Intelligent Touch Controller

Test Run Manual

Power Proportional Distribution (PPD)

Moodel :DCS002C51

CB04A049		
△		

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Contents

Caution

1. **Take caution when changing the time zone, because all the Power Proportional Distribution data will be erased.**
2. **The time zone setting changed screen is transferred to the service mode screen.**

Introduction

A test run is required before using the i-Controller's PPD function.
The test run procedure can generally be divided into three parts.

(1) Activating the i-Controller's PPD function.
(2) Conducting the test run of the i-Controller unit.
(3) Conducting the test run of the Service PC.
   * A test run is conducted after connecting the i-Controller unit to the Service PC.

How to Activate the PPD Function

To validate the the function of power proportional distribution, it is necessary to obtain
ACTIVATION KEY.
As for the method to obtain the license key and validate the function, see the intelligent Touch
Controller (DCS601C51) Test Run Manual.

Test Run Program

For the power proportional distribution test run, the dedicated test run program is required.

(1) Program Control No.   FD04A210
(2) Program File No.   SetupPPD.exe
(3) Program formation
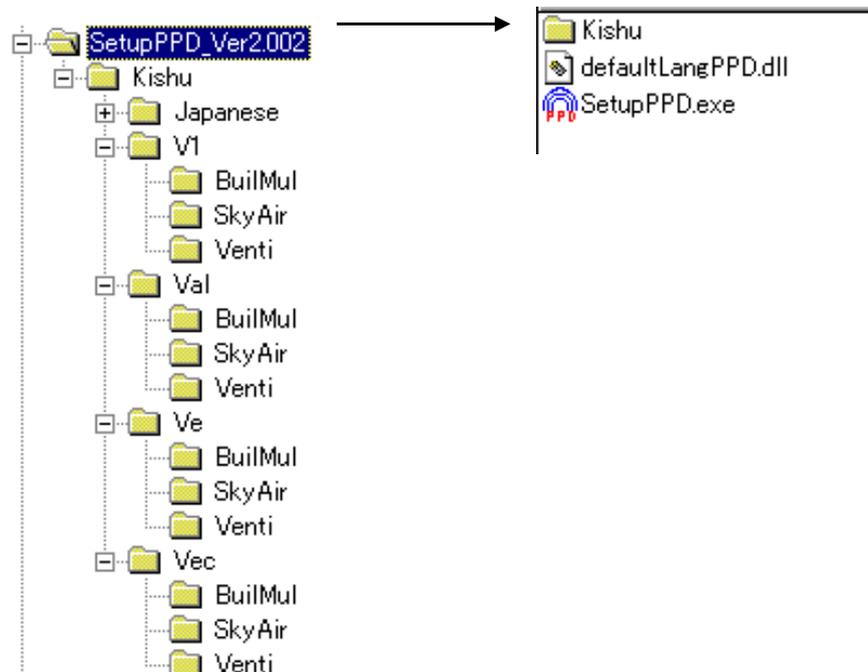
1 Test Run Procedure

The test run procedure is as follows:

Obtaining ACTIVATION KEY
Install software

PPD Setting (Service Mode)
-DIII-NET Setting
-D- Plus Adaptor Setting
-Pulse Input Port Setting

} i-Controller Unit Engineering

Service PC Setting

Startup and Connection of Service PC

Formatting

Hardware Setting

Power Group Setting

} PPD Function Engineering using the Service PC

Power reset

PPD Setting (Normal Mode)

} i-Controller Unit Engineering

Operation Confirmation

} PPD Function Engineering using the Service PC

2. PPD Setting (Service Mode)

2-1 D -NET Plus adapter setting
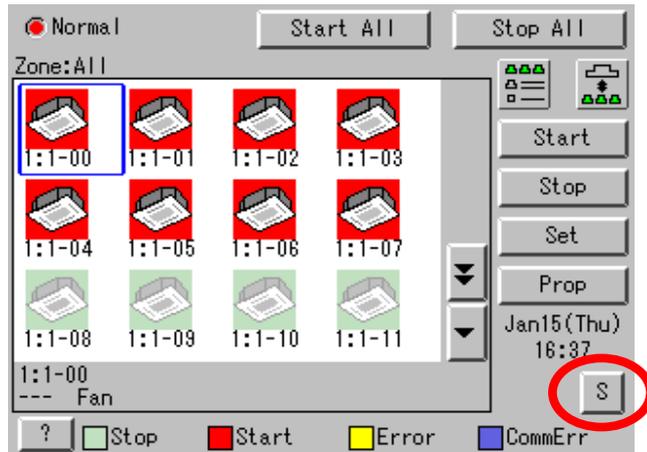
1. Click the "S" button on the monitor screen.

2. Click the upper right, lower left, upper left and lower right corners on the System Setting Menu screen, in that particular order.

3. Click the "Service Login" button.

Service password

4. The Password Input screen will come up.

5. Select "Lwr Case" on the Lettering Switch menu.

```
1  2  3  4  5  6  7  8  9  0      BackSpace
   q  w  e  r  t  y  u  i  o  p
     a  s  d  f  g  h  j  k  l
        z  x  c  v  b  n  m
Lwr Case  ▼              C    <-   ->
         OK          Cancel
```

Service password

6. Input "DAIKIN" or "daikin".

```
******
1  2  3  4  5  6  7  8  9  0      BackSpace
   q  w  e  r  t  y  u  i  o  p
     a  s  d  f  g  h  j  k  l
        z  x  c  v  b  n  m
Lwr Case  ▼              C    <-   ->
         OK          Cancel
```
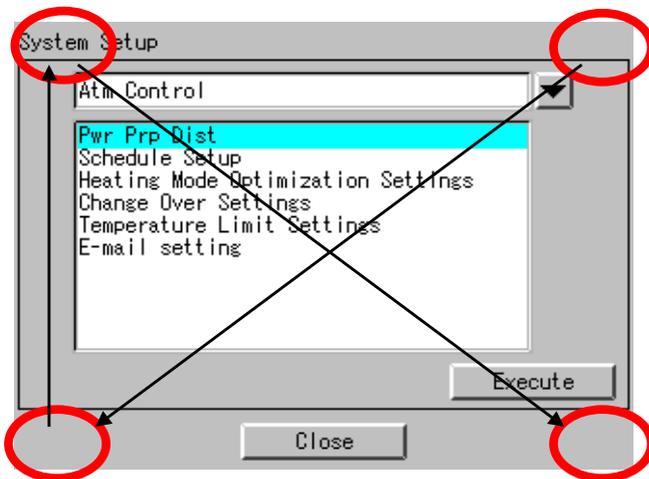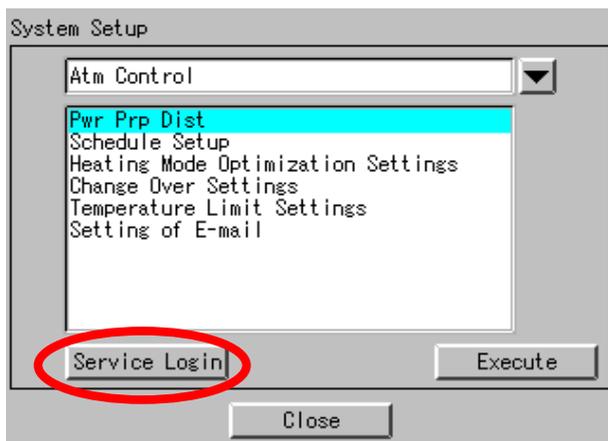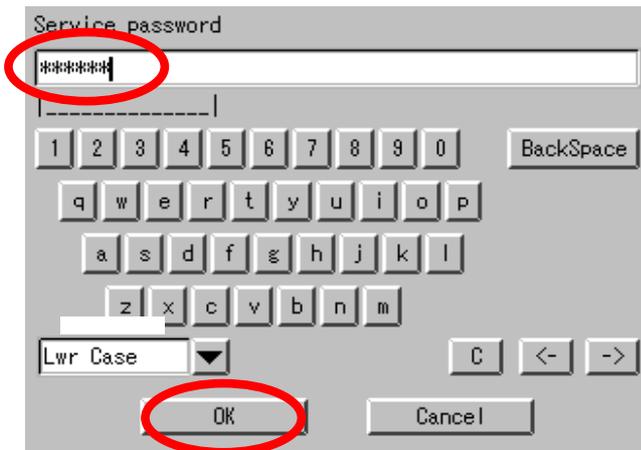
7. Click the "OK" button.

System Setup (SE Mode)
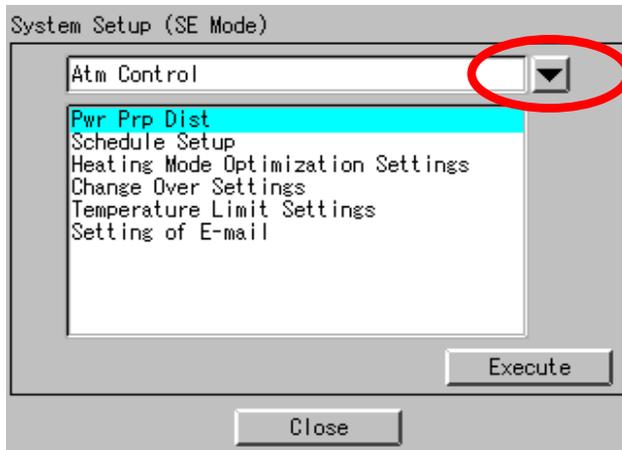
8. The System Setup screen in the Service Mode will come up.

9. Click the ▼ button.

```
Atm Control                       ▼
Pwr Prp Dist
Schedule Setup
Heating Mode Optimization Settings
Change Over Settings
Temperature Limit Settings
Setting of E-mail

                          Execute
         Close
```

System Setup (SE Mode)

9. Select "Service function" from the System Setup menu.

```
Service function               X
Atm Control
System
Service function
Expansion D3 adapter setting
Time Zone Setup
Setting of abnormal level
Pulse value list
Deletion of history
NSC circuit setting
Airnet Setup
                          Execute
         Close
```
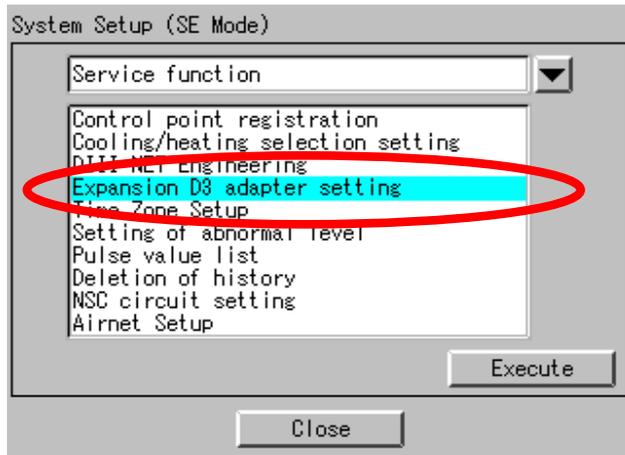
1. Select "Expansion D3 adapter setting" on the System Setting menu and click the "Execute" button.

System Setup (SE Mode)

Service function ▼

Control point registration
Cooling/heating selection setting
DIII NET Engineering
Expansion D3 adapter setting
Time Zone Setup
Setting of abnormal level
Pulse value list
Deletion of history
NSC circuit setting
Airnet Setup

Execute

Close
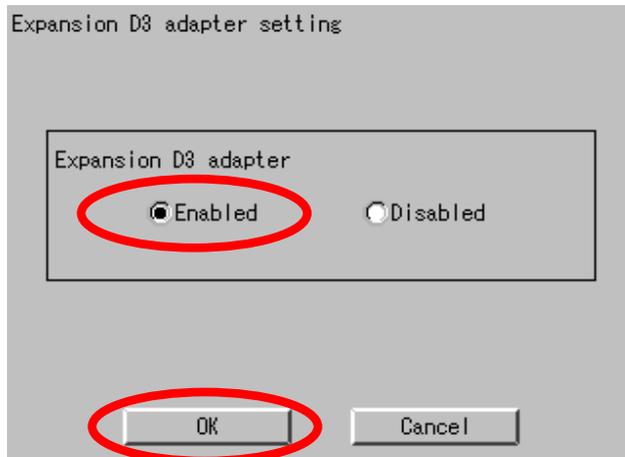
2. Select "Disabled" when D -NET Plus Adaptor is not used, and "Enabled" when it is used.

Expansion D3 adapter setting

Expansion D3 adapter

◉ Enabled   ○ Disabled

OK   Cancel

3. Click the "OK" button.

4. Click the "Yes" button.

Confirm

Setting has been changed
Should setting be enabled after restart?

Yes   No

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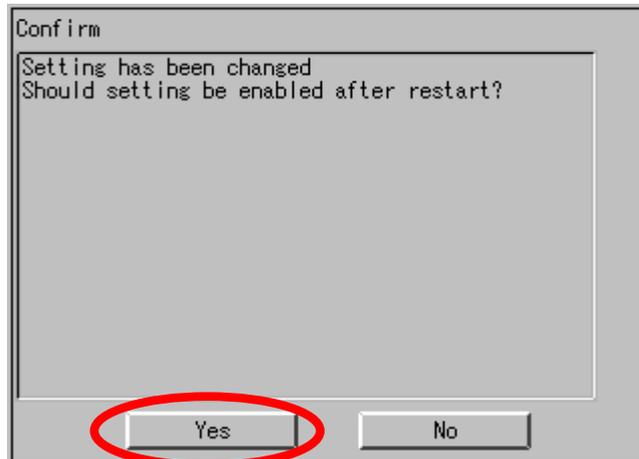
2-2. DIII Port Setting (Service Mode)

System Setup (SE Mode)

Service function ▼
Control point registration
Cooling/heating selection setting
DIII-NET Engineering
Expansion D3 adapter setting
Time Zone Setup
Setting of abnormal level
Pulse value list
Deletion of history
NSC circuit setting
Airnet Setup

Execute

Close
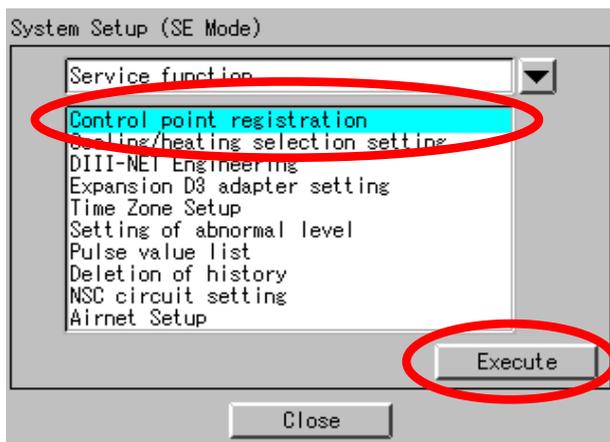
10. Select "Control point registration" from the System Setup menu and click the "Execute" button.

