eyeheight

BT-2

SDI LTC/VITC time code reader

user manual

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1 System Overview

The BT-2 Burnt-in Timecode unit extracts the Vertical Interval Timecode (VITC) or the Longitudinal Timecode (LTC) and displays this as ASCII Characters on the screen.

The main features of the BT-2 are as follows:

- Reads Longitudinal and Vertical interval Timecode (from an SDI Input).

- Displays timecode on-screen with a viewing option on the Flexipanel LCD displays.

- LTC, VITC, Auto LTC and Auto VITC modes of operation.

- Displays HH:MM:SS:FF and user bits with field mark.

- Re-Inserts VITC driven by the LTC input. (LTC to VITC conversion)

- 4 different display modes with user selectable screen position/size and user selectable character colour and background colour.

- Integral "Safe area generator" with cursors for 4:3 14:9 and 16:9 formats.

- Remote Character display on/off using GPI.

- Timecode Trigger feature enables timed remote control of a user device.

- Reads 25/30 frame timecode with drop frame indication for 525 operation
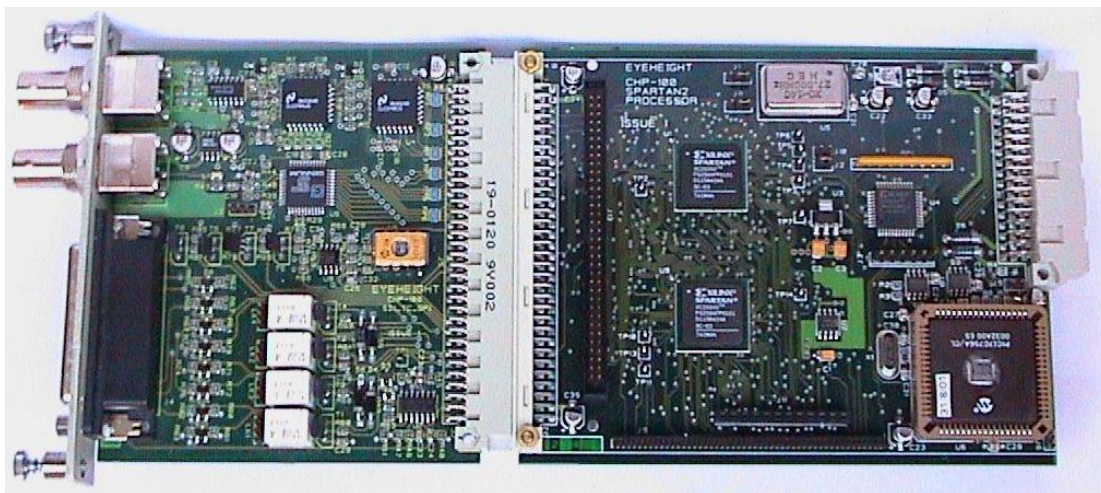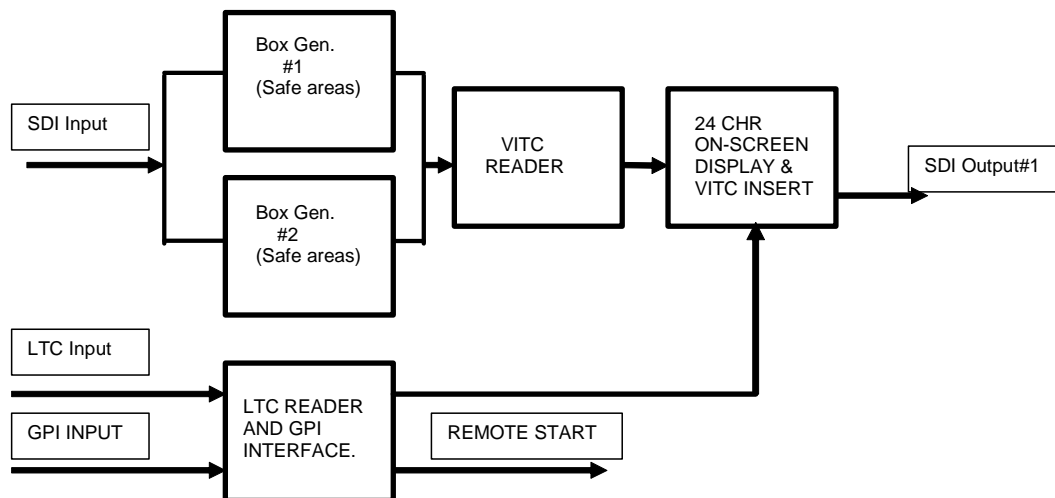
- 8 User Memories

Figure 1-1 The BT-2 colour correction PCB.

Figure 1-2 Block diagram of the BT-2 timecode reader

This unit consists of 2 generic Box generators, which perform the on-screen Safe Area and safe caption generation. This leads into a VITC Reader with programmable line selection. The VITC reader does full hardware CRCC checking for validity. If EITHER of the selected lines is valid the unit will assume that the VITC is valid. Alternatively the LTC can be read. The LTC reader is software based using a microcontroller and will read up to at least +/-8x normal speed and down to 1/5 speed. The Timecode information from the VITC or the LTC can be displayed on the 24 chr on-screen display. The LTC is deemed to be invalid when the LTC reader cannot find a valid LTC header (24 short consecutive transitions). The GPI input is used to remotely control the on-screen display. The remote start output can go on/off at programmable timecode points.

1.1 Drop-Frame indicator

The Output on-screen timecode reader will indicate drop-frame timecode (This is only applicable for 30 frame timecode) The flag is indicated by a "dot" between the frames and the seconds instead of a "colon"

1.2 Applications for the BT-2

Applications for the BT-2 include the following:

• Offline editing in-vision time code stamping.

• General time code reading.

• Timecode activation of devices.

1.3 Associated Equipment for the BT-2

The BT-2 is a module and requires both a chassis and a control surface to function.

1.3.1 Chassis Types

- **flexiBox** is a 1RU chassis. The order code is FB-9. This will hold a maximum of 6 BT-2 Modules with "Hot Swap" redundant PSU option and "Hot Swap" BT-2 modules.

