

SpectraCal MobileForge CalMAN Setup Guide

MobileForge is a free pattern generator app for iOS, Android™, and Fire TV devices. MobileForge generates accurate test patterns automatically on your mobile device, controlled by CalMAN™ display calibration software. MobileForge provides free, accurate test patterns to those using CalMAN software for display measurement and calibration.

MobileForge enables accurate, reliable screen measurements to test how accurately your mobile device displays photos, videos and other digital content. Use MobileForge with CalMAN ColorChecker, SpectraCal's free testing and analysis software, to test your tablet or smartphone's conformance to industry standards, with over a hundred different single-color patterns representative of naturally occurring colors such as foliage and skin tones.

When MobileForge is installed on a Fire TV device or on an iOS or Android™ device with HDMI output (either directly, through a plug adapter, or by screen mirroring to a streaming media device such as Apple TV or Chromecast), the MobileForge test patterns can be controlled by CalMAN to test or calibrate the HDMI input of an external TV or video monitor.

Supported CalMAN Software:

- CalMAN ColorChecker (free)
- CalMAN Express
- CalMAN Control
- CalMAN Enthusiast
- CalMAN Studio
- CalMAN for Business (all)

Required CalMAN Software Version:

- Version 5.4.2 or newer for full range PC levels (mobile device screen patterns)
- Version 5.5.0 or newer for SMPTE video levels (16-235) (external video screen patterns)

Required iOS Device Version:

- Version 7.0 or newer*

Required Android Device Version:

- Version 4.0.3 or newer*

MobileForge Control Connection:

- Wireless (Wi-Fi) IP

*See Device Limitations note, at the end of this document.

Install and Run MobileForge

MobileForge for iOS

To set up MobileForge to automatically produce test patterns on an iOS mobile device:

1. In the App Store, search for “MobileForge.”
2. On the MobileForge for CalMAN app, select Get and Install the app.
3. Tap the new MobileForge icon on the menu screen to open the app.
4. The MobileForge screen will say “Waiting to connect to CalMAN...” and will display the mobile device IP address.



MobileForge for Android

To set up MobileForge to automatically produce test patterns on an Android mobile device:

1. In the Play Store, search for “MobileForge.”
2. Select and Install the MobileForge app.
3. On the Applications page, tap the new MobileForge icon to open the app.
4. The MobileForge screen will say “Waiting to connect to CalMAN...” and will display the mobile device IP address.

MobileForge for Fire TV

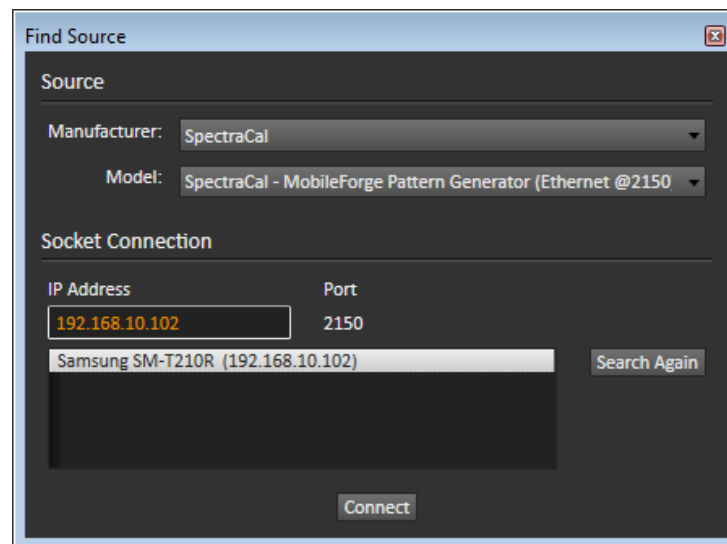
To set up MobileForge to automatically produce test patterns from a Fire TV box or Fire TV stick:

1. From the Home screen, select Search, then type “MobileForge.”
2. Select and Install the MobileForge app.
3. From the main menu, select Apps, then select the new MobileForge icon to open the app.
4. The MobileForge screen will say “Waiting to connect to CalMAN...” and will display the Fire TV IP address.

