



RNET Controller Troubleshooting Guide

Symptom	Possible Cause	What To Do
When linking multiple the controllers, zones on slave controllers are acting the same as respective zones on the main controller	All controllers set to the same Controller ID #	Remove the RNET Link cables from the controllers. Connect an UNO-S1 or UNO-S2 to the slave controllers. Enter the Controller ID programming menu on each controller and change the ID #'s to all be independent of each other.

Symptom	Possible Cause	What To Do
RNET metadata from Russound source does not match up with the actual source selected	RNET Source #'s set incorrectly in the source itself	Default source # assignments: ST2 (Tuner 1 = Source 1) ST2 (Tuner 2 = Source 2) SMS3 (Stream 1 = Source 3) SMS3 (Stream 2 = Source 4) SMS3 (Stream 3 = Source 5) iBridge Dock (Source 6) If these do not match up with the source # locations used on the RNET Controller then they must be reassigned to match the correct source # location. Each Russound source has the ability to assign itself a particular RNET Source #. Refer to the manual for each particular source to determine how to set the correct source number in the source itself.

Symptom	Possible Cause	What To Do
One keypad will not work but the rest of the keypads on the system work fine. Note: Turn the power off to the controller when plugging or unplugging keypads	Defective Keypad	Remove the keypad from this location and test in a known working zone. If the keypad will not operate in the known good zone, please contact Russound Technical Support to obtain a Return Authorization.
	CAT-5 wiring problem	(1) Inspect the RJ45 connector. Verify the connection is clean and crimped to the T568A standard. (2) Inspect the 110 punchdown on the rear of the keypad. Verify that all CAT-5 standards are punched down securely in the correct location. (3) Use a LAN tester to verify the CAT-5 strands are not damaged.
	Defective port on controller	(1) Unplug the RJ45 jack for the nonfunctional keypad from the port on the rear of the controller. (2) Plug a known functional keypad and wire into the port. (3) If know functional keypad won't work, the port of the controller is defective. Please contact Russound Technical Support to obtain a Return Authorization.

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No IR control and no IR repeating with OEM remote for one of the source components from any of the zone keypads	Bad Source	Verify that the Source itself can receive IR by doing the following: (1) Remove the IR Emitter from the front of the source (2) Try controlling the source by using the OEM Remote control while pointing directly at the source itself (not through a keypad). -If the source can not be controlled using this procedure then the source itself is bad.
	Bad "Source IR Emitter Output" port on controller	Try plugging the IR Emitter into the "Common IR Output" port on the controller and see if the IR for this source starts working. -If it begins to work then there was a defective Source specific IR port on the controller and needs to be sent in for an RA (Contact Russound Tech Supt). -If it still does not work then continue the steps below.
	Emitter Placement	Verify the correct Emitter placement by using one of the following methods: (1) Use a small light to try and find the IR Receiver behind the source window (2) Cover the source window leaving a small opening. While slowly moving the small opening around the source window, use the OEM remote while pointing directly at the front of the source till it starts working. After you find the IR Receiver behind the source window try using the IR from a keypad location again to try controlling the source. -If it begins working then it was simply the placement of the IR Emitter -If it still does not work then try the steps below.
	IR flooding (caused by sources that are extremely sensitive to incoming IR signals)	With someone using the OEM Remote at a keypad location, try pulling the Emitter off the front of the source and slowly pull it back (1 inch at a time) till it starts working. -If it begins working as you are pulling away then a resistor may be used on the Emitter Signal line. Placing the Emitter off center may also work. -If it still does not work then try the steps below.
	IR carrier frequency problem	Try using our 56K IR Re-modulator. Some IR components need to see one specific frequency.
No IR control over one of the source components from any zone keypad NOTE: the OEM Remote Control repeats the signal to the Source no problem	Incorrect programming	The CAV must be programmed for the correct Device Code. If the Device Code does not exist for the source then the IR must be learned in using the OEM Source Remote.

No IR control over the zone keypad and all of the source components from one or more but not all zones (works fine on at least one zone)	IR Noise in Zone	From the bad zone location turn off all electronics in the room, close all blinds (to block sunlight), and cover any security sensors in the room. -If IR starts working then start by uncovering security sensors, then opening blinds, and turning on electronics, one at a time trying the IR in-between each step until the noise problem is found. Once it is found you will have to determine how to resolve the problem. -If it still does not work then continue with the steps below
	Bad CAT-5 wiring Or IR Noise on CAT-5 line	Run a section of CAT-5 wire from the bad Zone location to the CAV outside the wall (just laying the cable on the floor). Connect it to the keypad in the bad zone and connect it to the same port on the controller. -If it starts working then the CAT-5 wiring was bad or is picking up noise and needs to be re-routed. To determine whether it is noise or a bad CAT-5 line you will need to use a CAT-5 line tester. This tool will allow you to verify that there are no bad wires in the CAT-5 line which would mean that the problem is IR Noise. -If it still does not work then it may be a bad keypad.
	Bad keypad(s)	This can be verified by removing a known working keypad and placing it in the bad keypad location. The working keypad should have IR control. If it does then you will need to send the bad keypad in for an RA (Contact Russound Tech Supt).

