# CM CalMAN Setup Guide

AV Foundry VideoForge HDMI

Digital Video Generator



Rev. 1.3

# Introduction

The AV Foundry VideoForge HDMI Digital Video Generator is a versatile, high value test pattern generator with a field-ruggedized case for calibrating and performance testing video displays.

To control the VideoForge HDMI, including its output signal resolution and test pattern, you can open the browser-based VideoForge manual user interface or you can control the VideoForge with CalMAN calibration software (see the VideoForge HDMI CalMAN Setup Guide section, below).

## Included Accessories

The following accessories should be included with your VideoForge HDMI:

- Universal power supply, 5VDC 2A
- Mini-HDMI® type C to HDMI type A cable
- Wireless-N (Wi-Fi) USB 2.0 adapter
- USB flash drive w/sample images

## VideoForge HDMI Back Panel



*Figure 1. VideoForge HDMI back panel features.*

### Back Panel Connections

**Power** – 5 VDC power input. Center pin positive.

**LAN** – Connection for Ethernet cable, either directly to host computer, or to a network router. A connection to this jack disables the supplied Wi-Fi USB adapter.

**Wi-Fi/USB** – Connections for the supplied Wi-Fi USB adapter and for the USB flash drive containing sample or custom test images.

**HDMI** – Connection for SD and HD video formats for either HDMI or DVI devices. A Mini-HDMI to HDMI Type A cable is supplied to connect to a typical HDMI Type A input.

**Diagnostic** – Connection for factory tests only.

## VideoForge HDMI Power Up

When the supplied 5VDC power supply is connected to the VideoForge and to a source of AC power, the VideoForge will automatically power up.

To power down the VideoForge, disconnect the power supply.

On initial VideoForge HDMI power up, or when a display is initially connected, the VideoForge HDMI output defaults to the VideoForge HDMI splash screen, displayed at the preferred format listed in the connected display's EDID table.

## VideoForge HDMI Control Ports

- Ethernet cable (straight-through or crossover cable)
- Wi-Fi (with supplied Wi-Fi adapter)

## Manual Control User Interface Connection

To open a browser-based user interface to manually control the VideoForge HDMI (without CalMAN):

### Through the VideoForge Wi-Fi adapter

1. Connect the supplied Wi-Fi adapter to the lower USB jack on the VideoForge rear panel. This creates a wireless access point with an IP address of 172.24.24.20.

2. On a host computer within Wi-Fi range, select the wireless connection labeled "VideoForge-xxxx" with xxxx being the four characters listed at the end of the Power label on the bottom of the VideoForge case.

3. Enter the wireless password "**VideoForge**"

4. Open a web browser on the computer.

5. In the address bar, type "**172.24.24.20**".

6. Press Enter on your keyboard.

7. The VideoForge user interface will open on the browser.

## With a direct Ethernet cable connection

1. Connect an Ethernet cable between the VideoForge LAN connector and a host computer (straight-through or crossover cable).

2. Open a web browser on the computer.

3. In the address bar, type "**http://videoforge-xxxx**" for a PC, or "**http://videoforge-xxxx.local**" for a Mac.

   The xxxx should be the four characters at the end of the Power label on the bottom of the VideoForge case.

4. Press Enter on your keyboard.

5. The VideoForge user interface will open on the browser.

*Note: If the VideoForge user interface does not open, be sure your local area network connection is set to obtain an IP address automatically with DHCP, then retry.*

*Windows: Control Panel > Network and Sharing Center > Change adapter settings > Local Area Connection > Properties > TCP/IPv4 > Obtain an IP address automatically*
*Mac: System Preferences > Network > Advanced > TCP/IP > Configure IPv4: Using DHCP*

## Over a local area network

1. Connect the VideoForge either to the same network router or local area network as the host computer, with an Ethernet cable (router doesn't require an internet connection).

2. Open a web browser on the computer.

3. In the address bar, type "**http://videoforge-xxxx**" for a PC, or "**http://videoforge-xxxx.local**" for a Mac.

   The xxxx should be the four characters at the end of the Power label on the bottom of the VideoForge case.

4. Press Enter on your keyboard.

5. The VideoForge user interface will open on the browser.

*Note: If the VideoForge user interface does not open, be sure your local area network connection is set to obtain an IP address automatically with DHCP, then retry. See the section above for HDCP setup steps.*

## VideoForge Browser-Based User Interface Tabs



*Figure 2. VideoForge HDMI browser-based user interface.*

**Output** – The Output page gives full control over the VideoForge HDMI output formats. This includes format, titling, color gating, color space, etc. The Video Format list is populated from the formats listed in the display EDID.

**Video Cal** – The Video Cal page provides a convenient shortcut to select test patterns that are commonly used for video calibration procedures.  The desired pattern can be selected by simply clicking on a Pattern button on the left hand side.  Any parameter options for the selected pattern appear in the panel to the right of the buttons.

**Patterns** – The Patterns page provides a list of all the patterns installed on the VideoForge HDMI. Many of the test patterns also provide selection boxes to modify various parameters of the output pattern.

**Admin** – The Admin page provides version and serial number information for the VideoForge. It also allows displays the network settings, updates the firmware, and resets the unit. Pressing the unit's Power button for an extended period also forces the VideoForge to reset and power down.

## VideoForge Custom Test Patterns

To display your own custom test patterns or images with the VideoForge:

1. Save custom test pattern or image files to a USB flash drive, in PNG or JPEG format, at the desired display resolution (e.g. 1920x1080).

