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# Section 5: Global Menus







# **Overview**

The Global Menu buttons control functions that are not specific to the local (1A, 1B, 2A, 2B) channels.



Note: You must delegate the Global channel in order to save effects created with these menus. If the Global channel is not delegated, although you will be able to create effects, you will not be able to save them in keyframes.

There are six menu buttons in the Global area:

Global Trans

Global Trans button lets you manipulate an image's location, rotation and size in 3D Global space. Because Global space is downstream of all 3D transform spaces, it applies to all channels as though they were a single unit. You can think of Global space as another DVE that uses the combined output of the channels for its source. Also, Global space has its own timeline, independent of effects on other timelines, so you can offset its start time from those of effects on other channel's timelines.

Combiner

Use the Combiner menu to select a background source and to set the key priority between the DVE outputs, the Target Framestore, and the background. The background source can be external video, the internal SuperMatte generator, the Pattern Framestore, or the Defocus module (either live or frozen). With fixed priority, you can manually crossfade and control the opacity of the channels, background and Target Framestore. Z (depth) priority uses the Z locate value of each element to set its priority relative to the other elements in the combined output.

Target Framestore

The Target Framestore (TFS) provides recursive effects. These include several trail types (decays, sparkles, and smears) and composite montages that drop frozen images into the Target Framestore, either under (behind) or over (in front of) the combined DVE output.

Defocus

The Defocus menu controls the dual channel wide range Defocus module. With this feature, you can simultaneously or independently blur or soften any two Dveous/MX sources. SuperMatte

The SuperMatte menu lets you create a two-color wash or background with dedicated color and pattern generators. The patterns can be used to generate a key signal that is fed to the B side of a twin channel, or used to simulate a wipe pattern. When multiplied, the patterns can also be used to create textures. Also includes SpiralFX for more complex patterns.

Solid Builder

Solid Builder lets you build a slab or cube with just the press of a button. Additional controls let you slide the image along the sides of the cube for perfect positioning, and instantly readjust the size of your solid.



# **Combiner Menu**

The Combiner menu lets you select background sources and either manually (using Fixed mode) or automatically (using Z Key mode) set the key priority. Press **COMBINER** on the Control panel to bring up this menu.

The *Z Key* (automatic) sets keying priority on the relative location of each channel, the Target Framestore and the background in 3D space. With this priority setting, these elements intersect or otherwise interact with each other.

BACKGROUND	COMBINER						àb
Fixed Z Key	CURRENT TIME: 0:00 CURRENT EFFECT: WorkSpace EFFECT KFs: 14						
	KF# BAC	KGROUND	FREEZE	SOURCE		XFADE 2/	B
						21	B
TFS							
Fixed Z Key							
	L	ŀ					
FREEZE	SOURCE			XFADE 🕽		KEYPAD	
JP	JP						
Live	1			100.00			

# N

Note: The channel Output menu has controls for setting priority between the A and B channels of each pair. See the information on the Output menu in Section 4 – Channel Menus for more details.

# H

Hint: You must delegate the Global channel in order to save combiner effects in keyframes.

# Background

Use this function to select a source for the background, its freeze mode, and its key priority. Two of the softknobs, **Freeze** and **Source**, appear in both *Fixed* and *Z Key* modes and are discussed immediately below:

#### Freeze

Selects the freeze mode for the background source: Live or Freeze. Note that a frozen background source is always a full frame of video.

#### Source

Selects the source for the background. 1 - 12 are the external inputs. You may have fewer than 12 inputs if the second input module (option) is not installed; six inputs are standard. SuperMatte selects the internal two color SuperMatte generator. Pattern selects the output of the Pattern Framestore. Defocus A and Defocus B select the corresponding output of the Defocus module.

#### Fixed

The Fixed priority type, by default, places the background behind all other elements in the combined output (all DVE channels and the Target Framestore), no matter what their position in 3D space. You can change this positioning with the **XFade** (crossfade) softknob.

#### **XFade**

In Fixed priority mode, use this softknob to exchange the key priority of the background relative to the combined DVE and Target Framestore. The default value, 100.00, places the background "behind" or "under" all other elements. A value of 0 places it "in front of" or "over" all other elements. Intermediate settings give a mix of the background and other elements. XFade lets you dissolve or mix the background through the other elements as part of an effect.

#### Z Key

In the Z Key mode, the priority of the background depends on its location in 3D space, which, by default, is infinitely far from the viewer.

#### Z Pos

Z Pos has the same effect on key priority as the Z locate value for the DVE channels: the lower the value, the "closer" the background is to the viewer. Note, though, that the background does not actually change size or position: this soft-knob affects only key priority. The default value, 100.00, places the background behind all other elements. A value of 0.00 places it in front of all other elements. Intermediate settings place the background in front of, behind, or intersecting the DVE channels and Target Framestore, depending on their individual Z locate (depth) values.



# Z Soft

Z Soft controls the sharpness of the priority transition between the background and the other elements. It sets the softness of the edge where the background and DVE channels (and/or Target Framestore) intersect.

	Both Modes
Default	0
Range	0 (soft edge) - 7 (hard edge)

# DVE

This function has no effect on a one channel HD mode. This function controls the key priority between the two combined twin channel outputs. Channel 1 is the standard DVE output (1A and 1B combined). Note that if you do not have the dual twin system, the only control that applies is the CH1 Opac softknob. These controls treat each combined channel pair (1A/1B and 2A/2B) as a single source.

