



## Integration Note

Manufacturer:	Integra, Onkyo
Model Number(s):	<b>Integra DTR-4.9, 5.9, 6.9, 7.9, 8.9, 9.9</b> <b>Onkyo TX-NR906, TX-SR876, PR-SC886, TX-SR806, TX-SR706</b>
Core Module Version:	4.0 Build 1572 or newer
Comments:	FW 1.04
Document Revision Date:	1/15/2013

### OVERVIEW AND SUPPORTED FEATURES

The Integra/Onkyo Series 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 the **g!** system when changes (such as the current source or volume levels) occur at the receiver.

#### INTEGRA/ONKYO 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 the **g!** interface.

**Surround Mode Control:** Change the surround mode from the **g!** interface.

**Two or Three Zones:** The supported Integra/Onkyo receivers provide additional zones, which can be controlled as independent zones from the **g!** interface.

**Onboard Tuner:** The Integra/Onkyo receivers may offer a built-in HD AM/FM tuner, which can play music in the main zone or in the secondary zones. The tuner can be controlled from the standard AM/FM tuner interface in the **g!** system.

**Satellite Radio Inputs:** Integra/Onkyo receivers have inputs for XM or Sirius Satellite Radio. These inputs are supported and use the standard **g!** Satellite Tuner interfaces.

**RDS:** The RDS, or Radio Data System, is supported in the **g!** interface where available.

#### INTEGRA/ONKYO RECEIVERS DO NOT SUPPORT THE FOLLOWING FEATURES:

**Streaming Audio Sources:** Digital music sources (USB, Ethernet, iPod etc.) are only available for source selection and volume in **g!**.

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**Note:** In Ethernet control situations, it has been observed that the Integra/Onkyo receiver did not reliably provide feedback when the unit was toggled from XM to Sirius radio band at the unit or via remote. Note that in installs where local input or IR control will be used, **g!** may not properly track changes from XM to Sirius. This was only observed in Ethernet control situations, and only when local input was using the band toggle function to move from XM band to Sirius band.

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#### Integra/Onkyo Tuner Operational Notes:

- For proper tuning performance, it is recommended to select **Enable “Auto Tuning”** mode from the front of the unit for correct seek/tune behavior in **g!**
- Integra/Onkyo Tuners with named presets will replace the station name display with the station frequency on a seek/tune command. If a second seek command is sent while the front panel displays the frequency, the tuner will begin to seek as normal.

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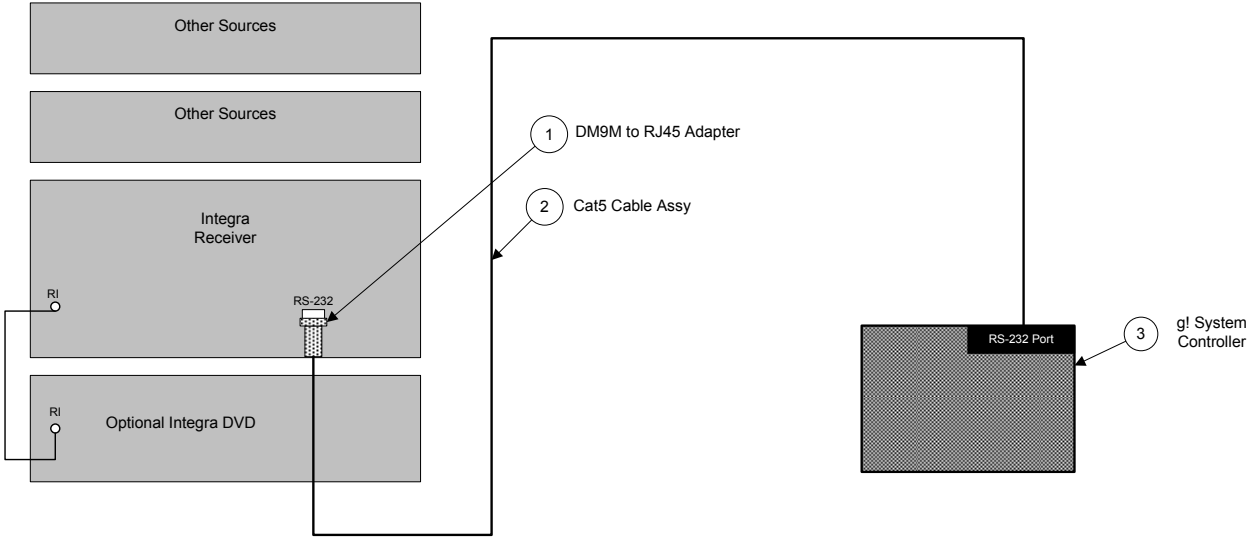
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Any feature not specifically noted as supported should be assumed to be unsupported.

