datavideo®

HD / SD Digital Video Switcher

SE-1000

Instruction Manual

http://www.datavideo-tek.com

Rev 150507

Table of Contents

Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water. Protect from moisture such as high humidity or rainfall.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord's rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
    a. When the power cord is damaged or frayed;
    b. When liquid has spilled into the unit;
    c. When the product has been exposed to rain or water;
    d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
    e. When the product has been dropped or the cabinet has been damaged;
    f. When the product exhibits a distinct change in performance, indicating a need for service.

Radio and Television Interference

UNITED STATES: The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used in accordance with the instructions in this manual, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna;
2. Increase the separation between the equipment and the receiver;
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

If necessary, consult your dealer or an experienced radio/TV technician for help and/or additional suggestions.

N.B.: Changes or modifications not expressly approved by the party responsible for compliance could void the user's right to operate this equipment.

Peripherals used in conjunction with this equipment must be connected via shielded interface cables. Use of unshielded interface cables may result in interference to radio and TV reception, and may void the user's right to operate this equipment.

Warranty

Datavideo warrants that the equipment it manufactures shall be free from defects in material and workmanship for a period of 12 months from the date of product purchased. If equipment fails due to such defects, Datavideo will, at its option, repair or provide a replacement for the defective part or product. Equipment that fails after the warranty period, has been operated or installed in a manner other than that specified by Datavideo, or has been subjected to abuse or modification, will be repaired for time and material charges at the Buyer's expense. This warranty does not affect your statutory rights within the Country of purchase.

Disposal

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For EU Customers only - WEEE Marking.

Private Households
This symbol on the product indicates that it will not be treated as household waste. It must be handed over to the applicable take-back scheme for the recycling of electrical and electronic equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union
This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Introduction

Thank you for purchasing Datavideo's SE-1000 Digital Video Switcher. We hope you will be pleased with your purchase, and with what you can achieve with this advanced piece of technology. In order to get the most out of your new switcher, we recommend that you spend some time getting familiar with this manual, as it will describe in detail all the functions of this unit. In addition, you'll find some useful background information on video and audio, and some detailed examples of ways to use your new switcher.

Product Overview

The Datavideo SE-1000 is an HD / SD input, digital processing live video switcher. The SE-1000 includes 6 groups of video inputs (5 x HD/SD SDI - each with loop through, & 1 x DVI), and 3 x video outputs PGM (2 x HD/SD SDI & 1 x HD/SD Component), PVW (1 x HD/SD SDI & 1 x HD/SD Component) & AUX (2 x HD/SD SDI & 1 x HD/SD Component). It also incorporates 6 x DAC 40, HD/SD SDI to HD/SD Component / Composite converters; these allow easy monitoring of inputs and/or outputs. A built in frame synchroniser ensures glitch free switching of non synchronised inputs. Additional sockets include, Ethernet for image import from a PC, Tally light output, RS-422 remote control interface, Sync Ref input for external genlock, and GPI trigger.

Features

- **Live HD / SD Digital Switcher**
- **Simple Control Panel** - The layout of the SE-1000 is extremely simple to follow and ideal for a live environment.
- **Six Inputs** - five inputs of HD/SD SDI and one DVI
- **Six HD/SD SDI - HD/SD Component YUV / Composite video converters** - These allow SD monitors to be used for monitoring the input channels, or can be used to convert the HD/SD Digital SDI outputs to HD/SD Analogue Component YUV.
- **Multiple Format Support** - HD 1080/59.94i, 1080/50i, 720/59.94i, 720/50i / SD 480/59.94i, 576/50i / DVI-I (input only) are the supported formats
- **Internal or External Sync Support** - The SE-1000 has a built in 10-bit frame synchroniser, which enables clean switching between asynchronous inputs. By using the Black Burst output, systems can be synchronised to the SE-1000. Alternatively Gen-Lock is possible, by using the Ref In / Out sockets; the SE-1000 can then be set to external sync (BB or Tri-Level sync).
- **Built-in Effects and Keying** - The SE-1000 has nine different wipe effects, each with a range of border styles and soft edges. In addition there is a built in Keyer, which offers self or linear keying as well as key inversion.
- **Ethernet Capture** - Images can be imported from a PC via the Ethernet port, these images can be used as background images or key input signals
- **External Control via RS-422 / GPI** - The SE-1000 can be controlled from external devices. Simple control can be gained via GPI, or full control is possible via RS-422.
- **12v Power Requirement** - The SE-1000 can be powered from 12v so it can be easily powered in the field - Please note **Warnings & Precautions** on Page 3 in regard to environmental conditions.
- **Tally output** - 6 x Tally light outputs are provided

Packing List

The SE-1000 is shipped in two versions, if your SE-1000 is in an aluminium carrying case it is version B, if not it is version A:

Version A

1. SE-1000 switcher x 1
2. BNC to BNC 14.5cm cable x 6
3. YUV Cable - 4 x BNC to BNC Cable 3m x 1
4. AC/DC switching adapter 12V 10A x 1
5. Power cord x 1
6. Image Transfer Software CD
7. Instruction manual x 1

Version B

1. SE-1000 switcher x 1
2. Aluminium Carrying Case
3. BNC to BNC 14.5cm cable x 6
4. YUV Cable - 4 x BNC to BNC Cable 3m x 1
5. DVI to DVI 1.8m cable x 1
6. RJ45 CAT 5 crossover Ethernet cable 1.8m x 1
7. AC/DC switching adapter 12V 10A x 1
8. Power cord x 1
9. Image Transfer Software CD
10. Instruction manual x 1

Installation, Connections, Set up

Some General Notes on Installation

There are a few other things to be aware of when you are installing and integrating the SE-1000. Please make sure you have read the **Warnings and Precautions** section on *page 3*.

The SE-1000 sends and receives video signals. You need to be aware that cable lengths, impedance, crossing power cords, and adaptors might interfere with video transmission, particularly analogue signals. The cautions below, with the exception of physical damage, will give you the general idea about cabling for video.

We strongly recommend you use video and audio cables that are roughly the right length to connect between components. The longer the cable, the more noise and deterioration of the video signal can be introduced. We strongly recommend that you check the integrity of each cable before installation by using a continuity tester (available from most electronic and video supply stores). Cables can fail over time, with use, by someone walking on them, carts rolling over them, or even for no apparently good reason. It will happen eventually. Have a continuity tester handy and save yourself some troubleshooting headaches.

Make sure you don't run video/audio cables and power lines together, on top of each other, or across each other. This is another good way to introduce noise and signal degradation.

Cable connectors will eventually become dirty or oxidation will start. The dirt can cause a bad connection or introduce noise in the signal. It is advisable to buy some electrical contact cleaning products.
Use adaptors if you must, but keep in mind that each connector is one more accident waiting to happen, one more place the signal can be degraded or broken.

Finally, for examples of how to connect and integrate the SE-1000 into a variety of set ups, take a look at the brief Quick Start on page 9 and the more in depth explanations in **Sample Applications** on *page 29*.

Power up State

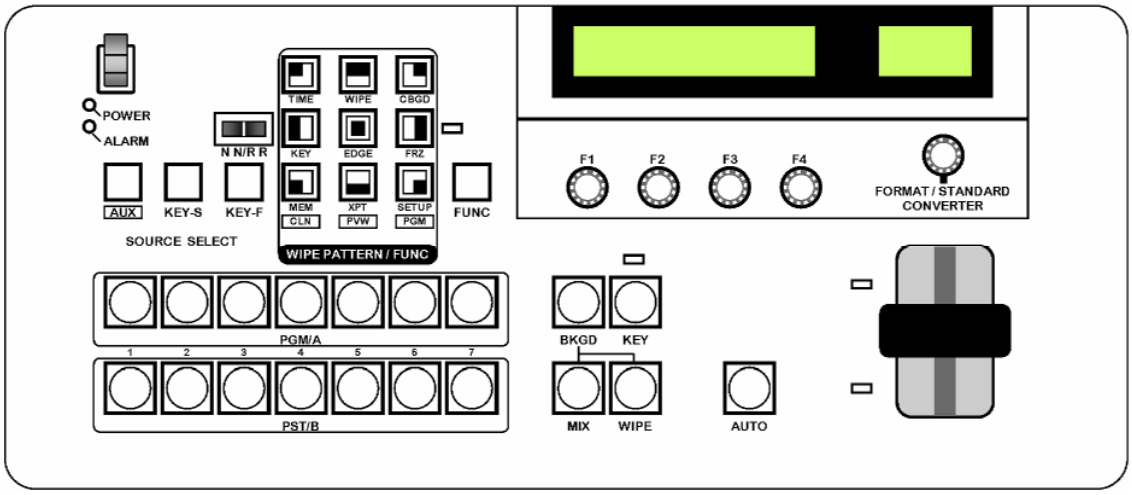
When you first power up the SE-1000, you will need to check the settings on each channel. Once set, all the settings are non-volatile (they will be retained).

On first power up, channel 1 will be the selected Main Video Source (PGM/A) and channel 2 will be the selected Sub Video Source (PST/B). On all subsequent power ups the video sources will be just as they were when the unit was switched off.

Settings that are retained are: Video input / output format, DVI mode, format & phase, sync mode (BBST INT), bus mode (A/B P/P), crosspoint assignment & switching, output signal phase, network settings and all of the DAC-40 settings.

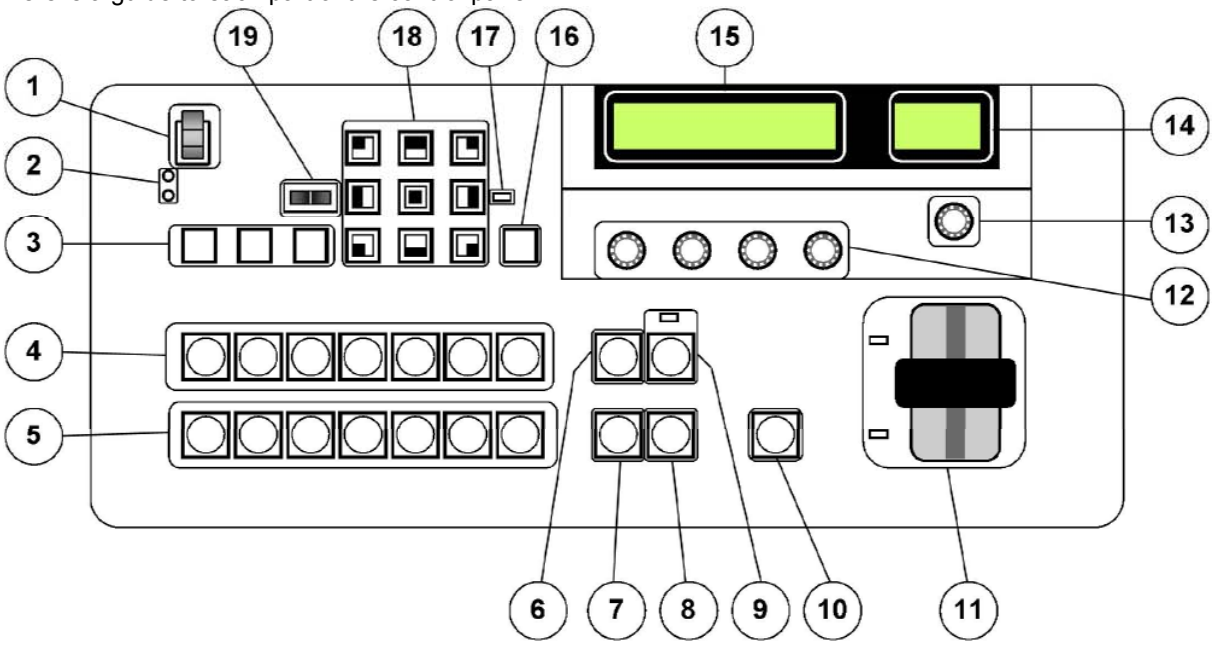
Control Panel

The SE-1000 control panel looks like this:



The layout is clearly labelled, and easy to follow. Many of the buttons have more than one function and are labelled with different descriptions. For example the nine wipe buttons also have secondary functions when the [FUNC] button is lit; these secondary functions are printed beneath each key.

Here is a guide to each part of the control panel:



1 Power On/ Off switch. Switched to the “I” position power is on, and in the “O” position power is off. When power is On the Power Light (**2**) should light up. You will notice that the power switch has been designed to prevent the SE-1000 from being accidentally switched off.

2 Power and Alarm LEDs. The Power LED is lit when the SE-1000 is powered on. The Alarm LED will light up if there is a problem detected, for example if the fan has stopped running or the DC voltage has dropped. The Status Display in the LCD Panel (**15**) will indicate the nature of the problem.
N.B. If the alarm LED remains lit please contact your local Datavideo office.

3 Source Selector Buttons - AUX / KEY-S / KEY-F.
When a PST/B bus crosspoint button (**5**) is pressed while the [AUX] source selector button is held down, the AUX signals are selected.

When a PST/B bus crosspoint button (**5**) is pressed while the [KEY-S] or [KEY-F] source selector button is held down, the key signals are selected.
While a button is held down, it is illuminated amber.
In addition, if the [CLN], [PVW] or [PGM] wipe pattern selector button (**18**) is pressed while the [AUX] button is held down, the button will operate as an AUX bus selector switch.
[CLN]: Clean signals are output to the AUX bus.
[PVW]: PVW signals are output to the AUX bus.
[PGM]: PGM signals are output to the AUX bus.

4 PGM / A bus crosspoint buttons 1 to 7. These buttons are used to select the PGM / A video source. If the SE-1000 is set to P/P (PGM/PST) mode, also known as flip-flop mode, then the PGM video signal is always selected here. If a button is illuminated Red it is Live, if it is illuminated Green it is Cued

5 PST / B bus crosspoint buttons 1 to 7. These are used to select the PST / B bus video signals. If the SE-1000 is set to P/P mode (flip-flop), the cued images (PST) are selected here.
When a B bus crosspoint button is pressed while one of the source selector buttons (**3**) is held down, KEY signals or AUX signals are selected. If a button is illuminated Red it is Live, if it is illuminated Green it is Cued

6 BKGD button - Background
This executes the background transition when the [AUTO] button (**10**) or T Bar (**11**) has been operated.
When the [BKGD] button is pressed and it is selected, it is illuminated amber.
If the [KEY] button (**9**) is now pressed, the indicator goes off, and the de-selected status is established.
However, when the [BKGD] button and [KEY] button are pressed at the same time, both buttons are set to the selected status; they are both illuminated amber.
N.B. The selection status cannot be changed while the SE-1000 is in the middle of a transition.

7 MIX button. This is used to select a simple mix or cross dissolve. When the MIX button is active it is illuminated amber. If the [WIPE] button (**8**) is selected the Mix button will go out. When the [AUTO] button (**10**) or T Bar (**11**) is operated a cross dissolve will be executed.

8 WIPE button. This is used to select wipe as the transition, whichever wipe button is highlighted in the wipe pattern selector buttons (**18**) will become the active transition. When the [AUTO] button (**10**) or T Bar (**11**) is operated a wipe will be executed. If the [MIX] button (**7**) is selected the WIPE button will go out.

9 KEY button and LED Indicator. This executes the key transition (MIX) when the [AUTO] button (**10**) or T Bar (**11**) is operated.
When the [KEY] button is pressed and it is selected, it's illuminated amber.
When a transition is executed and the key ON status is established, the LED above the [KEY] button is illuminated red. When another transition is executed and the key OFF status is established, it goes out.
If the [BKGD] button (**6**) is pressed, the [KEY] button goes out, and the de-selected status is established.
However, when the [BKGD] button (**6**) and [KEY] button are pressed at the same time, both buttons are set to the selected status; both will be amber.
N.B The selection status cannot be changed while the SE-1000 is in the middle of a transition.

10 AUTO button. Automatically executes a transition according to the speed parameters that have been set. During an auto transition the [AUTO] button is illuminated red. When the transition is complete the AUTO button goes out. If you press the [AUTO] button during an auto transition the button will change from red to green, this pauses the transition, pressing the [AUTO] button again will release the pause and complete the rest of the transition.
If the [AUTO] button is pressed while the T Bar (**11**) is midway through a transition, then the transition will be automatically completed at the speed parameter that has been set.

11 T-Bar and LED Bus Indicators. The T Bar is used to carry out a manual transition such as a wipe, fade, mix or key. When it has travelled as far as it can go the transition is complete.

The LED indicators alongside the T Bar indicate which bus PGM/A or PST/B is live. The live bus is indicated by a green LED. During a transition both LEDs will be green, as both PGM/A and PST/B will be live until the transition is complete.

12 Adjustment Knobs F1 - F4. These are used to set the parameters displayed on the menu.
Menu items are selected and parameters set by rotating [F1] to [F4]. For details on their operation, refer to the items in **Setting Up.**
When the [F1] to [F4] knobs are pushed down, the parameters are returned to their default settings. (Numerical value setting items only).

13 Format Standard Converter Adjustment Knob. This is used to set the parameters for the six built in standards converters (DAC-40s). Menu items are selected by pushing the knob down, and parameters are set up rotating the knob. For further details please refer to the item in **Setting Up**.

14 DAC-40 LCD Display. This LCD displays the settings and parameters for the six built in format standards converters (DAC-40s). Adjustments are made using the format standard converter adjustment knob (**13**). For further details please refer to the item in **Setting Up**.

15 Main LCD Display. All of the set up menus and parameters are displayed here (except the 6 x DAC-40 which are displayed on the DAC-40 LCD Display (**14**). Settings are altered using the adjustment knobs F1 - F4. For further details please refer to the item in **Setting Up**.

16 FUNC button - Function. When this button is pressed, it is illuminated green. If a wipe pattern selector button is pressed while the [FUNC] button is green, the wipe pattern selector button will also illuminate green, and the setting menu of the function indicated below the button appears on the LCD display.
[TIME]: For setting the auto transition time.
[WIPE]: For setting the wipe border and soft effect.
[CBGD]: For setting the colour background.
[KEY]: For setting the key.
[EDGE]: For setting the key edge.
[FRZ]: For displaying the freeze status display and setting freeze frames
[MEM]: For setting the preset memory or frame memory.
[XPT]: For displaying and setting the crosspoint assignment.
[SETUP]: For performing the system settings.

17 Freeze Status LED. When this LED is lit it means that one of the input signals is set to freeze frame. When the [FUNC] button is pressed and it's illuminated green, and the [FRZ] button is pressed, the freeze status is indicated for each input. (An asterisk appears above the name of a frozen crosspoint.)
Bear in mind that since the signals are frozen while the indicator is lit, the unit's output will remain unchanged even if the input images change.

Example LCD Display
(When crosspoints 2 and 5 are set to freeze frame)

18 Wipe pattern / function selector buttons. These are used to select the wipe patterns. Each button is used to select one of the nine wipe patterns. The selected wipe button will be illuminated amber When the [FUNC] button is active (illuminated green), then the function setting menu is selected, and the selected wipe button is illuminated green.

