



# DK-2S/M

SDI luminance keyer.

**user manual**

# User Manual Versions

Versions	Changes	Date	SW Vers
1.00	Original Version	11/11/2010	7.5

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# I System Overview

The DK-2M is a Multi definition (SD-SDI, HD-SDI) Luminance Keyer Unit mostly used for keying captions and graphics. These units are commonly used in transmission and post production. This unit takes up the space of one slot in an etherbox chassis. The DK-2S is also available. This unit is an SD version only of the DK-2. From now on in this manual we will refer to both units as the DK-2.

The main features are as follows:

- Full 10 Bit luminance Keying.
- Auto Transition (Timed Fade-in) control.
- Key Gain and lift controls.
- Multiplicative, Additive, Self Key and colour fill modes.
- Key Mix and 8 Wipe Transitions.
- Fill and Key position controls
- Preview output with safe area generator built-in.
- Up to +/-0.5 Line user definable synchronisation window for Inputs
- Transparent to all embedded signals
- EDH re-insertion
- 6 user memories
- Compatible with etherbox GPI/Tallies.
- FULLY software and firmware updatable using Flash technology.
- Mechanical relay bypass option available.
- Compatible with eyeheight geNETics automation protocol.
- Web Based Java control panel.



Figure 1 The DK-2 keyer module

## I.I Applications for the DK-2

Applications for the DK-2 include the following:

- Down Stream and Up Stream keyers in transmission systems.
- Offline Captioning.
- Bug Keying.

The DK-2 will be used in a situation where a device such as a caption generator is required to overlay captions onto a video background.



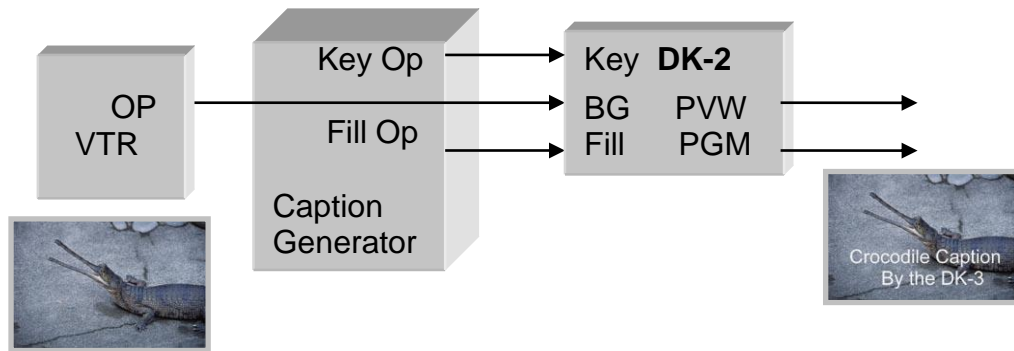


Figure 2 The DK-2 configured for use with a caption generator

## I.2 Associated Equipment for the DK-2

The DK-2 processing card requires the following in order to set up and operate the unit.

1. An etherbox chassis (FB-9E). Up to six DK-2 units and be installed in one chassis.
2. A Flexipanel control surface such as an FP-9 or an FP-10.



Figure 3 - Front view of etherbox (FB-9E) fitted with FF-9 blank panel

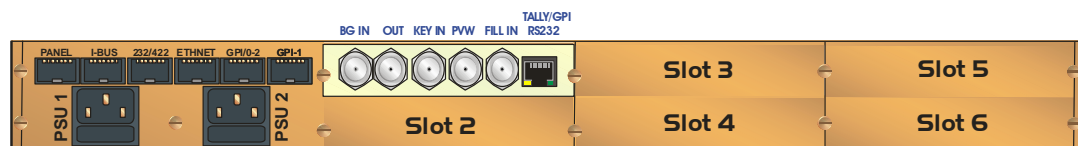


Figure 4 Rear view of etherbox with a single DK-2 installed.



Figure 5 FP-9 Flexipanel can be fitted on the FB-9E or remotely using and RR-9 kit.



## 2 Installation

This unit requires SDI/HD-SDI digital video connections to the BNC connectors. The user should refer to the etherbox user manual for installation of the DK-2 into a chassis and connection of flexipanel. This will also describe the process of acquiring a processing card (in this case the DK-2) by the Flexipanel which is necessary to access the menu structure within the DK-2.

### 2.1 Connections on the DK-2 product



Figure 6 DK-2 connections

A Typical Connection diagram for the DK-2 is shown below. All signals are SDI:

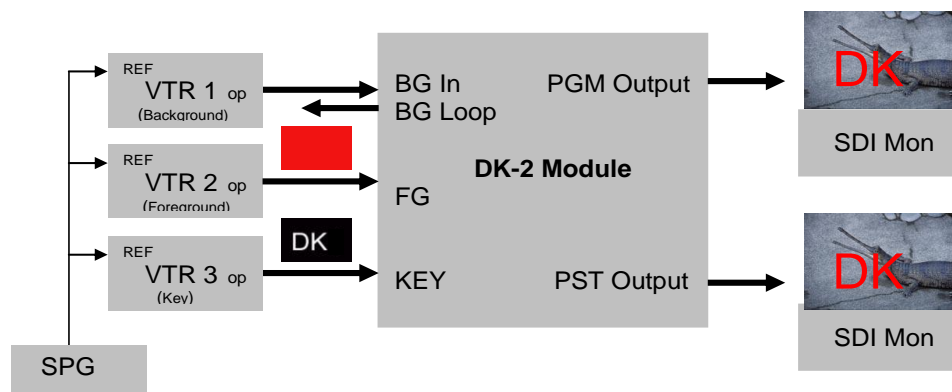


Figure 7 Typical connections for a DK-2 Module

In the above diagram the SPG provides a reference such that VTR1,VTR2 and VTR3 give synchronous output video. The FG and KEY input must be within +/- 0.5 Line of the BG for the DK-2 to operate correctly. The Preview output will always show the keyed result, whereas the programme output will only show the keyed result if it is faded on.

## 3 Menu Control of the DK-2

All GeNETics products are controlled using a generic menu system. This generic menu system is operated from a generic panel (Flexipanel FP-9 or FP-10). An FP-9 is shown below (An FP-10 has the same controls in a different layout style). For information about acquiring processor cards for control on a Flexipanel see the etherbox manual section 4.

### 3.1 Flexipanel controls.

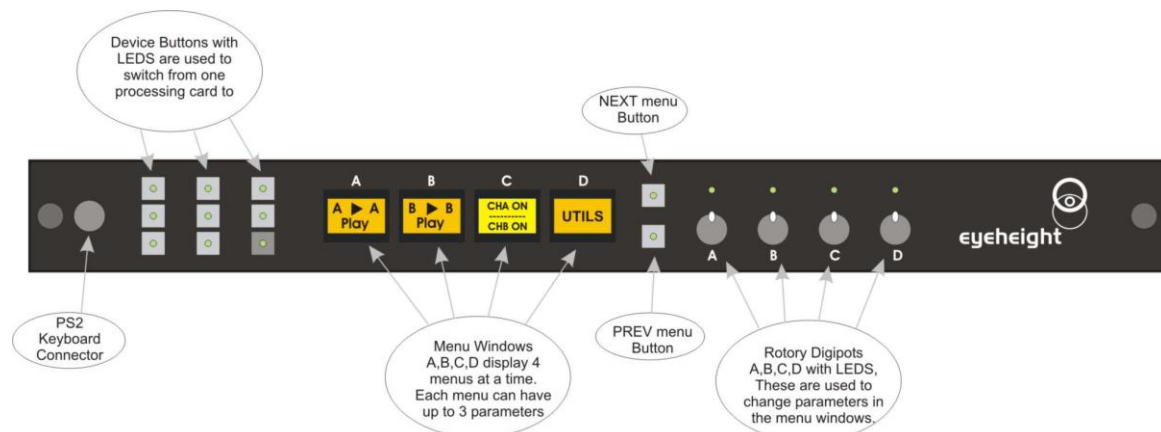


Figure 8 Flexipanel (FP-9) controls.

#### 3.1.1 Device Buttons.

There are 8 grey device buttons. These switch between the currently selected processing cards installed in the etherbox. It is also possible to select cards in another chassis if the I-Bus is connected to the other chassis.

#### 3.1.2 Menu Navigation.

There are two ways to navigate from menu to menu.

1. Using the NEXT and PREV buttons. These are for “Flat” menu structures. The NEXT and PREV LEDs will flash while further menus are available.
2. Using a **GOTO ANOTHER MENU** LCD button (as below coloured orange). This is more common and will take you straight to a relevant set of menus. Examples are the **Play** and **UTILS** menu’s shown on Figure 8.



Figure 9 Types of menus showing their characteristic colours

### **3.1.3 Parameter adjustment of a green menu.**

A green menu is one in which there is only one adjustable parameter. There are two ways to adjust the parameter in a green menu.

1. Press the green LCD button. This will increment the value in that window. This is most frequently done when the menu parameter is Textural for example switching a parameter between ON and OFF. In this case a button press is most natural.
2. Use the Rotary digipot (A,B,C or D) to adjust the parameter in the respective LCD window (A,B,C or D). The direction and speed of rotation enable numeric values to be set easily.

### **3.1.4 Parameter adjustment of a red menu**

A red menu is one in which there is two or three adjustable parameters. In this case it is necessary to first select the menu by pressing the red button. When the red button is pressed it will turn green and either two or three of the rotary digipot LEDs will flash indicating that the respective rotary digipot will operate the respective parameter.

### **3.1.5 Information display**

A Yellow menu (Which on most panels does look a light orange!) is one in which only information is displayed. An example of this is the software version display.

## **3.2 Memories**

### **3.2.1 User Memories**

The user memories are a generic feature of all eyeheight geNETics products. Six of these are included in the DK-2. Parameters as shown in the RED menu numbers are saved.

### **3.2.2 User Memories change for each line standard**

It is important to realise that although there are 6 user memories, each of these user memories is dependent of the line standard being used. There are 4 generic line standards recognised. These are 625i, 525i, 720p and 1080i. Each of these line standards has there OWN set of 6 memories. This can cause confusion but it is usually a very helpful feature as parameters have different ranges in different line standards.

### **3.2.3 Remembering setups on power up.**

The eyeheight memory system also has a “Power on” Memory. If the user requires a particular setup upon power up then this setup MUST be stored in the power-on Memory. Like the User Memories, the power-on memories are dependent on line standard. There are 4 generic line standards recognised. These are 625i, 525i, 720p and 1080i. Each of these line standards has it's OWN power-on memory. To store a setting in a power on memory ensure that the

appropriate line standard is being applied to the BG (Background) input to the device, then adjust the settings as required for power-on, then Navigate to the "Save As Power-On Memory" menu.

(UTILS→SYSTEM→MORE→RESETS→SET AS POW-ON MEM.)

### **3.2.4 Naming User Memories**

The user memories can be named with up to 6 characters. To do this plug in a PS-2 Keyboard into a Flexipanel and select the appropriate processor card with a device button. (See Figure 9 for connector location). To name memory 1, "TXroom"

1. Hit F9 function key. The LCD displays will change to text entry mode
2. Type "M01:TXroom" and then press enter.
3. You may get a "not acknowledged" message, this does not matter.

Other memories can be named in the same way but changing the 01 to another memory number.

## **3.3 Tamper Locking the DK-2.**

The user can lock specific menus or all the menus on the DK-2 so that it cannot be adjusted with a manual control panel. This does not effect automation.

