



**SENCORE**  
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# An Overview of the VP400 Multimedia Video Generator Product Family

<http://www.sencore.com/vp400>

## Introduction

The VP400 Multimedia Video Generator Product Family contains four video generator models—the VP400, VP401, VP402 and the VP403. Each has a set of video and RF outputs specifically suited for your unique testing and calibrating needs.



**Figure 1** – The VP400 Multimedia Video Generator Product Family

First, the VP400 products are portable and battery operated. Depending on the model, they weigh in at a light 24 to 32 ounces. They are small, compact and lightweight; meaning you can take them wherever you do video testing...in a home theater, school, hospital and more. The compact size means one will fit snugly in your tool kit as you transport between jobs.



But don't let the small size deceive you. The Multimedia Video Generators output high-quality, crisp, and clean video signals, giving you the confidence that your video display testing and calibrations are accurate.

**Figure 2** – The VideoPro Multimedia Video Generators are portable, battery operated and provide the high quality video signals you need for display calibration and service.

## There's a Generator in the VP400 Product Family That Provides the Video Signal Outputs You Need!

The video industry is wide and varied—that's why we've provided a *family* of video generators to choose from, with a variety of video signal outputs. If within your day's work you calibrate and service many different display types, with varied input signals, then the VP403 is for you. It delivers it all; ATSC RF, standard RF, DVI, component video, RGBHV video, S-video and composite video.

If your focus is primarily RF, such as a broadcaster, television manufacturer or servicer, then the VP402 is for you. It provides ATSC RF and standard RF outputs along with component video, RGBHV video, S-video and composite video.

The VP401 is for the home theater or commercial A/V installer that rarely encounters RF. The VP401 generates DVI, component video, RGBHV, s-video and composite video. Finally, the VP400 is a solid-performing, entry-level generator that provides component video, RGBHV video, s-video and composite baseband video signals. A technician in the entertainment and gaming or computer monitor service industry would feel right at home with the VP400.

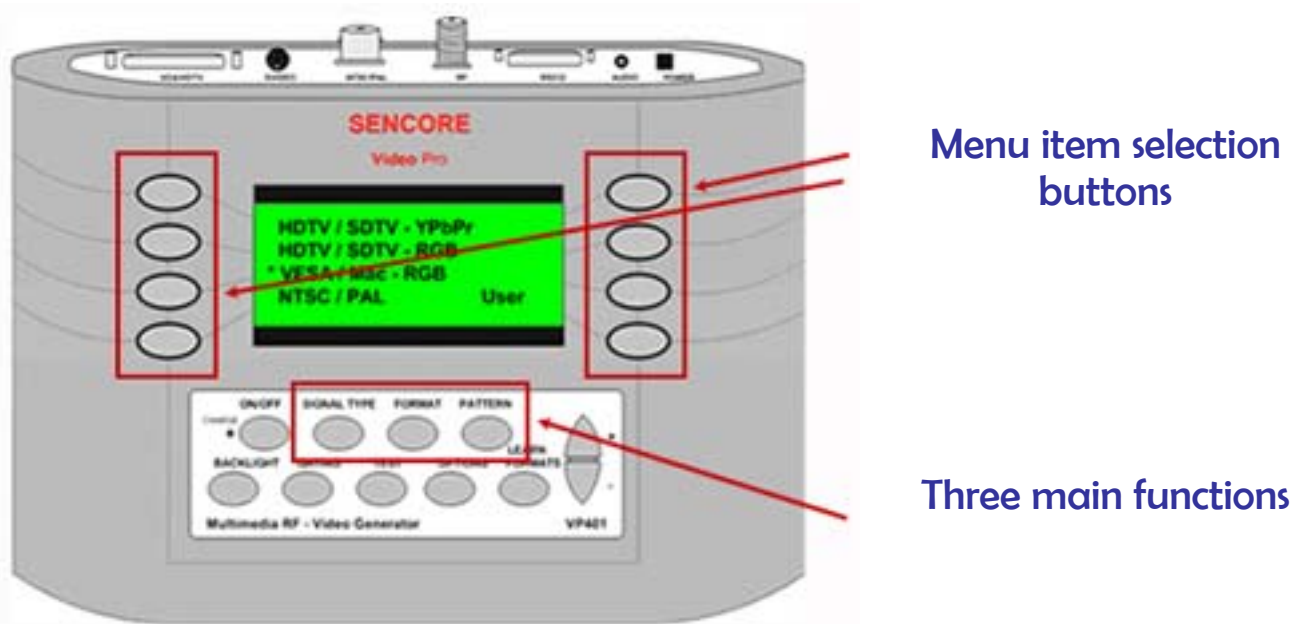
**VP400 Product Family Application Matrix**

