



## TOTAL CONTROL 2.0 FLEX PROGRAMMING GUIDE



# TOTAL CONTROL 2.0 FLEX

## STEP 1. NAME & LOCATION

### Step 1. Name & Location:

The following information must be completed in the software:

1. **Company Information:** Enter the **Company Name, Telephone,** and **Email** into the applicable field boxes.  
  
This information is never visible to the end-user.
2. **System Information:** Enter the **System Name, Primary Controller Location,** and **Primary Controller Type.**
  - **Primary Controller Location:** The name entered here becomes the first zone on the Project Tree.
  - **Primary Controller Type:** Use the drop-down menu to select the applicable Primary Controller (MRX-30, MRX-15, etc.).
3. **Time and Date:** Use the drop-down menu to select a **Time Zone.** This information is used by the Primary Controller's astronomical clock.
4. **Weather City:** An Internet connection is required here, select **Set** to display the **Choose a City for Weather** data window.
  - a. Enter a **city name.**
  - b. Select **Search.**
  - c. **Select a city** from the populated list.
  - d. Select **Save.**

This location appears when using the **Weather Module** on supported interfaces (TKP-7600, TKP-5600, TDC-7100).

The screenshot shows the 'System Information' software interface. It features several input fields and a 'Set' button. A 'Choose a city for weather data' dialog box is open in the foreground, displaying a search results list for 'Harrison'. The dialog box includes a search input field, a 'Search' button, a list of cities, and 'Save', 'Clear', and 'Cancel' buttons at the bottom.

Callouts in the main interface:
 

- 1: Points to the Company Information section.
- 2: Points to the System Information section.
- 3: Points to the Time Zone dropdown menu.
- 4: Points to the 'Set' button in the Weather City section.

Callouts in the dialog box:
 

- A: Points to the search input field.
- B: Points to the Search button.
- C: Points to the list of search results.
- D: Points to the Save button.

5. **Sunrise and Sunset:** The following section must be complete in order to configure the astronomical clock of the Primary Controller.

Use one of these three (3) methods:

- **City/Town & State:** Enter the City name and State information. Select **Enter** to confirm.
- **US Zip Code:** Enter the zip code and select Enter. This feature only works in the United States.
- **Coordinates:** Any project outside of the United States must utilize this option. Enter the coordinates of the job location and select Enter. This option is the most accurate.

6. Select **Save to Project Tree**.

System Information

SAVE to Project Tree 6

**Company Information**  
 Company Name : URC  
 Telephone : 9148354484  
 Email : elopez@universalremote..

**System Information**  
 System Name : System  
 Primary Controller Location : Living Room  
 Primary Controller Type : MRX-30

**Time and Date**  
 Time Zone : (GMT-05:00) Eastern Time (US & Canada)  
 Weather City : Harrison, New York  
 Set 5  
 Weather data display requires at least one of the following models present in the system : THZ-100, TKP-7600, TKP-5600, TDC-7100

**Sunrise and Sunset**  
 City/Town : Harrison  
 State : (ex: "NY", "CA"..) NY  
 Enter  
 OR enter the US zipcode : 10528  
 Enter  
 OR enter the coordinates :  
 Latitude : 40.972667  
 Longitude : -73.71886  
 Enter



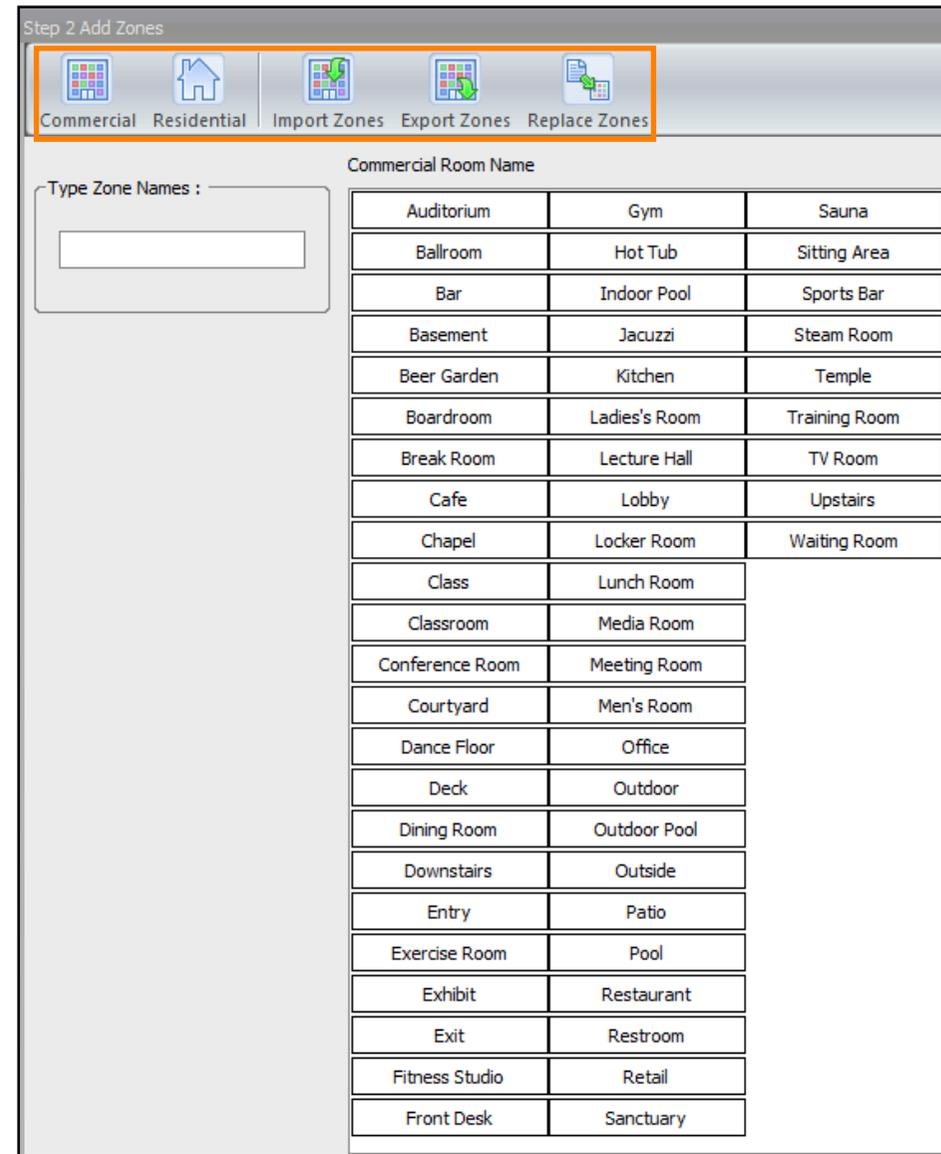
Remember, the Primary Controller Location becomes the first zone added to the Total Control system.

### Step 2. Add Zones:

Use this step to add additional zones to the Project Tree. Remember, a Total Control system supports up to thirty-two (32) zones.

Below are the following options available:

- **Commercial:** Displays all the **Commercial** zones available in the software (i.e. Auditorium, Office, etc.).
- **Residential:** Displays all Residential zones available in the software (i.e. Living Room, Master Bedroom, etc.).
- **Import Zones:** Allows the programmer to import any zones that were Exported from a previous Total Control 2.0 Flex project.
- **Export Zones:** Allows the programmer to export all zones on the current project as a text (.txt) file. This file can be imported into any other project.
- **Replace Zones:** Allows the programmer to replace all the zones in the current projects with those of a previously exported text file.



### Adding Zones:

There are three (3) methods to add a zone:

1. **Type Zone Names:** Enter a name in this text box and select **Enter** on the keyboard.

The room entered is added to the Project Tree.

2. **Double-Click:** Double click on any available room from the list.

This add that room to the end of the Project Tree.

3. **Drag and Drop:** Select a room from the populated list and drop it into the Project Tree.

Step 2 Add Zones

Commercial Residential Import Zones Export Zones Replace Zones

Type Zone Names :  
Master Bedroom

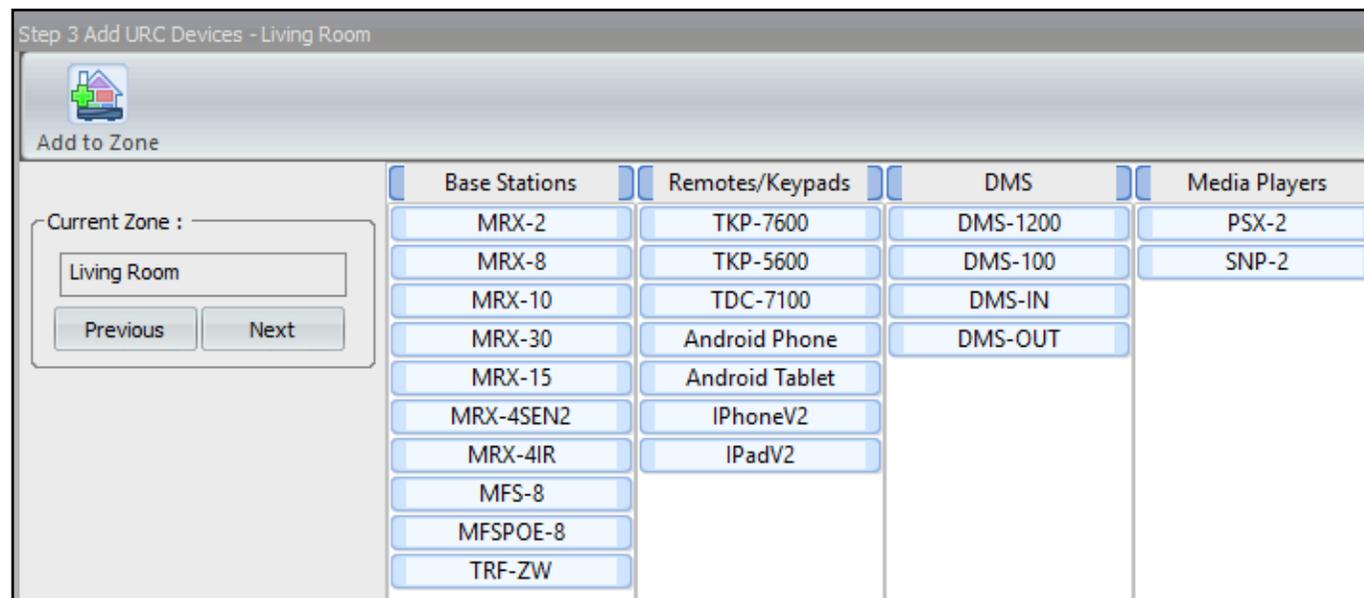
Residential Room Name			
1st Floor	Driveway	Master Bedroom	Studio
2nd Floor	Exercise Room	Media Room	Study
3rd Floor	Family Room	Mud Room	Sun Room
4th Floor	Front Gate	Music Studio	Trophy Room
Art Studio	Front Yard	Nursery	Veranda
Back Door	Game Room	Nursery 2	Walk In Closet
Back Yard	Garage	Office	Walkway
Bar	Garage 2	Outdoor	Wine Cellar
Basement	Gazebo	Outdoor Theater	Workout Room
Bathroom	Great Room	Panic Room	Workshop
Beach	Guest Room	Pantry	Yoga Room
Bedroom	Home Theater	Parlor	
Billiard Room	Hot Tub	Patio	
Blank	House	Patio 2	
Boat	Kitchen	Playroom	
Boat House	Lake	Pool	
Breakfast Nook	Landing	Pool House	
Cabana	Laundry Room	Porch	
Car Port	Listening Room	Powder Room	
Dark Room	Living Room	RV	
Deck	Loft	Sitting Room	
Den	Marina	Spa	
Dining Room	Master Bathroom	Stairs	

### **Step 3. Add URC Devices:**

In this step, all participating URC devices are added to Project Tree. The software does not support any Legacy Total Control Products, nor can it utilize the TRC-1080 and/or the TRC-820.

There are three (3) methods to add a URC Device:

1. **Double-click:** Double-click on any URC device to display the properties window and add it to the Project Tree.
2. **Drag and Drop:** Select a URC device and drop it into the Project Tree. This displays the model properties window and adds the device.
3. **Select Add to Zone:** Single-click on any URC device and select the Add to Zone button. This adds that device to the Project Tree.



# TOTAL CONTROL 2.0 FLEX

## STEP 3. ADD URC DEVICES

### Interface Requirements:

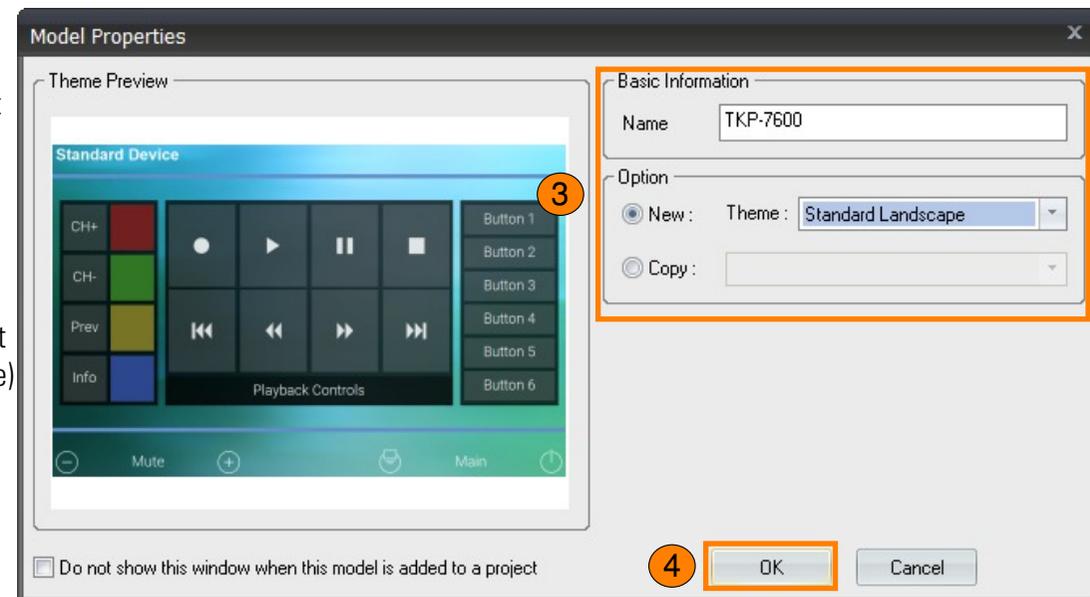
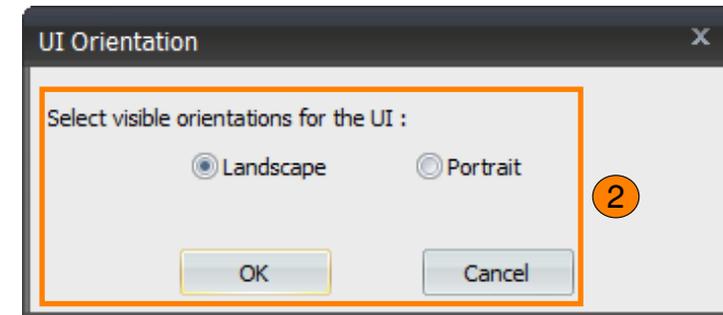
Total Control Flex 2.0 does not auto-generate user interfaces for the programmer. Every interface in this system must be programmed manually.

Here are the windows that display when adding interfaces:

### Keypads with Adjustable Orientations:

Remember, all keypads must be oriented from within the software:

1. Add a keypad (i.e. TKP-7600).
2. Select an **orientation** (Landscape or Portrait) and select **OK**.
3. Adjust the **Model Properties** window:
  - **Name:** Allows the programmer to rename the interface, this is not visible to the end-user.
  - **Theme:** Allows the programmer to select from one of URC's available themes (i.e. Standard Landscape).  
  
Select the theme that **matches the orientation** of the device that has been added (i.e. landscape keypad - standard landscape theme)
  - **Copy:** Allows the programmer to "copy" from an existing interface in the system (models must be the same i.e. copy a TKP-7600 to another TKP-7600).
4. Select **OK**.



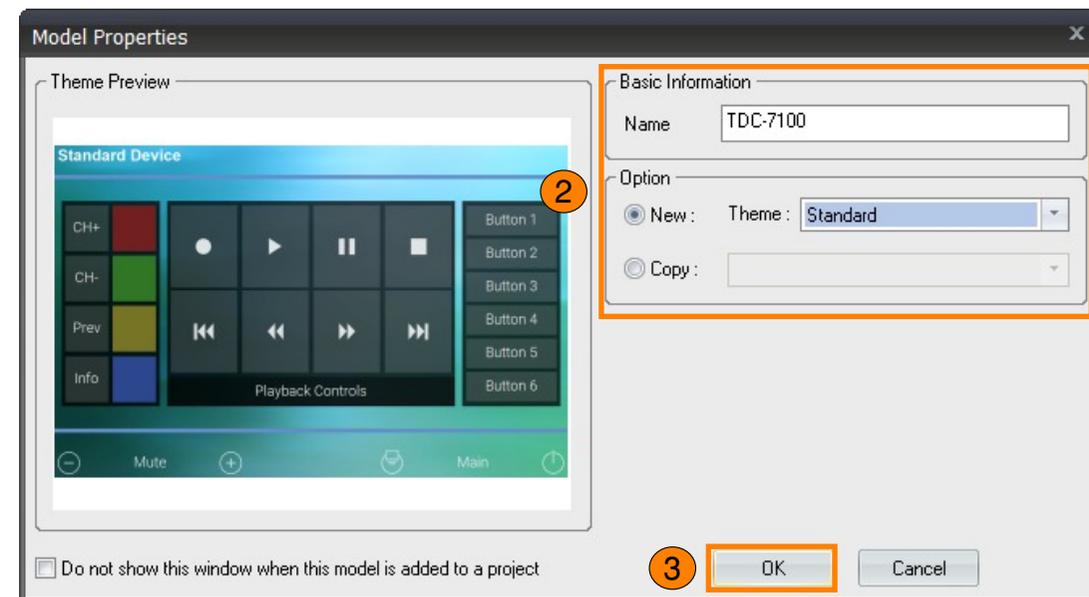
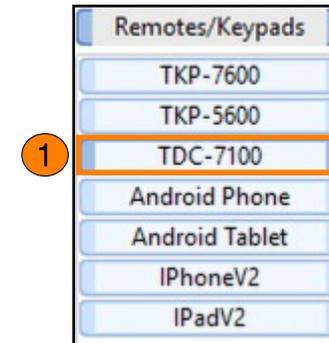
The URC device is now added to the Project Tree.

### Adding Standard URC Interfaces:

Interfaces that do not support adjustable orientations are added as follows:

1. Add the URC device (i.e. TDC-7100).
2. Adjust the Model Properties window:
  - **Name:** Allows the programmer to rename the interface, this is not visible to the end-user.
  - **Theme:** Allows the programmer to select from one of URC's available themes (i.e. Standard Landscape).
  - **Copy:** Allows the programmer to "copy" from an existing interface in the system (models must be the same i.e. copy a TKP-7600 to another TKP-7600).
3. Select **OK**.

The URC device is now added to the Project Tree.



### Adding URC Mobile Devices:

URC Mobile devices support Landscape and Portrait mode orientations. It must be noted in software which style is to be used. Follow these steps to add a URC Mobile device to the Project Tree:

1. Add a URC Mobile device (i.e. iPhoneV2, Android Phone, etc.).
2. Choose from Landscape, portrait, or both.

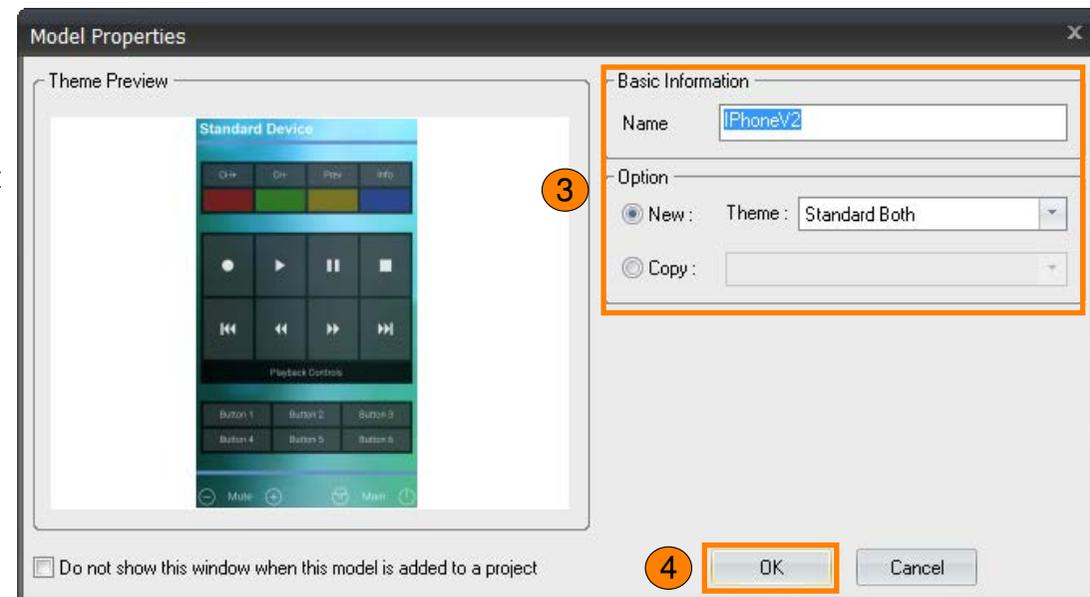
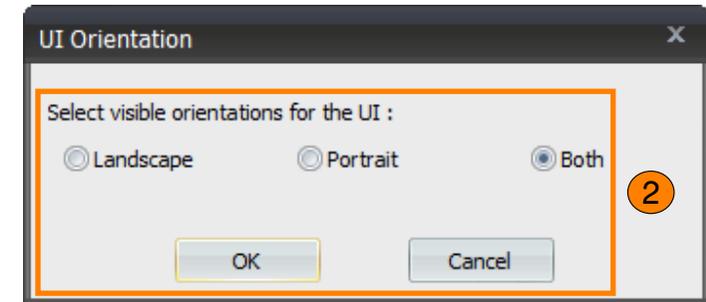
When **Both** is selected, the programmer is **REQUIRED** to create a landscape and portrait user interface separately.

Select OK.

3. Adjust the Model Properties window:

- **Name:** Allows the programmer to rename the interface, this is not visible to the end-user.
- **Theme:** Allows the programmer to select from one of URC's available themes (i.e. Standard Landscape, Standard Portrait, Standard Both).
- **Copy:** Allows the programmer to "copy" from an existing interface in the system (models must be the same i.e. copy a TKP-7600 to another TKP-7600).

4. Select **OK**.



## Step 4. Add Other Devices:

All non-URC devices like cable boxes, televisions, AVRs, etc. are added in this step. Each device is added as a driver and it is a best practice to create a personal database of drivers that are configured to the needs of the end-user.

There are two (2) different databases available:

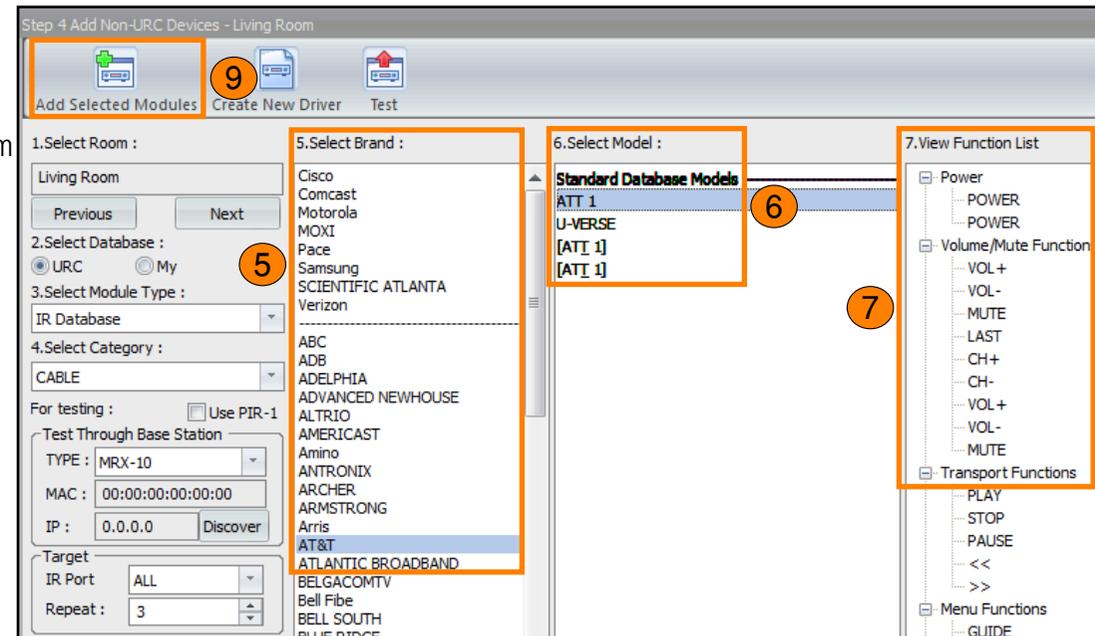
- **URC:** Contains all the device located in URC's database. These drivers should be used as templates when creating personal drivers.
- **My:** Contains all the drivers created by the programmer. These files are contained in a default folder; however, they can be relocated to any folder on the programming computer.

### Adding a Driver:

Follow these steps to add any driver from the "URC" or the "My" database:

1. **Select Room:** Use the **Previous** or **Next** buttons to cycle through the available rooms.
2. **Select Database:** Choose "URC" or "My".
3. **Select Module Type:** Use the drop-down menu to change the module type selection (i.e. IR, RS-232, IP, etc.).
4. **Select Category:** Use the drop-down menu to change the category selection (i.e. Audio, AUX, Cable, etc.).

5. **Select Brand:** Choose a brand (i.e. AT&T, Verizon, etc.), this is loaded from the "URC" or the "My" database.
6. **Select Model:** Choose a model from the populated list.
7. **View Function List:** Provides a preview of the commands available to the selected model. It is possible to select a function for testing.
8. **Add Selected Modules:** Select this to add the selected driver to the Project Tree.



### For Testing:

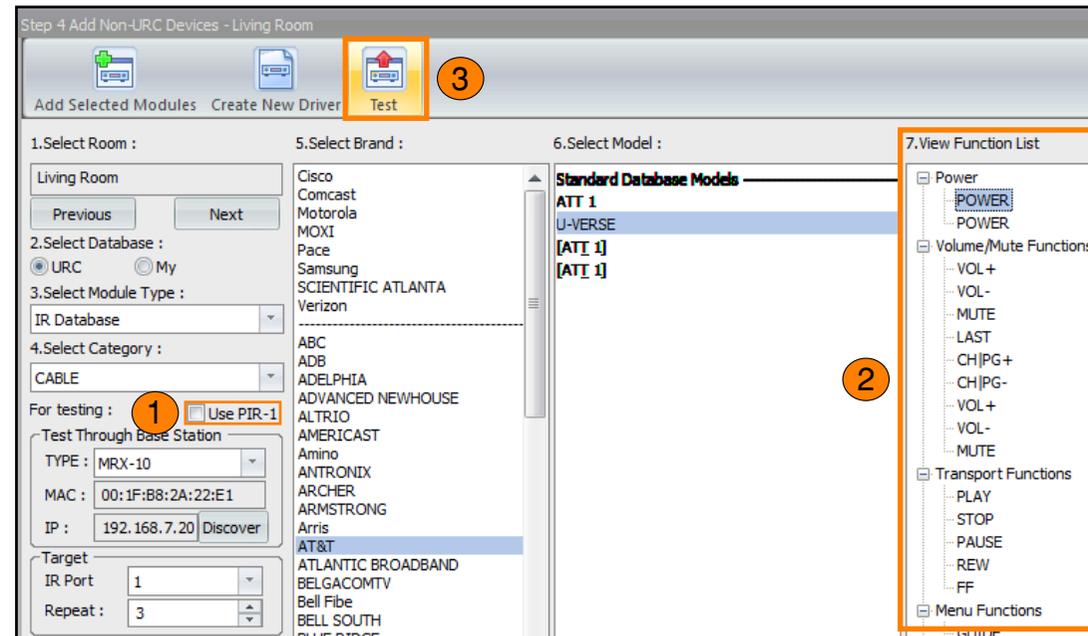
Through the Total Control Flex 2.0 software, it is possible to test almost any command from the View Function List window.

### Use PIR-1:

Follow these steps when a PIR-1 is connected via USB to the computer:

1. Check the **"Use PIR-1"** box.
2. Select a command from the **Function List** section.
3. Select **Test**.

The IR data assigned to the function is transmitted through the PIR-1 for direct **"line-of-sight"** testing.



## Test Through Base Station:

When a PIR-1 is not available or using RS-232/IP, this method is required:

1. **Type:** Use the drop-down menu to select the applicable **base station** (MRX-10, MRX-8, etc.).

2. Select **Discover**.

The software scans the network for available base stations, it only searches for the model selected from the **Type** drop-down menu.

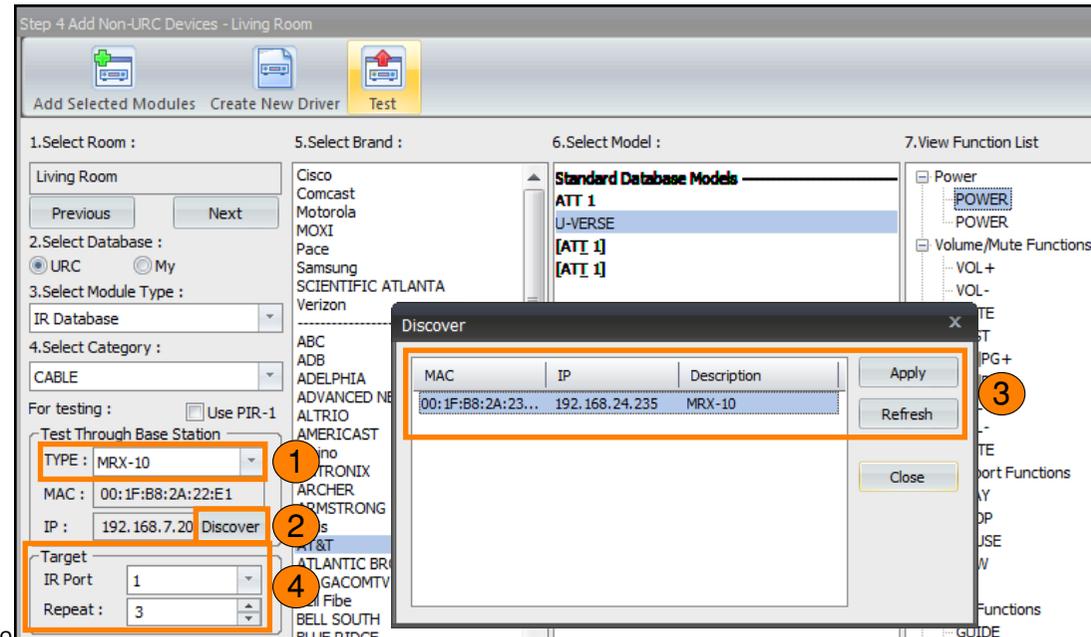
3. **Choose** the appropriate **base station** from the Discover window and select **Apply**.

4. **For IR:**

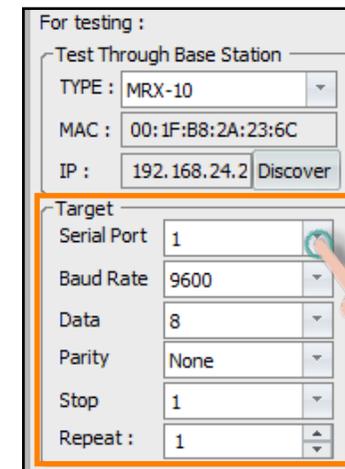
- **IR Port:** Designate which IR Port to test from, assure the device is connected to the port selected.
- **Repeat:** Generally, this does not need to be adjusted. Only adjust when instructed by URC Technical Support.

## For RS-232:

- **Target:** Contains Serial Port, Baud Rate, Data, Parity, Stop, and Repeat. Except for the Serial Port, all other fields are automatically populated from the selected driver.
- **Serial Port:** The Programmer must dictate to the software which Serial Port to test from.

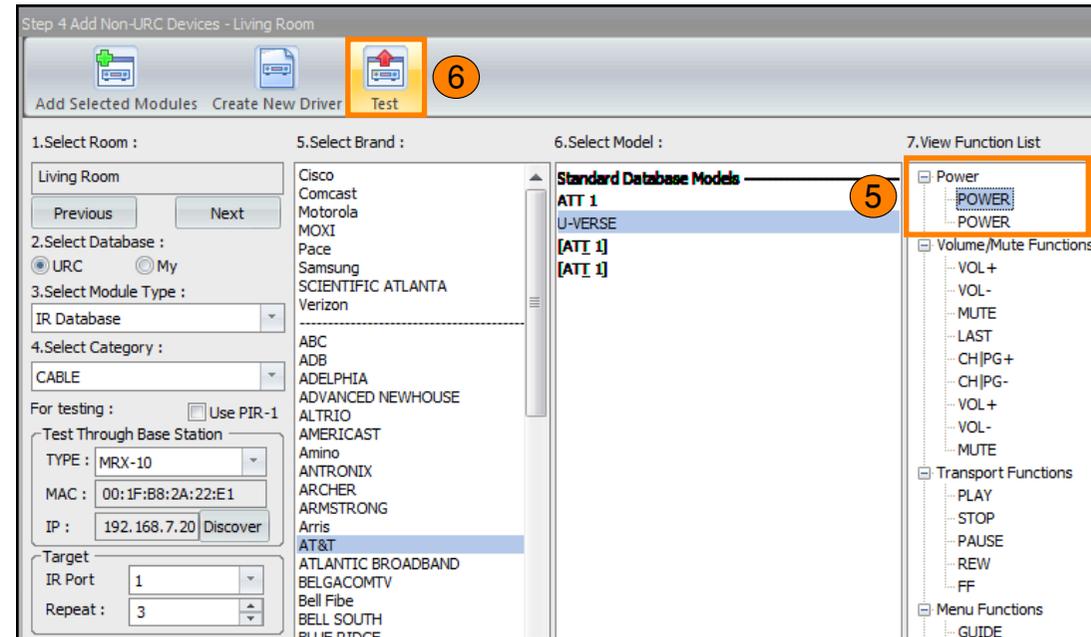


## RS-232

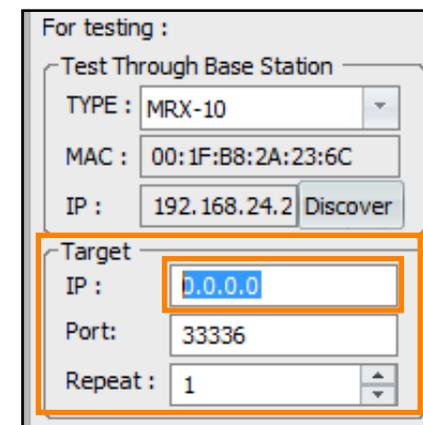


**For IP:**

- **Target:** Contains the IP address, Port Number, and Repeat options. Except for IP, all other fields are automatically populated from the selected driver.
  - **IP:** Enter the IP Address of the device being tested. IP Testing cannot occur if this field is left blank.
5. Select a command from the **View Function List** (i.e. Power).
  6. Select **Test**.



