TOSHIBA

APPLICATION CONTROL MANUAL

Super Modular Multi System

Heat Pump Type Cooling Only Type



Super Heat Recovery Multi System

Heat Recovery Type



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OUTLINE OF SYSTEM AND APPLICATION CONTROL

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1-1 Outline of application control



*1 BACnet[™] : ANSI/ASHRAE135-1995, A Data CommuniCation Protocol for Bulding Automation and Control Networks. *2 LoNWoRKS[®] : Resistered trademark Echelon Corporation.

1-2 List of application control models and setting

Appliance name		Model name	Contents of application control	Connecting device or setting method	Reference No.
R	emote Controller				
	Wired remote controller	RBC-AMT21E	Individual control	Indoor unit	
			•Group control		
	Simple remote controller	RBC-AS21E	•Two remote control		
	Wireless remote	TCB-AX21U(W)-E	Individual control	For 4-way sir discharge cassette type	4.0
	controller	RBC-AX22CE	•Two wireless control	For under ceiling type	1-3
		ICB-AX21E	• I wo remote control (wired & wireless)	For other type	1-4
	Weekly timer	RBC-EXW21E	•Weekly schedule operation (main remote controller + weekly timer)	Wired remote controller	
	Central remote	TCB-SC642TLE	Central control of Max.64 or units	Outdoor unit	
	controller		•Weekly schedule operation	(Indoor unit)	
			(central remote controller + weekly timer)	(
			Central control without indoor remote controller		
			•Central control with "1:1 model"		
A	pplication controls of i	ndoor unit			
	Function change of		Setting functions necessary to perform	Item code (DN) setting from	
	indoor unit		applied control at the local site.	wired remote controller	
	Ventilation fan control		Ventilation fan start/stop operation from	Setting from wired remote	
	from remote controller		wired remote controller.	controller and relay wiring	1-5
	Leaving-ON prevention control		Control to prevent Leaving-ON of indoor unit.	(local supply)	1-5
	Demand control from indoor unit		Thermo-OFF operation by relay signal	Relay wiring (local supply)	
	Remote sensor	TCB-TC21LE	Remote sensing of indoor air temperature	Indoor unit	
A	pplication controls of o	outdoor unit	-		
	Outdoor fan high static		Change of outdoor fan control when connecting		
	pressure shift		a duct to discharge port of outdoor unit.	Switch setting on outdoor	
	Control for cooling/ heating priority		Change operation mode priority	interface 1.0. board	1-6
	Specific indoor unit priority control		Specific indoor unit has the priority for operation mode.	Item code (DN) setting from wired remote controller	
ο	ptional P.C. board of o	utdoor unit			
	Power peak-cut	TCB-PCDM2E	Power peak-cut (Standard function)	Inverter assembly of the header	
	control board		Power peak-cut (Expansion function)	outdoor unit	
	External master	TCB-PCMO2E	Snowfall fan control		1-7
	ON/OFF control board		External master ON/OFF control		
			Night operation (sound reduction) control		
			Operation mode selection control		
0	ptional devices conne	cted to indoor i	unit		
	Remote location ON/OFF control box	TCB-IFCB-4E	•Monitoring from outside •ON/OFF command from external signals	Indoor unit	
	Network adapter	TCB-PCNT20E	Central control with AI-Network system	Indoor unit	1-8
	"1:1 model" connection	TCB-PCNT30TLE	Central control with "1:1 model"	Indoor unit	
	interface		(link Toshiba Digital Inverter system		
			and Super Digital Inverter system)		
A	pplication control for r	network			
	Touch screen controller system	BMS-TP5120ACE etc.	Combination of touch screen and local server (monitoring, remote operation, etc)	Central control wiring	
	LONWORKS	TCB-IFLN*** etc.	LONWORKS interface connected to	Central control wiring	1-9
	Windows based	BMS-LSV***	Local server is "Plug-in" into customer's	Central control wiring	
	BACnot	BMS-I S\/***	Local server is connected under the	Central control wiring	
		etc.	BACnet network.		

1-3 Remote controller

Name	Model name	Appearance	Application	Function	Reference No.
Wired remote controller	RBC-AMT21E		Connected to indoor unit	 Start / Stop Changing mode Temperature setting Air flow changing Timer function Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated. Combined with the weekly timer, weekly schedule operation can be operated. Filter sign Displays automatically maintenance time of indoor filter. Filter sign flashes. Self-diagnosis function Pressing "CHECK" button displays cause of trouble on the check code. Control by 2 remote controllers is available. Two remote controllers can be connected to one indoor unit. The indoor unit can be separately operated from the isolated places. 	1-4 4-1-1
Simple remote controller	RBC-AS21E		Connected to indoor unit	 Start / Stop Temperature setting Air flow changing Check code display 	1-4 4-1-2
ontroller kit	E TCB-AX21U (W)-E		Connected to indoor unit	 Start / Stop Changing mode Temperature setting Air flow changing Timer function Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated. Control by 2 remote controllers is available. Two wireless remote controllers can 	
Wireless remote co	B-AX21E RBC-AX22C	TOBHIBA		 wo wreless tende controllers can operate one indoor unit. The indoor unit can be separately operated from the isolated places. Check code display TCB-AX21U (W)-E (For 4-way Air Discharge Cassette) RBC-AX22CE (For Under Ceiling) TCB-AX21E 	1-4 4-1-3
	TCE			(For others except concealed duct high static pressure type)	

Wireless remote controller kit (Kit of Hand set and receiver unit)



Name	Model name	Appearance	Application Performance		Reference No.
Weekly timer	RBC-EXW21E		Connected to central remote controller, wired remote controller wired remote controller Wired Weekly Cutdoor unit Central Weekly Temote controller	 Weekly schedule operation Setting different start / stop time for each day of the week ON / OFF can be easily set 3 times a day. ON OFF ON OFF ON OFF OFF ON OFF ON OFF 12:00 13:00 18:00 19:00 21:00 "CHECK" "PROGRAM" "DAY" button make setting copy easy. Two patterns of schedule for a week can be specified. (Summer schedule and winter schedule, etc.) "CANCEL" "DAY" button make holiday setting easy. If power supply fails, the setting contents are stored in memory, for 100 hours. 	1-4 4-1-4
Central remote controller	TCB-SC642TLE		Connected to outdoor unit, indoor unit Header Follower Outdoor unit Outdoor unit Central remote controller	 Individual control up to 64 indoor units. Individual control for max. 64 indoor units divided 1 to 4 zone. (Up to 16 indoor units for each) Up to 16 outdoor header units are connectable. 4 type central control setting to inhibit individual operation by remote controller can be selected. Setting for one of 1 to 4 zone is available. Usable with other central control devices (Up to 10 central control devices in one control circuit) Two control mode selectivity (Central controller mode Remote controller mode Setting of simultaneous ON/OFF 3 times for each day of the week combined with weekly timer. 	1-4-4 4-2

1-4 Application controls for remote controller

1-4-1 Applications for indoor remote controller



1-4-2 Two remote control

This control is that one or more indoor units are controlled by two remote controllers. (Max. two remote controller can be connected.)

• One indoor unit operated by two remote controller



Group control operated by two remote controller



(Setting method for side remote controller)



(Operation)

- 1) Operation mode can be changed by "last push priority".
- 2) In case of using a timer, connect the timer to either remote controller.

1-4-3 Group control

Max. 8 indoor units can be controlled by one remote controller on a group control. Twin, triple control of 1 by 1 model (Toshiba Digital inverter, Super digital inverter) is one of group control. Header indoor unit controls indoor air temperature based on setting temperature of the remote controller.

<System sample>



[1] Display range of remote controller

Remote controller reflects the setting range of header indoor unit. Setting range : Operation mode, Air Volume setting, Setting temperature

[NOTE] Don't set the concealed duct high pressure type (AID-P***H, MMD-P***1H) to the header indoor unit.

- In case concealed duct high static pressure type is the header indoor unit, display of remote controller is as follows. Operation mode : [AUTO] [HEAT] [COOL] [FAN], no [DRY] mode Air volume selection : [HIGH]
- In case of [DRY] mode, duct type keeps [FAN] mode.

[NOTE] Don't set cooling only model as header indoor unit.

- \Box > Set heat pump model as header indoor unit.
- [AUTO] [HEAT] mode can't be operated.

[2] Remote location control (HA)

Both header and follower indoor unit can response by remote location control (HA) signals. Master ON/OFF control can be conducted for all indoor units on the same group.

[NOTE] Don't input two or more HA signals to one group.

[3] Address setting

All indoor units on the same group must be turned on when automatic address setting is conducted. If power supply is turned on three minutes later than automatic address setting, reboot will occur and automatic address setting starts again.

[NOTE.1] Be sure to do electrical work and control wiring certainly.

[NOTE.2] Reconfirm the line / indoor / group address one by one.

Especially confirm the identical line address both outdoor and indoor side.

	Basic function	System diagram	Model	Reference No.
1	Central manage- ment controller for 64 units	U 3, U4 U3, U4 U3, U4 U4, U5, U6 U1, U2 U3, U4 U1, U2 U3, U4 U1, U2 U3, U4 U3, U4 U4, U5, U6 U1, U2 U1, U3, U4 U1, U2 U1, U2 U1, U2 U1, U3, U4 U1, U2 U1, U2 U1, U3, U4 U1, U2 U1, U3, U4 U1, U2 U1, U3, U4 U1, U2 U2, U3, U4 U1, U2 U2, U3, U4 U3, U4 U3, U4 U4 U1, U2 U2, U3, U4 U3, U4 U3, U4 U4 U1, U2 U2, U3, U2, U3, U3, U3, U3, U3, U3, U3, U3, U3, U3	 Central remote controller TCB-SC642TLE <indoor controller="" remote=""></indoor> Wired remote controller RBC-AMT21E Simple remote controller RBC-AS21E 	4-2
2	Central remote controller + Weekly timer (Weekly operation schedule can be set by connecting a weekly timer to the central remote controller	U3, U4 Outdoor unit Super MMS Indoor unit U1, U2 Indoor unit U1, U2 Indoor remote controller Single phase 220/230/240V Power	 Central remote controller TCB-SC642TLE Weekly timer RBC-EXW21E <indoor controller="" remote=""> Wired remote controller RBC-AMT21E or Simple remote controller RBC-AS21E </indoor> 	4-2

1-4-4 Application controls for central remote controller



1-5 Application controls of indoor unit

No	Control name	Function		Reference No.
1	Function change	Items necessary to perform the applied control at the local site can be selected. (Ex. Setup of TA sensor, body TA sensor / remote controller sensor)	Item code (DN) setting from wired remote controller	4-3-1
2	Ventilation fan control from remote controller	ON/OFF control can be operated from wired remote controller when the entire heat exchanger or ventilation fan is installed in the system. CN32 Relay (DC12V, procured locally) FAN DRIVE 12 CN32 Relay (DC12V, procured locally) Outside control input of fan CN32 To terminal	Setting from wired remote controller + Relay wiring (local supply)	4-3-2
3	Leaving-ON prevention control	Using a card switch box, card lock etc, the leaving- ON of the indoor unit can be prevented by setting of remote controller and relay wiring.	Setting from wired remote controller + Relay wiring (local supply)	4-3-3
4	Demand control	Thermostat-OFF operation by relay signal. • Wiring example CN73 Relay (procured locally) EXCT (2P plug: RED) Indoor control P.C.board	Relay wiring (local supply)	4-3-4
5	Remote sensor (TCB-TC21LE)	Air temperature sensing at a distance. Remote sensor Remote controller (Master) Terminal block for remote controller cable AIB Indoor unit [NOTE] Don't change TA sensor to remote controller sensor by item code (DN) setting.	Remote sensor (TCB-TC21LE)	4-3-5

1-6 Application controls of outdoor unit

No	Control name	Function	Setting method	Reference No.
1	Outdoor fan high static pressure shift	Increase outdoor fan speed so that a duct with the maximum outside static pressure 35Pa can be installed.	Switch setting on	4-4-1
2	Cooling priority, heating priority control	Cooling priority or heating priority can be selected. (Setup at shipment : heating priority)	P.C. board	4-4-2
3	Specific indoor unit priority control	Only one indoor unit can be set to priority for changeover operation mode.	Switch setting on outdoor interface P.C. board + Item code (DN) setting from wired remote controller	4-4-3

1-7 Application controls by optional P.C. board of outdoor unit

Model name	Appearance		Fur	nction		Reference No.	
	Size : 71 x 85 (mm)	 [1] Power peak Feature The upper limit cap cut request signal f Function Two type control ca the header outdoor 	-cut Control bacity of the outdoo from outside. an be selected by s r unit. TCB-PCDM2E ON O COM O OFF O COM O	r unit is restricted b etting SW07 on the Local Supply SW1	eased on the power peak		
TCB-PCDM2E	Application	[Standard function SW07-2 OFF	on] out SW02 OFF ON	SW0 OFF 0% (stop) 100% (Normal)	07-1 ON Up to 60% 100% (Normal)	4-5-1	
	 Place this optional P.C. board to inverter assembly of the header outdoor unit. 	Expansion function SW07-2 ON Inj SW01 OFF ON OFF ON OFF ON OFF ON On OFF ON	out SW02 OFF OFF ON ON	SW0 OFF 100% (Normal) Up to 80% Up to 60% 0% (stop) act for each termin erminal simultaneo	07-1 ON 100% (Normal) Up to 85% Up to 75% Up to 60%		

Model name	Appearance	Function			Reference No.
	• Place this optional PC.	[2] Snowfall fa	erated with the snov CB-PCMO2E COM o boling o de select input (sw Input signal OFF ON OFF OFF ducted when input	Vfall signal from outside. Local Supply SMC itch) Operation Snowfall fan control (Operates outdoor fan.) Usual operation (Releases control) Signal stand up and fall down.	A-5-2
TCB-PCM02	board to inverter assembly of the header outdoor unit.	(Standing and falli [3] External ma • Feature The outdoor unit s • Function T Ca He SMC : Input signal SMH : Input signal Terminal SMC SMC - Be sure to prepa This control is con (Standing and falli	aster ON/OFF aster ON/OFF tarts or stops the s CB-PCMO2E COM o- boling o- bo	E control ystem. Local Supply SMC SMC SMH Operation Starts all indoor units. Stops all indoor units. tinuous point of contact for each terminal signal stand up or fall down. a held for 100 mm.sec. or more.)	4-5-3

Model name	Appearance	Function		
	Size : 55.5 x 60 (mm)	 [4] Night operation (Sound reduction) control Feature Sound level can be reduced with connecting outdoor E-parts by restricting compressor and fan speed. Function TCB-PCMO2E Local Supply COM o Cooling o SMC 		
		SMC : Cooling mode designated input switch		
		Terminal Input signal Operation	4-5-4	
		ON Night operation (sound reduction) COFF		
		ON OFF Usual Operation		
3-PCMO2E	a place this optional P.C. board to inverter assembly of the header outdoor unit.	This control is conducted when input signal stand up or fall down. (Standing and falling status should be held for 100 mm.sec or more.)		
TCB-I		[5] Operation mode selection control Feature This control can be operated with the operation mode which is permitted by SMC or SMH. Function TCB-PCMO1E Local Supply Cooling 0 SMC Heating 0 SMH SMC : Cooling mode designated input switch SMH : Heating mode designated input switch SMH : Heating mode designated input switch SMC ON OFF Only cooling mode Permitted OFF ON Only heating mode Description Be sure to prepare non-voltage continuous point of contact for each terminal.	4-5-5	

1-8 Application controls by optional devices connected to indoor unit

[1] Remote location ON/OFF control box

Model name	Appearance	Features	Reference No.	
	and the second s	• Start and stop of air conditioner is possible by the external signal, and also indication of operation/ alarm to outside is possible.	1e /	
- 4	Application	Function		
TCB-IFCB.	Operation	 Monitoring ON/OFF status (for indoor unit) Alarm status (system & indoor unit stop) ON/OFF command Air conditioner can be turned ON/OFF by the external signals. The external ON/OFF signals are output for the signals below. 	4-6-1	

[2] Network adapter



Model Reference Appearance **Features** name No. • Link adapter for "1:1 model" into VRF system network 1:1 model : Super digital inverter Digital inverter Place optional P.C. board in E-parts of indoor unit. **Connection of cables** Central control devices H Indoor unit Indoor unit Indoor unit U3 U4 Indoor control P.C.board Indoor control P.C.boar Indoor control P.C.boar Adapto AB ΑB AB TCB-PCNT30TLE Application Remote controlle Central Remote Controller TCB-SC642TLE 4-6-3 Super MMS control wiring 1:1 model connection interface Wiring diagram of indoor P.C. board Indoor units U3U4 Connecting terminal block Digital Inverter Super Digital Inverter BLU BLU 1 2 1 2 Outdoor unit CN40 (BIU) WHI CN50 (WHI) CN51 (RED) 1 1 1 RED RED 2 2 22 Indoor control P.C.board adapte 3 3 3 RED RED 4 4 4 5 5

[3] "1:1 model" connection interface

1-9 Application control for network (Tentative)

1-9-1 Touch screen controller system



1-9-2 LONWORKS

System diagram	Model	Reference N o .
<image/> <image/> <text><text><text><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></text></text></text>	 LON Gateway TCB-IFLN**** "1 : 1 model" connection interface TCB-PCNT30TLE RAV-SM560KRT-E, SM800KRT-E are not available <indoor remote<br="">controller></indoor> Wired remote controller RBC-AMT21E or Simple remote controller RBC-AS21E 	4-7-2

1-9-3 Windows based central controller



1-9-4 BACnet

System diagram	Model	Reference N o .
BAC net center Local server TCS-Net Guper MMS Guper MMS Guper MMS TCS-Net Guper MMS TCS-Net Guper MMS TI TOSHIBA Digital Inverter System and Super Digital Inverter System The local server shall be connected under the BACnet network, and shall be connected the Super HRM and Super MMS system through the interface.	 BACnet local server BMS-LSV***** TCS-Net Relay Interface BMS-IFLSV1E "1 : 1 model" connection interface TCB-PCNT30TLE RAV-SM560KRT-E, SM800KRT-E are not available <indoor remote<br="">controller></indoor> Wired remote controller RBC-AMT21E Simple remote controller RBC-AS21E 	4-7-4

(Note) For "1-9-1" to "1-9-4", details of specification were not available at the time of publication. For further information (set up, adjustment), consult the sales subsidiary.

2

SYSTEM WIRING DIAGRAM AND CONTROL WIRING METHOD

- 2-1 Applicable model and connectable units
- 2-2 System wiring diagram
 2-2-1 For VRF system only
 2-2-2 For combined system with "1:1model"
- 2-3 Design of control wiring
- 2-4 Earth method of shield wiring2-4-1 For VRF system only2-4-2 For combined system with "1:1model"
- 2-5 General requirement for control wiring

2-1 Applicable model and connectable units

1) Applicable model

VRF system Super modular multi system (Super MMS)

- Super heat recovery multi system (Super HRM)
- 1:1 model Super digital inverter, Digital inverter

2) The number of connectable units

[1] For only VRF system

	Connected unit	No. of units	Note
1	Outdoor unit (Header unit)	Up to 16 units	
2	Outdoor unit (Follower unit)	Up to 3 units	In the same refrigerant system
3	Indoor unit	Up to 64 units	 Max 64 units in case of group control* Max. 48 units for one refrigerant system
4	Group control for indoor units	Up to 8 units	
5	Central control device	Up to 10 units	Central remote controller

* Follower indoor unit in a group control must be counted as one indoor unit.

[2] For combined system with Digital Inverter / Super Digital Inverter

	Connected unit	No. of units	Note
1	Outdoor unit (Header unit for VRF system)	Up to 16 units	
2	Outdoor unit (Follower unit for VRF system)	Up to 3 units	In the same refrigerant system
3	Indoor unit	Up to 64 units	 Max. 64 units for total number of indoor units for both system. * For 1:1 model, follower indoor units of twin control and group control must not be counted. * For VRF system, Max. 48 indoor units in one refrigerant system.
4	Group control for indoor units	Up to 8 units	
5	Central control device	Up to 10 units	Central remote controller

* Max. 64 refrigerant system can be controlled for total number of VRF system and 1:1 model.

(However, for VRF system, up to 16 refrigerant system can be connectable.)

* "1:1 model" connection interface is connected to the indoor unit of 1:1 model.









- 1. All control wiring is 2-core and non-polarity wire.
- 2. Be sure to use shield wire for the following wiring to prevent noise trouble.
- Outdoor-outdoor / indoor-indoor / outdoor-indoor control wiring, Central control wiring.



2-4 Earth method of shield wiring

2-4-1 For VRF system only



the functional grounding at only one end of central control wiring. (Leave the other end of the wire at its final

termination as an open wire.)



2-4-2 For combined system with "1:1 model"

2-5 General requirement for control wiring

- 1) Separate control wiring from power source line to prevent malfunction.
- 2) 50mm or more must be needed from the power source line of air conditioner.
- 3) 300mm or more must be needed from other power source.
- 4) Be sure to perform the functional grounding for the end of the shield wires which are connected to both indoor and outdoor units.
- 5) Control wiring and power source line should not be wired on the same multiple core cable.



6) Don't wire two or more control wires on the same multiple core cable.



7) When the high harmonic devices exit near the air conditioner, place the air conditioner 3m or more far from these devices.



3

ADDRESS SETUP

- 3-1 Definition of address
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 - 3-2-11 Indoor address change example (Super-digital inverter and digital inverter)

3-1 Definition of address

Indoor unit address

• <u>"Indoor unit address" is to make outdoor unit recognize an individual indoor unit.</u> This indoor unit address is allocated to every indoor unit one by one for every refrigerant system.



Group address

• "Group address" is the address to recognize group control and decide the header indoor unit and the follower indoor unit.

Group address and header indoor unit is decided automatically when automatic address setting is performed. (Which indoor unit becomes the header unit is indefinite when automatic address setting is performed.)

Indoor unit on individual control: Group address = 0 (at shipment)Header indoor unit of group control: Group address = 1

Follower indoor unit of group control : Group address = 2



Line address (System address)

• "Line address" is the address with which line (refrigerant system) indoor units are connected. This line address is set by switch setting on interface P.C. board of the header outdoor unit.



Central control address

• "Central control address" is to make central control devices recognize each indoor unit.

This address can be set from central control devices automatically or manually.

In case of group control on VRF system, one central control address is allocated to each indoor unit in a group control.


Zone address (Zone No.)

• <u>"Zone address" is to be set when the central remote controller is used for each zone.</u> Zone address is set by switch setting on central remote controller.

Central remote controller can divide all indoor units into max. 4 zone. The zone to which the indoor unit belongs is decided by its central control address.

Central control address	Zone No.
1 to 16	Zone 1
17 to 32	Zone 2
33 to 48	Zone 3
49 to 64	Zone 4



* RC: Remote controller

3-2 Address setup procedure

In this air conditioner, it is required to set up address to the indoor unit before starting operation. Set up the address according to the following setup procedure.

CAUTIONS

- 1. Set up address after wiring work.
- Be sure to turn on the power in order of indoor unit → outdoor unit. If turning on the power in the reverse order, a check code [E19] (Error of No. of header units) is output. When a check code is output, turn on the power again.
- 3. It requires maximum 10 minutes (Usually, approx. 5 minutes) to set up automatically an address to 1 line.
- 4. To set up an address automatically, the setup at outdoor side is necessary. (Address setup cannot be performed by power-ON only.)
- 5. To set up an address, it is unnecessary to operate the air conditioner.

