# Getting Started with the Series 2 and Series 3 Media Player

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**Series 2 DMPS: DMP-2K and SV-4K**

**Series 3 DMPs: CV-HD and CV-UHD**

This module provides a workflow summary with information about the Series 2 and Series 3 hardware, software features, and key considerations before deploying these media players.

It is intended for anyone who is responsible for installing and configuring the Series 2 and Series 3 media player and for anyone interested in understanding its general operation.

It includes the following topics:

## Workflow Summary to Get Started with the Series 2 and Series 3 Media Player

**Note:** Before you deploy the Series 2 and Series 3 media players, install Cisco Vision Dynamic Signage Director and get familiar with the Cisco Vision Dynamic Signage Director software.

Table 1 on page 12 provides a summary of the tasks and related information to get familiar with the Series 2 and Series 3 media player.

**Table 1       Getting Started Task Summary**

| Getting Started Task | For more information see: |
|---|---|
| Understand the DMP-2K hardware. | ■ Operating Environment for the Series 2 and Series 3 Media Players, page 13.<br><br>■ Dimensions of the DMP-2K Media Player, page 19.<br><br>■ Ports on the DMP-2K Media Player, page 19.<br><br>■ Cabling Information for the Series 2 and Series 3 Media Player, page 22.<br><br>■ LEDs on the Series 2 Media Players, page 26<br><br>■ LEDs on the Series 3 Media Players, page 28<br><br>■ IR Remote for Cisco Vision Dynamic Signage Director, page 28.<br><br>■ Default Settings for the Series 2 and Series 3 Media Player, page 29. |
| Understand the SV-4K hardware. | ■ Operating Environment for the Series 2 and Series 3 Media Players, page 13.<br><br>■ Dimensions of the SV-4K Media Player, page 21.<br><br>■ Ports on the SV-4K Media Player, page 21.<br><br>■ Cabling Information for the Series 2 and Series 3 Media Player, page 22.<br><br>■ LEDs on the Series 2 Media Players, page 26.<br><br>■ LEDs on the Series 3 Media Players, page 28.<br><br>■ IR Remote for Cisco Vision Dynamic Signage Director, page 28.<br><br>■ Default Settings for the Series 2 and Series 3 Media Player, page 29. |
| Understand the Series 2 and Series 3 features. | ■ Cisco Vision Dynamic Signage Director Software Feature Map for the Series 2 and Series 3, page 30.<br><br>■ Unsupported Series 2 and Series 3 Hardware Features, page 31. |
| Understand the Differences Between the SV-4K, DMP-2K, and the Cisco Vision HD and UHD players. | Key Considerations for the Series 2 and Series 3 Media Players, page 32. |
| Review deployment best practices. | Best Practices for Series 2 and Series 3 Deployment, page 35. |
| Perform pre-deployment site planning and configuration. | Planning the Series 2 and Series 3 Media Player Deployment, page 37. |

# Information About the Series 2 and Series 3 Media Player Hardware

This section includes the following topics:

## Operating Environment for the Series 2 and Series 3 Media Players

Table 2 on page 13 describes the supported environment for proper operation of the Series 2 and Series 3 media players.

**Table 2    Supported Operating Environment for the Series 2 and Series 3**

| Operating Environment | Supported Conditions |
|---|---|
| Temperature | 0° C to 40° C |
| Humidity | Up to 90% maximum humidity, non-condensing |

**Caution**: **Do not allow condensation of any vapor to touch the DMPs at any time. Do not spill food or drinks of any kind on the DMPs.**

## Physical Characteristics of the Series 2 and Series 3 Media Players

This section provides information about the dimensions and ports on each of the Series 2 and Series 3 media players:

## CV-HD Media Player

### Dimensions of the CV-HD Media Player

**Figure 1     CV-HD Dimensions**



### CV-HD Media Player

**Figure 2     CV-HD Dimensions**

Information About the Series 2 and Series 3 Media Player Hardware
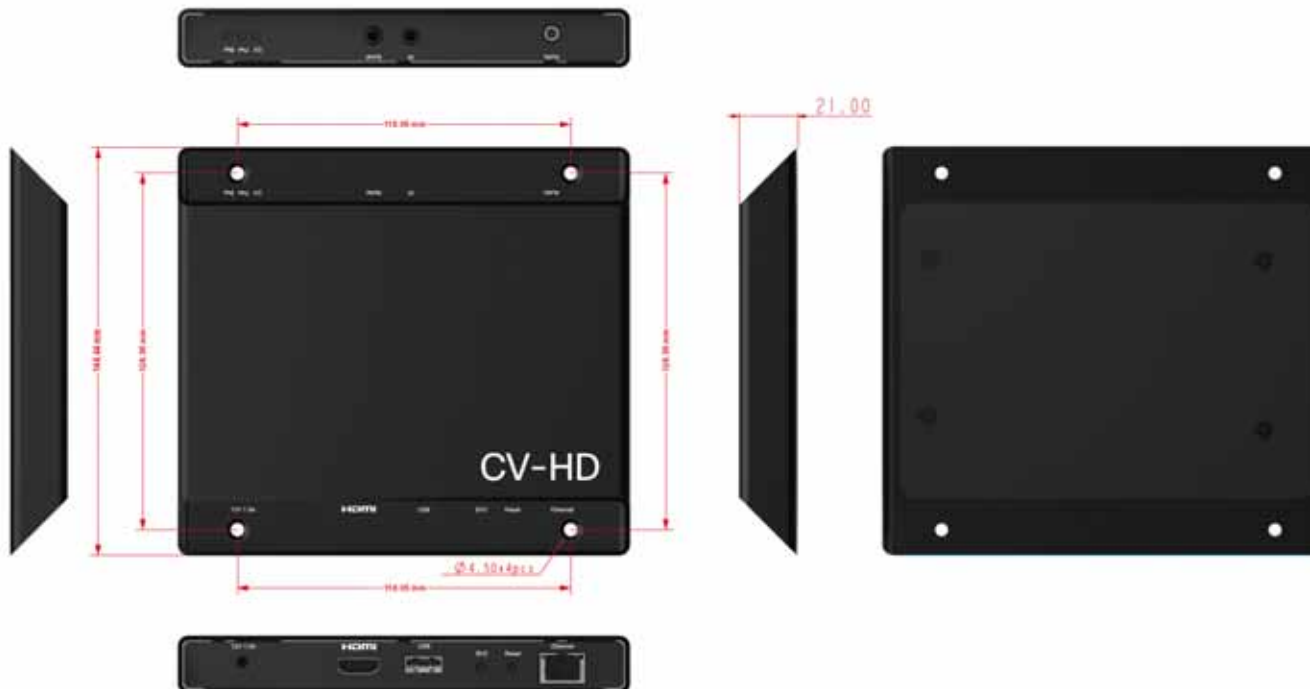
## CV-UHD Media Player

