

GVG110 *TO* ATEM

QUICK USER GUIDE v 1.24

WARNING:

There is a rouge operator out there that is selling the GVG2ATEM software ILLEGALLY.

His name is EdwardFilm and is selling modified GVG panels on Ebay. **DO NOT BUY** his product as it will fail and I **WILL NOT** support it. If you think you may have illegal software please email me.

(the GVG to ATEM software is still under development so the following information will change from time to time. This includes some major operational aspects. Hopefully the changes will be reflected here.)

This document is designed to be a quick way to get started using the GVG110 control panel with an ATEM Production Switcher.

Overview

The original use of the GVG110 control panel was to interface with the GVG110 switcher electronics to control program and preset inputs, key bus, an upstream keyer and downstream keyer, transition effects etc. The concept was to have a button to control a single function and a knob to adjust a single control.

When using the GVG110 to control an ATEM all this had to be thrown away, as the ATEM had many more features than the GVG110 switcher and far more control of those features.

Subsequently, all the controls of the GVG110 panel are now *dynamic*; that is, almost every key and knob can adjust a variety of commands, depending on what mode the unit is in.

What this means to the user is that a single knob is never *set* to a value, it is used to *adjust* an existing value; and each button can control totally different things.

Where the GVG110 had just one Down Stream Keyer, the ATEM has two, and where the GVG110 had just one Up Stream Keyer, the ATEM can have up to four. By using button combinations all the ATEM keyers are accessible. This is made possible by re-defining the following keys and knobs.

GVG110 KNOB re-allocations								
ATEM KEYER √ (was)	HUE/SIZE (CK HUE)	Y SUPP/ROT (USK GAIN)	LIFT/OPAC (USK CLIP)	HUE (MATTE HUE)	SAT (MATTE CHR)	LUM (MATTE LUM)	GAIN/L-DIR (DSK GAIN)	CLIP L-ATT (DSK CLIP)
LUMA	-	-	-	-	-	-	KEY GAIN	KEY CLIP
CHROMA	HUE	Y SUPPRESS	LIFT	-	-	-	KEY GAIN	-
PATT	SIZE	-	-	-	-	-	-	-
DVE	SIZE	ROTATION	BRDR OPAC	BORDER HUE	BORDER SAT	BORDER LUM	LIGHT DIR	LIGHT ATT
DSK	-	-	-	-	-	-	KEY GAIN	KEY CLIP

GVG110 KNOB re-allocations (continued)							
ATEM KEYER √ (was)	BEVL (MASK PST SIZE)	SYMM (ASPECT)	SOFT (PATT SOFT)	BORDER (PATT BORDER)	JOYSTICK (JOYSTICK)	JOYSTICK + SHIFT (JOYSTICK)	alternate (JOYSTICK)
LUMA					MASK TL	MASK BR	-
CHROMA					MASK TL	MASK BR	-
PATT		SYMMETRY	SOFTNESS		MASK TL	MASK BR	X/Y POSN (shft+patt)
DVE	BEVEL POSITION		BRDRSOFT	BRDR IN OUT WIDTH	MASK TL	MASK BR	X/Y POSN IN/OUT SOFT
DSK					MASK TL	MASK BR	

GVG110 BUTTON re-allocations							
ATEM KEY √ (was)	USK 1/USK 2 (MATT FILL)	LUMA (PST PTN)	CHROMA (KEYBUS)	PATT (EXT EFF)	DVE (CHROMAK)	NARR/DROP (KEY MASK)	BRDR (KEY INV)
LUMA	USK 1/2	USK LUMA	USK CHRMA	USK PTN/WIP	USK DVE/FLY	-	-
CHROMA	USK 1/2	USK LUMA	USK CHRMA	USK PTN/WIP	USK DVE/FLY	NARR CHROMA	-
PATT	USK 1/2	USK LUMA	USK CHRMA	USK PTN/WIP	USK DVE/FLY	-	-
DVE	USK 1/2	USK LUMA	USK CHRMA	USK PTN/WIP	USK DVE	DROP SHAD	BORDER
DSK	USK 1/2	-	-	-	-	-	-

GVG110 BUTTON re-allocations (continued)							
ATEM KEY √ (was)	KEY BUS (EXT VID)	PST 1 (DSK MATTE)	PST 2 (BRDRLINE)	PRE MULT (DRP SHAD)	DSK 1/DSK 2 (OUTLINE)	KEY BUS (DSK EXT)	PST 1 (KEYBUS)
LUMA	FILL KEY BUSS	FILL PST 1	FILL PST 2	PRE MULTI	DSK 1/2	SRCE KEY BUSS	SRCE PST 1
CHROMA	FILL KEY BUSS	FILL PST 1	FILL PST 2	PRE MULTI	DSK 1/2	SRCE KEY BUSS	SRCE PST 1
PATT	FILL KEY BUSS	FILL PST 1	FILL PST 2	PRE MULTI	DSK 1/2	SRCE KEY BUSS	SRCE PST 1
DVE	FILL KEY BUSS	FILL PST 1	FILL PST 2	PRE MULTI	DSK 1/2	SRCE KEY BUSS	SRCE PST 1
DSK	FILL KEY BUSS	FILL PST 1	FILL PST 2	PRE MULTI	DSK 1/2	SRCE KEY BUSS	SRCE PST 1

GVG110 BUTTON re-allocations (continued)			
ATEM KEY √ (was)	PREV TRAN (DSK PVW)	MASK (KEY MASK)	INV/STYLE (KEY INV)
LUMA	PREV TRANS	KEY MASK	KEY INVERT
CHROMA	PREV TRANS	KEY MASK	-
PATT	PREV TRANS	KEY MASK	INVERT PATT
DVE	PREV TRANS	KEY MASK	BRDR STYLE
DSK	PREV TRANS	KEY MASK	KEY INVERT

We will go into more detail later regarding each feature.

So this will require relabeling of the GVG110 panel. See the separate panel layout diagram but it reflects the tables above. www.lefflerpost.com.au/gvg2atem/GVG110_new.pdf

The most important buttons are described below –

Old name	New name	Function
EDITOR ENABLE	SHIFT/editor enable	- Allows alternate key/knob selections - Enables RS422 ext. control
MATTE/BKGD SELECT	MATTE/BKGD SELECT/enter	- Selects upstream controls between 'Transition', 'keyer' and 'background' - Used as an ENTER key on some functions - Selects Deck Control - Select Stills from the Media Pool - disables knob readings (while down)
MATTE FILL	USK 1/USK 2	- Selects upstream keyer 1 or 2
OUTLINE	DSK 1/DSK 2	- Selects downstream keyer 1 or 2

The **USK 1/USK 2** and **DSK 1/DSK 2** keys will turn off their counterparts when selected allowing only one keyer active for adjustment (mutually exclusive).

In the following function descriptions, the **USK 1/USK 2** are used to set all the keyer/transition control buttons and knobs between **UPSTREAM KEYER 1** and **UPSTREAM KEYER 2**. When the **USK 1/USK 2** is **NOT FLASHING** it indicates all the keyer/transition control buttons and knobs are selected to **UPSTREAM KEYER 1**. When the **USK 1/USK 2** IS FLASHING it indicates all the keyer/transition control buttons and knobs are selected to **UPSTREAM KEYER 2**.

The **DSK 1/DSK 2** are used to set all the keyer control buttons and knobs between **DOWNSTREAM KEYER 1** and **DOWNSTREAM KEYER 2**. When the **DSK 1/DSK 2** is **NOT FLASHING** it indicates all the keyer control buttons and knobs are selected to **DOWNSTREAM KEYER 1**. When the **DSK 1/DSK 2** IS FLASHING it indicates all the keyer control buttons and knobs are selected to **DOWNSTREAM KEYER 2**.

Indicators

Most buttons have associated indicators but there are four that are not associated with any button but display ATEM status –

KEY ON – flashes when the currently selected upstream keyer is **ON AIR**

FADER ARROWS – indicates current status of the **MAIN FADER**

DSK ON – flashes when the currently selected downstream keyer is **ON AIR**

Buttons –

Program Buss (when used WITHOUT the **ENTER** key)

PROGRAM INPUTS 1 TO 10 – Selects allocated source for inputs 1 - 10

PROGRAM INPUTS 11 TO 20 + SHIFT - Selects allocated source for inputs 11 - 20

Preset Buss (when used WITHOUT the **ENTER** key)

PRESET INPUTS 1 TO 10 - Selects allocated source for inputs 1 – 10

PRESET INPUTS 11 TO 20 + SHIFT - Selects allocated source for inputs 11 - 20

Program Buss (when used WITH the **ENTER** key)

PROGRAM INPUTS 1 TO 10 – Selects STILLS 1 – 10 on Media Player 1 and sets it as input

PROGRAM INPUTS 11 TO 20 + SHIFT - Selects STILLS 11 – 20 on Media Player 1 and sets it as input

Preset Buss (when used WITH the **ENTER** key)

PRESET INPUTS 1 TO 10 - Selects STILLS 1 – 10 on Media Player 2 and sets it as input

PRESET INPUTS 11 TO 20 + SHIFT - Selects STILLS 11 – 20 on Media Player 2 and sets it as input

Main transition controls

CUT - Press the **CUT** button with no other button

PREV TRANS - Press the **PREV TRANS** button with no other button

Transition types –

MIX - Selects the **MIX** transition

MIX + SHIFT - Selects the **DIP** transition

WIPE - Selects the **WIPE** transition

WIPE + SHIFT - Selects the **DVE** transition

AUTO TRANS – Selects an **AUTO TRANS**

AUTO TRANS + SHIFT - Selects the **STINGER** transition
(some functions are not available on all ATEM models)

BKGD - toggles the **BKGD** on next transition

KEY 1 + USK 1/USK 2 not flashing - toggles the **KEY 1** on next transition

KEY 1 + SHIFT + USK 1/USK 2 not flashing - toggles **ON AIR 1** on next transition

KEY 2 + USK 1/USK 2 flashing - toggles the **KEY 2** on next transition

KEY 2 + SHIFT + USK 1/USK 2 flashing - toggles **ON AIR 2** on next transition

Keyers (upstream and downstream)

Fill Selection –

There are three buttons allocated to **FILL SOURCE**

KEY BUSS - (flashes when active) Uses the **KEY BUS INPUTS** to select the fill source

PST 1 - Uses whatever was programmed for the **PST 1 FILL SELECTOR**

PST 1 + SHIFT – programs the default key input to the **PST 1** fill source

PST 2 - Uses whatever was programmed for the **PST 2 FILL SELECTOR**

PST 2 + SHIFT – programs the default key input to the **PST 2** fill source

There are two buttons allocated to **KEY SOURCE**

KEY BUSS - (flashes when active) uses the **KEY BUS INPUTS** to select the key source

PST 1 - Uses whatever was programmed for the **PST 1 KEY SELECTOR**

PST 1 + SHIFT – programs the default key input to the **PST 1** key source

Other Key buttons -

DSK 1/DSK 2 – turns OFF **USK 1/USK 2** and toggles between **DSK 1 AND DSK 2**

PRE MULT - toggles **PRE MULT** on currently selected keyer

MASK - toggles **MASK** on currently selected keyer

INV/STYLE - toggles **INVERT** on currently selected keyer or **DVE KEY BORDER STYLE**

USK 1/USK 2 – turns OFF **DSK 1/DSK 2** and toggles between **USK 1 AND USK 2**

LUMA – selects **LUMA** as currently selected upstream keyer **KEY TYPE**

CHROMA – selects **CHROMA** as currently selected upstream keyer **KEY TYPE**

PATT – selects **PATT** as currently selected upstream keyer **KEY TYPE**

PATT + SHIFT – (flashes) selects **PATT** to adjust **X- Y POSITION**

DVE – selects **DVE** as currently selected upstream keyer **KEY TYPE**

DVE + SHIFT – toggles **FLY** on the other three keyer key types

NARR/DROP - in **KEY TYPE – CHROMA** toggles **NARROW CK** on currently selected keyer

NARR/DROP - in **KEY TYPE – DVE** toggles **DROP SHADOW** on currently selected keyer

BRDR - in **KEY TYPE – DVE** toggles **BORDER** on currently selected keyer

Knobs

– (indicates **MATTE/BKGD SELECTOR** - [T] = transition [K] = Keyer [B] = background)

(on GVG100 panels there is NO GAIN knob so the CLIP knob is used in conjunction with the SHIFT button)

CLIP/L-ATT [K] – Adjusts the currently selected keyers **CLIP/L-ATT** value. Usage -

UPSTREAM KEYER LUMA – KEY CLIP

UPSTREAM KEYER DVE - LIGHT ATTITUDE

DOWNSTREAM KEYER – KEY CLIP

CLIP/L-ATT + SELECT [K] - disables the **CLIP/L-ATT** knob to regain range

CLIP/L-ATT + SHIFT [K] – Adjusts the currently selected keyers **GAIN/L-ATT** value. Usage -

UPSTREAM KEYER LUMA – KEY GAIN

UPSTREAM KEYER CHROMA – KEY GAIN

UPSTREAM KEYER DVE - LIGHT DIRECTION

DOWNSTREAM KEYER – KEY GAIN

CLIP/L-ATT + SHIFT + SELECT [K] - disables the **GAIN/L- DIR** knob to regain range.

GAIN/L-DIR [K] – Adjusts the currently selected keyers **GAIN/L- DIR** value. Usage -

UPSTREAM KEYER LUMA – KEY GAIN

UPSTREAM KEYER CHROMA – KEY GAIN

UPSTREAM KEYER DVE - LIGHT DIRECTION

DOWNSTREAM KEYER – KEY GAIN

GAIN/L- DIR + SELECT [K] - disables the **GAIN/L- DIR** knob to regain range

HUE/SIZE [K] – Adjusts the currently selected keyers **HUE/SIZE** value. Usage -

UPSTREAM KEYER CHROMA – CHROMAKEY HUE

UPSTREAM KEYER PATT - PATTERN SIZE

UPSTREAM KEYER DVE – DVE SIZE

Y SUPP/ROT [K] – Adjusts the currently selected keyers **Y SUPP/ROT** value. Usage -

UPSTREAM KEYER CHROMA – CHROMAKEY Y-SUPPRESS

UPSTREAM KEYER DVE – DVE ROTATION

LIFT/OPAC [K] – Adjusts the currently selected keyers **LIFT/OPAC** value. Usage -

UPSTREAM KEYER CHROMA – CHROMAKEY LIFT

UPSTREAM KEYER DVE – DVE BORDER OPACITY

HUE [K] – Adjusts the currently selected keyers **HUE** value. Usage -

UPSTREAM KEYER DVE – DVE HUE

HUE [B] – Adjusts **COLOR 1 HUE** value.

HUE + SHIFT [B] – Adjusts **COLOR 2 HUE** value.

SAT [K] – Adjusts the currently selected keyers **SAT** value. Usage -

UPSTREAM KEYER DVE – DVE SAT

SAT [B] – Adjusts **COLOR 1 SAT** value.

SAT + SHIFT [B] – Adjusts **COLOR 2 SAT** value.

LUM [K] – Adjusts the currently selected keyers **LUM** value. Usage -

UPSTREAM KEYER DVE – DVE LUM

LUM [B] – Adjusts **COLOR 1 LUM** value.

LUM + SHIFT [B] – Adjusts **COLOR 2 LUM** value.

