VJX16-4

16 Channel Video Mixer

User Guide (English)

Before connecting or operating this product, please read this instruction booklet carefully and completely.

SAFETY INSTRUCTIONS

Warning:

To reduce the risk of electric shock, do not open the outer casing. The machine should not be repaired or interfered with by the user. All repairs should be made by a qualified engineer.

The Lightning flash symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the machine's casing that may be powerful enough to cause an electric shock.

An exclamation point inside an equilateral triangle is intended to alert the user to the presence of important instructions in the manual accompanying the product.

Warning:

1. In order to reduce the risk of electric shock or fire, do not expose this apparatus to: rain, water or moisture. Do not place on a humid surface. Do not touch the apparatus, the electrical wires or the adaptor with wet hands.

2. This machine used on its own, or with an amplifier, headphones or loudspeakers, may generate levels of noise that could cause loss of hearing. In the case of hearing difficulties, please seek medical advice.

3. Install the appliance in a well ventilated room. Keep away from any heat sources including radiators and keep out of direct sunlight. Avoid storing the machine in dusty environments.

4. Do not move the machine whilst it is turned on. Unplug all cables from external equipment and from all electrical sources before moving the unit.

5. Install the appliance on a level and stable surface free from vibrations. Store and use the machine at a suitable level of height to minimize risk.

6. In the case of storm, disconnect the power supply.

7. Keep the appliance away from strong electric or magnetic fields (loudspeakers, cathode ray tubes.)

8. Protect the power cable from damage such as being twisted, kinked, trapped in a door or walked on. Pay particular attention to plugs and wall outlets.

9. Take the appliance to a qualified repair person should the cord or connector become damaged, if liquids or objects have entered the machine, if the machine is malfunctioning in any way, if it has been dropped or damaged.

10. Use only the AC adapter supplied by the manufacturer. There is a possibility that the adapter may heat up after a few hours of use – this is normal. Take care not to bend or twist the power cord which could lead to its damage rendering it a danger to use.

11. Connect the power cord to a socket. Plug in the adapter to the power supply, ensuring that the installation is in agreement with the specifications outlined on the adapter's casing.

12. Do not overload the wall outlets. The total power of the connected appliances must not exceed that of the total power allowed.

13. For all inputs and outputs (audio, video, USB, MIDI) you should use cables of less than 3 meters length. Check that the connections are made correctly. Also check that the cables and wires are not damaged and that they are (conformed and homologous)

14. Unplug the appliance before cleaning it. Only use a soft, dry cloth for daily care. Never use benzene, alcohol or any type of solvent.

15. Transport the machine with care in its original packaging or in a flycase.

16. Do not leave a child in charge of the appliance, unless under strict adult supervision.

17. Use all buttons and potentiometers with reasonable care. Using them with unnecessary force will undoubtedly damage them do not use grease or any other substance to lubricate them. Do not place any pressure on the LCD screen window.

Environmental Considerations/Disposal of your old appliance:

1. This symbol of a crossed out wheeled bin signifies that the product is covered by the European Directive 2002/96/EC of 27 January 2003, relating to the restriction of the use of certain hazardous substances in electrical and electronic equipment (WEEE).

2. This appliance contains components that are potentially harmful to the environment and human health. The machine should under no circumstances be thrown away in domestic bins and should be disposed of separately from municipal waste systems, via designated collection facilities.

3. For more detailed information about disposing of your old appliance, please contact your city council, waste disposal service or from the manufacturers of the product.

The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.

Agreement:

For Countries within the European Union (E.U.):
This machine has been made in accordance with the European laws which stipulate the guidelines outlined in 93/68/CEE, 73/23/CEE (relating to electrical equipment designed for use within certain voltage limits) and 89/336/CEE (relating to electromagnetic compatibility).

For Canada:
This class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

For the USA:
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 the 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Information regarding epilepsy:

Exposure to certain images, in particular flashing images can provoke an epileptic episode. This is unlikely to affect people previously unaffected by epilepsy. The symptoms are diverse but are usually characterized by:

- dizzy spells
- visual difficulties
- facial or corporal convulsions
- disorientation
- momentary loss of conscience / blackouts or fainting

Beware of injuries following any blackouts.

If you experience any of these symptoms, stop using the machine immediately and seek medical advice.

Copyright:

1. The recording, use, broadcast, distribution and sale of any audio visual material partial or in its entirety without the permission of the copyright owners, constitutes an infringement of copyright.

2. Do not use the appliance with the aim to infringe the rights of any third party. VIXID does not accept any responsibility for any type of violation of copyright protection laws.

3. VIXID cannot be held accountable for any video mixes containing illegal content.

About The Manual:

1. VIXID reserves the right to at any moment and without prior notification modify the current user manual. For example, typos, errors or omissions but also updates following technical improvements of the hard or software of the machine.

2. The current user manual is the property of VIXID and can in no situation be reproduced partially or in its entirety without the permission of VIXID.

3. Version number is 5.8.2.

Note:

For any questions relating to the safety instructions, please contact the technical support of the re-seller or contact VIXID directly.

INTRODUCTION

Thank you for choosing to purchase the VJX16-4, the ideal tool for all live audio visual performances, offering:

- 16 video inputs,
- 6 video outputs,
- 4 real time video layers,
- A collection of effects for each layer,
- An audio and MIDI interface,

Before installing or using the mixing deck, please ensure that the following articles are present:

- The VJX16-4 Video Mixer
- AC adapter
- Power cord
- A CD
- A Quick Start guide.

Please read the safety instructions carefully before using the VJX16-4.

Go to www.vixid.com to keep up-to-date with VIXID's news and latest products.

CONTENTS

CONTROL PANEL / REAR PANEL

CONTROL PANEL:

1. Knobs:
These 4 faders allow you to increase or decrease the level of transparency on the video track.

2. Solo and Mute Buttons:
These buttons activate or de-activate one or several video tracks.

3. Select Button:
This button allows you to select one video track and apply effects to it.

4. 4*4 Matrix:
These 16 multifunction buttons allow you either to modify the order of your video layers or select video inputs or presets.

5. Blend Knobs:
These 4 potentiometers allow you to choose the blend mode of any layer: Darken, Lighten, XOR...

6. Gain Knobs:
These 4 potentiometers allow you to adjust the gain of each of your 4 tracks.

7. OUT 1, OUT2 and OUT3 Buttons:
These 3 buttons control the configuration of 3 outputs: OUT1, OUT2 and OUT3.

8. Input Button:
This button allows you to select which input you wish to use.

9. Reset Button:
This button allows you to reset certain functions of the table.

10. Transition Section:
This section allows you to make transition effects, e.g. wipes which you can control manually or automatically.

11. Color Section:
This section allo*ws* you to control all color effects (Balance RGB, BCS …).

12. Effects Section:
This section enables you to configure all the geometric effects (Mirror, Scroll …).

13. Keyer Section:
This section controls the video keyer functions of the table.

14. Audio Section:
These buttons configure the BPM and audio extraction to automate certain video effects.

15. and 16. Shared Controls:
These 4 controls and trackball are multipurpose. Use them to configure and control effects.

17. JOG:
This dial allows you to navigate the menu options which are visualized on the LCD screen.

18. Preset Button:
This button saves your presets.

19. Menu Button:
This button allows you to access the parameters and general configuration of the deck.

20. LCD Screen:
This alpha numeric screen displays contextual information and menu options.

Rear Panel:

1. Power Supply:
The power supply is 5 Volts – 3 Amperes. Use **ONLY** the adapter provided with the VJX16-4

2. Power Switch:
ON/OFF switch.

3. Upgrade Selector:
The selector allows you to make software updates.

4. PAL / NTSC Selector:
Select the PAL / NTSC standard.

5. MIDI IN/OUT:
A MIDI IN input and MIDI OUT output.

6. 6 analog video outputs:
6 video outputs (3 independent outputs split for CVBS and S-Video). This will allow you to connect 6 screens simultaneously.

7. USB Connector:
This USB connector enables you to connect a computer to the VJX16-4 and update the software.

8. Audio Input/Output:
A stereo audio input (Audio IN). A stereo audio outputs (Audio OUT)

9. 16 analog video inputs:
You can connect up to 16 video sources (8 S-Video, 8 RCA) simultaneously. For example: camcorders, cameras, DVD recorders, photo apparatus, computers …

OVERVIEW

Video Inputs/Outputs:

- 16 analog video inputs.
- 6 video outputs which allow you to broadcast your mixes and also to preview your different videos or effects.

Internal Video Processing:

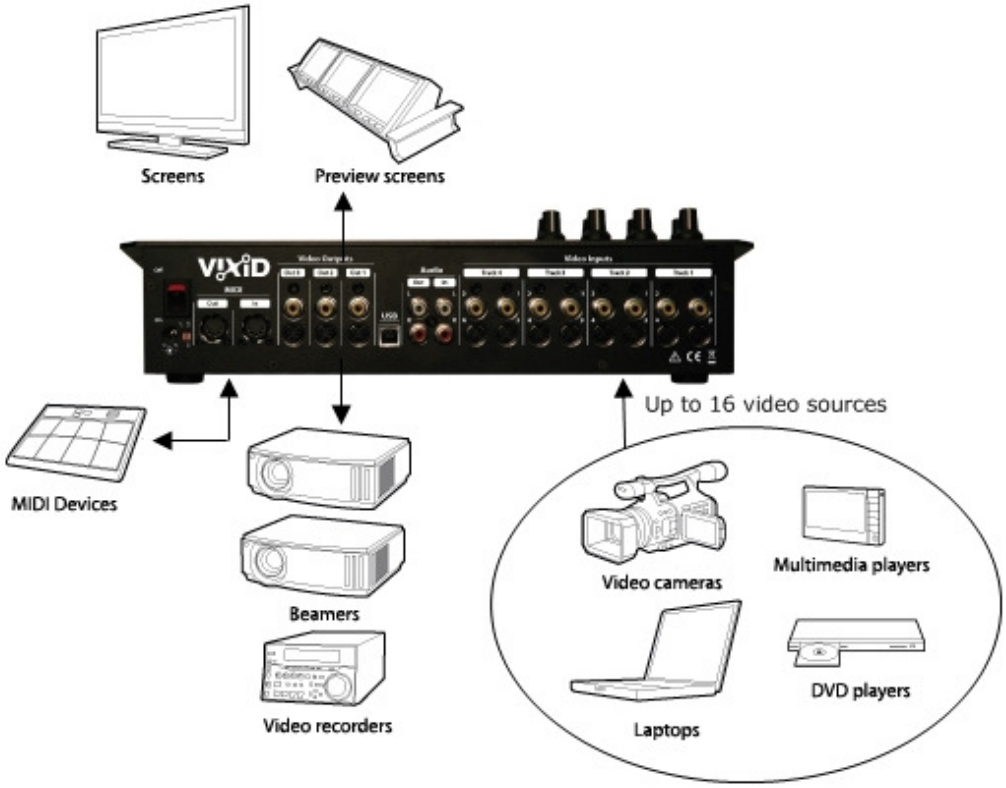
- 4 video tracks which can be ordered into 4 layers.
- Different ways of mixing the video tracks and also a multitude of Blend modes.
- On each track, you can perform video Keyers, in addition to many effects (geometric and color)
- Various types of transitions.

Other Functions:

- MIDI and audio functions.
- Up to 144 presets for easier live mixing.
- Update the software of the table through the USB port.

CONNECTION

Important Warning: To avoid damaging loud speakers or other external apparatus, switch off all appliances before connecting them to the VJX16-4.



1. The VJX16-4 video mixer offers you 16 analog video inputs:
   - 8 Composite inputs (RCA)
   - 8 S-Video inputs (YC mini DIN)

Connect the outputs of your different video sources (camcorders, cameras, DVD recorders, photo apparatus, computers …). You can connect up to 16 appliances simultaneously.

2. You also have access to 6 video outputs: 3 independent outputs (OUT1, OUT2 and OUT3 split for Composite and S-Video.) You can therefore connect up to 6 appliances (video projectors, plasma or LCD screens, preview screens, VCR or Digital Video Recorder…)

3. MIDI IN and MIDI OUT connections:
   - Enabling you to control in real time all the parameters of the mixing deck with a keyboard or MIDI controller, or even with your preferred audio sequencer. Link the MIDI IN connector to the VJX16-4 thru the MIDI OUT of your sequencer with a standard MIDI cord (DIN 5 pins).
   - Some software programs come with MIDI control options. You can therefore control your software with the VJX16-4. Link the MIDI OUT connector of the VJX16-4 to the MIDI IN of your MIDI appliance with a standard MIDI cord (DIN 5 pins).

4. The VJX16-4 also has audio functions:

- The audio stereo input (Audio IN) allows you to connect an audio source (CD or DVD player, computer, audio mixing deck...) The VJX16-4 also has real time audio analyzer which allows you to synchronize your effects with the music.
- The audio stereo (Audio OUT) allows you to connect the VJX16-4 to an amplifier or an audio mixing deck. The video mixer then transmits a copy of the audio signal from the Audio IN input.

5. Choice of video standard: The VJX16 supports video standard PAL/SECAM/NTSC. Using the 'selector' option choose the format you require for your video source.
P: corresponds to PAL/SECAM standard.
N: corresponds to NTSC standard.

Important Advice:

- You must choose the standard before switching the table on. If you modify your choice whilst using the table, the change will not be applied.
- If you position the selector in the P position, all of your 16 video sources must be either in PAL or SECAM. The 6 video outputs will likewise, be configured in PAL. Please refer to the MENU MASTER chapter of the user manual to parameter each of your inputs in PAL or SECAM.
- If you switch the selector to the N position, all of your 16 video sources must be in NTSC. The 6 video outputs will likewise, be configured en NTSC.

6. USB connection: The USB socket serves exclusively to update the software via a PC. Please refer to the UPDATING SOFTWARE chapter of the user manual for guidelines on updating the software of the VJX16-4.

Important Advice:

- Check that the selector is not in the U position before turning on the table in which case the table will put itself in the 'software update mode'.
- Do not connect any type of apparatus other than a PC to the USB socket of the table (USB lamp, USB key…). You would risk damaging your video mixer or other appliance.

7. Power Supply: The VJX16-4 comes with an AC adapter and a power cord. Only use these 2 components to power VJX16-4. Using any other type of adapter could damage the VJX16-4 or the other appliance. Please read the SAFETY INSTRUCTIONS chapter carefully before plugging in the table.

- Firstly, connect the power cable to the AC adapter which came with the VJX16-4.
- Next, plug in the AC adaptor to a suitable power supply.
- Check that the ON/OFF is in the OFF position.
- Plug in the AC adapter into the VJX16-4.
- Put the ON/OFF button in the ON position to start up the table.

Notes:

- Refer to the SPECIFICATIONS chapter for more information concerning the inputs and outputs of the VJX16-4.
- Only use homologous and high quality audio, video, USB and MIDI cables. They should measure less than 3 meters.

VIDEO INPUTS

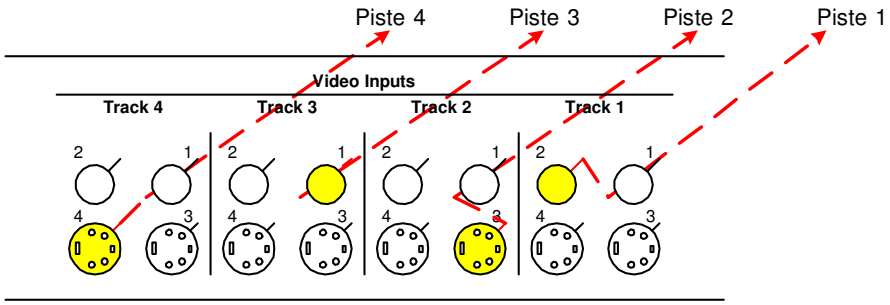
Organization of inputs and video tracks:

The VJX16-4 has 16 video inputs (8 Composite inputs (CVBS) and 8 S-Video inputs (YC) to connect up to 16 video sources.

You choose, for each track, one of the 4 inputs:

In the example below:

- Track 1 receives the video from input COMP n°2.
- Track 2 receives the video from input S-Video n°1.
- Track 3 receives the video from input COMP n°1.
- Track 4 receives the video from input S-Video n°2.



