datavideo

HD 6 CHANNEL
DIGITAL VIDEO SWITCHER

SE-1200MU

Quick Start Guide

www.datavideo.com

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.
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 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.

Warranty

Standard Warranty
- Datavideo equipment is guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered by this warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- Cables & batteries are not covered under warranty.
- Warranty only valid within the country or region of purchase.
- Your statutory rights are not affected.

Two Year Warranty

- All Datavideo products purchased after 01-Oct.-2008 qualify for a free one year extension to the standard Warranty, providing the product is registered with Datavideo within 30 days of purchase. For information on how to register please visit www.datavideo.com or contact your local Datavideo office or authorized Distributors
- Certain parts with limited lifetime expectancy such as LCD Panels, DVD Drives, Hard Drives are only covered for the first 10,000 hours, or 1 year (whichever comes first).

Any second year warranty claims must be made to your local Datavideo office or one of its authorized Distributors before the extended warranty expires.

Disposal

For EU Customers only - WEEE Marking.

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 Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

Packing List

The following items should be included in the box. If any items are missing please contact your supplier.

1	x	SE-1200 Main Unit
1	x	SE-1200 MU Quick Start Guide
1	x	Accessory List

Front Panel

 Power Switch

Switches the SE-1200 MU power ON / OFF

Rear Panel
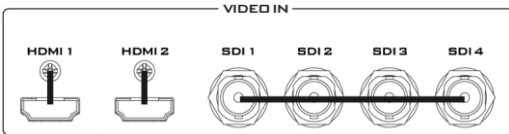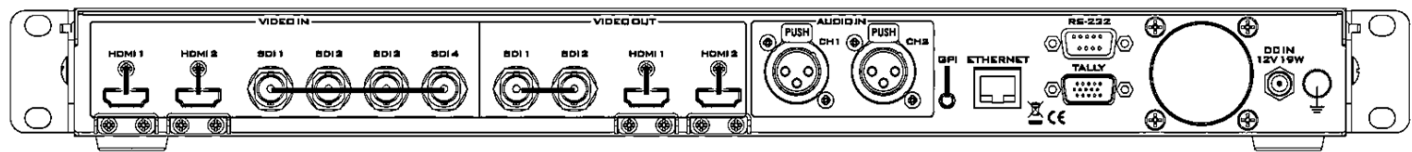
Video IN

The SE-1200 MU is equipped with six video input channels.

Video Input set is comprised of four SDI connectors and two HDMI ports.
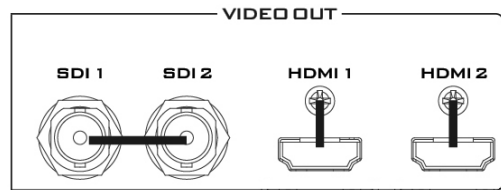
Video OUT

HDMI 1: Multi-View Outputs

HDMI 2: Output for engineering debugging

SDI 1 / SDI 2: SE-1200 MU is capable of achieving multi-view monitoring by connecting two multi-view monitors to the two SDI ports. The two HDMI outputs can be used for monitoring video in a number of different configurations.
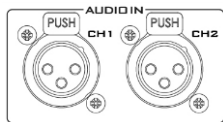
Audio Input

Supports four channels XLR Balanced Audio Input.
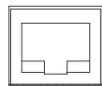
Ethernet Ports

For connection of the Main Unit to the PC such that the SE-1200 MU can be remotely controlled on a graphical user interface.
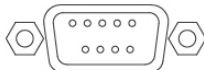
RS-232

For remote control interface (TBD).

TALLY Output

The SE-1200 MU Tally Output Port provides bi-color tally information (Red and Yellow); Red indicates On-Air and Yellow indicates next camera source.

DC IN

Connect the supplied DC 12V PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.
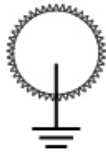
Grounding Terminal

When connecting this unit 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 mm^2.

Hardware Connection Setup

Connection of the SE-1200MU and PC to ROUTER

Use the Ethernet cable to connect the SE-1200 Main unit and PC to a router as shown in the diagram below. The user can either set the IP address of the SE-1200 Main Unit to a specific IP (e.g. 192.168.1.101) or DHCP mode in which the IP address is dynamically assigned by the router. The SE-1200 Main unit is by default in DHCP mode. Make sure all devices connected to the router are in the same IP domain as the router (e.g. 192.168.1.X if the gateway IP is 192.168.1.1). Please follow the procedure below to configure the network settings. After all network settings are configured, the PC and the SE-1200MU can then communicate across the network. **Please contact the Datavideo local office should you require further assistance**.
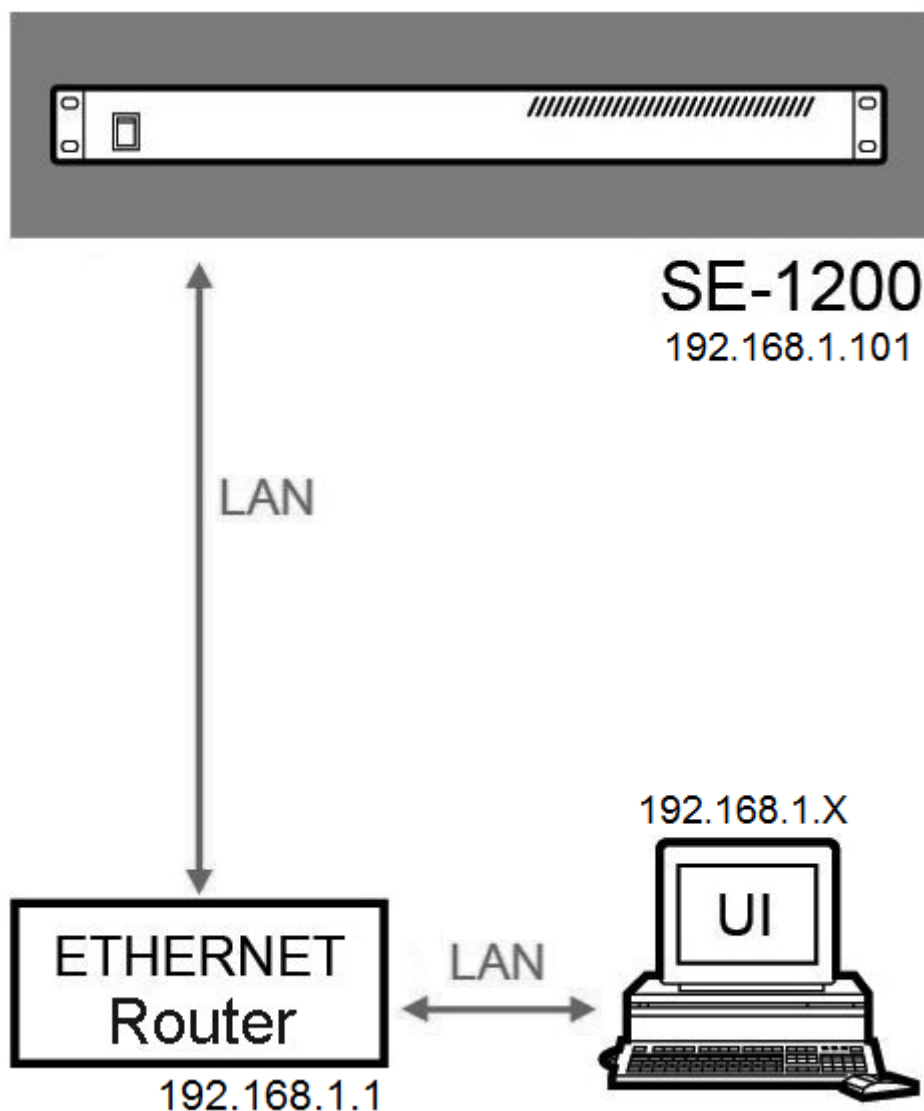
Network Settings

DHCP Mode (Default)
1. Open the SE-1200 MU PC Control Panel
2. Click the Setup button [Setup] on the MENU SELECT pane
3. Below is an example screen shot of the Setup page

4. Target IP Address is the IP address of the SE-1200 Main Unit, which can be obtained by using an IP scanner (e.g. Colasoft MAC Scanner) or on the Graphical User Interface of the router.
5. The MAC address of the SE-1200 Main Unit is 1E:ED:19:27:1A:B3
6. Click "**Target IP Addr**" and enter the IP address of the SE-1200 Main Unit, in this case, it is 192.168.1.215
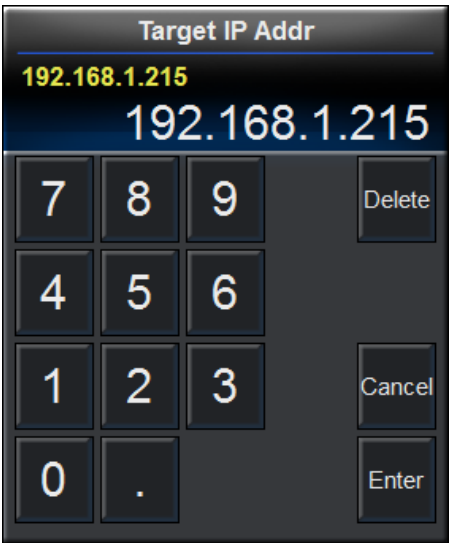
7. After hitting the Enter button, restart the SE-1200 MU PC Control Panel and reboot the SE-1200 Main Unit
8. After the SE-1200 MU PC Control Panel is restarted and the SE-1200 Main Unit is rebooted, the connection between the SE-1200 MU and the PC is now established.

DHCP to True Static

1. Open the SE-1200 MU PC Control Panel
2. Before you start configuring the True Static IP settings, make sure the SE-1200 MU PC Control Panel is connected to the device
3. Click the Setup button [Setup] on the MENU SELECT pane
4. Below is an example screen shot of the Setup page

5. Click "Network" located on the left side of the screen to configure your True Static IP settings
6. At the bottom of the "**Network**" page, locate "**Addr Mode**", "**IP Addr**", "**Network Mask**" and "**Gateway**"

7. Enter the following example configurations and then click "**Save Setup**" to save the new settings. **Please note that IP address, network mask and gateway settings below are for illustration purpose as they vary from device to device.**

> Addr Mode: Static
> IP Addr: 192.168.1.110
> Network Mask: 255.255.255.0
> Gateway: 192.168.1.1

8. Restart the SE-1200 MU PC Control Panel and reboot the SE-1200 Main Unit
9. Open the router GUI and check that the SE-1200 MU (1E:ED:19:27:1A:B3) should have the IP address of 192.168.1.110
10. After the SE-1200 MU PC Control Panel is restarted, Click the Setup button [Setup] on the MENU SELECT and you should find that the SE-1200 MU is not yet connected to the PC.

11. Click "**Target IP Addr**" and enter the IP address of the SE-1200 Main Unit, in this case, it is 192.168.1.110

12. Restart the SE-1200 MU PC Control Panel and you should find that the connection is successfully established and the SE-1200 MU is ready for use.

True Static to DHCP

1. Open the SE-1200 MU PC Control Panel
2. Before you start configuring the DHCP IP settings, make sure the SE-1200 MU PC Control Panel is connected to the device
3. Click the Setup button [Setup] on the MENU SELECT pane
4. Below is an example screen shot of the Setup page, and please note that at this step, the SE-1200 MU is still in True Static mode

5. To switch your device into DHCP mode, click "Network" located on the left side of the screen and then select DHCP under the Addr Mode option.
6. Click "**Save Setup**" after selecting DHCP mode
7. Restart the SE-1200 MU PC Control Panel and reboot the SE-1200 Main Unit
8. The SE-1200 MU is now in DHCP mode and its IP address can be obtained using an IP scanner (e.g. Colasoft MAC Scanner) or on the Graphical User Interface of the router.
9. Click "**Target IP Addr**" and enter the IP address of the SE-1200 Main Unit, in this case, it is 192.168.1.215. **Please note that the example shown below is only for illustration purpose as IP address varies from device to device.**
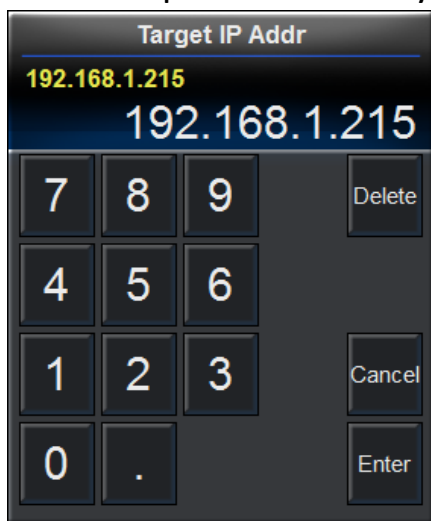
9. After hitting the Enter button, restart the SE-1200 MU PC Control Panel and reboot the SE-1200 Main Unit
10. After the SE-1200 MU PC Control Panel is restarted and the SE-1200 Main Unit is rebooted, the connection between the SE-1200 MU and the PC is now established.

