

CaIMAN Setup Guide

Rohde & Schwarz VTC

Pattern Generator Control

Rev. 1.1

Introduction

The internal pattern generator of the Rohde & Schwarz VTC Video Tester can be automatically controlled by CalMAN Display Calibration Software as a test pattern source for display measurement and calibration for SDR and HDR10.

CalMAN Required version

- CalMAN version 5.7.1 or later

CalMAN Recommended Workflows

- All available measurement and calibration workflows

Rohde & Schwarz Required Firmware

- All firmware versions are acceptable

Rohde & Schwarz Control Port

- RJ45 Ethernet

Rohde & Schwarz Connection to Computer

Follow this procedure to connect the Rohde & Schwarz VTC to your computer.

1. Connect the R&S VTC via Ethernet cable to the same local network as your CalMAN computer.
2. Put the R&S VTC into *Raw* mode:
 - a. On the upper-right VTC toolbar, select the wrench *Setup* icon.
 - b. Select the Setup dialog *Remote* tab.
 - c. Expand the *TCPIP* section.
 - d. Under *Protocol Mode*, select “Raw.”
3. Determine the IP address of the R&S VTC:
 - a. On the upper-right VTC toolbar, select the wrench *Setup* icon.
 - b. Select the Setup dialog *System* tab.
 - c. Note the unit’s IP Address (top field).

CalMAN Connection to Rohde & Schwarz

Follow this procedure to connect the Rohde & Schwarz VTC to CalMAN.

1. On the CalMAN *Source Settings* tab, click "Find Source."
2. On the CalMAN *Find Source* dialog (Figure 1):
 - a. Under *Manufacturer*, select "Rohde & Schwarz."
 - b. Under *Model*, select "Rohde & Schwarz – VTC."
 - c. Enter the IP address from the VTC System tab.
 - d. Click *Connect*.

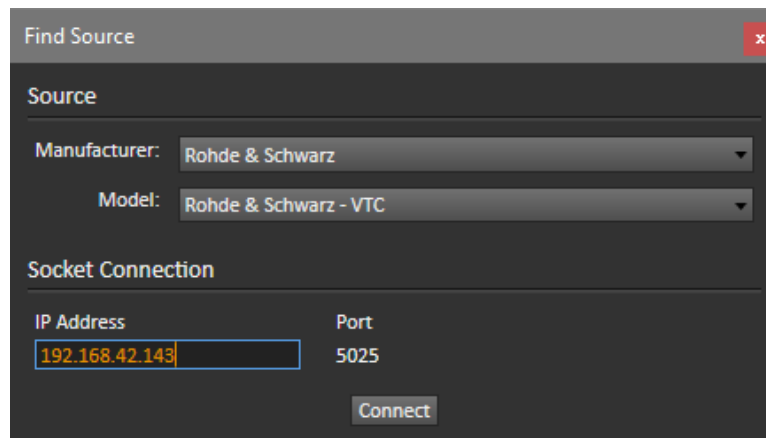


Figure 1. CalMAN Find Source dialog, for connecting the Rohde & Schwarz VTC to CalMAN.

When CalMAN connects, the VTC front panel displays "Controlled by Remote" on a blank white field. If this does not happen, then CalMAN is not yet connected to the VTC.

CalMAN Source Settings Tab

When CalMAN is connected to the Rohde & Schwarz VTC, its *Source Settings* tab (Figure 2 with VTC HDR10 mode disabled; Figure 3 with VTC HDR10 mode enabled) provides Source information and Settings for the connected VTC test pattern generator.