**IP**



## URC Database: Bold vs Standard:

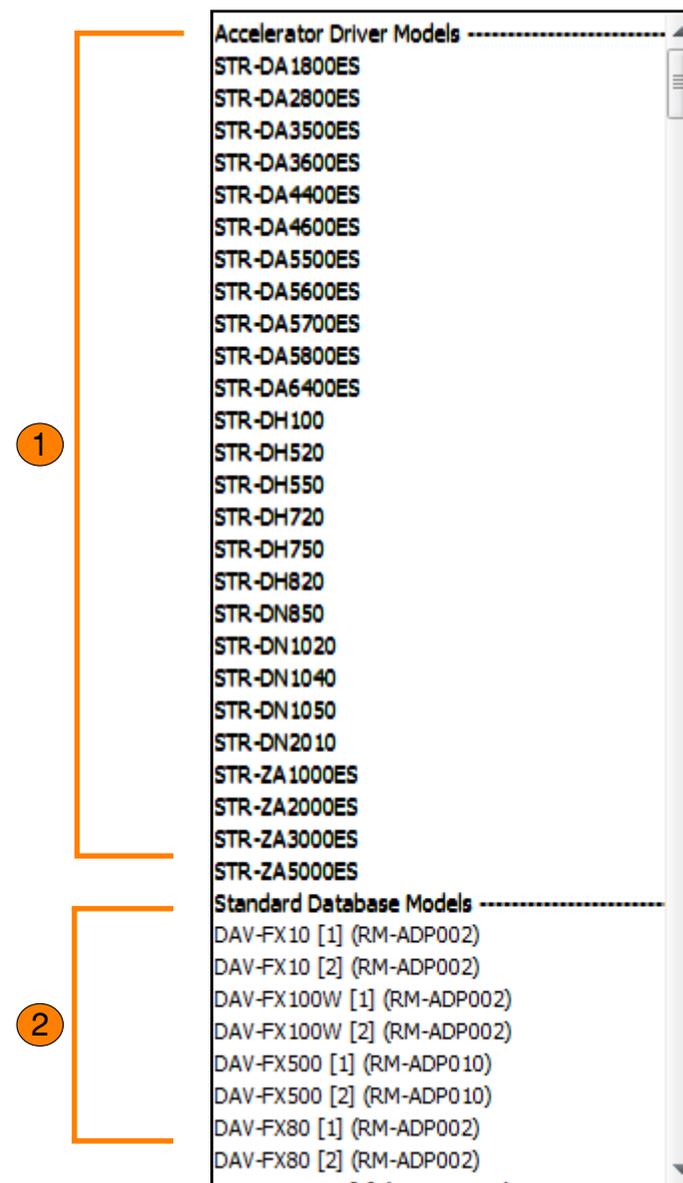
There are two (2) types of drivers available for devices that contain inputs and/or outputs (i.e. TVs, AVRs, Matrix Switchers, etc.).

1. **Accelerator Driver Models (Bold):** These types of drivers can be added to the Project Tree without any customization. Keep in mind that without proper customization, these drivers may lack the desired button layouts, device icon, and other parameters that can be configured by creating a personal driver.

It is a best practice to use these types of drivers as a template for creating a custom driver. **Custom drivers** should **ALWAYS** be used in a successful Total Control Flex 2.0 system.

2. **Standard Database Driver:** Should **NEVER** be added directly to the Project Tree. These types of drivers lack the input and output assignments.

Use these as custom driver templates only when an Accelerator Driver Model is not available.

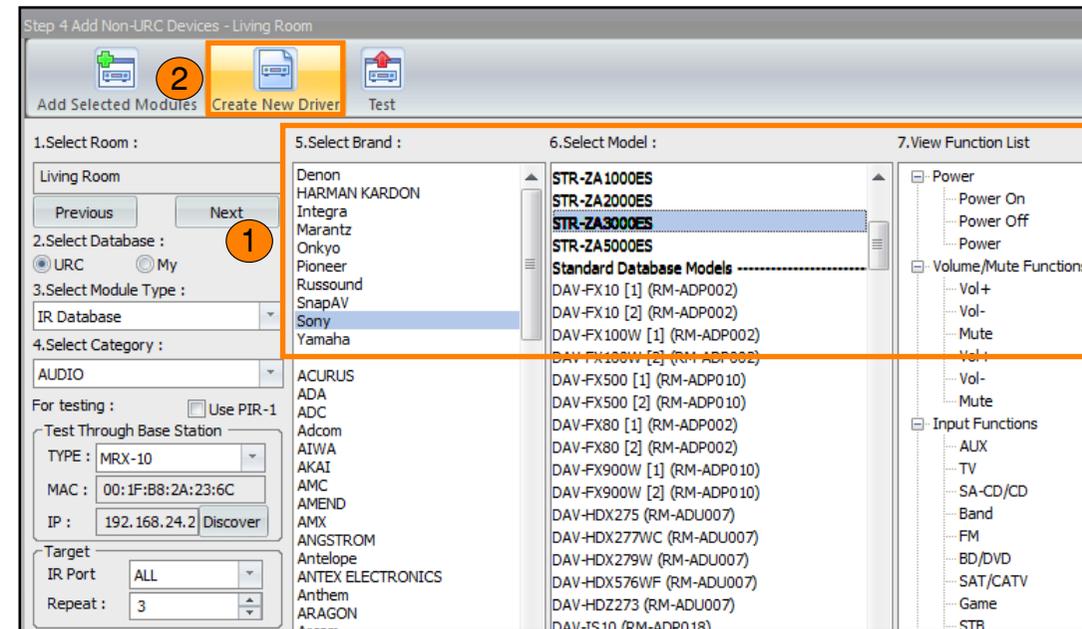
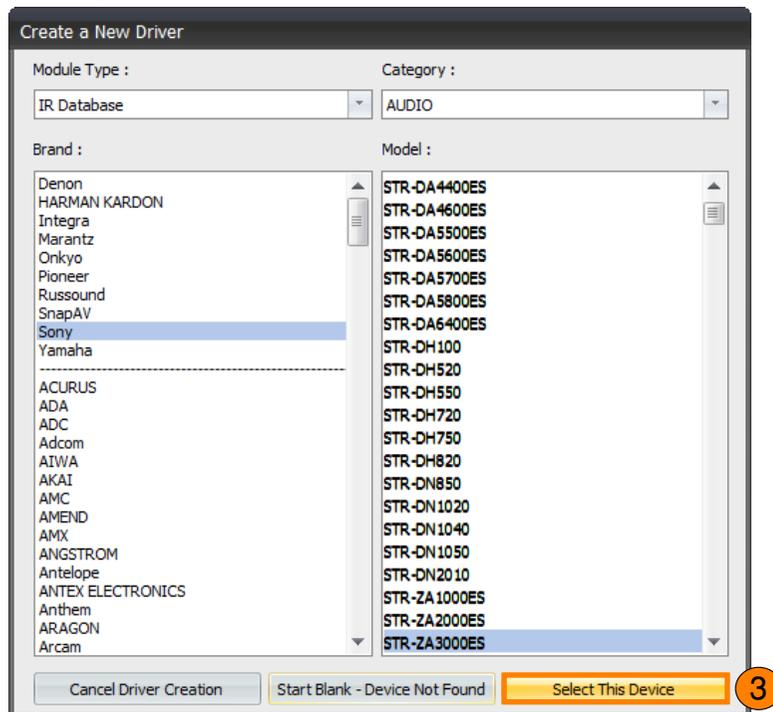


## Creating Custom Drivers:

Using custom drivers is the key to a successful Total Control system. Drivers can be created for IR, RS-232, and IP devices from within the software and saved onto the programming computer or placed on cloud storage service.

Due to the customizable nature of the Total Control Flex 2.0 software, there are a few options available that are not applicable. The following section covers all the areas required to create a driver for Flex:

1. Select an **Flex Driver Model (Bold)**.
2. Select **Create New Driver**.



3. Click on **Select This Device**.

- Brand:** If a Flex Driver Model was used as a template, this section is automatically populated.

When creating a brand new driver (No Flex Driver Model used as template), enter a Brand name.

The **Brand** name entered here dictates where this driver is located in the "My" database.

- Models:** If an Flex Driver Model was used as a template, this section is automatically populated.

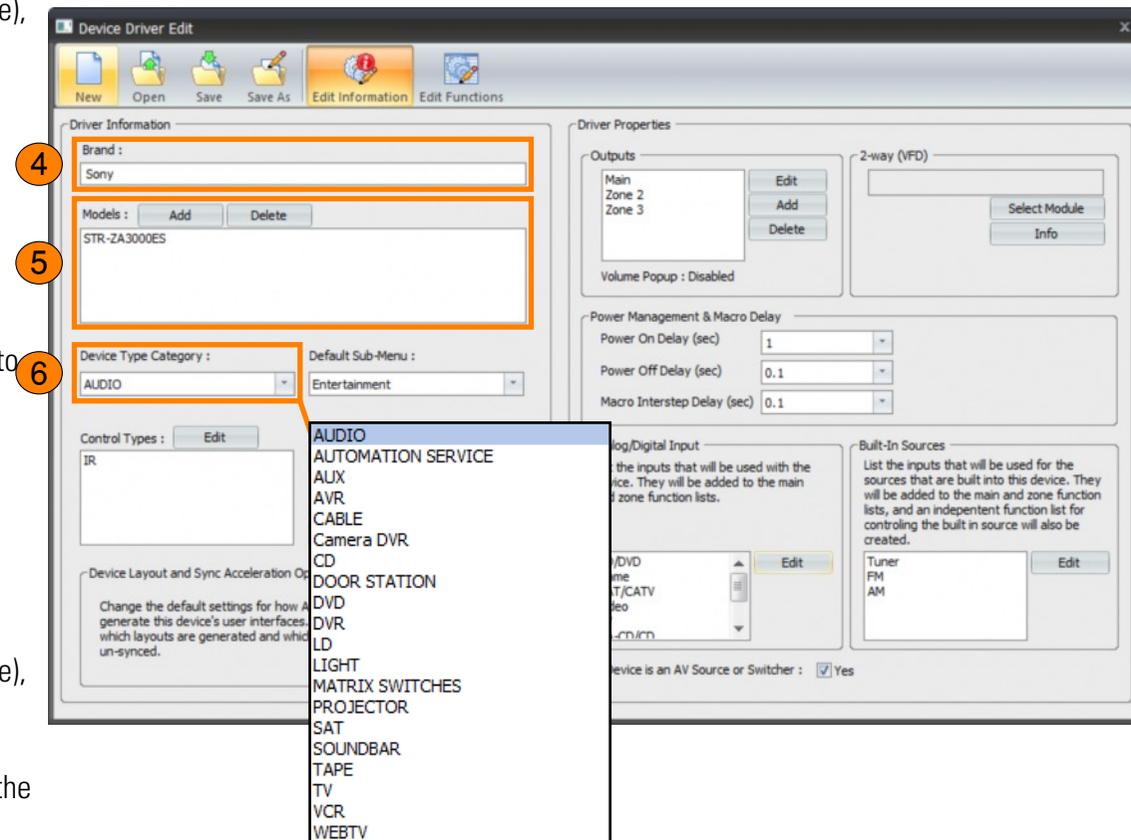
- **Add:** Select to add additional models to this list. It is a best practice to add all devices compatible with this driver to this list.

- **Delete:** Select to remove a model from this list.

- Device Type Category:** If an Flex Driver Model was used as a template, this section is automatically populated.

When creating a brand new driver (No Flex Driver Model used as template), use the drop-down menu to select a Category.

The **Category** type selected here dictates where this driver is located in the "My" database.



7. **Control Types:** Select Edit to add additional control types to the current driver. Below are the different control types:

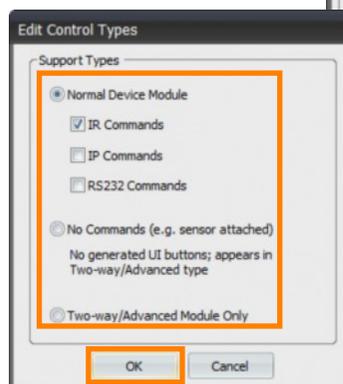
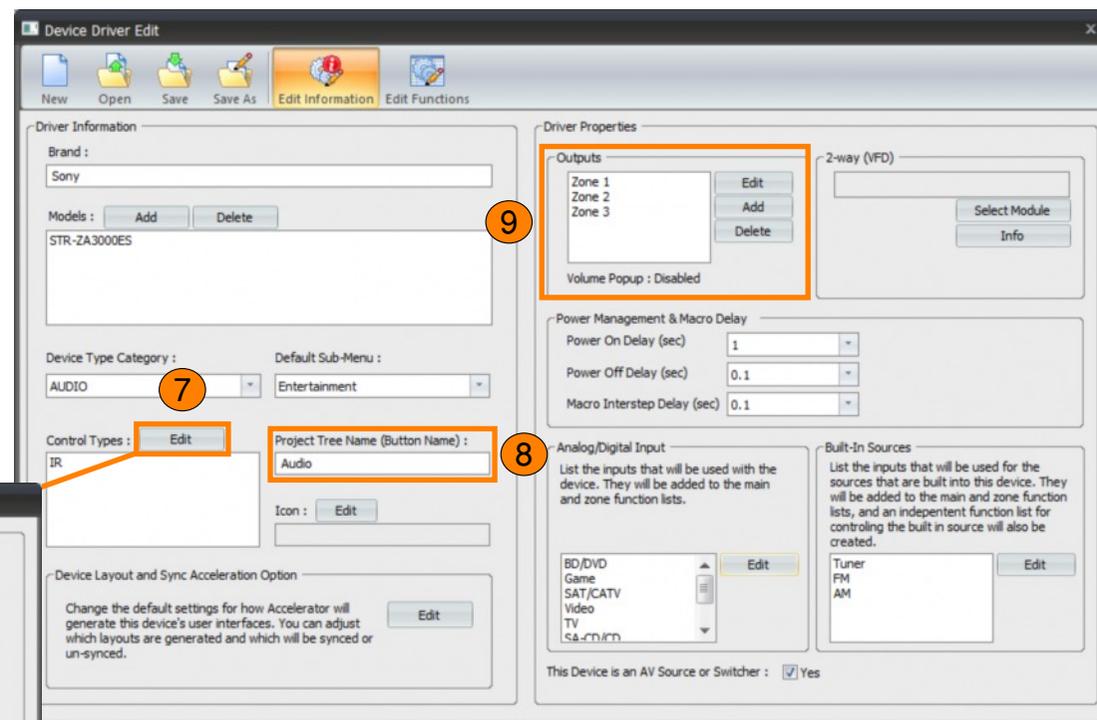
- **Normal Device Module:** Add IR, IP, and/or RS232 Commands
- **No Commands:** Used for sensors or other devices that need a place holder in the Total Control Flex 2.0 software.
- **Two-way/Advanced Module Only:** Only for use for certified 3rd Party Developers creating a two-way module.

Select **Ok**.

8. **Project Tree Name (Button Name):** Label entered here always displays on the Project Tree whenever this driver is added.

9. **Outputs:** If an **Flex Driver Model** was used as a template, this section is automatically populated. Below are the selectable options:

- **Edit:** Allows the programmer to change the name of a listed Output/Zone.
- **Add:** Allows the programmer to add an Output/Zone to the list.
- **Delete:** Removes the selected Output/Zone from the list.



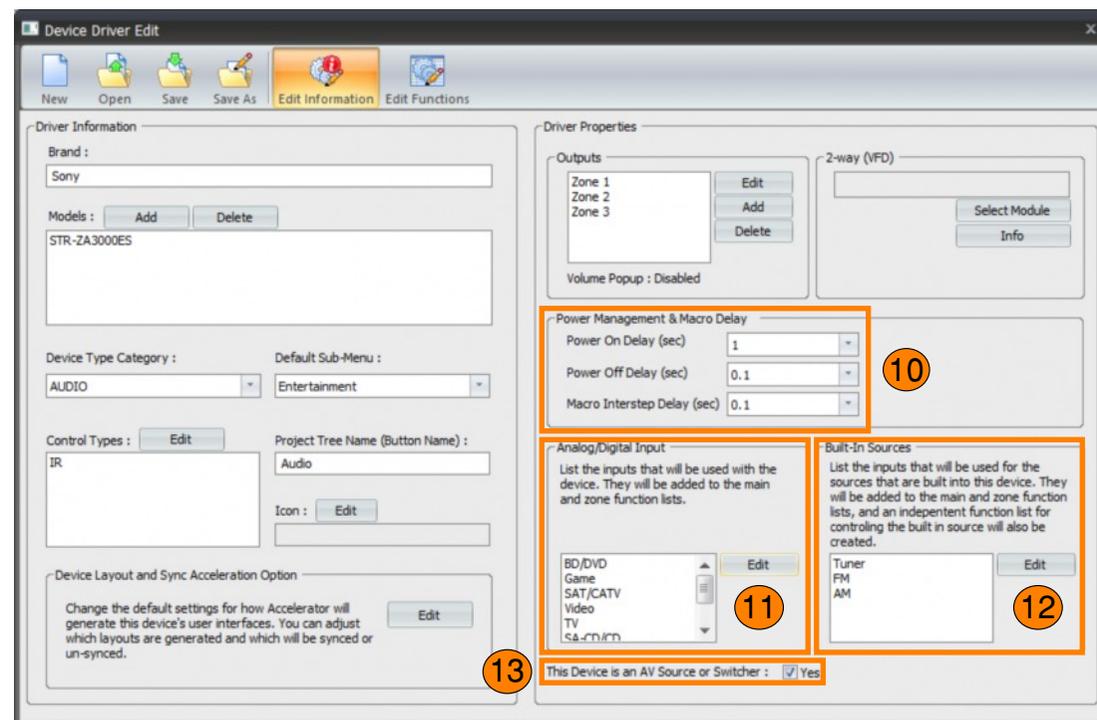
10. **Power Management & Macro Delay:** The values entered here affect system commands such as Device Power Macros and Smart Delays.

- **Power On Delay:** Adjusts the delay when powering on a device. This is the perfect solution to combat TV/Projector warm-up, designate the amount of seconds the device needs to wait before able to accept another command.
- **Power Off Delay:** Adjust the delay when powering off a device. This pauses any macro actions until after the delay time defined in this section. Generally, this settings is used for certain Projectors.
- **Macro Interstep Delay:** Adjust the delay of commands from within a macro. This setting affect the device when receiving sequential commands from a macro. Change this value to increase or decrease the amount of time it takes for a macro to send another command to the same device.

11. **Analog/Digital Input:** Select the **Edit** button to add or remove an Analog and/or Digital Input (HDMI 1, COAX, etc.) to the list.

12. **Built-In Source:** Select the Edit button to add or remove a Built-In source to the list (i.e. Netflix, Amazon Video, etc.).

13. **This Device is an AV Source or Switcher:** Check this box if the device is an AV source or a device involved in input switching.



## Edit Functions:

1. **Default Repeat Value:** The information here is provided by the manufacturer. Only make changes when instructed by URC Technical Support.
2. **Function List:** Below are descriptions of the areas that are applicable to a Total Control Flex 2.0 system:

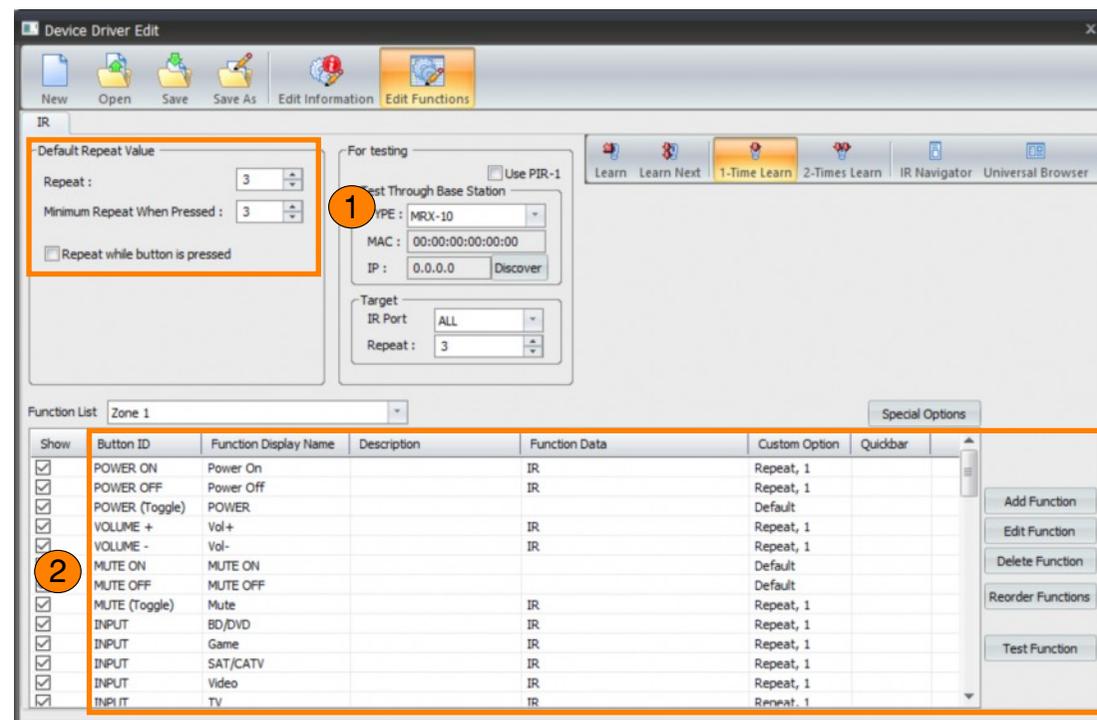
- **Function Display Name:** This label is how the function is displayed when dragged on to a button.
- **Description:** When replacing a current function with a command from the IR, IP, or RS232 Navigator, this field describes what code was used.
- **Function Data:** Displays the command type assigned to a function. When this field is blank, a function has not been assigned a command.
- **Custom Option:** Allows the programmer to adjust individual command repeat settings. Generally, this does not need to be changed unless instructed by URC Technical Support.

- **Add Function:** Select to add a blank function to the list.

- **Edit Function:** Allows the programmer to adjust the functions's repeat settings and provides the option to **Override Button with Macro Commands**. When using IP and/or RS232, this button allows the programmer to edit the command string.

- **Delete Function:** Removes a command from the Function List.

- **Test Function:** Select this after choosing a function to test it.



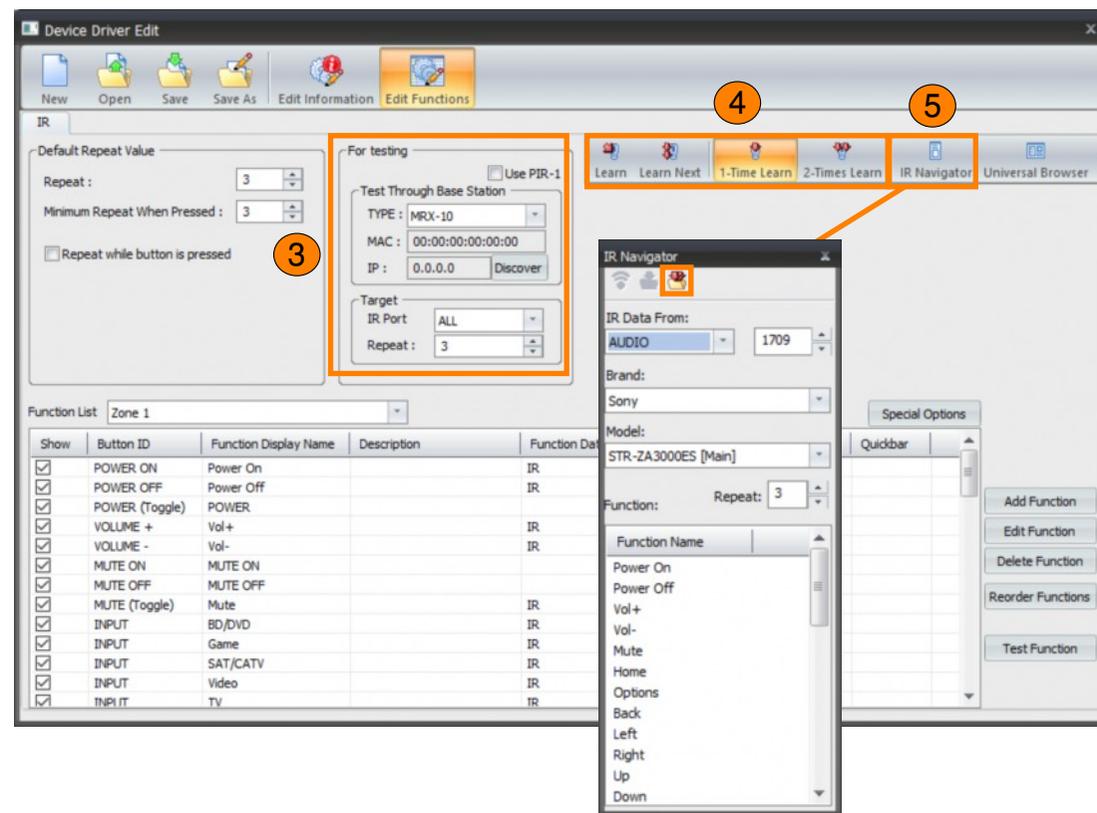
3. **For Testing:** When a PIR-1 is available, check the box at the left of Use PIR-1. Choose a function and select **Test Function** to send the IR data.

Follow the steps on page 12 for details on discovering the base station and assigning and IR port.

4. **Learn:** A **PIR-1 is REQUIRED** to learn commands from a factory remote. Select an existing or a new function command to learn on:
  - **Learn:** Select when ready to learn onto an existing function (overwrites current data) or on a new function.
  - **Learn Next:** Makes the software automatically move on to the next function after a function is learned. This is designed to speedup the learning process..
  - **1-Time Learn:** Select to learn a command from factory remote. This is the most commonly used option.
  - **2-Times Learn:** Used with IR devices that require an extra piece of IR data to execute a command. Generally if 1-Time Learn does not work, this option is selected.

5. **IR Navigator:** Select this to display the IR Navigator. Choose from any code in the URC Database to add to the driver's function list.

- **Save All:** Select to apply all codes to the Function List. If codes already exist, this process can overwrite that data.

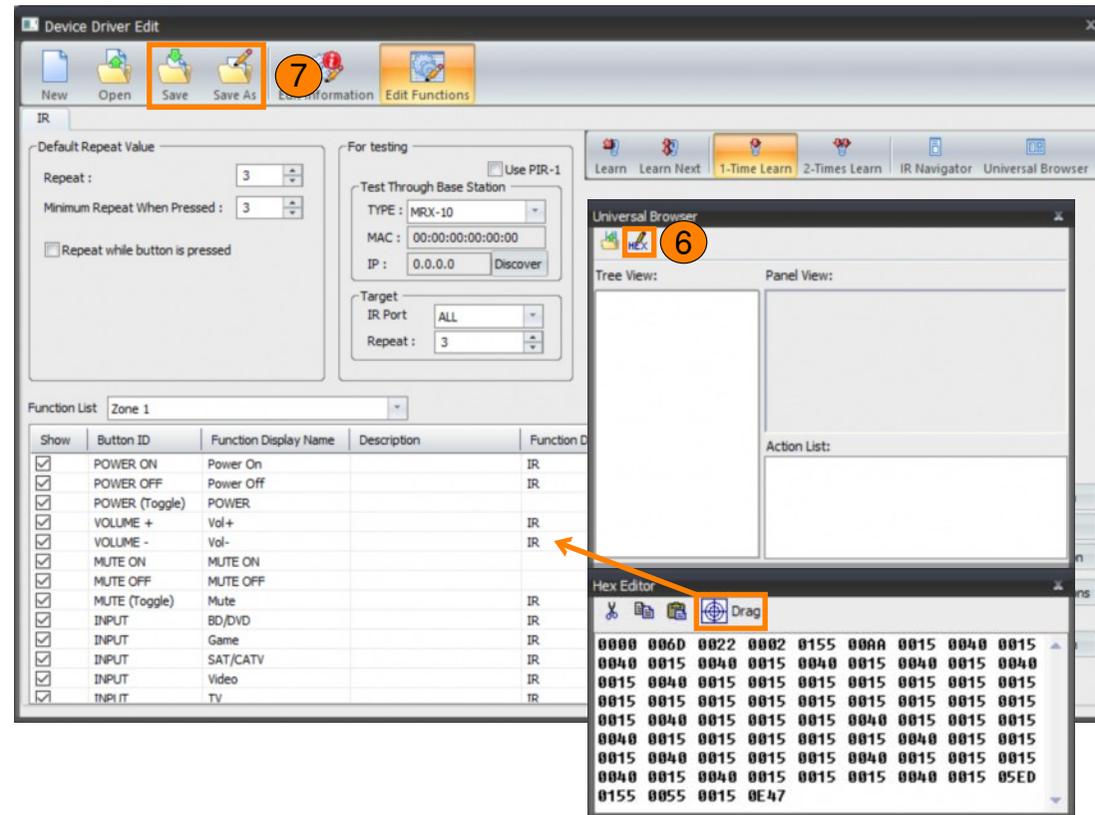


6. **Universal Browser:** In situations where URC does not have a code in its database and the factory remote is not available, the Hex Editor can be utilized. Select Universal Browser.

- **Hex Editor:** Only supports **pronto hex**, enter data in the filed box and click-and-drag the **Drag** button over a command on the Function List.

Hex data overwrites any pre-existing function.

7. Save the driver using **Save** or **Save As**.



## Creating IP Drivers:

The process of creating IP drivers is very similar to that of creating IR and/or RS-232. For specific details on customizing the **Edit Information** tab, refer to page 17.

In this section, the differences are detailed from the **Edit Functions** tab:

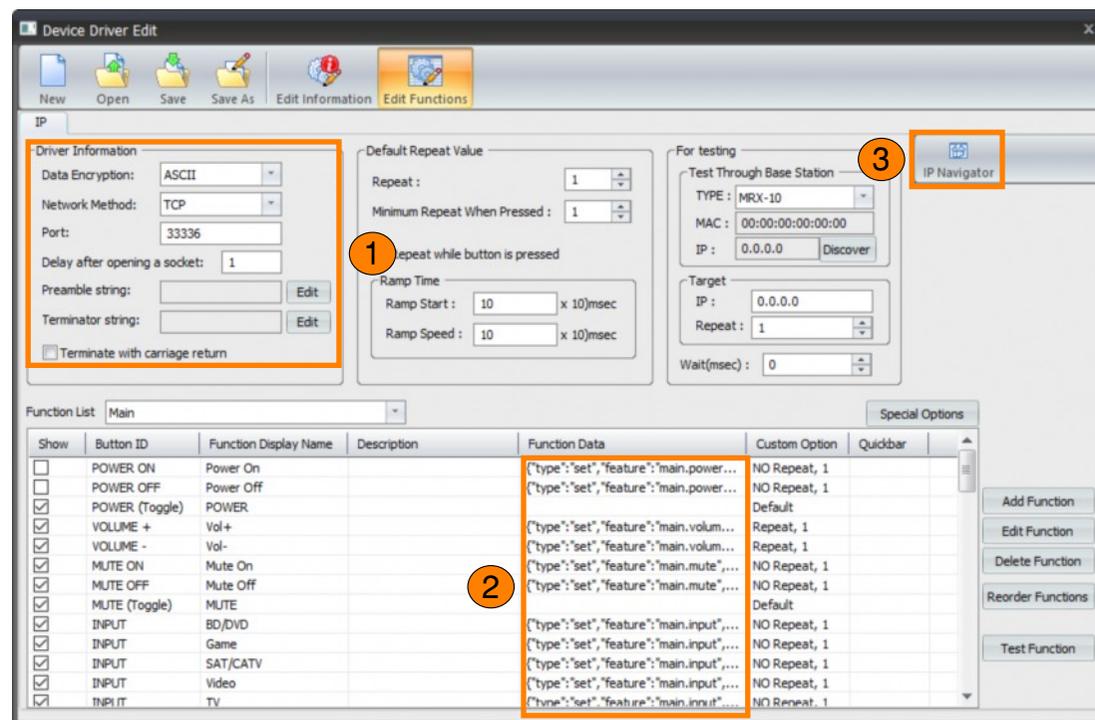
1. **Driver Information:** When an Accelerator Driver Model (Bold) was used as a template, this information is automatically populated and does not need to be adjusted.

When creating a brand new IP driver, refer to the device's protocol sheet for the specific communication parameters.

If the protocol specifies to use a Carriage Return, check the box at the left of **Terminate with carriage return**.

2. **Function Data:** Unlike IR, the ASCII, HEX, or Decimal string is visible in the provided field. These can be modified if need be.
3. **IP Navigator:** Just like the IR Navigator, allows the programmer to navigate through all IP codes in the URC Database. Select codes and add them to the Function List as needed.

- **Save All:** Select to apply all codes to the Function List. If codes already exist, this process can overwrite that data.



## Creating RS-232 Drivers:

The process of creating IP drivers is very similar to that of creating IR and/or IP. For specific details on customizing the **Edit Information** tab, please refer to page 17.

In this section, the differences are detailed from the **Edit Functions** tab:

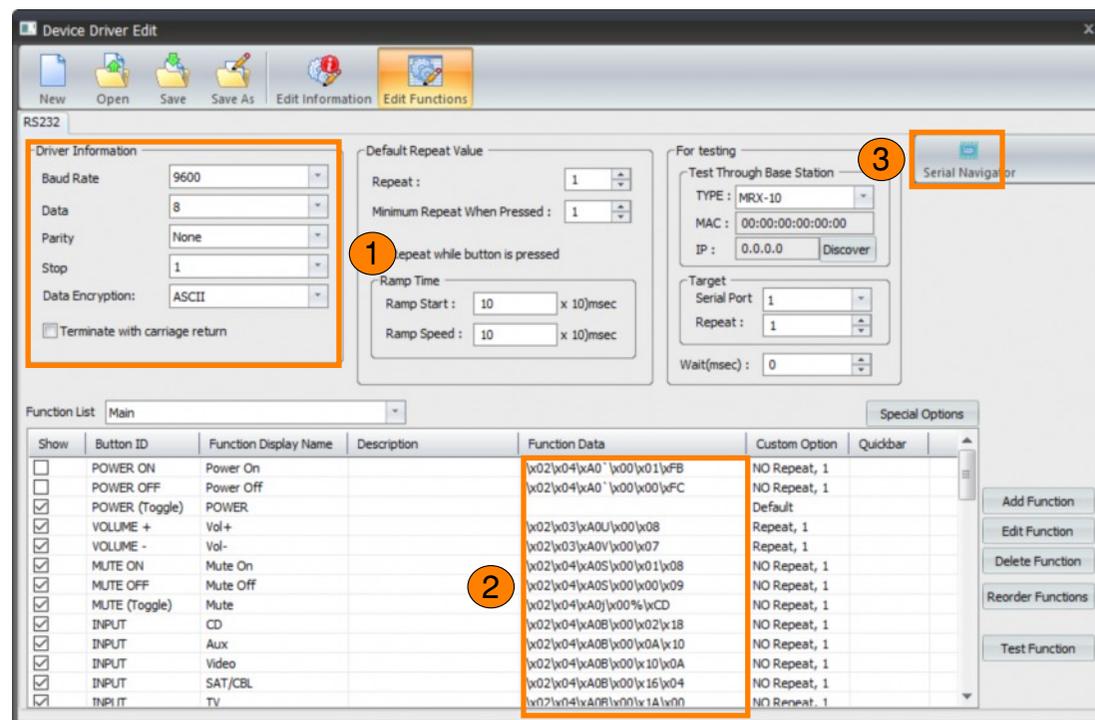
1. **Driver Information:** When an Accelerator Driver Model (Bold) was used as a template, this information is automatically populated and does not need to be adjusted.

When creating a brand new RS-232 driver, refer to the device's protocol sheet for the specific communication parameters.

If the protocol specifies to use a Carriage Return, check the box at the left of **Terminate with carriage return**.

2. **Function Data:** Unlike IR, the ASCII, HEX, or Decimal string is visible in the provided field. These can be modified if need be.
3. **RS-232 Navigator:** Just like the IR Navigator, allows the programmer to navigate through all RS-232 codes in the URC Database. Select codes and add them to the Function List as needed.

