

## LQV (Luminance Qualified Vector) Measurements with the WFM8200/8300

### How-To Guide

Introduction

The patented Luminance Qualified Vector (LQV) Display enhances the current Diamond/Split Diamond, Arrowhead and Vector Displays by allowing the user to view chrominance vectors within specified luminance ranges.

Colorists often divide the total tonal range into the High, Mid and Low tonal ranges during the Post Production process. Doing so allows them to make more precise adjustments and enhancements to the scene content. The Vectorscope along with the exclusive Tektronix Diamond and Split-Diamond displays have been extremely valuable tools in terms of detecting and correcting color cast in the overall scene. The addition of LQV enhances these capabilities even more.

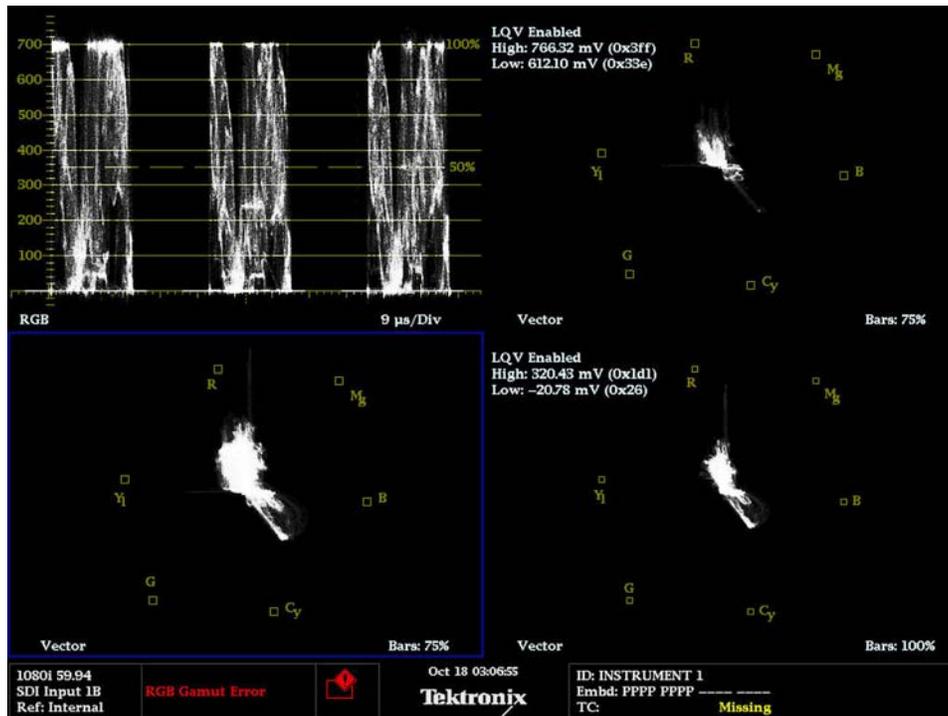


Figure 1: RGB, LQV High, Vector, LQV Low

Figure 1 shows the RGB Waveform in Tile one, LQV (High) in Tile 2, Full Vector in Tile 3 and LQV (Low) in Tile 4.

The Luma Qualified Vector (LQV) display adds the capability to see color cast in the High, Mid, and Low tonal ranges. This is a significant enhancement because it allows the user to view color or color cast in specific regions of the picture. For example, when doing rock concerts the bright lighting often causes problems and up to now there has been no real way to easily know if you are balanced in these bright areas. LQV provides the tool needed to make sure balance is right in the Highs & Lows. The user can set upper and lower limits that can define different ranges for variety of applications.

While it is possible to show up to four LQV Displays simultaneously depending on the user’s specific application, it is more likely that the focus would be placed on monitoring the Highs and Lows along with the Full Vector as shown in Figure 1.

The terms HIGH and LOW as used here are somewhat relative. That is to say, that the range of values considered as being HIGH or LOW may vary according to user preference or the specific content being evaluated. In this case I simply chose approximately the top 20% of luminance levels to represent the HIGHS and the lower 20% of luminance levels to represent the LOWS.

