Media Player Programming Guide

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Create a New Program

Introduction

This section explains the steps required to program a system that uses Crestron® Media Player.

Add the Media Player Smart Object to a Smart Graphics Project

The first step in creating a system using Media Player is creating a Smart Graphics project in VT Pro-e®.

1. In VT Pro-e, create or open a Smart Graphics touch screen project.
2. Create a new page (or use an existing one).
3. In the Smart Graphics Control Browser, navigate to the *Applications* folder and locate the "Media Player Application".
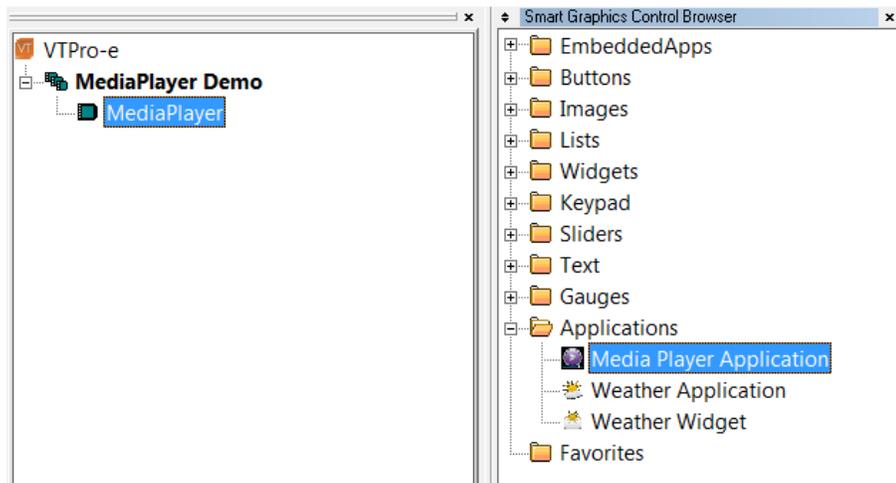
4. Click and drag the "Media Player Application" object on to the page or subpage.
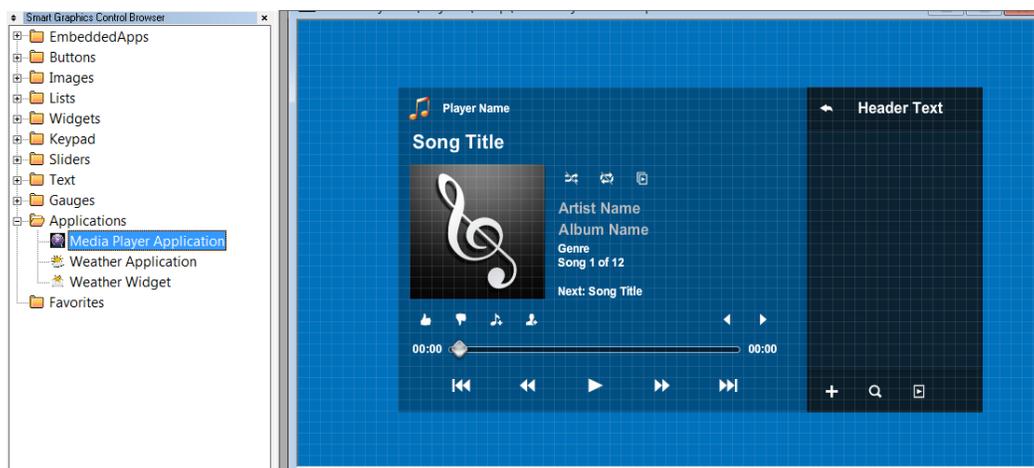
NOTE: If Media Player is to be placed on a subpage in a project, it should not be installed on other pages and/or subpages within the project. Source selection from other pages or subpages should be done programmatically using the router module.

5. Open the Property grid (**Options** | **Property Grid**) if not already visible.
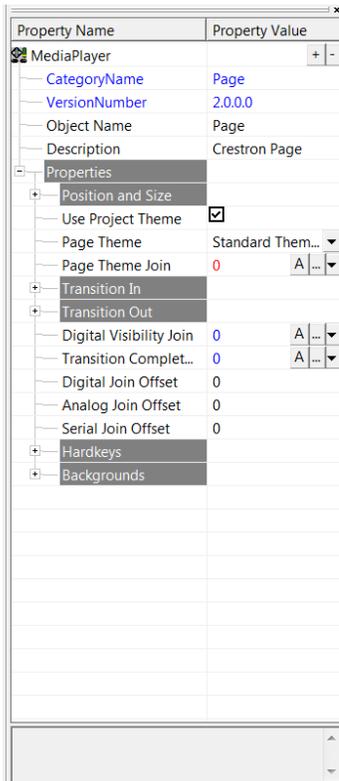
6. Select the Media Player object by clicking on it. The Property grid is updated with the Media Player Application's settings.
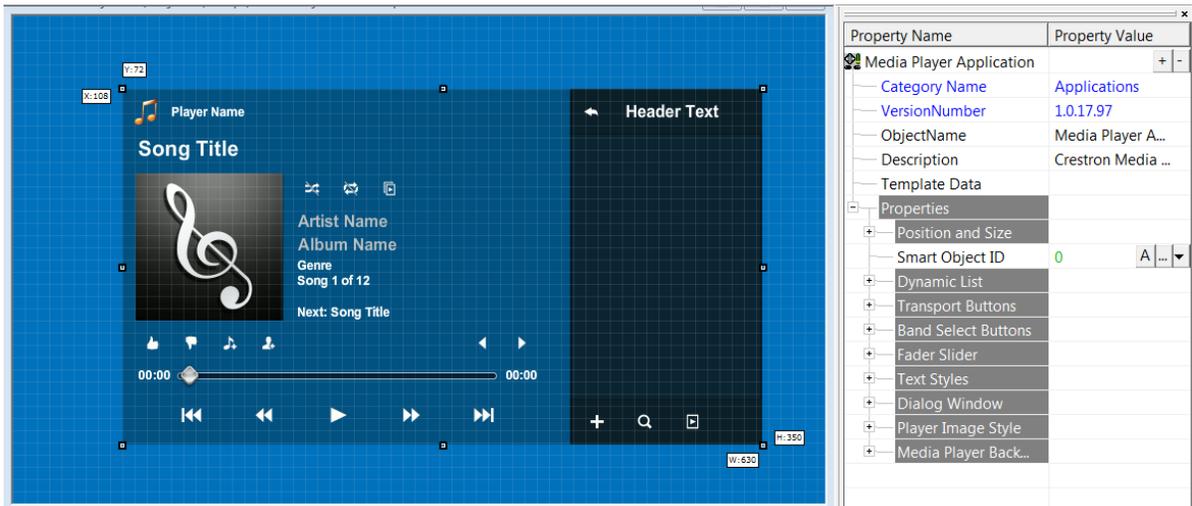
7. In the property grid, set the Smart Object ID to a unique ID number not already used in the project. Zero ("0d") is not a valid value.
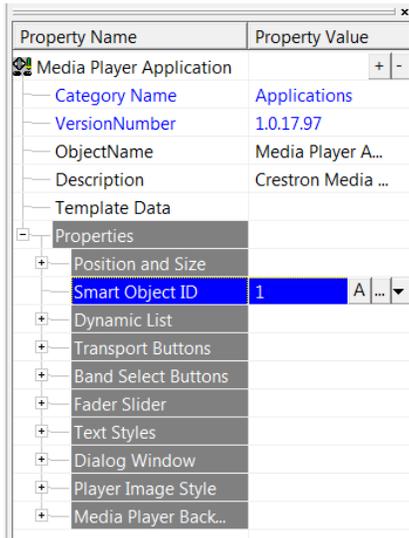
NOTE: If there are multiple Media Player objects within a system, each object must have a unique ID number.