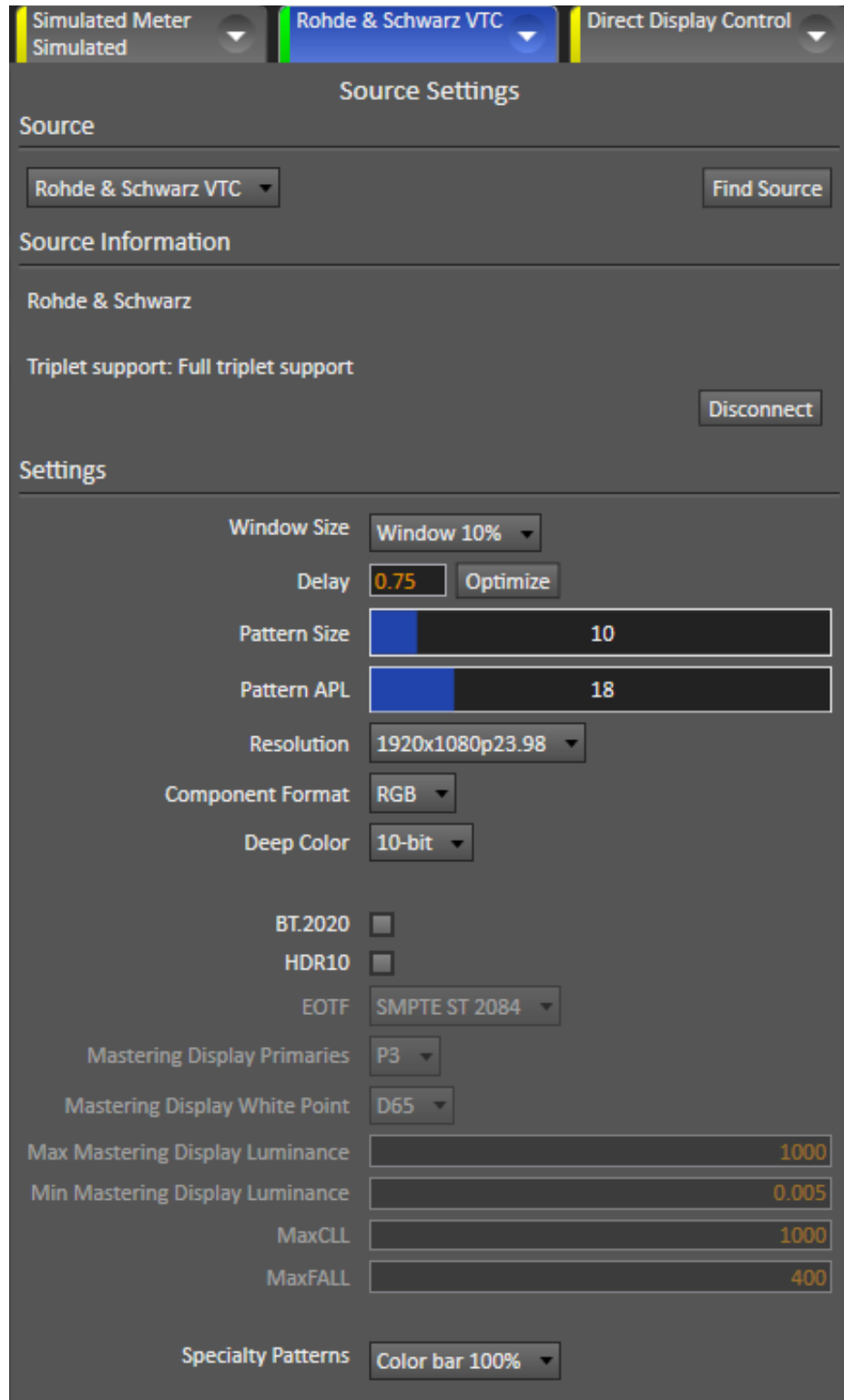


Figure 2. CalMAN Source Settings tab, for selecting test pattern source options, with HDR10 output disabled.

Settings

Window Size

Select the desired test pattern size and type from the Window Size selection box.

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

Delay

CalMAN provides a default measurement delay time of 2 seconds to accommodate the test pattern settling time of the Rohde & Schwarz VTC generator and an attached display. To optimize the delay time for a particular configuration, potentially speeding up all measurement times, click the Optimize button.

Note: The Deep Color and the BT.2020 options are available only with RGB format.

HDR10 Support

The Rohde & Schwarz VTC can output HDR10 test patterns to enable the HDR10 mode on compatible HDR displays.

HDR10: The HDR10 option enables a generator's HDR10 output mode.

