LASERGRAPH DSP RELEASE NOTES 2021

Contents

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Lasergraph DSP System Software 2021/09/20

## New trickfilm command ApplyIntensity

The new trickfilm command "ApplyIntensity" works similarly as the command "ApplyBitmap".

In contrast to the "ApplyBitmap", where the bitmap is used to colorize the picture, the bitmap in the "ApplyIntensity" only changes the brightness of the picture.
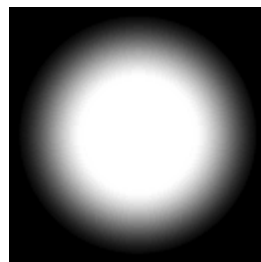
Since the colors are not changed, the command "ApplyIntensity" can be combined with other coloring commands such as ColorCYcle, ApplyBitmap or ApplyColorCycle.

This allows you to create completely new effects.
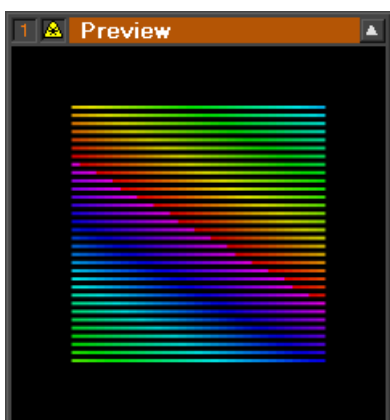
Example 1:
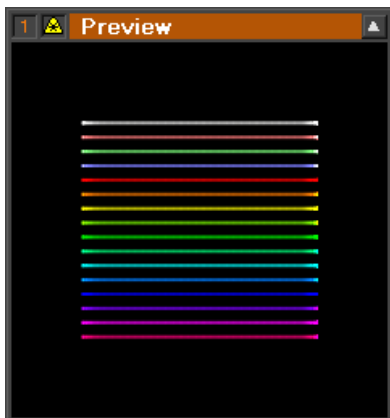
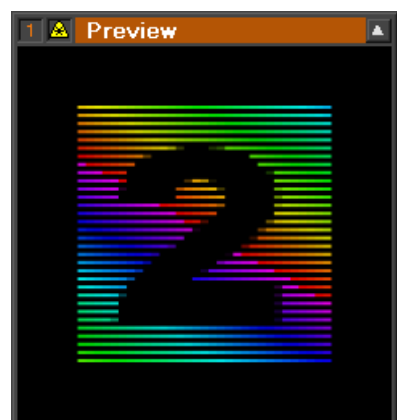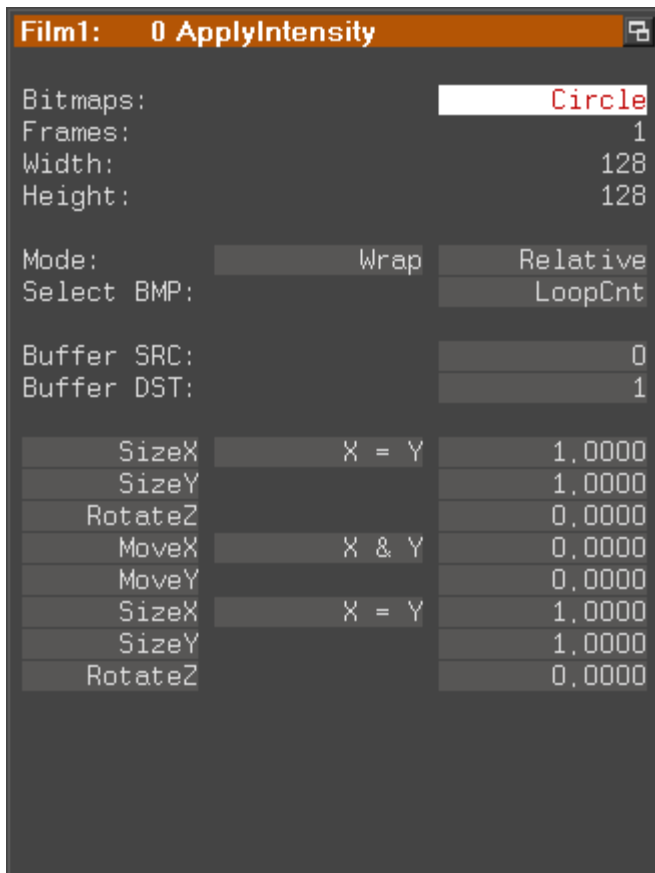| without ApplyIntensity | Bitmap | with ApplyIntensity |

Example 2:

| without ApplyIntensity | Bitmap | with ApplyIntensity |

Parameters:

```
Film1:     0 ApplyIntensity              ⊟

Bitmaps:                            Circle
Frames:                                  1
Width:                                 128
Height:                                128

Mode:                    Wrap     Relative
Select BMP:                        LoopCnt

Buffer SRC:                              0
Buffer DST:                              1

       SizeX        X = Y         1.0000
       SizeY                      1.0000
     RotateZ                      0.0000
       MoveX        X & Y         0.0000
       MoveY                      0.0000
       SizeX        X = Y         1.0000
       SizeY                      1.0000
     RotateZ                      0.0000
```

Bitmaps: Here the bitmap(s) to be used are entered.

Either a single bitmap or several bitmaps can be entered by using wildcards.

Example: *.BMP enters all BMP files in the current directory.

Since only the brightness of the bitmaps is used, the bitmaps should contain only grayscales. If colored bitmaps are entered, they are automatically converted to grayscales.

Since the bitmaps are stored in the trickfilm, the bitmaps should not be unnecessarily large to prevent the loading time from being unnecessarily increased.