8. Save the project and compile it. A .vtz and a .ced file are generated in the project folder. Remember the location of these files.
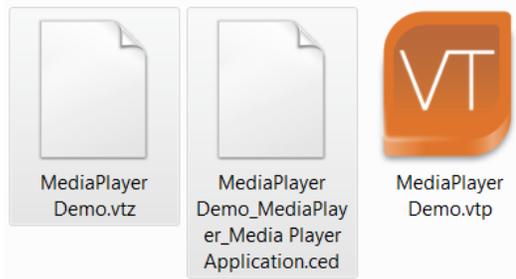
Add the Media Player to SIMPL Windows

Once the project has been created, Media Player must be added in the SIMPL Windows program.

1. In SIMPL Windows, create a program that contains a 3-Series processor and a Smart Graphics touch screen.
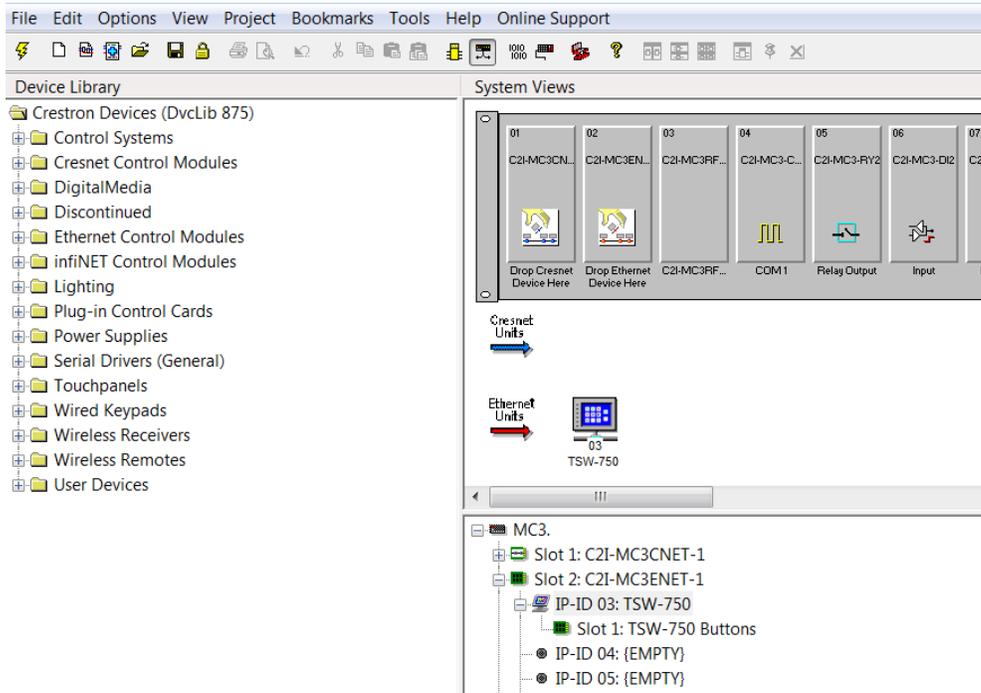
2. Navigate to the Programming view and find the touch screen symbol in the device tree under Central Control Modules.
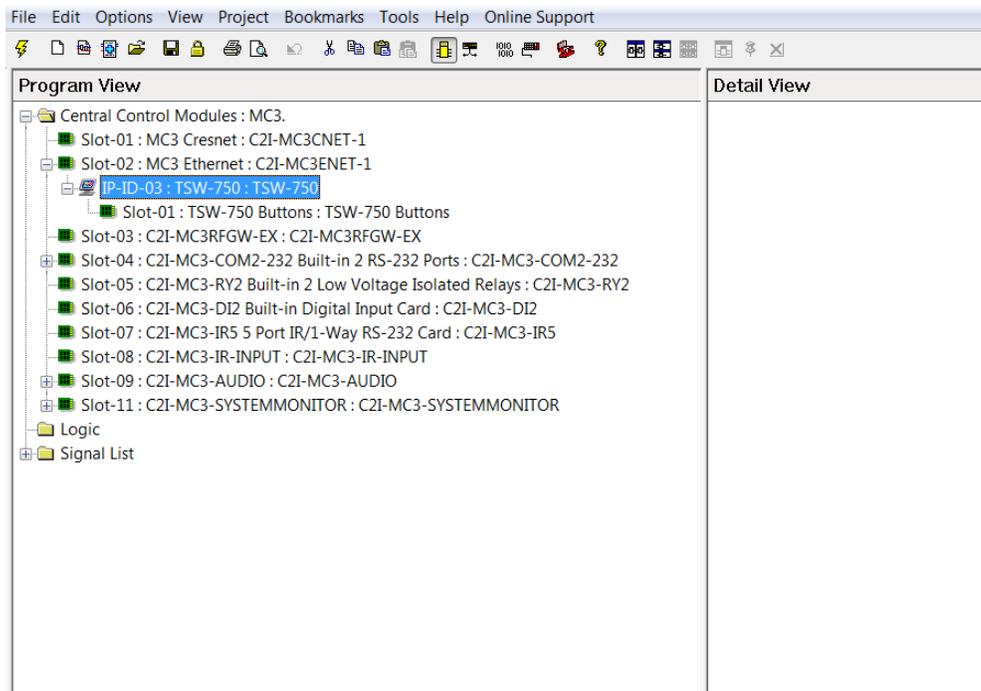
3. Set the Permanent String Size to a value of **255d** to accommodate CRPC packets.