To do this plug in a PS-2 Keyboard into a Flexipanel and select the appropriate processor card with a device button. (See Figure 9 for connector location). To lock only menu 5. (Key Transition Time)

1. Hit F9 function key. The LCD displays will change to text entry mode
2. Type "L05:" and then press enter.

A padlock symbol will usually appear on menu (But not always, some menus cannot display the symbol) and it cannot be adjusted. To unlock menu 5, type "A05:" as step 2 above. Other menus are done in the same way

To lock the whole product type "L:" as step 2 above and to unlock the whole product type "A:" as step 2 above.

The user can also lock the whole product by selecting the product on a device button and then keeping the button pressed for around 4 seconds. To unlock the product use the same process.

## **3.4 GPI/Tally Set-up.**

### **3.4.1 On-Board GPI's**

The DK-2 is a geNETics product. The geNETics system uses generic Input/Output cards which have 3 GPI's and one Tally output. These have been used in this system as opportunistic GPI's which may be of use to the user. They

do not provide a comprehensive GPI control but may be used as part of a GPI solution in conjunction with the GPI's on the etherbox.

The operation of these is explained in the table below.

**Table 1 - On-Board GPI settings**

<b>GPI</b>	<b>Effect</b>
1	Momentary activation to Ground >50mS will cause a TAKE to KEYON.
2	Momentary activation to Ground >50mS will cause a TAKE to KEY OFF.
3	Momentary activation to Ground >50mS will cause a TAKE to the "Other" state of the keyer. (If ON it will go to OFF)

0=Short to ground or logic 0V, 1=Pulled up internally or logic +3→+12V

### **3.4.2 On-Board Tally**

The single tally output simply indicates "Low" (Transistor activated) when the keyer is ON.

## **3.5 Configuring tallies on the etherbox.**

The DK-2 can make use of the three configurable tallies on the etherbox chassis. The etherbox chassis has three usable tallies. These are numbered tallies 11,12 and 13. Set up these menus for the box number and tally number for A channel and B channel inputs of the mixer on menu number XX. If you do not wish to use a tally set the box number to 0. Refer to the etherbox manual for interface information.

## **3.6 Web Control of the DK-2**

If the DK-2 is installed in the etherbox it is possible to control the DK-2 primary functions from a web based java applet. Please refer to the etherbox manual for instructions on how to set up the system to do this.

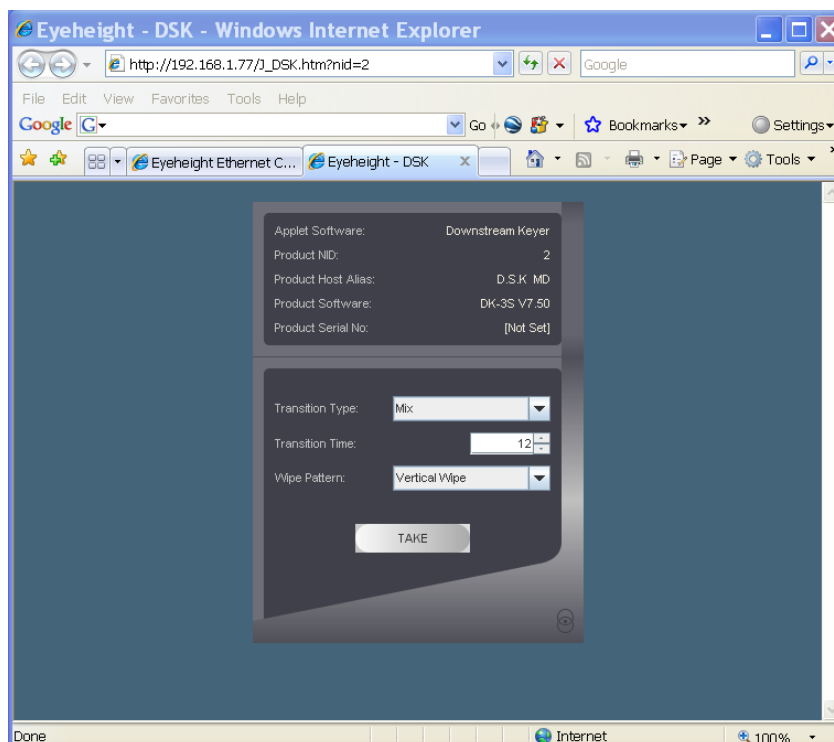


Figure 10 Web Based control of the DK-2

## 3.7 Operational Menus for the DK-2

Below is the menu structure for the DK-2. The shaded menus are for automation use only and are hidden from normal usage. These are there to maintain backward compatibility for automation systems which were running the original menu structure. They are still recommended for use in geNETics automation protocol.

### Menus 00-03 Top Level Menus



Menu Num.	Heading	Automation	Function
00	PLAY	none	Go To the main Play menus (4-7)
01	SETUP	none	Go To the main Set-up menus (84-87)
02	MEMS	none	Go To the Memory menus (16-47)
03	UTIL	none	Go To the main Utility menus (108-111)



## Menus 04-07 PLAY Menus



Menu Num.	Heading	Automation	Function
04	TAKE	1=take off 2=take on	This Causes the Auto Transition to occur. The On/Off state is also indicated in the window.
05	TIME	1-200	This is the Key Transition time. The time taken for the key to fade on or off in auto transition mode
06			
07	BACK	none	Go To the Top Level Menus

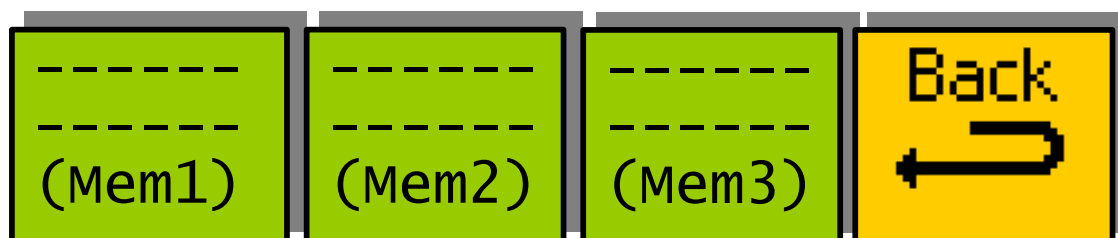
### Menus 08-11 System set-up menus (For Automation use only)

Menu Num.	Heading	Automation	Function
08	K.GAIN	0-511 (Default is 299)	This sets the key gain. 100% represents unity key gain (default).
09	K.LIFT	-128-511 (Default is -64)	This sets the key lift. 0% represents no lift (default)
10	KEY:	0=normal 1=invert key	This inverts the key signal.
11	BACK	none	Go To the Top Level Menus

### Menus 12-15 System set-up menus (For Automation use only)

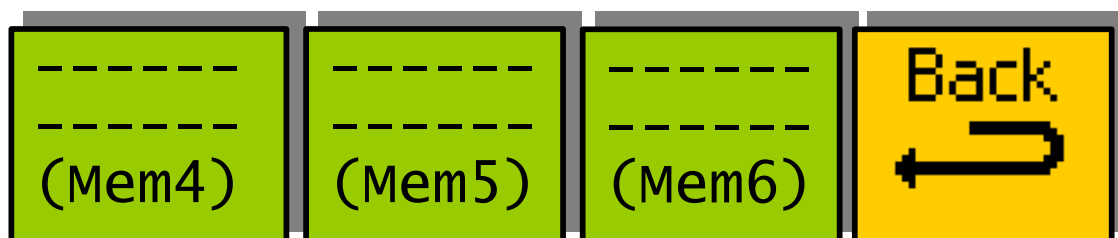
Menu Num.	Heading	Automation	Function
12	BG POS	Level A 0-15. Default=7  Level B 0-15. Default=7	When this button is pressed to "Green", the window indicates shows two options, which can be changed by adjusting the two rotary digipots A and B.  Digipot A moves the position of the background picture relative to the key and the foreground. Digipot B moves the position of the key relative to the foreground and the background.
13	L= H= S=	Menu Level "A" 0-255 (L) Menu Level "B" 0-255 (H) Menu Level "C" 0-255 (S)	Press this button and the three digipots indicated by the lit LED's will change the Luma, Hue and Saturation of the Matte colour.
14	KEYING	0=normal 1=additive 2=self key 3=colour Fill	This changes the keying mode. "Normal" is the default mode. "Additive" is selected for an Additive Key mode. "Self" is selected for Self Key mode where the key is derived from the foreground input. Colour Fill mode provides an internal Matte Fill.
15	BACK	none	Go To the Top Level Menus

### Menus 16-19 Memory 1→3 menus (NEXT to navigate)



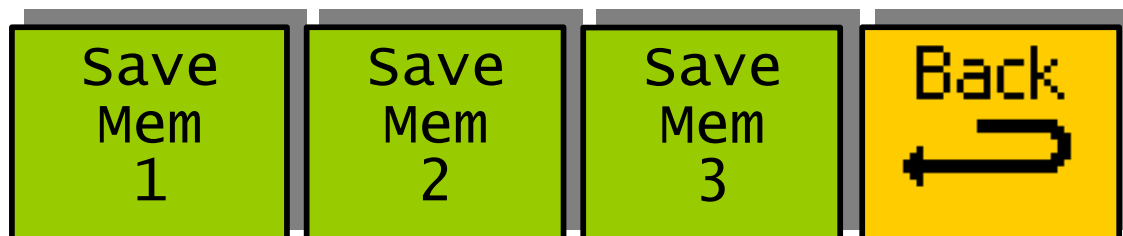
Menu Num.	Heading	Automation	Function
16	MEM1	1=Recall	Pressing this will recall Memory number 1. User Names can be programmed in to the memories using a keyboard. See "geNETics User guide", section "Giving product Memories names"
17	MEM2	1=Recall	Pressing this will recall Memory number 2.
18	MEM3	1=Recall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

#### Menus 20-23 Memory 4→6 menus (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
20	MEM4	1=Recall	Pressing this will recall Memory number 4.
21	MEM5	1=Recall	Pressing this will recall Memory number 5.
22	MEM6	1=Recall	Pressing this will recall Memory number 6.
23	BACK	none	Go To the Top Level Menus

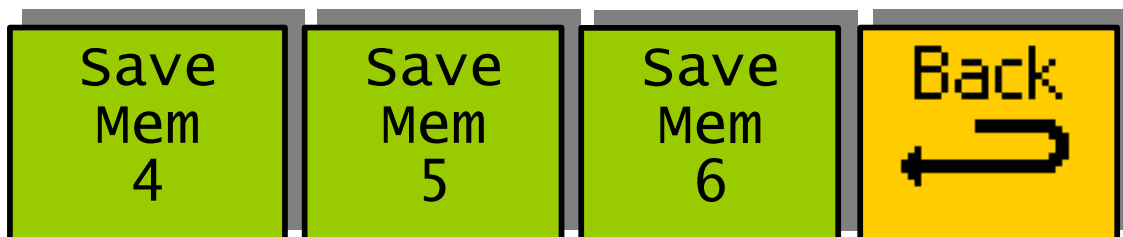
#### Menus 24-27 Save memory 1→3 menus (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
24	SAVE MEM1	1=Save	Pressing this will Save Memory number 1.
25	SAVE MEM2	1= Save	Pressing this will Save Memory number 2.