Control point registration

In/Unit ▼ Latest Refresh

D3 Address	Type	Und
* 1:1-00	In/Unit	Nor
* 1:1-01	In/Unit	Nor
* 1:1-02	In/Unit	Nor
* 1:1-03	In/Unit	Nor
* 1:1-04	In/Unit	Nor
* 1:1-05	In/Unit	Nor
* 1:1-06	In/Unit	Nor
* 1:1-07	In/Unit	Nor
* 1:1-08	In/Unit	Nor

Add all
Add

OK   Cancel
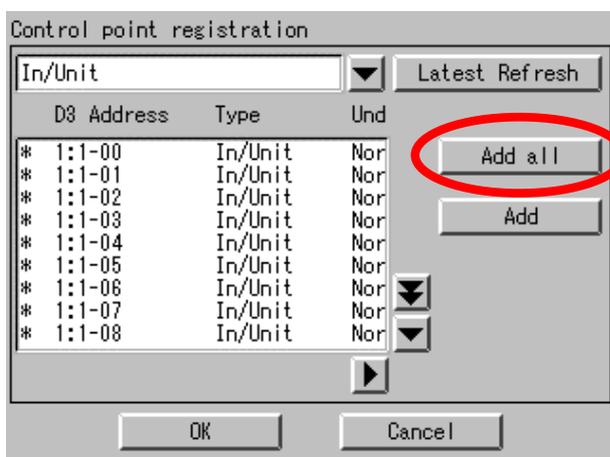
11. To make all the connected indoor units to be the models to be monitored, press "Add all".

Control point registration

In/Unit ▼ Latest Refresh

D3 Address	Type	Und
* 1:1-09	In/Unit	NG
* 1:1-10	In/Unit	NG
* 1:1-11	In/Unit	NG
* 1:1-12	In/Unit	NG
* 1:1-13	In/Unit	NG
* 1:1-14	In/Unit	NG
1:1-15	In/Unit	NG
1:2-00	<Unknown>	NG
1:2-01	<Unknown>	NG

Add all
Add

OK   Cancel
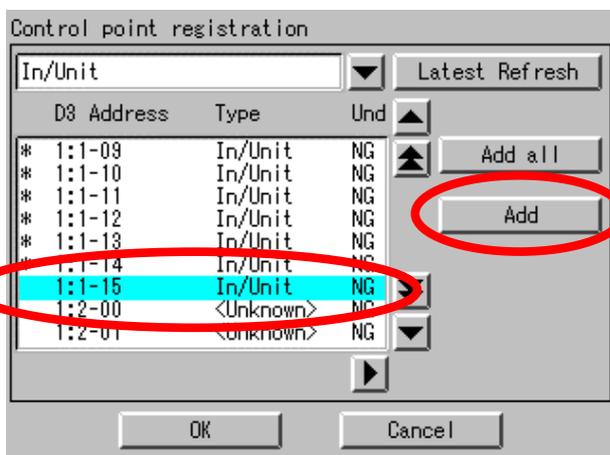
12. To make the designated indoor unit to be the model to be monitored by designating the indoor unit No., press the "Add" button.

Control point registration

In/Unit ▼ Latest Refresh

D3 Address	Type	Und
+ 2:4-04	In/Unit	Nor
+ 2:4-05	In/Unit	Nor
+ 2:4-06	In/Unit	Nor
+ 2:4-07	In/Unit	Nor
2:4-08	In/Unit	Nor
2:4-09	In/Unit	Nor
2:4-10	In/Unit	Nor
2:4-11	In/Unit	Nor
2:4-12	In/Unit	Nor

Add all
Delete

OK   Cancel
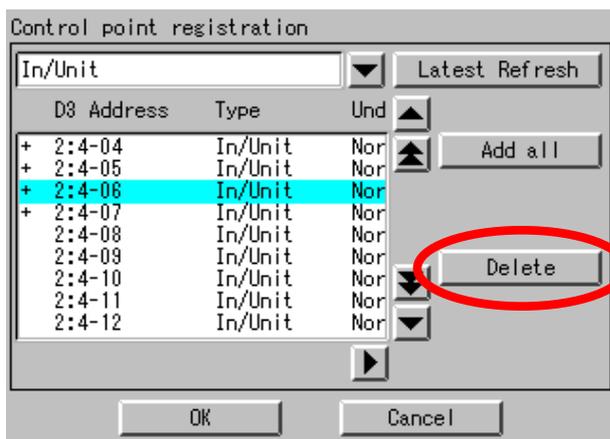
13. When the indoor unit No. is designated and the button ""Delete" is pressed, the designated model will become the model not to be monitored.

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Control point registration

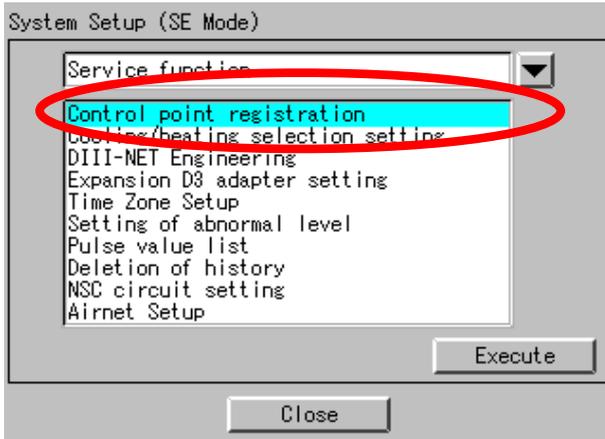In/Unit ▼ | Latest Refresh

	D3 Address	Type	Und
*	1:1-00	In/Unit	Nor
*	1:1-01	In/Unit	Nor
*	1:1-02	In/Unit	Nor
*	1:1-03	In/Unit	Nor
*	1:1-04	In/Unit	Nor
*	1:1-05	In/Unit	Nor
*	1:1-06	In/Unit	Nor
*	1:1-07	In/Unit	Nor
*	1:1-08	In/Unit	Nor

Add all

Add

OK   Cancel

14. Click the "OK" button.

Confirm

Setting has been changed
Should setting be enabled after restart?

Yes   No

15. Click the "Yes" button.

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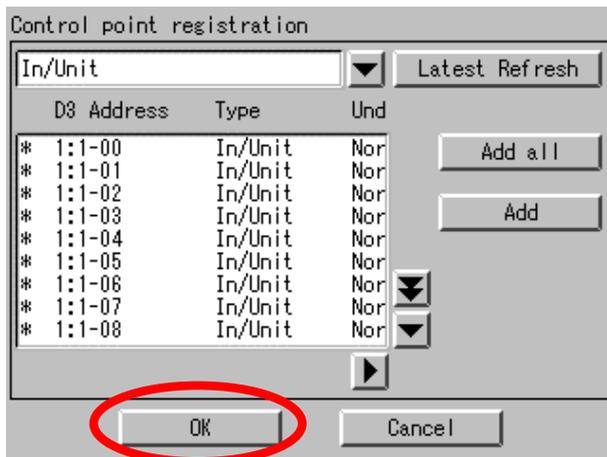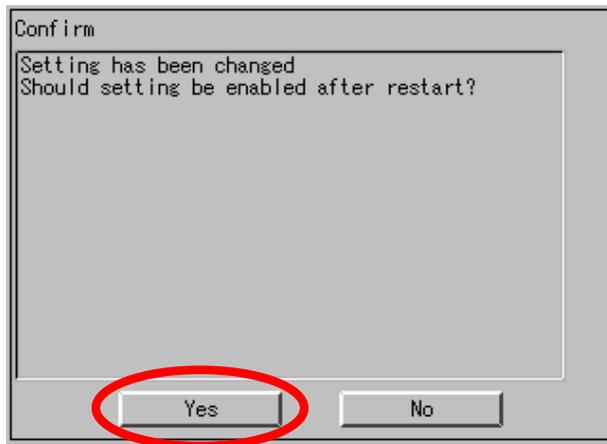
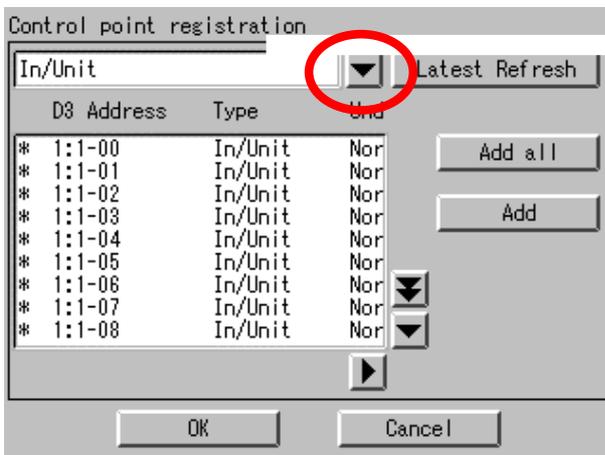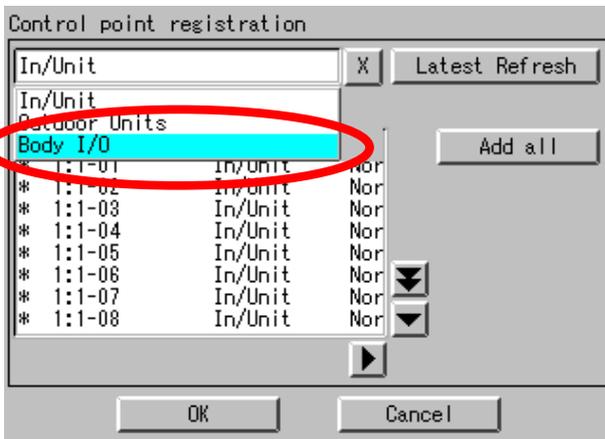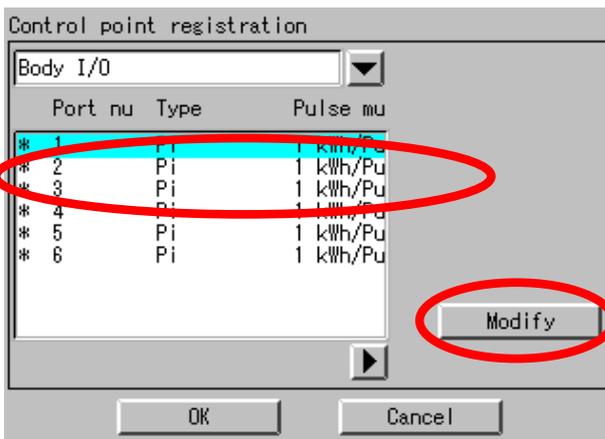## 2-3 Pulse Input Port Setting (Service Mode)

1. Select "Control point registration" on the System Setup menu and click the "Execute" button.

2. Click the ▼ button.

3. Select "Body I/O" from the System Setup menu.

4. Select "pulse port" and click the "Modify" button.

Property setting

Type   Pi

Addr   1

Pulse multiplying factor

◉1 kWh/Pulse   ○10 kWh/Pulse

OK   Cancel

5. Set the Pulse multiplying factor to 1 or 10 for the Input
   Ports to be used and click the "OK" button.

(Note)
The following selections are available as the output pulse
units for the wattmeter.
   (1)   1 kWh/pulse
   (2) 10 kWh/pulse

Confirm

Setting has been changed
Should setting be enabled after restart?

Yes   No

6. Click the "Yes" button.

3 Service PC Setting

3-1. Required performance of Service PC

The PPD Test Run Tools is a program that operates on Windows 98/Me/NT/2000/XP.
This program operates under the following environment.

Hardware
- CPU   At least Pentium 100 MHz
- Memory   Minimum 32 MB
- HDD   At least 2 MB of open space
- Other   Video Card that can present images with 640 x 480 pixel resolution and in displays in 256
             colors.
             ethernet (10 BASE-T),
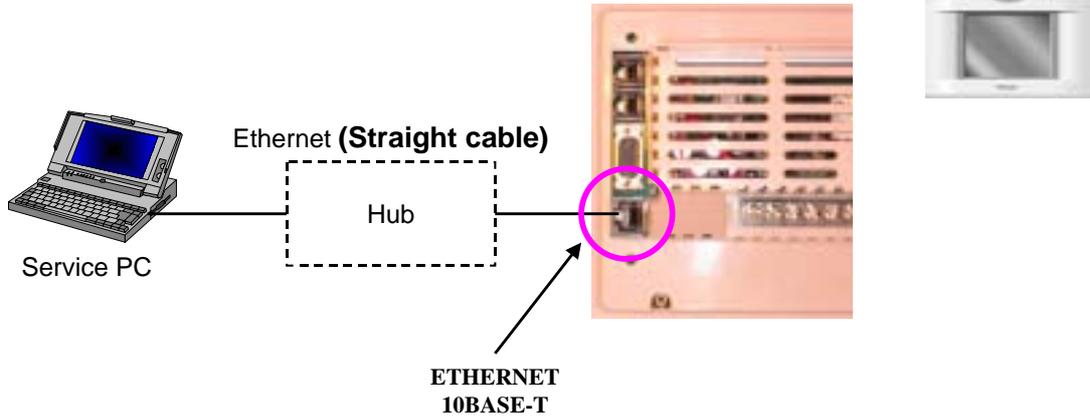
3-2. Method of connection between Service PC

Connect Service PC and intelligent Touch Controller with Ethernet.

