RMC2ATEM USERS GUIDE

Version 7

This document describes the datavideo^TM **RMC-260** control panel when used in conjunction with the **RMC2ATEM** controller to control any ATEM production switcher.

INSTALLATION

The **RMC-260** is normally delivered with a 12 volt 0.5 amp power adaptor and a 9 pin control cable.
The 9 pin control cable connects to the **RMC2ATEM** at the network connection end (RMC panel 1).

The **RMC2ATEM** v1 is delivered with a USB cable (for firmware updates only.
The **RMC2ATEM** v2 is delivered with a USB cable (for firmware updates) and a 9 volt power cable which connects the **RMC-260** to the **RMC2ATEM** (9v OUT) to facilitate a single power connection for both units. The optional **Tally/GPI box** and **7" touch screen** control panel also uses this 9 volt power that is provided on their respective connectors.

The 12 volt power adaptor that is included in the **RMC-260** package does not have the capacity to run the **RMC-260** and the **RMC2ATEM** let alone the optional **Tally/GPI box** and **7" touch screen** control panel. In fact it barely gets by just powering the **RMC-260**. So it is recommended to purchase a power adaptor rated at 9 volt 2 amp and connect to the power in (9v IN) on the **RMC2ATEM** controller.

 *** PLEASE NOTE: ***
The TERMINAL baud rate setting has changed from 115200 to 9600 due to some connections unable to handle the data speed. This does not affect the functionality of the RMC2ATEM but you will need to select it accordingly when establishing the TERMINAL connection with your computer.
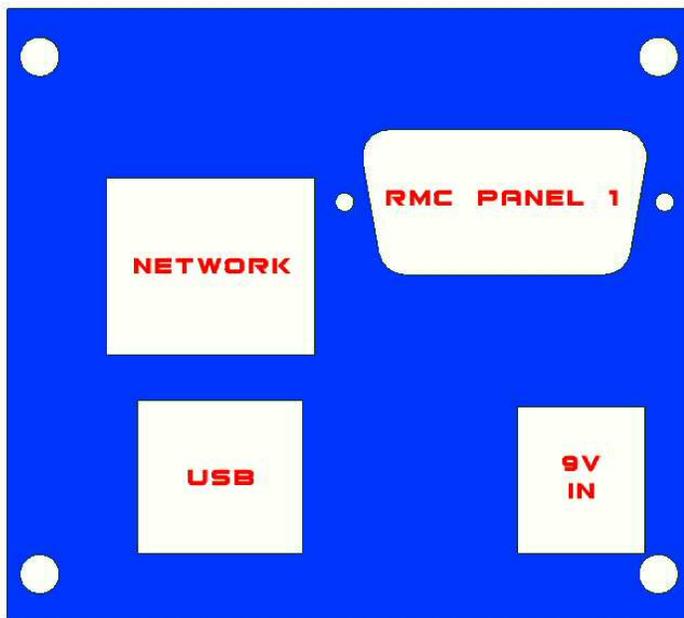
CONNECTION
The **RMC2ATEM** is the heart of all the interconnections.

Connection Version 1

The **RMC2ATEM v1** supplies 9 volt power to the **RMC-260** panel and receives 9 volt 2 amp power from a power adaptor. It also has two way control interface to the **RMC-260** panel. It can connect to the ATEM using a single RJ45 CAT5 network cable or it can connect into a network router/switch where an ATEM is also connected. The USB connector can connect to either a MAC or a PC and be used to setup all the internal configutations of the **RMC2ATEM** as well as doing firmware upgrades. The **RMC2ATEM** can also be powered from the USB connection but separate power will have to be supplied to the **RMC-260**.
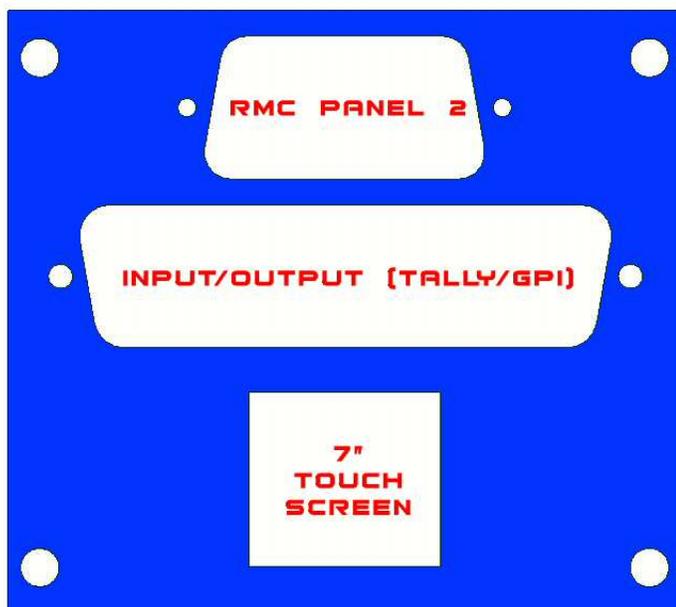

NETWORK/POWER PANEL

The only connection panel available on the RMC2ATEM Version 1 has a network connector, a USB connector, a 9v power in and a 9 pin D control connector for the RMC-260 control panel.

There is also an optional INTERCONNECT PANEL that can facilitate the TALLY/GPI capabilities of the V2 model.

The **RMC2ATEM** supplies 9 volt power to two **RMC-260** panels, receives 9 volt 2 amp power from a power adaptor, supplies 9 volt power to the optional **7" touch screen** panel and **tally/GPI box**. It also has a two way control interface to two **RMC-260** panels. It can connect to the ATEM using a single RJ45 CAT5 network cable or it can connect into a network router/switch where an ATEM is also connected. The USB connector can connect to either a MAC or a PC and be used to setup all the internal configutations of the **RMC2ATEM** as well as doing firmware upgrades. The **RMC2ATEM** can also be powered from the USB connection but separate power will have to be supplied to the **RMC-260**.

INTERCONNECT PANEL

The interconnect panel on the RMC2ATEM has the 9 pin D control connector for the 2nd RMC-260 control panel, a 25 pin D connector for the Tally and GPI functions and a 6 pin Minidin connector for the optional 7" touch screen (extended control).

The GPI functions can include multiple SHIFT commands to alter the effect of some button controls.
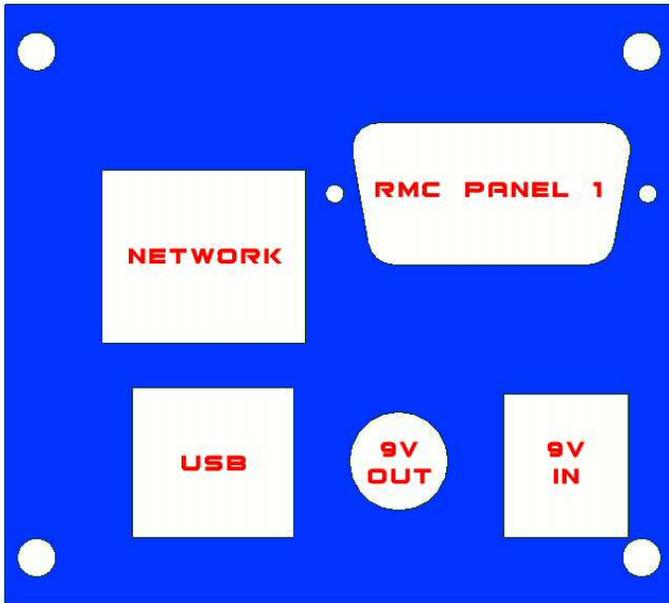
NETWORK/POWER PANEL

The network/power panel on the RMC2ATEM has a network connector, a USB connector, a 9v power in, a 9v power out and a 9 pin D control connector for the main RMC-260 control panel.

The 9 pin and the 25 pin D connectors have hex screws attached to facilitate screw on plugs. DO NOT over tighten these screws as they may unscrew the case screws when disconnecting. They should only be loosely screwed in to prevent accidently falling out. The 7" touch screen connector and the Tally/GPI connectors have 9 volts on the to supply power for their electronics, so be careful not to cross connect them as it may cause electronic component damage.

CONTROL COMPONENTS

The **RMC2ATEM** Version 1 does not have any control parts on the unit. It only has a tricoloured LED to indicate certain conditions the controller is in.
All configurations are achieved using the USB port. These are described in more detail later.

The **RMC2ATEM** Version 2 besides having the tricoloured LED, also has a 16 character by 2 line alphanumeric rear illuminated display along with a digital scroll control with push button switch. The knob on the scroll control has 2 separate diameters to facillitate coarse and fine mechanical movement.

As an operational extra, you are able to program some of the pins on the **25 pin Tally/GPI connector** to give you **SHIFT** functions. As mentioned above, this can give you the ability to alter some of the RMC-260 button functions.

For example, using **SHIFT 1** and the **PROGRAM BUSS** you can alter what source is selected. Pressing buttons 1 to 8 on the program can select allocated inputs to buttons 1 to 8 and with the SHIFT 1 button pushed you can select a totally different range of sources; basically giving you 16 switchable inputs. The same applies to the **PREVIEW BUSS**.
Another example is using **SHIFT 1** in conjunction with the **PROGRAM BUSS DSK** button. Without **SHIFT 1**, pressing the program buss DSK will FADE ON or OFF the DSK, and using the **SHIFT 1** with the DSK button will CUT ON and CUT OFF the DSK.

RMC-260 CONTROL FUNCTIONS

The **RMC-260** control panel was never designed specifically to control an ATEM. The **RMC2ATEM** controller converts the logical layout of the **RMC-260** to allow for the least amount of re-labelling and operation to be as logical as possible.

The following are the sections of the **RMC-260** that are specific to the operation of an ATEM.

These are the **PROGRAM** and **PREVIEW BUSSES**. Each has 8 *mapable* input selectors and a **STILL BUTTON** for invoking the direct STILL transition and selections from the ATEM Media Players. The panel has specialised labels for **BLACK** (BLK) and **BACKGROUND** (BKG) but they can be allocated to be any input besides black and background. When used in conjunction with the **LOGO** button (**SHIFT**) an extra 8 inputs can be allocated.

When in STILL MODE any of these **PROGRAM** and **PREVIEW** **buttons** can be used to directly select any available still into a media player and transition to and from other STILL and NON STILL inputs.

When an input selected on the ATEM is not allocated to any of the **PROGRAM** or **PREVIEW buttons** the lamps on these buttons will rapidly flash left to right and back to left again. (this is different from where the lamps rapidly flash in one direction only which indicates loss of communications with the ATEM.

These are the **USER 1 to USER 9** buttons used in conjunction with the **USER SAVE** button. To **SAVE** a panel setup press **USER SAVE** and then a **USER 1 to USER 9** button. To **RECALL** a panel setup press a **USER 1 to USER 9** button with the **USER WIPE** off. Panel setups contain all the configurations of the **RMC-260** that pertain to the ATEM including **PROGRAM/PREVIEW** crosspoint allocations, **KEY** and **AUX** crosspoint allocations, **Tally/GPI** setups etc.

When **USER 1 to USER 6** are pressed in conjunction with **USER WIPE** they select 1 of 6 preallocated wipe patterns from the ATEM's 18 that are available. When used in conjunction with the **LOGO** button (**SHIFT**) an extra 6 wipe patterns can be allocated. Also, **USER 7** toggles the wipe **NORMAL/REVERSE**, **USER 8** changes the wipe **BORDER MODE** (soft, hard, both) and **USER 9** is used in conjunction with the **MENU knob** to cycle thru the border colours.

The **FADE TO BLACK** fades the output of the ATEM to BLACK and visa versa.

The **TRANS BG** toggles the **ATEM TRANS BACKGROUND**.

The **MIX** and **WIPE** buttons select the **ATEM TRANSITION TYPE**.

The **CUT** button performs an **ATEM CUT**.

The **AUTO TRANS** button performs an **ATEM AUTO TRANS**.

Up Stream and Down Stream keyers

KEY 1 (Up Stream Keyer)

There are two **KEY 1** buttons on the RMC-260 panel; one for the **PROGRAM BUSS** and one for the **PREVIEW BUSS**.

- *KEY 1 - Program Buss*

  The Key 1 on the program buss controls the **ATEM KEY 1 ON AIR**. This puts the contents of Key 1 out on the main program.

- *KEY 1 Preview Buss*

  The Key 1 on the preview buss controls the **ATEM KEY 1 PREVIEW.** This puts the contents of Key 1 out on the preview monitor.

KEY 2 (Up Stream Keyer)

There are two **KEY 2** buttons on the RMC-260 panel; one for the **PROGRAM BUSS** and one for the **PREVIEW BUSS**.

- *KEY 2 - Program Buss*

  The Key 2 on the program buss controls the **ATEM KEY 2 ON AIR**. This puts the contents of Key 2 out on the main program.

- *KEY 2 Preview Buss*

  The Key 2 on the preview buss controls the **ATEM KEY 2 PREVIEW.** This puts the contents of Key 2 out on the preview monitor.

DSK (Down Stream Keyer)

There are two DSK buttons on the RMC-260 panel; one for the **PROGRAM BUSS** and one for the **PREVIEW BUSS**. This is very different than the traditional ATEM control panels.
Both the DSK buttons only control the DSK selected under ACTIVE DSK in the configuration menu.

- *DSK - Program Buss*

  The DSK on the program buss controls the **ATEM DSK AUTO** when **NO SHIFT** (LOGO) applied, and will control the **ATEM DSK ON AIR** when **SHIFT (LOGO)** is applied.
  The **DSK AUTO** allows a **FADE IN** and **FADE OUT** of the selected DSK and the **DSK ON AIR** allows a **CUT ON** and a **CUT OFF**.
  As a fade is in progress the **DSK LED** on the RMC-260 will **FLASH**.
  Once the DSK finishes the fade on, the DSK LED will stop flashing and remain **ON**.
  If the DSK is on and pressed again the DSK LED will again flash and turn OFF at the end of the fade.

- *DSK Preview Buss*

  The DSK on the preview buss controls the **ATEM DSK TIE.** The DSK TIE on the ATEM allows you to turn ON the DSK on the **ATEM PREVIEW** output which then allows you to adjust the DSK settings prior to on air. The **DSK TIE** also allows you to fade ON the DSK with the next **TRANSITION**

The **CHROMA**, **LUMA** and **LINEAR** buttons are used to select the type of key the currently selected **KEY ADJUST** button is set to.

The **CHROMA** button will select the Chroma Key as the **KEY SOURCE** on the selected keyer. The **LUMA** button will select the Lumanence Key as the **KEY SOURCE** on the selected keyer. The **LINEAR** button will select the **DVE KEY** as the **KEY SOURCE** on the selected keyer and if the **LOGO** button is selected it will select the **PATTERN KEY** as the **KEY SOURCE** on the selected keyer.

Each button will illuminate to indicate the selected mode except the **LINEAR** button will glow steadily if the **DVE KEY** is selected and rapidly **FLASH** if the **PATTERN KEY** is selected.

The status of the 3 buttons will change to reflect the selected **KEY 1 ADJUST** or **KEY 2 ADJUST**.

The **KEY ADJUST** buttons select either **KEY 1** or **KEY 2** the **CHROMA**, **LUMA** and **LINEAR** buttons will control.