19 Wipe direction selector switch. This is used to select the wipe direction. There are three options:

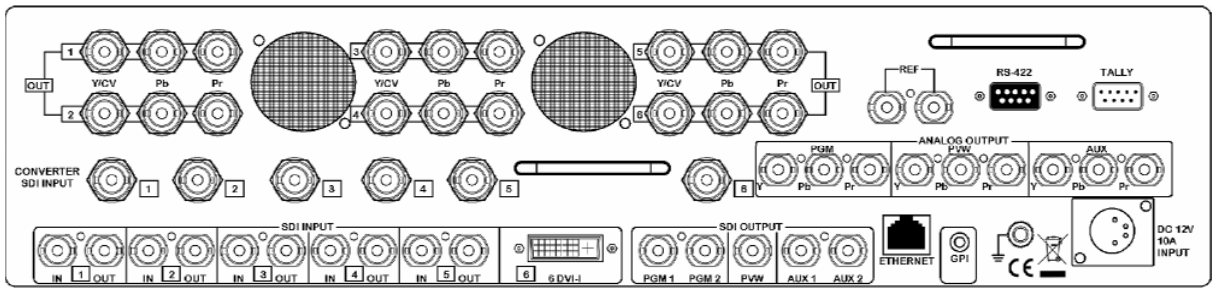
N Sets the wipe pattern to the normal direction

N/R Sets the wipe direction to alternate. When the first transition is completed, the next transition will run in the opposite direction. For example if you wipe from A to B top to bottom, when you wipe back from B to A the wipe will automatically be bottom to top.

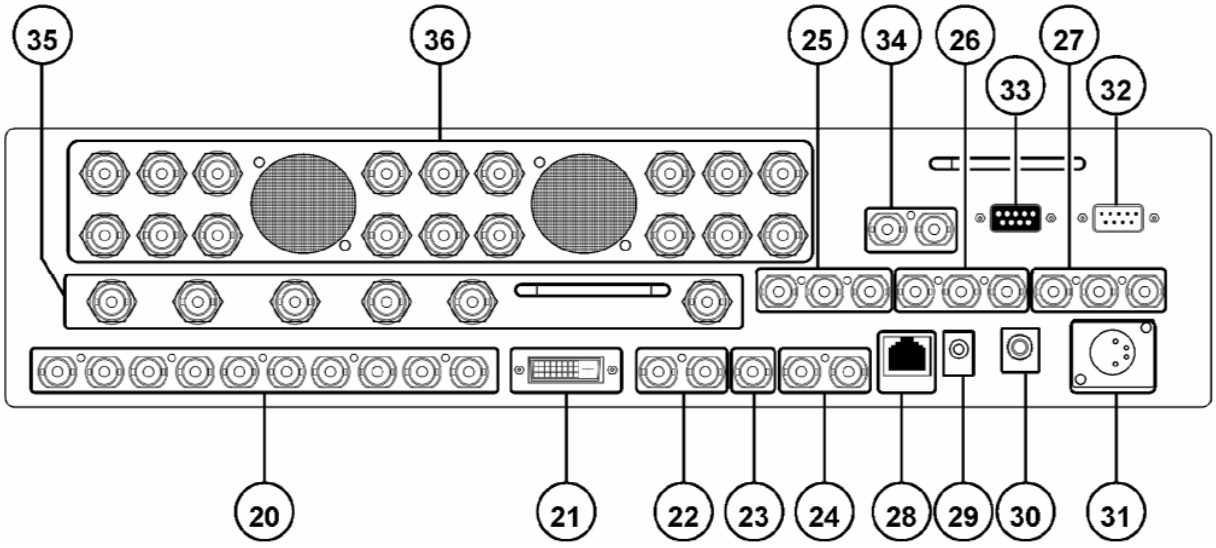
R Sets the wipe pattern to reverse.

Rear Panel

The rear panel of the SE-1000 looks something like this:



Each section of the panel is clearly labelled, but here is a detailed overview.



20 HD/SD SDI Signal Inputs (Digital Inputs 1 to 5). Each input has a loop through output adjacent to it. IN = Input OUT = Loop through Output

21 DVI-I Signal Input (Digital Input 6)

22 HD/SD SDI Digital PGM (Program) Output Connecters (PGM 1 & PGM 2)

23 HD/SD SDI Digital PVW (Preview) Output Connecter (PVW)

24 HD/SD SDI Digital AUX (Auxiliary) Output Connecters (AUX 1 & AUX 2)

25 HD/SD YUV Component Analogue PGM (Program) Output Connecters (PGM 1)

26 HD/SD YUV Component Analogue PVW (Preview) Output Connecters (PVW)

27 HD/SD YUV Component Analogue AUX (Auxiliary) Output Connecters (AUX 1)

28 Ethernet 10/100 Port. This is used for importing still images from, and exporting still images to a PC.

29 GPI Port (General Purpose Interface). The GPI port allows simple contact closure control of the AUTO Take button (**10**). Each time a contact closure is executed the SE-1000 will automatically perform the designated transition.

30 Ground / Earth Terminal. When connecting the SE-1000 to any other component, make sure that it is properly grounded by connecting this terminal to an appropriate point. When connecting, use the socket and be sure to use wire with a cross-sectional area of at least 1.0 mm2.

31 DC Power In Socket. Connect the supplied 12V 10A switch mode power supply to this socket.
N.B. If you intend to use an alternative 12v DC supply, ensure that it is within +/- 2V and has a current of 5 A or more.

32 Tally Out Socket. This supplies tally light information for up to six devices. Please refer to the section **External Interfaces** for more details.

33 RS-422 Input Socket. The SE-1000 can be controlled from external devices via the RS-422 socket. Please refer to the section **External Interfaces** for more details.

34 External Reference Input and BB Output Connecters (REF). An external sync signal can be fed into the SE-1000 via the REF In port. The external signal is looped through, so that it may be fed into other devices.
When the SE-1000 is set to Internal Sync Mode (INT) both REF ports supply BB outputs, so that other devices can be synced to the SE-1000

35 HD/SD SDI Format/Standard Converter (DAC-40) Inputs (1 to 6). The SE-1000 has six built in format/standard converters. Each converter can be fed an HD/SD SDI Digital signal, which will then be converted into an HD/SD YUV or Composite Analogue signal. Please refer to the section **Format Standard Converters** in **Set Up** for more details.

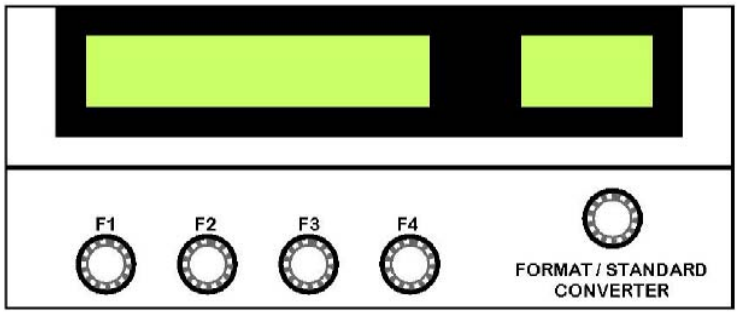
36 Analogue CV / HD/SD YUV Component Format/Standard Converter (DAC-40) Output Connecters. These are the output connections for the six built in DAC-40 converters. Please refer to the section **Format Standard Converters** in **Set Up** for more details.

Set Up

The SE-1000 is set up via various menus, which are displayed on the two LCD panels. The main LCD panel (**15**) displays all of the system settings, with the exception of the Format /Standard Converter Settings which are displayed in the DAC-40 LCD panel (**14**).

Main LCD Panel **DAC-40 LCD Panel**

Once accessed each menu is adjusted by using the Adjustment Knobs F1 to F4 (**12**), or, in the case of the DAC-40 Format / Standard Converter, by using the Format / Standard Converter Control Knob (**13**).



Adjustment Knobs F1 to F4 **Format / Standard Converter Adjustment Knob**

We will start by looking at the various menus that are displayed on the main LCD panel.

Powering Up

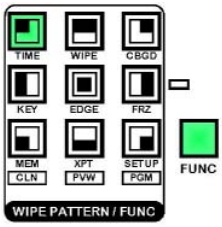
Using the supplied power cord, connect the 12V 10A power supply to a suitable mains outlet, and then connect the power supply DC out to the DC IN Socket (**31**) on the rear of the SE-1000.
Now switch the Power On / Off Switch (**1**) to the "I" position.
As the SE-1000 boots up the Main LCD panel will briefly show the SE-1000 version number, it is worth making a note of this.

Once the SE-1000 has finished booting up you will see an information panel displayed on the LCD.

The display may vary but will be similar to the example above. At this stage parameters cannot be changed, the display is information only.

Set Up Menus

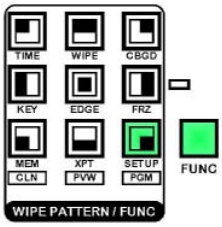
To view other information and to change parameters we must first press the [FUNC] button. When the [FUNC] button is pressed it will illuminate green, as will one of the Wipe Pattern / Function Selector buttons.



The first time the [FUNC] button is pressed on first boot up, the TIME button will be illuminated, (this corresponds to the example LCD panel on the previous page). We will look at the TIME Menu a bit later, once other settings are complete.
First we will look at the SET UP menu options.

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.

The buttons, and the LCD panel should look like this:



The LCD panel shows information in a uniform fashion.

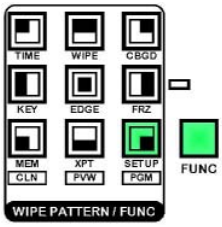
In the upper left corner is the menu name, which refers to the section that the menu adjusts - In the example above **IN1-5** which refers to Inputs 1 to 5.

In the lower left corner is the page number and the total number of pages, for the selected menu - In the example above **1/15** which means we are on page 1 of the Set Up Menu, and there are a total of 15.

The rest of the display will vary according to the adjustments that can be made in the particular menu.

To navigate the various menu pages rotate Adjustment Knob F1, and to adjust parameters rotate Adjustment Knobs F2 / F3 / F4 (**12**).

Set Up Menu 1/15 - Inputs 1 to 5

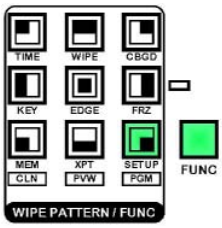


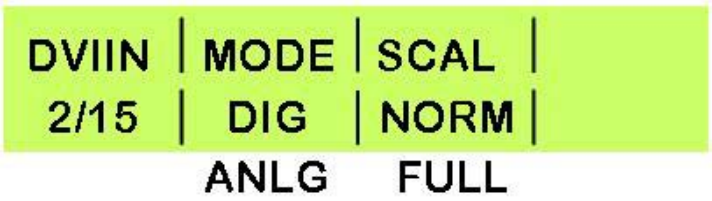
This menu is for reference only, as inputs 1 to 5 are automatically SDI.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Set Up Menu 2/15 - DVI Input Mode

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until DVIIN 2/15 is displayed





The recommended screen resolutions for the DVI input are 1024 x 768 (XGA) and 1280 x 1024 (SXGA).

The DVI input can be set to digital or analogue according to the type of signal you want to use.
Use Adjustment Knob F2 to change the setting.

You can set the scaling of the DVI image to normal (NORM) or full (FULL) by rotating Adjustment Knob F3, please see the following table.

NORM - Fills the screen vertically but maintains the aspect ratio of the original format.
FULL - Stretches the image to fill the screen horizontally and vertically.
N.B. Please also read Set Up Menu 13/15 DVI Phase / Position Settings (Page 23).

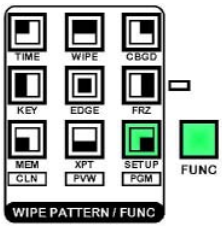
To leave the menu press the [FUNC] button so that it is no longer illuminated.

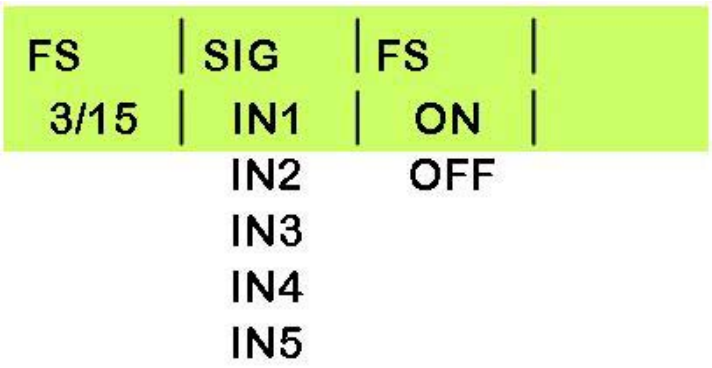
DVI Format Reference Table:

DVI Format	Mode	HD 1080i 1920 x 1080	HD 720p 1280 x 720	SD NTSC 740 x 480	SD PAL 720 x 576
XGA 1024 x 768	NORM	1440 x 1080	960 x 720	720 x 480	720 x 576
	FULL	1920 x 1080	1280 x 720	720 x 480	720 x 576
SXGA 1280 x 1024	NORM	1350 x 1080	900 x 720	675 x 480	675 x 576
	FULL	1920 x 1080	1280 x 720	720 x 480	720 x 576

Set Up Menu 3/15 - Frame Synchroniser

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FS 3/15 is displayed





By default all inputs of the SE-1000 are set with the frame synchroniser on.

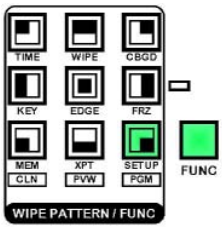
With Inputs 1 to 5 you can switch the frame synchroniser on or off; the frame synchroniser on input 6 (DVI) is always on.

Use Adjustment Knob F2 to select the input, and Adjustment Knob F3 to set On or Off.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

If you choose to set the frame synchroniser to off, the SE-1000 uses an automatic signal phase adjustment (AVDL) which will adjust the input signal phase to the horizontal synchronisation reference signal phase.
Please also refer to **Menu 6/15 Output Phase Adjustment**.

Set Up Menu 4/15 - Video Format Setting

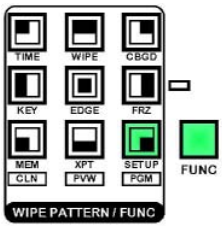
Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FORMT 4/15 is displayed



The SE-1000 can only be set to one format. It is not possible to combine SD and HD signals on different inputs. The format mode selected must match the format of the inputs being used.
To set the format, rotate Adjustment Knob F2 until the format you require is being displayed, then press Adjustment Knob F4 to confirm the setting.
The active format will be marked with an * ; in the example above 1080 / 59i is the active format.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Set Up Menu - 5/15 Ref - Internal External Sync.

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until REF 5/15 is displayed.



The SE-1000 can be set to either internal or external synchronisation.
If the SE-1000 is set to internal synchronisation it can cleanly switch asynchronous video inputs.
In any of the external synchronisation modes a reference signal will be required.

There are three external modes available:

BBST - Black Burst Signal (vertical phase of 0H)

BBAD - Black Burst Signal (vertical phase of 90H for 59.94i / p formats, or 75H for 50i / p formats)
(Available in HD Formats only)

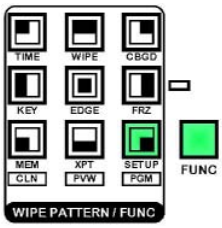
TRI - Tri-Level Sync Signal (vertical phase of 0H)
(Available in HD Formats only)

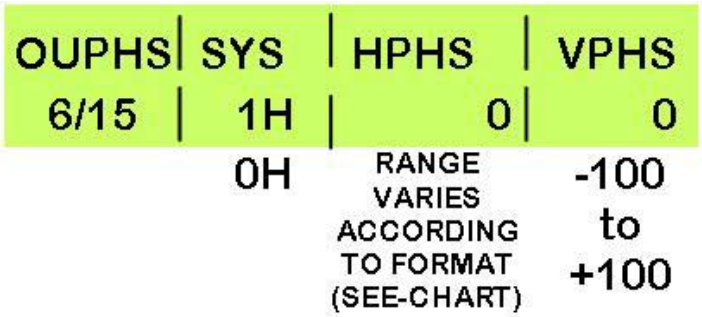
To change the sync mode rotate Adjustment Knob F2 until the required setting is displayed, and then press Adjustment Knob F4 to confirm the setting.

The active format will be marked with an *; in the example above INT is the active format.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 6/15 Output Phase Adjustment

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until OUPHS 6/15 is displayed.





The phase of the video output signals can be adjusted as follows:

By rotating Adjustment Knob F2 you can choose between 0H or 1H:

0H - The output video signals are output to the system REF signal output in-phase.
In this mode the frame synchroniser should be ON for all inputs.

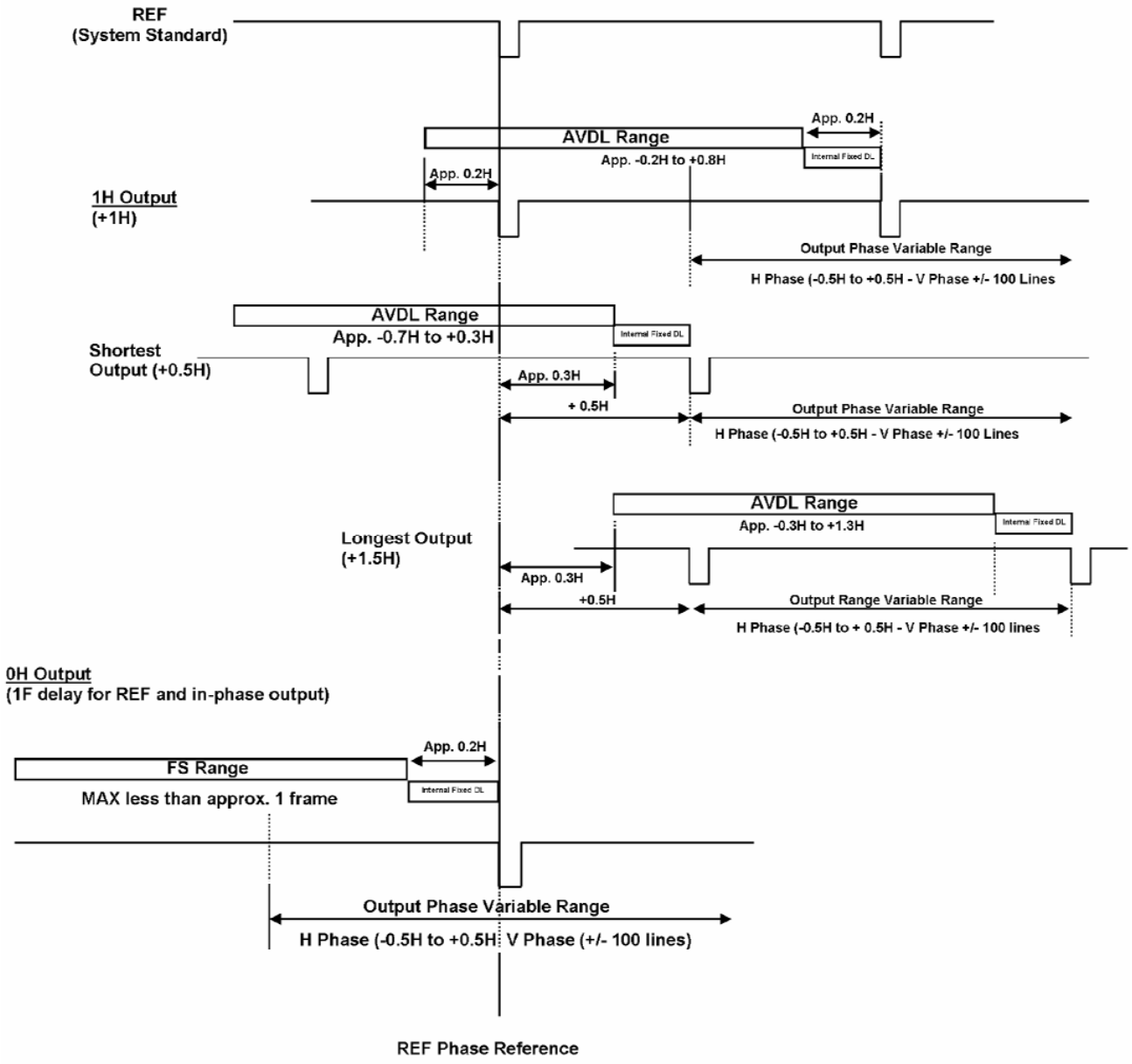
1H - The output video signals are output to the system REF signal output with 1H delay.