26	SAVE3 MEM3	1= Save	Pressing this will Save Memory number 3.
27	BACK	none	Go To the Top Level Menus

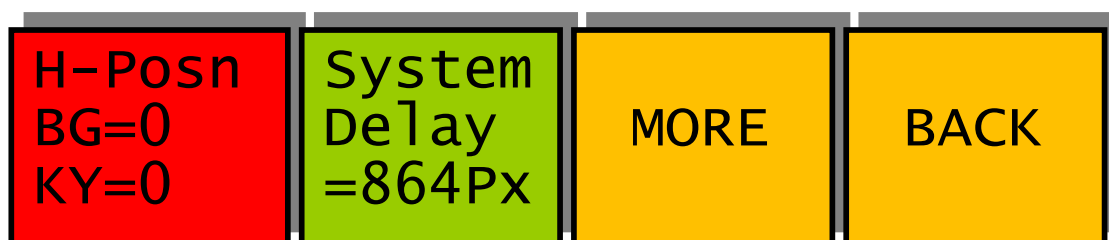
#### Menus 28-31 Save memory 4→6 menus (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
28	SAVE MEM4	1= Save	Pressing this will Save Memory number 4.
29	SAVE MEM5	1= Save	Pressing this will Save Memory number 5.
30	SAVE MEM6	1= Save	Pressing this will Save Memory number 6.
31	BACK	none	Go To the Top Level Menus

#### Menus 32-35 No longer used

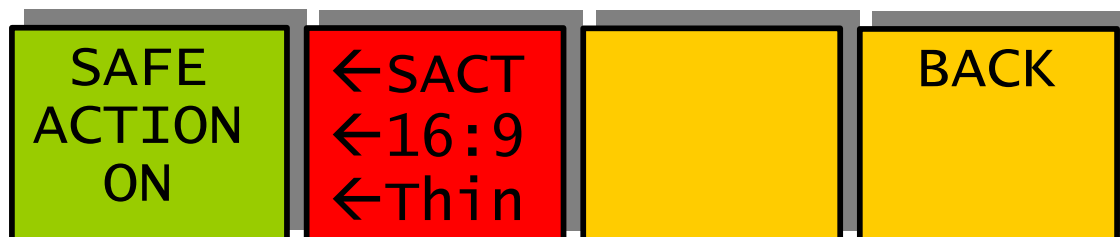
#### Menus 36-39 Key timing menus



Menu Num.	Heading	Automation	Function
<b>36</b>	Key and Fill delay	none	<p>This is the Relative timing of the “FG” input relative to the “BG” Input and the “Key” input relative to the “BG” Input. The variation is limited to +/- 4 pixels. This is to account for possible differences in Key and Fill positions from converted analogue equipment.</p> <p><b><u>This is not available in High Definition</u></b> modes as it is assumed that Key and Fill positions on digital equipment will be correct.</p>

37	Timing	0-1727 in SD  0-2047 in HD	This changes the system delay through the unit. The default varied on line standard but is calculated to be approximately ½ Video line. The user can make this smaller or larger. If the delay is made smaller, the system delay becomes smaller but also the synchronising range becomes smaller. This becomes a compromise between synchronising range and delay.
38	MORE		Takes you to the Resets and Software upgrade menus. Go to menu 136
39	BACK		Go To the Top Level Menus

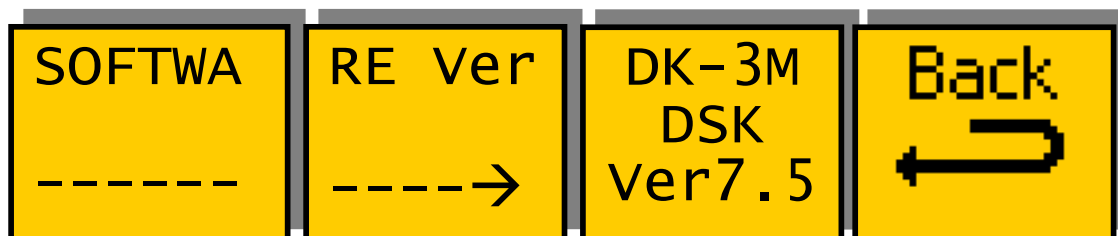
### Menus 40-43 Preview safe area generator



Menu Num.	Heading	Automation	Function
40	SAFE ACTION	None	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.
41	None	<p>Menu Level "A"</p> <p>0=S.Action 1=S.Capt. 2=DigEdge 3=An Edge</p> <p>Menu Level "B"</p> <p>0=4:3 1=16:9 2=16p4:3 3=16p149 4=43p16:9</p>	<p>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.</p> <p><u>Digipot A</u> Determines the basic Function Selects "Safe Action" option Selects "Safe Caption" option Selects "Digital Edge" option Selects the "An. Edge" option</p> <p><u>Digipot B</u> Determines the Screen Format Standard 4:3 Screen Standard 16:9 Screen</p>

		<b>Menu Level "C"</b> 0=Thin 1=Thick 2=Shade 3=Black	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  <u>Digipot C</u> 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"
42			
43	BACK	none	Go To the Top Level Menus

#### Menus 44-47 Software version menu



Menu Num.	Heading	Automation	Function
44	Info	none	Information
45	Info	none	Information
46	none	none	Software Version Information
47	BACK	none	Go To the Top Level Menus

#### Menus 48-51 Keyer transition time menus (For Automation use only)

Menu Num.	Heading	Automation	Function
48	info	none	info
49	info	none	info
50	Transition Time	1→200	Changes the Key Transition Time.
51	info	none	info

#### Menus 52-55 Keyer transition type menus (For Automation use only)

Menu Num.	Heading	Automation	Function
52	TRANS	0=Mix 1=Wipe 2=Cut 3=Mix+Wipe	This sets the transition type between Mix, Wipe and Cut and Mix+Wipe. Mix+Wipe does a simultaneous Mix with the selected wipe pattern.
53	WIPE	0=Vertical	This shows a representation of the

	(Pattern)	1=Horiz 2=Vert Curtain 3=Horiz Curtain 4=Diagonal 5=Diamond 6=Arrow Left 7=Arrow Up	shape of the currently selected Wipe Transition.
54	Wipe Softness	1→49	This adjustment softens the wipe edge.
11	BACK	none	Go To the Top Level Menus

### Menus 56-59 Utility Menus: (For Automation use only)

Menu Num.	Heading	Automation	Function
56	Garbage Matte Control	0=Off 1=On 2=Invert	This is a box shaped Garbage Matte that can be used to Box out unwanted Key Spill.
57	Box LR	Menu Level "A" L=0→719  Menu Level "B" R=0→719	This is the Left and Right position adjustment for the garbage matte box
58	Box TB	Menu Level "A" L=0→575  Menu Level "B" R=0→575  (For 525=487)	This is the Top and Bottom position adjustment for the garbage matte box
59	BACK	none	Go To the Top Level Menus

### Menus 60-86 Hidden Menus for Playout only

#### Menus 84-87 Keyer set-up menus



Menu Num.	Heading	Automation	Function
84	Transition	none	Go To the main Trans menus (92-95)
85	Clip and gain	none	Go To the main clip menus (96-99)



86	Styles	none	Go To the styles menus (104-107)
87	Back	none	Go To the main top menus (0-3)

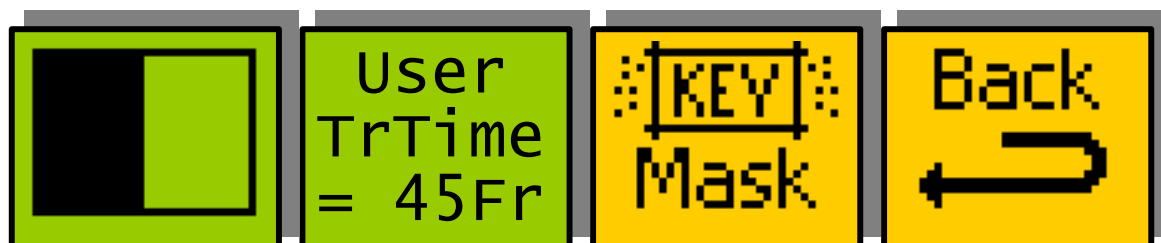
### Menus 88-91 Hidden Menu for Layout only

### Menus 92-95 Key transition menus



Menu Num.	Heading	Menu Options	Function
92	Transition type	0=mix 1=wipe 2=cut 3=wipe+mix	This changes the type of transition, which is the way in which the keyed in source appears.
93	Transition Speed	0=fast 1=medium 2=slow 3=user	This changes the speed of the transition.
94	More		This takes you to menus 88→91 which further configure the mixer transitions.
95	Back		This takes you back to menus 84-87

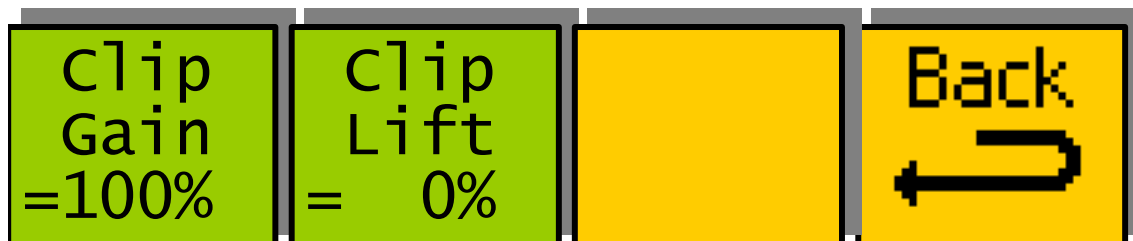
### Menus 88-91 more key transition menus



Menu Num.	Heading	Menu Options	Function
88	Wipe pattern	0= vertical wipe 1= horizontal wipe 2=vertical curtain 3=horizontal curtain 4=diagonal wipe 5=diamond wipe 6=horizontal arrow 7=vertical arrow	This changes the type of wipe pattern when wipe is selected as the key transition.
89	User Transition Time	User Tran Time 3→253.	This changes the transition time of the “user” setting for menu 93
90	Mask		This takes you to the key mask menus (100→103)
91	Back		This takes you back to menus 92→95.

### Menus 92-5 Hidden Menus for Playout only

### Menus 96-99 Key clip and gain menus



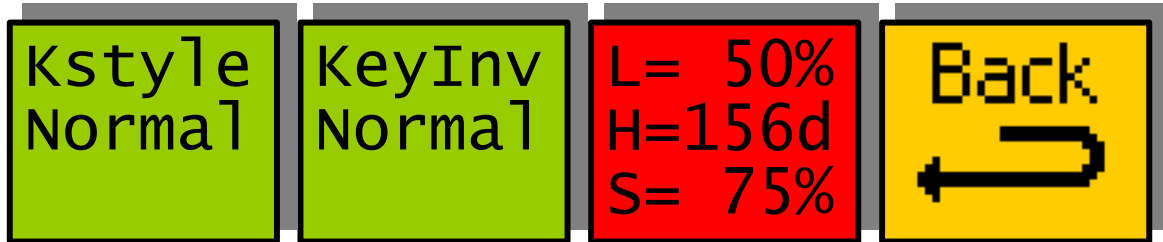
Menu Num.	Heading	Menu Options	Function
96	Clip Gain	Gain=0→511 (299=100%,0=0%)	This adjusts the key gain.
97	Clip Lift	Lift=0→511 (363=100%,64=0%)	This adjusts the key lift.
98			
99	Back		This takes you back to menus 84→87

## Menus 100-103 Garbage matte (mask) menus



Menu Num.	Heading	Menu Options	Function
100	Garbage matte (mask)	0= Off 1= On 2=Invert	This switches on the garbage matte. The garbage matte allows you to configure a “box” within the picture outside of which NO keying is visible. With the “invert” option no keying is possible INSIDE the box.
101	Sides of garbage matte box	<b>Level A:</b> Left edge of garbage matte (0→719) <b>Level B:</b> Right edge of garbage matte (0→719)	Pressing this button will make the three rotary digipots A and B active:  Digipot A will change the garbage matte box top edge. Digipot B will change the garbage matte box bottom edge.
102	Top and bottom of garbage matte box	<b>Level A:</b> Top of garbage matte (0→575) <b>Level B:</b> Bottom of garbage matte (0→575)	Pressing this button will make the three rotary digipots A and B active:  Digipot A will change the garbage matte box top edge. Digipot B will change the garbage matte box bottom edge.
103	Back		This takes you back to menus 88→91.

