



## Integration Note

Manufacturer:	Integra/Onkyo
Model Number(s):	<b>Integra 70.4/50.4/40.4</b> <b>Onkyo TX-NR515/616/717/818/1010/3010/5010</b>
Core Module Version:	6.3
Comments:	<b>Tested:</b> Integra 50.4 <b>FW</b> 1100-7101-0100-0000
Document Revision Date:	6/20/2013

### OVERVIEW AND SUPPORTED FEATURES

Integra/Onkyo Series receivers include 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 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.

**Additional Zones:** The supported Integra receivers provide additional zones, which can be controlled as independent zones from the **g!** interface.

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

#### INTEGRA 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 control in **g!**. Event map commands are provided to allow navigation of the AVR OSD if this is desired.

**Tone Control:** The Integra/Onkyo models in this Integration Note do not provide tone control (bass/treble).

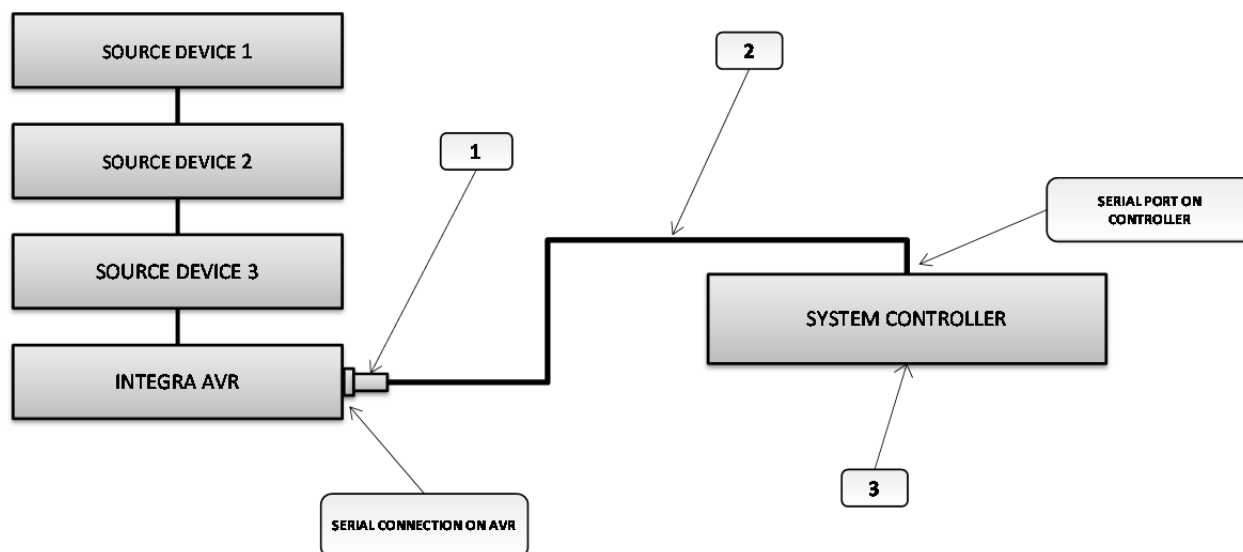
**RS-232 Control (some models):** The Onkyo TX-NR717/616/515 do not support RS-232 control and must be controlled via Ethernet.

Any feature not specifically noted as "supported" is not supported.
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## 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 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 controller. See g! Configuration Details below.
9. Test the system by changing sources and volume to confirm the correct source plays.