Architecture of the video inputs on the VJX16-4

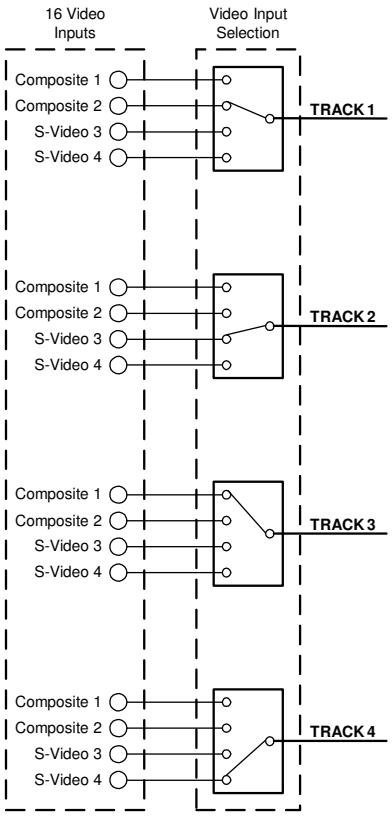
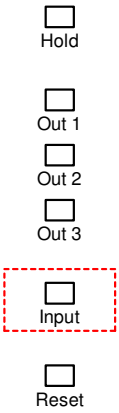


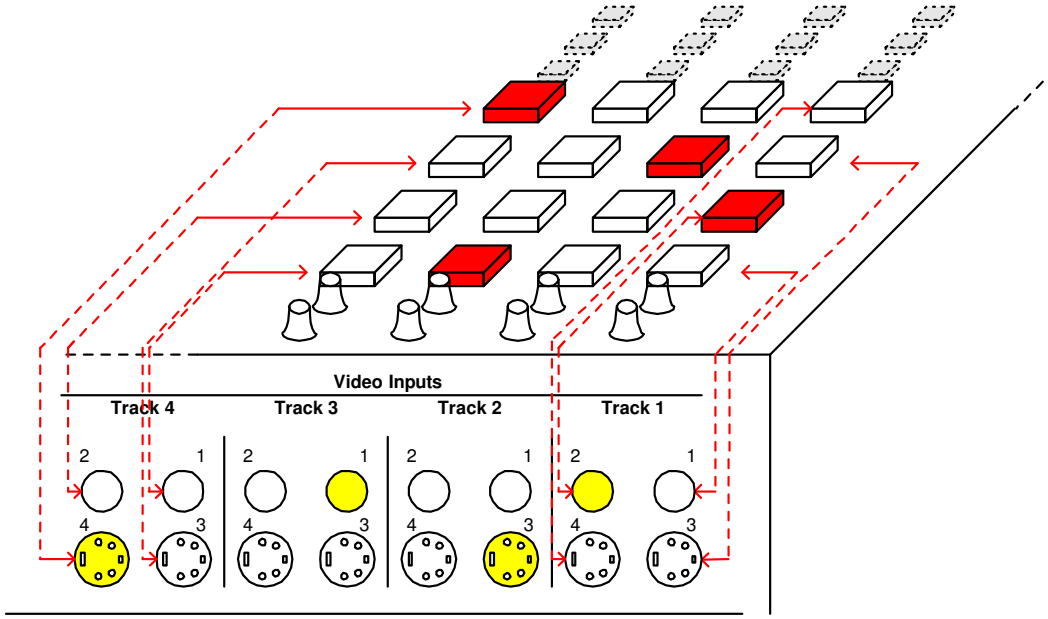
Diagram of video inputs

Visualization of selected video inputs:

By pressing the INPUT button,



You can visualize which video inputs have been selected by viewing the LED of the 4*4 matrix. The columns of the 4*4 matrix correspond to the video track (track 1, 2, 3 and 4) and the lines correspond to the inputs, as shown in the diagram below:



In this example:

- Track 1 receives video from input n°2.
- Track 2 receives video from input n°3.
- Track 3 receives video from input n°1.
- Track 4 receives video from input n°4.

The LCD screen displays which input has been selected on each of the 4 tracks and also, what type of video they are (COMP equals Composite or SVIDEO equals S-Video):

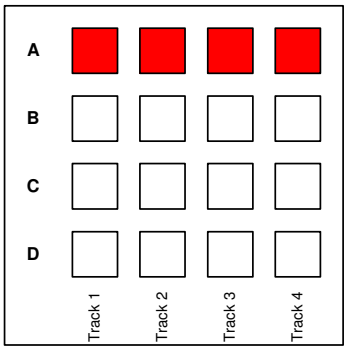
T	r	1	:		I	n	p	u	t	2		-		C	O	M	P		
T	r	2	:		I	n	p	u	t	3		-		S	V	I	D	E	O
T	r	3	:		I	n	p	u	t	1		-		C	O	M	P		
T	r	4	:		I	n	p	u	t	4		-		S	V	I	D	E	O

Selecting video inputs:

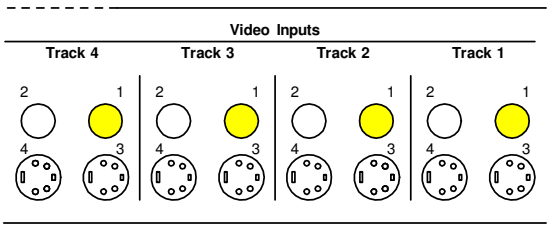
1. Press down on the INPUT button and press for every track one of the buttons of the 4*4 Matrix, in order to select the video input which you wish to use.

2. Release the INPUT button.

1st example: Initial state



4 * 4 Matrix



Rear Panel

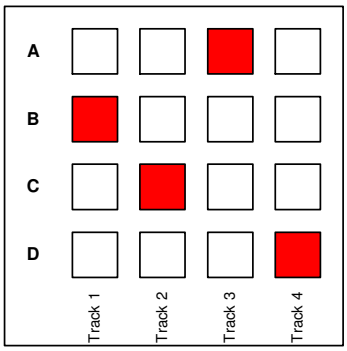
T	r	1	:		I	n	p	u	t	1		-		C	O	M	P		
T	r	2	:		I	n	p	u	t	1		-		C	O	M	P		
T	r	3	:		I	n	p	u	t	1		-		C	O	M	P		
T	r	4	:		I	n	p	u	t	1		-		C	O	M	P		

2nd example: Another possible configuration

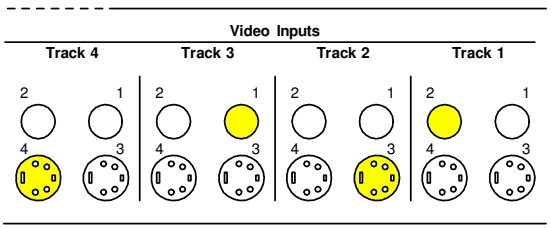
By pressing:

- The 2nd button of the 1st column,
- The 3rd button of the 2nd column,
- The 1st button of the 3rd column,
- The 4th button of the 4th column,

You will achieve the following configuration:



4 * 4 Matrix



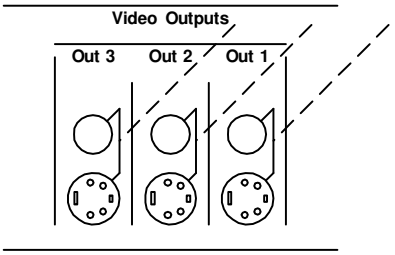
Rear Panel

T	r	1	:		I	n	p	u	t	2		-		C	O	M	P		
T	r	2	:		I	n	p	u	t	3		-		S	V	I	D	E	O
T	r	3	:		I	n	p	u	t	1		-		C	O	M	P		
T	r	4	:		I	n	p	u	t	4		-		S	V	I	D	E	O

VIDEO OUTPUTS

Organization of video outputs:

The VJX16-4 has 6 video outputs (3 independent outputs: OUT1, OUT2 and OUT3 doubled in Composite and S-Video) to simultaneously connect up to 6 machines (screens, video projectors …).



Layout of video outputs of the VJX16-4

Internally, the VJX14-6 has 2 MASTER buses; (MASTER 1 and MASTER 2) which correspond to the main mixing outputs and 16 preview buses (see the Architecture of the VJX16-4) as shown in the diagram below.

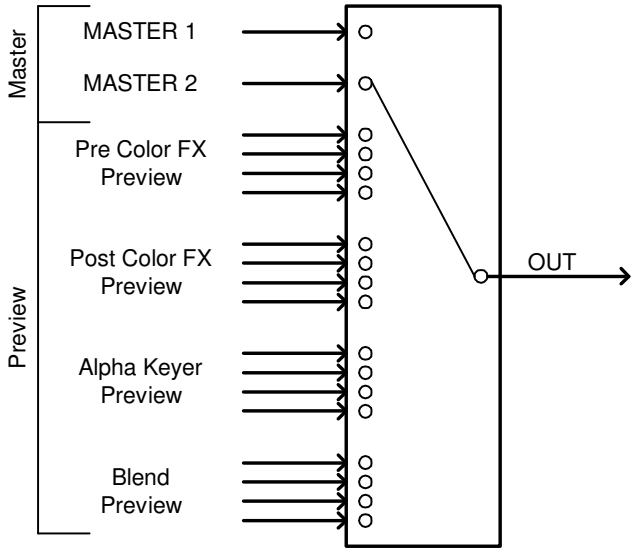


Diagram of a video output

A description of the MASTER 1 and MASTER 2 buses is given in the paragraph **MixMode**.

16 preview points are available on the different nodes in the video processing chain:

- Preview of the 4 video tracks before adding color effects (PreFx).
- Preview of the 4 video tracks after adding color effects (PostFx).
- Preview of the video Keyers for each of the 4 tracks.
- Preview of the 4 video tracks after Blends (Out Blend).

Configuration of the video outputs:

Each of the 3 outputs (OUT1, OUT2 and OUT3) can be configured:

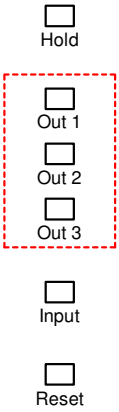
- Either as the main output, n°1 (Master1) or n°2 (Master2),
- Or in manual preview (Preview) or automatic preview (Auto Preview) on 1 of the 16 preview points.

Helpful Hints: Refer to the MASTER MENU chapter to configure each of the outputs as Master1, Master2, Preview or Auto-Preview.

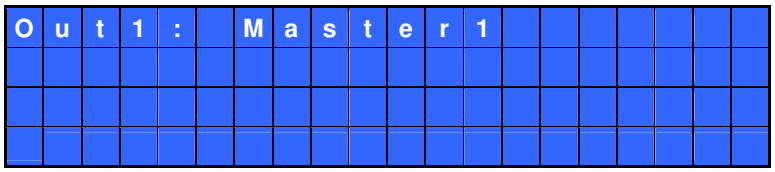
In automatic preview mode, the table automatically switches to the best adapted preview point for user manageability:

- By default, the automatic preview is always in preview PostFx of the selected tack
- The preview automatically switches to PreFx of the track upon which you change the input
- The preview automatically switches to the track that you have selected with the SELECT button
- The preview automatically switches to Keyer preview of the track on which you are modifying the Keyer

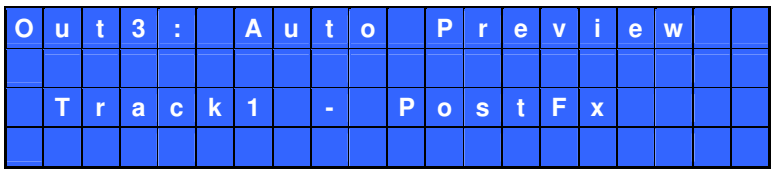
To see how each of the 3 video outputs is configured, hold down the Out1 button (or Out2, or Out3):



When the output is configured in Master 1 or in Master 2, the LCD screen shows only which Master bus is used. The LEDs of the 4*4 matrix are now lit.

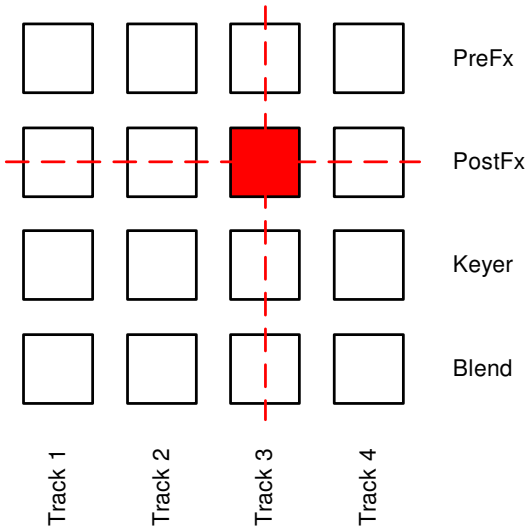


When the outputs are configured in manual or automatic preview, the LCD screen shows on the 3rd line which preview point is used.



One of the red LEDs of the 4*4 matrix lights up to indicate which preview point is used on the selected output. Hold down the Out1 button (or Out2, or Out3) and press one of the 16 buttons of the 4*4 matrix to change the preview point.

The following diagram illustrates how to access the 16 preview points:



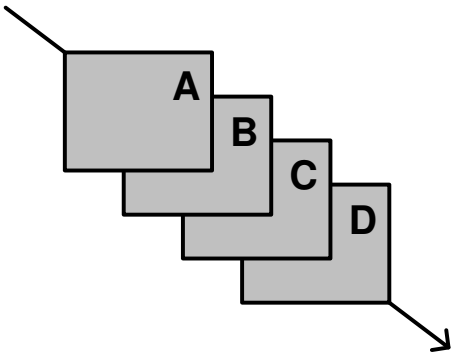
Preview of track 3 after the color effects have been added (PostFx)

Helpful Hint: In the automatic Preview mode, you always have the option to modify the preview point manually.

ORGANISATION OF THE VIDEO TRACKS

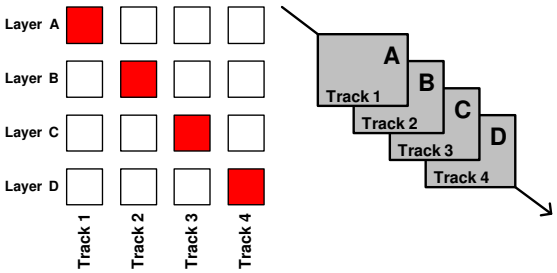
Organization of the video tracks and layers:

The 4 video tracks are ordered in overlapping layers (A, B, C and D.) Layer A is in the foreground, layer B is 2nd in line, and so on. The red LEDs of the 4*4 matrix make it very easy to identify the order of the 4 layered tracks.

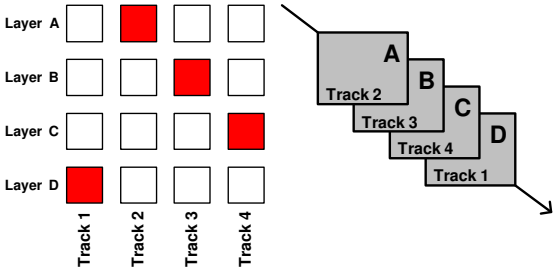


Visualization of the tracks in video layers:

1st example: Initial state
In its initial state, track n°1 is in front of track two which is in turn in front of number 3 and that in front of track 4.



2nd example:
In the following example, track 2 is in front of track 3, and that one in front of track 4 and that in front of number 1.



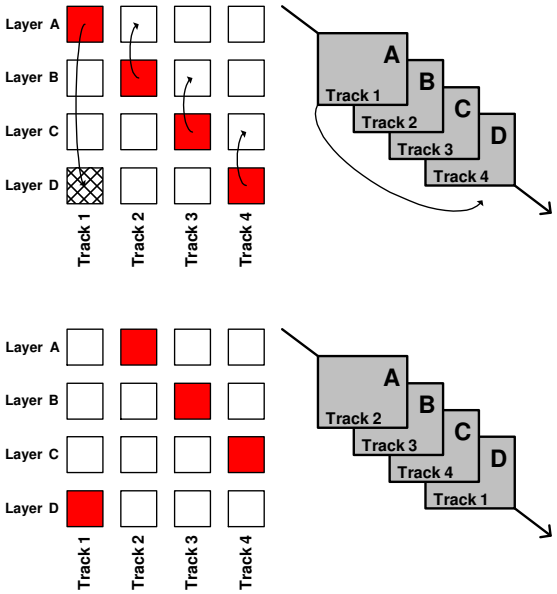
Modifying the organization of the tracks:

Two modes are available for changing the order of tracks:

1st Mode:

This mode consists of shifting all of the video tracks. Just press the button on the matrix 4*4 system that corresponds to the track you wish to change. The other tracks will automatically be reordered.

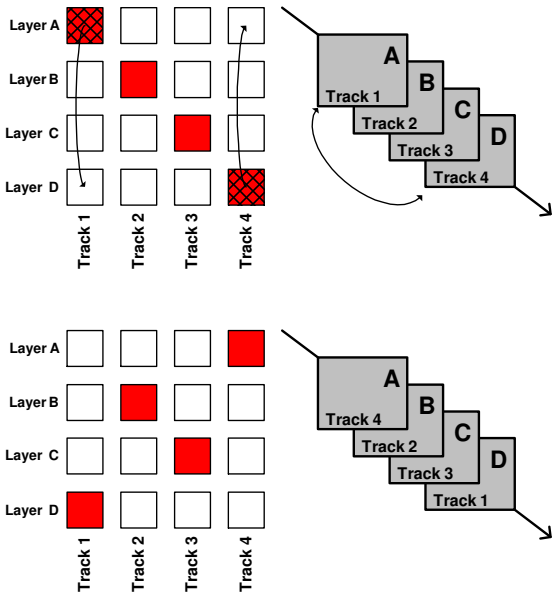
In the following example, we want to position track 1 on the last layer (Layer D). Just press the button Layer D / Track 1. Track 1 is then placed last in line and all the other tracks shift onto the superior layers.



2nd Mode:

This mode is perfectly adapted to switching quickly between two layers. Press down and hold the two red button relating to the tracks you wish to manage. The 2 tracks are then swapped. Then release the buttons.