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To Set Up the LQV Display(s):

1. First select the tile you want to place the LQV Display (Tile 2 in Figure 2):
2. Next depress the Vector Button below the display screen to place the vector display in that tile as shown in Figure 2:



Figure 2. WFM8300 Front Panel

3. Next Depress and Hold the Vector Button to display the Menu as shown in Figure 3 and use the up/down selection keys to select the Luma Qualified Vector and then use the Right Arrow Key to set this to the ON position.
4. Now use the up/down selection keys to select the Luma High and Luma Low settings using the General Knob (upper right hand corner) to set the luma limits you want to establish.
5. Press the Vector button to clear the menu.
6. Repeat this process for any addition LQV Displays you wish to set up with different ranges.

See if you can duplicate the display in Figure 1.

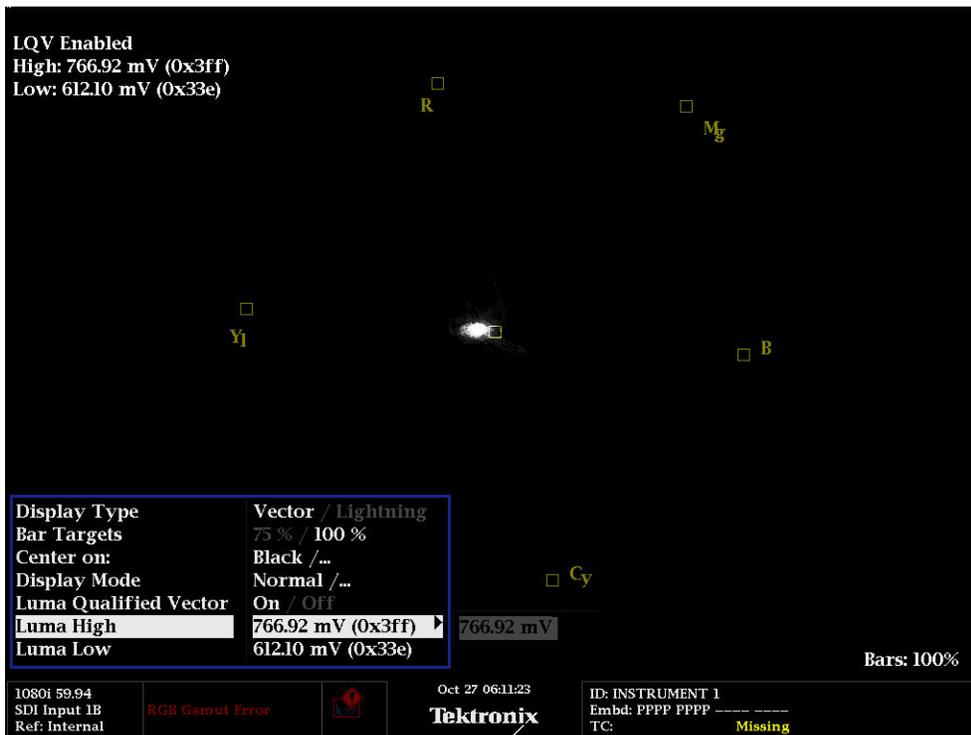


Figure 3. LQV Range Menu

Once you have these set-up the way you like it you can save the setting as a Preset for fast and easy recall. In fact you'll probably want to save several variations of this based on specific applications. To learn more about how to create, save, and recall presets see our "Top-Ten" Presets for the WFM7000 Series at <http://www.tek.com/applications/video/broadcasters.html> where you download the files from the "Support" section located on the right side of the page.

References:

Data Sheets, Fact Sheets and additional application notes can be found at: [http://www.tek.com/products/video\\_test/signal\\_monitors.html](http://www.tek.com/products/video_test/signal_monitors.html)

- ✓ TG700 Generator

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