Each button will cancer the other out to make them exclusive.
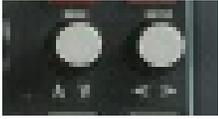
> The MENU and ENTER buttons/knobs are used for 2 different purposes.
> When MENU is pressed they become ATEM PALETTE ADJUSTMENTS.
> The LCD display and terminal screen show all the items to adjust.
> When ENTER is pressed they become MACRO RECORD/PLAY commands.
> The LCD display and terminal screen show all the Macro names to select.

ATEM PALETTE ADJUSTMENTS

The RMC-260 **MENU** and **ENTER** knobs are used to do all the ATEM adjustment which include –

1. Color Generators
2. SuperSource
3. Upstream Key
4. Transitions
5. Downstream Key
6. Fade to Black
7. Aux Buss
8. Media Players
9. Hyperdeck
10. CCU
11. Audio

> *Note
> If **PREVIEW MONITOR** is enabled during any of the following ATEM adjustments the T-bar is disabled.

To enter into the adjustment mode press the **MENU BUTTON**. The **LCD DISPLAY** will show the last selected **MENU ITEM** on the top line along with the associated **SUB MENU ITEM** on the bottom line including its associated value. All values displayed are those from the actual ATEM (excluding the AUX BUSS control). The terminal screen connected to the RMC2ATEM will also display the **MENU ITEM** along with the associated **SUB MENU ITEM** including its associated value.

To select the required **MENU ITEM** rotate the **MENU KNOB** and the menu item will be displayed along with the associated **SUB MENU ITEM** including its associated value. To select the **SUB MENU ITEM** associated with the selected **MENU ITEM** rotate the **ENTER KNOB** and its **SUB MENU ITEM** and value will be displayed.

1. COLOR GENERATORS
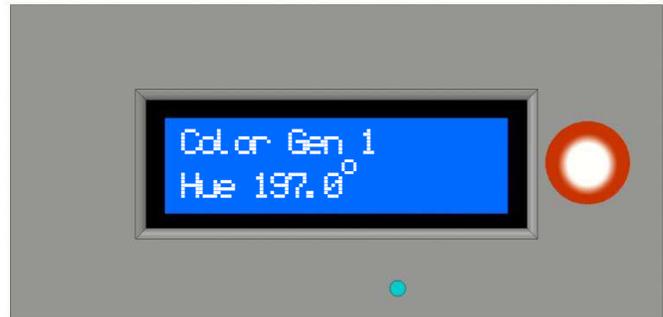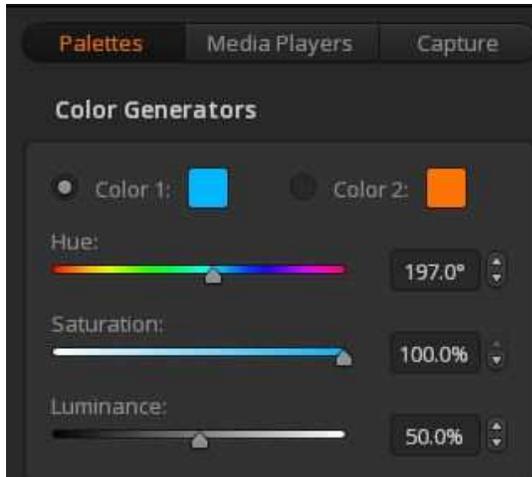
The Color Generator menu can control both available Color Generators on the ATEM. The **SUB MENU**'s are as follows –

1. Hue
2. Sat
3. Lum

The Hue value is displayed as degrees and the Sat and Lum values are displayed as percentages.
After scrolling past the first Color Generator submenus it will continue with the second Color Generator submenus.

If **PREVIEW MONITOR** is enabled in the **CONFIG MENU** the selected Color Generator is displayed on the preview monitor.

2. **SUPERSOURCE**

This menu item is not available on single ME ATEM's.

If **PREVIEW MONITOR** is enabled in the **CONFIG MENU** when SuperSource is first selected the PREVIEW MONITOR will select the SuperSource input.

The SuperSource menu item is broken down into seven main items and some with sub menu items.

1. **BOXES**
   a. BOX 1
      i. Enable ON/OFF
      ii. Source
      iii. Position X
      iv. Position Y
      v. Size
      vi. CROP ON/OFF
         a. Crop TOP
         b. Crop RIGHT
         c. Crop BOTTOM
         d. Crop LEFT

   b. BOX 2
      i. Enable ON/OFF
      ii. Source
      iii. Position X
      iv. Position Y
      v. Size
      vi. CROP ON/OFF
         a. Crop TOP
         b. Crop RIGHT
         c. Crop BOTTOM
         d. Crop LEFT

   c. BOX 3
      i. Enable ON/OFF
      ii. Source
      iii. Position X
      iv. Position Y
      v. Size
      vi. CROP ON/OFF
         a. Crop TOP
         b. Crop RIGHT
         c. Crop BOTTOM
         d. Crop LEFT

      d. BOX 4
           i. Enable ON/OFF
          ii. Source
        iii. Position X
        iv. Position Y
          v. Size
        vi. CROP ON/OFF
              a. Crop TOP
              b. Crop RIGHT
              c. Crop BOTTOM
              d. Crop LEFT

2. <u>ART</u>
    a. Fill Source
    b. Background/Foreground
         i. Key Source (only with Foregrounded selected)
        ii. Pre Multiply ON /OFF (only with Foregrounded selected)
             a. Clip
             b. Gain
             c. Invert

    c. Border ON/OFF CROP ON/OFF(only with Foregrounded selected)
         i. BEVEL
             a. No Bevel
             b. Bevel in/out
             c. Bevel in
             d. Bevel out
        ii. Hue
       iii. Saturation
       iv. Luminance
        v. Out Width
       vi. In Width
      vii. Out Soft
     viii. In Soft
       ix. Bevel Position
        x. Bevel Soften
       xi. Light Source
             a. Angle
             b. Altitude

3. <u>LOAD</u>
    a. All
    b. Box 1
    c. Box 2

d. Box 3
e. Box 4
f. Art
g. Boxes

4. **SAVE**

5. **SWAP**

6. **ERASE**

Use the **ENTER KNOB** to scroll down through the 70 various menu items listed above. If any of the boxes are disabled they are stepped over to the next available menu item.

1. **BOXES**

Each of the four available boxes have six **MAIN** menu items and four **SUB MENU** items. The four sub menu items are only available if the **CROP** is enabled. The box adjustments discussed here are identicle for all four boxes.
If at any time you need to abort a function press the **LOGO** button.
When the BOX item you require is selected press the ENTER button. The top right digit will flash to indicate we are in ADJUST MODE.
The following assumes you have entered the adjust mode.

   i. **Enable ON/OFF**
   Turn the ENTER KNOB left to disable the selected box or right to enable the selected box. Once the desired state is selected press the ENTER button again. The change will take immediate effect.
   If the selected box is disabled, all the other selected box adjustments are bypassed.

   ii. **Box Source**
   Turn the ENTER KNOB to scroll through the available source names to fill the selected box. The actual ATEM source names are displayed on the displays second row and on the terminal screen. As each source is selected it takes immediate effect (the actual selected box source is changed). To exit the box source change mode press the ENTER button.

   iii. **Position X**
   Turn the ENTER KNOB to the left to shift the box position by 0.01 to the LEFT and turn right to shift the box position by 0.01 to the RIGHT.
   Turn the MENU KNOB to the left to shift the box position by 0.1 to the LEFT and turn right to shift the box position by 0.1 to the RIGHT.
   To reset the box position to default press the LOGO button. To exit the Position X mode press the ENTER button.

   iv. **Position Y**
   Turn the ENTER KNOB to the left to shift the box position by 0.01 to the BOTTOM and turn right to shift the box position by 0.01 to the TOP.

Turn the MENU KNOB to the left to shift the box position by 0.1 to the BOTTOM and turn right to shift the box position by 0.1 to the TOP.

To reset the box position to default press the LOGO button. To exit the Position Y mode press the ENTER button.

v. **Size**

Turn the ENTER KNOB to the left to decrease the box size by 0.01 and turn right to increase the box size by 0.01.

Turn the MENU KNOB to the left to decrease the box size by 0.1 and turn right to increase the box size by 0.1.

To reset the box position to 50% press the LOGO button. To exit the Size mode press the ENTER button.

vi. **Crop on/off**

Turn the ENTER KNOB left to disable the crop or right to enable the crop. Once the desired state is selected press the ENTER button again. The change will take immediate effect.

If the selected box is disabled, the crop adjustments are bypassed.

vii. **Crop TOP**

The LCD display indicates a 'top' symbol along with its current value. Turn the ENTER KNOB to the left to decrease the top crop by 0.01 and turn right to increase the top crop by 0.01.

Turn the MENU KNOB to the left to decrease the top crop by 0.1 and turn right to increase the top crop by 0.1.

To reset the top crop to 0 press the LOGO button. To exit the top crop mode press the ENTER button.

viii. **Crop RIGHT**

The LCD display indicates a 'right' symbol along with its current value. Turn the ENTER KNOB to the left to decrease the right crop by 0.01 and turn right to increase the right crop by 0.01.

Turn the MENU KNOB to the left to decrease the right crop by 0.1 and turn right to increase the right crop by 0.1.

To reset the right crop to 0 press the LOGO button. To exit the right crop mode press the ENTER button.

ix. **Crop BOTTOM**

The LCD display indicates a 'bottom' symbol along with its current value. Turn the ENTER KNOB to the left to decrease the bottom crop by 0.01 and turn right to increase the bottom crop by 0.01.

Turn the MENU KNOB to the left to decrease the bottom crop by 0.1 and turn right to increase the bottom crop by 0.1.

To reset the bottom crop to 0 press the LOGO button. To exit the bottom crop mode press the ENTER button.

x. **Crop LEFT**

The LCD display indicates a 'left' symbol along with its current value. Turn the ENTER KNOB to the left to decrease the left crop by 0.01 and turn right to increase the left crop by 0.01.

Turn the MENU KNOB to the left to decrease the left crop by 0.1 and turn right to increase the left crop by 0.1.

To reset the left crop to 0 press the LOGO button. To exit the left crop mode press the ENTER button.

2. <u>**ART**</u>

The **Background/Foreground** in the **ART MENU** dictates what other menu items are available for adjustment.

When the ART item you require is selected press the **ENTER** button. The top right digit will flash to indicate we are in **ADJUST MODE**.

The following assumes you have entered the *adjust mode*.

i. **Fill Source**

This selects the source used to **FILL** the empty spaces in the SuperSource when in *Background mode* and used to **OVERLAY** the SuperSource when in *Foreground mode*.

Turn the ENTER KNOB to scroll through the available source names to fill the ART Background/Foreground. The actual ATEM source names are displayed on the LCD's second row and on the terminal screen. As each source is selected it takes immediate effect. To exit the source change mode, press the ENTER button.

ii. **Foreground/Background**

This sets the position of the Fill Source to be BEHIND or IN FRONT of the SuperSource boxes. If set to *Background* the SuperSource BOXES will be placed OVER the Fill Source and if set to *Foreground* the SuperSource boxes will be placed UNDER the Fill Source. Generally if set to Foreground the Fill Source will have a separate Key Source, otherwise the Fill Source will totally cover the SuperSource. Turn the ENTER KNOB left to set the mode to Background or right to set the mode to Foreground. Once the desired state is selected press the ENTER button again. The change will take immediate effect.

If it is set to Background the Pre Multiply adjustments are bypassed. If it is set to Foreground the Border adjustments are bypassed.

iii. **Key Source**

This menu item is only available in Foreground mode. This selects the source used to **KEY** the Fill source in the SuperSource *Foreground mode (as laid on top of the SuperSource boxes)*.

Turn the ENTER KNOB to scroll through the available source names to key the ART Foreground. The actual ATEM source names are displayed on the LCD's second row and on the terminal screen. As each key source is selected it takes immediate effect. To exit the key source change mode, press the ENTER button.

iv. **Pre Multiply Key (aka Alpha key)**

This menu item is only available in Foreground mode. Turn the ENTER KNOB left to disable the Pre Multipy Key or right to enable the Pre Multipy key. Once the desired state is selected press the ENTER button again. The change will take immediate effect.

If the selected box is enabled, the Pre Multipy key adjustments are bypassed.

There are three sub menu items if Pre Multipy is turned off.

a. Clip

The LCD will display the current Clip value in percentage. Turn the ENTER KNOB to the left to decrease the Clip by 0.01 and turn right to increase the Clip by 0.01.

Turn the MENU KNOB to the left to decrease the Clip by 0.1 and turn right to increase the Clip by 0.1. To reset the Clip to 50% press the LOGO button. To exit the Clip mode press the ENTER button.

b. Gain

The LCD will display the current Gain value in percentage. Turn the ENTER KNOB to the left to decrease the Gain by 0.01 and turn right to increase the Gain by 0.01.

Turn the MENU KNOB to the left to decrease the Gain by 0.1 and turn right to increase the Gain by 0.1. To reset the Gain to 50% press the LOGO button. To exit the Gain mode press the ENTER button.

c. Invert Key

Turn the ENTER KNOB left to disable the Invert Key or right to enable the Invert Key. Once the desired state is selected press the ENTER button again. The change will take immediate effect.

v. Border ON/OFF

This menu item is only available in Background mode. Turn the ENTER KNOB left to disable the Border or right to enable the Border. Once the desired state is selected press the ENTER button again. The change will take immediate effect.

If the Border is disabled, the Border adjustments are bypassed.

vi. Style

This menu item is only available in Background mode and when Border is enabled. There are 4 types of Borders that can be placed of the SuperSource boxes. Turn the ENTER KNOB to step through the following;

    a. Bevel none

    b. Bevel in out

    c. Bevel in

    d. Bevel out

Once the desired bevel style is selected press the ENTER button. With Bevel set to none the Bevel position, Bevel Soften, Light Source Angle and Light Source Altitude are disabled.

vii. Hue

This menu item is only available in Background mode and when Border is enabled. The HUE value is displayed in degrees. Turn the ENTER KNOB to the left to adjust the Hue by -1.0 and turn right to adjust the Hue by +1.0.

Turn the MENU KNOB to the left to adjust the Hue by -0.1 and turn right to adjust the Hue by +0.1. To set the Hue to a RANDOM value press the LOGO button.

viii. Saturation

This menu item is only available in Background mode and when Border is enabled. The SAT value is displayed as a percentage. Turn the ENTER KNOB to the left to adjust the Sat by -1.0 and turn right to adjust the Sat by +1.0.

Turn the MENU KNOB to the left to adjust the Sat by -0.1 and turn right to adjust the Sat by +0.1. To set the Sat to 100% press the LOGO button.

ix. Luminance

This menu item is only available in Background mode and when Border is enabled. The LUM value is displayed as a percentage. Turn the ENTER KNOB to the left to adjust the Lum by -1.0 and turn right to adjust the Lum by +1.0.

Turn the MENU KNOB to the left to adjust the Lum by -0.1 and turn right to adjust the Lum by +0.1. To set the Lum to 100% press the LOGO button.

x. This menu item is only available in Background mode and when Border is enabled. Outer Width

Turn the ENTER KNOB to the left to adjust the Outer Width by -0.10 and turn right to adjust the Outer Width by +0.10.