You can adjust Horizontal Phase (HPHS) by rotating Adjustment Knob F3, the range varies according the system format that you selected - see chart.

Video Format	Adjustment Range
1080 / 59i	-1100 to 1099
1080 / 50i	-1320 to 1319
720 / 59i	-825 to 824
720 / 50p	-990 to 989
480 / 59i	-429 to 428
576 / 50i	-432 to 431

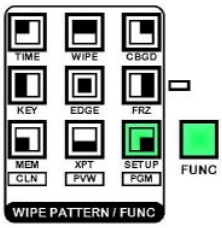
Vertical Phase (VPHS) can be adjusted by rotating Adjustment Knob F4.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

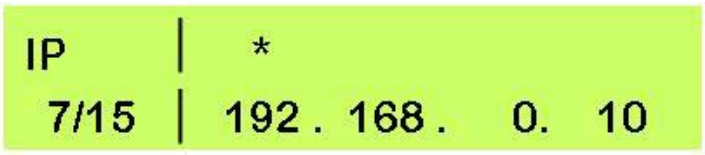
Phase Adjustment Set Up Diagram:



Menu 7/15 IP Address Settings

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until IP 7/15 is displayed.





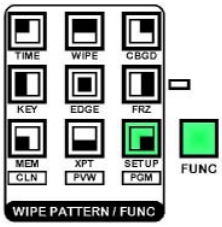
The default IP Address is 192.168.0.10.
This can be adjusted if required.
Rotate Adjustment Knob F2, you will see the * move across the line from left to right. Position the * above the parameter that you want to change; in the example above 192.

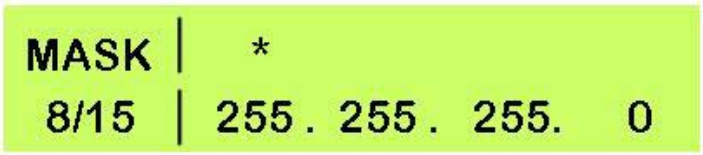
Rotate Adjustment Knob F3 to change the value. As you change the value you will see a **!** appear next to the *, this indicates that the value has been changed but not stored.

Once you have set the required value press Adjustment Knob F3 - you will see the **!** disappear, which confirms the new value is stored.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 8/15 MASK Settings

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until MASK 8/15 is displayed.





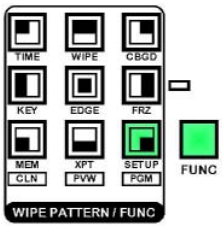
The default MASK is 255.255.255.0.
This can be adjusted if required.
Rotate Adjustment Knob F2, you will see the * move across the line from left to right. Position the * above the parameter that you want to change; in the example above the first 255.

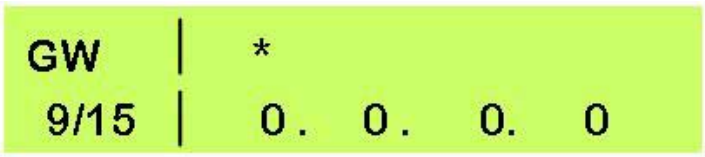
Rotate Adjustment Knob F3 to change the value. As you change the value you will see a **!** appear next to the *, this indicates that the value has been changed but not stored.

Once you have set the required value press Adjustment Knob F3 - you will see the **!** disappear, which confirms the new value is stored.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 9/15 GW (Gateway) Settings

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until GW 9/15 is displayed.





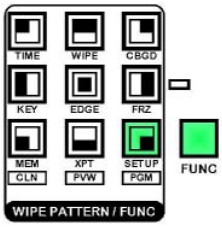
The default Gateway is 0.0.0.0.
This can be adjusted if required.
Rotate Adjustment Knob F2, you will see the * move across the line from left to right. Position the * above the parameter that you want to change; in the example above the first 0.

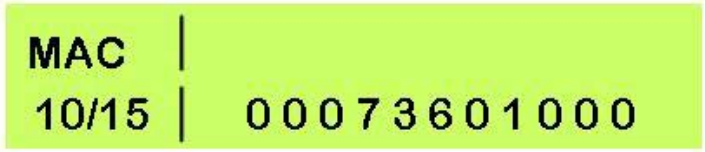
Rotate Adjustment Knob F3 to change the value. As you change the value you will see a **!** appear next to the *, this indicates that the value has been changed but not stored.

Once you have set the required value press Adjustment Knob F3 - you will see the **!** disappear, which confirms the new value is stored.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 10/15 Displaying the MAC Address

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until MAC 10/15 is displayed.
The MAC Address will be displayed, on this case 00073601000



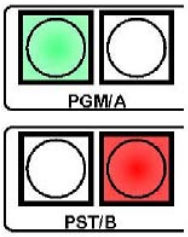


To leave the menu press the [FUNC] button so that it is no longer illuminated.

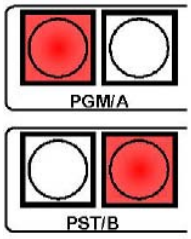
Menu 11/15 Bus Mode Settings

The SE-1000 has two different bus modes, these affect the way the PGM/A and PST/B crosspoint buttons work.
In A / B Mode the live output switches between crosspoint rail A (PGM) and crosspoint rail B (PST). Each time a transition or switch is performed the output will switch from A to B or B to A.

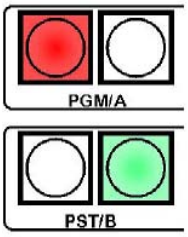
Example:



Before Transition- B is RED



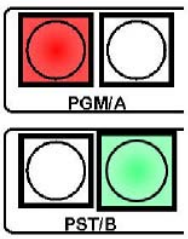
During Transition A / B are RED



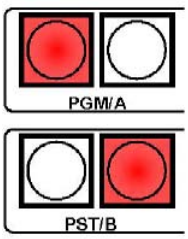
After Transition A is RED

In P/P Mode (PGM / PST), often referred to as flip flop mode, the output will always be from the PGM/A crosspoint rail, and PST/B will always be the cued channel.

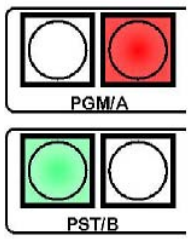
Example:



Before Transition A is RED

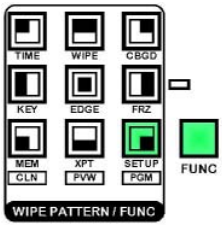


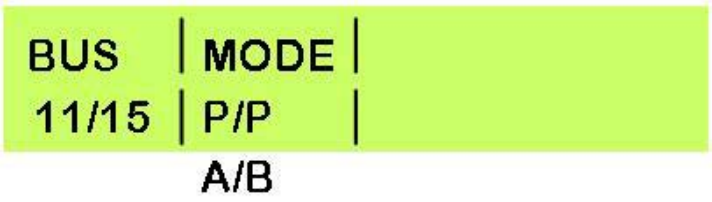
During Transition A / B are RED



After Transition A is RED

To change the Bus Mode:
Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until BUS 11/15 is displayed.



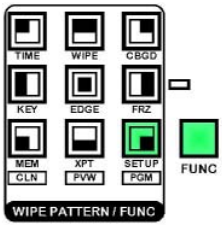


Rotate to Adjustment Knob F2 to switch between modes.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 12/15 System Settings for LCDBacklight / VANC / BB 0 / 7.5 ire

The SYS (System) menu contains three settings, Backlight On/Off, VANC On/Off and BB.

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until SYS 12/15 is displayed.



Rotate Adjustment Knob F2 to turn the LCD Backlight On / Off.

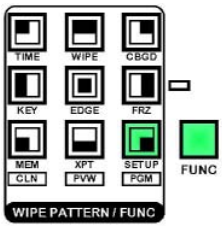
Rotate Adjustment Knob F3 to turn VANC On / Off - On VANC Data is passed through / Off VANC data is not passed through.

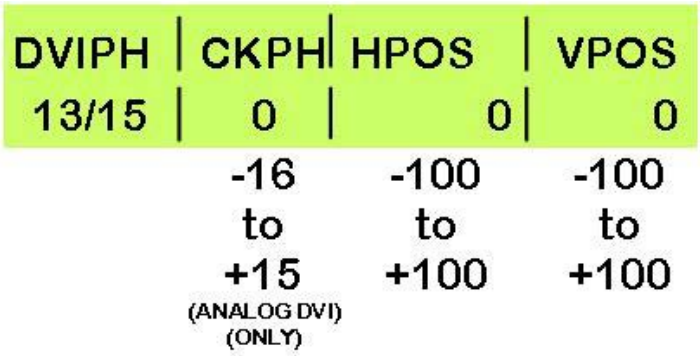
Rotate Adjustment knob F4 to change the BB ire setting from 0 to 7.5. This only applies to 59i / 59Pformats; 50i and 50p will always default to 0 ire.
As a general rule North American NTSC equipment uses 7.5 ire, Japanese NTSC equipment uses 0 ire.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 13/15 DVI Phase / Position Settings

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until DVIPH 13/15 is displayed.





Rotate Adjustment Knob F2 to adjust the clock/phase of the analogue DVI input, try to minimise any noise in the image.

Rotate Adjustment Knob F3 to alter the horizontal position (HPOS) of the DVI input.

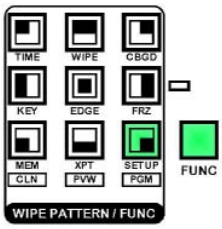
Rotate Adjustment Knob F4 to alter the vertical position (VPOS) of the DVI input.

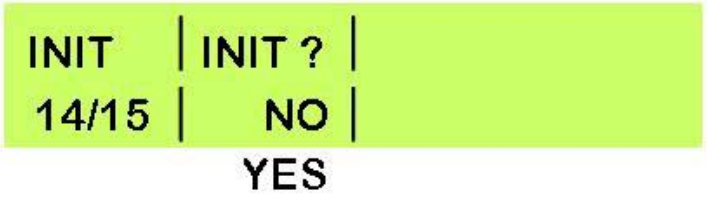
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 14/15 INIT Initialise SE-1000

Init will return the SE-1000 to its factory default settings.

Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until INIT 14/15 is displayed.



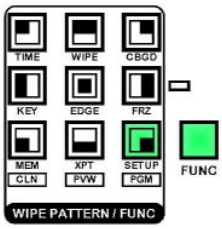


To reset the SE-1000 to factory default:
Press Adjustment Knob F2.
If you are certain that you want to continue, rotate Adjustment Knob F2 so that No changes to Yes, then press Adjustment Knob F2 to confirm.

The SE-1000 will reset itself to default settings.

Menu 15/15 STATS Alarm Info. / Ver No.

The STATS display gives information about alarm events and SE-1000 firmware version number; there are no adjustments to be made.
Press the [FUNC] button, so that it is illuminated, and then press the [SET UP] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until STATS 15/15 is displayed.



ALM If the alarm LED has illuminated on the SE-1000, you should check this menu to see the cause, this could be the fan, a power fluctuation or both fan and power (F P).

OPT (is not used on this model)

VER displays the version number, which you will be required to know if you contact technical support.

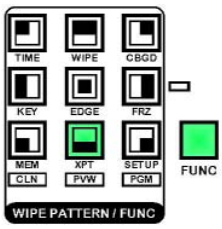
To leave the menu press the [FUNC] button so that it is no longer illuminated.

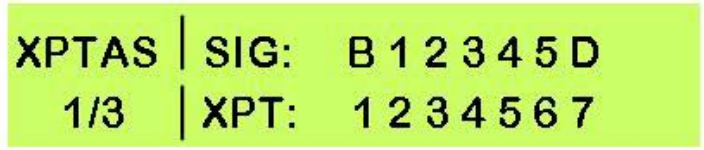
XPT Menus Setting The Crosspoints

Crosspoint assignments determine which signal is routed to which button. The settings that you can see below are the default settings. You can choose to route the signals in whatever way you like.

Menu 1/3 XPTAS Crosspoint Assignments

The XPTAS display gives information about crosspoint assignments; there are no adjustments to be made. To make adjustments you need to go into **XPTAS Menu 2/3.**
Press the [FUNC] button, so that it is illuminated, and then press the [XPT] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until XPTAS 1/3 is displayed.





The display indicates that:

1 is set to black
2 is set to input 1
3 is set to input 2
4 is set to input 3
5 is set to input 4
6 is set to input 5
7 is set to DVI (input 6)

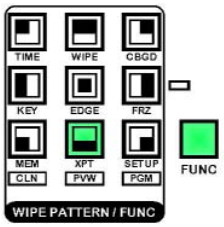
Other options that may be displayed are:

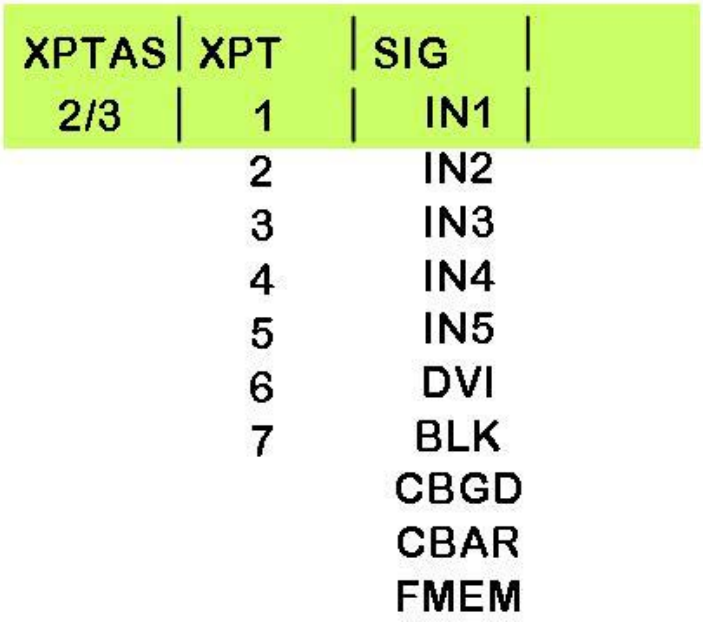
G - Colour Background
C - Colour Bars
F - FMEM

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/3 XPTAS Assigning Crosspoints

Press the [FUNC] button, so that it is illuminated, and then press the [XPT] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until XPTAS 2/3 is displayed.





Rotate Adjustment Knob F2 to select the crosspoint (XPT) that you want to change.
Rotate Adjustment Knob F3 to select the signal (SIG) that you want to assign.

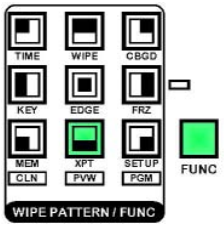
The signal options are:

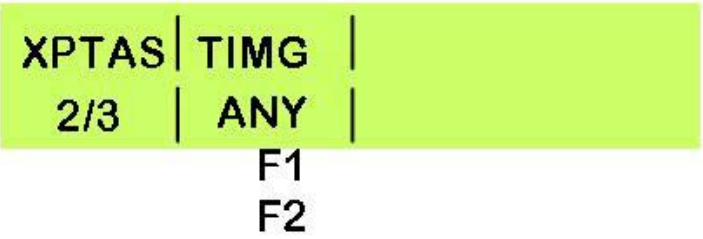
IN1 to IN5	SD/HD SDI Video Inputs 1 to 5
DVI	DVI Input (Video Input 6)
BLK	Black (Internally generated)
CBGD	Colour Background (Internally generated)
CBAR	Colour Bar (Test Pattern) (Internally Generated)
FMEM	Frame Memory Image
	(see ***MEM Menus - FMEM 3/3 Frame Memory - Page 27***)

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 3/3 XPTAS Crosspoint Switch Timing

Press the [FUNC] button, so that it is illuminated, and then press the [XPT] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until XPTAS 3/3 is displayed.





Rotate Adjustment Knob F2 to change the switch timing setting (TIMG). **ANY** is ok for live applications; **F1** and **F2** are suited to NLE applications. **F1** switches on field1 and **F2** switches on field 2, some NLE systems favour 1 and some favour 2, if in doubt consult you NLE application provider.
To leave the menu press the [FUNC] button so that it is no longer illuminated.

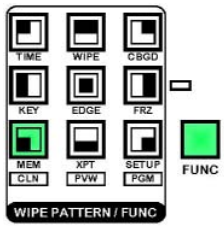
MEM Menus

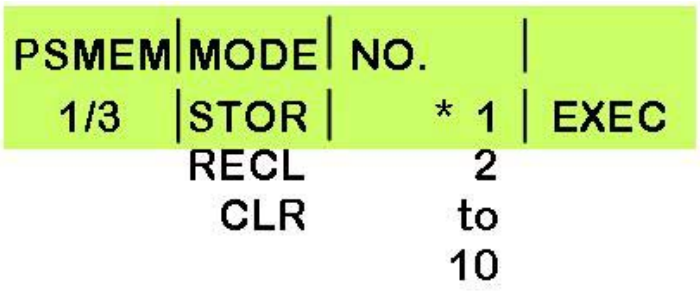
The SE-1000 can store up to 10 panel settings in the preset memory. The preset memory is flash memory, so it is stored even when the SE-1000 is switched off, or initialised (INIT).
The following settings can be stored:

Item	Description	Default Value
CROSSPOINT	A Bus	1
	B Bus	1
	Key S	1
	Key F	1
	AUX Bus	1
	Colour Background	WHITE
WIPE	Wipe Pattern	4 (Centre)
	Border Width	50
	Soft Edge Width	4
	Border Colour	YLW (Yellow)
TRANSITION AREA	BKGD / KEY Selection	BKGD
	MIX / WIPE Selection	MIX
	Auto Transition Time (BKGD)	30 F (Frames)
	Auto Transition Time (KEY)	30 F (Frames)
KEY	Key Type (TYPE)	LIN
	Key Adjustment (ADJ)	GAIN: 100 CLIP: 0 DENS: 100
	Inversion ON / OFF	OFF
	Fill Colour	BLE (Blue)
	Edge Colour	YLW (Yellow)
	Edge ON / OFF (TYPE)	OFF
	Edge Width	4
USER COLOUR	User Colour 1 (HUE / SAT / LUM)	0 , 0 , 100
	User Colour 2 (HUE / SAT / LUM)	355 , 100 , 7
	User Colour 3 (HUE / SAT / LUM)	50 , 100 , 9
	User Colour 4 (HUE / SAT / LUM)	0 , 0 , 0

Menu 1/3 PSMEM Preset Memory

PSMEM 1/3 allows you to store, recall and clear presets.
Press the [FUNC] button, so that it is illuminated, and then press the [MEM] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until PSMEM 1/3 is displayed.