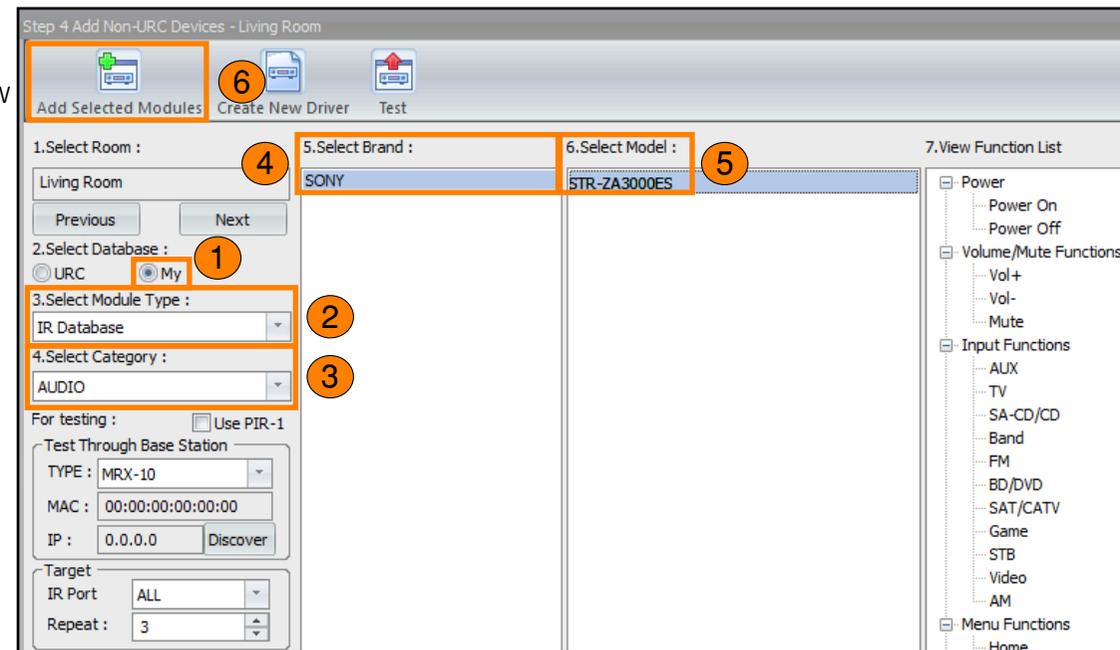
- **Save All:** Select to apply all codes to the Function List. If codes already exist, this process can overwrite that data.



### Accessing Custom Drivers:

All custom drivers are located in the "My" Database. The steps below describe how to access this database:

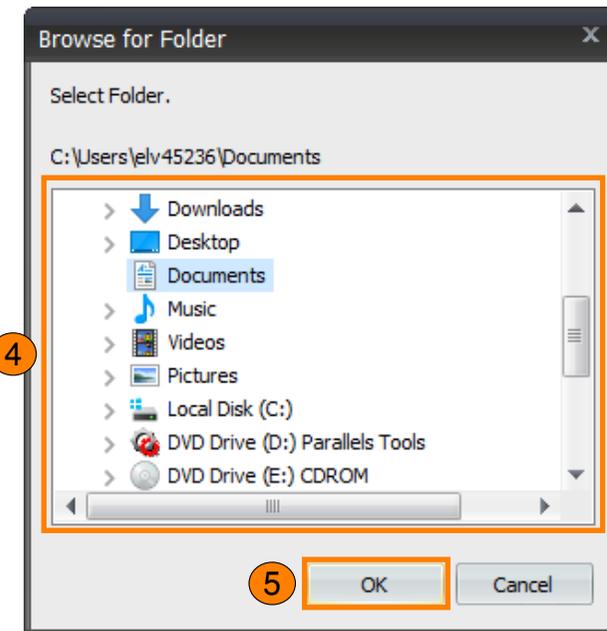
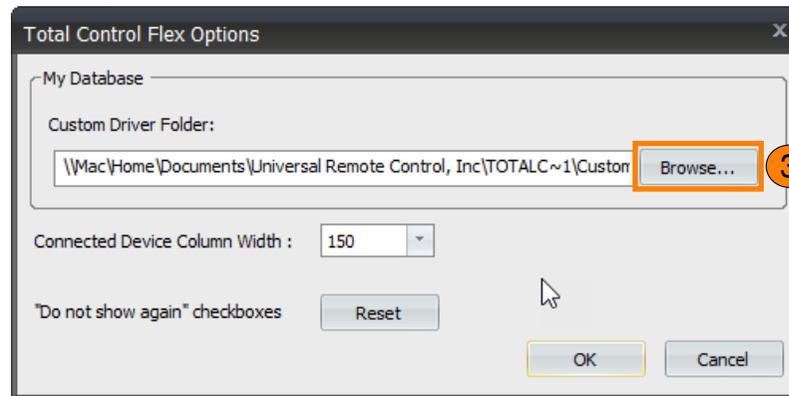
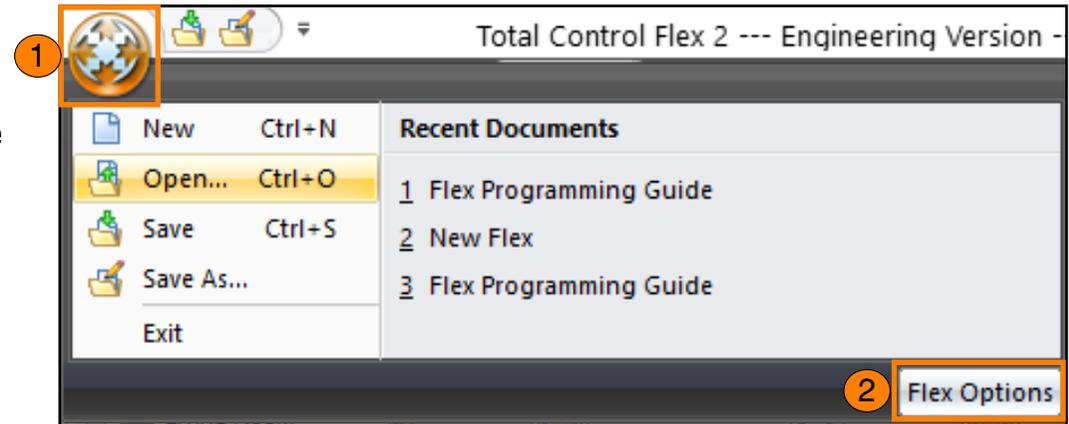
1. Select **My**.
2. **Select Module Type:** Choose the control type of the driver.
3. **Select Category:** Choose the category type.
4. **Select Brand:** Choose the brand.
5. **Select Model:** Choose the model of the driver.
6. Select **Add Selected Modules**.



### Changing Custom Folder Location:

This is only necessary if the programmer has placed custom drivers outside of the **CustomDrv** default location:

1. Select the **URC logo**.
2. Select **Flex Options**.
3. Select **Browse**.
4. Choose a new folder **location**.
5. Select **OK**.



## Step 5. MRX Setup

In this step IR and RS-232 ports are assigned. Sensors and 12V/Relays are also assigned in this step as well.

### IR & RS232:

Use this sub-step to define the IR and/or RS-232 ports:

1. Select the **Port** column of an **IR device** (i.e. Cable).
2. Use the drop-down menu to **select an IR port**.
3. Select the **Port** column of an **RS-232 device** (i.e. TV, AVR, etc.).
4. Use the drop-down menu to **select an RS-232 port**.

When using auxiliary base stations in the project, assure that the appropriate one is selected. If not, select the **Base Station** column and use the drop-down menu to choose a different controller.

Step 5 Base Station Setup: IR & RS232

IR & RS232 Sensors 12V/Relay

Zone	Device	Base Station	Port	Serial Port Settings
Living Room	Cable	MRX-30 Master(Living R	IR-ALL	None
Living Room	Blu-ray	MRX-30 Master(Living Room)	IR-ALL	IR-ALL
Living Room	Apple TV	MRX-30 Master(Living Room)	IR-ALL	IR-1
Living Room	TV	MRX-30 Master(Living Room)	Select P	IR-2

IR-3  
IR-4  
IR-5  
IR-6  
IR-7  
IR-8  
IR-9  
IR-10  
IR-11  
IR-12

Step 5 Base Station Setup: IR & RS232

IR & RS232 Sensors 12V/Relay

Zone	Device	Base Station	Port	Serial Port Settings
Living Room	Cable	MRX-30 Master(Living Room)	IR-ALL	None
Living Room	Blu-ray	MRX-30 Master(Living Room)	IR-ALL	None
Living Room	Apple TV	MRX-30 Master(Living Room)	IR-ALL	None
Living Room	TV	MRX-30 Master(Living R	Select Port	9600, 8, NONE, 1

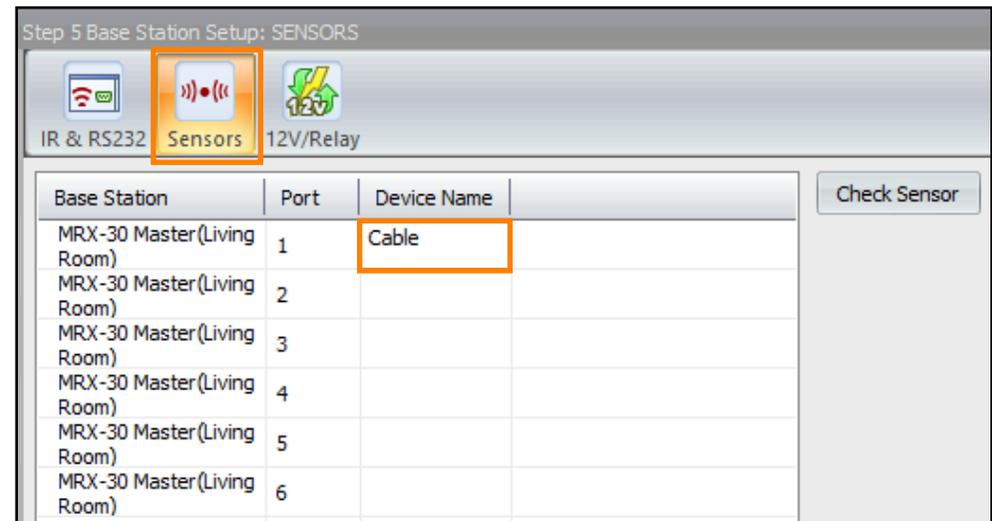
RS232-1  
RS232-2  
RS232-3  
RS232-4  
RS232-5  
RS232-6

### Sensors:

Select the Sensors sub-step. Define what devices are connected to any URC sensor. Available ports displayed in this sub-menu are dictated by the primary and auxiliary controllers in the Project Tree.

1. Double-click on an available **Device Name** column.
2. Enter the name for the device that is connected to the sensor (i.e. Cable).

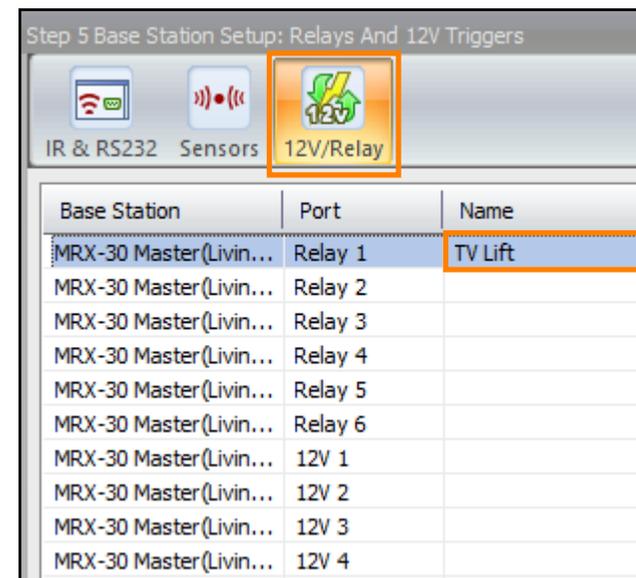
Select Check Sensor to view the current state of the connected URC sensor.



### 12V/Relay:

Select the 12V/Relay sub-step. Define what devices are connected to any URC relay or 12V output. Available ports displayed in this sub-menu are dictated by the primary and auxiliary controllers in the Project Tree.

1. Double-click on an available field under the **Name** column.
2. Enter the name of the device that is connected to the **12V/Relay** (i.e. TV Lift).



## Step 6: Network Setup

Total Control uses the project's network as its communication backbone. In this step, several parts of the network are defined.

### LAN & Wi-Fi:

Selecting the **Apply PC Settings** button applies the programming computer's networking information into the appropriate fields. Although this feature is available, it is a best practice to double check the information by getting the **IP Config** from **Command Prompt**.

When using **Offsite Programming** and/or **Offsite Control**, use **Google's DNS (8.8.8.8)** for consistency and stability.

- **Subnet Mask:** Defines how many IP addresses are available to the Project's LAN. Most networks carry a subnet mask of **255.255.255.0**.
- **Gateway:** Is the router that handles connections to other networks, this generally is linked to the WAN.
- **DNS (Domain Name Server):** A system which translates a domain name into an IP address. Use Google's DNS (**Primary: 8.8.8.8** and/or **Alternate: 8.8.4.4**) as a best practice.

Step 6 Network Settings: LAN and WiFi

LAN & Wifi URC Device Non URC Device

1. LAN Network Info

Subnet mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 7 . 1
Preferred DNS	8 . 8 . 8 . 8
Alternate DNS	8 . 8 . 4 . 4

Apply PC Settings

2. LAN Wireless Networks

Send Wireless AP List via USB

Up

Down

Add New Delete Properties

Save

**LAN Wireless Networks:**

Wi-Fi information is assigned to the Project here:

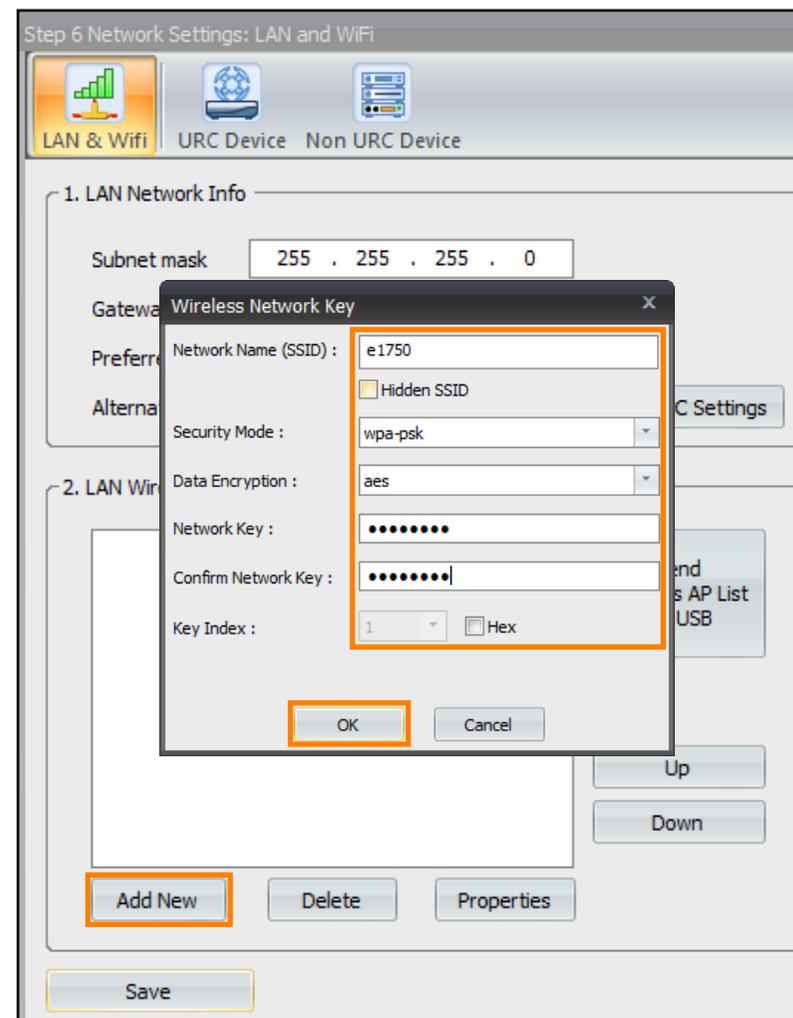
1. Select **Add New**.
2. Accurately complete the following fields:
  - **Network Name (SSID):** The “name” of the Wi-Fi network. URC recommends using an SSID without spaces in the name. Spaces may cause intermittent connectivity issues with some Access Points.

Check the **Hidden SSID** box if the SSID is not being broadcast.

  - **Security Mode:** Choose the Security Mode that matches the Access Point’s configuration. Currently **WPA2-PSK** is the strongest form of encryption.
  - **Data Encryption:** Generally this is set to AES, assure to match the encryption settings of the router.
  - **Network Key:** Enter the networks password and confirm it in the **Confirm Network Key** section.
  - **Key Index:** If using a Shared encryption with a key index, select a key using the drop-down menu. Do not use when using WPA or WPA2.

3. Select **OK**.

This network is added to the **LAN Wireless Networks** list. Select **Save** before moving into any other step or sub-step in Accelerator Flex 2.0.



### URC Device:

This sub-step is used to identify (Discover) URC devices on the local network. URC devices can be assigned a static IP address from here as well.



### Discovering Devices:

Assure that all URC Devices are connected to the same network as the computer:

Room	Device	Mac Address	IP Address	Type	Refresh	Discovered:TKP-7600	Mac Address	IP Address	Description
Living Room	MRX-30 Master	00:00:00:00:00:00		DHCP	Assign	TKP-7600(Unassigned)	00:1F:B8:30:01:4F	192.168.7.69	Jamie's TKP-7600
Living Room	TKP-7600	00:00:00:00:00:00		DHCP					
Living Room	TDC-7100	00:00:00:00:00:00		DHCP					

1. Select a **URC device** (i.e. TKP-7600) from the left side.

2. Select **Refresh**.

The computer scans the network for an available URC device.

3. Select discovered device from the right.

4. Select **Assign**.

Room	Device	Mac Address	IP Address	Type
Living Room	MRX-30 Master	00:00:00:00:00:00		DHCP
Living Room	TKP-7600	00:1F:B8:30:01:4F	192.168.7.69	DHCP
Living Room	TDC-7100	00:00:00:00:00:00		DHCP

The network information associated to the URC device is populated into the available fields at the left.

Room	Device	Mac Address	IP Address	Type
Living Room	MRX-30 Master	00:00:00:00:00:00		DHCP
Living Room	TKP-7600	00:1F:B8:30:01:4F	192.168.7.69	DHCP
Living Room	TDC-7100	00:00:00:00:00:00		DHCP

### Assigning a Static IP:

Always set URC devices to a static IP address:

1. Double-click on **DHCP** (located below the **Type** column).
2. Select **Settings**.
3. Select **Use the following IP address**.
4. Enter a **static IP address**.

Assure that the IP address assigned here is outside of the DHCP range in order to prevent IP conflicts.

5. Select **Save**.

Other network properties (Subnet Mask, Default Gateway, Primary DNS, Secondary DNS) cannot be adjusted here. The value of those parameters are set in the LAN & Wi-Fi sub-step (page 30).

6. Select **Close**.

The image shows two overlapping windows from a network management application. The top window, titled 'Connected', displays details for a device named 'Jamie's TKP-7600'. It shows the MAC ID as '00:1F:B8:30:01:4F' and the current IP address as '192.168.7.69 (DHCP)'. A 'Settings' button is highlighted with an orange box and a circled '2'. The bottom window, titled 'Settings', shows the configuration options for the device. The 'Network' section has two radio buttons: 'Obtain an IP address automatically' and 'Use the following IP address'. The second option is selected and highlighted with an orange box and a circled '3'. Below this, the 'IP address' field is highlighted with an orange box and a circled '4', containing the value '192 . 168 . 7 . 201'. Other fields for Subnet mask, Default gateway, Primary DNS, and Secondary DNS are visible. A 'Save' button is highlighted with an orange box and a circled '5'. In the top window, a 'Close' button is highlighted with an orange box and a circled '6'.

## Non URC Device:

Assign an IP address to all **Non URC** network controlled devices. This includes IP controlled and two-way controlled devices.

Each **Non URC** device must be assigned a static IP address whenever possible. Assign a static IP address to Non URC devices (AVRs, TVs, etc.) from within that device's network settings menu.

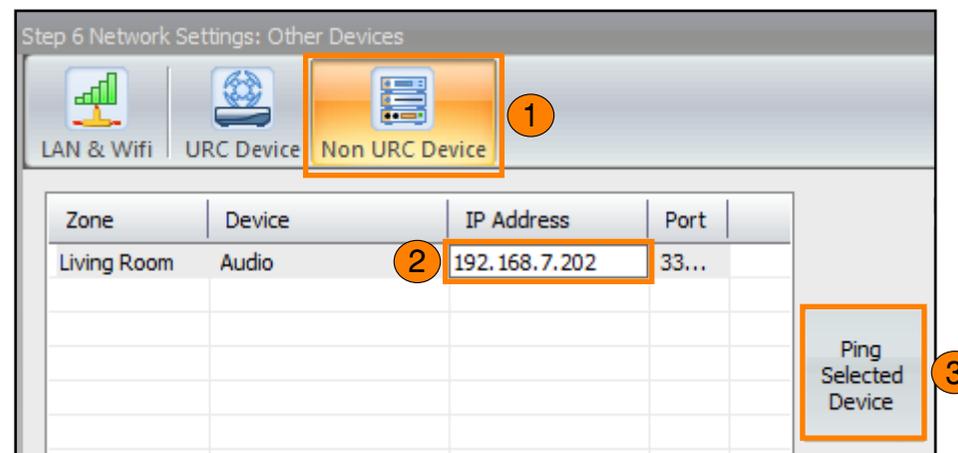
Certain Non URC devices may not allow a static IP assignment. For those types of devices (Roku), a DHCP reservation (also known as a MAC reservation) may be required. This is performed from within the router.

Follow these steps:

1. Select **Non URC Device**.
2. **Double-click** on the IP address column and enter the device's IP.
3. Select **Ping Select Device** to verify a network connection.

Certain device may not support this feature.

The **Non URC Device** sub-step is also used to assign IP addresses for two-way devices communicating over IP.



## Step 7: DMS Setup:

Perform this step ONLY when using URC's DMS Products (DMS-100, DMS-1200, etc.). This Total Control Flex 2.0 step is used to assign sources to streamable inputs connected to DMS devices.

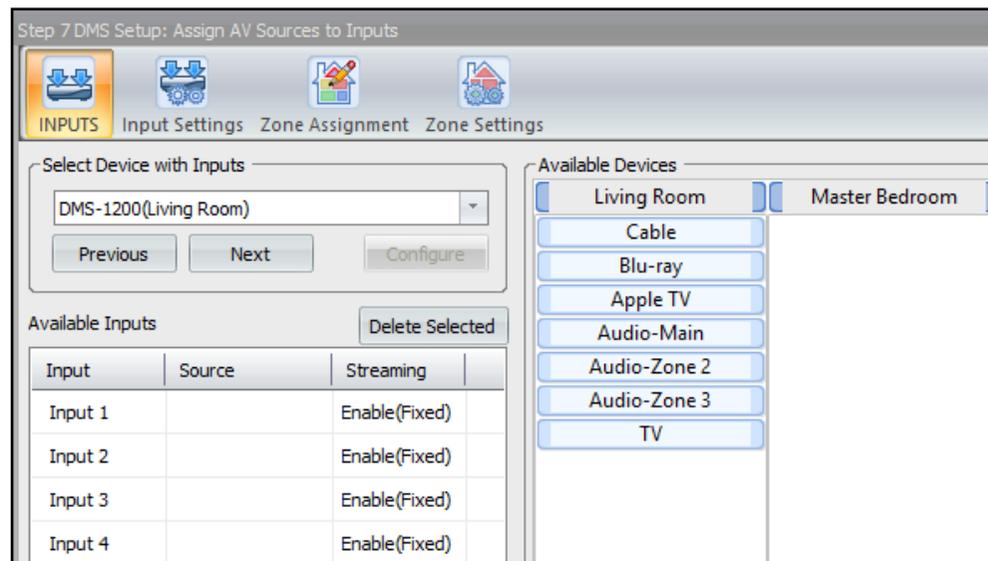
Program this step only when DMS devices exist on the Project Tree. Use

**Step 3: Add URC** Devices to add DMS devices on to the Project Tree.

**ALWAYS** add an **MFS-8** or **MFS-POE8** when using DMS products. These devices keep the music stream created by DMS devices separate from normal network traffic. Using DMS products without an MFS-8 or MFS-POE8 can cause major network issues.

There are four (4) sub-steps:

- **Inputs:** Assign available devices (Blu-ray, CD Player, etc) to an input on a DMS device. Devices assigned to inputs can be streamed to any room/area that is a DMS Zone.
- **Input Settings:** Allows the programmer to adjust input switch settings and specific input level settings.
- **Zone Assignments:** Assign a room/area to a DMS zone. All DMS Zones have access to the DMS stream.
- **Zone Settings:** Allows the programmer to adjust specific zone settings such as output, volume, and EQ settings.



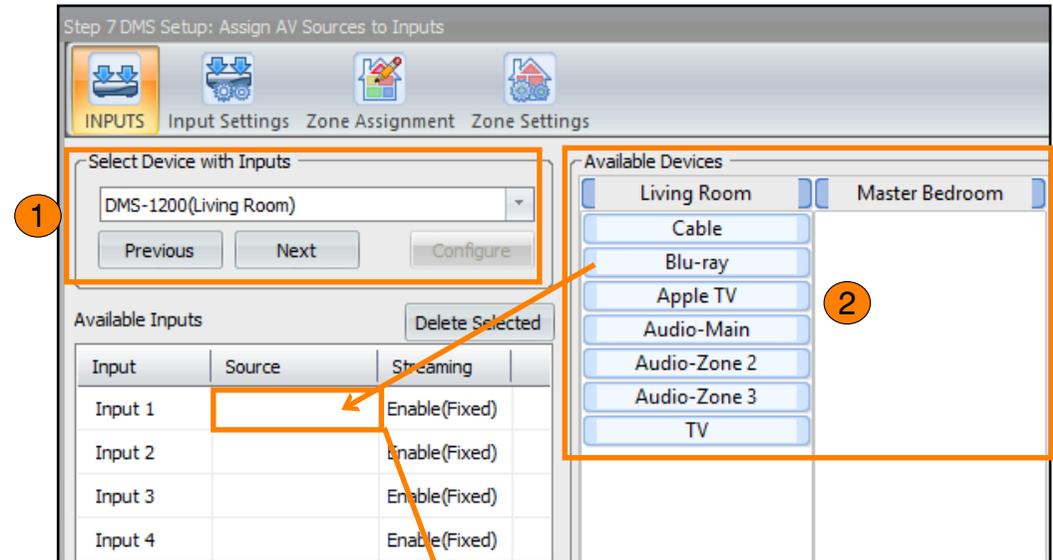
### Inputs:

Follow these steps to assign inputs:

1. Use the drop-down menu to select a **DMS device** (i.e. DMS-1200).
2. Click and drag a device from the **Available Devices** section and drop it into an input on the DMS device.

The device is now assigned into the Input. Perform these steps for every device that needs to be added to the DMS stream.

DMS-1200's provide up to four (4) streamable inputs while the DMS-100 provides only a single streamable source.

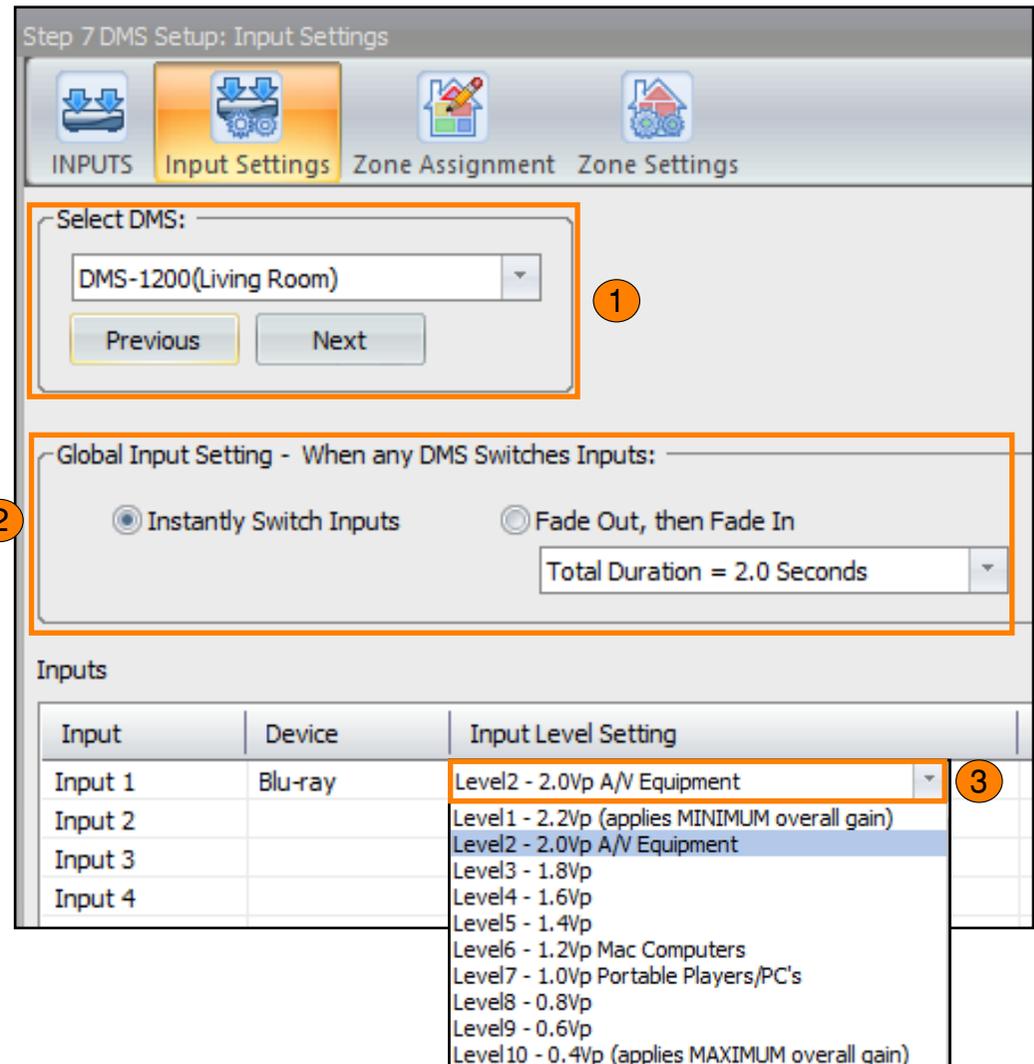


Input	Source	Streaming
Input 1	Blu-ray	Enable(Fixed)
Input 2		Enable(Fixed)
Input 3		Enable(Fixed)
Input 4		Enable(Fixed)

## Input Settings:

Below are the steps used to adjust the available settings in this sub-step:

1. **Select DMS:** Use the drop-down menu or the Previous/Next buttons to select a DMS device.
2. **Global Input Setting - When any DMS Switches Inputs:** there are two (2) selectable options:
  - **Instantly Switches Inputs:** Audio switches from one input to the next immediately.
  - **Fade Out, then Fade In:** Audio fades out and the new audio input fades in. Use the drop-down menu to select the amount of time for this fade out/ fade in feature.
3. **Inputs:** Each assign input has the capability of having its level settings adjusted. Select the Input Level settings to display a drop-down menu that allows the programmer to select a different level type.



## Zone Assignments:

Follow these steps to assign a room/area as a DMS Zone:

1. **Select Device with Outputs:** Use the drop-down menu or the Previous/Next buttons.

- **Configure:** Only available on the DMS-1200, select configure to **combine** DMS zones together.

2. Click and drag a Zone from the **Un-Assigned Zones** section and drop it into an input on the DMS device.

The DMS-1200 supports up to eight (8) zones and the DMS-100 supports only a single zone.

3. **Boost Max Zone Output:** Only available on the DMS-1200, check this box to reallocate unused wattage.

Step 7 DMS Setup: Assign Zones to Available DMS Zones

INPUTS Input Settings **Zone Assignment** Zone Settings

Select Device with Outputs  
 DMS-1200(Living Room) [v]  
 Previous Next Configure

Un-Assigned Zones :

- Living Room
- Master Bedroom
- Game Room
- Kitchen

Available Zone Outputs [Delete Selected]

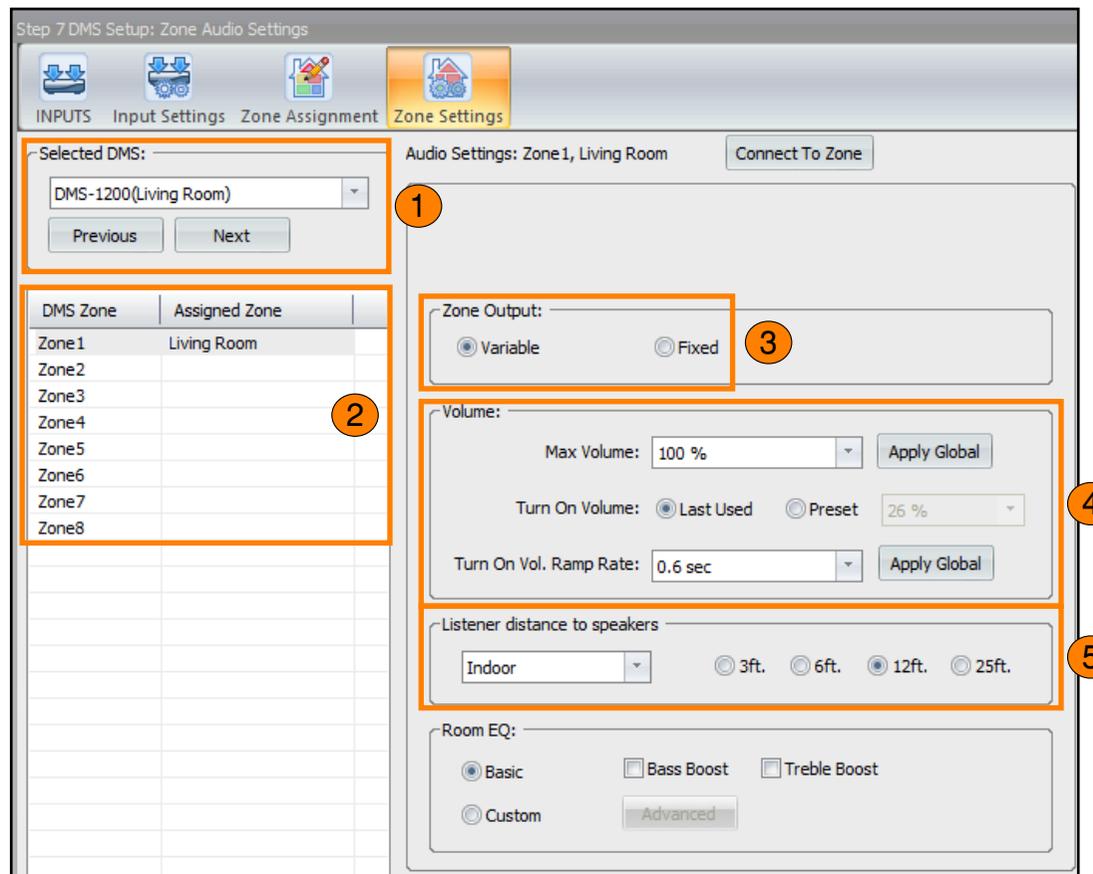
Output	Zone	Vol Po...	Max Output
Zone1		Enable	100 W
Zone2		Enable	100 W
Zone3		Enable	100 W
Zone4		Enable	100 W
Zone5		Enable	100 W
Zone6		Enable	100 W
Zone7		Enable	Preamp
Zone8		Enable	Preamp

Boost Max Zone Output

## Zone Settings:

Specific DMS Zone settings can be manually adjusted by the system programmer:

1. **Select DMS:** Use this drop-down menu or the Previous/Next button to choose a DMS device from the Project Tree.
2. **Zone Select:** Choose a Zone from the list, settings changed from this point are specific to that zone unless performed globally.
3. **Zone Output:** Choose between Variable or Fixed, this choice only affects the selected Zone.
4. **Volume:** Below are the adjustable settings:
  - **Max Volume:** Use the drop-down menu to set a max volume level. Select the **Apply Global** button to assign this max volume level across all DMS Zones in the system.
  - **Turn On Volume:** Choose Last Used or a Preset volume. Use the drop-down menu to select a volume percentage. This setting must be adjusted for each Zone individually.
  - **Turn On Vol. Ramp Rate:** Determines how long the DMS device takes to reach the Turn On Volume. Select **Apply Global** to assign this setting across all DMS Zones in the system.
5. **Listener Distance to Speakers:** Use the drop-down menu to select the speaker location (Indoor or Outdoor). Select the approximate distance the end-user is from the speakers (3ft, 6ft, 12ft, or 25ft)



6. **Room EQ:** Custom EQ settings can be set for each DMS Zone individually. Basic customization options are available (**Bass Boost** and **Treble Boost**).