Toggle the DVE softkey between *Fixed* and *Z Key* priority. The **Opac** (opacity) parameter softknobs appear for both modes and are discussed immediately below:

#### CHI Opac

Sets the opacity of the combined channel 1A/1B output.

	Both Modes
Default	100
Range	0 (fully transparent) - 100 (fully opaque)

## CH2 Opac

Sets the opacity of the combined channel 2A/2B output.

	Both Modes
Default	100
Range	0 (fully transparent) - 100 (fully opaque)

#### Fixed

Fixed mode, by default, places the combined 1A/1B output over the combined 2A/2B output, regardless of their relative locations in 3D space. You can change their relative priorities with the **XFade** (crossfade) softknob.

#### **XFade**

In Fixed priority mode, use XFade to exchange the relative priority of the combined 1A/1B output and the combined 2A/2B output. The default value, 0, places 1A/1B over 2A/2B. A value of 100 places 2A/2B over 1A/1B. Intermediate settings give a mix of the two pairs where they overlap. XFade lets you dissolve or mix one channel pair through the other as part of an effect.

#### Z Key

The Z Key priority mode uses Z (depth) information to set key priority between channel pairs. A lower Z locate value places the channel pair closer to the viewer in 3D space and gives it higher priority. A higher Z locate value places the channel pair farther from the viewer and gives it lower priority. If a channel pair is rotated horizontally or vertically, part of the channel pair is closer, and so has higher priority. This means that, where channel pairs meet, overlap, or intersect, their relative Z locate values determine which pair is over the other.

#### Z Soft

Controls the sharpness of the priority transition between the channel pairs. It sets the softness of the edge where the channel pairs intersect.

	Both Modes		
Default	0		
Range	0 (soft edge) - 7 (hard edge)		

# TFS

The Output function treats the combined DVE channels (1A, 1B, 2A and 2B) as a single source and it controls the DVE opacity and key priority relative to the Target Framestore.

Toggle Output between *Fixed* and *Z Key* priority. The **Opac** (opacity) parameter softknobs appear in both priority modes and are described immediately below.



# **DVE Opac**

Sets the opacity of all combined DVE channels as a single source.

	Both Modes
Default	100
Range	0 (fully transparent) - 100 (fully opaque)

#### **TFS Opac**

Sets the opacity of the Target Framestore option.

	Both Modes
Default	0
Range	0 (fully transparent) - 100 (fully opaque)



Note: The opacity settings are cumulative, and have a hierarchy that affects the channel's final opacity. For example, channel 1A has a 50 percent opacity setting in its Output menu. If you set the Combiner menu *DVE* CH1 Opac softknob to 50, it halves channel 1A's visible opacity to 25 percent. If you then set the *Output* DVE Opac softknob to 50, it halves channel 1A's visible opacity again, to 12.5.

## Source

Selects one of the three inputs for the Target Framestore. Combined uses the combined outputs of both twin channels (1A, 1B, 2A and 2B). CH1 uses the output of channel 1A/1B only. CH2 uses the output of channel 2A/2B only.

#### Fixed

The Fixed priority mode, by default, places the DVE over the Target Framestore, regardless of the DVE's location in 3D space. You can change the relative priorities of the DVE and TFS with the **XFade** (crossfade) softknob.

#### **XFade**

In Fixed priority mode, use this parameter softknob to exchange the priorities of the DVE output and the Target Framestore. The default value, 0, places the DVE over the TFS. A value of 100 places the TFS over the DVE. Intermediate settings give a mix of the two where they overlap. XFade lets you dissolve or mix one element through the other as part of an effect.

# Z Key

The Z Key priority mode uses Z (depth) information to set the relative key priority between the DVE and the Target Framestore. A lower Z locate value places the DVE closer to the viewer and gives it higher priority. A higher Z locate value places the DVE farther from the viewer and gives it lower priority. If the DVE is rotated horizontally or vertically, the closer part has higher priority. This means that, where the DVE and TFS meet, overlap, or intersect, their relative Z locate values determine which is over the other.

If you freeze one or both DVE channels in the TFS, the current channel Z locate information is stored with the video. This gives the TFS its own Z priority, letting it appear over or under the DVE, depending on its Z locate values.

# Z Soft

Controls the sharpness of the priority transition between the DVE and the Target Framestore and sets edge softness where the DVE intersects the TFS.

	Both Modes		
Default	0		
Range	0 (soft edge) - 7 (hard edge)		



# **Defocus Menu**

The wide range Defocus lets you blur or soft-focus images. You can defocus up to two images, either simultaneously or independently. Use either of the Defocus channels' outputs (Defocus A and Defocus B) as input sources for the DVE channels (1A, 1B, 2A and 2B). You can also use the Defocus output for textures and backgrounds. Press the **DEFOCUS** button on the Control Panel to bring up the Defocus menu.



Hint: You must delegate the Global channel in order to save Defocus effects in keyframes.

DEFOCUS A				DE	FOCUS			Gb
Luma Chroma	CURR	CURRENT TIME: 0:00 CURRENT EFFECT: WorkSpace EFFECT KFs: 1						
	KF#			LUMA H	LUMA V	APERTURE	SOURCE	1B 2A
DEFOCUS B								2B
-ema onroma								-
							Э = H +	- V
	LU	MAV	APE	RTURE	SOURCE		KEYP/	AD
			JP	204	JF			
0.00		J.00		601	1			

# Defocus A and Defocus B

There are two defocus channels, A and B. Note that these channels do *not* correspond to the DVE channels A and B; they simply assign one of two paths for routing an image into and out of the Defocus circuitry. A function softkey exists for each channel, Defocus A and Defocus B. The softkeys operate identically for each channel and select one of three modes:

- The first press selects *Luma* defocus, which affects only the image's luminance (brightness).
- The second press selects *Chroma* defocus, which only affects the image's chrominance (color).