There are 2 kinds of cables for the 10BASE-T cable of Ethernet, one is cross type and the other is straight type.
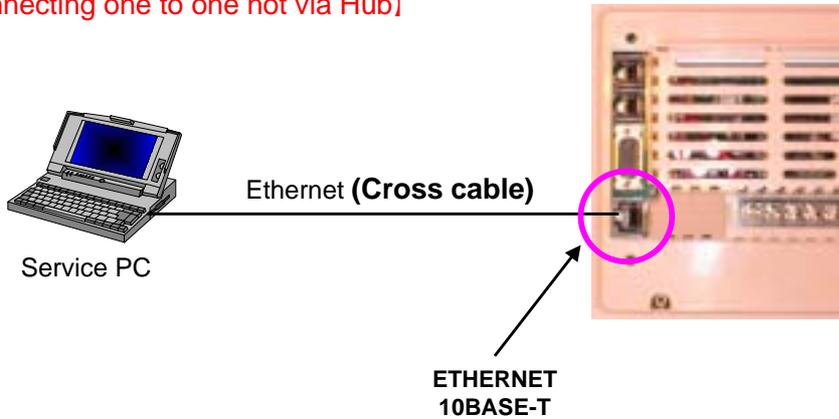
Make sure to select the correct cable according to the following cases.

If a wrong cable is selected, the equipment may be damaged at the worst.

When connecting via Hub

Service PC

Ethernet **(Straight cable)**

Hub

**ETHERNET
10BASE-T**

When connecting one to one not via Hub

Service PC

Ethernet **(Cross cable)**

**ETHERNET
10BASE-T**

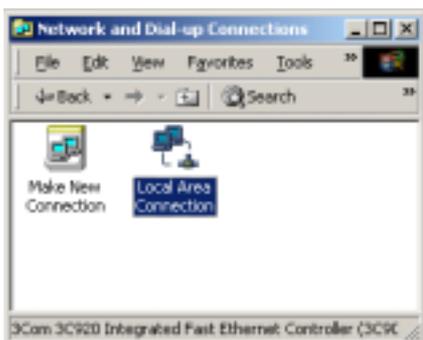# 4. Startup and Connection of Service PC

4-1. Connection between Service PC and intelligent Touch Controller

1. Setting up the IP address of the PC. First go into **Control Panel** then **Network and Dial-up Connection**.

2. Then click on **Local Area Connection** and select **Properties**.

3. From here select **Internet Protocol (TCP/IP)** and select properties or just double click on it.
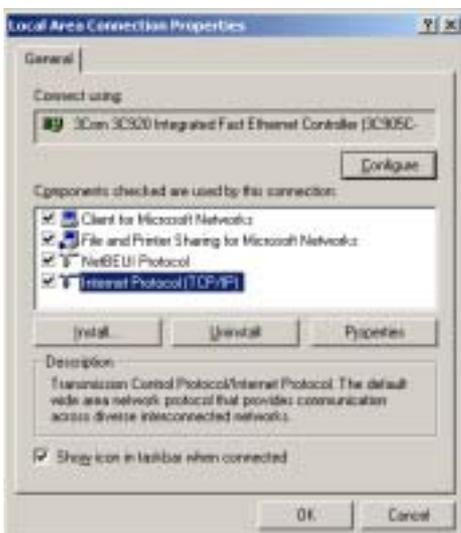
4. The default IP setting for the iController is 192.168.0.1 so you set your PC at any other.

   For engineering we recommend you **set your PC at 192.168.0.101**.
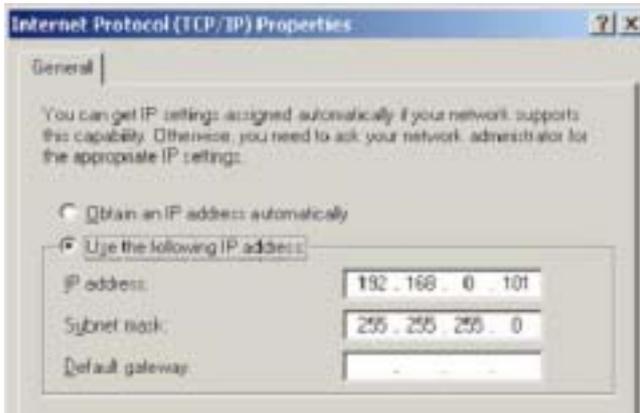
5. After the setting is made you should have a connection from the PC to the iController.

6. Now you can run the **SetupPPD.exe** file.
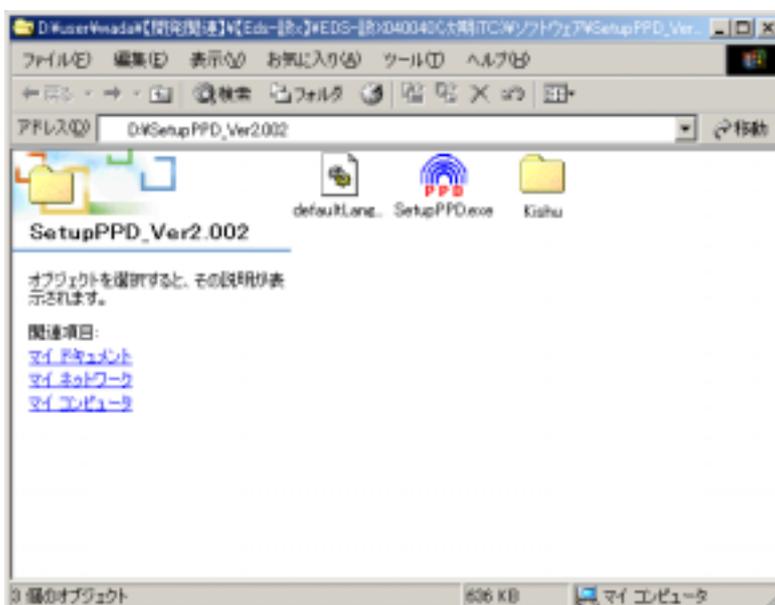
7. Set the Ethernet IP address of the iController (192.168.0.1).

Ver 2.00

IP Address 192.168.0.1

OK   Cancel
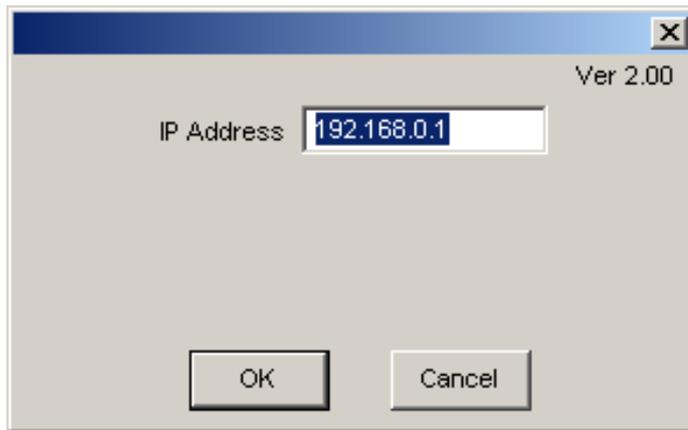
8. If all worked well the Setup program should start without any problems.

Note: If software buttons are grayed out, this indicates that connect was not successfully made. Please check that the cables are properly connect and repeat the procedure from the beginning if necessary.

PPD Setup - Initialize

| Initialize | Setup Port | Setup Unit | Setup Group | Confirm | IPU #1 | Exit |

Ver 2.002

Refrigerant circuit for ice storage is being detected.
If not right, please shutdown this system.

| Indoor Unit Number | Outdoor Unit Number | |

Initialize All Data
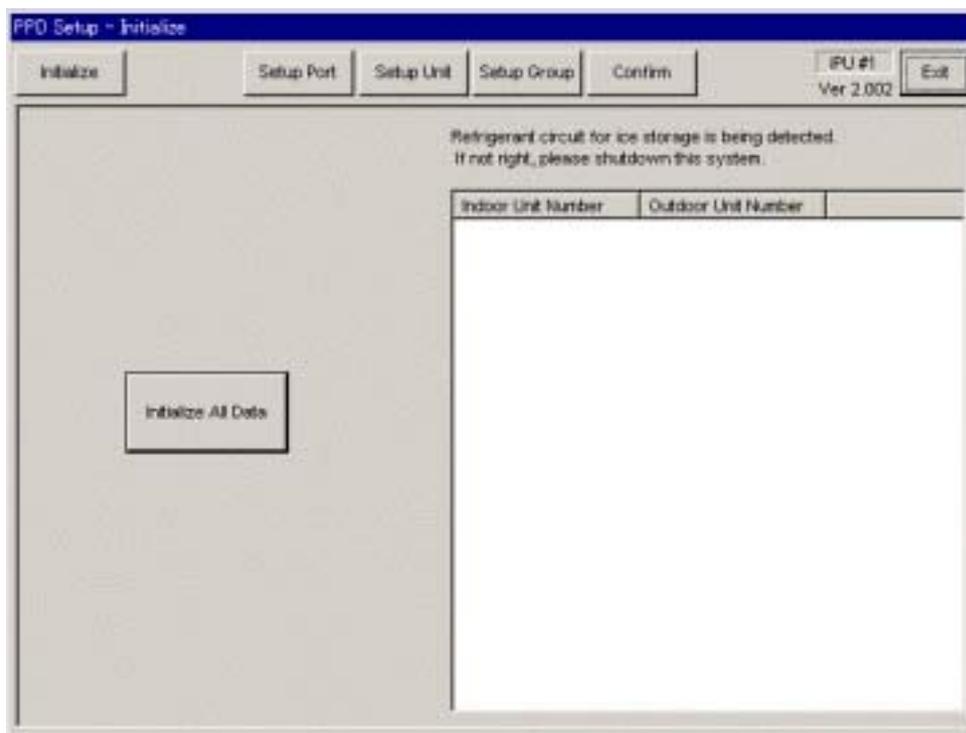
5. Formatting

1. The dialog box below will be displayed if the connection is successfully made. The dialog box can be brought up with the "Format" button on the top left of the screen.

2. **Test runs should never be continued if the set condition cannot be properly detected. (*3)**
   - When the air-conditioner cannot be detected...
     First quit Test Run Tools and restart it after waiting two to three minutes.
   - When the combination of air-conditioner and system number is not correct...
     Quit Test Run Tools and confirm the installation, air-conditioner address and outdoor unit system number.

3. When setting for the first time, click the "Format All Data" button and **clear all set values and calculation data.** When the formatting is properly completed, a confirmation dialog box will be displayed. No other operations should be conducted until it is displayed.

(Note)
* 1 Indoor Unit Number
   The number will be shown in a 1-1-00 format. The first figure will represent the D3 Line Number (1) and the remaining two figures, the air-conditioner address.
* 2 System Number
   The number will be shown in a 1-01 format. The first figure will represent the D3 Line Number (1) and the second, the system address (1-10) assigned to the outdoor unit.

PPD Setup – Initialize

Initialize | Setup Port | Setup Unit | Setup Group | Confirm | iPU #1 Ver 2.002 | Exit

You can move to this screen with this button.

Refrigerant circuit for ice storage is being detected.
If not right, please shutdown this system.

Indoor Unit Number | Outdoor Unit Number

Initialize All Data

Refrigeration System Detection
In case of intelligent Touch Controller (DCS002C51),
ignore this indication.
(It indicates correctly only when the ice thermal storage type
air conditioners are connected)

6. Setup Port

1. When the screen changeover button "Setup Port" is pressed, the display of set port is indicated on the main screen.
    The Pi control point (main frame Pi, Ext-Pi) usable as an input port (depends on the controller spec) is indicated.
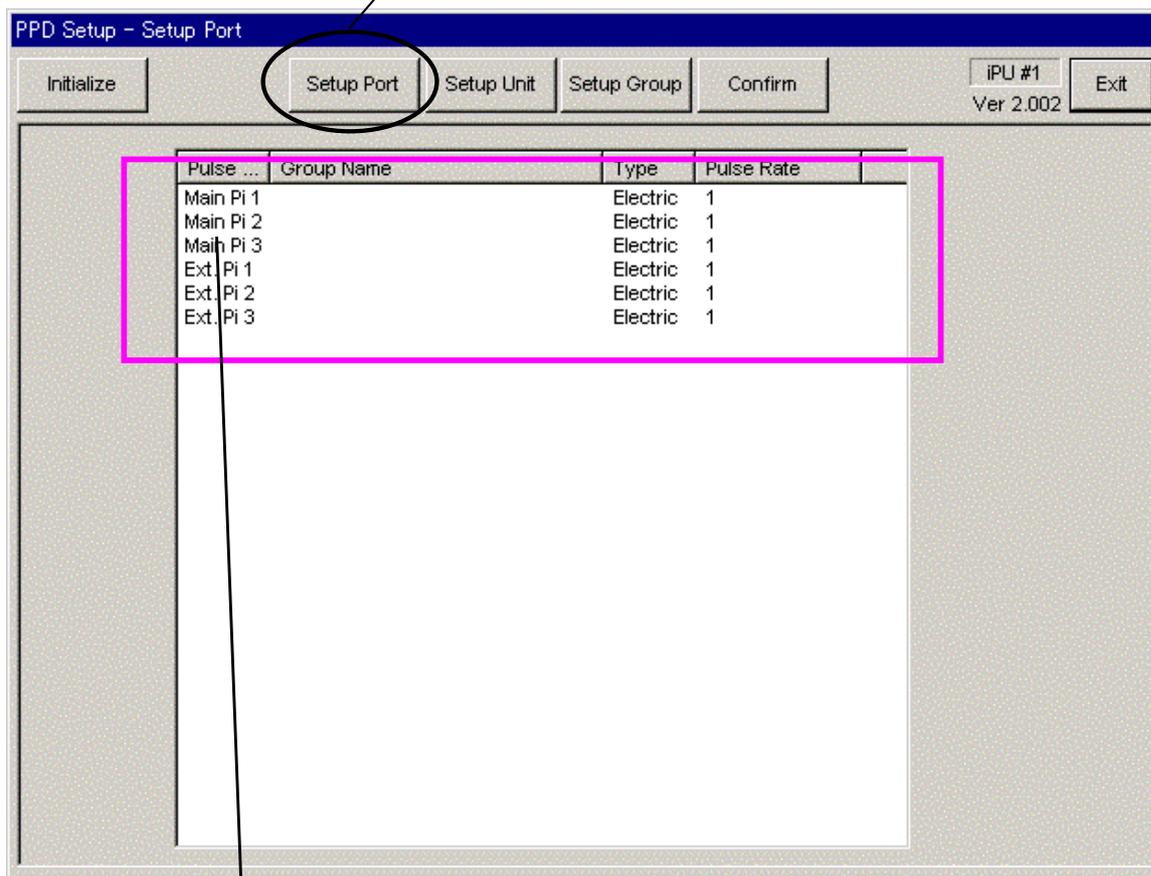 Here, the port which belongs to the power group during proportion calculation is indicated in red and that during suspended state in blue and that suring proportion calculation suspended state in black.

