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Phone (800) 321-2343 / Fax (717) 702-2546
www.onqlegrand.com

INSTRUCTION/INSTALLATION SHEET
lyriQ™ Studio High Performance Keypad

IS-0425 REV. A

1. Introduction

Figure 1

The lyriQ™ Studio High Performance Keypad, P/N AU5010-xx **(see *Figure 1*),** is an integral part of the lyriQ™ Multi-Room Audio System. It is a component which, when combined with other essential components (a Source Input Unit, Distribution Module and Speakers) and your source equipment (receiver, CD player, etc.), creates a versatile whole-house audio system that will fill your rooms with high-quality sound for years to come. It uses Category 5 wiring to distribute audio signals, control information and IR for remote control. The High Performance Keypad has two on-board 20 Watt per channel class D amplifiers to provide a rich level of clean sound even in large room applications. It also contains a full set of features, including the ability to control all other keypad volume controls in the house. Build a system that accommodates the needs of any space by combining the lyriQ™ Studio High Performance Keypad with the lyriQ™ Studio Keypad (P/N AU5009-xx) in the same system. The AU5010-xx is available in white (-WH), light almond (-LA), titanium (-TI), or gloss black (-GB).

2. Description

The front panel of the lyriQ™ Studio High Performance Keypad, PN AU5010-xx **(see *Figure 1*),** looks almost identical to the standard lyriQ™ Studio Keypad (AU5009-xx). It also has push buttons for STANDBY (backlit with red LED when in Standby Mode), for MUTE (backlit with red LEDs, when Mute function is selected), VOLUME UP/DOWN (with six associated blue Volume Bar Graph LEDs), SOURCE SELECT (with six blue Source Selection LEDs), and WHOLE HOUSE (backlit with white LEDs when not selected and with flashing blue/white LEDs when Whole House function is selected). There is also an IR target window. The visual cue from the front panel that this is a High Performance Volume Control are the parenthesis surrounding the music note on the lower left corner of the display area.

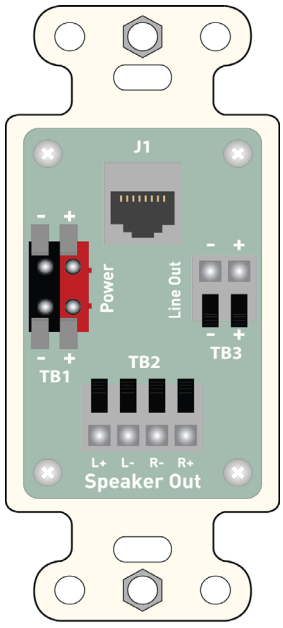

Figure 2

NOTE: lyriQ™ Keypads are recommended for indoor use only.

On the rear of the lyriQ™ Studio High Performance Keypad (see ***Figure 2***) the Category 5 connection is an RJ45 jack (J1). The TB2 speaker output connections (left and right, plus and minus) are spring loaded and designed to support up to 14 gauge wire. The TB3 Line Out connections (plus and minus) are also spring loaded and designed to support up to 14 gauge wire. This mono-summed output is designed for powered sub-woofers and as such is filtered through an 80Hz low pass filter. The other terminal block on the rear (TB1) is used for powering the keypad. Up to 14 gauge speaker wire may be used for this purpose, and this speaker wire (two or four conductor) is run from a power distribution module (P/N AU1001) in the enclosure to the Keypad. We recommend 16/4 speaker wire, since it is available paired with Category 5 from a variety of sources. Again, the TB1 connections are spring loaded (plus and minus) with the two plus connections on the red portion of TB1 and the two minus connections on the black portion of TB1. For ease of installation, connect the red wire and white wire to the red (plus) portion of TB1 and the black and green wire to the black (minus) portion of TB1.

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3. Installation

Installation of the lyriQ™ Studio High Performance Keypad is best accomplished at multiple times during new construction, at "Rough-in" before the drywall is installed, and at "Trim-out" after the drywall is installed and painted.

NOTE: Before connecting the Keypad volume controls: Make sure that power supplies are not connected to the lyriQ™ Audio and Power Distribution Modules. For instructions on pre-wiring and installing other components of the lyriQ™ Audio System, please see the Instruction Sheets included with those components.