Select **Custom** for further options (see image below):

**DMS Parametric EQ (Zone1)**

Parametric EQ Settings

	Band 1	Band 2	Band 3	Band 4	Band 5
Frequency	80 Hz	125 Hz	250 Hz	1 kHz	4 kHz
Gain	0	0	0	0	0
Quality Factor (Q)	1.0	1.0	1.0	1.0	1.0

Reset to Defaults

OK Cancel

Step 7 DMS Setup: Zone Audio Settings

INPUTS Input Settings Zone Assignment **Zone Settings**

Selected DMS: DMS-1200(Living Room) [Previous] [Next]

DMS Zone	Assigned Zone
Zone 1	Living Room
Zone 2	
Zone 3	
Zone 4	
Zone 5	
Zone 6	
Zone 7	
Zone 8	

Audio Settings: Zone 1, Living Room [Connect To Zone]

Zone Output:  Variable  Fixed

Volume: Max Volume: 100 % [Apply Global] Turn On Volume:  Last Used  Preset 26 % Turn On Vol. Ramp Rate: 0.6 sec [Apply Global]

Listener distance to speakers: Indoor  3ft.  6ft.  12ft.  25ft.

Room EQ:  Basic  Bass Boost  Treble Boost  Custom [Advanced]

## **Step 8: URC Subsystem:**

In this step, specific subsystem parameter information is entered.

### **IP Cameras:**

When using URC or 3rd Party Cameras, the username and password parameters must be defined in this sub-step.

1. **Select Remote/Keypad:** Camera can be hidden from almost any available interface in the system. Use this drop-down menu to select an interface.
2. **Cycle Time:** Can be adjusted for every interface in the system, determines how long a camera feed is on displayed before showing the next camera.
3. **Available Cameras:** All cameras added to the Project Tree are displayed on this list:
  - **Hidden:** Check this box to hide the selected camera from the interface chosen from the Select Remote/Keypad drop-down menu.
  - **Label:** Double-click on this field to edit the name of the camera. This changes the camera display name on URC interfaces.
  - **User:** Double-click on this field to enter a username. This information is REQUIRED for camera feeds to display.
  - **Password:** Double-click on this field to enter a password. This information is REQUIRED for camera feeds to display.
  - **Port (External):** Required for Offsite viewing of camera feeds. A port must be opened on the router and that port number is reflected here.

Step 8 Automation: URC Camera





Select Remote/Keypad :

TKP-7600 (Living Room) ▼

Cycle Time :

6 sec ▼

Available Cameras :

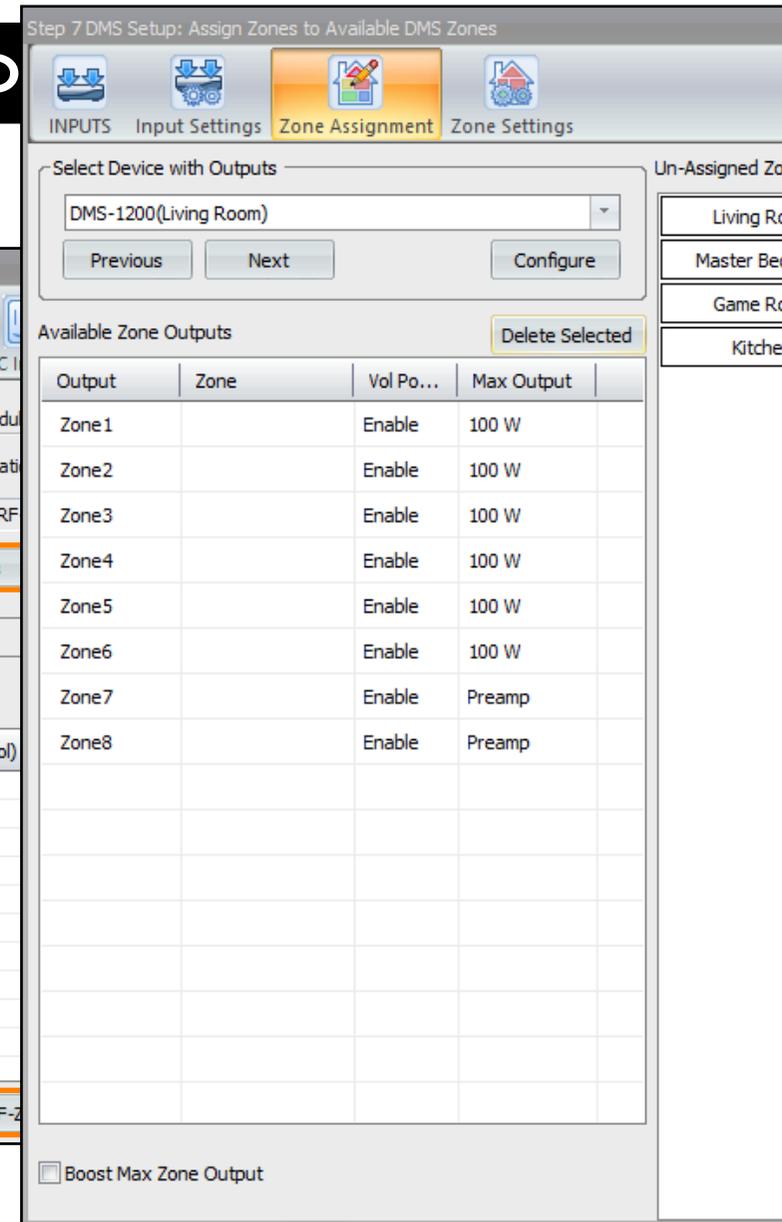
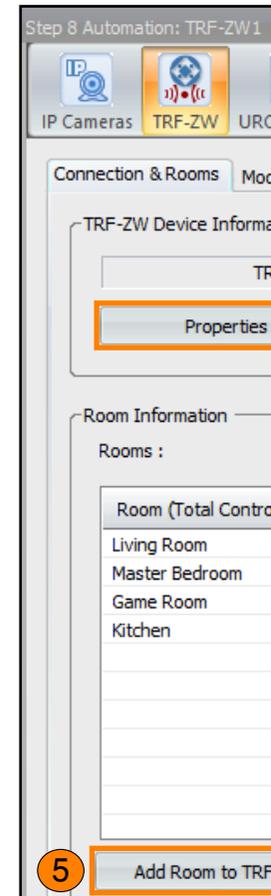
Hidden	Zone	Device	Label	User	Password	Port(external)
<input type="checkbox"/>	Kitchen	CAM-DC-O	CAM-DC-O	root	root	
<input type="checkbox"/>	Kitchen	Kitchen Cam	Kitchen Cam	admin	pass	

# TOTAL CONTROL 2.0 FLEX PRO

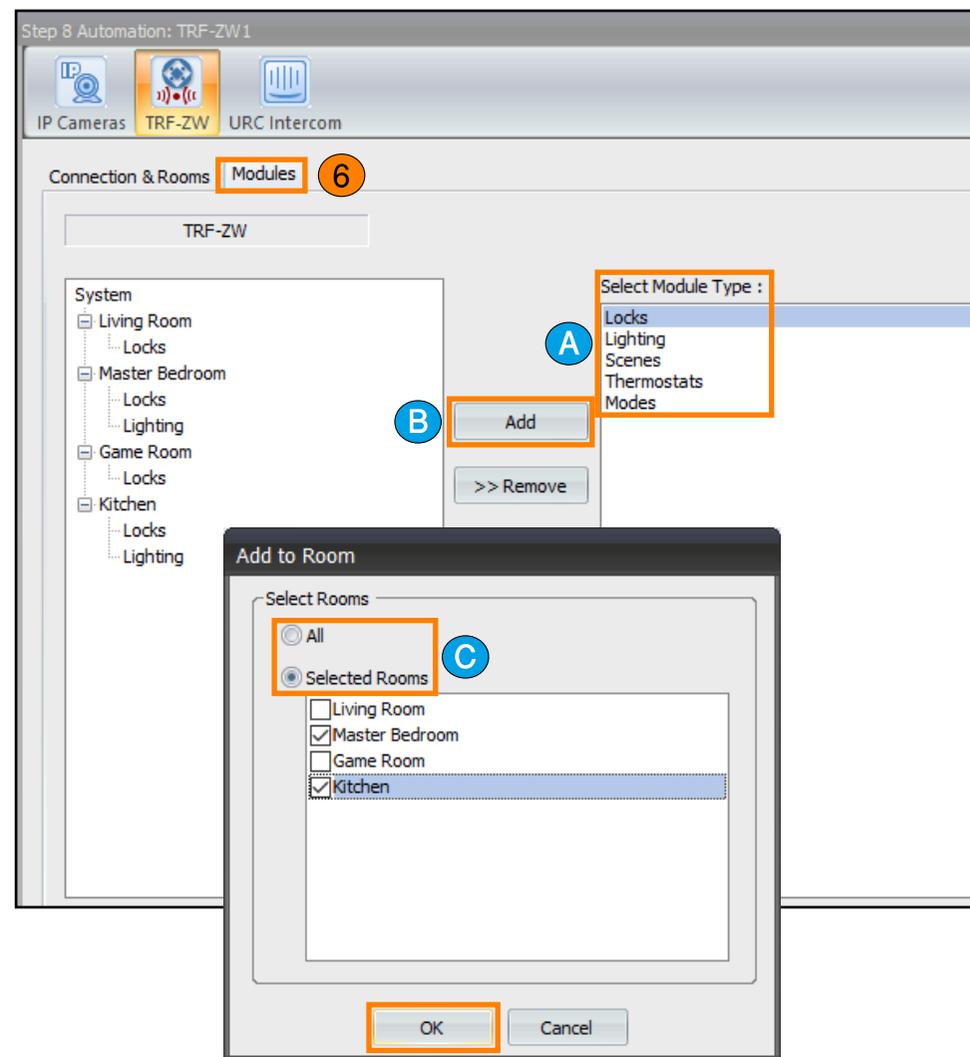
## TRF-ZW:

When programming Z-Wave, use this sub-step to import Z-Wave devices, rooms, and scenes into Total Control.

1. **Properties:** Displays the device properties of the TRF-ZW such as Name, MAC Address, and IP address.
2. **Connect to ZW:** Select this to display the TRF-ZW online login page. The Z-Wave programming portal, is accessible this way.
3. **Update Device Data:** Extracts programming properties from the Z-Wave gateway and imports them into the Total Control file.
4. **Match Room Data:** Assigns room data from UI7 to the matching rooms available in Total Control. Room name must be an exact match in spelling, spacing, and punctuation.
5. **Add Room to TRF-ZW:** Select to add a room to the Z-Wave gateway through Total Control Flex 2.0.
6. **Rename on TRF-ZW:** Select to rename a room from the Z-Wave gateway through Total Control Flex 2.0.



6. **Modules:** Select this tab to provide add access to various Z-Wave modules. Access is provided by room.
  - a. **Select Module Type:** Choose from Locks, Lighting, Scenes, Thermostats, or Modes.
  - b. Select **Add**.
  - c. Choose to **All** to add the selected module to all rooms in the system or choose **Selected Rooms** and check the boxes to the rooms desired.
  - d. Select **OK**.



## URC Intercom:

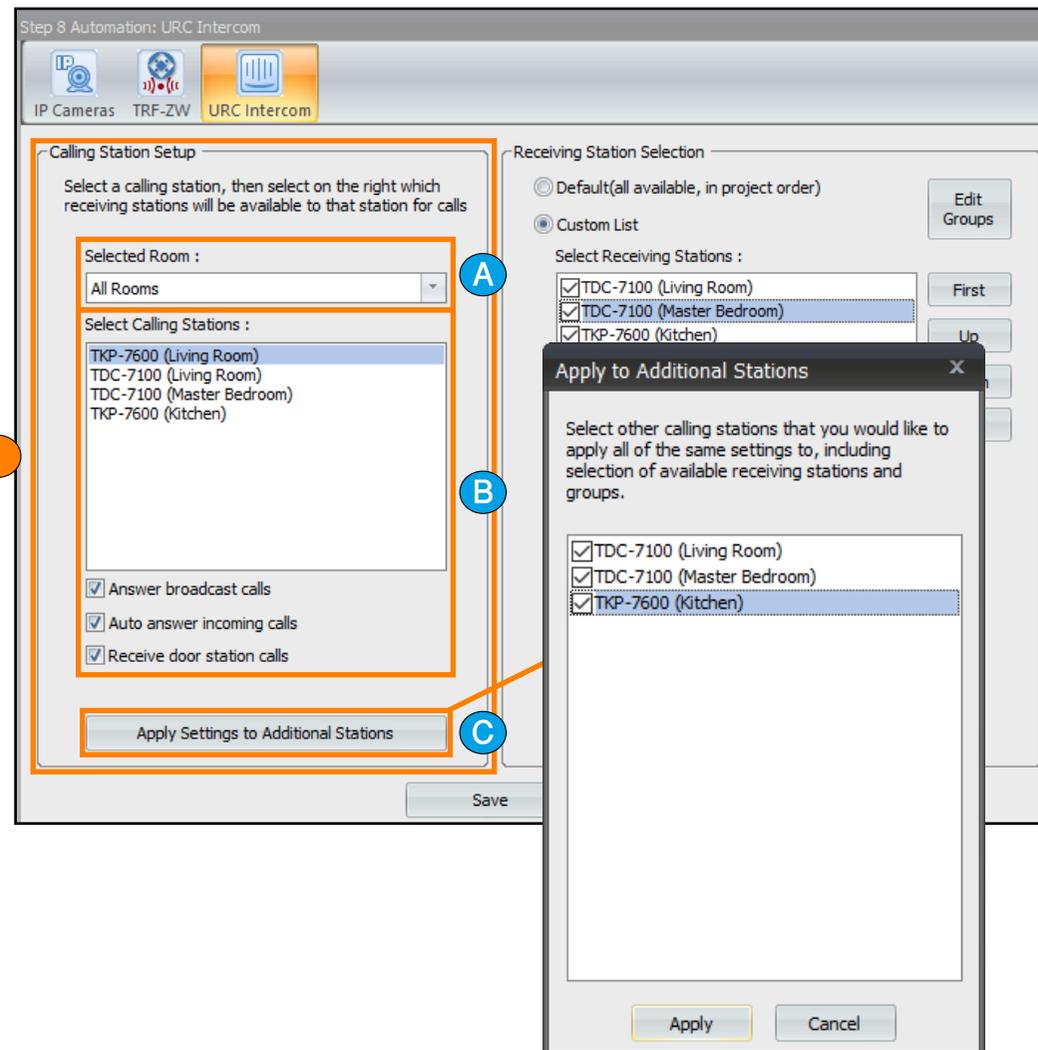
In this sub-step specific parameters are set for **Intercom-Enabled URC devices**. Each interface can have custom settings or settings can be copied from one interface and applied globally to all.

1. **Calling Station Setup:** These settings affect the behavior of interface that initiate a station call (Audio-Video, Audio-Only, etc.):
  - a. **Selected Room:** Use the drop-down menu to choose a specific room on the Project Tree. The **All Rooms** option displays all Intercom-Enabled interfaces in the system.
  - b. **Select Calling Station:** Select an interface from the list to customize it's settings. By default, all applicable options are selected (Answer Broadcast Calls, Auto Answer Incoming Calls, and Receive Door Station Calls).

Check the applicable box to enable a setting or uncheck to disable:

- **Answer Broadcast Call:** Allows the selected interface to answer broadcast calls.
- **Auto Answer Incoming Calls:** When enabled, this sets the URC interface to **automatically answer** calls from other compatible URC devices.
- **Receive Door Station Calls:** Allows the URC interface to receive calls from door stations such as DoorBird.

- c. **Apply Settings to Additional Stations:** Select to apply these settings to other interfaces in the system.



2. **Receiving Station Selection:** The properties located here affect what URC interfaces are available to receive a call from the Calling Station.
  - a. **Default:** Displays all intercom-enabled devices added to the system.
  - b. **Custom List:** Displays only the selected interfaces. The order of these interfaces can also be adjusted by using the First, Up, Down, or Last buttons. Only interfaces that have been checked appear.

**View Stations:** Displays all intercom-enabled URC devices.

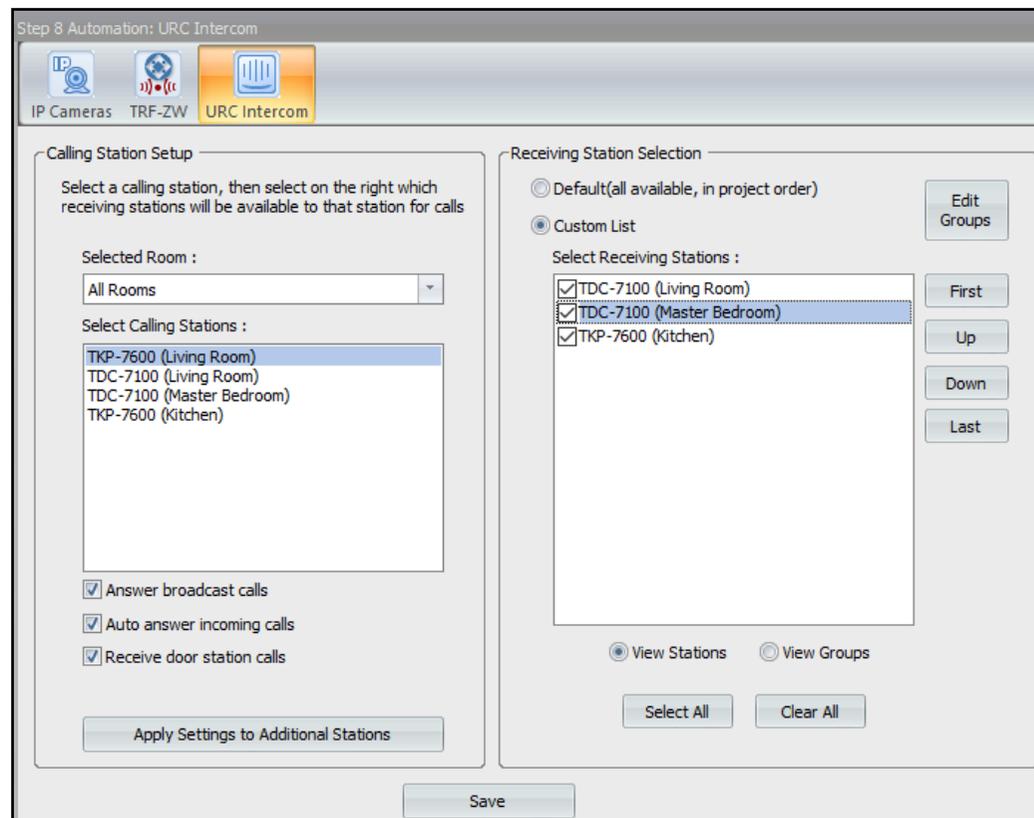
**View Groups:** Displays all groups that were created by programmer.

**Select All:** Checks the boxes on all interfaces or groups.

**Clear All:** Deselects the boxes on all interfaces or groups.

- c. **Edit Groups:** Allows the programmer to create Groups and assign URC interfaces to those groups. Pre-existing Groups can be modified by selecting Edit Groups.

3. **Save:** Select to save and apply all changes.



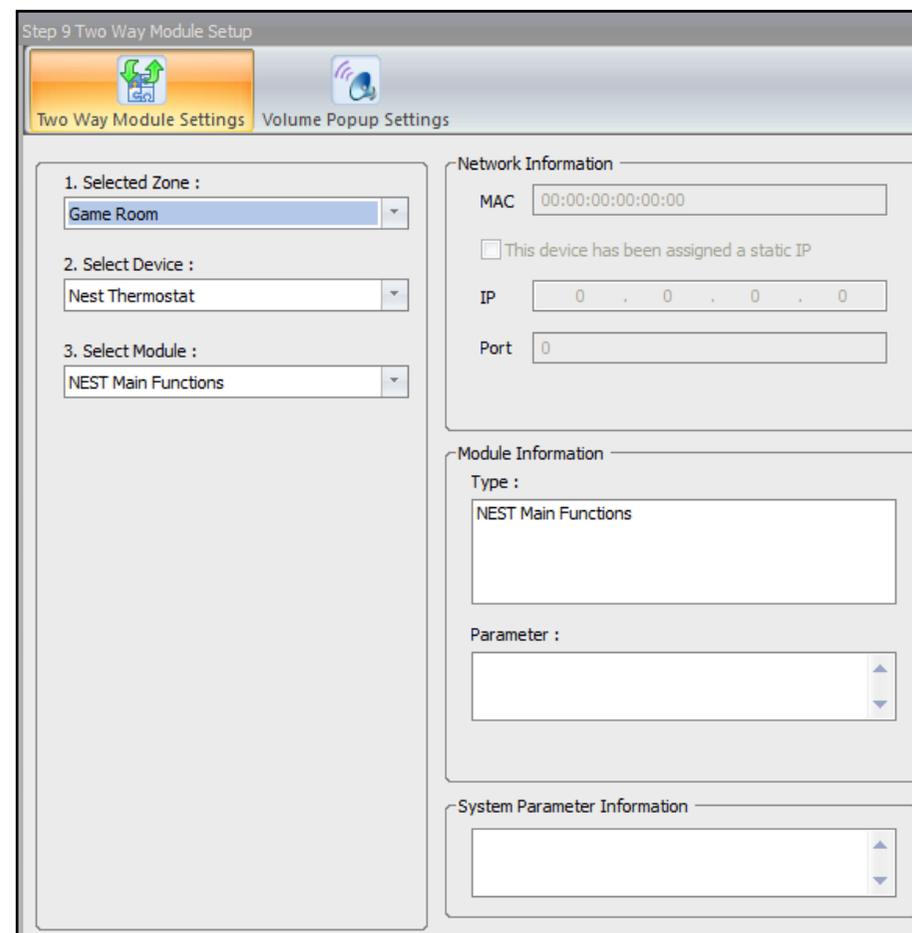
## Step 9: 3rd Party Two-Way Settings:

In this step, two-way device parameters are defined in the system. These parameters vary depending on the two-way module in use. Certain modules require a MAC address or other parameters that may be acquired through 3rd party software.

Always refer to the two-way module's integration guide for specific parameter information. Visit the [URC Dealer Portal](#) for additional information.

Although parameter information may be different, the following steps are almost always the same:

1. **Select Zone:** Choose the Room/Zone where the two-module is located.
2. **Select Device:** Choose a two-way device.
3. **Select Module:** Generally this auto-populates based on the selected module.
4. **Module Information:** The information required here is dependant on the two-way added to the system.
  - **Parameter:** Refer to the module's integration guide for specific details on required information.
  - **System Parameter Information:** Refer to the module's integration guide for specific details on required information.



## Step 10: UI & Macro Editing:

In this step, all user interfaces as well as associated macros are created. Total Control Flex 2.0 requires the system designer to program each user interface individually. That includes all orientation options (landscape and portrait) of applicable URC user interfaces.

### Create Device Link: Menu Properties:

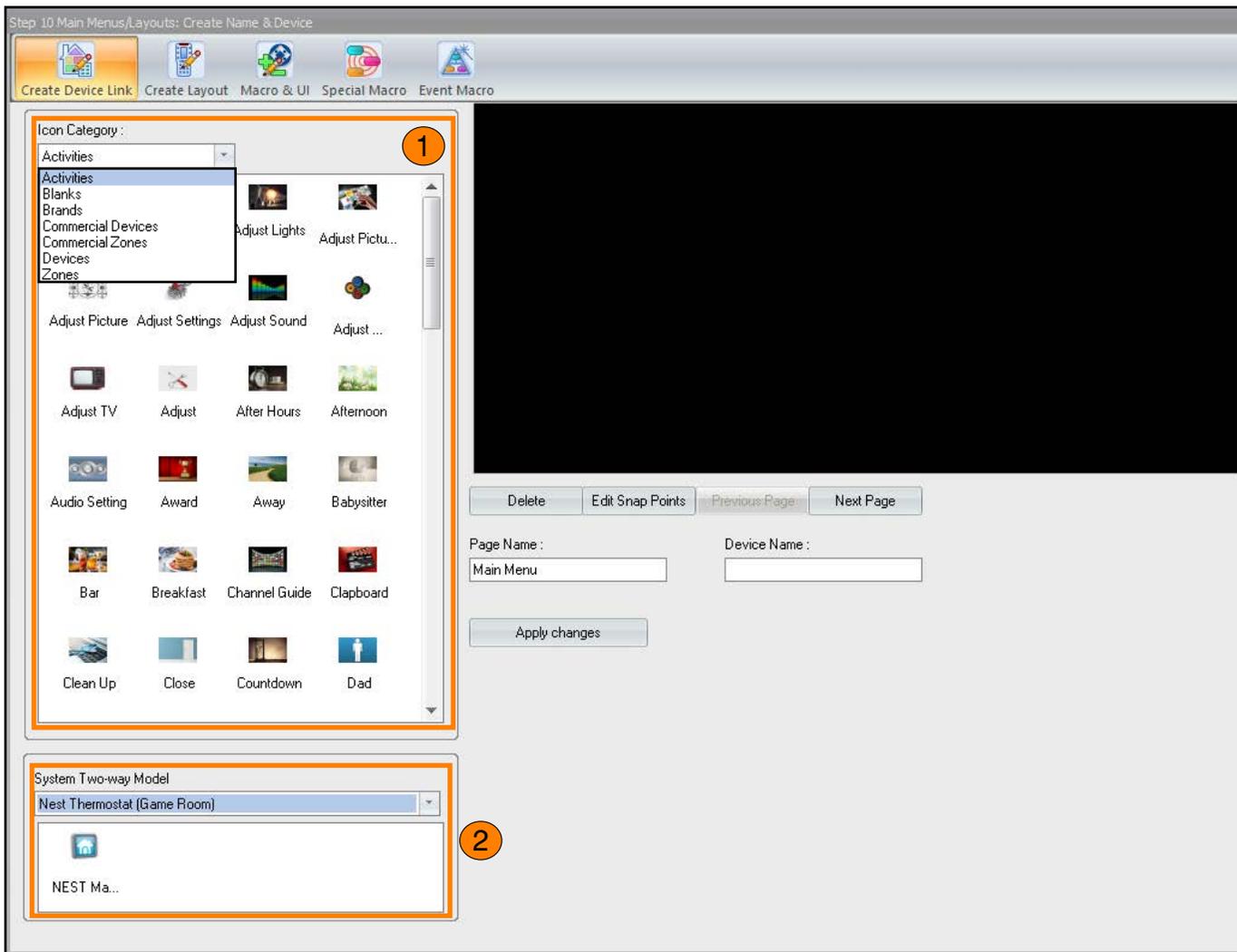
The following section defines all the select options available in this sub-step:

1. **Icon Category:** Use the drop-down menu to select a different graphic category folder.

Select a graphic and drag it onto the system designer at the right.

2. **System Two-way Model:** Almost all two-way modules added to the system are located here.

Select a graphic and drag it onto the system designer at the right.

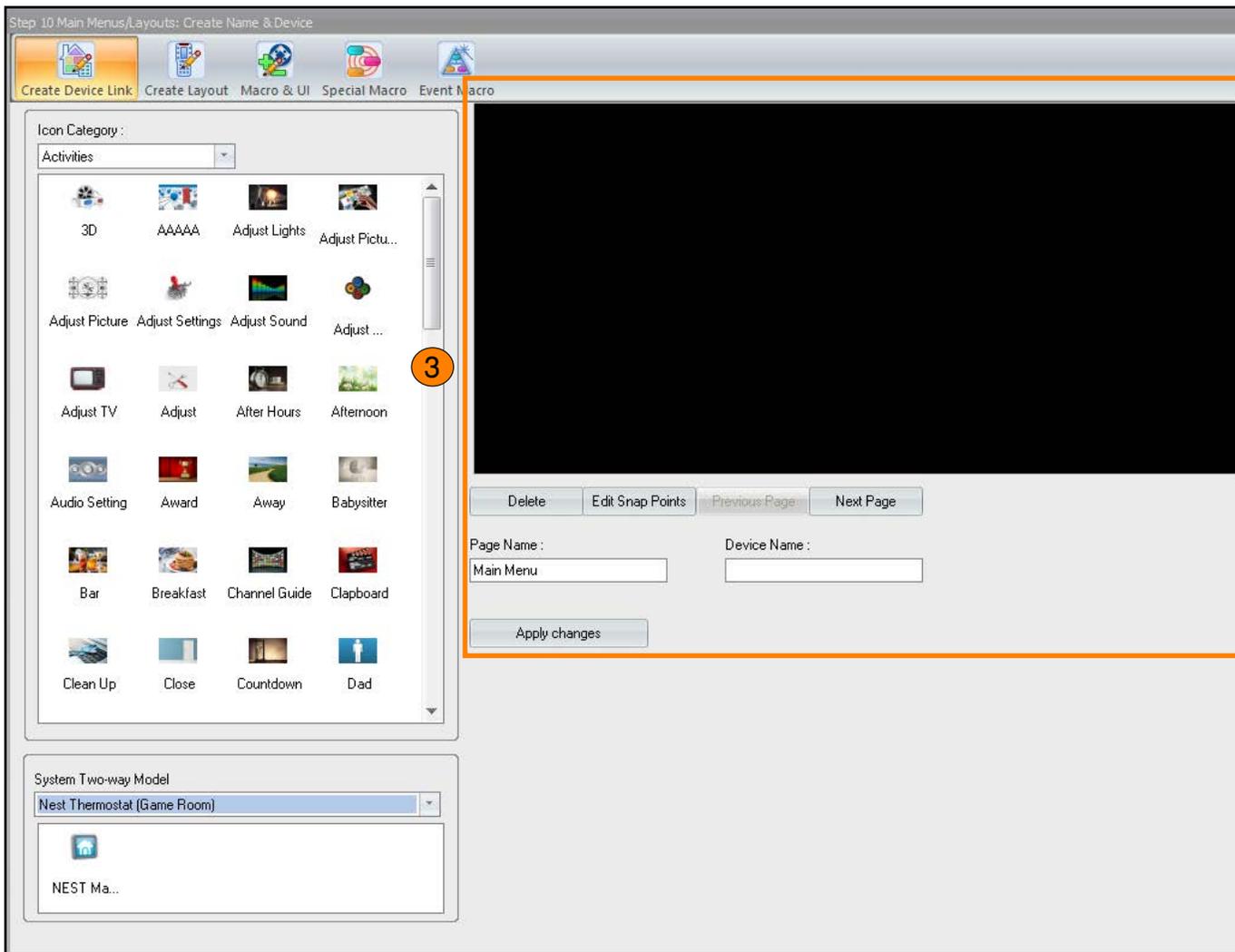


3. **System Designer:** Drag images from the Icon Category and/or System Two-way Model windows onto this area. Image here can be rearranged and placed on Snap Points.

- **Delete:** Removes the selected object from the System Designer.
- **Edit Snap Points:** Select to display the **Edit Snap Points** menu. This menu contains various adjustable settings such as color, position, and more.
- **Previous Page:** This button is “grayed” out when there is no previous page available.

Click on **Next Page** and the **Previous Page** button becomes available.

- **Next Page:** Select to display the next available menu page.
- **Page Name:** Enter a label for the current page.
- **Device Name:** Enter a name for the device, this label serves as a button name.
- **Apply Changes:** Saves all additions/modifications.

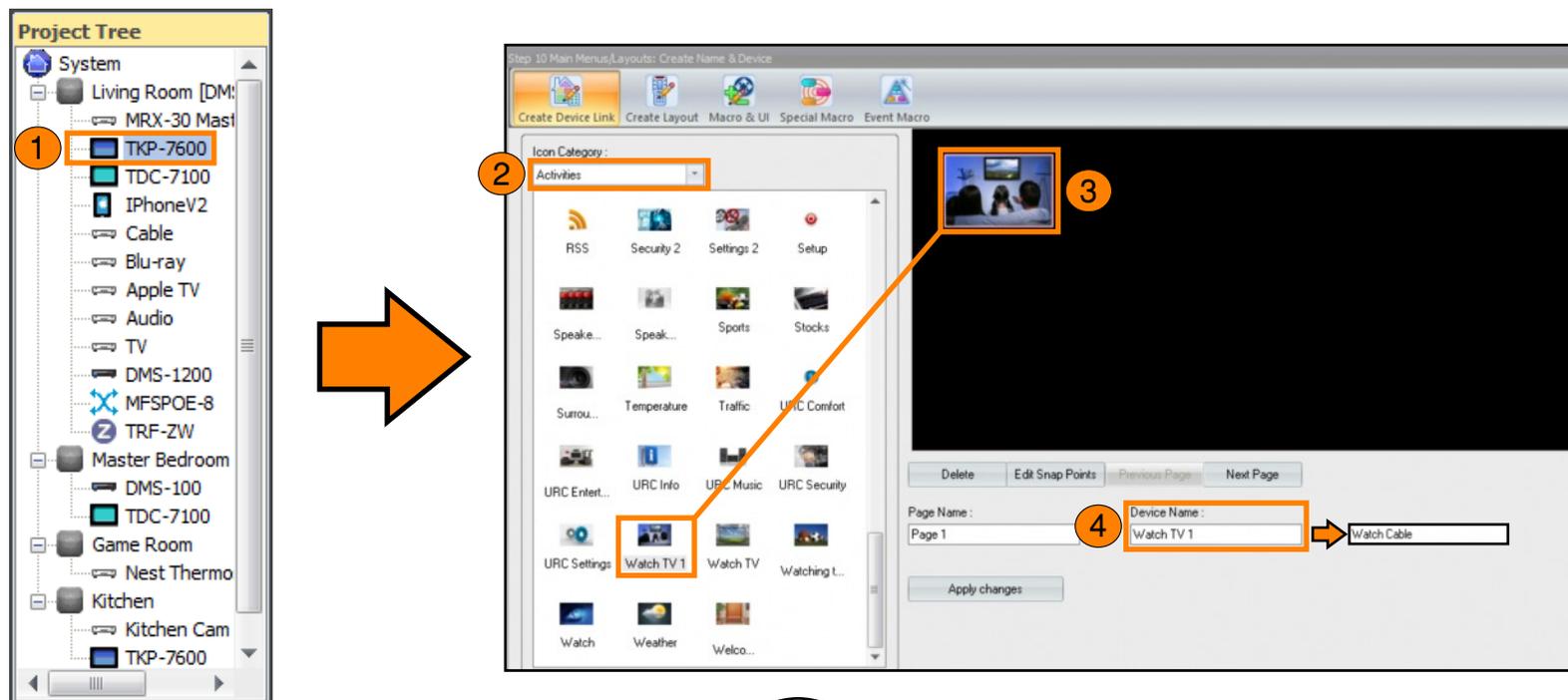


## Create Device Link: Adding a Device/Activity

The following steps review the procedures required to add a device or activity on the system designer:

1. Select an interface from the Project Tree (i.e. TKP-7600).
2. Select an **Icon Category**.
3. Drag and drop a selected icon into the system designer. Changes made here only affect the selected interface.
4. Modify the device name (if needed).
5. Repeat steps for every device that needs to be included on this user interface. Remember that each interface must be programmed individually.

Certain UI properties such as text size, orientation, and more are configured in the **Macro & UI** sub-step.