## Menus 104-107 Key style menus



Menu Num.	Heading	Menu Options	Function
104	Key Style	0= normal 1= additive 2=self key 3=colour fill	This switches between keying styles. Normal is multiplicative keying Additive keying is used for key sources with an anti aliased fill AND key (most character generators). Self Key uses the Fill as the Fill AND key source Colour Fill, replaces the Fill source with a matte generator.
105	Key Invert	0= normal 1= invert	This inverts the key source if invert is selected.
106	Colour fill Matte.	<b>Level A:</b> Border Luminance, 0→255 <b>Level B:</b> Border Hue, 0→255 <b>Level C:</b> Border saturation, 0→255	Pressing this button will make the three rotary digipots A,B and C active:  Digipot A will change the colour fill matte luminance. Digipot B will change the colour fill matte hue. Digipot C will change the colour fill matte saturation.
107	Back		This takes you back to menus 84→87.

## Menus 108-111 Util Menus

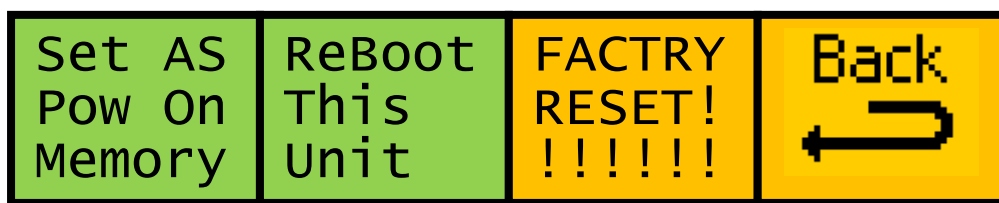


Menu Num.	Heading	Automation	Function
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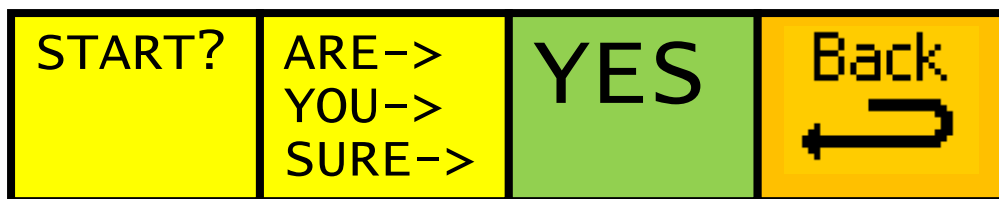
108	Preview	none	Go To the main Trans menus (40-43)
109	System set-up	none	Go To the main clip menus (36-39)
110	Software version	none	Go To the styles menus (44-47)
111	Back	none	Go To the main top menus (0-3)

### Menus 112-135 Hidden Menus for Playout only

### Menus 128-147 Resets and Software Upgrade.

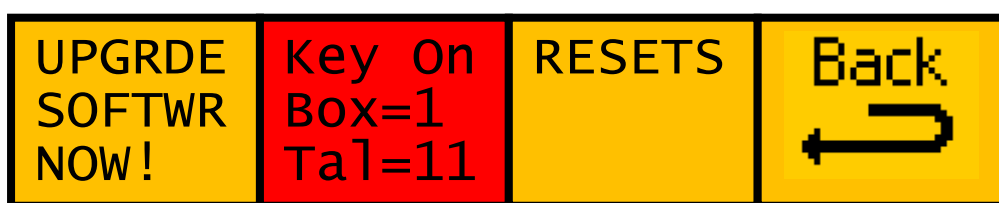


Menu Num.	Heading	Function
128	Set as Power on Memory	Pressing this will set the current settings as the default settings when the unit is powered up.
129	Reboot this unit	This applies a warm restart to the unit. It is the software equivalent of recycling the power.
130	Factory Reset	Pressing this will take you to the Factory Reset Last Chance menu. (Go To Menu 132).
131	BACK	Go To the Top menu

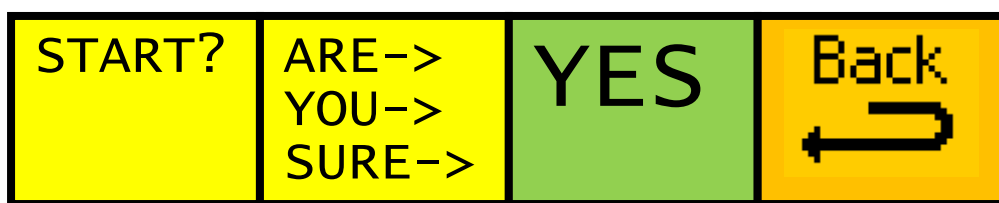


Menu Num.	Heading	Function
132	----	----

133	----	----
134	YES, I want to do a factory reset!	This will Start a factory Reset of the unit. This will Wipe ALL Logos and Settings that may have been previously set-up. Only do this if you are setting up from scratch, or there is a problem with your unit.
135	BACK	Go To the Top Menus



Menu Num.	Heading	Function
136	Upgrade Software	Pressing this will take you to the Software Upgrade last chance menu. (Go To Menu 140).
137	External Etherbox Tally	This menu enables you to select a tally on the etherbox chassis in which this product is installed. Parameter 1 selects between the Key On and Key OFF states for a tally to indicate. The second Parameter indicates the chassis number (usually 1). The Third selects which tally will indicate the state in parameter 1. On an etherbox there are only 3 available tallies these are 11,12 and 13.
138	Resets	Pressing this will take you to the Reset Options. (Go To Menu 128).
139	BACK	Go To the Utilities Menus



Menu Num.	Heading	Function
140	----	----
141	----	----
142	YES, I want to start a software upgrade	This will Start a software upgrade of the unit. You will need to follow the instructions in the etherbox (FB-9E) manual to correctly perform this procedure. This will Wipe ALL Logos and Settings that may have been previously set-up. The unit MUST be installed in an FB-9E to perform an upgrade.
143	BACK	Go To the Top Menus

DK-2 FILE TIMES	IS UPG IS REC OUT IN	RADING IEVED 3 MINS	IF NO IT
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Menu Num.	Heading	Function
144	----	This is a system message. If you accidentally press "Software Upgrade" then this message appears. If you have done this accidentally, simply WAIT 3 minutes and the system will return back to normal.
145	----	----
146	----	----
147	----	----



## 4 Technical Appendix

### 4.1 GPI/Tally/RS232/ technical information.

The Processor card has an RJ-45 connector with GPI, Tally and RS232 connections as shown below:

1	GPI-1	White/Orange
2	GPI-2	Orange
3	GPI-3	White/Green
4	GND	Blue
5	RS232 TX	White/Blue
6	RS232 RX	Green
7	Not Used	White/Brown
8	Tally (open collector)	Brown

Table 2 GPI/Tally and RS232 pin-out on RJ-45.

#### 4.1.1 GPI Inputs.

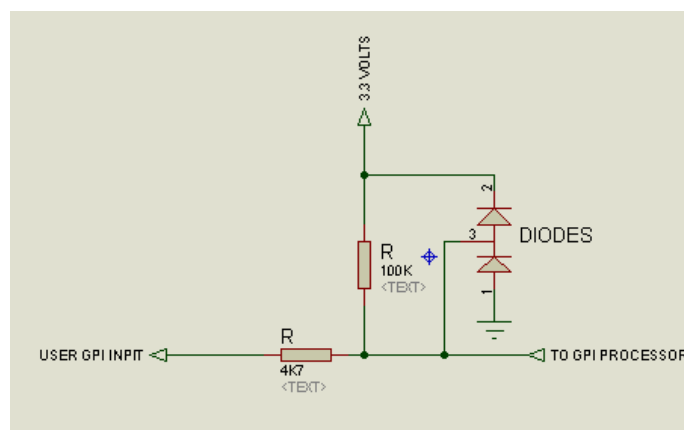


Figure 11 Typical GPI Input

GPI's are normally activated by a short to ground. The GPI has its own internal pull-up resistor. If the user is interfacing with logic then

- $V_{high} = +12V > V_{in} > +3V$
- $V_{low} = +0.3V > V_{in} > 0V$

## 4.1.2 Tally Output.

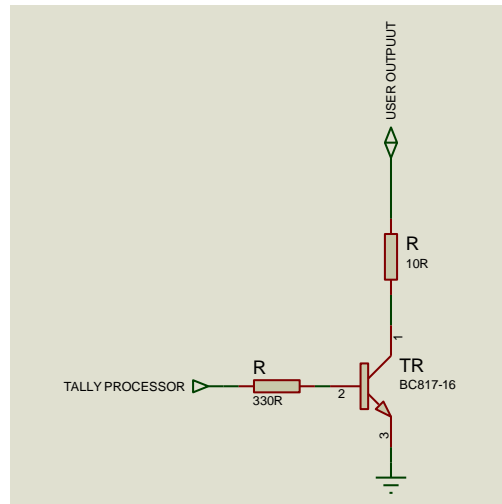


Figure 12 Tally Output

The user Tally Output is an open collector transistor. The drain should be <200mA. An electro-mechanical relay can be operated by this as shown in the example below.

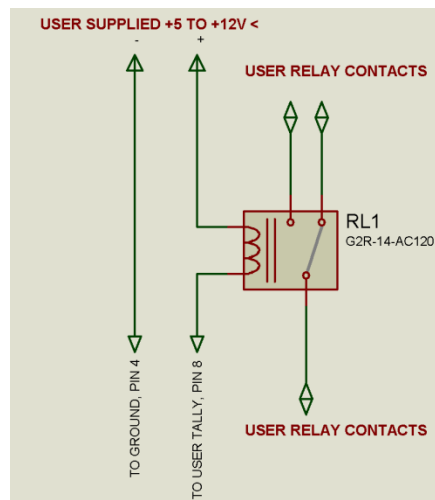


Figure 13 Tally interface to relay.

## 4.1.3 RS232 Interface.

This loosely follows the pin convention of EIA-561 which is a standard for RS232 on an RJ45 cable. Only TX, RX and Signal ground (pin 4) are implemented. For the LI-1D the following RS232 parameters apply:

- 115Kbaud
- 8 Bits, no parity
- 1 Stop bit.

## 4.2 On-Board automation protocol.

### 4.2.1 Implimentation on RS232

A simple text based protocol has been implemented on the RS232 interface. To activate the protocol select RS232 on Menu36 (On-Board Protocol select). All text strings are shown in inverted commas; do not include them in the actual command sent. Each byte within a text string must be sent within 10mS of each other or the command will time out. This on-board protocol is not the same as the geNETics protocol. Refer to the geNETics protocol in section 6 (Product Automation) of the etherbox manual. GeNETics protocol is used to control a number of processor cards using one connection.