Port Forwarding

Port forwarding allows remote computers to connect to a specific computer or service within a private local-area network (LAN). When configuring port forwarding, the network administrator generally reserves one port number on the gateway to allow remote computer to communication with a service within a private local-area network. For example, opening port number 80 on the terminal assigned the IP address of 192.168.1.103, you are allowing the router to receive external requests to this port number 80 on 192.168.1.103. However, a single port can only be used for one program or service. The same port cannot be opened on two terminals for information access. For example, you are not allowed to open port number 100 on two computers.
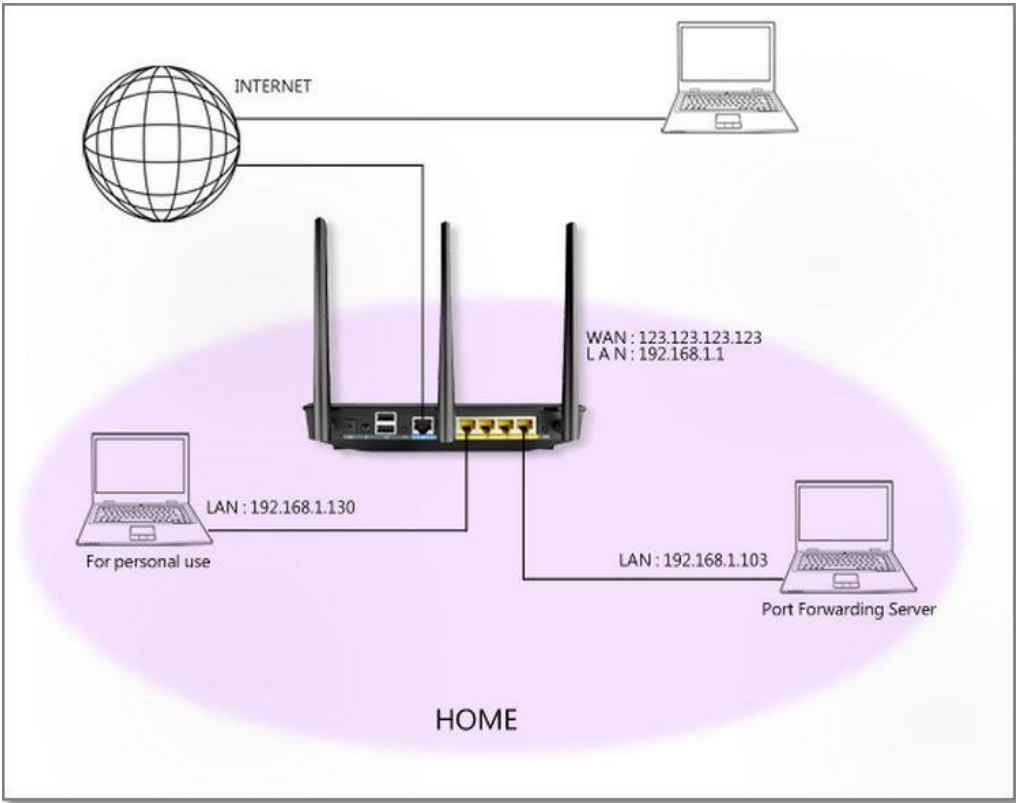
The following procedure provides guidance on how to configure port forwarding settings on the router.

1. On the WAN Internet Connection page, set your WAN Connection Type to Static IP.
2. Enter the settings below into your router on the WAN Internet Connection page. **Please note that the settings below are for illustration purpose only and the user should obtain the following information from the Internet Service Provider.**
   - IP Address: 60.251.108.215
   - Subnet Mask: 255.255.255.240
   - Default Gateway: 60.251.108.209
   - DNS Server 1: 168.95.1.1
   - DNS Server2: 8.8.8.8
3. Set Authentication to None
4. The SE-1200MU device information is listed below:
   - Host Name: se-1200mu
   - MAC Address: 1e:ed:19:27:1a:b3
5. On the "Port Forwarding" setting page, locate the Port Forwarding List as shown in the diagram below:

Port Forwarding List (Max Limit : 32)					
Service Name	**Port Range**	**Local IP**	**Local Port**	**Protocol**	**Add / Delete**
				TCP ▾	⊕
No data in table.					
Apply					

6. Configure the following settings:
   - Port Range: 5000, 5003, 5004 (Mandatory range)
   - Local IP: SE-1200MU IP and it is 192.168.1.101 in this case
   - Local Port: Select one from 5000, 5003 or 5004
   - Protocol: TCP/UDP/Both

7. Click on ⊕ to add the above settings to the list

Service Name	Port Range	Local IP	Local Port	Protocol	Add / Delete
		▼		TCP ▼	⊕
	5000,5003,5...	192.168.1.101	5000	BOTH	⊖
	5000,5003,5...	192.168.1.101	5003	BOTH	⊖

Port Forwarding List (Max Limit : 32)

Apply

8. To Access the SE-1200 MU service from the remote computer, open the SE-1200 MU PC Control Panel on the remote computer and follow the procedures outlined in the Network Settings section to configure your connection between the SE-1200 MU and the PC. **Please note that the target IP address is now the router WAN IP and in the above example, it is 60.251.108.215.**

Menu Select

Before starting to use the SE-1200 MU, the user should locate the MENU SELECT panel on the PC Control Panel and configure the basic settings.

SETUP Key Functions

Setting the Resolution

1. There are six standard resolutions available on the SE-1200 MU. To set the resolution, the user should first click the Setup button on the MENU SELECT panel.

2. Click on **Standard** to select the desired resolution

3. Select the desired resolution from the following list:

Click the up/down arrows to scroll through the resolution list and click the desired resolution. After the desired resolution is selected, the list should automatically disappear, leaving the selected standard resolution displayed at bottom left hand corner of the screen. The connected monitors should now identify and sync with the new resolution output sent from the switcher.

The supported Video Standards are:
- 1920x1080i 60
- 1920x1080i 59.94
- 1920x1080i 50
- 1280x720p 60
- 1280x720p 59.94
- 1280x720p 50

After the new resolution is selected, click "**Save Setup**" (Step 2) to save the new setting to the device.

Software Upgrade

The SE-1200 MU also allows the user to perform software upgrade. The software upgrade procedure is outlined as follows:

1. Click the **Setup** button on the **MENU SELECT** panel.

2. Click the **"Software Upgrade"**

3. Click **"Upgrade Processor"**

4. Wait till the "**Please Wait"** prompt window disappear

5. Reboot the SE-1200 MU main unit to complete the software upgrade process.

Note: Please contact your local Datavideo office or dealer for the latest SE-1200 MU Firmware and Application Software. Datavideo regional offices can be found on the last page of this manual.

Import – Export

The **Import – Export** allows you to store and recall various user setups on the SE-1200 MU. Should you have various standard configurations for the production, the user can use this feature to save the configurations beforehand; to save time, the user can simply apply the saved configuration during the production. In addition, it eliminates the hassle of reconfiguring the SE-1200 MU after it is used by another user. The features under this option are **Import Still**, **Export Still**, **Import User** and **Export User**.

Export Still

1. Click the "**Setup**" button on the **MENU SELECT** panel

2. Click "**Import-Export**" as shown below

3. Click "**Export Still**" and use the up/down arrows to browse the thumbnails; select a picture

4. Click "**Export Still**" located at the bottom left hand corner of the screen

5. Click the ![se1200_import_export.exe] icon to open the **SE-1200 Import_Export** tool; enter the still number and then click the **Export File** button.
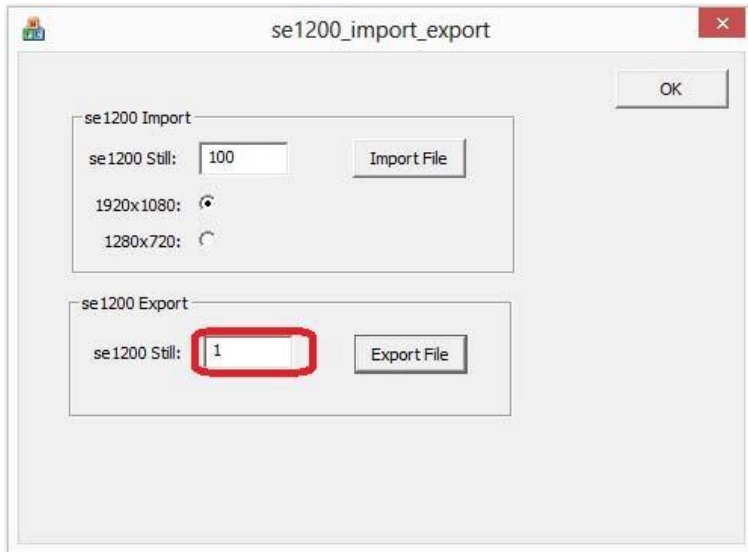
6. Select a stillxxx.pic file and then click **Open** button.

Import Still
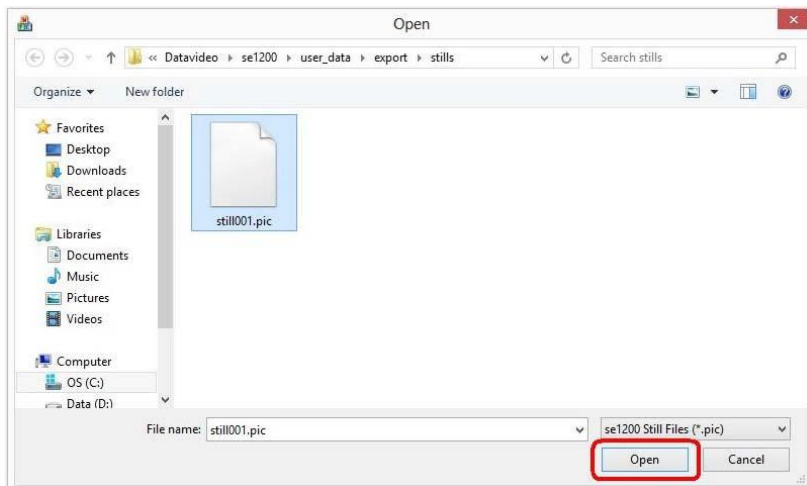
1. Click the ![se1200_import_export.exe] icon to open the **SE-1200 import_export** tool

2. Enter the still number (121) and then click the **Import File** button
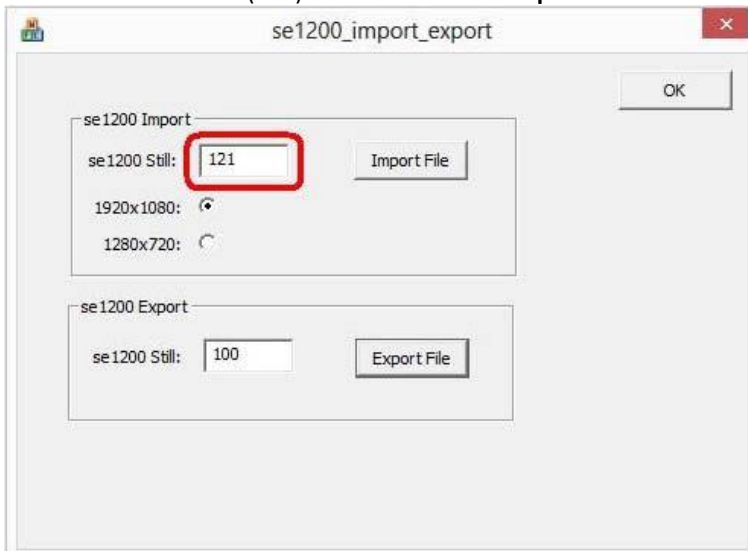
3. Select a BMP file and then click **Open** button
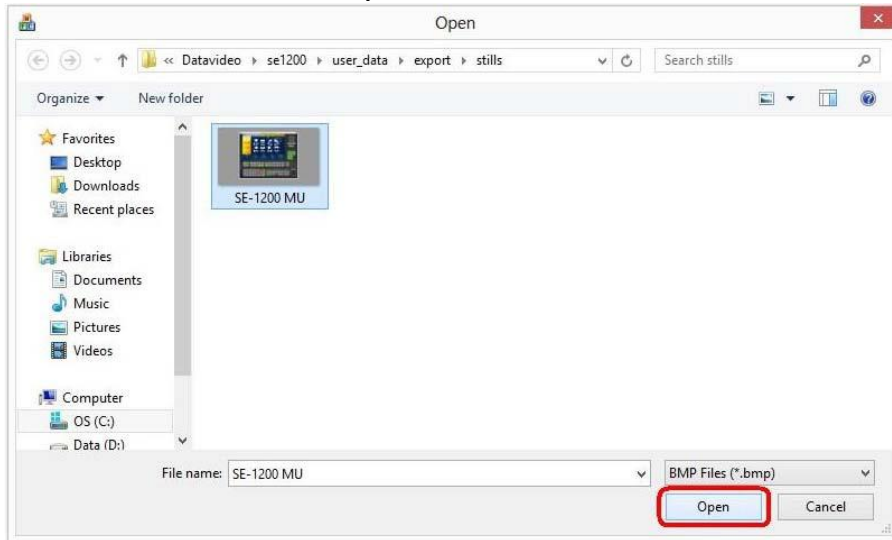
4. Click **OK** button to save the selected file and exit the import_export tool
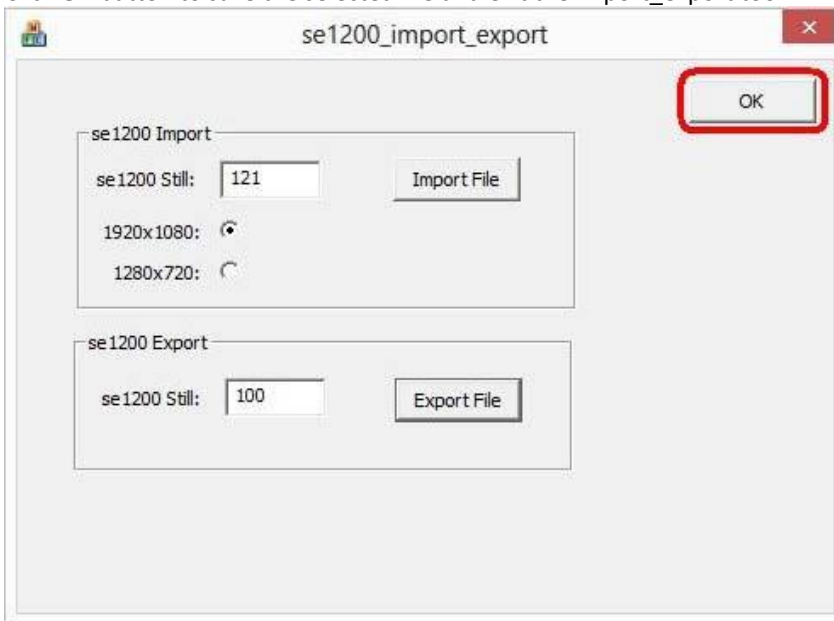
5. Open the SE-1200 MU Application and enter **Import-Export** option; click **Import Still** as shown below

