



## Precision User guide

**DigitalVision**

Phoenix 

Nucoda 



# Precision Colour Panel

## Notes

This is the updates Precision Panel Guide for 2015.3  
To reflect any new updated features, you will notice  
a blue box around certain descriptions.

Blue block indicates new or changed functionality

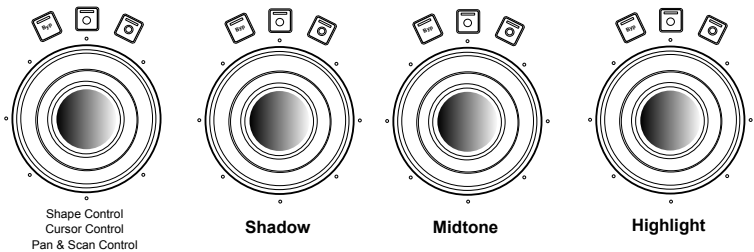
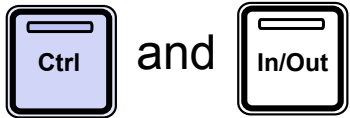
This indicates new or changed functionality.

If you see a blue CT L key, this is an indication  
that the action described can also be done by  
holding down the key.

The time for this "Hold Down" defaults to .5 sec  
and can be changed in the Precision section of the  
Preferences.

Not all Ctrl function have this option.


There is a new preference under the Precision Panel  
preferences in Nucoda that will allow you to change  
AUX ball position from the left to to the right.







# Precision Colour Panel



## Trackballs & Rings


 Byp

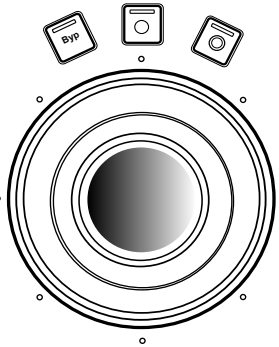
 Reset Trackball

 Reset Ring

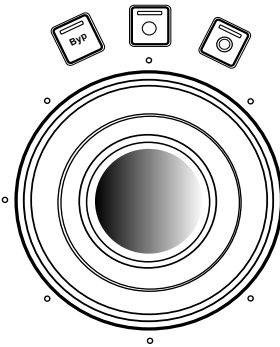
Thumbwheel control for layer opacity

 and  Intensity control for panel side lighting

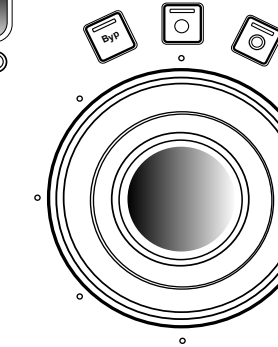
 Reset Colour rings and balls



Shadow



Midtones



Highlight

### Using the Balls and Rings for keyer control

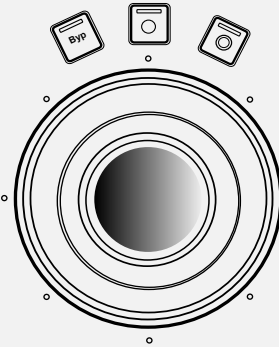
You can use the 3 trackballs/rings to control the keyer.

The left hand screen of the colour panel has to be set to ISO and keyer must be selected for this mode to work. Remember to reselect Tools once you are done with the key.

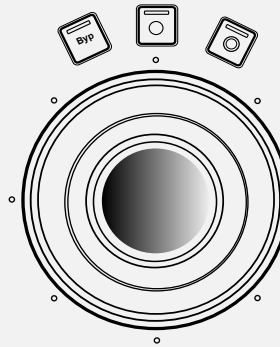
Using the controls are easy and intuitive.

The rings allow for selecting the Hue / Sat / Lightness  
Moving the trackballs horizontally will increase and decrease the Tolerance  
Moving them vertically will increase and decrease the Softness

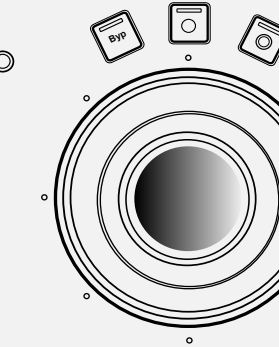
The Byp button for each will remove either Hue / Sat or Lightness as a key source.  
The reset keys for the trackballs and the rings will reset the key selections.



Hue



Saturation

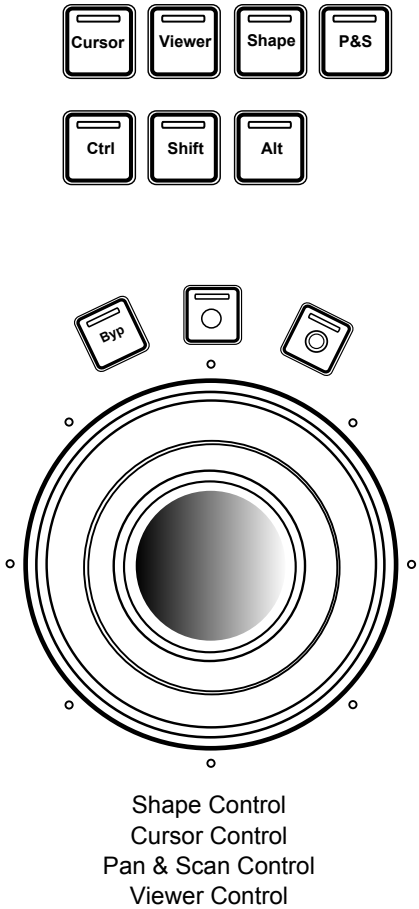

















Lightness



# Precision Colour Panel

## Aux Trackball & Ring



-  Enable cursor (mouse) behavior on Aux trackball. Button is lit in this default state.
-  Holding down control while in Cursor mode allows you to use the ring to scale the viewer, this is to avoid unintentional use.
-   Switch cursor between GUI and Image Screen.
-  Left Mouse button.
-  Right Mouse button.
-  Ball will control Image movement.  
Ring will scale the image in the viewer.
-   Turn shape outlines on and off.
-  Reset movement.
-  Reset scale.
-  Control Image Pan & Scan (Master layer)  
Ring will scale and Ball for position.
-  Ring will rotate image.
-  Reset Pan & Scan
-  Reset Scale / Rotate - Last action will be reset

### Shape mode

As soon as you enter the Shape mode on the panel, either by selecting the menu or adding a shape, the fourth trackball will default to moving the selected shape.



