iCOM INSTRUCTIONS

TRUNKING/NETWORK CONTROLLER
UC-FR5300

Thank you for choosing this Icom product.
READ ALL INSTRUCTIONS carefully and completely before using this product.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:
• Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
• The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

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PRECAUTIONS

⚠ **WARNING!** Turn OFF the repeater before installing the controller. Otherwise, this could cause a fire or damage the repeater.

CAUTION: NEVER expose the repeater or controller to rain, snow or any liquids.

CAUTION: NEVER let metal, wire or other objects touch any parts on the controller.

CAUTION: NEVER install the controller into a non-specified repeater.

BE CAREFUL! When you install the controller, wear gloves to avoid cutting your hand on the sharp edges of the repeater.

◇ CF card caution

⚠ **WARNING! NEVER** insert the CF card into the UC-FR5300 when the repeater's power is ON. Otherwise a fire, electric shock may occur, or the data on the CF card may become corrupted.

CAUTION: DO NOT insert the CF card into the UC-FR5300 if dust or dirt is on the connector. This may cause the CF card, and the UC-FR5300, to malfunction.

CAUTION: DO NOT directly touch the connector part of the CF card. It may cause a breakdown of the internal circuit by static electricity.

CAUTION: DO NOT turn OFF the repeater while the data is being transferred. Otherwise, the data on the CF card may become corrupted.

CAUTION: DO NOT use the CF card in a controller other than the UC-FR5300. Inserting the CF card into other equipment may corrupt the card's data.

CAUTION: DO NOT keep the CF card in areas with extremely high temperatures, high humidity, or in direct sunlight.

BE CAREFUL! DO NOT submerge the CF card in water, or get it wet.

BE CAREFUL! DO NOT bend the CF card.

BE CAREFUL! DO NOT drop or strike the CF card against another object.

CONFIGURATIONS

The controller enables the repeater to be used for the following modes, depending on the configurations.

(As of August 2020)

		UC-FR5300 #11	UC-FR5300 #12	UC-FR5300 #13	UC-FR5300 #14
CF card		–	CF-FR5000MC	CF-FR5000MT	CF-FR5300SC
Single Site	Trunking	✓	✓	✓	✓
Multi Site	Conventional	–*1	✓	✓	✓
	Trunking	–*2	–*2	✓	–*2
	Simulcast	–*3	–*3	–*3	✓

*1 Either the optional CF-FR5000MC, CF-FR5000MT or CF-FR5300SC is required.
*2 The optional CF-FR5000MT is required.
*3 The optional CF-FR5300SC is required.

FCC INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
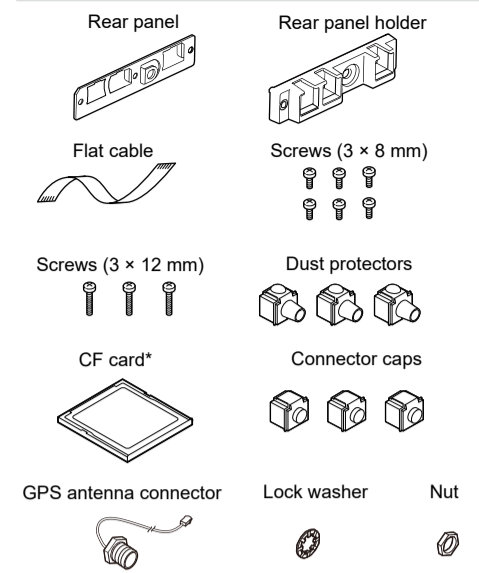
DISPOSAL

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

ABOUT CE

Versions of the UC-FR5300 which have the "CE" symbol on the product, comply with the essential requirements of the 2014/30/EU directive for Electromagnetic Compatibility and the 2001/95/EU directive for General Product Safety.

SUPPLIED ACCESSORIES

Rear panel
Rear panel holder
Flat cable
Screws (3 × 8 mm)
Screws (3 × 12 mm)
Dust protectors
CF card*
Connector caps
GPS antenna connector
Lock washer
Nut

*Supplied or not depends on the controller's version.