You can move to this screen with this button.

PPD Setup – Setup Port

| Initialize | | Setup Port | Setup Unit | Setup Group | Confirm | iPU #1 Ver 2.002 | Exit |

Pulse ...	Group Name	Type	Pulse Rate
Main Pi 1		Electric	1
Main Pi 2		Electric	1
Main Pi 3		Electric	1
Ext. Pi 1		Electric	1
Ext. Pi 2		Electric	1
Ext. Pi 3		Electric	1

Caution
1 Main Pi1 ~ Pi3 show the Pulse Input Port of the intelligent Touch Controller main unit.
2 Ext. Pi1 ~ Pi3 show the Pulse Input Port of D   -NET plus Adapter

When changing the pulse rate of the integrating watt-hour meter, see "2-   Pulse Input Port Setting".

7. Hardware Setting

1. Click the "Hardware Setting" button to bring up the dialog box below. The machines within the power groups for which proportional distribution is being calculated will be shown in red. The settings for the power groups cannot be changed when it is being calculated.

2. Click the "Automatic Setting" button to start the automatic setting (*1) for the hardware. The model name for the air-conditioner that is first detected will be shown. So click the "Setting Start" button if there are no problems.

3. When wanting to change the hardware calculation conditions (default settings are "Conduct Proportional Distribution", "Conduct Proportional Distribution when OFF", "Conduct Proportional Distribution for the Heater" and "Conduct Proportional Distribution for the Fan"), manually set by clicking the "Setting Change" button.

4. Click the "Setting Change" button to manually set hardware that cannot be set with the Automatic Setting function and HRV/Wiring ADP for Other Air-Conditioners.

(Note)
* 1 Automatic Setting
  The installed air-conditioners are automatically recognized and the coefficients are set for the pertinent models.

* 2 Manual Setting
  The coefficients and calculation conditions are set manually on an individual basis.

It indicates the indoor unit of the D -NET plus adapter side.

You can move to this screen with this button.

Conducts the manual setting.

No.	Group Name	Model Name	Comment	Calc. Ty...	PPD	+St...	+H...	+Fan
1-1-00	NewGroup1	FXYFP28MA		VRV	*	*	*	*
1-1-01	NewGroup1	FXYFP36MA	FXC	VRV	*	*	*	*
1-1-02	NewGroup1	FXYFP45MA		VRV	*	*	*	*
1-1-03	NewGroup1	FXYFP56MA		VRV	*	*	*	*
1-1-04	NewGroup1	FXYFP71MA		VRV	*	*	*	*
1-1-05	NewGroup1	FXYFP80MA		VRV	*	*	*	*
1-1-06	NewGroup1	FXYFP80MA		VRV	*	*	*	*
1-1-07	NewGroup1	FXYFP90MA		VRV	*	*	*	*
1-1-08	NewGroup1	FXYFP112MA		VRV	*	*	*	*
1-1-09	NewGroup1	FXYFP140MA		VRV	*	*	*	*
1-1-10	NewGroup1	FXYFP160MA		VRV	*	*	*	*
1-1-11	NewGroup1	FXYFP28MA		V				*
1-1-12	NewGroup1	FXYFP36MA		V				*
1-1-13	NewGroup1	FXYFP45MA		V				*
1-1-14	NewGroup1	FXYFP56MA		VR				*
1-1-15	NewGroup1	FXYFP71MA		VRV	*	*	*	*
1-2-00	NewGroup1	FXYFP80MA		VRV	*	*	*	*
1-2-01	NewGroup1	FXYFP90MA		VRV	*	*	*	*
1-2-02	NewGroup1	FXYFP112MA		VRV	*	*	*	*
1-2-03	NewGroup1	FXYFP140MA		VRV	*	*	*	*
1-2-04	NewGroup2	FXYD20KVES		VRV	*	*	*	*
1-2-05	NewGroup2	FXYD25KVES		VRV	*	*	*	*
1-2-06	NewGroup2	FXYD32KVES		VRV	*	*	*	*
1-2-07	NewGroup2	FXYD40KVES		VRV	*	*	*	*
1-2-08	NewGroup2	FXYD50KVES		VRV	*	*	*	*

Buttons: Initialize, Setup Port, Setup Unit, Setup Group, Confirm, iPL #1 Ver 2.001, Exit
Tabs: D3port #1, D3port #2
Right buttons: Modify Setup, Copy, Paste, Clear, Auto Setup

* : Performed
- : Not performed

Copies, pastes and deletes set content (all coefficients).

Conducts automatic setting.

7-1 Automatic Setting

1. When the "Automatic Setting" button in the "Hardware Setting" dialog box is clicked, select the power supply specification.

2. When the "Select" button is clicked, the installed air-conditioners are automatically recognized (*) and a search for data on the pertinent models is conducted. If data exists on a model, then the model name will be shown in the dialog box below.

3. When setting, the conditions can all be set at once after clicking the "Conditions Setting" button.

4. Clicking the "Begin Setup" button sets the coefficient values (within the model data) and specified calculation conditions for all the detected air-conditioners.
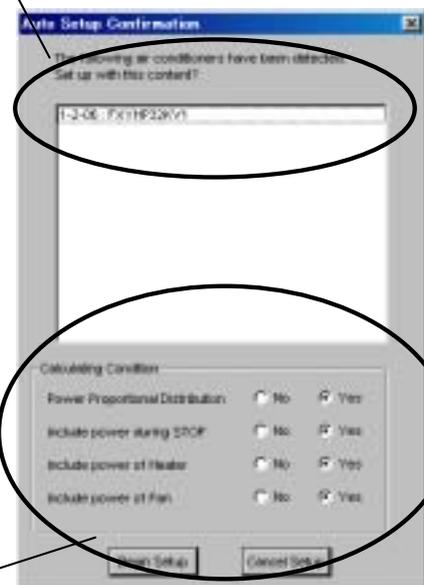
(Note)
* Automatic Model Recognition

> **Already set air-conditioners are not targeted** in the automatic setting, so it is necessary to either completely delete all prior settings by formatting or delete the data for only those models necessary with the "Clear" button.
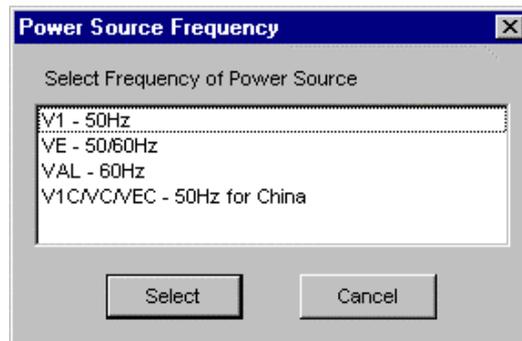
Only existing data for pertinent models is shown.

Set all default settings to "Yes" when conducting all the condition settings at once.

7-2 Manual Setting

1. Clicking the "Setting Change" button in the "Hardware Setting" dialog box will bring up the dialog box below.

2. In order to manually input all data, input the appropriate values for the "Calculation Method (*1)", "Comments", "Conditions Setting" and "Coefficient Setting" ("Model Name" cannot be manually input).

3. In order to use the coefficients in the model data file, click the "Database Reference" button and select the appropriate coefficient from the displayed list.

4. When wanting only to revise a portion of the existing model data at source, click the "Coefficient Change" button and this will allow changing of the values in the "Coefficient Setting (*2)".

5. The "Condition Setting" can be changed at any time.

(Note)
* 1 Calculation Method
      There are three methods used to calculate consumed power, that for "Normal (VRV)", "HRV" and "Wiring ADP for Other Air-Conditioners". "Normal" is used for hardware for which consumed power is calculated according to proportional distribution, while the other methods are used for hardware for which consumer power is calculated according to operation time.

* 2 Coefficient Setting
      All coefficients can be set with "Normal", 'Rated Consumed Power for Fans' with "HRV" and only 'Consumed Power when OFF' with "Wiring ADP for Other Air-Conditioners".

Input the original model name in the comment box when existing model data is revised.

Calculation Method
Either Normal, HRV or Wiring ADP for Other Air-Conditioners

...tion Editing

Air Conditioner No. 1-4-13   Model Name [Set by manual]

Calculation Type ▼   Comment

Modify Coefficient   Consult Database

Conditions Setting
Default settings are to be "Yes" for all of condition settings.

Condition

Power Proportional Distribution ○ No ⦿ Yes

include power during STOP ○ No ⦿ Yes

include power of Heater ○ No ⦿ Yes

include power of Fan ○ No ⦿ Yes

Coefficient Setup

Cooling Coefficient a1   0

Cooling Coefficient a2   0

Heating Coefficient b1   0

Heating Coefficient b2   0

Cooling Rated Power Consumption 0

Heating Rated Power Consumption 0

Fan Rated Power Consumption   0

Heater Rated Power Consumption 0

Power Consumption During Stop 0

Use to revise the coefficient data. Clicking this button will automatically change the model name to "Manual Input" mode.

Select from the model data file and this allows input of data.

Coefficient Setting
Data that cannot be changed will be shown in gray.
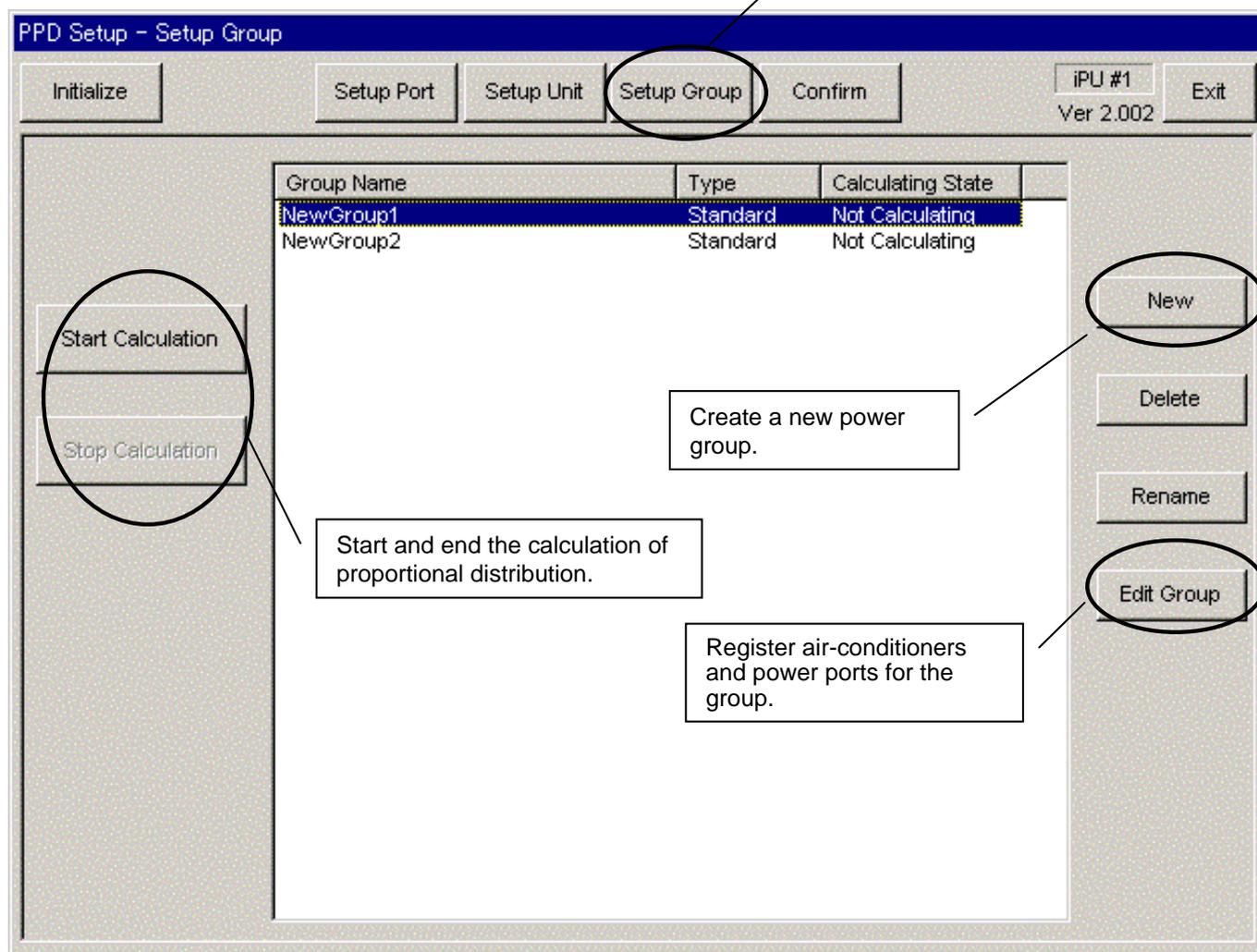
Set

8. Power Group Setting

1. Clicking the "Power Group" button will bring up the dialog box below. Groups being calculated will be shown in red and those that are Temporarily OFF, in blue.

2. Click the "New" button to create new power groups. You will have to select which type of power group to create; Normal Type or Heat Storage Type (*). The type of power group cannot be changed once it is set.

3. Click the "Group Editing" button to register the power ports and air-conditioner for the power group. (The method is explained on the following page.)

4. Click the "Calculation Start" to initiate calculation. The power groups for which PPD calculation is being conducted will be shown in red and those that are Temporarily OFF, in blue.

5. Click the "End Calculation" to end the calculation. However, note that after the calculation has been ended all accumulated data is cleared the next time calculation is initiated.