### Dimensions of the CV-UHD Media Player

**Figure 3      CV-UHD Dimensions**



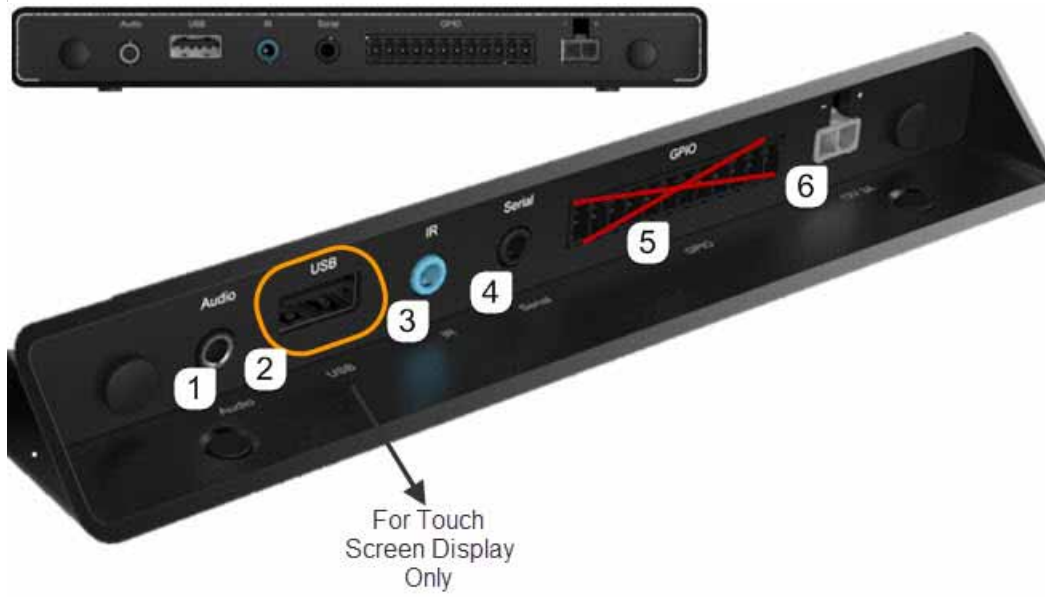### Ports on the CV-UHD Media Player

**Figure 4      CV-UHD Front Panel**

| | Name/Description | Usage | | Name/Description | Usage |
|---|---|---|---|---|---|
| 1 | LED bank<br><br>See LEDs on the Series 3 Media Players, page 28. | Observe for operational status. | 2 | microSD | Not Supported. |
| 3 | HDMI Out<br><br>High-Definition Multimedia Interface (HDMI) output connector (compatible with HDMI 2.0 devices) to transmit digital audio/video content. | Connect to HDMI In port on the TV. | 4 | HDMI In<br><br>HDMI input connector (compatible with HDMI 2.0 devices) to receive digital audio/video content from an HDMI-enabled source.<br><br>The signaling conforms with DVI 1.0, HDMI 1.4, and HDCP 2.2 standards. | Connect to HDCP-compliant laptop or other device. |
| 5 | USB–2.0 Type A | Type C only for touchscreen. | 6 | SVC | This is used for service only. |
| 7 | Reset | Resets the DMP. | 8 | PoE Ethernet<br><br>RJ-45 1000 Base-T Ethernet port. | Connect to switch network for PoE+ dynamic negotiation of 15W or 30W.<br><br>**Note:** If power is negotiated to 15W, services on the CV-UHD are restricted.[1]<br><br>**Warning**: Do not supply power to network port using AC power cable. When using PoE, budget appropriate power for optimal DMP operation. |

1.  This includes shut down of the HDMI-In port and unavailability of one CPU. If using USB for touch screen support, the USB port power is sufficiently reduced to impact support of any high-power devices.

Information About the Series 2 and Series 3 Media Player Hardware

**Figure 5** **CV-UHD Rear Pane**



For Touch
Screen Display
Only

| | Name/Description | Usage | | Name/Description | Usage |
|---|---|---|---|---|---|
| 1 | Audio[1]<br><br>3.5 mm female audio connector for analog stereo signal. | Required only for connections that do not support audio, such as HDMI-to-DVI connections from device to the TV. Also supports a "Mini Toslink" connector which outputs digital audio. | 2 | USB<br><br>USB 2.0 Type C port. | Intended for touch screen display use only with Cisco Vision Dynamic Signage Director. |
| 3 | IR<br><br>3.5 mm infrared in/out. | The Series 3 media players do not have an internal infrared receiver. You must use the included IR extender cable to support an IR remote. | 4 | Serial (TTL)[2]<br><br>3.5 mm universally asynchronous receiver/transmitter (UART) (asynchronous serial) interface (1/8" jack) that uses transistor-transistor logic (TTL) | Connect to TV serial port for control of the TV via RS-232 commands. |
| 5 | GPIO<br><br>General Purpose Input/Output. | Not supported. | 6 | Power connector<br><br>Rated 12V 3A. | **Note:** Not for production use in Cisco Vision Dynamic Signage Director.<br><br>The CV-UHD is qualified for Cisco Vision Dynamic Signage Director using Power over Ethernet (PoE+) via the Ethernet port.<br><br>**Warning**: Do not supply power to network port using AC power cable. When using PoE, budget appropriate power for optimal DMP operation. |

1.  The analog audio out port is designed to drive line-level impedances in the higher Ohm range, such as for commercial grade speaker systems. Headphones are typically just a few Ohms and not recommended for use with this port.