Cycle through shapes for selection

Shift + key : Switches shape display to inverted.

Alt + Key : Switches shape to variable softness mode.

### After shape is selected:

Ball - Move Shape  
Ring - Scale Shape



and Ring - Change shape softness



and Ring - Change shape aspect

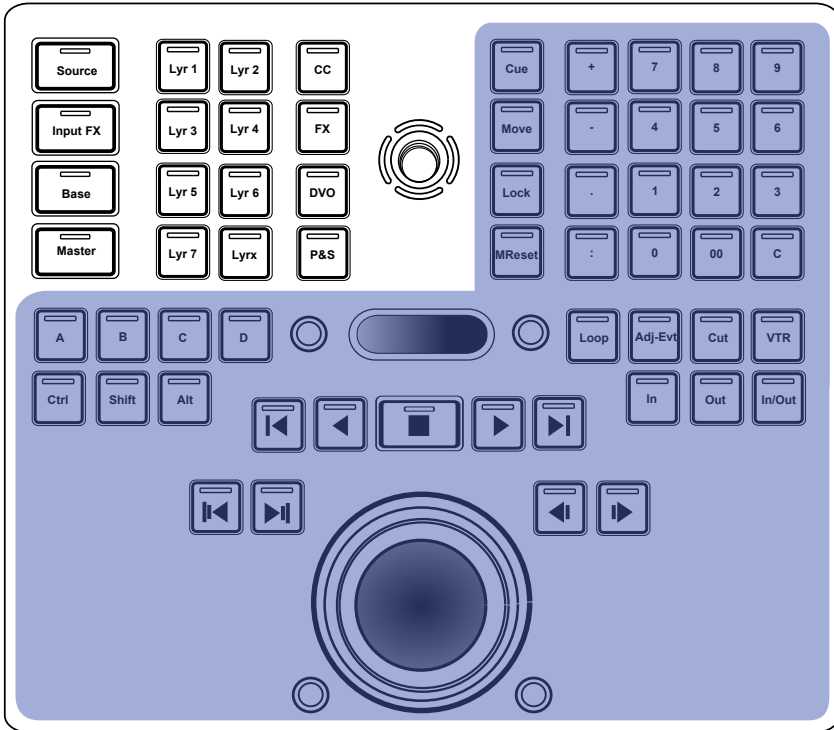


and Ring - Rotate Shape



# Precision Transport Panel

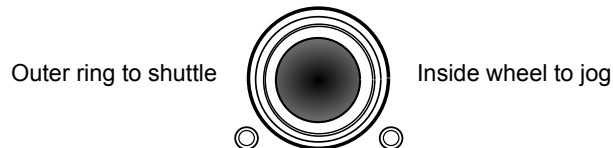
## Transport Functions



### Thumbwheel control for timeline zoom

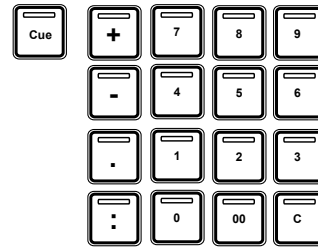
Fit all clips to Timeline ☐ ☒ Fit current clip to timeline

### Jog / Shuttle control for playhead





Navigate to previous bookmark

Navigate to next bookmark




Numeric entry for cueing the playhead on the timeline.

Either frames or TC can be entered and using the  button will locate the playhead to the position.

For entering frame information, the  button will toggle between Frames and TC.

To locate by a set number of frames / TC enter the numbers as follows:

20+ then  to move twenty frames forward, using a minus will locate you backward



Select playhead A B C or D



Cue selected head to current playhead position



Cues to the current selected Event Memory on the timeline



then

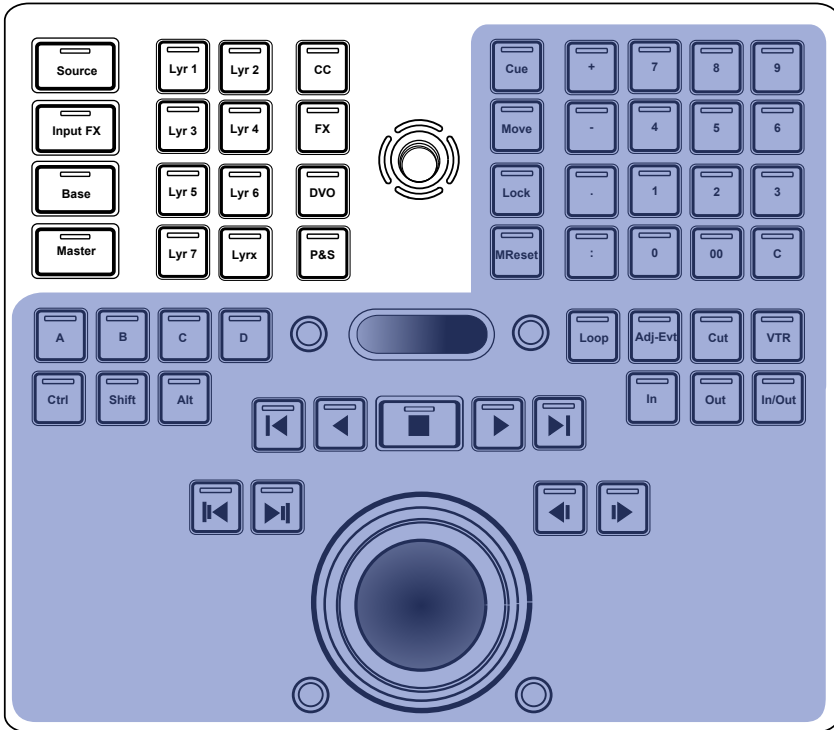


Numeric entry eg: 25 and then pressing the LOOP key will set the handles for the review mode.