In the following example, we want to swap position of tracks 1 and 4. So press the button 1/A, and the 4/D button.



COMPOSITION OF VIDEO TRACKS

Principle:

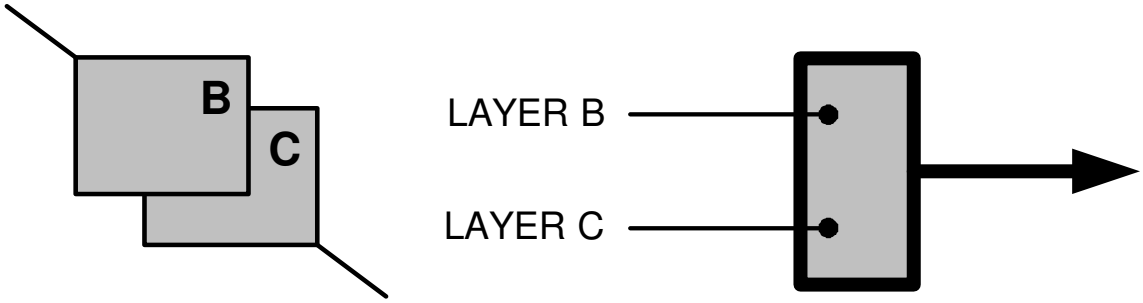
The VJX16-4 integrates BLEND modes between the video tracks which allow you to mix the four tracks in one flow (video composition). Each track has got a blend mode, independent of those applied to the other tracks.

The four video tracks are blended two by two: one track is blended with it or the tracks on the lower layers. The final composition depends therefore on how the tracks are organized on the layers.

The result of the composition of 2 video layers depends on:

- The transparency of the track on the top layer (ALPHA component).
- The BLEND of the track on the top layer.

The following diagram depicts the blend of the two tracks on layers B and C:



Principle:

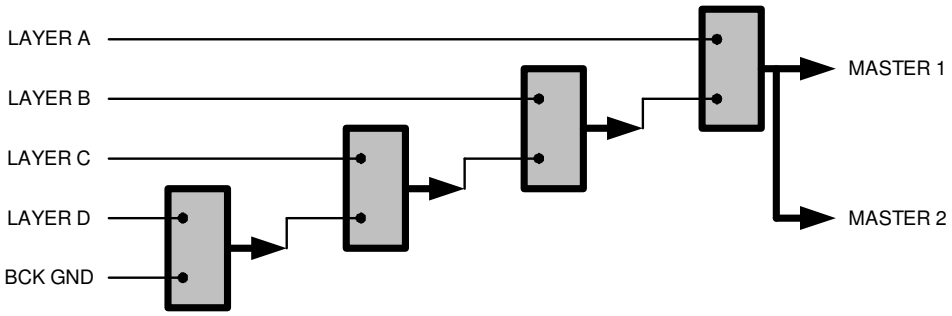
- If the track on the top layer (layer B) is completely transparent (null ALPHA component), the result of the blend between the two tracks will be the track on the lower layer (layer C).
- If the track on the top layer (layer B) is totally opaque (maximum ALPHA component), the result of the blend between the two tracks will depend on the Blend mode chosen on the top layer.

Composition and Blend of the four tracks:

The VJX16-4 has 2 video mixing modes (**MixMode**): Compositing mode and Battle 2*2 mode.

- The Compositing mode is the default mode of the table. The composition of the four tracks is organized in cascade. Here is the principle: layer D is blended with the background (BCK GND). The result is blended with layer C, then blended with layer B and finally with layer A. Once the 4 video layers are mixed, you will be able to view the result of your composition on the MASTER 1 and MASTER 2 buses.

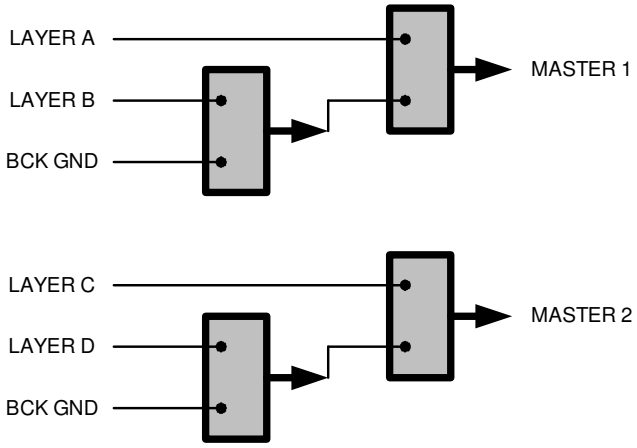
The diagram below illustrates the organization of the Compositing mode:



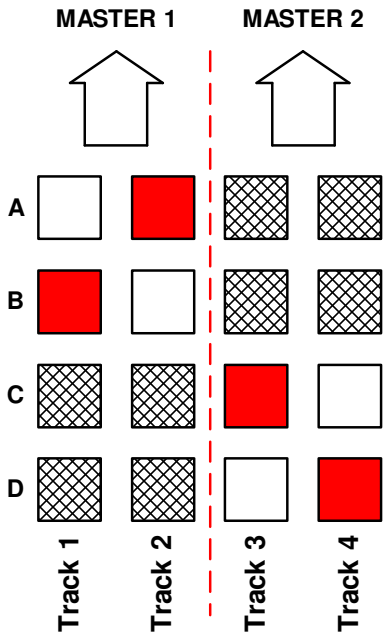
Layout of the Compositing mode

- Battle 2*2 mode allows you to configure the table in two parts, each one can mix two video tracks:
  - Tracks 1 and 2 can be assigned to layers A and B. When they are blended, the result is available on the MASTER 1 bus.
  - Tracks 3 and 4 can be assigned to layers C and D. When they are blended, the result is available on the MASTER 2 bus.

The diagram below illustrates the Battle 2*2 mode organization:



Layout of the Battle 2*2 mode



In Battle 2*2 mode, the table is split into 2

Helpful Hints:

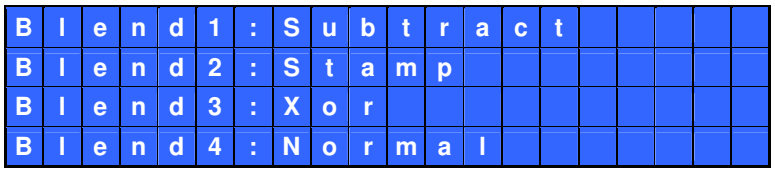
- The SOLO functions are deactivated in BATTLE2*2 mode.
- Refer to the MASTER MENU chapter to configure the MixMode.

BLEND Modes:

The VJX16-4 has various BLEND modes. They are all available simultaneously and independently on each of the video tracks and allow the user to create elaborate compositions on each of the four video tracks.

To modify BLEND modes, use the 4 knobs and the Hold button.

Turn the BLEND knob of the track which you wish to modify. The LCD screen will then display the blend modes you have chosen for the four tracks.



List of available blend settings:

- Normal
- Additive
- Average
- Darken
- Lighten
- Stamp
- Difference
- Subtract
- Negation
- Xor
- Red
- Green
- Blue

Once you have selected the BLEND mode, it is applied instantly. This seamless action allows you to switch from one mode to another simply and very quickly (ex. swap from STAMP mode to DIFFERENCE.)

However, you can also switch from one mode to another without applying intermediaries (ex. switch from Darken to Difference without applying Lighten or Stamp). To achieve this, press down on the Hold button while you adjust the BLEND knob until you find the desired mode, (for example the Difference mode.) When you release the Hold button your choice will be activated.

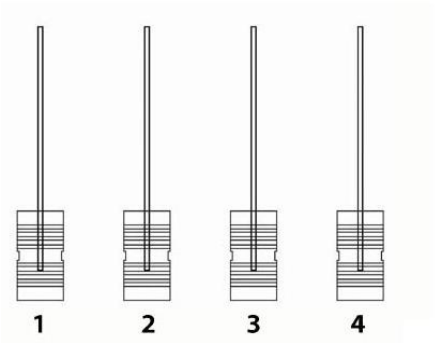
TRANSPARENCY OF TRACKS / ALPHA COMPONANT

The VJX16-4 offers for each track, a transparency or opacity control: the **ALPHA component** (see the ARCHITECTURE OF THE VJX16-4 chapter.)

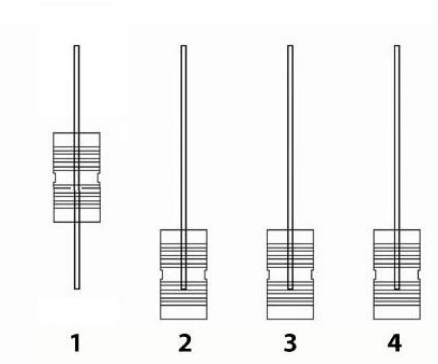
Transparency sliders:

You can modify the transparency of your 4 video tracks using the 4 slider keys.

The lower the slider is, the greater the more transparent the track.



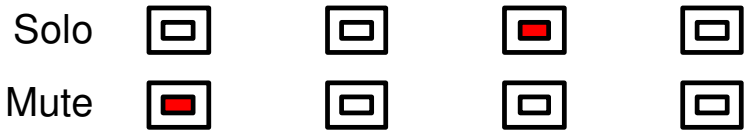
Track 1 is totally transparent.



Track 1 is partially transparent.

MUTE / SOLO settings:

These 8 luminous buttons (one SOLO and one MUTE button per track) allow you to adjust, instantaneously the transparency of the tracks.



The MUTE function: This option allows you to make one track completely transparent. While this setting is active, the red LED is lit up.

Notes:

- Several tracks can be muted at the same time.
- While the MUTE function is active on a track, the slider that manages the track no longer controls the transparency because the track is totally transparent.

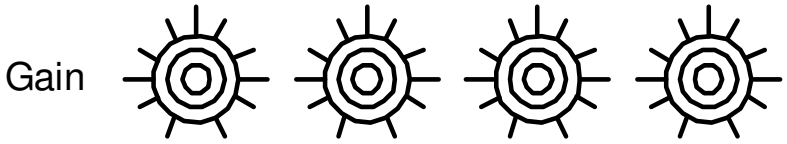
The SOLO function: The SOLO function allows you to make all the other video tracks completely transparent. When it is active, the red LED is illuminated.

Helpful Hints:

- Several tracks can be activated as SOLO simultaneously. In this case, the tracks which are not under the SOLO setting will be completely transparent.
- The SOLO and MUTE functions of one track are exclusive and cannot be active at the same time.

TUNING THE VIDEO GAIN

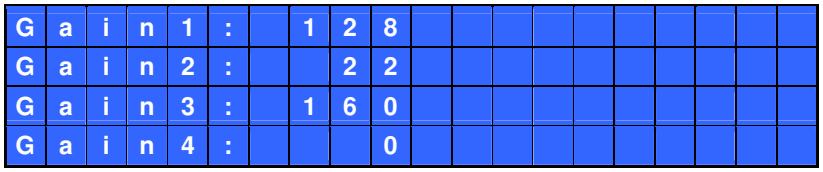
The VJX16-4 allows you to tune the gain of each of the 4 video tracks in order to amplify or decrease the video signal. To do this, use the 4 GAIN knobs which are located along the top left hand corner of the table:



The gain varies from 0 to 255:

- A gain of 255 amplifies the level of the video signal by 2.
- A gain of 128 corresponds to a unitary gain.
- A gain of 64 diminishes the video signal by half.
- A gain of 32 diminishes the video signal by a quarter, etc.
- A gain of 0 cancels the video input entirely.

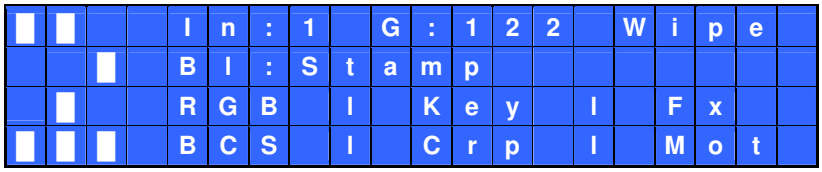
To modify these gains, turn the knob that corresponds to the track you wish to edit. The LCD screen will display simultaneously the gain of each of the 4 tracks:



SELECT FUNCTION

The SELECT function allows you to select one of the 4 tracks and control its parameters. Once one track is selected the green LED select button of the corresponding track will be illuminated.

Helpful Hint**:** If you keep the SELECT button pressed down, the LCD screen will display the global configuration of the selected track.

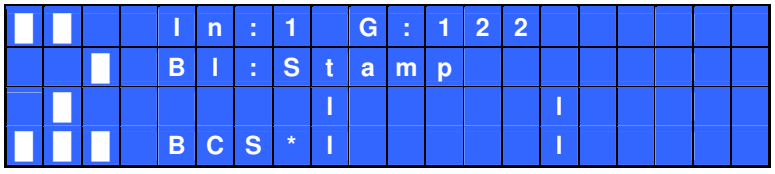


It indicates:

- The number of the selected track.
- The video input used : In: 1
- The gain of the track selected: G: 122
- The state of the video keyers: Bl: Stamp
- The type of BLEND used: RGB
- If the BCS balance is used on the track: BCS
- If the Keyer is used on the track: Key
- If the Crop function has been used on the track: Crp
- If the FX effects have been used on the track: Fx
- If the Motion effects have been used on the track: Mot
- The state of the transition section: Wipe
- If the Transition section has been used on the track:
    - Wipe : the transition is active but not yet in progress
    - Wipe! : the transition is in progress
    - Wiped : the transition is completed: the video is totally transparent.

Helpful Hint: If audio or BPM extraction are linked with any one of these effects (RGB, BCS, Keyer, Crop, Fx or Motion) a star (*) will appear after the chosen application (RGB*).

The example below shows what the LCD screen would look like if the BPM is linked with the BCS effect on track 2.



The table integrates 2 extensive effect pools:

- Color effects,
- Geometric effects

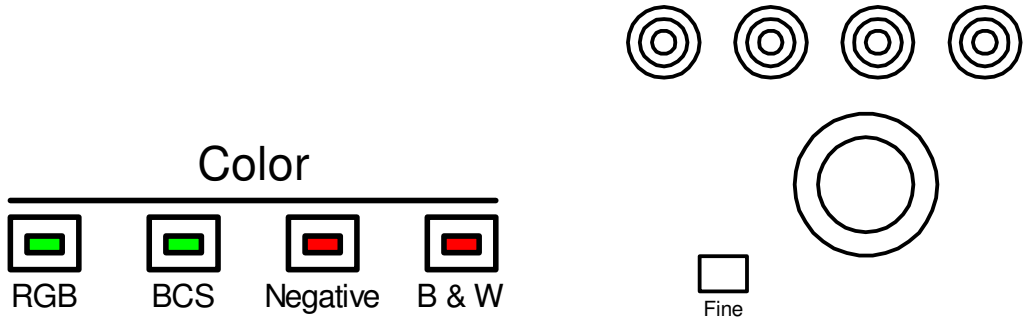
COLOR EFFECTS

Introduction:

The VJX16-4 allows you to edit each track independently:

- To tune the Balance and the Offset of Red, Green, Blue (RGB).
- To tune the Brightness the Contrast and the Saturation (BCS).
- To convert the video into Black and White.
- To invert the colors (negative effects).

Here are the controls which you will need to configure these effects:



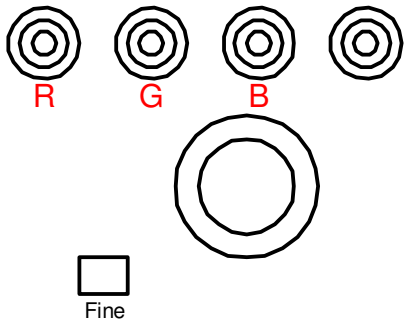
First of all, choose which track you wish to modify or apply a color effect to. For this, press the SELECT button of the track which you desire (see the Select Function chapter).

Balance Effects / RGB Offset:

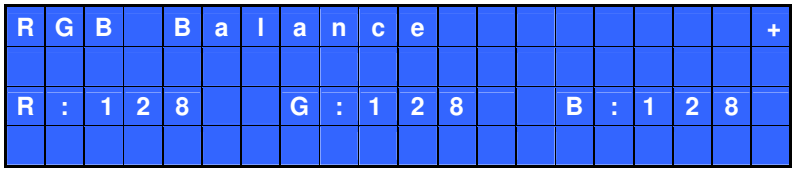
To modify the **RGB Balance** or the **RGB Offset** on the video of the selected track, press the **RGB** button. This button will then light up green. By pressing the button successively you will switch from one context to another (display the context **RGB Balance** or **RGB Offset** mode).

- **Colors (RGB Balance)**: This effect allows you to tune the RED, Green and Blue gains of the selected video.

