



# Integration Note

<b>Manufacturer:</b>	Pioneer
<b>Model Number(s):</b>	<b>SC-71, SC-72, SC-75, SC-77, SC-79, SC-1123-K, SC-1223-K, SC-1323-K, SC-1523-K, SC-2023-K, SC-LX57-K, SC-LX77-K, SC-LX87-K, VSX-70-K, VSX-923-K.</b>
<b>Minimum Core Module Version:</b>	g! 6.5
<b>Comments:</b>	SC-75 Tested SC-LX-57-K Tested
<b>Document Revision Date:</b>	12/30/2013

## OVERVIEW AND SUPPORTED FEATURES

Pioneer receivers include an RS-232 or Ethernet connection which is used to connect to the g! system and provide full two-way communications, enabling reliable control as well as providing feedback to g! when changes (such as the current source or volume levels) occur at the receiver.

### PIONEER RECEIVERS SUPPORT THE FOLLOWING FEATURES:

**Basic Source and Volume Control:** Select any available source and control volume with two-way feedback. Changes made at the receiver (turning the volume control, changing source) are immediately reflected in g!.

**Multiple zones:** Some Pioneer receivers have a second and third zone, which can be controlled independently from the Main Zone from g!. **Note:** The Pioneer receivers may not support all sources in the auxiliary zones. If these zones are used in the viewer then any unsupported sources will need to be manually hidden using the zone configuration page in the configurator so they are not visible on the g! UI.

**Onboard Tuner:** The AM/FM tuner can be controlled from the standard AM/FM tuner interface in the Main Zone only. Note the Pioneer does not support normal "Seek" behavior, and instead the Seek buttons will toggle to the next/previous Pioneer internal preset.

**Listening Modes & Tone Control:** Control of Listening Modes such as DTS, Pro-Logic etc. is available through settings pages or custom controls. Note that you may need to customize the page with Audio Mode Controls set to the correct Style options to see all available modes.

**Limited Support of iPod Dock + NET/USB Music:** Support for iPod, digital music over IP/USB, and internet radio features are available through event mapper commands, custom interface and navigation of the Pioneer on screen display **ONLY**. No pre-made interfaces are available and feedback may be limited or non-existent.

### PIONEER RECEIVERS DO NOT SUPPORT THE FOLLOWING FEATURES:

**Tuner Control in Auxiliary Zones:** Pioneer only supports commands for toggling through Pioneer presets on additional zones. Functions for Tune or direct dial (used by g! Global Favorites) are not available outside the Pioneer Main Zone.

**Tuner Seek:** Pioneer does not support a "Seek" or auto-tune command. The Seek buttons in g! instead toggle through Pioneer internal presets.

**Integration of iPod Dock and NET/USB Sources:** Digital audio source control is limited to source selection and volume control in g!. Note: commands exist under the "Do Zone Command" group to do basic one-way cursor control on the Pioneer OSD through a custom interface.

Any feature not specifically noted as "supported" is not supported.

## IMPORTANT NOTES!

### Tuner Control Limitations:

1. The Pioneer on board tuner only offers full control in the main zone, and auxiliary zones cannot be controlled externally beyond using seek to jump between Pioneer presets (A1-A9).
2. The Pioneer tuner will allow you to tune in 1-digit increments (example: 92.2 is a valid station on the Pioneer), which is generally not used in North America. This may cause confusion as the default Tune state in g! uses a 2-digit increment. If the tuner becomes out of sync you may need to direct tune to a valid station (92.3, for example) to return the g! tune button to proper function.
3. Pioneer Tuners allow a range of 87.5-108.0. The g! interface will only display 87.7-107.9. This may cause 87.5 to show as 87.7, and 108.0 to show as 107.9 in the g! interface.

### Auxiliary Zones:

1. Auxiliary zones must be configured in the Pioneer OSD speaker setup menu.
2. Volume control in auxiliary zones is only effective if using speaker outputs. Pre-outs are always fixed output and volume control is not effective.
3. Tone control may not be available in all zones, and is often not available on all auxiliary zones (this varies by model).