# Precision Transport Panel

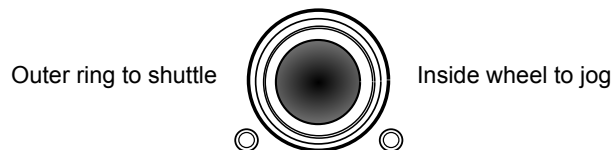
## Transport Functions



### Thumbwheel control for timeline zoom

Fit all clips to Timeline ☐  ☐ Fit current clip to timeline

### Jog / Shuttle control for playhead



Navigate to previous bookmark

Navigate to next bookmark



Not implemented



Not implemented



Master Reset. This key is a duplicate of the IM Reset button on the colour pane



Go to first frame of previous event



Go to first frame of next event



Play reverse (press again for x2 x3)



Stop



and  or  Half speed (Fwd or Rev)



Play Forward (press again for x2 x3)




Last frame of previous event




Last frame of current event



and  Locate to start of composition



and  Locate to end of composition



Back one frame



Forward one frame




Switch to Clip Review mode



Not implemented




and  Add edit on clip at position



and  Add field cut



and  Remove edit - must be parked on cut



Not implemented



Timeline mark in



Timeline mark out



and  Clear in



and  Clear out




If no shots selected will mark the current shot.  
If a number of shots are selected (i.e. orange)  
will mark in/out of the range defined



and  Clear in and out

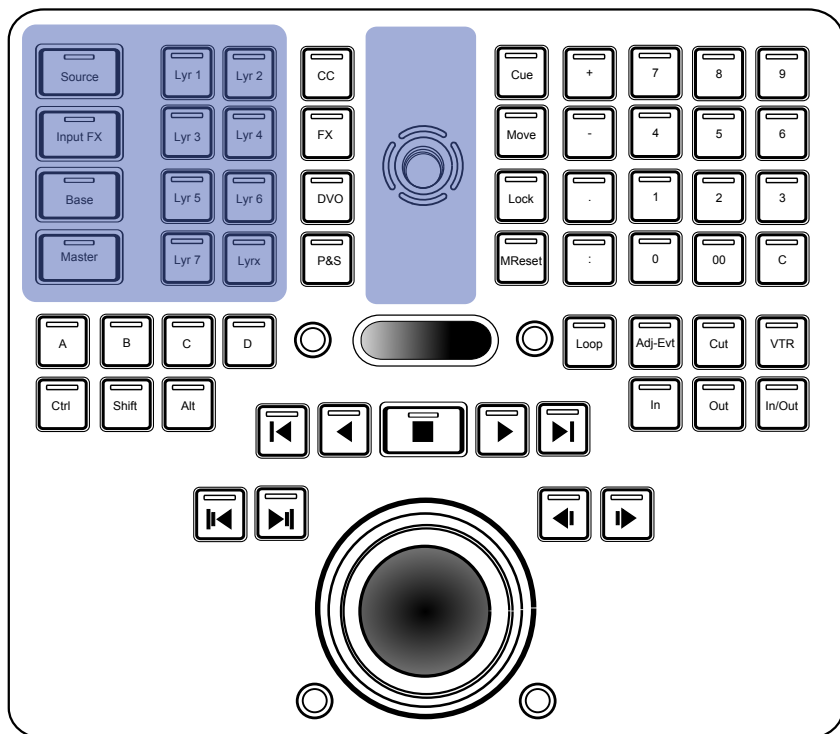


and  Locate playhead to middle frame  
between in/out points

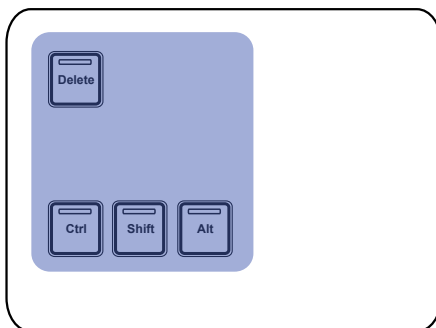


# Precision Transport Panel

## Layer Navigation

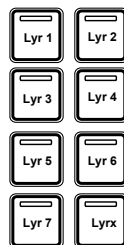


## Relevant keys on Colour Panel



The middle joystick on the Transport Panel is used to navigate layers

## Working with Layers



Along with the Joystick, the layer buttons are used to navigate to particular layers. There are seven buttons. If there are more than seven layers, the LyrX button will be illuminated. To navigate to higher layers, enter the layer number in FRAME mode into the numeric pad and press the LyrX key.

The selected layer will have a higher illumination level than layers that are available but not selected.

We can delete layers in a similar fashion, by pressing the Delete key and selecting the layer (1-7)



To delete the layer you are on if higher than 7, press Del and Lyr x



To delete a specific layer - press delete and Lyr #



Not implemented



Switches to Input FX layer, and displays the tool in the selected screen.



Delete current tool



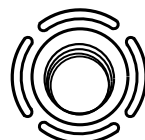
Select Base Layer



Delete current layer (as there always has to be a Base Layer the current Layer 1 will become the Base Layer)