Here are the controls which you will need to configure the **RGB Balance** effect:



The LCD screen will then display the **RGB Balance** menu:

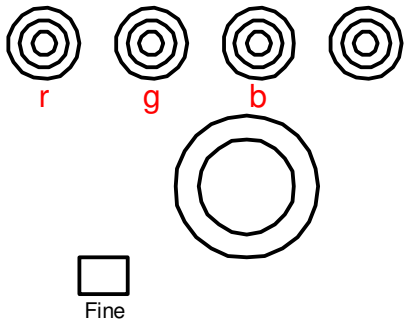


Helpful Hints:

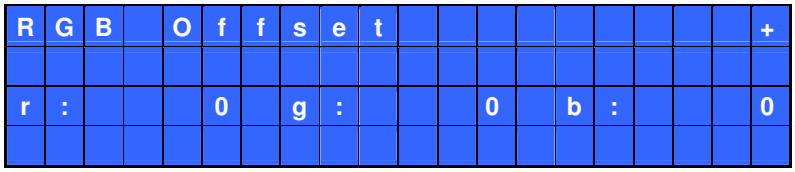
- These 3 parameters are included in the range of values [0 ; 255], 128 being the default value (no effect added).
- Modify the parameters: R (Red), G (Green) and B (Blue) with the 3 knobs on the left.

- **Offset of colors (RGB Offset)**: This effect allows you to tune the hue of Red, Green and Blue which will be added to the selected video.

Here are the controls which you will need to configure the **RGB Offset** effect:



The LCD screen will then display the **RGB Offset** effect menu:



Helpful Hints:

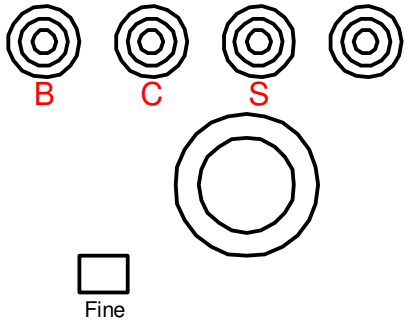
- These 3 parameters are included in the range of values [-255 ; 255] 0 being the default value (no hue added).
- Modify the parameters R (Red), G (Green) and B (Blue) with the 3 knobs on the left.

BCS Balance Effect:

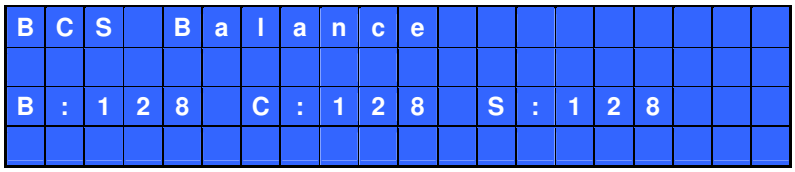
To modify the **BCS Balance** effect on the selected video, press the **BCS** button. This button will then light up green.

This effect allows you to modify the Brightness, the Contrast and the Saturation of the selected video.

Here are the controls which you will need to configure the **BCS Balance** effect:



The LCD screen will then display the **BCS Balance** menu:



Helpful Hints:

- These 3 parameters are included in the range of values [0 ; 255], 128 being the default value (no effect added).
- Modify the 3 parameters B, C and S with the 3 knobs on the left.

Negative effect (color inversion):

To invert the colors of the video of the selected track, use the **Negative** button. When the red LED button is illuminated, the colors of the video are inverted.

Black & White effect:

To convert the video of the selected track into Black and White, use the **B&W** button. When the red LED button is illuminated, the video is converted into Black and White.

GEOMETRIC EFFECTS

Introduction:

The VJX16-4 allows you to apply one of the following geometric effects independently onto each track:

- Left Mirror (MirrorL)
- Right Mirror (MirrorR)
- Mirror Up (MirrorU)
- Mirror Down (MirrorD)
- Horizontal Flip (FlipH)
- Vertical Flip (FlipV)
- 180° Rotation (Rot180)
- Blow (Blow)
- Scroll (Scroll)
- Mosaic (Mozaic)

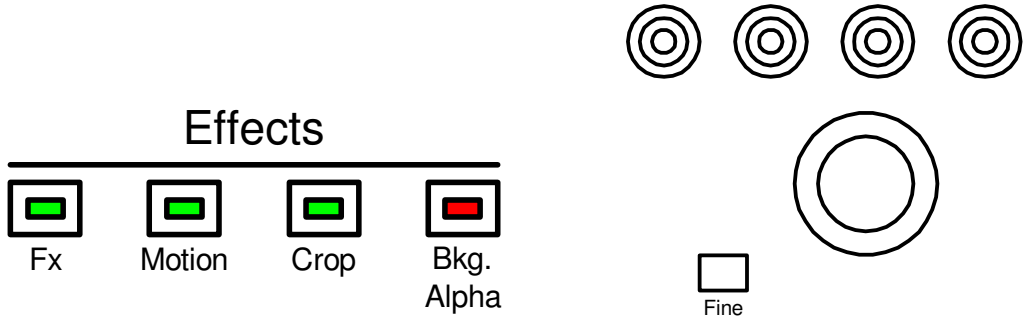
It also offers a series of Motion Fx for each track, which act upon the fluidity of the video:

- Freeze
- SlowMotion
- Strobe
- *Effet de rafraîchissement par bloc* (Bloc)

Additionally, you can also crop any of your video tracks with the **Crop** function.

The VJX16-4 allows you to define the zones around the selected track and edit the characteristics (opaque or transparent) with the **Bkg. Alpha** (Background Alpha) function.

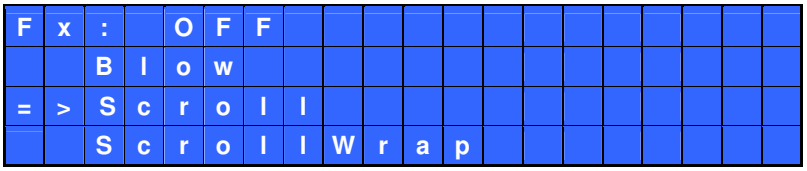
Here are the controls which are used to configure all of these effects:



First of all, choose which track you wish to modify or apply geometric effects upon. To do this, press the SELECT button of the track which you desire (see SELECT FUNCTION chapter).

Geometric Effects Fx:

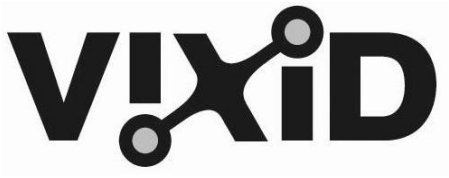
To modify or apply a geometric effect **Fx** on the video track you selected; press the **Fx** button. This button will light up green and the LCD screen will display the geometric **Fx** effects menu :



- On the 1st line, the type of effect is displayed. By default, no effect is selected: OFF.
- On the next 3 lines, is a drop-down menu which you navigate with the rotating wheel (**JOG**).
- If you want to apply one of these effects on the selected track (for example, **Scroll**) you just have to go down the menu until the effect you desire appears next to the cursor. Select by pressing **ENTER** to activate the chosen effect. If you want to deactivate it, press the **ENTER** button again and you will return to the list of geometric **Fx**.
- If you wish to apply a different effect on your selected track, just press **BACK** to return to the main menu and choose another effect.
- Certain effects are configurable and others not. To modify these parameters, use the 4 knobs and the Trackball of the shared controls

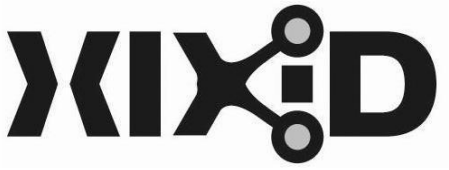
Here is a description of the different geometric effects **Fx**:

- **OFF**: This mode de-activates the geometric effects of the selected track.



OFF

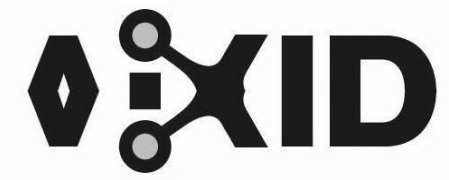
- **MirrorL** / **MirrorR** / **MirrorU** / **MirrorD**: 4 Mirror effects.



MirrorU

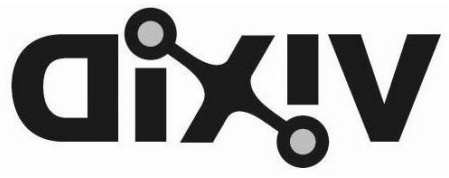
MirrorL

MirrorR

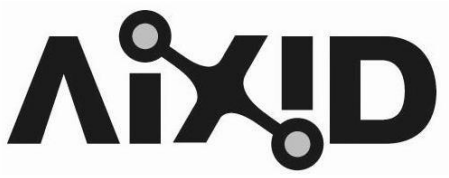


MirrorD

- **FlipH** / **FlipV**: 2 Flip effects.

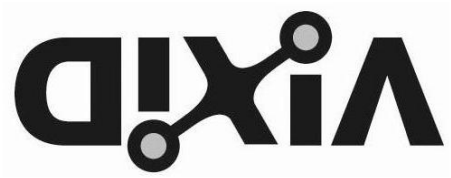


FlipH



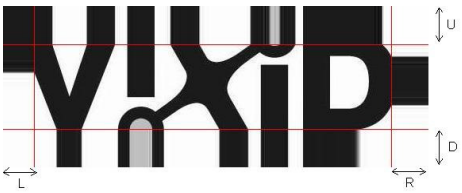
FlipV

- **Rot180**: This effect allows you to do a 180° rotation of the video track selected.



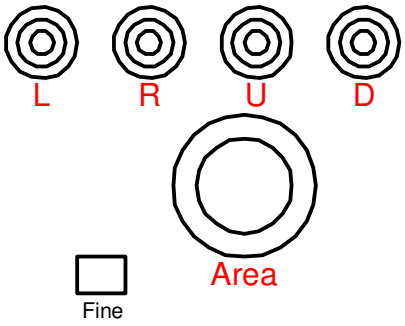
Rot180

- **Blow**: With this effect the image tails off in 4 directions; left, right, up and down.



Blow

Here are the controls used to configure the **Blow** effect:



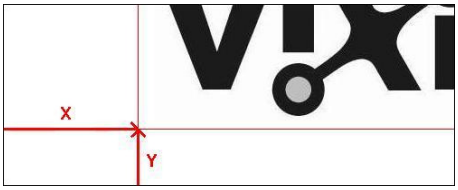
Once the **Blow** effect is activated, the LCD screen will indicate the following information:

F	x	:		B	l	o	w											
L	:	1	4	8						R	:	1	9	0				
U	:	1	0	8						D	:		9	2				

Helpful Hints:

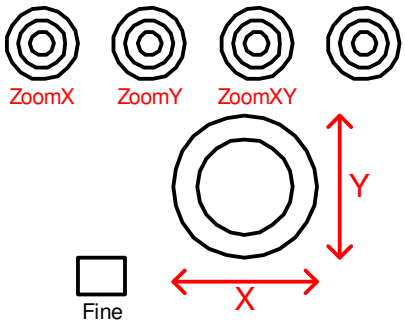
- The 1st knob controls the L parameter which indicates the width of the L-hand band Left).
- The 2nd knob controls the R parameter which indicates the width of the R-hand band (Right).
- The 3rd knob controls the U parameter which indicates the width of the Upper band (Up).
- The 4th knob controls the D parameter which indicates the width of the Lower band (Down).
- The Trackball controls the 4 parameters at the same time and allows you to re-position the border.

- **Scroll**: This effect allows you to move the video horizontally and vertically (on the selected track). It allows you also to zoom out on the video horizontally and vertically.



Scroll

These are the controls used to configure the **Scroll** effect:



Once the **Scroll** effect is activated, the LCD screen will indicate the following information:

F	x	:		S	c	r	o	l	l									
Z	o	o	m	X	:			4		Z	o	o	m	Y	:		2	
X	:			5	6					Y	:	-	1	6	6			

Tip n°1:

- The ZoomX parameter indicates the level of horizontal zoom.
- The ZoomY parameter indicates the level of vertical zoom.
- The X parameter indicates the level of horizontal scroll.
- The Y parameter indicates the level of vertical scroll.

Tip n°2:

- The horizontal and vertical zooms are [1 ; 63] in the range of values, the default value being 1.
- The horizontal movement is in the range of values [-720 ; 720], the center being 0.
- The vertical movement is in the range of values [-576 ; 576] in PAL and [-480 ; 480] and NTSC, the center being 0.

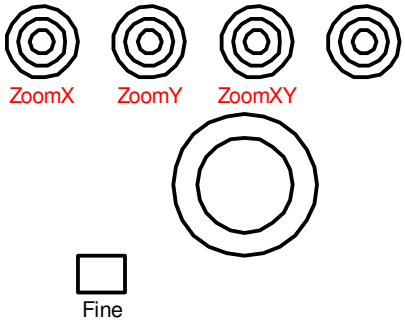
Tip n°3:

- The 1st knob controls the ZoomX parameter.
- The 2nd knob controls the ZoomY parameter.
- The 3rd knob controls simultaneously the ZoomX and ZoomY parameters.
- The Trackball controls the X and Y parameters.

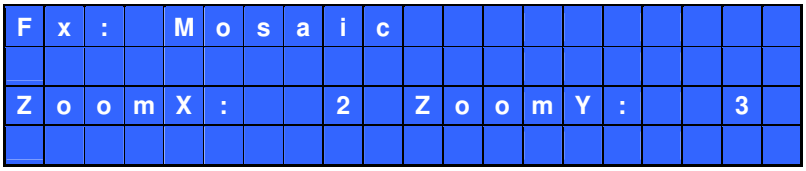
- **ScrollWrap**: Another way of managing the **Scroll** effects. When the video exits the screen, it reappears on the opposite side.
- **ScrollX**: This wrap effect controls only the horizontal wraps.
- **ScrollY**: This wrap effect controls only the vertical wraps.
- **ScrollWrapX**: This effect manipulates ScrollWrapX to wrap only horizontally.
- **ScrollWrapY**: This effect manipulates ScrollWrapY to wrap only vertically.
- **Mosaic**: This effect creates a mosaic using the original video.

Mosaic

Here are the controls which you will need to configure the **Mosaic** effect:



Once the **Mosaic** effect is activated, the LCD screen will display the following information:



Tip n°1:

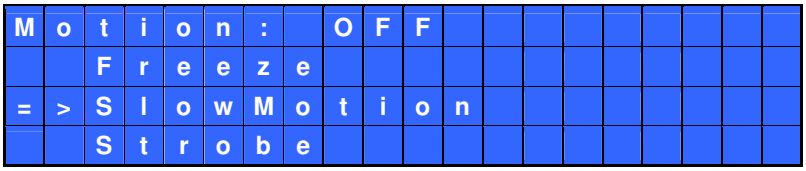
- The ZoomX parameter indicates the number of repetitions of the horizontal image.
- The ZoomY parameter indicates the number of repetitions of the vertical image.
- The ZoomX and ZoomY parameters are [1 ; 63] in the range of values, the default value being 1.

Tip n°2:

- The 1st knob controls the ZoomX parameter.
- The 2nd knob controls the ZoomY parameter .
- The 3rd knob simultaneously controls the 2 ZoomX and ZoomY parameters.

Geometric Motion Effects:

To modify or apply a geometric **Motion** effect on the video you selected; press the **Motion** button. The button will light up green and the LCD screen will display the geometric **Motion** effect menu:

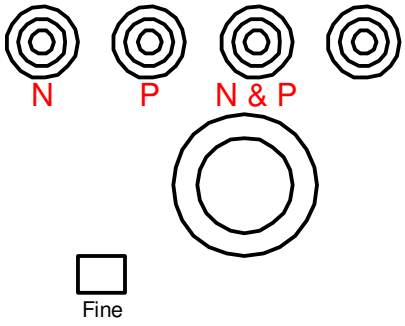


- On the 1st line the different type of effect applied is shown. By default, if no effect is applied, it will show: OFF.
- On the bottom 3 lines, is a drop down menu which you navigate by turning the rotating wheel (**JOG**).
- If you wish to apply one of the effects on the selected track (for example the **Freeze** effect), you just need to navigate down the menu until the effect you desire appears next to the cursor. Then press the **ENTER** button to activate the chosen effect. If you wish to de-activate it, press the **ENTER** button again and you will return to the list of geometric **Motion** effects.
- If you wish to apply another effect to the selected track, just press the **BACK** button to return to the drop down menu and choose another effect.
- Certain effects are configurable and others are not. To modify these possibilities, use the 4 knobs and the Trackball of the shared controls.

Here is a description of the geometric **Motion** effects:

- **OFF**: De-activation of all **Motion** effects.
- **Freeze**: This effect freezes the video.
- **SlowMotion**: This effect makes the video appear in **SlowMotion.**

Here are the controls which you will need to configure the **SlowMotion** effect:



Once the **SlowMotion** effect is activated, the LCD screen will display the following information:

M	o	t	i	o	n	:		S	l	o	w	M	o	t	i	o	n
R	a	t	e	:			5	/		2	5		I	m	a	g	e	s

The Rate parameter indicates the number of fixed images (N) over the total number of images (P).

