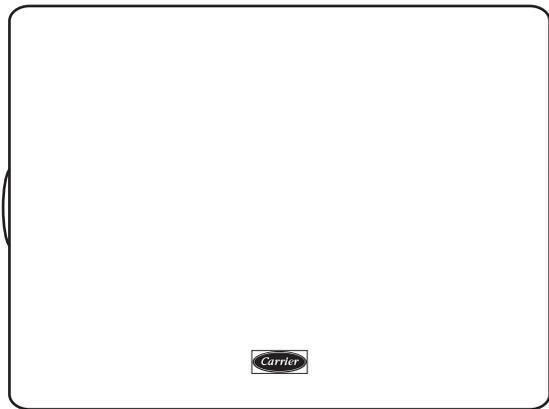


# Installation Instructions

**NOTE:** Read the entire instruction manual before starting the installation.

pointSET™ U.S. Pat No. 7,415,102



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**Fig. 1 - Infinity System Access Module  
 SYSTXCCSAM01**

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## SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury or property damage. Consult a qualified installer, service agency or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings and cautions included in literature and attached to the unit. Consult local building codes and the current edition of the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.1.

Recognize safety information. When you see this symbol  on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol. **DANGER** identifies the most serious hazards, which **will** result in severe personal injury or death. **WARNING** signifies hazards, which **could** result in personal injury or death. **CAUTION** is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

## INSTALLATION CONSIDERATIONS

Before the actual installation of a System Access Module (SAM01) can begin, determine the mounting location. *For previous generation UID/UIZ systems, only*, a radio test must be performed with the System Access Module in the intended mounting location. See Step 4 to perform a radio test.

The System Access Module is powered with an independent 24 VAC, 40 VA transformer. An accessory plug-in transformer is available to order through Replacement Components (Part No. SYSTXNNXFM01). When using an accessory, plug-in transformer, a 120VAC supply must be near the mounting location of the System Access Module. Provisions must be made to secure the transformer to the outlet, due to its weight. The D-wire (24 VAC) from the Infinity system **MUST NOT** be used to power the System Access Module.

Use this instruction to guide the actual installation process after the Infinity system(s) have been installed. One SAM01 System Access Module is capable of handling two Infinity systems.

## INTRODUCTION

*The SAM01 is used differently for previous generation Infinity systems using the UID/UIZ wall controls, versus the newer Infinity® Touch systems.*

*For previous generation systems using the UID/UIZ wall controls, the SAM01 connects to the SkyTel/American Messaging wireless paging network and allows remote connectivity for up to two Infinity systems within the same building. The Infinity system owner as well as authorized dealer can monitor and control the system via the Internet.*

*The coverage area available to applications using the SAM01 for remote access is limited, since the System Access Module communicates through a two-way radio via the Skytel paging network. To check coverage, please visit: [http://www.skytel.com/coverage/telemetry\\_coverage.htm](http://www.skytel.com/coverage/telemetry_coverage.htm) for the particular installation site. The coverage must be listed as “Full Service” for the System Access Module to function properly. Please note that Skytel is continuously changing their service area so coverage may not be indicated by the web site for a particular area, or coverage may be discontinued at a later date.*

The SAM01 also provides an interface to Home Automation systems, utilizing the RS-232 serial port connection.

*The newer Infinity Touch systems, with version 08 or later software, utilize the SAM01 for ONLY interface to Home Automation systems, utilizing the RS-232 serial port connection. Use the Wi-Fi versions of the Infinity Touch wall controls when connection to the Internet is desired.*

For all systems, the System Access Module can also monitor a dry-contact sensor to provide a warning for the presence of water in the building, or some other use. If the sensor is active, the Infinity system will not be disabled or shut down.

### Compatible Systems

The SAM01 is designed for previous generation UID/UIZ wall controls with version 12 or earlier software. When used with version 13, or later, UID/UIZ wall controls, or with the newer generation Infinity® Touch (with version 08 software or later) certain features, such as the “Off” mode command, will not work properly. See the latest version of the SAM Remote Access Application Specification, available on HVACpartners, for more information.

