PILOT 3000
PROFESSIONAL
LIGHTING CONSOLES

USER'S MANUAL REL. 1.00

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SGM®
Technology for Lighting

Vi ringraziamo per aver acquistato un prodotto SGM.
Per ottenere i migliori risultati dal suo utilizzo, vi preghiamo di leggere attentamente questo manuale di istruzioni. Al suo interno troverete le informazioni tecniche e le specifiche d'uso del prodotto. Nelle pagine in appendice troverete inoltre schemi e diagrammi destinati all'assistenza tecnica.
Nell'ottica di qualità SGM, è possibile che l'Azienda apporti migliorie ai suoi prodotti, per cui consigliamo di allegare il manuale al prodotto stesso e di trascrivere il numero di serie nell'ultima pagina della copertina: utilizzando il presente manuale con un apparecchio fabbricato prima o dopo la sua stampa, potrebbero esserci discrepanze fra l'apparecchio e quanto riportato nel Manuel stesso.

Thank you for buying an SGM product.
To obtain the best results, please carefully read this instruction manual in which you will find technical information and specifications for use of the product, as well as diagrams for technical service in the appendix.
In light of SGM quality, the company may make improvements to its products. Therefore, we recommend that the manual be attached to the product and the serial number copied onto the back cover: using this manual with equipment manufactured before or after its printing, might show discrepancies between the equipment and the information listed in the manual.

Wir danken Ihnen für den Kauf eines Produkts von SGM.
Zur Erzielung der besten Resultate bei der Benutzung bitten wir Sie, die vorliegende Bedienungsanleitung aufmerksam zu lesen. Darin finden Sie die technischen Informationen sowie die Anweisungen für die Benutzung des Produkts. Im Anhang befinden sich auBerdem die Schaltpläne undv Diagramme für den Kundendienst.
SGM behält sich das Recht vor, Verbesserungen an den Produkten vorzunehmen und deshalb empfehlen wir, die Bedienungsanleitung dem Produkt stets beizulegen und die Seriennummer auf der letzten Seite des Umschlags einzutragen. Bei der Verwendung dieses Handbuches mit einem Gerät, das vor oder nach der Drucklegung produziert wurde, können sich Abweichungen zwischen Gerät und dem Inhalt des Handbuches ergeben.

Nous vous remercions d'avoir acheté un produit SGM.
Pour optimiser son utilisation, nous vous prions de bien vouloir lire attentivement cette notice où vous trouverez les informations techniques et les caractéristiques d'utilisation du produit. En outre, vous trouverez également, dans les pages en appendice, les schémas et les diagrammes concernant l'assistance technique.
Le concept de qualité SGM, lui permet d'améliorer continuellement ses produits et c'est pourquoi nous vous conseillons de joindre la notice au produit et d'inscrire le numéro de sèrie sur la page de couverture. En effet, si on l'utilise avec un appareil fabriqué avant ou après son impression, il peut y avoir des différences entre l'appareil et ce qui figure dans la notice.

Les estamos sumamente agradecidos por haber elegido un producto SGM.
Para obtener los mejores resultados, les rogamos leer detenidamente el presente manual de instrucciones. El mismo contiene las informaciones técnicas y las indicaciones de uso del producto. Las páginas anexas contienen además los esquemas y diagramas necesarios para la asistencia técnica.
Para mantener la calidad SGM, es posible que la Empresa aporte mejoras sus productos, por ello les aconsejamos conservar el manual junto con el aparato correspondiente y escribir su número de serie en la última página del manual; si en cambio se utiliza el presente manual con un aparato frabicado antes o después de su impresión, es probable que existan discrepancias entre el aparato y las indicaciones del mismo.

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Symbols used

This manual uses graphic symbols to emphasize any hazards during the operation work described.

THIS SYMBOL INDICATES A GENERAL RISK
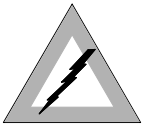
THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

Changes to this manual

SGM has an on-going product development policy, so the information printed in this manual may not be completely up to date.
If any doubts arise regarding the topics covered in this manual or should any further help be required, our online
services (internet-server www.sgm.it) are available 24 hours a day. In the FAQ section of the technical
assistance zone, answers can be found to numerous common queries: fixtures, firmware and manuals can also be
downloaded whenever required.

Safety Information

Read the instructions in this manual carefully, as they give important instructions regarding installation, operation and maintenance safety.

This manual must be kept with the fixture for future consultation. In the event of the fixture being sold or passed to another user, always make certain that the booklet is with the unit, to enable the new owner to be informed on its operation and relative care.

- THIS UNIT NOT FOR HOME USE; ONLY FOR PROFESSIONAL USE
- AFTER HAVING REMOVED THE PACKAGING, MAKE CERTAIN THE UNIT IS NOT DAMAGED IN ANY WAY. WHEN IN DOUBT, DO NOT USE THE UNIT AND CONTACT AN AUTHORIZED SGM TECHNICAL ASSISTANCE CENTRE.
- THE VARIOUS ELEMENT OF THE PACKAGING (PLASTIC BAGS, POLYSTYRENE FOAM, NAILS, ETC.) MUST NOT BE LEFT WITHIN CHILDREN REACH, AS TEHY ARE POTENTIAL SOURCES OF DANGER.
- THE UNIT MUST BE ONLY USED BY ADULTS. DO NOT ALLOW CHILDREN TO TAMPER WITH OR USE THE PRODUCT.
- NEVER USE THE UNIT UNDER THE FOLLOWING CONDITIONS:
    - IN PLACES SUBJECT TO EXCESSIVE HUMIDITY
    - IN PLACES SUBJECT TO VIBRATIONS OR BUMPS.
    - IN PLACES WITH A TEMPERATURE OF OVER 45°C OR LESS THAN 2°C
- PROTECT THE FIXTURE FROM EXCESSIVE DRYNESS OR HUMIDITY (IDEAL CONDITIONS ARE BETWEEN 35% AND 80%).
- DO NOT DISMANTLE OR MODIFY THE FIXTURE.
- MAKE CERTAIN THAT NO INFLAMMABLE LIQUIDS, WATER OR METAL OBJECTS ENTER THE FIXTURE.
- SHOULD ANY LIQUID BE SPILLED ON THE FIXTURE, DISCONNECTED THE POWER SUPPLY TO THE FIXTURE IMMEDIATELY.
- IN THE EVENT OF SERIOUS OPERATING PROBLEMS, STOP USING THE FIXTURE IMMEDIATELY AND EITHER CONTACT THE NEAREST SGM SALES POINT FOR A CHECK OR CONTACT THE MANUFACTURER DIRECTLY.
- DO NOT OPEN THE FIXTURE -THERE ARE NO USER SERVICEABLE PARTS INSIDE.
- NEVER TRY TO REPAIR THE FIXTURE YOURSELF.REPAIRS BY UNQUALIFIED PEOPLE COULD CAUSE DAMAGE OR FAULTY OPERATION.CONTACT YOUR NEAREST AUTHORIZED SERVICE CENTRE.
- WHEN CARRYING OUT ANY WORK, ALWAYS COMPLY SCRUPULOUSLY WITH ALL THE NORMS (PARTICULARLY REGARDING SAFETY) CURRENTLY IN FORCE IN THE COUNTRY IN WHICH THE FIXTURE'S BEING USED.
- DO NOT LEAVE THE UNIT ON INFLAMABLE SURFACES.

ALWAYS INSIST ON ORIGINAL SPARE PARTS BEING FITTED

General Warranty Conditions

- The unit is guaranteed for 24 months from the date of purchase against manufacturing faults of the unit or the material it is made from

- Faults or breakdowns caused by inexperienced or incorrect use of the unit are not covered by the guarantee

- The guarantee will be considered null and void if the unit has been opened or tampered with by unauthorized personal

- The guarantee does not foresee the replacement of the unit

- External components such as handles, switches and removable parts are excluded from the guarantee

- Transport costs and consequent risks are the responsibility of the unit owner

- The validity of the guarantee is effective to all effects only on presentation of the guarantee to the manufacturer or the SGM technical assistance centre

- Always quote unit serial number and model when contacting the dealer for information or assistance

Safeguard the environment: do not throw away the remaining packaging, but consign them to your dealer, or a special waste collection point.

1   INTRODUCTION

1.1 System Characteristics

Thank you for having chosen the SGM Pilot 3000

Pilot 3000 is a lighting Console dedicated to the control of both conventional and automated lighting fixture of any kind. By means of its two DMX-512 Universes, it is possible to control the timing and running modes of any kind of fixture available on the market thanks to a comprehensive fixture library that can be updated on an on-going basis. This manual describes all the Pilot 3000 features available with Software version1.0.
Future software updates along with the relative documentation, can be downloaded from the web site at **www.sgm.it**.

Pilot 3000 can be also controlled by external trigger sources via MIDI, SMPTE or DMX, for running in synchro mode the shows being programmed on board.

1.2 Safety information

To ensure correct use of the unit, follow this manual's instructions closely.

- Connect the mains cable supplied to the console, after ensuring that it's correctly wired and appropriately grounded.

- Make certain that the mains supply is suitable (between 90 and 250 Volts, 50/60 Hz) and protected against overload or earth leak risks

- Do not use the system in adverse weather conditions, such as rain or temperatures of over 40°C

- Always use the units case when transporting it

- Handle the unit carefully, avoiding bumps or sudden changes in temperature.

- Console repairs or maintenance must only be carried out by authorized maintenance personnel; the guarantee will be considered null if unauthorized personnel tamper with the console.

- Do not spill liquids (beverages, etc.) on the front panel.

- Do not use pointed or blunt objects while using the touch-screen.

- Use only a dry cloth for cleaning. Avoid using solvents or stain/grease removers.

Following these instructions through time will ensure your console a long reliable life!

1.3 Using the manual

This manual explains operations for using the console with the software version shown on the frontispiece. SGM Technology for Lighting Spa reserves the right to make any variations without prior notice.

To allow an easier consultation to the utmost according to needs, the manual is divided into various areas.

- **Quick start:** describes fundamental operations enabling the console to be used immediately

- **System architecture:** describes main hardware and software components.

- **System setup:** describes how to configure the Pilot 3000 before starting a show

- **Basic programming:** gives all the necessary explanations for effective programming and playback of relatively simple shows.

- **Shape Engine:** describes all the functions of the effects engine.

- **Advanced programming**: describes all the functions of the console for sophisticated programming – ideal for expert users.

Throughout this manual:
`This format` is used to show a physical key on the console.
This format is used to show a soft (display) key.