Turn the MENU KNOB to the left to adjust the Outer Width by -0.01 and turn right to adjust the Outer Width by +0.01. To set the Outer Width to zero press the LOGO button.

xi. This menu item is only available in Background mode and when Border is enabled. Inner Width

Turn the ENTER KNOB to the left to adjust the Inner Width by -0.10 and turn right to adjust the Inner Width by +0.10.

Turn the MENU KNOB to the left to adjust the Inner Width by -0.01 and turn right to adjust the Inner Width by +0.01. To set the Inner Width to 1.00 press the LOGO button.

xii. Outer Soft

This menu item is only available in Background mode and when Border is enabled. The OUTER SOFT value is displayed as a percentage. Turn the ENTER KNOB to the left to adjust the Outer Soft by -0.10 and turn right to adjust the Outer Soft by +0.10.

Turn the MENU KNOB to the left to adjust the Outer Soft by -0.01 and turn right to adjust the Outer Soft by +0.01. To set the Outer Soft to zero press the LOGO button.

xiii. This menu item is only available in Background mode and when Border is enabled. Inner Soft

The INNER SOFT value is displayed as a percentage. Turn the ENTER KNOB to the left to adjust the Inner Soft by -0.10 and turn right to adjust the Inner Soft by +0.10.

Turn the MENU KNOB to the left to adjust the Inner Soft by -0.01 and turn right to adjust the Inner Soft by +0.01. To set the Inner Soft to 1.00 press the LOGO button.

xiv. Bevel Position

This menu item is only available in Background mode and when Border is enabled and when the Border Style is NOT set to *Bevel none*. Turn the ENTER KNOB to the left to adjust the Bevel Position by -0.10 and turn right to adjust the Bevel Position by +0.10.

Turn the MENU KNOB to the left to adjust the Bevel Position by -0.01 and turn right to adjust the Bevel Position by +0.01. To set the Bevel Position to 0.50 press the LOGO button.

xv. Bevel Soften

This menu item is only available in Background mode and when Border is enabled and when the Border Style is NOT set to *Bevel none*. Turn the ENTER KNOB to the left to adjust the Bevel Soften by -0.10 and turn right to adjust the Bevel Soften by +0.10.

Turn the MENU KNOB to the left to adjust the Bevel Soften by -0.01 and turn right to adjust the Bevel Soften by +0.01. To set the Bevel Soften to zero press the LOGO button.

xvi. Light Source

This menu item is only available in Background mode and when Border is enabled and when the Border Style is NOT set to *Bevel none*. There are two sub menu items in Light Source

a. Angle

This simulates the angle the light source is from the target. Its value is shown in degrees. Turn the ENTER KNOB to the left to adjust the Light Source angle by -10 degrees and turn right to adjust the Light Source angle by +10 degrees.

Turn the MENU KNOB to the left to adjust the Light Source angle by -1 degree and turn right to adjust the Light Source angle by +1 degree . To set the Light Source angle to a RANDOM value press the LOGO button.

b. Altitude

This simulates the Altitude the light source is above the target. Turn the ENTER KNOB to the left to adjust the Light Source Altitude by -10 degrees and turn right to adjust the Light Source Altitude by +10 degrees.

Turn the MENU KNOB to the left to adjust the Light Source Altitude by -1 degree and turn right to adjust the Light Source Altitude by +1 degree . To set the Light Source Altitude to the minimum value (10) press the LOGO button.

3. **LOAD**

The SuperSource LOAD menu has seven functions. It allows you to load various saved parameters into various areas of the SuperSource including Boxes and ART.

i. ALL

LOAD ALL allows you to load from a pre-saved file on the built in MicroSD card a complete setup of all four Boxes and Art. These include –

a. Boxes
- Enable/disable
- Source
- Position X
- Position Y
- Size
- Crop on/off
- Crop top
- Crop right
- Crop bottom
- Crop left

b. Art
- Fill Source
- Background/Foreground
- Key Source
- Pre Multiply Key
- Clip
- Gain
- Invert
- Border on/off
- Style
- Hue
- Saturation
- Luminance
- Outer width
- Inner Width
- Outer Softness
- Inner Softness
- Bevel Position
- Bevel Soften
- Light Source Angle
- Light Source Altitude

To LOAD ALL press the ENTER button. An asterisk flashes on the LCD top right. As soon as the adjust mode is entered it will create a database of all available SuperSource files and display them one at a time in alphabetical order on the second line of the LCD. Rotate the ENTER KNOB to scroll up and down the list until you find the required file. Press the ENTER button to select. The SuperSource will immediately update to the new settings. To ABORT at any time during the adjust mode press the LOGO button.

ii. BOX 1 (the same applies for BOX 2, BOX 3 and BOX 4)

LOAD BOX 1 has two modes. Mode 1 allows you to load Box 1 ONLY from any box configuration of a pre-saved file on the built in MicroSD card. Mode 2 allows you to load Box 1 ONLY from either box 2, 3 or 4. The configurations includes –

- Enable/disable
- Source
- Position X
- Position Y
- Size
- Crop on/off
- Crop top
- Crop right
- Crop bottom
- Crop left

Press ENTER to LOAD box 1. The LCD will display -
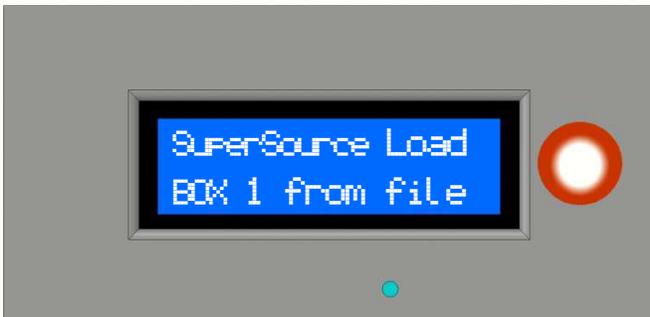
Turn the ENTER KNOB to select between the two options.

a. Mode 1 – LOAD FROM FILE

Press the ENTER button to load Box 1 from any Box of a saved file.

All available SuperSource files are display one at a time in alphabetical order on the second line of the LCD. Rotate the ENTER KNOB to scroll up and down the list until you find the required file. Press the ENTER button to select.

Once the file has been selected you need to select which of the 4 boxes you want from the file. Rotate the ENTER KNOB to select between Box 1, Box 2, Box 3 and Box 4. Press the ENTER button to select. The SuperSource will immediately update to the new settings. To ABORT at any time during the adjust mode press the LOGO button.

b. Mode 2 – LOAD FROM BOX

Press the ENTER button to load Box 1 from any other box.

Rotate the ENTER KNOB to select between any of the other boxes. Press the ENTER button to select.

iii. ART

Load ART allows you to just load the ART from a saved file. The configurations includes –

- Fill Source
- Background/Foreground
- Key Source
- Pre Multiply Key
- Clip
- Gain
- Invert
- Border on/off
- Style
- Hue
- Saturation
- Luminance
- Outer width
- Inner Width
- Outer Softness
- Inner Softness
- Bevel Position
- Bevel Soften
- Light Source Angle
- Light Source Altitude

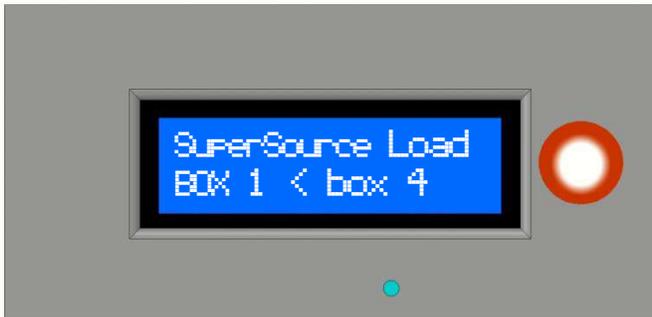To LOAD ART press the ENTER button. An asterisk flashes on the LCD top right. As soon as the adjust mode is entered it will create a database of all available SuperSource files and display them one at a time in

alphabetical order on the second line of the LCD. Rotate the ENTER KNOB to scroll up and down the list until you find the required file. Press the ENTER button to select. The SuperSource will immediately update to the new settings. To ABORT at any time during the adjust mode press the LOGO button.

iv. BOXES

Load BOXES allows you to just load ALL the BOXES ONLY from a saved file. The configurations includes –
- Enable/disable
- Source
- Position X
- Position Y
- Size
- Crop on/off
- Crop top
- Crop right
- Crop bottom
- Crop left

To LOAD BOXES only press the ENTER button. An asterisk flashes on the LCD top right. As soon as the adjust mode is entered it will create a database of all available SuperSource files and display them one at a time in alphabetical order on the second line of the LCD. Rotate the ENTER KNOB to scroll up and down the list until you find the required file. Press the ENTER button to select. The SuperSource will immediately update to the new settings. To ABORT at any time during the adjust mode press the LOGO button.

4. SAVE

The SuperSource SAVE menu allows you to save ALL the parameters of the SuperSource in one file. It does not selectively save as all the selections are done on the LOAD functions.

To SAVE the current settings of the SuperSource press the ENTER button. The LCD displays -

The NAME will show the last file name that was saved (The save name is remembered across power cycles). The bottom line displays the character to me entered into the name above.

Rotate the MENU KNOB to select the character or numeral you wish to use and then press the MENU button to enter it.

Once selected it will enter the character into the name and move to the next character position. Rotate the MENU KNOB again to select the next character or numeral you wish to use and then press the MENU button to enter it. Continue to enter the name up to 8 characters. If at any time you wish to go back and change a character use the ENTER KNOB to position the guide character under the required character to change. To ENTER the name ensure the guide character is under the last blank position in the name and press ENTER.

The LCD will display the file name and then proceed to save the file on the MicroSD card. The next time you need to LOAD a file the new name will appear. At any time during the save process press the LOGO button to abort. The name can also be entered using the keyboard on the USB connection.

5. **SWAP**

Press ENTER to SWAP superSources boxes around. This is useful if you need to change the position priority between the boxes. BOX 1 always assumes the most forward position followed by Box 2 and so on.
To SWAP box positions press the ENTER button. The LCD displays -

Rotate the ENTER KNOB to select the first of the two boxes to swap. Press ENTER to select and then rotate the ENTER KNOB again to select the second of the two boxes to swap.

6. **ERASE**

The ERASE function allows you to clear off any unwanted SuperSouce saves. It is not normally necessary as there is room to store thousands of SuperSource files but it certainly would help when trying to find very specific files.
Press the ENTER button to select the file to ERASE. An asterisk flashes on the LCD top right. As soon as the erase mode is entered it will create a database of all available SuperSource files and display them one at a time in alphabetical order on the second line of the LCD. Rotate the ENTER KNOB to scroll up and down the list until you find the required file. Press the ENTER button to erase. The SuperSource will immediately delete the file from the MicroSD card. To ABORT at any time during the adjust mode press the LOGO button.

3. UPSTREAM KEY

The UPSTREAM KEY menu item allows you to scroll thru ALL UPSTREAM KEYERS of the selected ME using the ENTER KNOB. These items include –

- a.   Fill (common to all of the selected keyer)
- b.   LumaKey
- c.   ChromaKey (CK)
- d.   PatternKey
- e.   DVEKey

If there is more than one keyer for the selected ME the ENTER knob will continue to scroll thru the same menu items for the next keyer number. As each keyer type is selected it changes the selection on the software control panel.
The TERMINAL screen will also display the selection in YELLOW.

To select any item to adjust press the ENTER knob.

a.   Fill
When FILL is selected the LCD and the TERMINAL will display the current FILL source. This SOURCE is common across all 4 keyer types. At any time this source is altered by another controlling device the displays will update accordingly.
When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the SOURCE name on the TERMINAL displays RED. This indicates it is in ADJUST MODE.
ROTATE the ENTER KNOB left will step the source selection backwards and ROTATE the ENTER KNOB right will step the source selection forwards. While rotating the ENTER knob the actual source changes on the ATEM.
Once the required source is selected press ENTER and the ADJUST MODE is completed. The ENTER knob returns to the select mode.

b.   LumaKey
The Luma menu item is a sub menu heading. To enter LumaKey setup press the ENTER button. This in turn opens the LumaKey submenu items.
1. Luma Key source
2. Luma Mask ON/OFF
3. Luma Mask TOP
4. Luma Mask Right
5. Luma Mask Bottom
6. Luma Mask Left
7. Luma PreMultiply ON/OFF
8. Luma Clip
9. Luma Gain
10. Luma Invert
11. Luma Fly Key ON/OFF
12. Luma Fly Pos X
13. Luma Fly Pos Y
14. Luma Fly Size X
15. Luma Fly Size Y

16. Luma Fly XY LOCK ON/OFF
17. Luma Fly Rotation
18. Luma Fly trans rate
19. Luma Fly Set A/B
20. Luma Fly Run to

Different items may not display depending if they are enabled or not. As each item is displayed many will actually display their current values.

1. **Luma Key source**
   When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the KEY SOURCE name on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE.
   ROTATE the ENTER KNOB left will step the KEY source selection backwards and ROTATE the ENTER KNOB right will step the KEY source selection forwards. While rotating the ENTER knob the actual KEY source changes on the ATEM. Once the required KEY source is selected press ENTER and the ADJUST MODE is completed. The ENTER knob returns to the LumaKey select mode.

2. **Luma Mask ON/OFF**
   The current status of the LumaMask is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Mask status on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn MASK ON and rotate ENTER knob left to turn MASK OFF. Press ENTER to accept the selection. If LUMA MASK is OFF the LUMA MASK TOP, RIGHT, BOTTOM and LEFT adjustments will be bypassed.

3. **Luma Mask TOP**
   The LumaMask TOP will only display if the LUMA MASK ON/OFF is in the ON MODE.
   The LumaMask TOP is indicated on the LCD as a graphic indicating a *mask at the top* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Mask TOP value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the TOP MASK size and ROTATE the ENTER knob left to DECREASE the TOP MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

4. **Luma Mask RIGHT**
   The LumaMask RIGHT will only display if the LUMA MASK ON/OFF is in the ON MODE.
   The LumaMask RIGHT is indicated on the LCD as a graphic indicating a *mask at the right* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Mask RIGHT value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the RIGHT MASK size and ROTATE the ENTER knob left to DECREASE the RIGHT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

5. **Luma Mask BOTTOM**

The LumaMask BOTTOM will only display if the LUMA MASK ON/OFF is in the ON MODE.

The LumaMask BOTTOM is indicated on the LCD as a graphic indicating a *mask at the bottom* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Mask BOTTOM value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the BOTTOM MASK size and ROTATE the ENTER knob left to DECREASE the BOTTOM MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

6. **Luma Mask LEFT**

The LumaMask LEFT will only display if the LUMA MASK ON/OFF is in the ON MODE.

The LumaMask LEFT is indicated on the LCD as a graphic indicating a *mask at the left* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Mask LEFT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the LEFT MASK size and ROTATE the ENTER knob left to DECREASE the LEFT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

7. **Luma PreMultiply ON/OFF**

The current status of the LumaPreMultiply is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the LumaPreMultiply status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn PREMULTIPLY ON and rotate ENTER knob left to turn PREMULTIPLY OFF. Press ENTER to accept the selection. If LUMA PREMULTIPLY is ON the LUMA CLIP, LUMA GAIN and LUMA INVERT adjustments will be bypassed.

8. **Luma Clip**

The Luma Clip will only display if the LUMA PreMultiply ON/OFF is in the OFF MODE.