2.  The DMP serial interface transmits on pin 1 (Tip), receives on pin 2 (Ring), and sleeve is ground.
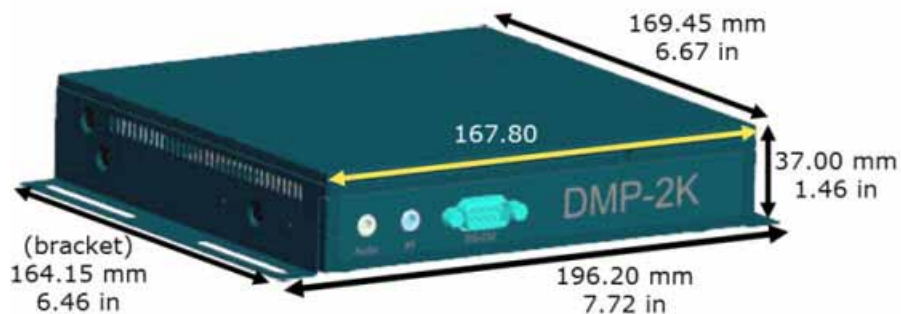
## DMP-2K Media Player

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- Ports on the DMP-2K Media Player, page 19

Information About the Series 2 and Series 3 Media Player Hardware

## Dimensions of the DMP-2K Media Player

The DMP-2K media player is smaller than the SV-4K. Figure 6 on page 19 shows the dimensions of the DMP-2K device.

**Figure 6      DMP-2K Dimensions**



## Ports on the DMP-2K Media Player

**Figure 7      DMP-2K Front Panel**



**Table 3      DMP-2K Front Panel Port Descriptions**

| Port Name | Usage | Description |
|---|---|---|
| Audio[1] | Required only for connections that do not support audio, such as HDMI-to-DVI connections from device to the TV. | 3.5 mm female audio connector for analog stereo signal. |
| IR | The DMP-2K does not have an internal infrared receiver. You must use the included IR extender cable to support an IR remote. | 3.5 mm infrared in/out. |
| RS-232 | Connect to TV serial port for control of the TV via RS-232 commands. | RS-232 serial interface with male DE-9 connector. This connection is used for TV control. |

1.  The analog audio out port is designed to drive line-level impedances in the higher Ohm range, such as for commercial grade speaker systems. Headphones are typically just a few Ohms and not recommended for use with this port.

**Figure 8      DMP-2K Rear Panel**



**Table 4      DMP-2K Rear Panel Port Descriptions**

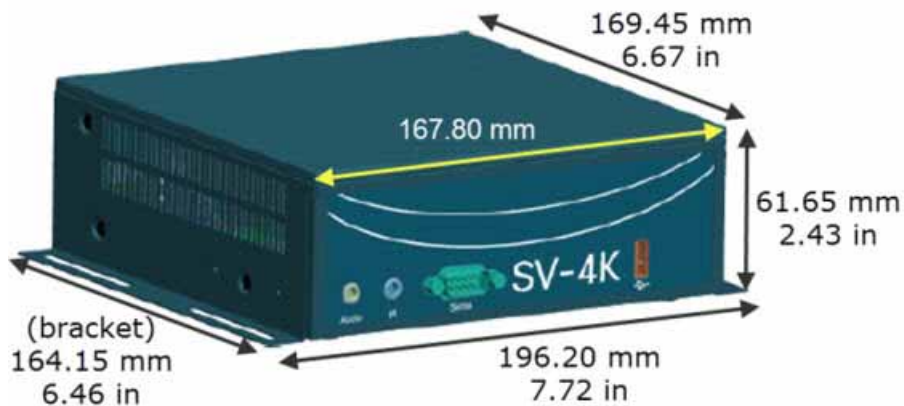| Port Name | Usage | Description |
|-----------|-------|-------------|
| 12V 5A | Not for production use in Cisco Vision Dynamic Signage Director.<br><br>**Note:** The DMP-2K is qualified for Cisco Vision Dynamic Signage Director using Power over Ethernet (PoE+) via the Ethernet port. | 60-watt/12-volt/5-amp power supply. |
| SPDIF | Provides audio from the primary video routed by Cisco Vision Dynamic Signage Director to the SPDIF port. | Sony/Phillips Digital Interface. |
| HDMI | Connect to HDMI In port on the TV. | High-Definition Multimedia Interface (HDMI) output connector to transmit digital audio/video content. |
| USB 3.0 | Not supported. | Single USB 3.0 port (backward-compatible). |
| Ethernet | Connect to switch network for PoE+. | RJ-45 10/100/1000 Base-T Ethernet port. |

## SV-4K Media Player

- Dimensions of the SV-4K Media Player, page 21

- Ports on the SV-4K Media Player, page 21

## Dimensions of the SV-4K Media Player

The SV-4K is the largest of the media players. Figure 9 on page 21 shows the dimensions of the SV-4K device.

**Figure 9      SV-4K Dimensions**



## Ports on the SV-4K Media Player

**Figure 10    SV-4K Front Panel**



**Table 5      SV-4K Front Panel Port Descriptions**

| Port Name | Usage | Description |
|---|---|---|
| Audio[1] | Required only for connections that do not support audio, such as HDMI-to-DVI connections from device to the TV. | 3.5 mm female audio connector for analog stereo signal. |
| IR | The SV-4K does not have an internal infrared receiver. You must use the included IR extender cable to support an IR remote. | 3.5 mm infrared in/out. |
| Serial | Connect to TV serial port for control of the TV via RS-232 commands. | RS-232 serial interface with male DE-9 connector. This connection is used for TV control. |
| USB | Not supported. | USB 2.0 port. |