Rotate Adjustment Knob F2 to select the mode you require:
STOR - To store values to a preset
RECL - To recall values from a preset and change the panel settings
CLR - To clear values from a preset

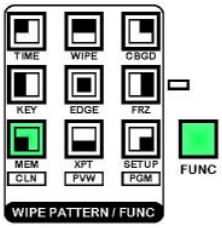
Rotate Adjustment Knob F3 to select the number (NO.) of the preset that you wish to use (1 to 10). If any information is stored on a preset you will see an ***** next to the number. (In the example above ***1** has stored information)
To execute the command (STOR / RECL / CLR) press Adjustment Knob F4; after a few seconds the action is complete.

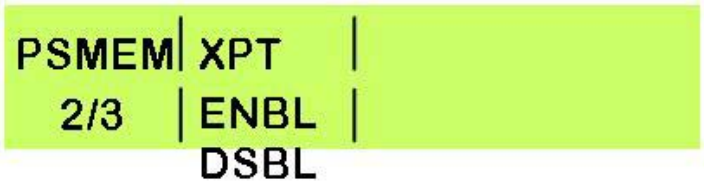
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/3 PSMEM XPT Enable / Disable

PSMEM 2/3 allows you to enable or disable the crosspoint setting presets. If XPT is enabled then the XPT settings will be overwritten when a preset memory is recalled, if XPT is disabled the crosspoint settings will remain as they are, even when a preset memory is recalled.
For example if you have selected 1 on the PGM/A Rail and 2 on the PST/B Rail, when disable is selected (DSBL) these settings will not change when you recall any preset memory. If enable (ENBL) is selected the selections on the PGM/A and PST/B rails will change when a preset memory is recalled.

Press the [FUNC] button, so that it is illuminated, and then press the [MEM] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until PSMEM 2/3 is displayed.





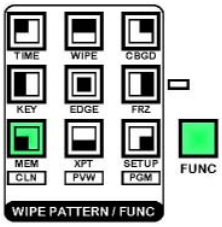
Rotate Adjustment Knob F2 to select ENBL (enable) or DSBL (disable).

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 3/3 FMEM Frame Memory

FMEM allows you to store a still image from the AUX output signal; this image can then be assigned to a crosspoint.
N.B. ***The frame store is 8-bit, so the stored image may appear slightly downgraded*****.**

Press the [FUNC] button, so that it is illuminated, and then press the [MEM] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FMEM 3/3 is displayed.



Watch the AUX output signal, and when you see the image you want to store press Adjustment Knob F4.
To assign the stored FMEM image to a crosspoint see **Menu 2/3 XPTAS Assigning Crosspoints - Page 25**

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Frames can also be stored to FMEM from a PC via Ethernet, see **Image Transfer Software.**

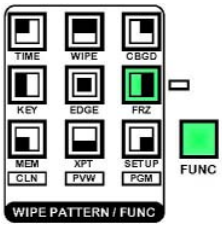
FRZ Menus Setting Freeze Frames

Each of the video inputs on the SE-1000 can be set to freeze frame at any time. The freeze frame will be held as a still image.

Menu 1/2 FRZ Freeze Frame Assignments

The FRZ 1/2 display gives information about which crosspoints have freeze frames assigned. An * above the crosspoint number indicates that a freeze frame is assigned. In the example below crosspoints 2 and 5 are both assigned a freeze frame.

Press the [FUNC] button, so that it is illuminated, and then press the [FRZ] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FRZ 1/2 is displayed.

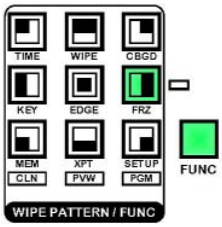


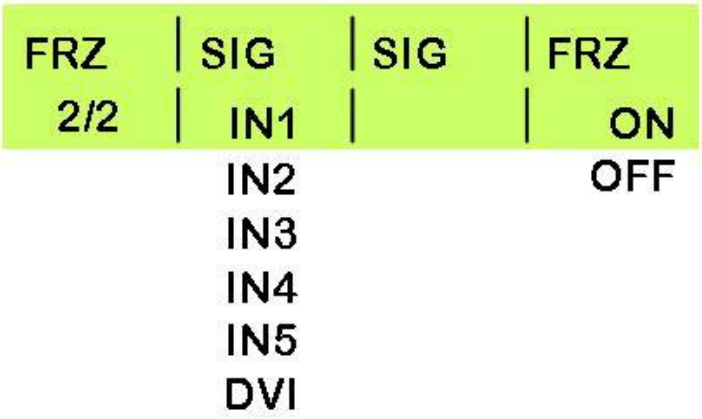
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/2 FRZ Assigning Freeze Frames

To assign freeze frames:

Press the [FUNC] button, so that it is illuminated, and then press the [FRZ] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FRZ 2/2 is displayed.





Rotate Adjustment Knob F2 to select the input (SIG) that you want to freeze.
Watch the video input on a monitor and when you see the image you want to freeze, press Adjustment Knob F4 - The LCD display will change from OFF to ON.

To release the input from the freeze frame press Adjustment Knob F4 - The LCD display will change from ON to OFF.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

N.B. If any inputs are set to freeze frame the Freeze Status LED will light up.

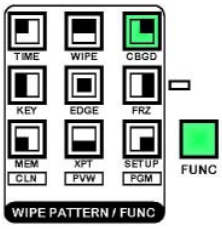
CBGD Menus Setting the Background Colour

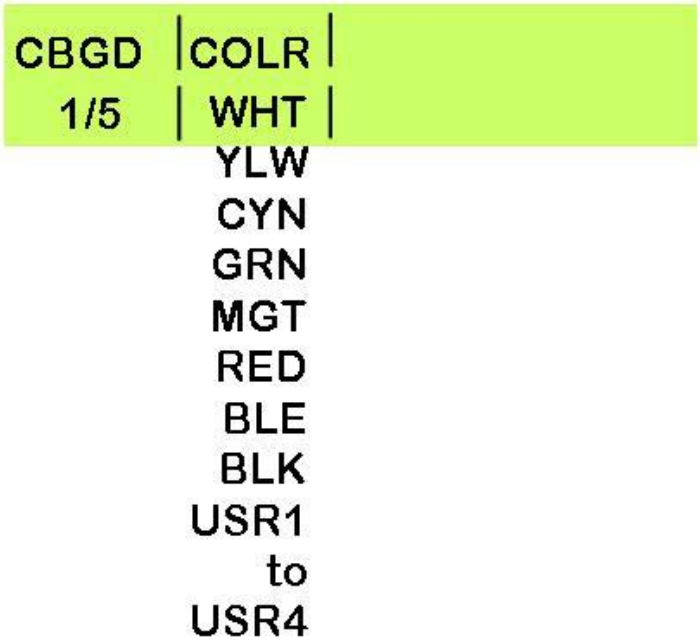
Menu 1/5 CBGD - Colour Background

The CBGD Menu 1/5 allows you to set the colour of the background

CBGD Menus 2/5 to 5/5 allow you to set four custom colours - USR1 to USR4 - these can be used in the EDGE, KEY, CBGD and WIPE Settings.

Press the [FUNC] button, so that it is illuminated, and then press the [CBGD] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until CBGD 1/5 is displayed.





Rotate Adjustment Knob F2 to select the colour you require. There are eight preset colours available, plus four custom colours (USR1 to USR4) (see **USR1 to USR4 Setting Custom Colours**).

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menus 2/5 to 5/5 USR1 to USR4 Setting Custom Colours

The following settings apply to:

CBGD Menus 2/5 to 5/5
EDGE Menus 2/5 to 5/5
KEY Menus 4/7 to 7/7
WIPE Menus 2/5 to 5/5

USR-1 to USR-4 allow you to set custom colours which can be used in the same way as the eight preset colours. Once set, the custom colours are stored even when the unit is switched off.

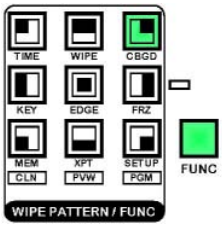
Adjusting any one of the menus will change the settings in all of the menus; e.g. USR1 in EDGE, KEY, CBGD & WIPE is the same setting.

In order to see what you are adjusting you will firstly need to assign CBGD to a crosspoint (see **XPTAS Assigning Crosspoints - page 25**). Select the crosspoint that has been assigned as CBGD as the Program (PGM) Output, you should see a solid background colour on your output monitor.

You will also need to set the CBGD to the USR number that you are adjusting. E.g. If you are adjusting USR1 you need to set the CBGD Colour to USR1 in order to see the colour background that you are adjusting on your output monitor.

To set USR1, USR2, USR3 & USR4 follow this procedure. In this example we are using the CBGD Menu, but the procedure would be similar if you were using the EDGE, KEY, or WIPE menus.

Press the [FUNC] button, so that it is illuminated, and then press the [CBGD] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until USR1 2/5 is displayed.



Rotate Adjustment Knob F2 to alter the hue of the custom colour. 0 is the red end of the spectrum and as you increase the hue value you will see the colour change gradually through blues, greens, yellows and finally back to reds.
N.B. if saturation (SAT) or Luminance (LUM) is set to 0 you will not see any colour changes.

Rotate Adjustment Knob F3 to alter the colour saturation of the custom colour. 0 is monochrome (black and white) and 100 is full primary colour.

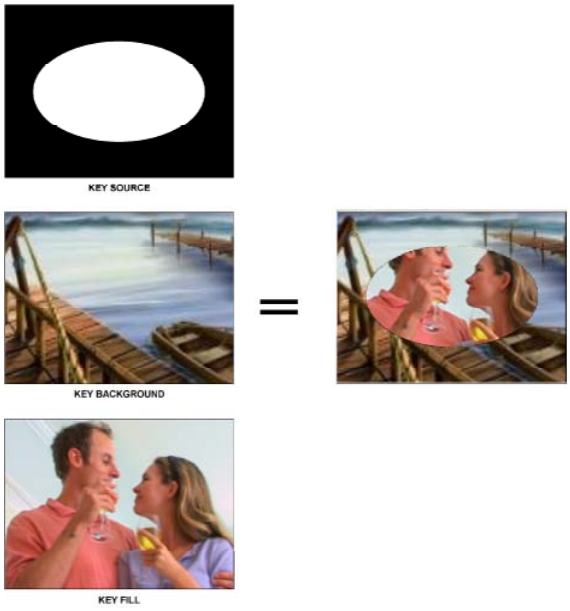
Rotate Adjustment Knob F4 to alter the luminance (brightness) of the custom colour. 0 is black and 100 is white (with colour saturation (SAT) set to 0)

Repeat the above settings for USR2, USR3 & USR4; rotate Adjustment Knob F1 to select between USR1, USR2, USR3 & USR4.

Once you have set the custom colours, to leave the menu press the [FUNC] button so that it is no longer illuminated.

KEY Menus Setting up a Key

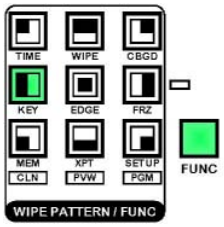
Keying allows you to use an image, ideally black and white, to combine two images. The black element of the key image will be replaced by the background image, and the white element will be replaced by the key fill.

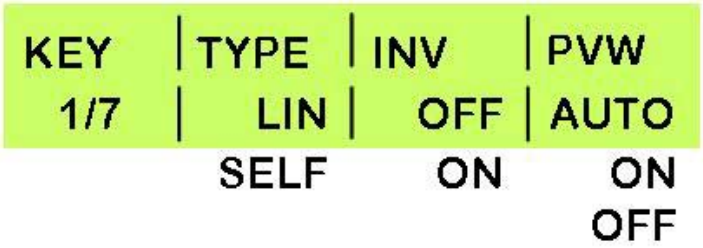


Menu 1/7 KEY Setting Up A Key

Press the [FUNC] button, so that it is illuminated, and then press the [KEY] button, so that it is also illuminated.

Rotate Adjustment Knob F1 until KEY 1/7 is displayed.





Rotate Adjustment Knob F2 to select between LIN (Linear) or SELF keying.

LIN Linear uses the luminance signals of the selected Key Source.

SELF Self uses the luminance signals of the key fill. As the luminance signals of the key fill are being used the key source is effectively irrelevant.

Rotate Adjustment Knob F3 to switch **INV** (Invert) On or Off. Invert reverses the key effect, i.e. the white area will be replaced by the background image and the black area will become the key fill.

Rotate Adjustment Knob F3 to select the PVW (PREVIEW) Mode.

AUTO Preview images of the next transition are output to preview

ON Images with Key Effects added are output to preview

OFF Images are output to preview without Key Effects added.

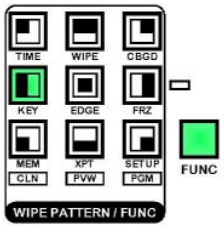
To leave the menu press the [FUNC] button so that it is no longer illuminated.

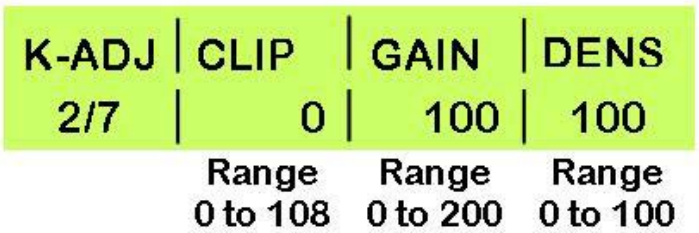
Menu 2/7 K-ADJ Key Adjustments

Key adjustments fine tune the way the key is going to appear. It is easiest to adjust these settings with the key output shown on the preview or program monitor.

Press the [FUNC] button, so that it is illuminated, and then press the [KEY] button, so that it is also illuminated.

Rotate Adjustment Knob F1 until K-ADJ 2/7 is displayed.





Rotate Adjustment Knob F2 to alter the CLIP setting. This will increase the reference level for creating the key. Default value is 0

Rotate Adjustment Knob F3 to alter the GAIN setting. This will increase / decrease the key gain. Default value is 100

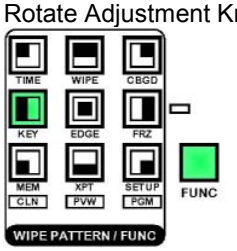
Rotate Adjustment Knob F4 to alter the DENS (Density) setting. This will increase / decrease the key density. Default value is 100

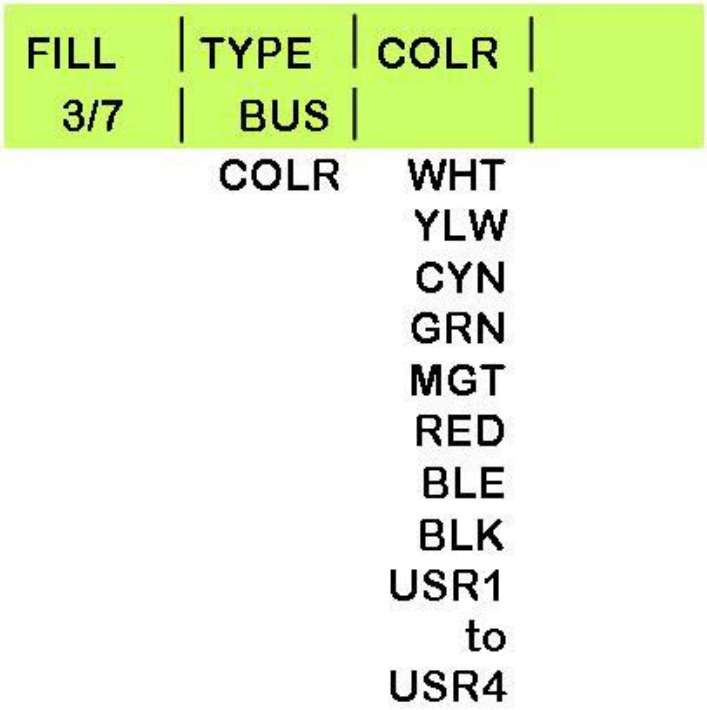
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 3/7 Fill Key Fill

Press the [FUNC] button, so that it is illuminated, and then press the [KEY] button, so that it is also illuminated.

Rotate Adjustment Knob F1 until FILL 3/7 is displayed.





Rotate Adjustment Knob F2 to select between BUS or COLR

BUS Will use the selected Key Fill video signal

COLR Will use the selected colour as the Key Fill

Rotate Adjustment Knob F3 to select the colour for the Key Fill. You can choose from one of the eight preset colours, or one of the four user defined custom colours.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 4/7 - 7/7 USR1 to USR4 Setting Custom Colours

These settings are covered in **CBGD Menus** - **Menus 2/5 to 5/5 USR1 to USR4 Setting Custom Colours - see page 30**

EDGE Menus Setting the Key Edge

The EDGE Menu 1/5 allows you to set the edge style for Keying Effects. The settings include Edge Type, Width and Colour.

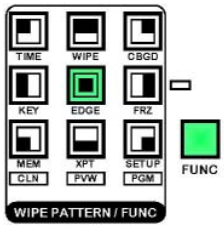
EDGE Menus 2/5 to 5/5 allow you to set four custom colours - USR1 to USR4 - these are the same settings that are used in KEY, CBGD and WIPE BODR Settings.

Menu 1/5 EDGE Type Width Colour

The EDGE Menu 1/5 allows you to set the edge style for Keying Effects. The settings include Edge Type, Width and Colour.

EDGE Menus 2/5 to 5/5 allow you to set four custom colours - USR1 to USR4 - these are the same settings that are used in KEY, CBGD and WIPE BODR Settings.

Press the [FUNC] button, so that it is illuminated, and then press the [EDGE] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until EDGE 1/5 is displayed.



EDGE	TYPE	WIDT	COLR
1/5	OFF	0	YLW
	BODR	1	CYN
	DROP	2	GRN
	SHDW	3	MGT
	OUTL	4	RED
			BLE
			BLK
			USR1
			to
			USR4

Rotate Adjustment Knob F2 to select the type of edge you require.

OFF - No edge will be added.
BODR - A border is added around the entire edge of the key object.
DROP - A border is added to the bottom right hand side of the key object.
SHDW - A shadow is added to the bottom right hand side of the key object.
OUTL - An outline, just a border with no fill, is added around the entire key object

Rotate Adjustment Knob F3 to select the width of the edge that you require.

