

# Anthem MRXx40 Series Installation and Usage Guide



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**ANTHEM®**

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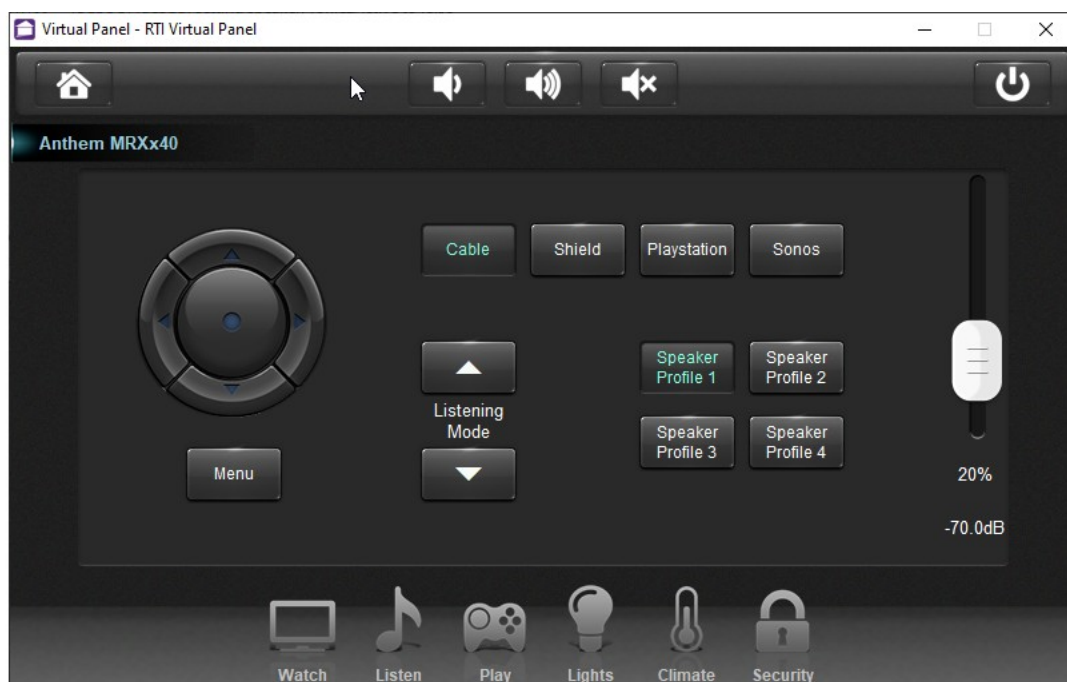
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## Overview

The Anthem MRX-x40 RTI module gives you full control of your Anthem Receiver, supporting the MRX-540, MRX-740, MRX-1140, AVM70 or AVM90. The module is built using tags to support auto programming in Integration Designer Apex.

The Anthem provides two zones and up to 30 configurable inputs with support for auto programming. System functions allow easy access to advanced features like changing speaker profiles, enabling Anthem Room Correction or Changing the Dolby Dynamic Range to night mode. you can even display a custom message with up to four lines of text on the front panel of the unit.

The module also provides a selection of event that you can use to trigger custom automation if the receiver changes state, regardless of whether that was trigger by RTI, or on the Anthem.



## Features

- IP Control
- The driver has a comprehensive set of tags for easy programming in Integration Designer Apex
- Volume control in percentage or dB.
- Volume, Balance and Tone all have Up / Down controls in addition to the sliders
- Add the number of inputs and their names for easy macro programming
- Add the names for your speaker profiles easy macro programming
- An example project is included which contains all of the drivers functions