- **maxiBox** is an alternative low cost 1RU chassis. The order code is MX-9. This also will hold a maximum of 6 BT-2 modules but it has no redundant PSU option and the BT-2 units must be factory fitted.
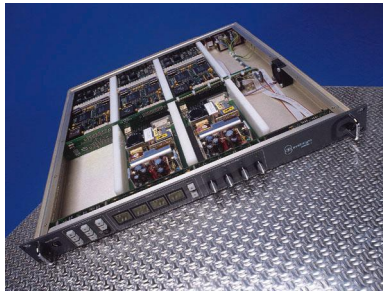
Figure 1-3 flexiBox with flexiPanel fitted

1.3.2 Control Surfaces

- **flexiPanel** is a IRU control surface that fits on the Front of a 1RU flexiBox. The order code is FP-9. A FlexiPanel can also be used in conjunction with a miniBox, in this case the extra accessory (Order code RR-9) will be required

- **FP-10** is a desk mounting control surface (Order code FP-10).

Figure 1-4 FP-10 desktop modular panel
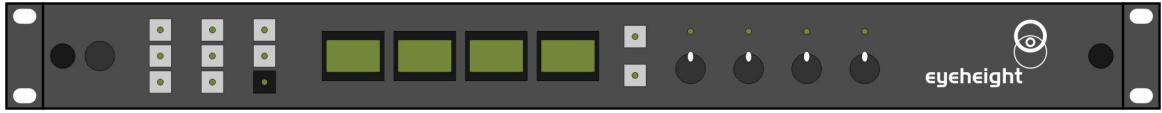
Figure 1-5 FP-9 1RU modular panel

2 Installation

2.1 Installation of the BT-2 product

If this unit is already pre-installed in a flexiBox (FB-9), or a maxiBox, with either a local or a remote panel from the factory then refer to the "Hardware Installation Guide" which will be enclosed with the system. If this unit is pre-installed in a miniBox (MB-9), then also refer to the "Hardware Installation Guide" which will be enclosed with the system

If this unit has been ordered separately, we assume here that you already have a flexiBox system with a Flexipanel and that the flexiBox has at least one spare slot for the BT-2 card.

2.2 Installing the BT-2 into a flexiBox

To install the BT-2 into a flexiBox it is desirable (but not necessary) to power down the flexiBox. Follow these instructions.

On the rear of the flexiBox are 6 slots for Products. Remove any spare blanking plate. There are 2 off M2.5 Screws, which require unfastening for each blanking plate.

Slide the Product PCB into the spare slot and firmly push it "home".

Use the two thumbscrews to fasten the unit in place.

Now refer to the "GeNETics User Guide". If your system consists of a single flexiBox with a single flexiPanel then refer to the section titled "flexiPanel Auto Set-up". If your system is part of a network with more than one flexiPanel then refer to the section titled "flexiPanel Manual Set-up". This will guide you through acquiring your product as a device on the flexiPanel.

2.3 Connecting Video to an BT-2

The BT-2 connections are shown below.
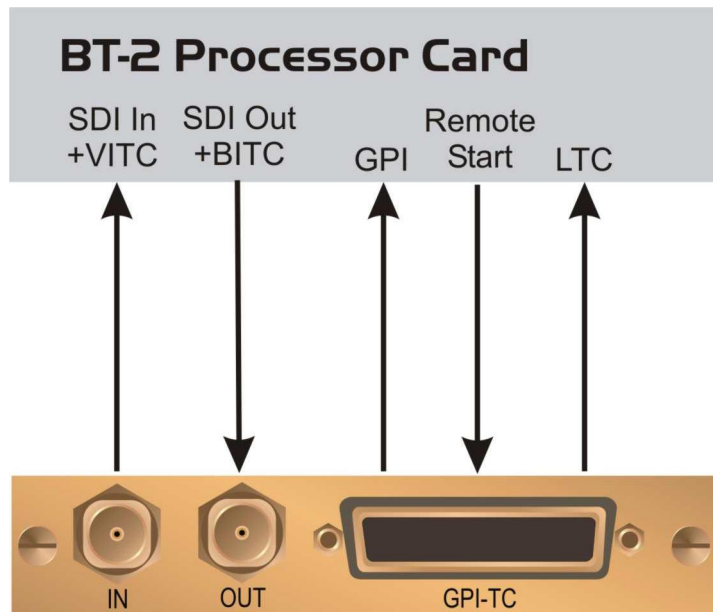
Figure 2-1 Connections for a BT-2 module.

Pin#	Function of 25w D-Type connector.
1.	General Purpose Output #1a (GPO1a). Isolated Relay closure. Activates remote start
2.	General Purpose Output #1b (GPO1b). Isolated Relay closure. Activates remote start
3.	Not Used
4.	Not Used
5.	Not Used
6.	Not Used
7.	Not Used
8.	Not Used
9.	
10.	
11.	
12.	
13.	General Purpose Input #1 (GPI1). Pull to Ground to activate on screen display.

14.	Not Used
15.	Not Used
16.	Not Used
17.	Not Used
18.	Not Used
19.	Not Used
20.	Not Used
21.	Time Code Input (LTC) Balanced (+)
22.	Time Code Input (LTC) Balanced (-)
23.	Not Used
24.	Not Used
25.	GND

2.4 Connecting Panels to the BT-2

The BT-2 may be operated using a FP-9 Flexipanel locally mounted. For a more operational environment the BT-2 may be supplied with a desk mounting FP-10 unit. For detailed information on connecting remote panels refer to the section "Connection of Remote Panels to a flexiBox" in the geNETics Hardware Installation Guide.

Below is shown a typical system consisting of an BT-2 in a flexiBox controlled by a remote FP-9.