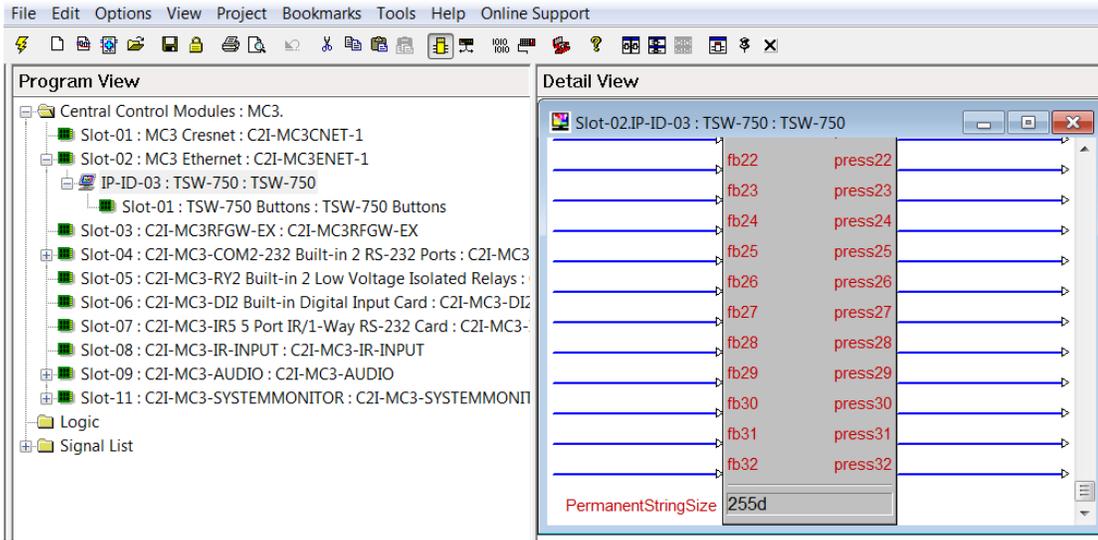
4. Right-click the touch screen's device symbol and select **Import Smart Graphics Extender**.
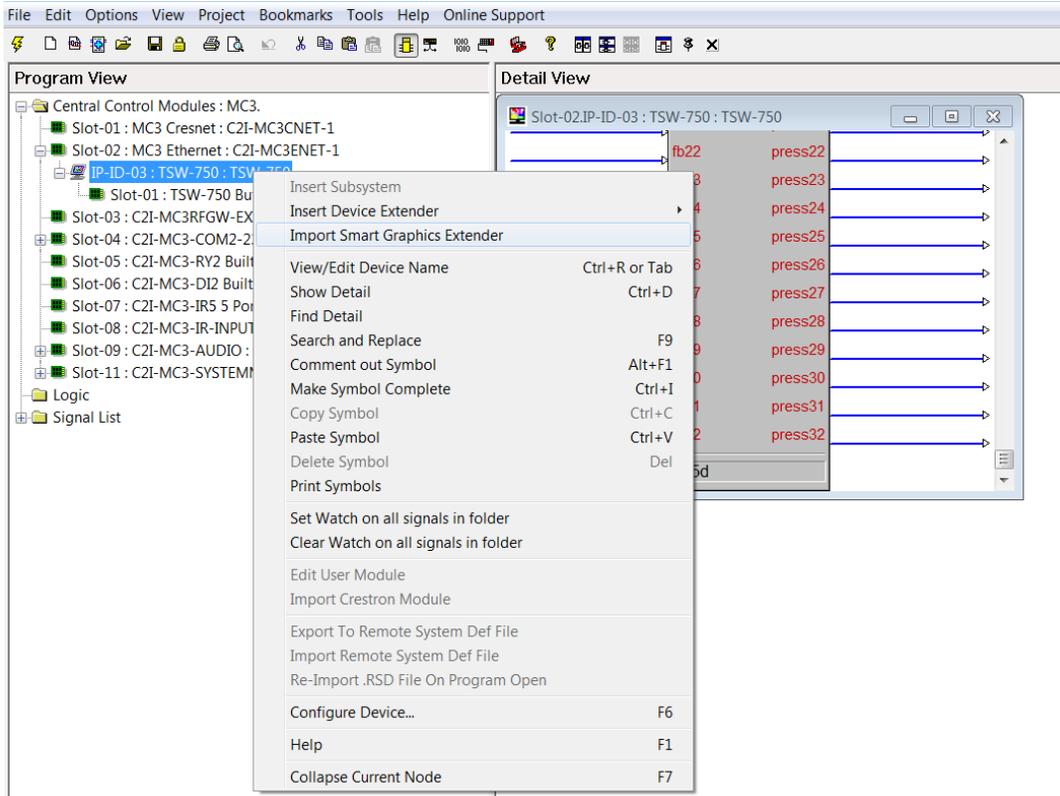
5. Locate and select the .ced file that was generated in step 8 of the previous section. The file is titled similar to X_X_Media Player Application.ced where X_X is the VT Pro-e project name and page name, respectively.
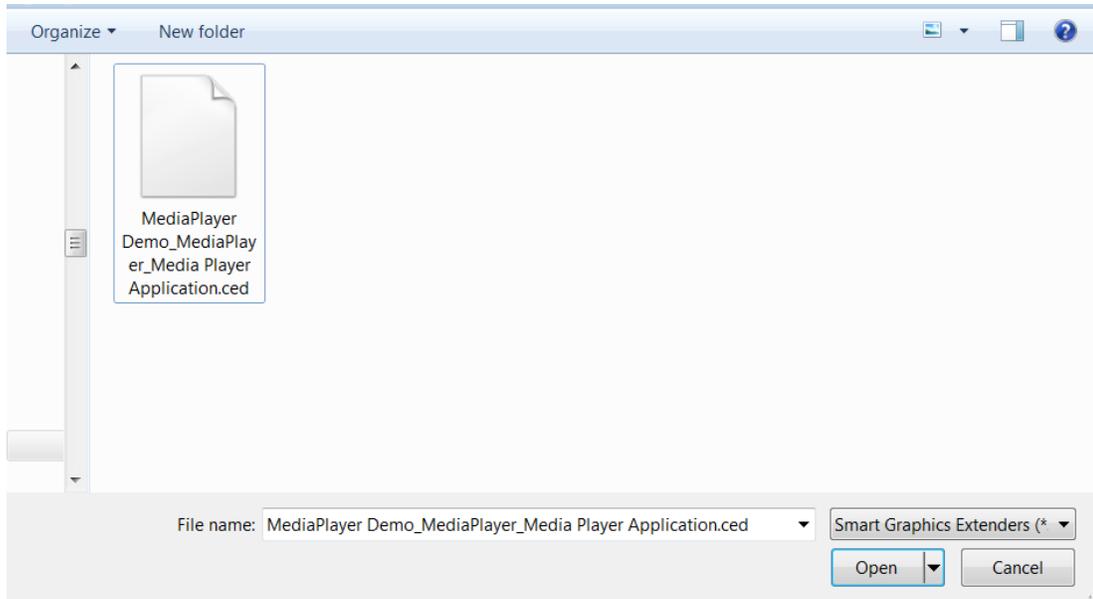
The Smart Object is added under the touch screen device symbol and the Media Server Object Router v1.0.cmc module is automatically added. Signals from the module to the Smart Object are automatically connected.