# Installation

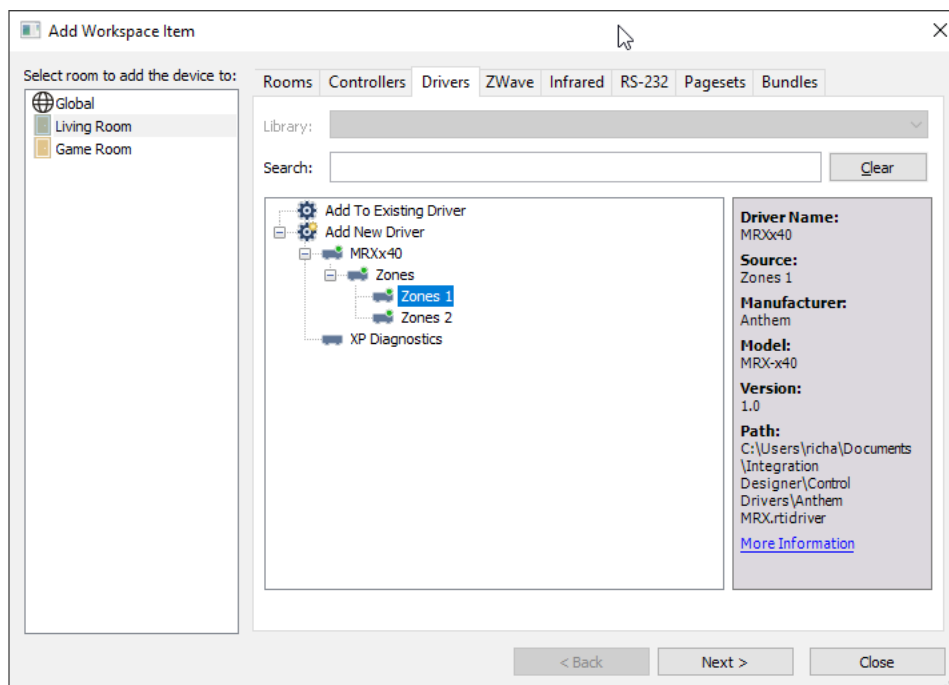
The zip file that included this documentation has the rtidriver file you will need to add. The first step is to download and extract the driver from the zip file. The default location is Documents\Integration Designer\Control Drivers

Set your project up by adding Rooms and controllers to suit your setup.

## Add the driver

Click on to the Drivers tab at the top of the Add Workspace Item window. Select the appropriate room to install the driver into and click Next. If required change the driver name and when your done click Add Device. If you have more than one driver to add repeat the process.

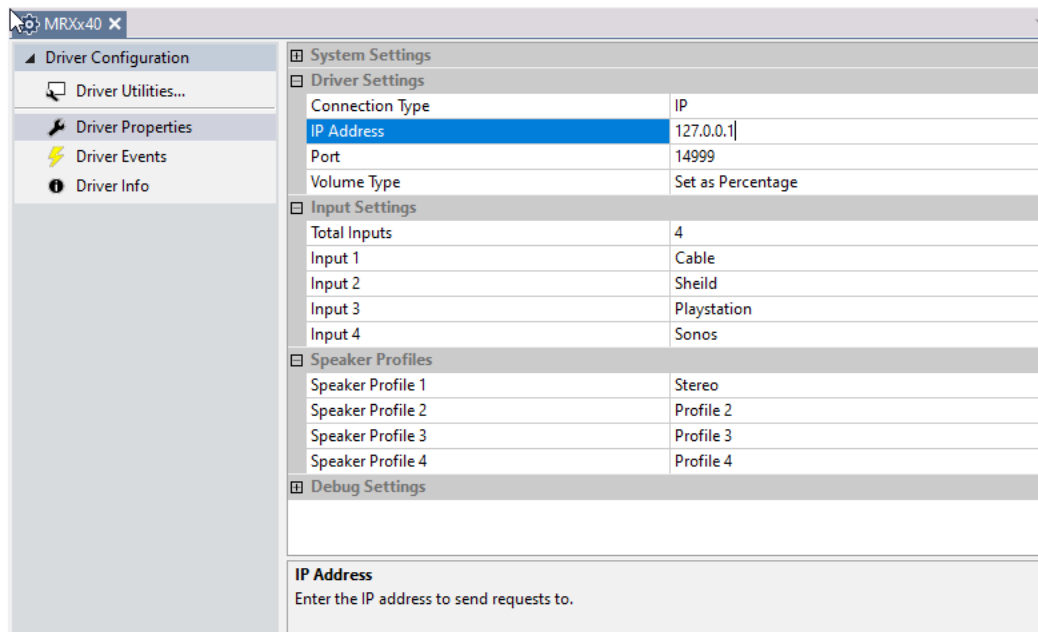
The driver is now ready to configure or use.





# Configuration

The driver only requires several items to be configured before it is ready to use.



## Driver Settings

### Connection Type

The connection type needs to be selected from the drop down and can be either IP or RS-232. Each option requires different config so they are covered separately below.

#### IP

If you choose the IP connection type you will need to provide an IP address and a port. The default port is 14999.

#### RS-232

If you choose RS-232 you will need to select a serial port from the drop down list.