6. Click "**Still**" located at the right hand corner of the screen as shown below to open a pop-up window; on the pop-up window, enter the still number (e.g. 121) and then click the **Enter** button

7. Click "**Import Still**" located at the bottom left hand corner of the screen to import the selected file

8. Enter "**Export Still**" to check the thumbnail of the imported still picture file as shown in the diagram below

Export User

1. Click the "**Setup**" button on the **MENU SELECT** panel

2. Click "**Import-Export**" as shown below

3. Click **Export User** as shown below and use the up/down arrows to browse the saved setups

4. Select a Setup and click "**Export User**" located at the bottom left hand corner of the screen

5. Check the exported files in the directory "C:\Datavideo\se1200\user_data\export\mems"
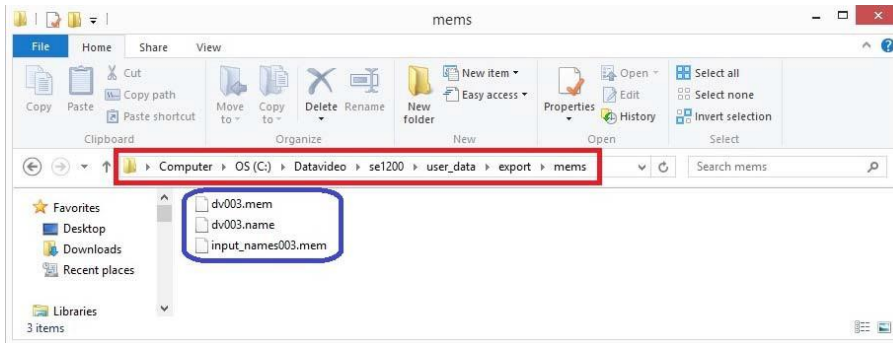
Import User

1. Copy dvXXX.mem, dvXXX.name and input_namesXXX.mem files from the directory "C:\Datavideo\se1200\user_data\export\mems"
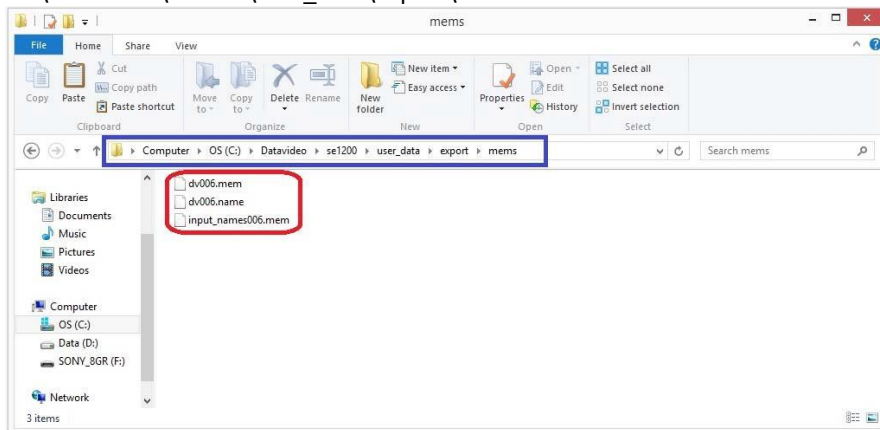
2. Paste the three files into the directory "C:\Datavideo\se1200\user_data**import**\mems"
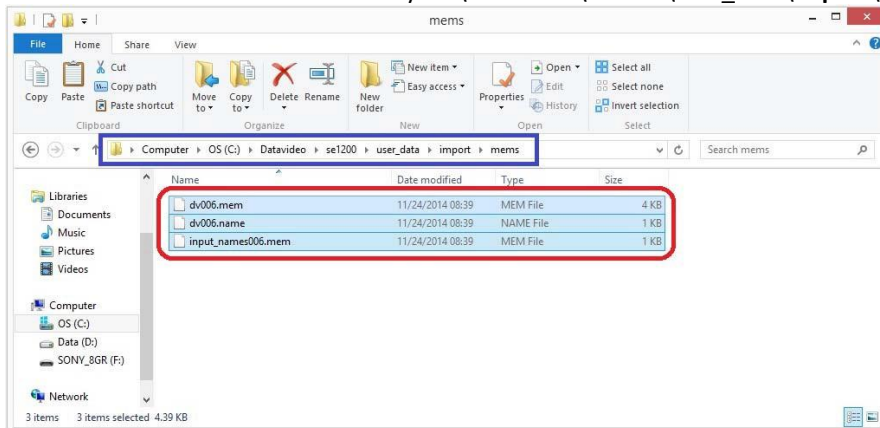
3. Click the **Setup** button on the MENU SELECT panel

4. Click "**Import-Export"** as shown below

5. Click "**Import User"** as shown below

6. Click "**User**" (located at the bottom right hand corner of the screen) to open a pop-up window on which the user is allowed to enter an Import User number and then click the **Enter** button; Click **Import User** (located at the bottom left hand corner of the screen) to start importing the selected User setup

INPUTS Key Functions

Setting Video Inputs

The multiview screens are initially labelled **Input 1-6, SDI OUT1 and SDI OUT2** by default. These labels may be changed accordingly and the label text length is limited to not more than 16 characters.

1. Click the **Inputs** button on the **MENU SELECT** panel

2. Select a channel to edit

3. After entering the selected channel, locate and click "**Change – Name**" at the bottom right hand corner

4. An onscreen keyboard will then be displayed. Enter the desired channel name in the text bar on the onscreen keyboard. Click on the "**Back**" button to delete. After the new channel name is entered, click on the "**Enter**" button and the onscreen keyboard should disappear. Your new label should now appear on the Multiview Screen.
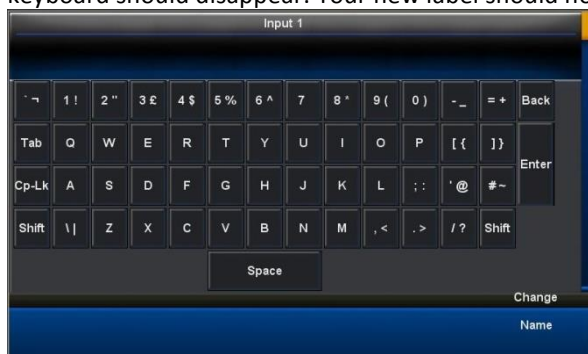
5. Click "**Proc Amp**" to configure **"Black Level"**, "**White Clip"**, and "**Chroma Gain"** for each input

6. Click the "**Inputs Remapping"** to set crosspoint

The SE-1200 MU has six input channels, which are mixed in different combinations. In the example illustrated below, the SE-1200 MU setting is configured by enabling the desired video input channels and feeding the enabled combination to the corresponding input channels.

Input Remapping

Crosspoint Select
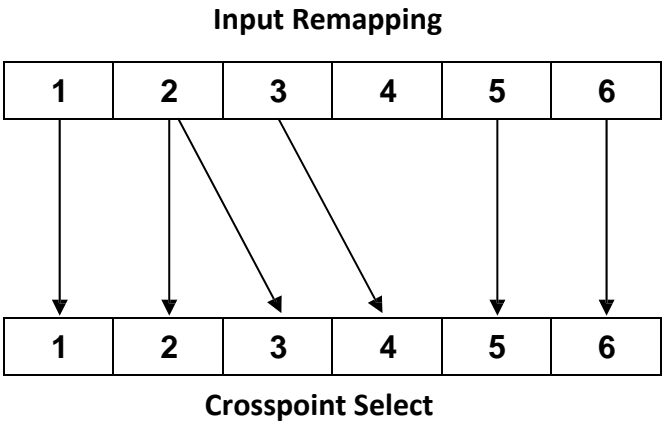
Description of the above configuration example:

- Input 1 is remapped to CH1 only.
- Input 2 is remapped to CH2 & CH3.
- Input 3 is remapped to CH4 only.
- Input 5 is remapped to CH5 only.
- Input 6 is remapped to CH6 only.

OUTPUTS Key Functions

Setting Video Outputs

1. To assign the output type to the output, click the **Outputs** button on the **MENU SELECT** panel.

2. Assign one of the output types listed below to SDI 1 Out, SDI 2 Out and HDMI Out:
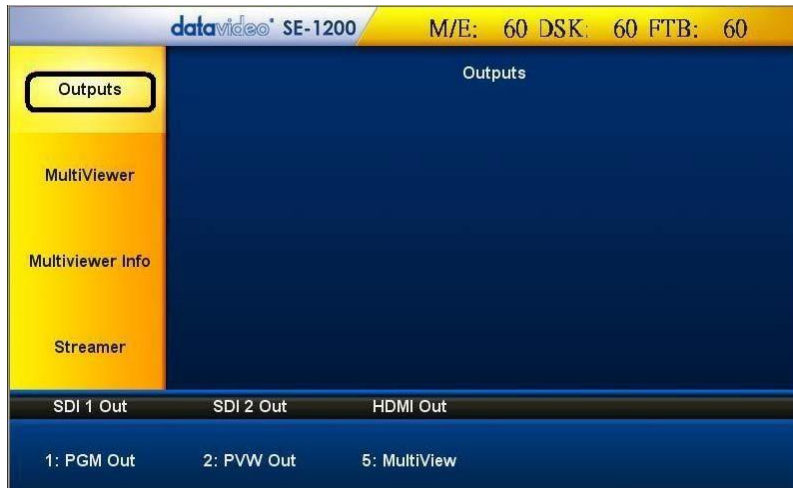
1. Multiview
2. PGM Out
3. PVW Out
4. PGM DSK1
5. PVW DSK1
6. Clean PGM
7. Clean PVW
8. Input 1
9. Input 2
10. Input 3
11. Input 4
12. Input 5
13. Input 6

Setting MultiViewer

This option allows the user to choose the contents of the **Main Screen 1 (Main 1 Src) and Main Screen 2 (Main 2 Src)**. Click Main 1 Src or Main 2 Src to select the source from the list below:

1. PGM Out
2. PVW Out
3. PGM DSK1
4. PVW DSK1
5. P-in-P

Other than the main screen settings, the user can also turn ON/OFF Auto Number (Auto Num), Label Information (Label Info) and Transparent Labels (Transp Labels).

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Setting GPI Out

Click **GPI Out** to configure GPI settings
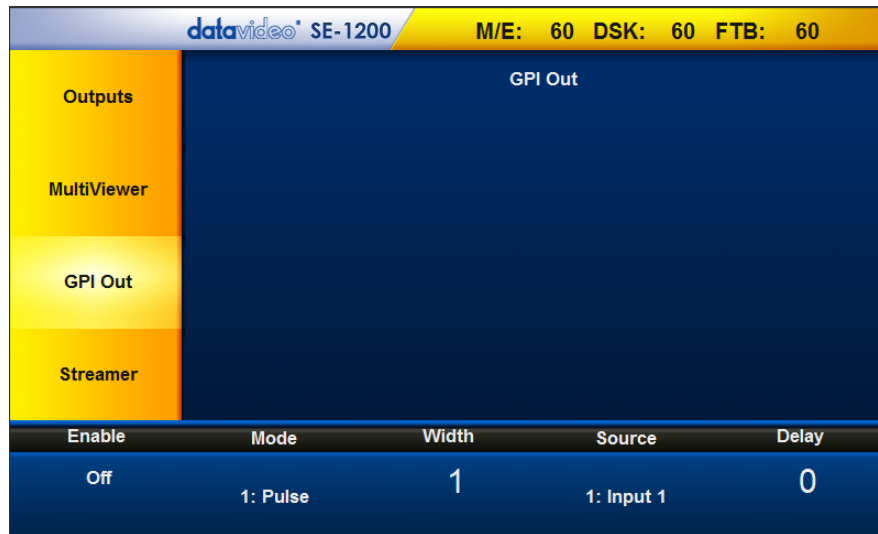
Click "**Enable**" to turn ON/OFF GPI Out and configure other GPI-related settings listed below:

- Mode: Pulse/Level
- Width
- Source: Input 1-6
- Delay

Setting Streamer

Click "**Streamer**" to configure the stream settings; the user can set the **Stream Size** (Full/Half/Quarter/Sixth) in this option. Click **Stream Start** to start the stream and click **Stream Stop** to stop the stream.
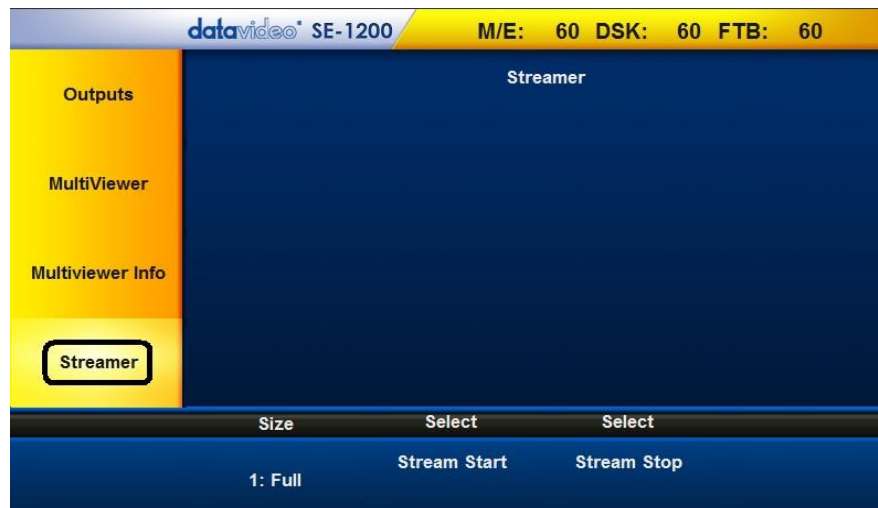
Video Streamer Outputs

The SE-1200 MU is capable of streaming the multiviewer over LAN network. Please connect using Ethernet cable and do not use wireless connection. If wireless connection is required, please use 5 GHz. Steps to launch a successful video streaming over LAN network are outlined as follows.