NOTE: If the .ced file was created in VT Pro-e version 5.3.19 or earlier, the imported Core 3 Media Object Router v1.0 module must be replaced with the Media Server Object Router v1.0.
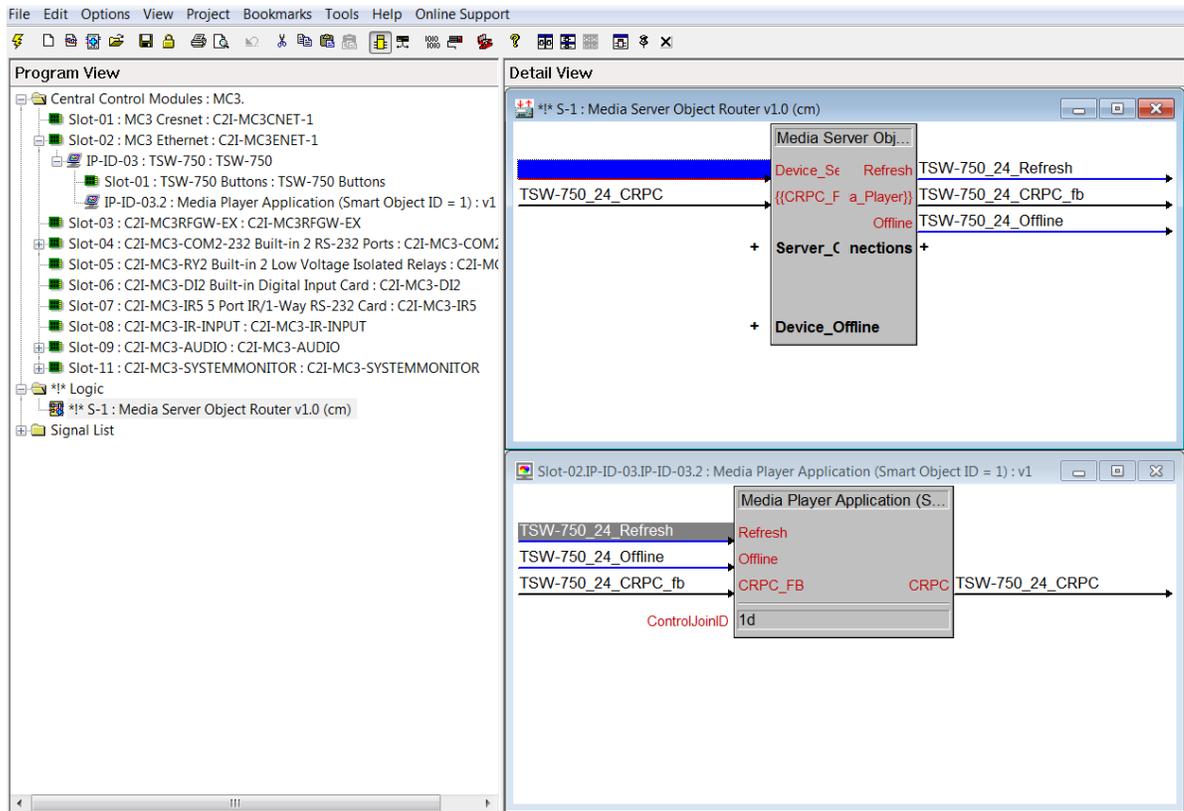
Program a Device to Connect to the Media Player Smart Object

NOTE: Some control systems have multiple Ethernet adapters (AV3, Pro3, CP3N). For these control systems, all user interfaces (touch screens, iPads, TST-600, etc) and devices (CEN-IDOCV, CEN-TRACK, etc) must be connected to the same Ethernet Adapter to take advantage of the direct connection to Media Player.