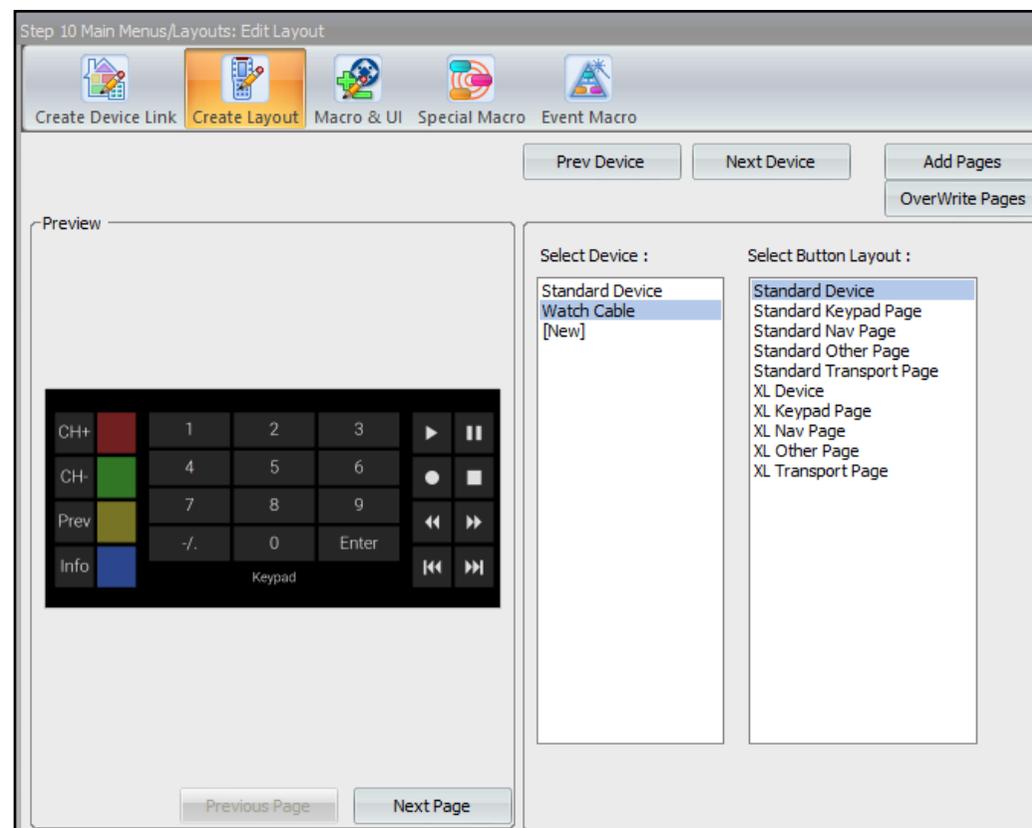


## Create Layout: Menu Properties

The following section defines all the select options available in this sub-step:

1. **Preview:** Provides a visual representation of the button layout selected.
2. **Select Device:** Displays all normal devices that have been added to the Model Tree.
3. **Select Button Layout:** Choose an available button layout, the layout selected is displayed in the Preview section.
4. **Navigation Buttons:** Below is a description of the available buttons:

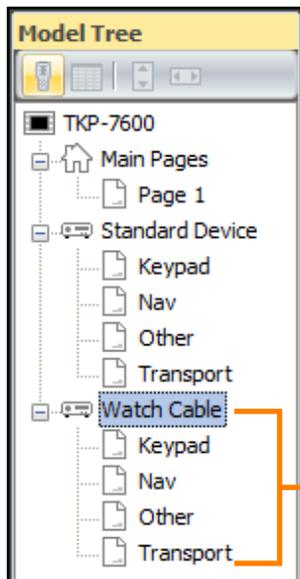
- **Prev Device:** Select to return to the previous device on the Select Device column.
- **Next Device:** Select to return to the next device on the Select Device column.
- **Add Pages:** Applies the highlighted button layout to the selected device.
- **OverWrite Pages:** Replaces the device's current button layout with the one that is highlighted.
- **Previous Page:** Available under the **Preview** section, select to view the previous page of the current Button Layout.
- **Next Page:** Available under the **Preview** section, select to view the next page of the current button layout.



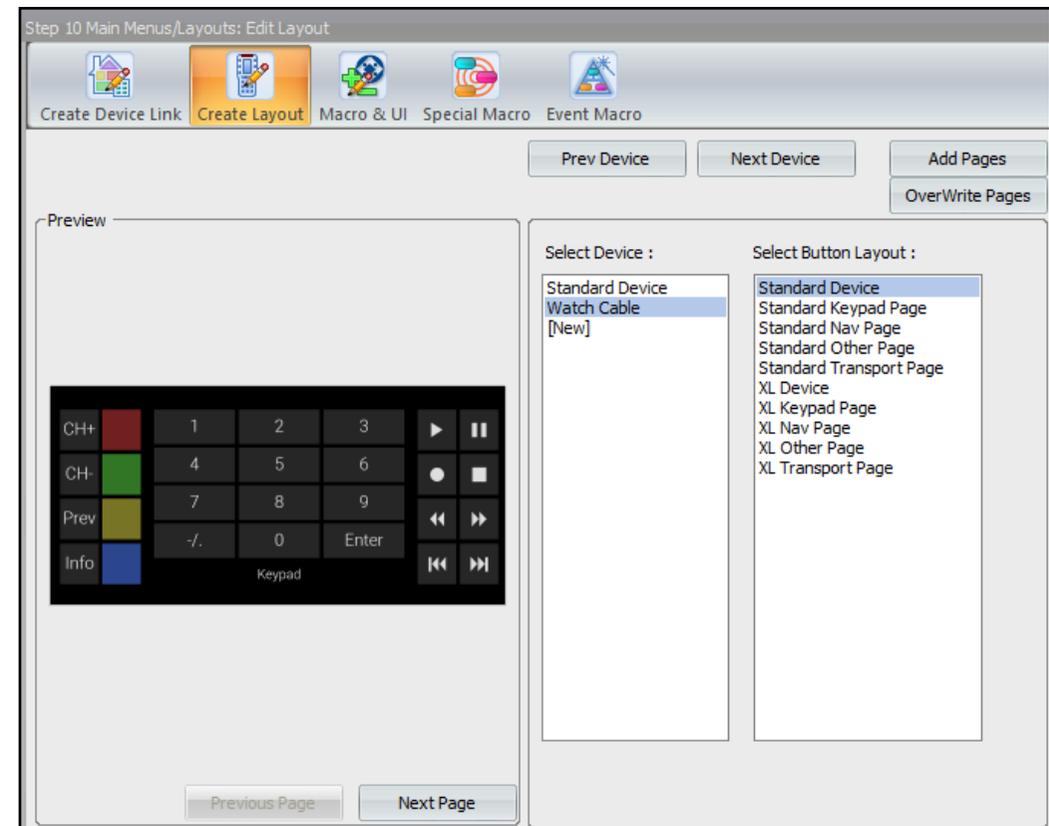
## Create Layout: Adding a Button Layout

After creating a device link, that device almost always needs a button layout added so that the device menu page can be programmed.

1. Use the **Select Device** column to choose a device (i.e. Watch Cable).
2. Use the **Select Button Layout** column to choose a layout.
3. Select **Add Pages**.

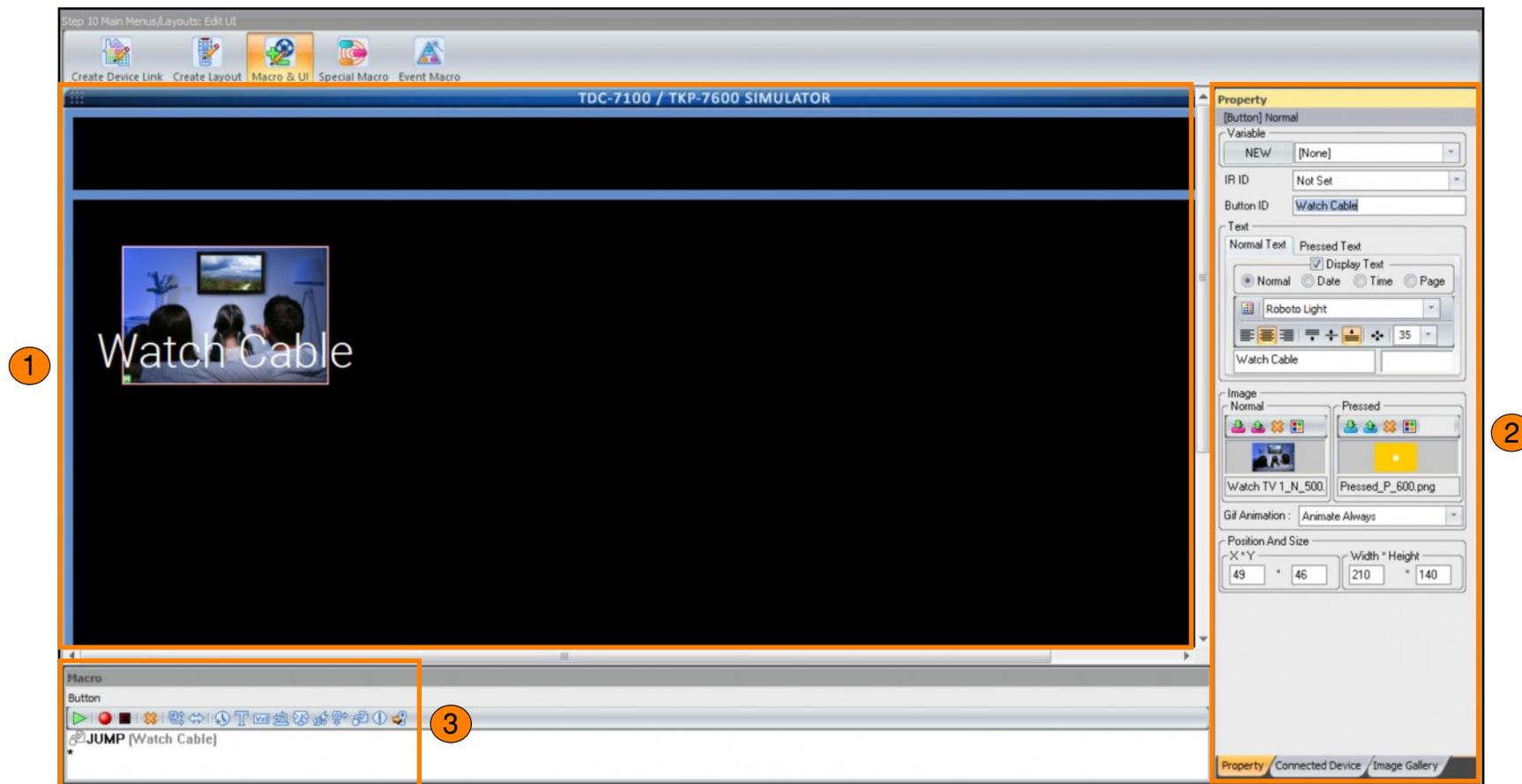


When a button layout has been applied, notice the change on the **Model Tree**. The device displays the pages that were added based on the button layout selected.



## Macro & UI: Menu Properties

This section of the document is used to identify and describe the available menus and options found in this sub-step.



## Macro & UI: TDC-7100/TKP-7600 Simulator

This window provides a visual representation of the user interface. Use this window to add custom button icons on to the interface.

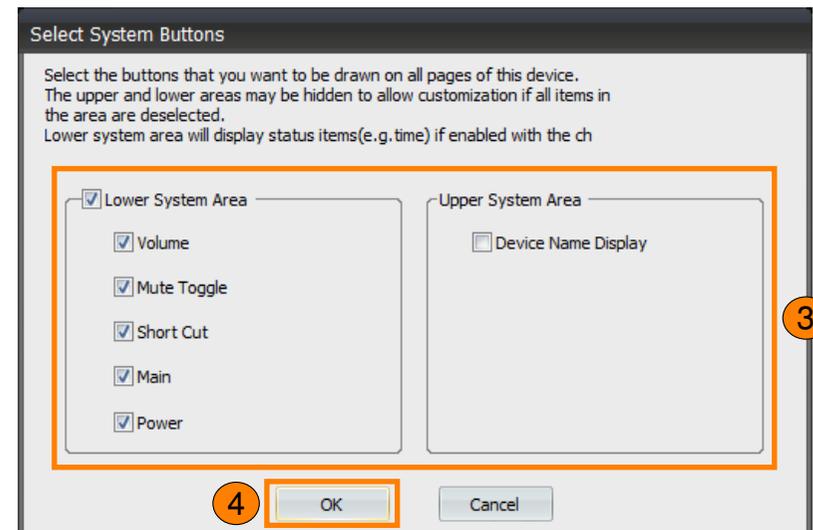
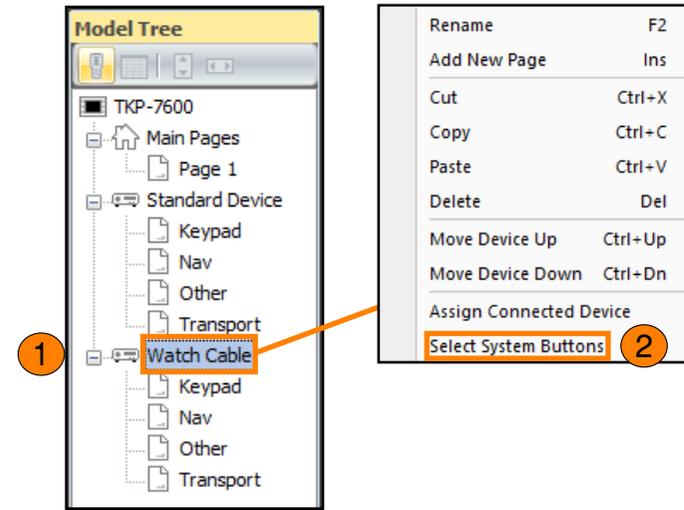
The Total Control 2.0 Flex software contains core buttons that can be applied to almost any user interface.

1. From the **Model Tree**, right-click on the device.
2. Choose **Select System Buttons**.

The **Select System Buttons** window is displayed.

3. There are two (2) available sections here:
  - a. **Lower System Area:** Check the boxes on the buttons desired. This adds Volume, Mute Toggle, Shortcut, Main, and Power buttons.
  - b. **Upper System Area:** It is possible to enable the **Device Name Display**.

4. Select **OK**.



The **TDC-7100-TKP-7600 Simulator** displays the system buttons that were added on the previous page.

Buttons can be added to all three (3) sections available:

- **Upper System Area:** Outside of the system buttons, any button can be added and programmed.
- **Menu Area:** Almost any button can be placed in this available space.
- **Lower System Area:** Outside of the system buttons, any button can be added and programmed.

In order to add buttons to the simulator, other tools available in this menu must be used like the **Image Gallery**.



## Macro & UI: Property Window

Select an available button from the TDC-7100/TKP-7600 Simulator to populate data. There are several customization options available:

1. **Variable:** Select to create a new variable.

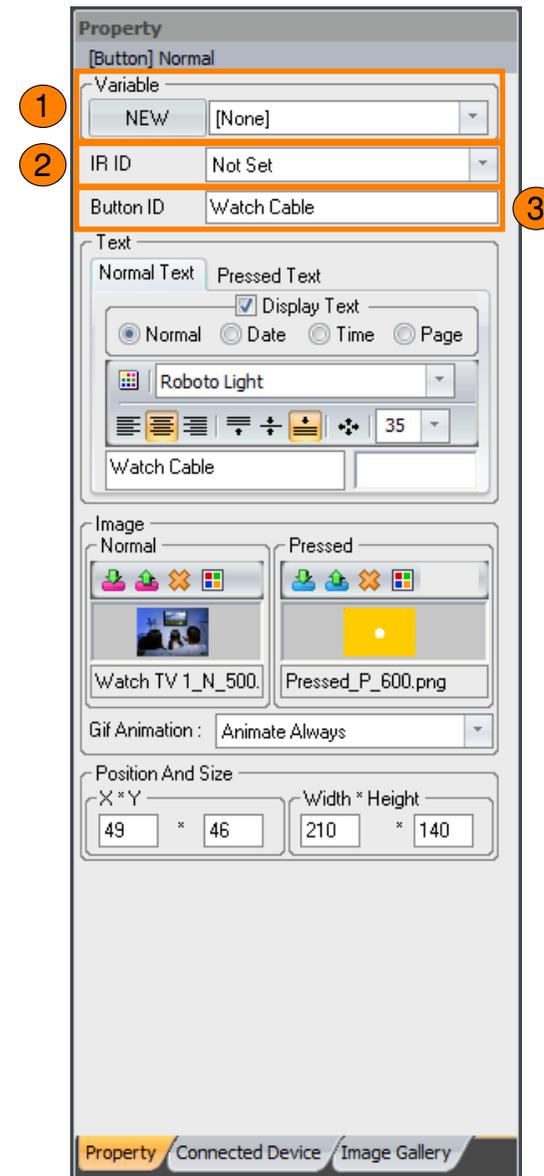
The drop-down menu allows the programmer to select from any previously created variables (**True/False only**).

2. **IR ID:** Use the drop-down menu to assign the button an IR ID. The IR ID is used when using the Save All feature under the Connected Device menu.

When set, all appropriate commands are saved in the correct locations. For example, if an **IR ID** is set to **POWER ON** then when **Save All** is selected the **Power On** command from the **code set** is assigned to this button.

This applies for all control types (IR, IP, and RS-232).

3. **Button ID:** Represents the button label, when modified the button text matches what is entered in this section.



4. **Text:** There are two (2) states that can be configured:

- **Normal Text (Button Unpressed):** Represents the normal state text, this is when the button has not been pressed.

a. **Display Text:** When enabled, the button text is displayed on the user interface. To hide the button text, uncheck the box.

Change the **Display Text** by selecting Normal, Date, Time, or Page. Only one (1) selection can be made.

b. **Text Font:** Use the drop-down menu to select a different font style.

c. **Text Alignment:** The text can also be justified on the button:

**Left Justified:** The first available option, select to align the button text to the left. Of the button

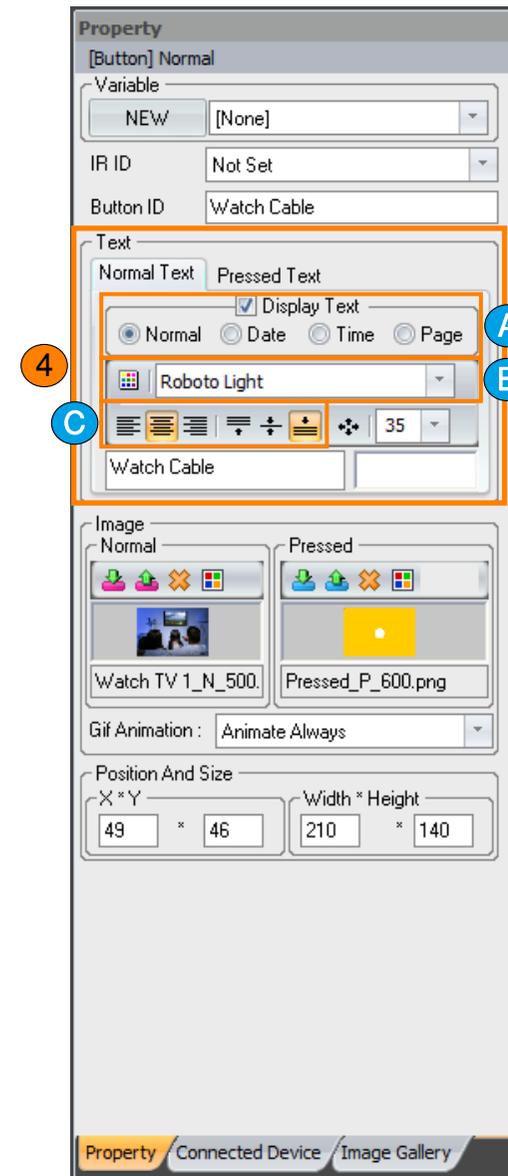
**Center Justified:** The second option, select to align the text to the center of the button.

**Right Justified:** The third available option, select to align the text to the right of the button.

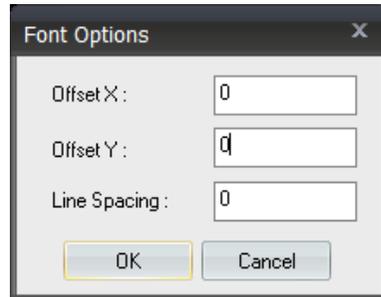
**Top Justified:** Select to align the text to the top of the button.

**Middle Justified:** Select to align the text to the center of the button.

**Bottom Justified:** Select to align the text to the bottom of the button.

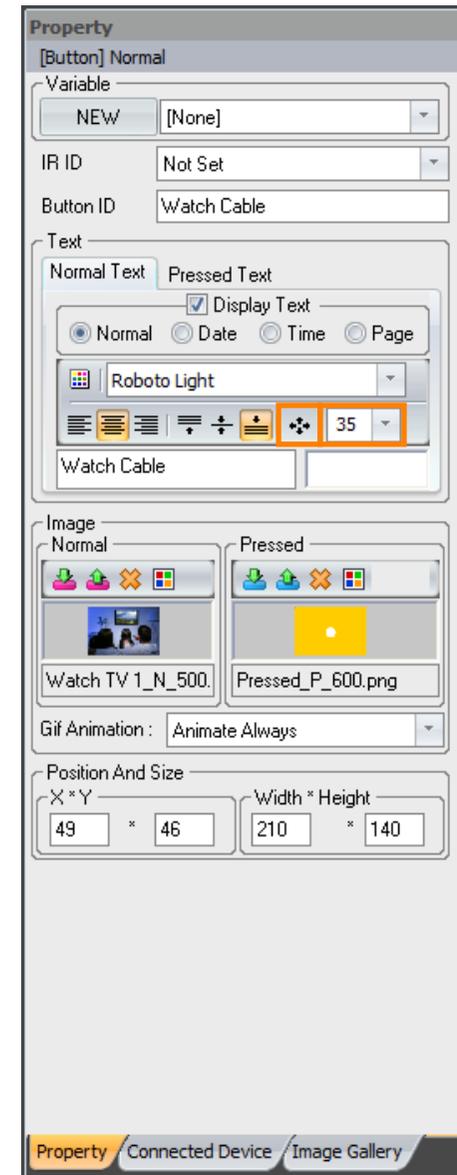


**Advanced Alignment:** Select to display the Font Options menu. This allows for advanced alignment using an X/Y axis.



**Font Size:** Use the drop-down menu to adjust the size of the display text.

- **Pressed Text:** Provides all the same adjustable settings as Normal, but configuration only affects the button behavior when it is pressed or displaying the pressed state by other means such as a variable.



5. **Image:** Has two (2) configurable states:

- **Normal:** Represents what graphic is displayed when the button is not pressed. The graphic can be changed or modified using these settings:

**Upload Image:** Select the “  ” button to choose a graphic located on the computer. Graphics must fit the available space and if the alternate image stat is present, it must also match that image size. Supported formats: .PNG, .JPEG, .GIF, and .BMP.

**Save As:** Select the  button to save the selected graphic to the PC.

**Delete:** Select the  button to remove the current assign graphic.

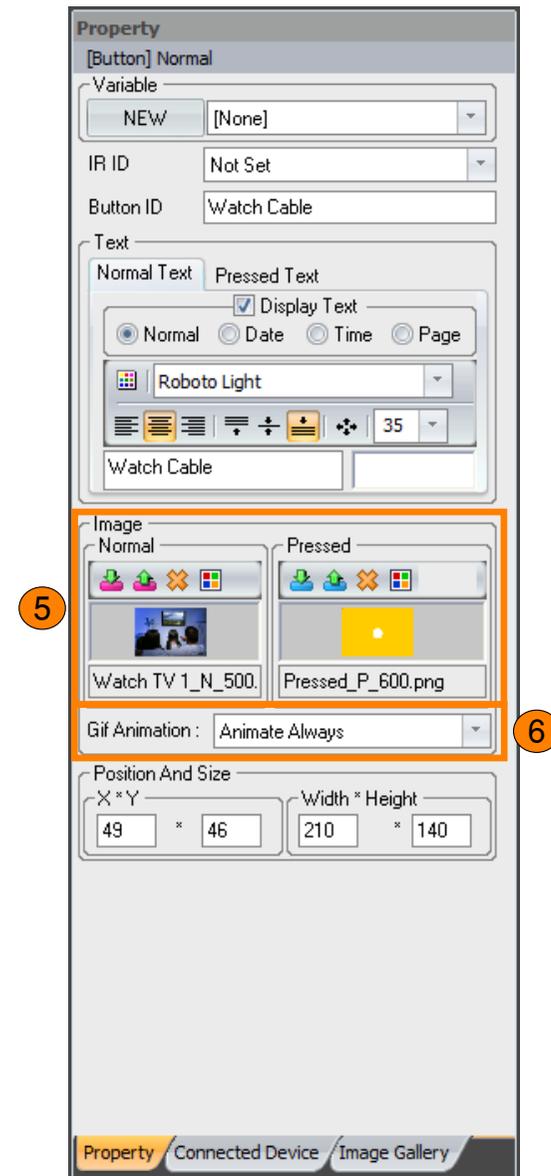
**Button Pressed Color:** Selects the color for the button if it is not an image file. Select the  button to choose a different color.

- **Pressed:** Represents what graphic is displayed when the button is pressed or displaying the pressed state. The same settings for Normal are available under the Pressed options.

The color of the **Upload Image** and **Save As** icons have been changed to help differentiate between Normal and Pressed.

For a description of each button, read the Normal state button description on this page.

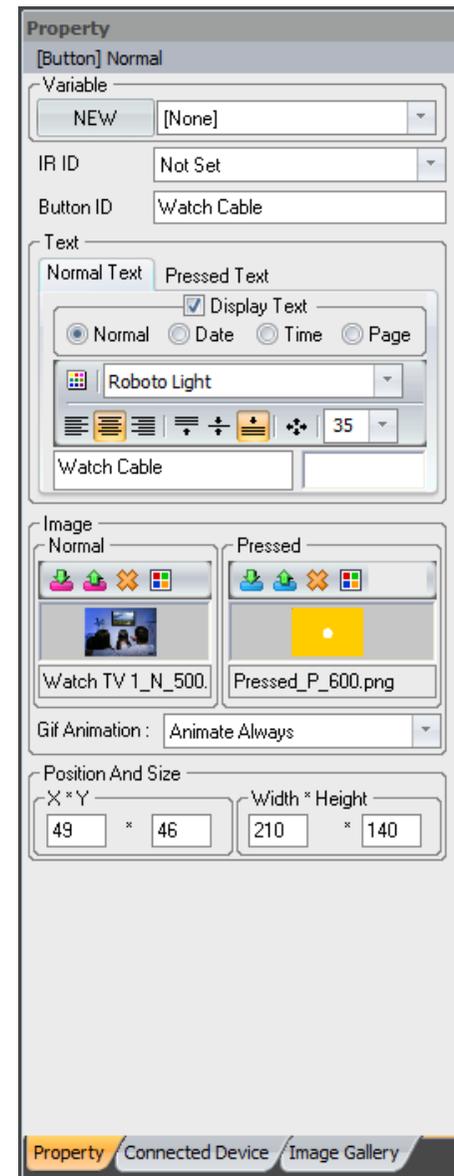
6. **Gif Animation:** Choose how the software behaves when .gif files are present. Set the animation settings to Always or Once.



- Position and Size:** Used to indicate the precise coordinates of the button position and allow repositioning without clicking-and-dragging by editing the X/Y axis.

Almost any button can be moved/repositioned on the **Simulator** by dragging and dropping.

This section is used for more accurate placement on the available field of the simulator. Moving an object around on the simulator changes the value of the X/Y axis.



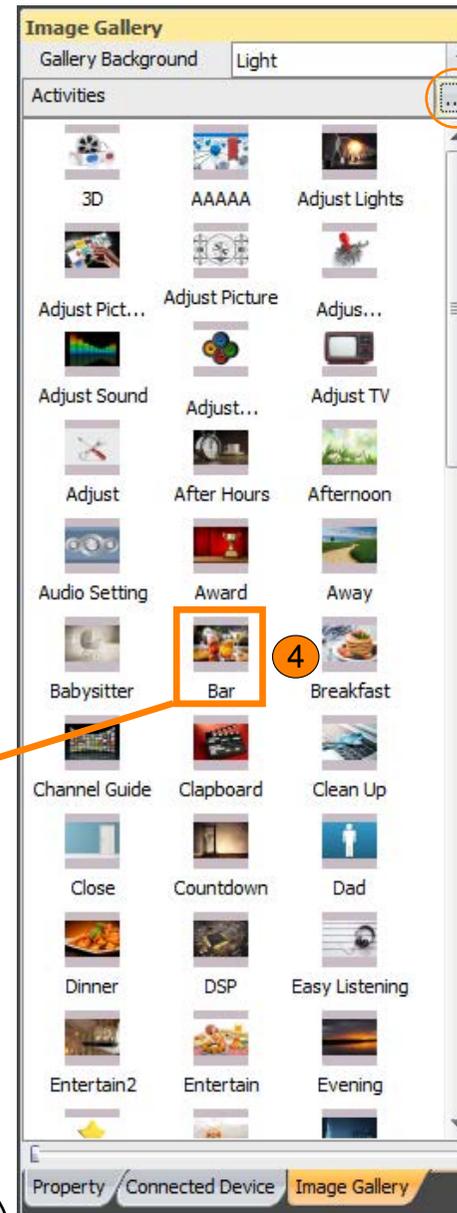
## Macro & UI: Image Gallery:

The **Image Gallery** provides the programmer access to all the images available in the URC software.

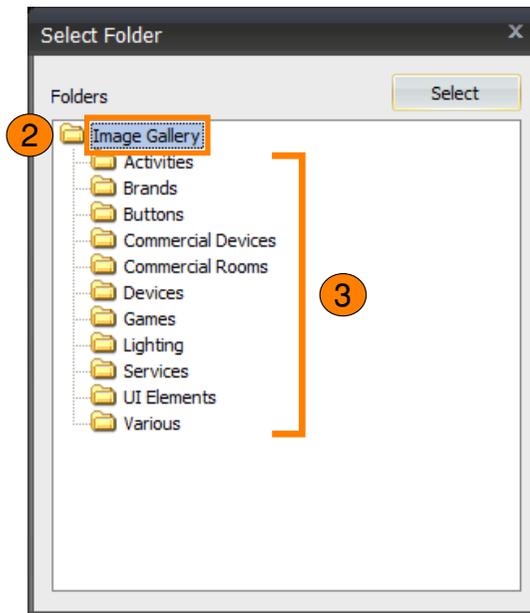
1. Select the "...” button.

The **Select Folder** window displays.

2. Double-click on the folder labeled **Image Gallery**.
3. Select from any of the category folders displayed to load those graphics into the **Image Gallery** window.
4. Drag and drop an available image to add a new button to the **TDC-7100/TKP-7600 Simulator**.



**Gallery Background:** Changes the background color of the available images. May help programmers view the graphics more clearly.



## Macro & UI: Connected Device & Macro Window

The following section goes over the process of creating macros for the buttons placed on the TDC-7100/TKP-7600 Simulator. Remember, all buttons added have no macro data assigned.

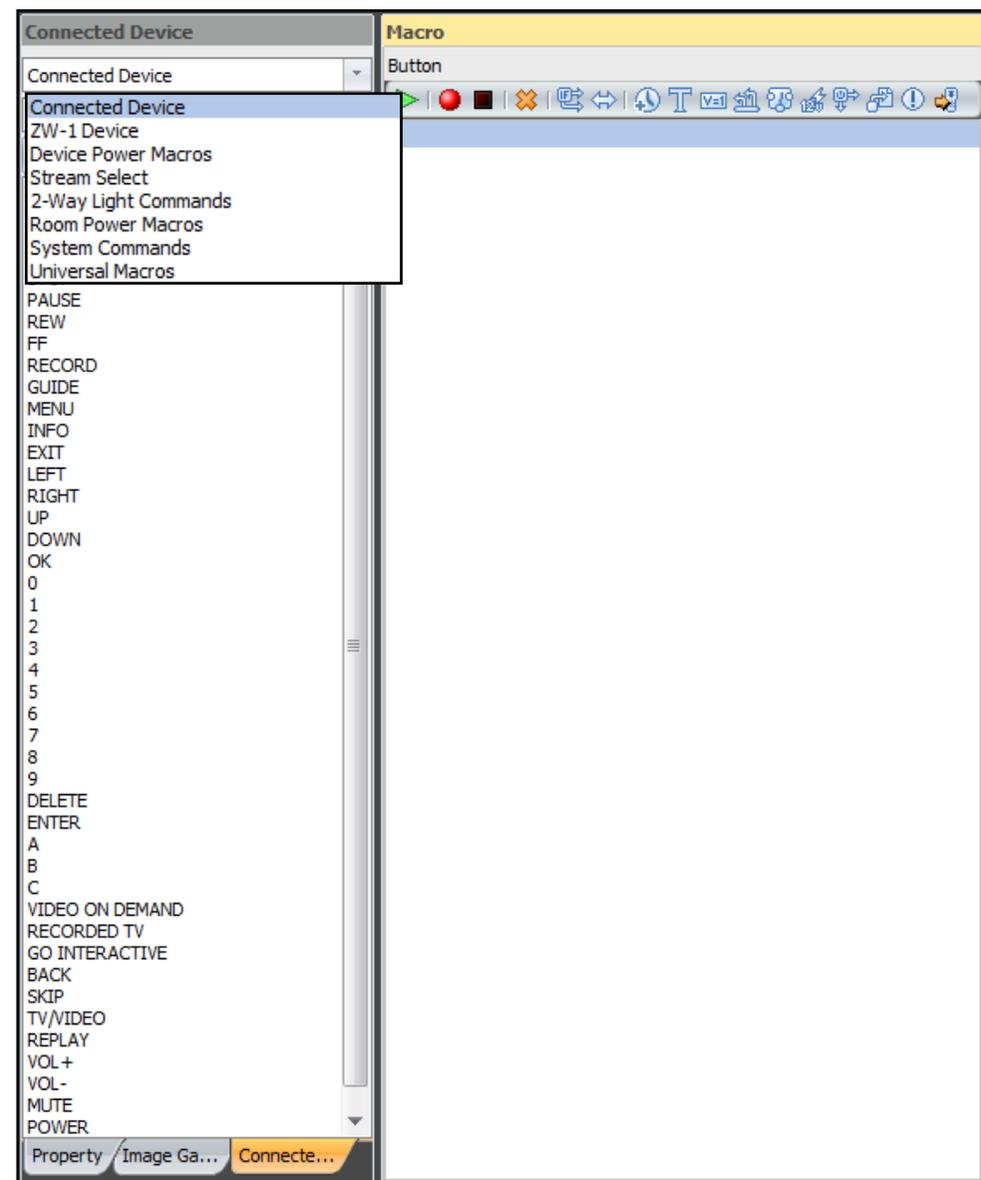
### Connected Device Window Properties:

Use the Connected Device window to add the following to almost any macro:

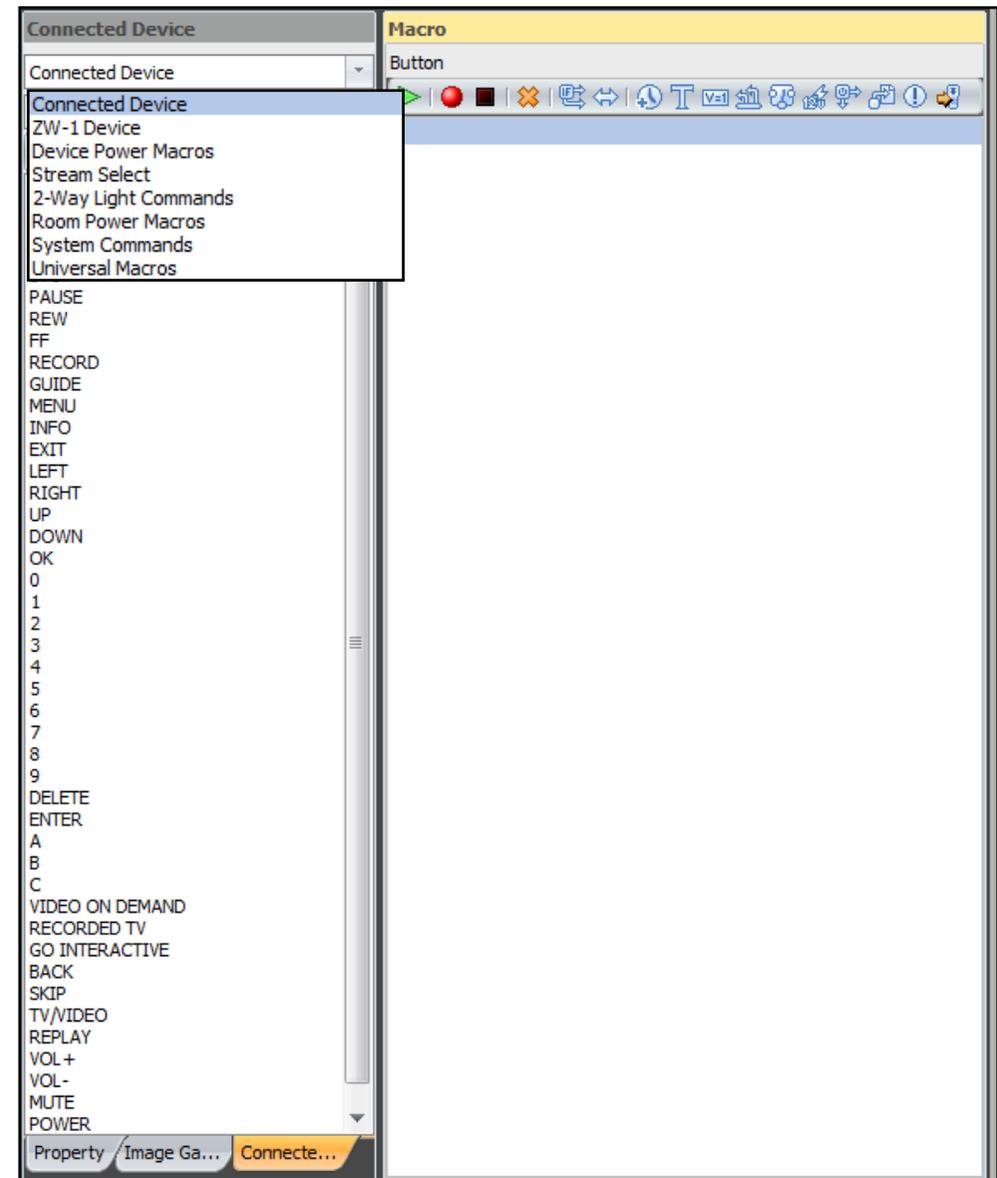
- **Connected Device:** Add a single command (IR, IP, or RS-232) to any macro.
- **ZW Device:** Add a one-way Z-Wave command from almost any Z-Wave device. Z-Wave devices must be configured in UI 7 and imported into the Flex 2.0 software ([page 41](#)).
- **Device Power Macros:** Act as a convenient place for programmers to manage power delays and for tracking device power.