6. Clicking the "Temporary Stop" button for the groups for which power is being calculated temporarily stops the calculation process off. Clicking the button a second time revives the calculation process (button display will differ depending on the calculation state for the selected group). When the calculation has been restarted from a temporary stop state, the pulse meter values are once again aligned. Therefore, this step can (also) be used to align the meters.

(Note)
* Group Type
       Either the Normal Type or Heat Storage Type.

You can move to this screen with this button.

PPD Setup – Setup Group

| Initialize | | Setup Port | Setup Unit | Setup Group | Confirm | iPU #1 | Exit |
| | | | | | | Ver 2.002 | |

Group Name	Type	Calculating State
NewGroup1	Standard	Not Calculating
NewGroup2	Standard	Not Calculating

Start Calculation

Stop Calculation

New

Delete

Rename

Edit Group

Create a new power group.

Start and end the calculation of proportional distribution.

Register air-conditioners and power ports for the group.

8-1 Power Group Editing

1. Clicking the "Group Editing" button in the "Power Group" dialog box brings up the dialog box below (*1). The displayed ports and air-conditioners are only those registered in the same i-Controller.

2. Under both the ports (*2) and air-conditioners (*3), the right side will show the registered control points for the selected group and the left, control points that are not registered for any of the groups.

3. Select those you will register in the group from the right list and add to the list on the left.

4. Clicking the "**Special Setup**" button will bring up a dialog box asking whether you will be conducting automatic proportional distribution for the rated power consumption-type hardware. When all the group hardware are rated power consumption-type hardware, the automatic proportional distribution for the rated power consumption type hardware refers not to actually consumed power equaling the tentative consumed power (time of operation x rating), but proportional distribution of the input pulse according to the tentative consumed power. The default setting is "Conduct Automatic Proportional Distribution".

5. Once the setting has been completed, click the "Register" button to register.

(Note)
* 1 Colors used in the lists
        - Power Ports...Black
        - Air-conditioners...Air-conditioners with normal communication are black and those not, blue.
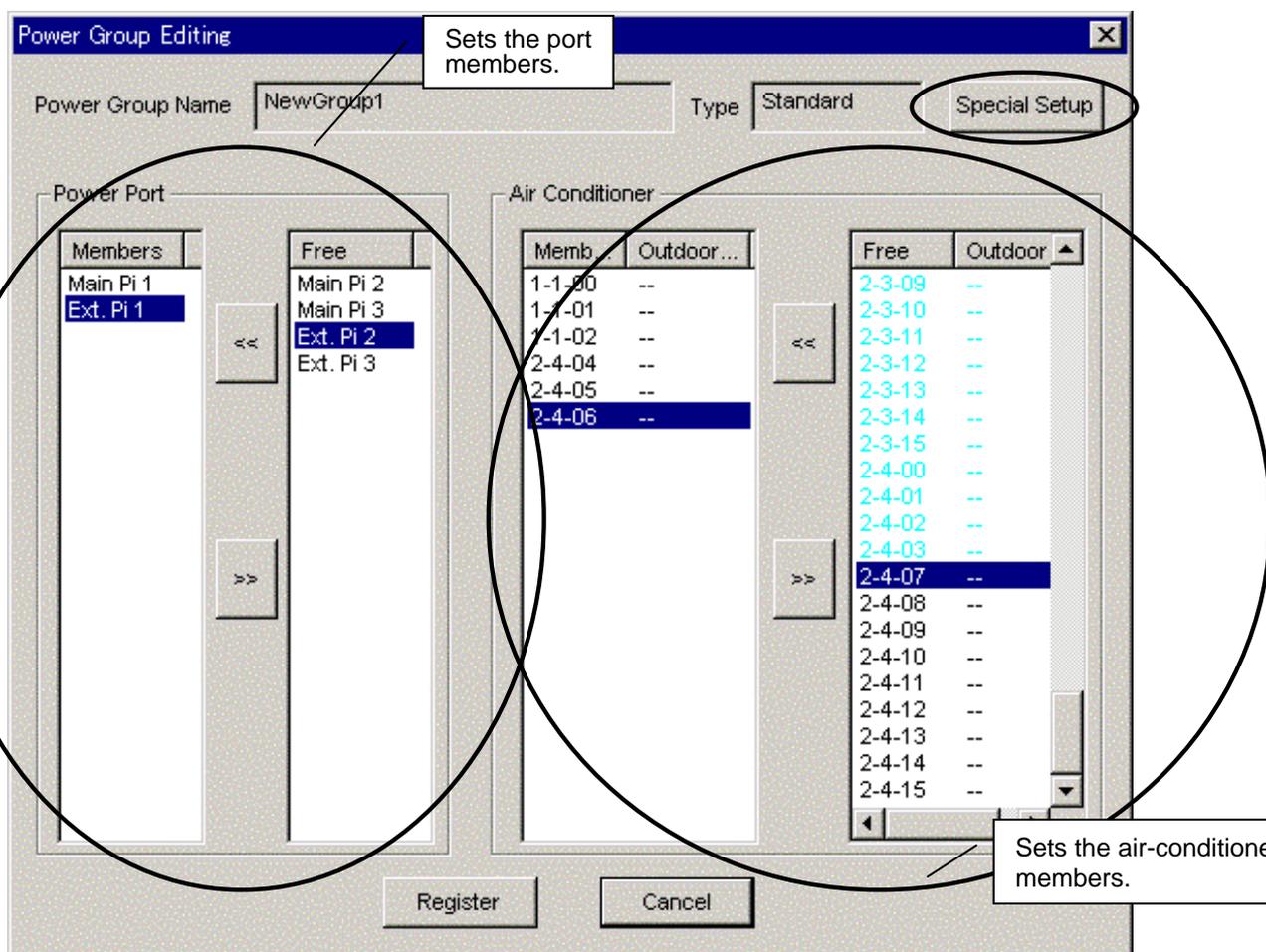* 2 Ports
        Wattmeter ports can be registered in a group as determined appropriate.
        (Many body 1 and Main body 3 can be registered in the same group.)
* 3 Air-conditioners
        When adding and deleting Ice Heat Storage air-conditioners, all the air-conditioners in the same
        system are added or deleted.

9 PPD Setting (Normal Mode)

You can set the schedule for calculating proportional distribution using the i-Controller. The calculation schedule mentioned here refers to the two schedules shown below. There is only one calculation schedule per system (one per system), so the calculation of proportional distribution is conducted for all power groups according to the set same calculation schedule.

Off-time Period

Off-time period (time periods in which the PPD is not calculated) setting can be conducted for normal type power groups. This can be used when the tenant knows that they are being charged the regular amount when using within the scheduled hours. The period is specified by selecting days and hours as determined appropriate for the off-time period.
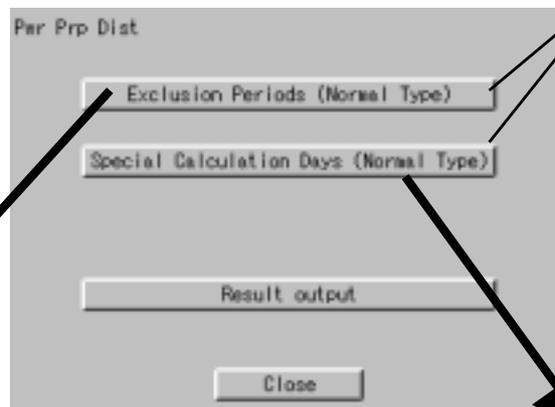
Special Day Setting

For normal type power groups, special days can also be set on the yearly calendar for which calculation of proportional distribution will be conducted all day long despite the day being an "off-day". Off-time periods cannot be set for heat storage type power groups (not an option).
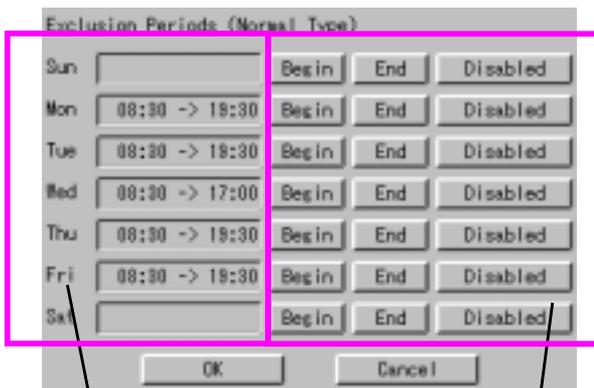
Nighttime Discount Period

For heat storage type power groups, nighttime discount periods can be set. In this case, the results of the proportional distribution calculations are collected in two batches, daytime (outside of the night discount period) and nighttime (within the nighttime discount period). The data for the normal type power groups are collected as daytime power.

Execute the "PPD Setting" from the System Setting menu
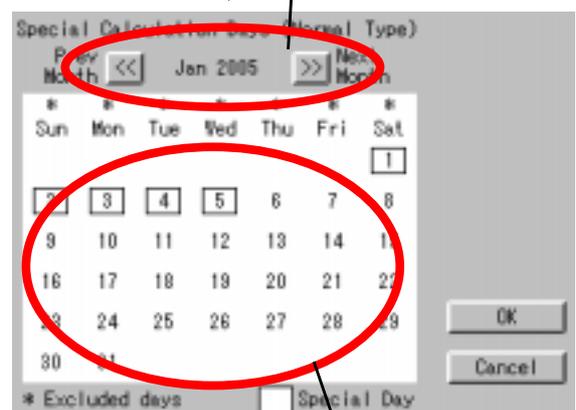
Can be used for normal type power groups.

Pwr Prp Dist

Exclusion Periods (Normal Type)

Special Calculation Days (Normal Type)

Result output

Close

Selection of the month to be displayed

Exclusion Periods (Normal Type)

Sun		Begin	End	Disabled
Mon	08:30 -> 19:30	Begin	End	Disabled
Tue	08:30 -> 19:30	Begin	End	Disabled
Wed	08:30 -> 17:00	Begin	End	Disabled
Thu	08:30 -> 19:30	Begin	End	Disabled
Fri	08:30 -> 19:30	Begin	End	Disabled
Sat		Begin	End	Disabled

OK   Cancel

Special Calculation Days (Normal Type)

Prev Month << Jan 2005 >> Next Month

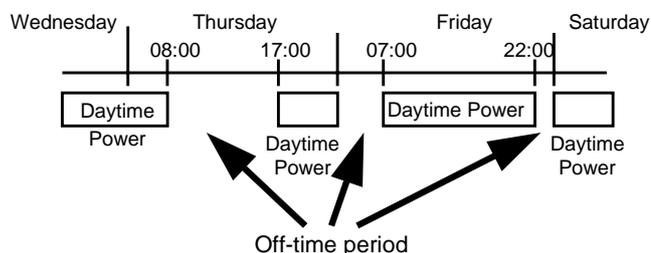| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

OK   Cancel

* Excluded days   Special Day

Set the off-time period.

Set the special day.

Select the day.

Setting the off-time period as per the above example will result in the following:

Wednesday | Thursday | Friday | Saturday
08:00 | 17:00 | 07:00 | 22:00

Daytime Power | Daytime Power | Daytime Power | Daytime Power
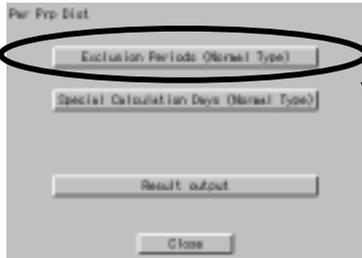
Off-time period

9-1 Off-time Period (Normal) Setting

This function refers to setting only for the normal type and it allows the user to specify days and periods in which the PPD calculation will not be conducted.
For example, it can be used for cases where during day time of weekdays the regular charge will be collected, while PPD is only calculated for overtime hours and holidays.
The time period settings can be done for each day. The settings apply to the whole system and different settings on a zone basis cannot be conducted.

Click the "Off-time Period (Normal) Setting" button.

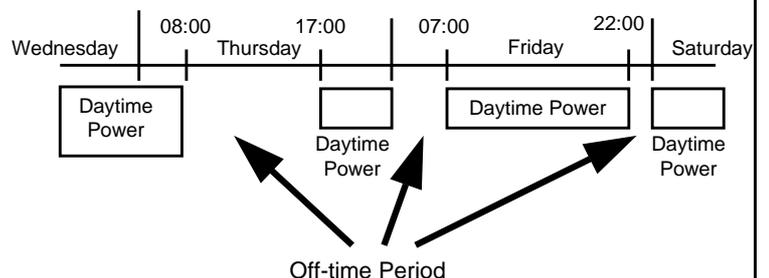(1)Select the day you want to set.
(2) Set the Begin and End times.

Exclusion Periods (Normal Type)

Day	Period			
Sun		Begin	End	Disabled
Mon	08:30 -> 19:30	Begin	End	Disabled
Tue	08:30 -> 19:30	Begin	End	Disabled
Wed	08:30 -> 17:00	Begin	End	Disabled
Thu	08:30 -> 19:30	Begin	End	Disabled
Fri	08:30 -> 19:30	Begin	End	Disabled
Sat		Begin	End	Disabled

OK   Cancel

Activate the setting and return to the previous screen.
Setting becomes effective at the time OK is pressed

(3) Select the "Disabled" when canceling the setting.