Rotate Adjustment Knob F4 to select the colour of the edge that you require. There are eight preset colours available, plus four custom colours (USR1 to USR4) (see **USR1 to USR4 Setting Custom Colours**)

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/5 - 5/5 USR1 to USR4 Setting Custom Colours

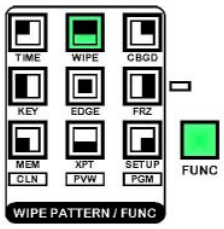
These settings are covered in **CBGD Menus** - **Menus 2/5 to 5/5 USR1 to USR4 Setting Custom Colours - see page 30**

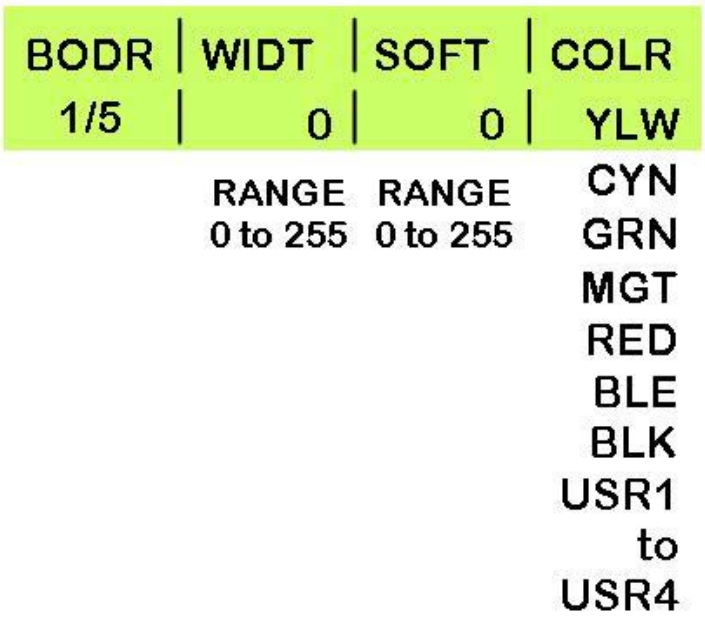
WIPE Menus Setting Wipe Preferences

Menu 1/5 allows you to select the width, softness and colour of your wipe borders.
Menus 2/5 - 5/5 allow you to define the four custom colours USR1 - USR4 - these are the same settings that are used in EDGE, KEY and CBGD Settings.

Menu 1/5 BODR (Border) Settings

Press the [FUNC] button, so that it is illuminated, and then press the [WIPE] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until BODR 1/5 is displayed.





Rotate Adjustment Knob F2 to adjust the border width.

Rotate Adjustment Knob F3 to adjust the softness of the border.

Rotate Adjustment Knob F4 to select the colour of the border. You can choose from one of the eight preset colours, or one of the four user defined custom colours USR1 - USR4.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/5 - 5/5 USR1 to USR4 Setting Custom Colours

These are the same settings that are used in EDGE, KEY and CBGD Settings.

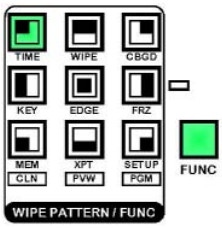
These settings are covered in **CBGD Menus** - **Menus 2/5 to 5/5 USR1 to USR4 Setting Custom Colours - see page 30**

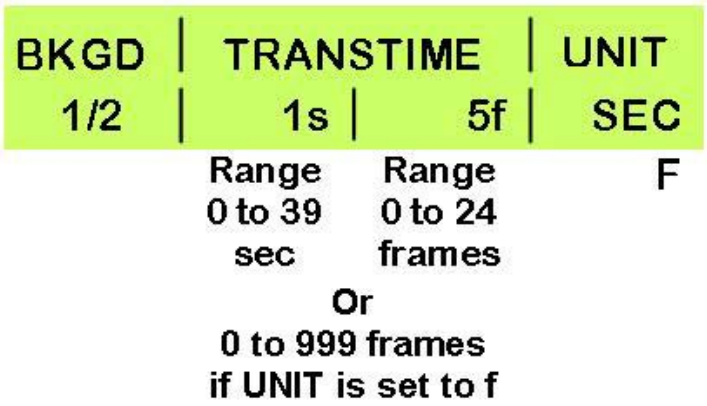
TIME Menus Setting Auto Transition Times

Menu 1/5 adjusts the auto transition time for wipes / fades / dissolves, and Menu 2/5 adjusts the auto transition time for key effects.
The display can be set to Seconds and Frames, or Frames only, whichever you prefer.

Menu 1/5 BKGD (Background) Time Setting

Press the [FUNC] button, so that it is illuminated, and then press the [TIME] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until BKGD 1/5 is displayed.





Rotate Adjustment Knob F2 to adjust the transition time in seconds.

Rotate Adjustment Knob F3 to adjust the transition time in frames.

Rotate Adjustment Knob F4 to select the display mode.

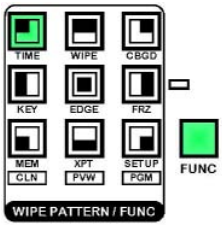
SEC Time is displayed in Seconds and Frames.

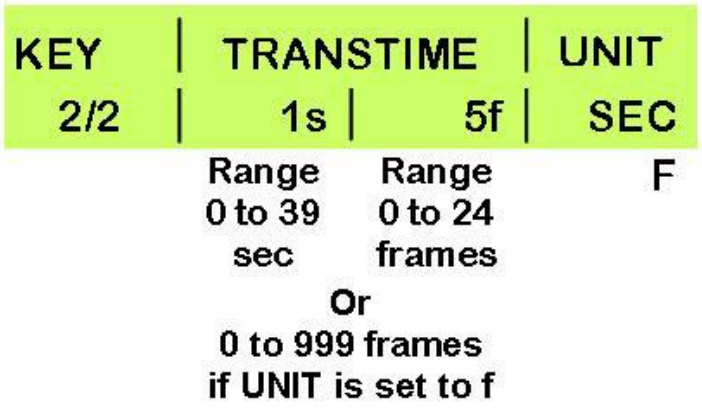
F Time is displayed in Frames only.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Menu 2/5 Key Time Setting

Press the [FUNC] button, so that it is illuminated, and then press the [TIME] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until BKGD 1/5 is displayed.





Rotate Adjustment Knob F2 to adjust the transition time in seconds.

Rotate Adjustment Knob F3 to adjust the transition time in frames.

Rotate Adjustment Knob F4 to select the display mode.

SEC Time is displayed in Seconds and Frames.

F Time is displayed in Frames only.

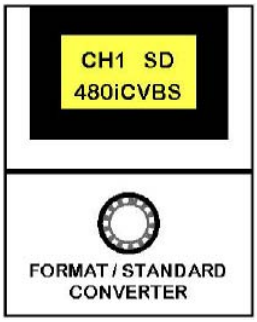
To leave the menu press the [FUNC] button so that it is no longer illuminated.

Format / Standard Converter Set Up

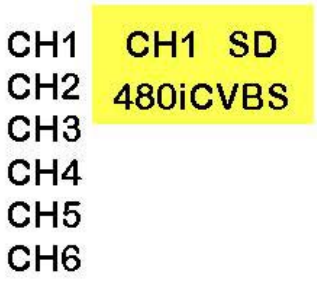
The SE-1000 has six format / standard converters built in - *See items **35** / **36** in the illustration on page 12*. The converters can take HD / SD SDI and convert to HD / SD / YUV or Composite Video. You can use the converters to monitor your inputs on standard definition monitors, such as the Datavideo TLM 433. You could also use one, or more of the converters to give varied output options from your SE-1000, you could output SD YUV, HD YUV and HD SDI all at the same time. *See **Monitoring** for an example set up.*

Each converter has its own set up menu, which we will now look at. In the following example we are setting up converter one, the same principles apply to two through to six. The settings are all non-volatile, so once set they remain in the memory of the SE-1000, even when it is switched off.

The settings for the format standard converter appear in the small LCD panel above the T Bar, and the adjustments are made using the Format Standard Converter Adjustment Knob.



When the SE-1000 boots up you will see the status display for converter channel one. In the example above channel one is set to SD 480i CVBS, this means that it will output a standard definition composite video signal in NTSC (480i).
To see the status of channels two to six rotate the adjustment knob, each channel will appear in turn.



Setting the converter output to HD / SD

In this example we are setting channel 1.
With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu.
If the display is not showing function 1 (FN01) rotate the Adjustment Knob until it is.

Press the Adjustment Knob, and rotate it to select HD or SD, and then press the Adjustment Knob to save the setting.

This will bring up the function 2 adjustment menu (FN02)
Now you need to set the format that you require. The options will be different for SD and HD.

SD	HD
CH1 FN02	CH1 FN02
480iYUV	720/59p
480iCVBS	720/50p
576iYUV	1080/59i
576iCVBS	1080/59i

Rotate the Adjustment Knob to select the format that you require, and then press the Adjustment Knob to save the setting. Once set the display will return to FN01.

To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

CH1 FN13
Exit

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting the IRE - NTSC Standard Definition Only

If you have selected a standard definition NTSC format (480i YUV / 480i CVBS) function 3 (FN03) gives you the option of 0 or 7.5 IRE.
This setting adjusts the black level of the video output, generally NTSC in North America uses 7.5 ire, and NTSC in Japan uses 0 ire.
If you are unsure of which setting to use please refer to the instruction manual of the device that you are intending to output to.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN03 is displayed.

CH1 FN03
7.5 IRE
0 IRE

Rotate the Adjustment Knob to select the required setting, and then press the Adjustment Knob to save the setting.

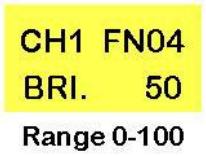
To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

CH1 FN13
Exit

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting the Brightness
In standard definition mode you can adjust the brightness of each of the output channels. To adjust the brightness it is advisable to monitor the output on a screen.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN04 is displayed.
Note: FN04 will not appear if the output is set to an HD format.



Press the Adjustment Knob and rotate it to select the required setting, anti-clockwise for a lower value (darker), clockwise for a higher value (brighter). The default (neutral) value is 50.
Once you have set the required level press the Adjustment Knob. The SAVE option will appear.

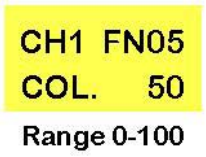
Rotate the Adjustment Knob to select YES and then press it to store the settings. Once stored the screen will display the new value.

To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting the Colour Saturation
In standard definition mode you can adjust the colour saturation of each of the output channels. To adjust the colour saturation it is advisable to monitor the output on a screen.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN05 is displayed.
Note: FN05 will not appear if the output is set to an HD format.



Press the Adjustment Knob and rotate it to select the required setting, anti-clockwise for a lower value (less colour), clockwise for a higher value (more colour). The default (neutral) value is 50.
Once you have set the required level press the Adjustment Knob. The SAVE option will appear.

Rotate the Adjustment Knob to select YES and then press it to store the settings. Once stored the screen will display the new value.

To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting Tint - NTSC Composite Video Output Only

Note: The Tint Setting (FN06) will not be available for any output formats except 480i CVBS.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN06 is displayed.

Press the Adjustment Knob and rotate it to select the required setting, anti-clockwise for a lower value, clockwise for a higher value. The default (neutral) value is 50.
Once you have set the required level press the Adjustment Knob. The SAVE option will appear.

Rotate the Adjustment Knob to select YES and then press it to store the settings. Once stored the screen will display the new value.

To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting an Output to Colour Bar - Standard Definition Output Only

Each of the output channels can be set to Colour Bars; this is an aid to setting up your monitors correctly. The colour bars are not available on High Definition Outputs.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN07 is displayed.

Press the Adjustment Knob and rotate it to set the Colour Bars to On or Off; and then press the Adjustment Knob again to store the setting.

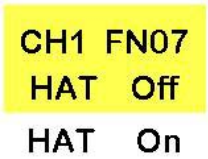
To Exit the set up menu rotate the Adjustment Knob clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Setting an Output to Crosshatch - High Definition Output Only

Each of the output channels can be set to a Crosshatch pattern; this is an aid to setting up your monitors correctly. The Crosshatch is not available on Standard Definition Outputs.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN07 is displayed.



Press the Adjustment Knob and rotate it to set the Crosshatch to On or Off; and then press the Adjustment Knob again to store the setting.

To Exit the set up menu rotate the Adjustment Knob clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Checking Video In Format
Each converter automatically selects the Video Input Format according to the signal that it receives. You can check the format on the LCD panel.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN08 is displayed.

Press the Adjustment Knob and the display will show the video input format**.**

Press the Adjustment Knob again and the display will return to the previous screen**.**
To Exit the set up menu rotate the Adjustment Knob clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Checking Main and Control Firmware Versions
Occasionally you may be required to supply the firmware version numbers to an engineer, this is where you can find them.
With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN09 - Main Firmware or FN10 Control Firmware is displayed.

Press the Adjustment Knob and the display will show the firmware revision number**.**

Press the Adjustment Knob again and the display will return to the previous screen**.**
To Exit the set up menu rotate the Adjustment Knob clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Resetting a Channel
Reset returns a converter channel to its factory default settings.

With the LCD displaying the status for channel 1, press the Adjustment Knob to bring up the Format Standard Converter Adjustment Menu, and rotate the Adjustment Knob until FN11 is displayed.

Press the Adjustment Knob and rotate it to select Yes or No, then press the Adjustment Knob again.

Once a reset has been done the screen will show the Reset Ok screen.

Press the Adjustment Knob to return to the screen to the menu options.
To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Note: If no adjustments are made within 20 seconds the LCD will return to the status display automatically.

Checking Channel Status
To check if a channel is performing correctly press the Adjustment Knob and rotate it to select FN12.

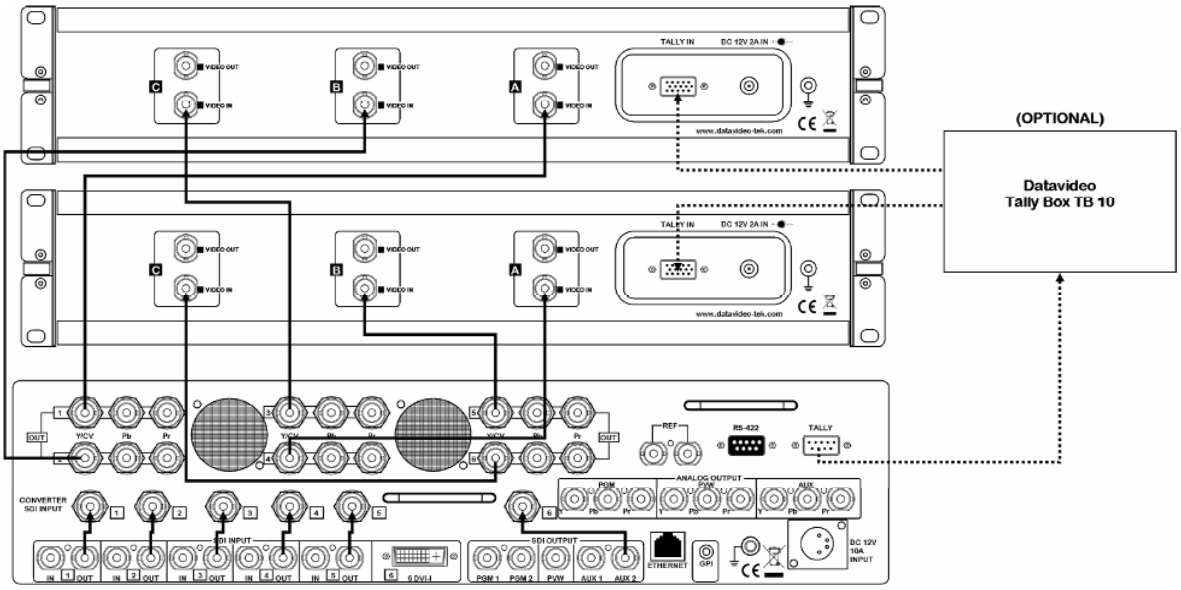
Press the Adjustment Knob and you will see the Status Screen which should read RDY (READY). If it does not read RDY, there may be a fault with the channel.

Press the Adjustment Knob to return to the screen to the menu options.
To Exit the set up menu rotate the Adjustment Knob anti clockwise until FN13 - EXIT is displayed and then press the Adjustment Knob.

Monitoring

If you are fortunate enough to have SD/HD SDI monitors then you can monitor Inputs 1 to 5 directly from the loop through outputs, if however you are inhibited by the cost of these monitors, you can use composite monitors such as the Datavideo TLM 433.
The six built in format standard converters allow you to down convert your inputs to composite or component, for easy monitoring.
The diagram below shows the recommended set up for monitoring Inputs 1 to 5 plus the auxiliary (AUX) Output.
The auxiliary output can display any of the seven crosspoint channels, the preview channel or the program channel (see **Assigning a signal to the Auxiliary Output)**, so it gives maximum versatility to your monitoring set up. With this set up it would be easy to monitor the DVI input, or quickly switch to preview or program output monitoring.

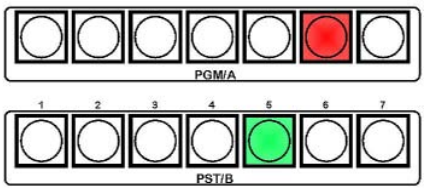
The loop through outputs of Inputs 1 to 5 are connected to the format standard converter inputs 1 to 5. The AUX 2 output is connected to format standard converter input 6.
The format standard converter outputs are set to composite; and they are connected to two TLM-433 monitor banks.
The optional Datavideo TB-10 Tally Box can provide tally indication to the TLM-433 monitor banks; there is a tally LED above each monitor.



Basic Operation

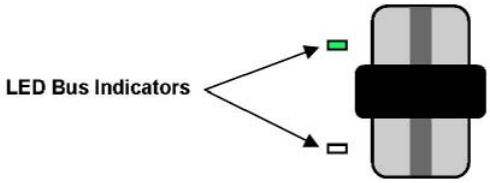
Switching

The Live Output (PGM) is indicated by the Red Button on the Crosspoint Bus, to switch from one source to another simply press the required Crosspoint Button on the live bus.



In this example PGM/A is the live bus, and Crosspoint 6 is the live channel. To switch to a different channel simply press one of the other Crosspoint Buttons on the PGM/A bus.

The live bus may be either the PGM/A bus or the PST/B bus according to which Bus Mode has been set (***see Bus Mode Settings Page 22***), however the live bus will always be the one with the Red Crosspoint button. There are also LED Bus indicators adjacent to the T-Bar - The live bus is indicated by a green LED

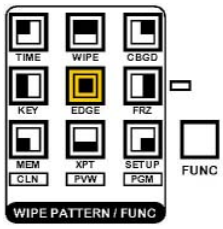


Performing a Transition Manually (Using the T-Bar)

You can use the T-Bar to perform a manual transition from one source to another.

You can select between Wipe or Mix.