### Volume Type

It is possible to control the volume using a percentage increase or by increasing dB. Both options have a different curve so you will need to pick the one that best suits for application. This option only affects the volume up and volume down commands - the slider is in percent.

## **Input Settings**

### **Total Inputs**

The Anthem can have up to 30 inputs configured and you need to set this field with the number of inputs you have configured. You will also need to name the inputs, with the Input fields that will appear once you have set the total.

### **Input[x]**

When you have set the total inputs section above a matching number of input fields will appear allowing you to set the names of the inputs you have configured. These names are used throughout with the Functions, Variables and Events.

### **Speaker Profiles**

This section allows you to name the various speaker profiles you use in the Functions, Variables and Events.

# Driver Commands

## Zone1

The following command all relate to the main zone or system wide settings.

### Power On

The Power On command can be used to power on the main zone.

### Power Off

The Power On command can be used to power off the main zone.

### Power Toggle

The Power Toggle command can be used to toggle the power for the main zone. If the power is currently off, it will turn on. Similarly if the power is on, it will turn off.

### Input

The Input command can be used to set the input. The inputs need to be configured in the System Configuration and only the ones configured will be available from the drop down for this function. The actual inputs need to be configured in the receiver itself.

### Volume Up Percentage

The Volume Up command will raise the volume by 1%. If you use this command you should configure the receiver to show the current volume in percentage.

### Volume Down Percentage

The Volume Down command will lower the volume by 1%. If you use this command you should configure the receiver to show the current volume in percentage.

### Volume Level Percentage

The Volume Level command will set the volume percentage to the level you specify. You can connect this up to a slider for direct volume control. If you use this command you should configure the receiver to show the current volume in percentage.

### Volume Up DB

The Volume Up command will raise the volume by 1dB. If you use this command you should configure the receiver to show the current volume in dB.

## **Volume Down DB**

The Volume Down command will lower the volume by 1dB. If you use this command you should configure the receiver to show the current volume in dB.

## **Volume Level DB**

The Volume Level command will set the volume level in dB to the level you specify. You can connect this up to a slider for direct volume control. If you use this command you should configure the receiver to show the current volume in percentage.

## **Mute On**

The Mute On command can be used to activate the volume mute.

## **Mute Off**

The Mute Off command can be used to deactivate the volume mute.

## **Mute Toggle**

The Mute toggle command can be used to toggle the current state of the volume mute. If the mute is currently active, it will be deactivated. Similarly if the mute is inactive, it will be activated.

## **Listening Mode Up**

The Listening Mode Up command will advance to the next available listening mode. NOTE: this may not be the next numbered mode (from the list below in Listening Mode).

## **Listening Mode Down**

The Listening Mode Down command will advance to the previous available listening mode. NOTE: this may not be the next numbered mode (from the list below in Listening Mode).

## **Listening Mode**

The Listening Mode command can be used to directly set the required listening mode. NOTE: If you select a mode that can't be activated, nothing will change. You may need to use the Listening Mode Up/Down instead.

Available Modes

None

AnthemLogic-Cinema

AnthemLogic-Music

#### Available Modes

Dolby Surround

DTS neural:X

DTS Virtual:X

All Channel Stereo

Mono

All Channel Mono

### **Dolby Digital Dynamic Range**

The Dolby Digital Dynamic Range command can be used to set the level for this setting.

#### Available Modes

Normal

Reduced

Late Night

### **Dolby Centre Spread On**

The Dolby Centre Spread On command will activate the Dolby centre spread mode.

### **Dolby Centre Spread Off**

The Dolby Centre Spread Off command will deactivate the Dolby centre spread mode.

### **Treble Up**

The Treble Up command will raise the current treble level by 0.5dB. IF the Treble is already as high as it goes there will be no effect when using this command.

### **Treble Down**

The Treble Down command will lower the current treble level by 0.5dB. IF the Treble is already as low as it goes there will be no effect when using this command.

### **Treble**

The Treble command can be used to directly set the treble level between -10dB and +10dB. This command will scale the input from the standard 0 - 100 range to these levels, with the level 50 being in the middle (0dB). This command can be connected directly to a slider.

## **Bass Up**

The Bass Up command will raise the current treble level by 0.5dB. IF the Bass is already as high as it goes there will be no effect when using this command.

## **Bass Down**

The Bass Down command will lower the current treble level by 0.5dB. IF the Bass is already as low as it goes there will be no effect when using this command.