6. Manual address setup is also available besides automatic setup.
 Automatic address : Setup from SW15 on the interface P.C. board of the header unit
 Manual address : Setup from the wired remote controller

* It is temporarily necessary to set the indoor unit and wired to 1 by 1. (In group operation and in time without remote controller)

Address setting flow



3-2-1 Check at main power-ON

After turning on the main power of the indoor units and outdoor unit in the refrigerant system to be executed with a test operation, check the following items in each outdoor and indoor unit.

(After turning on the main power, be sure to check in order of indoor unit \rightarrow outdoor unit.)

<Check on outdoor unit>

- 1. Check that all the rotary switches, SW01, SW02, and SW03 on the interface P.C. board of the header outdoor unit are set up to "1".
- 2. If other error code is displayed on 7-segment [B], remove the cause of trouble.
- 3. Check that [L08] is displayed on 7-segment display [B] on the interface P.C. board of the header outdoor unit. (L08: Indoor address unset up)

(If the address setup operation has already finished in service time, etc, the above check code is not displayed, and only [U1] is displayed on 7-segment display [A].)



<Check on indoor unit>

 Display check on remote controller (In case of wired remote controller) Check that a frame as shown in the following left figure is displayed on LC display section of the remote controller.



If a frame is not displayed as shown in the above right figure, the power of the remote controller is not normally turned on. Therefore check the following items.

- Check power supply of indoor unit.
- Check wiring between indoor unit and remote controller.
- Check whether there is cutoff of cable around the indoor control P.C. board or not, and check connection failure of connectors.
- Check failure of transformer for the indoor microcomputer.
- Check indoor control P.C. board failure.

3-2-2 Automatic address setup

Without central control : To the address setup procedure 1 : To the address setup procedure 2 With central control

(However, go to the procedure 1 when the central control is performed in a single refrigerant system.)

(Example)	In case of central control in a single refrigerant system	In case of central control over refrigerant systems			
Address setup proce- dure	To procedure 1	To procedure 2			
Cable systematic diagram	Outdoor Central control remote controller Indoor Indoor Indoor Indoor Remote controller Remote controller	Outdoor Indoor Remote controller Remote controller Remote controller			

Address setup procedure 1

- 1. Turn on power of indoor/outdoor units. (In order of indoor \rightarrow Outdoor)
- 2. After approx. 1 minute, check that U. 1. L08 (U. 1. flash) is displayed in 7-segment display section on the interface P.C. board of the header outdoor unit.
- 3. Push SW15 and start setup the automatic address. (Max. 10 minutes for 1 refrigerant system (Usually, approx. 5 minutes))
- 4. When the count Auto $1 \rightarrow$ Auto $2 \rightarrow$ Auto 3 is displayed in 7-segment display section, and it changes from U. 1. - - - (U. 1. flash) to U. 1. - - - (U. 1. light), the setup finished.
- 5. When perform a central control, connect a relay connector between [U1, U2] and [U3, U4] terminals in the header unit.

REQUIREMENT

- When a group control is performed over the multiple refrigerant systems, be sure to turn on the power supplies of all the indoor units connected in a group in the time of address setup.
- If turning on the power for each refrigerant system to set up address, a header indoor unit is set for each line. Therefore, an alarm code "L03" (Duplicated indoor header units) is output in operation after address setup. In this case, change the group address from the wired remote controller so that only one header indoor unit is set up.



Header unit interface P.C. board \bigcirc

6

U3 U4

For wiring of central control system

Ø

3

2,4

115 116

For internal

wiring betwee outdoor units

 \bigcirc

SW04 SW05 SW15

8 8

D600 D601 D602 D603 D604

SW01 SW02 SW03

Ø

 \bigcirc

8

Φ

5

∻

Ο

For internal

viring betw ndoor and outdoor

Address setup procedure 2

- 1. Using SW13 and 14 on the interface P.C. board of the header outdoor unit in each system, set up the line (system) address for each system. (At shipment from factory: Set to Address 1)
- Note) Be careful not to duplicate with other refrigerant system.

Header outdoor unit interface P.C. board SW06 SW07 SW08 SW09 SW10

SW13 SW14 l ine address 1 2 3 4 1 2 3 4 1 × × × × × 2 × 0 × × × 3 0 × x × × 0 0 4 × x × 5 × 0 × × × 6 Ο Ο × × × 7 × × Ο Ο × 8 × Ο Ο Ο × 9 × X × х Ο 10 0 Ο × × × 11 × x Ο x 0 12 × Ο Ο × Ο 13 × X × Ο Ο 0 14 × × Ο Ο

e P.C. board		()	O: Sv	vitch	ON, X : Switch OFF)			
Line		SN	/13			SW	/14	
address	1	2	3	4	1	2	3	4
15				×	×	0	0	0
16				×	0	0	0	0
17				0	×	×	×	×
18				0	0	×	×	×
19				0	×	0	×	×
20				0	0	0	×	×
21				0	×	×	0	×
22				0	0	×	0	×
23				0	×	0	0	×
24				0	0	0	0	×
25				0	×	×	×	0
26				Ó	Ó	×	×	Ö
27				0	×	0	×	0
28				0	0	0	×	Ö

Line (system) address switch on outdoor interfac

: Is not used for setup of line address. (Do not change setup.)

- 2. Check that the relay connectors between [U1U2] and [U3U4] terminals are disconnected in all the header outdoor units to which the central control is connected. (At shipment from factory: No connection of connector)
- 3. Turn on power of indoor/outdoor. (In order of indoor \rightarrow outdoor)
- 4. After approx. 1 minute, check that 7-segment display is U.1.L08 (U.1. flash) on the interface P.C. board of the header outdoor unit.
- 5. Push SW15 and start setup the automatic address. (Max. 10 minutes for 1 refrigerant system (Usually, approx. 5 minutes))
- 6. When the count | Auto 1 \rightarrow Auto 2 \rightarrow Auto 3 | is displayed in 7-segment display section, and it changes from U. 1. - - - (U. 1. flash) to U. 1. - - - (U. 1. light), the setup finished.
- 7. Procedure 4. to 6. are repeated in other refrigerant systems.
- 8. How to set up terminator resistor (SW30)

When all the address setups have finished in the same refrigerant system, put the terminator resistor (SW30) in the same central control line into one.

- Remain only SW30-2 of the header outdoor unit with the least line address number as it is ON. (With terminator resistor)
- Set up SW30-2 of the other header outdoor units to OFF. (Without terminator resistor)
- 9. Connect the relay connector between [U1U2] and [U3U4] of the header outdoor unit for each refrigerant system.





10. Then set up the central control address.

(For the central control address setup, refer to the installation manual of the central control devices.)

	1			2	3			
Before address setup during setup of address	Header unit U3U4 V U1U2 U5U6 F U1U2 U5U6 F U1U2 U5U6 F Controller Individ	Follower unit	Header U3U4 U1U2 U5U6 U1U2 U5U6 U1U2 U5U6 U1U2 U5U6 U1U2 U5U6 U1U2 U5U6 Controller Group	unit Follower unit U3U4 U1U2 U5U6	Header unit			
After address setup Relaconne	Header unit U3U4 Swao U1U2 U5U6 A Remote controller Individu	Follower unit	Header Header U3U4 Swao Swao Soff U1U2 U5U6 Header Header Swao Coff Header U1U2 Header Header Coff Remote Controller Group	Unit Follower unit	Header unit			
Outdoor interface P.C. board	Header unit	Follower unit	Header unit	Follower unit	Header unit	Setup at shipment from factory		
SW13, 14 (Line address)	1	(Setup is unnecessary.)	2	(Setup is unnecessary.)	3	1		
SW30-2 Terminator resistor of indoor/outdoor communi- cation line/central control communication line	ON	(Setup is unnecessary.)	OFF after address setup	(Setup is unnecessary.)	OFF after address setup	ON		
Relay connector	Connect short after address setup	Open	Connect short after address setup	Open	Connect short after address setup	Open		
Indoor side (Automa	ndoor side (Automatic setup)							
Line address	1	1	2	2	3			
Indoor unit address	1	2	1	2	1			
Group address	0	0	1	2	0			
Point								
	Relay connector — NOTE —							

Never connect a relay connector until address setup for all the refrigerant systems finishes; otherwise address cannot be correctly set up.

3-2-3 Manual address setup from remote controller

In case to decide an address of the indoor unit prior to finish of indoor cabling work and unpracticed outdoor cabling work (Manual setup from remote controller)

Arrange one indoor unit and one remote controller set to 1 by 1.

Turn on the power.

(Wiring example in 2 systems)



In the above example, under condition of no inter-unit wire of the remote controller, set the address after individual connecting of the wired remote controller.

Group address

Individual	: 0000	
Header unit	:0001	
Follower unit	: 0002	In case of group control

Operation procedure



1 Push simultaneously $SET + CL + \mathcal{F}$ buttons for 4 seconds or more.

LCD changes to flashing.

(Line address)

- $m{2}$ Using the setup temp. igsquare / (\bullet buttons, set $\frac{1}{2}$ to the item code.
- **3** Using the timer time $\boxed{}$ / $\boxed{}$ buttons, set up the line address.

(Match it with the line address on the interface P.C. board of the header unit in the identical refrigerant system.)

4 Push (SET) button.

(OK when display goes on.)

(Indoor address)

- **5** Using the setup temp. buttons, set 13 to the item code.
- **6** Using the timer time \frown / \frown buttons, set up the indoor address.
- **7** Push (SET) button.

(OK when display goes on.)

(Group address)

- **8** Using the setup temp. \mathbf{T} buttons, set 14 to the item code.
- **9** Using the timer time I = 1 buttons, set Individual = 0000, Header unit = 0001, Follower unit = 0002.
- **10** Push SET button.

(OK when display goes on.)

11 Push 🔊 button.

Setup operation finished. (Status returns to normal stop status.)

Item code

Note 1)

When setting the line address from the remote controller, do not use address 29 and 30.

The address 29 and 30 cannot be set up in the outdoor unit. Therefore if they are incorrectly set up, a check code [E04] (Indoor/outdoor communication circuit error) is output.

3-2-4 Confirmation of indoor unit address and position by using the remote controller

[Confirmation of indoor unit address and the position]

1. When you want to know the indoor address though position of the indoor unit itself can be recognized;

<Procedure> (Operation while the air conditioner operates)

- 1 If it stops, push 😳 🕖 button.
- **2** Push UNIT button.

The unit NO *1- 1* is displayed on the LCD. (Disappears after several seconds) The displayed unit No indicates the line address and indoor address. (If there is other indoor unit connected to the same remote controller (Group control unit), other unit No is displayed every pushing UNIT button.)



2. When you want to know position of the indoor unit using the address

- To confirm the unit numbers in a group control;
- <Procedure> (Operation while the air conditioner stops)

The indoor unit numbers in a group control are successively displayed, and the corresponding indoor fan is turned on. (Operation while the air conditioner stops)

- 1 Push € + → buttons simultaneously for 4 seconds or more.
 - Unit No RLL is displayed.
 - The fans of all the indoor units in a group control are turned on.
- 2 Every pushing UNIT button, the indoor unit numbers in the group control are successively displayed.
 - The firstly displayed unit No indicates the address of the header unit.
 - Only fan of the selected indoor unit is turned on.
- **3** Push D button to finish the procedure. All the indoor units in group control stop.



• To confirm all the unit numbers from an arbitrary wired remote controller;

<Procedure> (Operation while the air conditioner stops)

The indoor unit No and position in the same refrigerant piping can be confirmed. An outdoor unit is selected, the indoor unit numbers in the same refrigerant piping are successively displayed, and then its indoor unit fan is turned on.

1 Push the timer time \bigcirc + \checkmark buttons simultaneously for 4 seconds or more.

Firstly, the line 1, item code AL (Address Change) is displayed. (Select outdoor unit.)

- 2 Using UNIT + To buttons, select the line address.
- **3** Using **SET** button, determine the selected line address.
 - The indoor unit address, which is connected to the refrigerant pipe of the selected outdoor unit is displayed and the fan is turned on.
- 4 Every pushing UNIT button, the indoor unit numbers in the identical pipe are successively displayed.
 - Only fan of the selected indoor unit operates.
- [To select another line address]
- **5** Push \bigcirc button to return to procedure **2**.
 - The indoor address of another line can be successively confirmed.
- **\boldsymbol{6}** Push \nearrow button to finish the procedure.



Operation procedure

 $\begin{array}{c} 1 \rightarrow 2 \rightarrow 3 \rightarrow \\ 4 \rightarrow 5 \rightarrow 6 \quad \text{End} \end{array}$

3-2-5 Change of indoor address from remote controller

Change of indoor address from wired remote controller

 To change the indoor address in individual operation (Wired remote controller : Indoor unit = 1 : 1) or group control (When the setup operation with automatic address has finished, this change is available.)
 Procedures (Operation while air conditioner stops)

<Procedure> (Operation while air conditioner stops)

1 Push simultaneously SET + CL + buttons for 4 seconds or more. (The firstly displayed unit No indicates the header unit in group control.)

- **2** In group control, select an indoor unit No to be changed by UNIT button. (The fan of the selected indoor unit is turned on.)
- **3** Using the setup temp. I buttons, set *[*] to the item code.
- 4 Using the timer time ▲ / ▼ buttons, change the displayed setup data to a data which you want to change.
- **5** Push **SET** button.
- **6** Using the UNIT button, select the unit No. to be changed at the next time. Repeat the procedure **4** to **6** and change the indoor address so that it is not duplicated.
- 7 After the above change, push UNIT button to confirm the changed contents.



Operation procedure $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow$ $5 \rightarrow 6 \rightarrow 7 \rightarrow 8$ End

• To change all the indoor addresses from an arbitrary wired remote controller;

(When the setup operation with automatic address has finished, this change is available.)

Contents : Using an arbitrary wired remote controller, the indoor unit address can be changed for each same refrigerant system

* Change the address in the address check/change mode.

<Procedure> (Operation while air conditioner stops)

- **1** Push the timer time $\overline{\bullet}$ + \mathcal{F} buttons simultaneously for 4 seconds or more. Firstly, the line 1, item code **#**[(Address Change) is displayed.
- **2** Using UNIT + T buttons, select the line address.

3 Push (SET) button.

• The indoor unit address, which is connected to the refrigerant system of the selected outdoor unit is displayed and the fan is turned on.

First the current indoor address is displayed on the setup data. (Line address is not displayed.)

- **4** The indoor address of the setup data moves up/down by the timer time () / buttons. Change the setup data to a new address.
- **5** Push $\overline{\text{SET}}$ button to determine the setup data.
- **6** Every pushing (UNIT) button, the indoor unit numbers in the identical pipe are successively displayed. Only fan of the selected indoor unit operates.

Repeat the procedure **4** to **6** and change all the indoor addresses so that they are not duplicated.

7 Push (SET) button. (All the displays on LCD go on.)

 $\boldsymbol{\mathcal{B}}$ Push $\boldsymbol{\mathcal{F}}$ button to finish the procedure.





Here, if the unit No is not called up, the outdoor unit in this line does not exist.

Push (CL) button, and then select a line according to procedure 2.



3-2-6 Address setup example (VRF system)

[Automatic address / Manual address setup example]

Individual control



Automatio	c address setting	Avai	able	Avai	lable	Avai	able
Outdoor	Line address	1		1		1	
Configura	ation	Outdoor Indoor Receiver unit Ma Wireless RC.	Indoor Ster Master	Outdoor Indoor Receiver unit Ma Wireless RC.	$\frac{1}{2}$	Outdoor	Indoor Side RC Master
	Line address	1	1	1	1	1	1
Indoor	Indoor unit address	1	2	1	2	1	2
	Group address	0	0	0	0	0	0

Group control

Automatic	address setting	Avai	lable	Avai	lable	Avai	lable
Outdoor	Line address		1		1		1
Configura	tion	Outdoor Indoor RC Master	Indoor 4	Outdoor Indoor Re Wi	Indoor ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Outdoor Indoor RC Master	Indoor Receiver unit (Side) Wireless RC.
	Line address	1	1	1	1	1	1
Indoor	Indoor unit address	1	2	1	2	1	2
	Group address	1	2	1	2	1	2

Central control (Multiple refrigerant systems)

Automatic			Avail	able				Avai	lable		
Outdoor	Line address	ss 1			2			1		2	
Configurat	ion	Ce rer con	Indoor RC Master	tividual ontrol Indoor RC Master	Outdoor Indoor RC Master	ividual ontrol Indoc RC Maste	or	Central remote controller Out	door Group control loor Indoor	Outdoor Grou Cont Indoor RC Master	Ip rol Indoor
	Line address	1		1	2	i	2	1	1	2	2
Indoor	Indoor unit address	1	1	2	1	1	2	1	2	1	2
	Group address	0		0	0		0	1	2	1	2

Group control over other refrigerant systems

Automatio	c address setting			A۱	/ailable (*	1)		
Outdoor	Line address		1		2		1	
Configura	tion	Outdoo Indoor RC Maste	r Indoor	Outdoor	Indoor	Indoor	Outdoor Indoor In	door
	Line address	1	1	2	2	2	3	3
Indoor	Indoor unit address	1	2	1	2	3	1	2
	Group address	1	2	2	2	2	2	2
	Group address	1	2	1 → 2*	2	2	1 → 2*	2

*1

In case of group control over refrigerant systems, automatic address setting is available only when all indoor units connected to a group control are turned on during address setting.

If an automatic address setting is conducted under condition of power-ON only in the refrigerant system in which address set up, it will cause the error code "L03" (Duplicated indoor header units) because indoor header units exit for each refrigerant system. In this case, change the group address by the wired remote controller so that only one indoor unit becomes the header unit in one group control.

Automatio	c address setting		Available (*1)						
Outdoor	Line address		1		2		1		
Configura	tion	Outd Inde	oor hoor Indoo Master	Outdoor r Indoor RC.	Indoor	Indoor	Outdoor Indoor	Indoor	
	Line address	1	1	2	2	2	3	3	
Indoor	Indoor unit address	1	2	1	2	3	1	2	
	Group address	1	2	2	2	2	2	2	
	Group address	1	2	1 → 2*	2	2	1 → 2*	2	

→ It is necessary to change the group address as marked with * when an automatic address setting is conducted under condition of power-ON only in the refrigerant system in which address set up.

*1

In case of group control over refrigerant systems, automatic address setting is available only when all indoor units connected to a group control are turned on during address setting.

If an automatic address setting is conducted under condition of power-ON only in the refrigerant system in which address set up, it will cause the error code "L03" (Duplicated indoor header units) because indoor header units exit for each refrigerant system. In this case, change the group address by the wired remote controller so that only one indoor unit becomes the header unit in one group control.

→ It is necessary to change the group address as marked with * when an automatic address setting is conducted under condition of power-ON only in the refrigerant system in which address set up.

3-2-7 Clearance of address (Return to status (Address undecided) at shipment from factory)

Method 1

An address is individually cleared from a wired remote controller.

"0099" is set up to line address, indoor address, and group address data from the remote controller.

(For the setup procedure, refer to the abovementioned address setup from the remote controller.)

Method 2

Clear the indoor addresses in the same refrigerant line from the outdoor unit.

- 1. Turn off the power of the refrigerant system to be returned to the status at shipment, and change the header outdoor unit to the following status.
 - Remove the relay connector between [U1U2] and [U3U4]. (If it has been already removed, leave it as it is.)
 - 2) Turn on SW30-2 on the interface P.C. board of the header outdoor unit if it is ON. (If it has been already ON, leave it as it is.)



2. Turn on the indoor/outdoor power of which address is to be cleared. After approx. 1 minute, check that "U.1. - - -" is displayed, and then execute the following operation on the interface P.C. board of the header outdoor unit of which address is to be cleared in the refrigerant system.

SW01	SW02	SW03	SW04	Address which can be cleared
2	1	2	After checking that "A.d.buS" is displayed on 7-degment display, and then push SW04 for 5 seconds or more.	Line + Indoor + Group address
2	2	2	After checking that "A.d.nEt" is displayed on 7-degment display, and then push SW04 for 5 seconds or more.	Central control address

- 3. After "A.d. c.L." has been displayed on 7-degment display, return SW01/SW02/SW03 to 1/1/1.
- 4. When the address clearing has correctly finished, "U.1.L08" is displayed on 7-degment display after a while. If "A.d. n.G." is displayed on 7-degment display, there is a possibility which is connected with the other refrigerant system. Check again the relay connector between [U1U2] and [U3U4] terminals.
 - **NOTE)** Be careful that the other line address may be also cleared if clearing operation is not correctly executed.
- 5. After clearing of the address, set up an address again.

3-2-8 In case of increase the address-undefined indoor units (Extension, etc.)

If set up the indoor address of which address is undefined accompanied with extension of indoor units, replacement of P.C. board, etc, follow to the methods below.

Method 1

Set up an address individually from a wired remote controller.

(Line address, Indoor address, Group address, Central control address)

For the setup method, refer to the above "Manual address setup from remote controller".

Method 2

Set up an address from the outdoor unit.

* Leave the address of the unit of which address has been already set up as it is. Set up an address only to the unit of which address is undefined.

The addresses are allocated from the low number.

Setup procedure

Arrange the outdoor header units in the refrigerant line to which indoor units are added. (Figure below)

- 1. Remove the relay connector between [U1U2] and [U3U4].
- 2. Turn on SW30-2 on the interface P.C. board at outdoor header unit side if it is ON.
 - * Turn off the power, and then execute the operation.



- Turn on the indoor/outdoor power of which address is to be set up. After approx. 1 minute, check that "U.1.---" is displayed on 7-segment display.
- 4. Execute the following operation on the interface P.C. board of the header outdoor unit.

SW01	SW02	SW03	SW04
2	14	2	After checking that "In.At" is displayed on 7-segment display, and then push SW04 for 5 seconds or more.

"AUTO1" \rightarrow "AUTO2" \rightarrow "AUTO3" ... is counted and displayed on 7-degment display.

- 5. When "U.1. - -" is displayed on 7-segment display, the setup operation finished. Turn off the indoor/outdoor power.
- 6. Return the following setup as before.
 - Relay connector
 - SW30-2
 - SW01, 02, 03

3-2-9 How to set central control address

(Note)

- 1) Perform after the setting of indoor and outdoor unit address (Indoor/group/line address).
- 2) Three setting address method can be selected.
 - ① Manual setting from wired main remote controller (RBC-AMT21E)
 - ② Manual setting from central control remote controller (TCB-SC642TLE)
 - ③ Automatic setting from central remote controller (TCB-SC642TLE)

REQUIREMENT

- Be sure to reconfirm the following status for all header outdoor units before the central control address setting.
 [1] Check that the relay connectors between [U1,U2] and [U3,U4] terminals are disconnected in all header outdoor units to which the central control is connected.
 - (At the shipment from factory : No connection of connector)
 - [2] SW30-2 should be OFF in all header unit except the header unit with the least line address number. (At the shipment from factory : Set to ON)
- Correct address setting can't be conducted without the setting status above mentioned.
- The procedure above mentioned should be conducted after address setting of all indoor and outdoor units.









Interface P.C. board on the outdoor unit.

Flow chart of setting central control address



3-2-10 Address re-setup for central control of the super-digital inverter and the digital inverter

POINT 1

When controlling the super-digital inverter and the digital inverter, the adaptor named "1:1 model" connection interface (TCB-PCNT30TLE) is necessary.