GAIN/L-DIR [K] – Adjusts the currently selected keyers **GAIN/L-DIR** value. Usage -
UPSTREAM KEYER LUMA – LUMAKEY GAIN
UPSTREAM KEYER CHROMA – CHROMAKEY GAIN
UPSTREAM KEYER DVE – DVE LIGHT DIRECTION
DOWNSTREAM KEYER – KEY CLIP

SYMMETRY [K] – Adjusts the currently selected keyers **SYMMETRY** value. Usage -
UPSTREAM KEYER PATT – PATTERN SYMMETRY

SYMMETRY [T] – Adjusts the **WIPE PATTERN SYMMETRY**

SOFTNESS [K] – Adjusts the currently selected keyers **SOFTNESS** value. Usage -
UPSTREAM KEYER PATT – PATTERN SOFTNESS
UPSTREAM KEYER DVE – DVE BORDER SOFTNESS

SOFTNESS [T] – Adjusts the **WIPE PATTERN SOFTNESS**

BORDER [K] – Adjusts the currently selected keyers **BORDER** value. Usage -
UPSTREAM KEYER DVE – PATTERN BORDER

BORDER [T] – Adjusts the **WIPE PATTERN BORDER**

BEVEL [K] – Adjusts the **DVE BEVEL POSITION**

Joystick

– (The Joystick needs to be enabled using the **POSITIONER** button for operation)

JOYSTICK [B] - ↔ axis adjusts **COLOR 1 SATURATION**

- ↕ axis adjusts the **COLOR 1 LUMA**

JOYSTICK + SHIFT [B] - ↔ axis adjusts **COLOR 2 SATURATION**

- ↕ axis adjusts the **COLOR 2 LUMA**

JOYSTICK LUMA [K] - ↔ axis adjusts the **LUMA KEYER LEFT MASK**

- ↕ axis adjusts the **LUMA KEYER TOP MASK**

JOYSTICK LUMA + SHIFT [K] - ↔ axis adjusts the **LUMA KEYER RIGHT MASK**

- ↕ axis adjusts the **LUMA KEYER BOTTOM MASK**

JOYSTICK CHROMA [K] - ↔ axis adjusts the **CHROMA KEYER LEFT MASK**

- ↕ axis adjusts the **CHROMA KEYER TOP MASK**

JOYSTICK CHROMA + SHIFT [K] - ↔ axis adjusts the **CHROMA KEYER RIGHT MASK**

- ↕ axis adjusts the **CHROMA KEYER BOTTOM MASK**

JOYSTICK PATT [K] - ↔ axis adjusts the **PATT KEYER LEFT MASK**

- ↕ axis adjusts the **PATT KEYER TOP MASK**

JOYSTICK PATT + SHIFT [K] - ↔ axis adjusts the **PATT KEYER RIGHT MASK**

- \updownarrow axis adjusts the **PATT KEYER BOTTOM MASK**

JOYSTICK PATT + (SHIFT+PATT) [K] - \leftrightarrow axis adjusts the **PATT X POSITION**

- \updownarrow axis adjusts the **PATT Y POSITION**

JOYSTICK DVE [K] - \leftrightarrow axis adjusts the **DVE KEYER LEFT MASK**

- \updownarrow axis adjusts the **DVE KEYER TOP MASK**

JOYSTICK DVE + SHIFT [K] - \leftrightarrow axis adjusts the **DVE KEYER RIGHT MASK**

- \updownarrow axis adjusts the **DVE KEYER BOTTOM MASK**

JOYSTICK DVE + (SHIFT+DVE) [K] - \leftrightarrow axis adjusts the **DVE X POSITION**

- \updownarrow axis adjusts the **DVE Y POSITION**

JOYSTICK DVE + (SHIFT+DVE) + SHIFT [K] - \leftrightarrow axis adjusts the **DVE OUTSIDE SOFTEN**

- \updownarrow axis adjusts the **DVE INSIDE SOFTEN**

JOYSTICK WIPE [T] - \leftrightarrow axis adjusts the **WIPE X POSITION**

- \updownarrow axis adjusts the **WIPE Y POSITION**

See separate section on **DECK CONTROL** for Joystick usage.

ATEM FUNCTIONS

Color Generator 1

ATEM function

GVG control

HUE [B]

HUE adjust

(value will show momentarily on RATE display)

Select SHIFT + REVERSE to adjust in a *finer* mode

SATURATION [B]

SAT adjust

(value will show momentarily on RATE display)

JOYSTICK \updownarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

LUMINANCE [B]

LUM adjust

(value will show momentarily on RATE display)

JOYSTICK \leftrightarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

Color Generator 2

ATEM function

GVG control

HUE [B]

HUE + SHIFT adjust

(value will show momentarily on RATE display)

Select SHIFT + REVERSE to adjust in a *finer* mode

SATURATION [B]

SAT + SHIFT adjust

(value will show momentarily on RATE display)

JOYSTICK \updownarrow + SHIFT

Select SHIFT + REVERSE to adjust in a *finer* mode

LUMINANCE [B]

LUM + SHIFT adjust

(value will show momentarily on RATE display)

JOYSTICK ↔ + SHIFT

Select SHIFT + REVERSE to adjust in a *finer* mode

SuperSource

ATEM function

GVG control

BOX 1 SOURCE

AUTO TRANSITION RATE OFF (no LEDs)

BUS Selector 15

SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

BOX 2 SOURCE

AUTO TRANSITION RATE OFF (no LEDs)

BUS Selector 16

SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

BOX 3 SOURCE

AUTO TRANSITION RATE OFF (no LEDs)

BUS Selector 17

SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

BOX 4 SOURCE

AUTO TRANSITION RATE OFF (no LEDs)

BUS Selector 18

SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

Upstream Keyers (use **Config** to select ME, use **USK 1/USK 2** to select upstream keyer)
(**USK 1/USK 2 ON** and **NOT** flashing indicates **USK 1** selected, flashing indicates **USK 2** selected)

LUMA

ATEM function

GVG control

FILL SOURCE

KEY BUS Selected (flashing indicate it *owns* the Key Buss)

Use KEY BUSS to select key bus FILL inputs

PST 1 selects FILL input allocated to FILL preset 1

PST 2 selects FILL input allocated to FILL preset 2

KEY SOURCE

KEY BUS Selected (flashing indicate it *owns* the Key Buss)

Use KEY BUSS to select key bus KEY inputs

PST 1 selects KEY input allocated to KEY preset 1

ENABLE MASK

KEY MASK (toggle)

TOP MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and adjust ↑

Select SHIFT + REVERSE to adjust in a *finer* mode

LEFT MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and adjust ↔

Select SHIFT + REVERSE to adjust in a *finer* mode

BOTTOM MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and SHIFT ON adjust ↓

Select SHIFT + REVERSE to adjust in a *finer* mode

RIGHT MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and SHIFT ON adjust ↔

Select SHIFT + REVERSE to adjust in a *finer* mode

**PRE MULTIPLIED KEY
CLIP**

PRE MULT (toggle)
CLIP/L-ATT adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move CLIP/L-ATT without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

GAIN

GAIN/L-DIR adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move GAIN/L-DIR without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

**INVERT KEY
FLY**

KEY INVERT (toggle)
DVE + SHIFT (toggle)
DVE LED will flash

CHROMA

ATEM function

GVG control

FILL SOURCE

KEY BUS Selected (flashing indicate it *owns* the Key Buss)
Use KEY BUSS to select key bus FILL inputs
PST 1 selects FILL input allocated to FILL preset 1
PST 2 selects FILL input allocated to FILL preset 2

ENABLE MASK

KEY MASK (toggle)

TOP MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and adjust \updownarrow
Select SHIFT + REVERSE to adjust in a *finer* mode

LEFT MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and adjust \leftrightarrow
Select SHIFT + REVERSE to adjust in a *finer* mode

BOTTOM MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and SHIFT ON adjust \updownarrow
Select SHIFT + REVERSE to adjust in a *finer* mode

RIGHT MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and SHIFT ON adjust \leftrightarrow
Select SHIFT + REVERSE to adjust in a *finer* mode

HUE

HUE/SIZE adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move HUE/SIZE without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

GAIN

GAIN/L-DIR adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move GAIN/L-DIR without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

Y-SUPPRESS

Y SUPP/ROT adjust

MATTE/BKGD selected to **KEYER**

Hold down ENTER to move Y SUPP/ROT without adjustment

Select SHIFT + REVERSE to adjust in a *finer* mode

(value will show momentarily on RATE display)

LIFT

LIFT/OPAC adjust

MATTE/BKGD selected to **KEYER**

Hold down ENTER to move LIFT/OPAC without adjustment

Select SHIFT + REVERSE to adjust in a *finer* mode

(value will show momentarily on RATE display)

NARROW CHROMA RANGE

NARR/DROP (toggle)

FLY

DVE + SHIFT (toggle)

DVE LED will flash

PATTERN

ATEM function

FILL SOURCE

GVG control

KEY BUS Selected (flashing indicate it *owns* the Key Buss)

Use KEY BUSS to select key bus FILL inputs

PST 1 selects FILL input allocated to FILL preset 1

PST 2 selects FILL input allocated to FILL preset 2

ENABLE MASK

KEY MASK (toggle)

TOP MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and adjust \updownarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

LEFT MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and adjust \leftrightarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

BOTTOM MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and SHIFT ON adjust \updownarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

RIGHT MASK

MATTE/BKGD selected to **KEYER**

POSITIONER ON and SHIFT ON adjust \leftrightarrow

Select SHIFT + REVERSE to adjust in a *finer* mode

PATTERN (SELECTION) 1

PATT 1 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 2

PATT 2 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 3

PATT 3 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 4

PATT 4 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 5

PATT 8 + SHIFT MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 6

PATT 8 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 7

PATT 10 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 8

PATT 9 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 9

PATT 7 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 10

PATT 6 MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 11

PATT 7 + SHIFT MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 12

PATT 6 + SHIFT MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 13

PATT 1 + SHIFT MATTE/BKGD selected to **KEYER**

PATTERN (SELECTION) 14
PATTERN (SELECTION) 15
PATTERN (SELECTION) 16
PATTERN (SELECTION) 17
PATTERN (SELECTION) 18
INVERT PATTERN
SIZE

PATT 2 + SHIFT MATTE/BKGD selected to **KEYER**
PATT 3 + SHIFT MATTE/BKGD selected to **KEYER**
PATT 4 + SHIFT MATTE/BKGD selected to **KEYER**
PATT 5 MATTE/BKGD selected to **KEYER**
PATT 5 + SHIFT MATTE/BKGD selected to **KEYER**
KEY INVERT (toggle)
HUE/SIZE adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move HUE/SIZE without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

SYMMETRY

SYMM adjust
MATTE/BKGD selected to **KEYER**
Hold down ENTER to move SYMM without adjustment
Select SHIFT + REVERSE to adjust in a *finer* mode
(value will show momentarily on RATE display)

X POSITION

PATT + SHIFT (toggle)
PATT LED will flash indicating Joystick in 'posn mode'
JOYSTICK ↔ adjusts horizontal position

Y POSITION

PATT + SHIFT (toggle)
PATT LED will flash indicating Joystick in 'posn mode'
JOYSTICK ↑↓ adjusts vertical position

FLY

DVE + SHIFT (toggle)
DVE LED will flash

DVE

ATEM function

GVG control

FILL SOURCE

KEY BUS Selected (flashing indicate it *owns* the Key Buss)
Use KEY BUSS to select key bus FILL inputs
PST 1 selects FILL input allocated to FILL preset 1
PST 2 selects FILL input allocated to FILL preset 2

ENABLE MASK

KEY MASK (toggle)

TOP MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and adjust ↑↓
Select SHIFT + REVERSE to adjust in a *finer* mode

LEFT MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and adjust ↑↓
Select SHIFT + REVERSE to adjust in a *finer* mode

BOTTOM MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and SHIFT ON adjust ↑↓
Select SHIFT + REVERSE to adjust in a *finer* mode

RIGHT MASK

MATTE/BKGD selected to **KEYER**
POSITIONER ON and SHIFT ON adjust ↔

X POSITION	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode JOYSTICK ↔ adjusts horizontal position * ALT MODE
Y POSITION	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode JOYSTICK ↓ adjusts vertical position * ALT MODE
X SIZE	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode HUE/SIZE adjusts both X SIZE and Y SIZE MATTE/BKGD selected to KEYER Hold down ENTER to move HUE/SIZE without adjustment <u>Hold SHIFT to adjust X SIZE only</u> (value will show momentarily on RATE display)
Y SIZE	HUE/SIZE adjusts both X SIZE and Y SIZE MATTE/BKGD selected to KEYER Hold down ENTER to move HUE/SIZE without adjustment (value will show momentarily on RATE display)
ROTATION	Y SUP/ROT adjust MATTE/BKGD selected to KEYER Hold down ENTER to move Y SUP/ROT without adjustment Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
ENABLE DROP SHADOW LIGHT SOURCE	NARR/DROP (toggle) GAIN/L-DIR adjust MATTE/BKGD selected to KEYER Hold down ENTER to move GAIN/L-DIR without adjustment (value will show momentarily on RATE display)
LIGHT ATTITUDE	CLIP/L-ATT adjust MATTE/BKGD selected to KEYER Hold down ENTER to move CLIP/L-ATT without adjustment (value will show momentarily on RATE display)
ENABLE BORDER BORDER STYLE BORDER COLOR HUE	BRDR (toggle) INV/STYLE toggles between the 4 selections HUE adjust Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
BORDER COLOR SAT	SAT adjust Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
BORDER COLOR LUM	LUM adjust Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
OUTSIDE WIDTH	BRDR adjust MATTE/BKGD selected to KEYER Hold down ENTER to move BRDR without adjustment (value will show momentarily on RATE display)
INSIDE WIDTH	BRDR + SHIFT adjust

	MATTE/BKGD selected to KEYER
	Hold down ENTER to move BRDR without adjustment (value will show momentarily on RATE display)
OUTSIDE SOFTEN	JOYSTICK + SHIFT ↔ adjust *ALT MODE
INSIDE SOFTEN	JOYSTICK + SHIFT ↓ adjust *ALT MODE
BORDER OPACITY	LIFT/OPAC adjust
	MATTE/BKGD selected to KEYER
	Hold down ENTER to move LIFT/OPAC without adjustment (value will show momentarily on RATE display)
BEVEL POSITION	BEVL adjust
	MATTE/BKGD selected to KEYER
	Hold down ENTER to move BEVL without adjustment (value will show momentarily on RATE display)
BEVEL SOFTEN	SOFT adjust
	MATTE/BKGD selected to KEYER
	Hold down ENTER to move SOFT without adjustment (value will show momentarily on RATE display)
RATE	AUTO TRANSITION RATE + SET 1, SET 2 and SET 3 SET 1 to adjust 100's (+ SHIFT decrements) SET 2 to to adjust 10's (+ SHIFT decrements) SET 3 to to adjust 1's (+ SHIFT decrements)

***ALT MODE** is achieved pressing **SHIFT+ DVE KEY** while in 'DVE key mode'

Downstream Keyers (use **DSK 1/DSK 2** to select downstream keyer)
(**DSK 1/DSK 2 ON** and **NOT** flashing indicates **DSK 1** selected, flashing indicates **DSK 2** selected)

<u>ATEM function</u>	<u>GVG control</u>
FILL SOURCE	KEY BUS Selected (flashing indicate it <i>owns</i> the Key Buss) Use KEY BUSS to select key bus FILL inputs PST 1 selects FILL input allocated to FILL preset 1 PST 2 selects FILL input allocated to FILL preset 2
KEY SOURCE	KEY BUS Selected (flashing indicate it <i>owns</i> the Key Buss) Use KEY BUSS to select key bus KEY inputs PST 1 selects KEY input allocated to KEY preset 1
RATE	AUTO TRANSITION RATE + SET 1, SET 2 and SET 3 DSK MIX mode selected SET 1 to adjust 100's (+ SHIFT decrements) SET 2 to to adjust 10's (+ SHIFT decrements) SET 3 to to adjust 1's (+ SHIFT decrements)
ENABLE MASK	KEY MASK (toggle)
TOP MASK	POSITIONER ON and adjust ↑ Select SHIFT + REVERSE to adjust in a <i>finer</i> mode

