Controller Kit Installation Manual
MHK2

Installation guide for:

- Wireless Receiver and Cable
- Remote Controller
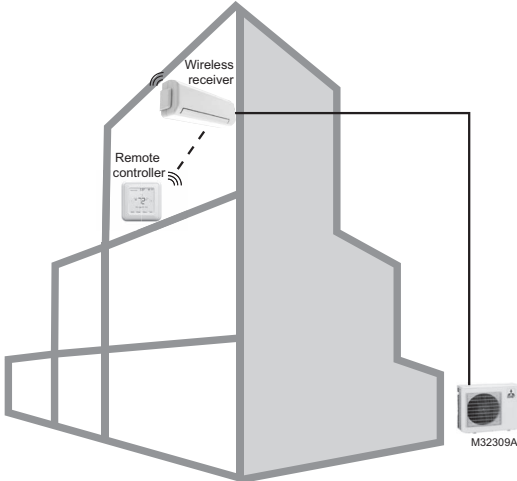
⚠ **DISCONNECT POWER BEFORE BEGINNING INSTALLATION**.
Can cause electrical shock or equipment damage.

ⓘ **Must be installed by a trained, experienced technician**.
Read these instructions carefully. Failure to follow these instructions can damage the product or cause a hazardous condition.

Installation at a glance

Wireless receiver

Remote controller

M32309A

This document covers linking and installation procedures for the Mitsubishi Ducted Systems' RedLINK™ control devices.

Before you begin, you must attach the cable to the CN105 connector on the indoor unit control board, then follow the steps in this document.

ⓘ Remote controllers are linked to specific indoor units. Each indoor unit must have a dedicated remote controller and wireless receiver.
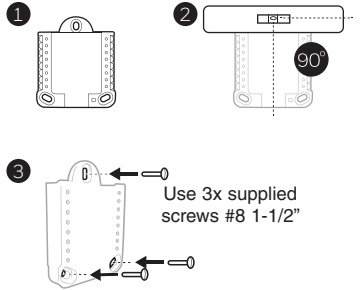
33-00446EFS-01

Mounting Wall Plate

1. Open package to find the Wall Plate. See Figure 1.

2. Position the Wall Plate on the wall. Level and mark hole positions. See Figure 2.
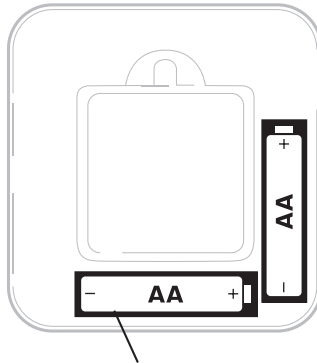
   Drill holes at marked positions, and then lightly tap supplied wall anchors into wall using a hammer.

   Drill 7/32" holes for drywall.

3. Place the Wall Plate over the wall anchors. Insert and tighten mounting screws supplied with the Wall Plate. Do not overtighten. Tighten until the Wall Plate no longer moves. See Figure 3.
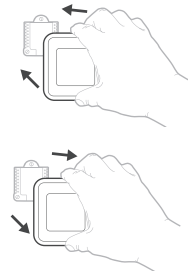

Use 3x supplied screws #8 1-1/2"

Install batteries

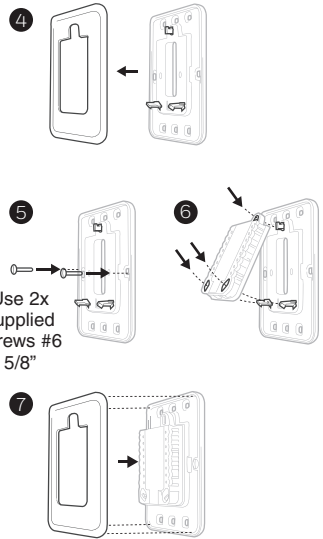Insert AA batteries

Mounting MHK2 Controller

1. Align the Wall Plate with the MHK2 Controller and push gently until the MHK2 snaps in place.

2. If needed, gently pull to remove the MHK2 Controller from the Wall Plate.

Optional Decorative Cover Plate installation

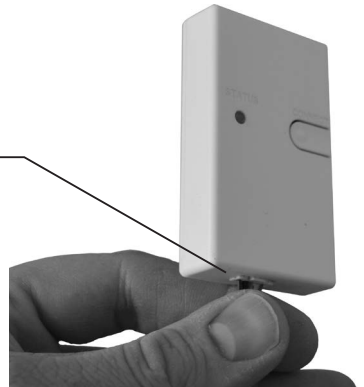Use the Optional Cover Plate when you need to cover paint gap from the old control.