OPTION

CF-FR5000MC CF CARD
Same as that supplied with UC-FR5300 #12.

CF-FR5000MT CF CARD
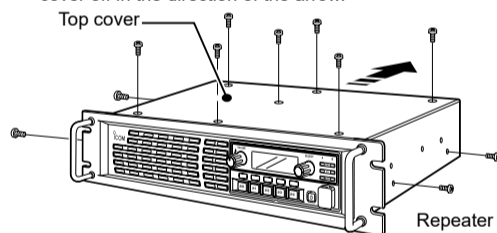Same as that supplied with UC-FR5300 #13.

CF-FR5300SC CF CARD
Same as that supplied with UC-FR5300 #14.

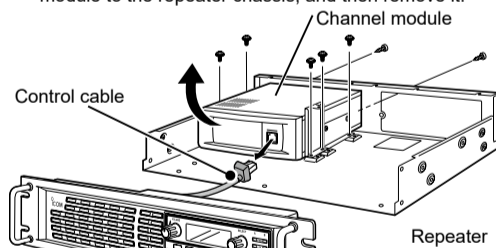**UX-241** GPS ANTENNA

AH-38 SATELLITE ANTENNA
① The coaxial cable (purchase separately) is required to connect the AH-38.
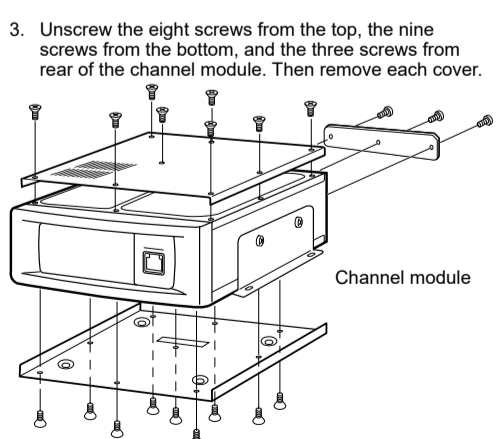

DISASSEMBLING THE UNITS

1. Unscrew the seven screws on the top, and the two screws on both sides of the repeater, then slide the top cover off in the direction of the arrow.

Top cover
Repeater

2. Disconnect the control cable from the channel module. Unscrew the seven screws that affix the channel module to the repeater chassis, and then remove it.

Channel module
Control cable
Repeater
Front panel*
* The front panel is removed in this illustration so the details are easier to see. However, you can remove the channel module without removing the front panel of the repeater.

3. Unscrew the eight screws from the top, the nine screws from the bottom, and the three screws from rear of the channel module. Then remove each cover.
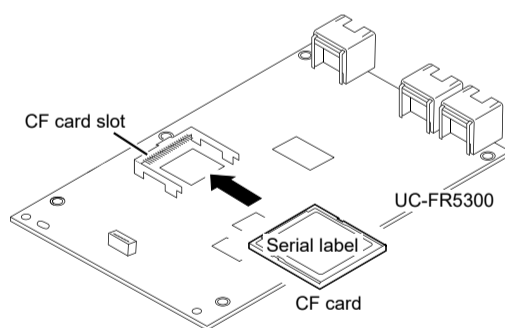

Channel module

INSERTING AND REMOVING THE CF CARD

◇ Inserting

NOTE: Be sure to insert the CF card with the serial label (Example: "CF-FR5300SC" label) facing up.

Slowly insert the CF card into the CF card slot of the UC-FR5300.
• If the CF card seems to jam, or is too tight, carefully remove it. Ensure that the card is properly oriented and that there are no obstructions in the sides of the card insertion slots, then reinsert the card.