LEFT MASK	POSITIONER ON and adjust ↔
BOTTOM MASK	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode POSITIONER ON and SHIFT ON adjust ↑
RIGHT MASK	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode POSITIONER ON and SHIFT ON adjust ↔
PRE MULTIPLIED KEY CLIP	Select SHIFT + REVERSE to adjust in a <i>finer</i> mode PRE MULT (toggle) CLIP/L-ATT adjust Hold down ENTER to move CLIP/L-ATT without adjustment Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
GAIN	GAIN/L-DIR adjust Hold down ENTER to move GAIN/L-DIR without adjustment Select SHIFT + REVERSE to adjust in a <i>finer</i> mode (value will show momentarily on RATE display)
INVERT KEY	KEY INVERT (toggle)
DSK CUT	DSK CUT
DSK 1 ON AIR	DSK MIX DSK 1/DSK 2 NOT flashing toggle
DSK 2 ON AIR	DSK MIX DSK 1/DSK 2 flashing toggle
DSK 1 AUTO	DSK CUT DSK 1/DSK 2 NOT flashing toggle
DSK 2 AUTO	DSK CUT DSK 1/DSK 2 flashing toggle
DSK 1 TIE	DSK MIX + SHIFT DSK 1/DSK 2 NOT flashing toggle
DSK 2 TIE	DSK MIX + SHIFT DSK 1/DSK 2 flashing toggle

Transition (use **Config** to select ME)

MIX

<u>ATEM function</u>	<u>GVG control</u>
RATE	AUTO TRANSITION RATE + SET 1, SET 2 and SET 3 AUTO TRANS mode selected SET 1 to adjust 100's (+ SHIFT decrements) SET 2 to to adjust 10's (+ SHIFT decrements) SET 3 to to adjust 1's (+ SHIFT decrements)

DIP

<u>ATEM function</u>	<u>GVG control</u>
RATE	AUTO TRANSITION RATE + SET 1, SET 2 and SET 3 AUTO TRANS mode selected SET 1 to adjust 100's (+ SHIFT decrements) SET 2 to to adjust 10's (+ SHIFT decrements) SET 3 to to adjust 1's (+ SHIFT decrements)
DIP SOURCE	AUTO TRANSITION RATE OFF (no LEDs) BUS Selector 7 SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

WIPE

ATEM function

GVG control

RATE

AUTO TRANSITION RATE + SET 1, SET 2 and SET 3

AUTO TRANS mode selected

SET 1 to adjust 100's (+ SHIFT decrements)

SET 2 to to adjust 10's (+ SHIFT decrements)

SET 3 to to adjust 1's (+ SHIFT decrements)

PATTERN (SELECTION) 1

PATT 1 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 2

PATT 2 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 3

PATT 3 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 4

PATT 4 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 5

PATT 8 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 6

PATT 8 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 7

PATT 10 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 8

PATT 9 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 9

PATT 7 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 10

PATT 6 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 11

PATT 7 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 12

PATT 6 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 13

PATT 1 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 14

PATT 2 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 15

PATT 3 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 16

PATT 4 + SHIFT MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 17

PATT 5 MATTE/BKGD selected to **TRANSITION**

PATTERN (SELECTION) 18

PATT 5 + SHIFT MATTE/BKGD selected to **TRANSITION**

WIPE DIRECTION NORMAL

REVERSE toggle

WIPE DIRECTION REVERSE

REVERSE toggle

WIPE DIRECTION FLIP FLOP

REVERSE HOLD for ½ second toggle

BORDER

AUTO TRANSITION RATE OFF (no LEDs)

BUS Selector 17

SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

BORDER WIDTH

BRDR adjust

MATTE/BKGD selected to **TRANSITION**

Hold down **ENTER** to move **BRDR** without adjustment

Select **SHIFT + REVERSE** to adjust in a *finer* mode

(value will show momentarily on **RATE** display)

BORDER SOFTNESS

SOFT adjust

MATTE/BKGD selected to **TRANSITION**

Hold down **ENTER** to move **SOFT** without adjustment

Select **SHIFT + REVERSE** to adjust in a *finer* mode

(value will show momentarily on **RATE** display)

WIPE BORDER AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 9
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

Other controls (use **Config** to select ME)

AUX BUSS 1 – 6 INPUTS AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 1 - 6
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DIP SOURCE (ME 1) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 7
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DIP SOURCE (ME 2) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 8
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

WIPE BORDER (ME 1) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 9
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

WIPE BORDER (ME 2) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 10
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DVE FILL (ME 1) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 11
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DVE FILL (ME 2) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 12
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DVE KEY (ME 1) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 13
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

DVE KEY (ME 2) AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 14
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

SUPERSOURCE 1 INPUT AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 15
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

SUPERSOURCE 2 INPUT AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 16
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

SUPERSOURCE 3 INPUT AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 17
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

SUPERSOURCE 4 INPUT AUTO TRANSITION RATE OFF (no LEDs)
BUS Selector 18
SET 2 to decrement, SET 3 to increment, SET 1 to TAKE

Other controls (use **Config** to select ME)

CROSSPOINTS

<u>ATEM function</u>	<u>GVG control</u>
SELECT Program 1 – 10	IN 1 to 10 on program bus
SELECT Program 11 – 20	IN 11 to 20 on program bus
SELECT Preset 1 – 10	IN 1 to 10 on preview bus
SELECT Preset 11 – 20	IN 11 to 20 on preview bus
SELECT key 1 – 10	KEY 1 to 10 on key bus
SELECT key 11 – 20	KEY 11 to 20 on key bus

EFFECTS TRANSITION

<u>ATEM function</u>	<u>GVG control</u>
BKGD NEXT TRANSITION	BKGD toggle
KEY 1 NEXT TRANSITION	KEY USK 1/USK 2 NOT flashing toggle
KEY 2 NEXT TRANSITION	KEY USK 1/USK 2 flashing toggle
KEY 1 ON AIR NEXT TRANS	KEY + SHIFT USK 1/USK 2 NOT flashing toggle
KEY 2 ON AIR NEXT TRANS	KEY + SHIFT USK 1/USK 2 flashing toggle
MIX TRANSITION	MIX
WIPE TRANSITION	WIPE
DIP TRANSITION	MIX + SHIFT (MIX will flash)
DVE TRANSITION	WIPE + SHIFT (WIPE will flash)
STINGER TRANSITION	AUTO TRANS + SHIFT (MIX and WIPE will flash)
AUTO TRANS	AUTO TRANS
CUT	CUT
FTB	FADE TO BLACK
FTB RATE	AUTO TRANSITION RATE + SET 1, SET 2 and SET 3 FADE TO BLACK mode selected SET 1 to adjust 100's (+ SHIFT decrements) SET 2 to to adjust 10's (+ SHIFT decrements) SET 3 to to adjust 1's (+ SHIFT decrements)

Panel Setup Modes

Panel setups can either be achieved using the Telnet via the Ethernet connection , using the SHIFT key in combination with a pattern select key or using the optional Configuration panel.

Before entering a setup mode be sure the MATTE/BRDR is selected to COLOR 1/2.

<u>SHIFT KEY +</u>	<u>FUNCTION</u>
MATTE/BKGD	Toggle ENABLE EDITOR
SELECT on AUTO TRANS	turns ON Fader adjust mode
POSITIONER	turns ON/OFF all LEDs/LAMPS
PATTERN 1	Reset I2C Configuration (optional display)

PATTERN 2	turn OFF TELNET connection (disconnect it)
PATTERN 3	
PATTERN 4	LOAD switcher settings from Micro-SDCard
PATTERN 5	set aux button assignments
PATTERN 6	set key button assignments
PATTERN 7	set pgm/pst button assignments
PATTERN 8	set videohub ip address
PATTERN 9	set local ip address
PATTERN 10	set ATEM ip address

Notes:

If the **AUTO TRANSITION RATE** displays **HELP**, this indicates that the software encryption has NOT been detected. No further operation is permitted.

WARNING – This GVG110 to ATEM software stores all settings on an internal MicroSD-Card. When powering up it reads all the ATEM configurations and sends them to the ATEM.

If you do NOT want this to happen, hold down any crosspoint key to stop it altering your current ATEM settings.

To set the local and ATEM IP addresses from startup -

While starting up, hold down **SHIFT** button.

Wait for **PATT 9 LED** to start flashing (patt 9 = 'set local ip') and the display will show **1000**.

Release the **SHIFT** button and the display will show **!xxx** where **xxx** is the first byte of the **LOCAL IP** address.

Press 'frames set' **RIGHT** button to display the next byte in the ip address and the **LEFT** button to display the last byte in the ip address.

The left most digit confirms which one of four bytes you are adjusting.

Once you have selected the byte to adjust press the **SHIFT** button again and the first digit will start flashing indicating data entry mode.

Press the 'frames set' buttons to step up any of the 3 values and when complete press **SHIFT** to enter the data. The first digit will stop flashing. Continue to adjust the other bytes in the same manner.

Once the entry is set correctly press the **ENTER** button. (left of the **SHIFT** button).

Once the LOCAL IP address entry is complete, the procedure will start again flashing **PATT 10 LED** indicating setup for the **ATEM IP** address.

After the ATEM IP address entry is set correctly press the **ENTER** button again and the controller will restart.

TO ABORT SETTING IP ADDRESSES press the **AUTO TRANSITION RATE SELECT** button.

Adjusting analog values for full circle entries -

Turn knob fully clockwise, then, to continue adjusting upwards, hold down the **ENTER** button and turn knob fully down (no adjustment is made when ENTER is held down).

Then release the **ENTER** button and continue adjusting up. Do the same but in reverse for adjusting down.

When adjusting any analog knobs the AUTO TRANSITION RATE display will show the adjustment being made for about 2 seconds.

Preview Transition -

For an ATEM 2Me, selecting **PREV TRAN** will turn the other off. eg Pressing **PREV TRANS** on me 1 will turn off **PREV TRANS** on me 2 and visa versa

THE KEY BUSS -

This can be used for selecting all available keyers sources; both fill and source.

Selecting a keyers '**KEY BUS**' automatically selects the KEY BUSS to control its input and the KEY BUSS button flashes indicating that it has control of the key buss (*owns it*).

The Key Buss can also be used for selecting miscellaneous crosspoints for the ATEM such as AUX busses, wipe borders, DIP sources etc. See the separate description below.

DSK

To adjust masks turn on positioner and ensure 'keyer' is selected on MATTE/BKGD to adjust left and top use joystick. To adjust right and bottom use **SHIFT + JOYSTICK**.

Turn on **REVERSE + SHIFT** to use a finer adjustment.

FILL buttons - 'KEY BUS' = what ever is selected on the Key buss switcher is the keyers 'fill'

PST 1 = preset inputs is the keyers 'fill' as selected by using SHIFT + PST 1

PST 2 = preset inputs is the keyers 'fill' as selected by using SHIFT + PST 2

SOURCE buttons - 'KEY BUS' = what ever is selected on the Key buss switcher

PST 1 = preset inputs is the keyers 'key' as selected by using SHIFT + PST 1

To set PST 1 and PST 2 inputs press SHIFT + PSTx. The PSTx LED will flash and the **AUTO TRANSITION RATE** will show the 2 digit input currently selected.

Use up/down to change and **ENTER** to exit.

While changing the PRESET inputs, the new inputs show on both the Telnet connection and on the currently selected keyer.

ATEM MISCELANEOUS CROSSPOINT ADJUSTMENTS *(valid for v1.11 and over)*

By using the **SELECT** button on the **AUTO TRANSITION RATE** panel the miscellaneous ATEM crosspoints can be changed, which also allows the KEY BUSS buttons to make the selection.

To make these adjustments press the **SELECT** button on the **AUTO TRANSITION RATE** panel until the **AUTO TRANS**, **DSK MIX** and **FADE TO BLACK** LEDs are all **OFF**.

Depending on what transition mode the ATEM is in will depend on what the display will indicate. The DISPLAY will show the crosspoint **DESTINATION** on the left and the crosspoint **SOURCE** on the right.



DESTINATION SOURCE

The following are the **DESTINATION** codes.

BUSS CHANGE SELECTOR	
#	DESTINATION
1	AUX 1
2	AUX 2
3	AUX 3
4	AUX 4
5	AUX 5
6	AUX 6
7	DIP SOURCE ME1
8	DIP SOURCE ME2
9	WIPE BRDR ME1
10	WIPE BRDR ME2
11	DVE SRCE ME1
12	DVE KEY ME1
13	DVE SRCE ME2
14	DVE KEY ME2
15	SS SOURCE 1
16	SS SOURCE 2
17	SS SOURCE 3
18	SS SOURCE 4

If MIX is the selected transition the DESTINATION will show 1 (AUX BUSS 1) as there is no SOURCE for a MIX transition.

If DIP is the selected transition the DESTINATION will show 7 for ME 1 and 8 for ME 2 as the SOURCE for a DIP transition.

If WIPE is the selected transition the DESTINATION will show 9 for ME 1 and 10 for ME 2 as the BORDER SOURCE for a WIPE transition.

If DVE is the selected transition the DESTINATION will show 12 for ME 1 and 13 for ME 2 as the SOURCE for a DVE transition.

(Not all sources and destinations are available on all ATEM Switchers.)

To select the desired **DESTINATION** press the **FRAMES SET LEFT** to increment and **SHIFT + FRAMES SET LEFT** to decrement.

To set the **DESTINATION** to the start* (1) press and hold the **FRAMES SET LEFT**.

When changing the **DESTINATION**, the **SOURCE** will display the current selection and the **KEY BUSS** will also show the associated button for that source.

To change the **SOURCE** for the selected **DESTINATION** use the **FRAMES SET RIGHT** to increment and **FRAMES SET CENTRE** to decrement. This will step thru ALL the sources, and any source that is not available to the destination is ignored.

You can also use the **KEY BUSS BUTTONS** to select the *allocated* inputs 1 to 10 and **SHIFT + KEY BUSS BUTTONS** to select the *allocated* inputs 11 to 20.

When using the **KEY BUSS BUTTONS** to change sources for the **AUX** and **SUPERSOURCE**, they are taken from the **AUX BUSS CROSSPOINT** allocations as set by the Telnet 'a' command or using the optional **CONFIG PANEL**.

When using the **KEY BUSS BUTTONS** to change sources for the **DIP , WIPE BORDER** and **DVE**, they are taken from the **PGM/PVW BUSS CROSSPOINT** allocations as set by the Telnet 'x' command or using the optional **CONFIG PANEL**.

To display all the current selections in the **MISCELLANEOUS CROSSPOINT ADJUSTMENTS**, use the Telnet 'A' command.

Special note on DVE KEY transition rate –

The ATEM has its own individual parameter for its transition rate. This is separate from any other transition rate.

To adjust the DVE KEY *transition rate*, after you select the **DVE KEY**, select **AUTO TRANS** on the **AUTO TRANSITION RATE** panel.

The **AUTO TRANS LED** will start flashing. This is to indicate that the AUTO TRANSITION RATE panels' AUTO TRANS FRAMES SET keys will be adjusting the DVE KEY transition rate and NOT the selected transitions AUTO TRANS rate.

*note. The features explained here are planned to be extended to control VIDEOHUB routers in a later software release

AUDIO CONTROL

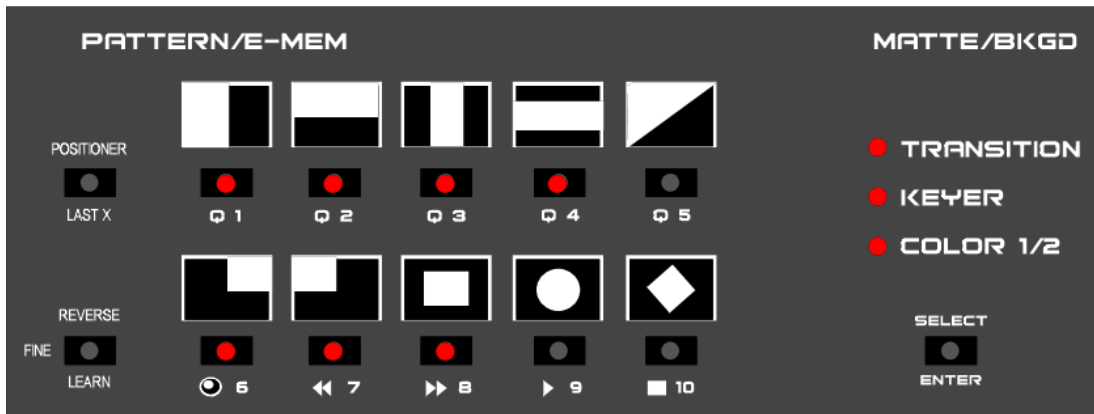
Use the **AUDIO/CLEAR** button to enable **AUDIO MODE**. The **AUDIO/CLEAR** LED will light.