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Cannot connect to the CAV/CAM via PC Power Tools	RS-232 switch on CAV set to wrong position NOTE: CAV only not CAM	On the front of the CAV there is a switch that needs to be set to “Front” or “Rear” depending on which of the two serial ports is being used. This switch is located behind the removable face plate. Verify that it is set to the same serial port location that the cable is plugged into (front or rear).
	Controller ID set incorrectly in the PC Power Tool application	Under the Controller Settings section of the PC Power Tool application there is a setting to change the Controller ID # that you are trying to communicate to. Make sure it is set to the same # that the Controller ID is set to on the controller itself.
	Wrong COM port setting in the PC Power Tool application	Under the “Tools” section there is a selection for “Options”. Within that menu there is a selection for “Connection”. Verify that the COM port # is set to the same # that is used on the computer. To view the COM port # set on the Computer you must go to your device manager.

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Symptom	Possible Cause	What To Do
UNO-TS2 not turning on the desired Zone	More than one UNO-TS2 being used on one controller without using SA-ZX3's	The CAV/CAM controllers can only support one UNO-TS2 due to power limitations. If multiple UNO-TS2 touch-screens are being used, you must use an SA-ZX3 and Power Supply for each UNO-TS2 on the controller.
	CAT-5 wiring too long	Determine if the length of CAT-5 is over 250 feet long to that zone? All Russound keypads are tested to a maximum length of 250 feet. -If you feel the length might be an issue, try the UNO-TS2 on a short piece of CAT-5 plugged directly into the back of the controller. Otherwise continue with the steps below
	Zone ID and/or Controller ID #'s set incorrectly in the UNO-TS2 Installers Setup menu	On the UNO-TS2 enter the "Options" menu, then the "Screen Setup" menu, then press and hold the "Installers Setup" button to enter that menu. From this screen, press the "Zone and Controller ID" button to change the ID # settings. Make sure the Zone and Controller ID are set for the correct Controller # and Zone # that you are trying to control. Once this is complete you should cycle the power on the controller. -If it still does not work then continue with the steps below
	Bad UNO-TS2	Remove the UNO-TS2 from this location and put another known working keypad in its place. -If the keypad works fine then it was a bad UNO-TS2 and should be sent in for an RA (Contact Russound Tech Supt). -If the keypad still does not work then continue with the steps below.
	Bad port on the controller Or Bad CAT-5 wiring	From the previous step, with the known working keypad in the bad keypad location go to the controller and swap the RJ-45 connection from the bad zone to the zone that the known working keypad came from. -If the keypad still does not work then there is a CAT-5 wiring problem. -If the keypad starts working then it was a defective Zone Port on the Controller and should be sent in for an RA (Contact Russound Tech Supt).

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Zone turns itself on for no reason	IR Noise being seen by keypad Or Noise induced into the system through the wiring	This is only capable of being troubleshot if the problem is reproducible on demand. Otherwise a fix is only going to happen by trial and error. Start by completely blocking the IR Receiver on the keypad in the affected zone. This will prevent IR Noise from the environment coming in through the keypad. -If the problem goes away then a new keypad location may be necessary or the use of IR will not be possible in that zone. One option may be to use a Plasma-proof IR Receiver connected to the input on the back of the keypad while disabling the IR Receiver on the keypad itself. -If the problem still exists then it is most likely induced noise in the wiring. This can be determined by running a new line of CAT-5 to the room across the floor (not through wall) to see if the problem still occurs. This will eliminate AC wiring and other high current wiring from being the cause. NOTE: A power conditioner is always recommended

Symptom	Possible Cause	What To Do
Zone LED on front panel of CAV/CAM not lit	Keypad plugged into different zone port than expected Or Burnt out LED	Is the keypad turning on and capable of controlling zone settings like Bass, Treble, Balance...? -If not then the problem has nothing to do with the Zone LED -If yes then watch the front panel to see which zone LED is turning on and off as you turn the keypad on and off. -If the LED that is turning on and off is not the LED that was expected to turn on and off then the keypad was plugged into the incorrect zone. -If none of the LED's are turning on and off then there is a defective LED on the front of the controller.

Symptom	Possible Cause	What To Do
When linking a CAM6.6T or CAM6.6X to another controller, metadata and control for the tuner is only available from controller #1.	"All Controllers" not set as the Controller ID within the Peripheral Setup Menu	There are two "Controller ID" programming menus for the CAM66. One of these menus is located in the "Peripheral Setup" menu. This is where you set the Controller ID for which Controller(s) you would like the internal tuner to communicate with. If you would like to have control over the internal tuner from the slave controllers then you must set this feature to "All Controllers".