1.4 Hardware layout

The standard hardware features for Pilot 3000 consists of:

- 2 DMX Universes allowing 1024 DMX output channels
- Midi IN OUT THRU
- DMX IN
- SMPTE IN
- 20 Playback Registers
- 6 Registers for Playback Control
- 4 encoders used for handling attributes and Speed
- Jog-Ball for Pan and Tilt control
- USB Serial port
- Audio In
- Remote pedal IN
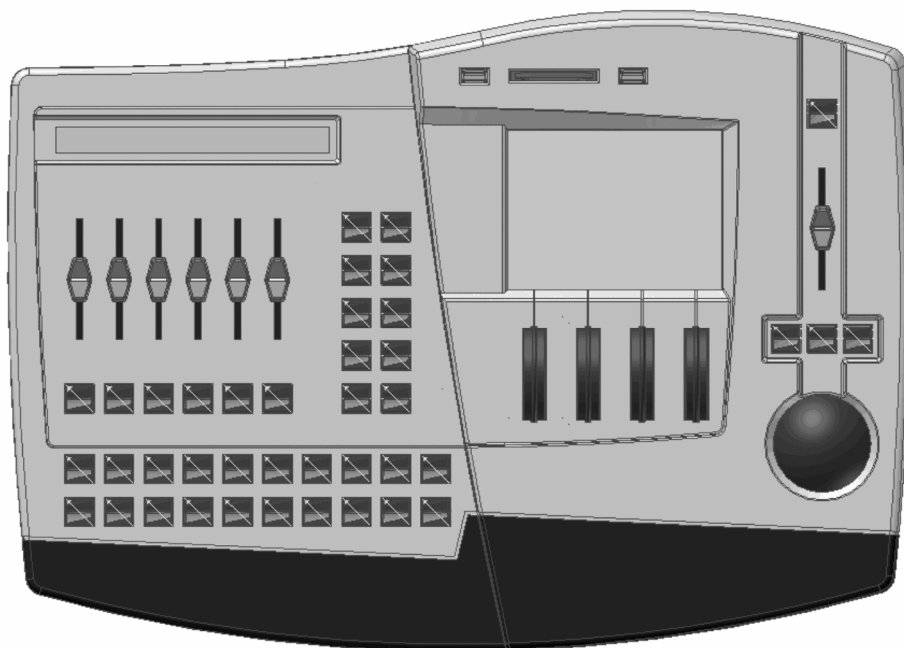
1.5 Terminology

The following terms are used to indicate Pilot 3000 console functions:

- **Cue:** establishes the times and modes of an attribute status of connected fixtures. The concept of a cue is similar to other frequently used terms such as Scene or Memory

- **Cue-list:** a group of cues available for playback in a specific order. Cues can be linked together, thus making the Cue-list a Chase

- **Page:** various Cue-lists can be assigned to different playback registers. Changing the page enables several Cue-lists to be assigned to different sets of playback registers.

- **Fixture:** generic term indicating any lighting instrument whose functions can be controlled by the console. Pilot 3000 has a comprehensive fixture library classified by manufacturer.

- **Palette:** particular Attribute status of the fixtures, such as Color, Gobos, etc. Changing a palette automatically changes all the cues using; that palette. The types of palettes are identified according to category: Intensity, Pan/Tilt, Color, Gobo, Prism and Blade.

- **Timing:** set of times that can be assigned to each single Cue (Delay time, Fade IN Time, Stand time, Fade Out time).

1.6 Powering the desk

PREPARING THE CONSOLE

Proceed as indicated in the following instructions to prepare the console for use.

- Place the Flight-case on a suitable stand or support.
- Remove the top of the case.
- Connect the 2 desk-lights supplied by means of the 2 USB-Light sockets located onto the front panel.
- Connect the DMX signal cables to the appropriate 5-pole XLR socket.
- Connect the power cord.

The power plug for the mains cable is not included with the standard accessories supplied along with the Pilot 3000, this because the power plug requirements may change according to different countries laws.
So, once the power plug has been found, make sure the power cord is made according to the local electrical regulations and that the wirings are carried out as showed here below:

Symbol	Pin	EU	US	UK
L	Phase(Live)	Brown	Yellow / Copper	Red
N	Neutral	Blue	Silver	Black
⏚	Ground	Yellow / Green	Green	Green

TURNING ON THE PILOT 3000

Pilot 3000 does not require any specific procedure to turn the power ON.

To turn the Pilot 3000 ON or switch it OFF:

- Push the ON/OFF switch located onto the rear panel.

2   QUICK START

This chapter is intended for those users wanting a rapid effective approach to the console, in order to learn basic programming procedure in a short time
Pilot 3000 allows programming maximum 999 Cues for each single Register (Cue-List).
These Playback Registers are 20 for each single Page, and the total available Pages are 20.

This chapter explains what to do by means of the following points:

▪ Quick Pilot 3000 setup

▪ Basic programming of a Cue.

▪ Preparing a Cue-list on Playback Registers

▪ Playback of a Cue-list

2.1 Setup

▪ Connect the DMX signal cables.

▪ Connect the console to the mains and turn the system ON.

▪ Shouldn't be any previous configuration appearing, push the Menu key and then Setup.

▪ Select Address Patch to enter the Console patching area.

▪ Select the Manufacturer brand name (e.g. SGM) which contains the fixture needed, the list of fixtures available will be displayed by the 2 left hand columns on the touch panel. The list can be vertically scrolled through the use of the encoder Wheel 1 named as Brands Scroll

▪ Select the required fixture (e.g. Giotto Wash 400).

▪ Encoder Wheel 2 will be used to set the total amount of fixtures required; whilst Encoder Wheel 3 will enable to set the DMX Universe (A or B) linked to the fixtures patched. Encoder Wheel 4 will be used to set the DMX starting address for the first fixture patched.

▪ Push OK to confirm, wait for the white progress-bar to store the new Patch settings.

▪ Repeat the above actions should any other fixtures need to be patched.

▪ In the case of patching for different brands fixtures, push the Brands key to access the list of the Manufacturer Brand names.

▪ Push Done twice on the touch panel to enter the programming area.

2.2 Programming a Cue

1. Make sure the Grand Master is positioned at 100%.

2. Select the desired fixtures (e.g. the first 3) by pushing the related keys onto the touch panel. A bar inside the fixture key will shows the selection. When the bar is red coloured, then the fixture is selected.

3. Push the Locate key to bring the selected fixtures to the Home position. The Locate action allows finding the fixtures on stage since this command forces the Shutters and Dimmer channels to full open and maximum intensity. In addition, Homing the fixtures will bring Pan and Tilt channels to 50% of their range of movement. Locate is also assigning a specific DMX value to each single fixture's Attribute.

IMPORTANT!!

Is extremely important to begin the programming procedure by using the **Locate** command since this will allocate a specific DMX value to all the fixture's Attributes. These values will then be stored into a Cue.

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4. Attributes can be changed through the use of the 4 Encoder Wheels. The Attributes assignment to the wheels can be selected by pushing the following keys: **Intensity**, **Pan-Tilt**, **Color**, **Gobo**, **Prism**, **Blade**. If more than 4 fixtures channels belong to a set of Attributes (e.g.: Cyan-Magenta-Yellow-CTC-ColorW1-ColorW2) press the related key repeatedly (the key **Color** in this example), to choose the Attributes to be controlled by the 4 Encoder Wheels. In the case of motorized fixtures, the Pan and Tilt channels are always enabled on the Jog-Ball, for the selected fixtures.

5. To save the settings for the Attributes and create a Cue, push the Store key followed by the Cue key which will appear on the pop-up window on the touch panel.

2.3 Creating a Cue-list

Each Pilot 3000 Register can control a maximum number of 999 Cues. That means a Register is handling the Cue-list.
The Store Cue command saves the status of the Attributes into a Cue.
Then, is it possible to decide which of the 20 available Registers will be used to save the Cue or creating a Cue-list by using the Select key. Pressing the Select key will allow the Pilot 3000 to display the current Register selection by a green led LIT corresponding to the Register key active.
Storing several Cues into the selected register, will automatically create a Cue-list.
To create a Cue-list upon stored the first Cue, proceed as follows:

1. Modify the existing Attributes parameters to create a new Cue. Choosing a group from the whole fixtures listed will allow changing the Attributes only for those selected fixtures whilst keeping the Attributes information previously saved for the other fixtures not selected.

2. Save the new Attributes status by using the Store and Cue command.

3. Repeating the above operations sequentially will save all the Cues, which are entered and automatically numbered in sequence in the same Cue-list.

If other Cue-lists are to be created in different Playback registers, a new register must be selected before saving the first Cue in the new Cue-list. To select a new Cue destination register:

1. Push the Select key

2. Push the target Playback key (1 – 20).

Is it possible to create up to 20 Register's Pages, each of which is able to handle at least 1 Cue-list to maximum of 20.

To select a new Page before saving a Cue or a Cue-list, proceed as follows:

▪ Push the Page key

▪ Then, push the Playback key which is related to the target page to be selected.

Therefore is possible to scroll across the pages and change the current Page by a repeated push of the Page key. The pages change will be displayed by the Playback key's green led lit ON.

2.4 Cue-list Playback

IMPORTANT!!

Before running a Cue or Cue-list, make sure the Live Editor doesn't still involve any fixtures. Push **Ctrl all** twice to close the Editor.

Pushing the Register's key, will automatically run the related Cue.
A repeated push of the Register's key will sequentially playback Cues of the related Cue-list.
Each Cue can be run with preset times.
The times that control a Cue are:

1. Delay time

2. Fade In time

3. Wait time

4. Fade Out time

Allocating or changing the times is very easy:

▪   Push the **Q List** key to display all the Cues related to the Cue-list of the selected Register.

▪   Choose the Cue or a group of Cues of which a times change is required.

▪   Use the Encoder Wheel 1,2,3,4 to modify the Delay (Wheel1), Fade In (Wheel2), Wait (Wheel3), Fade Out (Wheel4).

▪   Unselect the Cues previously chosen once the times have been fixed.

Pilot 3000 controls the Cues being run according to LTP (Latest Takes Precedence) priority. This means that if several Cues that control the same fixture(s) are enabled by several Cue-lists, the fixtures will only run the last Cue recalled.

To switch OFF an enabled Register (i.e. the Register which is capable of playing back the Cue):

▪   Push the Release key

▪   Then, push the target Register which is intended to be released.

All the fixtures under the control of the released register are put in Stand-by status – i.e. they remain as they are, apart from their luminous intensity, which is lowered to zero.

Register pages can be changed during Playback.
All the registers that are enabled remain as such even after having changed Page.
The registers that are still busy controlling the Cue-lists of the previous page can control the Cue-lists of the new page if their control is released, by using the Release command followed by the Register key.

3   SYSTEM ARCHITECTURE

This chapter describes both Hardware and Software features of the Console.

3.1 External connections

The first operations to be carried out during set-up are the external connections on the rear panel of the Console. Connect the DMX lines to the output marked as DMX-OUT and DMX-OUT.
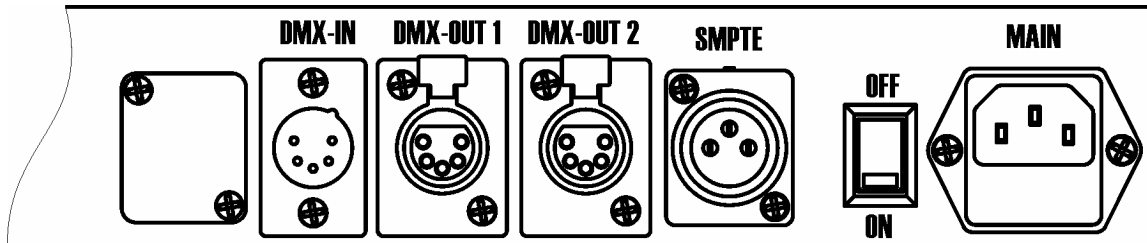
In addition, connect the SMPTE; MIDI or DMX-IN should those inputs be necessary to be used with the Pilot 3000.
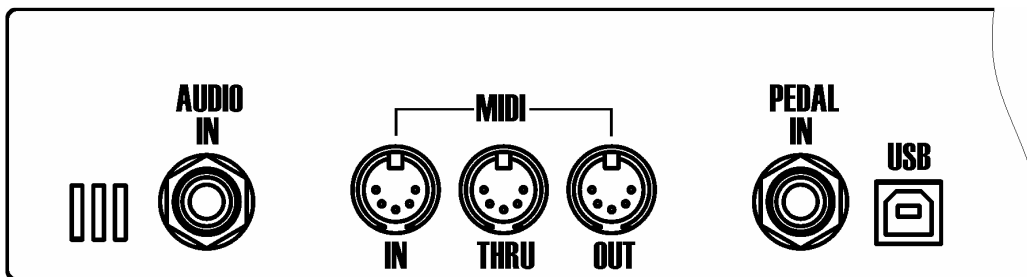
Finally, connect the power cord and make sure the ground is the same used for the lighting fixtures.
Turn ON the console by acting on the power switch positioned just beside the mains socket.

The Pilot 3000 will perform the boot procedure by loading the latest Software installed.