The third press selects both *Luma* and *Chroma*, which lets you defocus the entire image.

Depending which mode you have selected, the parameter softknobs change accordingly. Descriptions of the parameter softknobs follow, with the three possible headings listed from left to right in order of the function mode selected: *Luma*, *Chroma* or *Chroma* and *Luma* together.

#### Luma H/Chroma H/Both H

Controls the defocus in the horizontal direction. At 0.00, horizontal defocus is effectively off.

	Both Modes
Default	0.00
Range	0.00 - 100.00

#### LumaV/ChromaV/BothV

5

Controls the defocus in the vertical direction. At 0.00, vertical defocus is effectively off.

	Both Modes		
Default	0.00		
Range	0.00 - 100.00		

Note that you can use the joystick to control the defocus settings. Move the joystick right and left to adjust the horizontal defocus; move it up and down to adjust the vertical defocus. Twist the joystick handle to adjust defocus in both directions simultaneously.

#### Aperture

This softknob lets you select the type of video blanking needed for the input video source. The 601 setting is for digitally generated video, which typically has narrow blanking. Use Analog for video, which has wider blanking. If an image contains black (or blanking) at the edges, passing it through the defocus module averages the black into the active image, resulting in a darkening of its edges. Since defocus applies to the video upstream of the engineering setups and crops, you cannot use them to remove the black edges. The Analog setting replaces the black with gray to keep the softened edges from darkening.



# Source

Use this softknob to select the source for the defocus channel. 1-12 are the external inputs. SuperMatte selects the internal two-color SuperMatte generator. Pattern selects the output of the Pattern Framestore.

# **Global 3D Transforms Menu**

Press the GLOBAL TRANS button on the Control Panel to bring up the Global 3D Transforms menu. This menu lets you manipulate an image in either Target or Source Global Space. Global transforms are downstream of the 3D transform spaces. For a detailed explanation of the transform hierarchy, refer to Section 3 – Transforms.

Global Trans movement and rotation controls are similar to the ones in the Local 3D Trans menu, and they use the same screen units and rotation values. There are also separate Global Source and Target spaces. As with timeline effects, you can assign Global parameters their own motion path types, keyframe durations and pauses.

Global Space has its own timeline, so you can build effects on the Global timeline and offset their start times from those of effects on other channels' timelines. This separate timeline let you, for example, fly together pieces of an image (each on its own channel) then rotate of fly the entire image as a unit with the Global channel.

LOCATE		LOCAL 3	-D TRANS	ORMS	Ch 1A
Target Source	CURRENT TIME: 0:00 CURRENT EFFECT: WorkSpace EFFECT KFs				KFs 1A
	KF#	H LOC	V LOC	Z LOC	1B 2A
ROTATE					2B
Target Source					
AXIS LOCATE					
Target Source					
					KEYPAD
		'			
0.0000	0.0000	0.0000			



Hint: You must delegate the Global channel in order to save Global transforms in keyframes.

#### Locate

The Locate function lets you move the channels along the Global axes in 3D spaces. Press Locate to enable either Source or Target space as the location for the move. All Target locates move the channels relative to the screen.

All locates have true perspective, unless you alter the Perspev setting in the 2D Trans menu (default = 0.0188). The perspective setting is downstream of the Global space.

#### H Loc

Moves the channels along the Global horizontal axis. Positive value move the channels to the right; negative values move the channels to the left.

	SD Mode (1 x .75)	HD Mode (16 x 9)		
Default	0.0000	0.0000		
Range	+/- 99.9999	+/- 1599.9984		
Align	Nearest multiple of .125	Nearest multiple of .125		

#### V Loc

Moves the channels along the Global vertical axis. Positive values move the channels up; the negative values move the channels down.

	SD Mode (1 x .75)	HD Mode (16 x 9)		
Default	0.0000	0.0000		
Range	+/- 99.9999	+/- 1199.9987		
Align	Nearest multiple of .125	Nearest multiple of .125		

# Z Loc

Moves the channels relative to the eye's viewing point. The default value is 0.0000. Positive values move the channels away, making them appear smaller. Negative values move them closer, making the channels appear larger. With a value of - 26.600, the channels disappear because they have reached the maximum eye viewing point and are "behind" you in 3D space.

	SD Mode (1 x .75)	HD Mode (16 x 9)		
Default	0.0000	0.0000		
Range	+/- 99.9999	+/- 1599.9984		
Align	Nearest multiple of .125	Nearest multiple of .125		

#### Rotate

The Rotate function spins the channels about the three Global axes. Toggle *Rotate* to either *Source* or *Target* to select the space for rotation. All Source rotates spin the Global Source plane. All Target rotates are relative to the screen.

The parameter values represent fractions of a 360 degree turn. For example, two and one quarter turns equals 2.2500. You can find the numeric values for precise rotation by dividing the needed degree of rotation by 360. For example, a 33 degree rotation is 33/360 = 0.0917; 45 degrees is 45/360 = 0.1250, or one eighth of a complete rotation.

All rotates have true perspective, unless you alter the Perspcv setting in the 2D Trans menu. The perspective setting is downstream of the Global space.