### Notes: One-way Commands for driving Pioneer OSD:

- Items with no prefix drive the main OSD (Home button menu from remote with setup functions).
- Items with Network prefix drive NET sources like Internet Radio
- Items with Adapter prefix work with the Bluetooth Adapter source
- Items with MHL prefix are for MHL features (not available on some models)

### HDMI 1-4 Assignment:

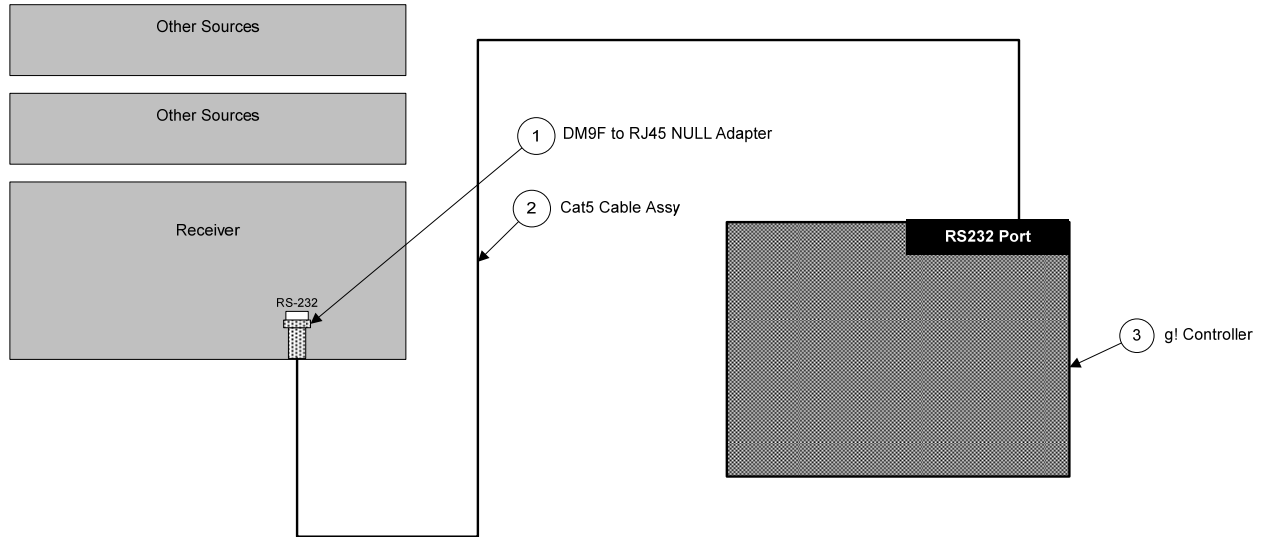
It is possible to configure HDMI 1-4 to remove their association with sources such as DVD, SAT/CBL etc. and use them as standalone sources. The inputs are provided to do so in g!, however:

- The Pioneer must be programmed correctly to use these inputs
- If the feature is enabled then the inputs DVD, SAT/CBL, DVR/BDR and VIDEO1 will no longer be valid inputs in the HD zone (they will be replaced by HDMI1-4).

## INSTALLATION OVERVIEW

1. During the rough-in phase install the necessary speaker and video cabling for the theater installation.
2. Also during the rough-in phase, run a Cat5 wire from the location of the receiver back to the g! controller location to provide the serial connection needed to control the receiver.
3. Install the speakers, display and other theater components.
4. Program the receiver according to the manufacturer's documentation.
5. Test the receiver to ensure that the sources play correctly and that the audio and video operate as expected.
6. Connect the **g!** system to the receiver electrically. **RS-232:** See the RS-232 connection diagram and bill of materials for more information. Refer to the **RS-232 Connection Options** Integration Note for other serial connection options. **Ethernet:** See the Ethernet connection diagram and bill of materials for more information.
7. Configure the **g!** system for the receiver and confirm communication between the receiver and the **g! Controller**.
8. Test the system by changing sources and volume to confirm the correct source plays.