NOTE: Always follow TIA-570-B and T568A wiring standards for installing and terminating Category 5 cable. Failure to follow the correct wiring standard could result in damaged equipment and/or electrical interference issues. Carefully label each wire for its intended use to avoid mis-wiring.

NOTE: Maintain a minimum 12" separation between Category 5 cable and any 120VAC cabling.

A. "Rough-in" steps:

1) A single Category 5 cable and 16/4 speaker wire should be run from the enclosure location to a single gang outlet box at each Volume Control location (typically mounted at electrical light switch height).

B. "Trim-out" steps:

1) Connect the volume control by terminating the pre-wired Category 5 cable from the enclosure with an RJ45 plug, following the T568A wiring standard and insert this plug into jack J1 (see ***Figure 2***).

2) For the power connection (TB1) strip 3/8" of insulation from each of the four conductors and insert the red and white wires into the red (plus) portion of TB1. Insert the stripped black and green wires into the black (minus) portion of TB1 (see ***Figure 2***).

NOTE: The two red connections are tied together, as are the two black connections. They are provided in pairs to provide flexibility of wiring.

NOTE: Electricians may prefer to think of the black and red wires as plus and the green and white wires as minus. That wiring will also work, as long as it is also followed at the other end of the cable (at the Power Distribution Module in the enclosure).

3) Speaker/Line Out/Sub-Woofer connections (see ***Figure 2***):

NOTE: Polarity and channels are clearly marked (L+, L-, R-, R+) for proper identification during installation.

a) Use TB2 to connect one pair (only) of 8 ohm evōQ™ audio speakers to the volume control.

b) Use TB3 to connect your evōQ™ powered sub-woofer or an external amplifier to the volume control. These connection terminals do not provide any amplification but the volume control on the keypad

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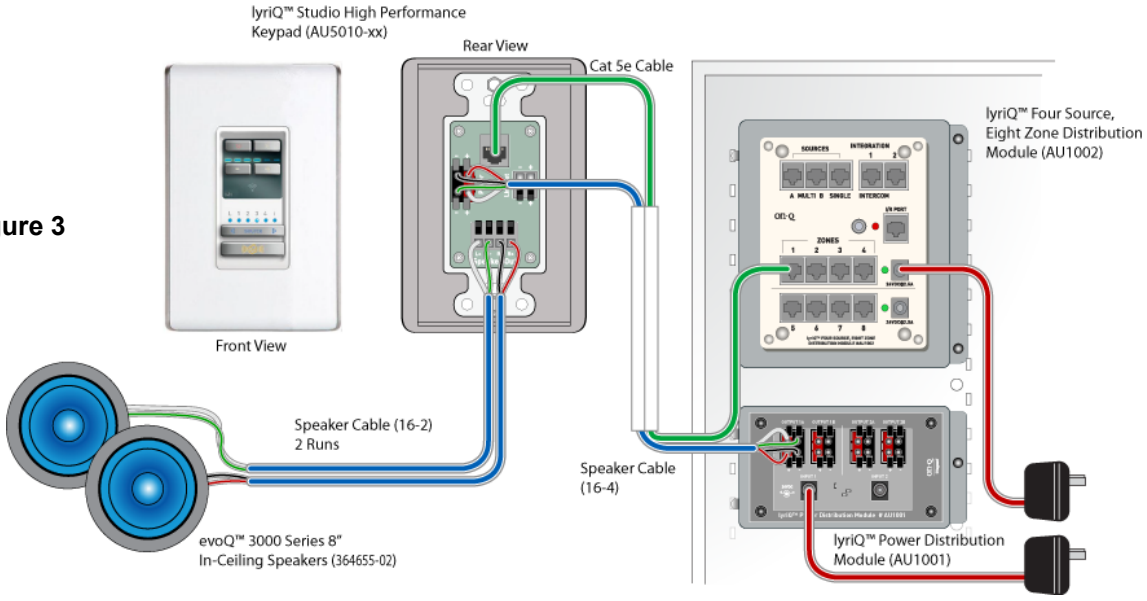
controls the output level of this connection.

4) Connections in the enclosure (see ***Figure 3***):

a) The Category 5 cable that was run to each volume control location should be terminated with an RJ45 plug according to the T568A wiring standard and inserted into one of the zone output jacks of the associated lyriQ™ audio distribution module.