1.  The analog audio out port is designed to drive line-level impedances in the higher Ohm range, such as for commercial grade speaker systems. Headphones are typically just a few Ohms and not recommended for use with this port.
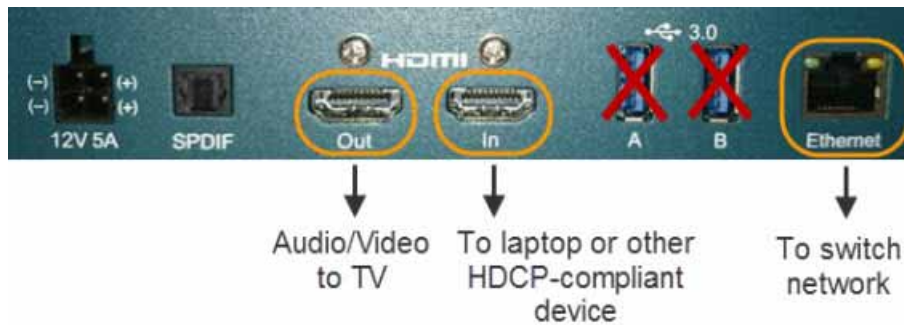
**Figure 11    SV-4K Rear Panel**



**Table 6      SV-4K Rear Panel Port Descriptions**

| Port Name | Usage | Description |
|---|---|---|
| 12V 5A | Required when running the SV-4K over a WiFi connection.<br><br>**Note:** The SV-4K must first be provisioned over PoE+ with configuration of WiFi completed in Cisco Vision Dynamic Signage Director. See How to Deploy WiFi Network Connectivity on the SV-4K. | 60-watt/12-volt/5-amp power supply. |
| SPDIF | Provides audio from the primary video routed by Cisco Vision Dynamic Signage Director to the SPDIF port. | Sony/Phillips Digital Interface. |
| HDMI Out | Connect to HDMI In port on the TV. | High-Definition Multimedia Interface (HDMI) output connector to transmit digital audio/video content. |
| HDMI In | Connect to HDCP-compliant laptop or other device. | HDMI input connector to receive digital audio/video content from an HDMI-enabled source. |
| USB 3.0<br><br>A B | Not supported. | Two USB 3.0 ports (backward-compatible). |
| Ethernet | Connect to switch network for PoE+. | RJ-45 10/100/1000 Base-T Ethernet port. |

## Cabling Information for the Series 2 and Series 3 Media Player

Table 7 on page 22 describes the cables that ship with the DMP-2K and SV-4K hardware.

**Table 7      Cables Shipped with Series 2 Hardware**

| Cable | Length | Purpose |
|---|---|---|
| Female-to-Female Serial Adapter | 2 M | (As required) For serial device connections. |

**Table 7     Cables Shipped with Series 2 Hardware (continued)**

| Cable | Length | Purpose |
|---|---|---|
| HDMI-to-HDMI | 2 M | (Required) Connects the HDMI Out (male) to the HDMI In (male) port on the TV for digital audio and video support. Compliant with HDMI version 1.4. |
| RS-232 DE-9 DCE/DTE Straight Through | 2 M | (Required for TV control over RS-232) Connects the DMP serial DTE (male) port to a serial DCE (female) port on the TV. |
| IR Extender | 2 M | (Required for IR Remote) Connects to the IR port on the DMP front panel to serve as an infrared signal receiver for the device. |

Table 8 on page 23 describes the cables that ship with the CV-HD and CV-UHD hardware.

**Table 8     Cables Shipped with Series 3 Hardware**

| Cable | Length | Purpose |
|---|---|---|
| Female-to-Female Serial Adapter | 2 M | (As required) For serial device connections. |
| HDMI-to-HDMI | 2 M | (Required) Connects the HDMI Out (male) to the HDMI In (male) port on the TV for digital audio and video support. Compliant with HDMI version 1.4. |
| 3.5 mm to male DB-9 Serial Adapter | 2 M | (Required for TV control over RS-232) Connects the DMP 3.5 mm serial port to a serial DCE (female) port on the TV. |
| IR Extender | 2 M | (Required for IR Remote) Connects to the IR port on the DMP front panel to serve as an infrared signal receiver for the device. |

## Other Cabling Considerations

Assess the ports available on the TVs at the venue so that you can get any additional adapters or cable types that are needed to connect the Series 2 and Series 3 DMPs to the TV.

### Ethernet Cable

Use standard Category 5e or 6 cables up to 100 m in length.

### Null Modem (Crossover) Cable

The Series 2 DMPs are a DTE serial device. Therefore, if the TV also has a DTE (male) serial port, use a null modem (crossover) cable for the TV control connection.

### HDMI-to-DVI Adapter

If the TV does not support HDMI In, then you cannot use the standard HDMI-to-HDMI cable that ships with the Series 2 and Series 3. However, if the TV supports a DVI-D connection, then you can acquire a DVI adapter for the HDMI cable to make the HDMI-to-DVI connection.

Since this type of connection only supports video, you will also need to connect the DMP audio port to the audio input ports on the TV if audio support is required.

### Other HDMI Cable Adapters

The HDMI cable that ships with the media player is compliant with HDMI version 1.4. If you are using any other cable adapters, be sure that they support HDMI version 1.4 if you plan to support 4K video content.

### Audio Cables

Audio cables are not generally needed. However, there are a couple of cases where you might need to make an audio connection to the SV-4K:

- If you need to support an HDMI-to-DVI connection from the SV-4K to the TV since this supports video only.

- If you need to connect to external audio distribution equipment when audio is to be distributed within an area.

## RS-232 Serial Pinout for the Series 2 DMP

Table 9 on page 24 provides the pinout for the DE-9 serial connector on the front panel of the Series 2 DMPs.

**Table 9      Series 2 and Series 3 Serial DE-9 Pinout**

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | NC | 2 | Receive data into the device |
| 3 | Transmit data out of the device | 4 | Available 5V@500mA |
| 5 | Ground | 6 | NC |
| 7 | RTS | 8 | CTS |
| 9 | NC | | |

# Mounting Guidelines for the Series 2 and Series 3 Media Players

- Guidelines for Mounting the Series 2 Media Player, page 24

- Guidelines for Mounting the Series 3 Media Players, page 25

## Guidelines for Mounting the Series 2 Media Player

Consider the following guidelines before mounting the Series 2 media player:

- Do not fit in Sunbrite cases.