CF card slot
Serial label
CF card
UC-FR5300

◇ Removing

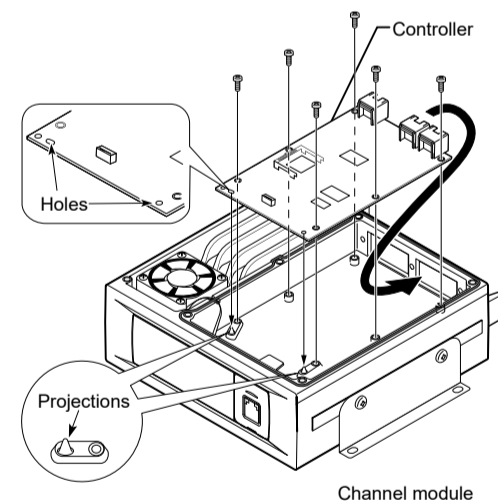Hold the edge of the CF card, and slowly pull it out.

NOTE: When no CF card is inserted, the UC-FR5300 cannot be used for Multi Site Conventional mode, Multi Site Trunking mode, and Simulcast mode operation.

INSTALLING

◇ Installing the UC-FR5300

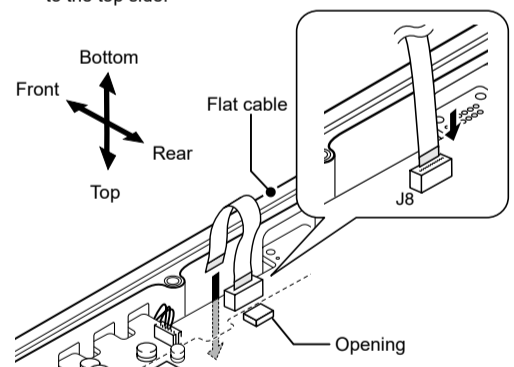Install the controller into the channel module using the six supplied 3 × 8 mm screws.

NOTE: BE SURE to match the holes in the controller to the projections on the channel module's chassis.

Controller
Holes
UC-FR5300
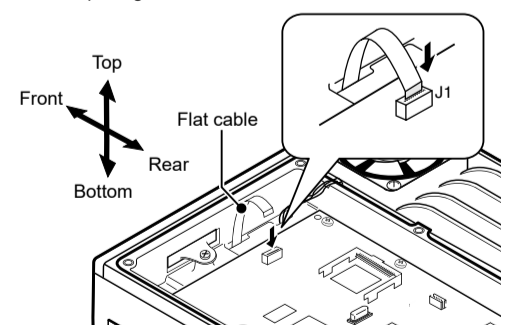Projections
Channel module

◇ Connecting the flat cable

NOTE: BE SURE to insert the flat cable with the metal strips facing the edge of the Printed Circuit Board (PCB), and not the opposite way.

1. Turn the channel module upside down.
Insert one end of the flat cable into J8 on the PCB of the channel module. Then, carefully pass the flat cable through the opening of the channel module's chassis to the top side.
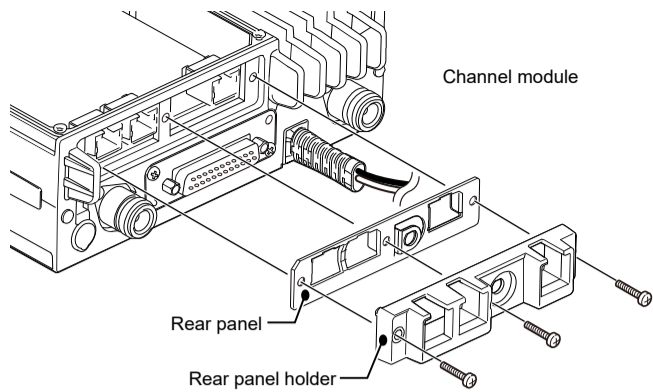

Bottom
Front
Rear
Top
Flat cable
J8
Opening

2. Turn over the channel module.
Carefully pull out the other end of the flat cable from the opening, and then insert it into J1 on the controller.