1. Cabling connection of control wiring

Attach an adaptor per 1 group in group control operation (including individual control). Connect the adaptor to the header indoor unit in the group control. (For details, see **POINT 3**.)



2. Cabling connection diagram with indoor control P.C. board

• For details, refer to Installation Manual.



- Parts included in the single-point chain line are optional accessories.
- There is non-polarity on the cables connected to U3 and U4 terminals.

POINT 2

After automatic address setup, it is necessary to change the line address from the wired remote controller for each system. (Manual re-setup)

Reason : After automatic address setup, all the line addresses become "1" except a group control and then a duplicated address error "E08" is output.



- Set up a line address for each refrigerant system.
- Set up a line address so that it is not duplicated with other systems. (If the central control is conducted with VRF systems, set up a line address so that it is not also duplicated with line address of VRF systems.)
- When performing a central control over 30 systems, the address setup method is necessary to be changed. (including VRF system)

POINT 3

When the central control is performed for indoor units of twin control in a group control, it may be required to change the group address. (Adapter is attached to the header indoor unit.)

Reason : The central control device communicates with individual indoor unit, header indoor unit of the group control, and header indoor unit of twin control. However, as the address is automatically set up, which unit will become the header unit is indefinite. Therefore if the unit attached with adapter would not become the header indoor unit, a central control is unavailable.



How to check group address (Header/Follower indoor unit setup)

* Check the group address after confirming which unit is attached with the adapter.

<Procedure> Operation while air conditioner stops.

1 Push (SET) + (CL) + (F) buttons simultaneously for 4 seconds or more.

2 The indoor unit in which the fan is turned on is the header indoor unit.

\checkmark

Indoor unit in which the fan is turned on = Indoor unit with the adapter : To **Case 1** Indoor unit in which the fan is turned on \neq Indoor unit with the adapter : To **Case 2**

Case 1

(In case that the indoor unit in which the fan is turned on and the unit with the adapter are same)

$m{3}$ As the central control is available, push \nearrow button. (Setup is determined.)

When pushing the *S* button, the display disappears and the status returns to the normal stop status.

(The operation on the remote controller is not accepted for approx. 1 minute after the F button has been pushed.)

If the operation on the remote controller is not accepted for 1 minute or more after *button* has been pushed, an incorrect address setup is considered.

In this case, automatic address is performed again. After approx. 5 minutes or more, and set up again the group address from cprocedure 1>.

Case 2

(In case that the indoor unit in which the fan is turned on and the unit from <procedure 1> with the adapter are different)

As the central control is unavailable, change the address in the following procedure.

<Indoor unit without the adapter : Header indoor unit \rightarrow Follower indoor unit.>

 ${f 3}$ Using the setup temp ${ildsymbol{\square}}$ + ${lowerline{
u}}$ buttons, select Item code 14.

4 Check the setup data is [[[[i]]] | and change the setup data from [[[i]]] | to [[[i]]] | using the timer \frown + \bigcirc buttons.

5 Push the SET button. In this time, the setup has finished if the display changes from flashing to lighting.

<Indoor unit with the adapter : Follower indoor unit \rightarrow Header indoor unit.>

6 Push the UNIT button to turn on the fan of the indoor unit attached with the adaptor.

7 Using the setup temp \frown + \frown buttons, select Item code 14.

- **8** Check the setup data is $\lim_{l \to \infty} \frac{l}{l} = 0$ and change the setup data from $\lim_{l \to \infty} \frac{l}{l} = 0$ buttons.
- **9** Push the SET button.

<Reconfirmation of re-set up>

In this time, the setup has finished if the display changes from flashing to lighting.

10 When the above setup operation has finished, push the UNIT button to select the indoor unit of which setup has been changed. Using the setup temp ▲ + ▼ buttons, specify the Item code 14 and check the changed contents.

Pushing the CL button enables to clear the setup contents until now. (In this case, repeat the procedure from **1**.)

11 Push \nearrow button. (Setup is determined.)

When pushing the \swarrow button, the display disappears and the status returns to the normal stop status. (The operation on the remote controller is not accepted for approx. 1 minute after the \checkmark button has been pushed.)

If the operation on the remote controller is not accepted for 1 minute or more after *S* button has been pushed, an incorrect address setup is considered.

In this case, automatic address is performed again. After approx. 5 minutes or more set up again the group address from cprocedure 1>.

3-2-11 Indoor address change example (Super-digital inverter and digital inverter)

1 In case of central control up to 29 refrigerant systems (including No. of VRF systems)



Change the line address on wired remote controller after automatic address setting.

Automatic address is impossible Set up again an address manually on wired remote controller.

2 In case of central control over 30 refrigerant systems (including No. of VRF systems if any) * Change exercise is some to the above 1 up to 20th refrigerant system

* Change operation is same to the above 1 up to 29th refrigerant system.



Change the line address on wired remote controller after automatic address setting.

Automatic address is impossible. Set up again an address manually on wired remote controller.

4

DETAILS OF APPLICATION CONTROL AND DEVICES

4-1 Remote controller

- 4-1-1 Wired remote controller (RBC-AMT21E)
- 4-1-2 Simple remote controller (RBC-AS21E)
- 4-1-3 Wireless remote controller kit
- 4-1-4 Weekly timer (RBC-EXW21E)
- 4-2 Central remote controller (TCB-SC642TLE)
 - 4-2-1 Outline
 - 4-2-2 Installation procedure
 - 4-2-3 Operation procedure
- 4-3 Application controls of indoor unit
 - 4-3-1 Setup of selecting function in indoor unit
 - 4-3-2 Ventilation fan control from remote controller
 - 4-3-3 Leaving-ON prevention control
 - 4-3-4 Power peak-cut from indoor unit
 - 4-3-5 Remote sensor (TCB-TC21LE)
- **4-4 Application controls of outdoor unit**
 - 4-4-1 Outdoor fan high static pressure shift
 - 4-4-2 Cooling priority, heating priority control
 - 4-4-3 Indoor unit setup in "Specific indoor unit priority control" mode
- 4-5 Application controls by optional P.C. board of outdoor unit
 - 4-5-1 Power peak-cut control
 - 4-5-2 Snowfall fan control
 - 4-5-3 External master ON/OFF control
 - 4-5-4 Night operation control
 - 4-5-5 Operation mode selection control
- 4-6 Application controls by optional devices connected to indoor unit
 - 4-6-1 Remote control by "remote location ON/OFF control box"
 - 4-6-2 Central control by AI-NETWORK (Network adapter)
 - 4-6-3 Central control with "1:1 model" ("1:1 model" connection interface)

4-1 Remote controller

4-1-1 Wired remote controller (RBC-AMT21E)

<Installation Manual>





Requirement for installation of multiple remote controllers

"2 remote controllers" means that one or multiple units are operated by the multiple remote controllers.

(Max. 2 remote controllers can be set.)



How to install

For 2 remote controllers, install the remote controllers in the following procedure.

- 1. Set one of two remote controllers as the master remote controller. (At shipment from factory)
- 2. For the other remote controller, exchange the remote controller address connector of the master to side remote controller on the P.C. board. Under this condition, the other remote controller functions as the side controller.

Basic wiring diagram

NOTE :

Connect cables without miswiring.

(Miswiring breaks the unit.)

In a case to operate an indoor unit from the remote controllers at two positions



In a case to operate a group control of multiple indoor units from the remote controllers at two positions

*Master and Side remote controllers are operable even if they are installed to any indoor unit.



Remote controller test run setup

- 1. When the remote controller is used at the first time, it accepts an operation approx. 5 minutes after the power supply has been turned on. It is not a trouble, but is because the setup of the remote controller is being checked.
- 2. Push :: U key after [TEST] has been displayed on LCD by keeping for button on the remote controller for 4 seconds or more.

During the test run, [TEST] is displayed on LCD.

The temperature cannot be controlled if [TEST] is displayed.

Do not use [TEST] in a case other than a test run, otherwise an excessive load is applied on the machine.

3. Use [TEST] in one of HEAT, COOL, and FAN operation modes.

NOTE : The outdoor unit does not operate for approx. 3 minutes after the power supply has been turned on or the operation has stopped.

4. After the test run has finished, push → button again to check [TEST] on LCD has gone off. (For this remote controller, a release function of 60 minutes timer is provided to prevent continuous test runs.)

Wired remote controller (RBC-AMT21E)

<Operation manual>

Parts Name of Remote Controller

Display section

In the display example, all indicators are displayed for the explanation. In reality only, the selected contents are indicated.

• When turning on the leak breaker at the first time, [SET DATA] flashes on the display part of the remote controller. While this display is flashing, the model is being automatically confirmed. Accordingly, wait for a while after [SET DATA] display has disappeared, and then use the remote controller.



1 SET DATA display

Displayed during setup of the timer.

2 Operation mode select display

The selected operation mode is displayed. A [AUTO] mode is displayed on heat recovery type only.

3 CHECK display

Displayed while the protective device works or a trouble occurs.

4 Timer time display

Time of the timer is displayed. (When a trouble occurs, the check code is displayed.)

5 Timer SETIN setup display

When pushing the Timer SETIN button, the display of the timer is selected in order of [OFF] $\textcircled{D^{}} \rightarrow \textcircled{C}$ [OFF] repeat OFF timer \rightarrow [ON] $\textcircled{D^{}} \rightarrow \textcircled{N}$ of display.

6 Filter display

If "FILTER []]" is displayed, clean the air filter.

7 TEST run display

Displayed during a test run.

Flap position display (for 4-Way Air Discharge Cassette Type and Under Ceiling Type model only) Displays flap position.

9 SWING display Displayed during up/down movement of the flap.

10 Set up temperature display

The selected set up temp. is displayed.

。 (:: し

<u>0,0</u> **%** (T

Display

section

Operation

section

<u>@#0</u>#**\$**

11 Remote controller sensor display

Displayed while the sensor of the remote controller is used.

12 PRE-HEAT display

Displayed when the heating operation starts or defrost operation is carried out.

While this indication is displayed, the indoor fan stops or the mode enters in LOW.

13 Operation ready display

Displayed when cooling operation is unavailable because heating operation is performed.

14 No function display

Displayed if there is no function even if the button is pushed.

15 Air volume select display

The selected air volume mode is displayed.

(AUTO)	A
(HIGH)	5))
(MED.)	5 3
(LOW)	55

In the Concealed Duct High Static Pressure type models, [HIGH] only is displayed for the air speed.

Operation section

Push each button to select a desired operation.

This remote controller can operate the maximum 8 indoor units.

• The details of the operation needs to be set up once, afterward, the air conditioner can be used by pushing (:: ()) button only.



1 Air volume select button

Selects the desired air volume mode. The Concealed Duct High Static Pressure type models cannot be operated.

$m{2}$ Timer set button

TIMER SET button is used when the timer is set up.

3 Check button

The CHECK button is used for the check operation. During normal operation, do not use this button.

4 Fan button

FAN button is used when a fan which is sold on the market or etc. is connected.

 If ⊘ is displayed on the remote controller when pushing the FAN button, a fan is not connected.

5 Filter reset button

Resets (Erases) "FILTER ()" display.

6 UNIT and AUTO flap button

UNIT :

If the multiple indoor units are operated by only one remote controller, select the units when the air direction is adjusted.

Set up the auto swing and angle of the flap.

• This function is not provided to Concealed Duct Standard Type, High Static Pressure Type, Floor standing Cabinet Type, of Floor Standing Concealed Type.

7 Operation lamp

8

Lamp is lit during the operation. Lamp is off when stopped.

Although it flashes when operating the protection device or abnormal time.

:: ரு button

When the button is pushed, the operation starts, and it stops by pushing the button again.

When the operation has stopped, the operation lamp and all the displays disappear.

9 Operation select button

Selects desired operation mode.

10 Set up temperature button

Adjusts the room temperature.

Set the desired set temperature by pushing

▲ or ▼

OPTION :

Remote controller sensor

Usually the TEMP. sensor of the indoor unit senses the temperature. The temperature on the surrounding of the remote controller can also be sensed. For details, contact the dealer from which you have purchased the air conditioner.

• In case that one remote controller controls the multiple indoor units, the setup operation is unavailable in group control.

Correct Usage

When you use the air conditioner for the first time or when you change the SET DATA value, follow the procedure below. From the next time, the operation displayed on the remote controller will start by pushing the

(:: し) button only.

Preparation

Turn on the main power switch and/or the leakage breaker.

- When the power supply is turned on, a partition line is displayed on the display part of the remote controller.
- * After the power supply is turned on, the remote controller does not accept an operation for approx. 1 minute, but it is not a failure.

REQUIREMENT

- While using the air conditioner, operate it only with (:: U) button without turning off the main power switch and the leak breaker.
- Do not turn off the leak breaker while the air conditioner is used.
- Turn on the leak breaker 12 hours or more before start of operation after the air conditioner has stopped for a long time.



- In DRY () mode, "AUTO (A) " is displayed and the air volume is LOW.
- In heating operation, if the room temperature is not heated sufficiently with VOLUME "LOW \$\$" operation, select "MED. \$\$" or "HIGH \$\$" operation.
- The temperature which the temperature sensor detects is one near the air inlet of the indoor unit. Therefore it slightly differs from the room temperature according to the installation status. The setup value is a criterion of the room temperature. (Automatic air speed cannot be selected in FAN mode.)
- Air volume of function is not provided to "Concealed Duct High Static Pressure Type" but air speed "HIGH **\$\$**}" only is displayed.
- **4** Determine the set up temperature by pushing the "TEMP. ▲ " or "TEMP. ▼ " button.

Stop

Push 🔃 🕕 button.

The operation lamp goes off, and the operation stops.

<Installation Manual>



Requirement to install the remote controller

Installation place

Install the remote controller at a position within 1 to 1.5m from the floor, where the average temperature in the room can be felt.

Do not install the remote controller at a place exposed to direct sunlight or direct outside air, such as a side of window, etc.

Do not install the remote controller at a place behind something or rear side of something, where air flow is poor in the room.

Do not install the remote controller in the freezing box or refrigerator because water proof or dropproof is not applied to this remote controller. Be sure to set the remote controller vertically on the wall surface, etc.

How to select the room temp. sensor

The room temperature sensors are equipped in the indoor unit and the remote controller.

One of two sensors works. Usually, the room temperature sensor in the indoor unit is set to work. To select the sensor in the remote controller, turn the remote controller sensor from OFF to ON.

NOTE 1 :

Selecting the sensor in the remote controller is impossible on the side remote controller.

NOTE 2 :

Do not select the sensor in the remote controller when a remote controller sensor is used. (Because it causes a straying.)



How to install the remote controller switch

NOTE 1 :

Avoid to twist the remote controller cable with the power supply cable, etc. or to store them in the same metal pipe, otherwise it causes a malfunction.

NOTE 2 :

Install the remote controller apart from the generation source of noise.

NOTE 3 :

When noise is contained to the power source of the indoor unit, counter measures such as mounting the noise filter is necessary.

In case of using the remote controller as a concealed type



- 1. Inserting a minus screwdriver, etc. into the groove at the lower side of the remote controller body, force open the rear case to remove it.
- Using the attached M4 screws (2 pcs.), fix the rear case of the remote controller. Before installation, press to open the screw hole with a screwdriver, etc.

Fix it with the spacer, but not so strongly. If the remote controller does not fit closely to the wall, adjust it by cutting off the spacer.

- Connect the remote controller cable (2 cores) to the cable from the remote controller body.
 Connect the remote controller cable without miswiring upon confirmation of the terminal numbers of the indoor unit. (If applied AC 220/230/240V, may damage the unit.)
- 4. Install the remote controller body to hooks on the rear case and putting into the hooks.



Requirement for installation of multiple remote controllers

"2 remote controller control" means that one or multiple units are operated by the multiple remote controllers.



How to install

For 2 remote controller control, install the remote controllers in the following procedure.

- Set one of the set multiple remote controllers to the master remote controller. (At shipment from factory)
- For other remote controllers, turn the remote controller address switch on the remote controller P.C. board from OFF to ON. They function as side remote controllers under the above condition.

• Basic cabling diagram

NOTE :

Connect cables without miswiring. (Miswiring breaks the unit.)

In a case to operate an indoor unit from the remote controllers at two positions



In a case to operate a group control of multiple indoor units from the remote controllers at two positions

* Master and side remote controllers are operable even if they are installed to any indoor unit.



Remote controller test run setup

 Push U key after keeping [CHECK] button pushed on the remote controller for 4 seconds or more.

During the test run, "TEST" is displayed on LCD.

The temperature cannot be controlled if [TEST] is displayed. Do not use [TEST] in a case other than a test run, otherwise an excessive load is applied on the machine.

2. Use [TEST] in one of HEAT, COOL, and FAN operation modes.

NOTE :

The outdoor unit does not operate for approx. 3 minutes after the power supply has been turned on or the operation has stopped.

3. After the test run has finished, push [CHECK] button again to check "TEST" on LCD has gone off. (For this remote controller, a release function of 60 minutes timer is provided to prevent consecutive test runs.)

<Operation Manual> (RBC-AS21E)

NAME AND OPERATION

- For Cooling Only type, (A), \circledast and $\widehat{\mathbb{I}}$ are not displayed on LCD.
- Max. 8 indoor units can be operated by a remote controller.
- Once setting the operation items, you can operate the previous condition by pushing ::: button only.





- **1** Fan Speed button
- **2** Operation mode button
- **3** Swing/Air direction button The flap angle is changed.

4 Temperature Setup button

Every pushing $ilde{}$ button, temperature rises by 1°C. Every pushing $extsf{red}$ button, temperature decrease by 1°C.

5 () [Start/Stop] button

- **6** Check button (Used in servicing)
 - Do not use this button usually.

7 Remote control temperature sensor

Usually controlled by the indoor unit sensor, it can be changed to the remote controller. For details, contact the shop which you purchased the air conditioner. (When using a group control method, do not use the remote controller sensor.)

8 Selected mode displays (Heat pump type)

Any one of (A), (A)

 $\textcircled{\sc Automatching}$ [AUTO] mode is displayed on heat recovery type only.



- 9 Selected mode displays (Cooling only type)
 Any one of ◊, or ♣ is displayed.
- **10** TEST is displayed during Test Run.
- 11 ▲ (CHECK) is displayed when the protective device worked or trouble occurred.
- 12 [□] is displayed during the operation. If the remote controller setting is prohibited by the central remote controller, [□] flashes when [Start/Stop], [Operation Select] or [Temp. Setup] button is pushed and change is not accepted.
- **13** The setup temperature is displayed.
- **14** Warning code is displayed when a trouble occurred.
- **15** Selected fan speed, ⊗\$\$, \$\$\$, \$\$\$ or \$\$ displays.
- **16** lis displayed when the remote controller sensor is used.

When turning on the power switch of the simple operation type remote controller at the first time,
 Is displayed, the automatic model check is operating.
 Operate the remote controller after In has disappeared.

HOW TO OPERATE AIR CONDITIONER

COOL/HEAT AUTO, HEAT, DRY, COOL, FAN

1 Power supply

Turn on the power supply of the air conditioner 12 hours before starting the operation.

2 Push (1) button.



3 Push **s** button (*IPP*) to select fan speed.
 When selecting AUTO, fan speed is automatically changed.
 (During FAN mode, the air speed is not.)

4 Push either \bigtriangledown or \bigtriangleup set to Auto.

<Recommended temperature>

• During FAN mode, the temperature cannot be set up.

5 Stop

Push () button.

When stopping the unit by the remote controller, the fan of the outdoor unit, the fan or the outdoor unit may keep operating for a while even if the compressor of the outdoor unit has stopped.

• When the unit cannot be stopped by the remote controller.

Turn off the main power switch or the leakage breaker, and then contact the shop which you purchased the unit.

- In heating, if the room is not enough heated with FAN \$\$, select FAN \$\$ or \$\$.
- As the temperature sensed by the temp. sensor periphery of the suction port of the indoor unit, it differs from in the room according to the installation state. Set the temperature considering the setup value as the standard temperature in the room.

Automatic Cool/Heat

When all indoor units in the identical refrigerant system are controlled as a group and when all indoor units are installed in the same room, the cooling or heating operation is automatically performed with the difference between the setup temperature and the room temperature.

<Installation Manual>



- consider the direction when a panel is installed to the indoor unit. 1. Remove the suction grille.
- Take off the screw fixing the corner cap and remove the corner cap sliding it side-ward. (Fig. 2)



3. The thermal insulation material is stuffed in the square hole provided to pass through cables of the panel, so take off it once and pass the cable out of the sensor of wireless remote controller through the grille. Using a clamp, fix the cable with screws and then be sure to stuff again the removed thermal insulation material as original. (Fig. 3)

If the thermal insulation material is not stuffed, dewing may happen.



 When noise is contained to the power supply of the indoor unit, counter measures such as mounting the noise filter is necessary.



Requirement

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller for an indoor unit.

(Max. 2 remote controllers of wireless or wired are installable.) "2-remote controllers" controlling means that one or multiple units are operated by the multiple remote controllers.

NOTES :

- 1. Upon confirmation of the terminal numbers of the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220/230/240 Volt, damage the unit.)
- The multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
- When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the side remote controller.
- When setting the wired remote controller as the side, exchange the address connector at the rear of P.C. board of wired remote controller from master to side remote controller.
- When setting the wireless remote controller as the side, turn No.3 of DIP switch [S003] on P.C. board of wireless remote controller sensor unit from OFF to ON.

To operate an indoor unit by 2 remote controllers

* The indoor unit is operated if either wireless or wired remote controller is set as master or side remote controller. (Total cable length: Within 400m)



To operate a group control of multiple indoor units by 2 remote controllers

- Master and Sub remote controllers are operable even if they are installed to any indoor unit.
- (Total cable length: Within 200m)



How to set the room temperature sensor

The room temperature sensors are equipped in the indoor unit and the wireless remote controller. One of two sensors works The room temperature sensor is set to the indoor unit side at the shipment from the factory. To select the sensor in the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and check "Main sensor" disappears from I CD

Sensor CL button 0 O S ₩œ

NOTE : If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor at indoor unit side is automatically selected even if the sensor at the remote controller side is selected. Fix the remote controller toward the unit as possible.

How to set the address switch

When the multiple sensors are installed in the same room, an address can be set to prevent cross communication When replacing the battery and pushing SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signal regardless of setting of address switch of the operation section.

For selecting of the remote controller address, refer to Owner's Manual

Change the address of the sensor by removing screws of P.C. board cover of the sensor unit. After then, fix the cover with screws using a clamp.

Display of remote controller address	Address	Address	Address	 Address
Address switch position of sensor	* Address switch of sensor unit can be set any position.	4-6 1-3 support	2002 2007 200 200	 4-6 1-3 south the second secon

Slide switch

Check the slide switch in the battery box of the remote controller is set to [S] / [A] at shipment from the factory. Do not change the setting. A H C

1 Select of operation mode Set to A Select of flap indication Set to S



Self-diagnosis table and measures

SKN

Test run

- How to use [TEST]
- 1. Turn No.1 of DIP switch [S003] on sensor P.C. board from OFF to ON
- 2. During the test run, all the indication lamps on LCD flash.
- 3. During the test run, the temperature cannot be controlled.



How to handle the remote controller

In case using remote controller mounting to the wall, etc. Check a signal is received correctly by pushing (1) button at the position to be fixed.



Replacement of battery

- 1. Holding the both ends of the cover and remove it by sliding downward.
- 2. Correctly insert 2 AAA alkali batteries matching + and polarities with indications
- 3. Push SET button with something tipped and attach the cover.