## H Rot

Rotates the channels about the Global vertical axis. Positive values move the right edge away from you; negative values move the left edge away.

	Both Modes
Default	0.0000
Range	+/- 99.9999
Align	Nearest multiple of .125



# V Rot

Rotates the channels about the Global horizontal axis. Positive values move the top edge away from you; negative values move the bottom edge away.

	Both Modes		
Default	0.0000		
Range	+/- 99.9999		
Align	Nearest multiple of .125		

#### Z Rot

Rotates the channels about the Global Z axis. Positive values rotate clockwise; negative values rotate counterclockwise.

	Both Modes
Default	0.0000
Range	+/- 99.9999
Align	Nearest multiple of .125

## **Axis Locate**

Axis Locate sets the center of rotation for the Global channel. The center of rotation is the point at the intersection of the Global H, V and Z axes. The H,V and X axes are perpendicular to each other and you can use them to move their intersection (the pivot point for the channels) in 3D space. You can move the pivot point on the Z axis and use the H and V rotates to make the channels orbit the pivot point.

Toggle the softkey to either *Source* or *Target* to select the space for the axis locate. All Source axis moves locate the pivot point in Global Source space. All Target axis moves locate the pivot point relative to the screen. Press the CURSOR button in the Graphics area of the Control Panel to enable the cursor that indicates the pivot point's current location. See Section 3 – Transforms for details on the cursor display.

# H Pos

Moves the pivot point along the Global horizontal axis. Positive values move the pivot point right; negative values move it left.

	SD Mode (1 x .75)	HD Mode (16 x 9)		
Default 0.0000		0.0000		
Range +/- 99.9999		+/- 1599.9984		
Align	Nearest multiple of .125	Nearest multiple of .125		

## V Pos

Moves the pivot point along the Global vertical axis. Positive values move the pivot point up; negative values move it down.

	SD Mode (1 x .75)	HD Mode (16 x 9)
Default	0.0000	0.0000
Range	+/- 99.9999	+/- 1199.9987
Align	Nearest multiple of .125	Nearest multiple of .125

# Z Pos

Moves the pivot point along the Global Z axis. Positive values move the pivot point away from you; negative values move it closer. Moving the pivot point along the Z axis causes horizontal and vertical rotations to orbit the channels about the pivot point.

	SD Mode (1 x .75)	HD Mode (16 x 9)		
Default	0.0000	0.0000		
Range	+/- 99.9999	+/- 1599.9984		
Align	Nearest multiple of .125	Nearest multiple of .125		

# Accom. Section 5: Global Menus

# **Solid Builder**

The Dveous/MX Solid Builder builds a slab that can then be enlarged to a cube. The slab is built on the Local Source plane, but the Solid Builder enters the parameters on the Global timeline. That means the Local channel timelines are free for other transforms and attribute changes. So you can change V, H or Z position, add lighting, do some color correction, grab or release freezes, etc.

With the preliminary setup on Local Source, You can perform rotations and changes of position in Local Target. Then tie it all together and do a transform in the Global plane.



Note: Although Solid Builder works in either 1 x .75 (SD) or 16 x 9 (HD), certain parameters do not translate correctly between different aspect ratios. Therefore, an effect using Solid Builder that was built in SD mode may not run correctly if run in HD mode. You may have to modify the effect or rebuild it if you want to do this.

# **Solid Builder Menu**

SOLID BUILDER							Gb 1A
SIDES T/B L/R F/B	KF#		SLAB	WIDTH	HEIGHT	DEPTH	1B 2A 2B
MODES							
			Y SIZE USE GI	obal Z Locate	= 0.6000		
SOLID 🖶	WIE	DTH 🖶 HE		DEPTH 🕽		KEYF	PAD
On	LIN 16.(	0000 9.	0000	1.2000			

The following discussion tells you how the menu works.

# **Solid Builder**

#### Build

Toggle *Solid Builder* to *Build*. Then toggle Solid to *On* to turn the feature on and build a slab. As you adjust Height, Width and Depth values, Solid Builder automatically updates all the slab-essential parameters in other menus.

## Enable

*Enable* lets you decide what channels are used to build the slab. When you toggle *Enable*, four parameters display: 1A, 1B, 2A and 2B. By default, all four channels are *On*, meaning they are being manipulated by Solid Builder. The default slab is built on channels 1A (F/B), 1B (T/B), and 2A (L/R), with channel 2B shrunk to zero size so that it is hidden. To take control of any channel away from Solid Builder, simply turn *Enable* to *Off* for that channel.

Even if you are running a single twin channel system, all four channel parameters display. This way, even though you have a single twin, you can build and copy an effect to a four channel machine.

# Sides

The Sides parameters let you slide the video around in the front, top and sides of the slab so that you can position an image exactly where you want it. This feature is great for positioning logos and or featuring specific parts of an image. With the Sides function, you can also adjust the image aspect ratio.

## Using the Sides function

Toggle *Sides* to adjust the image in one of the following slab sides: *TB* (Top and Bottom of the slab), *LR* (Left and Right sides of the slab) or *F/B* (Front and Back sides of the slab). For each side TB, LR or FB, you can adjust the vertical and horizontal position of the video and adjust its size, or aspect.

## Pos H

Repositions the image horizontally in the slab side.

## PosV

Repositions the image vertically in the selected slab side.

#### Size H

Adjusts the horizontal aspect of the image in the side.

#### **SizeV**

Adjusts the vertical aspect of the image in the selected side.