Top
Front
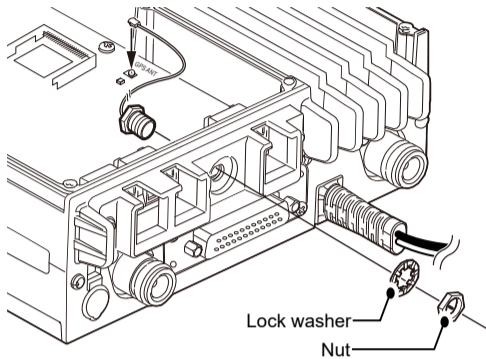Rear
Bottom
Flat cable
J1

◇ Attaching the rear panel

1. Insert the supplied rear panel into the rear panel holder.
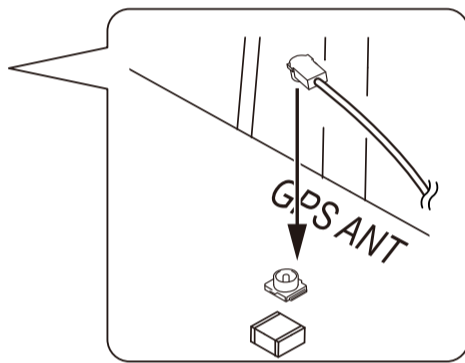2. Attach the rear panel and holder set to the channel module using the three supplied 3 × 12 mm screws.

Channel module

Rear panel

Rear panel holder

TIP: If you have installed an optional UR-FR5300/UR-FR6300 series channel extension module, an additional controller in it enables you to control each channel module from a PC in the Conventional/Trunking/Simulcast operation mode.

◇ Installing the GPS antenna connector

Lock washer
Nut

1. Insert the supplied GPS antenna connector through the GNSS hole and Lock washer.
2. Tighten the supplied nut.
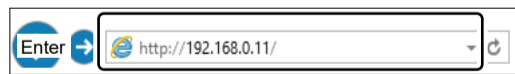3. Connect the coaxial cable to the GPS antenna connector near the CF card slot.

GPS ANT

ASSEMBLING THE UNIT

1. Reattach the top and bottom covers of the channel module, and then tighten all the screws.

Channel module

2. Reinstall the channel module and the screws to their original positions, and then connect the control cable of the repeater's front panel to the channel module.

Channel module

Control cable

Repeater

Front panel

3. Reattach the top cover of the repeater, and then tighten the seven screws for the top and the two screws on both sides of the repeater.

Top cover

Repeater

CONNECTION

NOTE:
- CAT-5 straight cables are required for connection. (User supplied)
- **BE SURE** to cover each connected cable with a supplied dust protector. Even if the cable has its own cover, replace it with the supplied dust protector.
- **KEEP** the supplied connector caps attached when the connectors are not in use, to avoid getting bad contacts from dust or moisture.

Each controller has a LAN connector and two BUS connectors.
❶ **[LAN] connector**
For an Ethernet connection. Connect the controller to an Ethernet (LAN) port of a PC.
In the Simulcast mode and Trunking mode, the controller at one end of the chain must be connected. You can control the controller and all others in the chain from the PC.
❷ **[BUS] connectors (BUS-1, BUS-2)**
For data communication between the controllers in the Simulcast mode* and Trunking mode, either BUS-1 or BUS-2 can be used. They enable the controllers to be "daisy-chained" together, and form a network that allows simulcast, trunking and other data to pass among them.
*PPS signal can be shared with other UC-FR5300 through the [BUS] connectors.

NOTE: BE SURE to connect a LAN cable of 1 m (3.3 feet) or less.

① The illustration below describes one example of a connection for the Trunking mode.

PC
❷
❶
Connector cap
Repeater
Dust protector

Channel extension module

Up to 30 channel modules with controllers can be daisy-chained.