## CONNECTION DIAGRAM: SERIAL CONTROL



### BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	DB9F to RJ45 NULL Adapter	Elan	HA-CB-328	RS-232	DB-9 Female X RJ-45 Female	
2	Cat5 Cable Assy.	Installer	N/A	RS-232	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
3	g!Controller	Elan	Various (e.g. HC 12)	RS-232	RJ45 Female	

**Note:** No special settings are required for Serial control.

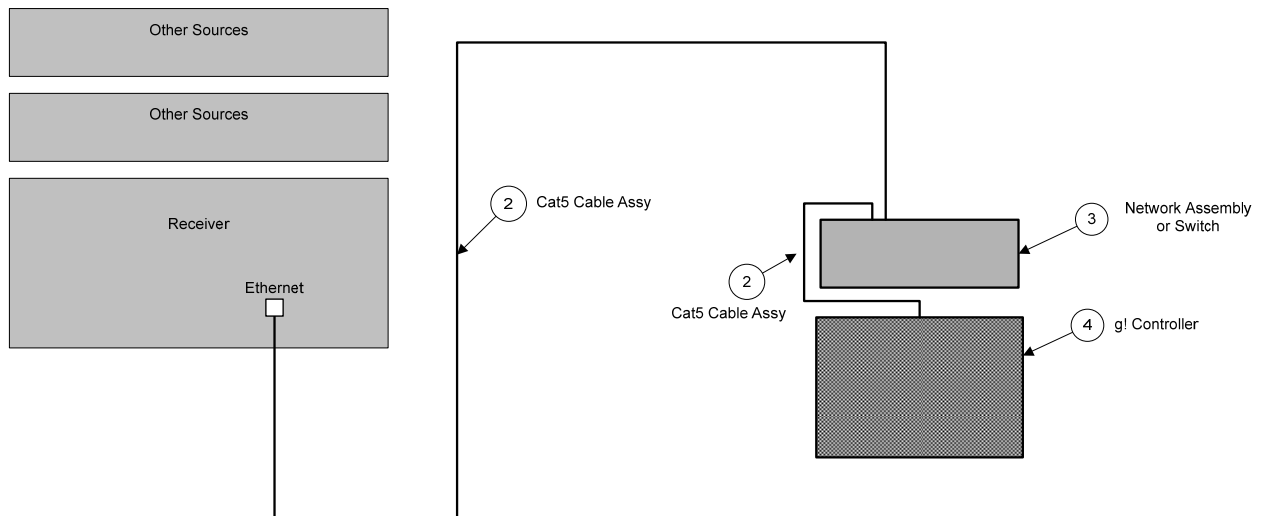
### Tone Control:

On some models, Tone Control is disabled by default, so g! bass and treble sliders will not function. To enable it:

For the Main Zone:

1. Choose "Audio Parameter" on the remote control handset.
2. Scroll to "TONE", which is set to "BYPASS" by default.
3. Use Cursor Left or Right to change it to "ON".

## CONNECTION DIAGRAM: ETHERNET CONTROL



### BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Cat5 Cable Assy.	Installer	N/A	Ethernet	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
2	Network Assembly	Elan	NWA 18	Ethernet	RJ-45 Female	or Router/Switch
3	g!Controller	Elan	Various (e.g. HC 12)	Ethernet	RJ45 Female	

### PIONEER SETUP NOTES (ETHERNET)

1. Press the Home button to enter the setup OSD.
2. Ensure "OSD Expert Mode" is enabled by entering Operation Mode submenu.
3. Enter "System Setup", and select "Network Setup".
4. Select the "IP Address" sub menu.
5. Use the arrows to configure the following settings, use arrows to select the desired field, <enter> to edit, edit field using arrows, then <enter> again to save that field:
  - a. Use the arrows to set DHCP to "OFF".
  - b. IP Address: 192.168.000.050 (change as needed for your network range; ELAN recommends setting the 1<sup>st</sup> AV receiver to x.x.x.50, the second to x.x.x.51, and so on)
  - c. Subnet Mask (Typical): 255.255.255.000
  - d. Default Gateway (Router IP-Default): 192.168.000.001
  - e. Primary DNS (Router IP-Default: 192.168.000.001
  - f. Secondary DNS (typically not needed, may leave 000.000.000.000)
  - g. Enable Proxy Server is typically set to OFF.
6. Use the arrows to scroll down to OK and follow prompts to Save Settings.
7. Press <Return> to move back to the "Network Setup" menu if needed, and then enter "Network Standby".
8. Configure Network Standby to ON and Save Settings.
9. From the Network Setup Menu, enter the Port Number Setting submenu.
10. Ensure that the device Port 4 is listening for #23. Save any changes and exit the OSD menu.