The command set is as follows:

Command	Meaning	Example hex string
"Tn"	Set transition type n, where n=: 0 = Mix 1 = Wipe 2 = Cut 3 = Wipe-Mix	54,32  Set transition type to be Cut
"Wn"	Set Wipe pattern to n, where n=: 0=Vertical 1=Horiz 2=Vert Curtain 3=Horiz Curtain 4=Diagonal 5=Diamond 6=Arrow Left 7=Arrow Up	57,32  Set wipe pattern to Vertical Curtain.
"TTnnn"	Set Transition time to nnn. Where nnn=: 000→200	54,54,30,30,38  Set transition time to 8 frames.
"TKO"	Take to keyer ON	54,4F,4E
"TKF"	Take to keyer OFF	54,4F,46
"S"	Status	53 (See below for response)

A response will occur within 100mS of the command. The responses are as follows:

Response	Meaning	Hex string
"OK"	Command was understood and will implement.	4F,4B
"E0"	Command timed out.	45,30
"E1"	Error 1. Unknown command.	45,31
"TF"	This indicates that a transition has ended. The user should look for this after a "TK" command and not issue any more commands until this is received.	
"Sabcd"	<p>This is the response from the "S" Status command above</p> <p>a is selected transition state.</p> <p>b is selected transition type.</p> <p>c is selected wipe pattern.</p> <p>d is selected transition time.</p> <p>a="0", "1" or "2" meaning Key ON, OFF and in transition respectively.</p> <p>b="0", "1", "2" or "3". Meaning is the same as in the "Tn" command above.</p> <p>c= "0" to "7". Meaning is as in the "Wn" command above.</p> <p>d= binary value of transition time in video fields. Eg 0x44 means 68 video fields.</p>	<p>Eg: 53,31,30,36,44</p> <p>Key OFF Wipe selected Left Arrow 68 video fields</p>

### 4.3 geNETics Automation Protocol Parameter table.

This is the Automatically extracted parameters for the DK-2. This is used for the generic geNETics automation protocol. See etherbox manual for a full description of its usage.

#### 4.3.1 -625 automatically extracted menu parameters. V7.50

```
Menu, Access, Text, Low, Up, Lev, Txt1, Txt2, Txt3, Txt4, Txt5, Txt6, Txt7, Txt8, Txt9, Txt10
0, N/A, [Gr], N/A, N/A, A
1, N/A, [Gr], N/A, N/A, A
2, N/A, [Gr], N/A, N/A, A
3, N/A, [Gr], N/A, N/A, A
4, R/w, { TAKE }{# }, 0, 2, A, ON , OFF , <TRAN>
5, R/w, { TIME }{# Fr}, 1, 200, A
6, N/A, { }{ }{ }{ }, N/A, N/A, A
7, N/A, [Gr], N/A, N/A, A
8, R/w, {K.GAIN}{=# %}, 0, 511, A
```

```

9, R/W, {K.LIFT}{=# %}, 0, 511, A
10, R/W, {KeyInv}{#}, 0, 1, A, NORMAL, INVERT
11, N/A, {BACK}{set-up}, N/A, N/A, A
12, R/W, {H-Posn}{BG=#}, 0, 7, A
12, R/W, {KY=#}, 0, 15, B
13, R/W, {L=# %}, 1, 254, A
13, R/W, {H=# d}, 0, 255, B
13, R/W, {S=# %}, 0, 255, C
14, R/W, {Kstyle}{#}, 0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
15, N/A, {BACK}{set-up}, N/A, N/A, A
16, R/W, {Mem 1}{#}, 0, 1, A, Recall, DONE
17, R/W, {Mem 2}{#}, 0, 1, A, Recall, DONE
18, R/W, {Mem 3}{#}, 0, 1, A, Recall, DONE
19, N/A, {Gr}, N/A, N/A, A
20, R/W, {Mem 4}{#}, 0, 1, A, Recall, DONE
21, R/W, {Mem 5}{#}, 0, 1, A, Recall, DONE
22, R/W, {Mem 6}{#}, 0, 1, A, Recall, DONE
23, N/A, {Gr}, N/A, N/A, A
24, R/W, {Mem 1}{#}, 0, 1, A, Save, DONE
25, R/W, {Mem 2}{#}, 0, 1, A, Save, DONE
26, R/W, {Mem 3}{#}, 0, 1, A, Save, DONE
27, N/A, {Gr}, N/A, N/A, A
28, R/W, {Mem 4}{#}, 0, 1, A, Save, DONE
29, R/W, {Mem 5}{#}, 0, 1, A, Save, DONE
30, R/W, {Mem 6}{#}, 0, 1, A, Save, DONE
31, N/A, {Gr}, N/A, N/A, A
32, N/A, N/A, N/A, A
33, N/A, N/A, N/A, A
34, N/A, N/A, N/A, A
35, N/A, N/A, N/A, A
36, R/W, {H-Posn}{BG=#}, 0, 7, A
36, R/W, {KY=#}, 0, 15, B
37, R/W, {System}{Delay}{# Px}, 0, 1727, A
38, N/A, {Gr}, N/A, N/A, A
39, N/A, {Gr}, N/A, N/A, A
40, RD, {#}, 0, 3, A, SAFE, SAFE, DIGITAL, ANALOG
40, RD, {#}, 0, 3, B, ACTION, CAPT'N, EDGE, EDGE
40, R/W, {#}, 0, 1, C, OFF, ON
41, R/W, {#}, 0, 3, A, [S.Act, [S.Cap, [D.Edg, [A.Edg
41, R/W, {#}, 0, 4, B, [4:3, [16:9, 16p4:3, 16p149, 43p149
41, R/W, {#}, 0, 3, C, [Thin, [Thick, [Shade, [Black
42, R/W, {GPI}{ENABLE}{#}, 0, 1, A, =NO, =YES
43, N/A, {Gr}, N/A, N/A, A
44, N/A, {SOFTWA}{-----}, N/A, N/A, A
45, N/A, {RE Ver}{-----}, N/A, N/A, A
46, N/A, {!}, N/A, N/A, A
47, N/A, {Gr}, N/A, N/A, A
48, N/A, {D.S.K}, N/A, N/A, A
49, N/A, {TRANS= TIME}, N/A, N/A, A
50, R/W, {#}, 1, 200, A
51, N/A, {FIELDS}, N/A, N/A, A
52, R/W, {TRANS}{#}, 0, 3, A, =MIX, =WIPE, =CUT, =MX+WD
53, R/W, {#}, 0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
54, R/W, {Soft wipe}{#}, 1, 49, A
55, N/A, {BACK}{=tran=}, N/A, N/A, A
56, R/W, {Garbge}{Matte}{#}, 0, 2, A, OFF, ON, Invert
57, R/W, {Sides}{L=#}, 0, 719, A
57, R/W, {R=#}, 0, 719, B
58, R/W, {TopBot}{T=#}, 0, 575, A
58, R/W, {B=#}, 0, 575, B
59, N/A, {BACK}{=tran=}, N/A, N/A, A
60, R/W, {#}, 0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
61, R/W, {User}{TrTime}{# Fr}, 1, 250, A
62, N/A, {Gr}, N/A, N/A, A
63, N/A, {Gr}, N/A, N/A, A
64, R/W, {#}, 0, 3, A, [Gr], [Gr], [Gr], [Gr]
65, R/W, {#}, 0, 3, A, [Gr], [Gr], [Gr], [Gr]
66, N/A, {Gr}, N/A, N/A, A
67, N/A, {Gr}, N/A, N/A, A
68, N/A, {Gr}, N/A, N/A, A
69, N/A, {Gr}, N/A, N/A, A
70, N/A, {Gr}, N/A, N/A, A
71, N/A, {Gr}, N/A, N/A, A
72, R/W, {Clip}{Gain}{# %}, 0, 511, A
73, R/W, {Clip}{Lift}{# %}, 0, 511, A
74, N/A, {Gr}, N/A, N/A, A
75, N/A, {Gr}, N/A, N/A, A
76, R/W, {Garbge}{Matte}{#}, 0, 2, A, OFF, ON, Invert
77, R/W, {Sides}{Lf=#}, 0, 719, A
77, R/W, {Rt=#}, 0, 719, B
78, R/W, {TopBot}{Tp=#}, 0, 575, A
78, R/W, {Bt=#}, 0, 575, B
79, N/A, {Gr}, N/A, N/A, A
80, R/W, {Kstyle}{#}, 0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
81, R/W, {KeyInv}{#}, 0, 1, A, NORMAL, INVERT
82, R/W, {L=# %}, 1, 254, A
82, R/W, {H=# d}, 0, 255, B
82, R/W, {S=# %}, 0, 255, C
83, N/A, {Gr}, N/A, N/A, A
84, N/A, {Gr}, N/A, N/A, A
85, N/A, {Gr}, N/A, N/A, A
86, N/A, {Gr}, N/A, N/A, A
87, N/A, {Gr}, N/A, N/A, A
88, R/W, {#}, 0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
89, R/W, {User}{TrTime}{# Fr}, 1, 250, A
90, N/A, {Gr}, N/A, N/A, A
91, N/A, {Gr}, N/A, N/A, A
92, R/W, {#}, 0, 3, A, [Gr], [Gr], [Gr], [Gr]
93, R/W, {#}, 0, 3, A, [Gr], [Gr], [Gr], [Gr]
94, N/A, {Gr}, N/A, N/A, A
95, N/A, {Gr}, N/A, N/A, A
96, R/W, {Clip}{Gain}{# %}, 0, 511, A
97, R/W, {Clip}{Lift}{# %}, 0, 511, A
98, N/A, {Gr}, N/A, N/A, A
99, N/A, {Gr}, N/A, N/A, A
100, R/W, {Garbge}{Matte}{#}, 0, 2, A, OFF, ON, Invert
101, R/W, {Sides}{Lf=#}, 0, 719, A
101, R/W, {Rt=#}, 0, 719, B
102, R/W, {TopBot}{Tp=#}, 0, 575, A
102, R/W, {Bt=#}, 0, 575, B
103, N/A, {Gr}, N/A, N/A, A
104, R/W, {Kstyle}{#}, 0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
105, R/W, {KeyInv}{#}, 0, 1, A, NORMAL, INVERT
106, R/W, {L=# %}, 1, 254, A
106, R/W, {H=# d}, 0, 255, B