Tip n°1:

- N is [0 ; 150] in the range of values.
- P is [2 ; 150] in the range of values.
- N is always inferior or equal to P (N ≤ P)

Tip n°2:

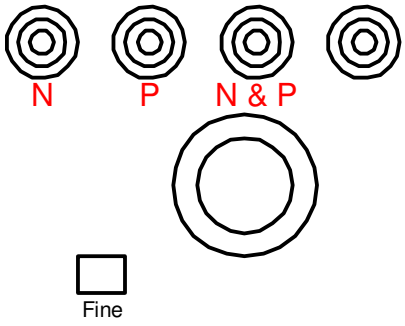
- The 1st knob controls the N parameter.
- The 2nd knob controls the P parameter .
- The 3rf knob controls 2 parameters; N and P.

Tip n°3: The Rate parameter is the same for the **SlowMotion** and **Strobe** effects.

In the example displayed on the LCD screen, there are 5 fixed images out of 25.

- **Strobe**: This effect allows you to create flash video.

Here are the controls which you will need to configure the **Strobe** effect:



Once the **Strobe** effect is activated, the LCD screen will display the following information :

The Rate parameter indicates the number of visible images (N) over the total number of images (P). The other images are transparent.

Tip n°1:

- N is [0 ; 150] in the range of values.
- P is [2 ; 150] in the range of values.
- N is always inferior or equal to P ($N \leq P$)

Tip n°2:

- The 1st knob controls the N parameter.
- The 2nd knob controls the P parameter.
- The 3rd knob controls 2 parameters; N and P.

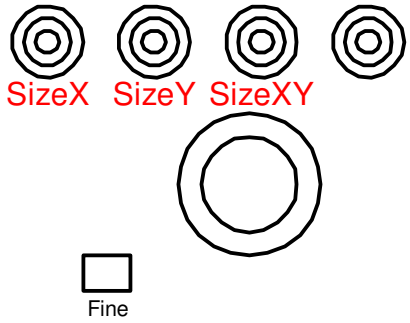
Tip n°3: The Rate parameter is the same with the **SlowMotion** and **Strobe** effects.

In the example displayed on the LCD screen, there are 5 visible images out of 25.

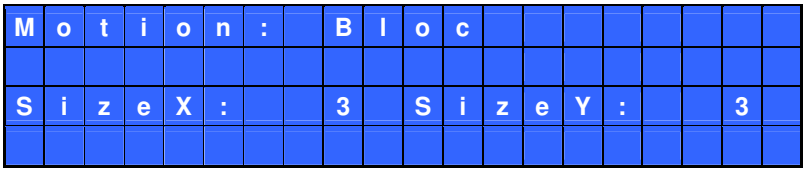
5 visible images	20 transparent images	5 visible images	20 transparent images	5 visible images	20 transparent images
25 images		25 images		25 images	

- **Bloc**: This effect allows you to shuffle the moving zones of the video.

Here are the controls which you will need to configure the **Bloc** effect:



Once the **Bloc** effect is activated, the LCD screen indicates the following information:



Tip n°1:

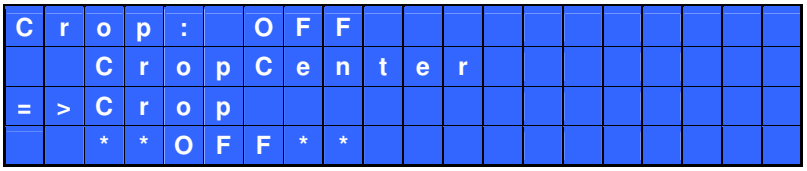
- The SizeX parameter controls the width of the refresh zone.
- The SizeY parameter controls the height of the refresh zone.
- The SizeX and SizeY parameters are [1 ; 7], in the range of values, their default value being 1.

Tip n°2:

- The 1st knob controls the SizeX parameter.
- The 2nd knob controls the SizeY parameter.
- The 3rd knob simultaneously controls the 2 SizeX and SizeY parameters.

Geometric **Crop** effects:

To modify or apply a geometric **Crop** effect on the video track selected, press the **Crop** button. The button will light up green and the LCD menu will display the geometric **Crop** effects menu:



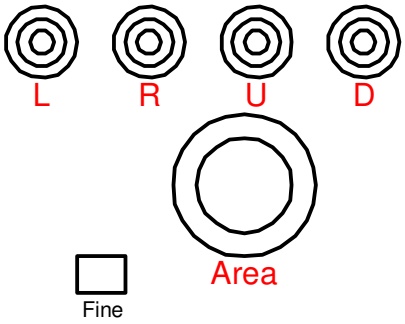
- On the 1st line the type of effect applied is indicated. By default, if no effect is applied, it will show: OFF.
- On the bottom 3 lines, is a drop down menu which can navigate by turning the rotating wheel (**JOG**).
- If you wish to apply one of the effects on the selected track (for example the **Crop** effect), you just need to navigate down the menu until the effect you desire appears next to the cursor. Then press the **ENTER** button to activate the chosen effect. If you wish to de-activate it, press the **ENTER** button again and you will return to the list of geometric **Crop** effects.
- If you wish to apply another effect to the selected track, just press the **BACK** button to return to the drop down menu and choose another effect.
- Certain effects are configurable and others are not. To modify these possibilities, use the 4 knobs and the Trackball.

Here is a description of the geometric **Crop** effects:

- **OFF**: De-activation of all **Crop** effects.
- **Crop**: This effect allows you to trim the borders (left, right, up or down) to delete certain zones of the video which you do not wish to display (like, for example the border effects on a camera or DVD player).

Crop

Here are the controls which you will need to configure the **Crop** effect:



Once the **Crop** effect is activated, the LCD screen will indicate the following information:

C	r	o	p	:		C	r	o	p									
L	:		3	3	.	9	%			R	:			9	.	7	%	
U	:		2	1	.	9	%			D	:		1	9	.	8	%	

Helpful Hints:

- The 1st knob controls the L parameter that indicates the proportion of the image which is cropped on the Left.
- The 2nd knob controls the R parameter that indicates the proportion of the image which is cropped on the Right.
- The 3rd knob controls the U parameter that indicates the proportion of the image which is cropped Upwards(Up).
- The 4th knob controls the D parameter that indicates the proportion of the image which is cropped Downwards (Down).
- The Trackball controls the 4 parameters at once and allows you to move the border too.

- **CropCenter**: This effect is identical to the **Crop** effect except that it is always centered on the image. The L and R parameters are always identical. The U and D parameters are always identical.

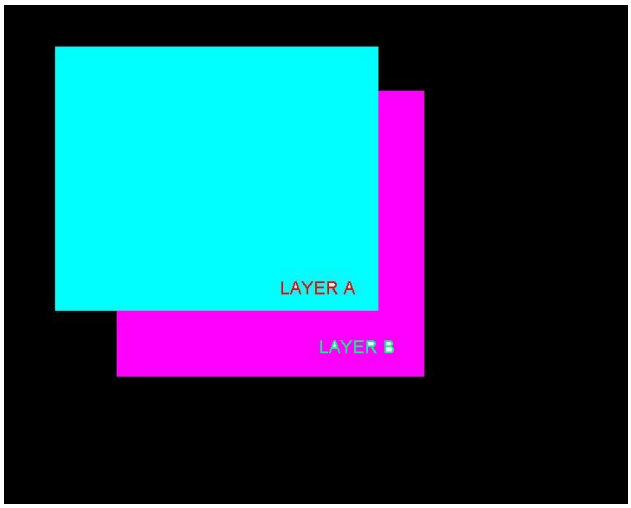
BackGround Alpha geometric effect:

This effect allows you to define the properties of the zones in the video which have been deleted (by the **Crop** or **Scroll** effect). This zone can be:

- Either totally black and opaque (The **Bkg. Alpha** button will be switched OFF).
- Or totally black and transparent (The **Bkg. Alpha** button will be switched ON).

This function is really useful for doing P.I.P. (Picture In Picture).

Example n°1: **Bkg. Alpha** de-activated



Example n°2: **Bkg. Alpha** activated

- In the first example, the track on Layer A has been cropped. The edges are black and opaque because the **Bkg. Alpha** of the track on Layer A is de-activated. The track on Layer B is invisible.

- In the second example, the **Bkg. Alpha** of the track on Layer A is activated. The track on Layer B is visible only where the track on Layer A has been cropped.

VIDEO KEYERS

Introduction:

The VJX16-4 has 4 totally independent video **KEYERs** which allow you to control the Alpha component on each track. The Alpha component manages the transparency of an image and allows you to select areas to make transparent.

The Keyers let you define and choose which color or range of colors to erase or make transparent.

3 different types of Keyers are available, that select which pixels to modify based on varying criteria:

- **ColorKeyer**: Chooses which pixels to erase based on their color (or on their R, G, B components).
- **ChromaKeyer**: Chooses which pixels to erase based on their hue (or on their chrominance Cr, Cb).
- **LumaKeyer**: Chooses which pixels to erase based on their luminance (or on their Y luminance).

The Keyers also have 2 more controls:

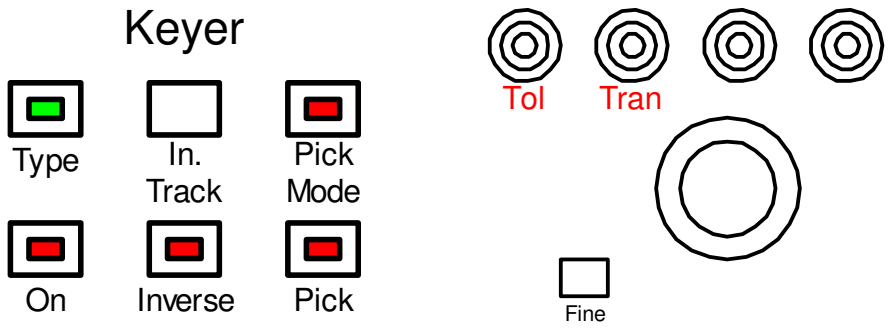
- **Tol**: The tolerance allows you to make the Keyer more or less selective.
- **Tran**: The transition allows you to make the Keyer more or less sensitive and to soften the contours.

The VJX16-4 offers 3 additional modes which allow you to use one of the 3 R, G or B components of the TrackIn as an Alpha component and to use it as a mask.

- **R Mask**
- **G Mask**
- **B Mask**

Configuration:

To configure the Keyer, use the controls from the Keyer section (the 6 buttons Type, In. Track, Pick Mode, On, Inverse and Pick) along with the following shared controls:



Here are the different stages in configuring a video Keyer:

1. Selecting a track:

First of all, choose the video track on which you wish to configure with the video Keyer . To do this, press the SELECT button of the track which you desire (see SELECT FUNCTION chapter).

To configure the video Keyer, press the Type button. This button will light up green and the LED screen will indicate the configuration set-up of the selected Keyer:

C	o	l	o	r	K	e	y	e	r									
I	n	:	T	r	1					P	o	s	t	F	x			
T	o	l	:		6	0		T	r	a	n	:			5			
R	:			0		G	:		5	0		B	:		9	8		

- On the 1st line, the type of Keyer used is shown (ColorKeyer, ChromaKeyer, …).
- On the 2nd line, the number of the input of the Keyer is shown: **In Track** (by default the selected track). It also shows if the video comes before or after the color effects (PreFx / PostFx).
- On the 3rd line, the values of the following parameters are indicated:
  - Tolerance (Tol)
  - Transition (Tran)
- On the 4th line, details about which colors have been modified are shown:
  - Red, Green and Blue for the ColorKeyer,
  - Chroma Red, Chroma Blue for the ChromaKeyer,
  - Luminance for the LumaKeyer.

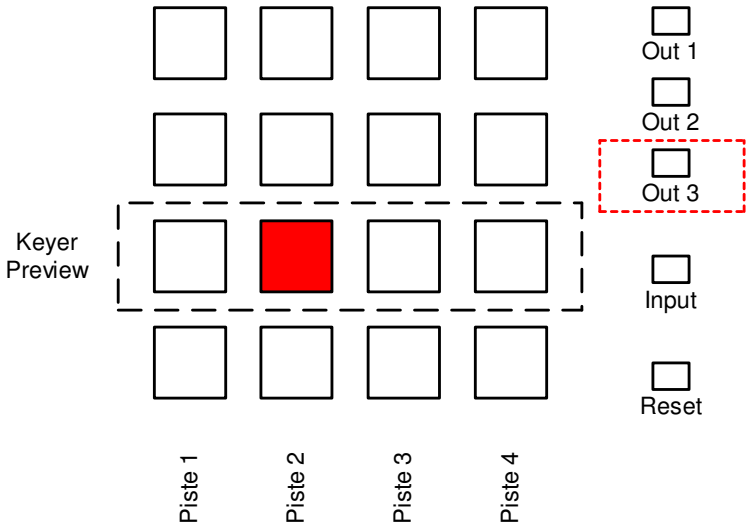
2. Preview:

One preview point is dedicated to video Keyers. This allows you to adjust the Keyer before activating it.

We advise you to configure one of the 3 outputs in preview when you define the parameters of a video Keyer. If one of the 3 outputs is in automatic preview mode, it will automatically switches to the Keyer preview of the selected track once the Keyer selection has been made. Otherwise, refer to the VIDEO OUTPUTS chapter for advice on how to use the preview Keyers.

The following example shows how to preview the video Keyer of track 2 through the OUT 3 output:

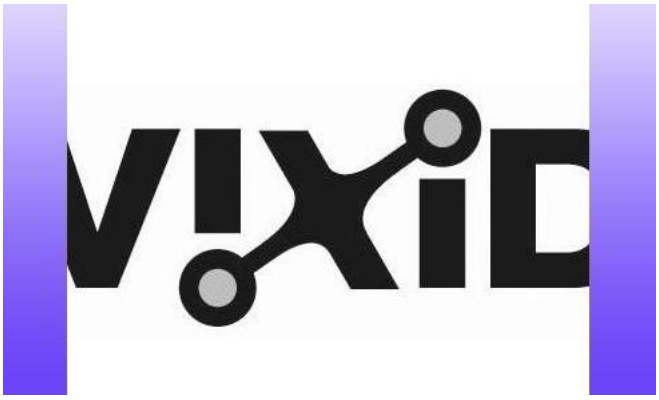
- Configure the OUT 3 video output in preview (see the VIDEO OUTPUTS chapter).
- Keep the **Out 3** button pressed down (one of the buttons on the 4*4 will light up red) and press the button on the 3rd line which corresponds to the track which you want to preview.



Keyer Preview of track n°2

- The LCD screen also indicates information about the preview:

- With the OUT 3 output, you will see:



Preview of a ChromaKeyer

The 2 lateral bands indicate the colors which will be made transparent:

- The precise color which is extracted with a ColorKeyer.
- The range of the colors which are extracted with a ChromaKeyer.
- The luminance of all of colors which are extracted with a LumaKeyer.
- With Red Mask, Green Mask and Blue Mask modes, these bands are respectively red, green and blue.

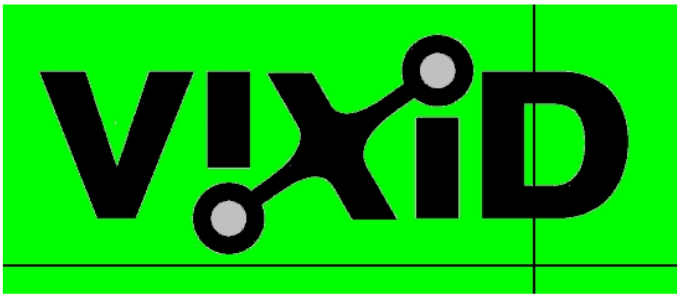
3. Choice of Keyer types:

Choose the type of Keyer by pressing several times on the TYPE button.

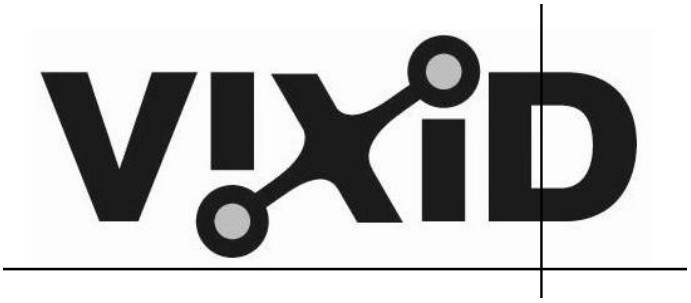
4. Choosing the color:

2 available options:

- The choice of color can be made automatically with the cursor. For this:
  - Press the **Pick Mode** button until the light comes on. A flashing cursor will appear on your preview screen.
  - Use the **Trackball** to move the flashing cross to the area of the image where you wish to delete the color.



  - Press the **Pick** button until the light comes on. In this instance, the VJX16-4 will analyze the color which it finds under the cross and will only delete that color in the whole video.

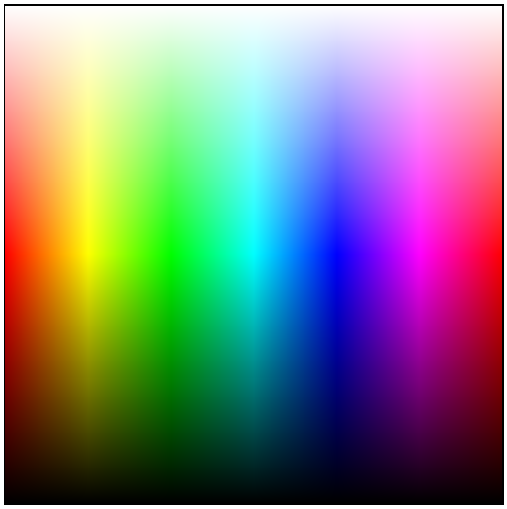


  - If you wish to keep this color, press the **Pick** button again until the light switches off. The table will then memorize the last color selected by the pick.