If used exclusively, these macros allow the Total Control Flex 2.0 software to properly track the power state of non-URC devices.

- **Stream Select:** Allows the programmer to add a specific DMS stream into a macro.



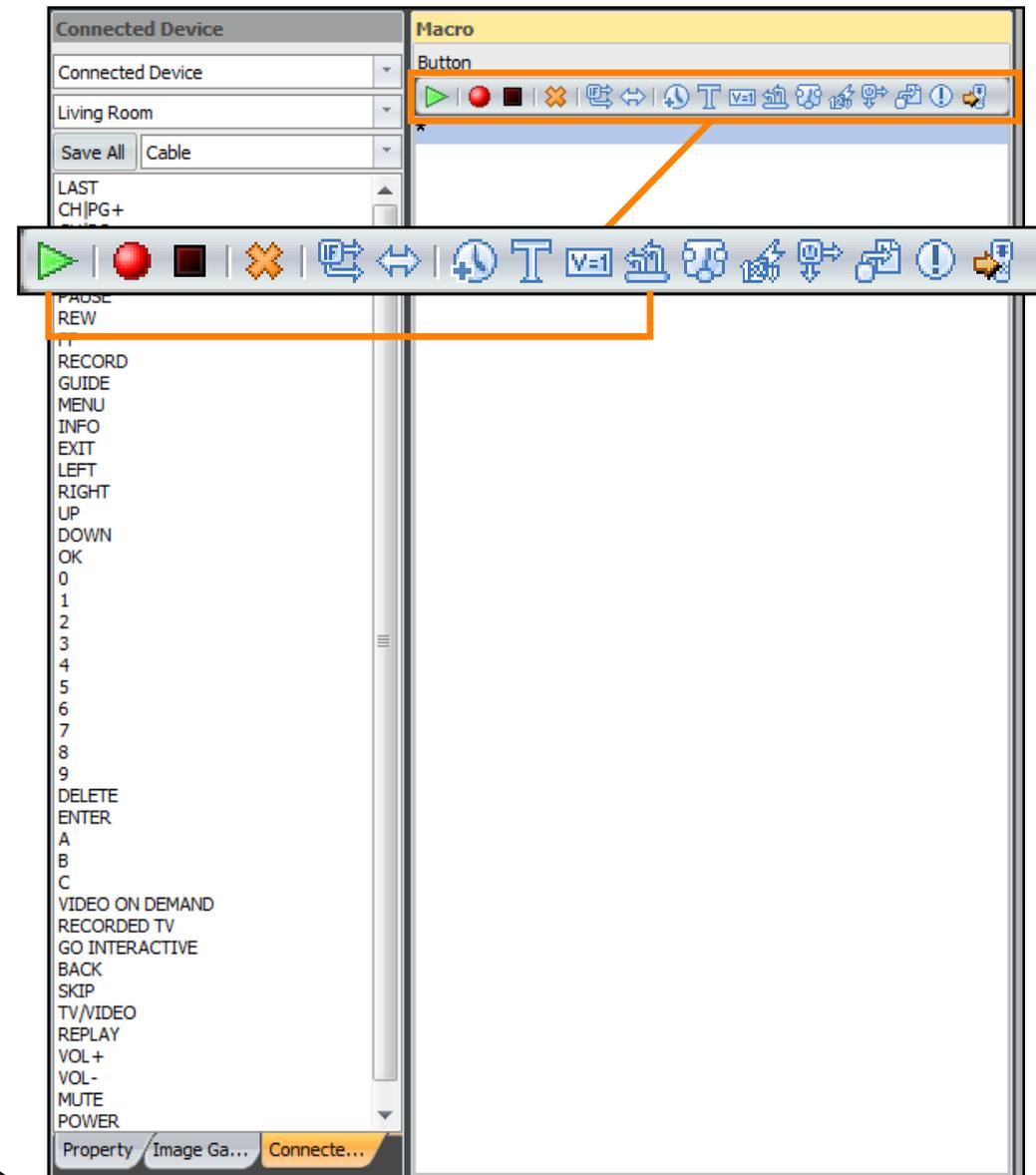
- **Room Power Macros:** Are available for custom programming and can be used as a convenient place to program the power on and power off macros of a zone/area.
- **System Commands:** Contains a DMS ALL ZONE OFF command that can be added to almost any macro.
- **Universal Macros:** Are a type of Special Macros that have multiple purpose in the software. Create a macro as a Universal Macro and have access to it in almost any location within Step 10: UI & Macro Editing.



## Macro Window Properties:

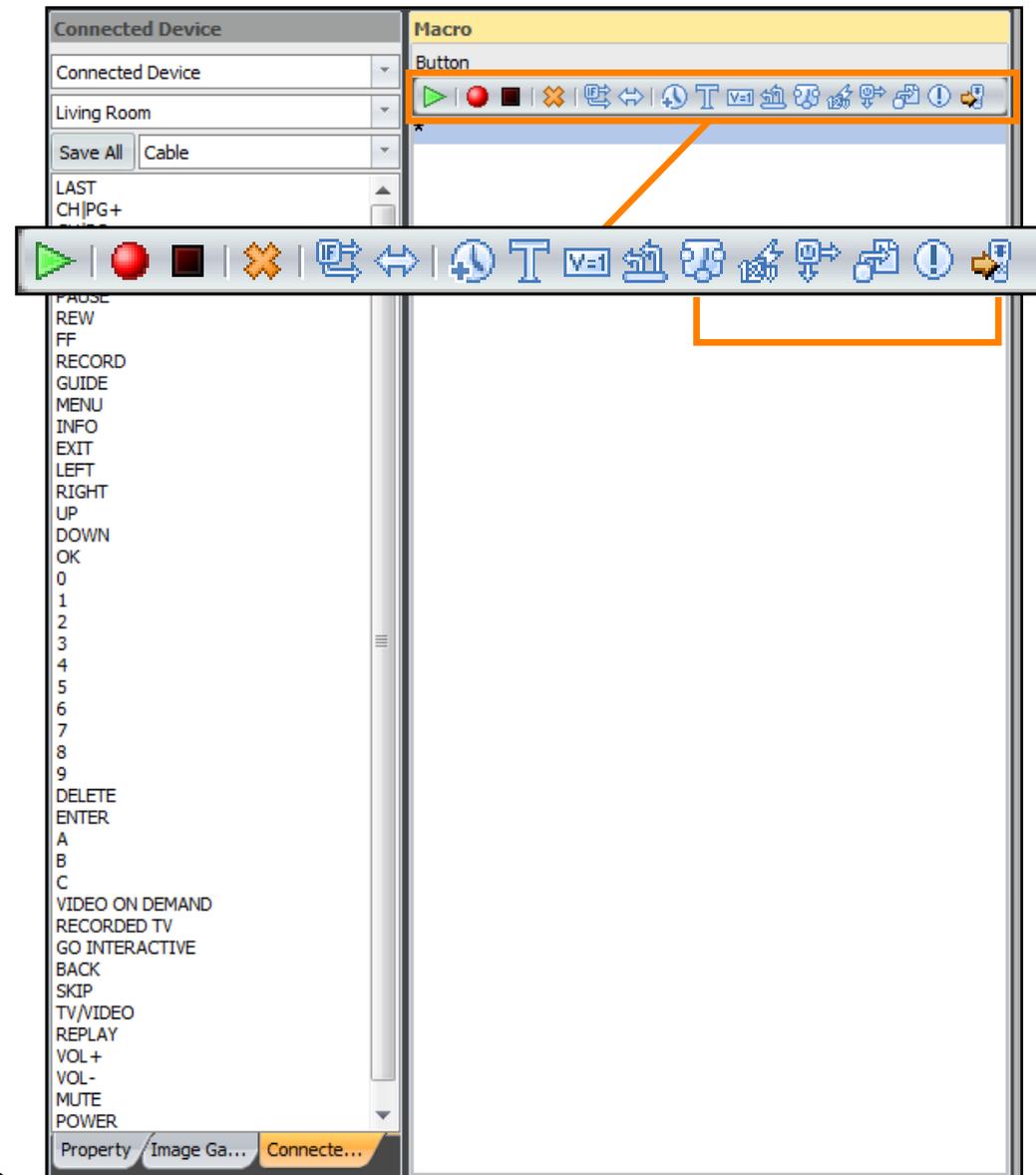
The following are the attributes of the Macro Window (from left to right):

- **Play:** Select to test the macro.
- **Record:** Select to begin recording commands to the macro window. Commands are selected from Connected Device drop-down menu.
- **Stop:** Select to stop recording commands into the macro window.
- **Delete:** Removes the selected command from the macro window.
- **IF/Else:** Select to add an IF/Else, IF/Else +AND, or IF/Else +OR conditional logic statement to the macro.
- **Toggle:** Select to add a toggle statement to a macro. Set commands within the toggle statement. When the button the macro is associated to is pressed, the commands cycle based on the order and button press.
- **Delay:** Select to manually add a delay to the macro.
- **Text:** Select to add text to a button after it is pressed. This text is temporary and disappears after the macro completes.
- **Variable:** Select to create or modify variables. Variable states can be added to the macro by selecting this icon.
- **2-Way Module Command:** Select to add a command from a two-way module that was added to the system.



- **Relay:** Select to add a relay command.
- **12V:** Select to add a 12V command, this can be used for devices like TV Lifts and other devices that require 12V.
- **LCD Setting:** Used to set in-wall keypads into an Off, Default, Always On, or Night Mode state.
- **Jump:** Select to add a Special Jump (Please Wait) or a device jump.
- **Notifications:** Select to configure and add a Push Notification to the macro window. For full details, refer to the Push Notifications Guide.
- **URC Client Command:** Allows the programmer to add a command that can set all or a specified URC Client (user interface) into or out of **Do Not Disturb Mode**.

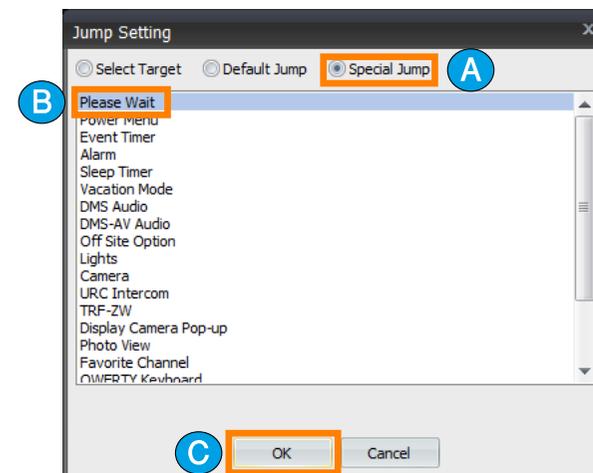
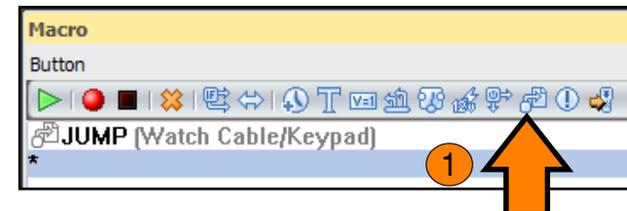
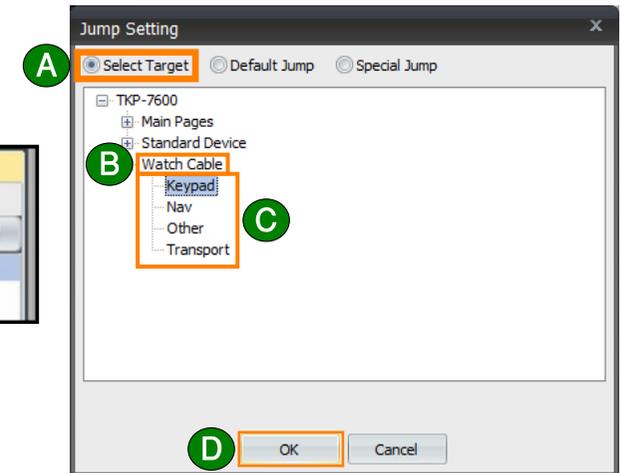
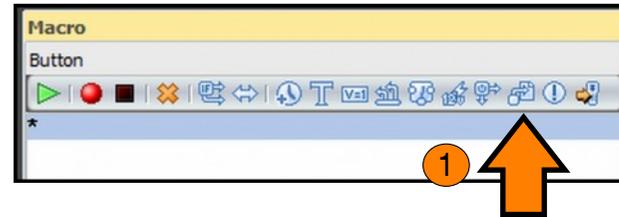
This feature supports **Do Not Disturb On** or **Do Not Disturb Off**.



## Programming a Macro:

The following example programs a macro for the Watch Cable button that was created earlier in the document.

1. Select the **Jump** icon from the macro window:
  - a. Choose **Select Target**.
  - b. Locate the device (i.e. Watch Cable).
  - c. Select which **page to jump** to (i.e. keypad, navigation, other, etc.).
  - d. Select **OK**.
  
2. Select the **Jump** icon from the macro window:
  - a. Select **Special Jump**.
  - b. Select **Please Wait**.
  - c. Select **OK**.

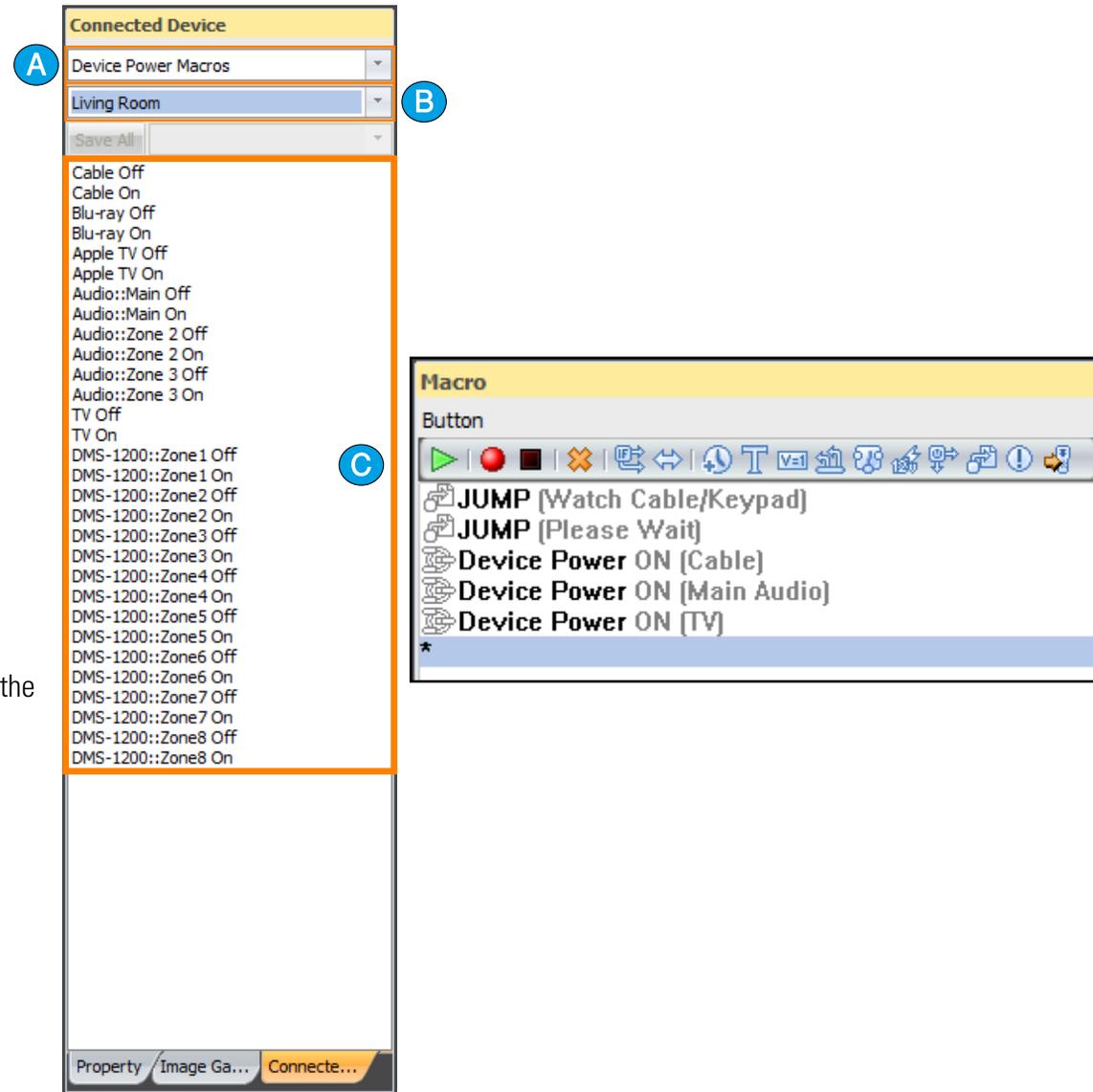


A **Please Wait** screen is added to the macro so that the end-user is presented with a different display when the button is pressed.

The **Please Wait** display is removed when the macro completes.

3. Use **Device Power Macros** to turn on the device involved in the activity (i.e. Cable, TV, Audio, etc.).
  - a. Select **Device Power Macros**.
  - b. Select the **room**, Device Power Macros are ROOM SPECIFIC.
  - c. Select the device(s) to turn on.

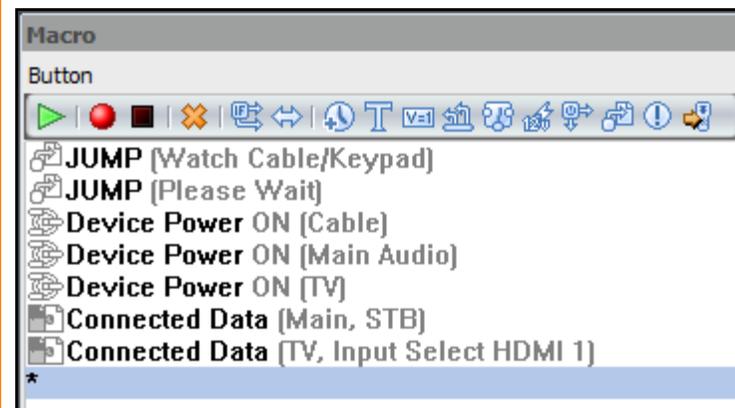
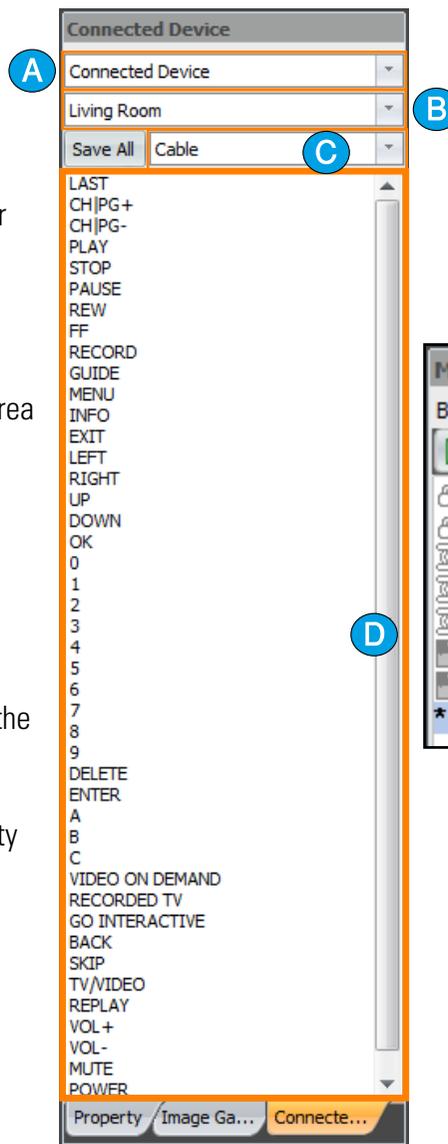
Add these commands by dragging and dropping them into the macro window or by selecting the record button and choosing the commands from the **Connected Device** window.



4. Use the **Connected Device** menu to select input commands and/or other functions.
  - a. Select Connected Device.
  - b. Choose the **room**, device commands are located in the room/area where they were added.
  - c. Select the device.
  - d. Choose the desired command to add to the macro.

Add these commands by dragging and dropping them into the macro window or by selecting the record button and choosing the commands from the **Connected Device** window.

This completes the basic macro programming steps. The Watch Cable activity has been programmed.



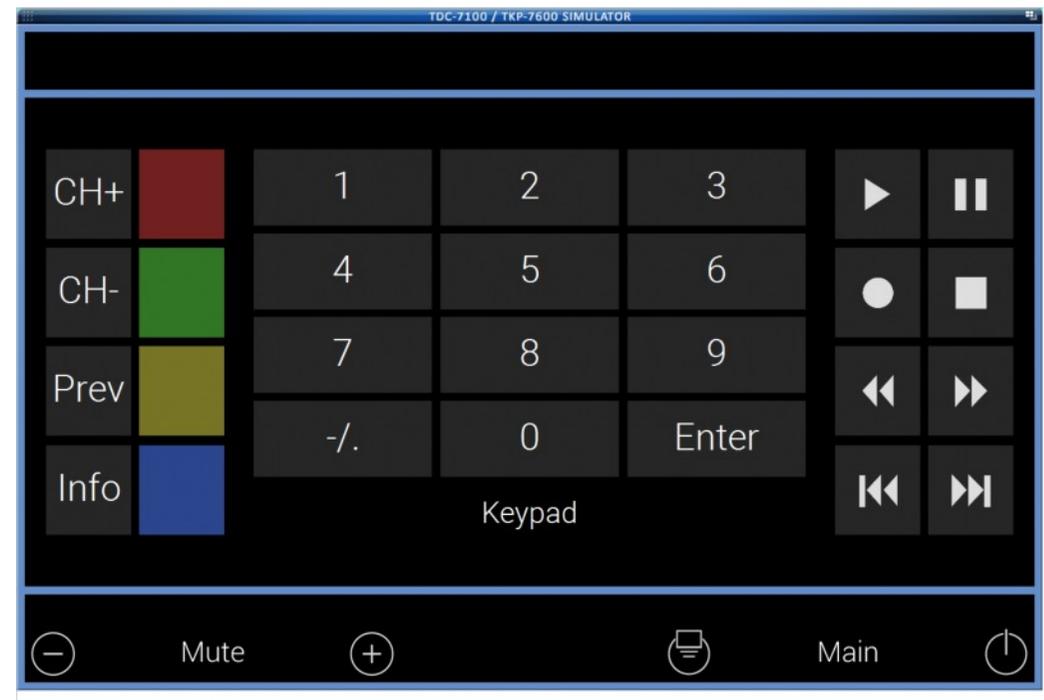
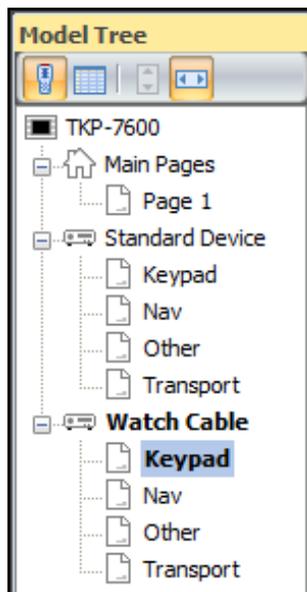
## Macro & UI: Assigning Commands to Device Pages

When adding a button layout in the Create Layout sub-step, template pages are added to the device without any device data.

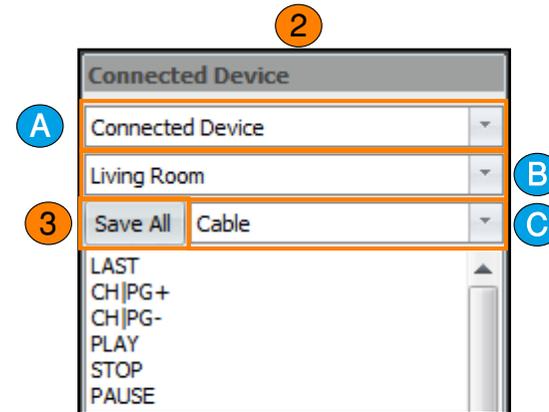
The following example adds IR data to the device pages of the Cable Box (Watch Cable):

1. Select the device page from the Model Tree (for example: Keypad).

The **TDC-7100/TKP-7600** Simulator displays the page selected.



2. Locate the **Connected Device** menu:
  - a. Choose **Connected Device**.
  - b. Select the **room** where the device is located.
  - c. Select the **device**.



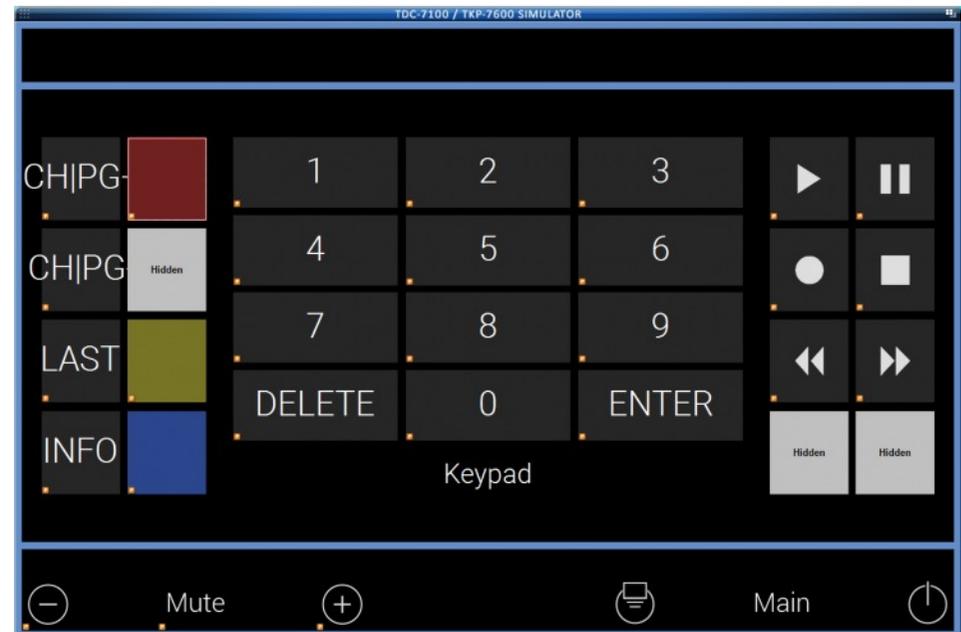
3. Select **Save All**.

The software assigns the functions to appropriate Button ID. A notification window appears informing the programmer how many commands were assigned to a button.

Function are assigned to all pages of the button layout. Notice the **"P"** on the bottom left corner of the button in the **TDC-7100/TKP-7600 Simulator**. This represents that there is Pre-Programmed data assigned to the button.

Certain buttons may be **Hidden**, right-click and uncheck the Hide option to reveal the button. These may be black buttons added by the code set.

Buttons displayed in the simulator can be rearranged to the programmer's preference. Other buttons can be added by using the **Image Gallery**.



## UI & Macro Editing: Special Macro

Total Control Flex 2.0 uses various types of system macros and these macro can be modified and/or created from the Special Macro sub-step.

The following is a description of each type of Special Macro available:

- **Device Power Macros:** Are created automatically by the software. These macros cannot be created; however, they can be modified. A Power On/Start and Power Off/Stop are created for each device in the system.

The delay located in this macros is derived from the Power On Delay and Power Off Delay assigned from the device driver.

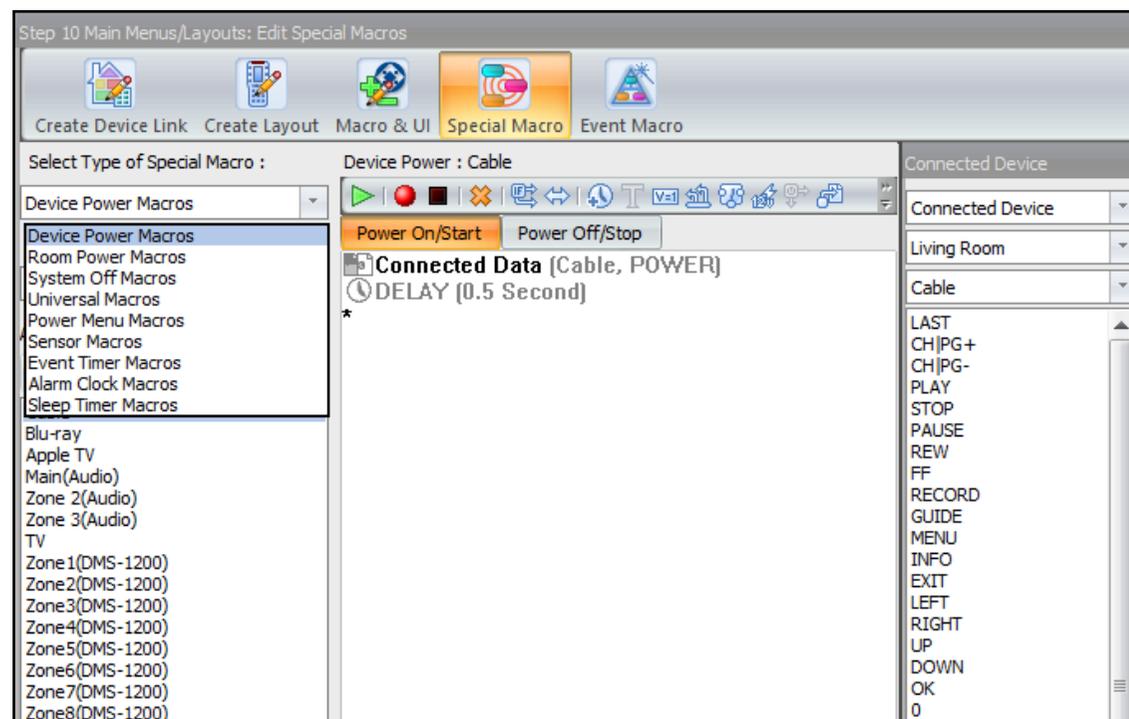
- **Room Power Macros:** Support a Power On/Start and Power Off/Stop state. Each state must be programmed manually.

- **System Macros:** Contains a placeholder for the House Off macro. This is designed to turn off the entire system. However, due to the nature of Flex, it must be programmed manually.

Additional system macros cannot be created.

- **Universal Macros:** Can be used almost anywhere in the system.

It is best to use these macros for an event/activity that is required for "one-time" use for example lighting events (lamp on/off).



- **Power Menu Macros:** A system feature of Total Control is the ability to press and hold the power button for greater than three (3) seconds to display the Power Menu.

The Macros on this Power Menu are derived from this section of the programming. Macros can be added Globally (across all room) or per room.

- **Sensor Macros:** Use this section to program any URC Sensors that are connected to the base station.

- **Event Timer Macros:** Macros created here are placed into the Event Timer Menu which is accessed from a user interface.

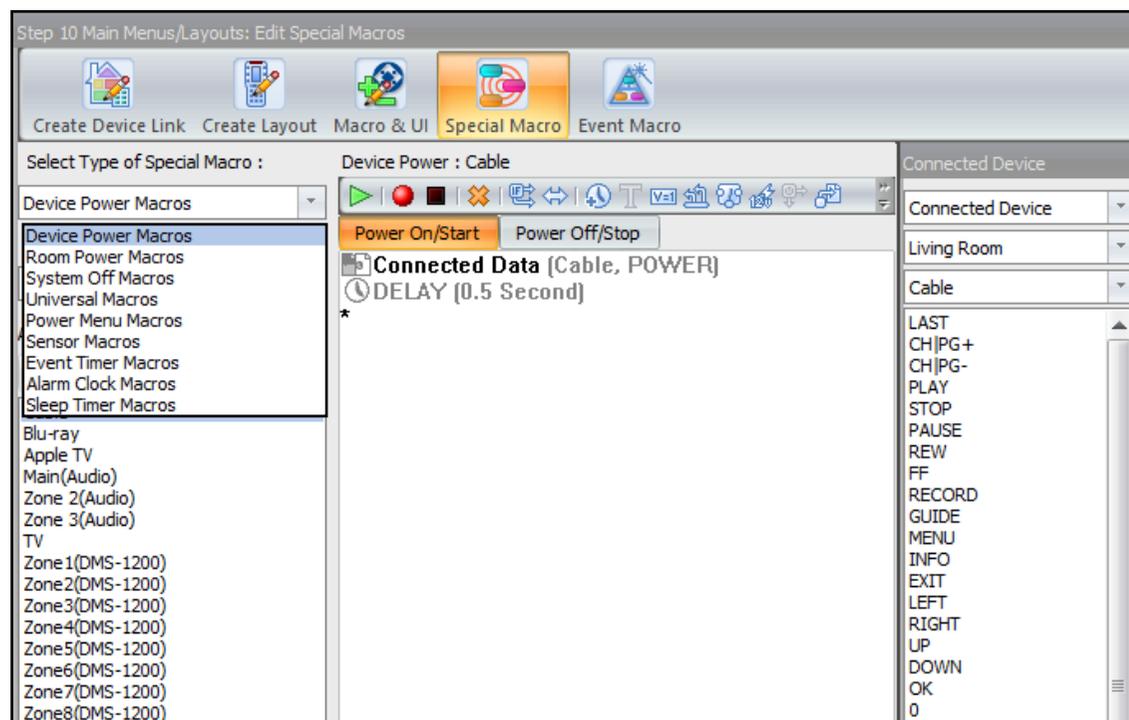
These types of macros trigger an event (i.e. turning on the patio lights) and allows the end-user to schedule the start and stop of the event.

- **Alarm Clock Macros:** Macros created here are placed into the Alarm Clock Menu which is access from the user interface.

These types of macros trigger an event (i.e. turning on the patio lights) and allows the end-user to program the alarm start time.

- **Sleep Timer Macros:** These macros are room based and are accessible from the Sleep Timer Menu.