1. Click "Stream Start" as depicted below to enable streaming function
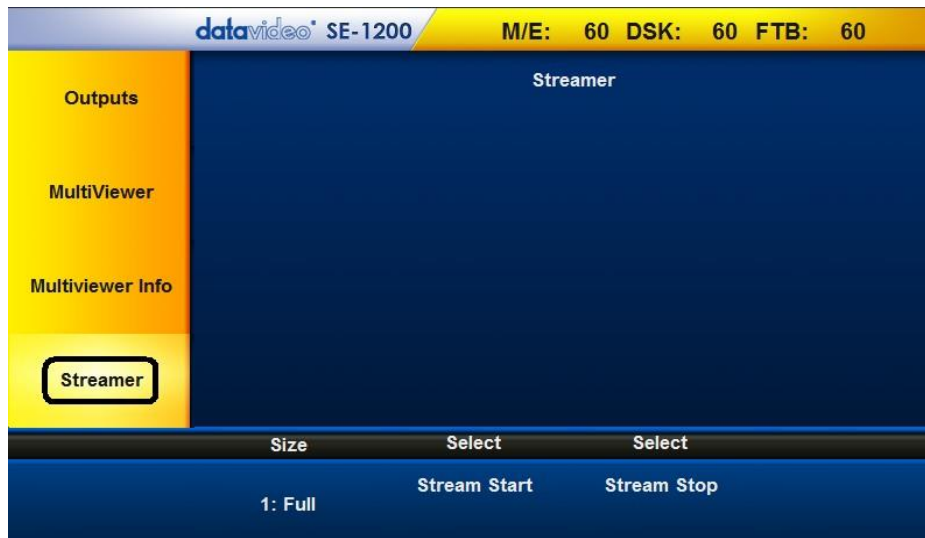
2. Please download the VLC media player software (Ver. 2.1.5)

3. Click the icon to start the installation wizard

4. Follow the installation wizards to complete the installation.
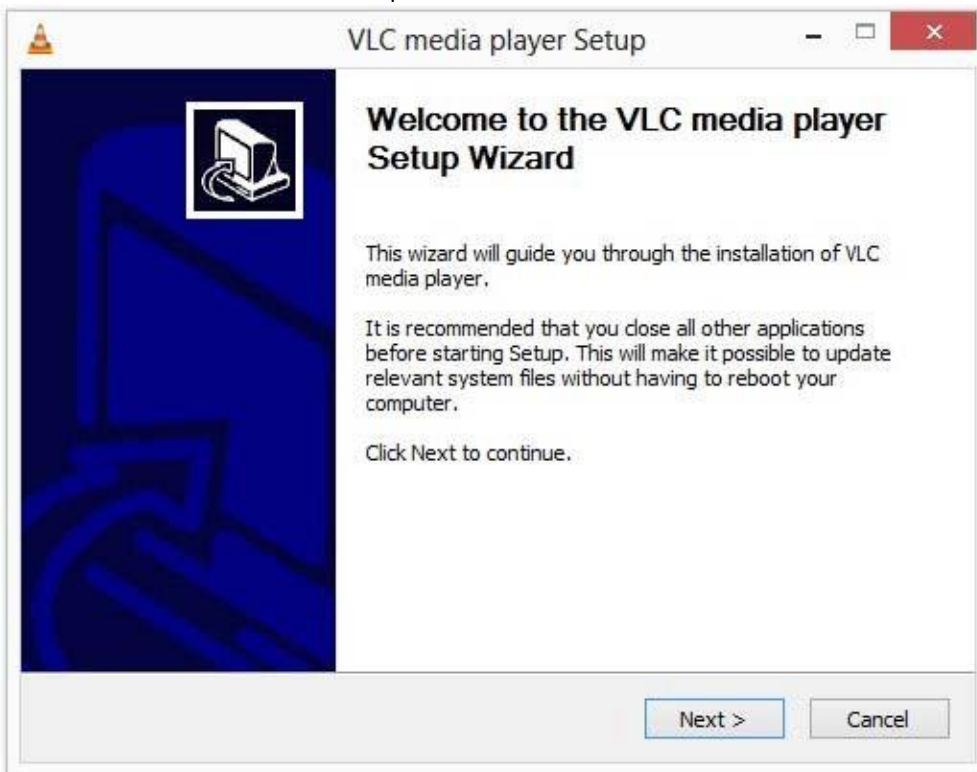
5. After the VLC media player is successfully installed, start the program by clicking the icon placed on the desktop.

6. Click **"Media"** to open a menu
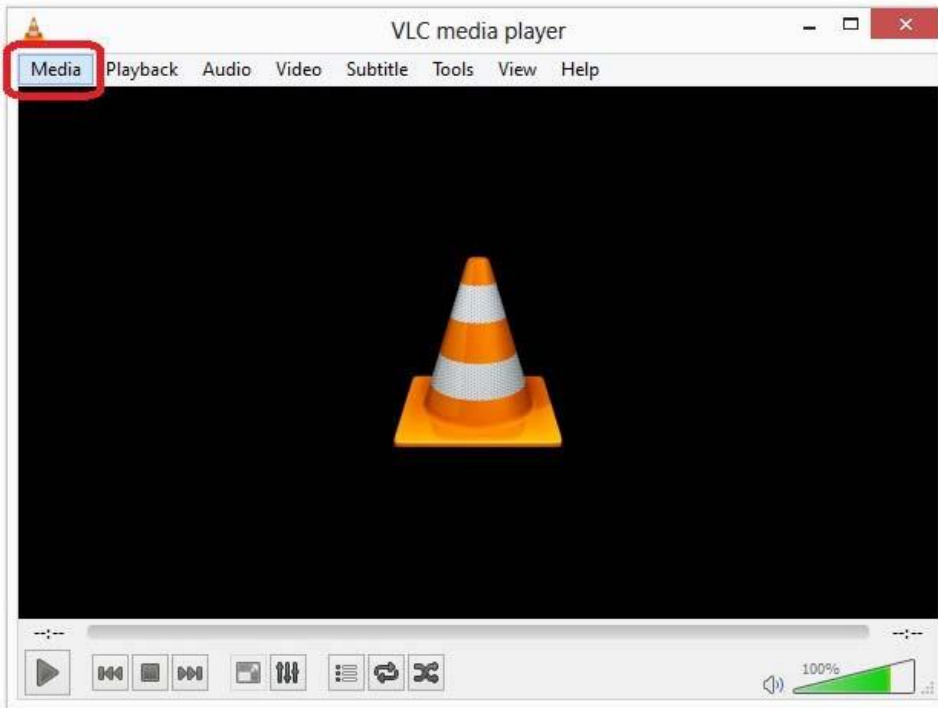
7. Select **"Open Network Stream…"** to open a configuration window
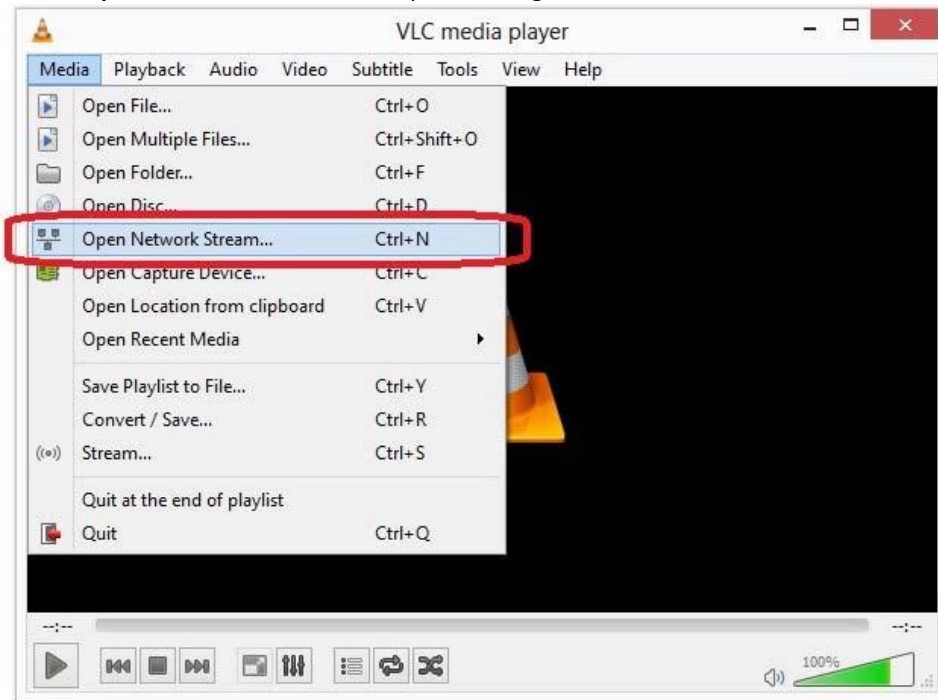
8. Enter the network URL (**e.g. tcp://192.168.1.101:5000**) in the text bar and set caching time to **50ms**
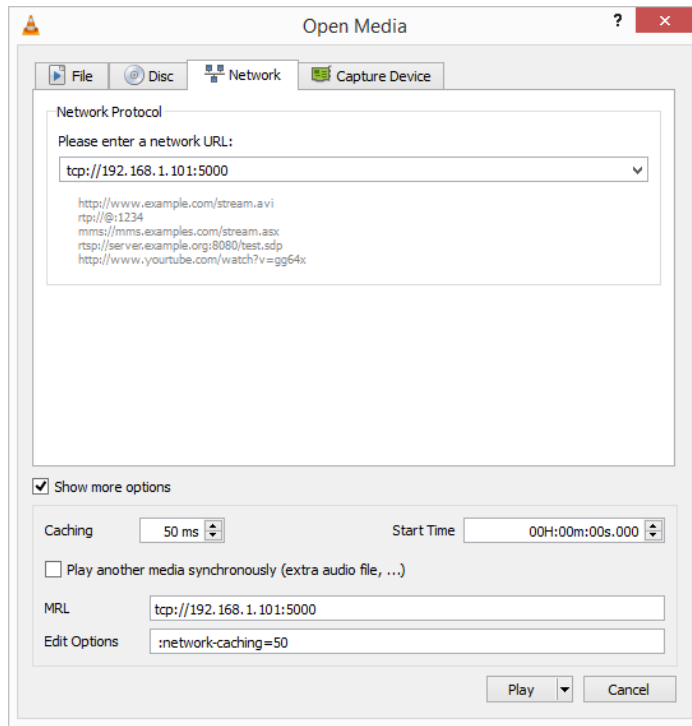
9. Click the "**Play**" button

AUDIO Key Functions

AUDIO option allows the user to configure the Audio Settings of the SE-1200 MU, whereby the user can set the audio mode and audio source as well as enable/disable audio component of SDI and HDMI output ports.

1. Click the **AUDIO** button on the **MENU SELECT** panel

2. The Audio parameters are shown at the bottom of the screen.

3. The "**Audio Mode**" allows the user to set the audio mode: Off, Digital, Analog or Test.

4. The "**Audio Source"** allows the user to set the audio source: Audio Follow or Input1~4.

5. Click **SDI1 Out/SDI 2 OUT/HDMI Out** to **enable/disable** audio component of the corresponding port.

HOME Key Functions

Click the **HOME** button on the **MENU SELECT** panel

Three options are available and can be found at the bottom of the Screen: **ME Trans**, **DSK Trans** and **FTB Trans**. The values below each of these transition options represent the length of the transition in **frames**.

ME Trans

Sets the transition length of the **AUTO TRANS** button when using a **MIX** or **WIPE** transition

DSK Trans

Sets the transition length of the **DSK TRANS** buttons for transition between two different DSK sources

FTB Trans

Sets the transition length of the **FTB** or **Fade to Black** button

WIPE Key Functions

The SE-1200 MU offers the user 32 different WIPE effects.

To select a Wipe transition, click the **Wipe** button on the **MENU SELECT** panel. Make sure the **Wipe** and **Bgnd** buttons are turned ON.