4. Separate the Junction Box Adapter from the Cover Plate. See Figure 4.

5. Mount the Junction Box Adapter to the wall or an electrical box using any of the eight screw holes. Insert and tighten mounting screws supplied with Cover Plate Kit. Do not overtighten. Make sure the Adapter Plate is level. See Figure 5.

6. Attach the Wall Plate by hanging it on the top hook of the Junction Box Adapter and then snapping the bottom of the Wall Plate in place. See Figure 6.

7. Snap the Cover Plate onto the Junction Box Adapter. See Figure 7.

Use 2x supplied screws #6 5/8"

Install cable and receiver

1. Before mounting indoor unit, connect cable to the 5-pin CN105 connector on the control board in the indoor unit.

2. Mount indoor unit. Route cable to preferred location of the wireless receiver.

3. Attach the 5 pin connector to the receiver.

4. Push the excess cable back through the indoor unit or behind the wireless receiver. Do not cut or modify the cable. Use zip tie connections on back of receiver if needed.

5. Mount wireless receiver next to the indoor unit (see below) or in a remote location.

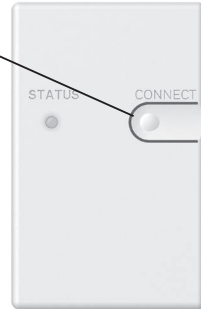   Mount in the orientations shown. Do not block vents.

UPDATE IMAGE

MCR31400

Link all devices to wireless network

1. Press and release the **CONNECT** button.

2. If CONNECT light does not flash, another receiver or RedLINK wireless adapter may be in wireless setup mode. Exit wireless setup at the other device.
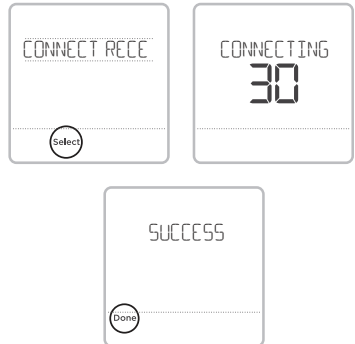
CONNECT LED

- **Flashing Green:** In wireless setup mode.
- **Solid Green:** At least one Redlink device is enrolled onto the receiver.
- **Yellow:** Please wait.
- **Red:** RedLINK device is not communicating.
- **Off:** No RedLINK devices are enrolled onto the receiver.

Flashing status light times out after 15 minutes of inactivity. Press **CONNECT** again if necessary.

Link remote controller to wireless network

1. Press **CONNECT** to establish a link to the wireless network.
2. After a brief pause, the confirmation screen at right should be displayed to verify that the wireless connection has been established.
3. Press **DONE** to display the home screen.
4. The MHK2 Controller will display a "WAIT" screen while it receives data from the air conditioner. While on the "WAIT" screen:
    - If the controller shows the RedLINK disconnected icon ⊗x at the top-right, the controller has lost connection with the receiver.
    - If the controller shows the RedLINK connected icon ⊗, the controller is waiting for the air conditioning to connect.
    - To unenroll the receiver, press and hold the bottom-center of the controller's screen for 5 seconds. The controller will then be unenrolled regardless if the receiver is on or off.

Exit wireless setup

Press and release the **CONNECT** button at the wireless receiver to exit wireless setup (light should stop flashing and remain solid). Replace cover on wireless receiver.

Note: The wireless receiver will automatically exit wireless setup after 15 minutes of inactivity.

Note: If installing more than one receiver, you must exit wireless setup on previous receiver before attempting wireless setup of subsequent controllers/receivers.

Initial installer setup

After the MHK2 Controller has communicated with the A/C correctly, MHK2 Controller will change from the "Wait" screen to the "Initial Installer Setup" screen and show **START SETUP**.

1. The MHK2 will search for A/C support. If it finds A/C support, the controller will load the Function Code setup. See page 6 for a full list of Function Codes options. If the controller does not find A/C support, the controller will load the Installer Set Up (ISU). See page 7 for a full list of ISU options.

2. Touch ⟨ or ⟩ to toggle between Function Code/ISU options.

3. Touch **Edit** or touch text area, and then touch ⟨ or ⟩ to edit default setup option.

4. Touch **Done** or touch text area to confirm the setting or press **Cancel**.

5. Touch ⟨ or ⟩ to continue to setup another ISU option.

6. To finish setup and save your settings, scroll to the **FINISH SETUP** screen at the end of the ISU list.

Note: To see a list of all setup parameters, go to "Installer setup options (ISU) – advanced menu" on page 7. The MHK2 Controller displays the ISU name and the ISU number.