The maximum supported resolution is 256x256 pixels.

Frames: Displays the number of bitmaps that have been entered.

Width: Displays the width of the bitmap(s) in pixels.

Height: Displays the height of the bitmap(s) in pixels.

Mode: The selection "Wrap" / "Clip" defines how to deal with the case that the bitmap does not cover the entire laser picture:

   Wrap: The bitmap is repeated endlessly on all sides

   Clip: The bitmap is not repeated. Outside the bitmap the brightness from the edge of the bitmap is continued.

   The selection "Relative" / "Absolute" determines how the value "Select BMP" is interpreted to select the desired bitmap:

   Relative: The value must be in the range from 0.0 to 1.0

      0.0 = first bitmap
       ...
      1.0 = last bitmap

   Absolute: The value is equal to the number of the bitmap

      0 = first Bitmap
      1 = second Bitmap
      2 = third Bitmap
      etc.

Select BMP: The meaning of the value entered here depends on the selected mode "Relative" / "Absolute" (see above).

   The default ("LoopCnt" in relative mode) results in an evenly progression of the bitmaps within the loop.

Buffer SRC: Here the number of the picture buffer (0-7) is specified in which the picture is located whose brightness is to be changed by the command "ApplyIntensity".

Buffer DST: Here the number of the picture buffer (0-7) is specified, into which the modified picture is to be written.

SizeX etc.:   The transformation parameters are used to position the bitmap.

   As with "ApplyBitmap" or "InitPosition", both type and order of the transformation parameters can be freely selected.

There are several examples in the demo files that show the different applications of the new ApplyIntensity command, such as soft masking or different kind of fades.

They are located in:

    Commands -> ApplyIntensity.FILM
    Macros   -> ApplyIntensity.BOOT
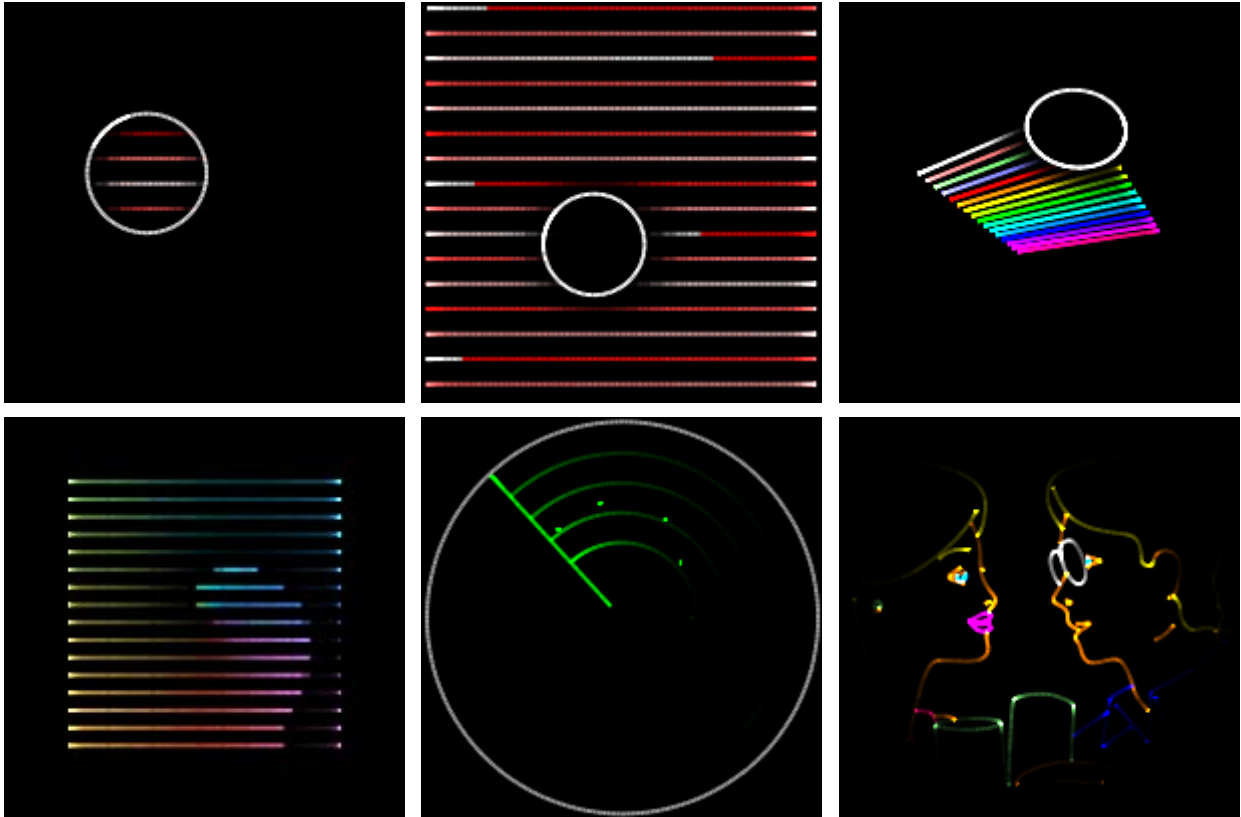
Annotations:

- The command "ApplyIntensity" affects only the points in the original picture, but not automatic added ones.
  To achieve smooth transitions, it is therefore recommended to interpolate the pictures in the Piced or with the trickfilm command "HardInterpolation".

- As with the command "ApplyBitmap", it is also important for "ApplyIntensity" that the color delay is set correctly.

- Show producers should be aware of the fact that the command "ApplyIntensity" is only available on Lasergraph DSPs with software version 2021/09/20 or later.

- A show containing the command "ApplyIntensity" does not run on older systems.