Connect Pins 1,2,4,7,9 from chassis to panels (1:1). Use twisted pair AES Digital Audio cable for pins 2 and 7. Pins 1,4,9 carry power 0.5 Amp, 13V. Use cable with a least a 1 amp rating for pins 1,4,9. Cable llength should not exceed 250m.
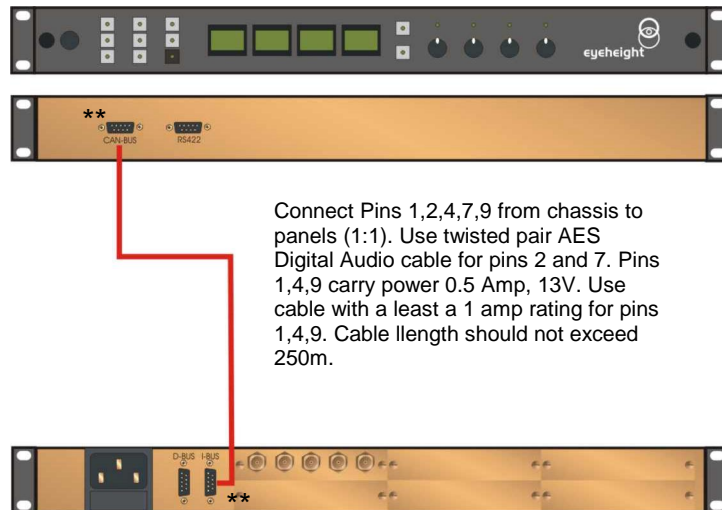
I-Bus pins 2 & 7

** The I-BUS Network requires terminating with 100 Ohms at each extreme end of the network. Ensure that this is done either by an external 100 ohm resistor OR ONE Panel/Product at each end has the termination set. See the "Genetics User Guide" Under the sections "Flexipanel Power/I-BUS Jumpers".For the 4RU Panels see "4RU Panel (FP-10) Jumpers for I-BUS" and "4RU Panel (VP-10, SW-10, AP-10) Jumpers for I-BUS" . Alternatively The termination can be set on a Product (ie the MW-2 module). Information about this is given in this manual.

Figure 2-2 I-Bus Connections and Termination

N.B. From 1/10/02 Eyeheight introduced a change in the flexiBox Chassis. Most versions now have two 9 way connectors on the rear labelled "I-Bus" and "D-Bus". The "I-Bus" connector is the same as the previously labelled "Can-B" connector. Although a maxiBox is shown in this diagram the same arrangement applies for a flexiBox chassis.

3 Operation

3.1   Manual control of the BT-2

Manual Control of the BT-2 is done using one or more of the following control surfaces:

- The 1RU FP-9 Flexipanel.
- The FP10 Desk mounting Panel

The FP-9 and the FP-10 have identical manual control systems. (The FP-10 is simply a desktop version of the FP-9). The BT-2 is, as are all genetics modules, controlled using a set of MENUS. Each of these menus contains up to 3 parameters that are adjusted using the rotary digipots. The Menus define all of the adjustable operational parameters in the BT-2. Pressing the rotary digipots brings the parameter to its default value, if it has one. Device selection is done using the device select switches which, when pressed, will offer the name of the device in the LCD Window. Modules can be acquired and then de-acquired using the set-up switch. For a full description of the operation philosophy of the geNETics system refer to the "geNETics User Guide" (section "Operation of the flexiPanel")

A full list of the Menus and their functions are given in section 3 of this chapter.

3.2 Automation Control of the BT-2

Automation of the geNETics products is achieved via an RS422 port.** This port is marked RS422 on the rear of a flexiBox. For the port to work a flexiPanel MUST be connected locally on the front of the flexiBox.

Automation control of the BT-2 can be done using two protocol methods:

- geNETics Automation Protocol.
- PresTX Automation Protocol.

Genetics protocol is described in detail in the "GeNETics User Guide" section titled "Automation Protocol on the geNETics Platform". The menu list in section 3 of this chapter contains the data information for the protocol.

PresTX Automation Protocol is used only for the PresTX Presentation Mixer and channel branding system. In this case an AU-2 Automation card is also required. Refer to the PresTX Product manual

**On most flexiBoxes later than 1/10/02 the RS422 port has been replaced by a "D-Bus" Port. The D-Bus port is for High Speed data transfer and is not used for serial control. In order to achieve serial control of any products on an I-Bus network Eyeheight Ltd have developed a RS232→I-bus converter "dongle", (DG-9) which enables greater flexibility of products on the I-Bus network whilst using the same protocols as the RS422 port. Please refer to the "User guide for the DG-9 eyeheight dongle and set-up software.

3.3 Operational Menus for the BT-2

Menu 00-03: Top level controls

SET-UP MODE	OnScrn Format	UTIL (-625)	VIEW T.CODE
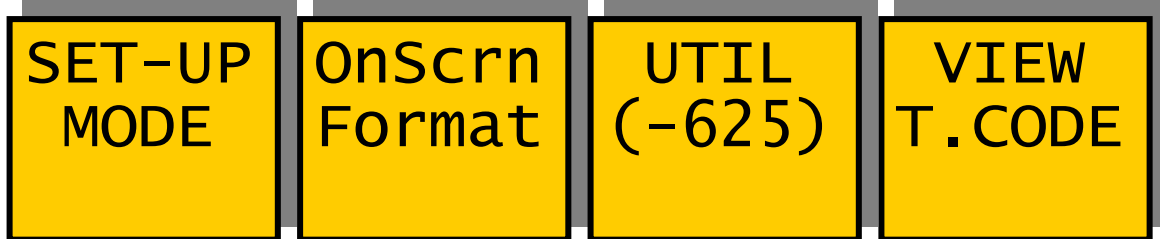
Menu Num.	Heading	Automation	Function
0	Set-Up System	N/A	Pressing this will take you to further set-up mode options (menu 60).
1	On Screen Display Format	N/A	Pressing this button will take you to further on-screen display options (menu 44).
2	Utilities	N/A	Pressing this button will take you to system "extras" such as the safe area generator and the timecode trigger facility. (menu 76)
3	View the Timecode on the LCD display	N/A	Pressing this button will cause the display to show the current timecode.

NOTE: MENUS FROM 05→43 ARE NOW "HIDDEN". THIS HAS BEEN DONE FOR AUTOMATION TO REMAIN COMATIBLE WITH VERSIONS OF SOFTWARE FROM 2.5 AND BELOW. THE MENUS WILL STILL EXIST FOR AUTOMATION PURPOSES BUT ARE NO LONGER DOCUMENTED.