# Modes

The Modes function lets you flip the slab side video horizontally or vertically. This feature is useful when the side video includes text. Also, if you are running a single twin channel configuration, Modes lets you place the video for channel 1B. Use the Preview function to easily position and place video for all sides of a unity size slab.

## Side

H- Horizontal orientation is the default mode. It takes the face video and rotates it 1/4 turn so that it maintains its horizontal orientation.

V- Vertical orientation places the video into the side in its original state, so that it runs vertically down the side.



# CHIB

If you are running a single twin channel system, use this parameter to tell Dveous/MX where to place the B channel video. Channel 1A is always designated as the face. Use the 1B parameter softknob to specify the location of the video for channel 1B.

**Top** – Choose *Top* for top/bottom location.

Side – Choose *Side* for left/right side location.



Note: With a single twin channel system, building an apparently six-sided slab requires two passes.

# **Roll Direction (Roll Dir)**

This feature allows the user to correctly invert the video when using 3D rotations in conjunction with Solid Builder.

**Default** – No inverts are possible other than side H and V described above. The invert function in the Input menu is disabled.



Forward – Allows correctly inverted video when the solid is rotated in a forward or backwards motion (top to bottom OR bottom to top). The invert function in the Input menu is disabled.

Sideways – Allows correctly inverted video when the solid is rotated in a side to side motion. The invert function in the Input menu is disabled.

**Manual** – In this mode the Invert function in the Input menu is enabled allowing the user to invert any side on a keyframe by keyframe basis for more complex rotations.

Note: Global channel must be delegated for any keyframe changes to be seen.

#### **Preview**

Preview is useful if you will be building a full-size slab and want to be able to verify the placement and position of video in all sides of the slab at once. Turn Preview *On* to see a smaller-than-unity size, rotated slab. Then place and position your video. When you leave the Solid Builder menu, the *Unity Size* Global Z Locate value (displayed in the Solid Builder menu) is automatically entered. Your slab is still there, but at unity size, with all video in place and position as you previewed it.

**On** – Choose On to preview rotated slab. **Off** – Choose *Off* to turn off the preview.

Note: Preview mode assumes that all 3D and Global values are at Unity.

#### **Keyframe Rules and Notes**

- The GLOBAL channel must be delegated for all keyframes.
- It's also good idea to have a keyframe on every channel all the time. Having all channels delegated is especially important when creating your first keyframe. That way, you establish a keyframe that anchors you at the starting point and keeps your effect intact.

#### **Building a Basic Slab**

Clear out any existing keyframes or menu parameters by pressing NOR-MAL–NORMAL–ENTER. Then, go to the Global 3D Transforms menu and shrink the image down and rotate it just a bit. This step is not necessary to build a slab – you could just start from Step 2 – but it will let you see the effects of Solid Builder immediately. For this example, set Z Loc = .75 (SD) or 12 (HD) for the locate source. For the rotate source, set H Rot = -0.125 and V Rot = 0.125.

It doesn't matter if you have channels delegated or not at this point. Once you start adding keyframes, however, the Global channel must be delegated.

2. Go to the Solid Builder menu. Toggle *Solid Builder* to *Build*. Turn Solid to *On*. Instantly a slab appears.

Now twist the joystick and watch what happens. The Width, Height and Depth change instantly. You may insert keyframes at any time. (Remember to delegate the Global channel.) If you want to rotate the slab, use either Target or Source Rotate in the Global Trans menu.

#### Solid Builder's Automation

Solid Builder goes behind the scenes and automatically adjusts various menu parameters that it considers essential to the building of a slab. You can adjust some of these parameters if you wish, without affecting the integrity of the slab. For example, you can adjust *3D Source* **Z Loc** to lift the face of the slab. However, some slab-essential parameters are not adjustable, and if you attempt to adjust them, Dveous/MX ignores your input.



The slab top is moved in Local 3D Trans.



Returning to the Solid Builder menu and changing slab Width, Height or Depth does not change the relationship of the top to the slab.

#### **Unity Size**

The Solid Builder menu display tells you what value to input for Global Z Source so that your keyframe will have the same  $1 \times .75$  (SD) or  $16 \times 9$  (HD) size and aspect as the original video at the input of the machine. Because Solid



Builder pushes the image out to build the slab, adjusting this value will return the image to its correct unity size position. When building slabs, and in order to be able to match unity size, you must use the **Crop** (A57) function in the Input Setup menu to adjust for overly wide blanking. Do not use the **Normal** mode.

#### Building a Slab on the Source and Target Planes

For those who believe it's a good idea to learn mathematical concepts before shooting straight to a calculator, see the directions in Section 4: Channel Menus for manually constructing a slab using the *Autocube* function in the Corner Pinning menu. This cube is built partially in Local Source and partially in Local Target, allowing for maneuvers such as an exploding cube.

# SuperMatte Menu

Use the SuperMatte generator to create a two-color wash as a background, video, key or texture source. When used as a key source, the SuperMatte can be used as a wipe signal to wipe a channel on or off. Ninety-seven modifiable wipe patterns let you create a variety of different looks (not all of the patterns are currently active.)

The SuperMatte generator is available as a source, just like any input. Bring SuperMatte in as an input from one of four menus: The Input menu, the Texture menu, the Defocus menu or the Combiner menu.



Hint: You must delegate the Global channel in order to save SuperMatte effects in keyframes.

