

Liberty V8.1 Release Notes
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1. Enhanced DPS Reality Video Support *(Windows platforms only)*

Liberty has supported the DPS Reality video I/O board since V7.1. Liberty V8.1 enhances this support by allowing control of the DPS Reality as a DDR within Liberty, and by providing increased control over the Reality's video input and output paths. This section describes use of the DPS Reality within Liberty V8.1.

Within Liberty, you can use the DPS Reality as a Video I/O Board, allowing you to grab and show single frames within the Paint environment. You can also use the DPS Reality as a DDR. This allows you to browse clips, read and write clips (frame by frame), and do transport control (clip playback, cue, etc). You can do these functions through Liberty's VTR Panel, in either the Paint or Animation environment.

When learning about the DPS Reality board, please also consult the DPS Reality manual. Also be aware that there are some operations (such as formatting the DPS Reality file system) that you can only do in the DPS Reality software (that you installed with the board). Although there is no way to do such operations within Liberty, these are usually one time operations that need not be repeated once your system is set up.

1.1 DPS Reality as a Video I/O board

To configure the DPS Reality as a Video I/O board, go to the Hardware Options panel in Liberty's Configuration environment. Select "DPS Reality (frame buffer)" in the Hardware Options list. See Figure 1.1.1 below.

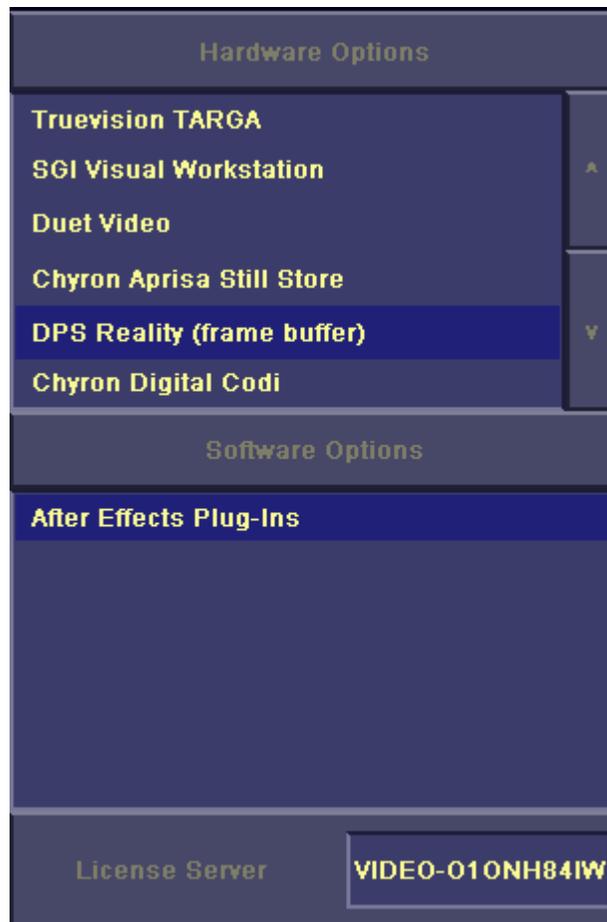


Figure 1.1.1 – Hardware Options panel with DPS Reality selected

Next, go to the VTR Configuration panel, and select a VTR number (usually VTR 1 in this case). In the list below, select “none”. Below the list, press on “Control” and set Type to “none” (by pressing on the window to the right of the word “Type” until you see “none”). Then press on “Video”, and then set Type to “DPS Reality (frame buffer)” (again, by pressing on the window to the right of the word “Type”). You are now ready to press the green “Configure” button to initialize the DPS Reality. When this completes, you should see “Done Initializing VTRs” in the Prompt window (to the lower right of the Video Configuration Panel). The Video Configuration panel is shown in Figure 1.1.2 below.