When LUMA CLIP is selected the LCD and the TERMINAL will display the CLIP value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the CLIP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER knob right to INCREASE the LUMA CLIP value and ROTATE the ENTER knob left to DECREASE the LUMA CLIP value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

9. **Luma Gain**

The Luma Gain will only display if the LUMA PreMultiply ON/OFF is in the OFF MODE.

When LUMA GAIN is selected the LCD and the TERMINAL will display the GAIN value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the GAIN value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the LUMA GAIN value and ROTATE the ENTER knob left to DECREASE the LUMA GAIN value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

10. **Luma Invert**

The current status of the Luma Invert is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Invert status on the

TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn LUMA INVERT ON and rotate ENTER knob left to turn LUMA INVERT OFF. Press ENTER to accept the selection.

11. **Luma Fly Key ON/OFF**
    The current status of the Luma Fly Key is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly Key status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn LUMA FLY KEY ON and rotate ENTER knob left to turn LUMA FLY KEY OFF. Press ENTER to accept the selection.
    If LUMA FLY KEY is OFF the LUMA FLY POSX, LUMA FLY POSY, LUMA FLY SIZEX, LUMA FLY SIZEY, LUMA FLY XY LOCK, LUMA FLY ROTATION, LUMA FLY TRANS RATE, LUMA FLY SET A/B and LUMA FLY RUN TO adjustments will be bypassed.

12. **Luma Fly Pos X**
    The Luma Fly PosX will only display if the LUMA Fly Key ON/OFF is in the ON MODE.
    The current value of the Luma Fly PosX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly PosX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSX and ROTATE the ENTER knob left to DECREASE the FLY POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

13. **Luma Fly Pos Y**
    The Luma Fly PosY will only display if the LUMA Fly Key ON/OFF is in the ON MODE.
    The current value of the Luma Fly PosY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly PosY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSY and ROTATE the ENTER knob left to DECREASE the FLY POSY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

14. **Luma Fly Size X**
    The Luma Fly SizeX will only display if the LUMA Fly Key ON/OFF is in the ON MODE.
    The current value of the Luma Fly SizeX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly SizeX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY SIZE X and ROTATE the ENTER knob left to DECREASE the FLY SIZE X. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.
    If the Luma Fly XY LOCK is ON adjustments to the FLY SIZE X will also affect the FLY SIZE Y.

15. **Luma Fly Size Y**
    The Luma Fly SizeY will only display if the LUMA Fly Key ON/OFF is in the ON MODE.
    The current value of the Luma Fly SizeY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly SizeY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY SIZE Y and ROTATE the ENTER knob left to DECREASE the FLY SIZE Y. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

If the Luma Fly XY LOCK is ON adjustments to the FLY SIZE Y will also affect the FLY SIZE X.

16. **Luma Fly XY LOCK ON/OFF** *(localised setting only)*

The Luma Fly XY Lock will only display if the LUMA Fly Key ON/OFF is in the ON MODE.

The current value of the Luma Fly XY LOCK is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly XY LOCK value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn ON the FLY XY LOCK and ROTATE the ENTER knob left to turn OFF the FLY XY LOCK. Press ENTER to accept the selection. When XY LOCK is on the adjustments to the FLY SIZE X or Y will affect both. This is useful for maintaining the aspect ration even after the XY is out of balance.

(*Please note this *lock* is not a global setting, that is, the lock on the software control panel or any other panel is only a local control. The ATEM does not include it in its protocol)

17. **Luma Fly Rotation**

The Luma Fly Rotation will only display if the LUMA Fly Key ON/OFF is in the ON MODE.

The current value of the Luma Fly Rotation is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly Rotation value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY ROTATION and ROTATE the ENTER knob left to DECREASE the FLY ROTATION. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

18. **Luma Fly trans rate**

The Luma Fly Trans Rate will only display if the LUMA Fly Key ON/OFF is in the ON MODE.

The current value of the Luma Fly Trans Rate is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Luma Fly Trans Rate value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY TRANS RATE and ROTATE the ENTER knob left to DECREASE the FLY TRANS RATE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

19. **Luma Fly Set A/B**

The Luma Fly Set A/B will only display if the LUMA Fly Key ON/OFF is in the ON MODE.

The Luma Fly Set A/B has no value. It is used to store the current DVE size and position parameters into registers **A** or **B** so that **Luma Fly Run to** can use those as a preset *(keyframe)*. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and then displays **A** to indicate set to A. The TERMINAL will also display the same in RED. ROTATE the ENTER knob right to select **B** and ROTATE the ENTER knob left to select **A**. Press ENTER to accept the selection. The LCD and the TERMINAL will then display the keyframe that was just set.

20. **Luma Fly Run to**

The Luma Fly Run to will only display if the LUMA Fly Key ON/OFF is in the ON MODE.

The Luma Fly Run has no default value. It is used to select where you want the DVE to transition to. These can be A, B,FULL, TOP LEFT, TOP, TOP RIGHT, LEFT, RIGHT, BOTTOM LEFT, BOTTOM, BOTTOM RIGHT, INFINITE A or INFINITE B.

When ENTER is pressed the last selected is displayed as a graphic on the LCD and as text on the TERMINAL. Rotate the ENTER knob to make the selection and then press the ENTER BUTTON to initiate the command.

c. **Chroma Key (CK)**

The ChromaKey menu item is a sub menu heading. To enter ChromaKey setup press the ENTER button. This in turn opens the ChromaKey submenu items.

1. ChromaKey Hue
2. ChromaKey Gain
3. ChromaKeyY Suppress
4. ChromaKey Lift
5. ChromaKey Narrow Range
6. ChromaKey Mask ON/OFF
7. ChromaKey Mask TOP
8. ChromaKey Mask RIGHT
9. ChromaKey Mask BOTTOM
10. ChromaKey Mask LEFT
11. ChromaKey Fly Key ON/OFF
12. ChromaKey Fly Pos X
13. ChromaKey Fly Pos Y
14. ChromaKey Fly Size X
15. ChromaKey Fly Size Y
16. ChromaKey Fly XY LOCK ON/OFF
17. ChromaKey Fly Rotation
18. ChromaKey Fly trans rate
19. ChromaKey Fly Set A/B
20. ChromaKey Fly Run to

1. **ChromaKey Hue**

When Chromakey Hue is selected the LCD and the TERMINAL will display the Chromakey Hue value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Chromakey Hue value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the CHROMAKEY HUE value and ROTATE the ENTER knob left to DECREASE the CHROMAKEY HUE value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

2. **ChromaKey Gain**

When Chromakey Gain is selected the LCD and the TERMINAL will display the Chromakey Gain value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Chromakey Gain value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the CHROMAKEY GAIN value and ROTATE the ENTER knob left to DECREASE the CHROMAKEY GAIN value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

3. **ChromaKeyY Suppress**

When Chromakey Y Suppress is selected the LCD and the TERMINAL will display the Chromakey Y Suppress value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Chromakey Y Suppress value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the CHROMAKEY Y SUPPRESS value and ROTATE the ENTER knob left to DECREASE the CHROMAKEY Y SUPPRESS value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

4. **ChromaKey Lift**
When Chromakey Lift is selected the LCD and the TERMINAL will display the Chromakey Lift value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Chromakey Lift value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the CHROMAKEY LIFT value and ROTATE the ENTER knob left to DECREASE the CHROMAKEY LIFT value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

5. **ChromaKey Narrow Range**
The current status of the ChromaKey Narrow Range is displayed on the LCD and the TERMINAL screens. When Chromakey Narrow Range is selected the LCD and the TERMINAL will display the Chromakey Narrow Range value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Chromakey Narrow Range value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn ON the CHROMAKEY NARROW RANGE and ROTATE the ENTER knob left to turn OFF the CHROMAKEY NARROW RANGE. Press ENTER to accept the selection.

6. **ChromaKey Mask ON/OFF**
The current status of the ChromaKey Mask is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Mask status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn MASK ON and rotate ENTER knob left to turn MASK OFF. Press ENTER to accept the selection. If CHROMAKEY MASK is OFF the CHROMAKEY MASK TOP, RIGHT, BOTTOM and LEFT adjustments will be bypassed.

7. **ChromaKey Mask TOP**
The ChromaKey Mask TOP will only display if the CHROMAKEY MASK ON/OFF is in the ON MODE. The ChromaKey Mask TOP is indicated on the LCD as a graphic indicating a *mask at the top* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Mask TOP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the TOP MASK size and ROTATE the ENTER knob left to DECREASE the TOP MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

8. **ChromaKey Mask RIGHT**
The ChromaKey Mask RIGHT will only display if the CHROMAKEY MASK ON/OFF is in the ON MODE. The ChromaKey Mask RIGHT is indicated on the LCD as a graphic indicating a *mask at the right* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey

Mask RIGHT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the RIGHT MASK size and ROTATE the ENTER knob left to DECREASE the RIGHT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

9. **ChromaKey Mask BOTTOM**
    The ChromaKey Mask BOTTOM will only display if the CHROMAKEY MASK ON/OFF is in the ON MODE.
    The ChromaKey Mask BOTTOM is indicated on the LCD as a graphic indicating a *mask at the bottom* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Mask BOTTOM value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the BOTTOM MASK size and ROTATE the ENTER knob left to DECREASE the BOTTOM MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

10. **ChromaKey Mask LEFT**
    The ChromaKey Mask LEFT will only display if the CHROMAKEY MASK ON/OFF is in the ON MODE.
    The ChromaKey Mask LEFT is indicated on the LCD as a graphic indicating a *mask at the left* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Mask LEFT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the LEFT MASK size and ROTATE the ENTER knob left to DECREASE the LEFT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

11. **ChromaKey Fly Key ON/OFF**
    The current status of the ChromaKey Fly Key is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly Key status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn CHROMAKEY FLY KEY ON and rotate ENTER knob left to turn CHROMAKEY FLY KEY OFF. Press ENTER to accept the selection.
    If CHROMAKEY FLY KEY is OFF the CHROMAKEY FLY POSX, CHROMAKEY FLY POSY, CHROMAKEY FLY SIZEX, CHROMAKEY FLY SIZEY, CHROMAKEY FLY XY LOCK, CHROMAKEY FLY ROTATION, CHROMAKEY FLY TRANS RATE, CHROMAKEY FLY SET A/B and CHROMAKEY FLY RUN TO adjustments will be bypassed.

12. **ChromaKey Fly Pos X**
    The ChromaKey Fly PosX will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
    The current value of the ChromaKey Fly PosX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly PosX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSX and ROTATE the ENTER knob left to DECREASE the FLY POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

13. **ChromaKey Fly Pos Y**
    The ChromaKey Fly PosY will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
    The current value of the ChromaKey Fly PosY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly

PosY value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSY and ROTATE the ENTER knob left to DECREASE the FLY POSY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

14. **ChromaKey Fly Size X**

The ChromaKey Fly SizeX will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The current value of the ChromaKey Fly SizeX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly SizeX value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY SIZE X and ROTATE the ENTER knob left to DECREASE the FLY SIZE X. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.
If the ChromaKey Fly XY LOCK is ON adjustments to the FLY SIZE X will also affect the FLY SIZE Y.

15. **ChromaKey Fly Size Y**

The ChromaKey Fly SizeY will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The current value of the ChromaKey Fly SizeY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly SizeY value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY SIZE Y and ROTATE the ENTER knob left to DECREASE the FLY SIZE Y. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.
If the ChromaKey Fly XY LOCK is ON adjustments to the FLY SIZE Y will also affect the FLY SIZE X.

16. **ChromaKey Fly XY LOCK ON/OFF** *(localised setting only)*

The ChromaKey Fly XY Lock will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The current value of the ChromaKey Fly XY LOCK is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly XY LOCK value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn ON the FLY XY LOCK and ROTATE the ENTER knob left to turn OFF the FLY XY LOCK. Press ENTER to accept the selection. When XY LOCK is on the adjustments to the FLY SIZE X or Y will affect both. This is useful for maintaining the aspect ration even after the XY is out of balance.
(*Please note this *lock* is not a global setting, that is, the lock on the software control panel or any other panel is only a local control. The ATEM does not include it in its protocol)

17. **ChromaKey Fly Rotation**

The ChromaKey Fly Rotation will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The current value of the ChromaKey Fly Rotation is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly Rotation value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY ROTATION and ROTATE the ENTER knob left to DECREASE the FLY ROTATION. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

18. **ChromaKey Fly trans rate**

The ChromaKey Fly Trans Rate will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.

The current value of the ChromaKey Fly Trans Rate is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the ChromaKey Fly Trans Rate value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY TRANS RATE and ROTATE the ENTER knob left to DECREASE the FLY TRANS RATE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

19. **ChromaKey Fly Set A/B**
The ChromaKey Fly Set A/B will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The ChromaKey Fly Set A/B has no value. It is used to store the current DVE size and position parameters into registers **A** or **B** so that **ChromaKey Fly Run to** can use those as a preset *(keyframe)*. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and then displays **A** to indicate set to A. The TERMINAL will also display the same in <mark>RED</mark>. ROTATE the ENTER knob right to select **B** and ROTATE the ENTER knob left to select **A**. Press ENTER to accept the selection. The LCD and the TERMINAL will then display the keyframe that was just set.

20. **ChromaKey Fly Run to**
The ChromaKey Fly Run to will only display if the CHROMAKEY Fly Key ON/OFF is in the ON MODE.
The ChromaKey Fly Run has no default value. It is used to select where you want the DVE to transition to. These can be A, B,FULL, TOP LEFT, TOP, TOP RIGHT, LEFT, RIGHT, BOTTOM LEFT, BOTTOM, BOTTOM RIGHT, INFINITE A or INFINITE B.
When ENTER is pressed the last selected is displayed as a graphic on the LCD and as text on the TERMINAL. Rotate the ENTER knob to make the selection and then press the ENTER BUTTON to initiate the command.

d. **Pattern Key**
The PatternKey menu item is a sub menu heading. To enter PatternKey setup press the ENTER button. This in turn opens the ChromaKey submenu items.
1. PatternKey Type
2. PatternKey invert
3. PatternKey Size
4. PatternKey Symmetry
5. PatternKey Softness
6. PatternKey PosX
7. PatternKey PosY
8. PatternKey Mask ON/OFF
9. PatternKey Mask TOP
10. PatternKey Mask RIGHT
11. PatternKey Mask BOTTOM
12. PatternKey Mask LEFT
21. PatternKey Fly Key ON/OFF
22. PatternKey Fly Pos X
23. PatternKey Fly Pos Y
24. PatternKey Fly Size X
25. PatternKey Fly Size Y
26. PatternKey Fly XY LOCK ON/OFF

27. PatternKey Fly Rotation
28. PatternKey Fly trans rate
29. PatternKey Fly Set A/B
30. PatternKey Fly Run to

1. **PatternKey Type**
When Patternkey Type is selected the LCD will display the currently selected Pattern as a graphic and the TERMINAL will display the Patternkey name as text. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Patternkey Type text on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to step forward to the next PATTERN and ROTATE the ENTER knob left to step backward to the previous PATTERN. Press ENTER to accept the selection. Please note that certain PATTERNS do not have PATTERN SYMMETRY, PATTERN POSX and PATTERN POSY values associated with them.

