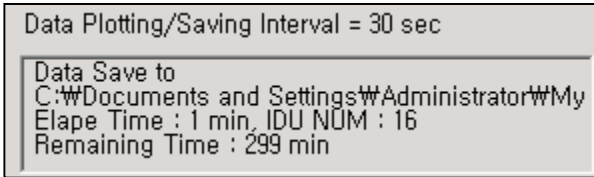
Information at storing

*NOTE : This function does not support in the PRCTSM1, PRCTSL1 S/W

(3) Important information about Outdoor unit window

• In order to recognize the important information about the outdoor unit, it displays compressor & fan Hz information, outdoor unit LEV information and over-cooling LEV information.
  M : Master, S1 : Slave1, S2 : Slave2, S3 : Slave3,
  LEV : Linear Expansion Valve, L : Left, R : Right
  PLS : Pulse

Comp Hz	Fan Hz(M)	Fan(L)	Fan(R)
0 Hz	0 Hz		
Out LEV(M)	Out LEV(S1)	Out LEV(S2)	Out LEV(S3)
0 PLS	0 PLS	0 PLS	0 PLS
SC LEV(M)	SC LEV(S1)	SC LEV(S2)	SC LEV(S3)
0 PLS	0 PLS	0 PLS	0 PLS

(4) System Graph window

- You can select the unit if you want to see its data in graph.
- You can select display time in the graph.

Graph displayed when selecting Indoor unit

(5) Operating status window

• You can see the operating status and the control status of outdoor unit. You can see the operating status for Slave2/Slave3 by using the selection bar.
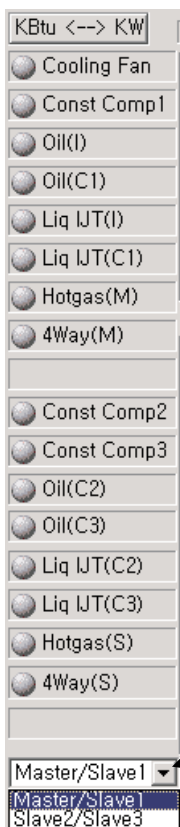

Operating information displayed

Selection bar

(6) Outdoor unit/Error information window

• * Note : 200/220/300 data displayed for Outdoor unit information are meaningless.

INV Hz Target	FAN Hz Target	Hp(M/Tb)	LP(M/Td)	SH(M)	SC(M)	CT Value	Ave Tin IDU
0	0	0/-38,8	0/-40,1	240,10	-258,80	0	220,00
SYS MODE	Err Number	HP(S1/S2/S3)	Tb(S1/S2/S3)	LP (S1/S2/S3)	Td(S1/S2/S3)	Tair(M/S1)	Tair(S2/S3)
0	0	0/ 220/ 220	-38,8/-38,8/-38,8	0/ 220/ 220	-40,1/-40,1/-40,1	220,00/ 220,00	220,00/ 220,00
Tin(M/S1)	Tout(I/C1)	Tout(C2/C3)	ODU HxF(M/S1)	ODU HxB(M/S1)	SC TLiq(M/S1)	SC Tin(M/S1)	SC Tout(M/S1)
200,00/ 200,00	300,00/ 300,00	300,00/ 300,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00
Tin(S2/S3)	Tout(C4/C5)	Tout(C6/C7)	ODU HxF(S2/S3)	ODU HxB(S2/S3)	SC TLiq(S2/S3)	SC Tin(S2/S3)	SC Tout(S2/S3)
220,00/ 220,00	300,00/ 300,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00

INV Hz Target	FAN Hz Target	Hp(M/Tb)	LP(M/Td)	SH(M)	SC(M)	CT Value	Ave Tin IDU
0	0	0/-38,8	0/-40,1	240,10	-258,80	0	220,00
SYS MODE	Err Number	HP(S1/S2/S3)	Tb(S1/S2/S3)	LP (S1/S2/S3)	Td(S1/S2/S3)	Tair(M/S1)	Tair(S2/S3)
0	0	0/ 220/ 220	-38,8/-38,8/-38,8	0/ 220/ 220	-40,1/-40,1/-40,1	220,00/ 220,00	220,00/ 220,00
Tin(M/S1)	Tout(I/C1)	Tout(C2/C3)	ODU HxF(M/S1)	ODU HxB(M/S1)	SC TLiq(M/S1)	SC Tin(M/S1)	SC Tout(M/S1)
200,00/ 200,00	300,00/ 300,00	300,00/ 300,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00
Tin(S2/S3)	Tout(C4/C5)	Tout(C6/C7)	ODU HxF(S2/S3)	ODU HxB(S2/S3)	SC TLiq(S2/S3)	SC Tin(S2/S3)	SC Tout(S2/S3)
220,00/ 220,00	300,00/ 300,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00	220,00/ 220,00

JIG INFO Page1 / Page2 / Page3 / Page4 / Page5   Error INFO   ⊙ 1-38 ○ 40-66 ○ 100-131 ○ 132-163 ○ 164-255   ○ HR G1   ○ HR G2

Selection bar

You can get the simple error information when an error occurs by using the right scroll bar.

(7) Indoor unit/Distributor information window

• Connectable Indroor unit capacities depend on Outdoor unit composition.(Max. 40 indoor unit)

Automatically activated when controlling the number of indoor units

activated when it is the Heat recovery type

Selection button	Displayed information
Indoor unit group1	Indoor unit 1~16
Indoor unit group2	Indoor unit 17~ Indoor unit 32
Indoor unit group3	Indoor unit 33~ Indoor unit 40
Distributor group 1	Distributor 1~5
Distributor group 2	Distributor 6~10

LG

After reading this manual, keep it in a place easily accessible to the user for future reference.