View ISU

ISU option and name (scrolling)

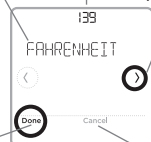Arrow buttons used to scroll through ISUs

Edit ISU

ISU option blinking

ISU #

Arrow buttons used to scroll through ISU options

Saves selected ISU option moves on to the next ISU screen

Cancels ISU option selection, go back to view ISU

Installer setup – advanced menu (after initial installation)

To access the advanced menu, press and hold the **Menu** button for **5 seconds**.
Touch ⟨ or ⟩ to go through the options in the advanced menu.

Advanced menu options

Function Codes: This is used to access the device Function Code settings.

Device Setup: This is used to access the device ISU settings.

Screen Lock: The thermostat touch screen can be set to fully lock.

System Test: Test the wireless communication or heating and cooling equipment.

Unenroll Device: Remove a connected receiver or controller.

Reset: Access all reset options on the MHK2 Controller. This is the only place to access factory reset.

Note: Default settings for Function Codes 1-28 are automatically determined by the HVAC equipment. It may take up to 40 seconds to enter setup, and 30 seconds to exit setup.

Function #	Name	Options	Notes
1	Power Failure Automatic Recovery	1 = Disabled 2 = Enabled 3 = Not supported	
2	Temperature Sensing Location	1 = Average 2 = Sense at Indoor Unit 3 = Not supported	
3	Ventilation Air	1 = Not supported 2 = Indoor Unit doesn't intake outdoor air through LOSSNAY 3 = Indoor Unit does intake outdoor air through LOSSNAY	
4	Power Voltage	1 = 230V 2 = 208V 3 = not supported	
5	Indoor Unit Automatic Operation	1 = On 2 = Off 3 = Not supported	
7	Change Filter Duration	1 = 100 Hours 2 = 2500 Hours 3 = Not Used	Unit Function Option defaulted to most common setting at power up by Gateway (via Indoor Unit)
8	Auto Fan (Speed Setting)	1 = Quiet 2 = Standard 3 = High Ceiling	
9	Number of Air Outlets (PLA Only)	1 = 4 directions 2 = 3 directions 3 = 2 directions	
10	High Performance Filter Installed	1 = Not Supported 2 = Supported 3 = Not Supported	Either setting 1 or 3 could be used when the unit does not support this feature.
11	Airflow Direction Settings	1 = No Vanes (or Vane # 3 for PLA) 2 = Vane # 1 setting 3 = Van # 2 setting	
15	Frost Prevention Temperature Offset	1 = 36°F (2°C) 2 = 37°F (3°C) 3 = Not Supported	
23	Airflow Oscillate Mode	1 = Not Available 2 = Available 3 = Not Supported	
24	Heat Mode Temperature Offset	1 = On 2 = Off 3 = Not Supported	
25	Heat Mode Fan Option	1 = Extra Low 2 = Stop 3 = Selectable Fan Speed	
27	Cooling Mode Fan Option	1 = Selectable Fan Speed 2 = Stop 3 = Not Supported	
28	Display System Error	1 = Enable 2 = Disable 3 = Not Supported	