Application	Typical Output Signals Required							Suggested Unit(s)			
	Composite	S-Video	Computer Monitor	Standard RF	Component (YPbPr)	DVI	ATSC RF	400	401	402	403
Home Theater	X	X	X	X	X	X	X	X	X	X	X
Commercial A/V	X	X	X		X	X		X	X		
Entertainment/Gaming	X	X	X					X			
Medical	X	X	X		X	X		X	X		
Broadcast	X	X	X		X	X	X	X	X	X	X
Computer Monitor Depots			X			X		X	X		
CE Repair Centers	X	X	X	X	X	X	X	X	X	X	X
Display Manufacturers	X	X	X	X	X	X	X	X	X	X	X
Rental/Staging	X	X	X		X	X		X	X		
Government	X	X	X	X	X	X	X	X	X	X	X

**Figure 3** – The VideoPro Product Family provide a wide variety of video outputs to meet your display calibration and service needs.

## Using the Product Is Easy

The VP400 VideoPro Multimedia Video Generators are breathtakingly easy to use. The user interface has been designed for calibration and service technicians who are on the go and don't want a cumbersome user interface to stand in their way of getting the job done.



**Figure 4** – Three main button functions on the VideoPro display the Signal Type, Format or Pattern menus. The eight keys alongside the display let you select the signal type, format or pattern you want.

The three main button functions for getting a pattern on the display are SIGNAL TYPE, FORMAT and PATTERN. First press the SIGNAL TYPE button to display a menu of signals types such as YP<sub>bPr</sub>, RGB, or NTSC. Select the signal type you want by pressing one of the selection buttons along the sides of the display. When you select a signal type, the video formats for that signal type appear in the menu. For example if you select the signal type HDTV/SDTV- YP<sub>bPr</sub>, the formats such as 1080i, 720p, and 480p appear. After you select the video format you need, press the PATTERN button and select the pattern you need. It's that easy.

## Innovative Patterns Help You Do Your Job

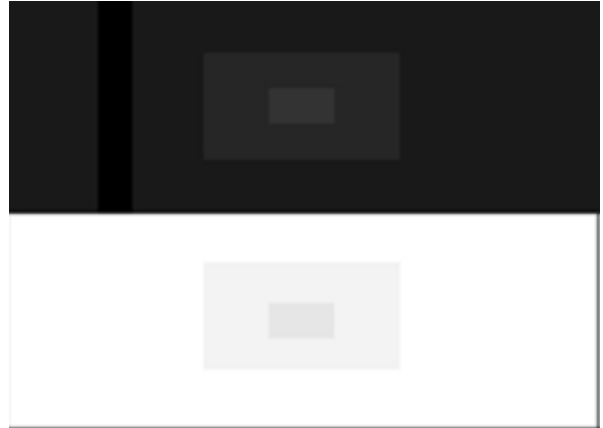
The Multimedia Video generators provide high quality, accurate video outputs; video signals that you can put your confidence in when you are calibrating a video display. The VideoPros provide you with standard video patterns, such as raster, windows with variable IRE levels and color bars as well as a number of innovative patterns to help you make your calibrations faster and more accurate.

Following are some details of a few specialized test patterns the Multimedia Video generators provide:

### HiLoTrk

Use the HiLo Track pattern to set the contrast and brightness controls on fixed-pixel (non-CRT) displays. Be sure the contrast control is set as high as possible without producing white compression (loss of high brightness picture detail).

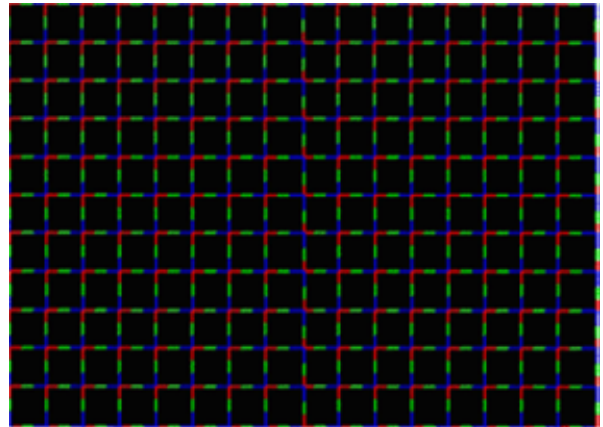
**Figure 5** – The HiLoTrk video pattern



### Convergence

Use to color converge a display throughout the entire picture area. When converged, the red, green and blue segments should form straight lines of equal thickness. The intersections of lines clearly show variations or steps from the straight ideal color converged lines. Use the color gating feature in the Gating menu to turn any one of the colors on and off for better indication of mis-convergence.