2. **PatternKey invert**
The current status of the PatternKey Invert is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Invert status on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn PATTERNKEY INVERT ON and rotate ENTER knob left to turn PATTERNKEY INVERT OFF. Press ENTER to accept the selection.

3. **PatternKey Size**
The current value of the PatternKey Size is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Size value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the PATTERN SIZE and ROTATE the ENTER knob left to DECREASE the PATTERN SIZE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

4. **PatternKey Symmetry** *(only available on certain patterns)*
The current value of the PatternKey Symmetry is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Symmetry value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the PATTERN SYMMETRY and ROTATE the ENTER knob left to DECREASE the PATTERN SYMMETRY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

5. **PatternKey Softness**
The current value of the PatternKey Softness is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Softness value on the TERMINAL displays <mark>RED</mark>. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the PATTERN SOFTNESS and ROTATE the ENTER knob left to DECREASE the PATTERN SOFTNESS. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

6. **PatternKey PosX** *(only available on certain patterns)*

The current value of the PatternKey Position X is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Position X value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the PATTERN POSITION X and ROTATE the ENTER knob left to DECREASE the PATTERN POSITION X. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

7. **PatternKey PosY** *(only available on certain patterns)*
The current value of the PatternKey Position Y is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Position Y value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the PATTERN POSITION Y and ROTATE the ENTER knob left to DECREASE the PATTERN POSITION Y. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

8. **PatternKey Mask ON/OFF**
The current status of the PatternKey Mask is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Mask status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn MASK ON and rotate ENTER knob left to turn MASK OFF. Press ENTER to accept the selection. If PATTERNKEY MASK is OFF the PATTERNKEY MASK TOP, RIGHT, BOTTOM and LEFT adjustments will be bypassed.

9. **PatternKey Mask TOP**
The PatternKey Mask TOP will only display if the PATTERNKEY MASK ON/OFF is in the ON MODE. The PatternKey Mask TOP is indicated on the LCD as a graphic indicating a *mask at the top* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Mask TOP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the TOP MASK size and ROTATE the ENTER knob left to DECREASE the TOP MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

10. **PatternKey Mask RIGHT**
The PatternKey Mask RIGHT will only display if the PATTERNKEY MASK ON/OFF is in the ON MODE. The PatternKey Mask RIGHT is indicated on the LCD as a graphic indicating a *mask at the right* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Mask RIGHT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the RIGHT MASK size and ROTATE the ENTER knob left to DECREASE the RIGHT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

11. **PatternKey Mask BOTTOM**
The PatternKey Mask BOTTOM will only display if the PATTERNKEY MASK ON/OFF is in the ON MODE. The PatternKey Mask BOTTOM is indicated on the LCD as a graphic indicating a *mask at the bottom* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Mask BOTTOM value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER

knob right to INCREASE the BOTTOM MASK size and ROTATE the ENTER knob left to DECREASE the BOTTOM MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

12. **PatternKey Mask LEFT**

The PatternKey Mask LEFT will only display if the PATTERNKEY MASK ON/OFF is in the ON MODE. The PatternKey Mask LEFT is indicated on the LCD as a graphic indicating a *mask at the left* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Mask LEFT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the LEFT MASK size and ROTATE the ENTER knob left to DECREASE the LEFT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

13. **PatternKey Fly Key ON/OFF**

The current status of the PatternKey Fly Key is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly Key status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn PATTERNKEY FLY KEY ON and rotate ENTER knob left to turn PATTERNKEY FLY KEY OFF. Press ENTER to accept the selection.

If PATTERNKEY FLY KEY is OFF the PATTERNKEY FLY POSX, PATTERNKEY FLY POSY, PATTERNKEY FLY SIZEX, PATTERNKEY FLY SIZEY, PATTERNKEY FLY XY LOCK, PATTERNKEY FLY ROTATION, PATTERNKEY FLY TRANS RATE, PATTERNKEY FLY SET A/B and PATTERNKEY FLY RUN TO adjustments will be bypassed.

14. **PatternKey Fly Pos X**

The PatternKey Fly PosX will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE. The current value of the PatternKey Fly PosX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly PosX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSX and ROTATE the ENTER knob left to DECREASE the FLY POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

15. **PatternKey Fly Pos Y**

The PatternKey Fly PosY will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE. The current value of the PatternKey Fly PosY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly PosY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY POSY and ROTATE the ENTER knob left to DECREASE the FLY POSY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

16. **PatternKey Fly Size X**

The PatternKey Fly SizeX will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE. The current value of the PatternKey Fly SizeX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly SizeX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob

right to INCREASE the FLY SIZE X and ROTATE the ENTER knob left to DECREASE the FLY SIZE X. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.
If the PatternKey Fly XY LOCK is ON adjustments to the FLY SIZE X will also affect the FLY SIZE Y.

17. **PatternKey Fly Size Y**

The PatternKey Fly SizeY will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The current value of the PatternKey Fly SizeY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly SizeY value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY SIZE Y and ROTATE the ENTER knob left to DECREASE the FLY SIZE Y. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.
If the PatternKey Fly XY LOCK is ON adjustments to the FLY SIZE Y will also affect the FLY SIZE X.

18. **PatternKey Fly XY LOCK ON/OFF** *(localised setting only)*

The PatternKey Fly XY Lock will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The current value of the PatternKey Fly XY LOCK is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly XY LOCK value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn ON the FLY XY LOCK and ROTATE the ENTER knob left to turn OFF the FLY XY LOCK. Press ENTER to accept the selection. When XY LOCK is on the adjustments to the FLY SIZE X or Y will affect both. This is useful for maintaining the aspect ration even after the XY is out of balance.
(*Please note this *lock* is not a global setting, that is, the lock on the software control panel or any other panel is only a local control. The ATEM does not include it in its protocol)

19. **PatternKey Fly Rotation**

The PatternKey Fly Rotation will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The current value of the PatternKey Fly Rotation is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly Rotation value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY ROTATION and ROTATE the ENTER knob left to DECREASE the FLY ROTATION. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

20. **PatternKey Fly trans rate**

The PatternKey Fly Trans Rate will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The current value of the PatternKey Fly Trans Rate is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the PatternKey Fly Trans Rate value on the TERMINAL displays `RED`. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FLY TRANS RATE and ROTATE the ENTER knob left to DECREASE the FLY TRANS RATE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

21. **PatternKey Fly Set A/B**

The PatternKey Fly Set A/B will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The PatternKey Fly Set A/B has no value. It is used to store the current DVE size and position parameters into registers **A** or **B** so that **PatternKey Fly Run to** can use those as a preset *(keyframe)*. When ENTER is pressed

an asterisk (*) flashes in the top right corner of the LCD display and then displays **A** to indicate set to A. The TERMINAL will also display the same in RED. ROTATE the ENTER knob right to select **B** and ROTATE the ENTER knob left to select **A**. Press ENTER to accept the selection. The LCD and the TERMINAL will then display the keyframe that was just set.

22. **PatternKey Fly Run to**

The PatternKey Fly Run to will only display if the PATTERNKEY Fly Key ON/OFF is in the ON MODE.
The PatternKey Fly Run has no default value. It is used to select where you want the DVE to transition to. These can be A, B,FULL, TOP LEFT, TOP, TOP RIGHT, LEFT, RIGHT, BOTTOM LEFT, BOTTOM, BOTTOM RIGHT, INFINITE A or INFINITE B.
When ENTER is pressed the last selected is displayed as a graphic on the LCD and as text on the TERMINAL.
Rotate the ENTER knob to make the selection and then press the ENTER BUTTON to initiate the command.

e. **DVE Key**

The DVEKey menu item is a sub menu heading. To enter ChromaKey setup press the ENTER button. This in turn opens the ChromaKey submenu items.

1. DVEKey PosX
2. DVEKey PosY
3. DVEKey SizeX
4. DVEKey SizeY
5. DVEKey XY Lock ON/OFF
6. DVEKey Rotation
7. DVEKey Mask ON/OFF
8. DVEKey Mask TOP
9. DVEKey Mask RIGHT
10. DVEKey Mask BOTTOM
11. DVEKey Mask LEFT
12. DVEKey Light Angle
13. DVEKey Light Attitude
14. DVEKey Shadow ON/OFF
15. DVEKey Border ON/OFF
16. DVEKey Border HUE
17. DVEKey Border SAT
18. DVEKey Border LUM
19. DVEKey Bevel style
20. DVEKey Border OUT Width
21. DVEKey Border IN Width
22. DVEKey Border OUT Soft
23. DVEKey Border IN Soft
24. DVEKey Border Opacity
25. DVEKey Bevel Position
26. DVEKey Bevel Softness
27. DVEKey Rate
28. DVEKey Set A/B

29. DVEKey Run to

1. **DVEKey PosX**

   The current value of the DVEKey PosX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey PosX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY POSX and ROTATE the ENTER knob left to DECREASE the DVEKEY POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

2. **DVEKey PosY**

   The current value of the DVEKey PosY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey PosY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY POSY and ROTATE the ENTER knob left to DECREASE the DVEKEY POSY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

3. **DVEKey SizeX**

   The current value of the DVEKey SizeX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey SizeX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY SIZEX and ROTATE the ENTER knob left to DECREASE the DVEKEY SIZEX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

4. **DVEKey SizeY**

   The current value of the DVEKey SizeY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey SizeY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY SIZEY and ROTATE the ENTER knob left to DECREASE the DVEKEY SIZEY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

5. **DVEKey XY Lock ON/OFF** *(localised setting only)*

   The current value of the DVEKey XY LOCK is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey XY LOCK value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn ON the DVEKEY XY LOCK and ROTATE the ENTER knob left to turn OFF the DVEKEY XY LOCK. Press ENTER to accept the selection. When DVEKEY XY LOCK is on the adjustments to the DVEKEY SIZE X or Y will affect both. This is useful for maintaining the aspect ration even after the XY is out of balance.
   (*Please note this *lock* is not a global setting, that is, the lock on the software control panel or any other panel is only a local control. The ATEM does not include it in its protocol)

5. **DVEKey Rotation**

   The current value of the DVEKey Rotation is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Rotation value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE

the DVEKEY ROTATION and ROTATE the ENTER knob left to DECREASE the DVEKEY ROTATION. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

6. **DVEKey Mask ON/OFF**

The current status of the DVEKey Mask is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Mask status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn MASK ON and rotate ENTER knob left to turn MASK OFF. Press ENTER to accept the selection. If DVEKEY MASK is OFF the DVEKEY MASK TOP, RIGHT, BOTTOM and LEFT adjustments will be bypassed.

7. **DVEKey Mask TOP**

The DVEKey Mask TOP will only display if the DVEKEY MASK ON/OFF is in the ON MODE.
The DVEKey Mask TOP is indicated on the LCD as a graphic indicating a *mask at the top* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Mask TOP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the TOP MASK size and ROTATE the ENTER knob left to DECREASE the TOP MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

8. **DVEKey Mask RIGHT**

The DVEKey Mask RIGHT will only display if the DVEKEY MASK ON/OFF is in the ON MODE.
The DVEKey Mask RIGHT is indicated on the LCD as a graphic indicating a *mask at the right* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Mask RIGHT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the RIGHT MASK size and ROTATE the ENTER knob left to DECREASE the RIGHT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

9. **DVEKey Mask BOTTOM**

The DVEKey Mask BOTTOM will only display if the DVEKEY MASK ON/OFF is in the ON MODE.
The DVEKey Mask BOTTOM is indicated on the LCD as a graphic indicating a *mask at the bottom* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Mask BOTTOM value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the BOTTOM MASK size and ROTATE the ENTER knob left to DECREASE the BOTTOM MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

10. **DVEKey Mask LEFT**

The DVEKey Mask LEFT will only display if the DVEKEY MASK ON/OFF is in the ON MODE.
The DVEKey Mask LEFT is indicated on the LCD as a graphic indicating a *mask at the left* and is displayed as text on the TERMINAL. Its current value is also displayed on both the LCD and the TERMINAL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Mask LEFT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE

the LEFT MASK size and ROTATE the ENTER knob left to DECREASE the LEFT MASK size. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

11. **DVEKey Light Angle**

The current value of the DVEKey Light Angle is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Light Angle value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY LIGHT ANGLE and ROTATE the ENTER knob left to DECREASE the DVEKEY LIGHT ANGLE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

12. **DVEKey Light Attitude**

The current value of the DVEKey Light Attitude is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Light Attitude value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY LIGHT ATTITUDE and ROTATE the ENTER knob left to DECREASE the DVEKEY LIGHT ATTITUDE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

13. **DVEKey Shadow ON/OFF**

The current status of the DVEKey Shadow ON/OFF is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Shadow ON/OFF status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn DVEKEY SHADOW ON and rotate ENTER knob left to turn DVEKEY SHADOW OFF. Press ENTER to accept the selection.

14. **DVEKey Border ON/OFF**

The current status of the DVEKey Border ON/OFF is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border ON/OFF status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn DVEKEY BORDER ON and rotate ENTER knob left to turn DVEKEY BORDER OFF. Press ENTER to accept the selection.
If DVEKEY BORDER is OFF the DVEKEY BORDER HUE, DVEKEY BORDER SAT, DVEKEY BORDER LUM, DVEKEY BEVEL STYLE, DVEKEY BORDER OUT WIDTH, DVEKEY BORDER IN WIDTH, DVEKEY BORDER OUT SOFT, DVEKEY BORDER IN SOFT, DVEKEY BORDER OPACITY, DVEKEY BEVEL POSITION, DVEKEY BEVEL SOFTNESS, DVEKEY RATE, DVEKEY SET A/B and DVEKEY Run to adjustments will be bypassed.

15. **DVEKey Border HUE**

The DVEKey Border HUE will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border HUE is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border HUE value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER HUE and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER HUE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

16. **DVEKey Border SAT**

The DVEKey Border SAT will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border SAT is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border SAT value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER SAT and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER SAT. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

17. **DVEKey Border LUM**

The DVEKey Border LUM will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border LUM is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border LUM value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER LUM and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER LUM. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

18. **DVEKey Bevel style**

The DVEKey Bevel Style will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current DVEKey Bevel Style is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Bevel Style on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to step to the next DVEKEY Bevel Style and ROTATE the ENTER knob left to step back to the last DVEKEY Bevel Style. Press ENTER to accept the selection.

19. **DVEKey Border OUT Width**

The DVEKey Border OUT Width will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border OUT Width is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border OUT Width value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER OUT WIDTH and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER OUT WIDTH. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

20. **DVEKey Border IN Width**

The DVEKey Border IN Width will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border IN Width is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border IN Width value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER IN WIDTH and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER IN WIDTH. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

21. **DVEKey Border OUT Soft**

The DVEKey Border OUT Soft will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border OUT Soft is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border

OUT Soft value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER OUT SOFT and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER OUT SOFT. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

22. **DVEKey Border IN Soft**

The DVEKey Border IN Soft will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border IN Soft is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border IN Soft value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER IN SOFT and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER IN SOFT. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

23. **DVEKey Border Opacity**

The DVEKey Border Opacity will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Border Opacity is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Border Opacity value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BORDER OPACITY and ROTATE the ENTER knob left to DECREASE the DVEKEY BORDER OPACITY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

24. **DVEKey Bevel Position**

The DVEKey Bevel Position will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Bevel Position is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Bevel Position value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BEVEL POSITION and ROTATE the ENTER knob left to DECREASE the DVEKEY BEVEL POSITION. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

25. **DVEKey Bevel Softness**

The DVEKey Bevel Softness will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Bevel Softness is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Bevel Softness value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY BEVEL SOFTNESS and ROTATE the ENTER knob left to DECREASE the DVEKEY BEVEL SOFTNESS. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

26. **DVEKey Rate**

The DVEKey Rate will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.
The current value of the DVEKey Rate is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEKey Rate value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVEKEY RATE and ROTATE the ENTER knob left to DECREASE the DVEKEY RATE. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

27. DVEKey Set A/B

The DVEKey Set A/B will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.