16 WIPE effects will then be displayed on the screen as shown below. The user can then use the up/down arrow keys to browse through all 32 Wipe effects.
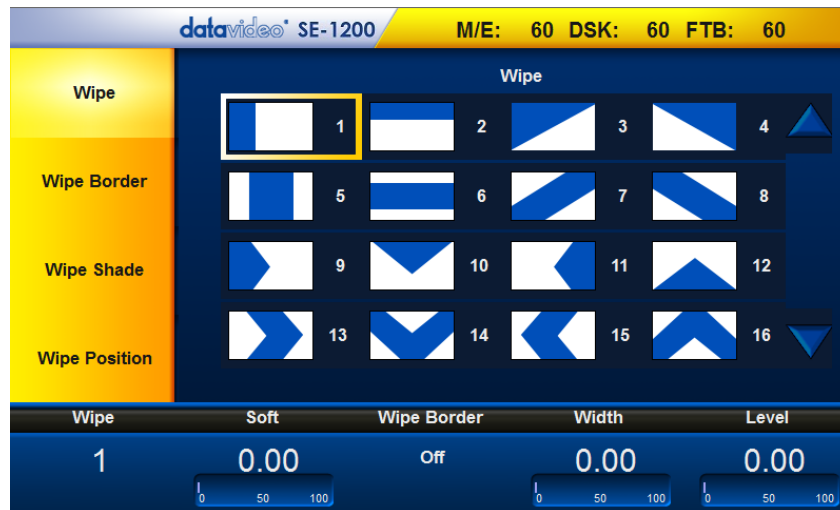
The yellow area on the left of the Wipe Main Menu screen shows four Wipe setup options:

- **Wipe**
- **Wipe Border**
- **Wipe Shade**
- **Wipe Position**

Options at the bottom of the Wipe Main Menu screen are:

- **Wipe (Wipe Number)**
- **Soft**
- **Wipe Border**
- **Width**
- **Level**

Each Wipe symbol consists of blue and white colors. The white represents the current Program image and the blue represents the WIPE-IN image. The symbol gives the user an idea of what the selected wipe will look like when applied to the screen. The user is also allowed to test the effect of a chosen **Wipe** transition on the Preview Monitor.

Wipe

To select a WIPE, click **Wipe** located at the bottom left hand corner and then enter a wipe number using the on-screen keypad. The current or selected WIPE will be highlighted by a yellow border around it.

Soft Value

This value softens the leading and trailing edge (A+C) of the wipe as shown in the diagram below. A low value yields a sharp or hard wipe edge. A large value yields a softer or diffused wipe edge.
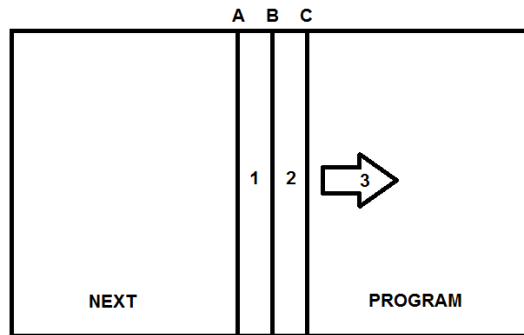
Wipe Border

This option enables/disables Wipe Border.

Width Value

This value determines how wide the actual wipe effect is. A low value makes a narrow wipe (A and C move closer together). A large value makes a wider wipe (A and C move further apart). A value of 10 would be the wipe being 10% of the width of the screen.

Level Value

This value relates to how far the wipe has travelled across the screen and changes as the **T-Bar** is moved or the **AUTO TRANS** feature progresses.

Wipe Border

The **Wipe Border** parameters and the values are currently shown along the bottom of the display below. This feature allows the user to configure the Wipe Border Matte.

Color Palette

The Color Palette allows selection of a color for the Wipe Border Matte. Click on the Color Palette to show the currently selected color which is displayed in the square box with the RGB values calculated on the right.

Luma, Sat and Hue values

The color of the Wipe Border Matte can also be configured by adjusting the **Luma, Sat** and **Hue** values. These values can be fine-tuned using the Function Dials located just below the Screen.

Source Control

Instead of using a color for the Wipe Border, a video source or a still picture could also be used. As the wipe moves along the screen, the image source is partially revealed across the path of the wipe.

Clicking on "**Source"** displays a list of 8 options for the Wipe Border source. Use the Up/Down Arrows to scroll through the list and then click on the desired source. Available options are **Normal** (Single Color Border), **Shaded** (Dual Color Border), or an **Input** from **1 to 6.**

Wipe Shade

In order to achieve **Wipe Shade effect,** the **Shaded Border (Dual Color)** must be first configured by assigning the **Wipe Source** value (refer to the above Source Control section). The **Wipe Shade** parameters and the values are currently shown along the bottom of the display below.

The Wipe Shade Menu allows configuration of the Wipe Shade Matte.

Color Palette

The Color Palette allows selection of a color for the Wipe Shade Matte. Click on the Color Palette to show the currently selected color which is displayed in the square box with the RGB values on the right.

Hue, Sat and Luma values

The color of the Wipe Shade Matte can also be configured by adjusting the **Luma, Sat** and **Hue** values. These values can be fine-tuned using the Function Dials located just below the Screen.

Shade Soft

This blurs or softens the boundary line (B) between the Wipe Shade Matte (area 1) and the Wipe Border Matte (area 2).

Shade Position

The position of the boundary line (B) between the two matte wipe colors (areas 1 and 2) can be adjusted by configuring the **Shade Position** value.

A positive value moves the boundary line so that the Wipe Shade Matte (area 1) occupies less of the width of the Wipe.

A negative value moves the boundary line so that the Wipe Shade Matte occupies more of the overall Wipe width.
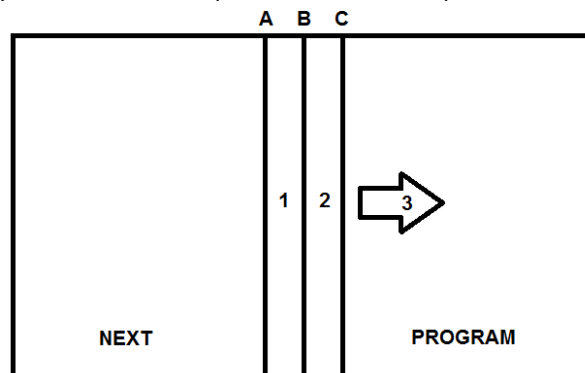
Wipe Position

Position of certain Wipes, such as **Circle** and **Oval**, can be adjusted. The **Wipe Position** parameters and the values are shown along the bottom of the display.

The **X value** allows the selected wipe to be offset to the left or right of the screen. The **Y value** allows the selected wipe to be offset to the top or bottom of the screen.

STILLS Key Functions

The Stills feature allows the user to Grab, Store and Load Uncompressed still pictures on the SE-1200 MU. This feature is generally used following the use of the **Freeze** function. *It is best to enable Multi Image Preview on the monitor(s) so that you can see the Program output and any captured still images at the same time. See **Multi Image Preview**.*

To start using the Stills feature, click the **Stills** button on the **MENU SELECT** panel

Still Load

The "**Still Load**" feature allows stills already stored in the SE-1200 MU to be loaded to either one of the Still 1 ~ Still 6 buffers.

Click "**Still Load**" on the yellow area located on the left of the Stills Main Menu screen. After clicking the "**Still Load**", thumbnail pictures of up to 16 saved stills can be displayed at a time. If there are more than 16 stills stored in the SE-1200 MU, then use the Up/Down arrows on the right to browse rest of the saved stills. The stills are shown in the numerical order, and unused numbers will not be shown. The selected still is highlighted with a Yellow border around it.

To load a still, the user can simply click on the desired thumbnail picture, or select it by entering the Still number and then click "**Load Still"**

The selected still will then be loaded into the chosen still buffer. In the above example, Input 1 buffer has been loaded with still number 3.

Grab and Save

The Grab & Save feature of the SE-1200 MU allows the user to create new Still Images of the **current Program video image** and save the grabbed image to the internal stills buffer of the SE-1200 MU.

- Click "**Grab Still**" to grab Program Output to a Still buffer
- View the Multi Image Preview and decide if the grabbed still should be saved
- To Save a Still from the Still buffer, the user should select an unused Still number first and then click "**Save Still'**
- The save process takes approximately 4 seconds, after which the new thumbnail picture will be shown in the Stills display with its corresponding still number.
- In addition, the still name or its description can also be added using the "**Name**" function.

Delete

To delete a saved still, click on the thumbnail picture of the still that is no longer needed and the selected still will be highlighted with a yellow box around it. Click on "**Delete**" located at the bottom of the screen to remove the selected still from the SE-1200 MU memory.

KEYER Key Functions

Keyer Control
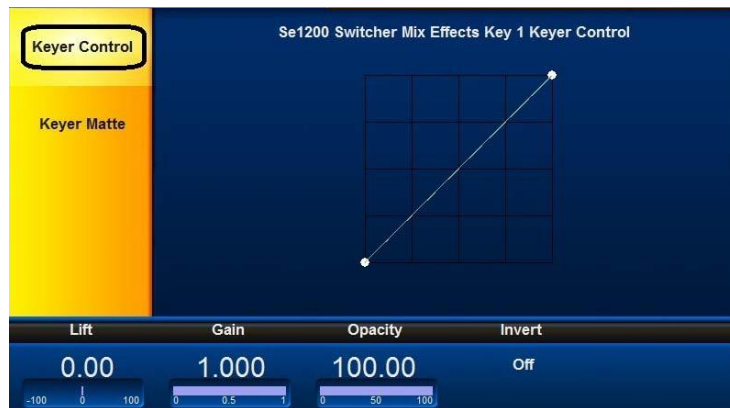
Lift: configures dark/black areas in the key image/source feed.

Gain: configures light/white areas in the key image/source feed.

Opacity: configures how transparent the overall foreground key image/source is.

Invert: reverses the effect the current Luma Key settings. Hence, if you can currently see the background video through the dark areas of the key image/source feed, then enabling Invert would make the background video seen through only the light/white areas instead.

Keyer Matte

1. Locate **Color Palette** which allows selection of a color for the Keyer Matte.
2. Click on the Color Palette and the crosshair to display the currently selected color with its RGB values shown on the right.
3. **The Luma value** determines how bright or dark the selected color or hue is. The **Luma** value can be adjusted by the **Luma Function keypad**.
4. **The Sat or Saturation value** moves the crosshair from the center of the color palette to the outer edge. The **Sat** value can be adjusted using the **Sat Function Keypad**. If the **Hue** angle is set to 180 degrees then the **Sat** value determines how much Cyan is in the matte.
5. **The Hue parameter** moves the crosshair around the color palette in the clockwise or anti-clockwise direction. The Hue value/angle can be adjusted using the **Hue Function dial**.
6. Certain color hues can be found at certain angles on the color palette. For instance, Red is 0 degrees (12 o'clock position), Green is approximately 120 degrees (4 o'clock position) and Blue is approximately 240 degrees (8 o'clock position).
7. Once the correct keyer has been chosen and set up correctly, the **Matte** function can then be switched on by clicking the **MATTE** button on the **KEYER CONTROLS** panel.

Luma Key Quick Set Up

In this example, we will be supplying the SE-1200 MU with an HD-SDI background feed on **input 2**; click button with the **STILL** source on the **Aux Bus row** and this will be used for Luma keying a static white shape over the video from input 3. We have already assigned a still with a black/dark background and white or light colored text to the **STILL1** buffer.

Step 1: Choose the Keyer channel that you want to use. In our example, we will click the **Key 2** button on the **AUX BUSES** panel.

Step 2: Choose the type of Keyer you want to use. In our example, we will click the **Luma button** on the **KEYER CONTROLS** panel.

Step 3: Select the foreground video source to be keyed. In our example, we want to use the **STILL 1** source to overlay some text. Hence, click **STILL 1 source** on the **Aux Bus Row** so it is **backlit Green**. We have also chosen button 2 on the Program row as our background video.

Step 4: Turn the keying effect on. Click the **On button** so it is backlit green. In our example, you will now see the selected source button on the **Aux Bus Row** change to **backlit Red**.

Step 5: Make some adjustments to the Luma key. Click the **Keyer button** on the **MENU SELECT** panel and the menu screen will appear as depicted in the diagram on the left.

The options along the bottom of the Screen will now allow you to calibrate for a white or black key using the **Lift**, **Gain**, **Opacity** and **Invert Function Dials** or the Screen.

section will explain the effects of **Lift**, **Gain, Opacity and Invert.**

DSK1 and DSK2 Quick Setup

DSK1 and DSK2 can be used for **Linear** or **Luma** keying only. **Chroma** Keying is not supported on DSK1 and DSK2.

For this example, we will be supplying the SE-1200 MU with a background feed on **button 5**. Select a **CG-350 overlay** input using **button 4** on the **Aux Bus row.**

Step 1: Choose the Keyer channel that you want to use. In our example, click the **DSK 1 button** on the **AUX BUSES** panel**.**

Step 2: Choose the type of **Keyer** you want to use.

Step 3: In our example, click the **Lin button** on the **KEYER CONTROLS** panel.

Note:

If DSK only has one source for key source, press **Self button**

If DSK has two sources for **Fill** source & **Key** source, press **Split button**.

Step 4: Click **Split button** (backlit green), select **key source on AUX BUS Row.**

Step 5: Click **Split button** again (backlit orange), select **Fill** source on AUX BUS Row.