## **Bass**

The Bass command can be used to directly set the treble level between -10dB and +10dB. This command will scale the input from the standard 0 - 100 range to these levels, with the level 50 being in the middle (0dB). This command can be connected directly to a slider.

## **Balance Left**

The Balance Left command will shift the balance to the left by 0.5dB. If the balance is already all the way to the left this command will have no effect.

## **Balance Right**

The Balance Right command will shift the balance to the right by 0.5dB. If the balance is already all the way to the right this command will have no effect.

## **Balance**

The Bass command can be used to directly set the balance level. This command will scale the input from the standard 0 - 100 range to, with the level 50 being in the middle (centre). This command can be connected directly to a slider.

## **Speaker Profile for Current Input**

This command allows you to set the speaker profile for the current input. The profile needs to be set from the drop down.

## **Zone2**

The following command all relate to the Zone2 of the reciever.

## **Power On**

The Power On command can be used to power on Zone2.

## **Power Off**

The Power On command can be used to power off Zone2.

## **Power Toggle**

The Power Toggle command can be used to toggle the power for Zone2. If the power is currently off, it will turn on. Similarly if the power is on, it will turn off.

## **Input**

The Input command can be used to set the input. The inputs need to be configured in the System Configuration and only the ones configured will be available from the drop down for this function. The actual inputs need to be configured in the receiver itself.

## **Volume Up Percentage**

The Volume Up command will raise the volume by 1%. If you use this command you should configure the receiver to show the current volume in percentage.

## **Volume Down Percentage**

The Volume Down command will lower the volume by 1%. If you use this command you should configure the receiver to show the current volume in percentage.

## **Volume Level Percentage**

The Volume Level command will set the volume percentage to the level you specify. You can connect this up to a slider for direct volume control. If you use this command you should configure the receiver to show the current volume in percentage.

## **Volume Up DB**

The Volume Up command will raise the volume by 1dB. If you use this command you should configure the receiver to show the current volume in dB.

## **Volume Down DB**

The Volume Down command will lower the volume by 1dB. If you use this command you should configure the receiver to show the current volume in dB.

## **Volume Level DB**

The Volume Level command will set the volume level in dB to the level you specify. You can connect this up to a slider for direct volume control. If you use this command you should configure the receiver to show the current volume in percentage.

## **Mute On**

The Mute On command can be used to activate the volume mute.

## **Mute Off**

The Mute Off command can be used to deactivate the volume mute.

## **Mute Toggle**

The Mute toggle command can be used to toggle the current state of the volume mute. If the mute is currently active, it will be deactivated. Similarly if the mute is inactive, it will be activated.

## **Input[x] Settings**

These settings are grouped under the input, set in the configuration section. Each configured input will have the following commands.

### **Speaker Profile**

The Speaker Profile is used to set a new speaker profile for this input.

### **Anthem Room Correction On**

The Anthem Room Correction On is used to set the room correction on for this input. NOTE: Room correction needs to have been performed for this command to activate.

### **Anthem Room Correction OFF**

The Anthem Room Correction Off is used to set the room correction off for this input. NOTE: Room correction needs to have been performed for this command to activate.

## **Custom Message**

### **Set Custom Message**

The Set Custom Message command is used to set each of the 4 available lines of text that can be displayed on the front panel of the receiver. NOTE: This command is used to set the text but it won't be displayed until the Show Custom Message command is used.

### **Show Custom Message**

The Show Custom Message command is used to show a custom message on the front panel of the receiver. To set the message to be displayed, use the Set Custom Message command.

### **Hide Custom Message**

The Hide Custom Message command is used to hide the custom message on the front panel of the receiver.



## **Trigger Control**

### **Trigger 1 On**

The Trigger 1 On command is used to turn the 12V Trigger 1 On

### **Trigger 1 Off**

The Trigger 1 Off command is used to turn the 12V Trigger 1 Off

### **Trigger 2 On**

The Trigger 2 On command is used to turn the 12V Trigger 1 On

### **Trigger 2 Off**

The Trigger 2 Off command is used to turn the 12V Trigger 1 Off

### **Trigger 3 On**

The Trigger 3 On command is used to turn the 12V Trigger 1 On

### **Trigger 3 Off**

The Trigger 3 Off command is used to turn the 12V Trigger 1 Off

# Driver Variables

## Zone1

### Power On [boolean]

The Power On variable will be active when the main zone is powered on.

### Power Off [boolean]

The Power Off variable will be active when the main zone is powered off.