3.2 Software interface

Pilot 3000 is equipped with a Colour touch-screen panel having a resolution of 320X240 pixel (1/4 VGA) which is used as a display for the Software control system. By means of a touch is it possible to carry out all the programming or playback editing procedure.
The console is also equipped with a second display LCD capable of 40 characters on 2 lines which is used to shows all the information related to Playback Registers control.

MAIN INTERFACE

The Main Interface of the Pilot 3000 is made of 3 different areas:

- Tool-bars

- Selection and Operating window

- Parameters window

Let's examine the 3 areas and their use in the detail.

Tool-bars.
There are two tool-bars, at the top and bottom of the screen. Each contains 6 buttons, some of which have functions that vary according to the operating environment (Editor, Shape Engine, Playback).

Selection and Operating window
It is located in the middle of the Touch-Screen. This contains all the selection elements: (Fixtures, Palette, Groups, Effects) which can be selected once at a time according to the selection made.

Parameters window.
The lowest part of the Touch-Screen, is used to display the information regarding the Attributes assigned to 4 Encoder Wheels. Those information might be related either to the programming or times handling during the palyback mode.

LCD DISPLAY

Located on the left hand of the Pilot 3000 on top of the 6 faders, is used to display the status of faders during the Show Playback mode.
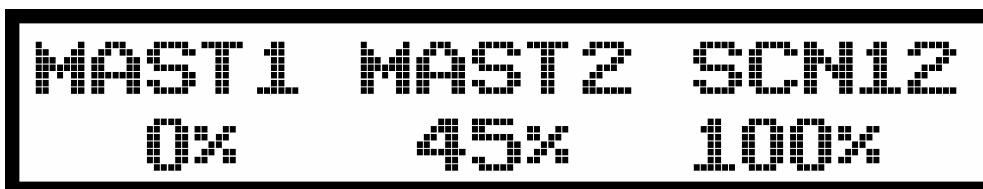
The labels displayed might be of 2 different kinds:

▪ MAST"X" indicates that the fader below is behaving as a Register Master (only for cue-list 1 – 6). The LCD will also show the percentage for each single Master.

▪ SCN"XX" indicates the number of the Scene controlled by the Fader below and its own percentage.

In addition, the right hand side of the LCD will show the current page and the selected Cue-list.
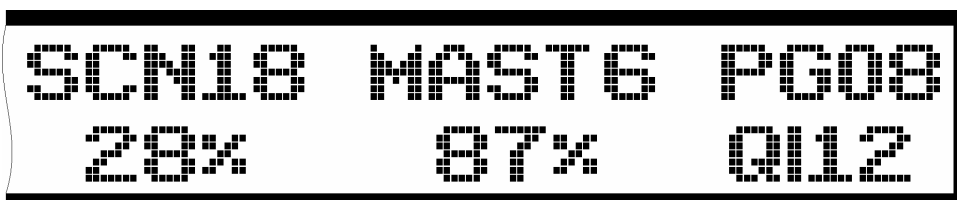
Editor Keyboard
The Editor Keyboard is that area of Pilot 3000 which contains all the keys used for programming. Selection, modifications, storing and access to the menus are the main features available through the use of this section.

3.3 Editor Keyboard

The Pilot 3000 Editor Keyboard is the area that contains all the keys normally used for programming work. Selecting, changing, saving, access to the menu are the "main actions" carried out using the Editor Keyboard.
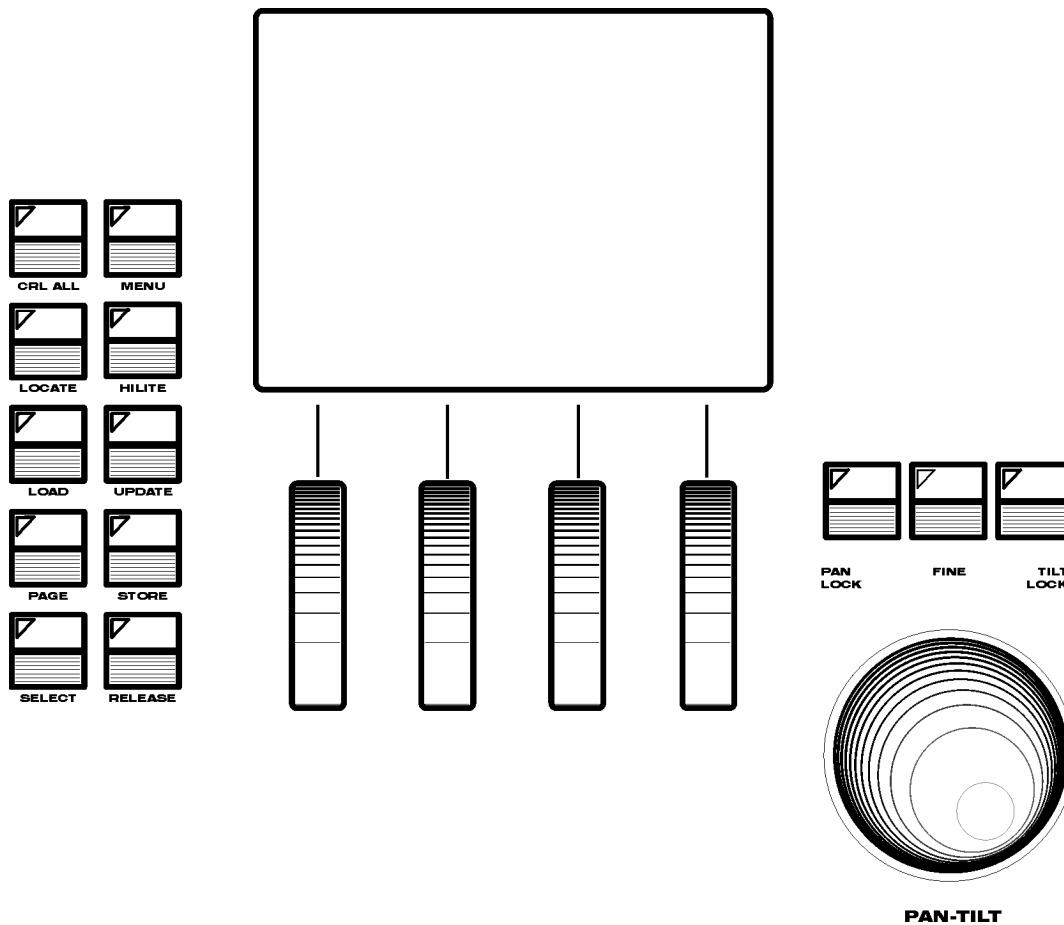
The Editor Keyboard is divided into 3 main areas:

- Editor Keypad
  This keypad is made of 10 keys for a rapid access to the editing functions.

- Display & Wheels
  The most important area of Pilot 3000 where is it possible to control all the parameters used for programming and playback cues.

- Pan Tilt controllers
  Are grouped here all the dedicated keys and Jog-Ball used for a rapid access to Pan and Tilt parameters.

EDITOR KEYPAD

CRL ALL	MENU
LOCATE	HILITE
LOAD	UPDATE
PAGE	STORE
SELECT	RELEASE
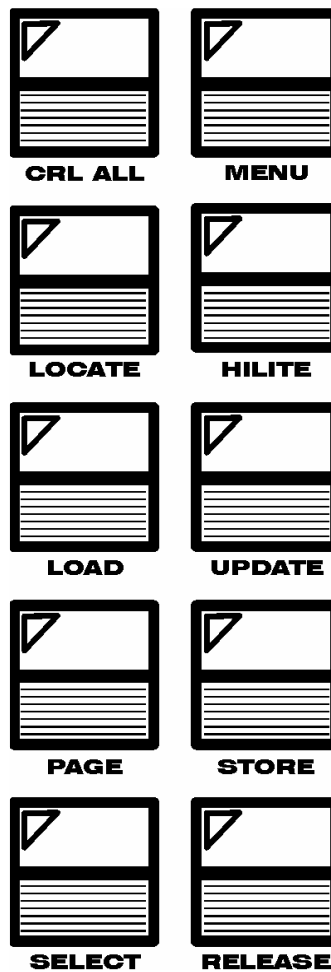
The Editor Keypad keys are ordered on two columns and allow the access to the following functions:

- CRL ALL
  Pushing the "CLEAR ALL" key , will delete all the information related to the parameters handled during the editing period. This will ends the temporary programming or editing of certain parameters during the Playback.

- MENU
  This will open a window which gives additional features related to the area of the software used at a specific time.

- LOCATE
  This command will force all the selected fixtures to the "Home" position. Locate is the command which normally is used as "first operation" when programming intelligent fixtures.
  The Locate command will load all the fixture's attributes into the Editor.

- HILITE
  This command switches the Editor into the 'HiLite' mode so that the Dimmer and Shutter channels, for the selected fixtures, will go at 100% (open position).
  The HILITE action will not modify the Dimmer or a Shutter value loaded into the Editor but is mainly used to check the beams position, while programming a Cue, for those fixtures which do not have any information loaded into the Editor about Shutter and Dimmer channels. Another use can be during a Palette modification for those fixtures without Intensity information stored.

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▪ Load
Pushing the Load key, will load the Cue's fixture parameters into the Editor. The command can also be applied to Palettes and must be used every time a Cue or Palette modification is needed.

▪ UPDATE
Pushing the UPDATE key, will store and update an already edited Cue. This command is used after a Load Cue action.

▪ PAGE
Allows changing the Registers Playback Page active to a new one. The Page changing is performed by pushing the Page key and Playback key (1-20) corresponding to the desired page.

▪ Store
Pushing the STORE key, will store Cues, Palettes, Groups of fixtures.

▪ SELECT
Pushing the SELECT key, will be possible to choose the active Register where to store a Cue-List or a Cue. When pushing this key, all the green LED of the Playback keys will light OFF except the one related to the active Register which will start blinking. The Register selection is performed by pushing the SELECT key followed by the Playback key (1-20) corresponding to the desired Register.

▪ RELEASE
Pushing the RELEASE key, will literally release (turn off) the active Playback Register and its running cues. The Register Playback release action is performed by pushing the RELEASE key and the requested Playback key. A multiple Register Playback release action at the same time, is also possible by pushing twice in a row the RELEASE key. This will turn off all the running Cues of the active Cue-list (Black-Out!).