The **TELNET** will display the current channels **Stereo VU** and the **PATTERN LED's** will display the current channels **LEFT VU** on **PATTERN LED's 1 to 5** and the current channels **RIGHT VU** on **PATTERN LED's 6 to 10**.



The **TELNET VU** displays a bar graph guide indicating the various levels of audio at the top. The next line displays the **LEFT VU** and the 3rd line displays the **RIGHT VU**. On the right side of the screen it shows the channel L and R followed by the currently selected AUDIO CHANNEL being monitored (displayed vertically).

The colours on the VU indicate the volume of the audio; green, cyan, yellow and red. The L and R will be coloured the current MAXIMUM value. RED is generally over -10db and will be similar to the VU as displayed by the ATEM software control panel.



The PATTERN LED's display the currently selected audio channel levels where **PATTERN LED 5** indicates **EXCESSIVE** audio level on the **LEFT** channel and **PATTERN LED 10** indicates **EXCESSIVE** audio level on the **RIGHT** channel. LED's 1 to 4 indicate intermediate values for the LEFT channel and LED's 6 to 9 indicate intermediate values for the RIGHT channel.

When **AUDIO MODE** is initially selected, the **LED** display will *cycle* between the *audio channel selected*, the selected audio channels **FADER POSITION** and the selected audio channels **PAN POSITION**.

The *audio channel selected* is always the last one that was selected for adjustment. The **KEY BUSS** will display the **AFV** mode and **ON AIR** mode of each channel.

In **AUDIO MODE**, the following panel functions change -

1. The **KEY BUSS** becomes the channel **AFV** and **ON AIR** status and buttons.
2. The **LED** display shows the selected audio channel and **AUDIO FADER /PAN POSITION**
3. The **FRAMES SET** buttons become level adjusts and channel selects
4. The **JOYSTICK** becomes **AUDIO FADER** \updownarrow adjusts and **PAN** \leftrightarrow adjusts

The **KEY BUSS** -

- KEY Buttons 1 - 10** selects *channel controls* 1 to 10
- SHIFT+ Buttons 1 - 6** selects *channel controls* 11 to 16,
- SHIFT+ Button 7** selects **MP 1**
- SHIFT+ Button 8** selects **MP 2**
- SHIFT+ Button 9** selects **EXT**
- SHIFT+ Button 10** selects **MASTER**

To toggle the **AFV** mode of each channel, press **KEY BUSS** button quick
 To toggle the **ON AIR** mode of each channel, press **KEY BUSS** button slow

When pressing either **ON AIR** or **AFV**, it will automatically select that channel on the **LED** display (confirmed by pressing the **SHIFT** key).

The **LED DISPLAY** -

When **AUDIO MODE** is selected the **LED** display defaults to **AUDIO FADER POSITION**.
If the **JOYSTICK** is enabled and **HORIZONTAL** movement is detected, the **LED** display automatically switches over to display the **PAN POSITION**.

If the **JOYSTICK** is enabled and **VERTICAL** movement is detected, the **LED** display automatically switches over to display the **FADER POSITION**.

The **AUDIO FADER POSITION** is displayed on digits 3 and 4 and if it is a MINUS value it is displayed on digit 2.


Audio set at +5 is displayed 

Audio set at 0 is displayed 


Audio set at -6 is displayed 


Audio set at -24 is displayed 

Audio set at -42 is displayed 

Audio set at -inf is displayed 

If the **SHIFT** button is pressed and **held**, the **LED** display digits 1 and 2 indicate the current **AUDIO CHANNEL** that is selected for adjustment.

Audio Channel 1 selected 

Audio Channel 9 selected 

Audio Channel 20 selected 

The **PAN POSITION** is displayed on digits 2, 3 and 4 and if it is a MINUS value it is displayed on digit 1.

Audio pan at centre is displayed



Audio pan full right is displayed



Audio pan full left is displayed



The **FRAMES SET** buttons -

The **FRAMES SET** buttons are used to adjust the **FADER VALUE** of the *selected channel*. The **LEFT FRAMES SET** button **resets** the **FADER VALUE** and **PAN VALUE**.

LEFT FRAMES SET resets the **FADER VALUE** to 0 (default).

SHIFT+ LEFT FRAMES SET resets the **PAN VALUE** to centre.

CENTRE FRAMES SET button **DECREMENTS** the **FADER VALUE** in *logarithmic* steps. Holding down the **CENTRE FRAMES SET** button continually **DECREMENTS** the **FADER VALUE** in *logarithmic* steps and the actual value is indicated on the **LED DISPLAY**.

RIGHT FRAMES SET button **INCREMENTS** the **FADER VALUE** in *logarithmic* steps. Holding down the **RIGHT FRAMES SET** button continually **INCREMENTS** the **FADER VALUE** in *logarithmic* steps and the actual value is indicated on the **LED DISPLAY**..

The **JOYSTICK** -

The **JOYSTICK** is used to adjust both the **FADER VALUE** and **PAN VALUE** of the selected channel.

To activate the **JOYSTICK** the **POSITIONER BUTTON** has to be **ON**.

The **HORIZONTAL** movement adjusts the **PAN VALUE** based the **PAN VALUEs** current location and the actual value is indicated on the **LED DISPLAY**.

The **VERTICAL** movement adjusts the **FADER VALUE** *logarithmically* based on the **FADER VALUEs** current location, and the actual value is indicated on the **LED DISPLAY**.

The **LED DISPLAY** will automatically switch to **FADER VALUE** if **VERTICAL** motion is detected and will automatically switch to **PAN VALUE** if **HORIZONTAL** motion is detected.

To *exit* the **AUDIO CONTROL MODE** use **AUDIO/CLEAR** to toggle OFF. The **AUDIO/CLEAR LED** will go OFF.

TO RESET ALL AUDIO VALUES TO DEFAULT

With AUDIO MODE ON press and HOLD **SHIFT+AUDIO/CLEAR** for a second and then release.

This will put ALL PANs to CENTRE, set ALL FADERS to ZERO db and turn OFF ALL ON AIR and AFV selections.

PROGRAM/PREVIEW BUTTON REMAPPING

Each button on the **PROGRAM/PREVIEW** busses can have any ATEM source allocated to it.

There are three ways to remap the **PROGRAM/PREVIEW** buttons input selections.

1. Using the GVG panel
2. Using the Telnet connection
3. Using the (optional) Config Panel

1. PROGRAM/PREVIEW BUTTON REMAPPING using the GVG panel


While in **COLOR1/2** mode (on the **MATTE/BKGD** panel);

- press and hold **SHIFT** and press **PATTERN 7**

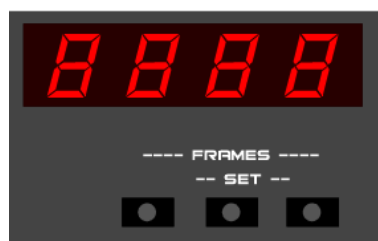
PATTERN 7 LED will flash and the panels' crosspoint LED's will go off and the **LED DISPLAY** will blank

- Select the button to remap on the **PROGRAM BUSS** for buttons 1 to 10 and **PREVIEW BUSS** for buttons 11 to 20.

The selected button will flash. The **LED DISPLAY** will indicate the button number (1-20) on the left 2 digits and the current input on the right 2 digits

Eg. Button 1 has input 5 mapped 

- Use the **FRAMES SET RIGHT** button to *increment* the input and the **FRAMES SET CENTRE** button to *decrement* the input



- When all your required buttons have been remapped press **ENTER** (on the **MATTE/BKGD** panel)

All the panels' crosspoint LED's will go back to normal operation and **PATTERN 7** LED will stop flashing

2. PROGRAM/PREVIEW BUTTON REMAPPING using the Telnet connection

The Telnet command for **PROGRAM/PREVIEW** button mapping is 'x'.

to set button 1 to input 4 type ' x1 4 ' then ENTER

to set button 6 to input 7 type ' x6 7 ' then ENTER

to set button 13 to input 11 type ' x13 11 ' then ENTER

to program multiple buttons type the commands into a text editor then copy/paste into the Telnet window eg;

```
x1 1
x2 12
x3 13
x4 11
x5 14
x6 15
x7 21
x8 22
x9 18
x10 21
x11 23
x12 25
x13 36
x14 2
x15 3
x16 4
x17 17
x18 18
x19 19
x20 20
```

You can create and save text files for most Telnet commands which can be recalled, copy/pasted into the Telnet window as batch commands.

With crosspoints you can also include notes which will be ignored when sending to the GVG. Eg;

x1 1 this is input 1 to button 1
x2 12 this is input 12 to button 2
x3 13 this is input 13 to button 3
x4 11 this is input 11 to button 4
x5 14 this is input 14 to button 5

3. PROGRAM/PREVIEW BUTTON REMAPPING using the Config Panel

- Select item 7
- press the button on the Config Panel
- turn the knob on the Config Panel to select required program/preview button to remap
- press the button on the Config Panel when the required program/preview button is selected
- turn the knob on the Config Panel to select required input to remap for the selected program/preview button
- press the button on the Config Panel when required input is selected

E-MEM – LOADING AND SAVING PANEL SETTINGS

OVERVIEW

The **E-MEM** button allows you to load and save up to 256 different panel setup registers. There is also a 'fast SAVE' and a 'fast LOAD' available using the REVERSE/LEARN and POSITIONER/LAST X buttons.

These registers are stored as separate files on the MicroSD card.

Each 'save' stores complete panel setups and each 'load' enables 23 separate parameters to be recalled using PATTERN buttons 1 – 10 and the SHIFT key.

If AUTO INCREMENT is ENABLED in setup, each LOAD or SAVE will STEP to the next register after use. This allows fast access to *sequences* of setups.

The following are the available parameters –

1. ME 1 USK Keyer 1
2. ME 1 USK Keyer 2
3. ME 1 Transition

4. DSK 1
5. DSK 2
6. MEDIA PLAYER 1
7. MEDIA PLAYER 2
8. COLOR GEN 1
9. COLOR GEN 2
10. PROG/PREV crosspoints

The following are the available parameters when using the SHIFT KEY –

1. ME 2 USK Keyer 1
2. ME 2 USK Keyer 2
3. ME 2 Transition
4. SUPERSOURCE
5. ALL AUDIO settings
6. ALL Deck A CUE and STILL values
7. ALL Deck B CUE and STILL values
8. TBA
9. TBA
10. ALL Switcher Parameters

In addition, individual parameters can also be loaded such as UP STREAM KEYERS, DOWN STREAM KEYERS, PROGRAM/PRESET BUSS MAPPING, KEY BUSS MAPPING, etc. These are accessed by pressing the associated buttons when in E-MEM load mode.

OPERATION of E-MEM using the Control Panel

SAVING PANEL PARAMETERS

To **SAVE** all the panel parameters, **press** the **E-MEM button**. The E-MEM LED will turn on (not flashing).

If the register is free to use the DISPLAY will indicate



If the register is PROTECTED the DISPLAY will indicate



Saving to an unprotected register -

The display indicates that REGISTER 001 is selected to SAVE ALL the panel parameters. This is normal if it is the first time E-MEM has been selected since turning on.

If **AUTO INCREMENT** is **DISABLED** all future E-MEM access will display whatever the last register selected was.

If **AUTO INCREMENT** is **ENABLED** the next time E-MEM is accessed will display the last register + 1.

To select the required register, use the **FRAMES SET RIGHT** button to *increment* the register number by 1, the **FRAMES SET CENTRE** button to *increment* the register number by 10, and the **FRAMES SET LEFT** button to *increment* the register number by 100.

Use of the above in conjunction with the **SHIFT** will decrement the same.

Once the required register is selected, press the **ENTER** button OR any other button to **ABORT**.

Saving to an protected register -

To save to a protected register you first have to unprotect it and then come back and save to it.

WRITE PROTECTING AND UNPROTECTING REGISTERS

Each of the 256 registers can be write-protected to stop accidental overwriting of session setups that you have created.

To select a register to protect or unprotect, first press the **E-MEM** button.
The E-MEM LED will turn.

If the selected register is **NOT** protected the DISPLAY will indicate



If the selected register IS protected the DISPLAY will indicate



and indicated by a flashing **P**.

Press the **EMEM** button to toggle the protection of the selected register.

Once protection is toggled, the 3 digits will flash to indicate 'toggle mode only' has been entered. This is used to indicate that only EMEM protect selection mode has been invoked and no saving will take place.

Once the EMEM button is pressed to toggle the protection status of the selected register, no further function can be performed other than toggling the protection, until the EMEM mode has been exited.

When the desired protection has been selected, press **ENTER**.

EMEM mode will turn off and no registers have been saved but the protection flag is set accordingly.

LOADING PANEL PARAMETERS

To **LOAD** selected panel parameters, **press SHIFT + E-MEM button**.
The E-MEM LED will turn on and FLASH.

The TELNET screen will display all available PARAMETERS to recall.

```
EMEM PATTERN button allocations
UNSHIFTED                SHIFTED
-----
 1. ME 1 USK Keyer 1      1. ME 2 USK Keyer 1
 2. ME 1 USK Keyer 2      2. ME 2 USK Keyer 2
 3. ME 1 Transition       3. ME 2 Transition
 4. DSK 1                 4. SUPERSOURCE
 5. DSK 2                 5. ALL Audio settings
 6. MEDIA PLAYER 1        6. Deck A CUE/STILL values
 7. MEDIA PLAYER 2        7. Deck B CUE/STILL values
 8. COLOR GEN 1           8.
 9. COLOR GEN 2           9.
10. PROG/PREV crosspoints 10. ALL Switcher Parameters
-----
Use ANY PROGRAM button for PROGRAM BUSS mapping recall
Use ANY PREVIEW button for AUX BUSS mapping recall
Use ANY Key button for KEY BUSS mapping recall
```

All the **PATTERN buttons** will turn on indicating which parameters will be recalled.
To determine the status of parameters 11 to 20 selections hold down the SHIFT button.
If a previous E-MEM LOAD was performed then ALL selected buttons will be remembered.

The DISPLAY will indicate



This indicates that REGISTER 001 is selected to LOAD panel parameters. This is normal if it is the first time E-MEM has been selected since turning on.

If **AUTO INCREMENT** is **DISABLED** all future E-MEM access will display whatever the last register selected was.


If **AUTO INCREMENT** is **ENABLED** the next E-MEM access will display the last register + 1.

To select the required register use the **FRAMES SET RIGHT** button to *increment* the register number by 1, the **FRAMES SET CENTRE** button to *increment* the register number by 10 and the **FRAMES SET LEFT** button to *increment* the register number by 100.

Use of the above in conjunction with the **SHIFT** will decrement the same.

Toggle the **PATTERN button** parameters that are required to LOAD, remembering to set 11 to 20 as required using the SHIFT button.

Once the required parameters are selected, press the ENTER button OR any other button to **ABORT**.

If the register selected does not exist (no previous SAVE was performed) the display will flash the .

Once set, press the ENTER button. The changes will take immediate effect.

As with the register LOAD/SAVE features there is also a 'fast SAVE' and a 'fast LOAD' available using the REVERSE/LEARN and POSITIONER/LAST X buttons.

These allow for LOADING and SAVING to a single SYSTEM register without the need to select a particular register.

The LOAD operation is the same as loading from selected registers but SAVING can be performed for selected parameters. This is ideal for compiling separate parameters into a complete register and then saving.

To **SAVE** selected panel parameters, **press the E-MEM button**.

The E-MEM LED will turn on.

Press the REVERSE/LEARN button.

All the **PATTERN buttons** will turn on indicating which parameters to SAVE.