Select Master Layer



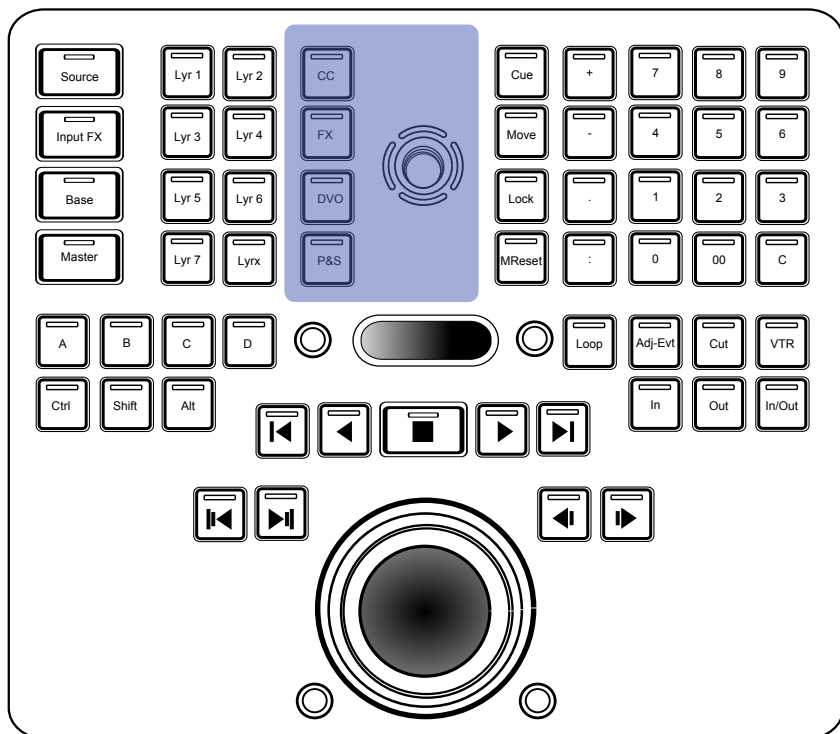
The center Joystick on the panel allows you to navigate up / down to a Layer without having to press a layer button. This button is a GLOBAL layer change. It should change all menus to that layer unless they are locked.

The screen tool joystick will navigate the current panel screen to another layer not all screens.

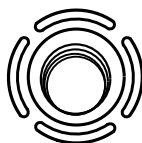
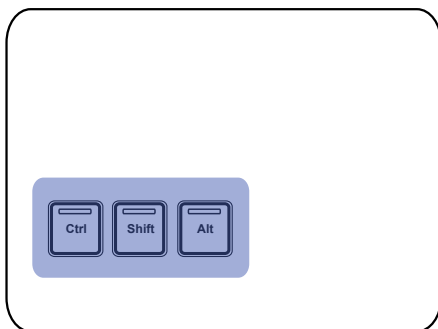


# Precision Transport Panel

## Effects Navigation



## Relevant keys on Colour Panel



The middle joystick on the Transport Panel is used to navigate layers

## Working with Layers an FX



Inserts a Colour Correction Layer that is next in the stack (ie after current). This layer will become the active layer.



and



Adds a Colour Correction Layer to the end of the current stack. This layer will become the active layer.



and



Adds an inverted Colour Correction Layer that is next in the stack (ie after current). This layer will become the active layer.



and



Inserts a Colour Correction Layer that is before the current layer in the stack. This layer will become the active layer.



and



Adds an inverted Colour Correction Layer to the end of the current stack. This layer will become the active layer.



When the Input FX button is selected, using the FX button will add the selected effect in the Input FX layer. If not selected, the effect will be added as an FX layer. Use the joystick to navigate between tools in the layer.



Inserts a FX Layer that is next in the stack (ie after current). This layer will become the active layer. The effect that will be added is the currently selected effect in the GUI menu



and



Adds a FX Layer to the end of the current stack. This layer will become the active layer.



and



Adds an inverted FX Layer that is next in the stack (ie after current). This layer will become the active layer.



and



Inserts a FX Layer that is before the current layer in the stack. This layer will become the active layer.



and



Adds an inverted FX Layer to the end of the current stack. This layer will become the active layer.



Currently duplicates functionality of the FX key.



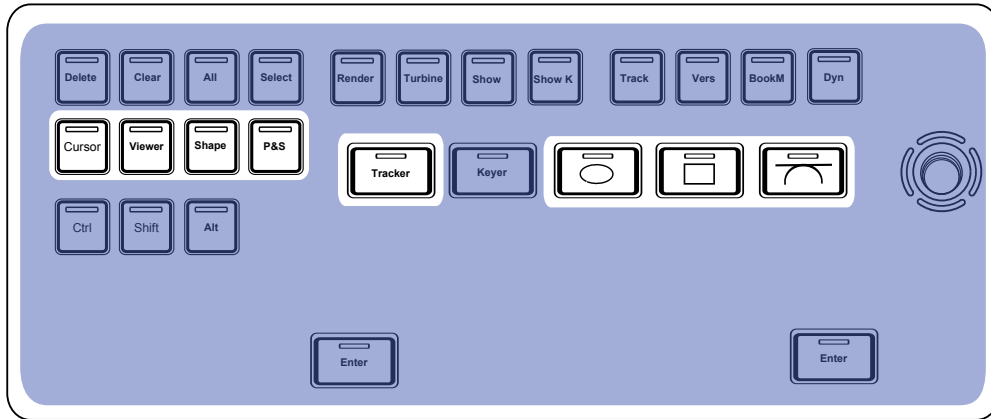
Will activate the Pan & Scan menu on the designated screen.





# Precision Colour Panel

## Colour Panel - Dedicated controls



When using these modal keys, differently coloured LED's beside the Joystick will indicate the availability for selections to be made.



**Modal key:** Used as modifier key for center Joystick. Allows focus of current track to be moved up/down using the Joystick, Pressing the key a second or selecting another modal key will turn it off.



**Modal key :**Used as modifier key for center Joystick. Allows for selection of grade versions up/down using the Joystick.

With Vers turned on pressing  will save a new version.



Create a new colour GRADE version of current shot.



Create a new SOURCE material version of current shot. Ensure that a replacement shot is selected in the library.

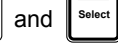


Deletes current version.



Set approved version.

Pressing the key a second time or selecting another modal key will turn it off.



Select shot (shot turns orange) - and also to add to selection.



Select range. Select first shot then last shot in range.



Clear selection.



See description of Cursor Trackball and Ring on page 3.



Force render of active shot or marked region.



Not implemented



Set start and set end point for a dynamic transition.



Adds a transition to the nearest cut.



When parked on transition, this will delete the transition / dynamic.



Enable router "show" mode.



Enable Show Key mode for current layer.  
Default is ISO Shape.



Enable Show Key mode for current layer ISO Keyer.



Turns on Show Key mode for current layer ISO Matte.



Turn on Keyer, this will also place your cursor on the Picture viewer to allow for selection using a rectangle



Create new layer and turn on the keyer, this will also place your cursor on the image viewer to allow for selection using a rectangle



Open bookmarks list. When the bookmark list is open, move bookmark selection up/down in list using Center Joystick. Delete to remove a bookmark



Go to selected bookmark.