Internet Devices

Perform the following procedure to add programming for the following devices:

- ATC-AUDIONET
- CEN-ISERVER
- CEN-IDOCV
- ADMS
- ADMS G2
- AUTONOMIC

For Crestron Tuners, refer to "Crestron Tuners" on page 9.

1. Add the device (ex. ATC-AUDIONET) from the Configure view in SIMPL Windows.
2. Navigate to the Programming view and open the device symbol (ex. ATC-AUDIONET).
3. Locate the **CRPC** and **CRPC_FB** signals on the symbol.
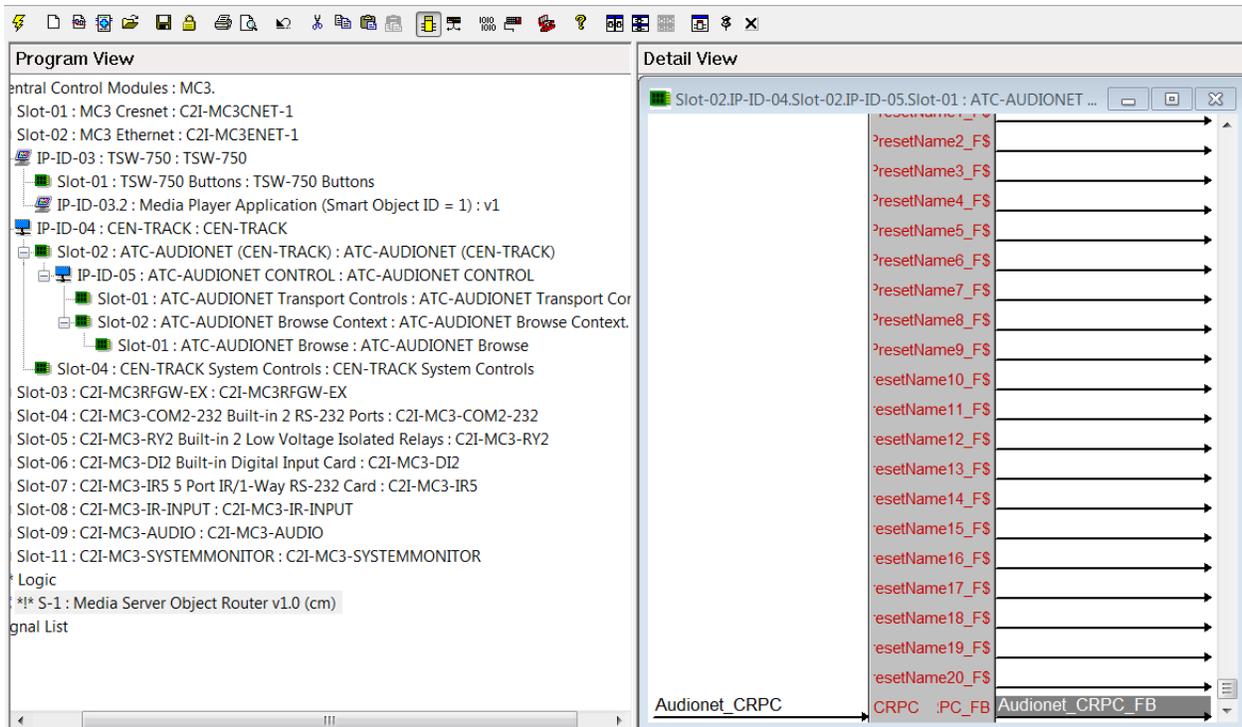
4. Connect the CRPC input to an available **CRPC_To_Device_#** input on the Media Server Object Router v1.0.cmc module.
5. Connect the CRPC output to the **CRPC_From_Device_#** input on the Media Server Object Router v1.0.cmc module.

    NOTE: In steps 5 and 6, the input and output signals **MUST** be the same "#". For example, using **CRPC_From_Device_2** in step 5 requires **CRPC_To_Device_2** to be used in step 6.

Program View

Central Control Modules : MC3.
Slot-01 : MC3 Cresnet : C2I-MC3CNET-1
Slot-02 : MC3 Ethernet : C2I-MC3ENET-1
IP-ID-03 : TSW-750 : TSW-750
    Slot-01 : TSW-750 Buttons : TSW-750 Buttons
    IP-ID-03.2 : Media Player Application (Smart Object ID = 1) : v1
IP-ID-04 : CEN-TRACK : CEN-TRACK
    Slot-02 : ATC-AUDIONET (CEN-TRACK) : ATC-AUDIONET (CEN-TRACK)
        IP-ID-05 : ATC-AUDIONET CONTROL : ATC-AUDIONET CONTROL
            Slot-01 : ATC-AUDIONET Transport Controls : ATC-AUDIONET Transport Cor
            Slot-02 : ATC-AUDIONET Browse Context : ATC-AUDIONET Browse Context.
                Slot-01 : ATC-AUDIONET Browse : ATC-AUDIONET Browse
    Slot-04 : CEN-TRACK System Controls : CEN-TRACK System Controls
Slot-03 : C2I-MC3RFGW-EX : C2I-MC3RFGW-EX
Slot-04 : C2I-MC3-COM2-232 Built-in 2 RS-232 Ports : C2I-MC3-COM2-232
Slot-05 : C2I-MC3-RY2 Built-in 2 Low Voltage Isolated Relays : C2I-MC3-RY2
Slot-06 : C2I-MC3-DI2 Built-in Digital Input Card : C2I-MC3-DI2
Slot-07 : C2I-MC3-IR5 5 Port IR/1-Way RS-232 Card : C2I-MC3-IR5
Slot-08 : C2I-MC3-IR-INPUT : C2I-MC3-IR-INPUT
Slot-09 : C2I-MC3-AUDIO : C2I-MC3-AUDIO
Slot-11 : C2I-MC3-SYSTEMMONITOR : C2I-MC3-SYSTEMMONITOR
* Logic
! S-1 : Media Server Object Router v1.0 (cm)
Signal List