Figure 3



b) For the 16/4 speaker wire power cable that was run to each volume control location, strip 3/8" of insulation from each of the four conductors and insert the red and white wires into the red (plus) portion of TB1. Insert the stripped black and green wires into the black (minus) portion of TB1

NOTE: As noted before, Electricians may prefer to think of the black and red wires as plus and the green and white wires as minus. That wiring will also work, as long as it is also followed at each end of the cable.

c) To connect more than eight (8) Keypads to a 4 Source 8 Zone Module, cascade Single Source Modules. To cascade a Single Source Module, simply run a Cat 5e jumper from any Zone port RJ45 jack on the front panel of the Multi-source Module to the "Source In" RJ45 jack on the front panel of a Single Source Module (see ***Figure 4***).

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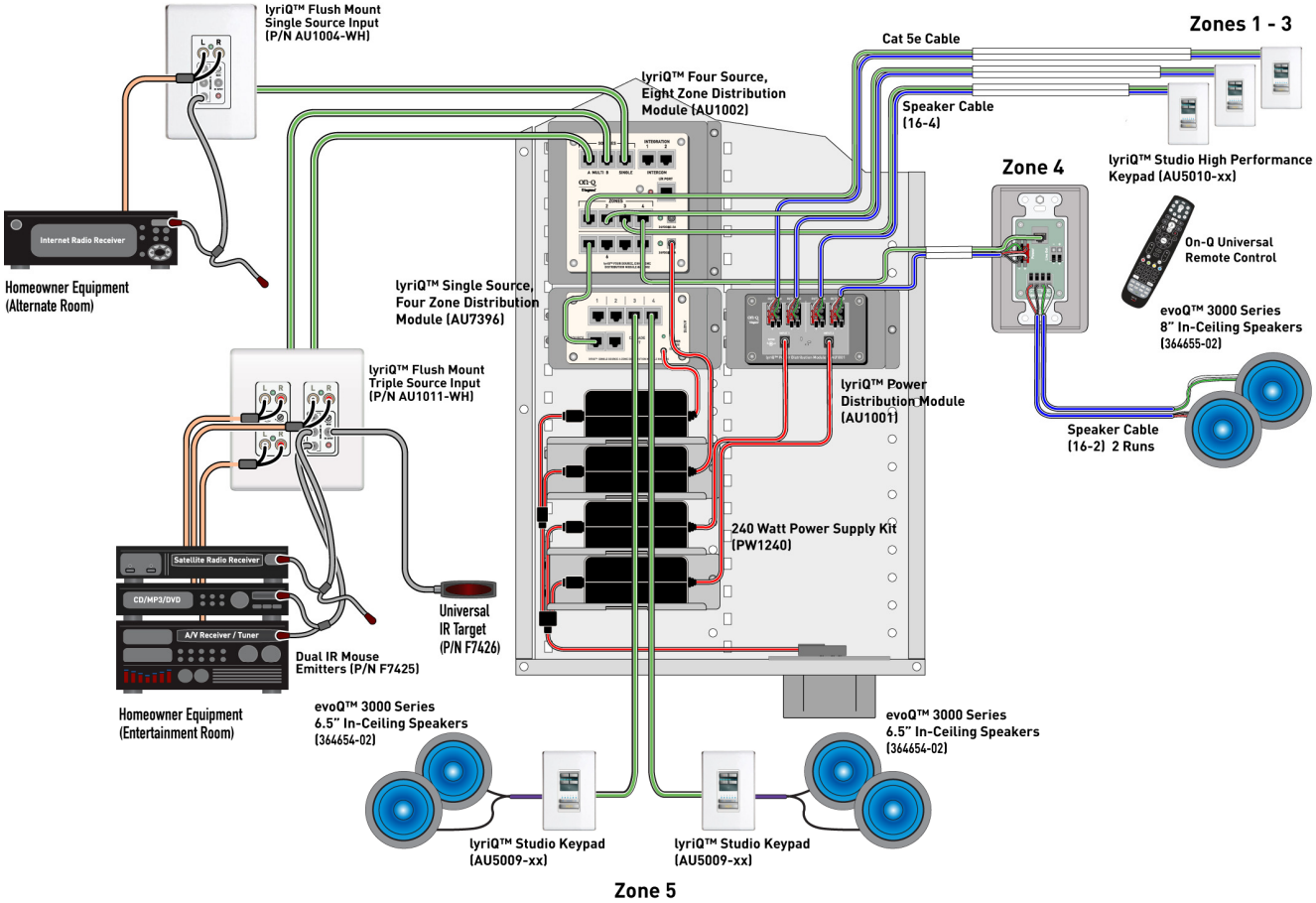
Figure 4



5) Keypad Mounting: check all connections and test the system's operation before installing the volume controls into the wall. Use the included screws to install the volume control and wall plate into the single gang box.