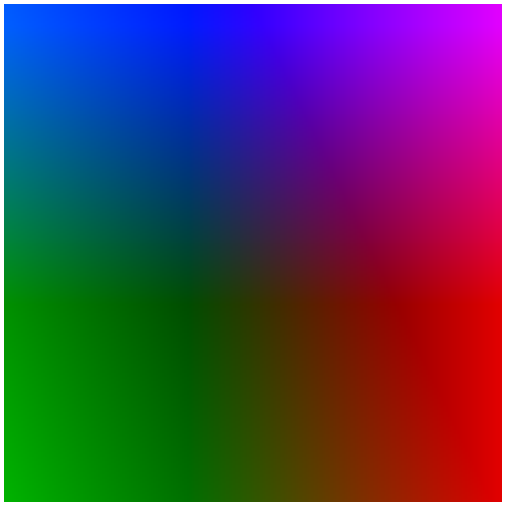
Helpful Hint*:*

Using the cursor in real time (illuminated **Pick** button) is ideal for applications on the background (blue/green screen) where the luminance varies (ex. shadows cast on background by moving objects or actors ...). The VJX16-4 acts instantly on this and automatically re-adjusts its Keyers without user intervention.

- The choice of the color can also be made manually. For this:
    - Press the **Pick Mode** button until the light switches off.
    - Use the **TrackBall** to choose precisely the color that you wish to delete. Here is the organization of color spaces with the **Trackball** according to the type of Keyer used*:*



Color Keyer



Chroma Keyer

Luma Keyer

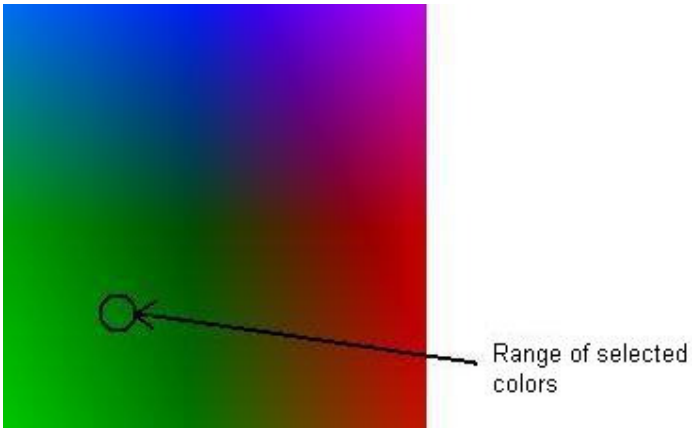
Use the 2 vertical bands of color as well as the LCD screen to help you to choose the exact color.

5. **Tolerance** / **Transition** parameters:

The Keyers also have 2 other parameters: the **tolerance** and the **transition**.

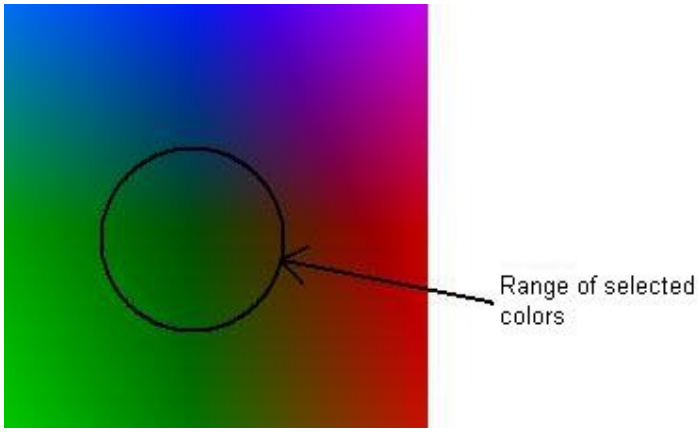
- **Tol**: The tolerance allows you to make the Keyer more or less selective. By increasing this parameter, the range of selected colors will be the more important.

In the example below, we have chosen a low Tolerance: **Tol** = 5. The range of colors selected by the table is small.



Tol = 5

In the next example, we have chosen a higher Tolerance: **Tol** = 30. The range of colors selected by the table is higher. Here we have selected not only pure greens but also greens with traces of blue or red in them too.



Tol = 30

- **Tran**: The transition allows you to make the Keyer more or less sensitive. By increasing this parameter, you will soften the borders between the selected colors and the deleted colors. This is very useful specifically if the video source is bad quality or if it has been compressed.

To modify these 2 parameters, use the 2 knobs to the left of and above the Trackball. The 1st knob allows you to modify the tolerance and the 2nd knob allows you to modify the transition. Also use the preview and the LCD screen to preview the result and control your parameters.

6. **Inverse button:**

The **Inverse** button allows you to reverse the color selection:

- When the **Inverse** button is illuminated, the color selected is deleted and the other colors are saved.
- When the **Inverse** is switched off, the selected color is saved and the other colors are deleted.

7. **On** Button:

Every Keyer is active in preview. To activate it on the MASTER output, press the **On** button until it lights up.

This function allows you to prepare and parameter each Keyer in preview without affecting the MASTER output.

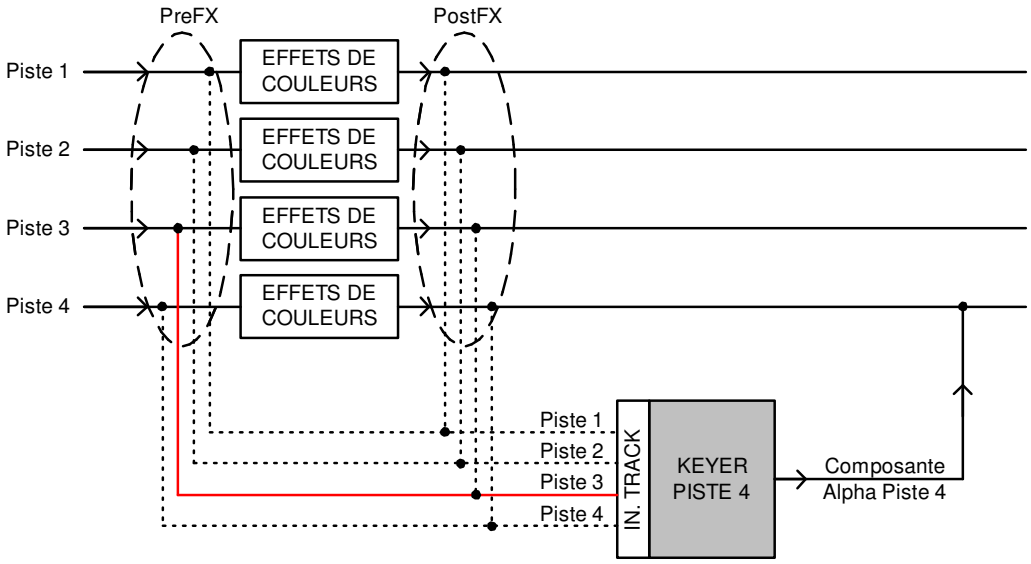
Choosing the video source of a Keyer: **In. Track**:

What's more, the video source can be selected before (PreFx) or after (PostFx) applying the color effects:

- By using the video source before the color effects, (PreFx) you can modify the colors of your video track without having to modify the extraction of your Alpha component.
- By using the video source after the color effects (PostFx), you can modify the extraction of your Alpha component by modifying for example the RGB balance.

Use the **In. Track** button to select the video source of the Keyer.

In the example below, the **In. Track** input of the Keyer of track 4 is the track 3 PreFx:



R, G, B Mask:

The 3 keyer modes: R Mask, G Mask, B Mask allow you to extract one of the 3 Red, Green or Blue components (R, G or B) of the In.Track and to use it as a mask on the selected track.

The 3 components of the video are separated (Red Component, Green Component, Blue Component) and are used as masks.

Thus, in Red Mask mode, zones which contain red pixels (white zones of the mask) are made opaque while zones without red pixels (black zones of the mask) are made transparent. The same goes for the two other masks.

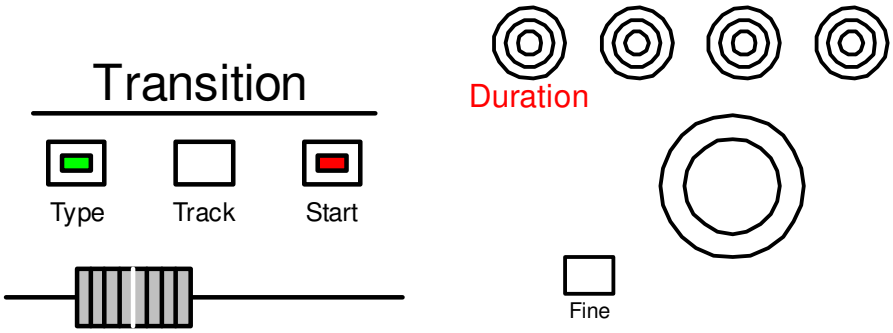
TRANSITIONS

Introduction:

The **Transition** section allows you to change the opacity of the chosen track and make it totally transparent at the end of the transition. Only one transition can be made at one time.

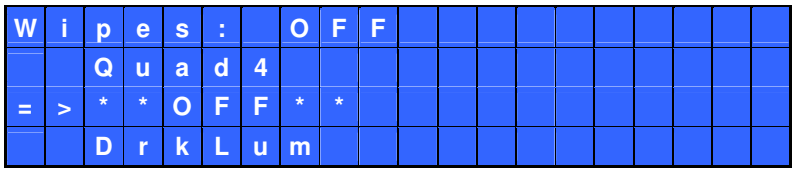
Settings:

Here are the controls which you will need to configure the **Transitions:**



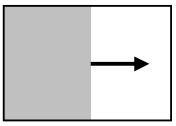
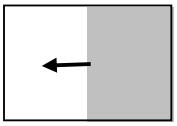
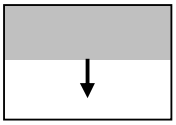
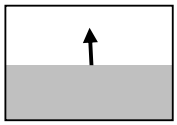
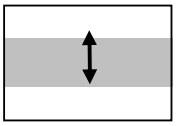
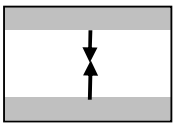
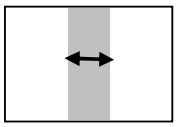
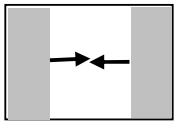
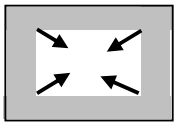
1. Choosing the type of transition:

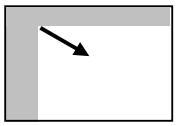
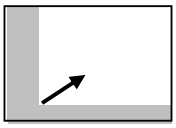
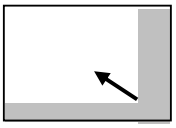
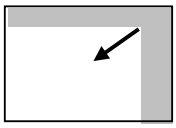
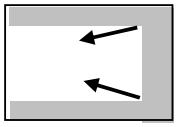
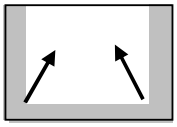
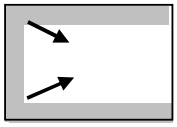
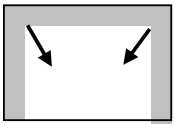
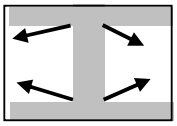
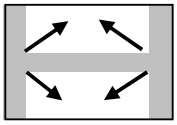
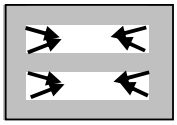
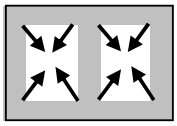
The mixer features many types de transitions. To access the transitions, just press the Type button of the **Transition** section. This button will light up green and the LCD screen will display the **Transition** effects menu:

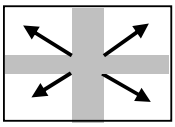
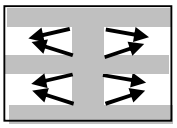
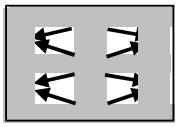
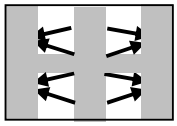


- On the 1st line the type of transition applied is indicated. By default, no transition is applied: OFF.
- On the bottom 3 lines, is a drop down menu which you navigate by turning the rotating wheel (**JOG**).
- If you wish to apply a transition on the selected track (for example the **DrkLum** transition effect), you just need to navigate down the menu until the effect you desire appears next to of the cursor. Then press the **ENTER** button to activate the chosen transition.
- If you wish to apply another type of transition to the selected track, just press the **BACK** button to return to the drop down menu and choose another effect.
- On the right hand side of the LCD screen, a pictogram represents the type of wipe for the Lin, Cent, Corn, Mid, Doubl and Quadra transitions.

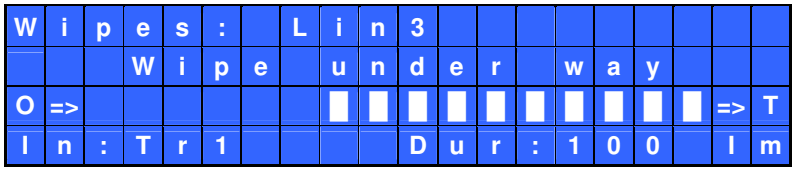
Here is the list of the transitions available with the VJX16-4:

Type of transition	Name of the transition	Symbol	Notes
Luma	DrkLum	-	**DarkLuma**: allows you to erase dark and then light zones of the video.
	LgtLum	-	**LightLuma**: allows you to erase light and then dark zones of the video.
Linear	Lin1		-
	Lin2		-
	Lin3		-
	Lin4		-
Centered	Cent1		-
	Cent2		-
	Cent3		-
	Cent4		-
	Cent5		-

Type of transition	Name of the transition	Symbol	Notes
Corner	Corn1		-
	Corn2		-
	Corn3		-
	Corn4		-
Middle	Mid1		-
	Mid2		-
	Mid3		-
	Mid4		-
Double	Doubl1		-
	Doubl2		-
	Doubl3		-
	Doubl4		-

Type of transitions	Name of the transition	Symbol	Notes
Quadra	Quad1		-
	Quad2		-
	Quad3		-
	Quad4		-

Once you have selected the type of transition, the LCD screen will indicate the following information:



- On the 1st line the type of transition is shown.
- On the 2nd line the state of the transition is shown: (Opaque, Wipe under way, Transparent).
- On the 3rd line :
  - O: Opaque ; T: Transparent. This indicates on which side the transition slider should be in order that the video be totally opaque or totally transparent.
  - The 2 arrows always indicate the direction of progression of the transition between total opacity and total transparency.
  - The progression bar indicates the state of the transition.
- On the 4th line:
  - The **In** information indicates on which track the transition is applied (**Tr1** = Track1)
  - The **Dur** information indicates the duration (in number of images) of an automatic transition.

2. Choosing a track:
Then choose the track upon which you wish to make the transition. For this, press several times on the **Track** button to choose your track. (Example: In:Tr3).

Warning: you cannot modify the track while the transition is in progress !

3. Automatic Transitions:
The VJX16-4 allows you to manage the transitions either manually, or automatically. In automatic mode, you can configure the duration of the transition by using the left knob of the shared controls: DURATION.

Tip n°1:
- The duration of the automatic transition (the number of images) are at [1 ; 150] in the range of values.
- In PAL / SECAM, there are 25 images per second ; in NTSC, there are 30 images per second. The duration of the transition depends on the video standard. Thus, the automatic transitions can be executed between 0 (dur = 1) to 6 seconds (dur = 150) in PAL and in a range of duration from 0 (dur = 1) to 5 seconds (dur = 150) in NTSC.

Tip n°2:
- Whilst the automatic transition is in progress, you can modify this duration by shortening or lengthening the transition.
- To start up an automatic transition, first of all check that the slider is at either end of the scale (completely to the right or completely to the left) If not, you cannot start up your automatic transition.
- To activate the automatic transition, press the START button. You will notice the message: "Wipe under way" on the LCD screen during the transition and the red LED of the START button will light up. The transition is carried out through the MASTER output and the selected track disappears progressively.

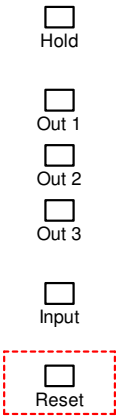
4. Manual Transitions :
The manual transitions are managed with the slider fader, simply move it to control your transition.

5. Helpful Hints:
- The manual transitions override the automatic transitions.
- You can launch a manual transition by moving the slider while an automatic transition is underway. The automatic transition will stop instantly and you can take control manually.
- As long as the slider is not at either end of the scale, video mixer will consider that the transition is in progress. You cannot start up new automatic transitions and you cannot modify the number of the track.
- While an automatic transition is in progress, you can interrupt it and re-launch it by pressing the START button again.
- The LCD screen shows you how far you need to move the slide fader in order to make the track completely transparent thanks to the 2 arrows on either side of the progression bar. If you move the slider in the opposite direction, you will invert the transition and the track will re-appear. You will notice that each time that you finish an automatic transition the direction will invert.
- If you want to carry out a transition on another track, you will notice that the track in progress will be automatically "Muted" (the red LED of the MUTE button will light up) if this one was made completely transparent during the previous transition.