Cautions for installation of the remote controller

To operate the remote controller by fixing it to the wall, etc. with a remote controller holder, turn on the fluorescent lamp, operate the remote controller at the position to be fixed, check the air conditioner normally operates, and then mount it.

When the room temperature is sensed by the remote controller, mount the remote controller paying attention to the following items.

- Place not exposed directly to cold or hot wind.
- Place not exposed directly to the sunlight. Other places where the remote controller is not influenced.

Explanation to customers

Hand over the "Owner's Manual" and "Installation Manuals" to the customer after installation works.

Explain usage and maintenance of the remote controller according to "Owner's Manual".
4-1-3 Wireless remote controller kit (2) (RBC-AX22CE)

<Installation Manual>

(Accessory parts)

No.	Accessory	Q'ty	No.	Accessory	Q'ty
1	Sensor unit	1	4	Battery ()	2
2	Remote controller	1	5	Owner's Manual	1
3	Remote controller holder	1	6	Truss tapping screw, 4 ×16 (2

Installation of sensor unit

- 1. Open the suction grille, remove a screw, move the side panel toward you (direction of arrow), and then remove the side panel. (Fig. A)
- 2. Lap the end of flat head screw driver with vinyl tape, and forcedly insert it into the groove at the side under circle mark on the cover. (Be careful not to damage the panel.) (Fig. B)
- 3. Pass the lead wire through the panel, and install the sensor unit to the panel hole. (Projection of the sensor unit is fixed by the panel hole.)
- 4. Fix the lead wire of the sensor to the cord clamp which fixes the cables of the louver motor. (Fig. C)
- 5. Install the side panels.
- 6. Put the lead wire from the sensor unit along cables of the louver motor and others, and then fix it with the cord clamp. (Fig. D)
 - * D raw in it using a hole at the upper side of the electric box.



[NOTE 1]

Avoid to twist cables of the sensor with the power cables, otherwise a malfunction is caused.

*For cabling and test run, refer to "Cabling of sensor unit" of these sheets and "Test run" of the Installation Manual attached to the indoor unit.

(How to perform cabling of sensor units)

Connection diagram

Connection

• Connect the cables out of the sensor unit to the terminal block for remote controller cabling of the indoor unit. (There is no polarity.)



(Requirement)

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller for an indoor unit.

(Max. 2 remote controllers of wireless or wired are installable.)

"2-remote controllers" controlling means that one or multiple units are operated by the multiple remote controllers. **NOTES**:

- 1. Upon confirmation of the terminal numbers of the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220–240 Volt, damage the unit.)
- 2. The multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
- 3. When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the side remote controller.
 - When setting the wired remote controller as the sub, exchange the address connector at the rear of P.C. board of wired remote controller from master to side remote controller.
 - When setting the wireless remote controller as the side, turn No.3 of DIP switch [S003] on P.C. board of wireless remote controller sensor unit from OFF to ON.

To operate an indoor unit by 2 remote controllers

 The indoor unit is operated if either wireless or wired remote controller is set as master or sub remote controller. (Total cable length: Within 400m)



To operate a group control of multiple indoor units by 2 remote controllers

 Master and side remote controllers are operable even if they are installed to any indoor unit. (Total cable length: Within 200m)



How to set the room temperature sensor

- The room temperature sensors are equipped in the indoor unit and the wireless remote controller. One of two sensors works.
- The room temperature sensor is set to the indoor unit side at the shipment from the factory. To select the sensor in the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and check "Main sensor" disappears from LCD.

NOTE :

If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor at indoor unit side is automatically selected even if the sensor at the remote controller side is selected.

Fix the remote controller toward the unit as possible.



How to set the address switch

- When the multiple sensors are installed in the same room, an address can be set to prevent cross communication.
- When replacing the battery and pushing SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signal regardless of setting of address switch of the operation section.
- For selecting of the remote controller address, refer to Owner's Manual.
- Change the address of the sensor by removing screws of P.C. board cover of the sensor unit. After then, fix the cover with screws using a clamp.

Display of remote controller address	Address	Address	Address	 Address
Address switch position of sensor	* Address switch of sensor unit can be set any position.	8002 8002 8007	2002 2001 2002 2001 200 200	 2002 2007 2007 2007 2007 2007 2007 2007

(Slide switch)

 Check the slide switch in the battery box of the remote controller is set to [S] / [A] at shipment from the factory. Do not change the setting.



Select of operation mode set to A. Select of flap indication set to S.





Lamp indication of sensor • : Goes off

☆ : Flash (0.5-sec. interval)

Self-diagnosis table and measures

Lamp indication	Cause	Measures
U D ⊛ No indication even if the remote controller is operated.	Power supply is not turned on. Miscabling between sensor unit and indoor unit	Check cable connection and correct it.
U € ®	Defective con- nection between sensor unit and indoor unit	
∪	Miscabling or defective connec- tion between indoor and outdoor units	
し、 ・ ・ Flashes alternatively	Protective device of outdoor unit works.	Check outdoor unit.
① ● ● ● ※ 茶 Flashes alternatively	Protective device of indoor unit works.	Check indoor unit.

How to set up filter sold separately of the high ceiling

 When the height of ceiling to be installed with a filter exceeds 3.5m or when installing a filter sold separately, tap-up of DC fan is required. Tap-up of DC fan can be set at No.2 (Tap 1) and No.4 (Tap 2) of DIP switch [S003] on the wireless sensor P.C. board. The wireless sensor P.C. board appears by removing screws at the rear side of the wireless sensor unit and the rear cover.

[S003] No.2 (Tap 1) and [S003] No.4 (Tap 2) are



Setup for high ceiling

	[S003] No.2 (Tap 1)	[S003] No.4 (Tap 2)	Installable height of ceiling
Standard (At shipment)	OFF	OFF	3.5m
Type 1	OFF	ON	4.0m

	[S003] No.2 (Tap 1)	[S003] No.4 (Tap 2)	Filter sold separately
Standard (At shipment)	OFF	OFF	Standard filter
Type 1	OFF	ON	Optical regeneration deodorant filter
Туре 3	ON	OFF	High-performance filter
Туре 6	ON	ON	Deodorant filter / Ammonia deodorant filter

[NOTE]

If the setup has been once performed, the set contents of Type 1, 3, and 6 can be arbitrarily changed. However, it is required to turn off [S003] No.2 (Tap 1) and No.4 (Tap 2) of DIP switch and also required to rewrite by the wired remote controller sold separately to return the set content to the standard one (at shipment). (For rewriting by a wired remote controller sold separately, refer to the Installation Manual attached to the indoor unit.)

Never set ON to DIP switch [S003] No.1 (Test run). (A test run is carried out on the remote controller.) (For the test run, refer to the Installation Manual attached to the indoor unit.)

Cautions for installation of the remote controller

- To operate the remote controller by fixing it to the wall, etc. with a remote controller holder, turn on the fluorescent lamp, operate the remote controller at the position to be fixed, check the air conditioner normally operates, and then mount it.
- When the room temperature is sensed by the remote controller, mount the remote controller paying attention to the following items.
 - Place not exposed directly to cold or hot wind.
 - Place not exposed directly to the sunlight.
 - Other places where the remote controller is not influenced.

(Explanation to customers)

- Hand over the "Owner's Manual" and "Installation Manuals" to the customer after installation works.
- Explain usage and maintenance of the remote controller according to "Owner's Manual".

How to handle the remote controller

• In case using remote controller mounting to the wall, etc.

Check a signal is received correctly by pushing () button at the position to be fixed.

- Replacement of battery
- 1. Holding the both ends of the cover and remove it by sliding downward.
- 2. Correctly insert 2 AAA alkali batteries matching + and polarities with indications.
- 3. Push SET button with something tipped and attach the cover.



4-1-3 Wireless remote controller kit (3) (TCB-AX21E)

Accessory parts

No.	Parts	Quantity	No.	Parts	Quantity
1	Separate receiver unit (provided 200mm power cable)	1	6	Spacer ຍີ _{ຍີ} ຍີ	4
2	Plate mounting	1	7	Wire joints	2
3	Screws M4 x 25 Gmm Gmm	2	8	Clamp	1
4	Screws M4 x 40	2	9	Pattern template	1
5	Wood screws	2			

Switch location of receiver unit



All.O/NORMAL selector switch

Set this switch to the "NORMAL" position for the normal operation of the air conditioner. When this switch is set to the "ALL·O" position, the indoor unit of the air conditioner is turned off.

RCU:SUB/RCU:MAIN selector switch

Set this switch to the "RCU:MAIN" position for normal operation. Refer to page 7 for setting to the "RCU:SUB" position.

PCB CHK switch

This switch is not used and should be set in the position shown in the figure.

TEST RUN switch

This switch is used for test running.

Installation location of receiver unit

- Do not install in a location where the air contains oil mist, such as in a kitchen or factory.
- Do not install next to a window, or in any other location directly exposed to sunlight and outside air.
- Do not install nearby devices which can be expected to produce electrical noise, such as elevators, automatic doors, and industrial sewing machines.
- If the receiver unit is installed near a rapid-start type or inverter-type fluorescent lamp (a lamp which does not include a glow lamp), it may not be possible to receive the wireless remote controller signal in some cases. In order to prevent interference from fluorescent lamps, leave a minimum of 2 meters between the receiver unit and the fluorescent lamps, and install the receiver unit in a location where it can receive the wireless remote controller signal when the fluorescent lamps are lit.

How to install the receiver unit

NOTES :

- To avoid malfunction of the remote controller, do not assemble or run remote control wiring together with the power cables, and do not enclose them in the same metal conduit.
- When the power unit induces electrical noise, it is recommended that a noise filter or the like be installed.

For flush mounting into a wall, install the separate receiver unit in a metal switch box (field supply) that has been recessed into the wall in advance.

- 1. Insert a flathead screwdriver or similar tool into the notch, and remove the face plate.
- 2. Fix the receiver unit with 2 M4 screws provided. Do not overly tighten, and use the provided spacers. If the receiver unit does not fit in the wall, cut spacers to adjust the clearance.
- 3. Connect the receiver unit wiring (2-core cable) with the cables extended from the indoor unit. (Refer to the section on receiver unit wiring.) Be sure to determine the correct terminal numbers on the indoor unit when wiring the receiver unit. The remote controller will be damaged if high voltage (such as 200 VAC) is applied.



4. Reinstall the face plate.

When using exposed mounting for the receiver unit, install onto a wall where the receiver unit can be attached.

 Insert a flathead screwdriver or similar tool into the groove on the bottom of the receiver unit. Pry open with the screwdriver and remove the lower case. (Fig. A).





cord (optional)

Remote controller

Receiver unit

Fig.B

Wood

screws (2)

Fig.C

Remote controller cord

 \cap

(optional)

Clamp

Connector

- 3. Disconnect the wires that were connected to the connector at the time of shipment.
- 4. Fasten the remote controller cord (optional) at the position shown in Fig. C, using the provided clamper. Then connect the cord to the receiver connector.



- 6. Remove the nameplate and use 2 wood screws to attach the receiver unit.
- 7. Use the provided cord clips to fasten the remote controller cord to the wall.
- 8. Reattach the nameplate.

If the separate receiver unit is installed on the ceiling, use the provided ceiling mounting bracket for installation.

- 1. Insert a screwdriver or similar tool into the notch at the bottom to remove the receiver nameplate.
- 2. Cut a section out of the ceiling along the provided paper pattern (95 x 51 mm).
- Pass the wire through the provided mounting bracket and insert the bracket into the installation hole. (Fig. D)





- 4. Use bracket parts (A) and (B) to securely grip the ceiling material. (Fig. E)
- 5. Connect the receiver wire (2-core) to the wire from the indoor unit. (Refer to "Wiring the Receiver Unit.") Check the terminal number on the indoor unit before wiring the receiver unit and be sure not to wire incorrectly. (The unit will be damaged if high voltage, such as 200 VAC, is applied.)
- Adjust the provided spacers so that they are several millimeters larger than the thickness of the ceiling material. Pass the 2 supplied screws (M4 x 40) through the spacers and tighten them enough to hold the receiver unit in place.
- Return parts (A) and (B) through the gap between the ceiling and receiver unit so that they are contained in the openings. Then tighten the screws. Do not tighten the screws excessively. This may result in damage or deformation of the case. Tighten to the point where the receiver unit can be moved slightly by hand. (Fig. F)







Fig.F

8. Reattach the nameplate.

How to perform cabling of sensor unit

Flush Mounting

Connection diagram

Indoor unit remote controller terminal board



- Provided wire joint (WHT 2)
- 1. Strip the insulation to approximately 14 mm from the ends of the wires to be connected.
- 2. Twist together the 2 wires and create a crimp connection at the wire joint.
- 3. If a special crimping tool is not used, or if the connection is soldered, insulate the wires using insulation tape.





Wire joint CE-1 (provided)



Requirement

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller for an indoor unit.

(Max. 2 remote controllers of wireless or wired are insatiable.)

"2-remote controllers" controlling means that one or multiple units are operated by the multiple remote controllers.

NOTES :

- 1. Upon confirmation of the terminal numbers of the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220–240 Volt, damage the unit.)
- 2. The multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
- 3. When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the side remote controller.
 - When setting the wired remote controller as the side, exchange the address connector at the rear of P.C. board of wired remote controller from master to side remote controller.
 - When setting the wireless remote controller as the side, turn the switch of wireless remote controller receiver unit from RCU: MAIN to RCU:SUB.

To operate an indoor unit by 2 remote controllers

The indoor unit is operated if either wireless or wired remote controller is set as master or side remote controller.

(Total cable length: Within 400m)



To operate a group control of multiple indoor units by 2 remote controllers

Master and Side remote controllers are open able even if they are installed to any indoor unit. (Total cable length: Within 200m)



How to set the room temperature sensor

- The room temperature sensors are equipped in the indoor unit and the wireless remote controller. One of two sensors works.
- The room temperature sensor is set to the indoor unit side at the shipment from the factory. To select the sensor in the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and check "Main sensor" disappears from LCD.

OACL

SET 🔺

r (+

ADR

O SENS

Sensor

button

NOTE :

If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor at indoor unit side is automatically selected even if the sensor at the remote controller side is selected.

Fix the remote controller toward the unit as possible.

How to set the address switch

- When the multiple sensors are installed in the same room, an address can be set to prevent cross communication.
- When replacing the battery and pushing SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signal regardless of setting of address switch of the operation section.
- For selecting of the remote controller address, refer to Owner's Manual.
- Change the address of the sensor by removing screws of P.C. board cover of the sensor unit. After then, fix the cover with screws using a clamp.

Display of	Address	Address	Address	Address
controller address	ALL	1	2	Б
Address switch position of sensor	Address switch of sensor unit can be set any position.	ADR 456	ADR 456	123

Wireless remote controller

<Operation Manual>

(Display Section)

All indicators are shown in the right and the lower figures for the explanation.

Only selected contents are display in actual operation.

• When turning on the leakage breaker at the first time 3 minutes later, **[SET DATA]** flashes about for 1 minute on the display part of the remote controller. While this display is flashing, the model is being automatically confirmed.

Accordingly, wait for 1 minute after [SET DATA] display has disappeared, and then use the remote controller.





1 Transmitting indication

Displayed while operating the switches of the remote controller.

$m{2}$ Mode display

The selected operation mode is displayed. (A) [AUTO] mode is displayed on heat recovery type only.

${m 3}$ Fan mode select display

The selected fan mode is displayed.

(AUTO) \$ (A) (HIGH) \$ (MED.) \$ (MED.) \$ (LOW) \$ (LOW)

4 Filter display

If "FILTER ()" is displayed, clean the air filter.

5 CHECK display

Displayed while the protective device works or a trouble occurs.

6 Set up temperature display

The selected set up temp. is displayed.

7 Flap position display

8 SWING display

Displayed during up/down movement of the flap.

9 Timer time display

Time of the timer is displayed. (When a trouble occurs, the check code is displayed.)

10 Timer SETIN setup display

When pushing the Timer SET button, the display of the timer is selected in order of [OFF] \textcircled{O}^{+} \rightarrow [OFF] repeat OFF timer $\textcircled{O}^{+} \rightarrow$ [ON] $\textcircled{O}^{+} \bigcirc \rightarrow$ No display.

Operation Section

Push each button to select a desired operation.

• The details of the operation needs to be set up once, afterward, the air conditioner can be used by pushing () button only.



1 Operation select button

Selects desired operation mode.

2 Fan mode select button

Selects a fan mode.

3 Timer set button

TIMER SET button is used when the timer is set up.

4 Check button

CHECK button is used for check operation. During normal operation, do not use this button.

5 Temperature set button

Adjusts required room temperature. Set required set temperature by pushing (\triangle) or (\bigtriangledown) .

6 Start/Stop button

When the button is pushed, operation starts, and it stops by pushing the button again.

When the operation stops, the operation lamp and all displays disappear.

7 Filter reset button

Resets (Erases) "FILTER ()" display.

OPTION :

Remote controller sensor

Usually the TEMP. sensor of the indoor unit measured a temperature. A temperature around the remote controller can also be measured.

For details, contact the dealer from which you have purchased the air conditioner.

Signal Receiving Part (TCB-AX21U(W)-E)

• The signal receiving part is mounted to the ceiling panel.

Signal Receiving Part



1 Emergency operation button

$m{2}$ Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of displays flashed while a trouble occurs. When the display lamp flashes, refer to "Before asking of repair".

4 ∪ lamp

This lamp goes on during operation.

5 🕘 lamp

This lamp goes on while the timer is reserved.

6 ⊛ lamp

• In heating operation this lamp in the following cases;

The operation has started. The temp. controller has worked. The unit is under defrost operation.

This lamp flashes while a trouble occurs.

7 Trial ON switch (S003-1)

This switch is not used in normal time, but used in trial operation time.

8 Master/Side remote controller switch (S003-3)

Use this switch at the position of [f] f] f] @ (PRIORITY)]. This switch can be used together with the wired remote controller.

9 Fan speed change tap 1 (S003-2)

10 Fan speed change tap 2 (S003-4)

These switches are used to select DC motor speed of a 4-way cassette type indoor unit by the taps.

When installing an indoor unit to a high ceiling surface or when changing the number of discharge ports, perform setting referring to the next page.

11 Address switch

This switch distinguishes the signal, send or receive.

The following switches are provided to the rear side of the receiving part. For setup, contact the shop which you purchased the unit.

• If "pi, pi" sound is heard, the MODE lamp of the display lamp goes on, and the ^① lamp and ^⑧ lamp flash alternately, the operation is not performed with the desired mode.

Signal Receiving Part (RBC-AX22CE)

• The signal receiving part is mounted to the ceiling panel.

Signal Receiving Part



1 Temporary operation button

2 Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of displays flashed while a trouble occurs. When the display lamp flashes, refer to "Before asking of repair" in 13 page.

4 ∪ lamp

This lamp goes on during operation.

This lamp goes on while the timer is reserved.

6 ⊛ lamp

• In heating operation this lamp in the following cases;

The operation has started. The temp. controller has worked. The unit is under defrost operation.

• This lamp flashes while a trouble occurs.

• If "pi, pi" sound is heard, the MODE lamp of the display lamp goes on, and the ⊕ lamp and ⊛ lamp flash alternately, the operation is not performed with the desired mode.

Signal Receiving Part (TCB-AX21E)

• The signal receiving part is mounted to the ceiling panel.

(Signal Receiving Part)



1 Temporary operation button

2 Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of displays flashed while a trouble occurs. When the display lamp flashes, refer to "Before asking of repair" in 95 page.

4 ∪ lamp

This lamp goes on during operation.

5 🕘 lamp

This lamp goes on while the timer is reserved.

6 ⊛ lamp

• In heating operation this lamp in the following cases;

The operation has started. The temp. controller has worked. The unit is under defrost operation.

• This lamp flashes while a trouble occurs.

7 🔳 lamp

This lamp lights to indicate that it is time to clean the filter.

• If "pi, pi" sound is heard, the MODE lamp of the display lamp goes on, and the ⊕ lamp and ⊛ lamp flash alternately, the operation is not performed with the desired mode.

HOW TO OPERATE THE UNIT

Cool/Heat AUTO, Heat, Dry, Cool, Fan)

Power supply

Turn on the power of the wireless remote controller 12 hours before starting the operation.

• After the power supply has been turned on, the operation of the remote controller is not accepted for approx. 1 minute. It is not a failure.

(The sensor receives the signal once, but the received contents are cleared.)



- **1** Push Start/Stop button.
- **2** Push \mathbb{E} (Operation Select button) operation to select one of \mathbb{A} , \mathbb{K} , \mathbb{A} , \mathbb{R} , and \mathbb{R} .
- **3** Push **s** (Fan Mode Select button) to select one of fan speed modes.

When selecting $(\underline{A}),$ the fan speed is automatically changed.

(During FAN mode, the air speed is not automatically changed.)

4 Push either (\blacktriangle) or (\bigtriangledown) to select the desired temperature.

• During FAN mode, the temperature cannot be set up.

5 Stop

Push Start/Stop button.

When using the remote controller to stop the unit, the outdoor unit fan may keep operating for a while even if the compressor of the outdoor unit has stopped.

• In heating operation, if the room is not comfortably heated with FAN \$\$, select FAN \$\$} or \$\$. Although they are displayed, the function may not be provided according to the used indoor unit. (Fan speed is constant.)

When the unit cannot be stopped by the normal operation

Turn off the power switch or leakage breaker, and then contact the shop which you purchased the unit.

Automatic cool/heat

When all indoor units in the identical refrigerant system are controlled as a group, the cooling/heating operation is automatically performed with the difference between the setup temperature and the room temperature.

(Dry operation)

- There is no dry function according to the used indoor unit even if DRY is displayed on the display section of the remote controller. (Same to Cooling operation)
- When the room temperature approaches the setup temperature, running/stop operations are automatically repeated.
- In order not to return humidity to the room as possible, the mode of indoor fan enters LOW mode when the operation has stopped.
- The fan speed cannot be adjusted according to the used indoor unit or status of the room temperature.
- The DRY mode cannot be used according to the used indoor unit when the outdoor temperature is 15°C or lower.

HOW TO OPERATE THE TIMER

• After setting of the timer, set the remote controller at a position where the signal can reach the sensors (indoor unit body).

How to use OFF timer

- (The signal of the timer operation is sent from the remote controller.)
- Set up the timer during display of the operation mode.

Use in the following cases	During display
To stop the air conditioner after the previously set time has passed	
To stop the air conditioner every time after the previ- ously set time has passed	CD (D) [
To operate the air condi- tioner after the previously set time has passed	

Timer time

Every pushing , the setup time increases

Every pushing , the setup time decreases

Timer display

Every pushing SET, the display changes as

The maximum time to be set is 72.0 hours.

The minimum time to be set is 0.5 hours.

by 0.5 hour (30 minutes).

by 0.5 hour (30 minutes).

follows:

<Use example>

(Ex.)To stop the unit 30 minutes after

- 1 When pushing the timer SET once, @ I and the time flash on the remote controller.
- 2 Push TIME \frown or \bigtriangledown to set the time to 0.5.
- 3 Push SET and the O. go on timer.

(How to use the repeat timer)

(Ex.)To stop the air conditioner every time after 2.5 hours has passed

- 1 When pushing the timer SET twice, C⊅, ⊘·] and the time flash on the remote controller.
- 2 Push TIME \frown or \bigtriangledown to set the time to 2.5.
- 3 Push SET and the ⊄⊋, ⊘·I go on timer. The ⊙·I works, and the operation stops after 2.5 hours. When pushing (I) (Start/Stop) button again to operate the unit, the opera-

tion stops after 2.5 hours.