NOTE: A 20 cubic inch or larger single gang box is recommended.

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4. Operation

A. ON/OFF:
Keypad – Press STANDBY button to toggle ON or OFF (see ***Figure 5***).
Remote – After pressing On-Q button, press On/Off button to toggle ON or OFF (see ***Figure 6***).

B. Power-Save Mode:
Keypad only – After 30 seconds of inactivity, the Keypad will go into Power-Save or "sleep" mode. Pressing any button on the Keypad will awaken it from this mode, performing the action associated with the button push.

C. SOURCE select:
Keypad – Press SOURCE rocker switch up (right side) or down (left side) to select desired source (see ***Figure 5***).
Remote – Press SOURCE UP or DOWN button to select desired source (see ***Figure 6***).

NOTE: (Keypad or Remote) For Single Source Systems, source toggles between source #1 and any connected Studio Local Source/s. For Multi-Source Systems, source toggles between 1, 2, 3, 4 and connected Studio Local Sources. If more than one Local Source is connected, they are indicated by "L" and "2". NOTE: Upon source change, volume mutes and then ramps back up to prior volume setting automatically.

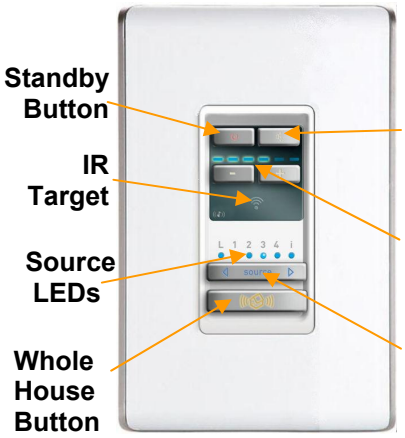

Figure 5

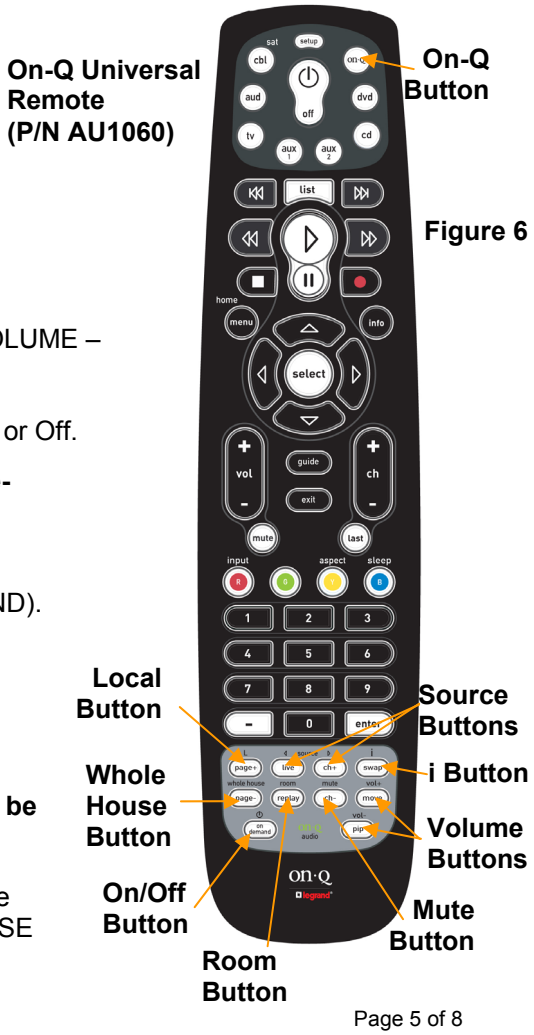

Figure 6

D. VOLUME Steps: Keypad or Remote – Press VOLUME + (Up) or VOLUME – (Down) button (36 steps).

E. MUTE: Keypad or Remote – Press MUTE button to toggle Mute On or Off.

NOTE: When returning from MUTE, volume control will ramp to pre-mute or adjusted state (source, volume and backlight level).