DISPLAY & WHEELS

LOCK	Normal	Chase	Live!	Uns.All	Editor

Page 1 - Playback 1

	1	0.0	3.2	-	-
	2	0.0	3.2	-	-
	3	0.9	4.3	-	-
	4	0.0	2.0	-	-
	5	0.9	4.3	-	-
	6	0.0	2.0	-	-

Delay	FadeIn	Wait	FadeOut
0.9	4.3	-	-
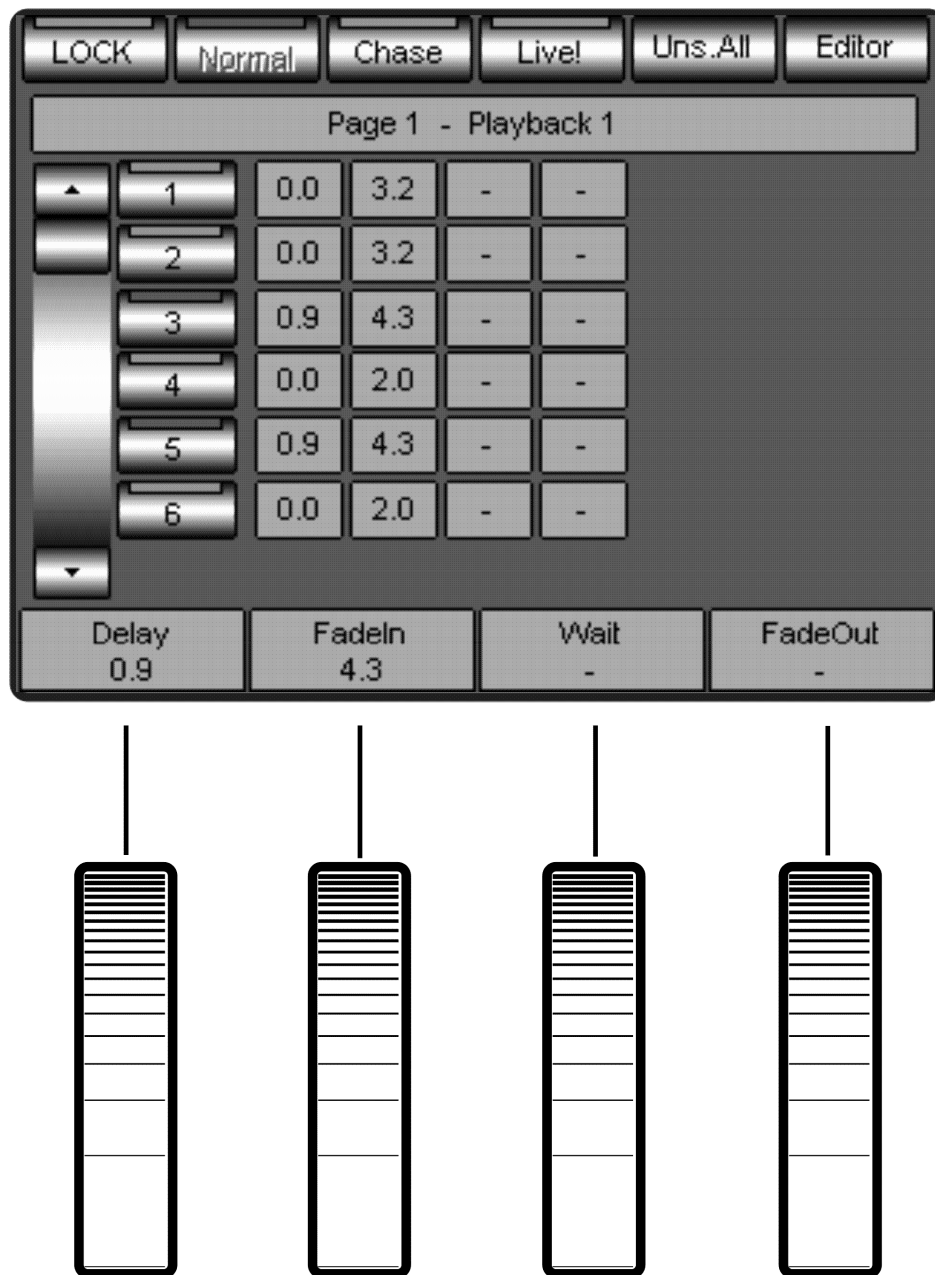
Encoder Wheels and the graphic Display give to the operator either a complete real time view of the status for the parameters used to control the fixtures and allow a quick access of those parameters for their rapid modifications.

Control parameters can be assigned to the Encoder wheels by means of various selection available on the Touch screen.

The parameters which can be assigned to the Encoder Wheels are strictly related to the software section used while operating with the Pilot 3000.
When operating within the SETUP section, it is possible to assign to the Wheels the following parameters:

▪ Brand scroll   (Address patch menu)

▪ Patch scroll   (Address patch menu)

▪ Fixture scroll   (Address patch menu)

▪ Number of fixture   (Address patch menu)

▪ DMX output selection   (Address patch menu)

▪ First Address   (Address patch menu)

▪ Attribute scroll   (Attribute config. menu)

▪ Fixture select   (Attribute config. menu)

▪ Change Attribute   (Attribute config. menu)

▪ Options   (Options menu)

When operating within the EDITOR section, it is possible to assign to the Wheels the following parameters:

▪ All the fixture's attributes (Intensity-PanTilt-Color-Gobo-Prism-Blade)

▪ All the parameters available into the Shape-Engine (Size-Speed-Spread)

When operating within the PLAYBACK section, it is possible to assign to the Wheels the following parameters:

▪ Delay time for each single Cue of each individual Cue-List

▪ Fade-in time for each single Cue of each individual Cue-List

▪ Wait time for each single Cue of each individual Cue-List

▪ Fade-out time for each single Cue of each individual Cue-List

▪ SPEED (Bpm) of each single Chase

▪ FADE (percentage) of each single Chase

▪ Master Intensity for the active Cue-list

▪ SIZE of Shape-Engine effects applied to Cues

▪ SPEED of Shape-Engine effects applied to Cues

▪ LIVE CUE-LIST Scroll

PAN-TILT CONTROLLERS

PAN-TILT
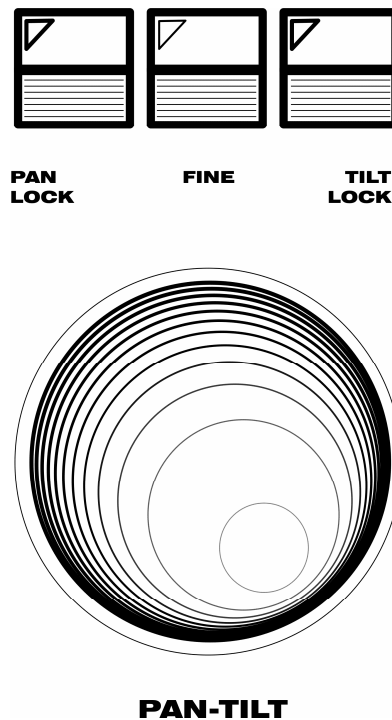
This dedicated section of Pilot 3000 allows a quick instant access to Pan and Tilt capabilities at any time.
The Jog-Ball allows a precise control of Pan (horizontal axis) and Tilt (vertical axis).
The speed of movement of Pan and Tilt is proportional to the displacement of the Jog-Ball from its central position.

Three keys are positioned on top of the Jog-Ball and are used for:

▪   PAN LOCK
    When activated, the Jog-Ball cannot control the Pan movement.

▪   TILT LOCK
    When activated, the Jog-Ball cannot control the Tilt movement.

▪   FINE
    When activated, allows the fine positioning for Pan and Tilt.

GB

3.4 Playback Keyboard

The Playback section allows running whatever has been programmed previously.
Pilot 3000 has a capability of 20 Playback Registers for each of the 20 Pages available. In addition, 6 configurable Controllers faders are also available for each single Playback.
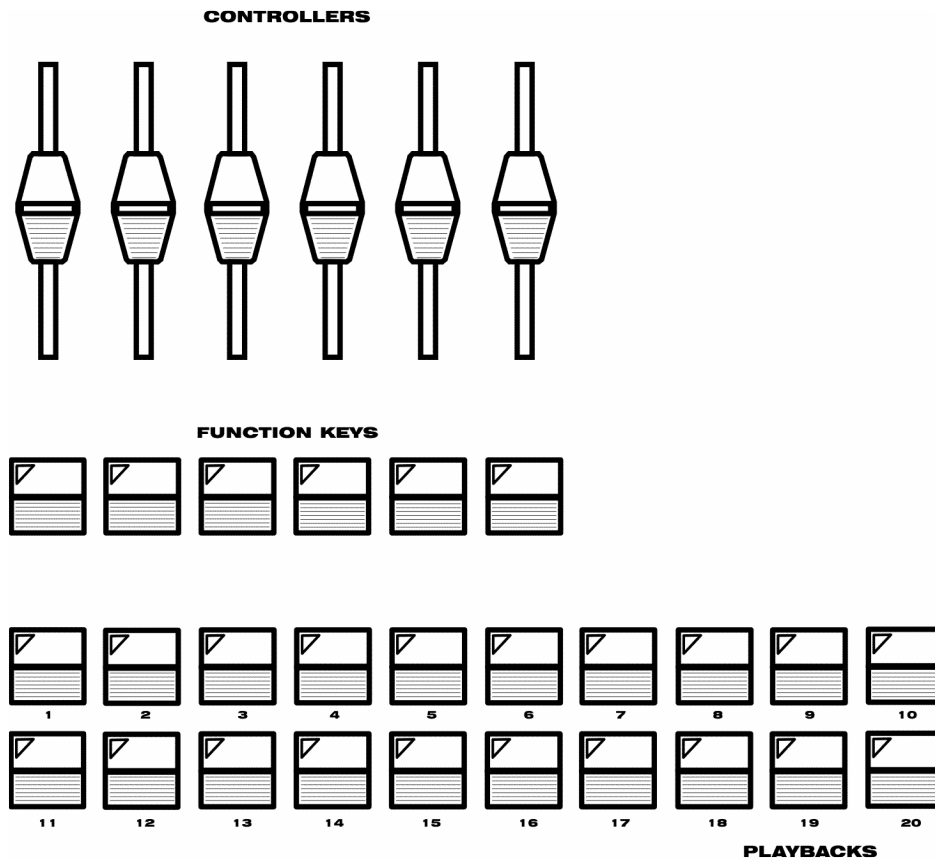
The "Playbacks" keys 1 to 20 act like the "Registers" for each single Page, on which is possible to store a Cue-list containing one ore more Cues. The maximum number of Cues available for each Cue-List is 999.

Playbacks are organized into Pages each of which allows the access of 20 Playbacks.
The Playback keys used together with the PAGE keypad, allow the selection of the 20 Pages of Playbacks available for each Show.

The "Function Keys" as well as the Controllers faders can be assigned and configure to each single active register.

THE REGISTER PLAYBACKS KEYS
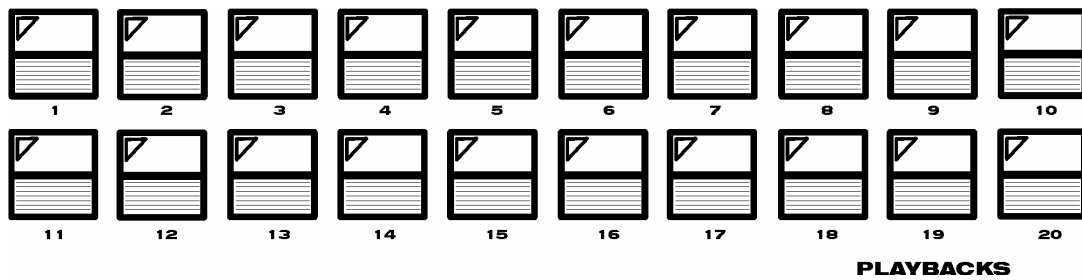
The Registers playback keys are used to activate the Cues included into the Cue-list of a given Register.

A repeated push of a Playback key allows the sequential flow of the Cues included into the Cue-list by following the Cues ID order.

Once reached the last Cue in the list, the Playback will re-start from the first Cue until the action of pushing the key will be stopped.

A Push of the RELEASE key followed by a Playback key, will switch off (black out!) the Cue related to the running Cue-list of the active Register.

A new push of the same Playback key will re-start the Cue (and the related Cue-list) of the Register.

By means of the PAGE key it is possible to change the Playback Register Page. There are two different way to perform this page change:

1. Push the PAGE key and then the Playback key corresponding to the desired page number.

2. A repeated push of the PAGE key will scroll the pages. They can be monitored by watching the green Playback key LEDs turning on when a page is selected.

Is important to keep in mind that in the case of changing page while a Register is active and the Cue (or Cue-list) is running, this Cue will still keep activated even into the new Page. It will be disabled only when releasing the Cue by means of the command RELEASE.

After releasing the Cue of the old page, it will be possible to run the Cue available on the same register of the current page.

The current page is always displayed on the right-hand side of the LCD located on top of the Controllers faders (see "LCD display).