Returns to the previous screen without conducting any settings.
(Setting remains as previously conducted)

Setting the off-time period as per the above example will result in the following:

	08:00	17:00	07:00	22:00	
Wednesday		Thursday		Friday	Saturday

Daytime Power   Daytime Power   Daytime Power

Daytime Power   Daytime Power

Off-time Period

9-2 Special Day (Normal) Setting for Proportional Distribution

Even when setting for off-time periods (normal), you can conduct settings for special days on which you will be calculating PPD. The setting can be conducted for one year according to the specific month and day.
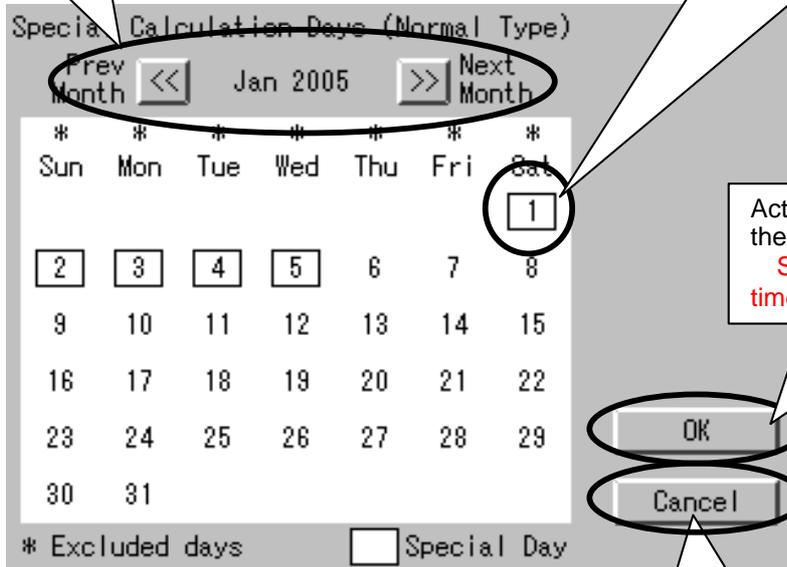
For example, it can be used to calculate PPD on irregular holidays such as national holidays.
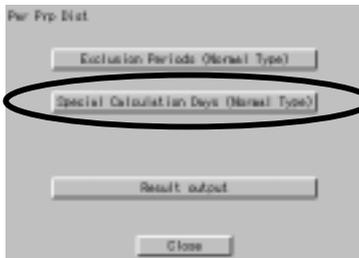
Click the "Special Day (Normal) Setting for Proportional Distribution

(1) Select the month for which you want to set.
    * Clicking the **<<** will show the previous month and **>>**, the next month.

(2) Select the day.
    * Clicking a day puts a box over that specific day.
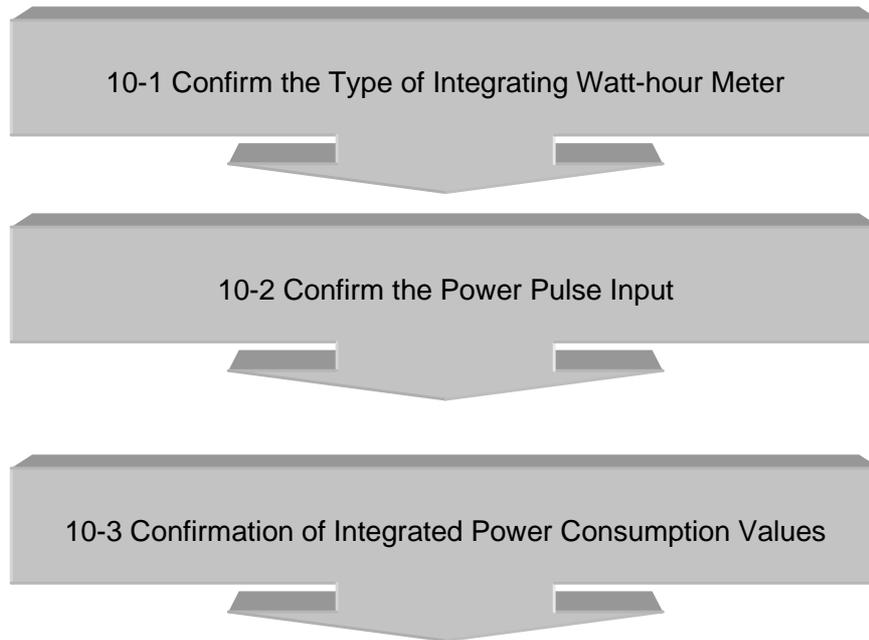   * Clicking the days with boxes will cancel the setting.

Special Calculation Days (Normal Type)

Prev Month **<<**   Jan 2005   **>>** Next Month

* Sun	* Mon	* Tue	* Wed	* Thu	* Fri	* Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

* Excluded days   ☐ Special Day

Activate the setting and return to the previous screen.
Setting becomes effective at the time OK is pressed.

OK

Cancel

Returns to the previous screen without conducting any settings.
(Setting remains as previously conducted)

10 Confirmation of operation

Follow the procedure shown below and confirm whether the Power Proportional Distribution is properly carried out or not.

10-1 Confirm the Type of Integrating Watt-hour Meter

10-2 Confirm the Power Pulse Input

10-3 Confirmation of Integrated Power Consumption Values

10-1 Confirmation of the Type of Integrating Watt-hour Meter

When carrying out the Power Proportional Distribution by i-Controller, one or more Integrating Watt-hour Meter is always required.

In fact, the Integrated Power Consumption which i-Controller recognizes is obtained by the Pulse Input from the Integrating Watt-hour Meter.

Therefore, an Integrating Watt-hour Meter is important for i-Controller and it is necessary to confirm that the specification (type) meets the i-Controller conditions.

Checkpoint

An Integrating Watt-hour Meter connectable to i-Controller must satisfy all the following conditions.

(1) An Integrating Watt-hour Meter must be that with pulse oscillator.

(2) The unit of output pulse must be 1 pulse to 1 kwh or 1 pulse to 10 kwh.

(3) The width of output pulse must be 100 msec or more.

(4) The pulse oscillator must be that with a semicondutor relay.

─Problems when the conditions do not meet those mentioned above ──

Unless the unit of output pulse from the Integrating Watt-hour Meter and the unit of input pulse set by the pulse input port are the same, the following problems will occur. (However, it does not mean that it will always be 10 times or 1/10 times.)
   If the unit of Integrating Watt-hour Meter output pulse = 1 kwh/1 pulse, setting by pulse input port = 10 kwh/1 pulse
   The calculated results of Integrated Power Consumption will be approximately 10 times of the actual Integrated Power Consumption.
   If the unit of output pulse of the Integrating Watt-hour Meter = 10 kwh/1 pulse, setting by pulse input port = 1 kwh/ pulse: The calculated results of Integrated Power Consumption will be approximately 1/10 of the actual Integrated Power Consumption.

If the pulse width is 100 msec or less, it cannot be recognized as pulse.

Unless a semiconductor relay is used, the contacts cause chattering and 1 pulse may be recognized as multiple pulses. (The contacts of a reed switch may cause chattering and the pulse may not be correctly read)

(Caution) Confirm the label of the Integrating Watt-hour Meter for the unit of output pulse.
            It is marked on the label.

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10-2 Confirmation of Power Pulse Input

Confirm whether the output pulse of an Integrating Watt-hour Meter is correctly input to i-Controller or not.

Checkpoint

1. If an air conditioner operates and the Integrating Watt-hour Meter rotates, the output pulse from the Integrating Watt-hour Meter must input to iTouch controller.
2. If multiple Integrating Watt-hour Meters are installed, the registered content edited by the power group must correspond to the actually connected Integrating Watt-hour Meter.
    When an air conditioner of a certain system starts operation, the corresponding Integrating Watt-hour Meter must rotate and the output pulse from the Integrating Watt-hour Meter must input to the power port of the registered power group.

Checking method

1. Record the value (W1) of the Integrating Watt-hour Meter.   At the same time record the number of pulses (P1) from the Integrating Watt-hour Meter which is input to i-Controller by the following "pulse data".
2. When the Ingerating Watt-hour Meter changes, record the changed value (W2). At the same time, record the number of pulses (P2) from the Integrating Watt-hour Meter which is input to i-Controller by the following "pulse data".
3. If it is (W2 — W1)   (P2 — P1), it is acceptable.
4. In the same way, check all the connected Intergating Watt-hour Meters

10-3　Confirmation of Integrated Power Consumption Values

Confirm that the total of the power energy proportionally distributed to each indoor unit agrees with the value of integrating watt-hour meter.
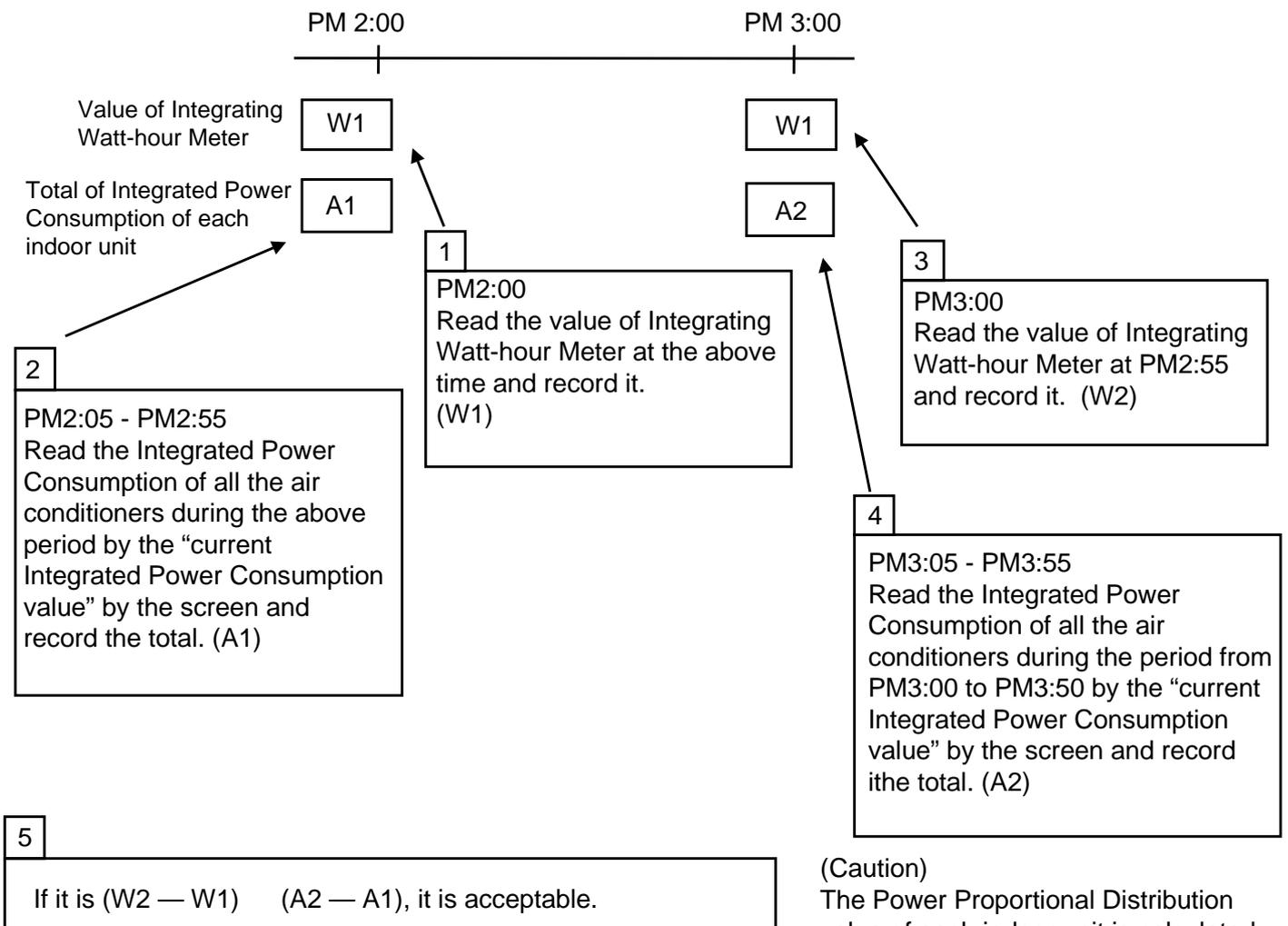
Checkpoint
1. Confirm by each power group

Note
Every hour on the hour, it carries out the Proportional Distribution calculation.

How to check

(1)　Record the value of the Integrating Watt-hour Meter at one 5 minutes before the hour.　(W1)
(2)　Readout the Integrated Power Consumption value of all the registered indoor units in the same group by the screen of "current Integrated Power Consumption value" and record the total.　(A1)
(3)　Record the value of the Integrating Watt-hour Meter at the next 5 minutes before the hour.　(W2)
(4)　Readout the Integrated Power Consumption of all the indoor unit registered in the same group by the "current Integrated Power Consumption value" and record the total.　(A2)
(5)　If it is (W2 — W1)　　(A2 — A1), it is acceptable.
(6)　Carry out the confirmation procedure from (1) to (5) with all the power group.

(Example)　Follow the procedures below in the numerical order from 1 to 5 .

PM 2:00　　　　　　　　　　　PM 3:00

Value of Integrating
Watt-hour Meter　　W1　　　　　　　W1

Total of Integrated Power
Consumption of each　　A1　　　　　　A2
indoor unit

1
PM2:00
Read the value of Integrating Watt-hour Meter at the above time and record it.
(W1)

2
PM2:05 - PM2:55
Read the Integrated Power Consumption of all the air conditioners during the above period by the "current Integrated Power Consumption value" by the screen and record the total. (A1)

3
PM3:00
Read the value of Integrating Watt-hour Meter at PM2:55 and record it.　(W2)

4
PM3:05 - PM3:55
Read the Integrated Power Consumption of all the air conditioners during the period from PM3:00 to PM3:50 by the "current Integrated Power Consumption value" by the screen and record ithe total. (A2)

5
If it is (W2 — W1)　　(A2 — A1), it is acceptable.

(Caution)
The Power Proportional Distribution value of each indoor unit is calculated by rounding out the digit of 0.1Wh. (so that the building owner may not make a loss) Therefore, the total of Integrated Power Consumption is slightly larger than the value of the Integrating Watt-hour Meter.

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11. Operation Confirmation

1. Clicking the "Confirm" button brings up the dialog box below.

2. Selecting the group from the list allows you to click the buttons on the left side. Clicking each button allows you to confirm the current data for the indoor units and ports within the group. The buttons allow confirmation of the following content:
   * *Integrated Power*… Confirm the hysterical data of indoor unit, input port and group
   * *Integrated Current Value*…Confirm the actual Power Consumption of indoor unit, input port and group
   * *Verification Data*…Confirm the Temporary Power Consumption value of indoor unit, input port and group.

3. Clicking the "Save Setting" button allows you to save the current settings for all power groups in a text file on the PC.

You can move to this screen with this button.