To determine the status of parameters 11 to 20 selections hold down the SHIFT button.

If a previous E-MEM was performed then ALL selected buttons will be remembered.

Toggle the **PATTERN button** parameters that you want to overwrite, remembering to set 11 to 20 as required using the SHIFT button.

Once set, press the ENTER button. Each 'fast SAVE' will overwrite the last selected parameters.

To **LOAD** selected panel parameters, **press the E-MEM button**.

The E-MEM LED will turn on.

Press the POSITIONER/LAST X button.

All the **PATTERN buttons** will turn on indicating which parameters will be recalled.

To determine the status of parameters 11 to 20 selections hold down the SHIFT button.

If a previous E-MEM was performed then ALL selected buttons will be remembered.

Toggle the **PATTERN button** parameters that you want to LOAD, remembering to set 11 to 20 as required using the SHIFT button.

Once set, press the ENTER button. The changes will take immediate effect.

Note * - After ENTER is pressed on any LOAD or SAVE the E-MEM mode is turned off automatically.

Loading of individual parameters such as ME 1 UPSTREAM KEYER 1 can be loaded into any available keyer including the DOWN STREAM KEYER and visa versa. Details to come.

OPERATION of E-MEM using the Config Panel

Details to come.

USING THE GVG PANEL TO CONTROL CASPAR CG SERVER

A CasparCG server is a PC that is connected to a network and can play multimedia files. These files are usually played out through a Decklink or Bluefish card plugged into a slot of the CasparCG PC, or the files can be played out through a secondary display port which could be connected to an ATEM HDMI port. I suggest you research CasparCG; it is public domain (free) software and is highly recommended.

Access to multiple Caspar CG Servers from the GVG Controller can be achieved using the existing Ethernet connection if it is connected to a network router/switch along with all other devices. This is also where the ATEM and other accessories would be connected for a normal operation.

Up to 10 Caspar CG Servers (PC's) can be accessed at any time.

THE FOLLOWING IS PRELIMINARY. A BASIC CONTROL SYSTEM IS INSTALLED ALLOWING USER SUGGESTIONS FOR PREFERRED SERVICES.

On initial startup, no CasparCG servers have been initiated by the GVG Controller, but their previously set ip addresses, Channels, Layers, crosspoints and Autoplay settings are loaded. To quickly reconnect each server, first ensure each PC is up and running including their CasparCG server software, and all are connected to the network.

The 10 CasparCG servers can be accessed using the **PATTERN buttons 1 to 10** while in **COLOR 1/2** mode.

To initialize a CasparCG on the GVG Controller, press a PATTERN 1 to 10 to allocate any specific server. This will put the GVG Controller into CasparCG setup mode. It is advisable to have the CasparCG server PC connected and running.

Once a PATTERN 1 to 10 button has been pressed, all 10 PATTERN LED's will flash at the same time waiting for a **setup** item to be selected.

The LED NUMERIC DISPLAY *LEFT* will indicate the selected CasparCG (1 to 9 for servers 1 to 9 and 0 for server 10).

The display's *RIGHT* 3 digits will display --- to indicate nothing has yet been selected to setup.

The CasparCG SETUP items are as follows -

Set up mode 1 – CHANNEL

PATTERN button 1 will stop flashing and the display will indicate the default CHANNEL in the RIGHT 3 digits while flashing the server number in the LEFT digit. Use the FRAMES SET RIGHT button to set channels 1 to 9. Each change will permanently store the value (use SHIFT to decrement).

Set up mode 2 – LAYER

PATTERN button 2 will stop flashing and the display will indicate the default LAYER in the RIGHT 3 digits while flashing the server number in the LEFT digit. Use the FRAMES SET buttons to set layers 1 to 255. Each change will permanently store the value (use SHIFT to decrement).

Set up mode 3 – AUTOPLAY INPUT

PATTERN button 3 will stop flashing and the display will indicate the CasparCG ATEM INPUT in the RIGHT 3 digits while flashing the server number in the LEFT digit. Use the FRAMES SET buttons to set inputs 1 to 20. Each change will permanently store the value (use SHIFT to decrement).

Set up mode 4 – AUTOPLAY ENABLE/DISABLE

PATTERN button 4 will stop flashing and the display indicates **001** when AUTOPLAY is enabled and **000** when AUTOPLAY is disabled. Use the FRAMES SET RIGHT button to toggle ON/OFF. Each change will permanently store the value (use SHIFT to decrement).

Set up mode 5 – AUTOPLAY SWITCH DELAY

PATTERN button 5 will stop flashing and the display indicates the value of the switch delay to the CasparCG . Use the FRAMES SET buttons to set the value in frames. Each change will permanently store the value (use SHIFT to decrement).

Set up modes 6 and 7 – TBA

Set up mode 8 – Disconnect CasparCG Server

PATTERN button 8 will disconnect the selected CasparCG server and will no longer display it's availability.

Set up mode 9 – CasparCG Server IP address (fast connect)

PATTERN button 9 will stop flashing and the display will indicate the *ip field number* (1 to 4) on the LEFT digit and the *field value* on the RIGHT 3 digits. It will initially display the *first field value*. Use the FRAMES SET RIGHT button to increment to the next field, and the FRAMES SET LEFT button to decrement to the last field.

Once the field is selected that is needed to be adjusted, press the SHIFT button. *The field number* display will flash (on the LEFT digit). Use the FRAMES SET buttons to set the required value for the selected field.

Use the ENTER key to accept the final CasparCG ip address entered.

If a CasparCG server is NOT connected to the selected ip address the GVG Controller will keep attempting a connection for up to 30 seconds. The LED will display flashing dashes while the attempt is underway and no other control is available.

If connection was unsuccessful it will abort and leave the server vacant on the selected PATTERN button.

If the CasparCG is activated *during* the connection attempt it should be successful.

After a successful connection, the PATTERN LED will turn on indicating its availability and it will stay on until disconnected.

The TELNET will then display the names of all the available files along with their reference numbers. While these file names are being displayed the last 3 digits on the display will flash and count up the number of media files found on the selected server.

The selected CasparCG will display on its output a still from its media path called 'ID'

Set up mode 10 – CasparCG Server IP address AND update Media Files

PATTERN button 10 will stop flashing and the display will indicate the *ip field number* (1 to 4) on the LEFT digit and the *field value* on the RIGHT 3 digits. It will initially display the *first field value*. Use the FRAMES SET RIGHT button to increment to the next field, and the FRAMES SET LEFT button to decrement to the last field.

Once the field is selected that is needed to be adjusted, press the SHIFT button. *The field number* display will flash (on the LEFT digit). Use the FRAMES SET buttons to set the required value for the selected field.

Use the ENTER key to accept the final CasparCG ip address entered. The display will flash the selected CasparCG (1 to 10) and the RIGHT 3 digits will display the media file number *name* that is being downloaded. This will take some time as it is waiting on the CasparCG server to scan all the media names. There will be multiple pauses on the display as the server changes to all the subfolders in its media path.

If a CasparCG server is NOT connected to the selected ip address the GVG Controller will keep attempting a connection for up to 30 seconds. The LED will display flashing dashes while the attempt is underway and no other control is available.

If connection was unsuccessful it will abort and leave the server vacant on the PATTERN button.

If the CasparCG is activated *during* the connection attempt it should be successful.

After a successful connection, the PATTERN LED will turn on indicating its availability and it will stay on until disconnected.

The TELNET will then display the names of all the available files along with their reference numbers, size, date created etc. While these file names are being displayed the last 3 digits on the display will flash the number of media files found on the server.

The selected CasparCG will display on its output a still from its media path called 'ID'.

Selections 1 to 8 can be made concurrently while in setup mode. Selection 9 and 10 (server IP address) will exit the setup mode once entered.

The ENTER button will save and exit the Caspar CG setup mode.

To reassign or change settings of a CasparCG that had already been initialised, press and hold any PATTERN 1 to 10 button for about a second and it will go into setup mode.

After successful connection has been made, each CasparCG Server can be accessed using PATTERN buttons 1 to 10 while in Color 1/2 mode. The initialised CasparCG's are displayed flashing on the PATTERN LED's.

By pressing

S [ENTER]

the Telnet it will display all parameters associated with the CasparCG's.

	IP	CHAN	LAYER	XPT	A/PLAY	DELAY	ACTIVE
Caspar CG server 1 =	192.168.2.225	3	1	7	N	3	Y
Caspar CG server 2 =	192.168.2.202	0	1	8	N	3	N
Caspar CG server 3 =	192.168.2.203	1	1	9	N	2	Y
Caspar CG server 4 =	192.168.2.116	1	1	10	N	3	N
Caspar CG server 5 =	192.168.2.203	1	1	11	N	0	N
Caspar CG server 6 =	192.168.2.254	1	1	12	N	0	N
Caspar CG server 7 =	192.168.2.255	1	1	13	N	3	N
Caspar CG server 8 =	192.168.19.200	1	1	14	N	3	N
Caspar CG server 9 =	192.168.2.69	1	1	15	N	3	N
Caspar CG server 10 =	192.168.2.252	1	1	16	N	3	N

To access an individual CasparCG for an OPERATIONAL FUNCTION, press the PATTERN button that it's associated with. The LED display will indicate which CasparCG has been selected on the LEFT digit as numbers 1 to 9 and CasparCG 10 is indicated as 0. The right 3 digits will display the last source selected. PATTERN LED's 1 to 10 will cycle in rotation waiting for a selection to be made (note that this flashing is different to the setup mode flashing).

The CasparCG OPERATION items are as follows -

Select PATTERN button 1 – LOAD a media file

Select PATTERN button 2 – PLAY a media file

Select PATTERN button 3 – display all media file names for selected CasparCG server

Select PATTERN button 4 – TBA

Select PATTERN button 5 – TBA

Select PATTERN button 6 – TBA

Select PATTERN button 7 – TBA

Select PATTERN button 8 – TBA

Select PATTERN button 9 – TBA

Select PATTERN button 10 – Refresh all media file names for selected CasparCG server

CasparCG Quick setup guide

Initialise – Press any unallocated PATTERN button

(all PATTERN LEDs flash)

Select PATTERN 10 to setup (or confirm) the required CasparCG Server ip address

(PATTERN LED 10 stops flashing)

Press ENTER to initialise

(all media names are retrieved off the selected CasparCG server)

The selected CasparCG will display on its output a still from its media path called 'ID'

Operate – Press required (initialised) CasparCG PATTERN button

(All 10 PATTERN buttons will continually cycle and selected CasparCG will display)

Select which function required on PATTERN button

(Selected function PATTERN LED will turn on)

CHROMAKEY INTERLOCK

Chromakey interlock is a method of setting, storing and recalling all 20 inputs as individual preset chromakeys.

Its main use is to be able to do a multicam live switch with multiple cameras, all in a chromakey environment.

This method allows up to 20 camera's in chromakey to use just the single chromakeyer and the ability to cut between each complete setting.

Each camera's chromakey is stored in memory for instantaneous recall.

These stored settings include Chromakey HUE, GAIN, Y SUPPRESS, LIFT, NARROW CHROMAKEY RANGE, all MASKS, FILL SOURCE and BACKGROUND SOURCE.

Furthermore, when the BACKGROUND SOURCE is an ATEM MEDIA PLAYER a still image can be chosen which will also get recalled when switching.

When in Chromakey interlock mode the PROGRAM BUSS becomes the Chromakey FILL source and the KEY BUSS becomes the Chromakey BACKGROUND source.

To set up each camera as an *integrated* chromakey with FILL and BACKGROUND sources –

1. Enable Chromakey interlock by pressing SHIFT+CHROMAKEY
The CHROMAKEY LED will flash and the PROGRAM SOURCE LED will flicker rapidly
2. Select the input (FILL) on the PROGRAM BUSS you wish to set up
3. Select the BACKGROUND on the KEY BUSS you wish to INTERLOCK with the FILL
4. Set the MATTE/BKGD to KEYER
5. Set all the chromakey adjustments to suit (settings are automatically saved)

To set MEDIA PLAYERS still image to interlock with the FILL -

1. Select the desired MEDIA PLAYER as the BACKGROUND on the KEY BUSS
The display will indicate the Media Player number in the LEFT two digits and the currently selected still in the RIGHT two digits
P 1 0 3 indicates Media Player 1 has still 3 selected to interlock with the selected FILL source
P 2 1 6 indicates Media Player 2 has still 16 selected to interlock with the selected FILL source
2. Use the FRAMES SET RIGHT button to increment the still number and the FRAMES SET LEFT button to decrement the still number
Once the required selection has been made press the ENTER button
The Display will return to normal operation

To exit Chromakey interlock press the CHROMAKEY button.

USING THE DVE

The DVE on the ATEM 1 me and 2 me switchers have many settings and subsequently are a challenge to allocate to the limited controls available on the GVG panel.

The following is a brief description of the use of the ATEM DVE when controlled by the GVG control panel.

To **SELECT** the **DVE** as the key source –

Press the DVE KEY button (to see the DVE on the preview monitor press the KEY/ON AIR button)

To **RESET** the **DVE X POS, Y POS ROTATION, MASKS** and set the **SIZE** to **50%** -

Press SHIFT+AUDIO/CLEAR and hold for a second

To **ENABLE DVE ADJUSTMENTS** on all the parameters –

Select KEYER on the MATTE/BKGD panel

To **FILL CHANGE SOURCE** for the DVE -

Select FILL SOURCE KEY BUSS, PST 1 or PST 2 (KEY BUSS uses the KEY BUSS ROW to live switch, PST 1 and PST 2 can be preset using the SHIFT+PST command)

To **ADJUST** the **SIZE** (while maintaining the aspect ratio)

Turn the HUE/SIZE knob

To **ADJUST** the **HORIZONTAL SIZE** only (alters the aspect ratio)

Press SHIFT and turn the HUE/SIZE knob

To **ADJUST** the **HORIZONTAL POSITION** and **VERTICAL POSITION** (ensure POSITIONER is turned ON)

Press SHIFT+DVE KEY (DVE KEY LED will flash)

Move the JOYSTICK horizontally or vertically (to exit DVE position mode press the DVE KEY only)

To **ADJUST** the **ROTATION**

turn Y SUPP/ROTATION knob

To **CLEAR ROTATION**

Press SHIFT while turning Y SUPP/ROTATION knob

To **ADJUST** the **LEFT MASK** and **TOP MASK** (ensure POSITIONER is turned ON)

Turn ON the MASK button

Move the JOYSTICK horizontally or vertically

To **ADJUST** the **RIGHT MASK** and **BOTTOM MASK** (ensure POSITIONER is turned ON)

Turn ON the MASK button

Press SHIFT while moving the JOYSTICK horizontally or vertically

To **ENABLE BORDER**

Press the BRDR button

To **ADJUST** the **BORDER COLOR**

Rotate the HUE/CHROMA/LUM knobs on the MATTE/BKGD panel

To **ADJUST** the **BORDER OUTER WIDTH**

Rotate the BORDER knob

To **ADJUST** the **BORDER INNER WIDTH**

Press SHIFT while turning the BORDER knob

To **ADJUST** the **BORDER OUTER SOFTEN** (ensure POSITIONER is turned ON)

Press SHIFT+DVE KEY (DVE KEY LED will flash)

Press SHIFT while moving the JOYSTICK horizontally

To **ADJUST** the **BORDER INNER SOFTEN** (ensure POSITIONER is turned ON)

Press SHIFT+DVE KEY (DVE KEY LED will flash)