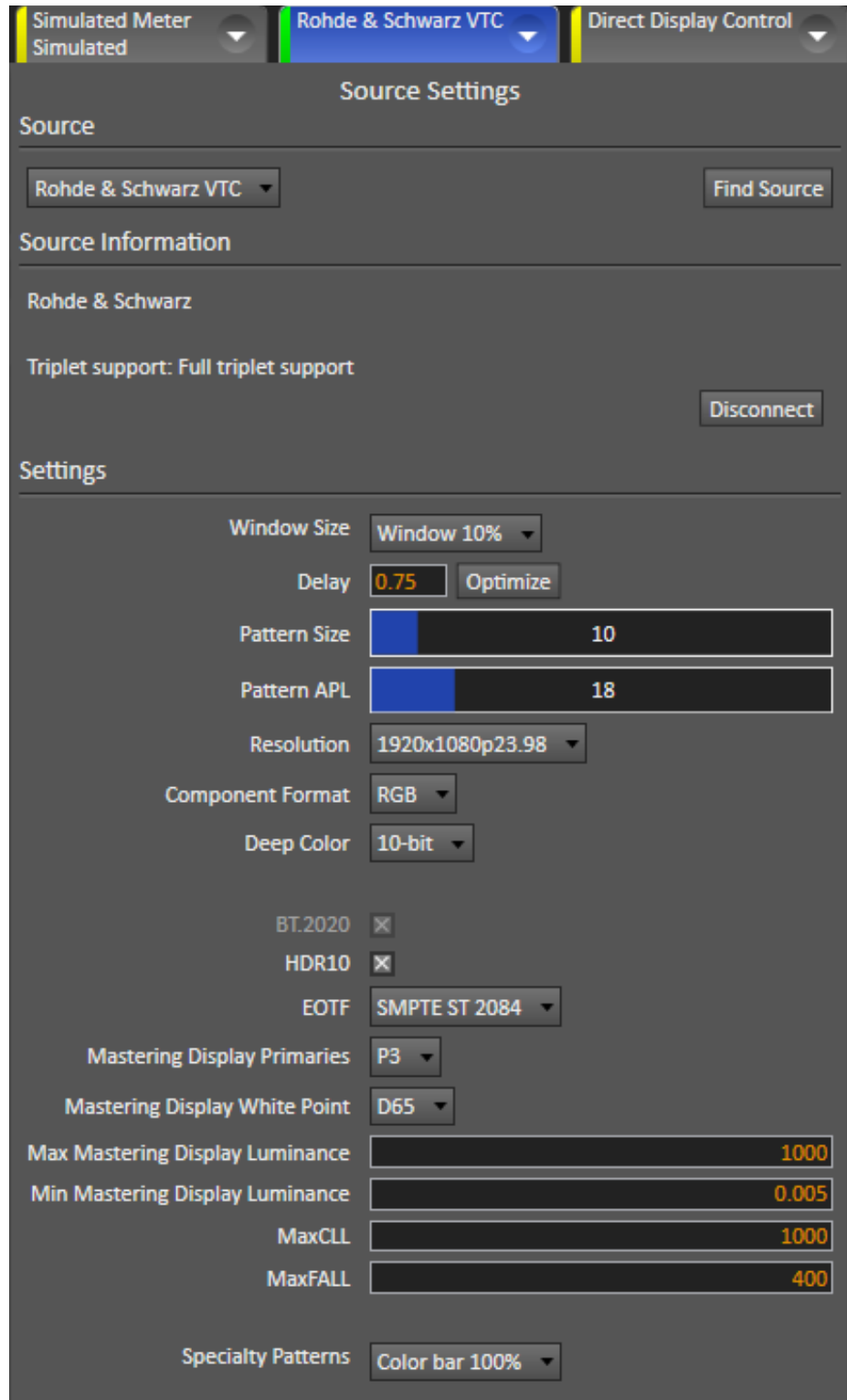


Figure 3. CalMAN Source Settings tab, for selecting test pattern source options, with HDR10 output enabled.

Note: The following HDR10 Metadata is the Content Metadata that identifies the specifications of the HDR Mastering Display that was used to create the HDR10

content. To change the default values for the following fields, refer to EIA-861.3. If you do not know what values to set, leave the fields at their default values.

Mastering Display EOTF: Electrical-Optical Transfer Function. The target luminance response function.

Mastering Display Primaries: Defines the Mastering Display's color gamut.

Mastering Display White Point: The white point of the Mastering Display.

Note: The following HDR10 Metadata is the Content Metadata that specifies the specifications of the HDR Mastering Display that was used to create the HDR10 content. To change the default values for the following fields, refer to EIA-861.3. If you do not know what values to set, leave the fields at their default values.

Max Mastering Display Luminance: The Mastering display's specified maximum luminance in nits (cd/m^2).

Min Mastering Display Luminance: The Mastering display's specified minimum luminance in nits (cd/m^2).

MaxCLL: Maximum Content Light Level. The maximum pixel value within the applied content.

MaxFALL: Maximum Frame-Average Light Level. The maximum value of the frame-averaged maxRGB, over all frames in the content.

Specialty Patterns

The pattern selection field allows you to select patterns from the Rohde & Schwarz VTC for visual display performance evaluation (not for electronic measurement or calibration).

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