How to use ON timer

(Ex.)To operate the unit 8 hours after

- 1 When pushing the timer SET three times, Or and the timer flash on the remote controller.
- 2 Push TIME \frown or \bigtriangledown to set the time to 8.0.
- 3 Push SET

The operation mode display disappears, and then time and the $\textcircled{\texttt{O-I}}$ go on.

(To stop the timer operation)

To stop the timer operation Push CL button. Then the timer display disappears.

HOW TO ADJUST AIR DIRECTION

- Never move the flap (Air direction up/down adjusting plate) which is operated on the remote controller with hands except a case of cleaning of the flap.
- While the unit stops, the flap (Air direction up/down adjusting plate) directs downward automatically.
- During preparation of heating, the flap (Air direction up/down adjusting plate) directs upward. The swinging operation starts after heating preparation status has been cleared. However, swinging is displayed on the AUTO flap display of the remote controller even if the heating operation is being prepared.

How to set up the air direction

Every pushing $\overline{\mathbf{L}}$ button during operation, the air direction changes.

How to start swinging

When pushing $\overline{\mathbb{R}^2}$ button, set the direction of the flap (Air direction up/down adjusting plate) to the lowest position, and then push $\overline{\mathbb{R}^2}$ button again, the swinging is displayed and the air direction automatically changes upward/ downward.

(How to stop swinging)

Pushing $\overline{[}$ button once again during swinging of the flap stops the flap at the desired position. Then, when pushing $\overline{[}$ button, the air direction can be set to position from the uppermost position.

• In cooling or dry operation, the flap does not stop when the flap directs downward. If doing so, the flap stops at the 3rd position from the uppermost position.

In heating operation

Direct the flap (Air direction up/down adjusting plate) downward, otherwise the hot air may not reach at the foot.



Initial setup

In cooling/dry operation

Direct the flap (Air direction up/down adjusting plate) upward, otherwise dewdrops may adhere or drip down to near of the discharge grille.



SLIDE SWITCH

- Do not change setting of the slide switch because a malfunction occurs by other settings.
- Before usage, check the slide switch is set to the position as follows;



HOW TO INSERT THE BATTERIES

- 1. Holding the both sides of the cover and remove it by sliding downward.
- 2. Correctly insert 2 AAA alkali batteries matching + and polarities with indications.
- 3. Push RESET button with something tipped and attach the cover.
- Replace the batteries when the display section of the remote controller is difficult to be read, or when the signal cannot be sent if you are not close to the sensor.
 (The standard replacement time of the alkali batteries is approx, one year.)
- (The standard replacement time of the alkali batteries is approx. one year.)
- Use the same type of new batteries for replacing two batteries.
- In case when you do not the remote controller for a long time, remove the batteries.



ADDRESS

When the multiple indoor units corresponding to the wireless remote controller are installed in the same room, an address can be set up to prevent an interference.

Matching the address switch of the sensor with number of the remote controller address, Max. 6 indoor units can be controlled by the corresponding remote controller individually.

The address switch for receiving the signal is prepared to the sensor (inside of panel or indoor unit) and the address switch for sending the signal is prepared to the remote controller. For details, contact the shop which you purchased the air conditioner.

(How to Check the Address)

When pushing <u>ADR</u> button on the remote controller, the present address is displayed on the display section of the remote controller. If this address matches with the address of the sensor (inside of panel or indoor unit), a buzzer sounds.

(When ALL is displayed, buzzer sound is necessarily heard.)

When ALL is displayed, the air conditioner can be operated regardless of any address of the sensor (inside of the indoor unit). Send the signal by directing the remote controller toward the sensor (panel or indoor unit body) to be handled.

(How to Match the Address)

Setup to remote controller address

- 1. When keeping <u>ADR</u> pushed for 4 seconds or more, <u>ADR</u> lamp goes on at the display section of the remote controller and the present address is displayed with flashing.
- 2. Every pushing \overline{ADR} , the address is exchanged as ALL $\rightarrow 1 \rightarrow 2 \rightarrow 3 \dots \rightarrow 6 \rightarrow ALL$. Match one of them with the address switch of the indoor unit sensor to be handled.
- 3. When pushing <u>CL</u>, the address display goes on and is displayed for 5 seconds. If the address matches with the address switch of the operation part, the buzzer sounds.

Display of remote controller address	Address	Address	Address	 Address
Address switch position of sensor	* Address switch of sensor unit can be set any position.	8002 8001 8001 8001 8001 8001 900 8001 900 8001 900 9001 90000 90	8002 8002 8001 8002 8001 900 1-3 8001 900 900 900 900 900 900 900	 8002 8002 8001 8007 86 86 86 86 86 86 86 86 86 86 86 86 86

Turn the knob to the right side for 1 to 3 while to the left side for 4 to 6 of Address select switch S001.

Emergency Operation (TCB-AX21U(W)-E)

HOW TO PERFORM EMERGENCY OPERATION

In the following cases, operate the air conditioner in emergency by emergency operation of the operation part (inside of panel or indoor unit).

- The battery in the remote controller expired.
- A trouble occurred on the remote controller.
- The remote controller have disappeared.



1 Start

Push emergency operation.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push emergency operation once more.

CAUTION

• The ON switch of the test run and the ON switch of the test are used for the test run mode in the installation time. Do not use them in the normal time.

• If the "all stop" is selected in the normal/all stop switches, a signal from the remote controller is not accepted.

Emergency Operation (RBC-AX22CE)

HOW TO PERFORM TEMPORARY OPERATION

In the following cases, operate the air conditioner in emergency by emergency operation of the operation part (inside of panel or indoor unit).

- The battery in the remote controller expired.
- A trouble occurred on the remote controller.
- The remote controller have disappeared.



1 Start

Push temporary operation.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push emergency operation once more.

CAUTION

- The ON switch of the test run and the ON switch of the test are used for the test run mode in the installation time. Do not use them in the normal time.
- If the "all stop" is selected in the normal/all stop switches, a signal from the remote controller is not accepted.

Emergency Operation (TCB-AX21E)

HOW TO PERFORM EMERGENCY OPERATION

In the following cases, operate the air conditioner in temporary by temporary operation of the operation part (inside of panel or indoor unit).

- The battery in the remote controller expired.
- A trouble occurred on the remote controller.
- The remote controller have disappeared.



1 Start

Push temporary operation.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push temporary operation once more.

CAUTION

- The ON switch of the test run and the ON switch of the test are used for the test run mode in the installation time. Do not use them in the normal time.
- If the "all stop" is selected in the normal/all stop switches, a signal from the remote controller is not accepted.

BEFORE ASKING REPAIR WORK

Before asking a repair work, check the following items.

Phe	nomenon	Cause	Measures
Check Operation St again does not start even if the Is switch is turned on. Fu	Operation does not	Stopped? or after power failure?	Push Start/Stop of the remote controller.
	Is the power supply of the power switch?	Turn on the power supply switch if not.	
	turned on.	Fuse?	Contact the shop which you purchased the air conditioner.
	Is not the mode ON timer?	Delete the timer operation.	
	Is not [ALL OFF] of [Signal Receiving Part] selected?	Set the switch to [Normal position], and stop the operation.	
		Is not the battery of the remote controller expired?	Replace the battery.
		Is not the state of the display lamp "Disagreement of ℜ (cool) and ӝ (heat)" or "No ④"?	Change the operation mode.

	Phenomenon	Cause
Contact the shop which you purchased the air conditioner	<display flashes.="" lamp=""> ① ④</display>	• It is a communication error between the sensor and the indoor unit, or setup error of the address when the wired remote controller is used.
		• A communication error between the indoor unit and the outdoor unit.
	● ⊕ ⇒ ⇒ ÷ () () () () () () () () () ()	 A protective device of the indoor unit works.
	ÿ () () () () () () () () () ()	• A protective device of the outdoor unit works.
	● ∛ ●	• A trouble occurred on the tempera- ture sensor.
	●	• The compressor of the outdoor unit is protected.
	U P W W	• The test run is performed. Turn off the Trial ON switch.

Please check the above items. If the trouble yet remains, stop the operation, turn off the power switch, and then notify the shop which you purchased the air conditioner of the part No. and phenomenon. Never repair any part by yourself because it is very dangerous. If the display lamp is flashing, also tell of its contents.

4-1-4 Weekly timer (RBC-EXW21E)

<Installation Manual>



Requirement to install the program weekly timer

Installing dimension for serial installation

When installing the program weekly timer (remote controller/system controller, etc.) to the wall surface, follow the installation procedure in (Fig. 1) and (Fig. 2).



*When installing the remote controller and the program weekly timer which are set in parallel at upper side and lower side, in consideration of maintenance, keep a clearance with 25mm or more.

- How to install the program weekly timer

NOTE 1 :

Avoid to twist the program weekly timer cable with the power supply cable, etc. or to store them in the same metal pipe, otherwise it causes a malfunction.

NOTE 2 :

Install the program weekly timer apart from the generation source of noise.

NOTE 3 :

When noise is induced to the power source of the indoor unit, measures such as mounting the noise filter is necessary.

Install the program weekly timer to the box (Procured locally) which has previously inserted in the wall.



Fig. 2

- Inserting a minus screwdriver, etc. into the groove at the lower side of the program weekly timer, which appears when opening lid of the program weekly timer body, force open the rear case to remove it.
- 2. Using the attached M4 screws or wood screws (2 pcs.), fix the rear case of the program weekly timer. Before installation, press to open the screw hole with a screwdriver, etc.

Fix it with the spacer, but not so strongly. If the program weekly timer does not fit closely to the wall, adjust it by cutting off the spacer.

- Connect the attached connecting cable (4 cores) to the program weekly timer body.
- 4. Install the program weekly timer body by matching to hooks on the rear case and putting into the hooks.



Weekly timer (RBC-EXW21E)

<Operation Manual>

NAME AND OPERATION OF EACH PART



1 Day select button

The day of the week is selected.

Each pushing, \checkmark mark moves in order of Sunday \rightarrow Monday \rightarrow Tuesday \rightarrow Wednesday \rightarrow Thursday \rightarrow Friday \rightarrow Saturday.

$m{2}$ Program button

This button is used to set up the contents of the program operation.

3 Hour/Minute button

This button is used to set the present time and ON/OFF time.

4 Timer set button

This button is used to set the day of the week, hour, minute, holiday, and ON/OFF time.

5 Cancel button

This button is used to cancel as the holiday.

6 Check button

This button is used to confirm the contents of the setting items.

7 Cancel button

This button is used to cancel the setting items.

B Display of the present day of the week (▼ mark)

9 ON/OFF time display

ON/OFF time of the timer operation is displays.

10 Operation reserve indication (• mark)

The day of the week when the program operation has been set is displayed.

11 Holiday setting indication (|-| mark)

The holiday is displayed (Cancel as holiday)

12 Setting error display

13 Present time display

Displays the present time displayed with 24-hours notation.

HOW TO USE THE TIMER CORRECTLY

1. Operation procedure





(2. Turn on the power supply of the air conditioner $\hat{}$

• Turn on the power supply of the air conditioner connected with a program weekly timer. (For cooling and heating, do not turn off the power supply for compressor heating.)

igl(3. Setup of the present time igr)

• Set the present time (Example: Case that the present time is 11:45.)

- **1** While push SET button push HH button to select "hour" of the present time.
 - While push SET button each pushing (HH) button, change sequently.
 - $0 \rightarrow 1 \rightarrow \cdots \rightarrow 10 \rightarrow \cdots \rightarrow 23 \rightarrow 0$
 - While keep SET button pushed, continuous pushing HH button makes fast forward.
 (Example: Leave the finger at display of 11, you can set 11 o'clock.)
 - When release SET button, the hour is set, and I mark changes flashing to light.



2 While push **SET** button push **M** button to select "minutes" of the present time.

• While push (SET) button, each pushing MM button change sequently.

 $00 \rightarrow 0 \ l \rightarrow \dots \rightarrow 58 \rightarrow 59 \rightarrow 60$

- While keep SET button pushed continuous, pushing MM button makes fast forward. (Example: Leave the finger at display of 45 you can set 45 minutes.)
- When release SET button, the minutes are set, and OI make changes flashing to light.

CAUTION

- The time cannot be changed only when HH button or MM button pushed.
- If 30 seconds have passed while the button is flashing without pushing DAY or HH / MM buttons, the display returns automatically to the original display (Normal display). In this case, repeat the procedure from the 1st step.

4. Setup of the day of the week

- Set the today of the week. (Example: Case of Wednesday)
- **1** While push <u>SET</u> button push <u>DAY</u> button to select "today" of the week.
 - While pushing SET button, each push DAY button, the display of the present day of the week ▼ flashes, and the display moves in order.

▽ ▽ ▽ ┾ ─ ▽ ▽ ▽ SuMoTu WeTh Fr Sa



CAUTION

- The day of the week cannot be changed only when DAY button is pushed.
- If 30 seconds have passed while the button is flashing without pushing <u>DAY</u> or <u>HH</u> / <u>MM</u> buttons, the display returns automatically to the original display (Normal display). In this case, repeat the procedure from the 1st step.

5. How to set program timer operation

Set the present time and the present day of the week surely, otherwise the program operation is not correctly performed.

This timer can control up to 3 cycle program per day.

(1 cycle or 2 cycles can be also set up.)

The following items can be set to the program operation.

• Setup of [ON] \rightarrow [OFF] time ([ON] or [OFF] only cannot be set up singly.



1 First push **PROGRAM** button.

• When pushing *Program* button, the reserve mark - flashes.

2 Push DAY button, select the day for operation and then push SET button.

When pushing set button, the flashed reserve mark \bullet changes, and ON time of the program 1 flashes at the same time.



	Ð۱	Θ	
PROGRAM1		,:	•
PROGRAM2	•) :	
PROGRAM3	:)	_

3 Set ON time by ⊞, M buttons, and then push SET_button.

When push SET button, the flashed ON time (8:00 in example) change, and OFF time of the program 1 flashes at the same time.

	Ð۱		0.0
PROGRAM1	8:0	[])-	
PROGRAM2	:	•	:
PROGRAM3	:	*	



4 Set OFF time by HH / MM buttons, and then push SET button. When pushing SET button, the flashed ON time (12:00 in example) changes, and ON time of the program 2 flashes.

${f 5}$ Next set up the operation time to the program 2 and 3.

When pushing SET button after OFF time of the program 3 has been set, the flashed OFF time (19:00 in example) changes and ON time of the program 1 flashes.

6 Finally, push **PROGRAM** button.

Push PROGRAM button within 30 seconds after No. 5 step.

Then, one day timer (Monday in example) is set completely.

ON/OFF is displayed when the present time is included in the range of the set time.

(In the above status, the contents of the program 1 are displayed as the present time is included in the range from ON time to OFF time of the program 1.)

7 Setting to other day, repeat above procedure from 1 to 6.

If you need to set the same time as previous setting. Refer to "7. How to copy the program operation time".

CAUTION

- Setup of the program time : []:[][] is treated as 24:[][].
 - (Example) In the following cases, setup are available.

ON time	OFF time
0:00	2:00
22:00	0:00

• If 30 seconds have passed while the button is flashing without pushing <u>DAY</u> or <u>HH</u> / <u>MM</u> buttons, the display returns automatically to the original display (Normal display). In this case, repeat the procedure from the 1st step.

[Ð	0.0
PROGRAM1	8:00,	12:00
PROGRAM2	- = ; = - >	:
PROGRAM3	: >	

	зI	Θ
PROGRAM1	8:00,	12:00
PROGRAM2	12:40,	16:50
PROGRAM3	17:00,	19:00

	•		0•0
PROGRAM1	8:01	<u>}</u> ,	12:00
PROGRAM2	•	•	:
PROGRAM3	:	•	:

(6. Set error)

If flashing <u>ERROR</u> is displayed when the program operation has been set up, correct the time following the procedure below.

1. When flashing ERROR is displayed, ON time of the failed program flashes.

PROGRAM	₽ B B	E	©∙0 12:00	SuMoTuWeTh Fr Sa
PROGRAM2	11:00	Þ	14:CE	
PROGRAM3	•	*	:	18 i i 45

2. Push SET button to flash the time to be corrected.

3.Using HH / MM buttons, correct ON/OFF time.

- 4. Push (SET) button. When the setup is correctly performed, ERROR display disappears.
- 5. The correction has completed by pushing PROGRAM button.

CAUTION

- When ON/OFF time is set as follows, **ERROR** is displayed.
- 1) When a part of the operation time makes inroads into a part of another operation time
 - Example: ON time OFF time **8** : **0 0 12** : **00**
- 2) When OFF time is ahead of ON time Example: ON time OFF time
 - 12:00 8:00
- 3) When ON time is same as OFF time
 - Example: ON time OFF time
 - 8:00 8:00
- 4) ON time or OFF time is singly set up Example: ON time OFF time
 - 8 : 11 [Is not set]





The following cases are not set error.

- 1) OFF time of the previous cycle is same as ON time of the next cycle.
 - Example: ON time OFF time

8	:	88	12	;	88
12	;	88	19	;	88



2) When the next cycle is set to the time before the set time of the previous cycle

Example: ON time OFF time ⇔ ON time OFF time

12 : 40 16 : 50	12:40	16 : 50
8 : 00 12 : 00	12 : 40	16:50

Pushing the PROGRAM button changes the order in order of time.

3) When both ON and OFF times are same **[]** : **[] [** Example: ON time OFF time





Continuous operation for 24 hours

(7. How to copy the program operation time)

When setting the program operation, already set program can be copied and set to the other day of the week.

<Example: To copy the operation contents of Monday to Tuesday>

- **1** Push CHECK button in normal display.
- Push DAY button and put the operation reserve indication on the day of the week of which the program operation is already set.
 (Monday in the example)

3 Push **PROGRAM** button.

Present day of the week indication \checkmark and Operation reserve indication \bullet flash.

- **5** Push **PROGRAM** button. The operation reserve indication goes on under the copied day of the week.



8. How to check the program operation time



CAUTION

- 1. While reserve indication is flashing, the display does not change even if other buttons are pushed than DAY, CHECK, and PROGRAM button.
- 2. If 30 seconds have passed while the reserve indication • is flashing without pushing DAY, CHECK or PROGRAM button, the display returns automatically to the original display. (Normal display)

1 Push CHECK button.

<Example: Case to check the program operation time of Wednesday in Monday>

• The operation reserve indication - flashes in the normal display status.

	Ð۰		()	
PROGRAM1	:	۲	:	
PROGRAM2	:	•	:	ERROR
PROGRAM3	:	•	:	

- 2 Push <u>DAY</u> button and put the operation reserve indication **●** on the day of the week to be checked.
 - Every pushing DAY button, the operation reserve indication flashes and the contents of program operation time of the day of the week on which the operation reserve indication has been put on is displayed.

	0,	Θ	
ROGRAM1	8:00,	12:00	
ROGRAM2	12:40,	16:50	ERROR
ROGRAM3	17:00,	19:00	01145

3 Push CHECK button.

• It turns to be normal indication.

9. How to change the program operation time

- **1** Push **PROGRAM** button in the normal display status.
- **2** Select the required day reserve mark by pushing DAY button.
- **3** Push **SET** button.



(10. How to clear the program operation)

Clear of the day of the week

- 1) Push PROGRAM button.
- Push DAY button and select the reserve mark

 to be cancelled.
- 3) Push CLEAR button. The program time disappears.
- 4) Push Regression button. The operation reserve indication disappears.
- Clear of a part of the program
 - 1) Push PROGRAM button.
 - 2) Push DAY button and select the reserve mark on a to be cancelled.
 - 3) Push SET button.
 - 4) Push <u>SET</u> button again to flash ON or OFF time of the program to be cancelled.
 - Push CLEAR button.
 Then, a part of the program has been cancelled. At the same time, the remained programs are automatically arranged.
 - 6) Push PROGRAM button.

- **4** Each push <u>SET</u> button, the flashing part changes in the following figure. Put the indication on the time to be changed.
- **5** Using Im / Im buttons, change the time.
- **6** Push **SET** button.
- 7 Push **PROGRAM** button. Then the change operation has completed.



(11. How to set up the holiday)

- The operation reserve day can be cancelled by setting up the holiday.
 - 1) Push CANCEL button. The holiday setup mark | | flashes.
 - Push DAY button and select the holiday setup mark | | on the day which the holiday is set.
 - 3) Push <u>SET</u> button. The flashing holiday setup indication | | changes on. (|**−**|)

Clearance of [HOLIDAY] setup

- 1) Push CANCEL button.
- Push DAY button and select the holiday setup mark | | on the day to which the holiday is cancelled.
- Push <u>SET</u> button. The holiday setup mark |=| disappears and the operation reserve mark = appears.

• Explanation of operation

The cancel setting day is temporarily canceled, and from the next day, the cancel setup mark $|\bullet|$ disappears and the operation reserve mark \bullet appears.

CAUTION

• For the day which does not set timer, the cancellation cannot be set.

12. Matters to be memorized

1. Power failure

When a power failure occurred and the power supply has been reset, the display of the right figure appears.

(A colon ":" flashes.)

Resuming of operation

- 1) Turn on the power (breaker) of the air conditioner.
- 2) Start operation by the remote controller.
- 3) Push PROGRAM button of the program weekly timer. The flashing colon ":" changes to the clock display in the normal status. In this case, the program is memorized by the backup function. Therefore, it is unnecessary to set the program again.



2. Operation of program weekly timer and air conditioner

An air conditioner mounted with a program weekly timer is operated on a remote controller and on the program weekly timer.

(Example)



1) Operation pattern in a day



2) Operation pattern in a week



4-2 Central remote controller (TCB-SC642TLE)

4-2-1 Outline

1. Feature

Connectable units

- Max.64 of indoor units or groups can be connected and controlled in one central remote controller
- All indoor units can be divided to 1,2,3, or 4 zones.
- ALL / ZONE / GROUP (individual) control mode is selectable.

Up to 16 indoor units or groups for each zone.

Mode setting

- (1) Central control / Remote control mode
 - Central control mode
 Central controller is used as central control equipment.
 Individual setting by remote controller can be inhibited by central remote controller.
 Remote control mode
 - Remote control mode
 Central controller is used as remote controller.
 Setting by central controller is inhibited by other central control equipments.

(2) ALL / ZONE mode

• ALL mode

All indoor units can be controlled by central controller.

- ZONE mode Indoor units in one of ZONE 1,2,3,or 4 can be controlled by central remote controller.
- (3) Function of central controller is 10 types according to combination of central control / remote control mode and ALL / ZONE mode setting as the table below.

	Central control	Central control
ALL	ALL / Central	ALL / Remote
ZONE 1	ZONE1 / Central	ZONE1 / Remote
ZONE 2	ZONE2 / Central	ZONE2 / Remote
ZONE 3	ZONE3 / Central	ZONE3 / Remote
ZONE 4	ZONE4 / Central	ZONE4 / Remote

Operation function

Start / stop, Operation Mode select, Setting temperature, Air volume setting, Frap position select, Central 1,2,3,4 / individual select, Ventilation, etc.

■ Maximum number of connected central controller

Up to 10 units in one control wiring circuit.(including other central control devices.)

■ Display

LCD

Timer

Weekly timer (RBC-EXW21E) Sold separately

2. System configuration

- "ALL" : All indoor units can be controlled by central remote controller.
- "ZONE" : Indoor units in one of ZONE 1, 2, 3 or 4 can be controlled by central remote controller.