Enter edit mode for selected bookmark

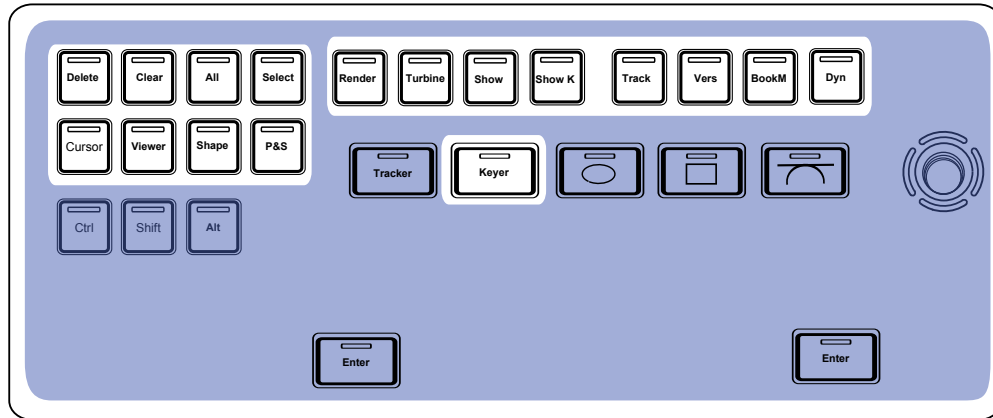





Open add bookmark dialog box in Timeline mode.  
Use quicknotes to add a coloured bookmark.  
Enter to add bookmark and close








# Precision Colour Panel



Colour Panel - Dedicated controls for shapes




 then  or  Auto track selected shape forwards or backwards

 then  or  Auto track selected shape forwards or backwards by a single frame

 then  Create a new shape and place it where required.  
When you press the key combination the shape will go green.  
This green shape is the offset track, place it on a track-able object.  
The first shape will be animated based on the tracking data from the offset shape, but maintaining the offset.

 then  To apply existing tracking data to a new shape. Select the new shape, press Track. This will activate the joystick, allowing you to select a current tracked shape.

Pressing  will apply the tracking data to the new shape



Creates a new circle shape in the current layer.

Press & Hold



Creates a new circle shape in a new layer immediately after the current layer. The new layer becomes the active layer.



and



Creates a new circle shape in a new layer at the end of the current stack. The new layer becomes the active layer.



and



Creates a new inverted circle shape in the current layer.



Shift

and



Creates a new inverted circle shape in a new layer at the end of the current stack. The new layer becomes the active layer.



Press & Hold



Creates a new inverted circle shape in a new layer immediately after the current layer. The new layer becomes the active layer.



Creates a new square shape in the current layer.

Press & Hold



Creates a new square shape in a new layer immediately after the current layer. The new layer becomes the active layer.



and



Creates a new square shape in a new layer at the end of the current stack. The new layer becomes the active layer.



and



Creates a new inverted square shape in the current layer.



Shift

and



Creates a new inverted square shape in a new layer at the end of the current stack. The new layer becomes the active layer.



Press & Hold



Creates a new inverted square shape in a new layer immediately after the current layer. The new layer becomes the active layer.

There is a preference that allows you to set the default for this tool between the Bezier or Catmull Rom spline tools.



Creates a new bezier shape in the current layer.

Press & Hold



Creates a new bezier shape in a new layer immediately after the current layer. The new layer becomes the active layer.



and



Creates a new bezier shape in a new layer at the end of the current stack. The new layer becomes the active layer.



and



Creates a new inverted bezier shape in the current layer.



Shift

and



Creates a new inverted bezier shape in a new layer at the end of the current stack. The new layer becomes the active layer.



Press & Hold

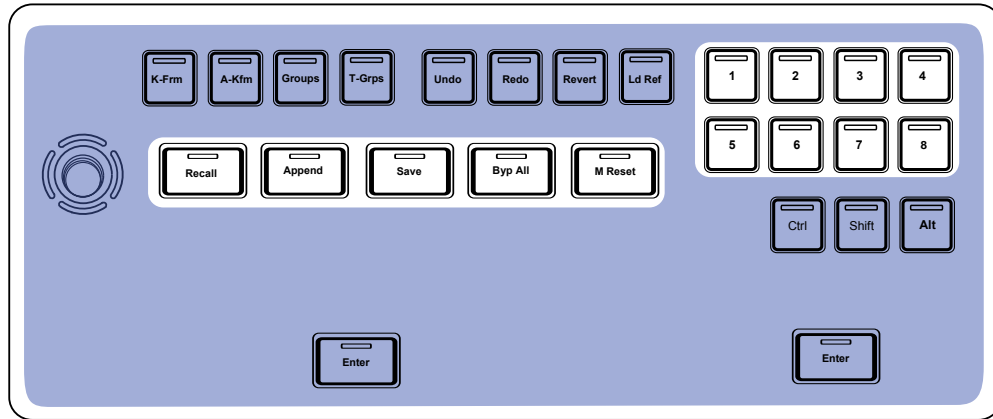


Creates a new inverted bezier shape in a new layer immediately after the current layer. The new layer becomes the active layer.



# Precision Colour Panel

Colour Panel - Dedicated controls for grades



Toggle Groups mode active on/off.



Toggle Stereoscopic depth grading on/off



and



Toggle convergence on/off (if T-Groups enabled).



Undo last panel action.



Redo last panel action.



Revert to state of event before modification.  
Provided you have not moved from the event.



and



Set a new revert state.



Display the stored reference frame instead of the selected display mode. Overrides the compare view.



and



Saves a new reference frame.

## Keyframing

The keyframe button is modal. It will remain on till turned off, or superseded by another Modal key like Track or Vers.



Turn on keyframe mode - Defaults to LYR mode



and



Switch to Operator Mode (Green indicator in Tool Screen)



and press



Add manual keyframe.



While in keyframe mode, the Center Joystick will allow keyframe navigation left / right.

Pressing the



key with the Joystick will jump to first / last keyframes.



and press



Delete keyframe.