CONTROLLERS FADERS

CONTROLLERS
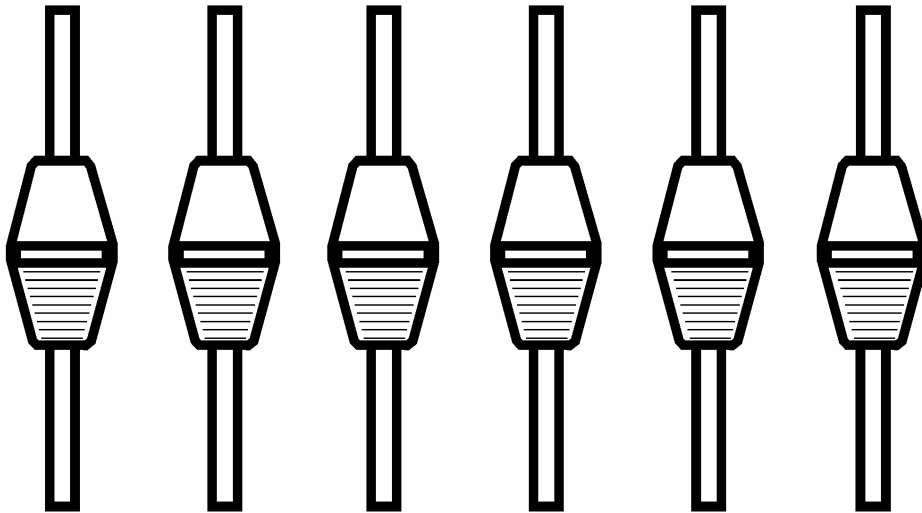
FUNCTION KEYS

The "CONTROLLERS" section is made of 6 configurable faders with their "FUNCTION KEYS"
The Controllers can be used for:

- Register Master

- Manual Cue

The above two features can be set into the "slider configuration" menu located into the SETUP menu for the current show.
Future software update will increase the features of the Controllers

Register Master

The "Register Master" function will set the Controllers faders as master faders that control the intensity of the Cues related to the first 6 Registers for all the pages.
The "FUNCTION KEYS" will act as flash buttons.

Manual Cue

As well as the Register Master, the Manual Cue feature can be applied to any Controller into the current show by entering the dedicated configuration into the "Setup" menu.

The Controllers configured as Manual Cue can handle "additional" Cues within each Cue-List.

The maximum set of different Manual Cue which can be assigned to each Register is 6.

To each Register can be assigned a set of Manual Cue which could be completely different from other Registers.

A Register can be selected on Pilot 3000 simply by pushing the desired Register key, this will allow the playback of the Cues related and, at the same time, will automatically give the access the Manual Cue assigned to the Register.

In addition, it is also possible to select a Register with the intention to access the Manual Cue without starting the playback of the related Cues, by using the $\boxed{\text{SELECT}}$ key.

The action of pushing the SELECT key together with the Playback key of the desired Register, will active the Manual Cue into the Controllers of the selected Register.

ATTENTION!!

On Version 1.0 of Pilot 3000 it will be possible to assign the Manual Cue only on the first 20 Registers on page 1 and not on the whole 400 Registers available.

Future software upgrade will extend the configuration capabilities of the Controllers to the single Cue and to each Register.

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4   CONFIGURATION OF PILOT 3000

A well organized configuration of Pilot 3000 is very important in order to speed up the programming and playback procedure.
This chapter will explain how to configure the Pilot 3000 in such a way as to obtain the best control of the fixtures connected and how to preserve complete shows already programmed.

The ⎡**MENU**⎤ key will open the pop-up window which brings to that area of Pilot 3000 whether is possible to configure the Fixtures' attributes, assign the DMX addresses and access the utility features essential for a correct setup of Pilot 3000 before starting any Show programming.
Understanding the necessary settings available is fundamental before to begin any programming or playback action.

The "pop-up" window opened by the menu key, is normally divided into two horizontal sections.
The top section give the access to functions related to the software feature in use at the moment of the push of **MENU** key (figure above is related to Group of fixtures).
The bottom section is that part of the "pop-up" windows which remain the same at every Menu key selection and give the access to:

- **Setup** menu

- **QList** menu

- **Commands** for remote control of lamp strikes and fixture reset

Pushing the **Setup** key will access to the menu which allows the configure the console.

The new "pop-up" window is split into two main areas:

▪ ⎡**Setup**⎤ allows to enter all those menu used for the fixtures and the Pilot 3000 configuration.

▪ ⎡**Tools**⎤ allow entering those entire utility menu for storing/clearing shows and hardware setup.
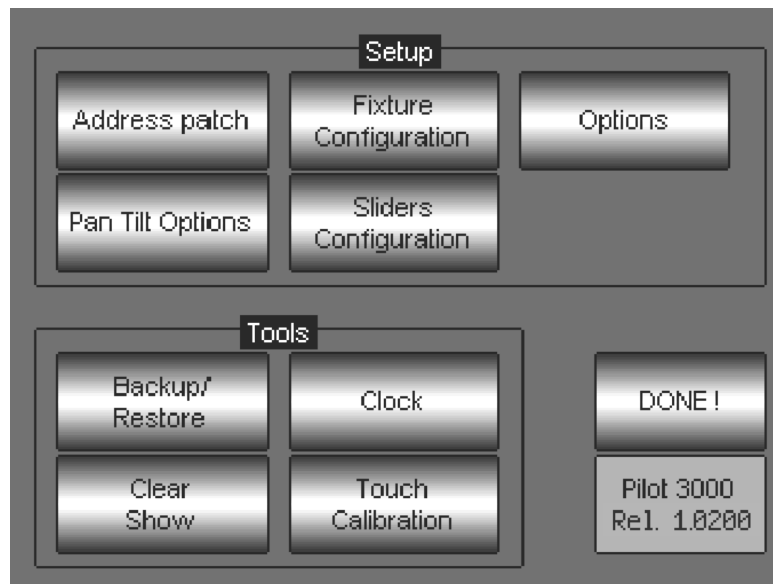
4.1 Setup

The function available into the Setup menu, are:

- **Address patch**
  This menu allows patching the fixtures into the console and assigning their DMX addresses.

- **Fixture Configuration**
  This menu allows changing the standard settings for the attributes of the fixtures patched into the Address Patch menu.

- **Options**
  This menu allows to change the standard settings of the console according to the operator needs.

- **Pan/Tilt Options**
  This menu allows to change the standard settings for the Pan and Tilt attributes of the fixtures patched into the Address Patch menu.

- **Slider Configuration**
  This menu allows the assign both the Register Master or the Manual Cue feature to the Controllers (see chapter "The Controllers")

ADDRESS PATCH

Pushing the Address Patch touch key will access the most important configuration menu of Pilot 3000 where it will be possible to patch all the fixtures to be controlled by the console.

This chapter will now describe step by step what to do to patch the fixtures.

The first operation is to select the Brand of which the fixture needed is included, from the list of "Brands" available, by pushing the related Brand name touch key (i.e. SGM).

For a quick search of the desired Brand name, it is possible to use the first left-hand Encoder wheel located under the writing "Brands Scroll".

Now it possible to select the fixture, infect once the Brand has been selected, the left section of the touch screen will automatically turn to the fixtures list available for that Brand name. The list of fixtures can also be scrolled by using again the left-hand Encoder wheel located under the writing "Fixture Scroll".
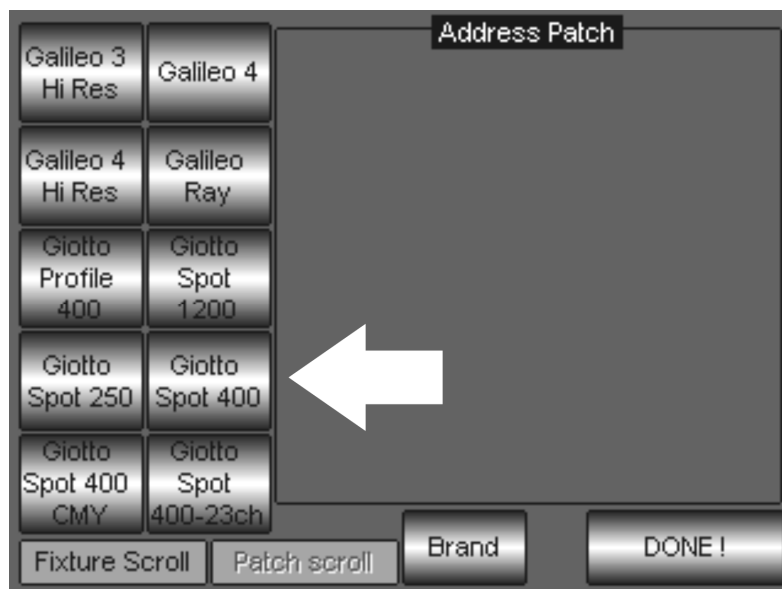
An empty "Address Patch" field means that any fixture hasn't been patched, yet.
Push the Giotto Spot 400, as showed in the picture above, to carry on with patching procedure.
Once the type of fixture has been chosen, is important to define the following parameters:

▪   The total quantity of fixtures intended to be used

▪   Which of the 2 DMX outputs (A or B) will be used with the fixtures

▪   The DMX address for the first fixture.
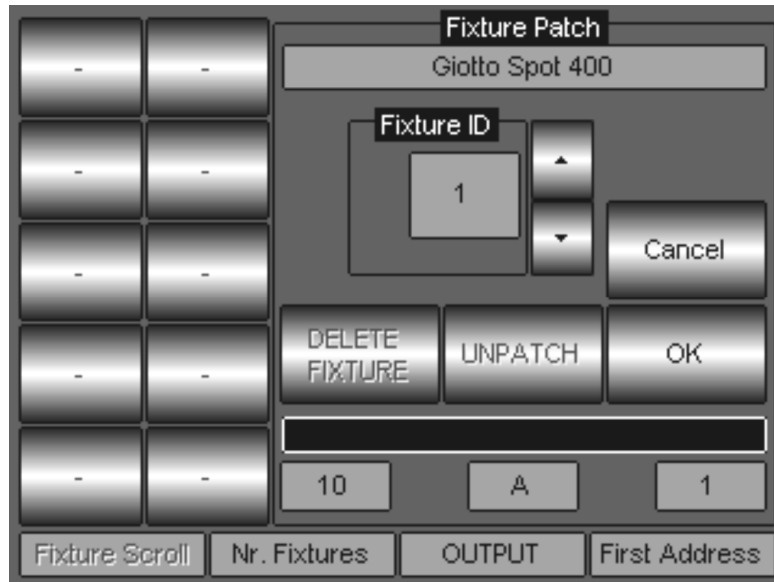
The "Fixture Patch" field appears soon after the selection of the fixture type and allows completing the patching procedure by using the encoder wheels allocated to the relevant parameters above mentioned:

▪   **The Second Encoder Wheel:** will be used to set the fixture's quantity

▪   **The Third Encoder Wheel:** will be used to set the DMX Universe output A or B

▪   **The fourth Encoder Wheel:** will be used to set the DMX start address

The above picture shows a quantity of 10 Giotto Spot 400 patched to DMX output A with the first DMX start address 001. The other 9 fixtures will automatically be patched by the Pilot 3000, taking into consideration the number of DMX channel used by each fixtures.

Pushing the "OK" key, will save and confirm the Fixture Patch just made.
Wait for the progress bar, located underneath the "OK" key, to complete the storing procedure before to proceed.
When ready, the "Address Patch" field will appear again showing the fixture patched and the relevant information about DMX addresses and outputs, as showed here below.

Pushing the **Cancel** key, will stop the Patching procedure.

By means of the second Encoder Wheel "Patch Scroll" it is now possible to go through the fixtures already patched.

The fixture list for the selected Brand is still active and it will be possible to add other fixtures to the patch, different from the ones already patched.

In addition is also possible to return to the Brand list by pushing the Brand touch key, and patch new fixtures included with other manufacturer brand names.

Each single line within the "Address Patch" field gives the possibility to access to functions which allow changing and "re-patching" the selected fixture.

ID Keys   Fixture name Keys   Address Keys

Each single line is made of three touch keys which can be named as (left to right):

1. ID Keys   (001, 002…)

2. Fixture name Keys   (Giotto Spot 400)

3. Address Keys   (A-001 A-022)

Following a description of the capability available for each single touch key.