PATTERN	SUPERMATTE							
in Position	CURRENT TIM	CURRENT TIME: 0:00 CURRENT EFFECT: WorkSpace EFFECT KFS:						
	KF#		PATTERN	SOFTNESS	ASPECT	PROGRESS	1B 2A	
TRIBUTES							2B	
Spiral								
COLOR								
e-1 Matte-2								
					L			
ΡΔΤΤΕΡΝ	SOFTNESS		PECT	PROGRSS			<b></b>	
	JP					<u>NE I PAL</u>	ע	
1	50.00		00	50.00				
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# Pattern

Toggling *Pattern* to *Main* lets you select a pattern and adjust its attributes. Toggling it to *Position* gives you different movement controls.

## Main

When you press Main the following parameters are enabled:

## Pattern

Dials in one of 97 patterns available (some are unavailable at this time) from the SuperMatte generator. As you scroll the list of patterns, an example of the pat-



tern will display in the area just above the softknob display. If you know the number of the pattern you want, you can instantly call it up by entering its number in the numeric keypad and then pressing A on the keypad register.

#### Softness

Adjusts the softness of the edge separating the two color washes. The range is 0 (hard edge) to 200 (softest edge). The default value is 50. A value of 100 gives a softness of 1 screen width.

#### Aspect

Stretches the SuperMatte pattern by changing its aspect ratio. Positive numbers change the horizontal aspect ratio, negative numbers change the vertical aspect ratio.

#### Progress

Changes the pattern size. Larger values increase the size, smaller ones decrease it. The range is 0 to 100, representing the transition from no size (pattern invisible) to full size (pattern full screen). The default value is 50.

The **Progress** value also indicates how far you have progressed through the wipe pattern. In this case, **Progress** is used like the transition bar on a switcher: values 0 and 100 represent the transition bar thrown from one end to the other. A middle value represents the bar in mid-transition. For example, a two keyframe effect with **Progress** set to 0 at the first keyframe and to 100 at the second keyframe would result in a fully transitioned wipe.

**Progress** works in conjunction with the Level parameter (located in this menu under *Attributes*) when adjusting the *Split* amount. See the discussion about *Level* at the end of the SuperMatte section for details.

#### Position

These parameters adjust an element of the pattern's rotation and/or location.

#### Mode

Toggles between two modes: *Angle* or *Spin*. Depending on which mode you choose, the parameter softknob to the right will change accordingly. *Angle* tilts the pattern on its Z axis. *Spin* spins the pattern continuously.

#### Angle/Spin

Depending on which mode you selected with softknob A, one of these modes will display:

- Angle adjusts the tilt angle of the pattern along its Z axis. The default is zero (0.00) tilt.
- Spin determines how fast or slow the pattern spins. Because the value represents the number of degrees the pattern rotates per field, it takes only small adjustments in value to see major results. Positive values spin the pattern clockwise; negative values spin it counterclockwise. The default is 0 (no spin), with a range of +/- 100.

#### H Pos

Moves the horizontal position of the pattern on the screen. Values represent screen units.

#### V Pos

Moves the vertical position of the pattern on the screen. Values represent screen units.

# Attributes

#### Spiral

The new SpiralFX feature gives you control of two spiral generators used in conjunction with patterns 94 through 97. SpiralFX offers users a new creative tool for making complex patterns and backgrounds.

Pressing the **Spiral** softkey will bring up four new parameters: Rings 1, Arms 1, Rings 2 and Arms 2.

To use SpiralFX you must first choose a pattern (under the Pattern/Main menu) between 94 and 97. Then you may adjust and play with the Arms and Rings controls to create simple to complex spirals.

- Pattern 94 uses a circular wipe shape and is "additive" between the two spiral generators.
- Pattern 95 uses a circular wipe shape and is "multiplicative" between the two spiral generators.
- Pattern 96 uses a heart-shaped wipe shape and is "additive" between the two spiral generators.
- Pattern 97 uses a heart-shaped wipe shape and is "multiplicative" between the two spiral generators.



The controls for Spiral generator 1 are **Rings 1** and **Arms1**. The controls for Spiral generator 2 are **Rings 2** and **Arms 2**. Patterns 94 and 96 will add the values from the two spiral generators, while patterns 95 and 97 will multiply the values.

**Rings** controls the amount or tightness of the spiral pattern.

Arms controls the amount of radials (arms) used in the spiral pattern.



Note: The two generators can be used individually, as you will see in the following example, or together for more complexity.



Note: Both **Rings** and **Arms** can be negative numbers, which would reverse the colors of the SuperMatte within the spirals and the rotation of the spiral.

The SpiralFX feature of SuperMatte is a very creative tool. Therefore it will take some experimentation by the operator to create the looks he or she wants. The previous descriptions and the examples that follow are intended to give the operator a basic knowledge of the functions.

#### Example 1 - Additive

- 1. Set SuperMatte pattern to 94
- 2. Set Softness to 0
- 3. Press Attributes softkey to bring up Rings and Arms parameters
- 4. Set **Rings 2** and **Arms 2** to 0. This effectively sets the second spiral generator to 0, therefore you are not adding any values to the first spiral generator.
- 5. Slowly adjust **Rings 1** and notice the amount of circles increase as well as the tightness of the spiral.
- 6. Set **Rings 1** back to a low value (5 works well) and slowly adjust **Arms 1** noticing the amount of Arms (Radials) increasing within the Spiral.
- 7. Readjust Rings 1 noticing the effect this has on the Spiral.

8. Finally start changing values for **Rings 2** and **Arms 2** thereby adding these values to the first Spiral generator and noticing the new complexity of the patterns.