The DVEKey Set A/B has no value. It is used to store the current DVE size and position parameters into registers **A** or **B** so that **DVEKey Run to** can use those as a preset *(keyframe)*. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and then displays **A** to indicate set to A. The TERMINAL will also display the same in RED. ROTATE the ENTER knob right to select **B** and ROTATE the ENTER knob left to select **A**. Press ENTER to accept the selection. The LCD and the TERMINAL will then display the keyframe that was just set.

28. DVEKey Run to

The DVEKey Run to will only display if the DVEKEY BORDER ON/OFF is in the ON MODE.

The DVEKey Run has no default value. It is used to select where you want the DVE to transition to. These can be A, B,FULL, TOP LEFT, TOP, TOP RIGHT, LEFT, RIGHT, BOTTOM LEFT, BOTTOM, BOTTOM RIGHT, INFINITE A or INFINITE B.

When ENTER is pressed the last selected is displayed as a graphic on the LCD and as text on the TERMINAL. Rotate the ENTER knob to make the selection and then press the ENTER BUTTON to initiate the command.

At any time during the UPSTREAM KEY ADJUSTMENTS press the MENU knob to step out of any sub menu and press again to leave the ATEM PALETTE ADJUSTMENTS MODE.

4. TRANSITIONS

The TRANSITIONS menu item allows you to scroll thru ALL TRANSITIONS of each ME using the ENTER KNOB. These items include –

   a. Mix
   b. Dip
   c. Wipe
   d. Sting
   e. DVE

The TERMINAL screen will also display the selection in YELLOW.

To select any item to adjust press the ENTER knob.

a. TRANSITIONS - Mix

When MIX is selected the LCD and the TERMINAL will display the current MIX RATE. This is the seconds and frames a MIX transition will take to complete a transition from the Program row to the Preview row. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the MIX RATE value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the MIX RATE and ROTATE the ENTER knob left to DECREASE the MIX RATE. ROTATE the MENU knob right to INCREASE the MIX RATE by 1 second and ROTATE the MENU knob left to DECREASE the MIX RATE by 1 second. Press ENTER to accept the selection.
Press the MENU knob to step out of the Mix sub menu and press again to leave the ATEM PALETTE ADJUSTMENTS MODE.

b. TRANSITIONS - Dip

The DIP transition allow a transition from Program to Preview via a third souce as selected by the DIP Source setting.
There are 2 menu items in Transitions DIP. ROTATE the ENTER Knob to select the Menu items.
   1. Transition DIP Rate
   2. Transition DIP Source

1. Transition DIP Rate

When DIP is selected the LCD and the TERMINAL will display the current TRANSITION DIP RATE. This is the seconds and frames a MIX transition will take to complete a transition from the Program row to the Preview row. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the TRANSITION DIP RATE value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the TRANSITION DIP RATE and ROTATE the ENTER knob left to DECREASE the TRANSITION DIP RATE. ROTATE the MENU knob right to INCREASE the MIX RATE by 1 second and ROTATE the MENU knob left to DECREASE the MIX RATE by 1 second. Press ENTER to accept the selection.
Press the MENU knob to step out of the Mix sub menu and press again to leave the ATEM PALETTE ADJUSTMENTS MODE.

2. Transition DIP Source

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the TRANSITION DIP SOURCE *short name* is displayed. The TRANSITION DIP SOURCE *long name* is displayed on the TERMINAL and displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER KNOB left will step the TRANSITION DIP SOURCE backwards and ROTATE the ENTER KNOB right will step the TRANSITION DIP SOURCE forwards. While rotating the ENTER knob the actual TRANSITION DIP SOURCE changes on the ATEM. Once the required TRANSITION DIP SOURCE is selected press ENTER and the ADJUST MODE is completed. Press the MENU knob to step out of the Mix sub menu and press again to leave the ATEM PALETTE ADJUSTMENTS MODE.

c. **TRANSITIONS - Wipe**

The Transitions WIPE has submenus as follows

1. Wipe Pattern
2. Wipe Rate
3. Wipe Symmetry
4. Wipe PosX
5. Wipe PosY
6. Wipe Direction
7. Wipe FlipFlop
8. Wipe Border Softness
9. Wipe Border Width
10. Wipe Border Source

1. **Wipe Pattern**

When Wipe Pattern is selected the LCD will display the currently selected Pattern as a graphic and the TERMINAL will display the Wipe Pattern name as text. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe Pattern name text on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to step forward to the next PATTERN and ROTATE the ENTER knob left to step backward to the previous PATTERN. Press ENTER to accept the selection. Please note that certain PATTERNS do not have WIPE SYMMETRY, WIPE POSX and WIPE POSY values associated with them.

2. **Wipe Rate**

When Wipe Rate is selected the LCD and the TERMINAL will display the current WIPE RATE. This is the seconds and frames a MIX transition will take to complete a transition from the Program row to the Preview row. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the WIPE RATE value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the WIPE RATE and ROTATE the ENTER knob left to DECREASE the WIPE RATE. ROTATE the MENU knob right to INCREASE the WIPE RATE by 1 second and ROTATE the MENU knob left to DECREASE the WIPE RATE by 1 second. Press ENTER to accept the selection.

3. **Wipe Symmetry** *(only available on certain patterns)*

The current value of the Wipe Symmetry is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe Symmetry value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the

WIPE SYMMETRY and ROTATE the ENTER knob left to DECREASE the WIPE SYMMETRY. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

4. **Wipe PosX** *(only available on certain patterns)*
The current value of the Wipe PosX is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe PosX value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the WIPE POSX and ROTATE the ENTER knob left to DECREASE the WIPE POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

5. **Wipe PosY** *(only available on certain patterns)*
The current value of the Wipe PosY is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe PosY value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the WIPE POSY and ROTATE the ENTER knob left to DECREASE the WIPE POSX. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

6. **Wipe Direction**
The current Wipe Direction is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe Direction on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to set the WIPE DIRECTION to REVERSE and ROTATE the ENTER knob left to set the WIPE DIRECTION to FORWARD. Press ENTER to accept the selection.

7. **Wipe FlipFlop**
The current Wipe FlipFlop ON/OFF Mode is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe FlipFlop ON/OFF Mode on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to set the WIPE FLIPFLOP to ON and ROTATE the ENTER knob left to set the WIPE FLIPFLOP to OFF. Press ENTER to accept the selection.

8. **Wipe Border Softness**
The current value of the Wipe Border Softness is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe Border Softness value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the WIPE BORDER SOFTNESS and ROTATE the ENTER knob left to DECREASE the WIPE BORDER SOFTNESS. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

9. **Wipe Border Width**
The current value of the Wipe Border Width is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Wipe Border Width value on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the WIPE BORDER WIDTH and ROTATE the ENTER knob left to DECREASE the WIPE BORDER

WIDTH. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection. Please note that with ZERO BORDER WIDTH the WIPE BORDER SOURCE will be disabled.

10. **Wipe Border Source** *(only available if there is border width)*

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the WIPE BORDER SOURCE *short name* is displayed. The WIPE BORDER SOURCE *long name* is displayed on the TERMINAL and displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER KNOB left will step the WIPE BORDER SOURCE backwards and ROTATE the ENTER KNOB right will step the WIPE BORDER SOURCE forwards. While rotating the ENTER knob the actual WIPE BORDER SOURCE changes on the ATEM. Once the required WIPE BORDER SOURCE is selected press ENTER and the ADJUST MODE is completed.

d. **TRANSITIONS - Sting**

The Transitions STING has submenus as follows

1. Stinger Source
2. Stinger Clip Duration
3. Stinger Trigger Point
4. Stinger Mix Rate
5. Stinger Pre Roll
6. Stinger PreMultiply
7. Stinger Clip
8. Stinger Gain
9. Stinger Invert

1. **Stinger Source**

Press ENTER to adjust the STINGER SOURCE. There are only 2 available sources; Media Player 1 and Media Player 2.

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the STINGER SOURCE *short name* is displayed. The STINGER SOURCE *long name* is displayed on the TERMINAL and displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER KNOB left will step the STINGER SOURCE backwards and ROTATE the ENTER KNOB right will step the STINGER SOURCE forwards. While rotating the ENTER knob the actual STINGER SOURCE changes on the ATEM. Once the required STINGER SOURCE is selected press ENTER and the ADJUST MODE is completed.

2. **Stinger Clip Duration**

When the STINGER CLIP DURATION is selected the LCD and the TERMINAL will display the current STINGER CLIP DURATION. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the STINGER CLIP DURATION on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the STINGER CLIP DURATION and ROTATE the ENTER knob left to DECREASE the STINGER CLIP DURATION. ROTATE the MENU knob right to INCREASE the STINGER CLIP DURATION by 10 frames and ROTATE the MENU knob left to DECREASE the STINGER CLIP DURATION by 10 frames. Press ENTER to accept the selection.

3. **Stinger Trigger Point**
    When the STINGER TRIGGER POINT is selected the LCD and the TERMINAL will display the current STINGER TRIGGER POINT. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the STINGER TRIGGER POINT on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the STINGER TRIGGER POINT and ROTATE the ENTER knob left to DECREASE the STINGER TRIGGER POINT. ROTATE the MENU knob right to INCREASE the STINGER TRIGGER POINT by 10 frames and ROTATE the MENU knob left to DECREASE the STINGER TRIGGER POINT by 10 frames. Press ENTER to accept the selection.

4. **Stinger Mix Rate**
    When the STINGER MIX RATE is selected the LCD and the TERMINAL will display the current STINGER MIX RATE. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the STINGER MIX RATE on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the STINGER MIX RATE and ROTATE the ENTER knob left to DECREASE the STINGER MIX RATE. ROTATE the MENU knob right to INCREASE the STINGER MIX RATE by 10 frames and ROTATE the MENU knob left to DECREASE the STINGER MIX RATE by 10 frames. Press ENTER to accept the selection.

5. **Stinger Pre Roll**
    When the STINGER PRE ROLL is selected the LCD and the TERMINAL will display the current STINGER PRE ROLL. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the STINGER PRE ROLL on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the STINGER PRE ROLL and ROTATE the ENTER knob left to DECREASE the STINGER PRE ROLL. ROTATE the MENU knob right to INCREASE the STINGER PRE ROLL by 10 frames and ROTATE the MENU knob left to DECREASE the STINGER PRE ROLL by 10 frames. Press ENTER to accept the selection.

6. **Stinger PreMultiply**
    The current status of the StingerPreMultiply is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the StingerPreMultiply status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn PREMULTIPLY ON and rotate ENTER knob left to turn PREMULTIPLY OFF. Press ENTER to accept the selection. If STINGER PREMULTIPLY is ON the STINGER CLIP, STINGER GAIN and STINGER INVERT adjustments will be bypassed.

7. **Stinger Clip**
    The Stinger Clip will only display if the STINGER PreMultiply ON/OFF is in the OFF MODE.
    When STINGER CLIP is selected the LCD and the TERMINAL will display the CLIP value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the CLIP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE.
    ROTATE the ENTER knob right to INCREASE the STINGER CLIP value and ROTATE the ENTER knob left to DECREASE the STINGER CLIP value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

8. **Stinger Gain**
    The Stinger Gain will only display if the STINGER PreMultiply ON/OFF is in the OFF MODE.

When STINGER GAIN is selected the LCD and the TERMINAL will display the GAIN value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the GAIN value on the TERMINAL displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER knob right to INCREASE the STINGER GAIN value and ROTATE the ENTER knob left to DECREASE the STINGER GAIN value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

9. **Stinger Invert**

The current status of the Stinger Invert is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the Stinger Invert status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn STINGER INVERT ON and rotate ENTER knob left to turn STINGER INVERT OFF. Press ENTER to accept the selection.

e. **TRANSITIONS - DVE**

The Transitions DVE has submenus as follows

1. DVE Effects
2. DVE Rate
3. DVE Direction
4. DVE FlipFlop
5. DVE FILL Source
6. DVE Enable Key
7. DVE KEY Source
8. DVE PreMultiply
9. DVE Clip
10. DVE Gain
11. DVE Invert

1. **DVE Effects**

The current DVE Effect is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE Effect name text on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to step forward to the next DVE Effect and ROTATE the ENTER knob left to step backward to the previous DVE Effect . Press ENTER to accept the selection.

Please note that certain DVE Effects do not have sources and adjustment values associated with them.

2. **DVE Rate**

When the DVE RATE is selected the LCD and the TERMINAL will display the current DVE RATE. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE RATE on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the DVE RATE and ROTATE the ENTER knob left to DECREASE the DVE RATE. ROTATE the MENU knob right to INCREASE the DVE RATE by 1 second and ROTATE the MENU knob left to DECREASE the DVE RATE by 1 second. Press ENTER to accept the selection.

3. **DVE Direction**

The current DVE Direction is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE Direction on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to set the DVE DIRECTION to REVERSE and ROTATE the ENTER knob left to set the DVE DIRECTION to FORWARD. Press ENTER to accept the selection.

4. **DVE FlipFlop**

The current DVE FlipFlop ON/OFF Mode is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE FlipFlop ON/OFF Mode on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to set the DVE FLIPFLOP to ON and ROTATE the ENTER knob left to set the DVE FLIPFLOP to OFF. Press ENTER to accept the selection.

5. **DVE FILL Source**

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE FILL SOURCE *short name* is displayed. The DVE FILL SOURCE *long name* is displayed on the TERMINAL and displays RED. This indicates it is in ADJUST MODE.
ROTATE the ENTER KNOB left will step the DVE FILL SOURCE backwards and ROTATE the ENTER KNOB right will step the DVE FILL SOURCE forwards. While rotating the ENTER knob the actual DVE FILL SOURCE changes on the ATEM. Once the required DVE FILL SOURCE is selected press ENTER and the ADJUST MODE is completed.

6. **DVE Enable Key**

The current status of the DVE Enable Key ON/OFF is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE Enable Key ON/OFF status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn DVE ENABLE KEY ON and rotate ENTER knob left to turn DVE ENABLE KEY OFF. Press ENTER to accept the selection.

7. **DVE KEY Source**

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE KEY SOURCE *short name* is displayed. The DVE KEY SOURCE *long name* is displayed on the TERMINAL and displays RED. This indicates it is in ADJUST MODE.
ROTATE the ENTER KNOB left will step the DVE KEY SOURCE backwards and ROTATE the ENTER KNOB right will step the DVE KEY SOURCE forwards. While rotating the ENTER knob the actual DVE KEY SOURCE changes on the ATEM. Once the required DVE KEY SOURCE is selected press ENTER and the ADJUST MODE is completed.