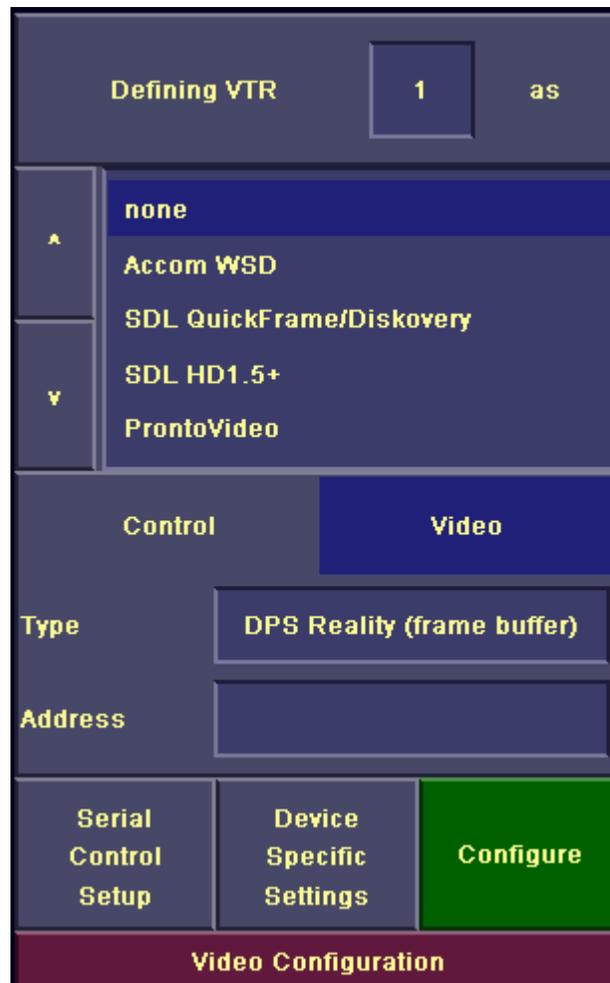


Figure 1.1.2. - VTR Configuration panel, with DPS Reality selected.