**NOTE:** *The SAM01 is designed for operation with the previous generation UID/UIZ wall control systems. As such, it will operate “as-is” with the newer Infinity Touch systems, and may display status codes that are unique to the previous generation UID/UIZ systems, but are irrelevant when the SAM01 is used with the newer Infinity Touch systems. In addition, some features of the RS-232/ASCII home automation interface will NOT be available with the newer Infinity Touch systems. See the latest version of the SAM Remote Access Interface Specification, available on HVACpartners, for more details on the home automation interface.*

### Computer Requirements (Previous generation UID/UIZ systems, only)

The SAM01 uses a web-based application to control and monitor the Infinity system. This application ([www.MyInfinityCarrier.com](http://www.MyInfinityCarrier.com)) will work with any graphic user interface PC operating system (Microsoft, Apple, Linux). The web-based application is optimized for use with Microsoft's Internet Explorer version 6 and above. Other web browsers are compatible with some possible screen formatting issues.

**NOTE:** This web-based application for the SAM01 is NOT available for Infinity Touch systems. When using these systems, Internet access is achieved using the Wi-Fi version of the Infinity Touch control, and accessing the [www.MyInfinityTouch.com](http://www.MyInfinityTouch.com) website.

The SAM01 is designed for previous generation UID/UIZ wall controls with version 12 or earlier software. When used with version 13, or later, UID/UIZ wall controls, or with the newer generation Infinity® Touch, certain features, such as the “Off” mode command, will not work properly. See the latest version of the SAM Remote Access Application Specification, available on HVACpartners, for more information.

## INSTALLATION

### Step 1 — Check Equipment and Job Site

**INSPECT EQUIPMENT** — File claim with shipping company, prior to installation, if shipment is damaged or incomplete.

### Step 2 — Component Location and Wiring Considerations

## ⚠ WARNING

### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, death or possible equipment damage.

Disconnect supply power before routing wire.

**NOTE:** All wiring must comply with national, state, and local codes.

### LOCATING SYSTEM ACCESS MODULE

When possible, select a location near the Infinity furnace or fan coil for the SAM01 where wiring from the User Interface, each Remote Room Sensor or Smart Sensor, each damper actuator, and the equipment itself can come together easily. However, if the furnace or fan coil is located in a basement, this may not be possible due to the strength of the radio signal from the SkyTel/American Message transmission tower. See Step 4 for testing the radio for signal strength. This restriction for radio signal strength does not apply for newer Infinity Touch systems.

**For previous generation UID/UIZ systems, only:** Since the System Access Module (SAM) uses two-way radio, choose a potential mounting location that is as high and as close to outside walls or windows as possible to attempt to maximize radio coverage. The coverage is dependent on where the Skytel transmission towers are located. If one location does not work, try the opposite side of the structure to get the device in closer directional proximity to the transmission tower. Temporarily mount the System Access module in the intended permanent mounting location until the radio test has passed 100%. (See Step 4.)

**For all system types,** the System Access Module is approved for indoor use only and should never be installed with any of its components exposed to the elements. The System Access Module may be installed in any area where the temperature remains between -4°F and 158°F (-20°C and 70°C) and there is no condensation. The cover must be installed to prevent damage from other sources. Do not locate where it will be accessible to children. The SAM should be mounted in the vertical position. Remember that wiring access and Skytel reception are the most important installation location considerations.

## ⚠ CAUTION

### ELECTRICAL OPERATION HAZARD

Failure to follow this caution may result in equipment damage or improper operation.

To prevent possible damage to the System access Module, do not mount on plenum, duct work, or flush against furnace.

**WIRING CONSIDERATIONS** — Ordinary thermostat wire is ideal when wiring the System Access Module (shielded cable is not necessary). Use 22 AWG or larger for normal wiring. Lengths over 100 ft. should use 20 AWG or larger wire.