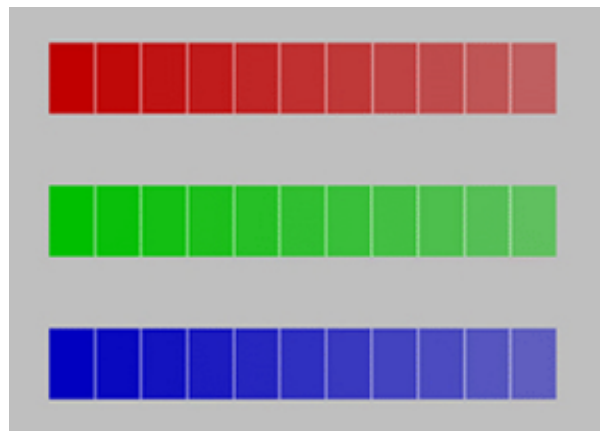
**Figure 6** – Converge video pattern



### Color Decoder Check Pattern

The color decoder check pattern checks the performance of the color decoder to determine if the decoder has red or green color emphasis (often called “push”) or de-emphasis. Ideally, with the color hue properly set using the blue section, the 0 center blue bar should be the same light intensity as the surrounding 75% white, when viewed through a blue filter. Looking through a red or green filter at their respective color bars should show the center 0 bars at the same intensity as the 75% white area.

**Figure 7** – Color Decoder Check Pattern



### Color Decoder Adjust Pattern

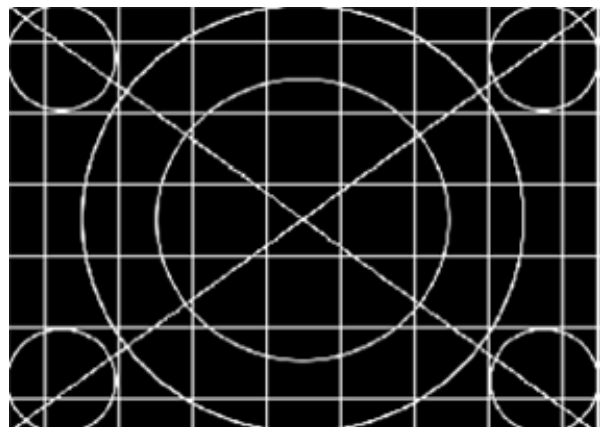
Use to adjust a display's color decoder/matrix circuit for most accurate color reproduction. View each color primary section through its respective red, green and blue color filter. A chroma gain control should be adjusted to match the intensity of the reference white bar in each section to that of the primary color surrounding it. A chroma hue control should be adjusted to match the intensity of the secondary color sections within each primary color block. Usually, the user menu Color and Hue controls are used to adjust the blue section, and then service menu controls are used to adjust the red and green sections. Service menu decoder/matrix adjustments typically include "RZR (red gain), RYB (red hue), GZR (green gain), GYB (green hue)" adjustments, or simply a number of "axis" settings.



**Figure 8** – Color Decoder Adjust Pattern

### Linearity

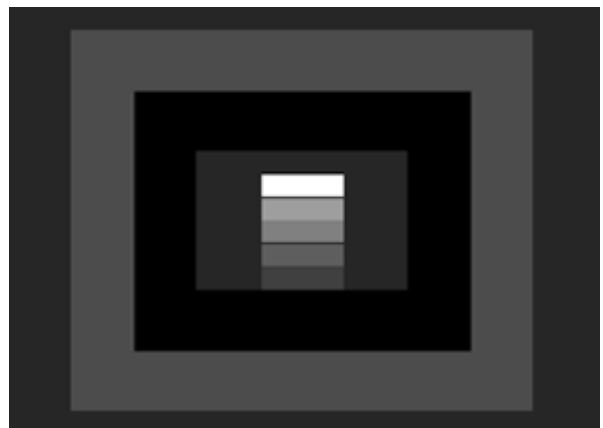
Use the linearity pattern for deflection linearity testing and alignments. Use to set geometry controls on displays. Use for color convergence adjustments.



**Figure 9** – Linearity video pattern

### Pluge

Use this pattern to check the DC restoration (black clamping) performance of a display device and to set the picture black level with a low APL pattern.



**Figure 10** – Pluge video pattern

## Supplied Connectors and Cables Insure You Have What It Takes To Get the Job Done

Each of the models in the VP400 Multimedia Video Generator Product Family comes included with the video cables and connectors you need for hooking into a video display. An HDMI connector is even provided with the VP401 and VP403 for the time when you begin seeing video displays with this input type. Having these cables and connectors means you can put your unit to work for you right out of the box.

## Put one of the VideoPro Multimedia Video Generators to Work for You Today

The VideoPros are truly a line of video generators that can provide you with the solution to your video calibration and servicing needs. If you'd like more information on this exciting new line of products or if you'd like to have a Sales Engineer contact you to discuss your application please click on the **More Information** link.

<http://www.sencore.com/forms/vp400pricing.asp>

**More Information**

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