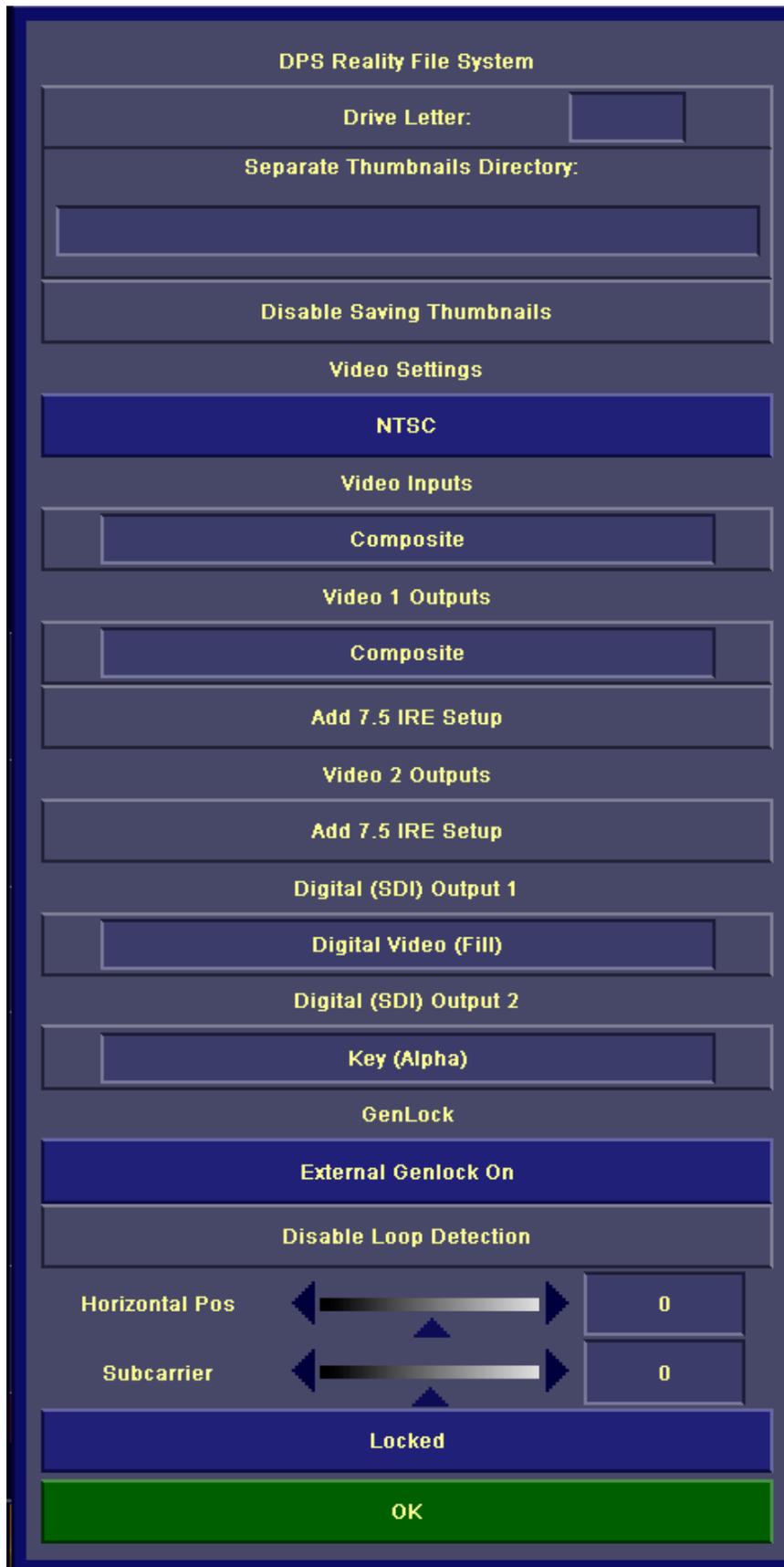


Figure 1.1.3 – DPS Reality Device Specific Settings Menu

Once you have configured the DPS Reality as a Video I/O board as described above, you are ready to do single frame grabs and shows in Paint. Note that after you set the above configuration settings, when you exit Liberty (using the Exit button in the Liberty Login menu), Liberty will remember the settings so that you won't have to re-enter them next time you use Liberty. All you will need to do is press the green Configure button.

The Transfer Panel in the Paint environment is shown in Figure 1.1.4 below. Use the Grab button to grab a single frame from your video input (pressing grab will first set the DPS Reality into "E-to-E mode", meaning that the video input signal is routed through the board and will also appear on your video output channels). "Grab" will grab the video frame to Liberty's Paint canvas. Note that the corner button of Grab brings up the Transfer Panel Grab Popup (shown in Figure 1.1.5 below). For the DPS Reality, all buttons in this popup should be left turned off.



Figure 1.1.4 – Liberty's Transfer Panel in the Paint environment.



Figure 1.1.5 – Grab Popup in the Transfer Panel (set all buttons to Off).

You can also Show single video frames from Liberty’s Paint Canvas to the DPS Reality’s video output channels. Just press the “Show” button in the Transfer Panel, and the canvas will appear on your video output channels. For Show, there are several settings of interest in the Show popup (press the corner button of “Show” to access this popup). These settings are described as follows:

- NonRealtime Show For the DPS Reality, this button should always be enabled. The other show modes (Preview Show and Realtime Show) do not work for the DPS Reality.
- UnPreMult Alpha Liberty uses Pre-Multiplied Alpha, meaning that the R, G, and B signals are scaled by the alpha values (when transparent). This often causes transparent areas to be too dark when the key signal is used in a device such as a switcher. To correct this, turn on the “UnPreMult Alpha” button.
- Show BG color When this button is on, the video output signal is shown over the canvas background color. When this button is off, the video output signal is shown over black (in other words, transparent areas are black).

The Show Popup is shown in Figure 1.1.6 below.



Figure 1.1.6 – Transfer Panel Show Popup, with settings for DPS Reality board.

1.2 DPS Reality as a DDR (Digital Disk Recorder)

You can also use the DPS Reality board as a DDR within Liberty. This allows you to browse, read, and write clip files on the DPS Reality File System, and to also control clip playback (play, stop, cue, etc). To enable these functions, first go to Liberty's Video Configuration Panel. If you have already configured the DPS Reality as a Video I/O board (section 1.1 above), select VTR number 2. Next, select "DPS Reality DDR" in the device list. Below that, select "Video" and toggle the Type window until it says "Local". Then select "Control" and also set its toggle window to "Local". You can now press the green Configure button to initialize the device (the Prompt Window will say "Done Configuring VTRs" when this is complete). The Video Configuration Panel is shown in Figure 1.2.1 below.