```

```

106, R/W, {S=# %}, 0, 255, C
107, N/A, {Gr}, N/A, N/A, A
108, N/A, {Gr}, N/A, N/A, A
109, N/A, {Gr}, N/A, N/A, A
110, N/A, {Gr}, N/A, N/A, A
111, N/A, {Gr}, N/A, N/A, A
112, N/A, {DSK}, {}, N/A, N/A, A
113, RD, {#1}, N/A, N/A, A
114, N/A, {TRA}, {}, N/A, N/A, A
115, N/A, {NS}, {}, N/A, N/A, A
116, N/A, {DSK}, {}, N/A, N/A, A
117, RD, {#2}, N/A, N/A, A
118, N/A, {TRA}, {}, N/A, N/A, A
119, N/A, {NS}, {}, N/A, N/A, A
120, N/A, {DSK}, {}, N/A, N/A, A
121, RD, {#3}, N/A, N/A, A
122, N/A, {TRA}, {}, N/A, N/A, A
123, N/A, {NS}, {}, N/A, N/A, A
124, N/A, {DSK}, {}, N/A, N/A, A
125, RD, {#4}, N/A, N/A, A
126, N/A, {TRA}, {}, N/A, N/A, A
127, N/A, {NS}, {}, N/A, N/A, A
128, R/W, {#}, 0, 1, A, Set AS, !WAIT!
129, R/W, {#}, 0, 1, A, ReBoot, !WAIT!
130, N/A, {FACTRY}, {RESET!}{!!!!!!}, N/A, N/A, A
131, N/A, {Gr}, N/A, N/A, A
132, N/A, {START?}, {}, N/A, N/A, A
133, N/A, {ARE }{ YOU }{SURE?}}, N/A, N/A, A
134, R/W, {#}, 0, 1, A, YES , OK!
135, N/A, {Gr}, N/A, N/A, A
136, N/A, {UPGRDE}{SOFTWR}{ NOW! }, N/A, N/A, A
137, R/W, {#}, 0, 1, A, Key ON, KeyOff
137, R/W, {Box=#}, 0, 16, B
137, R/W, {Ta1=#}, 0, 99, C
138, N/A, {RESETS}, {}, N/A, N/A, A
139, N/A, {Gr}, N/A, N/A, A
140, N/A, {START?}, {}, N/A, N/A, A
141, N/A, {ARE }{ YOU }{SURE?}}, N/A, N/A, A
142, R/W, {#}, 0, 1, A, YES ,
143, N/A, {Gr}, N/A, N/A, A
144, N/A, {DK-2 }{FILE }{TIMES }, N/A, N/A, A
145, N/A, {IS UPG }{IS REC }{OUT IN}, N/A, N/A, A
146, N/A, {RADING }{IEVED }{3 MINS}, N/A, N/A, A
147, N/A, {IF NO }{IT }, N/A, N/A, A

```

## 4.3.2 -525 automatically extracted menu parameters. V7.50

Menu, Access, Text, Low, Up, Lev, Txt1, Txt2, Txt3, Txt4, Txt5, Txt6, Txt7, Txt8, Txt9, Txt10

```

0, N/A, {Gr}, N/A, N/A, A
1, N/A, {Gr}, N/A, N/A, A
2, N/A, {Gr}, N/A, N/A, A
3, N/A, {Gr}, N/A, N/A, A
4, R/W, {TAKE }{#}, 0, 2, A, ON , OFF , <TRAN>
5, R/W, {TIME }{=# Fr}, 1, 200, A
6, N/A, {}, N/A, N/A, A
7, N/A, {Gr}, N/A, N/A, A
8, R/W, {K.GAIN}{=# %}, 0, 511, A
9, R/W, {K.LIFT}{=# %}, 0, 511, A
10, R/W, {KeyInv}{#}, 0, 1, A, NORMAL, INVERT
11, N/A, {BACK }{set-up}}, N/A, N/A, A
12, R/W, {H-Posn}{BG=#}, 0, 7, A
12, R/W, {KY=#}, 0, 15, B
13, R/W, {L=# %}, 1, 254, A
13, R/W, {H=# d}, 0, 255, B
13, R/W, {S=# %}, 0, 255, C
14, R/W, {Kstyle}{#}, 0, 3, A, NORMAL, ADDTIV, SELF , C.FILL
15, N/A, {BACK }{set-up}}, N/A, N/A, A
16, R/W, {>$ }{Mem 7}{#}, 0, 1, A, Recall, DONE
17, R/W, {>* }{Mem 8}{#}, 0, 1, A, Recall, DONE
18, R/W, {>0 }{Mem 9}{#}, 0, 1, A, Recall, DONE
19, N/A, {Gr}, N/A, N/A, A
20, R/W, {>6 }{Mem 10}{#}, 0, 1, A, Recall, DONE
21, R/W, {>< }{Mem 11}{#}, 0, 1, A, Recall, DONE
22, R/W, {>B }{Mem 12}{#}, 0, 1, A, Recall, DONE
23, N/A, {Gr}, N/A, N/A, A
24, R/W, {>$ }{Mem 7}{#}, 0, 1, A, Save , DONE
25, R/W, {>* }{Mem 8}{#}, 0, 1, A, Save , DONE
26, R/W, {>0 }{Mem 9}{#}, 0, 1, A, Save , DONE
27, N/A, {Gr}, N/A, N/A, A
28, R/W, {>6 }{Mem 10}{#}, 0, 1, A, Save , DONE
29, R/W, {>< }{Mem 11}{#}, 0, 1, A, Save , DONE
30, R/W, {>B }{Mem 12}{#}, 0, 1, A, Save , DONE
31, N/A, {Gr}, N/A, N/A, A
32, N/A, {}, N/A, N/A, A
33, N/A, {}, N/A, N/A, A
34, N/A, {}, N/A, N/A, A
35, N/A, {}, N/A, N/A, A
36, R/W, {H-Posn}{BG=#}, 0, 7, A
36, R/W, {KY=#}, 0, 15, B
37, R/W, {System}{Delay}{# Px}, 0, 1727, A
38, N/A, {Gr}, N/A, N/A, A
39, N/A, {Gr}, N/A, N/A, A
40, RD, {#}, 0, 3, A, SAFE , SAFE , DIGITAL, ANALOG
40, RD, {#}, 0, 3, B, ACTION, CAPT'N, EDGE , EDGE
40, R/W, {#}, 0, 1, C, OFF , ON
41, R/W, {#}, 0, 3, A, [S.Act, [S.Cap, [D.Edg, [A.Edg
41, R/W, {#}, 0, 4, B, [4:3, [16:9, 16p4:3, 16p149, 43p149
41, R/W, {#}, 0, 3, C, [Thin, [Thick, [Shade, [Black
42, R/W, {GPI }{ENABLE}{#}, 0, 1, A, =NO , =YES
43, N/A, {Gr}, N/A, N/A, A
44, N/A, {SOFTWA}{-----}}, N/A, N/A, A
45, N/A, {RE Ver}{-----}}, N/A, N/A, A
46, N/A, {!}, N/A, N/A, A
47, N/A, {Gr}, N/A, N/A, A
48, N/A, {D.S.K}{}, N/A, N/A, A

```

```

49, N/A, {TRANS={ TIME }{ }, N/A, N/A, A
50, R/W, {# 1, 200, A
51, N/A, {FIELDS}{ }, N/A, N/A, A
52, R/W, {TRANS={# 0, 3, A, =MIX, =WIPE, =CUT, =Mx+Wp
53, R/W, {Soft {wipe, =# {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr}
54, R/W, {BACK {=tran={# 1, 49, A
55, N/A, {Garbge {Matte:={# 0, 2, A, OFF, ON, Invert
56, R/W, {Sides={Lf=# 0, 719, A
57, R/W, {Rt=# 0, 719, B
58, R/W, {TopBot={Tp=# 19, 507, A
58, R/W, {Bt=# 19, 507, B
59, N/A, {BACK {=tran={# {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr}
60, R/W, {# 0, 7, A, [Gr] {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr}
61, R/W, {User {TrTime={# Fr} {1, 250, A
62, N/A, {# {N/A, N/A, A
63, N/A, {Gr} {N/A, N/A, A
64, R/W, {# 0, 3, A, [Gr] {Gr} {Gr} {Gr}
65, R/W, {# 0, 3, A, [Gr] {Gr} {Gr} {Gr}
66, N/A, {Gr} {N/A, N/A, A
67, N/A, {Gr} {N/A, N/A, A
68, N/A, {Gr} {N/A, N/A, A
69, N/A, {Gr} {N/A, N/A, A
70, N/A, {Gr} {N/A, N/A, A
71, N/A, {Gr} {N/A, N/A, A
72, R/W, {Clip {Gain} {# %} {0, 511, A
73, R/W, {Clip {Lift} {# %} {0, 511, A
74, N/A, {# {N/A, N/A, A
75, N/A, {Gr} {N/A, N/A, A
76, R/W, {Garbge {Matte:={# {0, 2, A, OFF, ON, Invert
77, R/W, {Sides={Lf=# 0, 719, A
77, R/W, {Rt=# 0, 719, B
78, R/W, {TopBot={Tp=# 19, 507, A
78, R/W, {Bt=# 19, 507, B
79, N/A, {Gr} {N/A, N/A, A
80, R/W, {Kstyle={# {0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
81, R/W, {KeyInv={# {0, 1, A, NORMAL, INVERT
82, R/W, {L=# %} {1, 254, A
82, R/W, {H=# d} {0, 255, B
82, R/W, {S=# %} {0, 255, C
83, N/A, {Gr} {N/A, N/A, A
84, N/A, {Gr} {N/A, N/A, A
85, N/A, {Gr} {N/A, N/A, A
86, N/A, {Gr} {N/A, N/A, A
87, N/A, {Gr} {N/A, N/A, A
88, R/W, {# {0, 7, A, [Gr] {Gr} {Gr} {Gr} {Gr} {Gr} {Gr} {Gr}
89, R/W, {User {TrTime={# Fr} {1, 250, A
90, N/A, {Gr} {N/A, N/A, A
91, N/A, {Gr} {N/A, N/A, A
92, R/W, {# {0, 3, A, [Gr] {Gr} {Gr} {Gr}
93, R/W, {# {0, 3, A, [Gr] {Gr} {Gr} {Gr}
94, N/A, {Gr} {N/A, N/A, A
95, N/A, {Gr} {N/A, N/A, A
96, R/W, {Clip {Gain} {# %} {0, 511, A
97, R/W, {Clip {Lift} {# %} {0, 511, A
98, N/A, {# {N/A, N/A, A
99, N/A, {Gr} {N/A, N/A, A
100, R/W, {Garbge {Matte:={# {0, 2, A, OFF, ON, Invert
101, R/W, {Sides={Lf=# 0, 719, A
101, R/W, {Rt=# 0, 719, B
102, R/W, {TopBot={Tp=# 19, 507, A
102, R/W, {Bt=# 19, 507, B
103, N/A, {Gr} {N/A, N/A, A
104, R/W, {Kstyle={# {0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
105, R/W, {KeyInv={# {0, 1, A, NORMAL, INVERT
106, R/W, {L=# %} {1, 254, A
106, R/W, {H=# d} {0, 255, B
106, R/W, {S=# %} {0, 255, C
107, N/A, {Gr} {N/A, N/A, A
108, N/A, {Gr} {N/A, N/A, A
109, N/A, {Gr} {N/A, N/A, A
110, N/A, {Gr} {N/A, N/A, A
111, N/A, {Gr} {N/A, N/A, A
112, N/A, {DSK }{ }, N/A, N/A, A
113, RD, {#1 }{ }, N/A, N/A, A
114, N/A, {TRA }{ }, N/A, N/A, A
115, N/A, {NS ..... }{ }, N/A, N/A, A
116, N/A, {DSK }{ }, N/A, N/A, A
117, RD, {#2 }{ }, N/A, N/A, A
118, N/A, {TRA }{ }, N/A, N/A, A
119, N/A, {NS ..... }{ }, N/A, N/A, A
120, N/A, {DSK }{ }, N/A, N/A, A
121, RD, {#3 }{ }, N/A, N/A, A
122, N/A, {TRA }{ }, N/A, N/A, A
123, N/A, {NS ..... }{ }, N/A, N/A, A
124, N/A, {DSK }{ }, N/A, N/A, A
125, RD, {#4 }{ }, N/A, N/A, A
126, N/A, {TRA }{ }, N/A, N/A, A
127, N/A, {NS ..... }{ }, N/A, N/A, A
128, R/W, {# {0, 1, A, Set As, !WAIT!
129, R/W, {# {0, 1, A, ReBoot, !WAIT!
130, N/A, {FACTRY {RESET!} {!!!!!!}, N/A, N/A, A
131, N/A, {Gr} {N/A, N/A, A
132, N/A, {START?} { }, N/A, N/A, A
133, N/A, {ARE } {YOU } {SURE?} { }, N/A, N/A, A
134, R/W, {# {0, 1, A, YES, OK!
135, N/A, {Gr} {N/A, N/A, A
136, N/A, {UPGRDE {SOFTWR {NOW! }, N/A, N/A, A
137, R/W, {# {0, 1, A, Key ON, KeyOff
137, R/W, {Box=# {0, 16, B
137, R/W, {Tal=# {0, 99, C
138, N/A, {RESETS} { }, N/A, N/A, A
139, N/A, {Gr} {N/A, N/A, A
140, N/A, {START?} { }, N/A, N/A, A
141, N/A, {ARE } {YOU } {SURE?} { }, N/A, N/A, A
142, R/W, {# {0, 1, A, YES,
143, N/A, {Gr} {N/A, N/A, A
144, N/A, {DK-2 } {FILE } {TIMES }, N/A, N/A, A
145, N/A, {IS UPG } {IS REC } {OUT IN}, N/A, N/A, A
146, N/A, {RADING } {IEVED } {3 MINS}, N/A, N/A, A
147, N/A, {IF NO } {IT } { }, N/A, N/A, A