Turn on autokey mode. There is a preset that will allow Autokey to remain turned on when navigating to other events. This can be dangerous!  
The default is to turn off.

Use of the



key will make it easy to go to the last frame of the current event.

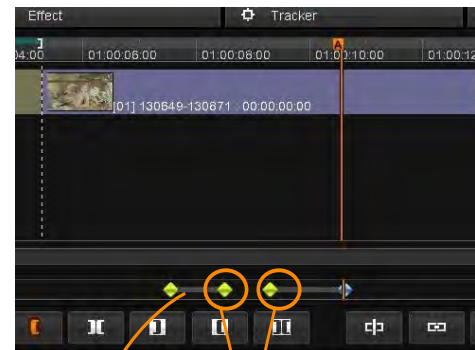


and press



Create keyframe dynamic region

This allows for separate keyframe regions to exist on one clip (see image)



Segment

Mirrored Keyframes

In the example in the image KF 1 was added using ENTER.  
KF 2 was added using ENTER.  
KF 3 was added using CTRL+ENTER, starting a new segment.  
The last keyframe was added using ENTER  
KF 2 and 3 are mirrors of each other, any changes made to 2 will happen to 3 and vice-versa.



and press



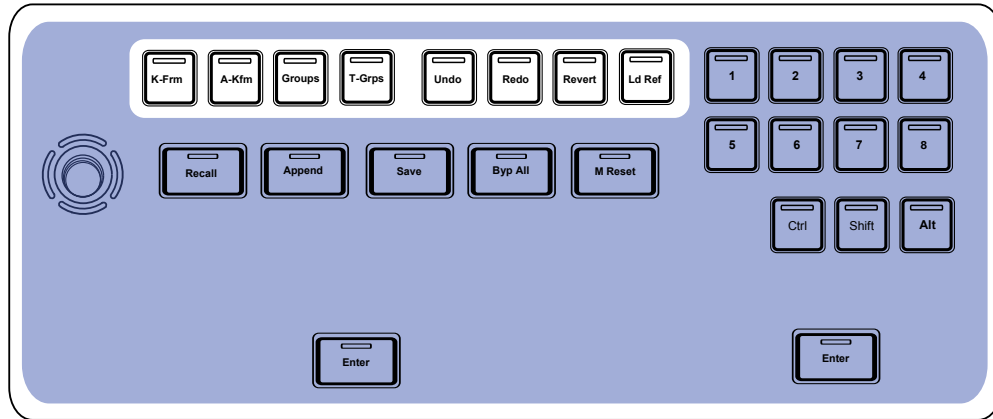
Clear the segment between Keyframes.

When using this function, you can created separate segments by disconnecting the KF from each other.  
(Note) The keyframes that are not connected, but adjacent, will mirror each other.

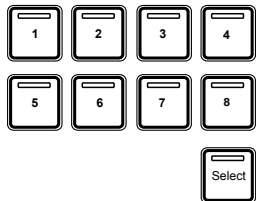


# Precision Colour Panel

Colour Panel - Dedicated controls for grades



## Quicknotes

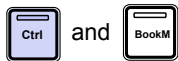


Holding a key till it beeps (.5 sec default) will store a note. Lit Keys indicate a stored note.

Pressing any one of these keys will Recall the Note.

and Pressing any one of these keys will select the note.

## Quick Bookmarks

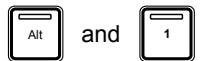


and Pressing any one of these keys will set a timeline or segment bookmark. Press Enter to close. Joystick up/down to select between Segment and Timeline

## GUI View Changes



and key 1,2,3 to switch timeline to Double Height Tab View and key 4 to switch to split view. Repeat the action to turn it off.



Library View



Timeline View



Shots View



Keyframe View



Effects View



Tracker View



Scene Detect View

## Loading and Saving Notes.



Recall currently selected note/memory.



and



Recall currently selected note/memory, including keyframes.



Append currently selected note/memory as new layer/layers immediately after the current layer. The new layer will become the active layer.



and



Include keyframes when appending.



Save note.



and



Save project.



Bypass all layers.



and



Changes the Bypass view mode and cycle through from Source to Input FX, to Base Layer, and then back to Source. Once changed Bypass All will always be in the new mode until Ctrl + Key is pressed again.



Performs a master reset on the current shots.

Removes all layers and resets all tools in the Base and Master layers. Does not affect the Input FX layer.



and



Resets current layer.



and



Reset selected tool in layer.



and



Reset all tools. Removes all layers including the Input FX layer.

## Layer selection for Recall, middle Joystick.



Moving the Joystick left / right and up/ down will allow navigation of Notes and Memories selection for comparison or recall.

Rotating the top of the Joystick will have the same results as moving left / right.



and



Move the Recall Layer in the Memory Stack up and down



and



Open the currently selected Layer in the Memory Stack and Navigate up and down through the Tools.



# Precision Touch Panel



The middle joystick on the Image Panel is to operate the comparison wipe tool. Rotating the top of the Joystick will rotate the wipe line, a quick press of the stick, and rotation will wipe the line left to right. Long press to reset. In blend mode you can use the same method to change the blend between sources.

Ctrl and Shift will speed up and slow down the amount the wipe moves for each rotation. The settings for Default, High and Low speeds can be set in the General.prefs file.

Up / down / left / right will allow for selection in Events / Note / Head / Track view.

Alt + Up / down / left / right will allow you to switch sides during compare.

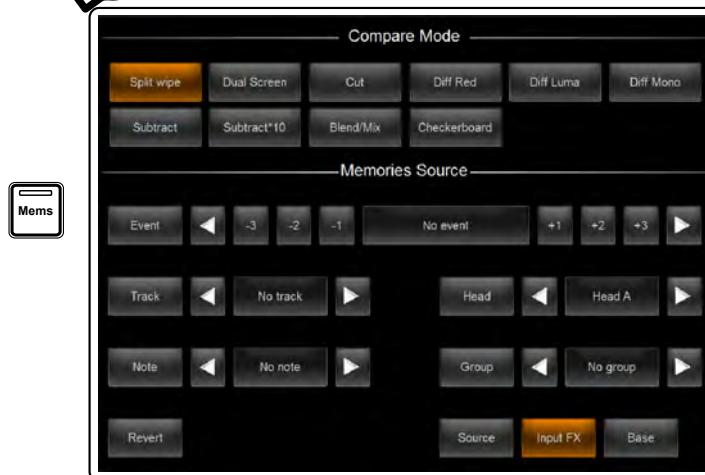
The touch screen can be navigated by either touch or pen. There is a setting in the GUI Preferences that will allow you to specify that the pen is always in mouse mode. In this mode pen input will be allowed on keyboard and touch screens and not only in Tablet mode. A note for this mode, the tablet will accept both pen and touch input.