### 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 Network Assembly of the **g!** system to provide the serial or Ethernet connection needed to control the receiver. Refer to the **RS-232 Connection Options** Integration Note for other serial connection options.
3. Install the speakers, display and other theater components.
4. Program the receiver according to the manufacturer's documentation.
5. If you have other Integra gear (such as DVD player), you can optionally connect that equipment to the receiver using the Integra **RI** connection. Beware that the RI link causes certain built-in behavior that cannot be disabled: for example, when you press play on the DVD player, the receiver automatically switches to the DVD source.
6. Test the receiver to ensure that the sources play correctly and that the audio and video operate as expected.
7. Connect the **g!** system to the receiver electrically. See the connection diagram for more information.
8. Configure the **g!** system for the receiver and confirm communication between the receiver and the **g!** system controller.
9. Test the system by changing sources and volume to confirm the correct source plays.

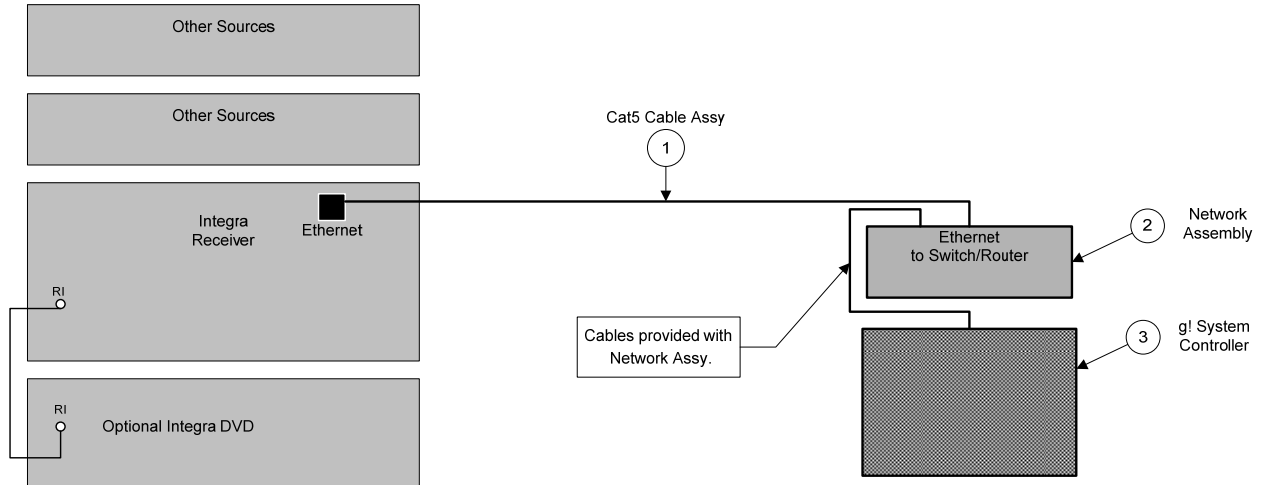
### CONNECTION DIAGRAM 1: RS-232 CONTROL



### BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	DB9M to RJ45 Adapter	ELAN	HA-CB-307	RS-232	DB-9 Male X RJ-45 Female	
2	Cat5 Cable Assy.	Installer	N/A	RS-232	RJ-45 M ale X Wire	
3	g! System Controller	ELAN	Various (e.g. HC 12)	RS-232	DB9 Male / USB	