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Step 6: Turn the keying effect on. Click the **On** button so it is backlit green.

In our example, you will now see the selected source **button 4**, on the **Aux Bus Row,** change so it is **now backlit Red**.

Step 7: Make some adjustments to the Luma key.

Click the **Keyer button** on the **MENU SELECT** panel to open the Screen Menu as shown on the left.

Lift: LUMA Key lightness, please set **0**.

Gain: LUMA Key darkness, please set **1**

Opacity: LUMA Key transparency, please set **100**

Invert: LUMA Key invert, please set **Off**

SE-1200 MU Keying layers

The SE-1200 MU has 4 dedicated keyers, Key1, Key2, DSK1 and DSK2. All four keyers can be active simultaneously. Key 1 & Key 2 are M/E keyers which can be set Upstream or Downstream of the M/E Wipe/Mix Transition using the Transition Controls. DSK 1 & DSK 2 are always Downstream of the M/E Transition. The Layer priority of Key 1 & Key 2 can also be set by the user using the Priority Transition Button, and the Top button on the Keyer controls section. See diagram below for an example of keyer layering.
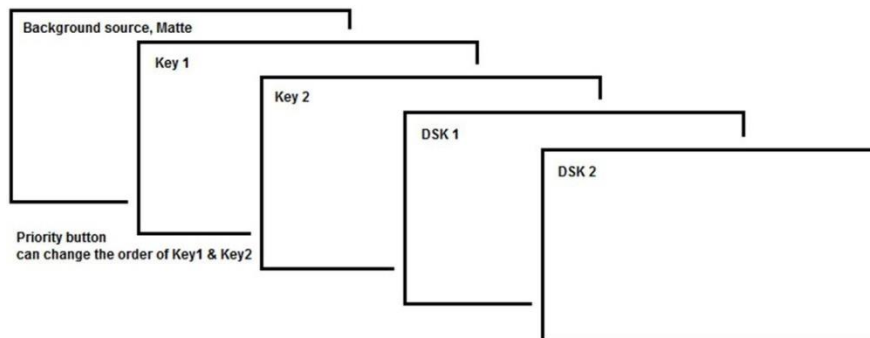
For details on how the order of Key1 & Key2 can be changed, please refer to the section.

CHROMA Key Functions

Overview

The Chroma Key feature of the SE-1200 MU is easy to use. Typical Blue and Green screen studios can be quickly incorporated into an SE-1200 MU production.

First of all, we will go over some basics, and then we will describe the **Control Panel buttons** and finally **a simple green backdrop** setup for illustration purpose. For those of you who need a quick review, the following are a few Chroma Key basics.

A good foreground image helps generating a good key
The **camera**, **backdrop** and **lighting** all play an important role in producing the optimal Chroma Key result. Although the SE-1200 MU is equipped with excellent keying controls, it is still always best to start with an optimal keyable image.

Three Chip Camera
We strongly recommend the use of a three chip (or CCD) camera for Chroma Key shooting. The extra image clarity and the good color separation that a three chip camera produces really do improve the quality of the subsequent keying.

White Balance the Camera
White Balance is extremely important when setting up a chroma key studio. The camera must be correctly white balanced to minimize the subject picking up any color cast from the background. Of course the white balance settings will vary according to the type of lighting you are using, but neutral whites and good skin tone color are the all-important targets.

To set the white balance you will need a white reference card (or a sheet of white paper). Focus the camera on the reference card and light it evenly using the main light. Set the camera's iris / aperture so that the card is correctly exposed. Use the Auto White Balance (AWB) function, or set the white balance manually so that the card appears white. If you are in any doubt about how to white balance your camera, **please refer to your Camera's instruction manual for more details.**

Lighting

Lighting of your chosen green or blue backdrop is extremely important; the more even the lighting on the backdrop the better the finished result. Lighting setups for the foreground subject will vary according to the effect that you want. For chroma keying backdrops, even lighting with no hotspots or shadow areas is the aim. This is easiest to achieve with a setup that looks like this:
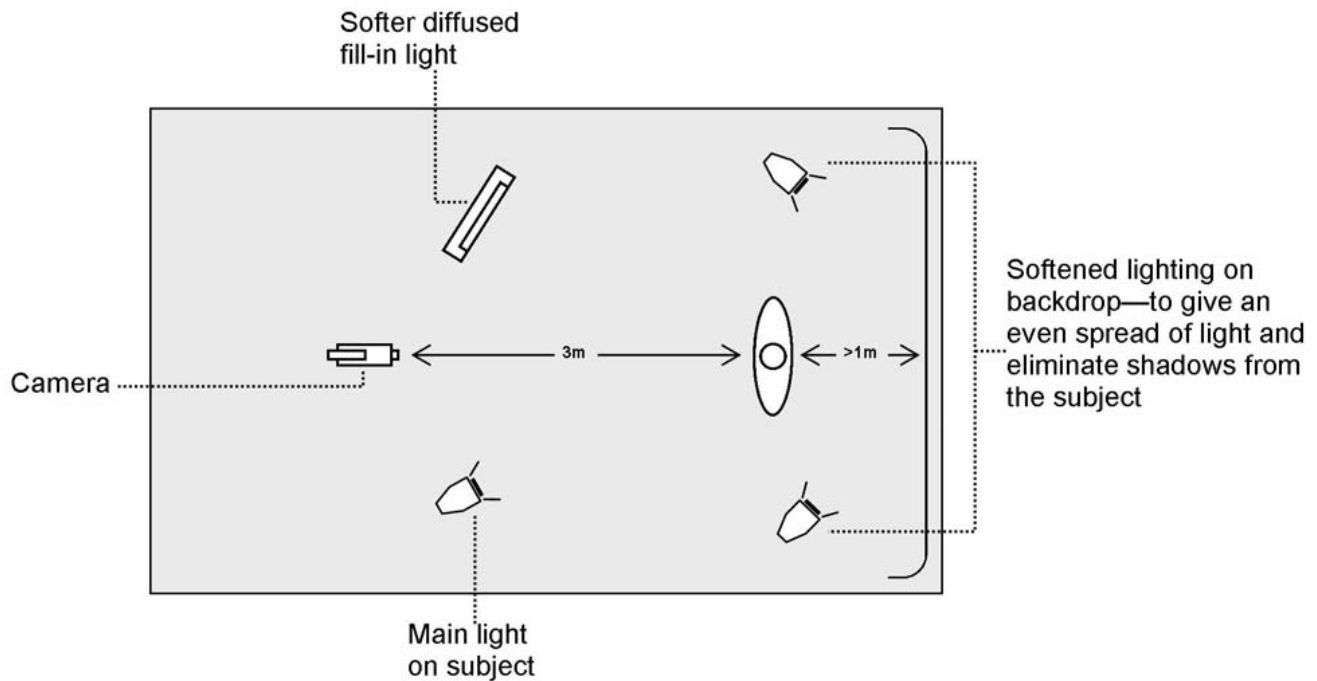
In the diagram, you will see that we recommend a minimum of 1m between subject and backdrop. It is always easier to get more even lighting if the subject is farther away from the backdrop. The foreground lighting on the subject will obviously vary according to the effect that you are looking for and as long as the backdrop is evenly lit, this should not be a problem.

Chroma Matte

This matte sets the center of color range that will be used for keying. The **Chroma Matte** parameters and the values are shown along the bottom of the display below.

The **Hue** can be configured by moving the crosshair around the color palette in the clockwise or anti-clockwise direction. The Hue value can be adjusted by using the **Hue Function dial**.

Certain color hues can be found at certain angles on the color palette. For instance, Red is 0 degrees (12 o'clock position), Green is approx. 120 degrees (4 o'clock position) and Blue is approx. 240 degrees (8 o'clock position). Secondary colors are Yellow at 60 degrees, Cyan at 180 degrees and Violet at 300 degrees.

The **Luma** value relates to how bright or dark the selected color or hue is. The **Luma** value can be adjusted using the **Luma Function dial**.

The **Opacity** setting affects how transparent the overall foreground key image/source is. Increasing the value of Opacity makes the overall key image less transparent.

Chroma Key Ctrl

The **Chroma Key Ctrl** parameters and the values are shown along the bottom of the display below. Two color palettes, **Main** and **Chroma,** are shown in the diagram below. The **Main** palette corresponds to values of **Key Acceptance** and **Key Lift**. The **Chroma** palette corresponds to the **Color Spill** settings.

Key Acceptance is represented on the **Main** Palette as a sector or area covering a range of hues or colors that closely match the background color to be keyed as set in **Chroma Matte**. The user can start with a value of 120 degrees and this value can be fine-tuned up or down using the **Key Acceptance** depending on the setup of the green or blue screen studio.

Key Lift is represented on the **Main** Palette as a line extending from the center point in the direction of the Key Acceptance sector. This value affects the performance of the Chroma key in **dark or black areas**. If the dark areas of the video are becoming too transparent, then applying more **Key Lift** may help depending on the setup of the green or blue screen studio. This value can be fine-tuned up or down using the **Key Lift Function Dial.**

Key Gain affects the performance of the Chroma key in **light or white areas**. If the light areas of the video are becoming too transparent then applying more **Key Gain** may help depending on the setup of the green or blue screen studio. This value can be fine-tuned up or down using the **Key Gain Function Dial.**

Color Spill

The **Color Spill** parameters and the values are shown along the bottom of the display below. These settings are used to control/remove any unwanted Chroma Spill from the background onto the foreground. There are two sectors drawn on the **Chroma** palette, one represents the wider **Chroma Acceptance** range and the other a narrower **Chroma Suppress** range.

Chroma Acceptance sets the amount of the available color range or space that should be **Chroma suppressed**. Usually starting with a large value of 120 degrees should produce reasonable results. This value can then be fine-tuned up or down using the **Chroma Acceptance Function Dial** depending on the setup of your green or blue screen studio.

Chroma Suppress, when set to 0%, removes the hues or colors that lie only on the same axis as the **Chroma Matte** Hue angle. This setting has the effect of removing Background color spill, but keeping the underlying hue. When set to 100% then all the Chroma values that are 'captured' within the Chroma **Acceptance Angle** are suppressed to mono – i.e. they have their Chroma removed. Usually starting with a value of 50% should produce reasonable results. This value can then be fine-tuned up or down using the **Chroma Suppress Function Dial** depending on the setup of your green or blue screen studio.

The **Bgnd Suppress** Control is used to remove the Luma (brightness) of the background from the final image. If the Chroma Key Output is showing Light Edges, then the **Bgnd suppress** can be used to suppress any background Luma that is showing through on these edges.

Saving the Chroma Key Setup

Once you are done with the Chroma Key setup, remember to **save your current user setup**. In this way, several Chroma Key setups are saved to different user memory slots, thus allowing you to switch from a Blue screen setup to a Green screen setup instantly.

Chroma Key Quick Setup

Step 1: Choose the desired Keyer channel. In our example, click **Key 1** button on the **AUX BUSES** panel.

Step 2: Choose the type of Keyer you want to use. In our example, click **Chroma button** on the **KEYER CONTROLS** panel.

Step 3: Select the foreground video source to be keyed. In our example, we want to use the green screen source connected to Input 5, so click **button 5** of the **Aux Bus Row** such that it is **backlit Green**.

Step 4: To turn the keying effect on, click **On** button so that it is backlit green. In our example, you will now see the selected source **button 5** on the **Aux Bus Row** changes so that it is now **backlit Red**.

Step 5: Make some initial adjustments to the key.

Click **Chroma button** on the **MENU SELECT** panel**.** Choose **Quick Setup** on the Yellow menu bar located on the left of the Screen.

The parameters along the bottom of the Screen will now allow you **to quickly calibrate for a basic green or blue key**.

You can then move on to **fine tune the key using Chroma Key Ctrl** and **Color Spill** options.

MASK Key Functions

The Mask feature allows the user to configure the Mask on the SE-1200 MU in either Chroma mode or Luma mode.

1. Click the **MASK** button on the **MENU SELECT** panel

2. Make sure the correct Keyer is enabled (backlit Green) on the **Aux Buses** panel

3. Once the correct keyer has been chosen, the Mask function can then be enabled by clicking the **MASK button** on the **KEYER CONTROLS** panel.

4. The Mask parameters are displayed along the bottom of the screen.

5. The **Left, Right, Top & Bottom Function dials** allow the user to set the **Left, Right, Top & Bottom** edges of the keyer mask.

Note: These mask edges are fully transparent during the keying process. This is helpful if the blue or green backdrop does not occupy the whole foreground shot. It is also helpful if only a small area of the foreground image is being Luma keyed. Each value is based on a percentage of the screen width or height, thus 0% indicates no mask edge and 50% means masking half of the screen area.

MATTE Key Functions

Matte option allows the user to configure the matte. The configuration steps are described below:

1. Click the **Matte** button on the **MENU SELECT** panel

2. The **Bus Matte** parameters are shown at the bottom of the screen.

3. Locate **Color Palette** which allows selection of a color for the Bus Matte.
4. Click on the Color Palette and the crosshair to display the currently selected color with its RGB values shown on the right.

5. **The Luma value** determines how bright or dark the selected color or hue is. The **Luma** value can be adjusted by the **Luma Function keypad**.

6. **The Sat or Saturation value** moves the crosshair from the center of the color palette to the outer edge. The **Sat** value can be adjusted using the **Sat Function Keypad**. If the **Hue** angle is set to 180 degrees then the **Sat** value determines how much Cyan is in the matte.