Detail View

! S-1 : Media Server Object Router v1.0 (cm)

Media Serve...
Device_ Refresh — TSW-750_24_Refresh
TSW-750_24_CRPC — {{CRPC Player}} — TSW-750_24_CRPC_fb
Offline — TSW-750_24_Offline
- Server ctions -
Audionet_CRPC_FB — CRPC_ evice_1 — Audionet_CRPC
CRPC_ evice_2
CRPC_ evice_3
CRPC_ evice_4

Slot-02.IP-ID-04.Slot-02.IP-ID-05.Slot-01 : ATC-AUDIONET ...
esetName13_F$
esetName14_F$
esetName15_F$
esetName16_F$
esetName17_F$
esetName18_F$
esetName19_F$
esetName20_F$
Audionet_CRPC — CRPC_ :PC_FB — Audionet_CRPC_FB

NOTE: The corresponding **Offline** signal in the Media Server Object Router must be connected to the device's Offline extender. In the case of the ATC-AUDIONET, the card's offline extender must be used.

6. The **Device_Select** analog signal on the Media Server Object Router v1.0.cmc is used to select the device the Media Player is connected. Use an analog initialize or similar logic to set the value to the desired device.

    For example, if an ATC-AUDIONET UI module is connected to *Device 1* on the Media Server Object Router, setting the **Device_Select** analog to **1** connects the Media Player application to the ATC-AUDIONET UI module.

7. Repeat steps 1 through 6 for each device to be controlled by Media Player.

    NOTE: If additional touch screens are to be added, UI modules are required for each touch screen that is added to the system.

8. After all devices have been added, compile and upload the program to the control system.

Crestron Tuners

Perform the following procedure to add programming for the following devices:

- ATC-AMFMXM
- ATC-AMFMSR
- ATC-AMFM2
- C2N-TFM

- C2N-TAMFMXM
- C2N-TXM

For Internet devices, refer to "Internet Devices" on page 7.

1. Add the device from the Configure view in SIMPL Windows and select the option with [Hardware Interface] to have the hardware module auto-connected to the device symbol.
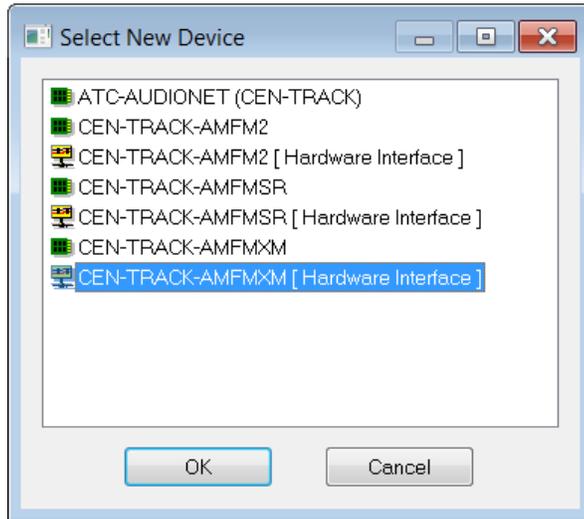
2. Navigate to the Programming view and locate the newly added hardware module in the Logic folder.

   NOTE: This new hardware module combines the two hardware modules used in SystemBuilder programming of the past. If upgrading an existing program, all signals from the older hardware modules should be transferred to this combined module. All UI modules (whether Media Player UI modules or non-Media Player modules (MLX-3) should connect to this combined module using crosspoints.

3. Enter a value for the Equipment ID on the hardware module. Each tuner must have a unique Equipment ID.
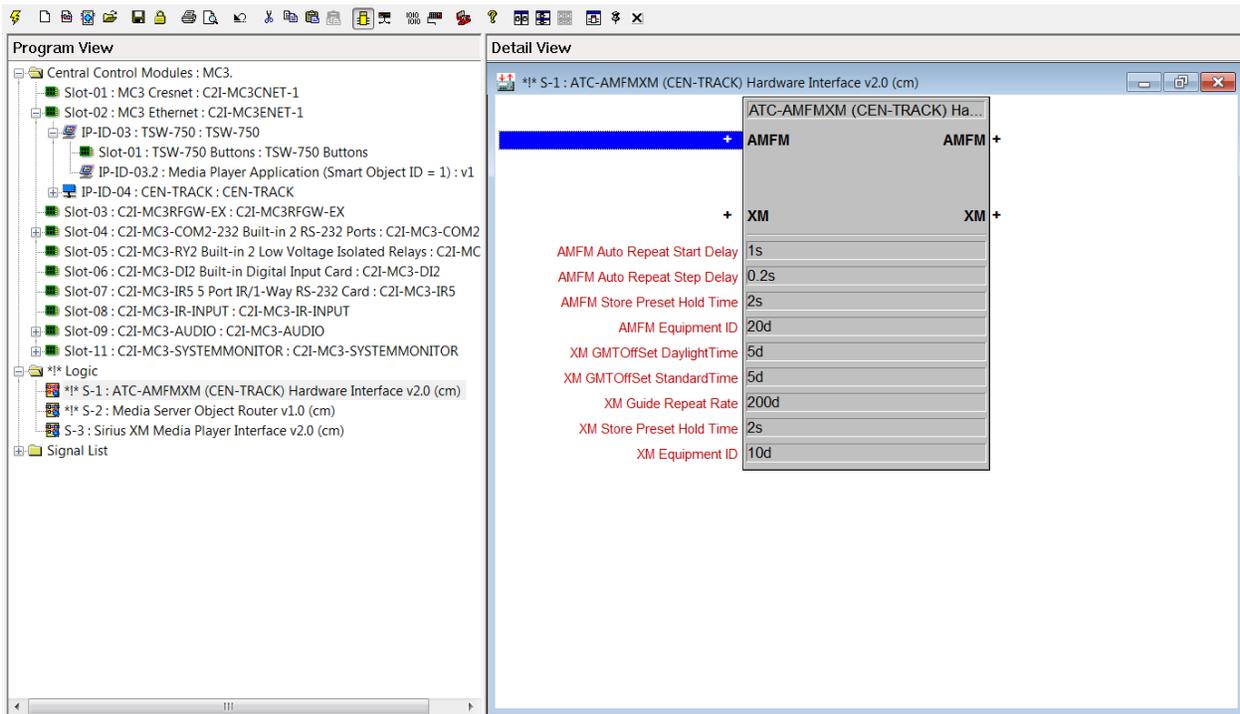
4. Add the appropriate Media Player tuner UI module. UI modules are found in the **Symbol Library | Crestron Modules | Media Player** folder. If a device with multiple tuners is used, a UI module is required for each tuner.