```



### 4.3.3 -720 automatically extracted menu parameters. V7.50

Menu, Access, Text, Low, Up, Lev, Txt1, Txt2, Txt3, Txt4, Txt5, Txt6, Txt7, Txt8, Txt9, Txt10

```
0, N/A, [Gr], N/A, N/A, A
1, N/A, [Gr], N/A, N/A, A
2, N/A, [Gr], N/A, N/A, A
3, N/A, [Gr], N/A, N/A, A
4, R/W, {TAKE} {=# Fr} {0, 2, A, ON, OFF, <TRAN>
5, R/W, {TIME} {=# Fr} {1, 200, A
6, N/A, { }, N/A, N/A, A
7, N/A, [Gr], N/A, N/A, A
8, R/W, {K.GAIN} {=# %} {0, 511, A
9, R/W, {K.LIFT} {=# %} {0, 511, A
10, R/W, {KeyInv} {# } {0, 1, A, NORMAL, INVERT
11, N/A, {BACK} {set-up} { }, N/A, N/A, A
12, N/A, { }, N/A, N/A, A
13, R/W, {L=# %} {1, 254, A
13, R/W, {H=# d} {0, 255, B
13, R/W, {S=# %} {0, 255, C
14, R/W, {Kstyle} {# } {0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
15, N/A, {BACK} {set-up} { }, N/A, N/A, A
16, R/W, {>I} {Mem 19} {# } {0, 1, A, Recall, DONE
17, R/W, {>R} {Mem 20} {# } {0, 1, A, Recall, DONE
18, R/W, {>X} {Mem 21} {# } {0, 1, A, Recall, DONE
19, N/A, {next} {*BACK*} {prev} { }, N/A, N/A, A
20, R/W, {>#} {0, 1, A, Recall, DONE
21, R/W, {>} {Mem 23} {# } {0, 1, A, Recall, DONE
22, R/W, {>} {Mem 24} {# } {0, 1, A, Recall, DONE
23, N/A, {next} {*BACK*} {prev} { }, N/A, N/A, A
24, R/W, {>I} {Mem 19} {# } {0, 1, A, Save, DONE
25, R/W, {>R} {Mem 20} {# } {0, 1, A, Save, DONE
26, R/W, {>X} {Mem 21} {# } {0, 1, A, Save, DONE
27, N/A, {next} {*BACK*} {prev} { }, N/A, N/A, A
28, R/W, {>#} {0, 1, A, Save, DONE
29, R/W, {>} {Mem 23} {# } {0, 1, A, Save, DONE
30, R/W, {>} {Mem 24} {# } {0, 1, A, Save, DONE
31, N/A, {next} {*BACK*} {prev} { }, N/A, N/A, A
32, N/A, { }, N/A, N/A, A
33, N/A, { }, N/A, N/A, A
34, N/A, { }, N/A, N/A, A
35, N/A, { }, N/A, N/A, A
36, N/A, { }, N/A, N/A, A
37, R/W, {System} {Delay=} {# Px} {0, 2047, A
38, N/A, [Gr], N/A, N/A, A
39, N/A, [Gr], N/A, N/A, A
40, RD, {# } {0, 3, A, SAFE, SAFE, DIGTAL, ANALOG
40, RD, {# } {0, 3, B, ACTION, CAPT'N, EDGE, EDGE
40, R/W, {# } {0, 1, C, OFF, ON
41, R/W, {# } {0, 3, A, [S.Act, [S.Cap, [D.Edg, [A.Edg
41, R/W, {# } {0, 4, B, [4:3, [16:9, [6p4:3, [6p149, 43p149
41, R/W, {# } {0, 3, C, [Thin, [Thick, [Shade, [Black
42, R/W, {GPI} {ENABLE} {# } {0, 1, A, =NO, =YES
43, N/A, [Gr], N/A, N/A, A
44, N/A, {SOFTWA} {-----} { }, N/A, N/A, A
45, N/A, {RE Ver} {-----} { }, N/A, N/A, A
46, N/A, {!} { }, N/A, N/A, A
47, N/A, [Gr], N/A, N/A, A
48, N/A, {D.S.K} { }, N/A, N/A, A
49, N/A, {TRANS=} {TIME} { }, N/A, N/A, A
50, R/W, {# } {1, 200, A
51, N/A, {FIELDS} { }, N/A, N/A, A
52, R/W, {TRANS:} {# } {0, 3, A, =MIX, =WIPE, =CUT, =Mx+wp
53, R/W, {# } {0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
54, R/W, {Soft } {wipe} {=# } {1, 49, A
55, N/A, {BACK} {=tran=} { }, N/A, N/A, A
56, R/W, {Garbge} {Matte:} {# } {0, 2, A, OFF, ON, Invert
57, R/W, {Sides} {L=# } {0, 1919, A
57, R/W, {R=# } {0, 1919, B
58, R/W, {TopBot} {T=# } {0, 1079, A
58, R/W, {B=# } {0, 1079, B
59, N/A, {BACK} {=tran=} { }, N/A, N/A, A
60, R/W, {# } {0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
61, R/W, {User } {TrTime} {=# Fr} {1, 250, A
62, N/A, { }, N/A, N/A, A
63, N/A, [Gr], N/A, N/A, A
64, R/W, {# } {0, 3, A, [Gr], [Gr], [Gr], [Gr]
65, R/W, {# } {0, 3, A, [Gr], [Gr], [Gr], [Gr]
66, N/A, [Gr], N/A, N/A, A
67, N/A, [Gr], N/A, N/A, A
68, N/A, [Gr], N/A, N/A, A
69, N/A, [Gr], N/A, N/A, A
70, N/A, [Gr], N/A, N/A, A
71, N/A, [Gr], N/A, N/A, A
72, R/W, {Clip} {Gain} {# %} {0, 511, A
73, R/W, {Clip} {Lift} {# %} {0, 511, A
74, N/A, { }, N/A, N/A, A
75, N/A, [Gr], N/A, N/A, A
76, R/W, {Garbge} {Matte:} {# } {0, 2, A, OFF, ON, Invert
77, R/W, {Sides:} {L=# } {0, 1919, A
77, R/W, {R=# } {0, 1919, B
78, R/W, {TopBot} {T=# } {0, 1079, A
78, R/W, {B=# } {0, 1079, B
79, N/A, [Gr], N/A, N/A, A
80, R/W, {Kstyle} {# } {0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
81, R/W, {KeyInv} {# } {0, 1, A, NORMAL, INVERT
82, R/W, {L=# %} {1, 254, A
82, R/W, {H=# d} {0, 255, B
82, R/W, {S=# %} {0, 255, C
83, N/A, [Gr], N/A, N/A, A
84, N/A, [Gr], N/A, N/A, A
85, N/A, [Gr], N/A, N/A, A
86, N/A, [Gr], N/A, N/A, A
87, N/A, [Gr], N/A, N/A, A
88, R/W, {# } {0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
89, R/W, {User } {TrTime} {=# Fr} {1, 250, A
90, N/A, [Gr], N/A, N/A, A
91, N/A, [Gr], N/A, N/A, A
92, R/W, {# } {0, 3, A, [Gr], [Gr], [Gr], [Gr]
93, R/W, {# } {0, 3, A, [Gr], [Gr], [Gr], [Gr]
94, N/A, [Gr], N/A, N/A, A
95, N/A, [Gr], N/A, N/A, A
96, R/W, {Clip} {Gain} {# %} {0, 511, A
97, R/W, {Clip} {Lift} {# %} {0, 511, A
98, N/A, { }, N/A, N/A, A
```

```

99, N/A, [Gr], N/A, N/A, A
100, R/W, {Garbge}Matte:{# }, 0, 2, A, OFF , ON , Invert
101, R/W, {Sides}L=# }, 0, 1282, A
101, R/W, {R=# }, 0, 1282, B
102, R/W, {TopBot}T=# }, 0, 706, A
102, R/W, {B=# }, 0, 706, B
103, N/A, [Gr], N/A, N/A, A
104, R/W, {Kstyle}# }, 0, 3, A, NORMAL, ADDTIV, SELF , C.FILL
105, R/W, {KeyInv}# }, 0, 1, A, NORMAL, INVERT
106, R/W, {L=# %}, 1, 254, A
106, R/W, {H=# d}, 0, 255, B
106, R/W, {S=# %}, 0, 255, C
107, N/A, [Gr], N/A, N/A, A
108, N/A, [Gr], N/A, N/A, A
109, N/A, [Gr], N/A, N/A, A
110, N/A, [Gr], N/A, N/A, A
111, N/A, [Gr], N/A, N/A, A
112, N/A, {DSK} }{ }, N/A, N/A, A
113, RD, {#1 } N/A, N/A, A
114, N/A, {TRA} } N/A, N/A, A
115, N/A, {NS} } N/A, N/A, A
116, N/A, {DSK} } N/A, N/A, A
117, RD, {#2 } N/A, N/A, A
118, N/A, {TRA} } N/A, N/A, A
119, N/A, {NS} } N/A, N/A, A
120, N/A, {DSK} } N/A, N/A, A
121, RD, {#3 } N/A, N/A, A
122, N/A, {TRA} } N/A, N/A, A
123, N/A, {NS} } N/A, N/A, A
124, N/A, {DSK} } N/A, N/A, A
125, RD, {#4 } N/A, N/A, A
126, N/A, {TRA} } N/A, N/A, A
127, N/A, {NS} } N/A, N/A, A
128, R/W, {# }, 0, 1, A, Set As, !WAIT!
129, R/W, {# }, 0, 1, A, ReBoot, !WAIT!
130, N/A, {FACTRY}RESET!{!!!!!!}, N/A, N/A, A
131, N/A, [Gr], N/A, N/A, A
132, N/A, {START?} }{ }, N/A, N/A, A
133, N/A, {ARE } YOU }{SURE?} }, N/A, N/A, A
134, R/W, {# }, 0, 1, A, YES , OK!
135, N/A, [Gr], N/A, N/A, A
136, N/A, {UPGRDE}SOFTWR{ NOW! }, N/A, N/A, A
137, R/W, {# }, 0, 1, A, Key ON, KeyOff
137, R/W, {Box=# }, 0, 16, B
137, R/W, {Ta1=# }, 0, 99, C
138, N/A, {RESETS} }{ }, N/A, N/A, A
139, N/A, [Gr], N/A, N/A, A
140, N/A, {START?} }{ }, N/A, N/A, A
141, N/A, {ARE } YOU }{SURE?} }, N/A, N/A, A
142, R/W, {# }, 0, 1, A, YES ,
143, N/A, [Gr], N/A, N/A, A
144, N/A, {DK-2 }FILE }{TIMES }, N/A, N/A, A
145, N/A, {IS UPG}IS REC{OUT IN}, N/A, N/A, A
146, N/A, {RADING}IEVED{3 MINS}, N/A, N/A, A
147, N/A, {IF NO }IT }{ }, N/A, N/A, A