8. **DVE PreMultiply**

The current status of the DVEPreMultiply is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVEPreMultiply status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn PREMULTIPLY ON and rotate ENTER knob left to turn PREMULTIPLY OFF. Press ENTER to accept the selection. If DVE PREMULTIPLY is ON the DVE CLIP, DVE GAIN and DVE INVERT adjustments will be bypassed.

9. **DVE Clip**

The DVE Clip will only display if the DVE PreMultiply ON/OFF is in the OFF MODE.

When DVE CLIP is selected the LCD and the TERMINAL will display the CLIP value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the CLIP value on the TERMINAL displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER knob right to INCREASE the DVE CLIP value and ROTATE the ENTER knob left to DECREASE the DVE CLIP value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

10. **DVE Gain**

The DVE Gain will only display if the DVE PreMultiply ON/OFF is in the OFF MODE.

When DVE GAIN is selected the LCD and the TERMINAL will display the GAIN value. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the GAIN value on the TERMINAL displays RED. This indicates it is in ADJUST MODE.

ROTATE the ENTER knob right to INCREASE the DVE GAIN value and ROTATE the ENTER knob left to DECREASE the DVE GAIN value. Use the MENU KNOB to adjust with a coarser value. Press ENTER to accept the selection.

11. **DVE Invert**

The current status of the DVE Invert is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the DVE Invert status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn DVE INVERT ON and rotate ENTER knob left to turn DVE INVERT OFF. Press ENTER to accept the selection.

5. Downstream key
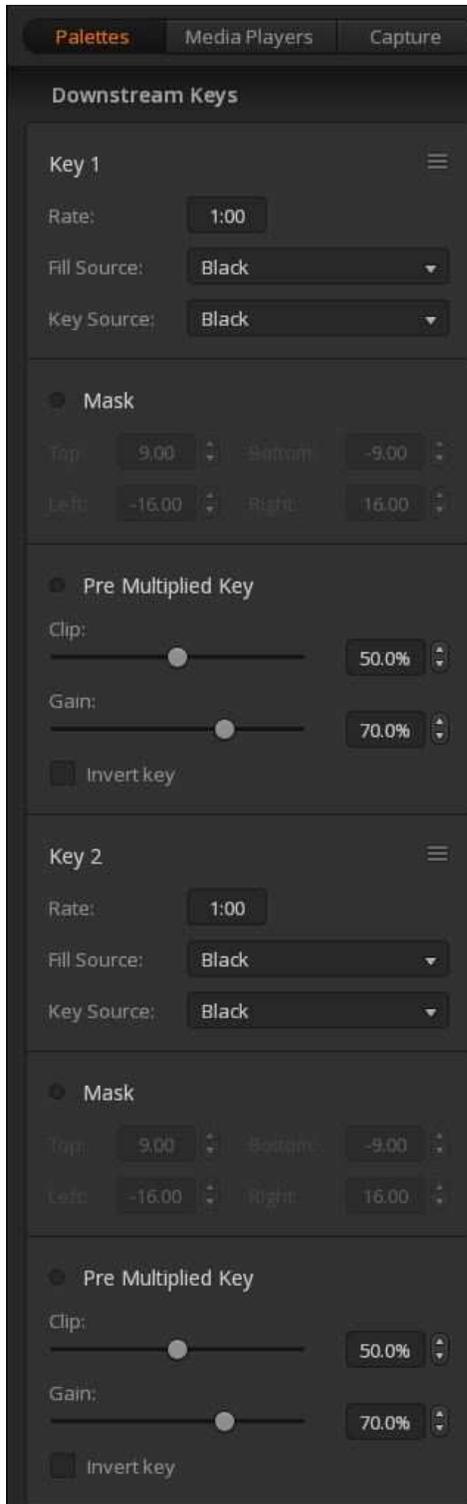
The Down Stream menu can control both available Down Stream Keyers on the ATEM. The **SUB MENU**'s are as follows –

1. Rate
2. Fill Source
3. Key Source
4. MASK On/Off
   4a. top
   4b. bottom
   4c. left
   4d. right
5. Pre Multiply
   5a. clip
   5b. gain
   Rc. invert

If the MASK or PRE MULT are OFF their associated sub menu items are not displayed.

If **PREVIEW MONITOR** is enabled in the **CONFIG MENU** the selected Down Stream Keyer is displayed on the preview monitor.

After scrolling past the first Down Stream submenus it will continue with the second Down Stream submenus.

6. **Fade to Black**

The fade to Black has 2 menu items.

1. Rate
2. AFV

1. **Rate**

When the FADE TO BLACK RATE is selected the LCD and the TERMINAL will display the current FADE TO BLACK RATE. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the FADE TO BLACK RATE on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to INCREASE the FADE TO BLACK RATE and ROTATE the ENTER knob left to DECREASE the FADE TO BLACK RATE. ROTATE the MENU knob right to INCREASE the FADE TO BLACK RATE by 1 second and ROTATE the MENU knob left to DECREASE the FADE TO BLACK RATE by 1 second. Press ENTER to accept the selection.

2. **AFV**

The current status of the FADE TO BLACK AFV is displayed on the LCD and the TERMINAL screens. When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the FADE TO BLACK AFV status on the TERMINAL displays RED. This indicates it is in ADJUST MODE. ROTATE the ENTER knob right to turn FADE TO BLACK AFV ON and rotate ENTER knob left to turn FADE TO BLACK AFV OFF. Press ENTER to accept the selection.

7. **Aux Buss**

When AUX BUSS is selected it shows the last selected AUX BUSS NUMBER and its current source selected on the LCD and the TERMINAL.

Rotate the ENTER Knob to select each AUX BUSS. To change a source on the selected AUX bus press ENTER.

When ENTER is pressed an asterisk (*) flashes in the top right corner of the LCD display and the AUX BUSS SOURCE name on the TERMINAL displays GREEN. This indicates it is in ADJUST MODE.

ROTATE the ENTER knob right to step forward to the next AUX BUSS SOURCE and ROTATE the ENTER knob left to step backward to the previous AUX BUSS SOURCE.

ROTATE the MENU knob right to step forward to the AUX BUSS SOURCE x5 and ROTATE the MENU knob left to step backward to the AUX BUSS SOURCE x5.

The SOURCE NAME will change accordingly but WILL NOT change the selected AUX BUSS until ENTER is pressed. This allows for clean AUX BUSS switching without the unwanted inputs inbetween what is required.

When ENTER is pressed to accept the selection the AUX BUSS SOURCE name on the TERMINAL displays RED momentarily and then exits the ADJUST MODE.

8. **Media Player (details to come)**

9. **Hyperdeck (details to come)**

10. CCU

The Camera Control Unit (CCU) on the RMC2ATEM allows for control of up to 20 camera's. All this is accomplished using just the MENU and ENTER knobs of the RMC-260 control panel using the Palette mode. The following are the functions controllable via the ATEM. *(Please note you will need a compatible camera connected to the ATEM return feed for these functions to have an effect.)*

1. Iris
2. Pedestal
3. Gain Switch
4. Shutter
5. Kelvin (Color Temperature)
6. White balance
    a. Red
    b. Green
    c. Blue
    d. Y (RGB combined)
7. Gamma balance
    a. Red
    b. Green
    c. Blue
    d. Y (RGB combined)
8. Gamma balance
    a. Red
    b. Green
    c. Blue
    d. Y (RGB combined)
9. Zoom
10. Focus
11. Contrast
12. Saturation
13. Hue
14. YRGB
15. Detail
16. ColorBars
17. Load (yet to be implemented)
18. Save (yet to be implemented)

To enter the CCU mode from the basic operation press the MENU button. This will enter the ATEM Palette mode as per normal. Use the MENU knob to scroll down to the CCU menu.

Use the ENTER knob to select the device you wish to control. As you scroll through the devices the Source on the selected AUX Buss will change accordingly. The AUX buss to use is set in the CONFIG MENU. If it is set to zero there will be no AUX buss interaction.

The *device selected* is displayed as the actual SOURCE NAME as entered on the ATEM. For example, if on a ATEM 2me 4K the 20 external sources are named Camera 1 to Camera 20, this exact name will be displayed on both the top row of the LCD Display and the TERMINAL display. Displayed next to this SOURCE NAME is the last CCU funtion adjusted.

Once the required *source* is selected press the ENTER button. The LCD will display a flashing '>' in the TOP RIGHT and the TERMINAL will display the last CCU funtion adjusted in BLUE. The current value/status of the function is also displayed.

If 'Whites', 'Gammas' or 'Blacks' are selected as the *function to adjust* the current value is displayed preceeded by a letter indicating the COLOR where 'R' = Red, 'G' = Green, 'B' = Blue and 'Y' = all RGB together. Use the MENU knob to select which particular color you want to adjust.

To adjust the selected function press the ENTER. The LCD will display a flashing '*' in the TOP RIGHT and the TERMINAL will display the CCU funtion in BLUE and the current value/status of the function in RED.

Use the ENTER knob to make fine adjustments and the MENU knob to make coarse adjustments. While in the adjust mode, to reset the value to default press the MENU button. Once the value is set to the desired value press the ENTER knob. The LCD will go back to displaying a flashing '>' in the TOP RIGHT and the TERMINAL display will stop displaying the value in red while the CCU function selected is still showing in BLUE.

You can then use the ENTER knob to select another function to adjust on the previously selected SOURCE.

If you need to change the SOURCE to adjust press the MENU button. The LCD will stop displaying a flashing '>' in the TOP RIGHT and the TERMINAL will stop displaying the CCU funtion in BLUE. You can then use the ENTER knob to select another SOURCE to adjust. To EXIT the CCU mode press the MENU button again.

In a later version to come of the RMC2ATEM firmware there will be the option to LOAD and SAVE individual camera setups.

11. Audio (details to come)

RMC2ATEM START UP *(RMC2ATEM Version 2)*

At any time during the initial boot up the **SCROLL BUTTON** can be pressed to enter the **CONFIG MODE**.

When power is first applied to the **RMC2ATEM** it enters the start up phase where it loads all the last known setups from non-volatile memory. The DISPLAY will first light up and then go blank while initialising. When connected to the USB as a serial port set at 9600 baud on your MAC or PC the screen will display the following while initialising -

```
Opening port
Port open
***Hyperthrottle Activated!***
Compiled on Dec 21 2016 at 14:25:55 with Visual Studio
RMC-260 to ATEM
© Baz Leffler 2017
version 1.1.1b
Serial Number 600003
local ip = 192.168.2.234
ATEM ip = 192.168.2.230
Mac Addr = 90:A2:DA:0:E8:B0
```

The compile date, version number, serial number, IP addresses and Mac address will vary from unit to unit. During this startup phase the **STATUS LED** will cycle between 7 various colours.

The LCD screen will display a product identification for about 3 seconds -

After the product identification is will display the status of the built in SD Card (used for storing various items such as ATEM input names, STILL names, USER configurations etc).

The RMC2ATEM then displays the stored IP address it will start searching for.
*(the IP address displayed here is an example only)*

If there is no ATEM connected the status is displayed and a progress bar of asterisks is displayed on the bottom row to indicate that it is still searching for the ATEM. The ATEM can be connected at any time and it will sense the connection.
The STATUS LED will display CYAN to indicate there is NO ATEM connected.

If there IS an ATEM connected the top line displays asterisks indicating the initial message blocks from the ATEM being received.
The STATUS LED will go blank to indicate the ATEM is connected and occasionally flashing BLUE to indicate ATEM data being received and RED to indicate ATEM data being sent.

After all the initial message blocks from the ATEM have been received the display momentarily show the connection status as SUCCESSFUL and starts normal operation.
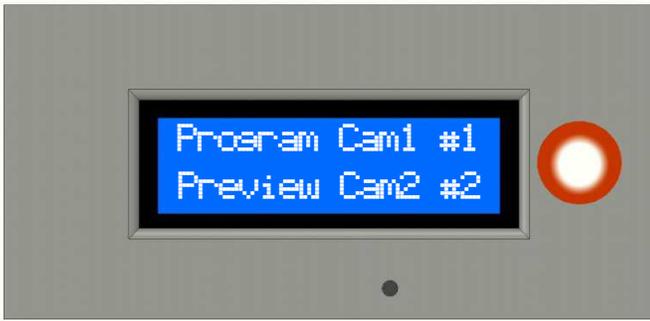
Normal operation shows the current PROGRAM source on the top row and the current PREVIEW source on the bottom row. After the *row title* it displays the **ATEM SHORT NAME** of the source as set in the ATEM's 'labels' tab. Following the SHORT NAME the actual **RMC-260** button number is displayed indicating what the ATEM source is that is allocated to which button.

The button numbering is as follows

#1.	**BLK**
#2.	**1**
#3	**2**
#4	**3**
#5	**4**
#6	**5**
#7	**6**
#8	**BKG**

CONFIGURATION SETUP *(RMC2ATEM Version 1 and Version 2)*

The configuration manager can be entered at any time via a serial USB connection and a terminal program such as PuTTy.

When first starting up the Terminal the RMC2ATEM resets and then displays the following on the terminal screen...

```
***Hyperthrottle Activated!***
Compiled on Jun 28 2017 at 14:53:29 with Visual Studio
RMC-260 to ATEM
© Baz Leffler 2017
version 1.3.1a
Serial Number 600003
local ip = 192.168.2.233
ATEM ip = 192.168.2.238
Mac Addr = 90:A2:DA:0:E8:B3

SDcard OK
  - trying ATEM IP 192.168.2.238.
Connecting to ATEM
```

Values will display according to the current RMC2ATEM's status.

Press '?' to display menu items.

```
D = DISPLAY SD card directory
C = ENTER CONFIGURATION MANAGER
m = DISPLAY Media STILLS allocations
n = DISPLAY ATEM NAMES
p = DISPLAY program buss NAMES
r = reboot
s = DISPLAY stills names
U = Upload files eg. U GPI
T = run tally test routine
```

Press 'C' to enter the CONFIGURATION MENU

The CONFIGURATION MANAGER allows you to scroll through the various settings of the RMC2ATEM including the following...

1. ATEM location IP
2. LOCAL IP
3. PROG/PREV Xpts
4. STILL Xpts
5. KEY BUSS Xpts
6. AUX BUSS Xpts
7. WIPE PATTERNS
8. ACTIVE DSK
9. ACTIVE ME
10. PROGRAMMABLE GPI's
11. CCU AUS BUSS select
12. CONFIG TIMEOUT
13. PREVIEW MONITOR
14. SET I/O PINS
15. VERSION/SERIAL

1. ATEM location IP

```
CONFIGURATION MANAGER
ATEM location IP
```

To view or change the ATEM location IP address press the → key or the ← key or press ENTER.

```
CONFIGURATION MANAGER
SET ATEM location IP
192.168.002.238
```

The current ATEM location IP is shown. Use the → key to step to the next digit and the ← key to step to the previous digit. Use the ↑ key to INCREASE the digits value and the↓ to DECREASE the digits value.

Press ENTER to permanently SAVE the new value.

```
CONFIGURATION MANAGER
SET ATEM location IP
192.168.002.238   SAVE
```

When the save is complete the RMC2ATEM will reboot to allow the new changes to take effect and to allow a fresh download of the ATEM data.

```
CONFIGURATION MANAGER
ENDING CONFIGURATION MODE
IP changed so rebooting
```

If at any time during the CONFIGUATION MANAGER press the ESCAPE to abort any changes.