The "ID" key

The "ID" key is the identification number for each single fixture.
The ID sequence is automatically generated by the console during the Patch procedure.
The ID number is very important during the programming procedure since allows the operator to identify the fixture and allocate its position on stage.
Pushing the "ID" touch key, allows changing the fixture ID according to the needs. Changing the ID number for example, could be useful when inserting or deleting fixture to an existing show.

Changing the ID to a fixture will not affect the existing show which includes the fixture itself.

To change the fixture ID, proceed as follows:

▪ Push ⌐Menu¬ -> **Setup** -> **Address Patch**

▪ Push the "ID" key corresponding to the fixtures which requires an ID change

▪ The "Fixture Patch" will then show the field "Fixture ID".

▪ By means of the UP/Down touch arrows, change the ID as required.

▪ Push **OK** to confirm.

▪ Once complete the ID change procedure, push the touch key **DONE**! And return to the Editor area.
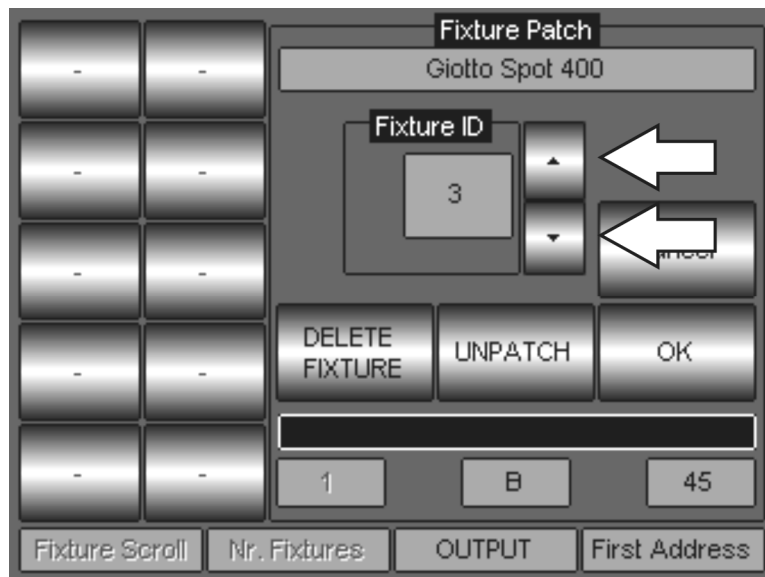
The "Fixture name" key

By pushing the "Fixture name" key, it will be possible to rename the fixture label (or name of the fixture).
Assigning a different name for the fixture selected can help during programming procedure since allows the operator to identify the fixture for a specific use into the show.
Very often happens to use conventional lighting for a show, and while programming it will be easier to identify them by the colour of the GELs used or by their position on stage rather then a generic name as: Dimmer1, Dimmer2, etc…

To change the fixture name, proceed as follows:

▪ Push $\boxed{\textbf{Menu}}$ -> **Setup** -> **Address Patch**

▪ Push the touch key "Fixture name" corresponding to the fixture which is intended to be renamed.

▪ A virtual keyboard will appears on the screen allowing editing the name.

▪ Push **Enter** to confirm the new name.

▪ Once complete the fixture rename procedure, push the touch key **DONE**! And return to the Editor area.

The "Address" key

By pushing the "Address" key, it will possible to change a DMX address previously assigned to a fixture.
Changing the DMX address to a fixture will not affect the existing show which includes the fixture itself.

To change the DMX address to a fixture, proceed as follows:

▪ Push ⎜**Menu**⎜ -> **Setup** -> **Address Patch**

▪ Push the touch key "Address" corresponding to the fixture which needs a change of the DMX address.

▪ The "Fixture Patch" field will then appear.

▪ Assign the DMX address by means of the fourth Encoder Wheel located under the writing "Fixture Address".

▪ Push **OK** to confirm.

▪ Wait to the end of the updating procedure showed by the progress bar.

▪ Once complete the procedure, push the touch key **DONE**! And return to the Editor area.
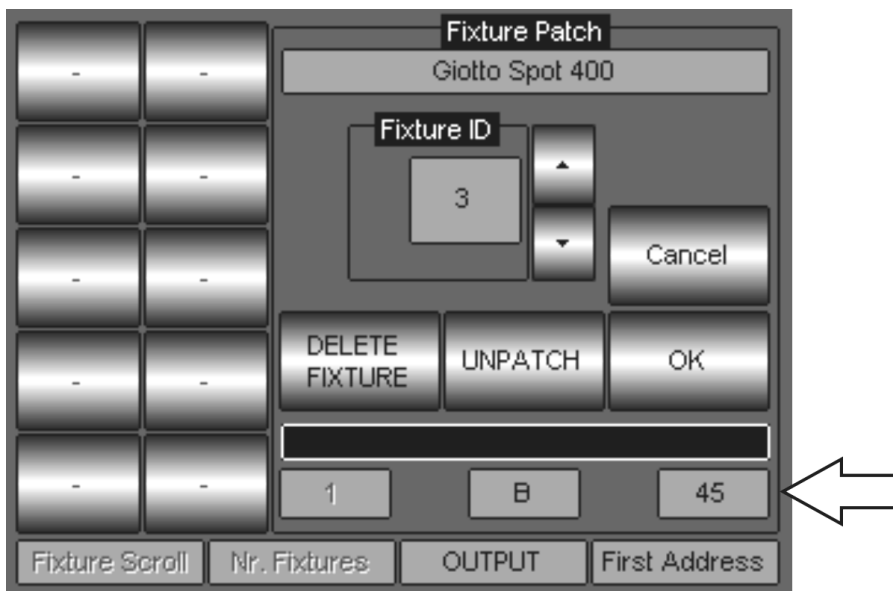
FIXTURE CONFIGURATION

The "Fixture Configuration" panel gives the access to those configuration menu which allow modifying the attributes for the fixtures already patched.
To enter the "Fixture Configuration" panel, push **Menu** -> **Setup** -> **Fixture configuration**

Attribute Configuration					
Giotto Spot 400	P-Type	Path	Std-By	Hilite	Locate
Pan	PT	Linear	-	-	32767
Tilt	PT	Linear	-	-	32767
P/TSpeed	PT	Snap Start	-	-	0
Color	CO	Snap Start	-	-	0
ColorMode	CO	Snap Start	-	-	0
Attribute Scroll		Fixture Select	Change		DONE !
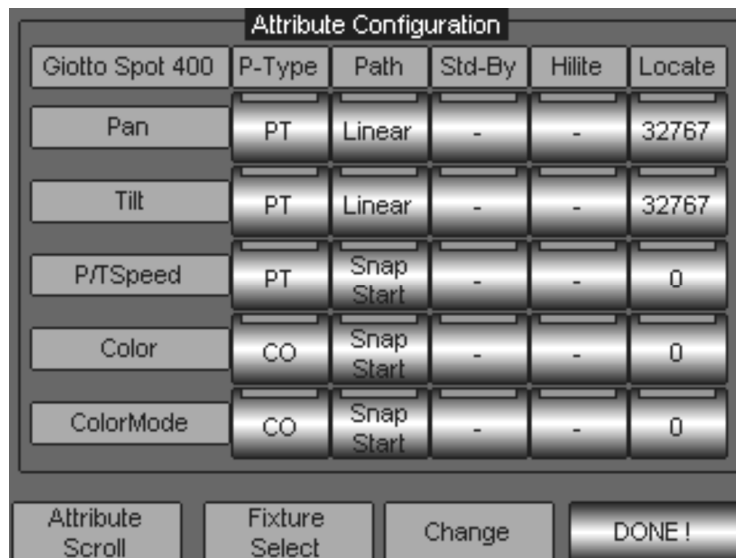
ATTENTION!!
Is extremely important to understand the right meaning of each single Attribute option, since a correct configuration will permit to save lot of time during the programming procedure and avoid not correct behaviour of the fixtures.

Each Attribute (channel) for each type of fixture patched, has got an amount of features which can be modified by the user through the available list of options, according to the way the fixture will be used either during the programming and playback procedure.

The table chart below shows a list of the Attributes features which can be modified and the relevant options available.

	P - Type	Path	Stand-By	HI Lite	Locate
Options	IN	Linear	0 - 255	0 - 255	0 - 255
	PT	Snap Start			
	CO	Snap End			
	GB				
	PR				
	BL				
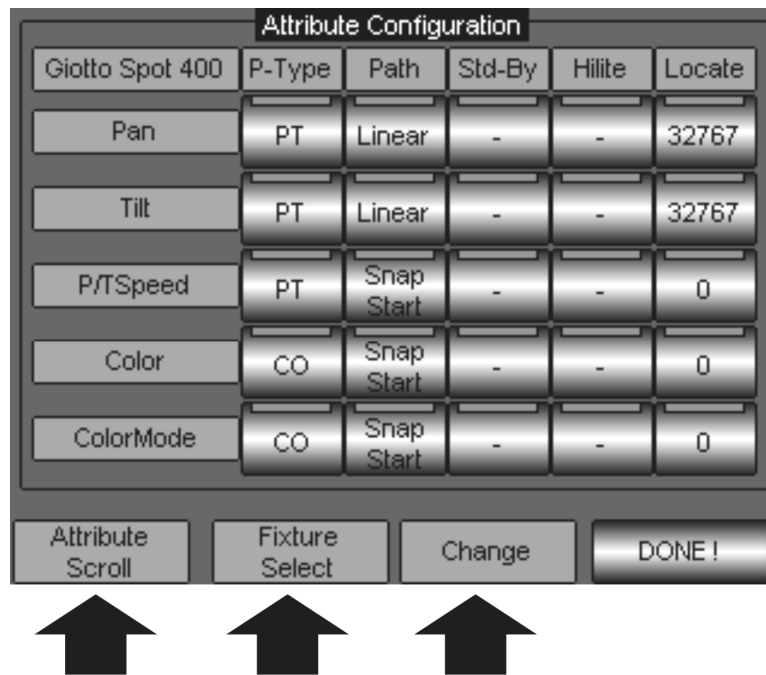
The Attribute features available for each type of fixture patched, are:

- **Palette Type**: is defining at which categories of Palette an Attribute can be associated.

- **Path**: is defining how an Attribute will react when following a fade-time.

- **Stand-By**: is defining at which value, between 0 and 255, an Attribute should remain when released by the control of the Editor or the Playback.

- **Hi-Lite**: is defining at which value, between 0 ad 255, each Attribute will be forced in the case of a fixture being activated by the "Hi-Lite" command.

- **Locate**: is defining at which value, between 0 ad 255, each Attribute will be forced in the case of a fixture being activated by the "Locate" command.

To modify the Attribute features within the "Fixture configuration" panel, proceed as follows:

- Select the touch key related to the Attribute feature which need to be modified.

- By means of the third Encoder Wheel located underneath the writing "Change", scroll among the available options and select the desired one.

- Push **DONE!** when ready.

- Wait to the end of the updating procedure showed by the progress bar.

The Encoder Wheels named "Attribute scroll" and "Fixture select" are used respectively to:

- Scrolling of the Attributes for the selected fixture.

- Selection of a different kind of fixture, in the event of several type of fixtures being patched.

We will now describe the relevant options and the way an Attribute will react to different settings for each single Attribute feature. At first sight, all those settings might be difficult to understand if never used before, therefore we suggest performing some test during the reading in order to get the full knowledge of their use and how they can be helpful to the operator.

Palette Type

The amount of intelligent fixtures available in the lighting industry are hundreds, each of them different from the other and everyone with a different Attributes organization. Pilot 3000 has been designed to simplify the control of the different fixtures thought the use of a system based on grouping similar Attributes into 6 families called Palette. That means an Attribute which is common to all the fixtures available in the library, will be assigned to one of these 6 families (Palette). The families are:

- **IN** Intensity

- **PT** Pan/Tilt

- **CO** Color

- **GB** Gobo

- **PR** Prism

- **BL** Blade

This kind of organization allows finding quickly an attribute during the programming procedure by choosing the family of which the attribute has been assigned. This also works when two or more different fixtures have the same attributes: Pilot 3000 will allow to simultaneously using the Attribute since it is assigned to the same family.