• "GROUP" : Indoor units of each group can be controlled individually.



* In case of "1:1 model", follower indoor units in a group control and twin control must not be counted as "one unit". In case of VRF system, follower indoor units in a group control must be counted as "one unit".
3. Function matrix of central remote controller

		Central control mode				Remote control mode				
	ALL Central control	ZONE 1 Central control	ZONE 2 Central control	ZONE 3 Central control	ZONE 4 Central control	ALL Remote control	ZONE 1 Remote control	ZONE 2 Remote control	ZONE 3 Remote control	ZONE 4 Remote control
Controllable units	64 group (zone 1 to 4)	16 group (zone 1)	16 group (zone 2)	16 group (zone 3)	16 group (zone 4)	64 group (zone 1 to 4)	16 group (zone 1)	16 group (zone 2)	16 group (zone 3)	16 group (zone 4)
Operation units	ALL ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ALL ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP
ON	OK	ОК	ОК	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
OFF	OK	ОК	ОК	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
Operation mode change	ОК	ОК	ОК	ОК	ОК	OK *1	OK *1	OK *1	OK *1	OK *1
Setting temperature	ок	ОК	ОК	ОК	ОК	OK *1	OK *1	OK *1	OK *1	OK *1
Setting air volume	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК
Setting frap position	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК
Central / Remote	OK *2	х	Х	Х	Х	Х				
Ventilation ON/OFF	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК	ОК
Weekly timer connection	OK *3	OK *4	OK *4	OK *4	OK *4	OK *5	OK *6	OK *6	OK *6	OK *6
Batch operation display (LCD)	OK *7	OK *8	OK *8	OK *8	OK *8	OK *7	OK *8	OK *8	OK *8	OK *8
Batch alarm display (LCD)	OK *7	OK *8	OK *8	OK *8	OK *8	OK *7	OK *8	OK *8	OK *8	OK *8

x...Disable

*1 Individual ON/OFF operation with the remote controller is inhibited under the "central 1" mode.

Individual ON/OFF operation, MODE, and Temp. setting operations with the remote controller are inhibited under the "central 2" mode. Individual MODE and Temp. setting operations with the remote controller are inhibited under the "central 3" mode. Individual MODE operation with the remote controller is inhibited under the "central 4" mode.

*2 "central 1" "central 2" "central 3" "central 4" "individual" can be set.

*3 ON, OFF, remote control permitted / inhibited per ALL can be selected. (6 type)

*4 ON, OFF, remote control permitted / inhibited per ZONE can be selected. (6 type)

*5 ON, OFF per ALL can be selected. (2 type)

*6 ON, OFF per ZONE can be selected. (2 type)

*7 Per ALL

*8 Per ZONE

4. Function items of central remote controller (TCB-SC642TLE)

No	o Items		Function	Remarks
1	Power Supply		AC220/230/240V	
2	Connectable i	ndoor units	Max. 64 units	
3	Max. zone control units		Max. 4 zones	
4	Controllable ir	ndoor units per zone	Max.16 units	
5	Zone setting		Zone.1 : Central control address1 to 16Zone.2 : Central control address17 to 32Zone.3 : Central control address33 to 48Zone.4 : Central control address49 to 64	
6	Monitoring	ON/OFF	Available	
	_	Operation mode	Available	
		Set up temperature	Available	
		Air volume select	Available	
		Frap position	Available *	* Remote controller less system only
		Error contents	Available	
		Filter sign	Available	
7	Setting	ON/OFF	Available	
		Operation select	Available	
		Setting temperature	Available	
		Setting air volume	Available	
		Setting frap position	Available *	* Remote controller less system only
		Reset filter sign	Available	
		Individual operation	Available	
		Master zone control	Available	
		Individual control in the zone	Available	
		Master operation	Available	
		Control with ventilation fan	Available	
8	8 Restriction of local remote controller		 Available Operation disable ON/OFF, mode select and setting temp. disable Mode select and setting temp. disable Mode select disable 	
9	Weekly sched	ule	Available	
			(by connecting weekly timer)	
10	Forced stop c	ommand	Available	
	(Fire alarm)			
11	Master ON/OF	FF command	Available	
12	2 Stop command		Available	
13	3 External operation output		Available	
14	Error output		Available	
15	Connectable of	central control devices	Up to 2 devices (Master / Sub)	In case of "zone fix mode", Up to 5 units (Master, zone 1,2,3,4)
16	Display		Operation status display for each zone	

5. Zone control



4-2-2 Installation procedure

1. General

This booklet briefly outlines where and how to install the central controller. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the controller before beginning.

NOTE

Give these instructions to the customer after finishing the installation.

Part Name	Figure	Q'ty	Remarks
Central controller		1	
Tapping screw Truss-head Phillips 4 x 16 mm		4	For securing the central controller
Rawl plug		4	For securing the central controller
Manual	<u> </u>	1	For installation
Ivialiual		1	For operation

2. Installation site selection

Install the central controller at a height of between 1 and 1.5 meters above the floor.

Do not install the central controller in a place where it will be exposed to direct sunlight or near a window or other place where it will be exposed to the outside air.

Be sure to install the central controller vertically, such as on a wall.

3. How to install the central controller



Do not twist the control wiring together with the power wiring or run it through the same metal conduit, because this may cause a malfunction.

Install the central controller away from sources of electrical noise. Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.



Do not supply power to the unit or try to operate it until the tubing and wiring to the outdoor unit is completed.



* In order to mount the central controller flush with the wall, an opening measuring 128 mm x 128 mm is necessary.

Installation procedure



- 1. Decide how the central controller will be mounted: in the normal manner or flush with the wall.
 - a) To mount the central controller in the normal manner, remove the mounting plate. Then reattach the four screws to the electrical component box.
 - b) To mount the central controller flush with the wall, make an opening in the wall measuring 128 mm x 128 mm. The opening must be at least 85 mm deep as measured from the outside surface of the wall.
- 2. Remove the rear plate and connect the electrical wiring.
 - 1) Remove the four screws located on both sides of the rear plate.
 - 2) Either the hole in the top of the electrical component box or the hole in the rear plate may be used to feed the electrical wiring.
 - 3) If the hole on top is used, the rear plate should be turned upside down.
- 3. Secure the central controller in place.
 - a) If the central controller is being mounted in the normal manner, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the central controller over the rear plate and secure it in place using four screws.
 - b) If the central controller is being mounted flush with the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.
- NOTE
- To mount the central controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes in the wall and insert Rawl plugs to anchor the mounting screws.





How to connect electrical wiring

1) Basic wiring

L: Power supply (\sim 50 Hz/60 Hz, 220–240 V) N:

U1/U3: Indoor unit control wiring. (Low voltage)

- U2/U4: —
- C3: Auxiliary
- C4: Ground for inter-unit control wiring
- (): Ground for power wiring

2) Terminals for remote monitoring

- A1: Input for turning on air conditioners concurrently.
- A2: Input for turning off air conditioners concurrently.
- A3: Common input for turning air conditioners on or off.
- B1: On operation state indicator output.
- B2: Alarm indicator output.
- B3: Common indicator output.

How to wiring



Ensure that wiring connections are correct. (Incorrect wiring will damage the equipment.)

How to wire the central controller

In order to ensure safety, turn off the air conditioner power before mounting or removing the central controller.

Connect the communication wires to the indoor/outdoor unit connecting wires or central control system wires.

Use the following as the communication wires.

Total wire length of less than 1,000 meters: MVVS1.25mm²

Total wire length of less than 2,000 meters: MVVS2.0mm²

The total wire length is obtained by adding the lengths of the indoor/outdoor unit connecting wires to the lengths of the central control system wires. Do not run the communication wires inside the same electrical wire conduits as the power cables, connect them using similar wires or allow them to be

routed near other wires.

For the communication wires, use signal wires that visually identify them as being different from either the remote controller wires or the power cables. Connect the power cable of the central controller to the AC220–240V power source. (Incorrect wiring will damage the equipment.)

Connect the wires in such a way that none of the wires will be connected incorrectly. (Incorrect wiring will damage the equipment.)

<Basic wiring diagram>

Connect the communication wires of the air conditioners shown which is the wiring employed when using central control is used.

The maximum number of air conditioners which can be connected in one central control system is 64 indoor units and 16 outdoor units (header outdoor units). (With VRF system)

Up to ten central controllers including other central control units can be connected.



NOTE

When connecting to MMY outdoor units, make the connection to the central control system wires (U3 and U4 terminals).

When connecting to MMO indoor units, make the connection to the indoor/ outdoor unit connecting wire (U1 and U2 terminals).

When connecting to a RAV air conditioner, make the connection to the U3 and U4 terminals.

The 1:1 model connection interface is required for the RAV air conditioner. (except KRT series.)

<Wiring connection procedure>

As shown in the figure below, connect the terminal block (U1/U3, U2/U4) of the central controller with the terminals (U3, U4) of the outdoor unit (central unit).

It is also possible to connect to the indoor/outdoor unit connecting wire terminals (U1, U2) of the indoor or outdoor unit (no matter which refrigerant system is used).

Since the terminals do not have polarities, U1/U2 or U3/U4 can be reversed.



NOTE The fuse will blow to protect the equipment if an AC voltage of 220–240V is applied by mistake to U1/U3 or U2/U4. If this should happen, first re-connect the terminals properly, and then connect the communication wire to the U1/U3 and spare terminals. Check the fuse on the indoor/outdoor control board since this fuse may have blown as well.

<Grounding the shielded wires>

Terminate the connection of the shielded wires for all the central control wires, and provide single-point grounding.

Even when connecting the centrally controlled unit to the indoor/outdoor unit connecting wires, terminate the connection of the shielded wires, and provide single-point grounding for all the indoor/outdoor unit connecting wires.

Leave the final termination open (insulate it).



Area A: Ground both ends of the shielded cable used for the indoor/outdoor unit connection.

Area B: Connect a shielded cable for the central control system wiring. Area C: Ground only one end of the central control system wiring at its final termination. (Leave the other end of the wire at its final termination as an open wire (i.e. insulate it).) 64-system central controller When connecting to multiple indoor units (when connecting to the indoor/outdoor unit connecting wire)

4. Address switch setting





How to reach the P.C. board

Remove the flat-top screw on the bottom of the back case. When you open up the decorative cover, you will see two notches under the control unit. Inset a coin or other flat object into these notches and pry off the back case. The P.C. board on the back of the control unit is now visible.

SW1

		SW1			
Main/sub selection switch		1 2 3 4 5 6 7 8			
ON: Central controller operates as main controller.					
		introlici.			
ALL/ZONE mode selection ALL mode: All indoor units can be c ZONE 1, 2, 3, 4 mode: Indoor units in one of zo central controller. All inde ALL mode ZONE 1 mode ZONE 2 mode ZONE 3 mode ZONE 4 mode	n switch ontrolled by centra ne 1, 2, 3, or 4 ca oor units cannot b 2 3 OFF OFF OFF OFF OFF OFF OFF OFF OFF ON OFF ON	al contro n be cor e set. 4 OFF	Iler. trolled by 5 OFF ON ON ON ON	OFF	
				י 1	
OFF: Central control mo Individual setting by rem central controller. ON: Remote control mod Setting by central contro control equipments.	bited by				
Central control Main/Sub s (OFF: Main, ON: Sub) ① When AMY adaptor set the switch to ON ② When only one centra OFF position. ③ Except ①, when mul only one central cont ON position. ALL mode central con (recommended)					
 (Central control) button operation switch OFF: (I) (Central control) button operation is permitted. ON : (I) button operation is inhibited. 					

*All switches are OFF position at shipment.

SW2

2							SW2
ekly Cer	timer input swit	ches eration can be set v	when w	veekly t	imer		
activ	vates (ON/OFF).						
Cer	ntral	Switch No.	1	2	3	OFF	
	Timer OFF ON	Timer ON OFF			Ŭ		
ᠿ	All ON	All OFF	OFF	OFF	OFF		
2	No change	All OFF	ON	OFF	OFF		
3	Individual control of all indoor units to be permitted	All indoor units to be 🛃 1*1	OFF	ON	OFF		
4	Ditto	All OFF and all indoor units to be	ON	ON	OFF		
5	Ditto	All indoor units to be 🛃 2* ²	OFF	OFF	ON		
6	Ditto	All OFF and all indoor units to be	ON	OFF	ON		
one * ¹ : (* ² : (ase of ZONE 1, 2, 3, of ZONE 1, 2, 3, 1 (Central concentration of execute by 2 (Central control con	4. htrol 1) means ON remote controller htrol 2) means ON/ not be executed by	/OFF c OFF, N y remo	operatio operatio 10DE c te contr	n hange. oller.		
cilia Mus	ry switch st be set to OFF p	osition.					
ep te OFF ON:	one switch -: Beep tone wher No tone when ea	n each button is pu ach button is pushe	ushed. ed.]	
ndio Nor Whe LCE	cation switch mally set to OFF p en set to ON posit of central contro	position. ion, ⊙ indication i ller.	s not d	isplaye	d on		
SW	itches are OFF	position at shipn	nent.				

5. Mode setting

According to function of each central controller, set SW1 as Fig. 12.

(1) Central control/Remote control mode

Central control mode

Central controller is used as central control equipment.

Individual setting by remote controller can be inhibited by central controller.

Remote control mode

Central controller is used as remote controller. Setting by central controller is inhibited by other central control equipments.

(2) ALL/ZONE mode

ALL mode

All indoor units can be controlled by central controller.

ZONE mode

Indoor units in one of ZONE 1, 2, 3 or 4 can be controlled by central controller.

- (3) Function of central controller is 10 types according to combination of central control/remote control mode and ALL/ZONE mode setting as the table 1.
- (4) Stick the central controller unit label in a conspicuous position.



Fig. 12

Table 1

~				
	Central control	Remote control		
ALL	1. ALL/Central	6. ALL/Remote		
ZONE1	2. ZONE1/Central	7. ZONE1/Remote		
ZONE2	3. ZONE2/Central	8. ZONE2/Remote		
ZONE3	4. ZONE3/Central	9. ZONE3/Remote		
ZONE4	5. ZONE4/Central	10. ZONE4/Remote		

6. How to perform zone registration

To operate the central controller properly, zone registration is required after finishing the test run (and after setting all indoor unit addresses) using one of the following methods.

Procedures common to all units

- 1. Connect the U1/U2 terminals to the relay connectors of the U3/U4 terminals inside the outdoor unit (central unit).
- Leave the SW30-2 switch on the outdoor unit (central unit) interface board at the ON position for one system only, and set all the other switches to OFF. (For details on the SW-30 position, refer to the wiring diagram provided with the outdoor unit.)
 - (a) Zone registration using the remote controller (RBC-AMT21E) Refer to page 16
 - (b) Zone registration using the central controller (TCB-SC642TLE) Refer to page 17
 - (c) Automatic zone registration using the central controller (TCB-SC642TLE) Refer to page 18

For methods (a) and (b), you should make a zone registration table manually before performing the registration as shown on the page 15.

For method (c), zone registration is executed automatically, proceeding from small indoor unit address and small central addresses to larger numbers in numerical order. For example:

For methods (b) and (c)

These methods are not supported by the RAV models.

For RAV models, initiate the zone registration described in (a).

Wait at least 10 minutes after the power has been turned on before starting to set the addresses.

It may take up to 10 minutes (although it usually takes 3 minutes) to establish initial communication between the indoor and outdoor units. If the addresses are set before this communication is completed, the central address may fail to be set in some of the indoor units.

Central adress	1	2	3	4	5	6	
ZONE-group	1-1	1-2	1-3	1-4	1-5	1-6	
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1	

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines an R.C. address and indoor unit number as follows:

^{−1} : Indoor unit address (UNIT No.) Indoor unit No.

- Refrigerant circuit No. (R.C. address)

This address is displayed on remote controller for UNIT No. when the UNIT button is pressed.

- **2.** The central address represents the zone and group number. These addressed are assigned in ascending numerical order.
- For details on how to set the addresses when the TCC-LINK adapter is connected for central control, refer to these instructions and to the installation instructions of the TCC-LINK adapter.

ZONE registration table

ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location	ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location
	1	1				1	33		
	2	2				2	34		
	3	3				3	35		
	4	4				4	36		
	5	5				5	37		
	6	6				6	38		
	7	7				7	39		
1	8	8			2	8	40		
	9	9			5	9	41		
	10	10				10	42		
	11	11				11	43		
	12	12				12	44		
	13	13				13	45		
	14	14				14	46		
	15	15				15	47		
	16	16				16	48		
	1	17				1	49		
	2	18				2	50		
	3	19				3	51		
	4	20				4	52		
	5	21				5	53		
	6	22				6	54		
	7	23				7	55		
2	8	24			1	8	56		
2	9	25			4	9	57		
	10	26				10	58		
	11	27				11	59		
	12	28				12	60		
	13	29				13	61		
	14	30				14	62		
	15	31				15	63		
	16	32				16	64		

NOTE

1. Assign indoor unit addresses to the desired positions (central addresses) manually.

2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

(a) Zone registration using the remote controller (RBC-AMT21E)

(Determination of central address)

This method is not supported by the RAV models. For RAV models, initiate the zone registration described in (a).

In this case, after confirming which indoor unit is connected to the remote controller and that the air conditioner in the OFF state, you set the central addresses one at a time.

If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

- (2) Do not press UNIT button.
- (3) Once in this mode, the UNIT No., CODE No., No. of SET DATA and **SETTING** indications will flash on the display as shown Fig. 13.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the UNIT button once.

(4) Set CODE No. to 03 using the \frown and \frown () buttons.

NOTE

The CODE No. 03 must be selected to perform zone registration using the remote controller.

- (5) Set the Central address which you want to assign to the indoor unit address using the \frown and \frown (④) buttons according to the zone registration table.
- (6) Press the ET button. The CODE No. and Central address changes from flashing to ON state. If you make mistake, then press the CL button and reset the central address.
- (7) Press the 🕖 button to finish zone registration.



Fig. 13



For example, in this case Indoor unit address: 1-8 Central address: 17 (ZONE 2, GROUP 1)

(b) Zone registration using the central controller (TCB-SC642TLE)

This method is not supported by the RAV models. For RAV models, initiate the zone registration described in (a).

In this case, you set all Central addresses by central controller at once manually.

- Press the And and buttons at the same time for more than 4 seconds.
 SETTING and CODE No. C1 will flash.
- (2) After confirming that CODE No. C1 is displayed, press the 🗊 button. Once in this mode, a change takes place as Fig. 15.
- (3) Select the zone and group No. which you want to set is displayed with ZONE and
 If already set, press the CL buttons.
- (4) Set the unit No. (Indoor unit address) with and buttons, according to the zone registration table.

R.C. No. 🔳 button

Indoor unit No..... F button

(5) Press the SET button.

GROUP No. turns ON and UNIT No. (Indoor unit address) changes from flashing to ON state. UNIT No. is registered to selected ZONE No. and GROUP No.

If you make mistake, then press the $\textcircled{\cc}$ button and reselect the ZONE, GROUP and UNIT No.

- (6) Register the other UNIT No. in the same way by following the steps (3) to (5).
- (7) Finally, complete the registration by pressing the button.

SETTING flashes for a few minutes, then OFF.



If no data is registered no number is displayed. Selected group No. if no data is registered.



For example, in the case at left Zone 3, group No. 7 Unit No. (indoor unit address) 2-8

Unit No. 2-8 is registered to zone 3-group 7.

- (c) Automatic zone registration using the central controller (TCB-SC642TLE)
- (1) Press the
 And
 ZONE buttons at the same time for more than 4 seconds.
 SETTING and CODE No. C1 will flash.
- (2) Select CODE. No. C2 by pressing and () button and press the () button.
 C2 changes from flashing to ON state and automatic zone registration will start.
- (3) Registered GROUP No. will be disappeared all.
- (4) Central address will be assigned from small indoor unit address to large one in numerical order automatically.
 Finishing automatic zone registration, SENNG changes from flashing to OFF.
- (5) If the error is happened, the "CHECK" starts flashing and zone registration finishes at this time. Press the CL button.
- (6) Finally, complete automatic zone registration mode by pressing the
 button.

 SETTING flashes for a few minutes, then OFF.



Fig. 17

7. Checking from the central controller for duplication of the central address

Central address duplication error check: C3

- * This cannot be used with RAV air conditioners. For further details, refer to the instructions of the TCC-LINK adapter.
- (1) Hold down the *i* and *i* buttons together for at least four seconds. (CODE No. C1 starts flashing.)
- (2) Press the \frown or \frown () button to select CODE No. C3.
- (3) When the ET button is now pressed, CODE No. C3 lights and ETTING flashes. The central address duplicated error check now starts.
- (4) The addresses of all the indoor units is checked in sequence starting with outdoor unit system 1. The check is completed when CODE No. C3 flashes and SETING goes off.
- (5) If any duplication is discovered among the central addresses, the GROUP No. will flash.

The central address is cleared by selecting the area where the GROUP No. is flashing and by pressing the CL button. Set the correct central address using the wired remote controller or the central controller.

(6) Press the button to complete the procedure.
 Stand flashes for several minutes, the initial setting is automatically established, and the procedure is completed.

	Input/output	Central cont	roller side	Equipment side				
Designation	item	Input/output conditions	Terminal name	Demarcation terminals	Circuitry example	Input/output conditions		
	Status output	Operate output Alarm output "A" (normally open) contact without voltage Static (relay output) Allowable contact voltage, current: DC 30 V, 0.5 A	Opera Opera Alarm Output common	CPEV te 0.9 to 1.2	Digital Digital	Wiring length: Max. 100 meters		
Digital input/output terminals	Control input	All operate input All stop input "A" (normally open) contact with voltage Pulse (photocoupler input) Allowable contact voltage, current: DC 24 V, 10 mA	All operate (+)	CPEV 0.9 to1.2	+24V	Pulse width: 300 ms or more Wiring length: Less than 100 meters		

8. Connections with external equipment

9. Memory back up switch

Check the back up switch is ON for back side of central controller PCB.



10. Test run of the central controller

- (1) Power on for all indoor units. Next, power on for central controller.
 - SETTING will flash, checking the indoor unit address automatically.
- (2) If group No. displayed on central controller is not same as indoor unit No.* which is connected, see Fig. 7 and setting again.

*In case of group control, main unit No. only.

11. How to perform an air conditioner test run

(1) Hold down the \nearrow button of the central controller for at least four seconds.

During the test run, "TEST" appears on the LCD display.

(2) Press the \bigcirc and \square buttons.

The temperature cannot be adjusted at the "TEST" position. Do not use this procedure except when performing a test run since it will strain the equipment.

(3) Upon completion of the operation, press the 🔎 button, and check that "TEST" on the LCD display has gone off.