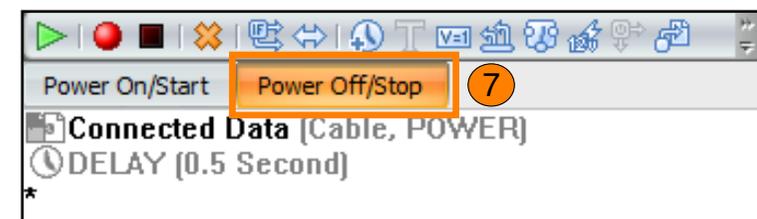
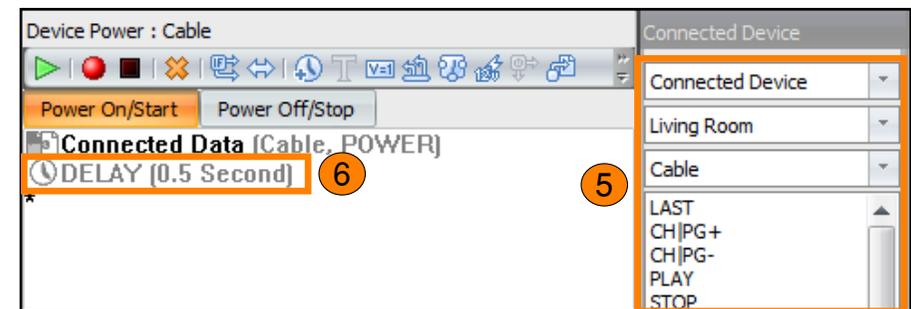
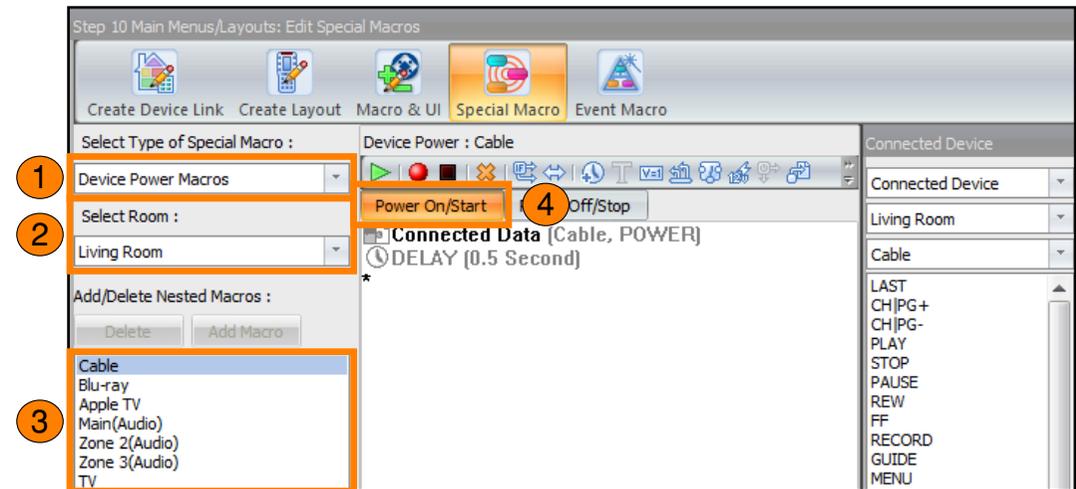
These macros allow the end-user to set an allotted time to trigger an event (i.e. in 15 minutes...turn off the living room).



## Viewing/Editing Device Power Macros:

Below are the way to access Device Power Macros:

1. Select **Device Power Macros** from the drop-down menu.
  2. Select the room/area in the system to begin editing Device Power Macros.
  3. Select a device (i.e. Cable, Blu-ray, etc.).
  4. By default, **Power On/Start** is displayed. This macro window contains the Power On command derived from the device's driver.
  5. This **Connected Data** command can be replaced with any other type of Connected Device command or ZW commands available in the Connected Device drop-down menu.
  6. In some cases, the **Delay** time here needs to be adjusted. **Double-click on the DELAY** in the macro window and increase the delay time to the desired length. Certain devices require a pause when turning on before they're able to receive other commands.
- Typically, this delay period is assigned from within the driver, but it can be adjusted from here.
7. Select the **Power Off/Stop** tab if adjustments need to be made to the **Device Power Macros** Off side..



## Room Power Macros:

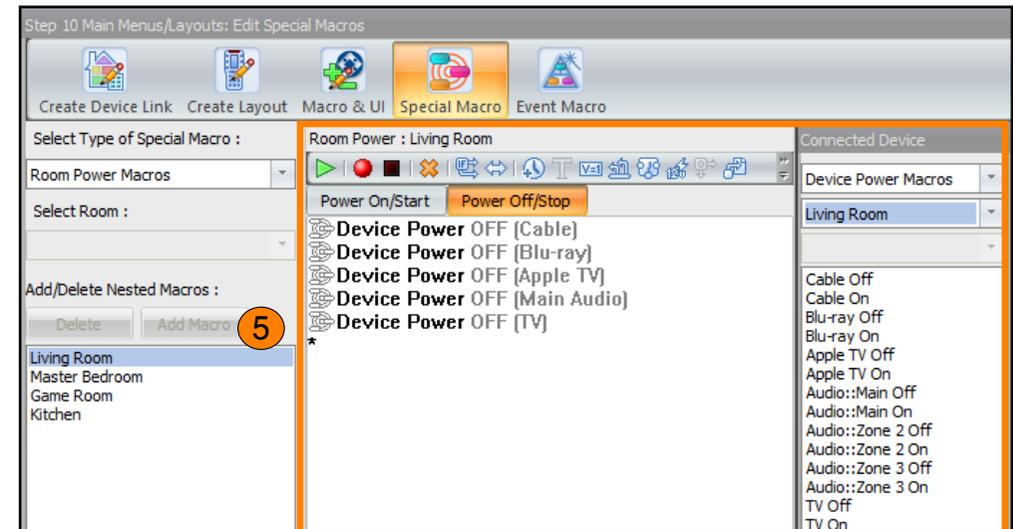
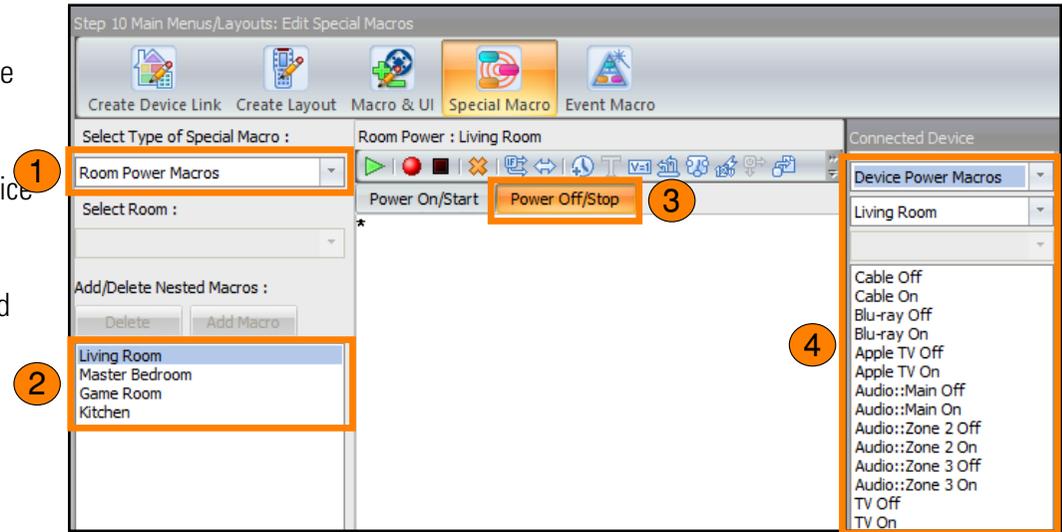
The second options under the Select Type of Special Macro drop-down menu. Like Device Power Macros, these contain a **Power On/Start** and a **Power Off/Stop**.

The **Power Off/Stop** section reveals important information in terms of what Device Power Macros are issued when the Power Off button is selected.

Due to the nature of the Total Control Flex 2.0 software, these must be configured manually by the programmer:

1. Select **Room Power Macros**.
2. Select a **Room/Area**.
3. Select **Power Off/Stop**.
4. Select **Device Power Macros** from the **Connected Device** drop-down menu.
5. Add the **device Off commands** for every device in the room/area that needs to be turned off when the **Room Off** command is issued.

Perform these steps for every room/area in the system.



## System Macro:

The next item on the Select Type of Special Macro drop-down menu is called **System Off Macros**. Only one macro is placed here, **House Off**, and it serves as place holder.

System Macros cannot be created; however, the House Off placeholder can be configured. The House Off macro only appears in the **Power Menu** and is designed to turn off an entire system.

Follow these steps for basic programming of the **House Off** macro:

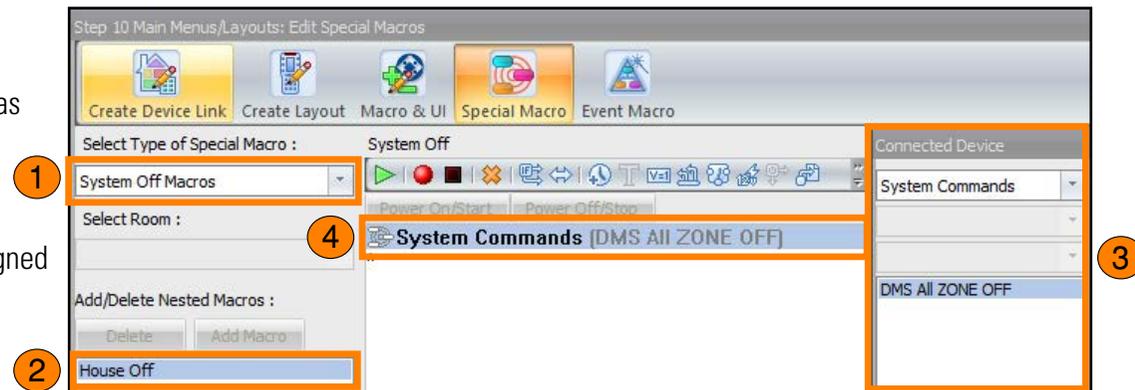
1. Select **System Off Macros**.
2. Select **House Off**.
3. Select **System Commands** from the **Connected Device** drop-down menu.

It is a best practice to include the **DMS All ZONE OFF** command into the House Off macro when using DMS in a system.

4. Add the **DMS All ZONE Off** command.
5. Select **Room Power Macros** from the Connected Device drop-down menu.

It is a best practice to include the **Room Power Off** commands for every room/area in the system.

6. Add the **Room Power Off** commands for each room/area in the system.

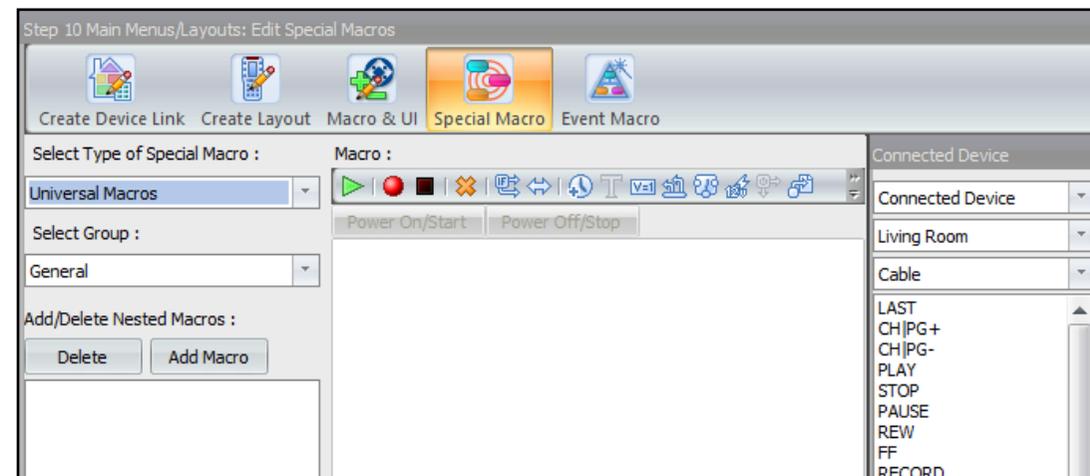


### Universal Macros:

These are one of the most versatile forms of special macros available in any Total Control system.

Universal Macros can utilize almost any command type located in the Connected Device drop-down menu.

Groups can be created. This serves as a great way to keep Universal Macros organized and concise.



## Event Timer Macros:

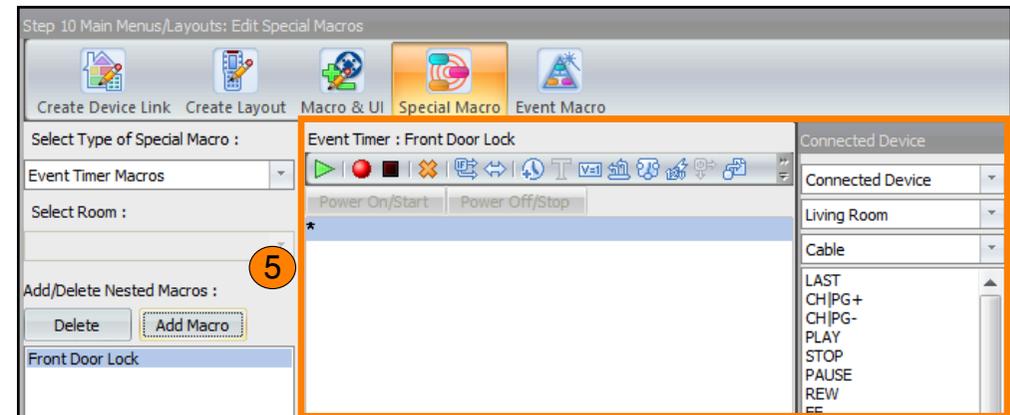
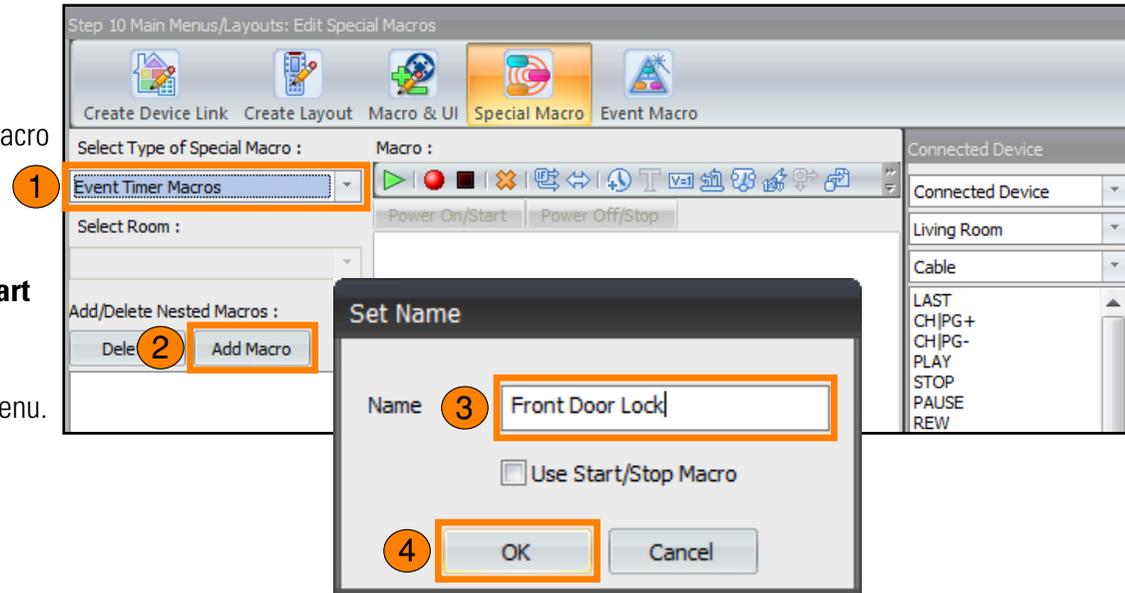
Event Timers can be set by the end-user. The end-user selects an Event Timer Macro and manually sets what time the macro is to issue.

The other type of **Event Timer Macro** involves the use of **Start/Stop Macro**. When an end-user selects one of these macros, the interfaces requests a set **Start and End time**.

Time is set by the end-user from any interface with access to the Event Timer Menu.

The following steps can be used to create an Event Timer for single time use:

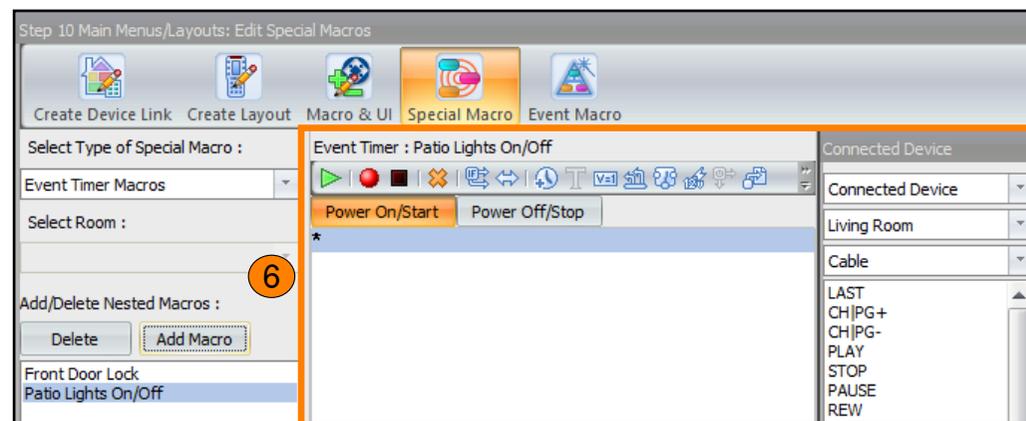
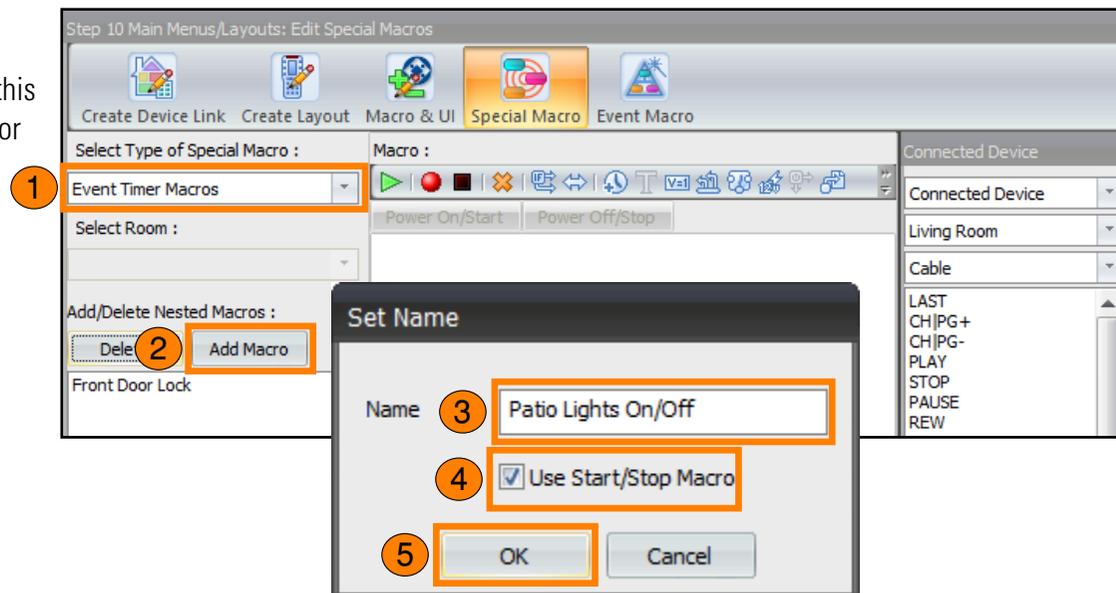
1. Select **Event Timer Macros**.
2. Select **Add Macro**.
3. Enter a **name**, this label is viewed by the end-user on the **Event Timer** menu.
4. Select **OK**.
5. Program the macro using the options available through the **Connected Device** drop-down menu.



Follow these steps to create an **Event Timer Macro** that uses the **Start/Stop**, this means that there is an action for when the macro begins and a separate action for when it ends:

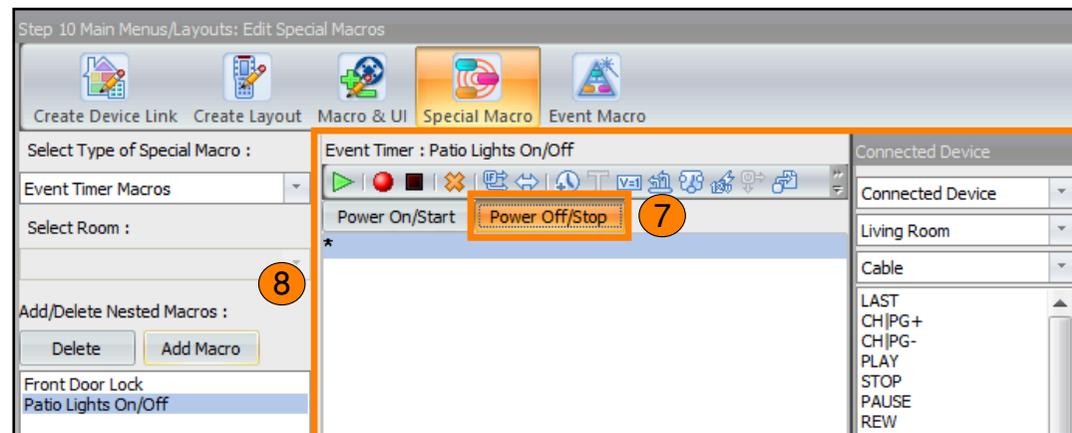
1. Select **Event Timer Macros**.
2. Select **Add Macro**.
3. Enter a **name**, this label is viewed by the end-user on the **Event Timer** menu.
4. Check the box **Use Start/Stop Macro**.
5. Select **OK**.
6. Program the **Power On/Start** macro using the options available through the **Connected Device** drop-down menu.

This macro only triggers during the start time of the event. The start time is configured by the end-user on a URC interface.



7. Select **Power Off/Stop**.
8. Program the **Power Off/Stop** macro using the options available through the **Connected Device** drop-down menu.

This macro only triggers during the end time of the event. The end time is configured by the end-user on a URC interface.



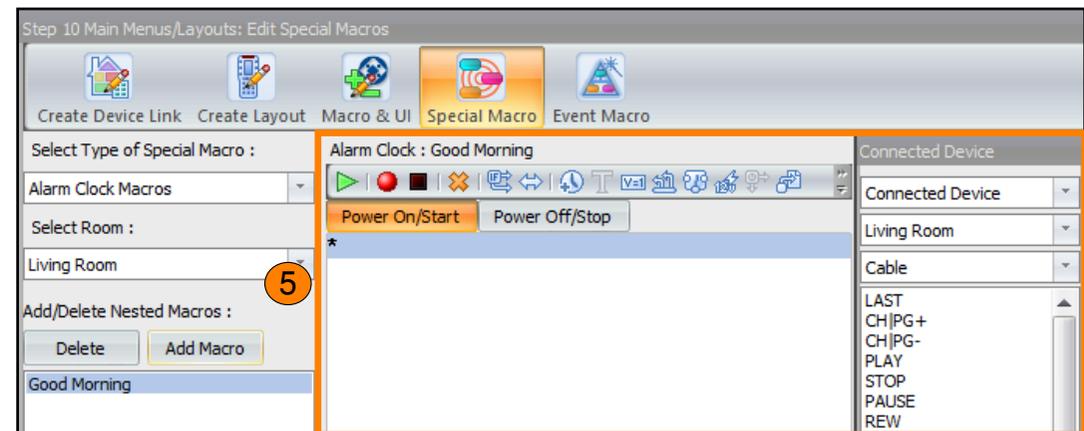
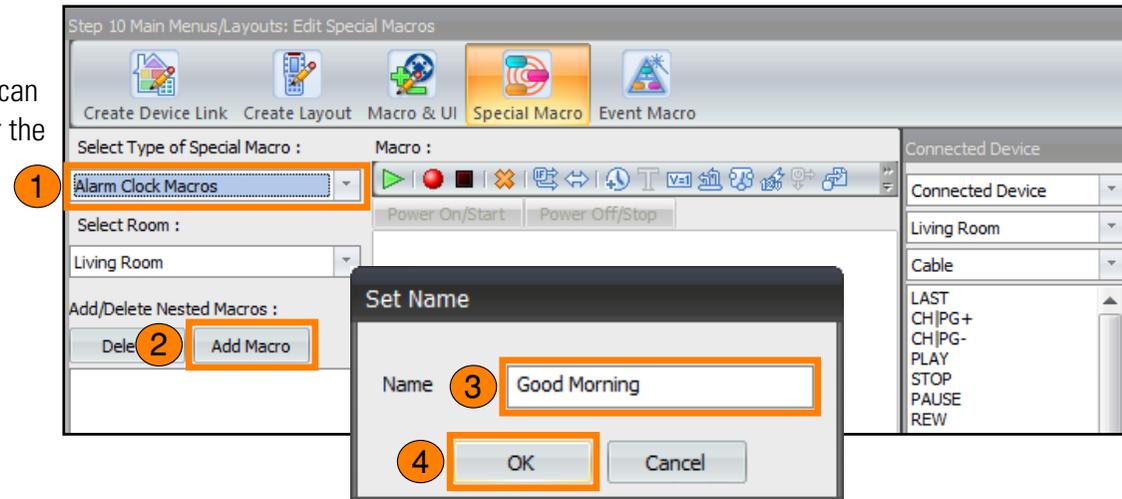
## Alarm Clock Macros:

Creating macro here adds them to the **Alarm Clock Menu** where the end-user can select them. Upon selection, the interface prompts the end-user to set a time for the macro to trigger.

Follow these steps to create an Alarm Clock Macro:

1. Select **Alarm Clock Macros**.
2. Select a room/area from the drop-down menu. These types of special macros are room/area-specific.
3. Select Add Macro.
4. Enter a **name**, this label is viewed by the end-user on the **Alarm Clock** menu.
5. Program the **Power On/Start** macro using the options available through the **Connected Device** drop-down menu.

This macro only triggers when the time set by the end-user has been met (i.e. 8 am alarm).

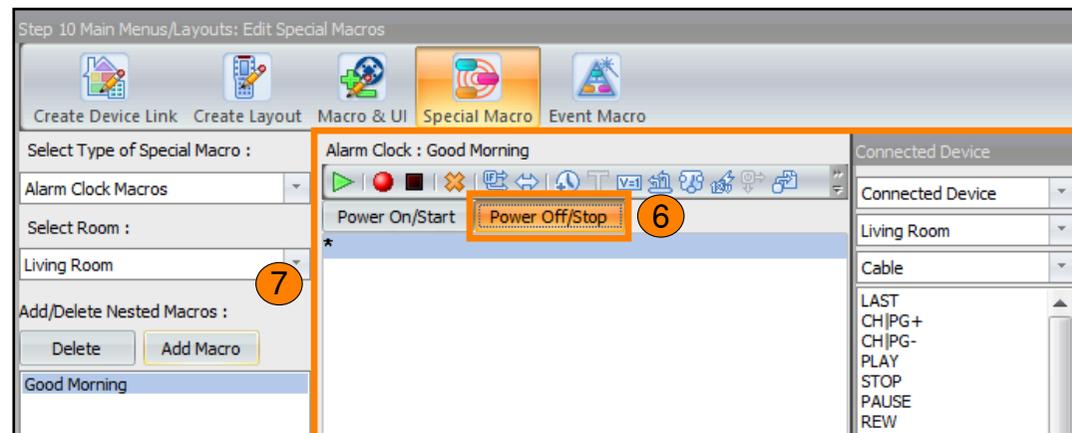


- URC Alarm Clock Macros support a separate action for when the end-user selects the **Snooze** button.

Select Power Off/Stop.

- Program the **Power Off/Stop** macro using the options available through the **Connected Device** drop-down menu.

This macro only triggers when the time set by the end-user selects the snooze button after the alarm has been triggered or when the alarm is turned off.



## Sleep Timer Macros:

Creating macro here adds them to the **Sleep Timer Menu** where the end-user can select them. Upon selection, the interface prompts the end-user to set a time for the macro to trigger.

Follow these steps to create a Sleep Timer Macro:

1. Select **Sleep Timer Macros**.

2. Select the room/area.

Sleep Timer Macros are specific to the room/area they are programmed in.

3. Select **Add Macro**.

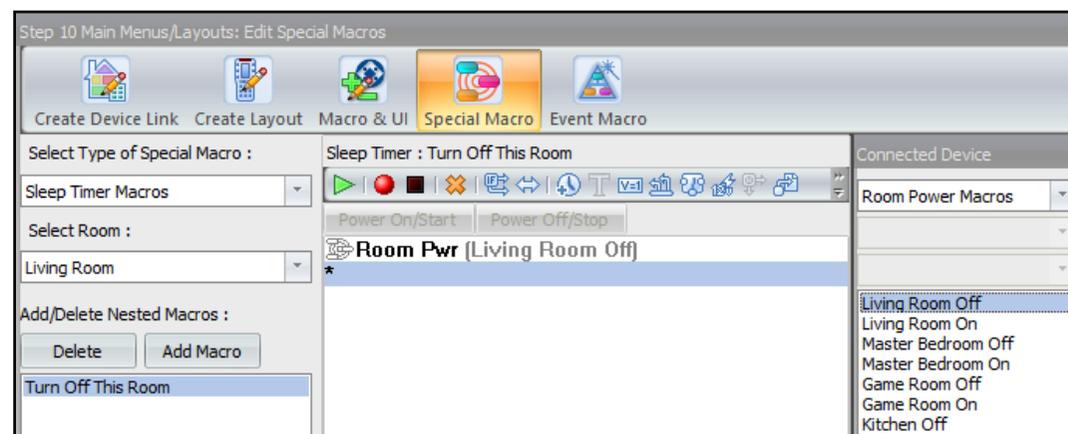
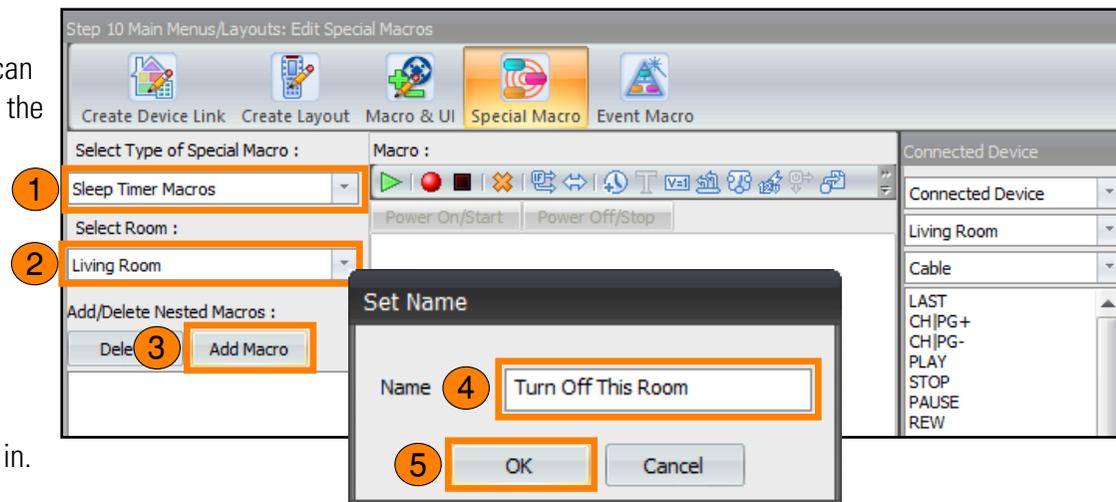
4. Enter a **name**, this label is viewed by the end-user on the **Sleep Timer** menu.

5. Select **OK**.

6. Program the macro using the options available through the **Connected Device** drop-down menu.

If Room Power Macros have been configured (page X), use them to turn off specific rooms in the system.

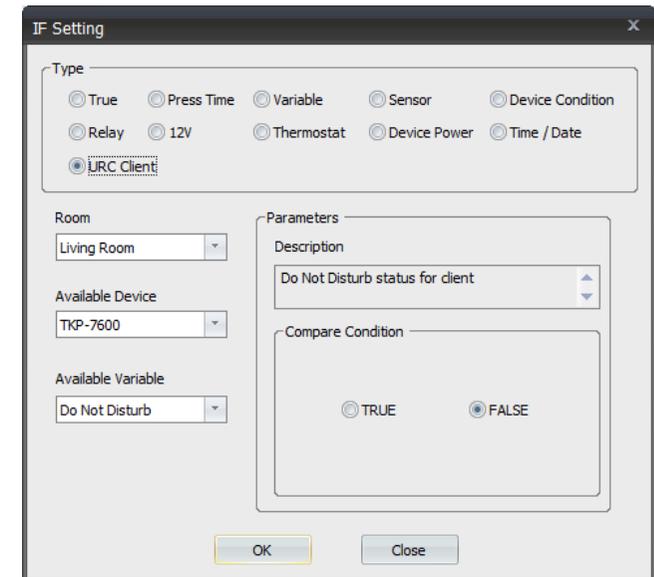
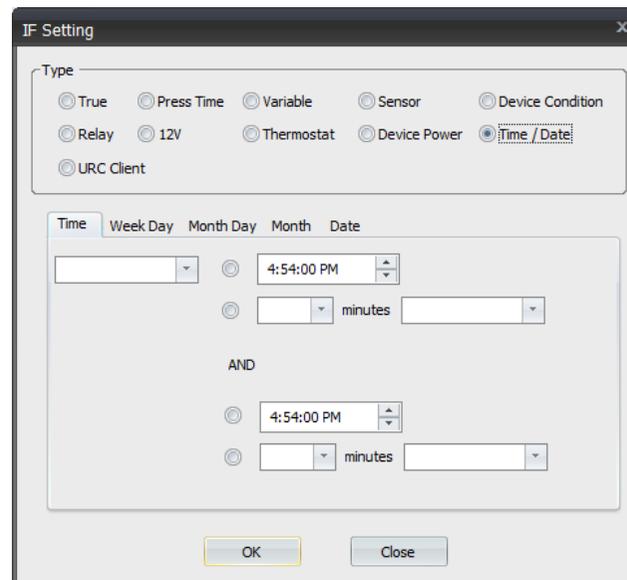
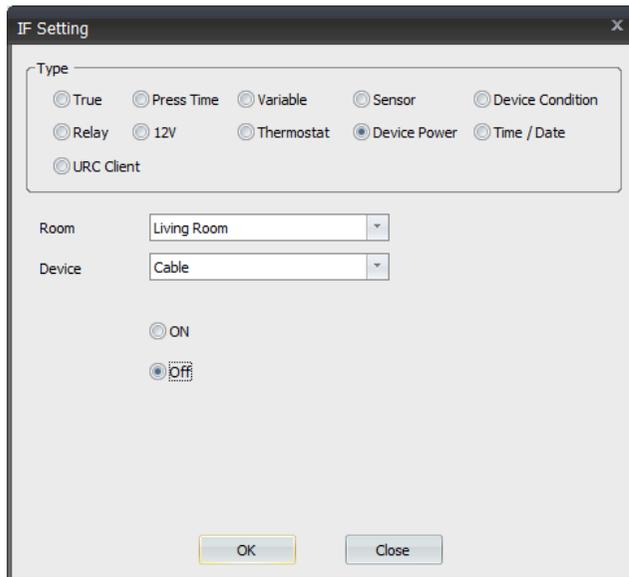
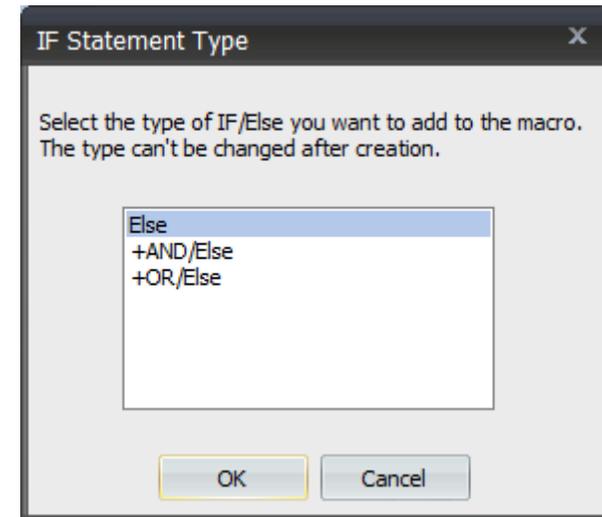
Repeat these steps for every room that needs a **Sleep Timer Macro**.



## Variables and Advanced Logic:

Just like Accelerator 2.0, Total Control Flex 2.0 supports more advanced conditional logic statement. Below are the new Advanced Logic that can be found in the software:

- **Device Power:** Tracks a device's power state to trigger a macro.
- **Time & Date:** Have macros query a specific Time, Week Day, Month Day, Month, and/or Date to trigger a macro.
- **Advanced Conditional Logic:** New logic statements in the form of IF/Else, IF/Else +AND, and IF/Else +OR.
- **URC Client:** Allows the programmer to poll a specific device and trigger a macro based on its Do Not Disturb mode.