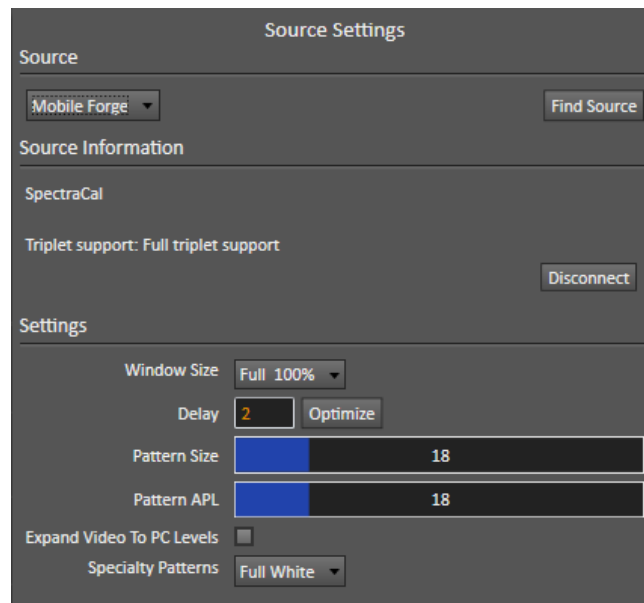
Connect CalMAN to MobileForge

To connect CalMAN to control the MobileForge Pattern Generator:

1. Connect the CalMAN computer to the same local network to which the mobile device is connected. The first three sections of IP addresses on the same local network will be the same (e.g. 192.168.132.46 and 192.168.132.13).
2. In CalMAN, on the Source Settings tab, under *Find Source*, select “SpectraCal – MobileForge Pattern Generator (Ethernet @2150).”



3. Select the mobile device listing with the IP address that you noted on the MobileForge opening screen. If there is no device listed with that expected IP address, enter the expected MobileForge address in the *IP Address* box.
4. Click *Connect* on the Find Source dialog.
5. On the *Source Settings* tab, under *Window Size*, select the desired test pattern window type and size.



To Measure a Mobile Device Screen:

When the MobileForge test patterns are being used to measure the screen of the mobile device on which MobileForge is installed:

1. Select “PC (0-255)” under CalMAN Settings > Workflow Basic Options > Luminance Levels.
2. Uncheck the “Expand Video To PC Levels” option on the CalMAN Source Settings tab.

To Measure/Calibrate an External Video Screen:

When the MobileForge test patterns are routed through an HDMI output to test or calibrate the HDMI input of an external TV or video monitor:

1. Select “Video (16-235)” under CalMAN Settings > Workflow Basic Options > Luminance Levels.
2. Check the “Expand Video To PC Levels” option on the CalMAN Source Settings tab.

Note: When using the Apple TV to mirror MobileForge test patterns to an external TV or video monitor, set the Apple TV’s HDMI output to YCbCr.

On your Apple TV menu, go to Settings > Audio & Video > HDMI Output > YCbCr

Optimize Pattern Delay Time

Different mobile devices may have different delay times when switching test patterns. To optimize CalMAN to take a measurement as quickly as possible after switching to a new test pattern, without taking a measurement before the test pattern image is stable, do the following:

1. Connect CalMAN to control the MobileForge Pattern Generator, as outlined above.
2. Position your color meter to make screen measurements at the center of the test pattern.
3. On the CalMAN Source Settings tab, click the *Optimize* button, toward the bottom of the panel.
4. Wait for the Optimize process to complete and display an updated pattern Delay time.

Device Limitations

Apple iPhone 4

The iPhone 4, when used with a video output adapter, supports only video output, not still images. While the iPhone 4 does support MobileForge for measuring the iPhone 4 screen, it does not produce test patterns to an external video screen.

The iPhone 4s, however, does output still images through a video output adapter and does support MobileForge for measuring or calibrating an external video screen.

Samsung Galaxy S6/S6 Edge

The Galaxy S6/Edge has no provision for a physical video output connection. The S6 does support streaming to a Google Chromecast device to stream MobileForge test patterns to an HDMI input on an external video screen.

Smart TV Streaming Apps

When MobileForge test patterns are streamed directly into the streaming app on a smart TV, the test patterns bypass the display's physical video inputs. Thus, the display's HDMI video inputs cannot be calibrated with MobileForge test patterns sent directly to the smart TV's built-in streaming app.

Also, the smart TV may or may not have calibration controls for the display's streaming app input.