7. **The Hue parameter** moves the crosshair around the color palette in the clockwise or anti-clockwise direction. The Hue value/angle can be adjusted using the **Hue Function dial**.

8. Certain color hues can be found at certain angles on the color palette. For instance, Red is 0 degrees (12 o'clock position), Green is approximately 120 degrees (4 o'clock position) and Blue is approximately 240 degrees (8 o'clock position).

FREEZE Key Functions

This feature freezes a selected Input (Inputs 1 to 6) in order for the user to capture a good **Stills Grab** from the input. The input to be frozen is best displayed on the **Program monitor** by selecting it on the Program source row. The video can then be displayed for the user to freeze the image at the right point.

NOTE: the **STILLS** grab feature only captures images from the Program output.

Details of the FREEZE key functions are described below.

1. Click the **Freeze** button on the **MENU SELECT** panel

2. After clicking the Freeze button, you will then see 6 input slots displayed on the screen. Click on the input that you wish to Freeze.

3. The Freeze parameters will then be displayed along the bottom of the screen. Click on the **Mode** option located at the bottom left of the screen to enable/disable the freeze.

4. The Freeze Mode located at the bottom right of the screen can be set to a full **frame** or one **field**.

Note: Remember to turn the Freeze function off after you have finished using it.

Freeze – Still

Please refer to the example below if you would like to set the input channel source to the still picture.

1. Click the **Stills** button on the **MENU SELECT** panel.

2. Click "**Still Load**", and then select **Input 1** for the **Still Buf** and enter **0** for the **Still** as shown in the diagram below

3. Click the **Freeze** button on the **MENU SELECT** panel

4. After clicking the Freeze button, you will then see 6 input slots displayed on the screen; click on Input 1

5. The Freeze options are shown along the bottom of the screen.

6. Select the **Still** and **Frame** for the respective modes

P IN P Key Functions

The user-defined output allows a choice of background image/video plus two optional PiPs which can be sized, rotated, positioned and cropped. The PiP window can also have user-defined colored borders too. Configuration steps are described below.

Step 1: Choose the desired Keyer channel. In our example, **Key 2** button on the **AUX BUSES** panel is clicked.

Step 2: Click **PinP** button to enable PiP function (backlit green); user is allowed to define the PiP source on the **AUX BUS row** of the **SOURCES** panel**.**

Step 3: Turn the keying effect on by clicking the **On** button (backlit green)

Step 4: PiP parameters are displayed in the yellow menu area: Position, Crop, Border and Size.

PIP Position

The Position parameters and the values are shown along the bottom of the screen.

The X and Y values change the location of the PiP image. The X value moves the image left and right. The Y value moves the image up and down. The Z value adjusts the PiP image size.

- The user can **click and hold the** [joystick icon] **joystick** and then twist or rotate the joystick in the desired direction.
- Left-clicking in the Joystick area allows the PiP to be moved in the X & Y directions (i.e. the X & Y position can be changed)
- Right-clicking in the Joystick area allows the Z value (image size) to be changed easily
- Click the **FINE** button to enable/disable fine-tune adjustment.
- Click the **NORM button** to return the selected PIP image to the factory default position and values.

PIP Border

The PIP Border options and values are currently shown along the bottom of the display below.

Luma, Sat, Hue and Size values define the PIP border.

1. **The Luma value** determines how bright or dark the selected color or hue is. The **Luma** value can be adjusted by the **Luma Function keypad**.
2. **The Sat or Saturation value** moves the crosshair from the center of the color palette to the outer edge. The **Sat** value can be adjusted using the **Sat Function keypad**.
3. **The Hue parameter** moves the crosshair around the color palette in the clockwise or anti-clockwise direction. The **Hue** value/angle can be adjusted using the Hue Function dial.
4. **Size** defines the width or thickness of the color border surrounding the selected PiP. The **Size** value can be adjusted using the **Size Function Keypad**. Increasing the value makes the border thicker but less of the selected PiP image will be seen.

PIP Crop

The PiP Crop parameters and the values are shown along the bottom of the screen as depicted in the diagram below.

Left, Right, Top and Bottom edge values of the crop can be adjusted using the **Left, Right, Top and Bottom Function Keypad. The Size value** evenly crops all edges of the selected PIP at the same time. Sets this value using the **Size Function Keypad**.

USER Key Functions

The **USER** menu button allows you to Store and Recall User Setups on the SE-1200 MU. If you have standard configurations for your productions then this feature can save you a lot of time by not having to re-configure the SE-1200 MU after someone else has used it. The SE-1200 MU allows the user to store up to 1000 User Setups, numbered from 0 – 999.

Storing an user setup to a user memory slot
Steps to storing an user setup to a user memory slot are outlined as follows:

1. Click the **USER** button on the **MENU SELECT** panel

2. Click "Save Memory" and the screen below will appear; customize your setup first

3. Click "User Memory" to set the user memory slot to which the user setup is saved
4. Click "Name" to label the user memory slot
5. Click "Save Memory" to store the setup to the assigned user memory slot

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Labelling an existing User memory slot

In order to allow the user to easily identify the stored setup, the user memory slot can be labelled for future reference. The following outline the steps to label the user memory slot.

1. Click the **USER** button on the **MENU SELECT** panel

2. The Screen Menu will then appear as shown below.

3. The screen displays up to 16 user memory slots at a time. Click on a user memory slot and the selected user slot will have a yellow border.
4. Click "**Name**" at the right hand corner of the bottom of the screen to open an on-screen keyboard and then type a label name for the selected user memory slot. The label name can be up to 16 characters long but only the first 10 letters will be displayed on the User Memories screen.

Note: If there are more than 16 User Setups stored in the SE-1200 MU, then use the up/down arrows to browse through all user memory slots. The user memory slots are displayed in numerical order, and unused numbers will not be shown.

Loading a previously saved User Setup

There are two ways to load a previously saved user setup. The two methods are described as follows:

1. **USER/SHOT BOX Panel**

To load a previously saved SE-1200 MU Setup, simply click the **LOAD** button on the **USER/SHOT BOX** panel and an on-screen number pad will open.

Enter the number of the required setup and then click ENTER

Note: If the user were to save the user setup to one of the first 8 memory slots, then simply click the corresponding button on the **USER / SHOT BOX** panel.

2. "Load Memory" feature in the "User" option on the "MENU SELECT" panel

Another way to load a saved Setup is to enter the "**USER**" option on the "**MENU SELECT**" panel.

The screen displays up to 16 user memory slots at a time. Click on a user memory slot and the selected user slot will have a yellow border. User 0 is the default preset, which is loaded after the SE-1200 MU is booted and can also be used to set the start-up configuration of the SE-1200 MU.
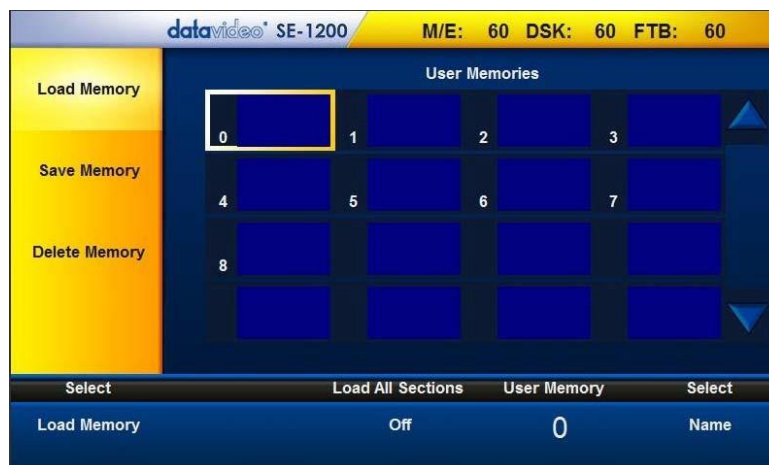
At the left hand corner of the bottom of the screen, click "**Load Memory"** to load the selected user memory slot.

Deleting a User Setup
The user is allowed to delete saved user setups. Below are steps to deleting a user setup.

1. Click "**Delete Memory**" on the yellow menu bar located on the left of the screen

2. To delete an existing User-defined Setup from a particular User Memory slot, click on a user memory slot on the "Delete Memory" screen.
3. Confirm deletion of the selected User Memory Slot by clicking "Delete Memory" located at the bottom of the screen.

Sources Panel

This panel consists of three identical rows of buttons and is used to assign sources or select images for Program or Preset outputs. The buttons are labelled from left to right as Black, sources 1 to 6, and Matte. The way these buttons operate follows industry standard conventions.
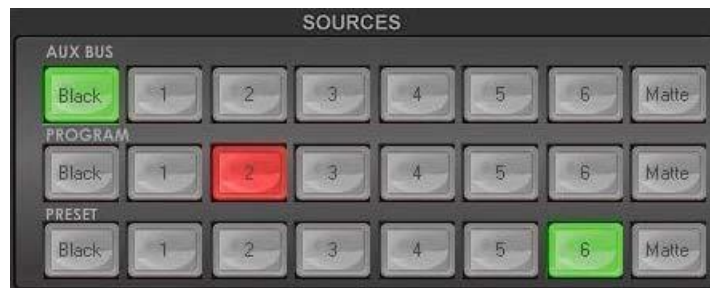
AUX BUS

This row of buttons is typically used to assign sources in the presence of an Auxiliary Monitor, as well as for setup of the Linear, Chroma and Luma Keyer functions.

PROGRAM

This row of buttons is typically used to select sources or images for the SE-1200 MU main Program output. The currently selected source is being sent to the Program output will be **backlit Red**. Simple cuts between sources can be performed on this row by clicking on the source number required for the next shot.

PRESET

This row of buttons is typically used to select sources or images for the SE-1200 MU Preview output. The currently selected source will be **backlit Green**. The selected button on the Preset row will change from Green to Yellow during Preview-Program transitioning using T-Bar.

Transition

The Transition Control controls what the "next" transition (mix, wipe, cut, using Auto or the T-bar) will do, i.e. they specify what is "in the transition."

Transition Panel

The **Transition** panel allows the user to bring the selected Preset source to the Program output. The SE-1200 MU user may determine to use either one of the **Mix, WIPE, Cut** and **AUTO** transitions. In order to use these transition options, the **BGND** (Background) button on the **TRANSITION CONTROLS** panel needs to be enabled (backlit green).

Transition Modes

Mix Button

The **Mix** button is selected when a dissolve or fade transition between the selected Program and a Preset source is required. This **Mix** transition is generated by moving the **T-Bar** manually or clicking the **Auto** button.

Wipe Button

The **Wipe** button is selected when a wipe effect transition between the selected Program and a Preset source is required. This WIPE effect is generated by moving the **T-Bar** manually or by clicking the **Auto** button.

Cut Button

The **Cut** button is used to instantaneously switch between the currently selected Program and a Preset source.

Auto Button

Instead of using the manually operated **T-Bar,** the **Auto** button is used to automatically transition between the selected Program and a Preset source over a set period.

Previewing a selected transition

It is possible to see or test the effect of a selected transition in the Preview Monitor before applying it to the Program output.
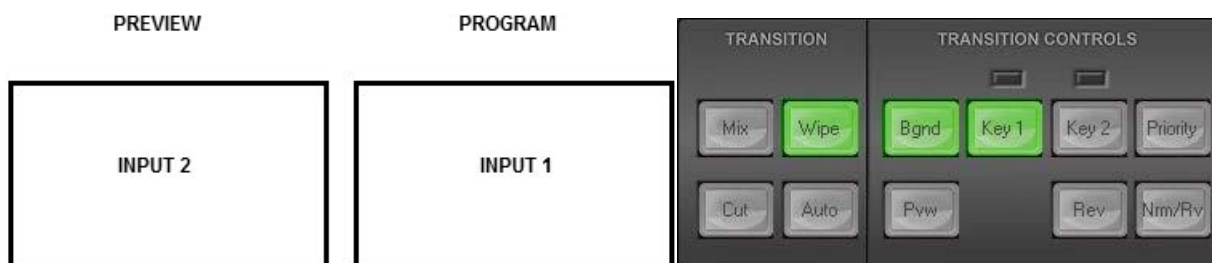
Once the **Pvw** button (TRANSITION CONTROLS panel) is ON (backlit Green), select and apply the transition that you want to test on the Preview monitor. You will also notice that the Preview Monitor switches to the currently selected Program source when the **Pvw** button (TRANSITION CONTROLS panel) is turned on. Do not worry as the selected Preset source has not changed. Click the **Auto** button (TRANSITION panel) or move the **T-Bar** manually to preview the selected transition.

NOTE: Remember to disable the **Pvw button** (TRANSITION CONTROLS panel) before attempting to use the selected transition on the Program output.

Transition Controls Panel

Key 1 and Key 2

Key 1 and Key 2 specify that Keyer 1 or 2 will be transition ON or OFF (i.e. if it's currently on, then it will be off after the transition, and vice versa)

Each KEY button has an LED above it. This LED can be Red or Green. The KEY button itself can be Off or On (back lit Green when On). To understand the relationship between the KEY button and the LED above, try the following example with Key1 already set up as described under the previous Keying sections (Previewing a selection transition).