- Full dimensions (width / height / depth) with mounting brackets:

    **DMP-2K**

    – 196.20 mm / 37.00 mm / 169.45 mm

    – 7.72 in / 1.46. in / 6.67 in

    **SV-4K**

    – 196.20 mm / 61.65 mm / 169.45 mm

    – 7.72 in / 2.43 in / 6.67 in

    – The bracket length is 164.15 mm / 6.46 in.

- Weight:

    – DMP-2K: 1 lb 14 oz / 850.5 grams

    – SV-4K: 2 lb 4 oz / 1020.6 grams

- Attach to the wall using the brackets on each side of the device using 4 screws (one for each bracket slot) that measure between 3.5 mm and 4.2 mm in diameter.

■ Do not block the right side panel so that you can see the LEDs for troubleshooting.

■ Ensure all air vents are clear for proper cooling.

■ Choose a location that works with the required IR extender cable for infrared support. No IR receptor is built into the DMP.

**Caution**: **Do not mount the DMP near where HVAC outlets or ducts may drip condensed air onto the device. Humid conditions are not recommended and may cause the unit to fail or behave unpredictably.**

**Note:** The tested range is about 20 ft. To achieve this range, position the receiver facing outward. The receiver is enclosed and not visible.

## Guidelines for Mounting the Series 3 Media Players

Consider the following guidelines before mounting a Series 3 media player:

■ Full dimensions (width / height / depth) with mounting brackets:

**CV-HD**

– 160.00 mm / 21.00 mm / 144.44 mm

– 6.30 in / 0.83 in / 5.69 in

– The mounting holes are inset 20.98 mm (0.82 in) from the box edge.

**CV-UHD**

– 204.35 mm / 21.00 mm / 179.92 mm

– 7.08 in / 0.83 in / 7.08 in

– The mounting holes are inset 30.94 mm (1.22 in) from the box edge.

■ Weight:

– CV-HD: 12 oz / 340.1 grams

– CV-UHD: 1 lb 4 oz / 567 grams

■ Attach to the wall using the mounting holes on the front and back with 4 screws (one for each hole) that measure between 3.5 mm and 4.2 mm in diameter.

■ Ensure all air vents are clear for proper cooling.

■ Choose a location that works with the required IR extender cable for infrared support. No IR receptor is built into the DMP.

**Caution**: **Do not mount the DMP near where HVAC outlets or ducts may drip condensed air onto the device. Humid conditions are not recommended and may cause the unit to fail or behave unpredictably.**

**Note:** The tested range is about 20 ft. To achieve this range, position the receiver facing outward. The receiver is enclosed and not visible.

## LEDs on the Series 2 Media Players

The Series 2 media players have 8 LEDs in two banks of 4 on the right panel of the device. Figure 12 on page 26 shows normal operation for the device on a Cisco Vision Dynamic Signage Director network.

**Note:** Some of the LEDs apply to hardware features that are not enabled for use with Cisco Vision Dynamic Signage Director.

**Figure 12    Series 2 Media Player LED Bank**



| 1 | **Svr**—Not applicable. | 2 | **WiFi**—(SV-4K only) Flashes when the player is connecting to the wireless network. Displays when connected. |
|---|---|---|---|
| 3 | **Eth** (green)—Flashes when connecting to Ethernet network. Displays when connected. | 4 | **µSD**—Not applicable. |
| 5 | **Err** (red)—Flashes a certain number of times to indicate errors (Table 10 on page 26). | 6 | **Upd** (yellow)—Flashes when the device is being upgraded.<br><br>The Update and Error LEDs will flash in unison to indicate an error during firmware update (Table 11 on page 27). |
| 7 | **Pwr** (green)—Displays when the device is powered on and not in reset mode. | 8 | **Bsy** (green)—Flashes when there is file-system activity. |

**Table 10    Error (Err) LED Descriptions on the Series 2 Media Player**

| Error LED (number of flashes) | Description |
|---|---|
| 2 | Unspecified error. |
| 3 | Device is in network recovery mode and using DHCP Option 43 to contact Cisco Vision Dynamic Signage Director for provisioning. |
| 4 | No upgrade file found. |
| 5 | Failed to load kernel module.<br><br>or<br><br>OS initialization failed (Init shell script failed). |
| 6 | Board is not capable of running the current firmware version. |
| 7 | A piece of on-board hardware is not working correctly. |
| 8 | (Not applicable) Problem related to storage device (USB or SD card). |
| 9 | Problem related to the registry/NAND. |
| 10 | The autorun script encountered a load/run error. |
| 11 | WiFi-related error. |

**Table 10     Error (Err) LED Descriptions on the Series 2 Media Player (continued)**

| Error LED (number of flashes) | Description |
| --- | --- |
| 12 | Unable to find a bootable image. |
| 13 | The root file system has failed verification, which is used to detect whether the file system has been tampered with. You can recover a unit that is showing this error code by performing an update using safe mode. |
| 14 | Boot loader failure. |

**Table 11     Update (Upd) LED Descriptions on the Series 2 Media Player**

| Error LED (number of flashes) | Description |
| --- | --- |
| 2 | Erase failed. |
| 3 | Write failed. |
| 4 | Verify failed. |
| 5 | Failed to find UBI partition. |
| 6 | Attempt to write unsigned CFE to unit with secure boot enabled. |
| 7 | Failed to find UBI partition. |
| 8 | Failed to create/attach UBI partition. |
| 9 | Unexpected error. |
| 10 | Upgrade script exited abnormally. |
| 11 | Upgrade took longer than expected. |
| 12 | Update completed but update file could not be deleted. |

## LEDs on the Series 3 Media Players

The Series 3 media players have one row of LEDs on the left front panel of the device. The CV-UHD media player has an extra LED for WiFi support (Figure 13 on page 28).