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Symptom	Possible Cause	What To Do
Keypad display indicates a No Controller error message Note: Turn the power off to the controller when plugging or unplugging keypads	RNET cable	Remove all the RNET link cables from the controller. Power it on and check keypad for the No Controller error message
	CAT-5 wiring too long	Determine if the length of CAT-5 is over 250 feet long to that zone? All Russound keypads are tested to a maximum length of 250 feet.
	Wrong wiring standard being used	Inspect the RJ45 module connector to verify it is wired to the T568A standard. Refer to the keypad installation manual for the correct code wiring standard.
	Bad keypad	Remove the keypad from this location and put another known working keypad in its place. -If the keypad works fine then it was a bad keypad and should be sent in for an RA (Contact Russound Tech Supt). -If the keypad still does not work then continue with the steps below.
	Bad port on the controller Or Bad CAT-5 wiring	From the previous step, with the known working keypad in the bad keypad location go to the controller and swap the RJ-45 connection from the bad zone to the zone that the known working keypad came from. -If the keypad still does not work then there is a CAT-5 wiring problem. -If the keypad starts working then it was a defective Zone Port on the Controller and should be sent in for an RA (Contact Russound Tech Supt).

Symptom	Possible Cause	What To Do
Cannot turn on any keypad in the system and no LEDs appear lit on the front of the controller.	Blown fuse	Check the fuse on the rear panel of the controller to see if it has tripped. If the fuse has been tripped, call Russound Technical Support for an RA.
	Tripped circuit breaker	If the fuse appears to be intact, remove the controller from the AC power source and plug an AC outlet tester or other piece of equipment in its location to see if it has power. If the wall outlet has power to it and the controller still shows no sign of power call Russound Technical support for a possible RA.

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Cannot change disk numbers from the UNO keypad.	Numeric IR is not set up in programming Or Plus and Minus Press and Hold commands have been key configured.	Refer to the Numeric IR set up procedure in the controller manual. Verify default setting for Plus and Minus with no Key Config.

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No backlight on UNO keypad.	Backlight function is set to OFF	Press and hold the source button on the keypad to enter the User menu. Navigate to the Background Color menu and adjust the setting to the desired color.
	Wire fault	In the CAT-5 cable, the solid brown wire is not connected properly to the keypad, or is broken.

Symptom	Possible Cause	What To Do
UNO-TS2 is unresponsive when being used with the SA-ZX3 keypad splitter.	Defective keypad splitter Or Power supply	To test SA-ZX3: Disconnect all the other keypads and touchscreens. Run the UNO-TS2 directly from the controller's keypad port. If the touchscreen functions normally, try another UNO keypad on the splitter. If it still does not work, use a different 12V 1A power supply on the splitter. If the result is still negative, contact Russound Technical Support for a possible RA.

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A humming noise can be heard through the zone speakers.	Source ground loop	Remove each source from the system one by one to identify this as the cause. Note: Cable and satellite boxes tend to be the most common source of a ground loop.
	Speaker cables run over AC voltage lines	Run speaker wire from the system outside wall/ceiling to the affected zone speakers. If humming goes away, existing speaker wire runs are too close to AC in the wall/ceiling.
	Power contamination	Plug the controller into another circuit in the house. Add a power conditioner to the system.

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Symptom	Possible Cause	What To Do
No power from the subzone keypads (CAV6.6).	No power supply or bad power supply connected to A-BUS subzones on controller	The A-BUS subzone keypads require the use of an A-PS power supply for the keypads to function. Refer to the CAV6.6 manual for subzone installation details.

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A-BUS subzone keypads will not switch sources.	Keypad no set to multi-source mode	Remove the keypad trim plate and move the switch on the left side to multi-mode.

Symptom	Possible Cause	What To Do
Unable to communicate with the CAV6.6 from third-party controllers.	RS-232 switch set to the wrong location.	The CAV6.6 has a front and rear RS-232 connector location. Verify the switch under the removable faceplate is set to the same location to which the cable is connected.
	Third-party controller not sending Serial protocol to CAV6.6	Connect a PC to the controller with a serial cable and set the RS-232 switch to the correct location. Once connected, send serial protocol strings to the CAV6.6 manually using a development tool for serial protocol communication. Several programs can be used to send RS-232 strings to the controller. "Dock Light" is a free program available for demo purposes. Russound's serial protocol is available in the Russound Document Center. Use the example strings in the Russound serial protocol document to test that the CAV6.6 is receiving direct serial protocol. Once verified, this indicates the problem exists in the third-party device. Contact the third party manufacturer for assistance.
	Controller ID not set correctly in CAV/CAM controller	If the Controller ID is not set correctly, the third-party device will not get a response. For example, the protocol could be sending out commands correctly to a controller but trying to communicate with Controller ID 1 and the controller is set to ID 2-6.
	Not using crossover null modem cable	Check baud rate along with other required settings