## CONNECTION DIAGRAM 2: ETHERNET CONTROL



### BILL OF MATERIALS

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Cat5 Cable Assy.	Installer	N/A	RS-232	RJ-45 Male X Wire	
2	Network Assembly	ELAN	NWA 8	RS-232	RJ-45 Female X DB-9 Female / USB	
3	g! System Controller	ELAN	Various (e.g. HC 12)	RS-232	DB9 Male / USB	

## INTEGRA/ONKYO ETHERNET CONFIGURATION

To enable reliable 2-way control and feedback from the Integra/Onkyo via Ethernet, you must enable control and assign the unit to a static IP address.

1. Enter the *Setup* Menu either via the remote or the front panel.
2. Use the UP and DOWN arrows to navigate to and select 7. *Hardware Setup*
3. Use the UP and DOWN arrows to navigate to and select 6. *Network*
4. Enter Settings as follows, using the Arrow Keys:

Control: <b>Enable</b>	Enables external control.
Port: (default) <b>60000</b>	Port # required in Configurator for control.
DHCP: <b>Disable</b>	Disable DHCP to prevent the unit receiving a variable dynamic IP address.
IP Address: (default) <b>192.168.0.50</b>	We recommended setting the 1 <sup>st</sup> Ethernet controlled Zone Controller to 192.168.0.50, the second to 192.168.0.51, and so on.
Subnet Mask: <b>255.255.255.0</b>	(Typical Setting)
Gateway and DNS: (default) <b>192.168.0.1</b>	Set to Router LAN IP Address

5. Press Return to exit setup.

## 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.

RS-232 Control			
Devices	Variable Name	Setting	Comments
Communication Devices	Name	<User Defined> (Default: <b>New Device</b> )	Recommended to change name for clarity
	Type	<b>Serial Port</b>	
	Communication Type	<b>Integra RI System (RS-232)</b>	
	Location	<User Defined> (Not Required)	
	COM Port	<Select>	
Audio Tuners (Optional)	Name	<User Defined> (Default: <b>Integra BAND Tuner</b> )	Optional: Only needed if the tuner will be a visible source in the Viewer interface
	Device Type	<Select> (Default: <b>Integra BAND Tuner</b> )	<b>BAND= Type of Tuner used. (Ex. Integra DTR Internal HD AM/FM Tuner)</b>
	Location	<User Defined> (Not Required)	
	COM Device	<Select> (Default: <b>New Device</b> )	
DVD Players (Optional)	Name	<User Defined> (Default: <b>Integra DPC-7.5</b> )	Optional: Only needed if you have an Integra DVD player
	Device Type	<Select> (Default: <b>Integra DPC-7.5</b> )	
	Location	<User Defined> (Not Required)	
	COM Device	<Select> (Default: <b>New Device</b> )	Assuming the use of the RI link (See Note 1) (See Note 2)
<Other RS-232 Sources>	Add any other RS-232 controlled sources. Refer to the Integration Note for each specific source device.		
<Other IR Controlled Sources>	Add IR devices on the Input/Output tab for other IR controlled sources. Refer to the <b>Configurator Reference Guide</b> .		
<Video Display>	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.		
Other Audio Devices / Interfaces	Name	<User Defined>	Add one Interface for each source that should appear in the Viewer
	Template	<Select>	
	Default Device	<Select>	Select the RS-232 or IR controlled source for this interface
Audio Zone Controllers	Name	<User Defined> (Default: <i>Model name</i> )	
	Device Type	<Select>	<b>Choose correct model</b>
	Location	<User Defined> (Not Required)	
	COM Device	<Select> (Default: <b>New Device</b> )	
Sources	Name	<User Defined>	
	Source Device	<Select>	Sources must be previously configured in order to allow selection.
	Show Source	<Select>	Set to <b>No</b> for any inputs on the receiver that are not used
	Source Icon	<Select>	This icon appears on the source button in the Viewer Interface
	Display Name	<User Defined>	This text appears on the source button in the Viewer Interface
Zones	Name	<User Defined>	
	Display	<Select>	Select the Video Display in this zone
	Universal Receiver	<Select>	Refer to the <i>g! Universal Remote Integration Note</i> for more details
	<Source>		
	Display On/Off	<Select>	For each source, select what the display should do when that source is active
	Display Source	<Select>	If using more than one input on the video display select the input for each source.
Tab Layout	Interface Tabs	<Select>	Move any unused zones to the right into <b>Available Zones</b> to remove from the viewer
<b>Notes:</b>			
1. An Integra DVD player can be connected to the receiver with the RI link. In this case, select the same COM Device for the receiver and the DVD player.			
2. An Integra DVD player can also be connected to the g! system with its own serial port. In this case, add a second Communications Device for the DVD player.			