The way an Attribute has been related to a Family can be easily reconducted to the family name itself (Palette).
The grid here below shows how the Attributes have been grouped into the families of the Pilot 3000 fixture library.

IN	PT	CO	GB	PR	BL
Dimmer	Pan	Color wheels	Static Gobo wheels	Prism	Shutter 1
Shutter	Tilt	Cyan	Index/Rotating Gobo wheels	Rotating Prism	Shutter 1 Angle
Focus	P/T speed	Magenta	Index Gobo	Prism Speed	Shutter 2
	P/T Macro	Yellow	Speed Gobo	Effects	Shutter 2 Angle
		CTC	Zoom		Shutter 3
		CTO	Iris		Shutter 3 Angle
		Color effect	Frost		Shutter 4
			Gobo Macro		Shutter 4 Angle
					Shutter Index

The "Fixture configuration" panel allows modifying the default Palette type configuration which relates an Attribute to a Family.

This might be useful when the operator requires a more comfortable configuration of the Attributes during the programming ad playback procedure.

The connection Attribute – Family, is also affecting the "Palette" creation activity. For this reason an Attributes configuration different than default, may result into a more friendly use of the Pilot 3000 for the operator.

A more detailed explanation about the importance of the Attributes when creating new palettes can be found into the chapter "PALETTE".
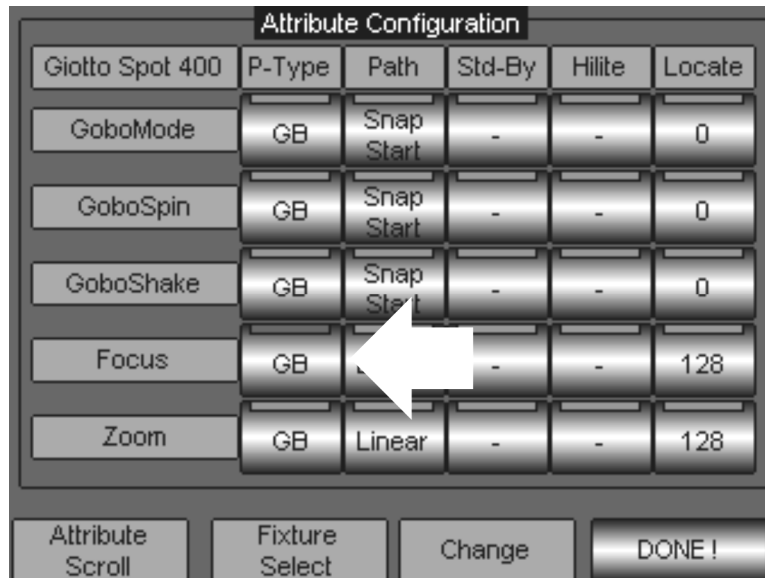
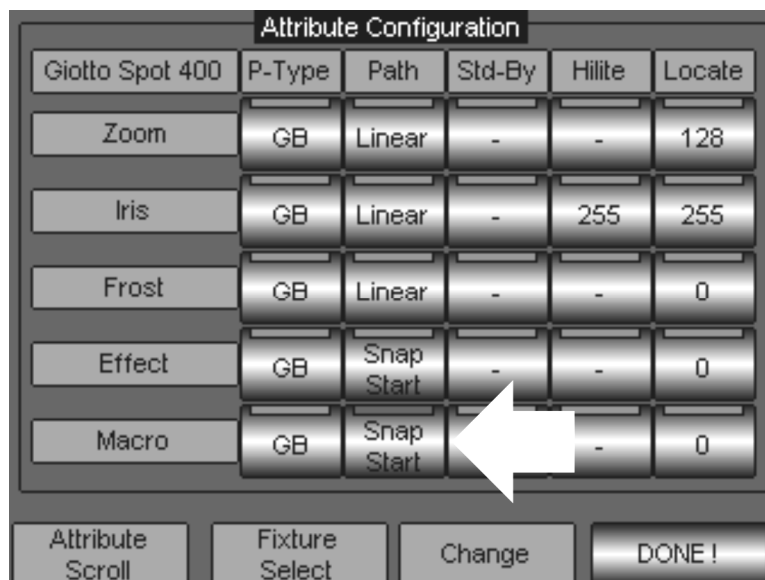To modify the connection between an Attribute and its Family, proceed as follows:

- Scroll the Attributes by means of the Encoder wheel "Attribute Scroll" until visualizing the Attribute to be modified (in the example of the "Focus" figure).

- Push the touch key of the Palette type (in the picture indicated by the arrow) from the "P-Type" column.

- Scroll through the 6 available options by using the Encoder Wheel "Change" until the required one has been found (for example PT). The options available will be showed on the touch key.

- Push **DONE!** to confirm

- Wait to the end of the updating procedure showed by the progress bar.

Path

The "Path" feature is defining how an Attribute will react when following a given fade-time across two Cues.
The reactions an Attribute can have are three different kind:

- **Linear**

- **Snap Start**

- **Snap End**

  - The Linear option must be chosen when the Attribute has to move from a value to another with a linear reaction which is directly proportional to the Crossfade time.

  - The Snap Start option must be chosen for those Attributes which require an instant change of their status when enabling a Cue and at the beginning of the Fade time set for each Cue. The remaining Fade time will be ignored by these Attributes.

  - The Snap End option must be chosen for those Attributes which require an instant change of their status when enabling a Cue and at the end of the Fade time set for each Cue. The flowing of the Crossfade time will not cause any change of the status of the Attribute until the timing will reach the end.

To modify the connection between an Attribute and its Path, proceed as follows:

- Scroll the Attributes by means of the Encoder wheel "Attribute Scroll" until visualizing the Attribute to be modified (in the example of the "Macro" figure).

- Push the touch key of the Path type (in the picture indicated by the arrow) from the "Path" column.

- Scroll through the 3 available options by using the Encoder Wheel "Change" until the required one has been found (for example Snap End). The options available will be showed on the touch key.

- Push **DONE!** to confirm

- Wait to the end of the updating procedure showed by the progress bar.

The grid here below shows how the Attributes have been related to the Path options by default into the Pilot 3000 fixture library.

Linear	Snap Start	Snap End
Dimmer	Static Gobo wheels	-
Linear Zoom	Index/Rotating Gobo wheels	-
Focus	Index Gobo	-
Iris	Speed Gobo	-
Linear Frost	Gobo Macro	-
Pan	Color wheel	-
Tilt	Color effect	-
Cyan	Prism	-
Magenta	Rotating Prism	-
Yellow	Prism Speed	-
Linear CTC/CTO	Effects	-
Shutter 1	Shutter	-
Shutter 1 Angle	Macro	-
Shutter 2	P/T Macro	-
Shutter 2 Angle		-
Shutter 3		-
Shutter 3 Angle		-
Shutter 4		-
Shutter 4 Angle		-
Shutter Index		-

The philosophy behind the assignment of an attribute to a Path options is strictly related to the way a Fixture controls its own Attributes and how they mechanically react to a cross fade time.
An example could be the Gobo Wheel which usually is controlled by fixed steps corresponding to the gobo positions.
So, the Gobo wheel should not be used with a Linear Path when a crossfade is applied, since this will cause a stepped changed of the wheel through each single gobo, rather then a quick change from starting gobo position (gobo1) to the target gobo position (gobo3).

Another Attribute which normally is set to "Snap Start" path option (and NOT "Linear") is the Shutter. Is important that the Shutter opens immediately when activating a Cue without undesired Strobe effects caused by all the strobes values usually present across the closed and open position on all the Shutter channels.

Stand-By

Stand-By is the status always reached by the Attributes of the Fixtures configured after two precise commands:

▪ CRL ALL

▪ RELEASE

The "Clear All" command is normally used to end a programming phase.

The "Release" command is used to close the Playback activity of one or more registers which are controlling the Cues.

When these commands are activated, the Fixtures involved by the editor or the Playback assume a precise physical status delineated in the "Stand by" column of the Fixture Configuration panel.

Normally the Stand-by status acts closing the Dimmer channel only, leaving all the other attributes in the same status as when they were active through the Playback or the editor. This can be easily deduced by the fact that in the Stand-by column all the attributes are marked by the "Empty" status easily recognizable by the symbol"'-". Only the dimmer has value "0".

Many operators give other values to the attributes, in order to bring the fixture to a precise status when "release" them (i.e. Pan 128 Tilt 128).
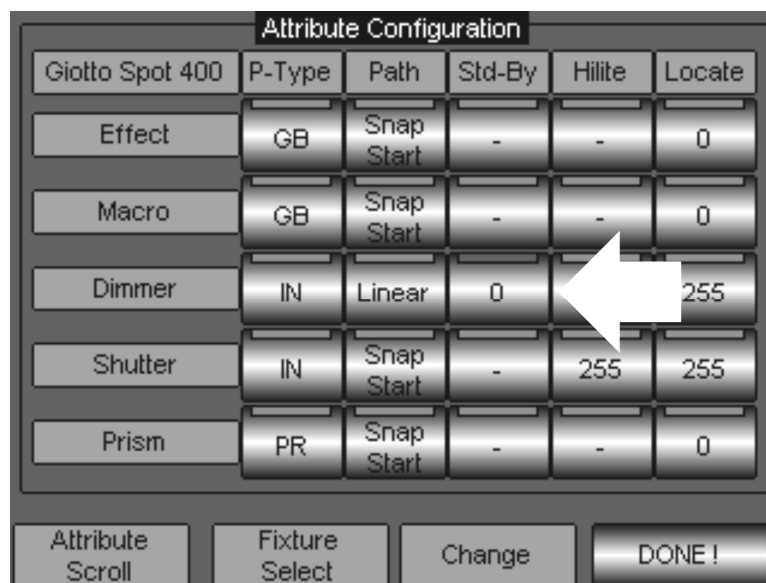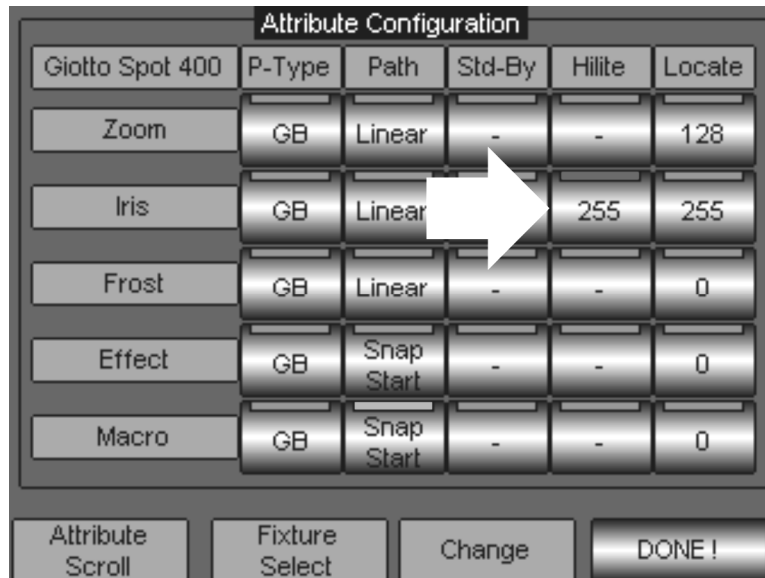

To modify the association Attribute – Stand-By proceed as follows:

▪ Scroll with the wheel "Attribute Scroll" until visualizing the Attribute to be modified (in the example of "Dimmer" figure).

▪ Press the key of Stand-by type (in the picture indicated by the arrow) from the "Std-By" column.