## CONNECTION DIAGRAM 1: RS-232 CONTROL

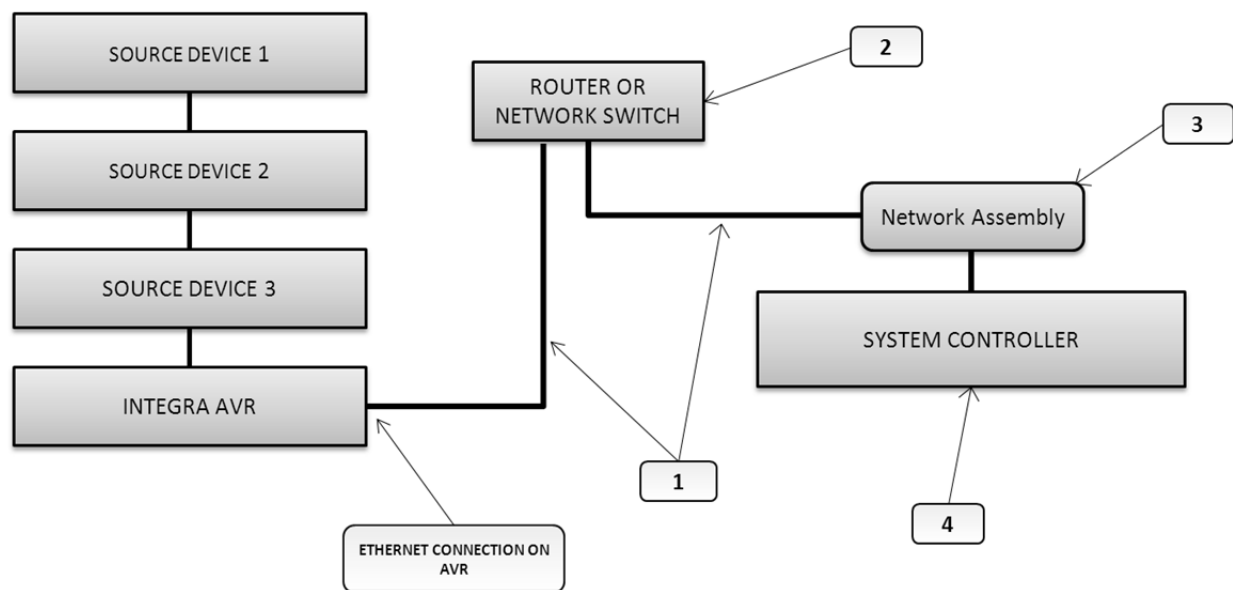


## BILL OF MATERIALS (RS-232)

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	DB9M to RJ45 Adapter	ELAN	HACB307	RS-232	DB-9 Male X RJ-45 Female	
2	Cat5 Cable Assy.	Installer	N/A	RS-232	RJ-45 Male X Wire	
3	Controller	ELAN	various	RS-232	RJ45 Female	

**Note:** not all models support RS232 control. See Unsupported Features above.

## CONNECTION DIAGRAM 2: ETHERNET CONTROL



### BILL OF MATERIALS (ETHERNET)

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Cat5 Cable Assy.	Installer	N/A	ETHERNET	RJ-45 Male X RJ-45 Male	
2	Router or Network Switch	VARIOUS		ETHERNET	RJ-45 Female	
3	Network Assembly	ELAN	NWA 18	ETHERNET	RJ-45 Female X DB-9 Female/USB	
4	gl Controller	ELAN	Various (e.g. HC 12)	ETHERNET	RJ-45 Female	

### INTEGRA ETHERNET CONFIGURATION

To enable reliable 2-way control and feedback from the Integra 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 *5. Network*
4. Enter Settings as Follows using the Arrow Keys:

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
Network Standby: Enable	Maintains Ethernet connection when unit in standby.

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.

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>Serial (RS-232)</b>	<b>Type</b>	<b>Serial Port</b>	
	<b>Communication Type</b>	<b>Integra RI System (RS-232)</b>	
	<b>Location</b>	<User Defined> (Not Required)	
	<b>COM Port</b>	<Select>	
<b>Communication Devices</b>	<b>Name</b>	<User Defined> (Default: <b>New Device</b> )	Recommended to change name for clarity
<b>Ethernet</b>	<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>60128</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>&lt;Other Sources&gt;</b>	Add any other IR or RS-232 controlled sources. Refer to the Integration Note for each specific source device and the Configurator Training Guide for details.		
<b>&lt;Video Display&gt;</b>	Add the Video Display(s) for the receiver. Refer to the Integration Note for the specific display or the Configurator Training Guide for details.		
<b>Audio Zone Controllers</b>	<b>Name</b>	<User Defined> (Default: <i>Model name</i> )	
	<b>Device Type</b>	<Select>	<b>Select the correct model AVR</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>Universal Receiver</b>	<Select>	Optional for 3rd party universal remote control, not required
	<b>Settings Interface</b>	<Select>	Optional page for zone-specific settings, not required
	<b>Display 1 &amp; 2</b>	<Select>	Select the Video Display(s) in this zone
	<b>Slave Zone 1 &amp; 2</b>	<Select>	Optional, Select the slave zones to this zone
	<b>Turn-On Source</b>	<Select>	Optional, Select the source that the zone turns on to when activated by only an ON command.
	<b>&lt;Source configuration&gt;</b>		
	<b>Display(s) On/Off</b>	<Select>	For each source, select what the display(s) should do when that source is active
	<b>Display(s) Source</b>	<Select>	If using more than one input on the video display(s) select the input for each source.
	<b>Slave(s) Source</b>	<Select>	Optional, if using slave zones select the source the slave zone should switch to.
	<b>Volume Control</b>	<Select>	Optional, See the Configurator Reference Guide Common Applications section for details
<b>UI Layout (Interface Tab)</b>	<b>Interface Devices</b>	<Select>	Move any unused Media zones to the <b>Available Tabs</b> column to hide from the UI

## COMMON MISTAKES