Menu 44-47: On-Screen display control

POSI'N	SIZE	COLOUR	BACK
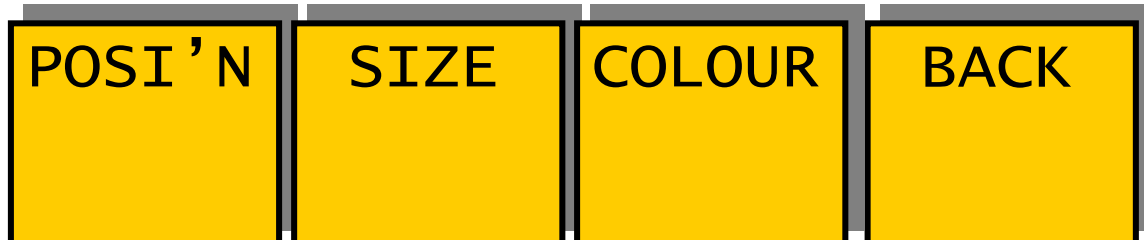
Menu Num.	Heading	Automation	Function
44	On Screen display position	N/A	Pressing this button will Take you to the on-screen display positioning menus (menu 48)
45	On Screen display size	N/A	Pressing this button will Take you to the on-screen display character size menus (menu 52)
46	On Screen display colour	N/A	Pressing this button will Take you to the on-screen display character colour menus. (menu 56).
47	BACK	N/A	Pressing this button will take the user back to the main (top) menu.

Menu 48-51: On-screen display position control

Horizl Positn =268	Vertcl Positn =240		BACK OnScrn

Menu Num.	Heading	Automation	Function
48	Horizontal Position of burnt-in display.	0→719	In Horizontal Luma Pixels 0=Start at LHS 719=Line at RHS
49	Vertical Position of burnt-in display.	28→272[*] 28→232 in 525	In vertical lines 28=Start at Line Top 232/272=Line at Bottom
50		N/A	none
51	Back	N/A	Pressing this button will take the user back to the On screen menu options.

Menu 52-55: On-screen display character size control

Char Width =1	Char Height =1		BACK OnScrn
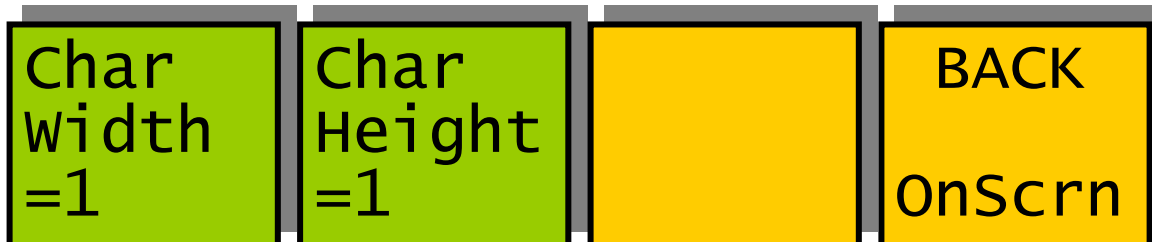
Menu Num.	Heading	Automation	Function
52	Horizontal Size of burnt-in display.	0→31	Each unit adds an extra pair of luma pixels to the width of a chr pixel. Each chr is 8 pixels wide. Size0=16 luma chr width Size1=32 luma chr width Size2=48 luma chr width And so on up to 31.
53	Vertical Size of burnt-in display	0→31	Each unit adds an extra pair of lines to the height of a pixel. Each chr is 8 pixels high. Size0=16 line chr height Size1=32 line chr height Size2=48 line chr height And so on up to 31.
54		N/A	None
55	Back	N/A	Pressing this button will take the user back to the On screen menu options.

Menu 56-59: On-screen display character colour control

White Char Colour	Black Bkgrnd Colour		BACK OnScrn
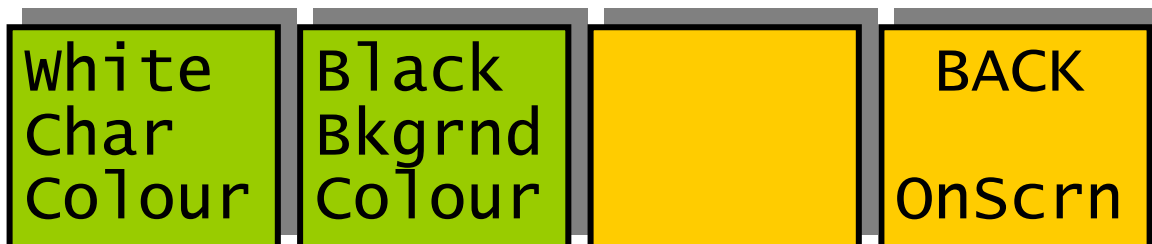
Menu Num.	Heading	Automation	Function
56	Text Colour of On screen characters	0→7	0=Black 1=Blue 2=Red 3=Purple 4=Green 5=Cyan 6=Yellow 7=White

57	Background Colour of On screen characters	0→7	0=Black 1=Blue 2=Red 3=Purple 4=Green 5=Cyan 6=Yellow 7=White
58	None	N/A	
59	Back	N/A	Pressing this button will take the user back to the main menu

Menu 60-63: System set-up options

READER SET-UP	TC SET-UP	GPI SET-UP	BACK SET-UP
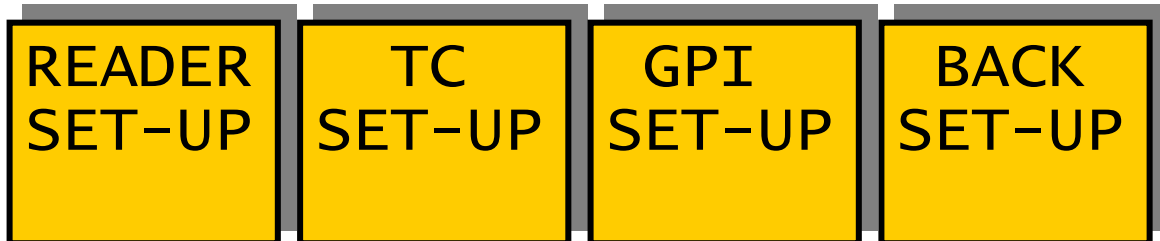
Menu Num.	Heading	Automation	Function
60	Set-up the TC reader	None	Pressing this will take you to the TC reader set-up menus (menu 64)
61	Timecode format options	None	Pressing this will take you to the TC format menus (menu 68)
62	GPI set-up	None	Pressing this will take you to the GPI enable menu. (menu 72)
63	Back	None	Pressing this button will take the user back to the top menu

Menu 64-67: TC reader options.