Wipe will perform a wipe with the selected wipe pattern. There are nine preset wipe patterns to choose from. Each wipe pattern can have various border and edge settings applied (**see Setting Wipe Preferences Page 34**) In the example below the central wipe pattern has been selected, and it is illuminated amber, to select a different wipe pattern simply press the wipe pattern button that you want.



The wipe direction can be set using the Wipe direction selector switch.
There are three options:

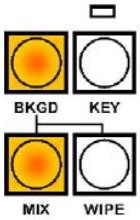
N Sets the wipe pattern to the normal direction

N/R Sets the wipe direction to alternate. When the first transition is completed, the next transition will run in the opposite direction. For example if you wipe from A to B top to bottom, when you wipe back from B to A the wipe will automatically be bottom to top.

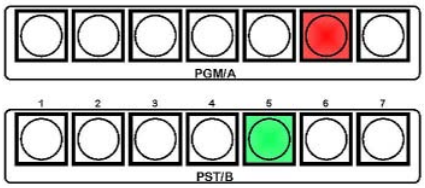
R Sets the wipe pattern to reverse.

Mix will perform a simple dissolve from the live source to the cued source.

To select between Wipe or Mix, press the Wipe or Mix button, the selected option will be illuminated amber. In this example Mix is selected. You will also notice that the background (BKGD) button is illuminated.



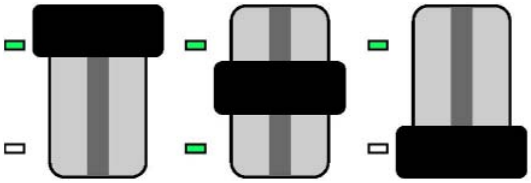
Select the channel that you want to go to on the cued bus; this will be the bus with a green Crosspoint button.



In this example the cued bus is PST/B, and the Channel 5 has been selected. The live bus is PGM/A and Channel 6 is the live output.

Assuming the T-Bar is at the top, pull the T-Bar down towards you. You will see the live output gradually wipe or mix from one source to the other, the further the T-Bar travels the more complete the transition becomes.

As the T-Bar is moved you will notice that both buses become live, this is because both sources are in use. When the T-Bar has fully traversed from top to bottom, or bottom to top, the SE-1000 will return to having one live bus and one cued bus.

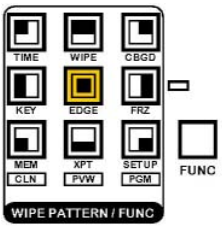


Performing a Transition Automatically (Using the Auto Button)

To perform a transition automatically, please ensure that the T-Bar is either fully up or fully down.
The AUTO button will execute a transition, wipe or fade, at the speed that has been set in the auto transition times menu. - (*See **TIME Menus - Setting Auto Transition Times page 35***)

You can select between Wipe or Mix.

Wipe will perform a wipe with the selected wipe pattern. There are nine preset wipe patterns to choose from. Each wipe pattern can have various border and edge settings applied (**see Setting Wipe Preferences Page 34**) In the example below the central wipe pattern has been selected, and it is illuminated amber, to select a different wipe pattern simply press the wipe pattern button that you want.



The wipe direction can be set using the Wipe direction selector switch.
There are three options:

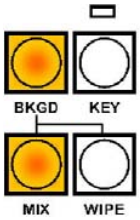
N Sets the wipe pattern to the normal direction

N/R Sets the wipe direction to alternate. When the first transition is completed, the next transition will run in the opposite direction. For example if you wipe from A to B top to bottom, when you wipe back from B to A the wipe will automatically be bottom to top.

R Sets the wipe pattern to reverse.

Mix will perform a simple dissolve from the live source to the cued source.

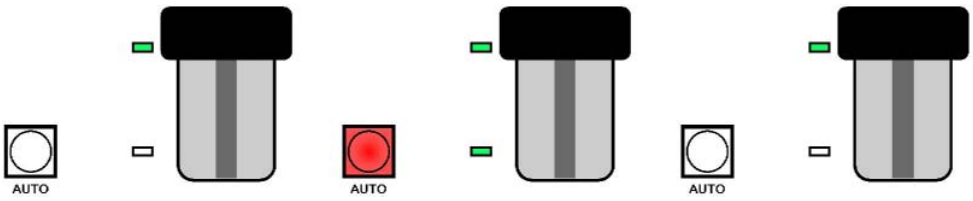
To select between Wipe or Mix, press the Wipe or Mix button, the selected option will be illuminated amber. In this example Mix is selected. You will also notice that the background (BKGD) button is illuminated.



Select the channel that you want to go to on the cued bus; this will be the bus with a green Crosspoint button.

In this example the cued bus is PST/B, and the Channel 5 has been selected. The live bus is PGM/A and Channel 6 is the live output.

Press the AUTO button to effect the transition. You will see that the AUTO button is illuminated red during the transition, and that both buses become live. When the transition is complete the AUTO button light is extinguished and the SE-1000 will return to having one live bus and one cued bus.

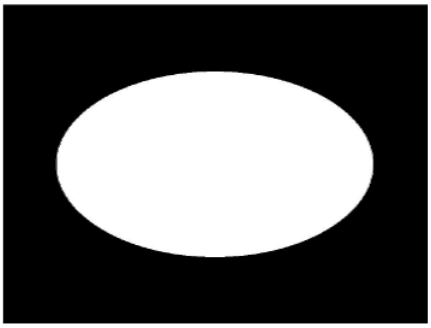


Performing a Key

Setting up a key is covered in ***KEY Menus - Setting up a Key on page 31***

A key can be performed manually using the T-Bar or automatically using the AUTO button.
The AUTO button will activate a key at the speed that has been set in the auto transition times menu. - (*See **TIME Menus - Setting Auto Transition Times page 35***)

In the following examples the KEY-S (Source) is a matte imported to F-MEM and assigned to XPT 1, the KEY-F (FILL) is a video source assigned to XPT 6, the live source is a video source assigned to XPT 7 and the cued source is a video source assigned to XPT 5



KEY SOURCE

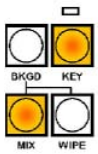
KEY FILL

LIVE SOURCE

CUED SOURCE

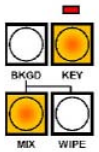
Once you have set your KEY-S and KEY-F (see ***KEY Menus - Setting up a Key*** on page 31) you can perform a key in two ways.

Press the KEY Button so that it is illuminated amber, the Mix or Wipe Button will also be illuminated according to the effect you have selected

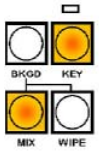


KEY BACKGROUND

Pull the T-Bar towards you, or press the AUTO Button, and the KEY effect will appear. The KEY LED will be illuminated red when the key is active. You will see that the live source has become the Key Background.

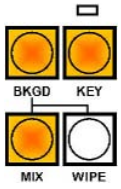


To cancel the key effect push the T-Bar the other way, or press the AUTO Button, the output will return to the live source without key.

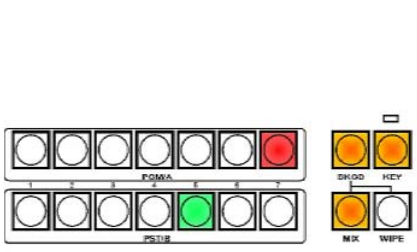


KEY BACKGROUND

The second way to perform a key effect is to use Key in conjunction with the Background (BKGD) button. Press the Key button and the Background (BKGD) button simultaneously, so that they are both illuminated. Mix or Wipe will also be illuminated according to the effect that you have selected.

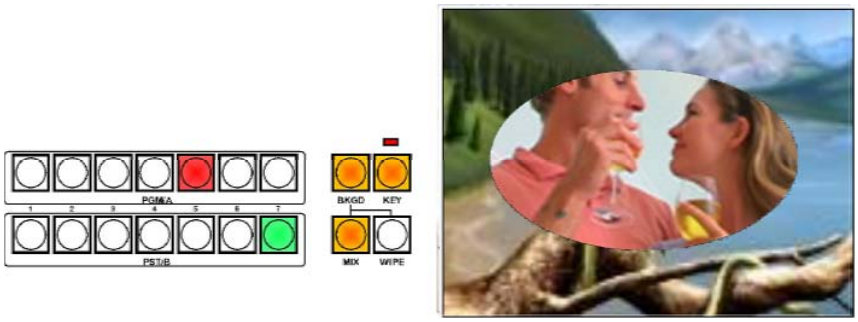


You can see that XPT 7 is live and XPT 5 is cued. In this mode the cued source (XPT 5) will become the Key Background.

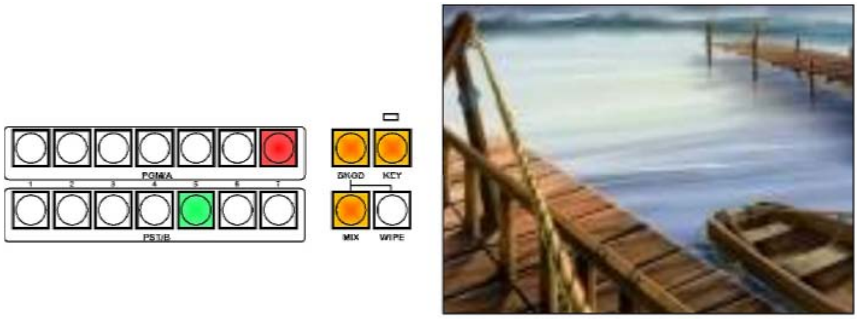


LIVE SOURCE

Pull the T-Bar towards you, or press the AUTO Button, and the KEY effect will appear. The KEY LED will be illuminated red when the key is active. You will see that the cued source (XPT 5) has become the Key Background, and XPT 7 has become the cued source.



To cancel the key effect push the T-Bar the other way, or press the AUTO Button, the output will switch back to the live source without key.

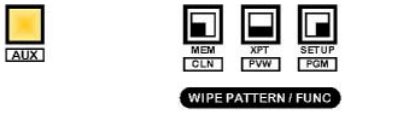


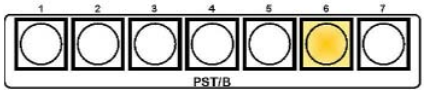
LIVE SOURCE

Assigning a signal to the Auxiliary Output

The Auxiliary Output (AUX) can be assigned with any one of the seven crosspoints, the Preview (PVW), Program (PGM) or Clean (CLN) output. The Clean (CLN) output is the same as the Program (PGM) output but with any KEY images removed.

To assign an output to Auxiliary:
Press and hold the AUX button so that it is illuminated.





While holding the AUX button in, press the button of the source that you want to assign, so that it is also illuminated, in the example above crosspoint 6 is assigned.

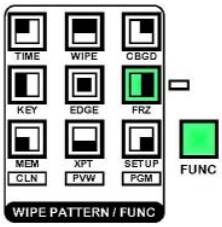
To assign a crosspoint, press and hold the AUX button and press the crosspoint button 1 to 7 on the PST/B rail, then release the AUX button.

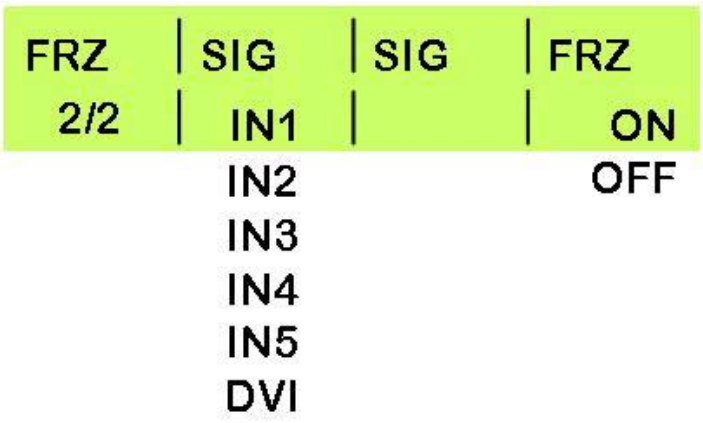
To assign the Program (PGM), Preview (PVW) or Clean (CLN) outputs, press and hold the AUX button and press the [PGM], [PVW] or [CLN] buttons, then release the AUX button.

Setting an input signal to Freeze Frame

Any of the six input signals can be set to a freeze frame (still image).

Press the [FUNC] button, so that it is illuminated, and then press the [FRZ] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FRZ 2/2 is displayed.

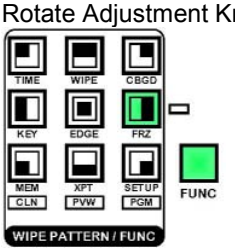


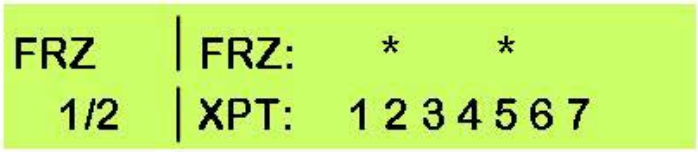


Rotate Adjustment Knob F2 to select the input (SIG) that you want to freeze.
Watch the video input on a monitor and when you see the image you want to freeze, press Adjustment Knob F4 - The LCD display will change from OFF to ON.

To release the input from the freeze frame press Adjustment Knob F4 - The LCD display will change from ON to OFF.

You can check which crosspoints are set to freeze frame in FRZ Menu 1/2
Rotate Adjustment Knob F1 so that FRZ 1/2 is displayed.





An * above the crosspoint number indicates that a freeze frame is assigned. In the example above crosspoints 2 and 5 are both assigned a freeze frame.

To leave the menu press the [FUNC] button so that it is no longer illuminated.

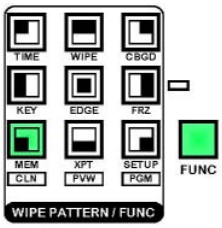
N.B. If any inputs are set to freeze frame the Freeze Status LED will light up.

Saving an image to flash memory F-MEM

You can save a still image to flash memory, maybe to use as a KEY-F (FILL) or to export to a PC. The image is captured from the AUX Output.

N.B. ***The frame store is 8-bit, so the stored image may appear slightly downgraded.***

Press the [FUNC] button, so that it is illuminated, and then press the [MEM] button, so that it is also illuminated.
Rotate Adjustment Knob F1 until FMEM 3/3 is displayed.



Watch the AUX output signal, and when you see the image you want to store press Adjustment Knob F4.
To assign the stored FMEM image to a crosspoint see **Menu 2/3 XPTAS Assigning Crosspoints - Page 25**

To leave the menu press the [FUNC] button so that it is no longer illuminated.

Wiring Examples

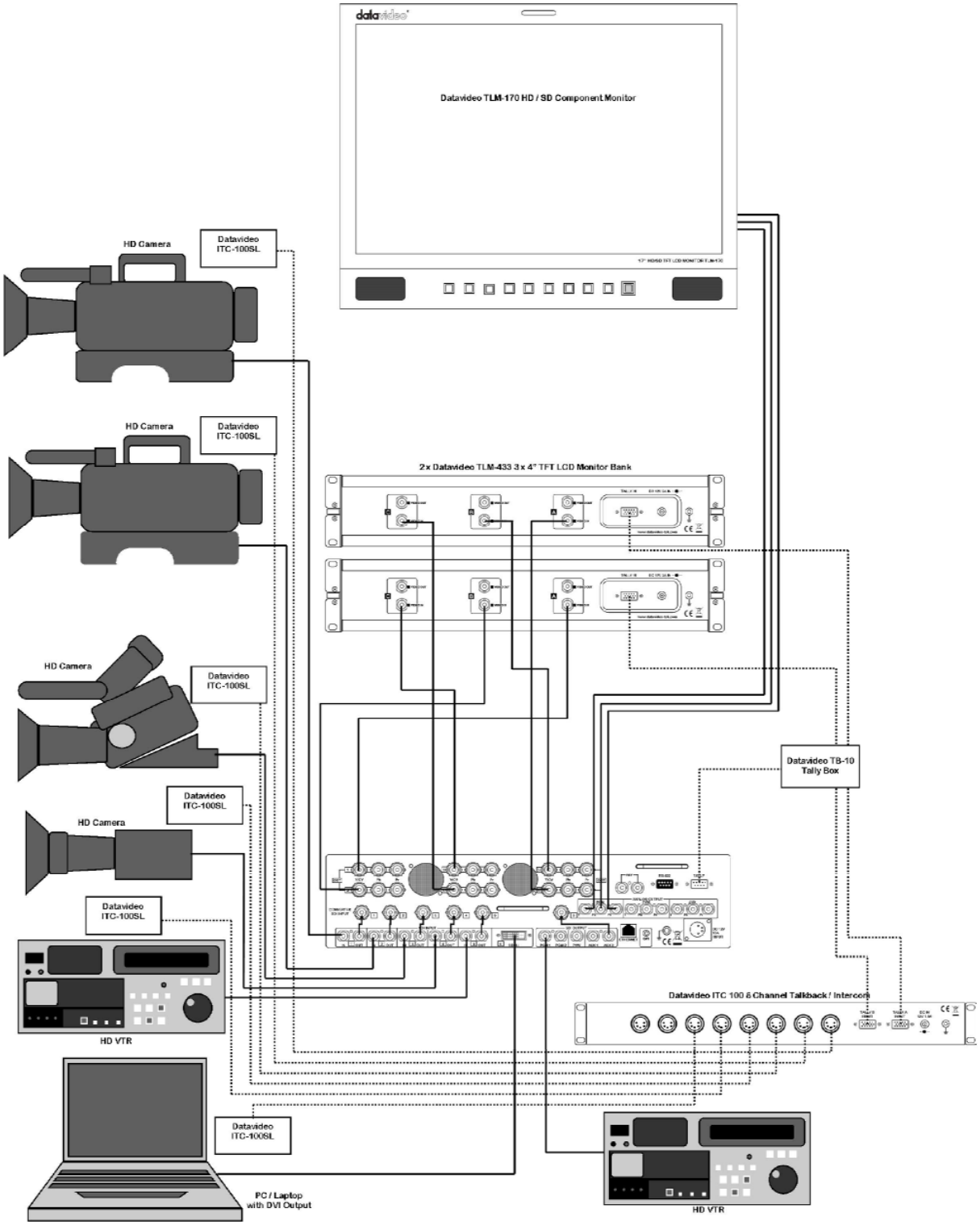
There are many ways in which you can connect the SE-1000 to your ancillary equipment.
We cannot cover every possible permutation but many of the principles shown in these diagrams can be used in other set ups.

On page 44 (***Monitoring***) there is an example of how to utilise the six built in Format / Standard converters for convenient monitoring of all the input channels. The two Datavideo TLM-433 3 x 4" TFT LCD Monitor Banks can be mounted above the SE-1000, together with the ITC-100, to form an extremely compact and space efficient set up.
Of course you could choose to use the format standard converters in other ways if you wish.

SE-1000 with two TLM-433 monitor banks and ITC-100 talkback / intercom.

Wiring Examples

In this example the SE-1000 is synchronising the video sources internally, no genlock is required. The 4 cameras and playback VTR are connected using HD-SDI, and the laptop PC is connected using DVI. The ITC-100 is providing talkback communication between the crew and the director, and also tally light indication for the crew and talent. The PGM HD Component output is fed to the Datavideo TLM-170 17" HD Component monitor, while the PGM HD-SDI out is going to an HD Record Deck. The 6 inputs are being monitored on two TLM-433 3 x 4" LCD monitors, via the six built in format / standard converters.