## g! CONFIGURATION DETAILS

The following table provides settings used in the **g!** Configurator. Please refer to the **g! Configurator Reference Guide** for more details.

- “<Select>” Select the appropriate item from the list (or drop-down) in the Configurator.
- “<User Defined>”, etc. Type in the desired name for the item.

		<b>RS232</b>	<b>Ethernet</b>
<b>Communication Devices</b>	<b>Name</b>	<User Defined> (Default: <b>New Device</b> )	<User Defined> (Default: <b>New Device</b> )
	<b>Type</b>	<b>Serial Port</b>	<b>Ethernet</b>
	<b>Communication Type</b>	<Select>	<Select>
	<b>Location</b>	<User Defined> (Not Required)	<User Defined> (Not Required)
	<b>COM Port/IP Address</b>	<Select>	<User Defined>
<b>Devices</b>	<b>Variable Name</b>	<b>Setting</b>	<b>Comments</b>
<b>Audio Tuners (Optional)</b>	<b>Name</b>	<User Defined> (Default: <b>Pioneer Internal Tuner</b> )	Optional: Only needed if the tuner will be a visible source in the Viewer interface
	<b>Device Type</b>	<Select>	Select the appropriate BAND of Pioneer tuner
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Device</b>	<Select> (Default: <b>New Device</b> )	
<b>&lt;Other RS-232 Sources&gt;</b>	Add any other RS-232 controlled sources. Refer to the Integration Note for each specific source device.		
<b>&lt;Other IR Controlled Sources&gt;</b>	Add IR devices on the Input/Output tab for other IR controlled sources. Refer to the <b>Generic IR Source</b> Integration note.		
<b>&lt;Video Display&gt;</b>	Add the Video Display for the receiver. Refer to the Integration Note for the specific display, or the <b>Generic Video Display</b> Integration Note for an IR controlled display		
<b>Other Audio Devices / Interfaces</b>	<b>Name</b>	<User Defined>	Add one Interface for each source that should appear in the Viewer
	<b>Template</b>	<Select>	
	<b>Default Device</b>	<Select>	Select the RS-232 or IR controlled source for this interface
<b>Audio Zone Controllers</b>	<b>Name</b>	<User Defined>	Defaults to the make and model of your receiver, after selecting Device Type
	<b>Device Type</b>	<Select>	Select your model of receiver
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Device</b>	<Select> (Default: <b>New Device</b> )	
<b>Sources</b>	Assign sources to appropriate Inputs and choose settings such as name and icon as desired. See <b>g! Reference Guide</b> for full details on source configuration.		
	<b>Note: Tuner sources must be set to the correct input for AVR's.</b>		
<b>Zones</b>	Edit Zone setting such as Name, Show/Hide sources, Universal Receiver, Displays, Slaves and so on as desired. See <b>g! Reference Guide</b> for full details on zone configuration.		
<b>&lt;Interface Tab&gt;</b>			Click on the Interface tab in order to hide or show zone tabs on individual touchscreens
	<b>&lt;Touchscreen Options&gt;</b>		Select the touchscreen to modify from the list
	<b>Tab Layouts</b>	<Select>	Move any unused zone tabs into <b>Available Zones</b> to remove from the viewer
<b>Notes:</b>			
	1. Select Pioneer (Ethernet) or Pioneer (RS-232) as appropriate.		

## COMMON MISTAKES

1. Failing to set Network Standby on Ethernet Control. If set incorrectly, you will not be able to turn unit ON from an OFF state. See the **Ethernet Configuration** steps for details on proper configuration.
2. Using the wrong DB9 to RJ45 adapter. The Pioneer requires a NULL MODEM RJ45-DB9, Part number HA-CB-328.
3. If Main Zone tone controls are not working, you may have tone control mode set to Bypass. Adjust Audio Parameters on the Pioneer AVR.
4. To check firmware version on the unit, enable the OSD, and go to System Setup: Other Setup: Software Update and Version. Note you may need to be in Operation Mode: Expert to see these sections.