Figure 1.2.1 – Video Configuration Panel, with DPS Reality DDR configured.

Note that there are times where you may want to use another VTR number besides 2. You may also want to use the DPS Reality DDR at the same time as an alternate video I/O board (such as Chyron's Digital Codi board). These combinations will work provided you configure the Video Configuration Panel properly (for example, in the latter case, configure VTR 1 as the Digital Codi board, and VTR 2 as the DPS Reality DDR as described above).

Also note that many of the settings for the DPS Reality Video I/O board (covered in section 1.1) determine how video is routed in the DPS Reality, and these will also affect how the DPS Reality functions as a DDR (section 1.2).

Once you have configured your video devices, Liberty will remember these settings when you exit (using the Exit button in Liberty's Login environment). That way, when you re-start Liberty, all you will need to do is press the green Configure button.

Once you have configured the DPS Reality as a DDR, as described above, you can access its clips using Liberty's VTR panel (shown in Figure 1.2.2 below). In Animation, there is a similar set of controls in the upper left corner of the Animation environment menus.



Figure 1.2.2 – Liberty's VTR panel (in the Paint environment)

The DPS Reality DDR is a clip-based system. The clips are stored on the DPS Reality File System, usually a separate drive or disk array viewed as the P drive under Windows. When you first install the DPS Reality board, you need to create this file system using the DPS Reality software (see the Reality manual for more info). Although you can view this file system and its contents in Windows Explorer, it is not a standard Windows file system and its structure is fairly rigid. You can only use it to store video clips, and the clips are usually stored under a directory path of the form P:\DPS\Volume\Folder. The top level "DPS" directory is where the clips are always stored. The next level, "Volume", was named when you created the Reality File System. There may be multiple volumes if you have multiple disk arrays attached. The third level contains various folders (directories) that you can create and rename at will (do this in Windows Explorer). Within a given folder, you can create clips (files with a .dps extension). You can capture live video to a clip (done in the DPS Reality or Velocity software), or you can create and render clips within Liberty.

To begin working with clips in Liberty, first select "Source" in the VTR panel, and then use the Setup button (in Paint, the corner button to the left of "Source" and the arrow ">" button). This brings up the VTR Source Setup menu, where you can select the VTR number that you have assigned to the DPS Reality DDR as your current input. Once you have done this, use the OK button to exit the Source Setup menu.

To assign a clip within Liberty, first bring up the Grab popup (press the corner button of Grab in the VTR panel). Press on the "Path" window. This brings up Liberty's File Manager, where you can browse folders on the DPS Reality file system. Once you have navigated to a volume and folder, you will see the clips (with their clip names, and thumbnails if you have configured Liberty to save thumbnails (see section 1.1 above, and turn on the MakeBrowse button to create thumbnails for existing clips). Double-click on a clip

(or click on it and press OK) to select it into the Grab popup. The Grab popup is shown in Figure 1.2.3 below.



Figure 1.2.3 – VTR Panel Grab Popup for DPS Reality DDR

Once you have selected a clip (through the Path button and the File Manager as described above), that clip's thumbnail and attributes (number of frames, video standard, dimensions, fill/key, compression, etc) will be displayed in the Grab popup. There are several other controls in the Grab popup, as follows:

- Loop When on, clips will loop during playback.
- De-Interlace These controls allow you to de-interlace when grabbing, meaning that only the even or the odd scanlines will be grabbed. These lines will be Duplicated or Interpolated to fill in the alternate, missing scanlines. These controls are common for all devices handled in the VTR menu.

Once you have selected a clip as described above, you are ready to play it back and grab frames from it. In the VTR panel, use the Play and Stop buttons to control playback of the clip to video out. Enter a source timecode, and use the Cue button to go to that time code (or use the Cue forward and backward arrow buttons). Use the arrow button (“>”) next to the timecode window to query the current timecode from the DDR (after playing back). And use the Grab button to grab successive frames from the clip to Liberty's canvas.