RESETTING THE PARAMETERS OF A TRACK

Introduction:

You can, at any moment, re-boot the parameters of the different sections of the machine (effects, keyer, tracks, audio, …) For this, use the **Reset** button:



Tip: The re-booting of one part or all of the parameters of a track does not affect the parameters of the other tracks.

Resetting a section or sub-sections of a track:

The sections or sub sections can be re-booted independently on each track. Here is the list:

- **Keyer** Section
- **Fx** sub-section
- **Motion** sub-section
- **Crop** sub-section
- **RGB** sub-section
- **BCS** sub-section
- **Audio Type** sub-section
- **Audio Link** sub-section

1. Select the track on which you wish to reset a section or sub-section by using the **Select** button (see SELECT FUNCTION chapter).

2. Hold down the **Reset** button, then press:

- The **Type** button of the Keyer section to re-boot the Keyer effects
- The **Fx** button of the **Fx** sub-section to re-boot the **Fx** effects
- The **Motion** button of the **Motion** sub-section to re-boot the **Motion** effects
- The **Crop** button of the **Crop** sub-section to re-boot the **Crop** effects
- The **RGB** button of the **RGB** sub-section to re-boot the **RGB** effects
- The **BCS** button of the **BCS** sub-section to re-boot the **BCS** effects
- The **Type** button of the **Audio** sub-section to re-boot the audio extraction settings
- The **Link** button of the **Audio** sub-section to re-boot the audio extraction links

Your sections or sub-sections will then be re-booted.

3. Now release the 2 buttons.

Resetting a track:

1. To initialize all the parameters of a track, press and leave the **Reset** button pressed down, then press the **Select** button of the track which you would like to reset. Then release the 2 buttons.

2. Your track is then reset:
- BLEND mode becomes Normal mode.
- The Keyer, Effects and Color sections are reset.
- The Audio Link sub-section is reset.

Tip: The gain, the transparency, the Mute and Solo buttons are not modified.

PRESET

Introduction:

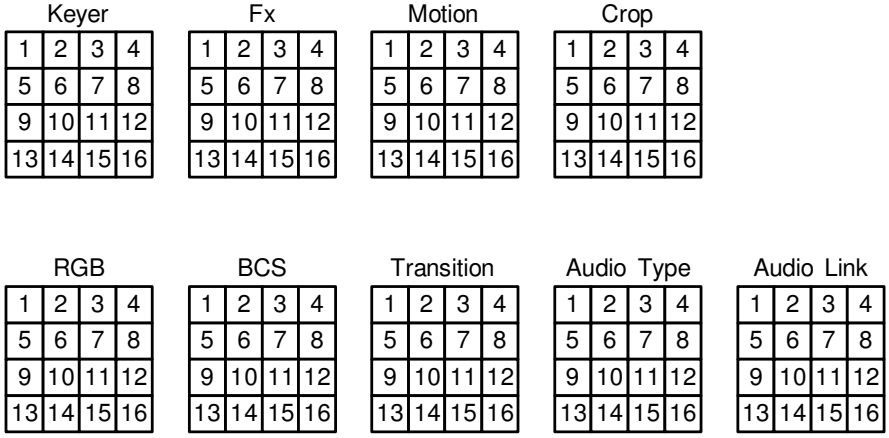
The VJX16-4 has a bank of 16 user presets for each of the sections or sub-sections of the table. These presets can be used or saved at any moment, using the 4*4 matrix.

Organization of the presets:

For each of the 9 following sections or sub-sections, you have 16 presets:

- **Keyer** section
- **Fx** sub-section
- **Motion** sub-section
- **Crop** sub-section
- **RGB** sub-section
- **BCS** sub-section
- **Transition** sub-section
- **Audio Type** sub-section
- **Audio Link** sub-section

All of the parameters which allow the configuration of each the sections or sub-sections are saved in the presets. However, the **In. Track** parameter of the **Keyer** section and the **Track** parameter of the **Transition** section are not saved.



Organization of presets on the VJX16-4

You can also save or recall all the parameters of one track on the 9 preset banks. Recalling a preset by track will reload all 9 preset banks. For example: if you recall preset n° 6 of a track, this action will subsequently recall Keyer preset n° 6, Fx preset n° 6 and so on.

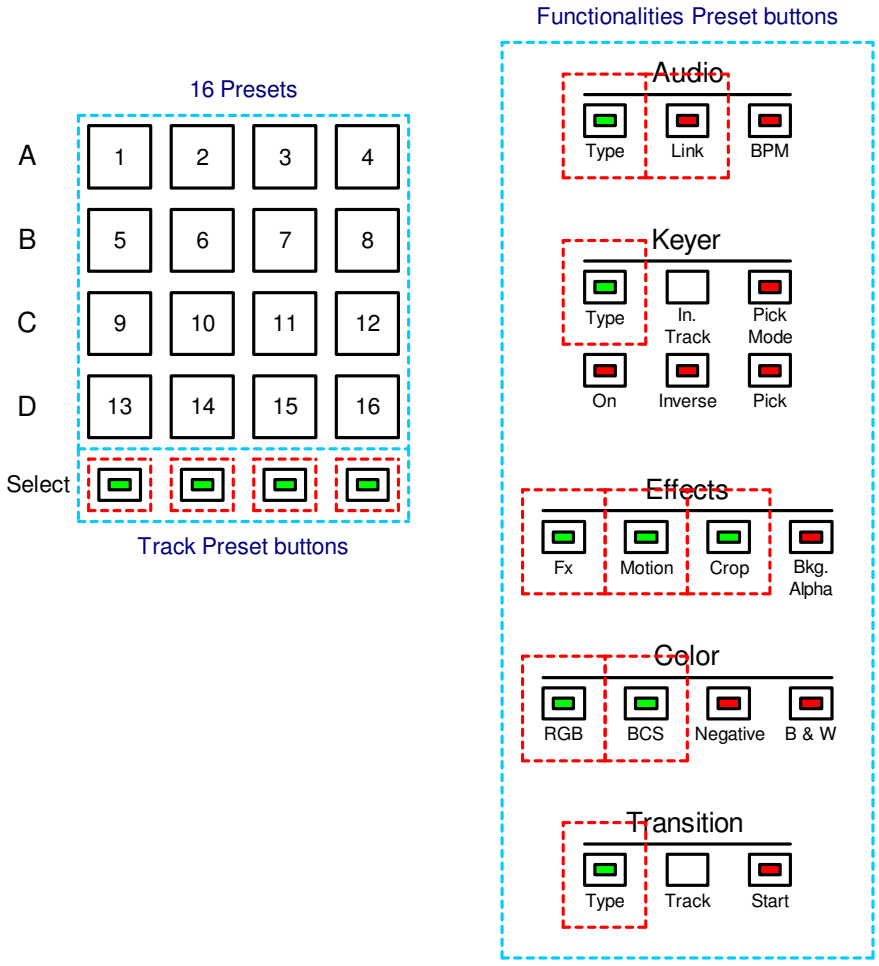
You also have 16 presets available to configure your tracks which contain the parameters of the following section or sub-sections:

- **Keyer** Section
- **Fx** sub-section
- **Motion** sub-section
- **Crop** sub-section
- **RGB** sub-section
- **BCS** sub-section
- **Blend** sub-section
- **Bkg. Alpha** sub-section
- **Negative** sub-section
- **B & W** sub-section

Recalling the presets:

To recall the presets and to assign all of the parameters to the section or sub-section of the selected tracks, keep the button of the section or sub-section you wish to reload, pressed down, and then press one of the 16 buttons of the 4*4 matrix, to reload the parameters.

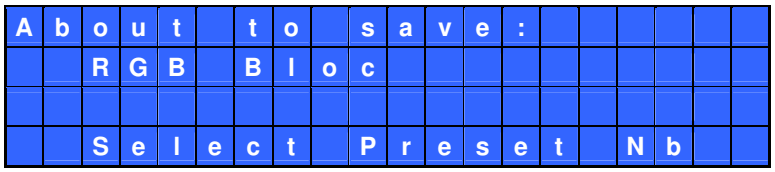
To reload a preset of track, press down on the SELECT button of the track that you wish to reload and press one of the 16 buttons of the 4*4 matrix to reload the parameters.



Saving presets:

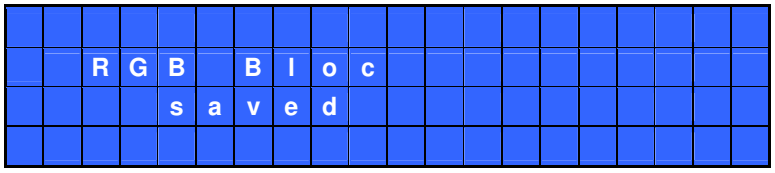
From the first time you switch the VJX16-4 on, all the Presets are initialized with the Factory Presets. You can then modify and save each of these presets.

- To save one section or sub-section:
  - Select the section or sub-section that you wish to save.
  - Press the **Preset** button. The LCD screen will then display the option to save the section or sub-section in one of the 16 Presets:



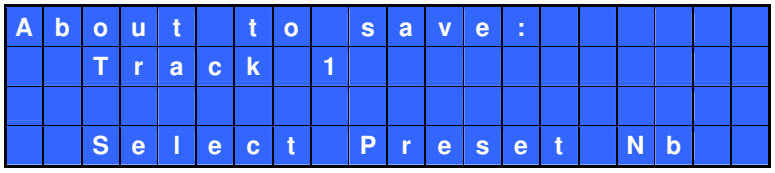
Screen showing the saving option for an RGB Preset

  - Now press the button on the 4*4 matrix corresponding to the preset which you wish to use. The former preset is replaced by the new parameters. The LCD screen indicates that it has been saved successfully.



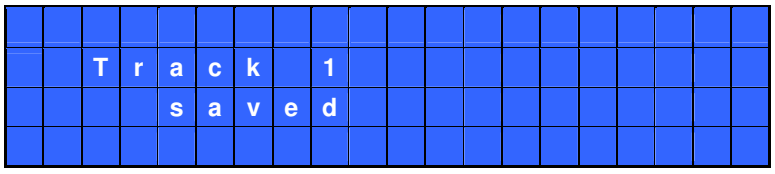
Screen display confirming that an RGB Preset has been saved

- To save a track:
  - Press the **Preset** button, then the **Select** button of track which you wish to save. The screen will show you the option to save all of the parameters of the track in one of the 16 Presets:



Screen showing the saving option for Track 1

  - Then press the button on the 4*4 matrix which corresponds to the preset which you want to use. The old preset is replaced by the new parameters. The LCD screen indicates that it has been saved successfully.



Screen display confirming that Track 1 has been saved

Tip: All Presets are saved in the memory of the table even after it has been switched off.

Resetting the presets:

You can reset all of the Presets of the table with the Factory Presets. In this case, the presets you may have saved previously are lost and replaced with the factory presets.

Refer to the MASTER MENU chapter for a description of how to reset the presets.

MIDI FUNCTIONS

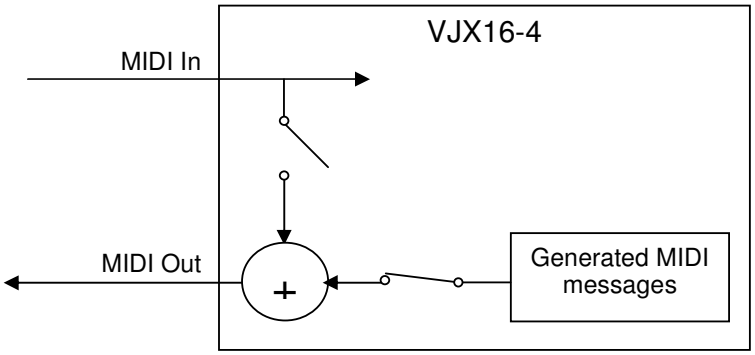
MIDI In:
Thanks to the MIDI IN input, you can control all the parameters of the mixing deck, live with a MIDI controller, or even with your favorite audio sequencer.

Helpful Hints:

- The VJX16-4 only follows **Control Change** MIDI messages
- A number on the controller is allocated to each function.
- Each track has a channel number:
  - track n°1 is on channel n°1,
  - track n°2 is on channel n°2,
  - track n°3 is on channel n°3,
  - track n°4 is on channel n°4.
- All the general parameters of the table are on channel n°5.
- You can activate/de-activate each of the 5 MIDI In channels. To do so, see the MENU MASTER chapter.

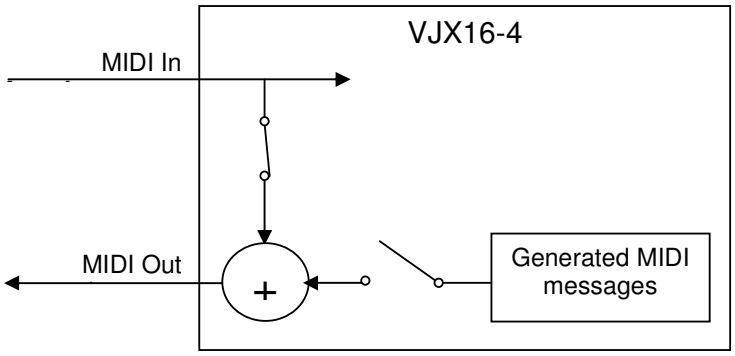
MIDI Out:
2 types of configurations are possible with the MIDI Out output:

- The **Out mode:** In this mode, the table only sends MIDI messages generated by the table. These messages reflect the actions of the user on the control panel. The messages coming from the MIDI In input are not re-transmitted towards the MIDI Out output.



Mode Out

- The **Thru mode:** In this mode, only the messages from the MIDI In input are transmitted towards the MIDI Out output. The MIDI messages generated by the table are not sent towards the MIDI Out output.



Mode Thru

Helpful Hint: To modify the configuration of the MIDI Out output, see the MENU MASTER chapter.

MIDI Implementation:

Here is the MIDI messages table of the VJX16-4.

	Channel 1-4 (Track 1-4)			
	CCNb	**Function**	**Values**	
Crop	**0**	CropL		
	1	CropR		
	2	CropU		
	3	CropD		
Fx	**4**	Scroll X		
	5	Scroll Y		
	6	BlowL		
	7	BlowR		
	8	BlowU		
	9	BlowD		
Keyer	**10**	Tolerance		
	11	Transition		
	12	PickerX		
	13	PickerY		
Track	**64**	Input selection	0-31	Input 1
			32-63	Input 2
			64-95	Input 3
			96-127	Input 4
	65	Solo	0-63	Solo Off
			64-127	Solo On
	66	Mute	0-63	Mute Off
			64-127	Mute On
	67	Negative	0-63	Negative Off
			64-127	Negative On
	68	B&W	0-63	B&W Off
			64-127	B&W On
	69	BkgAlpha	0-63	Background Alpha Off (black)
			64-127	Background Alpha On (alpha)
	70	Opacity		
	71	Gain		
Track	**72**	BlendMode	0-7	Normal
			8-15	Additive
			16-23	Average
			24-31	Darken
			32-39	Lighten
			40-47	Stamp
			48-55	Diff
			56-63	Subtract
			64-71	Negation
			72-79	Xor
			80-87	Red
			88-95	Green
			96-127	Blue

Track	**73**	Layer	0-31	Layer A
			32-63	Layer B
			64-95	Layer C
			96-127	Layer D
RGB Balance	**75**	Red Gain		
	76	Green Gain		
	77	Blue Gain		
	78	Red Offset		
	79	Green Offset		
	80	Blue Offset		
BCS	**81**	Brightness		
	82	Contrast		
	83	Saturation		
Motion Fx	**84**	ON/OFF	0-63	Motion Fx Off
			64-127	Motion Fx On
	85	Type	0-31	Freeze
			32-63	Slowmo
			64-95	Strobe
			96-127	Block
	86	AlphaPeriod		
	87	Period		
	88	BlocParamX		
	89	BlocParamY		
Crop	**90**	ON/OFF	0-63	Crop Off
			64-127	Crop On
	91	Type	0-63	Crop
			64-127	CropCenter

Keyer	**102**	ON/OFF	0-63	Keyer Off
			64-127	Keyer On
	103	Type	0-15	Color Keyer
			16-31	Chroma Keyer
			32-47	Luma Keyer
			48-63	Red Mask
			64-79	Green Mask
			80-127	Blue Mask
	104	TrackIn	0-31	Track 1
			32-63	Track 2
			64-95	Track 3
			96-127	Track 4
	105	Pre/Post	0-63	Pre-Fx
			64-127	Post-Fx
	106	Inverse	0-63	Inverse Off
			64-127	Inverse On
	107	Color1 (Red / Y)		
	108	Color2 (Green / Cr)		
	109	Color3 (Blue / Cb)		
	110	Pick Mode	0-63	"Map" Mode
			64-127	Picker Mode
	111	Picker State	0-63	Picker disabled
			64-127	Picker enabled
Fx	**112**	ON/OFF	0-63	Fx Off
			64-127	Fx On
	113	Type	0-7	Miror L
			08-15	Miror R
			16-23	Miror U
			24-31	Miror D
			32-39	Flip H
			40-47	Flip V
			48-55	Rot180
			56-63	Blow
			64-71	Scroll
			72-79	Scroll Wrap
			80-87	Scroll X
			88-95	Scroll Y
			96-103	Scroll X Wrap
			104-111	Scroll Y Wrap
			112-27	Mosaic
	114	Zoom X		
	115	Zoom Y		
	116	Zoom XY		
	117	Mosaic Zoom X		
	118	Mosaic Zoom Y		
	119	Mosaic Zoom XY		

Channel 5 (Master)				
	CCNb	**Function**	**Values**	
	0	Mix Mode	0-63	Compositing Mode
			64-127	Battle Mode
Output	**1**	Out1 Config	Cf Table	
	2	Preview1	Cf Table	
	3	Out2 Config	Cf Table	
	4	Preview2	Cf Table	
	5	Out2 Config	Cf Table	
	6	Preview3	Cf Table	
Wipes	**7**	State	0-63	Wipes Off
			64-127	Wipes On
	8	Type	Cf Table	
	9	TrackNb	0-31	Track 1
			32-63	Track 2
			64-95	Track 3
			96-127	Track 4
	10	Duration		
	11	Fader		

Output Config	
0-31	Master
32-63	Master2
64-95	Preview
96-127	Auto Preview

Preview Point		
0-7	Track1	PreFx
08-15		PostFx
16-23		Keyer
24-31		Out Blend
32-39	Track2	PreFx
40-47		PostFx
48-55		Keyer
56-63		Out Blend
64-71	Track3	PreFx
72-79		PostFx
80-87		Keyer
88-95		Out Blend
96-103	Track4	PreFx
104-111		PostFx
112-119		Keyer
120-127		Out Blend

Helpful Hint: This table is fixed and cannot be modified.