Normal OnScrn Chars	HMSF+U T.Code Format	T.Code Mode =AuVTC	BACK Set-Up
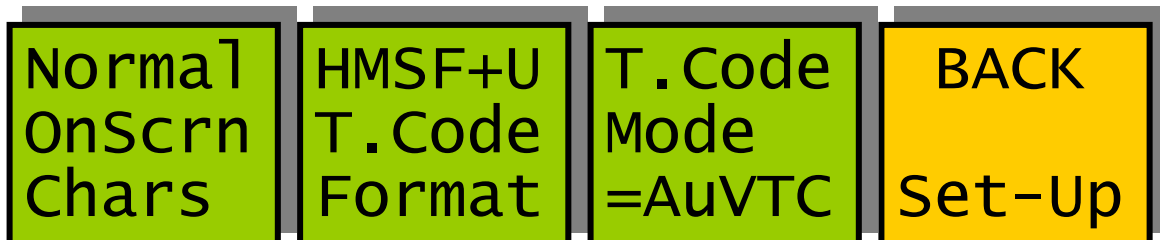
Menu Num.	Heading	Automation	Function
64	Enable the	0→2	0=No Display

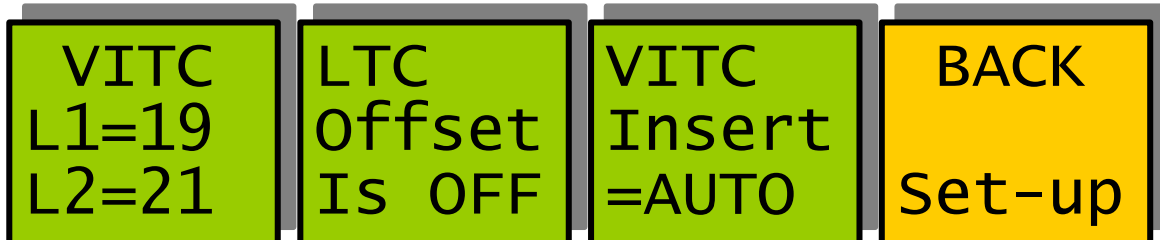| Menu Num.	Heading	Automation	Function
	burnt-in display		1=Chrs Displayed 2=Chrs+Box Display
65	Display mode of burnt-in Timecode display	0→2	0=HH:MM:SS 1=HH:MM:SS:FF* 2=HH:MM:SS:FF* UU-UU-UU-UU Notes: *=Field Mark UU=User Bits
66	Timecode Reading Mode	0→3	0=VITC, Read from VITC Only. 1=LTC, Read from LTC Only. 2=Auto VITC, Read from VITC unless the VITC is not valid, then read from LTC. 3=Auto LTC, Read from LTC unless the LTC is not valid, then read from VITC.
67	Back	N/A	Pressing this button will take the user back to the set-up mode options.

Menu 68-71: Timecode set-up options.

VITC L1=19 L2=21	LTC Offset Is OFF	VITC Insert =AUTO	BACK Set-up

Menu Num.	Heading	Automation	Function
68	Select VITC Line numbers		When this button is pressed to "Green". The Three-line display in the window indicates the two options, which can be changed by adjusting the two rotary digipots A and B.
		Digipot A 6→23	Select VITC Line number 1
		Digipot B 6→23	Select VITC Line number 2

Menu Num.	Heading	Automation	Function
69	LTC reader Offset	0→4	This will offset the reader by the amount below. This is for LTC only 0= +2 Fld 1= +1 Fld 2= IS OFF 3= -1 Fld 4= -2 Fld
70	VITC Insert	0→2 0=off 1=on 2=Auto	This allows new VITC to be inserted which are "driven" by the LTC input code. This effectively is an LTC to VITC converter. OFF = No new VITC is inserted ON = New VITC are permanently inserted AUTO = New VITC are inserted while valid LTC is present. If no valid LTC is present and Valid VITC is present, then the New inserted VITC are switched OFF allowing the good input VITC to pass. For this to occur the Reader MUST be set to AutoLTC (See menu 66)
71	Back	N/A	Pressing this button will take the user back to the set-up mode options.

Menu 72-75: GPI enable

Extern Switch For	On Screen Disply	GPI Cntrol =ON	BACK Set-up
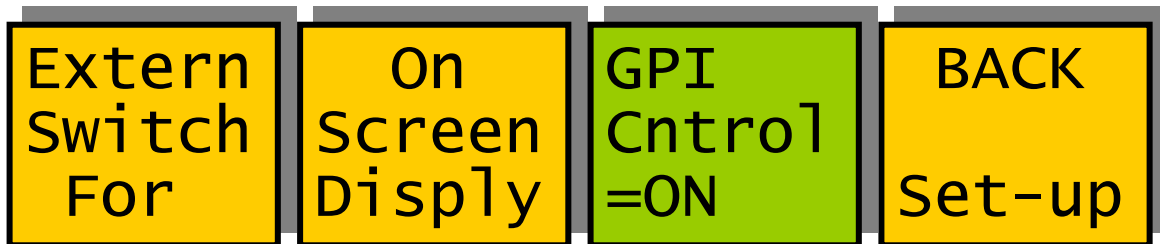
Menu Num.	Heading	Automation	Function
32	Info	N/A	
33	Info	N/A	
34	GPI Enable	0=off 1=on [0→1]	This enables the character on-screen display to be switched on and off remotely using GPI#1. A

			Ground on GPI#1 will switch the display off.
35	Back	N/A	Pressing this button will take the user back to the set-up mode.