You can also input from a clip in Liberty's Animation environment. Just use a Filmstrip actor, and assign its input to the VTR number that you have assigned to the DPS Reality DDR. In the Filmstrip Actor Edit Menu, use the In time button to set the start timecode, and use the Extr button to enable/disable de-interlacing.

2 Command Post High Definition DDR

Liberty V8.1 supports the Command Post HD DDR, which provides clip selection, playback, grab and record of high definition video material (currently 1920 x 1080 is supported, but this will most likely be expanded in the future). Liberty supports the CP HD DDR on both the Windows and IRIX platforms, as a networked device via Ethernet.

2.1 Configuration of CP HD DDR

To configure CP HD DDR, go to the Video Configuration panel, and select a VTR number (usually VTR 1 in this case). In the list below, select “CommandPost HD DDR”. Below the list, press on “Control” and set Type to “Ethernet” (by pressing on the window to the right of the word “Type” until you see “Ethernet”). Below the “Type” window (to the right of the “Hostname” label), enter the network IP address of the CP HD DDR. Or, enter its network hostname, as specified in the following text file:

```
C:\WINNT\SYSTEM32\DRIVERS\ETC\HOSTS
```

Next, press on “Video”, and again toggle the Type window to “Ethernet” (you should not need to re-enter the host name or IP address at this point; it should already appear in the “Hostname” window).

Once you have completed the above steps, you are ready to press the green “Configure” button (Liberty will display “Done initializing VTRs” in the Prompt window when configuration is complete). The Video Configuration Panel, configured for the CP DDR, is displayed in Figure 2.1 below.



Figure 2.1 – Video Configuration Panel configured for CP HD DDR.

Once you have entered the above settings, Liberty will remember them when you exit (using the “Exit” button in Liberty’s Login environment). When you run Liberty again, the settings will be there. You will just need to press the green “Configure” button to initialize the DDR.

2.2 Operation of the CP HD DDR

Once you have configured the CP HD DDR, as described above, you can access its clips using Liberty’s VTR panel (shown in Figure 2.2.1 below). In Animation, there is a similar set of controls in the upper left corner of the Animation environment menus.



Figure 2.2.1 – VTR Panel in Liberty’s Paint environment.

To begin working with clips, first select “Source” in the VTR panel, and then use the Setup button (in Paint, the corner button to the left of “Source” and the arrow (“>”) button). This brings up the VTR Source Setup menu, where you can select the VTR number that you have assigned to the CP HD DDR as your current input. Once you have done this, use the OK button to exit the Source Setup menu.

To assign a clip within Liberty, first bring up the Grab popup (press the corner button of Grab in the VTR panel). Press on the “Clip Name” window. This brings up Liberty’s File Manager, which will list all clips on the CP HD DDR (this DDR has no directory structure; all clips are contained in a single location). Double-click on a clip (or click on it and press OK) to select it into the Grab popup. The Grab popup is shown in Figure 2.2.2 below.



Figure 2.2.2 – CP HD DDR Grab popup

Once you have selected a clip into the Grab popup, the popup will display info on the selected clip, including number of frames, video standard, and dimensions. You can also use the Grab popup to select a Head Number for playback (on single channel systems this will always be set to "1"). And, you can select the type of Sync by clicking on the Sync toggle window. The Grab popup also has controls for de-interlacing material (you can set up to grab full frames, or either field (opposite scanlines are either duplicated or interpolated depending on your settings). Once you set your de-interlacing settings in the Grab popup, they will affect all subsequent Grabs in the VTR panel.

Once you have selected a clip in the above manner, you can use the VTR panel to play it back (using the Play and Stop buttons). You can also Cue to a specified timecode, or cue one frame at a time forward or backward (using the Cue arrow buttons). You can also query the current timecode from the DDR (using the ">" button to the left of the timecode window).

You can also grab frames from the currently assigned clip to Liberty's Canvas, using the Grab button in the VTR panel. Each time you grab, the timecode will increment.