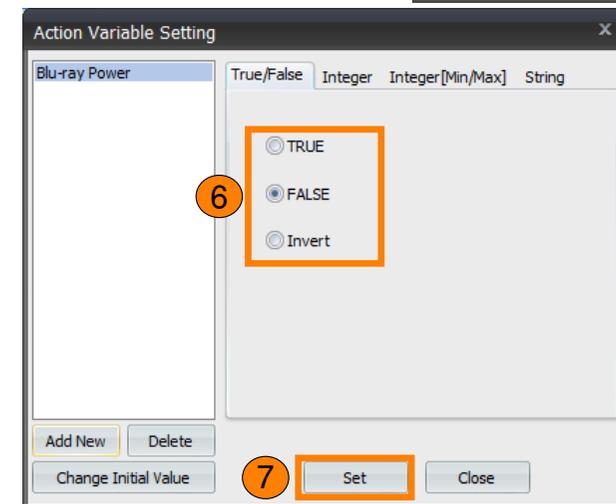
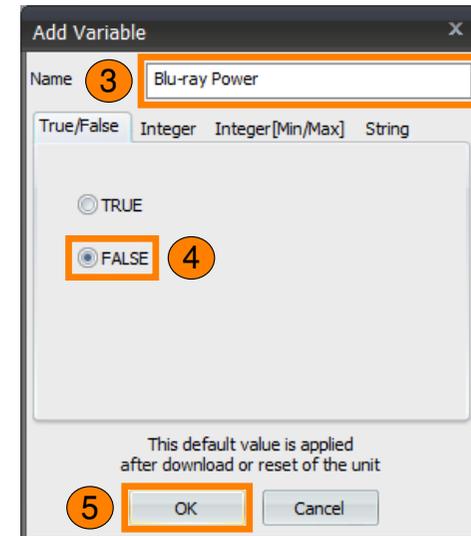
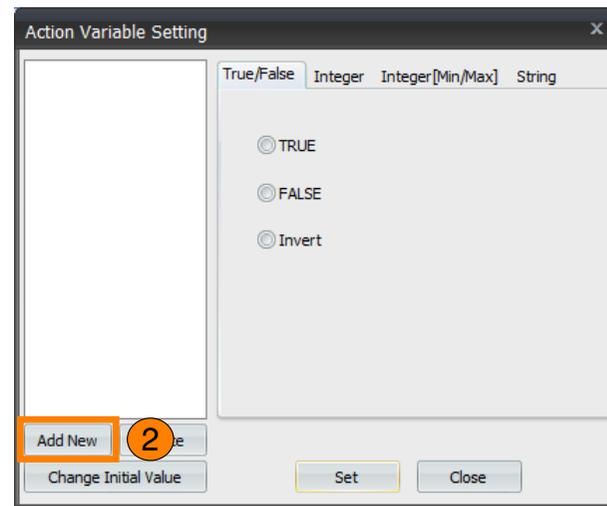


## Creating Variable:

The following section covers the basic information for creating variable in Total Control Flex 2.0

1. Select the **variable** button from the macro toolbar.
2. Select **Add New**.
3. Enter a **name** for the variable, this label is never viewed by the end-user.
4. Set the default value to **False**.
5. Select **OK**.
6. Select a variable state (True or False)
7. Select **Set**.

This adds the variable state to a macro.

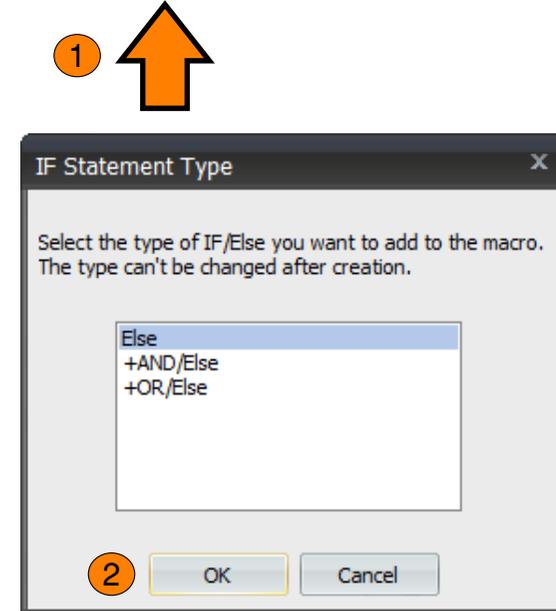
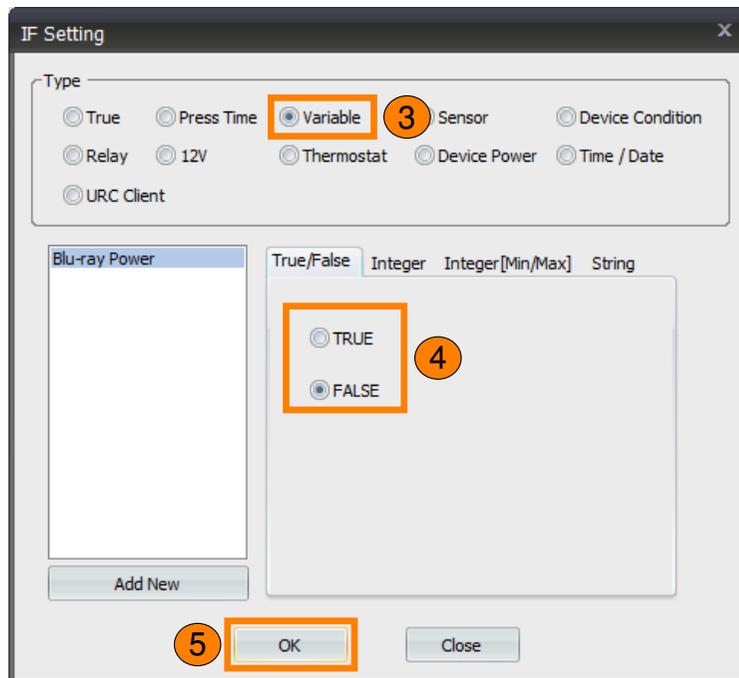


## Using IF/Else:

Variables and advanced conditional logic can be used in almost any macro of Total Control Flex 2.0.

The following example creates an IF/Else statement in conjunction with the variable created in the previous section.

1. Select the **IF/Else** button from the macro toolbar.
2. Highlight **Else** and select **OK**.
3. Select Variable.



4. Choose a **True/False**.
5. Select **OK**.

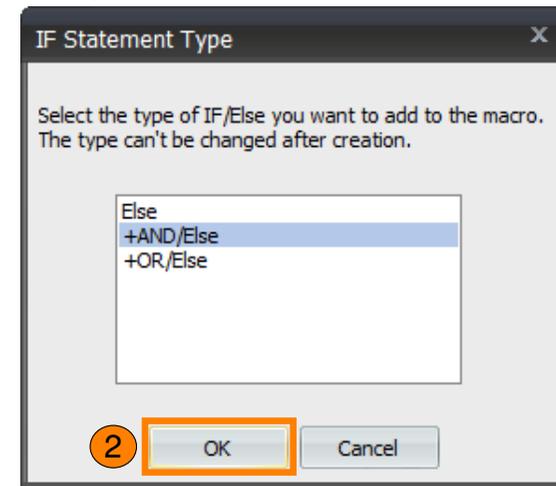
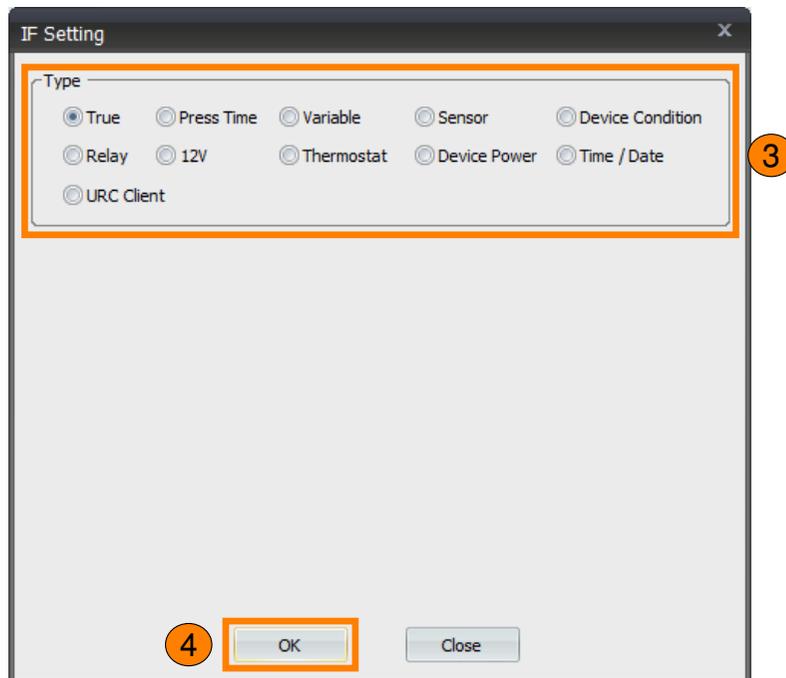
This creates an IF/Else statement with a variable condition.

### Using IF/Else +AND:

+AND logic statements add depth to IF/Else statements that need to check for more than one (1) condition.

“If [variable 1] AND [variable 2] are met, then perform this action. Else perform another action.”

1. Select the **IF/Else** button from the macro toolbar.
2. Highlight **+AND/Else** and select OK.

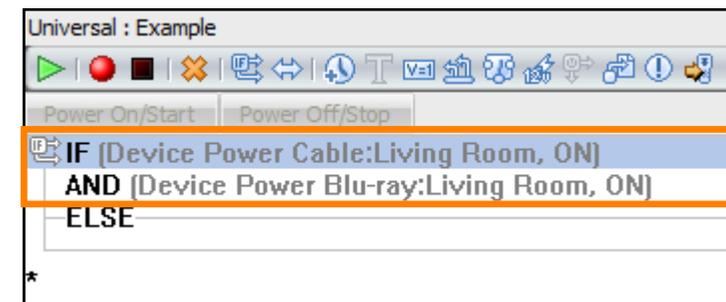
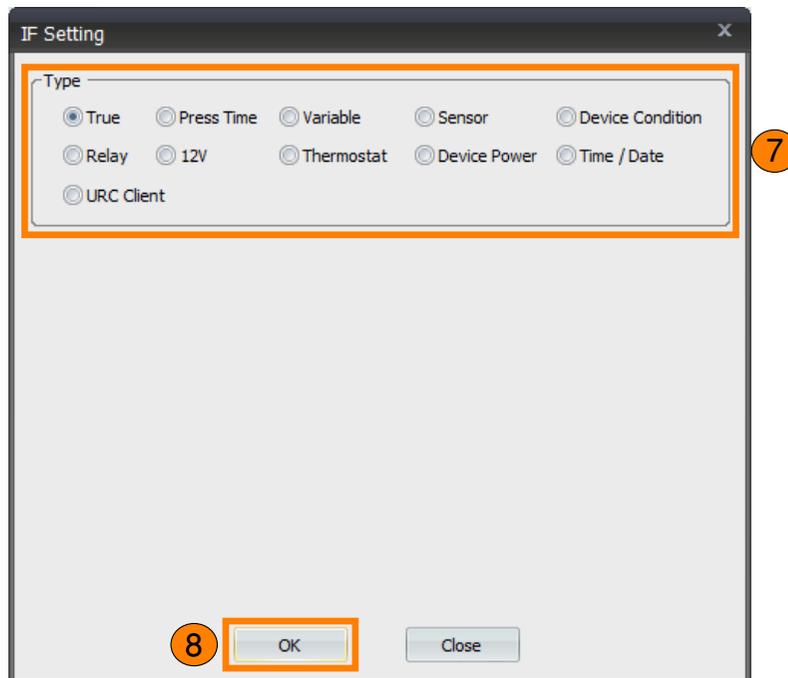
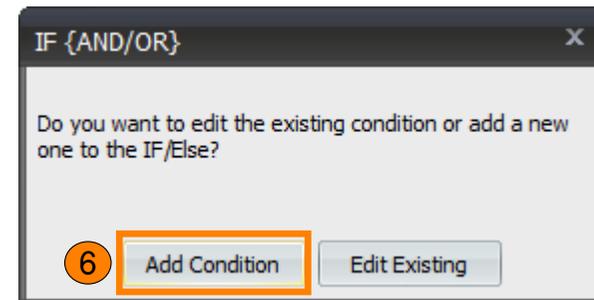
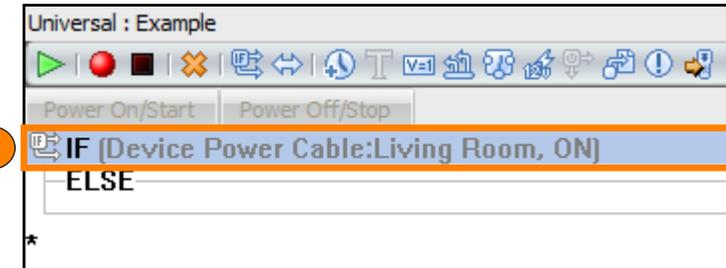


3. Select an **IF Setting** option. This becomes the first item the IF/Else logic statement polls.
4. Select **OK**.

5. **Double-click** on the IF statement.
6. Select **Add Condition**.
7. Select an **IF Setting** option. This becomes the second item the IF/Else logic statement polls.

The macro only triggers if BOTH conditions are met.

8. Select **OK**.

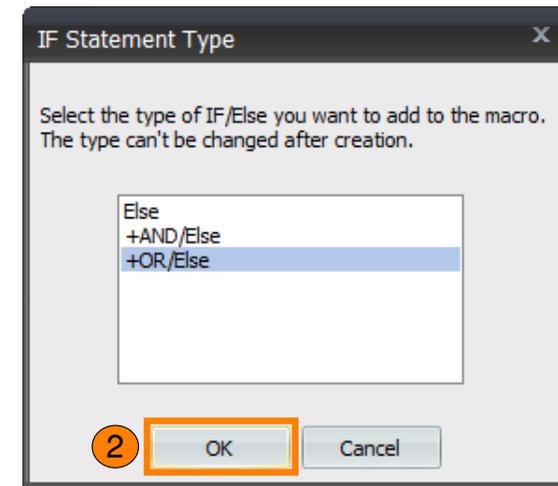
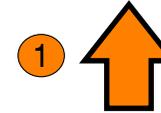
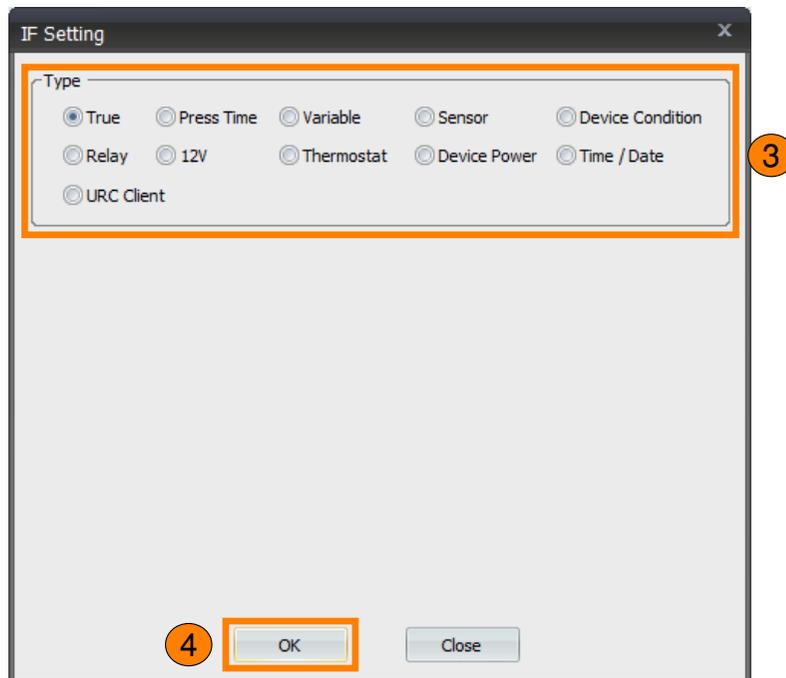


### Using IF/Else +OR:

+OR logic statements add depth to IF/Else statements that need to check for more than one (1) condition.

“If [variable 1] OR [variable 2] are met, then perform this action. Else perform another action.”

1. Select the **IF/Else** button from the macro toolbar.
2. Highlight **+OR/Else** and select OK.

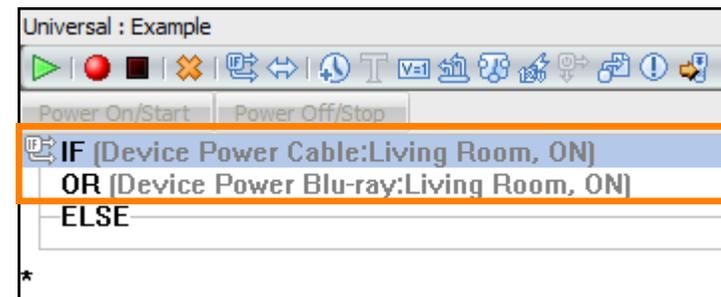
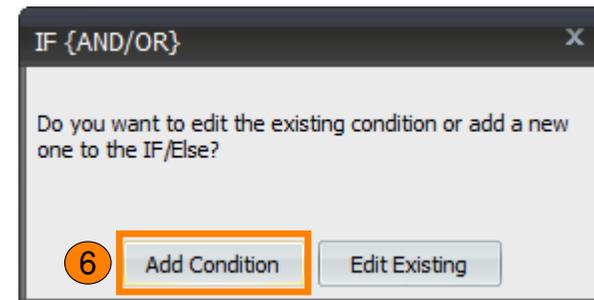
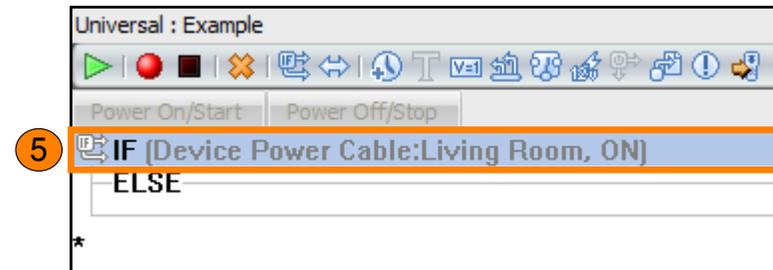
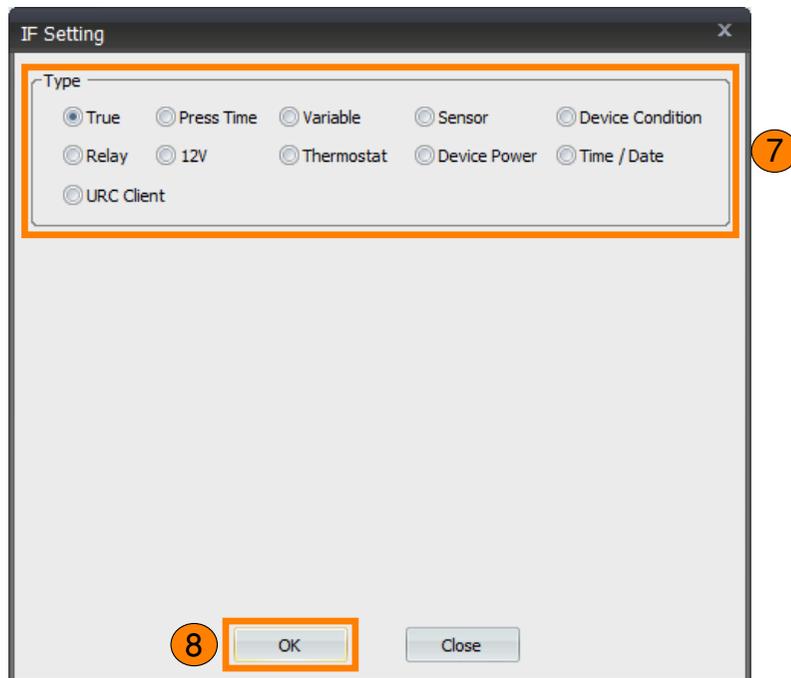


3. Select an **IF Setting** option. This becomes the first item the IF/Else logic statement polls.
4. Select **OK**.

5. **Double-click** on the IF statement.
6. Select **Add Condition**.
7. Select an **IF Setting** option. This becomes the second item the IF/Else logic statement polls.

The macro only triggers if **EITHER** conditions are met.

8. Select **OK**.



## UI & Macro Editing: Event Macro

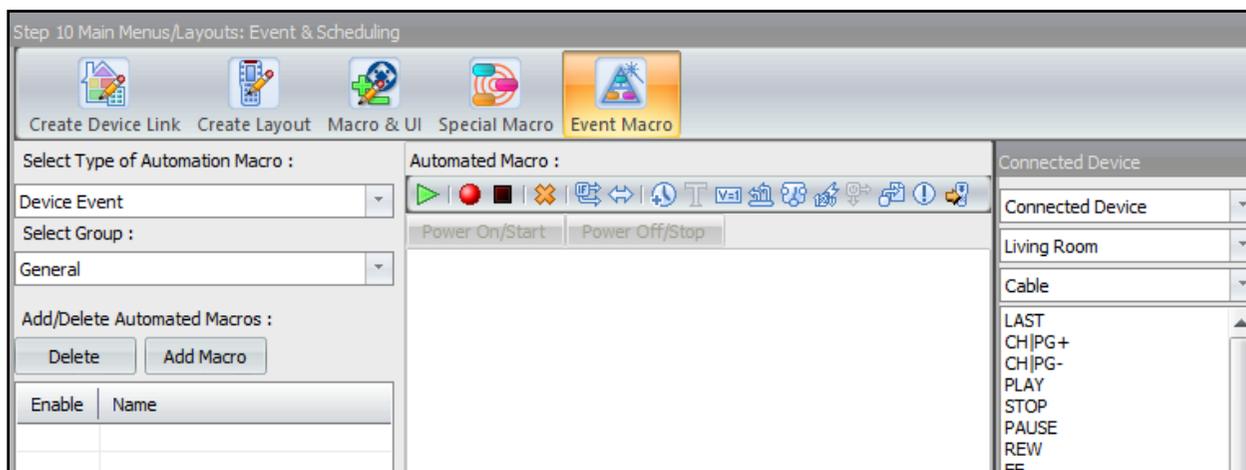
Also known as Automation Macros, this sub-step is used to program system events that require little to no interaction from the end-user.

Below are the available events:

- **Device Events:** Certain two-way devices support various Device Events that can trigger any macro with a change in the environment.

Z-Wave integration provides a system with the greatest number of possible events (door locks, door unlocks, lighting event, etc.).

- **Interval:** This type of event macro allows the programmer to program a macro that continues to reoccur after an allotted amount of time (up to 720 minutes)
- **Schedule:** Allows the programmer to configure macros based on a schedule. This feature utilizes the astronomical clock of the MRX base station and can only be programmed by the installer.
- **Geo-Fence:** These macros use the GPS location of a URC mobile device in order to trigger macros when arriving or leaving a location. The macro that triggers is configured here; however, the location is set from the app.
- **NFC:** Used in conjunction with NFC tags/triggers, can activate almost any macro with just a tap. Currently, only supported on Android device. Program macros in Total Control Flex 2.0 and assign them to NFC tags through the app.



## UI & Macro Editing: iOS & Android

The TKP-7600 supports both landscape and portrait; however, it only supports one viewing mode at a time. URC Mobile supports both landscape and portrait. Both orientation must be programmed separately.

1

Follow these steps for a basic setup:

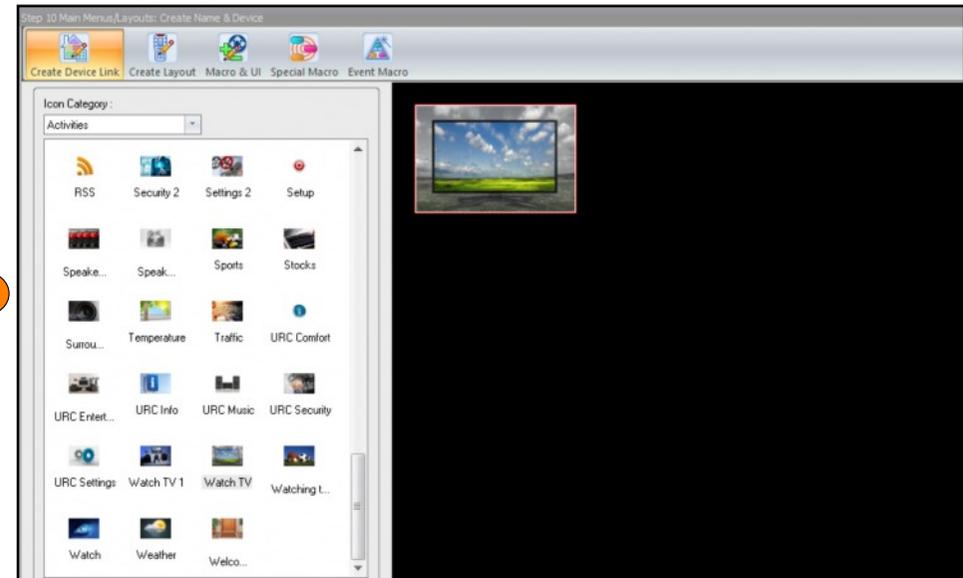
1. **Create Device Link:** As with the TKP-7600/TDC-7100 a button needs to be added to the interface.

Drag and drop a graphic from the **Icon Category** window into the simulator to add a button.

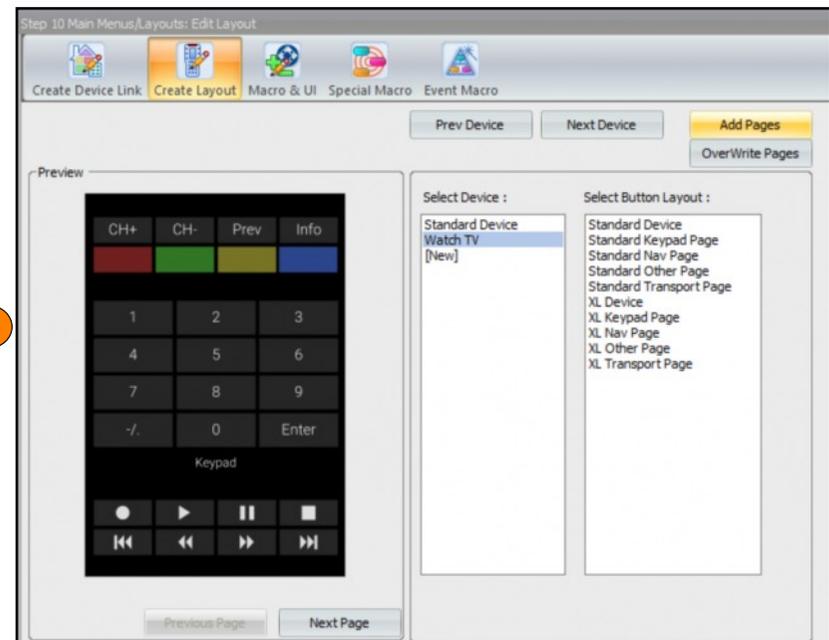
2. **Create Layout:** Select a button layout.

Select the **Device** (i.e. Watch Cable) and choose an available **button layout** (Standard Device, Standard Keypad Page, etc.).

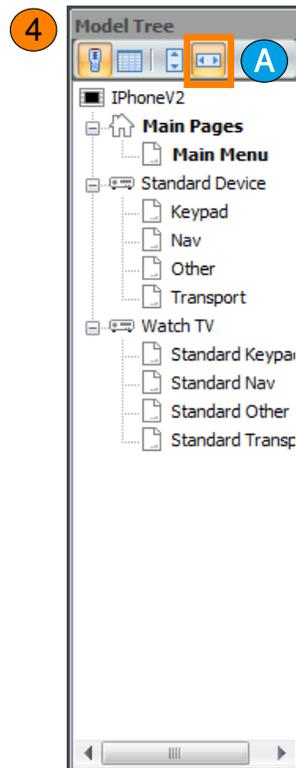
Select **Add Pages** to confirm the button layout selection.



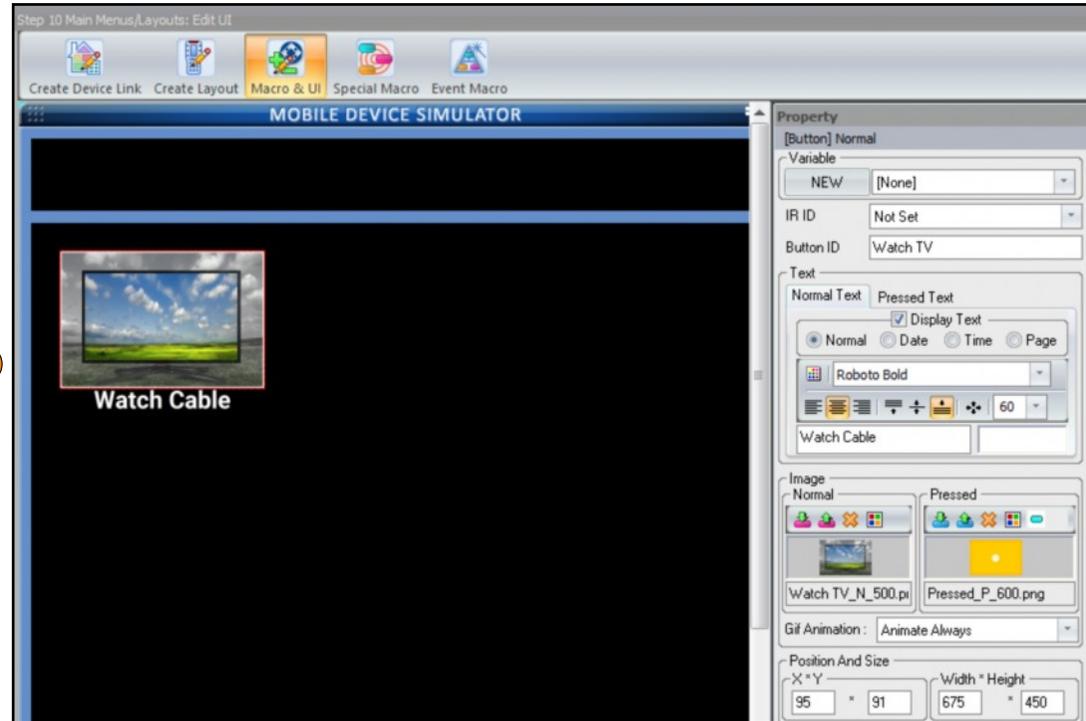
2



3. **Macro & UI:** By default the portrait view is seen first for phone types and landscape for tablets.. Refer to pages 51-68 for full details on how to program, customize, and configure the button added on the previous page.
4. **Model Tree:** After configuring the portrait view, the landscape view must be programmed separately.
  - a. Select the **landscape** view button.



3

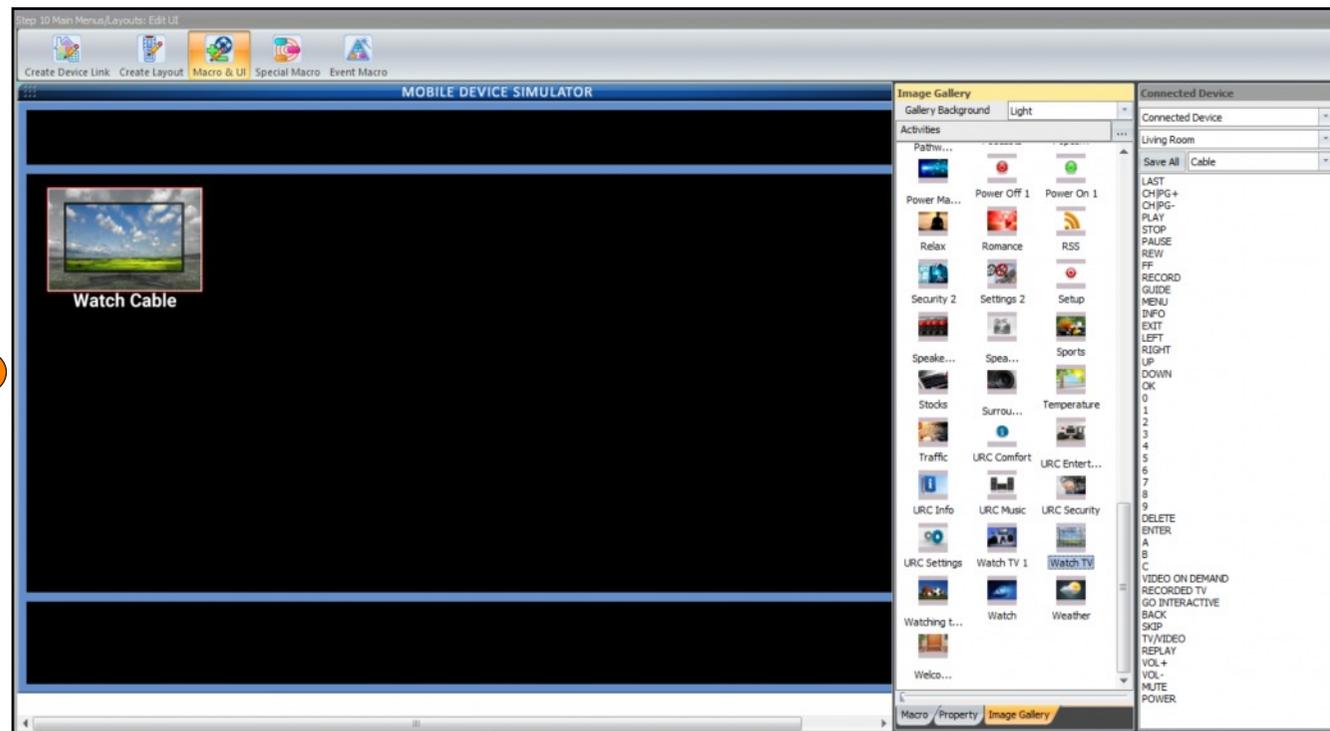


5. **URC Mobile Landscape Mode:** Utilize the **Image Gallery** to add a button onto the **Mobile Device Simulator**.

Use the **Macro** window and **Connected Device** window to program the button.

For full details on how to program this button please refer to pages 51-68 of this document.

5



## Step 11: Punch Through

Punch Throughs allows the programmer to quickly define shortcuts for various commands in the system. For example, when the end-user is on their Blu-ray pages and press the Vol + button, the system wants to Punch Through from whichever device is controlling the audio for that room (AVR, Soundbar, etc.).

These settings must be configured for every URC Interface and room in the system:

1. Select the **Zone/Room** (i.e. Game Room, Bar, etc.).
2. Select a **Model Device** (URC Interface, i.e. TKP-7600, TDC-7100, etc.).
3. Select a **UI Device** (i.e. Watch Cable, Main, etc.).
4. **Punch From:** Choose the device that controls the action

**Volume, Mute:** Use the drop-down menu to select from any devices on the Project Tree to use as a **Punch Through** device. When on the selected Punch To device, the **Vol +, Vol -, and Mute** commands are sent from the selected **Punch From** device.

**Channel:** Use the drop-down menu to select from any devices on the Project Tree to use as a **Punch Through** device. When on the selected Punch To device, the **Ch + and Ch -** commands are sent from the selected **Punch From**.

**Navigation:** Use the drop-down menu to select from any devices on the Project Tree to use as a **Punch Through** device. When on the selected Punch To device, the **Up, Down, Left, Right, Select, Menu, Exit, Info, and Display** commands are sent from the selected **Punch From** device.

**Play, Stop...:** Use the drop-down menu to select from any devices on the Project Tree to use as a **Punch Through** device. When on the selected Punch To device, the **Play, Stop, Pause, Rewind, Fast Forward, Skip Back, and Skip Forward** commands are sent from the selected **Punch From** device.

**Number (0-9, +10, ENT):** Use the drop-down menu to select from any devices on the Project Tree to use as a **Punch Through** device. When on the selected Punch To device, the **0-9, +10, and ENT** commands will be sent from the selected **Punch From** device.

5. Select **Save**.

Step 11 Punch Through

**Punch To :**

1. Select Zone :  
Living Room

2. Select Model :  
TKP-7600

3. Select Device :  
Main  
Standard Device  
Watch Cable  
Other Devices

Select All Clear All

**Punch From :**

Volume, Mute :  
[None]

Channel :  
[None]

Navigation :  
[None]

Play, Stop.. :  
[None]

Number (0-9, +10, ENT) :  
[None]

Save 5