THE SETTING SCREEN OF THE UC-FR5300

NOTE: Microsoft Internet Explorer 11 or later is required to correctly open the setting screen of the controller. JavaScript® must be installed to open the side menu and help window of the Setting screen.
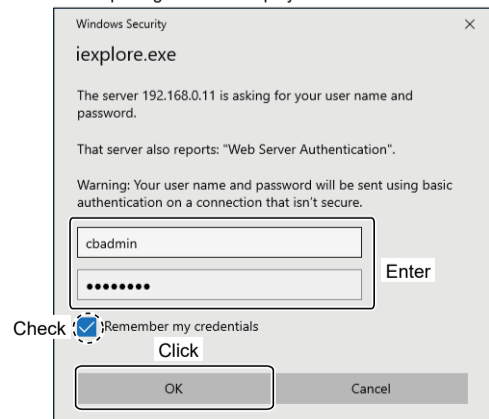
◇ Accessing the setting screen

NOTE: You must wait to launch the web browser until the controller system software startup is completed.It typically takes 2 ~ 3 minutes for the controller to startup the application.

1. Connect a CAT-5 straight cable between the controller's [LAN] connector and a PC, and then turn ON the repeater.
2. Before accessing the Setting screen, change the IP address of the PC to 192.168.0.XXX* (A subnet mask should be 255.255.255.0) in the Control Panel.
   * Replace XXX with any number between 1 and 254 (except 11).
   ① Refer to the Operating System's manual for details.
3. Open your web browser, enter "http:// 192.168.0.11/" (default IP address of the UC-FR5300) into the address bar, and then push [Enter].
   - The Login Authentication screen is displayed.
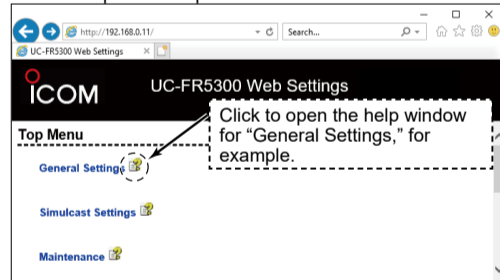   ① Ask your system administrator for details.

Enter → http://192.168.0.11/

4. Enter "cbadmin" (default user name) and "ucfr5300" (default password) in their respective input field in the Login Authentication screen, and then click <OK>.
If you want the screen to remember not only the user name but also the password, check the, "Remember my password" box.
   - The Opening screen is displayed.

Windows Security

iexplore.exe

The server 192.168.0.11 is asking for your user name and password.

That server also reports: "Web Server Authentication".

Warning: Your user name and password will be sent using basic authentication on a connection that isn't secure.

cbadmin

••••••••

Enter

Check → ☑ Remember my credentials
Click

OK   Cancel

TIP: You can change the user name and password in the Setting screen. Refer to the Help window of the Setting screen for details.
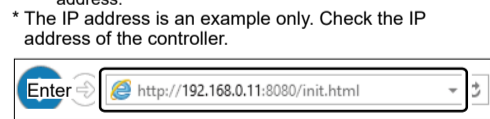
◇ Opening the help window

The Setting screen of the controller has a help window to describe functions and settings.
If you don't understand the meaning of an item, or how to configure the controller, click a question mark icon on the screen to open the help window.

http://192.168.0.11/   Search...

UC-FR5300 Web Settings

ICOM   UC-FR5300 Web Settings

Top Menu

Click to open the help window for "General Settings," for example.

General Settings

Simulcast Settings

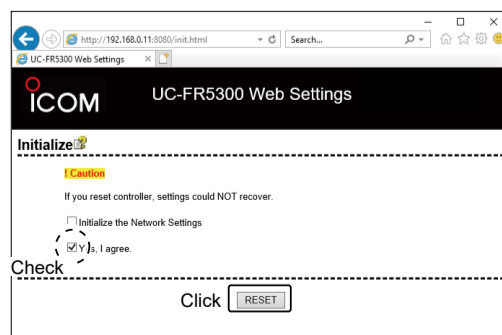Maintenance

◇ Initialization

You can reset all set contents, including the network settings of the controller, to the factory default from the PC.