1. If the KEY1 button is Off and the LED above it is Red, then KEY1 is not active in Program or Preview.
2. If the KEY1 button is On and the LED above it is Red, then KEY1 is currently active in Preview Only.
3. If a CUT, MIX, WIPE transition is performed with the T-Bar or AUTO TRANS button then KEY1 will move to the Program output. Once the transition is complete, the LED above KEY1 will change from Red to Green to confirm the key is currently active on the Program output.
4. If the T-Bar or AUTO TRANS button is used again, then the KEY1 button will remain On but the LED above will change back from Green to Red. KEY1 is now removed from the Program output and is active only in the Preview output.
5. To remove KEY1 from the Preview output, press the KEY1 button so it is off and not back lit Green. The LED above KEY1 should be Red also. This confirms KEY1 is not active in Program or Preview and we are now back at point 1.

The Key2 button and the LED above it perform in exactly the same way as described for Key1.

Once Key1 and Key2 are properly set up, they can both be used separately within the same production or placed over one another so they are both displayed within the Preview / Program output.

Before using the two keys at the same time in a live production, some preparations are required. The best way is to **keep the keys simple**. The user should **decide which key should be on top** and **practice the effect that you want to create** a few days before the live event.

The SE-1200 MU has several buttons for deciding the on-screen order of the Key1/Key2 as well as deciding how the key will enter or exit, from the production. In the following example, we will be using buttons on the **Transition Controls** and **Transitions** panels whilst looking at the Preview and Program monitors.
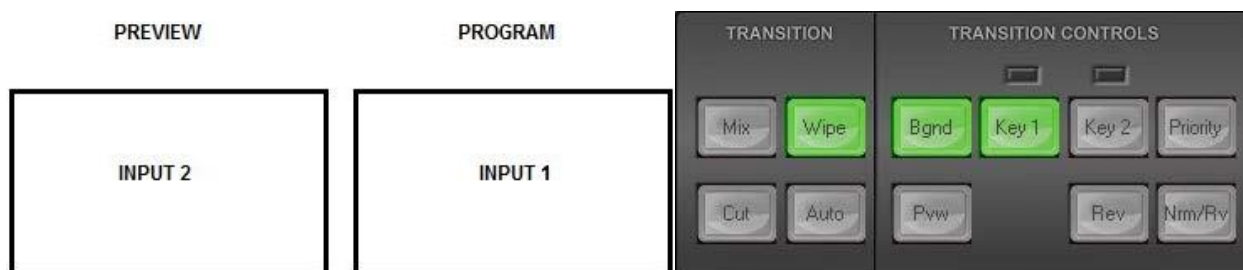
BGND – Background

BGND specifies that the Background will be "transitioned" from the Program source to the Preset Source.

When on (back lit Green), this button includes the background image/video in any chosen transition from Preview to Program. When this button is toggled, or switched off, any Keyer transition chosen will not change the background Program image/video.

PRIORITY Key Function

PRIORITY specifies that the Layer Priority of Keyer 1 & Keyer 2 will be swapped.

When **Key1** and **Key2** are both active in Preview (or Program), they may overlap each other on the screen. Using the **Priority Button** you can change the order of these keyers. The button acts in a toggle on/off way, i.e. **Key1 over Key2** or **Key2 over Key1**.

NOTE: It is best to check and change the Priority of Key1 and Key2 when they are only active on the Preview monitor/output.

Rev and Nrm (NORM) / Rv (REV) buttons

When the **Rev** and **Nrm / Rv** buttons are **OFF**, the selected WIPE transition will operate in its default direction only. When the **Rev** button is **ON** then the selected transition will operate in the reverse direction only.

When the **Nrm / Rv** button is **ON**, the selected WIPE transition will automatically switch directions as each transition is completed. The **Rev** button will switch on and off automatically to indicate the direction of the next transition.

DSK TRANS Panel

 Each DSK button has an LED above it. This LED can be Red or Green. The DSK1 or DSK2 button itself can be off or on (back lit Green when on). To understand the relationship between the DSK button and the LED above, try the following example with DSK1 already set up as described in the section outlining DSK1 and DSK2 Quick Setup.

1. If the DSK1 button is off and the LED above it is Red then DSK1 is not active in Program or Preview.

2. If the DSK1 button is on and the LED above it is Red then DSK1 is currently active in Preview Only.

3. If the CUT or AUTO TRANS button is pressed then DSK1 will move to the Program output. Once the transition is complete the LED above DSK1 will change from Red to Green to confirm the DSK is currently active on the Program output. NOTE: The T-Bar has no effect on DSK transitions.

4. If the CUT or AUTO TRANS button is used again then the DSK1 button will remain on but the LED above will change back from Green to Red. DSK1 is now removed from the Program output and is active only in the Preview output.

5. To remove DSK1 from the Preview output, press the DSK1 button so it is off and not back lit Green. The LED above KEY1 should be Red also. This confirms DSK1 is not active in Program or Preview and we are now backing at point 1.

The DSK2 button and the LED above it perform in exactly the same way as described above.

FTB Key Function

Enable

Enable the Fade to Black function.

FTB

Fade to Black, this button fades the current video program source to black. When clicked again it acts in reverse from complete black to the currently selected program video source.

Keyer Controls Panel

Matte Key Function

When **Matte** is selected on the **KEYER CONTROLS** panel, the current active Key is filled with a Matte color rather than video. The Keyer Matte option allows selection of this Matte color.

Lin Key Function

The Lin or Linear button sets up the keyer so it uses the luminance signals of the selected Key Source.

Top Key Function

The SE-1200 MU is able to show **Key1** over **Key2** or **Key2** over **Key1** if they are both **ON** or active. Use the Top button to decide which Keyer will have **Priority**.

Self Key Function

This mode only applies to Luma Key Mode. The same source is used for both the Key signal and the Fill signal for the Luma Key.

Split Key Function

This mode can be used with both the Luma Key Mode, and the Linear Key Mode. It allows the user to specify different sources for the Key signal and the Fill Signal.

- Button is green: the Aux Bus can be used to select the Key signal
- Button is yellow: the Aux Bus can be used to select the Fill signal

Luma Key Function

- The mode can be used with either Self key mode or Split mode.
- In this mode, the Key signal is taken from the Luma value of the selected Key source.
- Lift & Gain is applied to this Key signal to obtain the desired Key.
- 'S' shaped Key shaping is applied to this Key signal to remove any hard edges that would otherwise be apparent from the Key signal.
- This key signal is then used to Key the foreground Key video and create the opposite key hole in the background.

Linear Key Function

- This mode should only be used with the Split Key Mode.
- In this mode, it is assumed that the Key signal is coming from a device such as a CG.
- The video signal will have been pre-keyed by the CG (i.e. generated over a black background), so the foreground is not re-keyed in this mode (otherwise double keying of the foreground video would occur).
- The SE1200MU still allows Lift & Gain to be applied in case there needs to be some minor adjustment of the key signal (however, normally this should not be necessary if the CG has correctly generated the key).
- Since the Key signal is assumed to be correct for this Video & Key combination, 'S'-shaped key shaping is not applied in this mode.

GPI Connections

The SE-1200 MU can control external recorder/playback devices via simple contact closure GPI switch.

The GPI interface is a 3.5mm Jack Socket which is situated on the rear panel of the SE-1200 MU. Contact closure between the Outer and Inner contacts on the jack plug will trigger a user selected event. Power is supplied by the SE-1200 MU and is less than 5V DC.

3.5 mm Stereo Jack Plug

Contact closure between inner and outer
will send a GPI Trigger
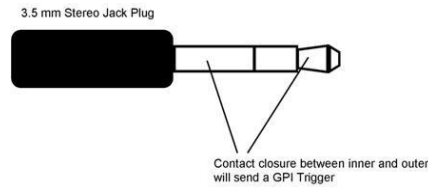
This GPI socket can also be used as a socket to trigger record or playback events with other equipment such as the Datavideo HDR-70 recorder.

SAFETY FIRST The cabling required needs to be designed specifically to connect the SE-1200 MU to the chosen record or playback device as they are not all the same. The cabling required can be made by yourself or a competent technician. Please speak with your Dealer or local Datavideo office to get further help and advice.

Tally Outputs

The SE-1200 MU has a D-sub 25 pin female tally output port. These connections provide bi-colour tally information to a number of other Datavideo products, such as the ITC-100 eight channel talkback system and the TLM range of LCD Monitors. The ports are open collector ports and as such do not provide power to tally light circuits.

The pin outputs are defined as follows:

PIN No.	Signal Name	Input/Output	Description of Signal
1	Program 1	Open collector output	Tally output of input video Program 1
2	Program 5	Open collector output	Tally output of input video Program 5
3	Preview 1	Open collector output	Tally output of input video Preview 1
4	RCOM (GND)	Ground	Ground
5	Program 4	Open collector output	Tally output of input video Program 4
6	Program 2	Open collector output	Tally output of input video Program 2
7	Program 6	Open collector output	Tally output of input video Program 6
8	Preview 2	Open collector output	Tally output of input video Preview 2
9	GND	Ground	Ground
10	Preview 5	Open collector output	Tally output of input video Preview 5
11	Program 3	Open collector output	Tally output of input video Program 3
12	Preview 6	Open collector output	Tally output of input video Preview 6
13	Preview 3	Open collector output	Tally output of input video Preview 3
14	YCOM (GND)	Ground	Ground
15	Preview 4	Open collector output	Tally output of input video Preview 4
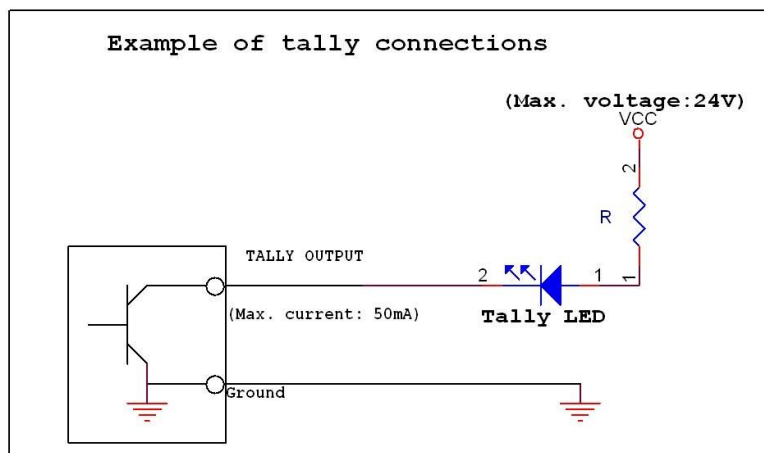
Frequently-Asked Questions

This section describes problems that you may encounter while using DAC-50S. If you have questions, please refer to related sections and follow all the suggested solutions. If problem still exists, please **contact** your distributor or the service center.

No.	Problems	Solutions
1.	**The system hangs when software upgrade, import and export are done over remote control interface.**	Software upgrade, import and export take longer time to complete if done over the remote control interface (Ethernet), approximately 1 to 2 minutes.
2	**Frame store memory is lost after the machine is rebooted.**	The image saved to Frame Store must be loaded into the User Memory so that it will not be lost after power is turned off.
	The PC Control Panel of the version small_v_1.0.0.0 is still partially visible on my computer.	Your screen vertical resolution should be set to at least 768 to fully display the PC Control Panel interface.

Specifications

Datavideo SE-1200 MU HD Switcher	
Connections	
Total Video Inputs	2 (HDMI ver1.3) + 4 SDI
Total Outputs	2 HDMI+ 2 SDI
SDI Video Input	4 (1080i / 720p)
Analog Video Input	N/A
HDMI Video Input	2 x HDMI (RGB/YUV) 1080i / 1080p / 720p
Analog Audio Output	N/A
SDI Audio Output (PGM output)	2CH
Analog Audio Input	2CH XLR
Sync Input	N/A
PGM Out	HDMI / SDI
Multiview Out	HDMI In 720P mode ; MV output by HDMI is 720P In 1080i mode ; MV output by HDMI is 1080P
Output can select any of input source	Program Preview Multiview Input 1-6
Audio Indicator on Multiview	Y (output 2CH)
Down Converted SDI Program Output	N/A
Down Converted Composite Program Output	N/A
Computer Output	Ethernet (Motion JPEG Out)

Tally Out	Y
GPI	Y (Level / Pulse Trigger selectable)
Software Updates	Ethernet
Standards	
SD Format Support	N/A
HD Format Support	1080i50, 1080i59.94, 720p50, 720p59.94
SDI Compliance	SMPTE 292M.(SDI output /PGM out)
Video Sampling	4:2:2 10 bit
Color Precision	4:2:2 10 bit
Color Space	4:2:2 YUV
HDMI Input Resolutions for Computers	1280 x 720 59.94Hz 50Hz (720P) and 1920 x 1080 59.94Hz 50Hz (1080p & 1080i)
Processing	
Color Space Conversion	Hardware based real time
Processing Delay	< 1 frame
Audio Mixer	Selectable audio follow video Master gain control
HD Down Conversion	N/A
Extras	
Downstream Keyers	2
Linear/Luma Keyers	4
Chroma Keyers	2
Analog Genlock	N/A
Pattern Generators	Color Bar
DVE with 3D Borders & Drop Shadow	N/A
PIP	1
XPT	Y

Frame store	24
Control Panel Compatibility	Use PC ; Control panel (optional) by RS-232 / Ethernet
Input Voltage	8V~17V
Power Consumption	12V/19W
Audio Delay	N/A
Control Protocol	DVIP
Multiview Monitoring	
Number of Windows	2+6 (+2 Output windows currently)
Routable Windows	Y (Follow XPT)
Tally	Y
Windows Source Labels	Y

Notes

Notes

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

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Please refer to our website for update the latest version manual.
http://www.datavideo.com/Mixer+-+Switchers/SE-1200MU

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