Save settings for all power groups.

```
PPD Setup – Confirm

 Initialize          Setup Port   Setup Unit   Setup Group   Confirm        iPU #1      Exit
                                                                            Ver 2.002

 Calculate Power     Group Name                     Type     Calculating State      Save Setup
                     NewGroup1                      Standard   Calculating
                     NewGroup2                      Standard   Calculating
 Present Calculated
 Value

 Temporary Power
 Consumption
```
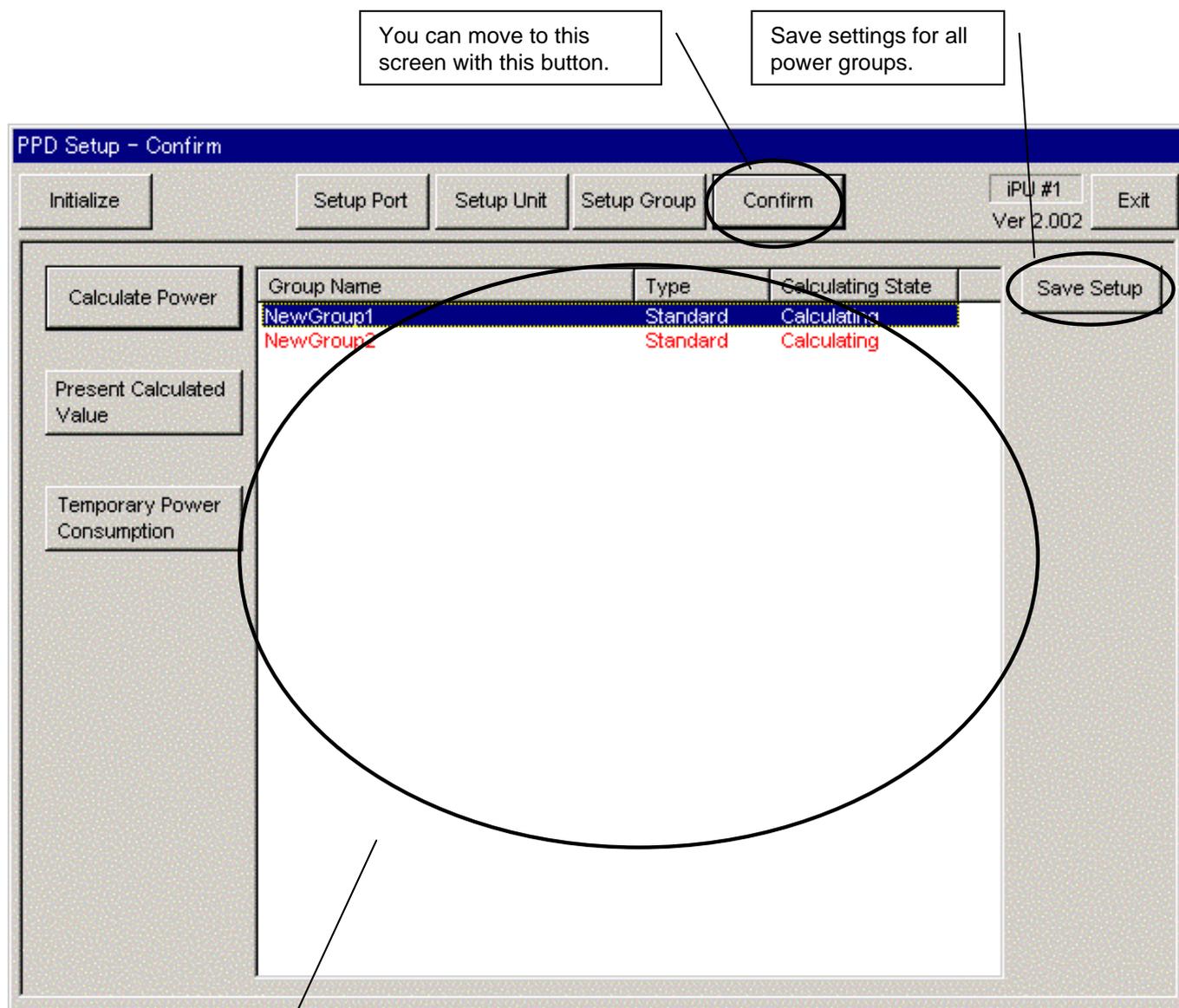
Select from the groups displayed.

11-1. Confirmation of Integrated Power

1. Clicking the "Integrated Power" button in the "Operation Confirmation" dialog box will bring up the corresponding dialog box below. This allows viewing the data of the specified period (The data over 48 hours is indicated.)

2. If the button "time retrieval" is pressed, the dialog "time selection" will be indicated. Then, select the time stamp of the desired data and press the button "select", the period of the data will be indicated on the side of the button "time retrieval".

3. If the button "read-out" is pressed during the period of the data is indicated, the data of the specified period will be calculated and indicated.

4. Pressing the "Tab" key allows changing of the displays of the data for indoor units, ports and groups. Data for indoor units, ports and groups can be displayed for the Normal Type.

(Note)
* 1 Overflow
     An overflow error occurs if the integrated value exceeds 999.999 kWh/day or exceeds 99.999 kWh/day when the machine is off.
* 2 Input Pulse Error
     An input pulse error occurs when the input pulse is 0 regardless of whether the tentative consumed power is 1000 kWh or above. (Note)

3. The data indicated by "Indoor" is as follows:
     Amount (kWh) : It indicates the Integrated Power Consumption over the period specified by "time selection".
     Integration :   It indicates the Integrated Power Consumption from the operation startup to the present.
     Idle power (kWh) : It indicates the Integrated Power Consumption over the period specified by "time selection" only when set to no Proportional Distribution at a standstill.
     Integration : It indicates the Integrated Power Consumption from the operation startup to the present only when set to no Proportional Distribution at a standstill.
     ThermoON Time (min) : It indicates the ThermoON time over the period specified by "time selection"
     OP.Time (min): It indicates the indoor unit operating time over the period specified by "time selection"
     Fan OP. Time (min): It indicates the fan operating time over the period specified by "time selection".
     Rate (%): It indicates the Proportional Distribution rate over the period specified by "time selection".

Clicking this button updates the data.

In case the letters are blue, it shows that the operation started from the selected time band

Note
1. Data can be shown for specified period(s) at least one day.
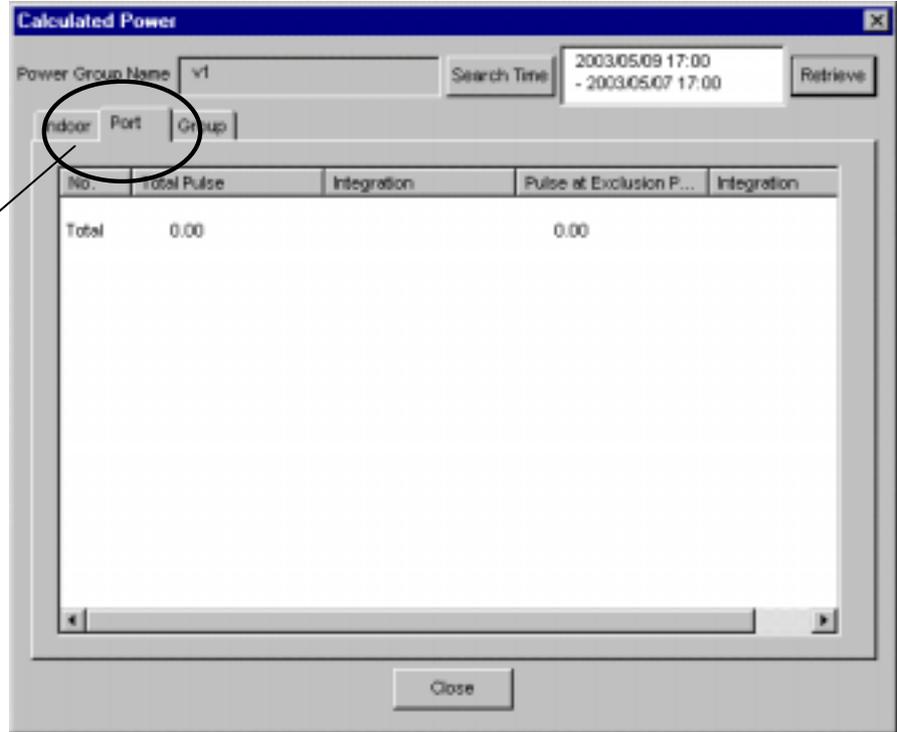2. Data can be shown for up to 48 hours.

4. The data indicated by [Port] are as folllows:
   Total Pulse : It indicates the number of pulse input over the period specified by "time selection".
   Integration: It indicates the number of pulse input from the operation startup to the present.
   Pulse at Exclusion Period: It indicates the number of pulse input in the time zone of Proportional Distribution excluded from the
                              total pulse over the period specified by "time selection".
   Integration: It indicates the number of pulse input in the time zone of Proportional Distribution being excluded from the integrated
                pulse input the operation startup to the present.

You can move to this
screen with this button.

No.	Total Pulse	Integration	Pulse at Exclusion P...	Integration
Total	0.00		0.00	

Calculated Power

Power Group Name: v1   Search Time   2003/05/09 17:00 - 2003/05/07 17:00   Retrieve

Indoor Port Group

Close

5   The data indicated by [Group] are as follows:
    Power consumption at Exclusion Period : It indicates the Integrated Power Concumption in the time zone of Proportional
                                            Distribution excluded over the period specified by "time selection".
    Integration: It indicates the Integrated Power Consumption in the time zone of Proportional Distribution being excluded from the
                 operation startup to the present.

You can move to this
screen with this button.

Calculated Power

Power Group Name: Search Time   2003/05/09 17:00 - 2003/05/07 17:00   Retrieve

Indoor Port Group

Power Consumption at Exclusion Period   0.000   kWh

Integration   39007.00l   kWh

Close
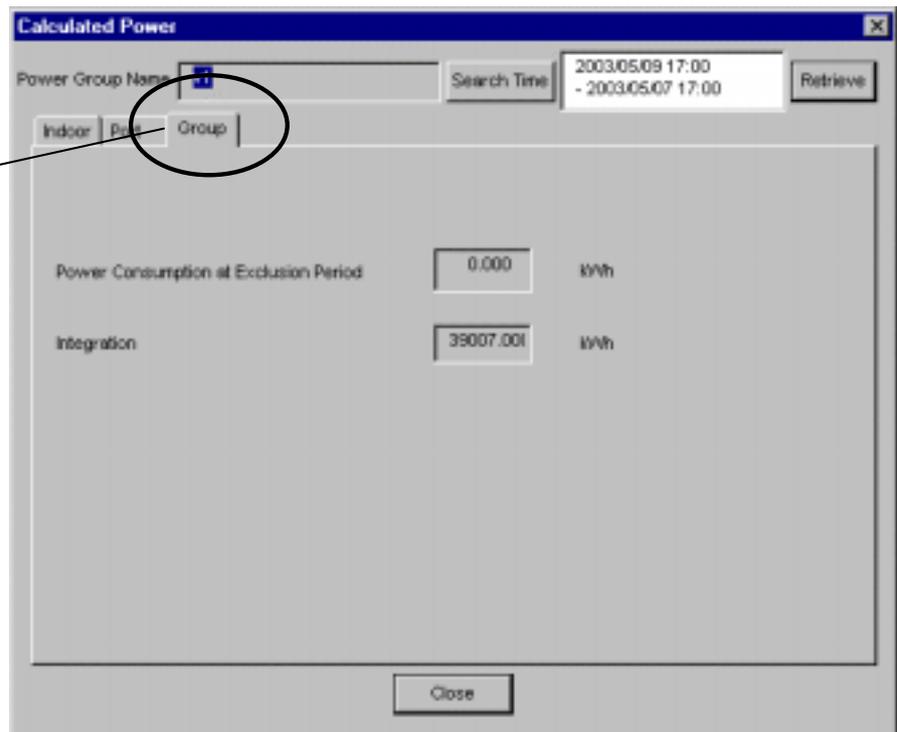
11-2. Confirmation of Current Integrated Values

1. Clicking the "Present Calculated Value" button in the "Operation Confirmation" dialog box brings up the corresponding dialog box below. This shows the integrated data for the time from 00:00 of the previous day to the time of final calculation (the 00 minutes before the current time).

2. Data that is invalid due to overflow and input pulse errors will show pound signs before and after the numerical value. Moreover, the entries will be shown in red.

3. Pressing the "Tab" key allows changing of the displays of the data for indoor units, ports and groups. Data for indoor units, ports and groups can be displayed for the Normal Type.

1. The data indicated by [Indoor] are as follows:
   Amount (kWh): It indicates the Integrated Power Consumption from the operation startup to the present.
   Idle power (kWh): It indicates the power consumption at stop from the operation startup to the present only when set to
                     no Proportional Distribution at a standstill.

Retrieve Present Value   ☒

Power Group Name   v1

| Indoor | Port | Group |

No.	Amount(kWh)	Idle power(kWh)	
1-1-00	0.189	0.044	
1-1-01	12.342	0.088	
1-1-02	19.399	0.136	
1-1-03	4.862	0.036	
1-1-04	4.629	0.044	
1-1-05	6.632	0.000	
1-1-06	12.068	0.000	
1-1-07	14.022	0.000	
1-1-08	4.147	0.000	
1-1-09	4.269	0.000	
1-1-10	4.187	0.000	
1-1-11	8.674	0.000	
1-1-12	9.347	0.000	
1-1-13	11.829	0.000	
1-1-14	3.006	0.000	
1-1-15	4.413	0.000	
1-3-00	23.914	0.000	

Close

2   The data indicated by [Port] is as follows:
     Total Pulse: It indictes the number of input pulse from the time of starting operation to the present.
      Pulse at Exclusion Period :   It indicates the number of pulse input in the time zone of proportional distribution excluded from the
time of starting operation to the present.