```

## 4.3.4 -I080i automatically extracted menu parameters. V7.50

Menu, Access, Text, Low, Up, Lev, Txt1, Txt2, Txt3, Txt4, Txt5, Txt6, Txt7, Txt8, Txt9, Txt10

```

0, N/A, [Gr], N/A, N/A, A
1, N/A, [Gr], N/A, N/A, A
2, N/A, [Gr], N/A, N/A, A
3, N/A, [Gr], N/A, N/A, A
4, R/W, {TAKE }# }, 0, 2, A, ON , OFF , <TRAN>
5, R/W, {TIME }=# Fr }, 1, 200, A
6, N/A, { }, N/A, N/A, A
7, N/A, [Gr], N/A, N/A, A
8, R/W, {K.GAIN}=# %}, 0, 511, A
9, R/W, {K.LIFT}=# %}, 0, 511, A
10, R/W, {KeyInv}# }, 0, 1, A, NORMAL, INVERT
11, N/A, {BACK }set-up}, N/A, N/A, A
12, N/A, { }, N/A, N/A, A
13, R/W, {L=# %}, 1, 254, A
13, R/W, {H=# d}, 0, 255, B
13, R/W, {S=# %}, 0, 255, C
14, R/W, {Kstyle}# }, 0, 3, A, NORMAL, ADDTIV, SELF , C.FILL
15, N/A, {BACK }set-up}, N/A, N/A, A
16, R/W, {>H }Mem 13}# }, 0, 1, A, Recall, DONE
17, R/W, {>N }Mem 14}# }, 0, 1, A, Recall, DONE
18, R/W, {>T }Mem 15}# }, 0, 1, A, Recall, DONE
19, N/A, {next} *BACK* }, N/A, N/A, A
20, R/W, {>Z }Mem 16}# }, 0, 1, A, Recall, DONE
21, R/W, {> }Mem 17}# }, 0, 1, A, Recall, DONE
22, R/W, {>f }Mem 18}# }, 0, 1, A, Recall, DONE
23, N/A, {next} *BACK* prev}, N/A, N/A, A
24, R/W, {>H }Mem 13}# }, 0, 1, A, Save , DONE
25, R/W, {>N }Mem 14}# }, 0, 1, A, Save , DONE
26, R/W, {>T }Mem 15}# }, 0, 1, A, Save , DONE
27, N/A, {next} *BACK* prev}, N/A, N/A, A
28, R/W, {>Z }Mem 16}# }, 0, 1, A, Save , DONE
29, R/W, {> }Mem 17}# }, 0, 1, A, Save , DONE
30, R/W, {>f }Mem 18}# }, 0, 1, A, Save , DONE
31, N/A, {next} *BACK* prev}, N/A, N/A, A
32, N/A, { }, N/A, N/A, A
33, N/A, { }, N/A, N/A, A
34, N/A, { }, N/A, N/A, A
35, N/A, { }, N/A, N/A, A
36, N/A, { }, N/A, N/A, A
37, R/W, {System}Delay=# Px}, 0, 2047, A
38, N/A, [Gr], N/A, N/A, A
39, N/A, [Gr], N/A, N/A, A
40, RD, {# }, 0, 3, A, SAFE , SAFE , DIGTAL, ANALOG
40, RD, {# }, 0, 1, B, ACTION, CAPT'N, EDGE , EDGE
41, R/W, {# }, 0, 3, A, OFF , ON
41, R/W, {# }, 0, 3, A, [S.Act, [S.Cap, [D.Edg, [A.Edg
41, R/W, {# }, 0, 4, B, [4:3, [16:9, [16p4:3, [16p149, 43p149
41, R/W, {# }, 0, 3, C, [Thin, [Thick, [Shade, [Black
42, R/W, {GPI }ENABLE}# }, 0, 1, A, =NO , =YES
43, N/A, [Gr], N/A, N/A, A
44, N/A, {SOFTWA}-----}, N/A, N/A, A
45, N/A, {RE Ver}-----}, N/A, N/A, A
46, N/A, {! }-----}, N/A, N/A, A

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47, N/A, [Gr], N/A, N/A, A
48, N/A, {D.S.K} }, N/A, N/A, A
49, N/A, {TRANS=} {TIME} }, N/A, N/A, A
50, R/W, # 1, 200, A
51, N/A, {FIELDS} }, N/A, N/A, A
52, R/W, {TRANS=} {# 0, 3, A, =MIX, =WIPE, =CUT, =Mx+Wp
53, R/W, {Soft} {wipe} {# [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
54, R/W, {BACK} {=tran=} {# 1, 49, A
55, N/A, {Garbge} {Matte=} {# 0, 2, A, OFF, ON, Invert
56, R/W, {Sides} {L=# 0, 1919, A
57, R/W, {R=# 0, 1919, B
58, R/W, {TopBot} {T=# 0, 1079, A
58, R/W, {B=# 0, 1079, B
59, N/A, {BACK} {=tran=} {# }, N/A, N/A, A
60, R/W, # 0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
61, R/W, {User} {TrTime} {# Fr}, 1, 250, A
62, N/A, # }, N/A, N/A, A
63, N/A, [Gr], N/A, N/A, A
64, R/W, # 0, 3, A, [Gr], [Gr], [Gr], [Gr]
65, R/W, # 0, 3, A, [Gr], [Gr], [Gr], [Gr]
66, N/A, [Gr], N/A, N/A, A
67, N/A, [Gr], N/A, N/A, A
68, N/A, [Gr], N/A, N/A, A
69, N/A, [Gr], N/A, N/A, A
70, N/A, [Gr], N/A, N/A, A
71, N/A, [Gr], N/A, N/A, A
72, R/W, {Clip} {Gain} {# %}, 0, 511, A
73, R/W, {Clip} {Lift} {# %}, 0, 511, A
74, N/A, # }, N/A, N/A, A
75, N/A, [Gr], N/A, N/A, A
76, R/W, {Garbge} {Matte=} {# }, 0, 2, A, OFF, ON, Invert
77, R/W, {Sides} {L=# 0, 1919, A
77, R/W, {R=# 0, 1919, B
78, R/W, {TopBot} {T=# 0, 1079, A
78, R/W, {B=# 0, 1079, B
79, N/A, [Gr], N/A, N/A, A
80, R/W, {Kstyle} {# 0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
81, R/W, {KeyInv} {# 0, 1, A, NORMAL, INVERT
82, R/W, {L=# %}, 1, 254, A
82, R/W, {H=# d}, 0, 255, B
82, R/W, {S=# %}, 0, 255, C
83, N/A, [Gr], N/A, N/A, A
84, N/A, [Gr], N/A, N/A, A
85, N/A, [Gr], N/A, N/A, A
86, N/A, [Gr], N/A, N/A, A
87, N/A, [Gr], N/A, N/A, A
88, R/W, # 0, 7, A, [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr], [Gr]
89, R/W, {User} {TrTime} {# Fr}, 1, 250, A
90, N/A, [Gr], N/A, N/A, A
91, N/A, [Gr], N/A, N/A, A
92, R/W, # 0, 3, A, [Gr], [Gr], [Gr], [Gr]
93, R/W, # 0, 3, A, [Gr], [Gr], [Gr], [Gr]
94, N/A, [Gr], N/A, N/A, A
95, N/A, [Gr], N/A, N/A, A
96, R/W, {Clip} {Gain} {# %}, 0, 511, A
97, R/W, {Clip} {Lift} {# %}, 0, 511, A
98, N/A, # }, N/A, N/A, A
99, N/A, [Gr], N/A, N/A, A
100, R/W, {Garbge} {Matte=} {# }, 0, 2, A, OFF, ON, Invert
101, R/W, {Sides} {L=# 0, 1919, A
101, R/W, {R=# 0, 1919, B
102, R/W, {TopBot} {T=# 0, 1079, A
102, R/W, {B=# 0, 1079, B
103, N/A, [Gr], N/A, N/A, A
104, R/W, {Kstyle} {# 0, 3, A, NORMAL, ADDTIV, SELF, C.FILL
105, R/W, {KeyInv} {# 0, 1, A, NORMAL, INVERT
106, R/W, {L=# %}, 1, 254, A
106, R/W, {H=# d}, 0, 255, B
106, R/W, {S=# %}, 0, 255, C
107, N/A, [Gr], N/A, N/A, A
108, N/A, [Gr], N/A, N/A, A
109, N/A, [Gr], N/A, N/A, A
110, N/A, [Gr], N/A, N/A, A
111, N/A, [Gr], N/A, N/A, A
112, N/A, {DSK} }{ }, N/A, N/A, A
113, RD, {#1 }{ }, N/A, N/A, A
114, N/A, {TRA} }{ }, N/A, N/A, A
115, N/A, {NS} }{ }, N/A, N/A, A
116, N/A, {DSK} }{ }, N/A, N/A, A
117, RD, {#2 }{ }, N/A, N/A, A
118, N/A, {TRA} }{ }, N/A, N/A, A
119, N/A, {NS} }{ }, N/A, N/A, A
120, N/A, {DSK} }{ }, N/A, N/A, A
121, RD, {#3 }{ }, N/A, N/A, A
122, N/A, {TRA} }{ }, N/A, N/A, A
123, N/A, {NS} }{ }, N/A, N/A, A
124, N/A, {DSK} }{ }, N/A, N/A, A
125, RD, {#4 }{ }, N/A, N/A, A
126, N/A, {TRA} }{ }, N/A, N/A, A
127, N/A, {NS} }{ }, N/A, N/A, A
128, R/W, # 0, 1, A, Set As, !WAIT!
129, R/W, # 0, 1, A, ReBoot, !WAIT!
130, N/A, {FACTRY} {RESET} {!!!!!!}, N/A, N/A, A
131, N/A, [Gr], N/A, N/A, A
132, N/A, {START?} { }, N/A, N/A, A
133, N/A, {ARE }{YOU }{SURE?} }, N/A, N/A, A
134, R/W, # 0, 1, A, YES, OK!
135, N/A, [Gr], N/A, N/A, A
136, N/A, {UPGRDE} {SOFTWR} {NOW! }, N/A, N/A, A
137, R/W, # 0, 1, A, Key ON, KeyOff
137, R/W, {Box=# 0, 16, B
137, R/W, {Tal=# 0, 99, C
138, N/A, {RESETS} { }, N/A, N/A, A
139, N/A, [Gr], N/A, N/A, A
140, N/A, {START?} { }, N/A, N/A, A
141, N/A, {ARE }{YOU }{SURE?} }, N/A, N/A, A
142, R/W, # 0, 1, A, YES,
143, N/A, [Gr], N/A, N/A, A
144, N/A, {DK-2 }{FILE }{TIMES }, N/A, N/A, A
145, N/A, {IS UPG} {IS REC} {OUT IN}, N/A, N/A, A
146, N/A, {RADING} {IEVED} {3 MINS}, N/A, N/A, A
147, N/A, {IF NO }{IT }{ }, N/A, N/A, A

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