1. Connect the controller to the PC, and turn ON the repeater.
2. Open your web browser, enter the initialize address into the address bar, and then push [Enter].
   - The initialize screen is displayed.
   ① **Initialize address:** http://(IP address):8080/init.html
   ① When the IP address of the controller is 192.168.0.11*, enter "http://192.168.0.11:8080/init.html" as the initialize address.
   * The IP address is an example only. Check the IP address of the controller.

Enter → http://192.168.0.11:8080/init.html

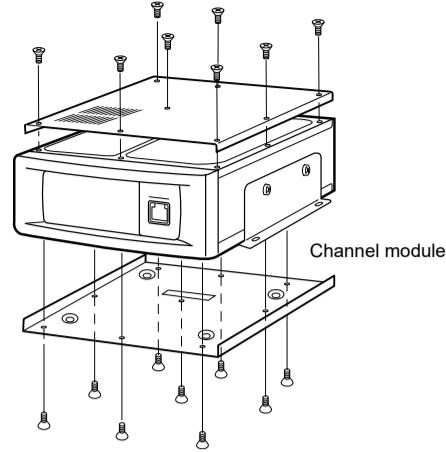3. After checking the box "Yes, I agree," click <RESET> to initialize the settings.

TIP: If you use the UC-FR5300, you can select whether or not to reset the Network settings as well as other settings. Refer to the help window for details.
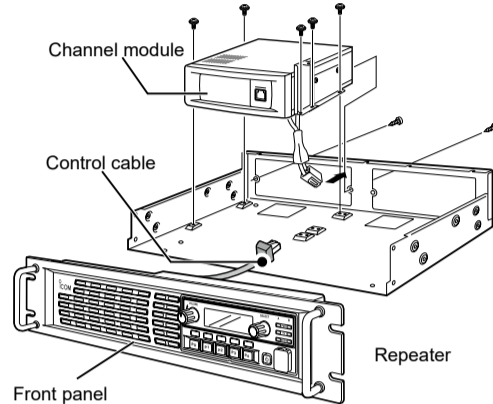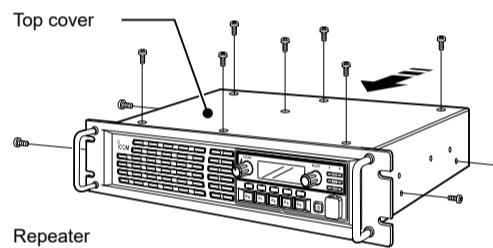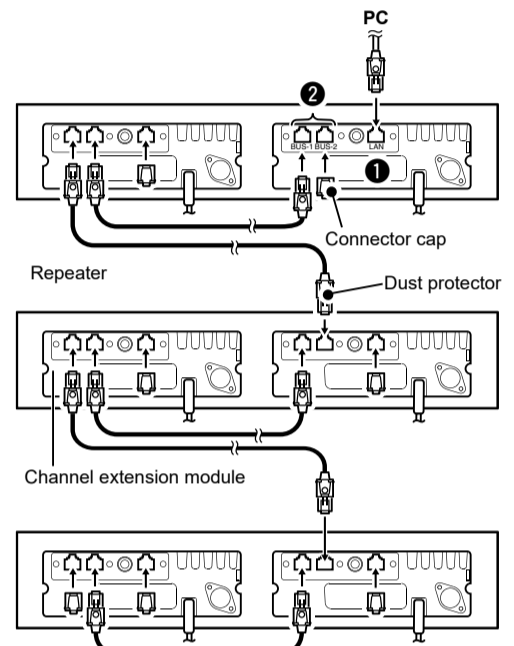

http://192.168.0.11:8080/init.html   Search...

UC-FR5300 Web Settings

ICOM   UC-FR5300 Web Settings

Initialize

Caution

If you reset controller, settings could NOT recover.

☐ Initialize the Network Settings

Check → ☑ Yes, I agree.

Click   RESET

① This screen may differ slightly, depending on the Operating System version.