### Step 3 — Connect Power Source and Antenna

**⚠ CAUTION**

**UNIT OPERATION HAZARD**

Failure to follow this caution may result in improper unit operation.

Improper wiring of the ABC connector will cause the System Access Module to operate improperly. Check to make sure all wiring is correct before proceeding with the installation or turning on power.

*For previous generation UID/UIZ systems, ONLY,* screw the antenna to the radio connector. See Fig. 2 for antenna attachment location.

For all systems, an independent 24 VAC, 40 VA transformer is required to power the System Access Module. An accessory plug-in transformer is available to order through Replacement Components (Part No. SYSTXNNXFM01). The accessory transformer is heavy. Make sure it is secured to the power outlet with an appropriate screw through the base on the transformer.

DO NOT connect the D-wire (24 VAC hot) from the Infinity system.

### Step 4 — Radio Test

*For newer generation Infinity Touch systems,* the SkyTel radio is NOT USED. Disconnect the radio module from the main SAM01 module by removing the cable between the two circuit boards. (See Fig. 2.)

Note that none of the radio test functions will be applicable to systems using the newer generation Infinity Touch systems, including any error status codes that may be generated by the system that are associated with the radio test or failures of the radio.

*For previous generation UID/UIZ systems,* verify that the SkyTel radio module is connected to the main circuit board via the cable between the main SAM01 circuit board and the radio module.

Apply power to the SAM01 in order to perform the radio test, ONLY, at this time.

**⚠ CAUTION**

**UNIT OPERATION HAZARD**

Failure to follow this caution may result in improper unit operation.

Improper wiring of the ABC connector will cause the System Access Module to operate improperly. Check to make sure all wiring is correct before proceeding with the installation or turning on power.

The purpose of the radio test is to verify effective 2-way communications at the installation site. The test must pass 100% before the installation of the SAM can continue.

Press and hold the RADIO TEST button for at least 5 seconds. A flashing Yellow LED will indicate the test is in progress. A flashing Yellow and Green LED means the transmission is complete and the System Access Module is waiting for a reply. A constant Green LED means the radio test has passed. The radio will perform three message tests, so this sequence will occur three times. If the System Access Module has errors during the process, the test could take up to 15 minutes.

If the Red LED is lit solid, then the System Access Module failed to send the message. Try a new mounting location for the System Access Module.

If the Yellow LED is lit solid, then the System Access Module sent its message but did not receive a reply. The Carrier server may be down or the received signal is weak. Try a new mounting location for the System Access Module.

Aborting Test - There is no method to abort a radio test once it is started, other than to remove power.

The LEDs will maintain their state for one hour after the test. Pressing the Radio Test button momentarily will clear the LEDs. Pressing the Radio Test button again for five seconds will repeat the radio test. See Fig. 3 for a description of the radio test and LED sequence.

**REMOVE POWER and continue with the installation.**

### Step 5 — Install Components

**INSTALL SYSTEM ACCESS MODULE** — Once the previous step has been completed, the System Access Module can be permanently installed. The System Access Module is designed so that wires can enter it from behind, above, or below. Plan wire routing before mounting.

1. Remove cover to access mounting holes.
2. Mount back plate to wall using screws and wall anchors provided.
3. Level back plate and tighten screws.

### Step 6 — Connect Infinity Systems

**⚠ CAUTION**

**UNIT OPERATION HAZARD**

Failure to follow this caution may result in improper unit operation.

Improper wiring of the ABC connector will cause the System Access Module to operate improperly. Check to make sure all wiring is correct before proceeding with the installation or turning on power.

Connect the A, B, and C wires from the Infinity system to terminals labeled A1, B1, and C1. Connect the second Infinity system (if present) to the terminals labeled A2, B2, and C2.

ABC bus wiring only requires a three wire connection; however, it is good practice to run thermostat cable greater than three wires in the event of a damaged or broken wire during the installation.