Menu 76-79: Clip control menu

S.AREA GEN	TRIG TALLY	MEMS	BACK UTIL
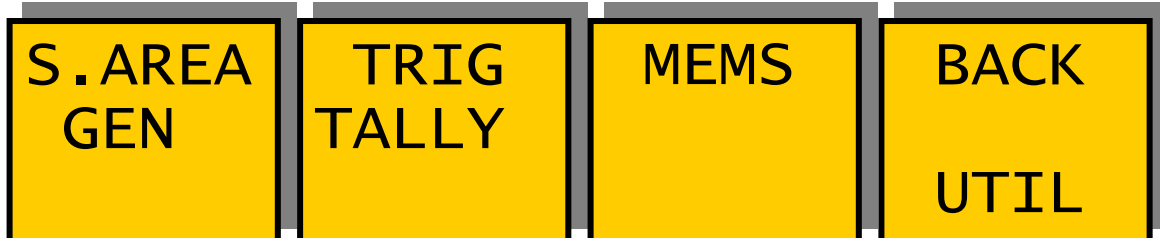
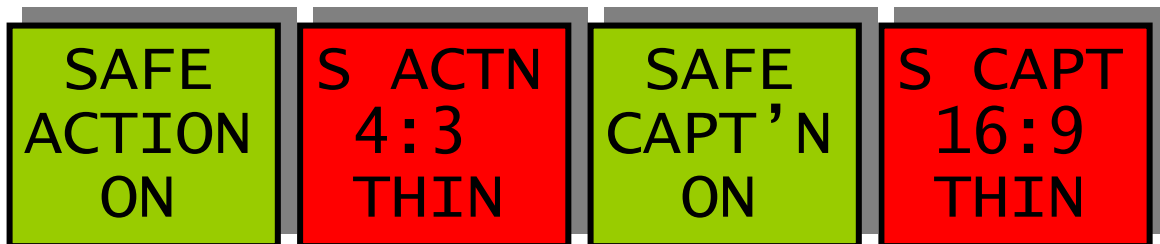| Menu Num.	Heading	Automation	Function
76	Safe area generator	N/A	Pressing this will take you to the safe area generator control set-up menus (menu 80)
77	Time code external trigger.	N/A	Pressing this will take you to the TC trigger (set off an external event) set-up menus (menu 84)
78	Memories	N/A	Pressing this will take you to the TC memories (menu 100)
79	Back	N/A	Pressing this button will take the user back to the utils menu.

Menu 80-84: Safe Areas (Press PREV button to exit)

SAFE ACTION ON	S ACTN 4:3 THIN	SAFE CAPT'N ON	S CAPT 16:9 THIN

Menu Num.	Heading	Automation	Function
80	Safe Area 1 on-off	On Off [0→1] Variable 3	This Switches on and off the currently selected area. Pressing the "Red" switch next to this one and adjusting the rotary digipots with the lighted green LED's chooses the Selected area.
81	Area selected by menu#4		When this button is pressed to "Green". The Three-line display in the window indicates the three options, which can be changed by

		Digipot A S.Action S.Capt. Dig Edge An Edge [0→3 (Variable 1)	adjusting the three rotary digipots A, B and C. "A" Determines the basic Function • Selects "Safe Action" option • Selects "Safe Caption" option • Selects "Digital Edge" option • Selects the "An. Edge" option
		Digipot B 4:3 16:9 16p4:3 16p149 43p16:9 [0→4] (Variable 2)	"B" Determines the Screen Format • Standard 4:3 Screen • Standard 16:9 Screen • 16:9 Shoot to protect 4:3 • 16:9 Shoot to protect 14:9 (*) • 4:3 Shoot to protect 16:9 (*) (*) -- Not available in 525
		Digipot C Thin Thick Shade Black [0→3] (Variable 3)	"C" Determines the Style of Indicate • Thin White lines are used • Thick White lines are used • Shade is used for "danger area" • Black is used for "danger area"
82	Safe Area 2 on-off	On Off [0→1] (Variable 3)	This Switches on and off the currently selected area. Pressing the "Red" switch next to this one and adjusting the rotary digipots with the lighted green LED's chooses the Selected area.
83	Area selected by menu#6	Digipot A S.Action S.Capt. Dig Edge An Edge [0→3] (Variable 1)	When this button is pressed to "Green". The Three-line display in the window indicates the three options, which can be changed by adjusting the three rotary digipots A, B and C. "A" determines the basic Function • Selects "Safe Action" option • Selects "Safe Caption" option • Selects "Digital Edge" option • Selects the "An. Edge" option

| | | Digipot B
4:3
16:9
16p4:3
16p149
43p16:9
[0→4]

(Variable 2) | "B" Determines the Screen Format.
Standard 4:3 Screen Standard 16:9 Screen 16:9 Shoot to protect 4:3 16:9 Shoot to protect 14:9 (*) 4:3 Shoot to protect 16:9 (*) (*) -- Not available in 525 |
| | | Digipot C
Thin
Thick
Shade
Black
[0→3]

(Variable 3) | "C" Determines the Style of Indicate
Thin White lines are used Thick White lines are used Shade is used for "danger area" Black is used for "danger area" |

Menu 84-87: Time code external trigger. (Press NEXT button for TRIG 2)

T.Code Triggr =GO	Trig 1 Hrs=10 Min=34	Trig 1 Hrs=10 Min=34	BACK util

Menu Num.	Heading	Automation	Function
84	Time code trigger activation	0→2	This will activate the Time code trigger. The trigger will activate at "Trig 1" timecode and de-activate at "Trig 2" timecode. 0=OFF, No trigger can occur. 1=GO, Triggers are enabled. 2=Done 1, Trigger 1 is assumed past and so Trig 2 will de-activate only. This may be read by automation to ensure trigger 1 has occurred.
85	Trigger 1 (Activate) Hours and		When this button is pressed to "Green". The Three-line display in the window indicates the two

	minutes.		options, which can be changed by adjusting the two rotary digipots A and B.
		Level "A" 0→23	"A" determines the Hours at which the trigger will activate.
		Level "B" 0→59	"B" determines the Minutes at which the trigger will activate.
86	Trigger 1 (Activate) Seconds and frames.		When this button is pressed to "Green". The Three-line display in the window indicates the two options, which can be changed by adjusting the two rotary digipots A and B.
		Level "A" 0→59	"A" determines the Seconds at which the trigger will activate.
		Level "B" 0→24 (or 29 for 525).	"B" determines the Frames at which the trigger will activate.
87	Back	N/A	Pressing this button will take the user back to the utils menu.

Menu 88-91: Time code external trigger. (Press PREV button for TRIG 1)

	Trig 2 Hrs=10 Min=34	Trig 2 Hrs=10 Min=34	BACK util

Menu Num.	Heading	Automation	Function
88	none	N/A	
89	Trigger 2 (De-activate) Hours and minutes.		When this button is pressed to "Green". The Three-line display in the window indicates the two options, which can be changed by adjusting the two rotary digipots A and B.
		Level "A" 0→23	"A" determines the Hours at which the trigger will de-activate.

|		Level "B" 0→59	"B" determines the Minutes at which the trigger will de-activate.
90	Trigger 1 (De-activate) Seconds and frames.		When this button is pressed to "Green". The Three-line display in the window indicates the two options, which can be changed by adjusting the two rotary digipots A and B.
		Level "A" 0→59	"A" determines the Seconds at which the trigger will de-activate.
		Level "B" 0→24 (or 29 for 525).	"B" determines the Frames at which the trigger will de-activate.
91	Back	N/A	Pressing this button will take the user back to the utils menu.