# N

Note: The range of the Spiral generators is so large that by using very high numbers you can create noisy (moire) patterns that may sometimes be useful.

# Example 2 - Multiplicative

Follow the above example, replacing the following steps.

- 1. Set SuperMatte pattern to 95
- 4. Set either **Rings 2** or **Arms 2** to 1. This effectively sets the second spiral generator to 1, therefore you are not changing the value of the first spiral generator.
- 6. Finally start changing values for **Rings 2** and **Arms 2** thereby multiplying these values to the first Spiral generator and noticing the new complexity of the patterns.

# Example 3 - Heart Patterns

Try the above examples with Heart Patterns (Patterns 96 or 97).

# N

Note: Since SpiralFX is part of the SuperMatte functionality then all SuperMatte parameters will affect the spiral as they would any other pattern in SuperMatte.

# Color

Adjusts the two colors from the SuperMatte generator. The two default colors appear as blue (Matte 1) and red (Matte2).

# Matte I/Matte2

Toggle between *Matte 1* and *Matte 2* to select which of the two colors you want to change. Then use the luminance (Lum), saturation (Sat) and hue (Hue) parameter softknobs to change the color and brightness.



#### Lum

Adjusts the luminance, or brightness, of the matte color. The range is 0-100, with a default value of 100.

#### Sat

Adjusts the saturation, or chrominance, of the matte color. The range is 0-100, with a default value of 50. Zero is monochrome (no saturation) and 100 is fully saturation.

#### Hue

Adjusts the hue, or tint, of the matte color. The range is +/- 720, with a default of 0. The values represent the hue angles on a vectorscope: 0 is near blue, 50 near magenta, 170 near yellow, 230 near green and 290 near cyan. Although one pass through the color wheel is 360 degrees, Dveous/MX allows plus or minus 720 so that you can transition through the color wheel if desired.

#### Using SuperMatte As a Wipe Generator

You can use SuperMatte to simulate wipes by setting the matte colors to black and white and then keying in the video. You can wipe between a background and a video source or between two video sources (dual twin systems only).

- 1. Go to the Input menu. Select the Source function. Use Type to choose video for the A channel and SuperMatte for the B channel.
- 2. Go to the Supermatte menu. Select the Color function. Set Matte 1 to white (Lum = 100, Sat to 0). Set Matte 2 to black (Lum to 0, Sat to 0).
- 3. Select Pattern and toggle to the Main function and choose a pattern, 1-93, to use as a wipe pattern. Set **Softness** to 0 to create a sharp contrast between the two matte colors and emulate a wipe pattern.
- Go to the Key menu. Select the Setup function. Use the Mode parameter to select VK+S. Select the Shadow function. Set the B Opac value to 0 in order to eliminate the shadow.
- 5. Return to the SuperMatte menu. Select the Pattern Function. Use **Progress** to set the movement through the transition. To create a simple, fully transitioned, two-keyframe wipe, set **Progress** to 0 for the first keyframe and to 100 for the second.

# **Target Framestore Menu**

The Target Framestore lets you add an extra dimension to effects, with trails, smears and sparkles. You can also use it to create composite drops, in which images lay on top of the other, as in a collage.

To use the Target Framestore, make sure to shrink down all channels. Any fullsize channel will hide the Target Framestore, and its effects will not be visible. Press TARGET FRAMESTR to access the Target Framestore menu.



# H

Hint: You must delegate the Global channel in order to save Target Framestores effects in key-frames.

# Effect

Toggles *On* to enable the Target Framestore and ready the system for Target Framestore effects.

## Freeze

Freezes the Target Framestore when toggled to *Freeze*. The default mode is *Live*, which feeds live video into the Target Framestore.



Note: In order to see the Target Framestore in Freeze mode, make sure that the DVE Opacity value is low, and the TFS Opac value is high. These parameter settings are in the Combiner



menu, under the Output function. See the *Combiner Menu* section earlier in Section 5 – Global Menus.

#### Output

Selects one of three outputs modes for the Target Framestore: A full frame freeze (Frame), Field 1 only or Field 2 only. Use these controls to adjust or cancel image jitter. You can also select Frame to soften the effect's contours somewhat, and Field 1 or 2 to sharpen them.

#### Priority

Toggles between *Fixed* and *ZKey*.

**Fixed** - Places each successive image behind (under) or in front of (over) the previous one. Adjust the XFade parameter to set whether the images show behind or in front of the current one.

**ZKey** - Lets you intersect successive images. In order to use *ZKey*, the images must have a rotation value so that they have an appearance of three dimensionality. When *ZKey* mode is selected, the ZSoft parameter become enabled, letting you set the level of interaction between images.

#### XFade/ZSoft

*XFade* dissolves (mixes) one freeze with another. This parameter is enabled when *Fixed* priority is selected. To set the fixed priority behind, set XFade to 100. To set the fixed priority in front of, set XFade to 0. The default is 0, with a range of 0- 100. A mid-range XFade value dissolves one image into the other, with one having more priority than the other depending on the XFade value.

*ZSoft* sets the hardness or softness of the images' interaction. This parameter is enabled when ZKey mode is selected.

## Attributes

Use the Attribute function to select the effect you want to create: *Trail, Smear* or *Composite* (Drop). It is important to note that how fast or slow you move the DVE interacts with values you set in the Trail and Smear modes, and hence affects the effect. Parameter names for Trail and Smear are identical and are listed together immediately following. Composite drop parameters are listed separately.