Wiring Examples

In this example the SE-1000 is relying upon external sync, all the sources are connected to a signal generator, which is also connected to the SE-1000. The 4 cameras and playback VTR are connected using HD-SDI, and the laptop PC is connected using DVI.

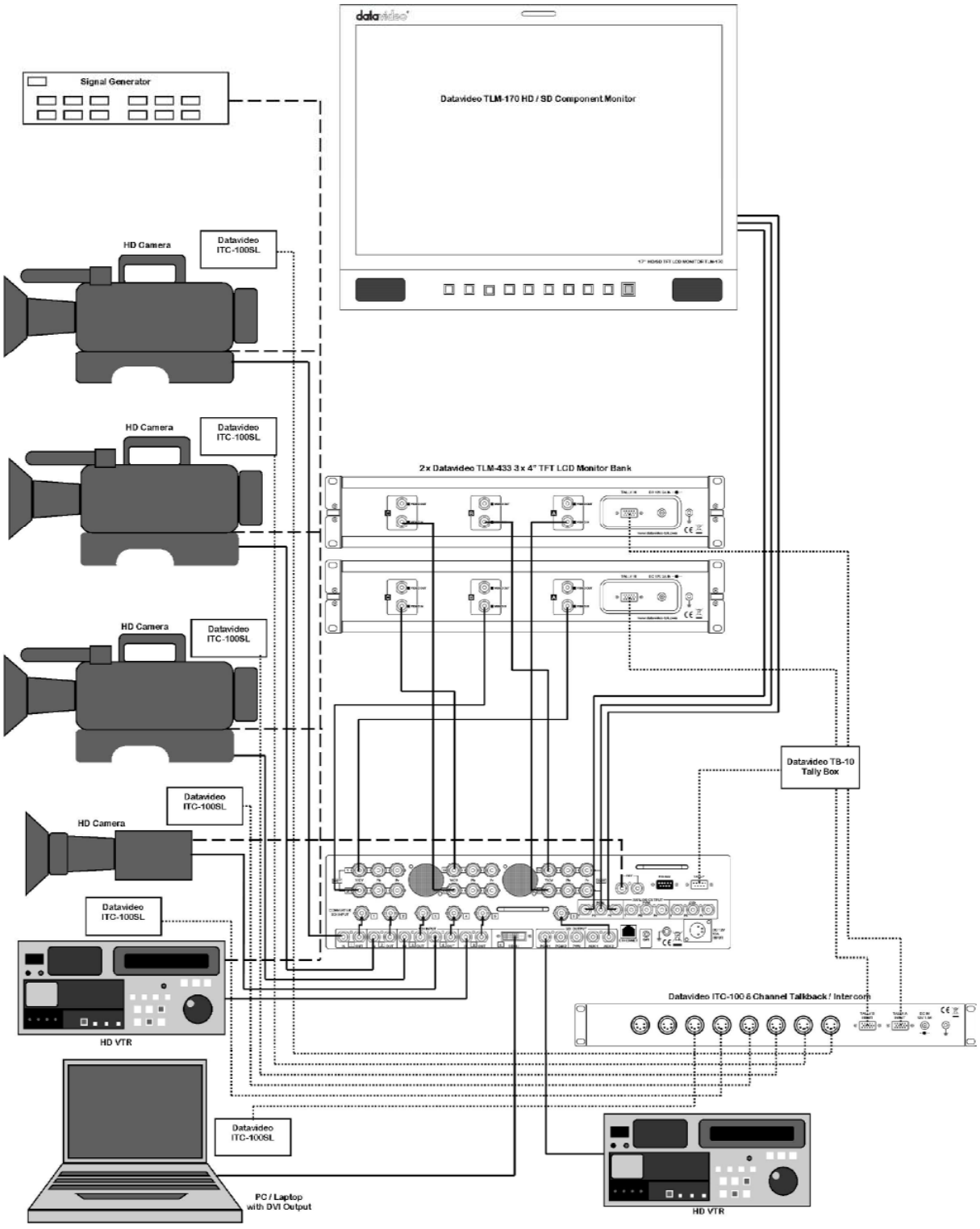


Image Transfer Software

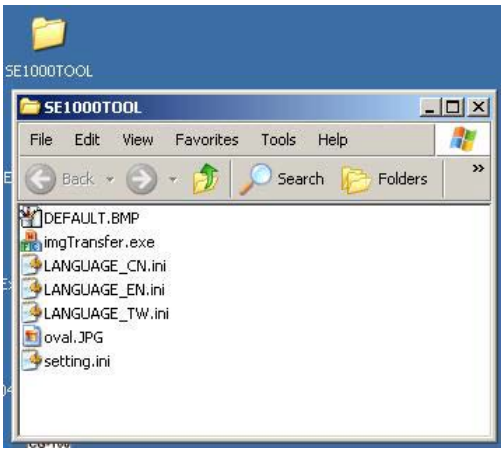
Image transfer software for the SE-1000, which allows still images to be imported and exported between the SE-1000 and a PC is supplied on a CD, and is also freely available from the Datavideo website, see ***Service and Support*** on page 68 for details of your local website.

One example of how this might be used is the import of a matte for use with the built in keyer. A simple black and white matte can be created on a PC and then imported into the SE-1000. You can also use it to save a still image from the SE-1000 to your PC, which you could then use to create a DVD sleeve.

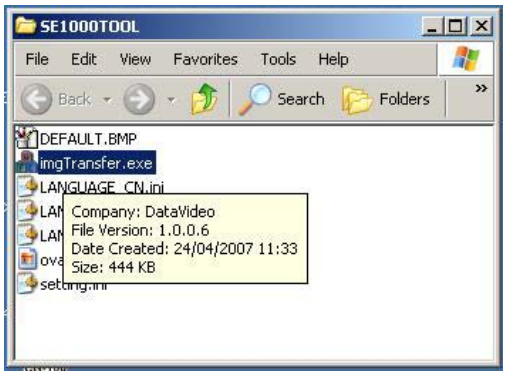
PC Requirements
Windows 2000 or Windows XP
Pentium III. 1 GHz or faster
256 MB RAM or more
50 MB of available HDD space - ideally more
10 Base-T or 100 Base-TX Ethernet Port
TrueColour 24 bit / 32 bit, 800 x 600 pixels or better

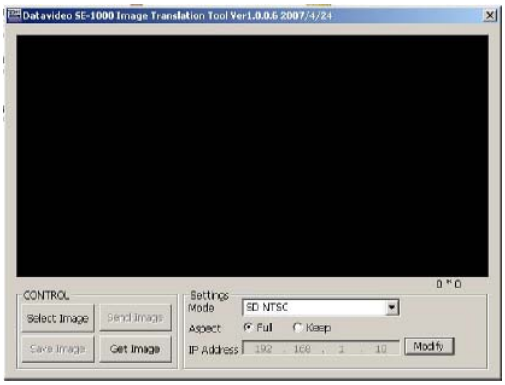
Installing the Program

Open on the folder SE1000TOOL.
Note: If it has been downloaded you may need to unzip it first



Double Click on imgTransfer.exe to launch the program.

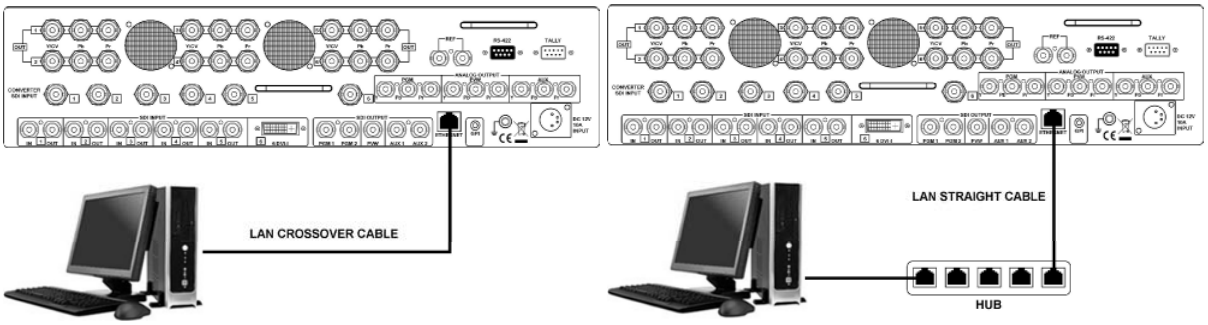




To close the program click on the X in the top right hand corner

Connecting the SE-1000 to a PC

The SE-1000 can either be connected directly to a PC or it can be connected via a hub.
If the SE-1000 is connected directly to a PC you must use a LAN crossover cable, if it is connected via a hub then use a straight LAN cable.



Setting the IP Address

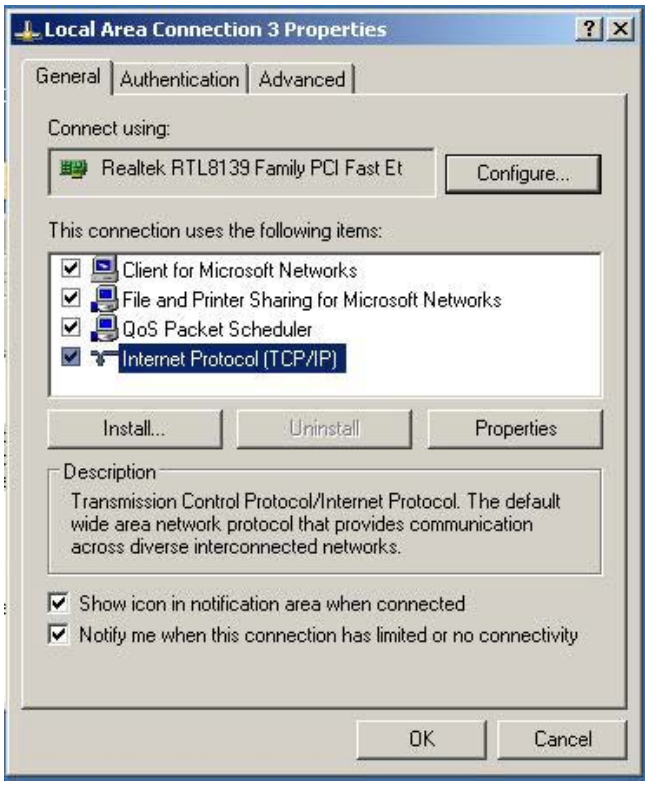
To communicate with the SE-1000 you will need to set an appropriate IP address. The default IP address of the SE-1000 is 192.168.0.10, if you have changed the settings then you will need to use your own values.

All PCs are slightly different but as a rough guide your PC should like something like this. If you are unsure of how to set your PC up it would best to consult your PC supplier.

To set your PCs network TCP/IP settings to work with the SE-1000 open up Control Panel on your PC and choose “Network Connections”.

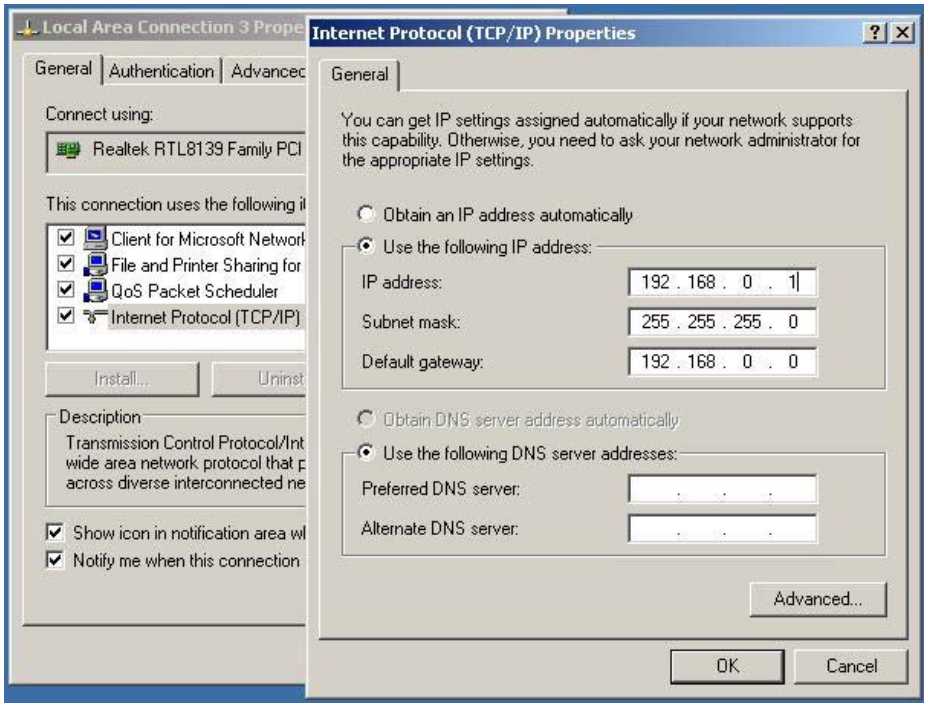
Right click on the Local Area Connection and select Properties from the drop down list.

The “Local Area Connection Properties” Window should open. Highlight “Internet Protocol (TCP/IP)” and then click on “Properties”



The “Internet Protocol (TCP/IP) Properties” Window should appear.
At this stage if you are uncertain about setting up IP addresses it would be advisable to make a note of the settings that you have at present, at least you will be able to set everything back to the way it was if you do anything wrong.

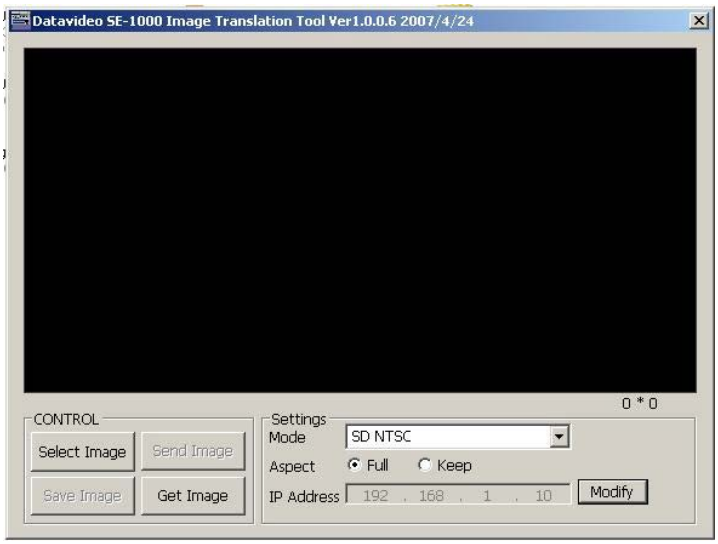
Click on “Use the following IP address:” and enter the details as shown, this assumes that the SE-1000 has not been changed from its default values.



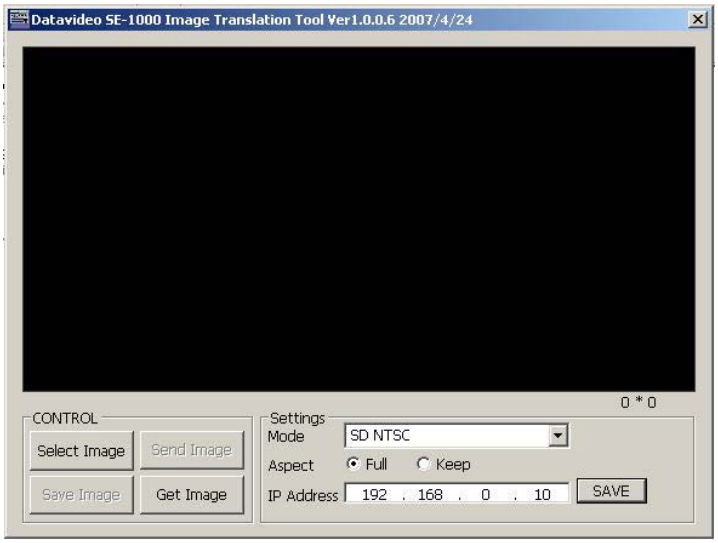
Once you have set the IP address, Subnet mask and Default gateway as above, click on OK.
Then click on OK in the “Local Area Connection Properties” to close the window.

Your PC should now be ready to communicate with the SE-1000.

Launch the SE-1000 Image Transfer Tool (imgTransfer.exe). You will see the IP Address at the bottom of the screen. The IP Address should match the SE-1000, which is 192.168.0.10. (In this example the IP address is 192.168.1.10 and therefore does not match)

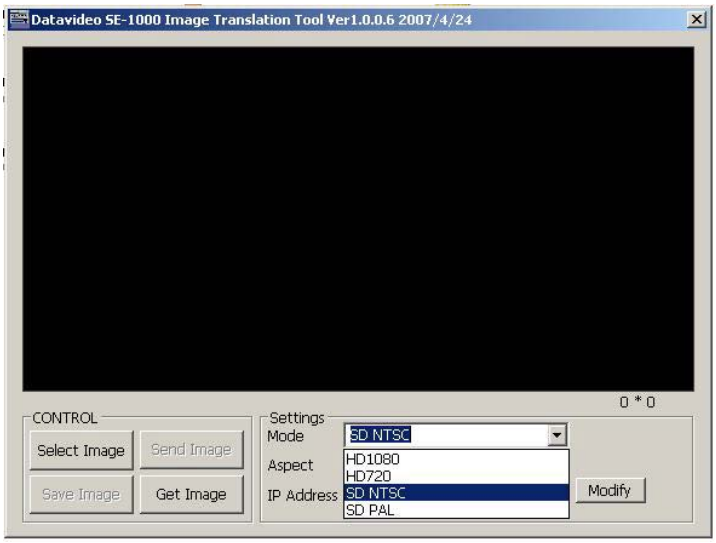


If it does not match click on modify and enter the correct address. Then click on SAVE to store the new setting.



Setting the Format (Mode)

It is important that the format of the image transfer tool matches the format that you have set the SE-1000 to, otherwise image transfers will fail.
Click on the drop down arrow next to the Mode window and select the format you require.



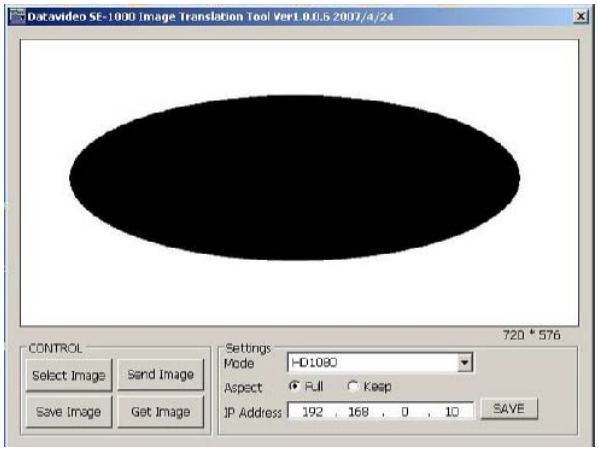
Setting the Aspect Ratio

If you are importing an image that is not the right shape to fill the screen you can choose to stretch the image, or maintain its aspect ratio and have black bars either side.