If this is not selected the pen will work as input device only in tablet mode.

- Compare Mode on/off
- Switch to Library
- Tablet Mode
- Not implemented
- Keyboard
- Not implemented
- Select Help and then press key on the panel for description



This screen contains items for selection that relates to the monitor and output.



This button turns Memories on / off.

It also contains the selection for the type of comparison you want to use.

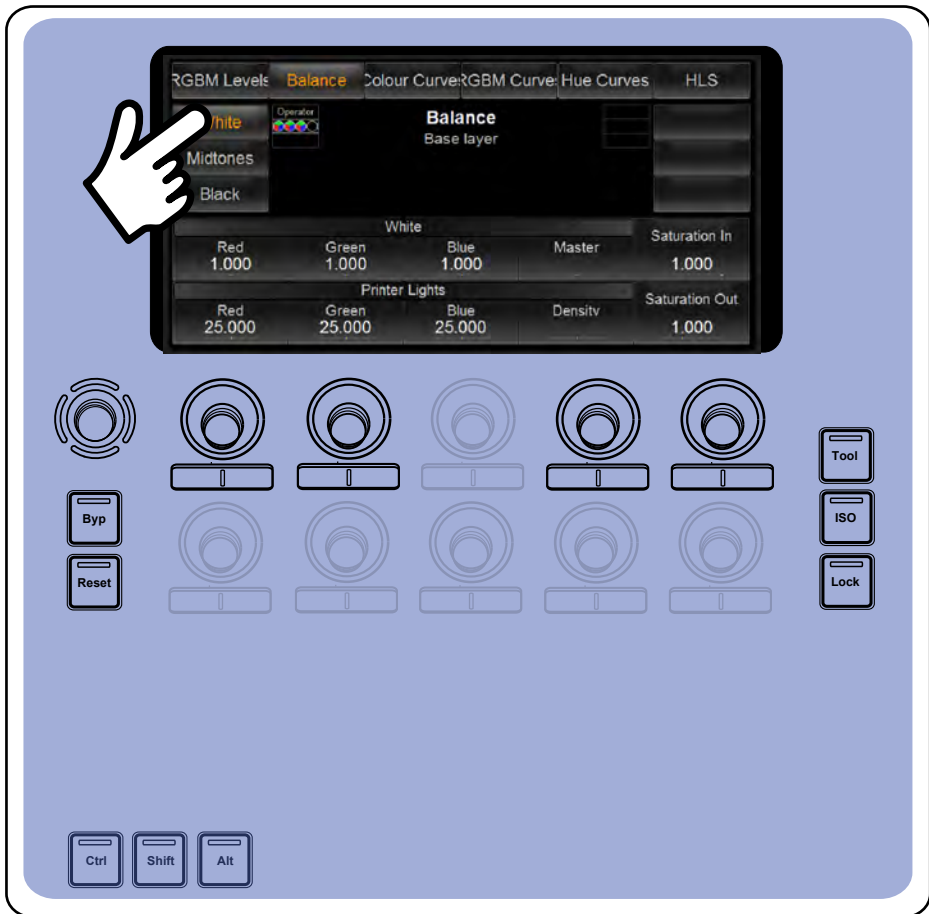
The Memories source allows you to choose the source for your comparison, this also sets the source for recall functions.

Alt + (Quick key 1) will switch back to the library



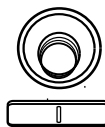
# Precision Panel

## Tool Screen controls



To help with navigation on the screens and controls, you will notice that the rotary controls and rocker switches are only illuminated when they have a tool function assigned to them. Controls with no parameters will not be lit.


Also, all the Precision screens are touch sensitive if you prefer a hands on approach.




Rotary control for changing values - Push to reset  
There are some controls that require a push to select, notably the Pick Point parameter in the RGB Curves tool.

Rocker switch to increase / decrease values



and  Faster changes



and  Slower changes



Joystick for layer and Tool navigation. Select Tools by moving Left / Right and change Layers by moving Up / Down. Selections within tools (Vertical tabs) are made by selecting it on screen.

**Short press** will focus GUI on the current tool.

**Long press and beep:** eg on Shapes menu will indicate possible selections within the tool (LED colour change) in this case, to select shapes Left / Right.

In the RGB Curves tool you can use this method to select points on the graph.



Bypass Current layer



Resets all values from currently named tool.

Does not reset values from 'extra' tools displayed in the menu.



and Resets all values in the current layer



View colour tools on the menu



View Isolation (ISO) tool on the layer



Locks the current tool and layer in this screen. Held down will cancel all locked layers.

If the Lock button is pressed when that screen is already Layer-locked then that screen will be removed from the Layer-lock group. If there are only 2 screens in the group then the Layer-lock mode will be cancelled.

If pressed when the screen is locked will unlock that screen.



and Layer-lock mode - Locks the screen menu you are on to other menus.

If the Layer-lock function is activated then the screen that you are on will be grouped (Layer-locked) with all other screens on the panel that are currently on the same layer. The minimum number of layers needed is 2

If there are no other screens on the same layer then the Layer-lock function will fail.

If there are 3 screens currently Layer-locked then toggling Alt Lock again will release that screen from the group leaving 2 still in the group.