It is recommended that the following color code be used when wiring each ABC connector:

- A — Green Data A
- B — Yellow Data B
- C — White 24VAC (Com)

**NOTE:** The D-wire (red - 24 VAC hot) from the Infinity system is not connected to the System Access Module.

**It is not mandatory that the above color code be used, but each ABC connector in the system MUST be wired consistently.**

### Step 7 — Connect Auxiliary Sensor (optional)

The System Access Module will support a dry contact sensor for use with water detection or some other use as seen fit. Connect one side of the contacts to connector AUXC (common) and the other side to connector AUX (input). The sensor input can provide up to 20mA at 5 volts d.c. If the sensor input is active, it will not shut down or affect operation of the HVAC system(s). A pop-up message will appear on the user interface indicating the auxiliary sensor is active.

The homeowner can also be notified via email, if so chosen, by selecting the appropriate options on the Internet website user

interface application. See the appropriate website user interface application for more information:

- *For previous generation UID/UIZ systems*, use [www.MyInfinityCarrier.com](http://www.MyInfinityCarrier.com).
- *For newer generation Infinity Touch systems*, use [www.MyInfinityTouch.com](http://www.MyInfinityTouch.com). The Auxiliary Sensor email alerts are enabled when the “Urgent” notifications are enabled.

### Step 8 — System Start-Up

After the previous steps have been performed, power may be applied to the system, including both the SAM01 and the Infinity system. The Infinity wall control will automatically find the SAM01 at system power on during the system self-installation sequence. If the SAM is being added to an existing system, initiate a full system re-install sequence to ensure that the SAM is discovered properly.

The wall control will enter the system installation screens automatically and will display the Equipment Summary screen when finished. *For previous generation UID/UIZ systems*, the Equipment Summary screen will display REMOTE ACCESS YES near the bottom. *For the newer Infinity Touch systems*, the word SAM will appear toward the bottom right of the Equipment Summary screen. If REMOTE ACCESS YES or SAM is not displayed on the Equipment Summary screen, or if “no sam” is displayed in the Infinity Touch Equipment Summary screen, check connections to the ABC wires as well as ensure the Yellow LED is lit on the SAM01 (this ensures the module has power). The Green LED will be lit next to each ABC connection if the User Interface (wall control) has established communications.

**NOTE:** The Yellow Status LED may begin to flash status codes when used with newer generation Infinity Touch systems. This is likely due to the fact that the network interface within the SAM enclosure has been disconnected. The following status codes should be ignored when using the SAM with newer generation Infinity Touch controls:

- Code 61: Radio out of range
- Code 62: Loss of communication with radio or Ethernet device
- Code 63: Radio not registered
- Code 66: Ethernet/Wi-Fi not detected
- Code 67: No communication with server

### Step 9 — PIN Number and Serial Number *(For previous generation UID/UIZ systems, only)*

The PIN and Serial number of the System Access Module are used by the system owner to register their system with the Carrier web server. Remove the sticker containing the PIN number from the radio and install at the front of the Owner’s Guide. Also, write down the SAM serial number in the Home Owner’s Guide. The serial number can be found on the SAM packaging, at the bottom of the large SAM circuit board or in the user interface Service Menu. If PIN number is lost or missing, it can be found by entering the Service Menu of the User Interface (10 second press of the Advance button) and looking at the Model/Serial Numbers screen. The PIN will be listed with the System Access Module model and serial numbers.

### RS-232 CONNECTOR

An RS-232 port has been provided for connection to home automation equipment. Consult your home automation supplier for

support. If the particular home automation supplier needs information for the interface, you may supply the latest version of the SAM Remote Access Interface Specification, found on HVACpartners, to the home automation supplier. Designing and providing the interface to the Infinity system through the RS-232 communication port on the SAM is the responsibility of the home automation supplier. Contact your Distributor Service Manager for details, if required.