F. DO NOT DISTURB (see ***Figure 5***):
When the Keypad is off, pressing MUTE toggles Do Not Disturb (DND). This mode is indicated by both the red POWER and MUTE LED on. When Keypad is in DND mode, it will Not respond to whole house commands from other locations.

G. WHOLE-HOUSE Mode (see ***Figure 5***):

NOTE: In this mode, every operation performed on this keypad will be relayed to all keypads not in (DND) mode in the system.

Keypad or Remote – Press the WHOLE HOUSE button to toggle the Whole House function On or Off (On the Keypad, the WHOLE HOUSE

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button turns blue).

In this mode, all functions performed on the local keypad such as Volume Up/Down, Mute/Un-Mute, Source selection, or Power On/Off are relayed to and performed on all active keypads in the system.

NOTE: The Whole-House mode will be exited when the user fails to press a key within 10 seconds or by pressing the WHOLE HOUSE button again.

H. DIMMING set-up:
Press Volume+ and Volume- at the same time to enter mode. Backlights will flash. Press + or – to adjust level of light.

I. POWER UP SELF TEST (see ***Figure 5***):
Keypad only – When power is applied to the Studio Keypad, the following start up test will occur:
1) The Keypad white backlight LEDs will illuminate to full intensity.
2) The MUTE button backlight will transition to red and back to white.
3) The WHOLE HOUSE button backlight will transition to blue and back to white.
4) The volume indicator LEDs and then source indicator LEDs will illuminate left to right and then back to the left.
5) The Keypad white backlight LEDs will dim to off and the Standby button will be backlit red.
6) When done, the Keypad powers down,

NOTE: The first 5 power up self tests will take about 15 seconds, and about 2 seconds after that. Hitting any button during the test will interrupt the test and the Keypad will operate as normal.

5. Important Safety Precautions:

Read the instructions that are included with all associated lyriQ™ Audio products before installing any single component. If you are unsure of any of the installation procedures contact On-Q/Legrand Technical Support @ 1-800-321-2343 option 1 or contact an On-Q/Legrand installer.

- Do not attempt to service, move or change any component of the lyriQ™ Audio system unless you are qualified to do so.
- This system should be installed by a qualified installer and must conform to all local building and electrical codes.
- Do not apply power to the lyriQ™ Audio System until all components are installed and wiring is properly terminated.
- Do not attempt to terminate, change or un-install any wiring without first turning off power to the lyriQ™ Audio System located in the Enclosure. Unplug the power to the lyriQ™ Audio System from the power outlet before proceeding with wiring terminations or changes.
- Install all system components away from heat sources such as HVAC ducts/registers, stoves or any other heat source.
- Do not expose any component that was designed for indoor use to moisture. Doing so can create electrical hazards or render the component unusable. Exposure to moisture will also void the warranty on the system.
- Do not use vacuum cleaners, liquid or aerosol cleaners to clean system cover plates. A damp cloth may be used.

6. Installer Set Up Mode (see Page 7 and 8)

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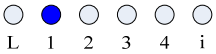
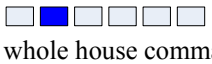
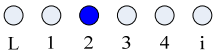
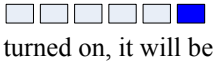
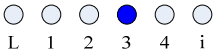
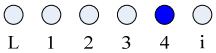
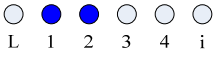
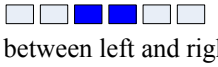
STUDIO KVC – Installer Setup Mode

Activate by pressing the following key sequence (while on):

- MUTE, VOLUME UP, VOLUME DOWN, VOLUME DOWN, MUTE, VOLUME UP, VOLUME DOWN, VOLUME DOWN
- The KVC will indicate Installer Setup Mode by blinking its backlight LEDs.