Press SHIFT while moving the JOYSTICK vertically

To **ADJUST** the **BORDER OPACITY**

Rotate the LIFT/OPACITY knob

To **SET** the **BORDER STYLE**

Press the INV/STYL button

This will cycle between NO BEVEL, BEVEL IN/OUT, BEVEL IN and BEVEL OUT

To **ADJUST** the **BEVEL POSITION**

Rotate the **BEVEL** knob

To **ADJUST** the **BEVEL SOFTEN**

Rotate the **SOFTNESS** knob

To **ENABLE SHADOW**

Press the NARR/DROP button

To **ADJUST** the **LIGHT SOURCE DIRECTION**

Rotate the **GAIN/LIGHT DIR** knob

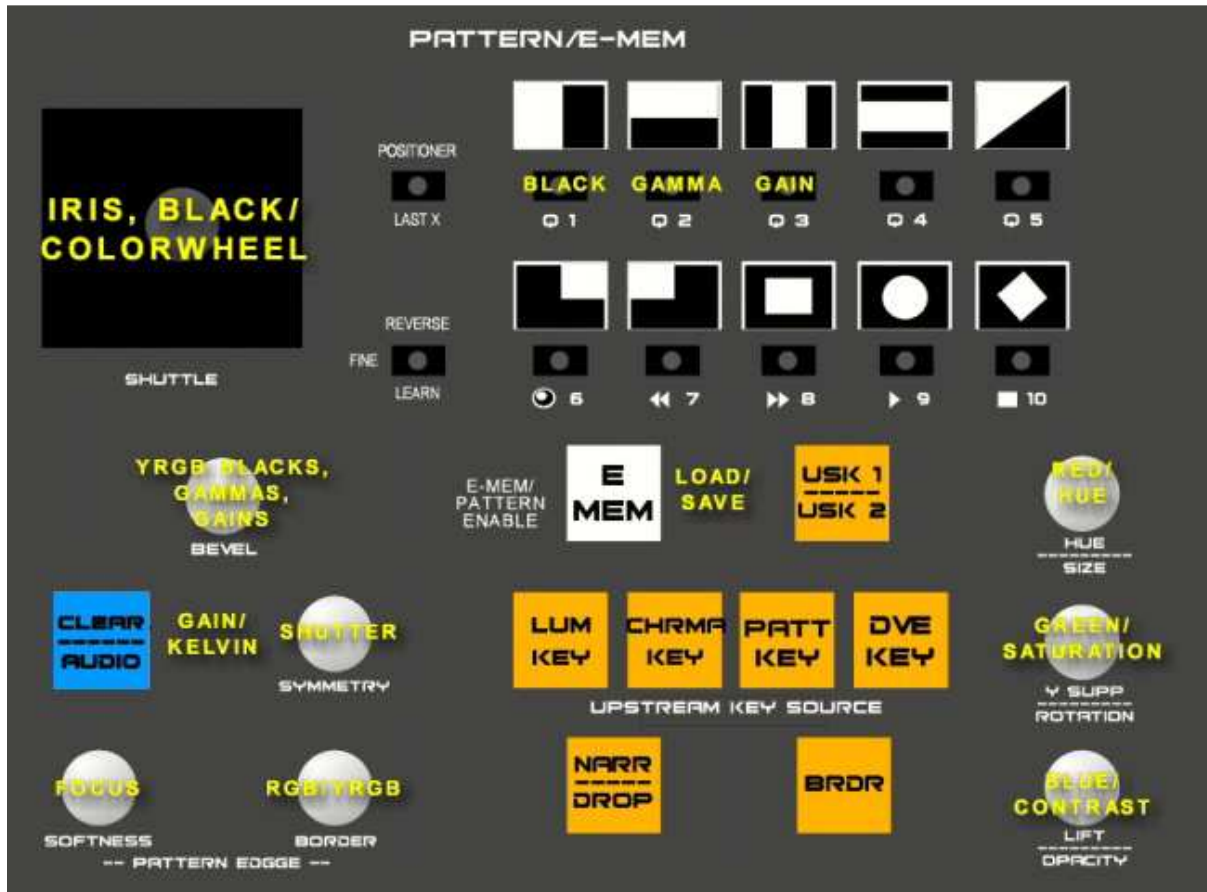
To **ADJUST** the **LIGHT SOURCE ALTITUDE**

Rotate the **CLIP/LIGHT ALT** knob

CAMERA CONTROL UNIT (CCU)

ATEM versions 5 and above include the ability to control the BLACKMAGIC STUDIO CAMERA. These controls are available on the ATEM SOFTWARE CONTROL PANEL and on the GVG Control panel (v01.19 onwards).

Up to 20 individual Cameras can be controlled using the GVG panel.



The **JOYSTICK** is mainly used for **IRIS** (up/down) and **PEDESTAL LEVEL** (left/right).

When used in conjunction with **PATTERN BUTTONS** 1 to 3 the **JOYSTICK** is used to control the **COLORWHEEL** for **BLACKS**, **GAMMAS** and **GAINS**.

PATTERN 1 selects **BLACKS** as the primary adjustment, **PATTERN 2** selects **GAMMAS** as the primary adjustment and **PATTERN 3** selects **GAINS** as the primary adjustment.

BEVEL adjusts **ALL PARAMETERS** of the selected primary adjustment.

The **AUDIO/CLEAR** BUTTON steps the **GAIN** and **KELVIN** settings.

With **REVERSE OFF** it will step the **GAIN** through **0db**, **6db**, **12db** and **18db**.

With **REVERSE ON** it will step the **KELVIN** value through **3200K**, **4500K**, **5000K**, **5600K**, **6500K** and **7500K**.

SYMMETRY knob adjusts the **SHUTTER** value through **1/50, 1/60, 1/75, 1/90, 1/100, 1/120, 1/150, 1/180, 1/250, 1/360, 1/500, 1/725, 1/1000, 1/1450** and **1/2000**.

SOFTNESS adjusts the **FOCUS**. When used with the **SHIFT** button it selects **AUTO FOCUS**.

BORDER adjusts the **RGB/YRGB** value in the **COLOR CORRECTION** panel of the ATEM.

HUE/SIZE has 2 functions. With all **PATTERN** buttons **OFF** it adjusts the **HUE** value in the **COLOR CORRECTION** panel of the ATEM. With any **PATTERN** buttons **ON** it adjusts the **RED** component of the primary adjustment.

Y SUPP/ROTATION has 2 functions. With all **PATTERN** buttons **OFF** it adjusts the **SATURATION** value in the **COLOR CORRECTION** panel of the ATEM. With any **PATTERN** buttons **ON** it adjusts the **GREEN** component of the primary adjustment.

LIFT/OPACITY has 2 functions. With all **PATTERN** buttons **OFF** it adjusts the **CONTRAST** value in the **COLOR CORRECTION** panel of the ATEM. With any **PATTERN** buttons **ON** it adjusts the **BLUE** component of the primary adjustment.

While adjusting any knob value, pressing the **SHIFT** key will reset the value to default. Selecting the **REVERSE** button will enable **COARSE** mode.

OPERATION

To enable the CCU control the **MATTE/BKGD** has to be on **COLOR 1/2** and the **POSITIONER** has to be **ON**.

In default mode the selected camera on the **PREVIEW BUSS** is the camera enabled for the control functions.

ON FIRST OPERATION FOR EACH CAMERA, IT IS RECOMMENDED TO RESET ALL THE PARAMETERS BEFORE ADJUSTING. THIS ENSURES EVERYTHING WILL START OFF FROM A FIXED KNOWN POSITION.

To **RESET ALL** selected camera CCU values except IRIS, FOCUS, SHUTTER and COLOR TEMPERATURE, ensure **POSITIONER LED** in ON and then press **SHIFT+POSITIONER**.

~~Using the TELNET the selection control can be set to use either an ATEM AUX BUSS or a BLACKMAGIC VIDEOHUB.~~

~~To set the control to use an AUX BUSS enter~~

~~CCU a1 1, 2, 3~~

~~This will allocate AUX BUSS 1 to adjust camera's 1, 2 and 3 when inputs 1, 2 and 3 are respectfully selected.~~

~~CCU a2 4, 5, 6, 7~~

~~This will allocate AUX BUSS 2 to adjust camera's 4, 5, 6 and 7 when inputs 4, 5, 6 and 7 are respectfully selected.~~

~~To set the control to use an VIDEOHUB enter—~~

~~CCU v1 1, 2, 3~~

~~This will allocate VIDEOHUB DESTINATION 1 to adjust camera's 1, 2 and 3 when inputs 1, 2 and 3 are respectfully selected.~~

~~CCU v2 4, 5, 6, 7~~

~~This will allocate VIDEOHUB DESTINATION 2 to adjust camera's 4, 5, 6 and 7 when inputs 4, 5, 6 and 7 are respectfully selected.~~

IRIS

When entering CCU mode the **JOYSTICK** automatically enters **IRIS/BLACK LEVEL** mode with the current IRIS VALUE shown on the display as a value between 0 and 100 identified by the letter E (exposure). **E 000** indicates maximum exposure and **E 1000** indicates minimum exposure.

Moving the JOYSTICK UP increases the current exposure and moving the JOYSTICK DOWN decreases the current exposure.

Any movement of the IRIS control automatically shows its value on the display.

Using **SHIFT** while moving the iris will **CLOSE** it.

PEDESTAL LEVEL

When entering CCU mode the **JOYSTICK** automatically enters **IRIS/ PEDESTAL LEVEL** mode with the current IRIS VALUE shown on the display. Moving the JOYSTICK LEFT decreases the current pedestal level and moving the JOYSTICK RIGHT increases the pedestal level. The display shows the current PEDESTAL VALUE between -99 and 99 identified by the letter P (pedestal). **P 00** indicates normal pedestal, **P-01** indicates negative pedestal and **P 01** indicates positive pedestal.

Any movement of the PEDESTAL control automatically shows its value on the display.

Using **SHIFT** while moving the pedestal will **RESET** it to default.

BLACK COLOR

To adjust the various **BLACK** colors select **PATTERN 1**. All other selected PATTERN buttons will turn off.

Use the **BEVEL** knob to increase or decrease **ALL** the Y, R, G and B BLACK values. The value of the Y BLACK will display. Using **SHIFT** while turning the **BEVEL** knob will **RESET ALL** the Y, R, G and B BLACK values to default. To reset the BEVEL knob position to gain further control

hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **HUE/SIZE** knob to increase or decrease the **RED BLACK** value. The value of the **RED BLACK** will display. Using **SHIFT** while turning the **HUE/SIZE** knob will **RESET** the **RED BLACK** value to default. To reset the **HUE/SIZE** knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **Y SUPP/ROTATION** knob to increase or decrease the **GREEN BLACK** value. The value of the **GREEN BLACK** will display. Using **SHIFT** while turning the **Y SUPP/ROTATION** knob will **RESET** the **GREEN BLACK** value to default. To reset the **Y SUPP/ROTATION** knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **LIFT/OPACITY** knob to increase or decrease the **BLUE BLACK** value. The value of the **BLUE BLACK** will display. Using **SHIFT** while turning the **LIFT/OPACITY** knob will **RESET** the **BLUE BLACK** value to default. To reset the **LIFT/OPACITY** knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **JOYSTICK** to adjust the **BLACK COLORWHEEL**. The value of the **RED** will show on the 2nd digit of the display as a value 0 to 9. The value of the **GREEN** will show on the 3rd digit of the display as a value 0 to 9. The value of the **BLUE** will show on the 4th digit of the display as a value 0 to 9. Any negative value will **FLASH** the digit. To **RESET** all the **BLACK COLORWHEEL** values to default hold down **ENTER** while moving the **JOYSTICK**.

GAMMA COLOR

To adjust the various **GAMMA** colors select **PATTERN 2**. All other selected **PATTERN** buttons will turn off.

Use the **BEVEL** knob to increase or decrease **ALL** the Y, R, G and B **GAMMA** values. The value of the **Y GAMMA** will display. Using **SHIFT** while turning the **BEVEL** knob will **RESET** **ALL** the Y, R, G and B **GAMMA** values to default. To reset the **BEVEL** knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **HUE/SIZE** knob to increase or decrease the **RED GAMMA** value. The value of the **RED GAMMA** will display. Using **SHIFT** while turning the **HUE/SIZE** knob will **RESET** the **RED GAMMA** value to default. To reset the **HUE/SIZE** knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **Y SUPP/ROTATION** knob to increase or decrease the **GREEN GAMMA** value. The value of the **GREEN GAMMA** will display. Using **SHIFT** while turning the **Y SUPP/ROTATION** knob will **RESET** the **GREEN GAMMA** value to default. To reset the **Y SUPP/ROTATION** knob

position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **LIFT/OPACITY** knob to increase or decrease the **BLUE GAMMA** value. The value of the BLUE GAMMA will display. Using **SHIFT** while turning the LIFT/OPACITY knob will **RESET** the BLUE GAMMA value to default. To reset the LIFT/OPACITY knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **JOYSTICK** to adjust the **GAMMA COLORWHEEL**. The value of the **RED** will show on the 2nd digit of the display as a value 0 to 9. The value of the **GREEN** will show on the 3rd digit of the display as a value 0 to 9. The value of the **BLUE** will show on the 4th digit of the display as a value 0 to 9. Any negative value will flash the digit. To **RESET** all the **GAMMA COLORWHEEL** values to default hold down **ENTER** while moving the **JOYSTICK**.

GAIN COLOR

To adjust the various **GAIN** colors select **PATTERN 3**. All other selected PATTERN buttons will turn off.

Use the **BEVEL** knob to increase or decrease **ALL** the Y, R, G and B GAIN values. The value of the Y GAIN will display. Using **SHIFT** while turning the **BEVEL** knob will **RESET ALL** the Y, R, G and B GAIN values to default. To reset the BEVEL knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **HUE/SIZE** knob to increase or decrease the **RED GAIN** value. The value of the RED GAIN will display. Using **SHIFT** while turning the **HUE/SIZE** knob will **RESET** the **RED GAIN** value to default. To reset the HUE/SIZE knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **Y SUPP/ROTATION** knob to increase or decrease the **GREEN GAIN** value. The value of the GREEN GAIN will display. Using **SHIFT** while turning the **Y SUPP/ROTATION** knob will **RESET** the **GREEN GAIN** value to default. To reset the Y SUPP/ROTATION knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **LIFT/OPACITY** knob to increase or decrease the **BLUE GAIN** value. The value of the BLUE GAIN will display. Using **SHIFT** while turning the **LIFT/OPACITY** knob will **RESET** the **BLUE GAIN** value to default. To reset the LIFT/OPACITY knob position to gain further control hold down **ENTER** while repositioning the knob. Turn on **REVERSE** to obtain a more **COARSE** adjustment.

Use the **JOYSTICK** to adjust the **GAIN COLORWHEEL**. The value of the **RED** will show on the 2nd digit of the display as a value 0 to 9. The value of the **GREEN** will show on the 3rd digit of the display as a value 0 to 9. The value of the **BLUE** will show on the 4th digit of the display

as a value 0 to 9. Any negative value will flash the digit. To **RESET** all the **GAIN COLORWHEEL** values to default hold down **ENTER** while moving the **JOYSTICK**.

GAIN

The **GAIN** setting of the CCU is stepped up using the **AUDIO/CLEAR** button while **NO PATTERN** buttons are selected and **REVERSE** is **OFF**. The steps are **0db, 6db, 12db, 18db** and back to **0db**. The display will show the current GAIN value. On initial selection of the **AUDIO/CLEAR** it will only show the **CURRENT GAIN** value. All subsequent pressing of the **AUDIO/CLEAR** will step the value.

KELVIN (COLOR TEMPERATURE)

The **KELVIN** setting of the CCU is stepped up using the **AUDIO/CLEAR** button while **NO PATTERN** buttons are selected and **REVERSE** is **ON**. The steps are **3200K, 4500K, 5000K, 5600K, 6500K, 7500K** and back to **3200K**. The display will show the current **KELVIN** value.

SHUTTER

The **SHUTTER** setting of the CCU is stepped up using the **SYMMETRY**. The steps are **1/50, 1/60, 1/75, 1/90, 1/100, 1/120, 1/150, 1/180, 1/250, 1/360, 1/500, 1/725, 1/1000, 1/1450 and 1/2000**. The display will show the current **SHUTTER** value. To reset the **SYMMETRY** knob position to gain further control hold down **ENTER** while repositioning the knob.