**Figure 13    Series 3 LED Bank**



| 1 | **Err** (red)—Flashes a certain number of times to indicate errors (Table 12 on page 28). | 2 | **WiFi**—(CV-UHD only) Flashes when the player is connecting to the wireless network. Displays when connected.<br><br>**Note:** WiFi support is an orderable option for the CV-UHD only. It is not shipped by default in the media player. |
|---|---|---|---|
| 3 | **Pwr** (green)—Displays when the board is powered up and not in reset mode. Flashes during the firmware update process. | 4 | **Bsy** (green)—Flashes when there is file-system activity. |

**Table 12    Error (Err) LED Descriptions on the Series 3 Media Player**

| Error LED (number of flashes) | Description |
|---|---|
| 2 | Unspecified error. |
| 3 | Device is in network recovery mode and using DHCP Option 43 to contact Cisco Vision Dynamic Signage Director for provisioning. |
| 4 | No upgrade file found. |
| 5 | Failed to load kernel module.<br><br>or<br><br>OS initialization failed (Init shell script failed). |
| 6 | Board is not capable of running the current firmware version. |
| 7 | A piece of on-board hardware is not working correctly. |
| 8 | Problem related to USB device or SD card. |
| 9 | Problem related to the registry/NAND. |
| 10 | The autorun script encountered a load/run error. |
| 11 | WiFi-related error. |
| 12 | Unable to find a bootable image. |

## IR Remote for Cisco Vision Dynamic Signage Director

All media players use the same IR Remote device shown in Figure 14 on page 29. Generally, the IR Remote is used for TV control. However, even if you are not using the IR Remote for TV control, it is important to realize that the IR Remote also allows you to get information to troubleshoot the media player.

**Note:** The IR Remote is not automatically shipped with the Cisco Vision Dynamic Signage Director media players and must be ordered separately.

Figure 14 on page 29 shows the description for each of the buttons on the Cisco Vision Dynamic Signage Director IR Remote.

**Figure 14    Cisco Vision Dynamic Signage Director IR Remote Button Descriptions**
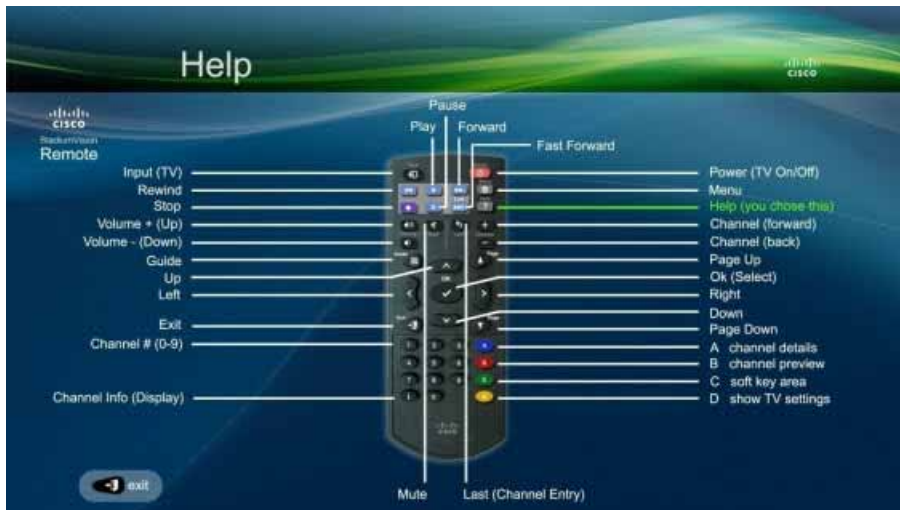


## IR Remote Sensor and IR Extender

Unlike for the Cisco DMP 4310G, the IR extender is required for the Series 2 and Series 3 media player because the Series 2 and Series 3 device does not have its own IR receiver. For more information, see Guidelines for Mounting the Series 2 Media Player, page 24.

The IR remote also is a critical troubleshooting tool so it is important to ensure that all media players can be IR-controlled even if it is not needed during normal operation. For more information about the IR-Remote, see Alternative Infra-Red Remote for Cisco Vision Dynamic Signage Director.

# Default Settings for the Series 2 and Series 3 Media Player

The Series 2 and Series 3 device ships from the factory with certain default settings. Upon running the start-up sequence and in communication with Cisco Vision Dynamic Signage Director, the Series 2 and Series 3 default settings are changed.

## RS-232 Default Settings on the Series 2 and Series 3

After processing the HTML run-time module from Cisco Vision Dynamic Signage Director, the Series 2 and Series 3 is set to the following RS-232 default settings:

**Note:** The Series 2 and Series 3 use default settings that match most TVs.

■   Baud—9600 (factory default is 115200)

■   Parity—None

■   Data Bits—8

■   Stop Bits—1

◾ Flow Control—None (factory default is hardware flow control only)

For information about the new RS-232 commands for the Series 2 and Series 3, see Appendix B: Display Parameters for the Series 2 and Series 3 Media Players, page 71.

## Other Default Settings

By default, the following functionality is disabled on the Series 2 and Series 3 media player:

◾ Secure Shell (SSH)

# Feature Summary for the Series 2 and Series 3 Media Player

This section includes the following topics:

◾ Cisco Vision Dynamic Signage Director Software Feature Map for the Series 2 and Series 3, page 30

◾ Unsupported Series 2 and Series 3 Hardware Features, page 31

## Cisco Vision Dynamic Signage Director Software Feature Map for the Series 2 and Series 3

Table 13 on page 30 identifies a subset of features that are supported only by certain DMP models in Cisco Vision Dynamic Signage Director.

**Table 13    DMP-Specific Feature Map**

| Cisco Vision Dynamic Signage Director Feature | SV-4K | DMP-2K | CV-HD | CV-UHD |
|---|---|---|---|---|
| 4K Local Video | Yes | **No** | **No** | Yes |
| Dual Video Regions | Yes | Yes | **No** | Yes |
| HDMI-In as a Channel Source[1] | Yes | **No** | **No** | Yes |
| Luma key support for second video region | Yes | Yes | **No** | Yes |
| Video Streamed to a Local HDMI-In Channel (HDMI-In Pass-Through)[2] | Yes | **No** | **No** | Yes |
| WiFi support | Yes | **No** | **No** | (Optional) |

1. Enhanced in Release 6.0 to add a default HDMI-In Channel 0.
2. For HDCP-compliant devices and content.

Table 14 on page 30 identifies the globally-supported features for all media players in the release.