The Layer-lock mode will light the lock button with a different colour to the Lock mode

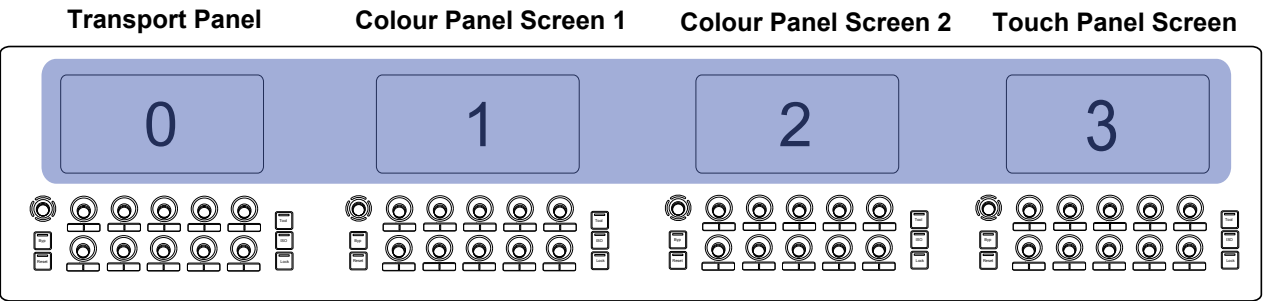




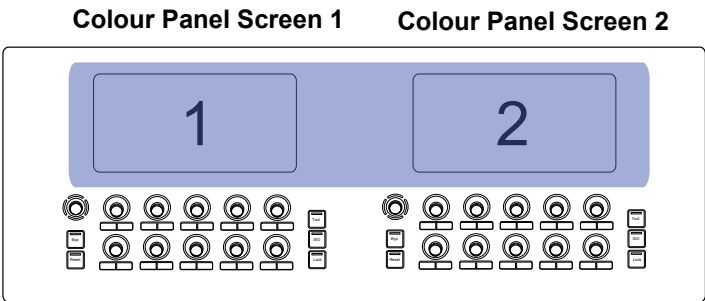
# Precision Panel

## Tool Screen Concepts

### Nucoda



### Single Colour setup



This is the single panel default configuration - it is possible to map more than one tool to a screen, in that case the mapped tool will appear on the specified screen when that tool is selected.

### Mapable Screens

Mapable Screens allow us to map certain screens to certain tools, for example, Pan & Scan is mapped to screen 3. This means that any time press the the Pan & Scan key it will be on screen 3.

### The Shadow Screen

The *Shadow Screen* is always the one mapped to the Colour Tool.

This screen and the GUI tools will always mirror each other.

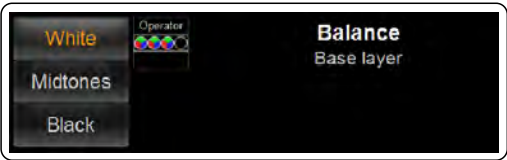
By default the *Shadow Screen* is Screen 1  
By default the ISO tools are mapped to appear on Screen 2

### Layer Lock

The layer lock feature allows for the synchronisation of two screens.

By default Screen 1 and Screen 2 are Layer Locked.

This allows the Colour Tools and ISO Tools to stay in sync when navigating.



This indicator on the tool screen will indicate that the Colour Tools is under control by the the Colour Trackballs.

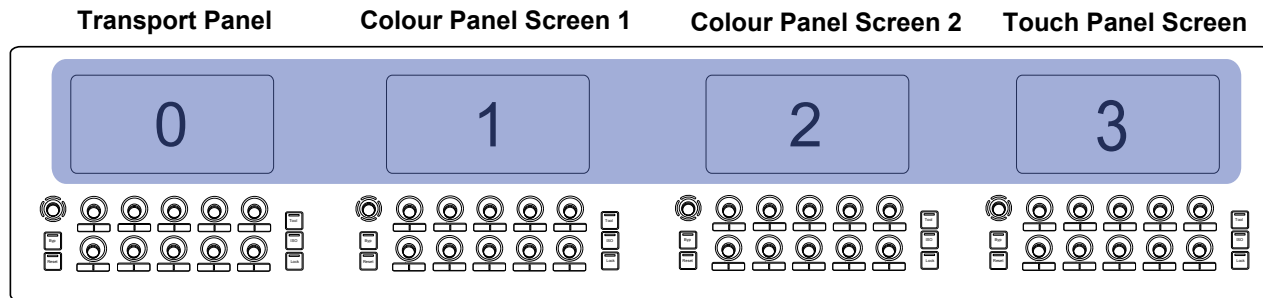


This indicator on the tool screen will indicate that the ISO tool is under control of the Cursor Trackball



# Precision Panel

## Tool Screen Concepts - Editing your screens



### Example

```
shadowScreen
{
    inputFX 0
    tool 1
    iso 2
    panAndScan 3
}
timecodeScreen 0
isoDefault "LayerComposite"
screen
{
    syncLock false true true false
}
```

Changes for the Screens are made in the General.prefs file.

This file is located in :

**c:\Nucoda\201x.x\Root\General.prefs**

### General Prefs explanation:

Screens are numbered as follows:

- 0 - Transport Panel Screen
- 1 - Colour Panel Screen 1
- 2 - Colour Panel Screen 2
- 3 - Touch Panel Screen

These numbers remain assigned to these screens, irrespective of how the panels are arranged.

### From the general prefs you will see :

#### Shadow screen heading

Screen 0 will display the Input FX

Screen 1 will display the Colour Tools (Main Shadow Screen)

Screen 2 will display the ISO Tools

Screen 3 will display Pan&Scan

The screen on which Timecode will be displayed is Screen 0

The default tool for the ISO Layer in Screen 2 is the Router.

#### Screen heading

Screen 1 and 2 are Sync Locked

#### Changing the settings

The correct Tool ID's for changing the default ISO tool is:

Matte = MaterialReader

Keyer = Keyer

Shapes = Shapes

Matte Tools = MatteTools

Router = LayerComposite

So, changing isoDefault "LayerComposite" to "Shapes" will default the ISO layer to show the Shapes tool.

### We can map more than one tool to a screen allowing us to do the following:

```
tool 1
inputF 1
iso 2
panAndscan 2
```

In this case the Colour Tool will be on Screen 1, but if an Input F layer was selected, it would come up on screen one.