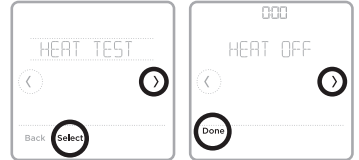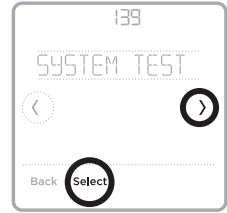| ISU #	ISU Name	ISU Options (defaults in bold)	Notes
134	Central Controller Present	0 = Not installed 1 = Installed	The control determines the correct setting based on whether the central controller was linked to the system. If the central controller is Installed in the system, then the device will function as a non-programmable device and only single setpoint will be supported. When the central control is not installed the ISU options for "Schedule Format", "Scheduled Off", "Power Off Timer" and "Perm Hold Lock" are displayed in the ISU menu.
136	Residential/Commercial	**0 = Residential** 1 = Commercial	When set for residential there is an option for permanent hold and the Schedule periods are wake, away, home, sleep. When set for commercial, we have a limited override duration and the schedule options are for occupied and unoccupied.
139	Fahrenheit Celsius	**0 = Fahrenheit** 1 = Celsius	
142	System Type	**0 = Heat & Cool (heat pump)** 1 = Cool only	The control determines the correct setting based on the equipment the receiver is plugged into.
144	Auto Changeover	0 = Manual Changeover **1 = Auto Changeover** 3 = Auto changeover Single Setpoint	If Auto Changeover is selected, system mode options will be heat, off, cool, and auto. This ISU setting is not shown when ISU 134 is set to 1 or ISU 142 is set to 1. Settings 0 or 1 are shown if ISU 134 is set to 0. Setting 3 is shown if ISU 134 is set to 1.
145	Deadband	**3** to 8°F (in 1°F increments) **2.0** to 4.5° C (in .5°C increments)	This ISU is shown if dual auto changeover is selected.
146	Drying Mode	**0 = Disabled** 1 = Enabled	This ISU is shown if dry mode is supported.
150	Schedule Owner	**0 = Controller** 1 = Kumo Cloud	Not shown if wireless interface is NOT present.
151	Schedule Type	0 = No Schedule 1 = Mo-Su **2 = Mo-Fr/Sa-Su** 3 = Mo-Fr/Sa/Su 4 = M/T/W/T/F/S/S	
152	Schedule Off Periods	**0 = Disabled** 1 = Enabled	If disabled, Schedule Power Off in schedule mode cannot be used.
160	Full Lockout	**0 = Disabled** 1 = Enabled	If full lockout is configured the display will not allow user to adjust mode, temperature setpoints, etc.
161	Lockout System On	**0 = Disabled** 1 = Enabled	If enabled the display will not allow user to adjust mode from off to on.
162	Lockout System Off	**0 = Disabled** 1 = Enabled	If enabled the display will not allow user to adjust mode from on to off.
163	Lockout Mode	**0 = Disabled** 1 = Enabled	If enabled the display will not allow user to adjust mode from current mode to any other mode.
164	Lockout Fan Speed	**0 = Disabled** 1 = Enabled	If user attempts to modify the fan setting, flash Locked segment and revert to current mode if lockout is enabled.

ISU #	ISU Name	ISU Options (defaults in bold)	Notes
165	Lockout Setpoint	**0 = Disabled** 1 = Enabled	If user attempts to modify the setpoint, flash Locked segment and revert to current setpoint if lockout is enabled.
167	Lockout Vane Direction	**0 = Disabled** 1 = Enabled	If user attempts to modify the vane direction, flash Locked segment if lockout is enabled.
170	Hide Indoor Temperature	**0 = Disabled** 1 = Enabled	If enabled, indoor temperature is not shown in the display.
171	Hide Indoor Humidity Display	**0 = Disabled** 1 = Enabled	If enabled, indoor humidity is not shown in the display.
172	Hide Outdoor Temperature Display	**0 = Disabled** 1 = Enabled	If enabled, outdoor temperature is not shown in the display.
173	Hide Outdoor Humidity Display	**0 = Disabled** 1 = Enabled	If enabled, outdoor humidity is not shown in the display.
180	Max Heat Setpoint	40 to **90°F** (4.5 to **32°C**)	
181	Min Cool Setpoint	**50** to 99°F (**10** to 37°C)	
190	Indoor Temperature Source	**0 = Thermostat** 1 = Wall Unit 2 = Sensor 3 = Average	Options 2 and 3 not shown if the IAS is not enrolled.
191	Indoor Temperature Display Offset	-5°F to 5°F (-2.5°C to 2.5°C)	
195	Indoor Humidity Source	**0 = Thermostat** 1 = Sensor 2 = Average	Options 1 and 2 will not be shown if the IAS is not enrolled.
196	Indoor Humidity Display Offset	-10 % RH to 10% RH	

Performing a system test

You can test the system setup in **ADVANCED MENU** under **SYSTEM TEST** option.

1   Press and hold **Menu** on the controller for 5 seconds to access **ADVANCED MENU** options.

2   Touch ⟨ or ⟩ to go to **SYSTEM TEST**.

3   Touch **Select** or touch text area.

4   Touch ⟨ or ⟩ to select system test type. Touch **Select** or touch text area.

5   For the heat test, cool test, and fan test use ⟨ or ⟩ to activate equipment.

Note: The clock is used as a timer while heat or cool is running. The Heat and Cool indicators are displayed when the system test is running.

Special functions

Schedule Off Periods (Setup Function 152): Allows the user to schedule a period where the split-zoning system is completely off and resumes operation at the next scheduled period.