4-2-3 Operation procedure

How to Use the Central Controller

Functions of buttons



Functions of buttons (Continued)

D: ON button		This button is for turning the selected air conditioner on.
E: OFF button	\bigcirc	This button is for turning the selected air conditioner off.
F: Operation lamp		This lamp lights when the unit is turned on.
G: MODE button		Use this button to select one of the following five operations:
	(AUTO)	 A: Used to automatically set cooling or heating operation. Some models are not provided with a mode for automatically setting the cooling or heating operation. (temperature range: 18 to 29 °C)
	(HEAT)	 Used for normal heating operation. Only for heat pump type (temperature range: 18 to 29 °C)
	(DRY)	\diamond : Used for dehumidifying without changing the room temperature. (temperature range: 18 to 29 °C)
	(COOL)	 ❀ : Used for normal cooling operation. (temperature range: 18 to 29 °C)
	(FAN)	\$: Used to run the fan only, without heating or cooling operation.
	NOTE	When the $_{f\!\!P}$ indication is displayed, you cannot change the mode from $\$ and $\$ or $\$ to $\$ or $\$ and $\$ or $\$ to $\$ or $\$ and $\$ or $\$ or $\$ or $\$ or $\$ and $\$ or or \ or $\$ or $\$ or or \ or or \ or or $\$ or or \ or or
H: Temperature setting		Press this button to increase the temperature setting.
buttons	▼	• Press this button to decrease the temperature setting.
I: FAN SPEED button	\$	
	(AUTO)	A: The air conditioner automatically decides the fan speed.
	(HI.)	ss» : High fan speed.
	(MED.)	🏶 : Medium fan speed.
	(LO.)	\$: Low fan speed.
J: FLAP button	F (*)	1. Use this button to set the airflow direction to a specific angle. The airflow direction is displayed on the remote control unit. Operation mode Number of airflow direction settings
	AUTION	 In the cool mode and dry mode, when the flaps are set in a downward position, condensation may form and drip around the vent. Do not move the flap with your hands.
	NOTE	This function is available only for 4-Way air discharge cassette type and Under ceiling type.
	(_)	 Use this button to make the airflow direction sweep up and down automatically. Press this button several times until the () symbol appears on the display.
	NOTE	 The flap setting can be performed only for units that have no remote controllers. In the ALL or ZONE mode, no flap setting can be performed. If necessary, you should select the GR mode and use the FLAP button.

Functions of buttons (Continued)

K: CHECK button	This button is used only when servicing the air conditioner.
	Do not use the CHECK button for normal operation.
L: CENTRAL CTRL button	Use this button to inhibit individual operation by remote controller as follows:
	61234
	 Individual ON/OFF operation is inhibited. Individual ON/OFF, MODE and Temperature setting operation is inhibited.
	 3: Individual MODE and Temperature setting operation is inhibited. 4: Individual MODE operation is inhibited
	No indication: Central control is cleared. (Individual operation)
M: SET button	This button is used for setting indoor unit's address when installing the air conditioner.
NOTE	Do not use the SET button for normal operation.
N: CL button	Use this button to reset the filter sign ⊞. The air conditioner has the timer for the filter and informs you when the filter needs cleaning.
O: VENTILATION button	 Use this button when you installed a fan available in the market. Pressing this button turns on and off the fan. When turning off the air conditioner, the fan will also turned off. While the fan is operating, € will appear in the display. If Ø is displayed when pressing the ventilation button, no fans are installed.

Display



Description

- A: When the unit is in the heating standby mode, the (*) indicator appears.
- B: The currently selected operation mode is displayed.
- **C:** The currently selected FAN SPEED, Airflow Direction and SWEEP settings are displayed.
- D: This indication appears when the filter needs cleaning.

h

- E: This indication appears only when an abnormality occurs within a unit.
- F: The currently selected mode (ALL, ZONE or GROUP), ZONE number and GROUP number are displayed.

GROUP number display (no figure: no number registered)

Operation state display (- : on, no sign: off, : alarm)

- G: The currently selected central control mode (1, 2, 3 or 4) is displayed.
- H: Lights when any of the air conditioners under the central control is operating; turns off when none of the air conditioners under the central control is operating. Blinks when any conditioner is operating under abnormal conditions and its protection functionality is working.
- I: This indication appears while a test run is underway.
- J: This indication appears when the temperature is set.
- **K:** When turning on the power switch of the central controller, **STING** sign blinks for a few minutes. While blinking, any controls using the central controller are inhibited. This is because the central controller is verifying connected groups.

How to start group operation

To start group operation



Power	Turn the power supply switch on more than 12 hours before starting operation.
1 SELECT	Press the SELECT button and select GROUP.
2 ZONE	Select the ZONE No. including the group to be operated by pressing ZONE button.
3	Select the GROUP No. to be operated by pressing GROUP select buttons < >.
4	Set the operation mode by pressing the MODE button.
5 🛛	Press the ON button.
6 A	Set the desired temperature by pressing one of the temperature setting buttons $\blacktriangle \bigtriangledown$.
7 \$	Set the desired fan speed by pressing the FAN SPEED button.
8	Set the airflow direction to a specific angle or sweep mode.
9	 By pressing , select your desired setting. Individual: Controls with the remote controller are possible. Central 1: Individual ON/OFF operation with the remote controller is inhibited. Central 2: Individual ON/OFF, MODE, and Temp. setting operations with the remote controller are inhibited. Central 3: Individual MODE and Temp. setting operations with the remote controller are inhibited. Central 4: Individual MODE operation with the remote controller is inhibited. Under Central/Individual settings other than listed above, "CENTRAL" is displayed.
AUTO Operation	Depending on the difference between the temperature setting and the room temperature, heating and cooling alternate automatically so that a uniform room temperature is maintained. Some models are not provided with a mode for automatically setting the cooling or heating operation.
Stop 💿	Confirming the GROUP No. to be selected, press the OFF button.

NOTE

The flap setting can be performed only for units that have no remote controllers.

How to start collective operation

To start collective operation (ALL or ZONE)



Power		Turn the power supply switch on 12 hours or more before starting operation.
1	SELECT	Press the SELECT button and select ALL or ZONE. In case of ZONE collective operation.
2	ZONE	Select the ZONE No. to be operated by pressing ZONE button.
3		Set the operation mode by pressing the MODE button.
4		Press the ON button.
5		Set the desired temperature by pressing one of the temperature setting buttons $\blacktriangle \bigtriangledown$.
6	%	Set the desired fan speed by pressing the FAN SPEED button.
7	æ	Select the control mode.
Stop		Confirming the ZONE No. to be selected or ALL indication, press the OFF button.

NOTE

In the ALL or ZONE mode, no flap setting can be performed. If necessary, you should select the GR mode and use the FLAP button.

4-3 Application controls of indoor unit

4-3-1 Setup of selecting function in indoor unit (Be sure to Execute Setup by a Wired Remote Controller)

<Procedure> Execute the setup operation while the unit stops.



- **1** Push (SET), CL), and f buttons simultaneously for 4 seconds or more. The firstly displayed unit No. indicates the header indoor unit address in the group control. In this time, the fan of the selected indoor unit is turned on.
- **2** Every pushing UNIT button, the indoor unit numbers in the group control are successively displayed. In this time, the fan of the selected indoor unit only is turned on.
- **3** Specify the item code (DN) using the setup temperature \frown and \bigcirc buttons.

4 Select the setup data using the timer time \frown and \bigcirc buttons.

(When selecting the DN code to "33", change the temperature indication of the unit from "°C" to "°F" on the remote controller.)

- **5** Push (SET) button. (OK if display goes on.)
 - To change the selected indoor unit, return to procedure 2.
 - To change the item to be set up, return to procedure $\boldsymbol{3}$.
- **\boldsymbol{6}** Pushing \nearrow button returns the status to normal stop status.

CAUTION

Be sure to perform the item code (DN) setting as the "Cooling Only" for the cooling only indoor unit in case of heat recovery type (Super HRM). If this setting is not performed, error code [L18] may occur.

Table: Function selecting item numbers (DN) (Items necessary to perform the applied control at the local site are described.)

DN	Item	C	Description	At shipment
01	Filter sign lighting time	0000 : None 0002 : 2500H 0004 : 10000H	0001 : 150H 0003 : 5000H	According to type
02	Dirty state of filter	0000 : Standard	0001 : High degree of dirt (Half of standard time)	0000 : Standard
03	Central control address	0001 : No.1 unit to 0099 : Unfixed	0064 : No.64 unit	0099 : Unfixed
04	Specific indoor unit priority	0000 : No priority	0001 : Priority	0000 : No priority
06	Heating temp shift	0000 : No shift 0002 : +2°C to	0001 : +1°C 0010 : +10°C (Up to +6 recommended)	0002 : +2°C (Floor type 0000: 0°C)
0d	Existence of automatic cool/heat mode	0000 : Provided	0001 : Not provided (Automatic selection from connected outdoor unit)	0001 : Not provided
0F	Cooling only	0000 : Heat pump	0001 : Cooling only (No display of [AUTO] [HEAT])	0000 : Heat pump
12	Line address	0001 : No.1 unit to	0030 : No.30 unit	0099 : Unfixed
13	Indoor unit address	0001 : No.1 unit to	0064 : No.64 unit	0099 : Unfixed
14	Group address	0000 : Individual 0002 : Follower unit of group	0001 : Header unit of group	0099 : Unfixed
19	Flap type (Adjustment of air direction)	0000 : Not provided 0004 : [4-way Air Discharge Cas	0001 : Swing only sette type] and [Under Ceiling type]	According to type
1E	Temp difference of automatic cooling/ heating mode selection COOL \rightarrow HEAT, HEAT \rightarrow COOL	0000 : 0 deg to (For setup temperature, reversal	0010 : 10 deg of COOL/HEAT by ± (Data value)/2)	0003 : 3 deg (Ts±1.5)
28	Automatic restart of power failure	0000 : None	0001 : Restart	0000 : None
29	Operation condition of humidifier	0000 : Usual (Detection control for heat excha	0001 : Condition ignored anger temperature)	0000 : Usual
2A	Selection of option/ error input (CN70)	0000 : Filter input 0002 : Humidifier input	0001 : Alarm input (Air washer, etc.)	0002 : Humidifier
2E	HA terminal (CN61) select	0000 : Usual	0001 : Leaving-ON prevention control	0000 : Usual (HA terminal)
30	Automatic elevating grille	0000 : Unavailable (Standard, Oil guard panel)	0001 : Available (Auto grille, Oil guard, Auto grille panel)	0000 : Unavailable
31	Ventilating fan control	0000 : Unavailable	0001 : Available	0000 : Unavailable
32	TA sensor selection	0000 : Body TA sensor	0001 : Remote controller sensor	0000 : Body TA sensor
33	Temperature unit select	0000 : °C (at factory shipment)	0001:°F	0000 : °C
40	Control for humidifier (+ drain pump control)	0000 : None 0002 : Humidifier + Ultrasonic sy (Pump ON after specified 0003 : Humidifier + Natural drain	0001 : Humidifier + Vaporizing system (Pump ON) stem time passed) (Unused) system (Pump OFF)	0003 : Humidifier ON, Pump OFF
5d	High ceiling selection (Air volume selection)	[4-way Air Discharge Cassette ty 0000 : Standard filter 0001 : Super-long life [Concealed Duct Standard type] 0000 : Standard static pressure (40Pa) 0003 : High static pressure 2 (100Pa)	 (pe] and [Under Ceiling type] 0001 : High static pressure 1 (70Pa) 0005 : Correspond to quiet sound 0006 : Low static pressure (20Pa) 	0000 : Standard
60	Timer set (Wired remote controller)	0000 : Available (Operable)	0001 : Unavailable (Operation prohibited)	0000 : Available
62	Smudging-proof control clear	0000 : Clear		4- way Air Discharge Cassette type only
92	Outside interlock release condition	0000 : Operation stop	0001 : Release communication signal receive	0000 : Operation stop

Selection of indoor air temperature sensor

(How to select "body TA sensor" or "remote controller sensor")

Wired remote controller (RBC-AMT21E) has the sensor to detect air temperature. Whether body TA sensor or remote controller sensor you use can be selected by item code (DN) setting from wired remote controller.





[Note]

In case of using remote sensor "TCB-TC21LE",

don't select "remote controller senor" by item code (DN) setting.



4-3-2 Ventilation fan control from remote controller

[Function]

- The start/stop operation can be operated from the wired remote controller when air to air heat exchanger or ventilating fan is installed in the system.
- The fan can be operated even if the indoor unit is not operating.
- Use a fan which can receive the no-voltage A contact as an outside input signal.
- In a group control, the units are collectively operated and they can not be individually operated.

(1) Operation

Handle a wired remote controller in the following procedure.

- * Use the wired remote controller during stop of the system.
- * Be sure to set up the wired remote controller to the header indoor unit. (Same in group control)
- * In a group control, if the wired remote controller is set up to the header indoor unit, both header and follower units are simultaneously operable.
- **1** Push concurrently (SET) + (CL) + (CL) + (SET) buttons for 4 seconds or more.

The unit No. displayed firstly indicates the header indoor unit address in the group control. In this time, the fan of the selected indoor unit turns on.

2 Every pushing UNIT button, the indoor unit numbers in group control are displayed successively.

In this time, the fan of the selected indoor unit only turns on.

- **3** Using the setup temp \frown or \frown button, specify the item code $\exists t$.
- **4** Using the timer time or v button, select the setup data. (At shipment: 0000) The setup data are as follows:

Setup data	Handling of operation of air to air heat exchanger or ventilating fan
0000	Unavailable (At shipment)
000 1	Available

5 Push (SET) button. (OK if display goes on.)

- To change the selected indoor unit, go to the procedure $\mathbf{2}$).
- To change the item to be set up, go to the procedure $\boldsymbol{3}$).

$m{6}$ Pushing \nearrow returns the status to the usual stop status.

(2) Wiring



4-3-3 Leaving-ON prevention control

[Function]

- This function controls the indoor units individually. It is connected with cable to the control P.C. board of the indoor unit.
- In a group control, it is connected with cable to the indoor unit (Control P.C. board), and the item code 2ξ is set to the connected indoor unit.
- It is used when the start operation from outside if unnecessary but the stop operation is necessary.
- Using a card switch box, card lock, etc, the leaving-ON of the indoor unit can be protected.
 - When inserting a card, start/stop operation from the remote controller is allowed.
 - When taking out a card, the system stops if the indoor unit is operating and start/stop operation from the remote controller is forbidden.

(1) Control items

- 1) Outside contact ON : The start/stop operation from the remote controller is allowed. (Status that card is inserted in the card switch box)
- 2) Outside contact OFF : If the indoor unit is operating, it is stopped forcedly. (Start/Stop prohibited to remote controller) (Status that card is taken out from the card switch box)
- * When the card switch box does not perform the above contact operation, convert it using a relay with b contact.

(2) Operation

Handle the wired remote controller switch in the following procedure.

- * Use the wired remote controller switch during stop of the system.
- **1** Push concurrently $SET + CL + \mathcal{F}$ buttons for 4 seconds or more.
- **2** Using the setup temp \frown or \frown button, specify the item code $\mathcal{Z}\mathcal{E}$.
- ${f 3}$ Using the timer time ${f A}$ or ${f
 abla}$ button, set ${\it IIII}$ to the setup data.
- **4** Push (SET) button.





Note) Determine the cable length between the indoor control P.C. board and the relay within 2m.

4-3-4 Power peak-cut from indoor unit

When the relay is turned on, a forced thermostat-OFF operation starts.



Note) Determine the cable length between the indoor or outdoor control P.C. board and the relay within 2m.

4-3-5 Remote sensor (TCB-TC21LE)

Accessory parts Q'ty Part Name Q'ty Part Name Remote sensor Spacer 2 1 (200mm-cable attached) Wire joint 2 Small screw M4 x 25 2 Cable clamper R 1 Wood screw Installation Manual 0-100 2 1

[Installation work and service]

- Requirement to install the remote sensor -

Installation place

- Install the remote sensor at a position with height 1 to 1.5m from the floor, where the average temperature in the room can be felt.
- Do not install the remote sensor at a place exposed to the direct sunlight or direct outside air, such as a side of window, etc.
- Do not install the remote sensor at a place behind something or rear side of something, where air flow is poor in the room.
- Do not install the remote controller near the freezing box or refrigerator because water proof or drop-proof is not applied to this remote controller.
- Be sure to set the remote sensor vertically on the wall surface, etc.

How to install the remote sensor

- **NOTE 1 :** Avoid to twist the remote sensor cable with the power supply cable, etc. or to store them in the same metal pipe, otherwise it causes a malfunction.
- **NOTE 2 :** Install the remote sensor apart from the generation source of noise.
- **NOTE 3 :** When noise is induced to the power source of the indoor unit, some measures such as mounting the noise filter is necessary.
- In case of using the remote sensor as a concealed type



- 1. Inserting a minus screwdriver, etc. into the groove at the lower side of the remote sensor body, force open the rear case to remove it.
- 2. Using the attached M4 screws (2 pcs.), fix the rear case of the remote sensor. Before installation, press to open the screw hole with a screwdriver, etc.

Fix it with the spacer, but not so strongly. If the remote sensor does not fit closely to the wall, adjust it by cutting off the spacer.

- 3. Connect the remote sensor cable (2 cores) to the terminal numbers of the indoor unit. (Applying AC 220/230/240V breaks the unit.)
- Install the remote sensor body by matching to hooks on the rear case and putting into the hooks.

- How to perform cabling of the remote sensor

In case of using the remote sensor as a concealed type Connection diagram



- Non polarity, 2 core cable is used..
- Use 0.5mm² to 2 mm² cable.



Requirement for using the remote sensor together with the remote controller

How to install

For the above control, install the remote sensor in the following procedure.

- 1. Set the remote controller as the master remote controller.
- Do not change the remote sensor switch in the master remote controller for correct temperature control by remote sensor.

Basic cabling diagram

- 1. Connect cables without miswiring. (Miswiring breaks the unit.)
- 2. In a case to operate an indoor unit from the remote sensors and the remote controller.



4-4 Application controls of outdoor unit

The following functions become available by setting the switches on the outdoor interface P.C. board.

No.	Function	Switch No.	Bit
1	Outdoor fan high static pressure shift	SW10	2
2	Cooling priority, Heating priority control	SW11	1, 2

<Interface P.C. board of outdoor unit>



4-4-1 Outdoor fan high static pressure shift

Usage/Features

This function is set when connecting a duct to discharge port of the outdoor unit.

Setup

Turn "Bit 2" of the Dip switch [SW10] on the interface P.C. board of the outdoor unit to ON side. For the outdoor units which are connected with the ducts, set this function regardless of the header unit or follower unit.

Specifications

Increase No. of rotations of the propeller fan of the outdoor fan so that a duct with the maximum outside static pressure 35Pa (3.5mmAq) can be installed. If installing a discharge duct (Below 35Pa (3.5mmAq)) exceeding the duct resistance 15Pa (1.5mmAq), execute this setup.

Discharge air volume in each outdoor unit is described in the following table.

Capacity rank (MMY-MAP)	0501, 0601 type	0801 type	1001, 1201 type
Standard air volume of outdoor unit (m ³ /min.)	150	165	175

Options

35Pa or more as the external static pressure is also available (Ex. 45Pa). For details of adjustment, consult the sales subsidiary.

4-4-2 Cooling priority, heating priority control

Usage/Features

Cooling priority or heating priority can be selected.

There are the following four patterns in selecting setup of the priority mode. Select a priority mode based upon the demand of the destination to be installed.

*For Super HRM system, don't set SW11 (Leave as it is at shipment.)

Setup

(Note) In "Specific indoor unit priority" mode only, it is necessary to set up an indoor unit only which you desire to give priority. (Refer to "4-4-3".)

Outdoor unit (Header unit only) setup

SW11		Organitien	
Bit 1	Bit 2		
OFF	OFF	Heating priority (Setup at shipment)	
ON	OFF	Cooling priority	
OFF	ON	No. of operating units (Priority is given to operation mode with which much more units operate.)	
ON	ON	Specific indoor unit priority (Priority is given to operation mode of the indoor unit to which the operation mode priority has been set up.)	

4-4-3 Indoor unit setup in "Specific indoor unit priority" mode

- (1) Setup switch (sw11) on interface P.C. board of header outdoor unit. (SW11 bit1=ON, bit2=ON)
- (2) The setup can be changed during stop of operation. (Be sure to stop the system.)



Procedure	Operation contents
1	 When pushing SET + CL + buttons at the same time for 4 seconds or more, as shown in the figure, the display section flashes after a while confirm the displayed item code is [12]. When the item code is one other than [12], push button to eliminate the display and then repeat the procedure from the first step. (The remote controller operation is not accepted approx. 1 minute after pushing button.) (In a group control, the indoor unit with number displayed firstly is set to the header unit.)
2	Every pushing UNIT, the indoor unit numbers in the group control are successively displayed. Select the indoor unit of which setup is to be changed. In this time, as the fan and louver of the selected indoor unit operate, the position of the indoor unit of which setup is to be changed can be confirmed.
3	Using the setup temperature and buttons, specify the item code [24].
4	Using the timer time and v buttons, select the setup data [000 /]. Priority: 000 /, No priority: 0000
5	Push (SET) button. In this time, the setup operation finishes when the display changes from flashing to lighting.
6	After setup operation has finished, push 🖍 button. (Setup is determined.) When pushing 🜈 button, the display disappears and the status returns to the usual stop status. (The remote controller operation is not accepted for approx. 1 minute.)

(NOTE)

Only one indoor unit can be set to "Priority". If the multiple indoor units are accidentally set to "Priority", an error code (L05 or L06: Duplicated indoor unit priority) is displayed.

To the unit displaying "L05", [0001 (Priority)] is setup. Separate a unit which you will give priority from the other indoor units, and return the setup data of the other indoor units to [0000 (No priority)].

Error code	Error contents
L05	Indoor unit priority duplication ([[]]] is set up.)
L06	Indoor unit priority duplication ([[[]]]] is set up.)
4-5 Application controls by optional P.C. board of outdoor unit

The following functions become available by using a control P.C. board sold separately. Set up the switches or the header outdoor unit (U1).

No.	Function	Switch No.	Bit	Connector No.	Used control P.C. board
1	Power peak-cut control (Standard)	SW07	1	CN513	TCB-PCDM2E
2	Power peak-cut control (Expansion)	SW07	1,2	CN513	TCB-PCDM2E
3	Snowfall fan control	_	_	CN509	TCB-PCMO2E
4	External master ON/OFF control	_	—	CN512	TCB-PCMO2E
5	Night operation control	_	_	CN508	TCB-PCMO2E
6	Operation mode selection control	_	_	CN510	TCB-PCMO2E

<Connector position magnified drawing>

<Outdoor unit interface P.C. board>



Dimension

TCB-PCDM2E



TCB-PCMO2E



Installation procedure of power peak cut control board (TCB-PCDM2E)

1. Accessory parts

No	Parts name	Q'ty	No	Parts name	Q'ty
1	Power peak-cut control board	1	5	Installation manual	1
2	Connection cable	1	6	Cable-clamp	1
3	Support to fix the board	4	7	Screw for cable-clamp	1
4	Installation manual	1	8	Banding band	2

2. Placing Position

Install this P.C. board to the upper side of the inverter assembly on outdoor unit.





3. How to install

- (1) Be sure to turn off the power when installing.
- (2) Place this P.C. board by using the support to fix the board.
- There are four installation holes to place the support on the upper side of the inverter assembly.
- (3) Connect the P.C. board (TCB-PCDM2E) PJ17 and outdoor unit interface CN513 with connection cable.
- (4) Bind the remaining cable with the attached banding band.



4. wiring

	Length	Size	Туре
Input wiring	Up to 500m	2-core or 3-core, 0.75mm ²	Shield wire
Output wiring Up to 200m		2-core, 0.75mm ^{2*}	Shield wire
	Up to 400m	2-core, : 1.5mm ² *	

* In conformity with design 60245 IEC 57

(1) Refer to the "Electric wiring diagram" when wiring.