Menu 92-95: Time code view.

15 Hrs VITC	12 Min CODE	15 Sec DISPLY	BACK

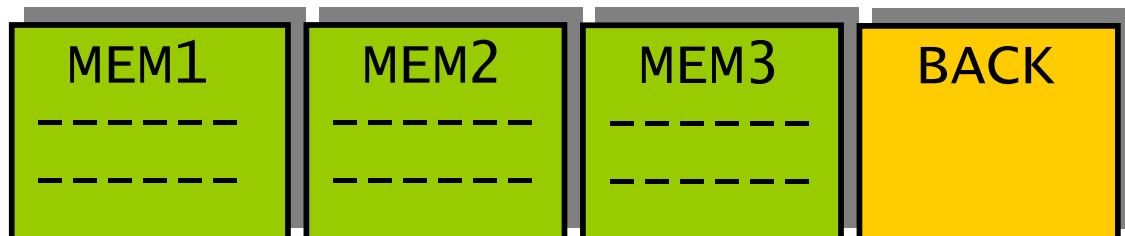| Menu Num.	Heading	Automation	Function
92	Current TC hours and VITC/LTC indication	0→23 read only	This is the current Hours display of the input timecode.
93	Current TC hours and VITC/LTC indication	0→59 read only	This is the current Minutes display of the input timecode.
94	Current TC hours and VITC/LTC indication	0→59 read only	This is the current Seconds display of the input timecode.

95	Back	N/A	Pressing this button will take the user back to the top menu.

Menu 96-99: NOT USED.
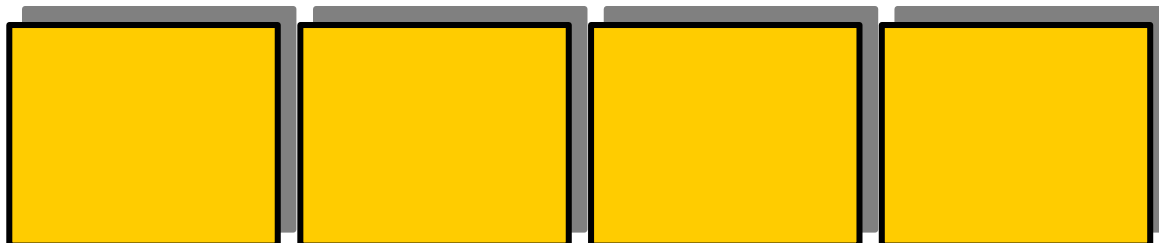
Menu Num.	Heading	Automation	Function
96			Not used
97			Not used
98			Not used
99			Not used

Menus 100-103 Memory 1→3 menus (NEXT to navigate)

Menu Num.	Heading	Automation	Function
100	MEM1	1=Recall	Pressing this will recall Memory number 1.User Names can be programmed in to the memories using a keyboard. See "geNETics User guide", section "Giving product Memories names"
101	MEM2	1=Recall	Pressing this will recall Memory number 2.
102	MEM3	1=Recall	Pressing this will recall Memory number 3.
103	BACK	none	Go To the Util Menus

Menus 104-107 Memory 4→6 menus (NEXT/PREV to navigate)

MEM4	MEM5	MEM6	BACK
————— —————	————— —————	—————	
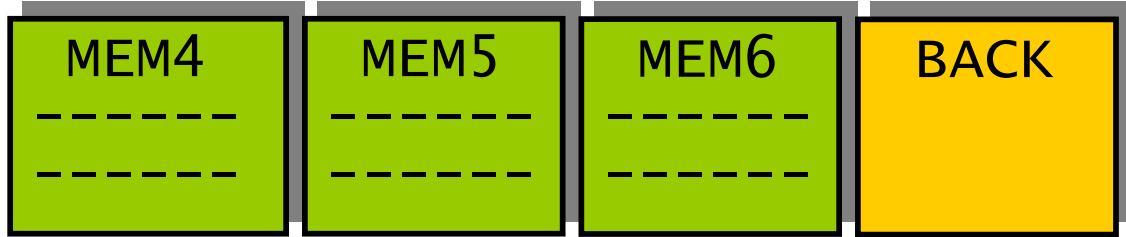
Menu Num.	Heading	Automation	Function
104	MEM4	1=Recall	Pressing this will recall Memory number 4.
105	MEM5	1=Recall	Pressing this will recall Memory number 5.
106	MEM6	1=Recall	Pressing this will recall Memory number 6.
107	BACK	none	Go To the Util Menus

Menus 108-111 Save memory 1→3 menus (NEXT/PREV to navigate)

SAVE MEM1	SAVE MEM2	SAVE MEM3	BACK
—————	—————	—————	
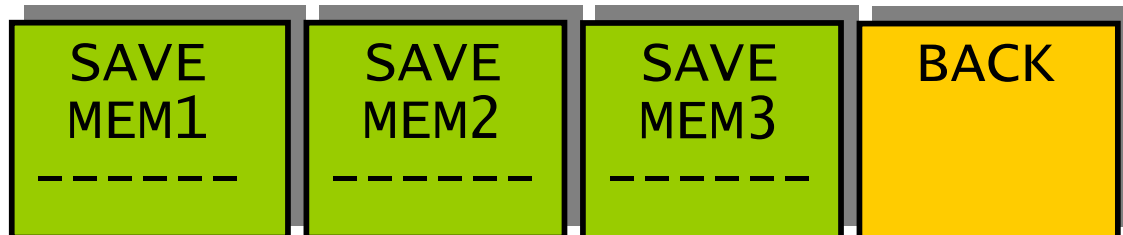
Menu Num.	Heading	Automation	Function
108	SAVE MEM1	1=Save	Pressing this will Save Memory number 1.
109	SAVE MEM2	1= Save	Pressing this will Save Memory number 2.
110	SAVE MEM3	1= Save	Pressing this will Save Memory number 3.
111	BACK	none	Go To the Util Menus

Menus 112-115 Save memory 4→6 menus (NEXT/PREV to navigate)