SETTING	FUNCTION	OPTIONS
WHOLE HOUSE ENABLE/DISABLE  	Enables or disables this KVC's ability to respond to whole-house commands from other KVC's in the system	ENABLED: (DEFAULT) This KVC may be controlled by whole house commands from other KVC's.
		 DISABLED: This KVC will not respond to whole house commands from other KVC's.
TURN ON VOLUME  	Sets the turn on volume for this KVC. Alternatively, the KVC can be set to remember its last volume when it is turned on.	SPECIFIED VOLUME: (DEFAULT) The displayed volume setting is the turn on volume.
		 LAST VOLUME: When this KVC is turned on, it will be set to its last volume.
MAXIMUM VOLUME  	Sets the maximum allowed volume for this KVC.	SPECIFIED VOLUME: (DEFAULT) The displayed volume setting is the maximum volume.
IR TARGET & IR REPEAT ENABLED / DISABLED  	Controls the setting of this KVC's IR functionality	IR TARGET ENABLED / IR REPEAT ENABLED: (DEFAULT) The KVC will process received IR commands and repeat any received IR throught the system.
		IR TARGET ENABLED / IR REPEAT DISABLED: The KVC will process received IR commands, but will NOT repeat any received IR throughout the system. • This setting may be used to prevent IR noise at this KVC from effecting the rest of the system.
		IR TARGET DISABLED / IR REPEAT DISABLED: The KVC will not process any received IR commands. • This setting may be used in extremely noisy IR environments to prevent audible noise.
BALANCE  	Adjusts the left/right balance of this KVC's audio.	 MIDPOINT: (DEFAULT) Equal balance between left and right.
		FULL LEFT: Audio is balanced completely to the left.
		FULL RIGHT: Audio is balanced completely to the right. NOTE that other settings are available between the maximums.

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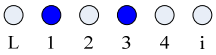
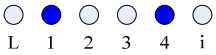
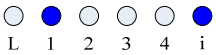
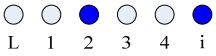
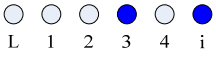
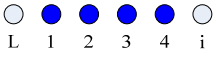
SETTING	FUNCTION	OPTIONS
GROUPING  	Allows the Integration Module to properly control multiple KVC's that are cascaded from an 'AU1002 Four Source, Eight Zone Distribution Module' or an 'AU1014 Advanced Single Source Module'.	NO GROUPING: (DEFAULT) This KVC is not part of a cascaded group. This is also the proper setting in a non-Integration Module system.
		GROUP MEMBER: This KVC is a member of a cascaded group, but is not the master. As such, it will not respond to an Integration Module's status queries.
		GROUP MASTER: This KVC is a member of a cascaded group – and is the group master. As such, it is the only KVC in the group that will respond to an Integration Module's status queries.
IR REPEATER PATTERN  	Sets the pattern that this KVC will use when repeating IR commands to the rest of the system. The KVC allows for different patterns based on the selected source (1-4). The pattern selected here will be for the source that was selected when Installer Setup Mode was activated.	40 kHz FREQUENCY: This KVC will repeat IR commands using a 40 kHz pattern.
		MIXED 40 kHz/56 kHz FREQUENCY: (DEFAULT) This KVC will repeat IR commands using a mixed 40 kHz / 56 kHz pattern.
		56 kHz FREQUENCY: This KVC will repeat IR commands using a 56 kHz pattern.
AUTOMATIC POWER OFF  	Determines whether this KVC will automatically power off after 20 minutes of audio loss.	ENABLED: (DEFAULT) This KVC will automatically power off after 20 minutes of audio inactivity.
		DISABLED: This KVC will never automatically power off.
WHOLE HOUSE BUTTON ENABLED / DISABLED  	Determines if the whole house button on this KVC is operational.	ENABLED: (DEFAULT) This KVC can control other KVC's in the system after pressing its whole house button.
		DISABLED: This KVC cannot activate whole house mode through the use of its whole house button.
IR ACTIVITY FEEDBACK  	Allows the KVC to indicate the presense of IR activity by blinking its power led.	ENABLED: This KVC will show IR activity by blinking its power led.
		DISABLED: (DEFAULT) This KVC will not show any indication of IR activity.
RESTORE DEFAULT  	Allows the user to reset the KVC's settings to their defaults.	ACTIVATED: Pressing either volume button on this setting resets the defaults and blinks the leds to indicate.

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