   If using CEN-TRACK Cards, use the following modules:

   - AMFM – use AMFM (CEN-TRACK + C2N-TFM) Media Player UI vX.X.X.cmc
   - XM – use Sirius XM Media Player Interface vX.X.cmc
   - Sirius – use Sirius XM Media Player Interface vX.X.cmc

   If using a C2N-TAMFMXM, use the following modules:

   - AMFM – use AMFM (C2N-TAMFMXM) Media Player UI vX.X.X.cmc
   - XM – use Sirius XM Media Player Interface vX.X.cmc

   If using a C2N-TXM, use Sirius XM Media Player Interface vX.X.cmc

   If using a C2N-TFM, use AMFM (CEN-TRACK + C2N-TFM) Media Player UI vX.X.X.cmc

5. Enter the Equipment ID and Control ID on each UI module. The Equipment ID should match the value used for the hardware device associated with the UI. The Control ID should be a unique value.
6. Specify the IP Port Number and Ethernet Adapter Type. For details, refer to "Appendix: IP Port and Ethernet Adapter Parameters on Tuner UI Modules" on page 14.

7. Connect the CRPC input to an available **CRPC_To_Device_#** input on the Media Server Object Router v1.0.cmc module.

8. Connect the CRPC output to the **CRPC_From_Device_#** input on the Media Server Object Router v1.0.cmc module.

   NOTE: In steps 7 and 8, the input and output signals MUST be the same "#".For example, using **CRPC_From_Device_2** in step 7 requires **CRPC_To_Device_2** to be used in step 8.
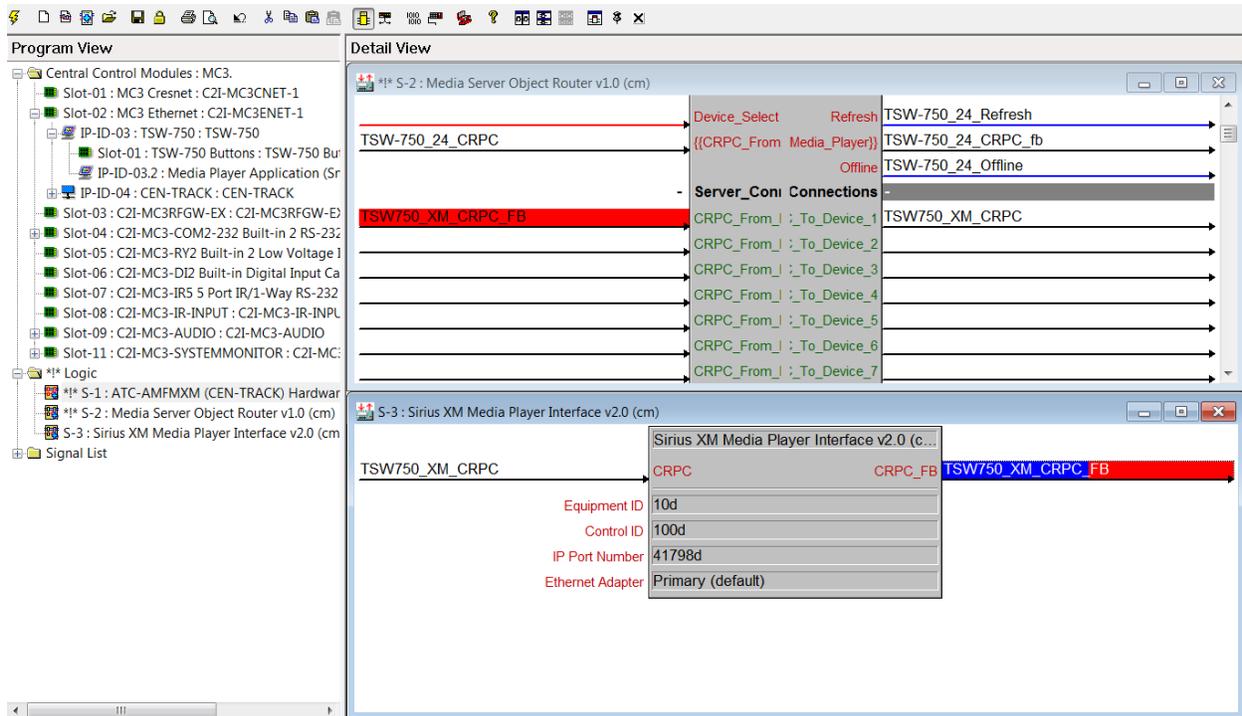
9. The **Device_Select** analog signal on the Media Server Object Router v1.0.cmc is used to select the device the Media Player is connected. Use an analog initialize or similar logic to set the value to the desired device.