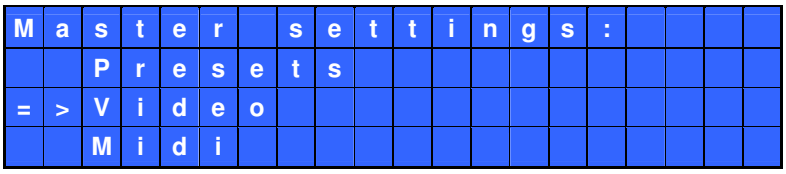
MASTER MENU

Introduction:

The MASTER menu allows you to configure the general parameters of the table:

- Configuration of the Human Machine Interface (control panel)
- Re-initialization of the Presets (predefined parameters)
- Configuration of the MIDI inputs/outputs
- Configuration of the video inputs/outputs.

To do this, press the **Menu** button and use the rotating wheel along with the **Back** and **Enter** to navigate the menu. The LCD screen will display the MASTER menu:

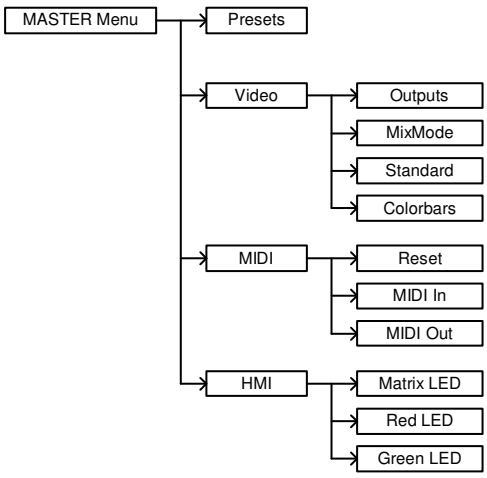


- The 1st line shows the MASTER menu "Master settings".
- On the last 3 lines, you can navigate the drop-down menu with the rotating wheel (**JOG**).
- If you want to configure one of the parameters of the table, just navigate down the menu until the parameter you desire appears next to the cursor. Press the **Enter** button to configure the parameter.
- If you want to configure one of the other parameters of the table, just press the **Back** button until you return to the MASTER menu list.

Helpful Hints:

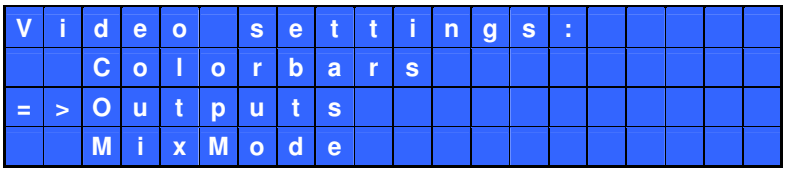
- Press the **Type** button of the Transition section, the **RGB** or **BCS** button of the Color section, the Fx, Motion or Crop button of the Effects section, the Type button of the Keyer section or the Type button of the Audio section allows you to leave MASTER menu.
- All the effects of general configuration are memorized even after having switched off the power (except for the video color bar).

Here is a diagram of the MASTER menu:



General configuration of video parameters:

To configure the video parameters, go to the Video menu. The LCD screen will display the Video Settings menu:



- Configuration of video outputs:

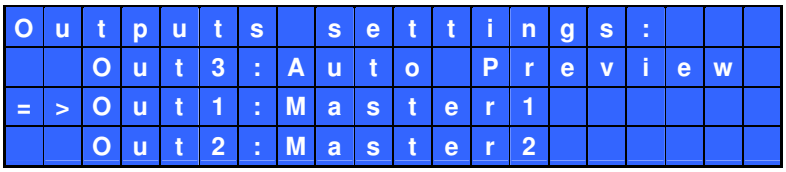
The VJX16-4 has 2 MASTER (MASTER 1 and MASTER 2) buses, in addition to 16 preview points (see the ARCHITECTURE OF THE VJX16-4 chapter).

Each of the 3 outputs can be configured:
- either as the main output n°1 (Master1),
- or as the main output n°2 (Master2),
- or as the manual preview (Preview),
- or through the automatic preview (Auto Preview).

A description of the MASTER 1 and MASTER 2 buses is given in the COMPOSITION OF VIDEO TRACKS chapter.

Refer also to the VIDEO OUTPUTS chapter.

To configure the 3 video outputs of the table, go to the Outputs menu. The LCD screen will display the configuration menu of the video outputs:

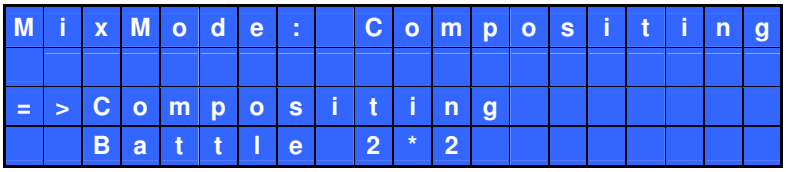


To configure one of the 3 outputs, just navigate down the menu until the desired output appears next to the cursor. Press the **Enter** button several times to configure the output in the mode which you desire.

- Configuration of the mixing mode (**MixMode**):

See the 'Mixing Mode' chapter for more information on the mixing mode of the table.

To configure the mixing mode of the table, go to the **MixMode** menu. The LCD screen will display the configuration menu:



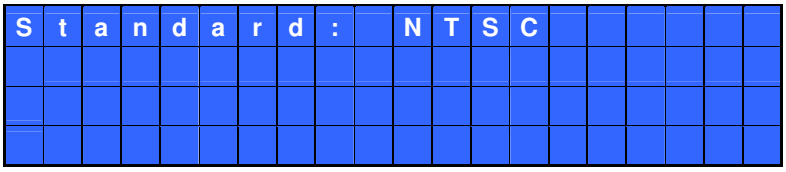
Turn the rotating wheel (JOG) until the cursor is in front of the desired Mixing Mode, then press the **Enter** button.

- Configuration of the video standard of the table:

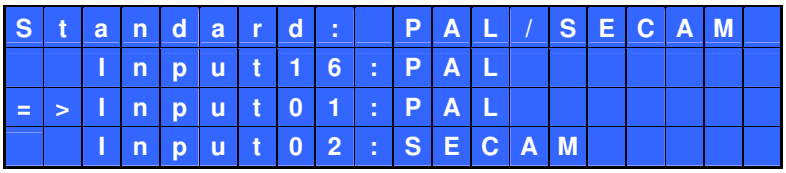
The VJX16-4 can be configured in PAL/SECAM (50 Hz) or in NTSC (60 Hz) thanks to the PAL/NTSC selector on the rear panel. See the Connection chapter for more information.

To display and configure the video standard, go to the **Standard** menu:

  - When the selector is in the N position (NTSC), all the inputs and outputs are configured in NTSC. The LCD screen then displays the video standard you have selected :



  - When the selector is in the P position (PAL), all the outputs are configured in PAL but the inputs can be configured in PAL or SECAM. The LCD screen then displays the video standard you have selected:

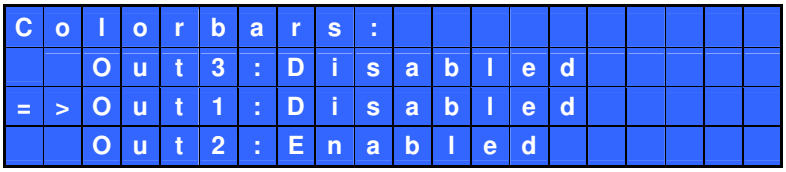


Turn the rotating wheel (JOG) until the arrow is next to the input you wish to modify. Then press **Enter** button to activate the PAL or SECAM standard.

- Activation of color bars on the video outputs:

You can activate the color bars on each of the 3 video outputs.

To activate the video color bars, go to the **Colorbars** menu. The LCD screen displays the activation menu of the video color bars of each of the 3 outputs:

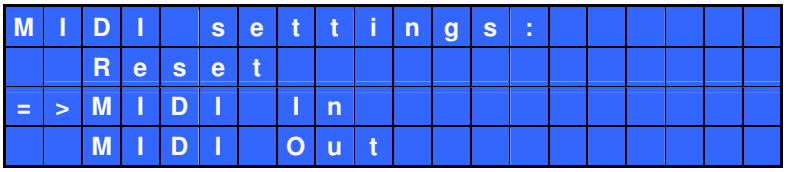


Turn the rotating wheel (JOG) until the cursor is next to the output you want to modify. Press the **Enter** button to activate/de-activate the color bars.

Tip: Enabled = Activated ; Disabled = De-activated.

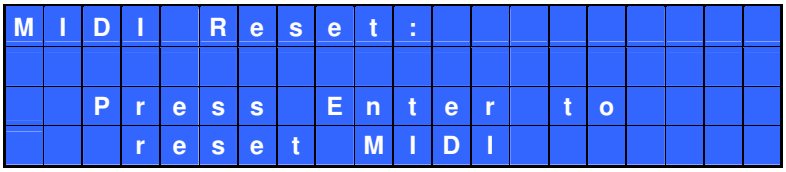
Configuration of the MIDI interface:

To configure the MIDI interface of the table, go to the **MIDI menu**. The LCD screen displays configuration menu of the MIDI parameters:



- Re-booting the MIDI state machine:

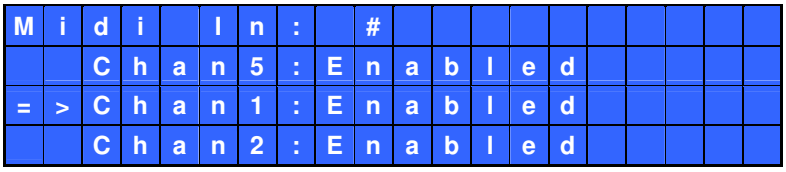
To re-boot the MIDI state machine of the table, just navigate the drop-down menu until the cursor appears in front of the Reset heading. Then press the **Enter** button to re-boot the state machine. A new display will then appear in the LCD screen:



Press the **Enter** button again to confirm the re-boot.

- Configuration of the MIDI In:

Go to the Midi In menu. The LCD screen will then display the configuration menu of MIDI In input:

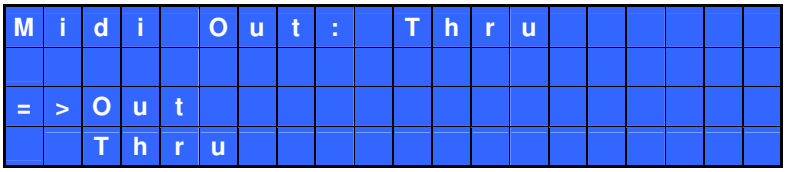


To configure the MIDI channels, you just need to navigate the menu until the cursor appears next to the channel you wish to modify. Then press the **Enter** button to activate/de-activate the channel.

Tip: The # symbol appears on the first line when the table is receiving MIDI data.

- Configuration of the MIDI Out output:

Go to the Midi Out menu. The LCD screen will then display configuration menu for the Midi Out output:



Turn the rotating wheel (JOG) until the cursor is next to the desired configuration. Then press the **Enter** button to activate the desired configuration.

Tip: See the MIDI FUNCTIONS chapter for more information.

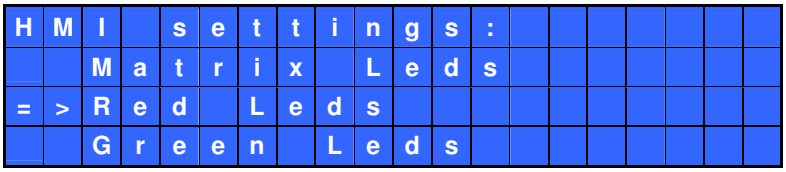
Configuration of the Human Machine Interface:

You can adjust the brightness of the LED of the control panel of the table. You can adjust separately:

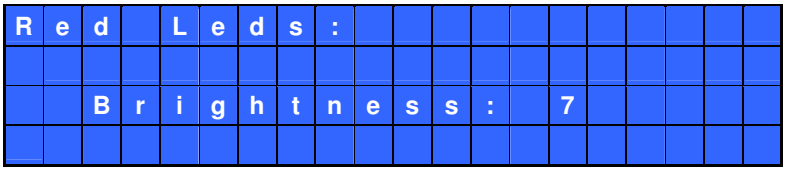
- the red LED of the 4*4 Matrix (Matrix LED),
- the red tactile LED buttons (Red LED),
- the green tactile LED buttons (Green LED).

Tip: If you use the machine in bright light or during the day, you will need to increase the luminance of the LED. Whereas using it in a theatre or nightclub (in a dark environment) will need to decrease the brightness to avoid giving off a glare.

Go to the HMI (Human Machine Interface) menu. The LCD screen will then display the general menu for tuning the brightness of the LEDs.



Turn the rotating wheel (JOG) until the cursor is opposite the LEDs. To edit them, press the **Enter** button. The LCD screen will then display the statistics of the brightness of the chosen LED.



Turn the rotating wheel (JOG) to increase or decrease the brightness of the LEDs. The brightness is [1 ; 7] in the range of values, 1 being the minimum brightness and 7 the maximum.

Re-booting of the Preset bank:

You can re-boot the whole bank of factory Preset in the table. You then delete all the user Presets that you may have previously saved. See the PRESET chapter for more information.

Go to the Presets menu. The LCD screen will then display a message confirming that the factory presets have been reset*:*

P	r	e	s	e	t	s		s	e	t	t	i	n	g	s	:		
	P	r	e	s	s		E	n	t	e	r		t	o				
	r	e	s	t	o	r	e		f	a	c	t	o	r	y			
	P	r	e	s	e	t	s											

Then press the **Enter** button to re-boot the Presets. Or, press the **Back** button to cancel. A new confirmation will appear on the screen:

P	r	e	s	e	t	s		s	e	t	t	i	n	g	s	:		
	A	l	l		P	r	e	s	e	t	s		w	i	l	l	b	e
		l	o	s	t	:		C	o	n	t	i	n	u	e	?		

Press the **Enter** button again to confirm the action. Or, press the **Back** button to cancel.

SPECIFICATIONS

Video Processing		
Video Format	PAL or NTSC (CVBS or S-Video)	
Video Sampling	4:2:2 (Y, Cr, Cb) 8 bits 13.5 MHz (BT.601)	
Effects	Geometric effects, Color effects, transitions, Video Keyers, …	
Audio Processing		
Audio Inputs		
Audio Outputs		
Connectors		
SD Input	Video Composite * 8	RCA Type (1.0 V_{p-p}, 75 Ohm)
	S-Video (Y/C) * 8	4 pin mini DIN type (Y: 1.0 V_{p-p}, C: 0.286 V_{p-p}, 75 Ohm)
SD Output	Video Composite * 3	RCA Type (1.0 V_{p-p}, 75 Ohm)
	S-Video (Y/C) * 3	4 pin mini DIN type (Y: 1.0 V_{p-p}, C: 0.286 V_{p-p}, 75 Ohm)
MIDI Interface	Input	MIDI 5 pin DIN Type
	Output	MIDI 5 pin DIN Type
Audio interface		
Others		
Power Supply	5 V DC– 3 A	
Power Consumption	15 W	
Dimensions	300 * 350 * 100 mm 11.8 * 13.7 * 3.9 inches	
Weight	4 kg 8.8 lbs	