Ethernet Control			
Devices	Variable Name	Setting	Comments
<b>Communication Devices</b>	<b>Name</b>	<User Defined> (Default: <b>New Device</b> )	Recommended to change name for clarity
	<b>Type</b>	<b>Serial Port</b>	
	<b>Communication Type</b>	<b>Integra RI System (Ethernet)</b>	
	<b>Location</b>	<User Defined> (Not Required)	
	<b>IP Address</b>	<User Defined>	Static IP of Integra. (Default: 192.168.0.50)
	<b>Port</b>	<User Defined> (Default: <b>60000</b> )	
<b>Audio Tuners (Optional)</b>	<b>Name</b>	<User Defined> (Default: <b>Integra BAND Tuner</b> )	Optional: Only needed if the tuner will be a visible source in the Viewer interface
	<b>Device Type</b>	<Select> (Default: <b>Integra BAND Tuner</b> )	<b>BAND= Type of Tuner used. (Ex. Integra DTR Internal HD AM/FM Tuner)</b>
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Device</b>	<Select> (Default: <b>New Device</b> )	
<b>DVD Players (Optional)</b>	<b>Name</b>	<User Defined> (Default: <b>Integra DPC-7.5</b> )	Optional: Only needed if you have an Integra DVD player
	<b>Device Type</b>	<Select> (Default: <b>Integra DPC-7.5</b> )	
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Device</b>	<Select> (Default: <b>New Device</b> )	Assuming the use of the RI link (See Note 1) (See Note 2)
<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>Configurator Reference Guide</b> .		
<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> (Default: <i>Model name</i> )	
	<b>Device Type</b>	<b>&lt;Select&gt;</b>	<b>Choose correct model</b>
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Device</b>	<Select> (Default: <b>New Device</b> )	
<b>Sources</b>	<b>Name</b>	<User Defined>	
	<b>Source Device</b>	<Select>	Sources must be previously configured in order to allow selection.
	<b>Show Source</b>	<Select>	Set to <b>No</b> for any inputs on the receiver that are not used
	<b>Source Icon</b>	<Select>	This icon appears on the source button in the Viewer Interface
	<b>Display Name</b>	<User Defined>	This text appears on the source button in the Viewer Interface
<b>Zones</b>	<b>Name</b>	<User Defined>	
	<b>Display</b>	<Select>	Select the Video Display in this zone
	<b>Universal Receiver</b>	<Select>	Refer to the <i>g!</i> <b>Universal Remote Integration Note</b> for more details
	<b>&lt;Source&gt;</b>		
	<b>Display On/Off</b>	<Select>	For each source, select what the display should do when that source is active
	<b>Display Source</b>	<Select>	If using more than one input on the video display select the input for each source.
<b>Tab Layout</b>	<b>Interface Tabs</b>	<Select>	Move any unused zones to the right into <b>Available Zones</b> to remove from the viewer

**Notes:**

1. An Integra DVD player can be connected to the receiver with the RI link. In this case, select the same COM Device for the receiver and the DVD player.
2. An Integra DVD player can also be connected to the g! system with its own serial port. In this case, add a second Communications Device for the DVD player.

**COMMON MISTAKES**