### UPDATING SYSTEM PROFILE

*(For previous generation UID/UIZ systems, only)*

The Infinity System will automatically send system information to Carrier’s computer servers within one hour after the system has been successfully installed. Access to the system via the Internet or telephone will not be available until this occurs. The system can be forced to send its information through the following process if Internet and telephone access is required immediately. Press and hold the RADIO TEST button for 15 seconds. When the button is first pressed, the Red LED will turn on. Five seconds into the press, the Yellow LED will turn on. Fifteen seconds into the press, the Green COM1 LED will turn on. Release the button when the Green LED turns on. The Red LED will flash when messages are being sent. The Red and Yellow LEDs will flash when the SAM is waiting for message replies. Upon successful profiling, both Green LEDs will be lit. If profiling is not successful, the Red LED will be lit solid. The entire profiling process can take up to 15 minutes per Infinity System. If two systems are connected to one SAM, then the profiling process can take up to 30 minutes.

If the Infinity system ABC wiring is moved from connector 1 to connector 2 (or vice versa), or Infinity equipment has changed, the System Access Module must update Carrier’s servers with the new information. This will happen automatically within one hour, or can be manually forced with the process described above.

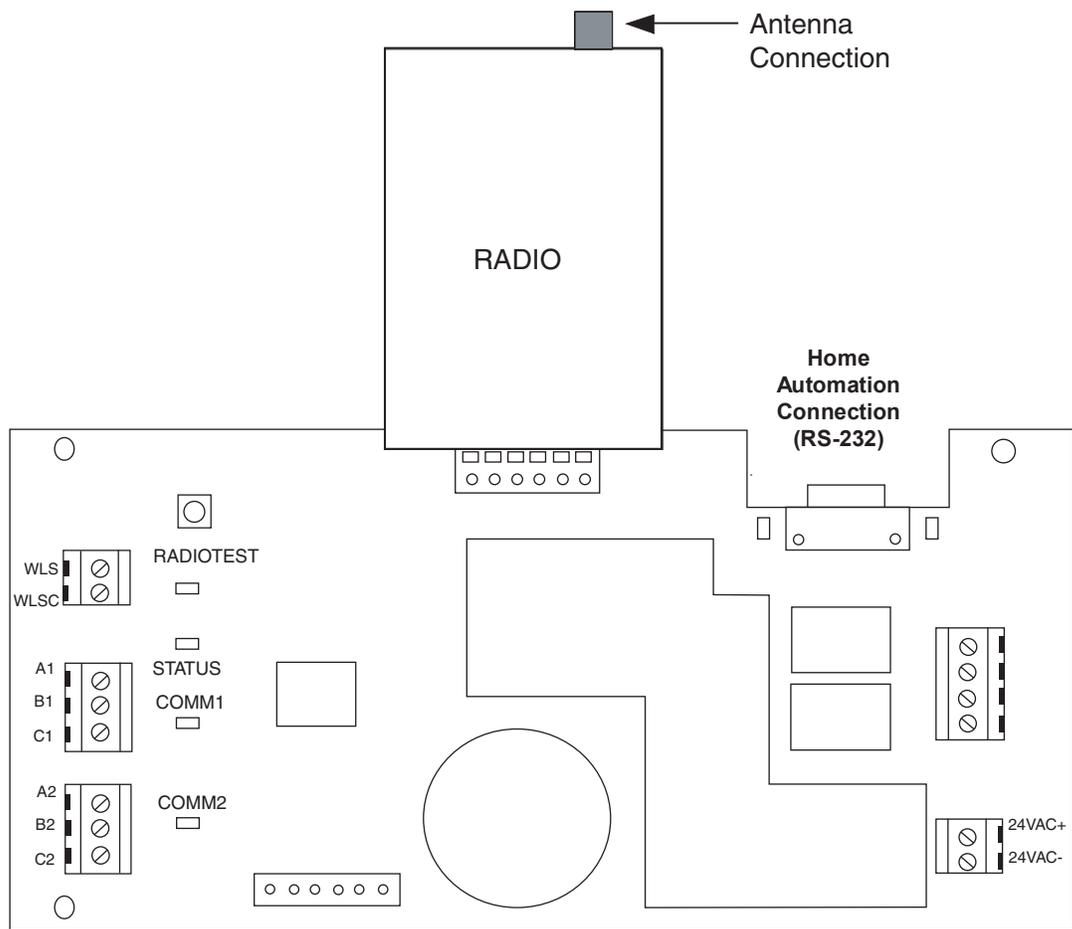
### TROUBLESHOOTING

**FAULT INDICATORS** — Under normal operation, the Yellow and Green LED will be on continuously (solid). If the System Access Module does not receive communications with the Infinity system, the Green LED will not be on. If there are faults present, the Yellow LED indicator will blink a two digit status code. The first digit will blink at a fast rate, the second at a slow rate.

**NOTE:** *When the SAM01 is used with the newer Infinity Touch systems, it may display status codes that are unique to the previous generation UID/UIZ systems, but are irrelevant when the SAM is used with the newer Infinity Touch systems. See the note below for these codes that should be ignored.*

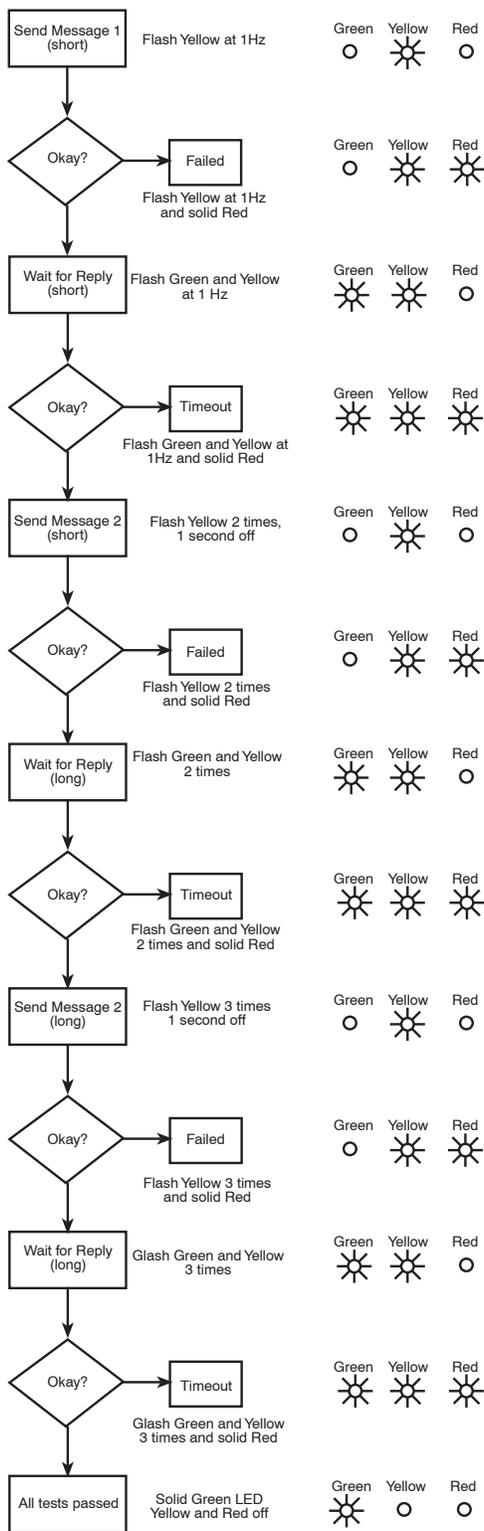
STATUS CODE	DESCRIPTION
45	Board Failure
61	Radio out of range (no coverage for five minutes)
62	Loss of communication with the radio
63	Radio not registered with the local network (unregistered for five minutes)
64	Auxiliary sensor active

**NOTE:** *The 61, 62, and 63 status codes should be IGNORED for newer generation Infinity Touch systems.*



**Fig. 2 - System Access Module Control Board**

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**Fig. 3 - Radio Test Process and LED Sequence**