(2) Be sure to use the shield wire to prevent noise trouble, and perform the grounding at both sides of shield wires.(3) Fix the output wiring with the code clamp and banding band.

Let the output wiring into the banding band and band it together with the other wiring. Fix the code clamp using the screw hole on the "B" position.





Installation procedure of external master ON/FF control board (TCB-PCMO2E)

1. Accessory Parts

No	Parts name	Q'ty	No	Parts name	Q'ty
1	External master ON/OFF control board	1	5	Installation manual	1
2	Connection cable	1	6	Banding band	1
3	Support to fix the board	4	7	Screw for cable clamp	1
4	Instruction Manual	1			

2. Placing position

Install this P.C. board to the upper position of the inverter assmembly on outdoor unit. Up to 4 TCB-PCMO2E can be installed simultaneously in one inverter assembly.





3. How to install

- (1) Be sure to turn off the power when installing.
- (2) Place this P.C. board by using the support to fix the board.
- There are four installation holes to place the support on the upper side of the inverter assembly.
- (3) Connect the PC board (TCB-PCMO2E) PJ17 and outdoor unit interface CN508 to CN512 with connection cable. Connecter on interface P.C.board is different according to the purpose.
- (4) Install the P.C. board so that the terminal block becomes the interior side.

Interface P.C. board





<Connector position magnified drawing>

CN508	Night operation (sound reduction) control
CN509	Snowfall fan control
CN510	Operation mode selection control
CN512	External master ON/OFF control

Function / Electric wiring diagram

Two type control can be selected by setting SW07 on the interface P.C. board of the header unit.

[Standard function]



SW07-Bit2 OFF

Input	t	SW07	Display Relay	
SW1	SW2	Bit1 OFF	Bit1 ON	(L1)
OFF	ON	100% (Normal)	100% (Normal)	OFF
ON	OFF	0% (Stop)	Up to 60%	ON

CAUTION

Display Relay capacity of "OPERATION" Below AC240V 0.5A (COS \emptyset =100%) When connecting load such as relay coil to "L1" load, insert the noise surge absorber. Below DC24V 1A (Non-inductive load) When connecting load such as relay coil to "L1" load, insert the bypass circuit.



*Place this option P.C. board to header outdoor unit.

SW07-Bit2 OFF

In	put	SW07	Display Relay	
SW1	SW2	Bit1 OFF	Bit1 ON	(L1)
OFF	OFF	100% (Normal)	100% (Normal)	OFF
ON	OFF	Up to 80%	Up to 85%	ON
OFF	ON	Up to 60%	Up to 75%	ON
ON	ON	0% (stop)	Up to 60%	ON

CAUTION

Display Relay capacity of "OPERATION" Below AC240V 0.5A (COS Ø=100%) When connecting load such as relay coil to "L1" load, insert the noise surge absorber. Below DC24V 1A (Non-inductive load) When connecting load such as relay coil to "L1" load, insert the bypass circuit.

4-5-2 Snowfall fan control

Feature

Outdoor fan is operated with the snowfall signal from outside.

Function



<u>/</u>] CAUTION

Be sure to prepare a non-voltage continuation point of contact for each terminal.

4-5-3 External master ON/OFF control

Feature

The outdoor unit starts or stops the system.

Function



4-5-4 Night operation control

Feature

Sound level can be reduced with connecting outdoor Interface P.C. Board by restricting compressor and fan speed.

Function



4-5-5 Operation mode selection control

Feature

This control can be operated with the operation mode which is permitted by SMC or SMH.



Be sure to prepare non voltage continuous point of contact for each terminal.

4-6 Application controls by optional devices connected to indoor unit

4-6-1 Remote control by "remote location ON/OFF control box"

Remote location ON/OFF control box (TCB-IFCB-4E)

[Wiring and setup]

- Use the exclusive connector for connection with the indoor control P.C. board.
- In a group control, the system can operate when connecting with any indoor unit (Control P.C. board) in the group. However when taking out the operation/error signal from the other unit, it is necessary to take out from each unit individually.

(1) Control items

- 1) Start/Stop input signal : Operation start/stop in unit
- 2) Operation signal : Output during normal operation
- 3) Error signal : Output during alarm
 - (Serial communication error or indoor/outdoor protective device) operation

(2) Wiring diagram using remote control interface (TCB-IFCB-4E)

Input	IFCB-4E : No voltage ON/OFF serial signal
Output	No voltage contact for operation, error display
	Contact capacity: Below Max. AC240V 0.5A



<Installation Manual> NAME : Remote location ON/OFF Control box

Model Name : TCB-IFCB-4E

Usage/Function/Characteristics

Start and Stop of the air conditioner is possible by the external signal, and also indication of operation/alarm to outside is possible.

Monitoring

The following monitoring are corresponded to output by non-voltage contact.

1) ON/OFF status (for indoor unit)

2) Alarm status (System & indoor unit stop)

ON/OFF command

ON/OFF O Air conditioner can be turned ON/OFF by the external signals. COM

The external ON/OFF signals are output for the signals on the right.



Specifications

Central priority mode and Last-push priority modes

A select switch to select central priority mode (CEN-TRAL) or last-push priority mode (LAST-PUSH) is provided to this interface. Select one according to the purpose.

Central priority mode :

- · Air conditioner starts operation when the external signal is ON, and then ON/OFF of air conditioner by local remote controller are possible.
- · Air conditioner stops operation when the external signal is OFF, and then ON/OFF of air conditioner by local remote controller are not possible.

Last-push priority mode :

• ON/OFF of the air conditioner are possible by the external signals or the latest command from the local remote controller. (Mode enabled to turn on/off the air conditioner by the local remote controller even if the external signal is OFF)

Name Model name	Remote location ON/OFF control box TCB-IFCB-4E	Status output signal	Non-voltage contact (For indication of ON/OFF status, and alarm) Contact capacity : Max. AC 240V 0.5A or less	
Power supply	Single phase, 220-240V, 50 Hz	Cabinet material	Galvanized steel	
	1 to 16 units for 1 interface	Size/Weight	66 (height) x 170 (width) x 200 (depth) (mm)/1050g	
No. of connected indoor units	(Group connection for 2 or more connected units)		Eveneed installation on exception position of indeer	
Ambient temperature/humidity	0°C to 40°C DB, 30% to 90% RH	Installation method	unit, appropriate position on wall surface or ceiling	
Receive signal type of central ON/OFF command	signal type of central Non-voltage ON/OFF continuous signal		Shield wire cable with both-end connectors for CN06 and CN13 connector : 1.5m x 2	



Accesory parts

· Accessory No.1 connecting cables are already built in.

No.	Name	Q'ty	Remarks
1	Cable (For CN61 connector, with 6P connectors to both ends, L=1.5m)	1 pcs.	Connected to connector CN61 on P.C. board of indoor unit
2	M4 tapping screw	4 pcs.	For installation of this control box

Performance/Electric cabling diagram



· Selecting of Central priority/Last-push priority

The select switch has been previously set to LAST-PUSH side on shipment from the factory.

When using the air conditioner with central priority, remove the cover of interface adapter, and select "CENTRAL" side of the select switch (SW 1) at near the center of P.C. board.

(CAUTION)

Be sure to turn off the power supply of interface adapter before selecting one side on the select switch.

• Wiring method

(1) Power supply cable, earth, and indication signal cable must be connected in this control box.

Detach the lid of the control box, and connect the cables with the terminal according to the purpose.

(2) Be sure to fix the cable with the cable clamp.





(Note)

- * For connecting, be sure to use the attached cables.
- * Cables other than connecting cables should be required at the site. * Fix the cables surely by using the holes for fixation.
- Cable specifications (Local supply)

	· (· · · · · · · · · · · · · · · · · ·
Power supply cable *1	Up to 80m : 3-core, 0.75mm ²
ON/OFF command signal cable	Up to 500m : 2-core or 3-core, 0.75mm ²
Indication signal cable *1	Up to 200m : 3-core, 0.75mm ² Up to 400m : 3-core, 1.5mm ²

*1) In conformity with design 60245 IEC 57

Notes on connecting relays

(Relays are used for central indication in order to prevent malfunction by surge absorber.)

a. To drive induction load with DC power



(Note)

Mount diodes to the both ends of the relay coil. Select a diode of which back voltage tightness is 10 times or more of the use voltage, and forward current is more than the load current.

b. To drive induction load with AC power



(Note)

Mount surge absorbers to both ends of the relay coil. Use a surge absorber of which voltage tightness is 350V AC/500V DC or more.

4-6-2 Central control by AI-NETWORK (Network adapter)

<MODEL : TCB-PCNT20E>

[Installation Manual]

1. Components

Part name	Q'ty	Description
P.C. board	1	P.C. board corresponded to the network
Relay terminal block	1	2P (X, Y) terminal block for relay
Relay cable (A)	1	For connection of adapter board with X, Y relay terminal block (Red connector)
Relay cable (B)	1	For connection of adapter board with remote controller terminal block (Blue connector)
Installation Manual	1	This manual
Spacer (A)	2	For fixing the adapter P.C. board (Used for other types than 4-way cassette type)
Spacer (B) A C C Spacer (C) 10 ^{mm}		For fixing the adapter P.C. board (Used for other types than 4-way cassette type)
		For fixing the adapter P.C. board (Used for 4-way cassette type)
Screws to fix terminal block	2	For fixing the relay terminal block (M4 x 14)
Transformer cover	1	Used to store transformer (For 4-way cassette type)
Transformer base	1	Used to store transformer (For 4-way cassette type)
Transformer	1	For supplying power to adapter
Screws to fix transformer		For fixing transformer (M3 x 6)
Screws to assemble transformer cover		For assembling transformer cover (M4 x 6 for 4-way)
Screws to fix transformer base		For fixing transformer base (M4 x 10 for 4-way)
Bundling band	3	Used to process cables so that they are not caught in.

2. Combination List of Adapter Parts

	Parts	For 4-way air discharge cassette type	For Concealed duct standard type
1	Adapter P.C. board	3 spacers (C) for installing P.C. board	2 spacers (A) for installing P.C. board 1 spacer (B) for installing P.C. board
2	Transformer	M3 x 6 B tight screw (2 pcs.)	M3 x 6 B tight screw (2 pcs.)
3	For assembling transformer cover	M4 x 6 tapping screws (2 pcs.)	
4	For fixing transformer base	M4 x 10 plus tight screws (2 pcs.)	
5	XY terminal block	M4 x 14 tapping tight screws (2 pcs.)	M4 x 14 tapping tight screws (2 pcs.)
6	Adapter P.C. board to XY terminal block	Connector, red color, lead length : 600L	Connector, red color, lead length : 600L
7	Adapter P.C. board to AB terminal block	Connector, blue color, lead length : 600L	Connector, blue color, lead length : 600L

 * Spacer (A) for installing P.C. board : Spacer to be mounted by using the hole on the P.C. board. (For other types than 4-way cassette type)
 Spacer (B) for installing P.C. board : Spacer to be mounted by pinching it in the P.C. board. (For other types than 4-way cassette type)

Spacer (C) for installing P.C. board : Spacer to be mounted by using the hole on the P.C. board for 4-way cassette type.

* For other indoor unit type, refer to the installation manual attached this adapter.

3. Connection of Cables

[1] Connection of network cables

• Attach one network adapter to a group of one group controlling (including one unit). Connect the network adapter to any one of the indoor units in the group control.



Connectable indoor units per group : Up to 8 units (In case of 1-remote controller system*) * In case of 2-remote controllers system, up to 7 indoor units are allowable to be connected.

[2] Cabling diagram of indoor control P.C. board

For details, see the installation procedure for individual model.



· The enclosed section with the chain line includes the attached parts.

· There is no polarity for cabling to the terminal blocks, A, B and X, Y.

• Arrange the total cable length of the remote controller cable and the inter-unit cable of the remote controller within 400m.

4. Installation Procedure

• For installation of the adapter P.C. board and removal of the relay cable, be sure to wait for a while (approx. 1 minute) after turning off the power supplies of the air conditioner and the collective control remote controller. If not doing so, the adapter P.C. board may be damaged.



In case of 4-way Air Discharge Cassette type*

* For other indoor unit type, refer to installation manual attached this adapter.

5. Setup of the Address No.

To connect the indoor unit to the central remote controller using the adapter, it is necessary to set up the network address No. • It is required to agree the network address No. with the central remote controller system No.

· The network address No. is set to 1 at the shipment from the factory.

The following two methods are used for setup.

1. Setup from the remote controller at the indoor unit side (RBC-AMT21E)

• This method is available only when [7] of the setup switch SW01 on the adapter P.C. board is OFF.

<Procedure> Set up the address No. while the air conditioner stops.

1 Push ⓐ and ⊘ buttons for 4 seconds or more.

In case of the group control, the unit No. #LL is displayed, and then all the indoor units in the group control are selected. (Fig. 1)

In this time, the fans of all the selected indoor units start and the swing operation also starts in the models with flaps.

(Keep the display status of \Re_{LL} without pushing \bigcirc button.)

In case of individual remote controller with no group control, the system address and the indoor unit address are displayed.

- **2** Using \frown / \frown buttons, specify the item code []].
- **3** Using buttons, select the setup data. The following table shows the setup data. (Table 1)
- Push SET button.
 (When the display goes on, the setup data is accepted.)
 To change the setup item, return to the step 2.
- **5** Push \checkmark button. The status returns to the normal stop status.





(Fig. 1)

2. Setup by the switch on the adapter P.C. board

When the remote controller is not found, or when you do not want to change the setup of network address No. on the remote controller, set up the address No. by using the setup switch SW01 (Network address No. setup switch) on the adapter P.C. board.

<Procedure>

1 Turn off the power supply.

Set [7] of the address No. setup switch SW01 to ON side.

Accordingly, the setup of the address No. from the remote controller is invalidated. (Fig. 2)

3 The network address No. is set up by combining ON/OFF of the address No. setup switch, from SW01 [6] to [1].

For the relation between ON/OFF combination and the address No., see (Table 2). A case when the address No. is set to 16 is shown in (Fig. 3). Address No. setup on the remote controller is invalid.



When the network address No. has been changed, turn on the power of the central remote controller again or reset the central remote controller from the reset hole on the control panel of the central remote controller.

Address No. setup table (SW01)

(Table 2)

 \bigcirc : ON side, $\times :$ OFF side

Address No.	1	2	3	4	5	6	Address No.	1	2	3	4	5	6
01	×	×	×	×	×	×	33	×	×	×	×	×	0
02	0	×	×	×	×	×	34	0	×	×	×	×	0
03	×	0	×	×	×	×	35	×	0	×	×	×	0
04	0	0	×	×	×	×	36	0	0	×	×	×	0
05	×	×	0	×	×	\times	37	×	×	0	×	×	0
06	0	\times	0	×	\times	\times	38	0	×	0	×	×	0
07	\times	0	0	×	\times	\times	39	×	0	0	×	\times	0
08	0	0	0	\times	\times	\times	40	0	0	0	×	\times	0
09	\times	\times	\times	\times	\times	\times	41	×	\times	×	0	\times	0
10	0	\times	\times	0	×	\times	42	0	×	×	0	×	0
11	×	0	×	0	×	\times	43	×	0	×	0	×	0
12	0	0	\times	0	\times	\times	44	0	0	×	0	\times	0
13	\times	×	0	0	×	\times	45	×	\times	0	0	×	0
14	0	\times	0	0	×	\times	46	0	×	0	0	×	0
15	\times	0	0	0	×	\times	47	×	0	0	0	×	0
16	0	0	0	0	×	\times	48	0	0	0	0	×	0
17	\times	×	\times	×	0	\times	49	×	\times	×	×	0	0
18	0	×	×	×	0	\times	50	0	×	×	×	0	0
19	×	0	×	×	0	\times	51	×	0	×	×	0	0
20	0	0	\times	×	0	\times	52	0	0	×	×	0	0
21	×	×	0	×	0	×	53	×	×	0	×	0	0
22	0	×	0	×	0	\times	54	0	×	0	×	0	0
23	\times	0	0	×	0	\times	55	×	0	0	×	0	0
24	0	0	0	×	0	\times	56	0	0	0	×	0	0
25	×	×	×	0	0	×	57	×	×	×	0	0	0
26	0	×	×	0	0	\times	58	0	\times	×	0	0	0
27	×	0	\times	0	0	\times	59	×	0	×	0	0	0
28	0	0	×	0	0	\times	60	0	0	×	0	0	0
29	×	\times	0	0	0	×	61	×	×	0	0	0	0
30	0	\times	0	0	0	X	62	0	\times	0	0	0	0
31	×	0	0	0	0	×	63	×	0	0	0	0	0
32	0	0	0	0	0	×	64	0	0	0	0	0	0

Requirement in Service Time

When using this product as the service part for change of the adapter P.C. board, be sure to set the setup switch SW01 (Network address No. setup switch) on the adapter P.C. board so that it is same as one before change.

6. To Customers

♦ ♦ Cautions in using the remote controller ♦ ♦

- After all the power supplies of the air conditioner have been turned on, turn on the power supply of the central remote controller. (16-systems : RBC-CR1-PE, 64-systems : RBC-CR64-PE) If the power supplies of the air conditioner and the remote controller are turned on at the same time, or if they are turned on in reverse order, the check code [97] may be temporarily displayed on the central remote controller. When the connection cabling and setup of the central address are correct, the connected air conditioner is displayed on the central remote controller.
- 2. As described below, there are differences of the display on LCD and the individual restrictions for the operation in the main wired remote controller (RBC-AMT21E) and the central remote controller.

		Cont	tents			
	ltem	Main remote controller	Central remote controller	Cautions		
1	Fan speed select	@ 35 36) 36 36	@ 55 56) 58 5 5	Display of air speed selection differs.		
2	Fan speed select in FAN mode	58)) 58) 56	@¥ \$\$} \$\$ \$	When operating the main remote controller, A \$\$ is not displayed. If selecting A \$\$ at the central side, A \$\$ is displayed on the main remote controller. In this time, the air speed is \$ \$.		
3	Fan speed select in DRY mode	@ % % } % %	8 \$	As only is displayed on the central remote controller. As is displayed on the main remote controller even by change of the setup temperature/louver, and the air speed changes automatically.		
4	Air direction adjustment	and air direction adjustment	[LOUVER]	[LOUVER] only is displayed on the central remote controller. [LOUVER] is displayed when the flap is swinging, and ON and OFF of the swing operation set to the louver are exchanged.		
		(No display)	[LOUVER] Manual	Set the air direction on the main remote controller.		
5	Check button	Test run (4 seconds)	Display of check code and Check reset (3 seconds)	In case of type without function of air direction adjustment The function differs when the 🗷 button is pushed for a long time. If the central remote controller-ON is reset during operation of the air conditioner, the operation stops temporarily, and then the operation is resumed. (Trouble of the air conditioner is cleared.)		
6	Check code	Display with 3 digits (Alphabet + 2 digits numerals)	Display with 2 digits (Alphabet or numerals)	The display of the check code differs. Ex.) Float switch operation Main side : [P10], Collective side : [0b]		

3. When using the remote controller with the former remote controller (RBC-AM1E, AT1E), if Last-push priority/Center/Locked is selected on the central remote controller, the display differs on the main remote controller.

		Con	tents	Remarks		
	Item	New remote controller (RBC-AMT21E)	Former remote controller (RBC-AM1E, AT1E)			
1	Last-push priority	(No display)	(No display)	All the setups and Start/Stop operation are available.		
2	Center	CENTER	CENTER goes on.	The setup contents of the central remote controller are fixed, and the Start/Stop operation and timer operation are available on the main remote controller.		
3	Locked	goes on.	CENTER flashes.	The setup contents of the central remote controller are fixed, and the air conditioner stops. The operation on the main remote controller is unavailable.		

* Before using the remote controller, read the Owner's Manual thoroughly to use it correctly.

4-6-3 Central control with "1:1 model" ("1:1 model" connection interface)

<MODEL : TCB-PCNT30TLE>

- When controlling the super-digital inverter and the digital inverter, the adapter named "1:1 model" connection interface (TCB-PCNT30TLE) is necessary.
- Central control device must be connected to central control wiring.
- In case of central control among 1:1 models, be sure to set SW01-1 to ON in the system with the least line address number. (At shipment : SW01-1=OFF)

1. Cabling connection of control wiring

Attach an adapter per 1 group in group control operation (including individual control). Connect the adapter to the header indoor unit in the group control.



2. Cabling connection diagram with indoor control P.C board



- Parts included in the single-point chain line are optional accessories.
- There is non-polarity on the cables connected to U3 and U4 terminals.

3. Switch Setting on the P.C. board

In case of central control among 1:1 models, setting of the terminator resistor.*

- Terminator resistor is set by SW01.
- Be sure to set the terminal resistor on the P.C. board connected the indoor unit with the least line address.



(Reference)	Setting	contents	of the	switch	(SW01)
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SN	/01	Terminator	Bemarks			
bit 1	bit 2	resistor	i ienalită			
OFF	OFF	no terminator	At shipment, combined system with VRF system.			
ON	OFF	100Ω	Central control among 1:1 models			

*) If the central control is conducted with VRF systems, set the terminator resister (SW30-2) on the header outdoor unit with the least line address number to ON on VRF system, and set up SW30-2 of the other header units to OFF. (Refer to the section of "3-2-2".)

In this case, setting of the terminator resister on 1:1 models is unnecessary. (Remain SW01 as it is at shipment.)

4. Installation Procedure

• For installation of the adapter P.C. board and removal of the relay cable, be sure to wait a while (approx. 1 minute) after turning off the power supplies of the air conditioner and the collective control remote controller. If not doing so, the adapter P.C. board may be damaged.

■ In case of 4-way Air Discharge Cassette Type

No.	Procedure				
1	Using the spacer (A), install the adapter P.C. board to the position of the electric parts box.				
2	Install U3, U4 relay terminal block to the position of the electric parts box. • When tightening the screws, be sure not to damage the cable.				
3	Using the relay cable (A), connect the U3, U4 relay terminal block with CN40 (BLU) on the adapter P.C. board. Using the relay cable (B), connect CN50 (WHI) on the indoor P.C. board with CN51 (RED) on the adapter P.C. board.				
	Details				
TCE	3-PCNT30TL				
* Re	elay cable (A)				
Cc Cc * Re Cc * To	onnection between U3, U4 relay terminal block and CN40 (BLU) on the adapter P.C. board. onnection cables in no polar. elay cable (B) onnection between CN50 (WHI) on the indoor P.C. board and CN51 (RED) on the adapter P.C. board. install the adapter P.C. board to the electric parts box, put 3 pcs. Spacer (A) into the hole of the P.C. board.				
*	* After connection of the relay cables (A) and (B), fix them along the neighboring cables with bundling band so that cables are not caught.				

* For other indoor unit type, refer to the installation manual attached this adapter.

5. Address set up

Outline



*1) After automatic address setup, all the line address become "1" except a group control and then a duplicated address error "E08" is output. It is necessary to change the line address from the wired remote controller for each system. (Refer to the section of "3-2-10".)

For detailed procedure, refer to the installation manual attached this adapter.

5

DIMENSIONAL DRAWING

Wired remote controller



Simple remote controller



Wireless remote controller kit



Wireless remote controller kit



Wireless remote controller kit



Weekly timer



Central remote controller



LON Gateway



TCS-Net Relay Interface



Touch Screen Controller



Intelligent Server



Energy Monitoring Relay Interface



Digital I/O Relay Interface



WINDOWS based central controller



TOSHIBA CARRIER CORPORATION

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