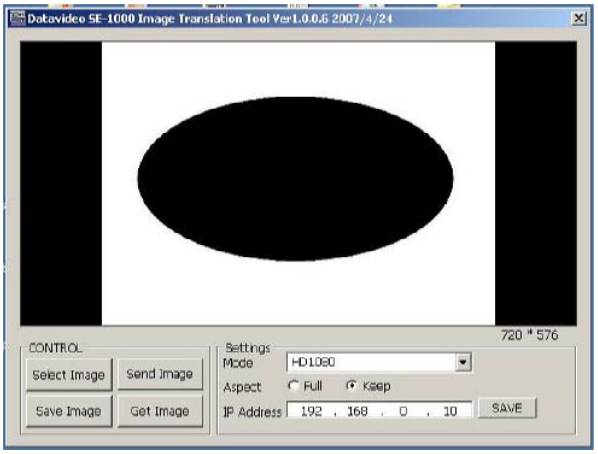
The image attributes appear just below the image, in the bottom right hand side of the preview screen - in this example the image is 720 x 576 pixels

To stretch the image select Full, or to maintain the aspect ratio select Keep. If the image is exactly the right size you will not see any difference between the settings.

FULL

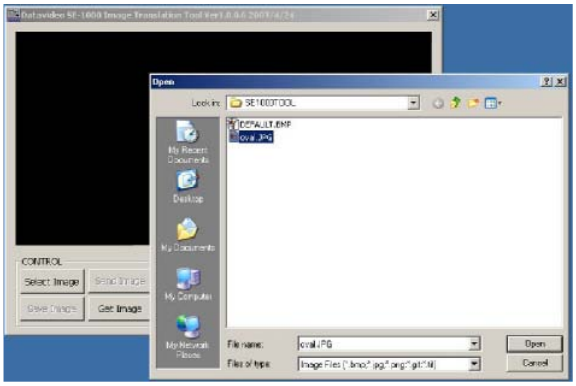


KEEP

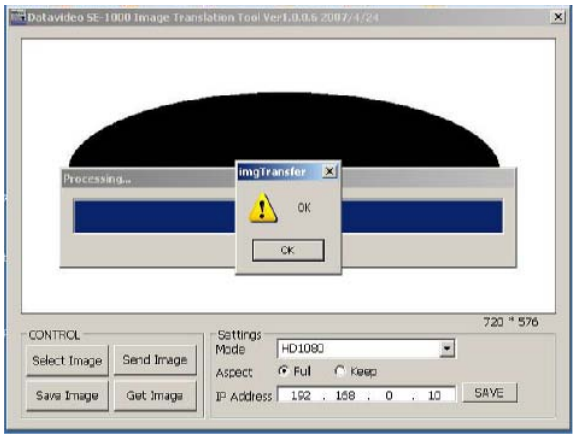


Transferring an image to the SE-1000

Click on Select Image, and the familiar Windows “Open Window” will pop up. Select the image that you want to transfer to the SE-1000, it can be a BMP, TIF, JPG, GIF or PNG file, and click on Open.



Then click on Send Image. A progress bar should appear and after a while an ImgTransfer OK box should appear.

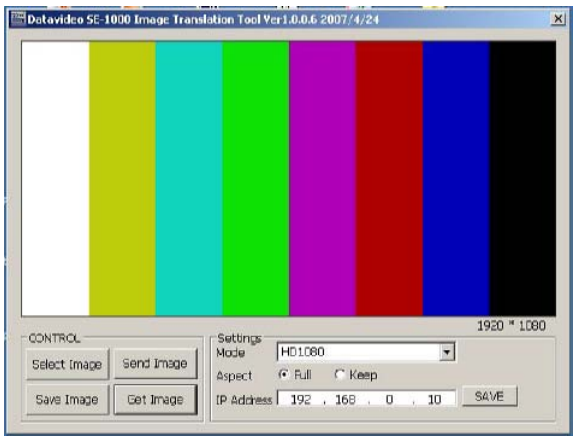


Click on the OK box to complete the process.

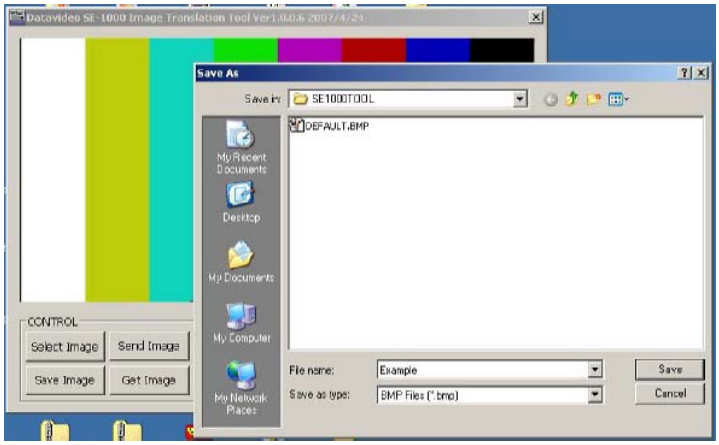
Transferring an image from the SE-1000

To transfer an image from the SE-1000 to a PC you must first capture a still image to FMEM - ***see Page 28 FMEM Frame Memory for details***

To transfer the FMEM image to the PC click on Get Image, after a few seconds the image should appear.



To save the image, click on Save Image. The Windows “Save As” Window will pop up.



Select the destination that you want to save to, and enter the name that you want to give to the file, and then click on “Save” in the usual way. After a few seconds the image will be saved and you can close the program down.

External Interfaces

The SE-1000 has three external interfaces, RS-422, GPI and Tally.

RS-422 and GPI allow the SE-1000 to be controlled from an external device.

Tally provides information about the status of each of the Input Channels. The Datavideo TB-10 is able to decode this data and feed tally information to tally lights, monitors such as the Datavideo TLM 433, or talkback systems such as the Datavideo ITC-100.
Please see Useful Accessories for further details of TLM-433, TB-10, ITC-100

RS-422

RS-422 enables the SE-1000 to be controlled from external devices.

The RS-422 port is a sub d 9 pin port, and it is wired as follows:

Pin No.	Signal Type	Description
1	Frame Ground	Frame Ground
2	RXD (-)	Receive Data (-)
3	TXD (+)	Transmit Data (+)
4	Ground	Ground
5	NC	Not Used
6	Ground	Ground
7	RXD (+)	Receive Data (+)
8	TXD (-)	Transmit Data(-)
9	Frame Ground	Frame Ground

The transmission parameters are:

Baud Rate 38400
Parity ODD
Stop Bit 1 bit

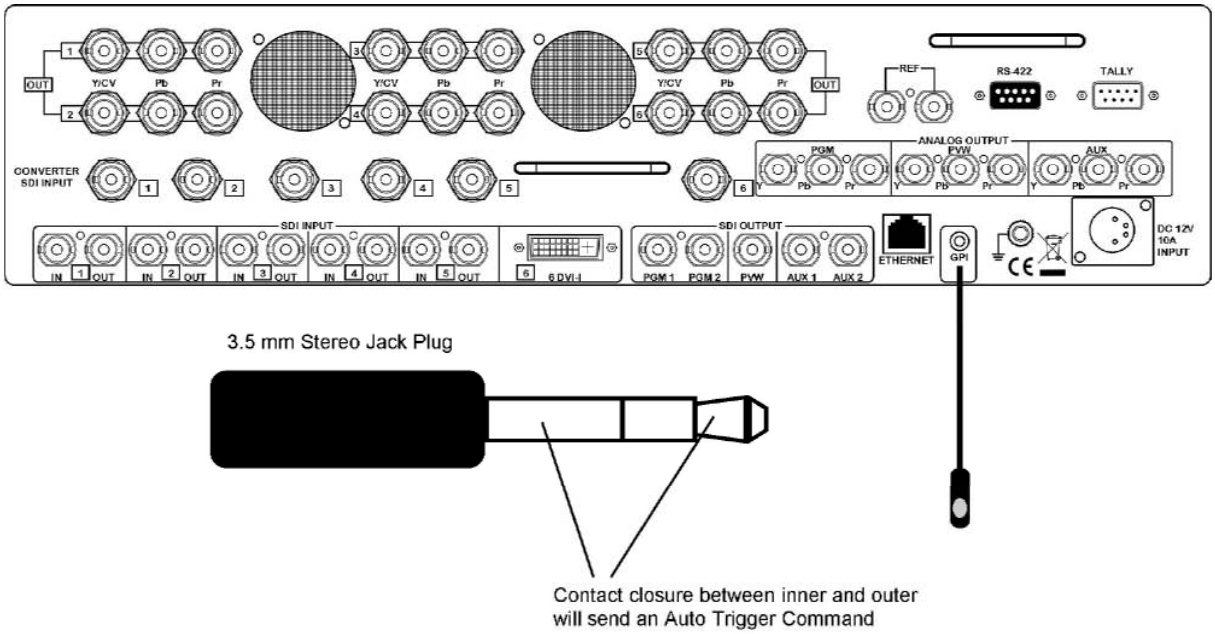
The following functions can be controlled via RS-422. (Commands are compliant with GVG Protocol)

Crosspoint Switch
Wipe Pattern Selection
Transition Mode Selection (BKGD/KEY, MIX/WIPE)
Auto Transition Time Setting
Auto Transition Execute
Preset Memory Store / Recall

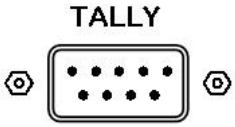
GPI Connector

The GPI (General Purpose Interface) Connecter allows for a simple remote control to be added to the SE-1000. A simple push button will emulate the Auto Button. Each time the button is pressed the SE-1000 will perform whatever transition is set.

The GPI is a 3.5mm Jack Socket, and wiring a remote is very simple.



Tally Socket



The Tally Socket provides status information for input channels 1 to 6.
The Datavideo TB-10 can translate this data and provide tally light information for the Datavideo TLM 433 monitors or the ITC-100 Talkback system.
See Useful Accessories for more details of the TLM 433 / ITC-100 / TB-10

The data format is as follows:

Pin No.	Signal Name	Input / Output Type	Description of Signal
1	Input 1	Open Collector Output	Tally Output - Video Input 1
2	Input 2	Open Collector Output	Tally Output - Video Input 2
3	Input 3	Open Collector Output	Tally Output - Video Input 3
4	Input 4	Open Collector Output	Tally Output - Video Input 4
5	Input 5	Open Collector Output	Tally Output - Video Input 5
6	Input 6	Open Collector Output	Tally Output _ Video Input 6 (DVI)
7	Enable	Input	Enable Signal of Tally Output Open: Active Closed: Inactive
8	Alarm	Open Collector Output	Fan Alarm / PSU Alarm Output
9	Ground	Ground	Ground

Troubleshooting / FAQ

No power

If no lights are displayed on the SE-1000, when the power switch is in the On position, then there is no power or insufficient power, getting to the unit.
Ensure that the power supply is connected to an appropriate AC mains outlet and that it is switched on.
Check the fuse in the AC mains cord. Ensure that the power supply you are using is the 12v 10A unit that is supplied with the SE-1000. If you are running the SE-1000 from a Datavideo PD-1 Power Distribution Centre, please ensure that you are using the special SE-1000 power adapter cable, and that both of the inlet cables are connected to the PD-1.

No Video Output

Since the SE-1000 is unable to accept multiple input formats it is important that the input formats match the intended output format. For example, you cannot put 1080/50i and take 576/50i out.
If you are feeding HD in then you must take HD out, or if you are feeding SD in you must take SD out.

Alarm Light is On

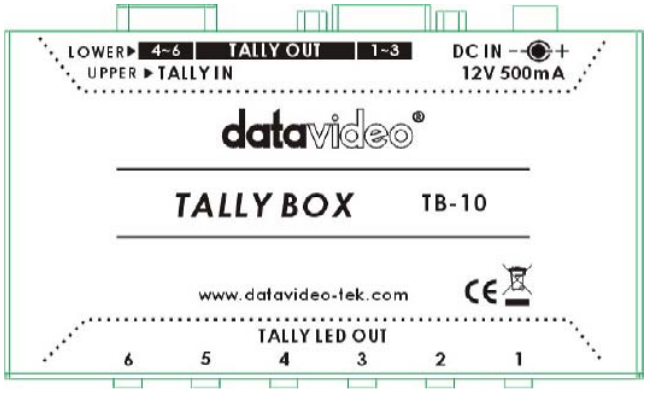
The Alarm Light can indicate that something is wrong with the fans, the power supply, or both the fan and the power supply.
Check the status menu to see why the light is on (*see page 25*)
If the indication is FAN, check that the fans are not blocked or impeded and that there is sufficient ventilation room around them.
If the indication is PWR, check that an appropriate power supply is being used (*see No Power above*)

Useful Accessories

TLM-433 / TLM-433JF Monitor Bank / Monitor Bank Holder

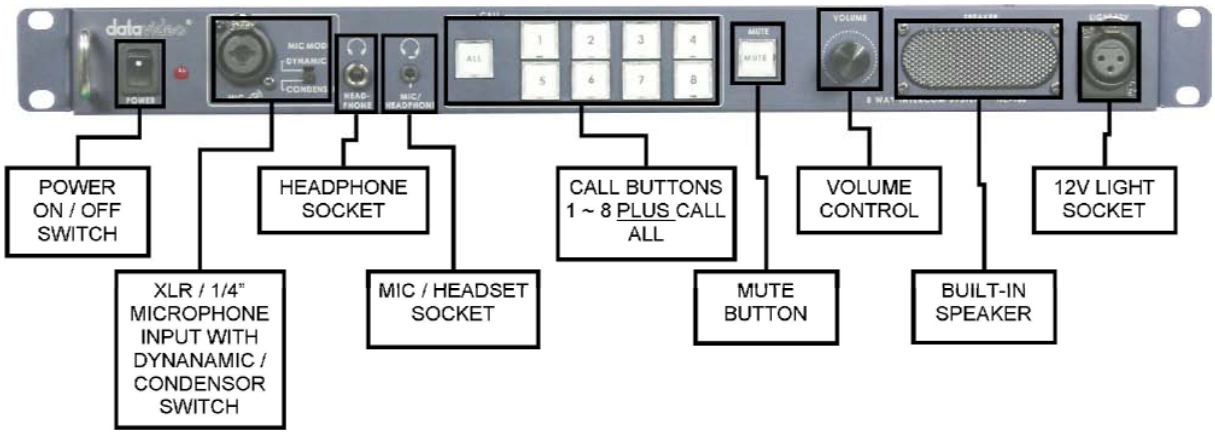
The Datavideo TLM-433 3 x 4” TFT LCD monitor bank is an ideal monitoring bank for the SE-1000. Pictured above are 2 x TLM-433 which gives 6 x preview monitors, 5 for the input channels plus 1 for the AUX or PVW output. Each monitor has a Bi-Colour Tally Light above it to indicate the Live and Cued sources. The monitors are mounted in a TLM-433JF LCD Holder, which attaches to the SE-1000 and provides mounts for the 2 x TLM-433 plus room for the ITC-100 Intercom / Talkback System.

TB-10 - Tally Box



The TB-10 provides a simple Tally Light breakout from the SE-1000. It can supply tally information to the TLM-433 monitor banks and the ITC-100 Talkback Intercom System. Additionally there are simple 3.5mm Tally Outputs to connect directly to Tally LEDs.

ITC-100 Talkback / Intercom System



The ITC-100 is an ideal accessory for the SE-1000. It provides bi-directional communication between the camera crew and the control room, together with bi-colour tally light information down one cable. The TB-10 can provide tally information to the ITC-100, and the ITC-100 can then send the information to the ITC-100SL belt packs, which each member of the camera crew would be wearing.

Features:

Industry Standard 19"/1U rack design, for easy integration
Supports 8-Way Intercom (standard package includes 4 sets of ITC-100SL with belt-pack accessories)
Full Duplex design with additional external earphone and microphone interface
Bi-colour tally light indicator
Selectable channel talk, broadcast to all or mute.
Half-Duplex design for ITC-100SL to eliminate the environmental noise
Enables communication between the camera crew
Communication distance up to 200 meters
Supplied complete with Gooseneck Microphone and Light

Specification

Video Processing -

Video Format	SD (480/59.94i - 576/50i) HD (1080/59.94i - 1080/50i - 720/59.94p - 720/50p)

SDI/HD-SDI Specifications

Standard	SMPTE 259M-C (270Mbps - 525/625 Component Video) and SMPTE 292M (1.485/1.001 Gbps)	
Connector	BNC (IEC 169-8)	
Impedance	75 Ω	
Return Loss	HD	> 15 dB (5 MHz to 750 MHz) > 10 dB (750 MHz to 1.5 GHz)
	SD	> 15 dB (5 MHz to 270 MHz)
Equalization	265 m Belden 8281 cable at 270 Mbps; 135 m (typical) of Belden 1694A at 1.485 Gbps	

Source Inputs

HD/SD-SDI	5 inputs (with active loop through)
RGB	DVI-I x 1 (SXGA 1280x1024 - XGA 1024x768 (60Hz)
Key	1 input from any video input
Reference	1 x Black Burst / TRI with loop-through

Main Outputs

SDI	3 x Outputs (PGM x 2 - PVW x 1 plus AUX x 2)
HD Analogue	3 x Outputs - Y.Pb.Pr - HD only (PGM x 1 - PVW x 1 - AUX x 1)
Reference	Loop-through x 1 (Genlock) - Black Burst x 2 (Internal Sync Mode) - Black Burst / TRI Loop-through x 1

Video Delay

Frame Synchroniser Off	-	1H
Frame Synchroniser On	-	1F

Effects

Transition	Cut - Mix - Wipe (9 Patterns / 3 Directions)
Key	Self Key - Linear Key

Interface

Ethernet	100 Mbps / 10 Mbps x 1
Serial (Editor)	D-Sub 9 Pin x 1 RS422A
Tally Output	D-Sub 9 Pin x 1 6 Channel Open Collector Output
GPI	3.5mm Jack Socket x 1 Auto Take

HD/SD Cross Converter

Inputs	6 x HD/SD-SDI	
Outputs	6 x HD-YUV - YUV - Composite Video	
Input Formats	SD	480/59.94i - 576/50i
	HD	1080/59.94i - 1080/50i - 720/59.94p - 720/50p - Auto Detect

Output Formats	SD	480/59.94i - 576/50i
	HD	HD-YUV 1080/59.94i - 1080/50i - 720/59.94p - 720/50p
Aspect Converter	Input SD 16:9 or 4:3	
	Output SD 16:9 or 4:3	
IRE	0 - 7.5 IRE Options (NTSC Only)	

Operating Temperature	0°C to 40°C (32°F to 102°F)
Humidity	10% to 90% (non condensing)
Power	DC 12V / 10A
Dimensions (W x H x D)	426mm (16.8”) x 119mm (4.7”) x 368mm (14.5”)
Weight	Approx 5.7 Kg / 14 lbs

Service and Support

It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo-tek.com for answers to common questions, support requests or contact your local office below.

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