   For example, if an XM UI module (Sirius XM Media Player Interface vX.X) is connected to *Device 1* on the Object Router, setting the **Device_Select** analog to **1** connects the Media Player application to the XM UI module.

10. Repeat steps 1-9 for each device to be controlled by Media Player.

    NOTE: If additional touch screens are to be added, UI modules are required for each touch screen that is added to the system.

11. After all devices have been added, compile and upload the program to the control system.

Modify an Existing Program

Description
The following provides instructions for upgrading an existing Media Player system to enhance the Media Player experience.

Update SIMPL Windows Programming
1. Replace the applicable hardware modules:
   - Replace all instances of **ATC-AMFM2 Hardware Interface v1.0.0.cmc** with **ATC-AMFM2 Hardware Interface v2.0.0.cmc**
   - Replace all instances of **ATC-AMFMSR (CEN-TRACK) Hardware Interface v1.0.cmc** with **ATC-AMFMSR (CEN-TRACK) Hardware Interface v2.0.cmc**
   - Replace all instances of **ATC-AMFMXM (CEN-TRACK) Hardware Interface v1.0.cmc** with **ATC-AMFMXM (CEN-TRACK) Hardware Interface v2.0.cmc**
   - Replace all instances of **C2N-TAMFMXM Hardware Interface v1.0.cmc** with **C2N-TAMFMXM Hardware Interface v2.0.cmc**
   - Replace all instances of **Crestron C2N-TXM Hardware Interface v2.2.cmc** with **Crestron C2N-TXM Hardware Interface v2.3 (3-Series Only).cmc**
2. Replace the applicable Media Player UI modules:
   - Replace all instances of **AMFM (C2N-TAMFMXM) Core3 Media Player UI v1.0.0.cmc** with **AMFM (C2N-TAMFMXM) Media Player UI v2.0.0.cmc**
   - Replace all instances of **AMFM (CEN-TRACK) Core3 Media Player UI v1.0.1** with **AMFM (CEN-TRACK + C2N-TFM) Media Player UI v2.0.0.cmc**
   - Replace all instances of **Sirius XM Media Player Interface v1.0.cmc** with **Sirius XM Media Player Interface v2.0.cmc**
3. Replace all instances of **Core 3 Media Server Object Router v1.0.cmc** with **Media Server Object Router v1.0.cmc**.
4. Compile and upload the file to the control system**:**
   a. Select **Project | Recompile All**.
   b. Upload the program.

Update Display Projects
1. Run the Crestron Smart Graphics™ Controls install program (Version 2.00.022 or later) that can be downloaded at www.crestron.com/software**.**
2. In VT Pro-e, open each user interface project and update the controls when prompted.
3. Recompile each user interface project.
4. Load the recompiled projects to their respective interfaces.

Firmware
Unless an update is provided with the Media Player upgrade, use the latest firmware found on the Crestron website.

Appendix: IP Port and Ethernet Adapter Parameters on Tuner UI Modules

Tuner UI modules specify an IP Port and Ethernet Adapter parameters for connecting to Media Player.
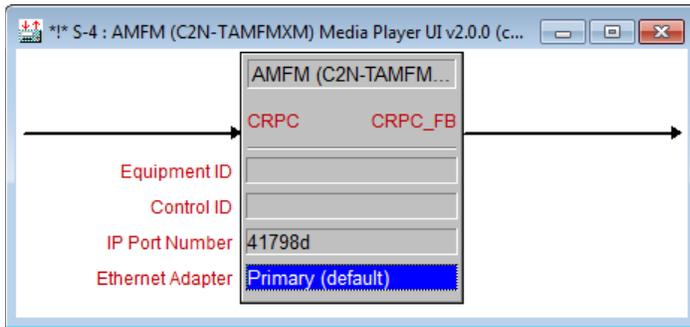
- **IP Port Number**
  This specifies the port number to be used for Media Player communications. This port is used as a faster alternative to the join connection. The port number must be the same across all UIs that use the same Ethernet Adapter.
- **Ethernet Adapter**
  This is the control system's Ethernet Adapter to be used during direct communication. This is used as a faster alternative to the join connection. This parameter should be set as instructed below:

  - If the touch screen using the UI module is connected on the **LAN** port of the control system, set the parameter to **Primary**.
  - If the touch screen using this UI module is connected to the **Control Subnet** port of the control system, set the parameter to **Control Subnet**.

When using Media Player objects in a system with a PRO3, AV3 or CP3N as the control system, observe the following:
- It is recommended that all user interfaces (Touchscreens, iPads, TST-600, etc.) and devices (CEN-IDOCV, CEN-TRACK, etc.) be connected to the same Ethernet Adapter to take advantage of the direct connection to Media Player object and for ease of programming.
- UIs can be placed on either the Primary or Control Subnet Ethernet adapter.

  If UI's are placed on the Primary then devices must also be placed on the Primary for a direct connection

  If UI's are placed on the Control Subnet then devices can be placed on either the Control Subnet or the Primary for a direct connection.
- All UI modules on the same Ethernet Adapter **must** use the same port number.
- The port number **must** be different for each Ethernet Adapter.

Example 1
For a system with seven TSW-750s connected to the **LAN** side of the control system, the settings should be set as follows:
- UI module for TSW-750 #1 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.

- UI module for TSW-750 #2 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.
- UI module for TSW-750 #3 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.
- UI module for TSW-750 #4 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.
- UI module for TSW-750 #5 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.
- UI module for TSW-750 #6 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.
- UI module for TSW-750 #7 for AMFM has **IP Port Number** = 41798
  and Ethernet **Adapter** = Primary.

Example 2

For a system with seven TSW-750s connected to the **Control Subnet** side of the control system, the settings should be set as follows:

- UI module for TSW-750 #1 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #2 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #3 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #4 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #5 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #6 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.
- UI module for TSW-750 #7 for AMFM has **IP Port Number** = 41797
  and Ethernet **Adapter** = Control Subnet.