2. Connect the flash drive to a USB jack on the VideoForge rear panel.

3. Access the VideoForge control interface, as outlined in the Manual Control User Interface Connection section, above.

4. On the *Patterns* tab in the VideoForge control interface, open the *Pattern* drop down box. Your custom files will be listed, grouped by USB drive.

5. Select one of your custom files to display your custom image.

# VideoForge HDMI CalMAN Setup Guide

The AV Foundry VideoForge HDMI Digital Video Generator can be automatically controlled by CalMAN Display Calibration Software.

## CalMAN Required Version

- CalMAN version 5.2.1 or later
- VideoForge HDMI version 2.1 requires CalMAN version 5.4.1 or later

## CalMAN Recommended Workflows

- All available CalMAN measurement and calibration workflows

## VideoForge HDMI Required Firmware

- All firmware versions are supported

## VideoForge HDMI Control Ports

- Ethernet cable (straight-through or crossover cable)
- Wi-Fi (with supplied Wi-Fi adapter)

## CalMAN Connection Procedure

### Through the VideoForge Wi-Fi adapter

1. Connect the supplied Wi-Fi adapter to the lower USB jack on the VideoForge rear panel.

*Note: A wired Ethernet connection to the VideoForge HDMI disables the unit's Wi-Fi interface.*

2. On a host computer within Wi-Fi range, select the wireless connection labeled "VideoForge-xxxx" with xxxx being the four characters listed at the end of the Power label on the bottom of the VideoForge case.

3. Enter the wireless password "VideoForge."

4. On the CalMAN *Source Settings* tab, click "Find Source."

5. On the *Find Source* dialog (Figure 3), select "AV Foundry; VideoForge 4K / HDMI (Ethernet @9021)."

6. Enter "**172.24.24.20**" for the IP Address (or select the "VideoForge-xxxx" listing).

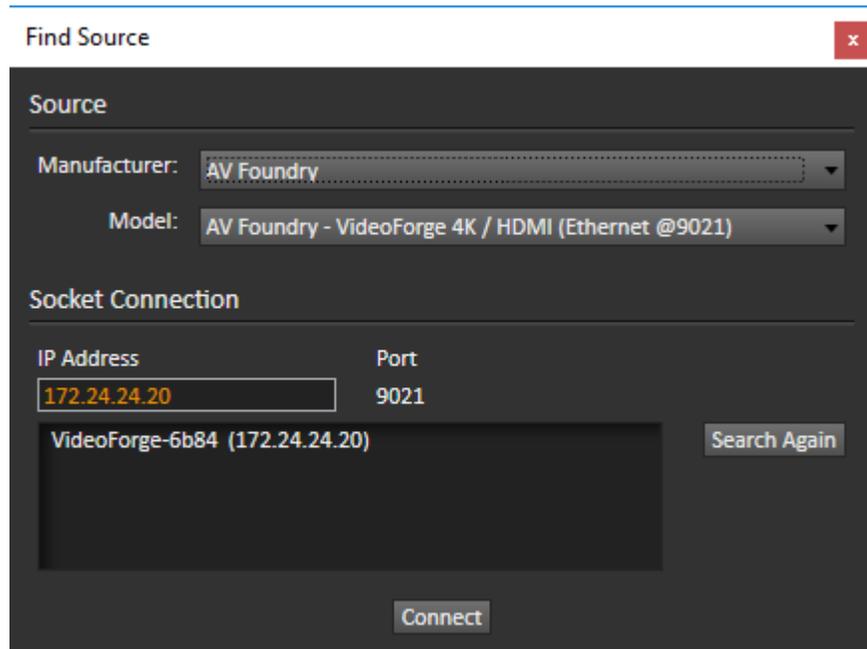7. Click *Connect* on the *Find Source* dialog.



*Figure 3. CalMAN Find Source dialog.*

### With a direct Ethernet cable or over a local area network

1. Connect the VideoForge directly to a host computer with an Ethernet cable (straight-through or crossover cable).

2. On the CalMAN *Source Settings* tab, click "Find Source."

3. On the *Find Source* dialog (Figure 3), select "AV Foundry; VideoForge 4K / HDMI (Ethernet @9021)."

4. Enter "**172.24.24.20**" for the IP Address (or select the "VideoForge-xxxx" listing).

5. Click *Connect* on the *Find Source* dialog.

## CalMAN Source Settings Tab

### Triplet Support

The VideoForge HDMI provides full RGB triplet support to provide test patterns that are compatible with all CalMAN calibration measurements.

### Window Size

On the *Window Size* drop down, select your desired pattern window size.

- Window 2%
- Window 5%
- Window 10%
- Window 18% (default)
- Window 25%
- Window 50%
- Full 100%
- Constant APL 10
- Constant APL 18
- Constant APL 25
- Constant APL 50

*Note: For Plasma, CRT, and OLED displays, Constant APL 50 works well.*

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## About Portrait Displays

Portrait Displays, Inc., since 1993, is a leading application software provider (ASP) for PC, smartphone, and tablet displays. The Portrait Displays team now includes **SpectraCal**, the world's leading provider of video display calibration software. The combined companies offer value-added, feature-rich solutions to both OEM display manufacturers and end users seeking improved accuracy and manageability of their displays.

Portrait Displays, an Intel Capital Portfolio company, is a private corporation with headquarters in Pleasanton, California, USA with representatives in Europe, Taiwan, China, Japan, and Korea.

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