### Volume [integer]

The Volume variable contains the current volume level as a percentage.

### VolumeDB [string]

The Volume variable contains the current volume level as a percentage.

### Mute On [boolean]

The Mute On variable will be active when the main zone mute is active.

### Mute Off [boolean]

The Mute Off variable will be active when the main zone mute is inactive.

### Input [integer]

The Input variable contains the number of the currently selected input.

### Listening Mode [integer]

The Listening Mode variable contains the current listening mode as an index represented by the following list. These can be added as a string index in a variable text field to show the current mode on your UI.

Index	Mode
0	None
1	AnthemLogic-Cinema
2	AnthemLogicMusic
3	Dolby Surround
4	DTS neural:X

5	DTS Virtual:X
6	All Channel Stereo
7	Mono
8	All-Channel Mono

### **Treble [integer]**

The Treble variable contrails the current treble value with 50 being 0dB. NOTE: this is scaled to a value between 0 - 100 so it can be directly connected to a slider.

### **Bass [integer]**

The Bass variable contrails the current bass value with 50 being 0dB. NOTE: this is scaled to a value between 0 - 100 so it can be directly connected to a slider.

### **Balance [integer]**

The Balance variable contrails the current balance value with 50 being the centre. NOTE: this is scaled to a value between 0 - 100 so it can be directly connected to a slider.

### **Input[x] Active [boolean]**

Each input you have configured in the System Config will have a matching Input Active variable. This will be active when the matching input is selected.

### **Dolby Digital Dialog Normalisation On [boolean]**

The Dolby Digital Dialog Normalisation On variable will be active if Dolby Digital Dialog Normalisation is active.

### **Dolby Digital Dialog Normalisation Off [boolean]**

The Dolby Digital Dialog Normalisation Off variable will be active if Dolby Digital Dialog Normalisation is inactive.

## **Zone2**

### **Power On [boolean]**

The Power On variable will be active when the main zone is powered on.

### **Power Off [boolean]**

The Power Off variable will be active when the main zone is powered off.

### **Volume [integer]**

The Volume variable contains the current volume level as a percentage.

### **VolumeDB [string]**

The Volume variable contains the current volume level as a percentage.

### **Mute On [boolean]**

The Mute On variable will be active when the main zone mute is active.

### **Mute Off [boolean]**

The Mute Off variable will be active when the main zone mute is inactive.

### **Input [integer]**

The Input variable contains the number of the currently selected input.

### **Input[x] Active [boolean]**

Each input you have configured in the System Config will have a matching Input Active variable. This will be active when the matching input is selected.

## **Speaker Profiles**

### **Speaker Input[x] Profile [integer]**

For each input that has been configured in the System Config there will be a matching Speaker Input Profile variable. This variable will contain the current speaker input number (between 1 and 4).

## **Connection State**

### **Connection State [boolean]**

The Connection State variable will be active if the driver has a connection to the receiver.

### **Connection Active [boolean]**

The Connection Active variable will be active if the driver has a connection to the receiver.

## Connection Inactive **[boolean]**

The Connection Inactive variable will be active if the driver loses the connection to the receiver.

## Driver Events

### Zone1

#### Power On

The Power On event will trigger when the receiver main zone power changes state to on.

#### Power Off

The Power Off event will trigger when the receiver main zone power changes state to off.

#### Mute On

The Mute On event will trigger when the receiver main zone mute changes state to active.

#### Mute Off

The Mute Off event will trigger when the receiver main zone mute changes state to inactive.

#### Input[x] Active

The Input[x] Active event will trigger when the receiver main zone input changes state to the matching input.

### Zone2

#### Power On

The Power On event will trigger when the receiver Zone2 power changes state to on.

#### Power Off

The Power Off event will trigger when the receiver Zone2 power changes state to off.

#### Mute On

The Mute On event will trigger when the receiver Zone2 mute changes state to active.

#### Mute Off

The Mute Off event will trigger when the receiver Zone2 mute changes state to inactive.

#### Input[x] Active

The Input[x] Active event will trigger when the receiver Zone2 input changes state to the matching input.

## **Connection State**

### **Connection State**

The Connection State event will trigger when the driver establishes a connection with the receiver.

### **Connection Active**

The Connection State event will trigger when the driver establishes a connection with the receiver.

### **Connection Inactive**

The Connection State event will trigger when the driver loses its connection with the receiver.

# CHANGELOG

## Version 1.0

Initial release