Operation in Animation is similar. You can use the Animation VTR Panel (in the upper left corner of the Animation environment) to assign and playback clips. Once you have a clip selected, you can use the Filmstrip actor to input from that clip (by assigning the Filmstrip actor to the correct VTR number). Use the Filmstrip actor's In timecode window to set your start point for the clip, and use the Extr popup to enable/disable de-interlacing.

2.3 Record to CP HD DDR

To render to a clip, first select the "Target" button in the VTR panel in Paint. Use the corner button (to the right of "Target") to enter the Target VTR set-up menu (in Animation, select the "Tar" button in the Animation VTR panel, followed by the "Setup" button).

Within the Target VTR set-up menu, select the VTR number assigned to the CP HD DDR. Once you do this, you can set a number of parameters for the clip you are about to render. These appear above the red "Target" button, in the upper left corner of the screen (see Figure 2.3.1 below).

Once you have configured to render to a CP HD DDR clip, as described above, you can begin recording to it. Use the “Record” button in the Paint environment’s VTR panel, or render your animation with “Record” on in the Animation environment. Before recording, ensure your start timecode is zero in order to start recording at the beginning of the clip (in animation, use the “In” timecode (below “Loops”) for this).

2.4 CP HD DDR Clip Management Functions

When displaying clips on the CP HD DDR using Liberty’s File Manager, you can display info on a clip by pressing on the clip while holding down the Control keyboard key.

You can also delete clips from within the File Manager. Press on the Recall button in the upper left corner of the screen and select “Delete”, then select one or more clips to delete and press OK.

Note that you can not delete the clip that is currently assigned in the Grab popup menu. If you want to delete this clip, first select another one in the Grab popup menu.

3 Enhanced Plug-in Support on Windows Platforms.

Liberty V8.1 features improved handling of the Alpha channel when using Photoshop plug-ins. This improves results for a number of plug-ins, such as Alien Skin Eye Candy and Xenofex. In addition, Liberty V8.1 supports Alien Skin's new Splat plug-ins.

Liberty V8.1 also features enhanced After Effects plug-in support. Specifically, plug-ins that input frames at different timecodes (such as Boris Continuum's Temporal Blur and Trails plug-ins) are now working. In addition, several of the other Boris Continuum plug-ins (such as Sparks and Particle System) that previously failed are now working in Liberty V8.1.

4 Other Liberty 8.1 Changes

4.1 Octane 2 Platform

Liberty, and its installation script, have been enhanced to properly recognize and support SGI's Octane 2 systems (featuring VPRO graphics). Liberty does not yet support video I/O through the DM2 board, however.

4.2 Background Rendering License Requirement Removed

In Liberty V8.1, Background Rendering no longer requires a license. Thus, if you have a Liberty license, you can do single or multiple background renders without having additional licenses or a separate background render license.

4.3 Support of GIF files, and TIFF LZW files

We have unfortunately had to remove support of GIF files from Liberty, since Unisys claims rights to patents involved with LZW compression, which is utilized in GIF files. For the same reasons, Liberty no longer supports TIFF files using LZW compression (there are many types of TIFF files, and Liberty will continue to support all of those except for TIFF LZW, which is in fact fairly rare anyway).

For web related applications, we recommend using PNG files in place of GIF files. This is a more modern format that is very flexible, can achieve better compression, and does not suffer from the same patent issues as GIF. See:

<http://www.libpng.org/pub/png/>

for more info on PNG.

For more information on the Unisys LZW patent issue, and on the alternative use of PNG files, check out:

<http://burnallgifs.org/>

5 Bug Fixes

- Improved performance of Text when using large Chinese font files in Paint.
- Fixed problems with setting the NTSC frame rate in OMF files.
- For Windows systems, prevent Liberty menus from stretching to fill the entire screen area on wide screen and dual screen systems. With this change, Liberty's menus are kept close to 4:3 aspect ratio, regardless of the screen dimensions.
- Fixed multiple menu refreshes when exiting After Effects plug-in menu when in Animation.
- Fixed problem of JPEG files sometimes wrongly being recognized as PICT files.
- Fixed problem of Storyboard paths being limited to 80 characters maximum.