**Table 14    Globally Supported Features**

| Cisco Vision Dynamic Signage Director Feature | SV-4K | DMP-2K | CV-HD | CV-UHD |
|---|---|---|---|---|
| 2.1 AC3/AC3+ (Dolby Digital audio decode) | Yes | Yes | Yes | Yes |
| Auto-Registration | Yes | Yes | Yes | Yes |
| Bulk Administration Tool (BAT) | Yes | Yes | Yes | Yes |
| Closed Caption | Yes | Yes | Yes | Yes |
| Command Center Monitoring | Yes | Yes | Yes | Yes |
| Content Replacement | Yes | Yes | Yes | Yes |
| Content Synchronization (between same media player models only) | Yes | Yes | Yes | Yes |

**Table 14    Globally Supported Features (continued)**

| Cisco Vision Dynamic Signage Director Feature | SV-4K | DMP-2K | CV-HD | CV-UHD |
|---|---|---|---|---|
| Custom Fonts (through Software Manager) | Yes | Yes | Yes | Yes |
| External Content Integration | Yes | Yes | Yes | Yes |
| Event Script Scheduler | Yes | Yes | Yes | Yes |
| HTML Pages as a Multicast Channel (from external URL)[1] | Yes | Yes | Yes | Yes |
| HTTP Live Streaming (HLS) Video as a Multicast Channel (from external URL)[1] | Yes | Yes | Yes | Yes |
| Group/Zone Configuration | Yes | Yes | Yes | Yes |
| Management Dashboard Commands | Yes | Yes | Yes | Yes |
| Management Dashboard Firmware configuration | Yes | Yes | Yes | Yes |
| Management Dashboard Model Filtering | Yes | Yes | Yes | Yes |
| Management Dashboard Monitoring | Yes | Yes | Yes | Yes |
| Multicast Video Scaling | Yes | Yes | Yes | Yes |
| Network Time Protocol (NTP) configuration | Yes | Yes | Yes | Yes |
| Point of Sale (POS) Integration with DMB Using Widgets | Yes | Yes | Yes | Yes |
| Portrait Mode content renditions | Yes | Yes | Yes | Yes |
| Precision Time Protocol (PTP) configuration | Yes | Yes | Yes | Yes |
| Proof of Play (PoP) | Yes | Yes | Yes | Yes |
| Ticker (RSS in External Content Integration) | Yes | Yes | Yes | Yes |
| Touch Screen[1] | Yes | Yes | Yes | Yes |
| TV Control using RS-232 and IR Remote | Yes | Yes | Yes | Yes |
| TV Control using HDMI CEC | Yes | Yes | Yes | Yes |
| Video Encoded as a a Multicast Channel from DMP Display Source (Display Encoding)[1] | Yes | Yes | Yes | Yes |
| Video Upload Support for Files Up to 4 GB in Size | Yes | Yes | Yes | Yes |
| Widgets tool | Yes | Yes | Yes | Yes |

1. Introduced in Release 6.0.

## Unsupported Series 2 and Series 3 Hardware Features

The following Series 2 and Series 3 hardware features are not supported:

- SD (and microSD)

- USB (2.0 and 3.0)—only used to connect touchscreen devices

**Note:** The Series 2 and Series 3 do not support content import and/or playback using the SD or USB ports.

# Key Considerations for the Series 2 and Series 3 Media Players

When you deploy a Series 2 or Series 3 media player, there are several things that you should know about its operation. This section highlights some of the important differences to be aware of when deploying the Series 2 and Series 3 media players.

This section includes the following topics:

- Firmware Provisioning on the Series 2 and Series 3, page 32

- Auto-Provisioning on the Series 2 and Series 3 Media Players, page 33

- HDCP Support on the Series 2 and Series 3 Media Players, page 33

- IR Receiver for the Series 2 and Series 3 Media Players, page 33

- Storage and Memory on the Series 2 and Series 3 Media Players, page 33

- Synchronization on the Series 2 and Series 3 Media Players, page 34

- Switch Communication on the Series 2 and Series 3 Media Players, page 34

- WiFi Network Connectivity on the CV-UHD and SV-4K, page 34

## Firmware Provisioning on the Series 2 and Series 3

The Series 2 and Series 3 firmware upgrade cannot be manually launched by **Management Dashboard** DMP command. It is done automatically when the Series 2 and Series 3 device boots.

**Caution:** **Before you power on the Series 2 and Series 3 device for the first time, complete the following configuration and tasks:**

**For initial deployment of a DMP-2K, verify:**

– **No other accessories are attached to the DMP-2K.**

– **Use standard Category 5e or 6 cables up to 100 m in length.**

- **Switch configuration, including the required LLDP for proper PoE+ operation.**

- **DHCP server configuration.**

- **Firmware upload for your Cisco Vision Dynamic Signage Director release.**

- **Auto-registration settings for the Series 2 and Series 3 to properly provision its firmware.**

Table 15 on page 32 provides a summary of the firmware provisioning tasks for the Series 2 and Series 3 in the Management Dashboard.

**Table 15     Summary of Firmware Provisioning Tasks on the Media Players**

| Firmware Provisioning Task | Series 2 and Series 3 |
|---|---|
| Upload firmware to Cisco Vision Dynamic Signage Director in the Management Dashboard. | Yes |
| Configure "Firmware image to use" and "init.version" under Auto Registration Settings. | Yes |
| Upgrade the firmware from the Management Dashboard by selecting DMPs and running the Firmware Upgrade command to push the firmware to the device. | **No** |

## Auto-Provisioning on the Series 2 and Series 3 Media Players

- The Series 2 and Series 3 media players are automatically provisioned with global configuration settings from Cisco Vision Dynamic Signage Director.