FOCUS

Use the **SOFTNESS** knob to adjust the **FOCUS**. The display will show the current **FOCUS** value. Enable **REVERSE** to turn on **COARSE** adjustments. To set **AUTO FOCUS** hold down **SHIFT** while turning the **SOFTNESS** knob. To reset the **SOFTNESS** knob position to gain further control hold down **ENTER** while repositioning the knob.

RGB/YRGB (in COLOR CORRECTOR)

Use the **BORDER** knob to adjust the **RGB/YRGB** in the **COLOR CORRECTOR**. The display will show the current **RGB/YRGB** value. Enable **REVERSE** to turn on **COARSE** adjustments. To **RESET** the **RGB/YRGB** value hold down **SHIFT** while turning the **BORDER** knob. To reset the **BORDER** knob position to gain further control hold down **ENTER** while repositioning the knob.

HUE (in COLOR CORRECTOR)

Use the **HUE/SIZE** knob to adjust the **HUE** in the **COLOR CORRECTOR**. The display will show the current **HUE** value as a percentage. Enable **REVERSE** to turn on **COARSE** adjustments. To **RESET** the **HUE** value hold down **SHIFT** while turning the **HUE/SIZE** knob. To reset the **HUE/SIZE** knob position to gain further control hold down **ENTER** while repositioning the knob.

SATURATION (in COLOR CORRECTOR)

Use the **Y SUPP/ROTATION** knob to adjust the **SATURATION** in the **COLOR CORRECTOR**. The display will show the current **SATURATION** value as a percentage. Enable **REVERSE** to turn on **COARSE** adjustments. To **RESET** the **SATURATION** value hold down **SHIFT** while

turning the **Y SUPP/ROTATION** knob. To reset the Y SUPP/ROTATION knob position to gain further control hold down ENTER while repositioning the knob.

CONTRAST (in COLOR CORRECTOR)

Use the **LIFT/OPACITY** knob to adjust the **CONTRAST** in the **COLOR CORRECTOR**. The display will show the current CONTRAST value as a percentage. Enable **REVERSE** to turn on **COARSE** adjustments. To **RESET** the **CONTRAST** value hold down **SHIFT** while turning the **LIFT/OPACITY** knob. To reset the LIFT/OPACITY knob position to gain further control hold down ENTER while repositioning the knob.

SAVING A CAMERA SETTING

The selected camera's full settings can be stored in any one of ten registers. To **SAVE**, select the required camera and press the **EMEM/LOAD/SAVE** button. The EMEM/LOAD/SAVE LED will turn ON and all the PATTERN LEDs will flash awaiting a selection. Press the required **PATTERN 1 to 10** register. The values are then saved and the PATTERN LED and EMEM/LOAD/SAVE LED will turn OFF.

To **ABORT** the **SAVE CAMERA SETTING** press **EMEM/LOAD/SAVE** button.

LOADING A CAMERA SETTING

The selected camera's full settings can be loaded from any one of ten registers. To **LOAD**, select the required camera and press **SHIFT+EMEM/LOAD/SAVE** button. The EMEM/LOAD/SAVE LED will **FLASH** and all the PATTERN LEDs will flash awaiting a selection. Press the required **PATTERN 1 to 10** register. If there is no saved register the selected PATTERN register will **FLASH for 2 seconds** and the EMEM/LOAD/SAVE LED will turn OFF. If the selected register exists the values are then loaded into the selected camera and the PATTERN LED and EMEM/LOAD/SAVE LED will turn OFF.

To **ABORT** the **LOAD CAMERA SETTING** press **EMEM/LOAD/SAVE** button.

To **TURN OFF CCU** control, disable the **POSITIONER**. All values will remain.

USING THE TELNET INTERFACE

The **TELNET** Interface is a *communications link* that connects between a standard MAC or PC computer with network interface and to the GVG Controller. It is only required for setting up the *operational requirements* that suit your specific needs.

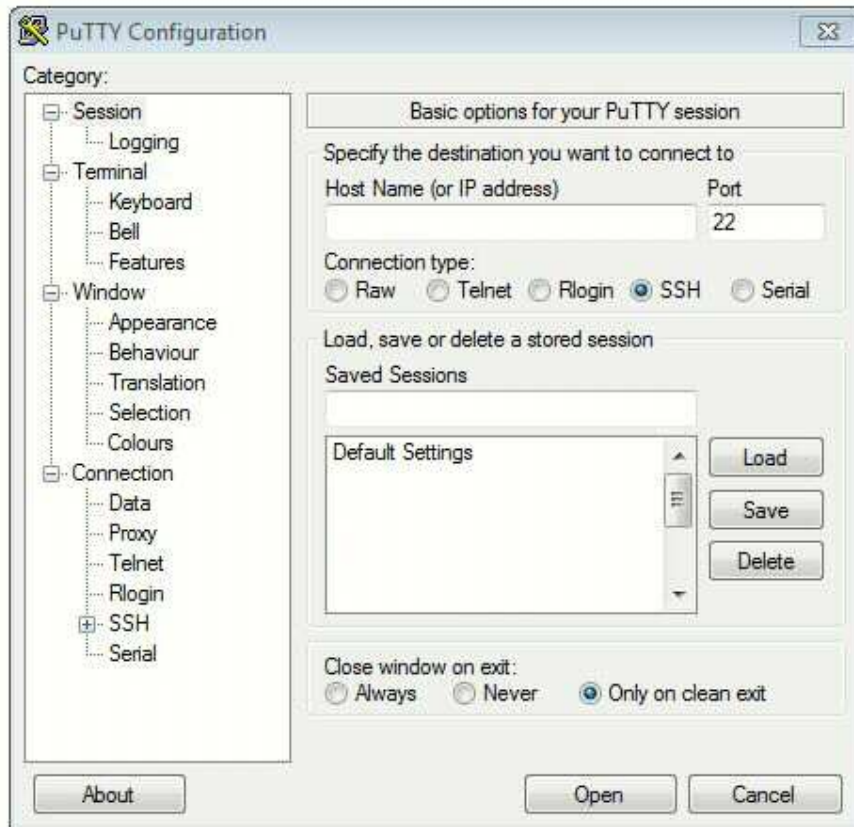
The TELNET connects using the already available local network connection that is used between the GVG Controller, the network switch/router and the ATEM. It is most often used on the computer that is running the *ATEM software control panel*.

The same controls of the TELNET will *soon* also be available using the USB port on the GVG Controller for those who do not use a network switch/router and just connect their GVG controller directly to the ATEM. The downside of this setup is that every time a connection

is made to the GVG Controller it restarts the panel (this is a function of the Arduino bootstrap loader).

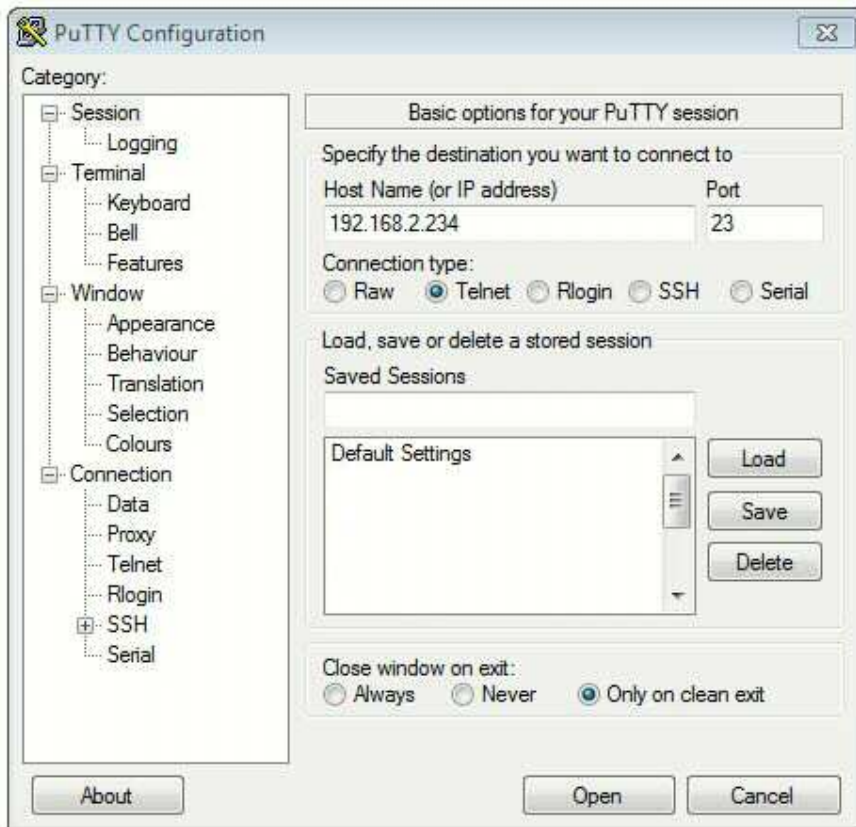
Setting up a TELNET connection using 'PuTTY'

1. Start PuTTY (supplied on the Utilities disk)



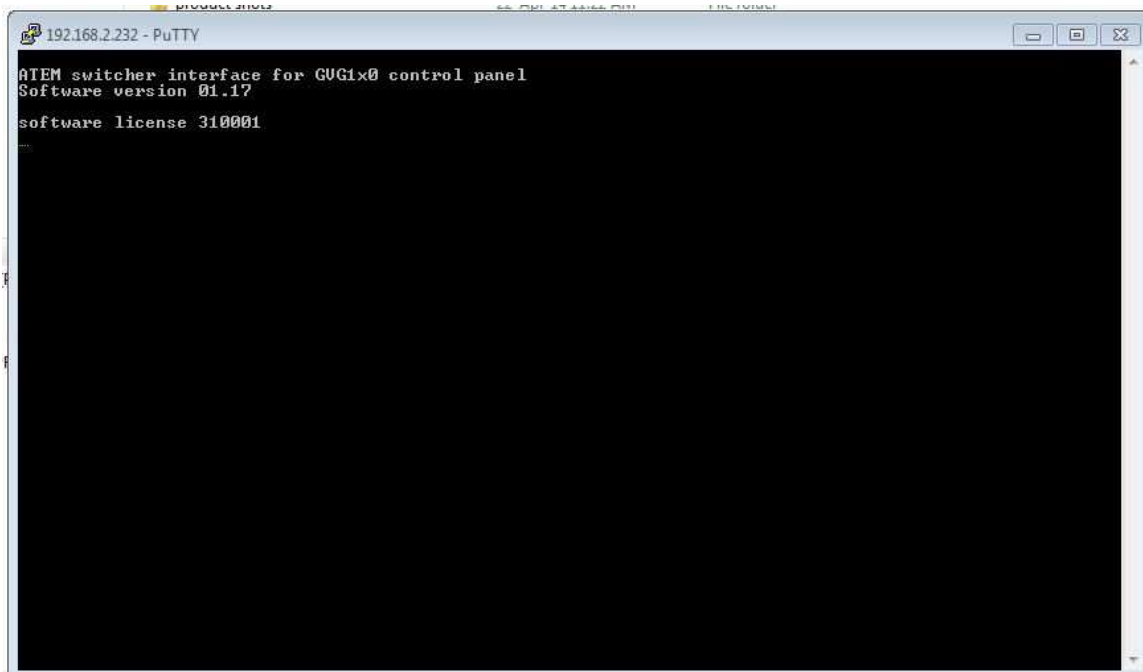
2. *Check* the Telnet button
The Port will change to 23

3. Enter the ip address of the GVG Controller in the Host Name



Ensure you use a period (.) between each of the 4 sets of digits.
eg. 192.168.2.234

4. Click Open
The screen will open a PuTTY terminal screen



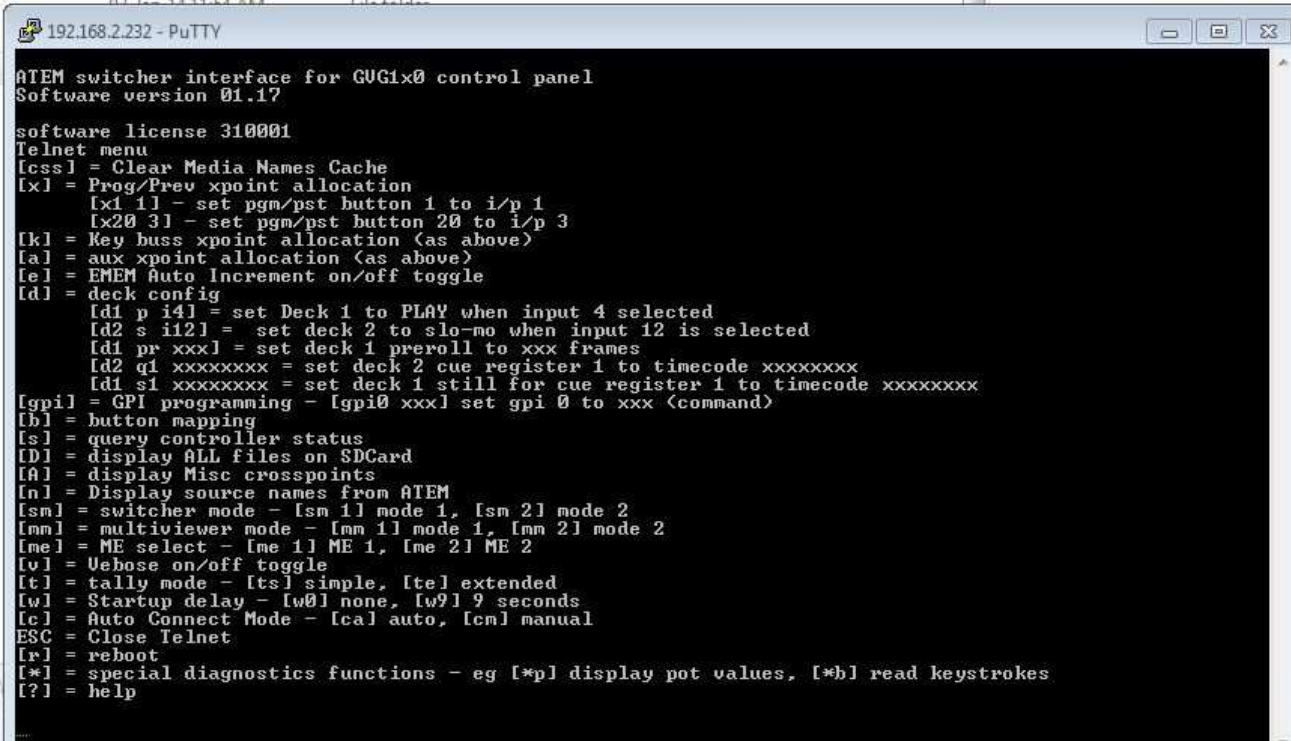
The following text appears -

ATEM switcher interface for GVG1x0 control panel
Software version 01.17

software license 310001

This indicates that a connection has been successfully made. The Software version will show the current software the connected GVG Controller is using and the Serial number is specific to each individual unit.