2. LOCAL IP

```
CONFIGURATION MANAGER
LOCAL IP
```

To view or change the LOCAL IP address press the → key or the ← key or press ENTER.

```
CONFIGURATION MANAGER
SET LOCAL IP
192.168.002.233
```

The current LOCAL IP is shown. Use the → key to step to the next digit and the ← key to step to the previous digit. Use the ↑ key to INCREASE the digits value and the↓ to DECREASE the digits value.

Press ENTER to permanently SAVE the new value.

```
CONFIGURATION MANAGER
SET LOCAL IP
192.168.002.233   SAVE
```

When the save is complete the RMC2ATEM will reboot to allow the new changes to take effect and to allow a fresh download of the ATEM data.

```
CONFIGURATION MANAGER
ENDING CONFIGURATION MODE
IP changed so rebooting
```

If at any time during the CONFIGUATION MANAGER press the ESCAPE to abort any changes.

(the following are yet to be entered into this USER guide)

3. **PROG/PREV Xpts**
4. **STILL Xpts**
5. **KEY BUSS Xpts**
6. **AUX BUSS Xpts**
7. **WIPE PATTERNS**
8. **ACTIVE DSK**
9. **ACTIVE ME**
10. **PROGRAMMABLE GPI's**
11. **PREVIEW MONITOR**
12. **SET I/O PINS**
13. **VERSION/SERIAL**

The configuration manager can be entered at any time by pressing the **SCROLL KNOB**.
When pressed the display shows -

To return to normal operation just press the scroll knob again.

If **Config Manager** is entered and nothing is selected for adjustment in 60 seconds the **RMC2ATEM** automatically returns to normal operation *(exits the Config Manager).*

CONFIGURATION SETUP *(RMC2ATEM Version 2)*

Once in the **Config Manager** rotating the scroll knob clockwise will step up through the Config options and rotating the scroll knob anti-clockwise will step down through the Config options. While in the **Config Manager** normal operation of the **RMC-260** is possible. When in any menu item, pressing and holding the scroll knob for a second will abort the current mode.

The scroll knob has 2 sections. The lower part has a greater diameter allowing for finer adjustments and the upper part has a smaller diameter allowing for coarser adjustments.

 A flashing **>** in the top right of the LCD display is used in all config modes to indicate the **RMC2ATEM** is in *adjust mode*, otherwise it is in *select mode*.

Some menu items will not appear if there is no ATEM connected as they require information from the ATEM to configure. Items marked with a * below indicate specific ATEM requirements.

CONFIGURATION MODES
1. ATEM IP location
2. Local IP address
3. Set PGM/PVW xpts *
4. Set STILL xpts *
5. Set KEYBUSS xpts *
6. Set AUXBUSS xpts *
7. Set WIPE PATTERN *
8. Set ACTIVE DSK
9. Set ACTIVE ME
10. TBA
11. TBA
12. TBA
13. TBA
14. CCU AUX BUSS
15. Config Timeout
16. Preview Monitor
17. Set I/O pins
18. Version/Serial #

Press the scroll button to enter the location of the ATEM on the network. This is the ATEM IP set on the ATEM setup app on your computer or on the ATEM software control panel by selecting 'file>preferences>general'. This is like a telephone number. The RMC2ATEM needs to *'call'* the ATEM every time it needs to send a command.

When the **ATEM IP location** is selected it immediately displays the current value of where it will search for the ATEM *(indicated by the 2nd line starting with an 'a').* This is useful for quickly checking the value. To exit without changing the value, LONG press the scroll knob, or to change the value, SHORT press the scroll knob.

After doing a SHORT press the **ATEM IP location** values are awaiting adjustment. This is indicated by a **>** at the beginning of the IP address. The 1st of 4 digits start flashing, and rotating the scroll knob will increment or decrement the value. Once set, SHORT press the scroll knob and it will save the value and step to the next. Once all 4 values have been set it will automatically exit the **ATEM IP location** *adjust mode*.

At any time during the adjust mode, doing a LONG press of the scroll wheel will abort the *adjust mode* without making any changes. All changes made are stored in non-volatile memory to allow values to be retained during power cycles.

Exiting the Config Manager after changing the **ATEM IP location** will cause the **RMC2ATEM** to reconnect to the ATEM that has been selected.

Press the scroll button to enter where the **RMC2ATEM** can be found on the network. This tells the ATEM where to reply to commands sent including any other status the **RMC2ATEM** needs to know. This IP address has to be unique on the network and any conflict will cause the **RMC2ATEM** to continually lose connection. This IP address is also used to communicate directly with the **RMC2ATEM** eg browser control, TELNET etc.

When the **local IP address** is selected it immediately displays the current value of the local IP *(indicated by the 2nd line starting with a 'p' for 'panel')*.
This is useful for quickly checking the value. To exit without changing the value, LONG press the scroll knob, or to change the value, SHORT press the scroll knob.


After doing a SHORT press the **local IP address** values are awaiting adjustment. This is indicated by a **>** at the beginning of the IP address. The 1st of 4 digits start flashing, and rotating the scroll knob will increment or decrement the value. Once set, SHORT press the scroll knob and it will save the value and step to the next. Once all 4 values have been set it will automatically exit the **local IP address** *adjust mode*.

At any time during the adjust mode, doing a LONG press of the scroll wheel will abort the *adjust mode* without making any changes. All changes made are stored in non-volatile memory to allow values to be retained during power cycles.

Exiting the Config Manager after changing the **local IP address** will not cause the **RMC2ATEM** to reconnect to the ATEM that has been selected.
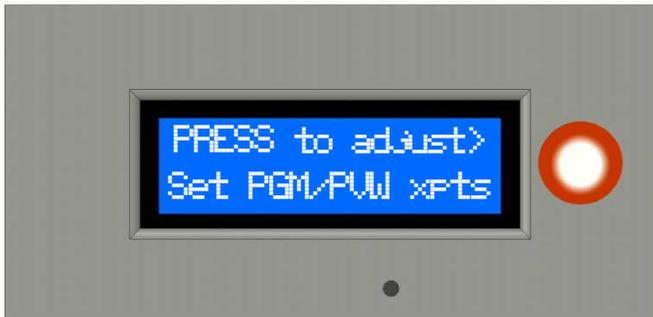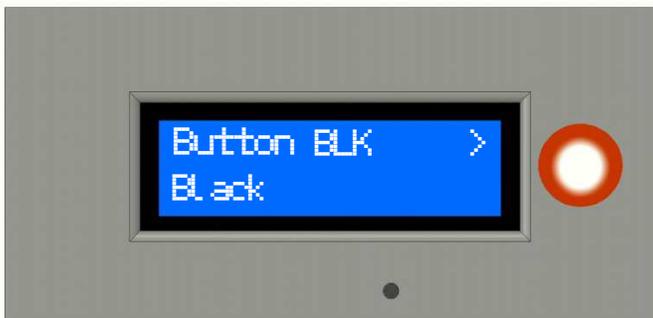
Press the scroll button to allocate the 8 RMC-260 input buttons to which ATEM inputs are required.
The **RMC-260** input buttons are BLK, 1, 2, 3, 4, 5, 6, BKG. Each of these buttons can have any of the available sources on the connected ATEM including inputs, media players, color backgrounds, black, colorbars etc. These available inputs vary depending on which ATEM you have connected.

When **Set PGM/PVW xpts** is first selected it displays the button NAME as used by the **RMC-260** on the top row and the current ALEM allocation on the bottom row using the actual ATEM source LONG names. Rotating the scroll wheel clockwise will step up each of the button allocations and rotating the scroll wheel anti-clockwise will step down each of the button allocations.
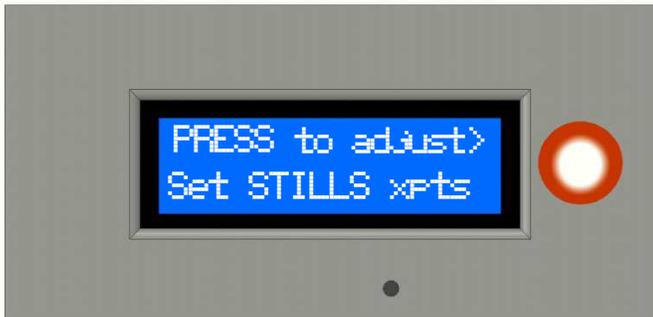
Press the scroll button to change the currently selected **RMC-260** button allocation. The top right of the display will flash a **>** indicating adjust mode. Rotate the scroll knob to select the desired ATEM source. If the menu item **PREVIEW MONITOR** is set to *'show sources'* the ATEM source being selected will also appear on the **ATEM PREVIEW MONITOR**.

Once set, SHORT press the scroll knob and it will save the value.

At any time during the adjust mode, doing a LONG press of the scroll wheel will abort the *adjust mode* without making any changes. All changes made are stored in non-volatile memory to allow values to be retained during power cycles.

CONFIG MODE 4 *(only available with an ATEM connected)*
Set STILLS xpts

Press the scroll button to allocate the 8 RMC-260 input buttons to any ATEM STILLS required.

The STILL button on the **RMC-260** changes all the input buttons to directly select an ATEM STILL accessed via the ATEM Media Players. The RMC2ATEM will automatically allocate an available Media Player when selected.

When **Set STILLS xpts** is first selected it displays the button NAME as used by the **RMC-260** on the top row and the current ALEM STILL allocation on the bottom row using the actual ATEM STILL file names. If a STILL location allocated to an input does not have a STILL loaded it will display "No still loaded!". Rotating the scroll knob will select each of the RMC-260 input buttons STILL selection showing the actual file name on the bottom row. If the menu item **PREVIEW MONITOR** is set to '*show sources*' the ATEM STILL source being selected will also appear on the **ATEM PREVIEW MONITOR**.

Press the scroll button to change the currently selected **RMC-260** button allocation. The top right of the display will show the currently allocated STILLSTORE position and flashing **>** indicating adjust mode. Rotate the scroll knob to select the desired ATEM STILL. If the menu item **PREVIEW MONITOR** is set to 'show sources' the ATEM STILL being selected will also appear on the **ATEM PREVIEW MONITOR**.

Once set, SHORT press the scroll knob and it will save the value.

At any time during the adjust mode, doing a LONG press of the scroll wheel will abort the *adjust mode* without making any changes. All changes made are stored in non-volatile memory to allow values to be retained during power cycles.

CONFIG MODE 5 *(only available with an ATEM connected)*
Set KEYBUSS xpts

To be added

To be added

Press the scroll button to allocate the 6 RMC-260 USER buttons to any of the ATEM 16 wipe patterns. The **USER WIPE** button on the **RMC-260** changes all the USER buttons to directly select the ATEM TRANSITIONS.

USER 1 to USER 6 can each have a separate WIPE PATTERN allocated to it.

Press the scroll button to allocate the 6 RMC-260 USER buttons to any of the ATEM 16 wipe patterns. USER 1 to USER 6 can each have a separate WIPE PATTERN allocated to it. The 2nd line of the display shows the USER button number and the ATEM wipe pattern number (1 – 18) allocated to it along with a visual representation of the pattern shape.

Rotate the scroll button to view the 6 RMC-260 USER buttons current ATEM wipe pattern. If the menu item **PREVIEW MONITOR** is set to 'show sources' the ATEM WIPE PATTERN being selected will appear on the **ATEM PREVIEW MONITOR** using the PREV TRANS and T-Bar set at mid way with Color 2 on the PREVIEW BUSS alongside the current PROGRAM source. The current ATEM WIPE PATTERN will change accordingly.

Press the scroll button to change the currently selected WIPE PATTERN. The top right of the display will show a flashing > indicating adjust mode. Rotate the scroll knob to select the desired ATEM WIPE PATTERN. If the menu item PREVIEW MONITOR is set to 'show sources' the ATEM STILL being selected will also appear on the ATEM PREVIEW MONITOR.

As each WIPE PATTERN is selected the position of the T-Bar is re-adjusted to allow the best view of the wipe shape. While selecting the WIPE PATTERNS the RMC-260 can still be used for on air functions but obviously all transitions will not function as the PREV TRANS is enabled.

Once the WIPE PATTERNS are set, SHORT press the scroll knob and it will save the value.

At the completion of the **SET WIPE PATTERN**, if the menu item PREVIEW MONITOR was set to 'show sources', the T-Bar, PREVIEW BUSS and PREV TRANS are restored to the state they were in prior to adjustment.

At any time during the adjust mode, doing a LONG press of the scroll wheel will abort the *adjust mode* without making any changes. All changes made are stored in non-volatile memory to allow values to be retained during power cycles.

Set ACTIVE DSK

Press the **KNOB BUTTON** to change the currently selected ATEM Down Stream Keyer (DSK) that the RMC-260 panel's DSK button will control.

The display will show the currently selected ATEM DSK. Rotate the knob to change the selection between DSK 1 and DSK 2.

To enter the required selection, short press the knob button.

To abort without making any changes long press the knob button.

CONFIG MODE 9

Set ACTIVE ME

To be added

CONFIG MODE 13

CCU AUX BUSS

This sets the AUX BUSS to use when making CCU adjustments in the Palette Menu. As each SOURCE is selected in the CCU control it will use the selected AUX BUSS to display. If set to ZERO then NO Aux Buss will be used.

Press the knob to select the required AUX BUSS. The adjust indicator '>' will flash. Rotate the knob to select and available AUX BUSS. If the connected ATEM has no AUX busses the value will remain at ZERO.

CONFIG MODE 14

Config Timeout

CONFIG MODE 16

Preview Monitor

The ATEM PREVIEW MONITOR can be used to preview certain configurations to enable setting up parameters by eyeballing the end result. The **PREVIEW MONITOR** configuration setting allows you to turn on and off this function due to the fact that sometimes it would be inconvenient to lose the PREVIEW functionality during normal operation.

Press the scroll button to set the **PREVIEW MONITOR MODE**. Rotate the scroll knob to the right to turn the **PREVIEW MONITOR MODE** on and rotate the scroll knob to the left to turn the **PREVIEW MONITOR MODE** off.

Once the **PREVIEW MONITOR MODE** is set, SHORT press the scroll knob and the setting will be saved.

CONFIG MODE 17

Set I/O pins

Set I/O pins sets 23 available control wires from the RMC2ATEM controller to either send commands out or receive commands in. Commands OUT can be to turn on Tally relays to using XY matrix for extended commands later in the development. Commands IN are generally used for triggering events for the RMC2ATEM controller to act on.

The 23 available pins are factory set to the following –

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	PGM Tally 1	9	PREV Tally 1	17	GPI 1	24	+ 9 volt
2	PGM Tally 2	10	PREV Tally 2	18	GPI 2	25	Ground
3	PGM Tally 3	11	PREV Tally 3	19	GPI 3		
4	PGM Tally 4	12	PREV Tally 4	20	GPI 4		
5	PGM Tally 5	13	PREV Tally 5	21	GPI 5		
6	PGM Tally 6	14	PREV Tally 6	22	GPI 6		
7	PGM Tally 7	15	PREV Tally 7	23	GPI 7		
8	PGM Tally 8	16	PREV Tally 8				

As can be seen above Pins 24 and 25 are used to supply power to control external devices.
These are used in the RMC2ATEM optional Tally/GPI unit but you can easily build your own.