SAVE MEM4	SAVE MEM5	SAVE MEM6	BACK
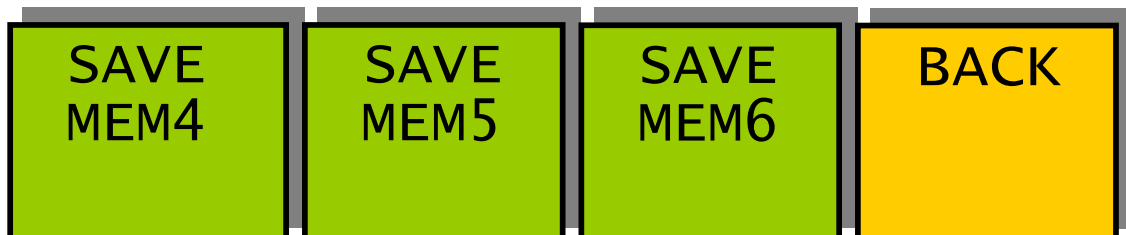
Menu Num.	Heading	Automation	Function
112	SAVE MEM4	1= Save	Pressing this will Save Memory number 4.
113	SAVE MEM5	1= Save	Pressing this will Save Memory number 5.
114	SAVE MEM6	1= Save	Pressing this will Save Memory number 6.
115	BACK	none	Go To the Util Menus

Menus 116-119 Software version menu (PREV to navigate)

```
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│ SOFTWA   │ │ RE Ver   │ │ BT-2     │ │  BACK    │
│          │ │          │ │ 250702   │ │          │
│ ------   │ │ ---->    │ │ Ver2.6   │ │          │
└──────────┘ └──────────┘ └──────────┘ └──────────┘
```
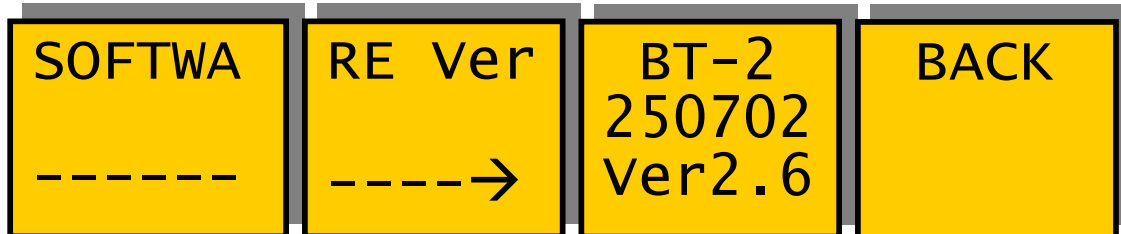
Menu Num.	Heading	Automation	Function
116	Info	none	Information
117	Info	none	Information
118	none	none	Software Version Information
119	BACK	none	Go To the Util Menus

Menus 120-123 Power on memory menus. (PREV to navigate)

```
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│ Set As   │ │ Recall   │ │ Total!   │ │  BACK    │
│ Pow On   │ │ Pow On   │ │ Reset!   │ │          │
│ Memory   │ │ Memory   │ │ !!!!!!   │ │          │
└──────────┘ └──────────┘ └──────────┘ └──────────┘
```

Menu Num.	Heading	Automation	Function
120	Set As Pow On Memory	1=Set	Pressing this will set the current system set-up as the Power on memory default.
121	Recall Pow On Memory	1=Recall	Pressing this will recall The Power-on memory set up in the last menu.
122	Total Reset	1=Reset	Pressing this will cause a first Birthday of the unit. All current memories and settings will be lost.
123	BACK	none	Go To the Util Menus

4 Technical Appendix

4.1 Technical Specification for the BT-2

SDI Input	1 270Mbit Serial Digital Video Inputs 75 Ohm
Longitudinal Time Code Input	Differential 600ohm +6dB→-12dB. Reads from +0.2 →+8 speed timecode.
SDI Input Line Length	At least 200 Meters of PSF1/3 (Typically 275 Meters)
Number of Outputs	1 Output SDI 270 MHz.
SDI Output Jitter	The system will add less than 0.2UI to the input Jitter. (This is only guaranteed on issue 2 or later cards)
Current Consumption	<800mA at +5V
Size	215mm by 100mm

4.2 Jumpering the I-BUS (CAN-BUS) Termination

The I-BUS Network is the "control system" under which all Products and Panels are networked together. Under certain circumstances it is necessary to terminate the network. This can be done on a Panel or a "Product". To terminate this product, locate J6 on the BT-2 Processor Card supplied which is between U1 (The large square "chip") and the Edge connector. (This is on the half of the card labelled "CHP-100 Spartan2 Processor"). Jumper this with a 2mm link.
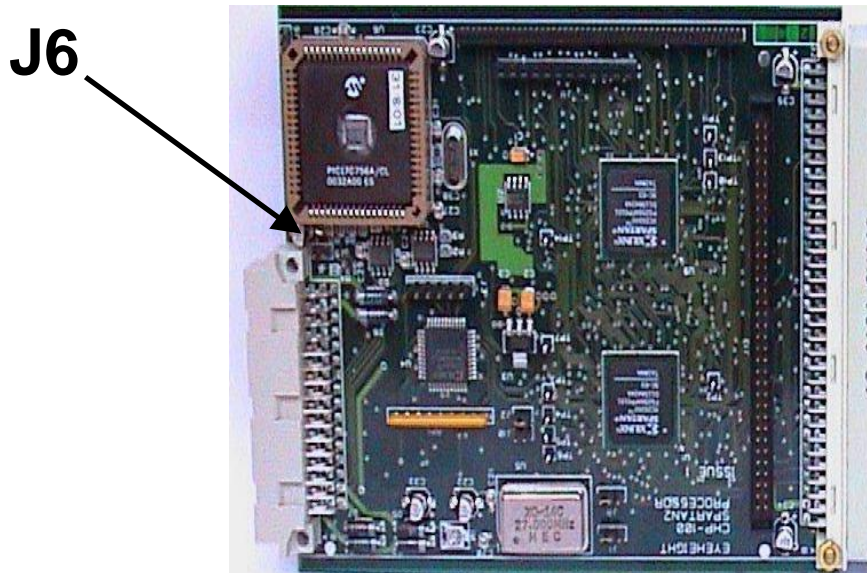

Figure 4-1 Location Of I-Bus Termination Link