For a list of TELNET functions type `?' then `ENTER' (? **ENTER**).



```
ATEM switcher interface for GUG1x0 control panel
Software version 01.17
software license 310001
Telnet menu
[css] = Clear Media Names Cache
[x] = Prog/Prev xpoint allocation
[x1 1] - set pgm/pst button 1 to i/p 1
[x20 3] - set pgm/pst button 20 to i/p 3
[k] = Key buss xpoint allocation (as above)
[a] = aux xpoint allocation (as above)
[e] = EMEM Auto Increment on/off toggle
[d] = deck config
[d1 p i4] = set Deck 1 to PLAY when input 4 selected
[d2 s i12] = set deck 2 to slo-mo when input 12 is selected
[d1 pr xxx] = set deck 1 preroll to xxx frames
[d2 q1 xxxxxxxx] = set deck 2 cue register 1 to timecode xxxxxxxx
[d1 s1 xxxxxxxx] = set deck 1 still for cue register 1 to timecode xxxxxxxx
[gpi] = GPI programming - [gpi0 xxx] set gpi 0 to xxx (command)
[b] = button mapping
[s] = query controller status
[D] = display ALL files on SDCard
[A] = display Misc crosspoints
[n] = Display source names from ATEM
[sm] = switcher mode - [sm 1] mode 1, [sm 2] mode 2
[mm] = multiviewer mode - [mm 1] mode 1, [mm 2] mode 2
[me] = ME select - [me 1] ME 1, [me 2] ME 2
[v] = Vebose on/off toggle
[t] = tally mode - [ts] simple, [te] extended
[w] = Startup delay - [w0] none, [w9] 9 seconds
[c] = Auto Connect Mode - [ca] auto, [cm] manual
ESC = Close Telnet
[r] = reboot
[*] = special diagnostics functions - eg [*p] display pot values, [*b] read keystrokes
[?] = help
```

Telnet menu

```
[css] = Clear Media Names Cache
[x] = Prog/Prev xpoint allocation
[x1 1] - set pgm/pst button 1 to i/p 1
[x20 3] - set pgm/pst button 20 to i/p 3
[k] = Key buss xpoint allocation (as above)
[a] = aux xpoint allocation (as above)
[e] = EMEM Auto Increment on/off toggle
[d] = deck config
[d1 p i4] = set Deck 1 to PLAY when input 4 selected
[d2 s i12] = set deck 2 to slo-mo when input 12 is selected
[d1 pr xxx] = set deck 1 preroll to xxx frames
[d2 q1 xxxxxxxx] = set deck 2 cue register 1 to timecode xxxxxxxx
[d1 s1 xxxxxxxx] = set deck 1 still for cue register 1 to timecode xxxxxxxx
[gpi] = GPI programming - [gpi0 xxx] set gpi 0 to xxx (command)
[s] = query controller status
[D] = display ALL files on SDCard
[A] = display Misc crosspoints
[n] = Display source names from ATEM
[sm] = switcher mode - [sm 1] mode 1, [sm 2] mode 2
[mm] = multiviewer mode - [mm 1] mode 1, [mm 2] mode 2
[me] = ME select - [me 1] ME 1, [me 2] ME 2
[v] = Vebose on/off toggle
```

[t] = tally mode - [ts] simple, [te] extended
[w] = Startup delay - [w0] none, [w9] 9 seconds
[c] = Auto Connect Mode - [ca] auto, [cm] manual
ESC = Close Telnet
[r] = reboot
[*] = special diagnostics functions - eg [*p] display pot values, [*b] read keystrokes
[?] = help

Menu descriptions

[css] = Clear Media Names Cache

This command is used to clear all the media names that have been sent by the ATEM. This is normally done at the beginning of a session as the ATEM does not have a function to clear the media (other than power cycling or changing the system format).

[x] = Prog/Prev xpoint allocation
[x1 1] - set pgm/pst button 1 to i/p 1
[x20 3] - set pgm/pst button 20 to i/p 3

This is for programming the Program/Preview buss button inputs.
Multiple single line commands can be *pasted* into the TELNET window.
To view the current Program/Preview buss button inputs press **[x] ENTER**

See `2. PROGRAM/PREVIEW BUTTON REMAPPING using the Telnet connection' for use.

[k] = Key buss xpoint allocation (as above)

This is for programming the Key buss button inputs. The operation is the same as for [x]
Multiple single line commands can be pasted into the TELNET window.
To view the current Key buss button inputs press **[k] ENTER**

[a] = aux xpoint allocation (as above)

This is for programming the AUX buss button inputs. The operation is the same as for [x]
Multiple single line commands can be pasted into the TELNET window.
To view the current AUX buss button inputs press **[a] ENTER**

[e] = EMEM Auto Increment on/off toggle

This is used to toggle the state of the EMEM selection. By pressing [e] on the TELNET the state will toggle.

Auto Increment EMEM on
Auto Increment EMEM off

See EMEM for a full description.

[d] = deck config
[d1 p i4] = set Deck 1 to PLAY when input 4 selected
[d2 s i12] = set deck 2 to slo-mo when input 12 is selected
[d1 pr xxx] = set deck 1 preroll to xxx frames
[d2 q1 xxxxxxxx] = set deck 2 cue register 1 to timecode xxxxxxxx
[d1 s1 xxxxxxxx] = set deck 1 still for cue register 1 to timecode

This is used to set various values in the Deck Control registers.

To view the current Deck status and values press **[d] ENTER**

See *'SETTING DECK PARAMETERS using the Telnet connection'* for use.

[gpi] = GPI programming - [gpi0 xxx] set gpi 0 to xxx (command)

This is used to set various values for the GPI registers.

Eg. gpi0 67 = set gpi 0 to button 67. Gpis are 0 to 7 (1 to 7 are on the expansion board).

To view the current GPI values press **[gpi] ENTER**

For commands see

<http://www.lefflerpost.com.au/gvg2atem/GVG110%20GPI%20keycodes.pdf>

See *'SETTING GPI's using the Telnet connection'* for use.

[s] = query controller status

This displays a summary of the current GVG Controller settings.

[IPL=192.168.2.232] = local ip address
[IPS=192.168.2.240] = ATEM ip address

Verbose = off
startup delay = 0 seconds
Tally Mode = SIMPLE
switcher MODE = 1
Auto Reconnect = Auto
Auto Increment EMEM off
Multiview Mode = 1
Current ME = 1
Last ATEM time = 01:38:14:15
Deck 1 = none
Deck 2 = none
MAC ADDRESS = 90:A2:DA:0:E8:B7

software license 310001
(C) 2014 Baz Leffler - version 01.16

Connected to an ATEM 2 M/E Production Switcher
Firmware version 2.13.1 Video format 1080 50i

[D] = display ALL files on SDCard

This will display the current system files stored on the built in MicroSDCard.

Many of these files contain text as used in the operation of the GVG Controller that can be changed to suit various languages. This will be discussed later.

name	size
001.EME	4000
002.EME	4000
250.EME	4000
ATEM.DOC	4000
CONFIG.VER	5
DEVICES.DOC	904
EMEM.DOC	775
TEMPFILE	0
MENUS.DOC	7502
MESSAGE.DOC	293
MESSAGES.DOC	712
OFFSETS.OFF	85
SHIFT.DOC	847
TELNET.DOC	1307
INNAMES.NAM	1200
SOURCES.DAT	60
UDPDATA.DAT	4000

end of listing

[A] = display Misc crosspoints

Many other programmable inputs can be programmed into the GVG Controller including AUX Buss, DIP Source, Wipe Border, DVD inputs, Supersource inputs Art BG.

This will display the current allocations.

Misc crosspoints

AUX 1 = Black
AUX 2 = Black
AUX 3 = Black
AUX 4 = Black
AUX 5 = Black
AUX 6 = Black

DIP Source ME 1 = Color 1
DIP Source ME 2 = Black

WIPE Border ME 1 = Color 1
WIPE Border ME 2 = Color 1

DVE Fill ME 1 = Media Player 1
DVE Fill ME 2 = Media Player 1 Key

DVE Key ME 1 = Media Player 1 Key
DVE Key ME 2 = Black
SuperSource 1 = VTR 1

SuperSource 2 = camera 5
SuperSource 3 = camera 4
SuperSource 4 = camera 3
SuperSource ART FILL = VTR 1
SuperSource ART KEY = VTR 1

[n] = Display source names from ATEM

Displays the names of the ATEM sources as loaded from the ATEM.

InputNames:

#	NAME	INPUT
01.	Black	[00]
02.	HDMI	[01]
03.	camera 1	[02]
04.	camera 2	[03]
05.	camera 3	[04]
06.	camera 4	[05]
07.	camera 5	[06]
08.	camera 6	[07]
09.	camera 7	[08]
10.	camera 8	[09]
11.	VTR 1	[10]
12.	VTR 2	[11]
13.	VTR 3	[12]
14.	VTR 4	[13]
15.	VTR 5	[14]
16.	CASPAR Fill	[15]
17.	CASPAR Key	[16]
18.	Not Available	[17]
19.	Not Available	[18]
20.	Not Available	[19]
21.	Not Available	[20]
22.	Color Bars	[21]
23.	Color 1	[22]
24.	Color 2	[23]
25.	Media Player 1	[24]
26.	Media Player 1 Key	[25]
27.	Media Player 2	[26]
28.	Media Player 2 Key	[27]
29.	SuperSource	[28]
30.	Clean Feed 1	[29]
31.	Clean Feed 2	[30]
32.	Auxillary 1	[31]
33.	Auxillary 2	[32]
34.	Auxillary 3	[33]
35.	Auxillary 4	[34]
36.	Auxillary 5	[35]
37.	Auxillary 6	[36]
38.	ME 1 Prog	[37]
39.	ME 1 Prev	[38]
40.	ME 2 Prog	[39]
41.	ME 2 Prev	[40]

This is an example from an ATEM 2 m/e.

The number on the right is the actual number to use when setting input allocations.

[sm] = switcher mode - [sm 1] mode 1, [sm 2] mode 2

This sets the functions of the Program and Preview buttons.

Switching mode –

Mode 1 = program/preview buss use inputs 1-10 and SHIFT 11-20 (normal).

Mode 2 = program use inputs 1-20 (2 rows) and SHIFT is preview 1-20

eg. [sm 1] - set to mode 1

[mm] = multiviewer mode - [mm 1] mode 1, [mm 2] mode 2

This allows the Multiviewer to display either *ME 1 Program* or *ME 1 Preview* in their respective windows (mode 1) or the *current sources* (mode 2).

To view the current Multiviewer Mode press **[mm]** **ENTER**

[me] = ME select - [me 1] ME 1, [me 2] ME 2

Select the MIX/EFFECTS row to control (for 2 m/e ATEM)

ME select - mode 1 is me 1, mode 2 is me 2

eg. [me 1] - set to me 1

To view the current M/E Mode press **[me]** **ENTER**

[v] = Verbose on/off toggle

Toggles Verbose Mode. This will allow most functions that are altered during operation to display a status on the TELNET screen.

[t] = tally mode - [ts] simple, [te] extended

Tally Simple mode is when the Tally Extended option is not fitted. It allows for TALLY 1 to 10 to operate normally out of the expansion cable.

Tally Extended requires the optional Tally Extended option, which provide TALLY 1 to 12 PROGRAM and TALLY 1 to 12 PREVIEW.

To view the current Tally Mode press **[t]** **ENTER**

[w] = Startup delay - [w0] none, [w9] 9 seconds

Sets a startup delay to wait for the connected ATEM to start up. If BOTH ATEM and the GVG Controller are powered at the same time, data may be lost in the communications.

This adjustment allows the GVG Controller to wait up to 9 seconds before it will start, to allow the ATEM to start up.

To view the current Startup delay press **[w]** **ENTER**

[c] = Auto Connect Mode - [ca] auto, [cm] manual

When the connection from the GVG Controller is lost it can either re-connect automatically or wait for the user to command a re-connect. Manual reconnect is achieved by pressing any PREVIEW BUS key when the GVG Display is FLASHING -



To view the current Auto-connect Mode press [c] **ENTER**

ESC = Close Telnet

This allows a clean closure of the TELNET Connection to stop the GVG Controller sending data to a phantom receiver. It is also useful for moving to a different TELNET connection such as an iPad.

[r] = reboot

This allows a clean restart of the GVG Controller.

[*] = special diagnostics functions

There are some engineering functions available that are primarily used in the development of the GVG Controller. These functions require an asterisk followed by a key as follows –

- 1 = display "ATEM.DOC" as HEX on the diagnostic terminal*
- ! = display "ATEM.DOC" as ASCII on the diagnostic terminal*
- 2 = display Current EMEM register as HEX on the diagnostic terminal*
- @ = display Current EMEM register as ASCII on the diagnostic terminal*
- 3 = display "MENUS.DOC" on the diagnostic terminal*
- 4 = display "DEVICES.DOC" on the diagnostic terminal*
- 5 = display "EMEM.DOC" on the diagnostic terminal*
- 6 = display "TELNET.DOC" on the diagnostic terminal*
- 7 = display "SHIFT.DOC" on the diagnostic terminal*
- 8 = display "HTML.DOC" on the diagnostic terminal*
- 9 = display "MESSAGES.DOC" on the diagnostic terminal*
- 0 = display "CASPARCG.DOC" as ASCII" on the diagnostic terminal*
-) = display "CASPARCG.DOC" as HEX" on the diagnostic terminal*
- b = display button codes on TELNET
- A = display ATEM CODE on TELNET
- c = create file eg *c file.nam
- d = delete file eg *d file.nam
- r = read file eg *r file.nam and display on TELNET
- ly = LEDs ON
- In = LEDs OFF

p = display pots on TELNET
p1 = display pot 1 on TELNET
p2 = display pot 2 on TELNET
p3, p4, p5, p6, p7, p8, p9, on TELNET
pa = display pot 10 on TELNET
pb = display pot 11 on TELNET
m = display free memory on TELNET
i = display input error codes on TELNET

*The diagnostics terminal is connected to the RS232 port on the Serial Option (115200_{baud})

[?] = help

Displays the available TELNET commands as above.

OPTIONAL SERIAL INTERFACE MODULE

An optional Serial Interface board is available that allows connection to two **RS422 ports**, an **RS232 port** and an **IC2 display/controller** module for use with the Configuration Panel (*also optional*). The Serial Interface board also has connections for a further **eight GPI IN** triggers and a **tally interface**.

USING THE CONFIGURATION PANEL

(Coming soon)

USING THE RS422 PORTS

Controlling Decks – rough notes – soon to be formatted

In summary, the PATTERN buttons and Joystick are used for deck control (invoked using the MATTE/BKGD SELECT button to NONE).

PATT buttons 1 to 5 are cue buttons; pressing any of these buttons will cue a deck to the stored timecode (instantaneous in the case of a Hyperdeck).

Pressing and holding PATT buttons 1 to 5 for about a second will store the current decks timecode value into registers 1 - 5.

Pressing SHIFT and PATT buttons 1 to 5 will CLEAR cue timecode value in registers 1 - 5.

PATT 6 enables the joystick to Shuttle or Jog (REVERSE button on)

PATT 7 is bump 1 frame back; Pressing and holding PATT 7 for about a second will put the deck into FAST REWIND.

PATT 8 is bump 1 frame forward; Pressing and holding PATT 8 for about a second will put the deck into FAST FORWARD.

PATT 9 is PLAY; Pressing SHIFT and PATT 9 for about a second will put the deck into RECORD (PATT 6 - 10 LEDs will flash while in record).

PATT 10 is varyplay using the Joystick V where centre is 50%, MAX is Play speed and Min is still POSITIONER selects between DECK 1 and DECK 2.

REVERSE switches the JOYSTICK between SHUTTLE and JOG.

All PATTERN LEDs will *ONLY EVER FLASH* (to indicated DECK CONTROL MODE).

PATT 1 - 5 LEDs flash when there is a number stored; OFF when empty

PATT 6 flashes when in SHUTTLE or JOG mode.

PATT 7 flashes when in REWIND

PATT 8 flashes when in FAST FORWARD

PATT 9 flashes when in PLAY

PATT 9 and PATT 6 flashes when in VARYPLAY

PATT 10 flashes when in STOP

PATT 6 - 10 ALL flash when in RECORD

POSITIONER will flash when DECK 2 is selected

REVERSE LED will flash when in JOG

(all deck status LEDs indicate the actual status of the *selected* deck, so if the deck is changed locally the status LEDs will indicate it.)

The 4 digit display will show the current decks TIMECODE (two digits only)

Using the FRAMES SET buttons under the display, the SET 1 button (right) steps the two timecode digits to the right and the SET 100 button (left) steps the two timecode digits to the left.

EDITOR ENABLE (SHIFT + ENTER) ENABLES *crosspoint* **AUTO PLAY** on the selected deck.

Manually setting cue points and all other setups can be achieved via the TELNET connection or the CONFIG PANEL.

All the above *will* also eventually apply to network controlled decks including the Hyperdeck.

Editor Interface -

(Coming soon)

USING THE RS232 PORT

(Coming soon)

USING THE TALLY INTERFACE

(Coming soon)

USING THE GPI IN

(Coming soon)

To be continued