#### Trail and Smear

Select *Trail* to enable the Trail effect mode. As you move the video image in Trail mode, both the video and key signal follow it. The effect is an image being followed by a trail.

There are two ways to affect the trail: decay and sparkle. Decay makes the trail fade (or decay). Sparkle gives the trail a sparkling effect by having bits of the video disappear randomly. You can use Decay and Sparkle individually or together.

Select *Smear* to enable the Smear effect mode. As you move the video in Smear mode, only the video signal follows, while the key signal stays on screen, then fades to black. The effect is of having smudged, or smeared, the image across the screen. You can also smear motion inside the video to create a motion blur effect.



Note: In order for smears to be visible, you must set the priority of the Target Framestore to be over (on top of) the live video. To set the priority, go to the Combiner menu. Toggle the Output function softkey to Fixed.

Smear is also affected by the XFade value set in the Combiner menu. A XFade value of 0 (which places the DVE over the Target Framestore) is used for smearing the trail outside the video; a value of 100 (which places the Target Framestore over the DVE) is used to blur the motion inside the video.

#### Function

Toggles either *Decay* or *Sparkle* modes. Depending on the mode you select, parameter softknobs C and D change accordingly. You must use the *Status* parameter softknob to turn either of these functions on. See below under Status.

#### Status

Enables the *Decay* and/or *Sparkle* modes when turned *On*. Note that you can use *Decay* and *Sparkle* separately (one mode *On*, the other *Off*), or in conjunction with each other (both turned *On*).

#### **Decay/Size**

Decay – this parameter appears when Decay is On. In Trail mode Decay affects the amount of time the trail is visible or, in other words, how long it takes the trail to fade. The default value is 100, with a range between 0 - 100. A value of 0



will eliminate any visible trail effect. The higher the value, the longer the trail follows the image.

In Smear mode, Decay controls the opacity of the smear. The higher the value, the more translucent the smear becomes; the lower the value, the more opaque.

*Size* – this parameter appears when Sparkle is On and it affects the size of the sparkles. The default value is 0, with a range between 0-15. The smaller the value, the more dot-like the sparkles; the larger the value, the more block-like the sparkles.

#### Slinky/Rate

Slinky – this parameter appears when Decay is On. It inserts a cuts off point in the disappearance of the decaying trail. The default is 0, with a range between 0-7. With Slinky set to 0 and a Decay value of 50, for example, the trail will gradually fade. With a Decay value of 50 and a Slinky value of 7, the trail follows the image closely and then abruptly disappears.

Rate – this parameter appears when Sparkle is On and it adjusts the duration of the sparkle effect. Depending on how fast the image moves across the screen, this parameter can be seen to effect the length of the trail. The default is 128, with a range 0-255. With a rate of 0, the sparkle trail is almost opaque and takes a while to dissolve. A rate of 255 will eliminate any visible sparkle effect.



#### Hint: Creating Motion Blur

You can use Smear to blur the motion inside the video. This effect is best observed with fast moving images. Stationary objects in the video will not be effected at all.

- 1. Go to the Input menu. Press the *Select* function and highlight *Near*. Use the Type softknob and select *Video*. Dial the Source softknob to the input video you want to blur.
- Go to the Combiner menu. Toggle TFS to *Fixed*. Set the XFade softknob to 100.
- 3. Turn status on.
- 4. Go to the Target Framestore menu. Press the *Effects* function and highlight *On*. Press the *Attribute* function and select *Smear*. Select *Decay* under Function. Set the Decay rate to 90. The video now appears blurred.

## Comp (Composite)

Composite mode lets you place (drop) successive frozen images into the Target Framestore. You can drop these images over or under images already existing in the framestore, with a result much like images layered in a collage.

#### Drop

Toggles the composite mode *On* or *Off. On* drops a freeze of the current DVE output into the Target Framestore.

#### **Priority**

Toggles between *Fixed* and *ZKey. Fixed* places each successive image behind (under) or in front of (over) the previous one. Adjust the XFade parameter to set whether the images show behind or in front of the current one.

#### ZKey

Lets you intersect successive images. In order to use ZKey, the images must have a rotation value so that they have an appearance of three dimensionality. When ZKey mode is selected, the ZSoft parameter become enabled, letting you set the level of interaction between images.

#### XFade/ZSoft

*XFade* dissolves (mixes) one freeze with another. This parameter is enabled when *Fixed* priority is selected. To set the fixed priority behind, set XFade to 100. To set the fixed priority in front of, set XFade to 0. The default is 0, with a range of 0- 100. A mid-range XFade value dissolves one image into the other, with one having more priority than the other depending on the XFade value.

*ZSoft* sets the hardness or softness of the images' interaction. This parameter is enabled when ZKey mode is selected.

# **Trail Color**

Toggle Trail Color *On* or *Off*. When *Off*, the trail is filled with video. When *On*, the trail is filled with matte color, whose attributes you can adjust with the Luminance, Saturation and Hue controls (below):

#### Lum

Adjusts the luminance, or brightness of the trail colors. The default is 50, with a range between 0-100.



# Sat

Adjusts the saturation, or chrominance of the trail color. The default is 100, with a range between 0-100.

#### Hue

Adjusts the hue, or tint, of the trail color. The range is +/- 720, with a default of 0. The values represent the hue angles on a vectorscope: 0 is near blue, 50 near magenta, 170 near yellow, 230 near green and 290 near cyan. Although one pass through the color wheel is 360 degrees, Dveous/MX allows plus or minus 720 so that you can transition through the color wheel if desired.