Retrieve Present Value

Power Group Name   V1

| Indoor | Port | Group |

No.	Total Pulse	Pulse at Exclusion P...	
Main...	14942	39007	

Close
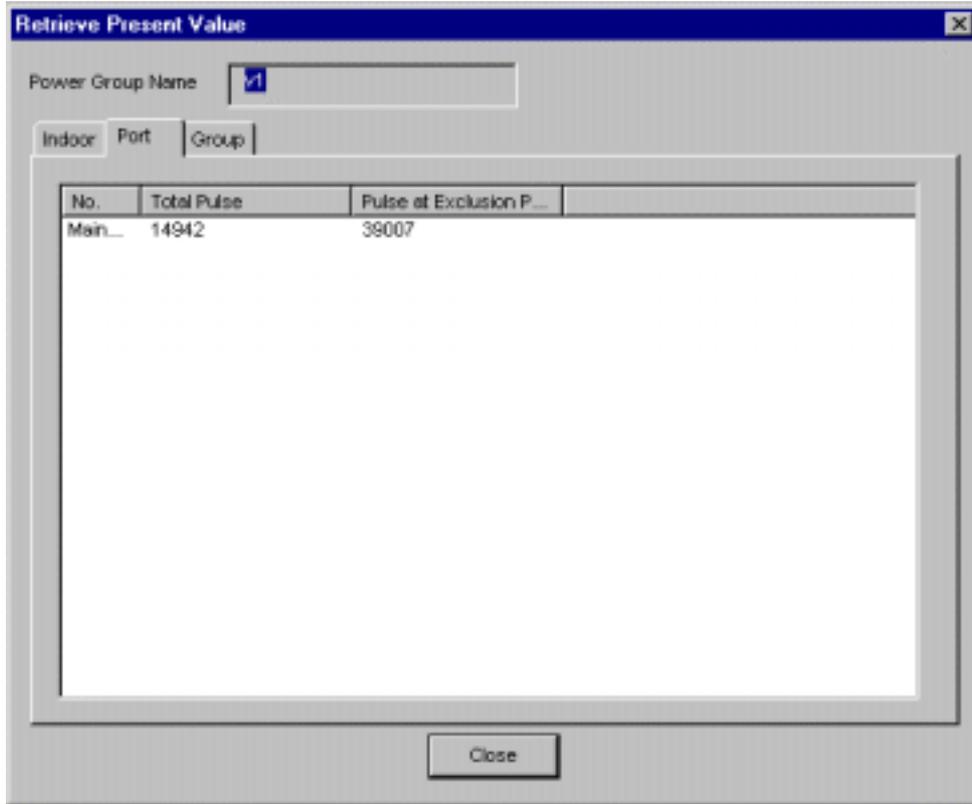
3   The data indicated by [Group] is as follows:
      Power consumption at Exclusion Period : It indicates the Integrated Power Consumption in the time zone of Proportional
                                               Distribution being excluded from the operation startup to the present.

Retrieve Present Value

Power Group Name   V1

| Indoor | Port | Group |

Power Consumption at Exclusion Period   39007.00I   kWh

Close

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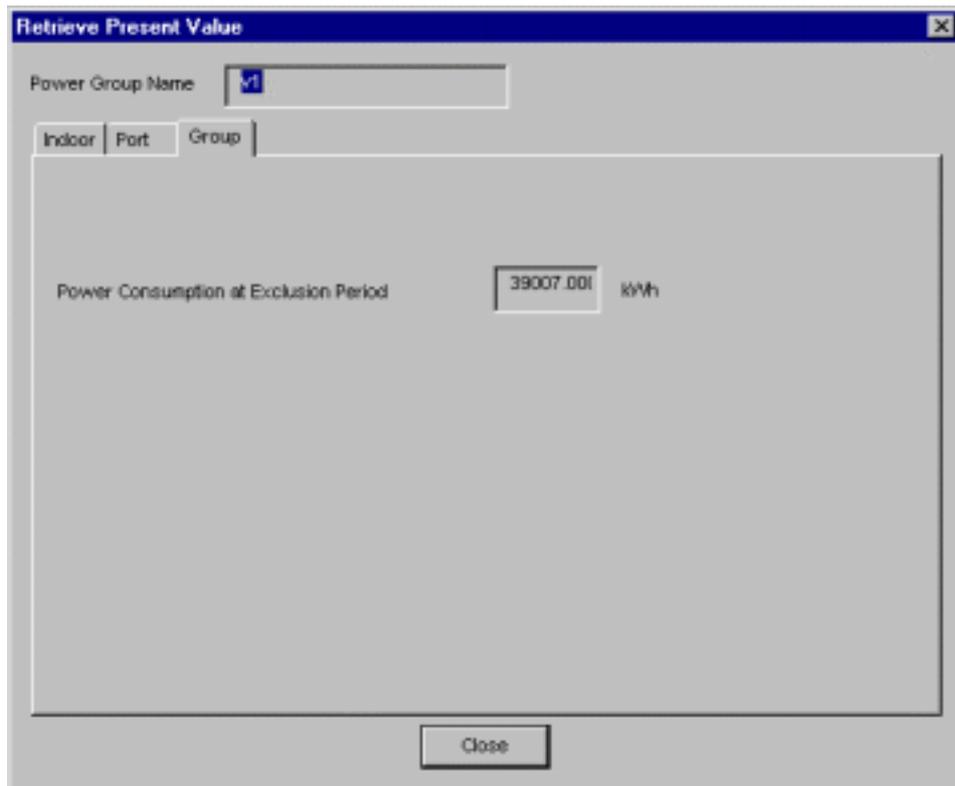
11-3. Confirmation of Tentative Consumed Power

1. Clicking the "Temporary Power Consumption" button in the "Operation Confirmation" dialog box will bring up the corresponding dialog box below. This allows viewing of the tentative consumed power from the time of final calculation to the present.

2. Pressing the "Tab" key allows changing of the displays of the data for indoor units, ports and groups. Data for indoor units, ports and groups can be displayed for the Normal Type.

1 The data indicated by [Indoor] is as follows:
   Temporary Power Consumption: It indicates the temporary Power Consumption from every hour on the hour up to the present.
                                The data is cleared every hour on the hour.

Temporary Power Consumption

Power Group Name   v1   Update

Indoor | Port

No.	Temporary...	
1-1-00	4.545	
1-1-01	5.13	
1-1-02	479.726	
1-1-03	114.608	
1-1-04	113.65	
1-1-05	151.89	
1-1-06	273.464	
1-1-07	325.604	
1-1-08	97.4646	
1-1-09	100.823	
1-1-10	91.0619	
1-1-11	183.424	
1-1-12	200.097	
1-1-13	265.872	
1-1-14	70.7471	
1-1-15	92.5426	
1-3-00	577.467	

Close

2 The data indicated by [Port] is as follows:
  Amount of Pulse: It indicates the number of pulse input from every hour on the hour up to the present. The data is cleared
      every hour on the hour.

    The pulse is counted even in the Proportional Distribution being excluded time zone.

Temporary Power Consumption ✕

Power Group Name   v1   Update

Indoor Port

No.	Amount of Pulses	
Main...	4966	

Close

12. Abnormality history

Abnormalities that occur when calculating the power proportional distribution are as follow:

(They are indicated in the abnormality history of system setting menu in iTouch controller)

Abnormality history	Additional information on history	Abnormality occuring conditions	Measures taken when abnormalty occurred
Daytime Pwr overflow	Air conditioner No.	Actual Power Consumption of indoor unit calculated on the hour exceeded 500.000KWh.	The data of the day the abnormality occurred can be readout normally. In addition, the day the abnormality occurred is indicated on the screen.
Daytime Idle Pwr overflow	Air conditioner No.	The Power Consumption of indoor unit at a standstill calculated on the hour exceeded 500.000KWh	The data of the day the abnormality occurred can be readout. In addition, the day the abnormality occurred can be readoput on the screen.
Pulse Input Err	Air conditioner No.	Though the total of tentative power consumption of indoor units which belong to the power group exceeds 1000kWh, the input pulse is 0.	The data of the day the abnormality occurred cannot be read-out. In addition, the day the abnormality occurred is indicated on the screen.
Backup Start	None	Since a power failure occurred in the process of retaining the data, it started from the backup data.	The calculation continues.
BCC Err	None	Information retained in SRAM is destructed.	The destructed information is zero cleared and the calculation starts.

13. In such a case

13-1. Memory card

When the memory card is inserted into the Intelligent Touch Controller main unit and if a message "do you initialize?" is indicated, select either ″YES or OK″ and initialize. Then, the memory card can be used.

13-2. Watt-hour meter

Minimum starting current of watt-hour meter
Air conditioners consume electric power even when they are at standstill. In case an air conditioner is at standstill, if pulse input from the watt-hour meter is extremely small, check the minimum starting current of the watt-hour meter. Starting current means the minimum current value detectable by a watt-hour meter.

13-3. Model data

1. When a model name is not indicated by the automatic equipment registration, obtain the latest model name from the Global Operation home page. Overwrite and copy the set of folder (¥kisyu).
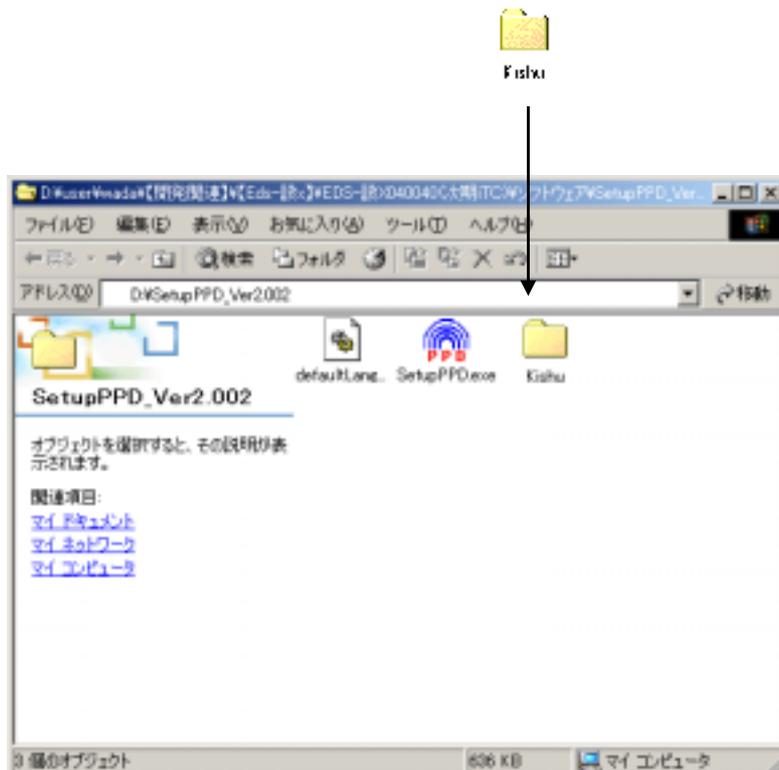
14. APPENDIX

14-1. Retention of verified data

If a doubt arises with regard to the results of proportional distribution, retain the verified data according to the following method and send it to the DIL Quality Control Dept.

1. Insert the memory card into the Intelligent Touch Controller main unit.

2 On the screen of "Pwr Prp Dist" of the service mode of the Intelligent Touch Controller main unit, press the button [B], and the data is retained in the memory card.

3. As the file below will be made in the memory card, send all the file to the DIL Quality Control Dept.

   (To thaw the file, the dedicated software is required.)

   ppd_DB_01.dat.gz ~ ppd_DB_12.dat.gz ppd_DB_CUR.dat.gz

   The power consumption per every hour, the thermo ON time and the number of power pulse of one month are retained in a file.

   (can be retained up to max. 13 months)

   ppd_hst00.dat.gz ~ ppd_hst48.dat.gz

   This is the latest 48 minutes data

   ppd_prop.dat.gz ppd_sched.dat.gz

   The tools for trial run and the set contents on the screen are retained.
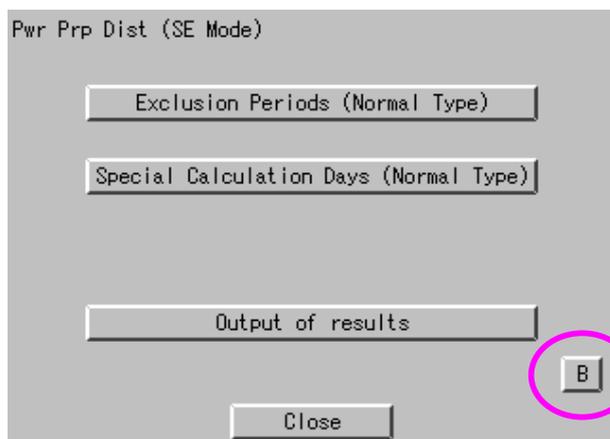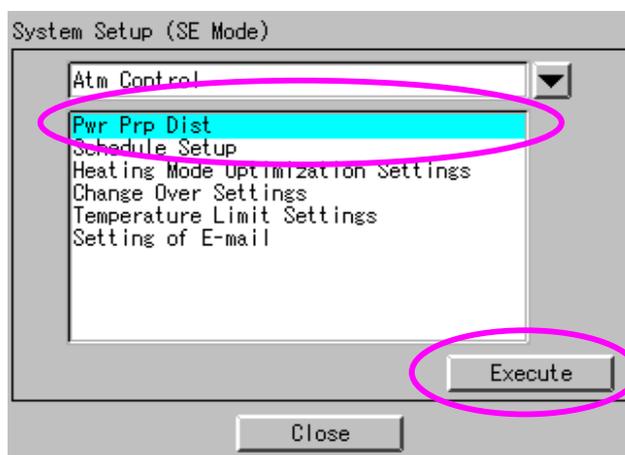
14-2. Proportional distribution results at the start and end of day light saving time

1. Start of daylight saving time (client's data)

For example if the daylight saving time starts at 2:00, the clock of intelligent Touch Controller automatically changes from 2:00 to 3:00 at 2:00.
When the proportional distribution results of this day is retained, the data between 1:00 and 2:00 is added to the part of 3:00.

2. End of daylight saving time (client's data)

For example, if the daylight saving time ends at 2:00, the clock of intelligent Touch Controller automatically changes from 2:00 to 1:00 at 2:00.
When the proportional distribution results of this day is retained, there are two data of 1:00. The second data of 1:00 is the data of the time band the daylight saving time ended.