- As part of the start-up sequence, the device retrieves the Cisco Vision Dynamic Signage Director configuration, which includes all of the global settings for the Series 2 and Series 3 devices, such as NTP configuration, jitter settings, and so on.

  The Series 2 and Series 3 global settings are configured in the **Management Dashboard** by going to the sub menus from **Dynamic Signage Director Configuration > System Configuration > Global DMP Settings.**

- The Series 2 and Series 3 auto-registration settings are configured in the **Management Dashboard** by going to:

  **Dynamic Signage Director Configuration > System Configuration > Auto Registration Settings**.

- The Series 2 and Series 3 configuration in Cisco Vision Dynamic Signage Director is provisioned each time that the Series 2 and Series 3 device boots.

**Caution: If you are running Cisco Vision Dynamic Signage Director on a virtual server, reference a reliable NTP server running on a bare metal server, rather than relying on a clock from a VM environment that can drift and is not accurate. NTP for Cisco Vision Dynamic Signage Director is configured using the TUI. For more information, see Cisco Vision Administration Guide: Dynamic Signage Director Release 6.1.**

## HDCP Support on the Series 2 and Series 3 Media Players

The Series 2 and Series 3 natively support content that uses Intel's High-bandwidth Digital Content Protection (HDCP) through the installation of a protection key on the media player.

- From the HDMI Out port, the Series 2 and Series 3 support HDCP versions 1.4 and 2.2.

- From the HDMI In port, the SV-4K and CV-UHD can receive HDCP 1.4 and send as HDCP 2.2.

## IR Receiver for the Series 2 and Series 3 Media Players

There is not an embedded IR receiver on the Series 2 and Series 3 media players. You must use the IR extender cable to use the IR Remote.

## Storage and Memory on the Series 2 and Series 3 Media Players

The Series 2 and Series 3 devices have different sizes of solid-state storage and RAM (Table 16 on page 33):

**Table 16     Storage and Memory on the Series 2 and Series 3 Media Players**

| DMP Model | Total SSD | Available for Content | RAM |
|---|---|---|---|
| CV-HD | 128 GB | 100 GB | 3 GB |
| CV-UHD | 128 GB | 100 GB | 3 GB |
| SV-4K | 120 GB (minimum) | 100 GB | 3 GB |
| DMP-2K | 64 GB | 53 GB | 2 GB |

**Note:** The amount of RAM can make a difference in how the same content might play on different media player models. This difference might more likely be seen when playing HTML pass-through (URL) content.

**To find information about available storage:**

1. Go to **Tools > Management Dashboard**.

2. Select a device.

3. In the **Device Details** area of the dashboard, go to **Status** > **Utilization**

**Note:** The amount of available storage shown in the Management Dashboard reflects the total amount of space available on the SSD, not the actual storage pool available for content.

You also can find information about available storage if you view **Device Details** by clicking a screen from thumbnail view in **Device Management** (CCM).

## Synchronization on the Series 2 and Series 3 Media Players

The Series 2 and Series 3 media players support synchronization of content played among a group of devices using the Network Time Protocol (NTP) and Precision Time Protocol (PTP). NTP and PTP settings are provisioned globally for all Series 2 and Series 3 media players.

The Cisco Vision Dynamic Signage Director server is provisioned as the default NTP source for all media players. When PTP is configured, only the Series 2 and Series 3 PTP master derives its clock using NTP.

**Caution: If you are running Cisco Vision Dynamic Signage Director on a virtual server, reference a reliable NTP server running on a bare metal server, rather than relying on a clock from a VM environment that can drift and is not accurate. NTP for Cisco Vision Dynamic Signage Director is configured using the TUI. For more information, see Cisco Vision Administration Guide: Dynamic Signage Director Release 6.0.**

## Switch Communication on the Series 2 and Series 3 Media Players

The Series 2 and Series 3 media players communicate with the Cisco Connected Stadium switch using the required Link Layer Discovery Protocol (LLDP) rather than MediaNet. The media player determines available power (when using PoE+) over LLDP.

## WiFi Network Connectivity on the CV-UHD and SV-4K

Wireless network connectivity to the CV-UHD or SV-4K is supported over an 802.11a, 802.11b, or 802.11n wireless network in the Cisco Vision Dynamic Signage Director venue.

**Note:** For initial deployment of a DMP with WiFi connectivity, you will need both a PoE+ network connection in addition to connection of the CV-UHD or SV-4K using the DMP power supply adapter. After the DMP is deployed for WiFi, a PoE+ connection is no longer needed for the DMP. In fact, the DMP will not route packets over the WiFi connection while the Ethernet port is connected and operational.

The wireless network SSID and passphrase is configured globally for all wireless devices in the system. The DMP firmware automatically tries to connect with WEP (if the passphrase is of a suitable length), WPA1 or WPA2.

For configuration information, see How to Deploy WiFi Network Connectivity on the SV-4K.

**Note:** The wireless network must support multicast traffic for communication over the Cisco Vision Dynamic Signage Director network. However, multicast video is not supported due to bandwidth limitations over a wireless network.

# Best Practices for Series 2 and Series 3 Deployment

## Using Bar Code Scanners and TV Labels at Installation Time

**Note:** This practice requires that you have already defined your Location names in Cisco Vision Dynamic Signage Director.

**To increase the speed and accuracy of media player deployment:**

- Prepare TV labels with the Cisco Vision Dynamic Signage Director Location name in bar code format.

- Obtain a bar code scanner to record the Location bar code and MAC address from the media player.

- Use the Cisco Vision Director Bulk Administration Tool (BAT) to upload data to Cisco Vision Dynamic Signage Director.

## Installer Workflow Example

**To use a bar code scanner with TV labels:**

1. Mount the TV and media player.

2. Connect the TV and media player cables.

3. Attach a pre-printed label to TV.

4. Scan the Location bar code on the TV.

5. Scan the MAC address bar code on the media player.

6. Provide scanner to the supervisor or network administrator who downloads the data and formats it to be compatible with the Cisco Vision Dynamic Signage Director BAT TSV format.

7. For more information, see the Cisco Vision Director Bulk Administration Tool guide.

Best Practices for Series 2 and Series 3 Deployment