Key features

System status information
Cool On, Heat On, Standby.

Schedule information
Following time-based temperature control.

Desired Temperature
Displays the current desired temperature setting.

Indoor Temperature
Displays the current indoor temperature.

Vane
Touch to select air direction: Auto, Swing, Ceiling, High, Middle, Low, Floor.

Mode
Select system Mode: Heat, Cool, Dry, Fan, Auto, Off.

Time, ISU #, or Alert #

RedLINK wireless communication status
Indicates if the controller is connected to the RedLINK interface and communicating correctly.

Connection status information
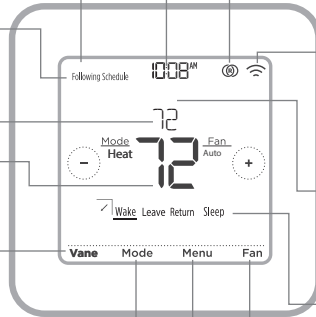Indicates if the wireless interface is used on the Mitsubishi unit.

Messaging
Shows device setup options, menu options, reminders, schedule overrides.

Schedule period
Shows schedule period: Wake, Leave, Return, Sleep.

Fan
Select Fan speed.

Menu
Touch to display options. Start here to set a program schedule.

Note: Long press of Menu button for 5 seconds to access Advanced Menu options.

The screen will wake up by pressing the center area of the displayed temperature. The screen will stay lit for 8 seconds.

RedLINK™ error codes

128 Duplicate ID

129 Invalid device type

130 Invalid instance

134 Weak signial. Move wireless device to a different location and try again.

137 Maximum number of clients reached.

138 No response

152 Out of order

153 Timeout

For full list of error codes, please refer to your equipment's technical service manual.

Replacing system components

NOTE: Only use Mitsubishi Electric components or other designated components for installation. Failure to comply may damage the product or cause a hazardous condition.

Remote controller

To replace a remote controller, install batteries and follow the procedures on page 4 to link it to the wireless network. If necessary, modify settings as needed (see tables on pages 7–8).

Wireless receiver

After installing a new wireless receiver, you must unenroll the remote controller so it can communicate with the new equipment, as described below.

There are three ways to unenroll the controller from the old receiver:

- Press and hold the **Menu** button for 5 seconds to enter the Advanced Menu. Touch ⓒ or ⓓ to select UNENROLL DEVICE. Touch Select. Connect the new receiver.

- Enter the Advanced Menu. Touch ⓒ or ⓓ to select RESET. Touch Select. Touch ⓒ or ⓓ to select FACTORY. Touch **Select**. Touch **Yes** to confirm. Connect the new receiver.

- If the remote controller is on the "Wait" screen, press and hold the bottom-center of the screen for 5 seconds. Connect the new receiver.

To remove all wireless devices:

1. Press and hold the **CONNECT** button on the wireless receiver for 10 seconds.

2. To reconnect, see procedure on page 4.

Regulatory information

FCC Compliance Statement (Part 15.19) (USA only)
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.

FCC Warning (Part 15.21) (USA only)
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Interference Statement (Part 15.105 (b)) (USA only)
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 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.

Wireless Receiver and MHK2 Remote Control
To comply with FCC and Industry Canada RF exposure limits for general population/ uncontrolled exposure, the antenna(s) used for these transmitters must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Section 7.1.3 of RSS-GEN
Operation is subject to the following two conditions:

1 This device may not cause interference, and

2 This device must accept any interference, including interference that may cause undesired operation of the device.

Section 7.1.2 of RSS-GEN
Under Industry Canada regulations, this radio transmitter may only operate using an antenna of type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent istropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Specifications & replacement parts

Operating Ambient Temperature
• Remote Controller: 32 to 120 °F (0 to 48.9 °C)
• Wireless Receiver: -40 to 165 °F (-40 to 73.9 °C)

Operating Relative Humidity
• Remote Controller: 5% to 90% (non-condensing)
• Wireless Receiver: 5% to 95% (non-condensing)

Physical Dimensions (height, width, depth)
• Remote Controller: 4-5/64" x 4-5/64" x 1-1/16" (104 mm x 104 mm x 27 mm)
• Wireless Receiver: 3-3/32 x 1-3/4 x 39/64 inches (74.8 x 44.4 x 15.4 mm)

Accessories & Replacement Parts

Item	Part Number
Remote Controller	MRCH2
Receiver and Cable	MIFH2
Cable	MRC2