▪ Assign a value (from 0 to 255) through the Wheel "Change" visible on the key itself, until setting the value desired.

▪ Press DONE! to confirm

▪ Wait the scroll bar until completing the new configuration saving.

HI Lite

Very often when programming intelligent projectors you need a fast way to quickly find a fixture in use, especially if the rig is composed by a very high number of units. Hi-lite is a command acting on the selected projectors into the Editor. This means that the action activated by the Hi-lite command is not "captured" by the editor in the programming phase therefore it is not possible to "store" it in a Cue .Normally the Hi-Lite main function is to open the dimmer at the maximum luminous intensity of the fixture/s selected in the editor for a quick identification of their position on the stage. So the attributes normally controlled by the Hi-Lite command are Shutter and Dimmer. In many occasions there can be the necessity that the Hi-Lite command, besides "liting" a fixture, cancels every eventual color in order to recognize it in a more evident way.

To do it you have to modify the colour attributes in the Hi-Lite status from the Fixture configuration panel.

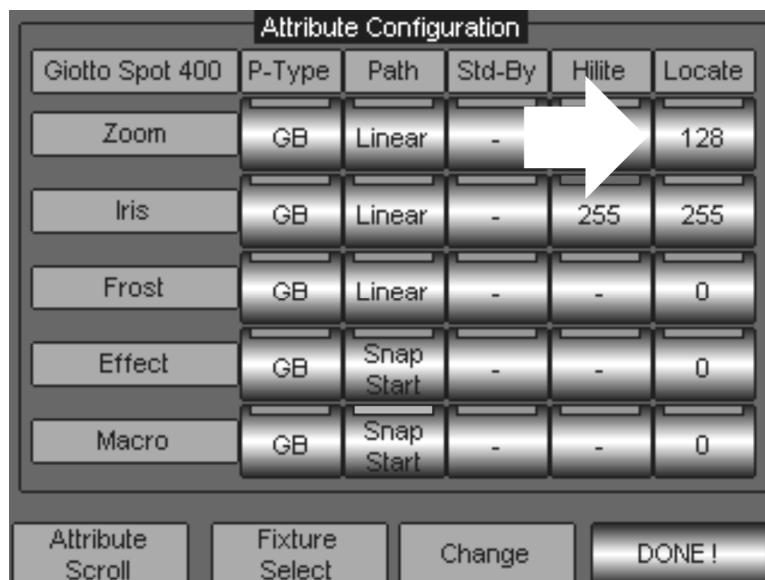To modify the association Attribute – Hi-Lite proceed as follows:

▪ Scroll with the wheel "Attribute Scroll" until visualizing the attribute to be modified (in the example of the "Iris" figure).

▪ Press the key of Hi-Lite type (in the picture indicated by the arrow) from the "Hi-Lite" column.

▪ Assign a value (from 0 to 255) through the Wheel "Change", visible on the key itself, until setting the one desired.

▪ Press **DONE**! To confirm

▪ Wait the scroll bar until completing the new configuration saving.

Locate

The "Locate" column delineates the value that each Fixture Attribute has to take up by the LOCATE command. It is a very important and useful command to find the projectors and start their programming. The "Locate" command automatically activates all the parameters configured into the editor. This means that the Locate status already represents a "salvable" status in a Cue, contrarily to the Hi-Lite command. Moreover Locate assures the data into the Cue and controls all the Attributes of the projectors involved by the Cue itself. This approach to the programming assures a complete and correct "return", in the scene, of the Cues saved.

To program ignoring the "locate" command as first operation, causes the saving, in the Cue, of a part of the Attributes of the fixtures involved in the Cues themselves. This will cause a partial "return", in the scene, of the Cues saved.

This last programming method causes different consequences in Playback phase which, if useful, have to be foreseen by the operator who has to clearly know which and how many specific Attributes every Cue have to act.


To modify the association Attributes – Locate proceed as follows:

- Scroll with the wheel "Attribute Scroll" until visualizing the Attribute to be modified (in the example of the "Zoom" figure).

- Press the key of Locate type (in the picture indicated by the arrow) from the "Locate" column.

- Assign a value (from 0 to 255) through the Wheel "Change", visible on the key itself, until setting the desired one.

- Press **DONE**! To confirm

- Wait the scroll bar until completing the new configuration saving.

OPTIONS

In the SETUP function the **Option** key opens a window where it is possible to choose among different possibilities. Here below we will describe the different options available and their effects. All the variations made in the Options window affect in a general way the console's functioning (Overall).
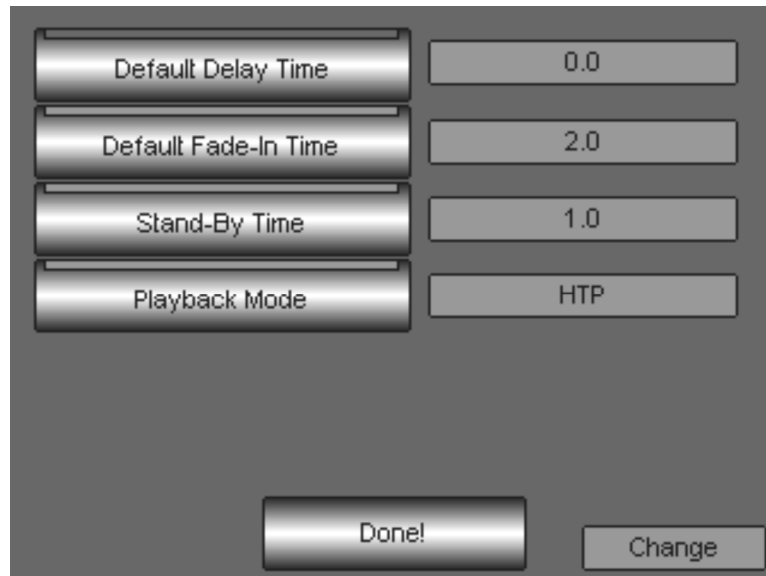
The available Options are:

- Default Delay Time
- Default Fade-In Time
- Stand-By Time
- Playback Mode

Default Delay Time

By this option it is possible to decide, for each Show, which Delay time is automatically applied every time a new cue is stored.

- To modify the Delay time press the **Default Delay Time** key
- Act on the wheel "Change" until visualizing the time value desired on the field near the key
- Press **Done**! to end and go out from Options

Default Fade-In Time

By this option it is possible to decide, for each Show, which Delay time is automatically applied every time a new cue is stored.

To modify the Delay time:

- Press the **Default Delay Time** key
- Act on the wheel "Change" until visualizing the time value desired on the field near the key
- Press **Done**! to end and go out from Options

Stand-By Time

This option allows choosing with which time the projectors will be "released", when they receive the command "Release" from the Playback or "Clear" from the Editor. These commands normally shut down the projectors controlled by Cue or Editor. This shut down time can be assigned through "Stand-By Time"

To modify the Stand-by time:

- Press the **Stand-by Time** key

- Act on the wheel "Change" until visualizing the time value desired on the field near the key

- Press **Done**! to end and go out from Options

Playback Mode

This option allows to choose the priority behaviour of the Dimmer channels handled by more Playbacks. The default mode is normally LTP type (**L**atest **T**ake **P**recedence). In this mode, the output of same channels handled by more Cues is always the one related to the last Cue activated. The HTP (Highest Take Precedence) mode behaves as the LTP mode with an only difference for the Dimmer Attributes, for which a priority is applied where the Output value is always the highest of all the Cues running, no matter which cue has been activated as latest.
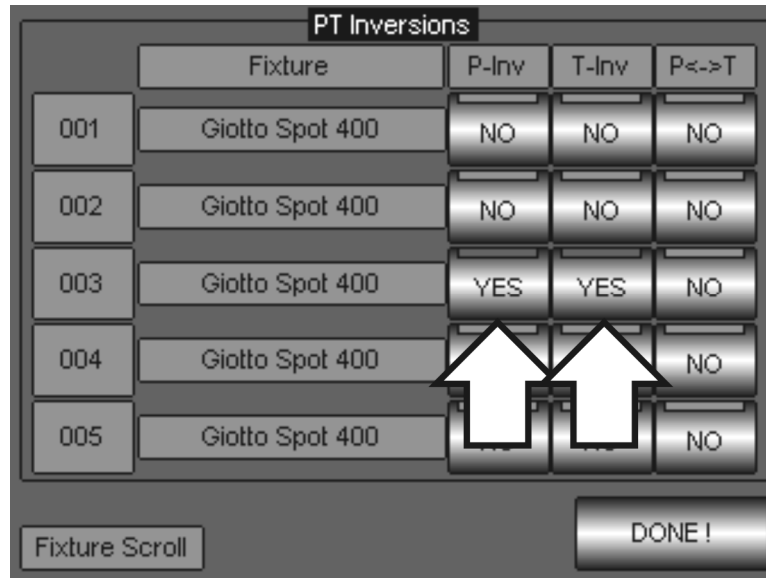
To modify the LTP – HTP Priority:

- Press the **Playback Mode key**

- Act on the wheel "Change" until visualizing the time value desired on the field near the key (HTP or LTP)

- Press **Done!** to end and go out from Options

PAN TILT OPTIONS

By this menu it is possible to choose the Pan and Tilt movement reverse of projectors already configured.

To apply a reverse click on the "P-Inv", T-Inv", "P<>T" columns keys, in correspondence of the fixtures desired. The Fixtures can be scrolled through the First Wheel "Fixture Scroll". The two statuses that each key can take up are "YES" (reverse applied) or "NO" (not inverted)

The P-Inv columns allows the Pan movement reverse

The third column P<>T or "Swap" allows the replacement of the Pan with the Tilt and vice versa. This means that, where it is applied, the DMX information assigned to the Pan channel will accomplished by the Tilt channel and vice versa. It is possible to apply the Pan and Tilt reverse also by Swap active.

The possible combinations are 8 in total:

1. No invert
2. Invert Pan
3. Invert Tilt
4. Invert Pan + invert Tilt
5. Swap P/T
6. Swap P/T + invert Pan
7. Swap P/T + invert Tilt
8. Swap P/T + invert Pan + invert Tilt

SLIDER CONFIGURATION

Pilot 3000 is equipped with six Controllers which can be configured at will, for every show in two running modes (see "The Controllers"):

▪ Register Master

▪ Manual Cue

By means of the "Slider Configuration" panel you can choose, for the current show, in which of the two running modes each Controller will operate.
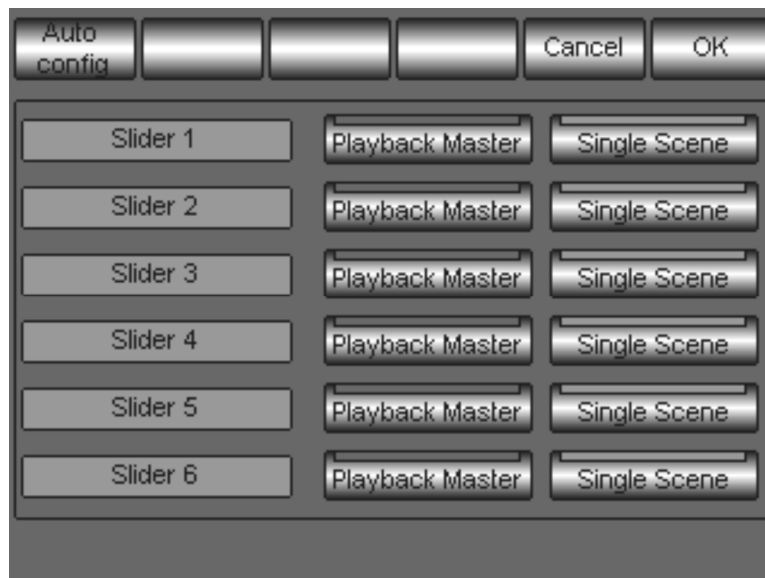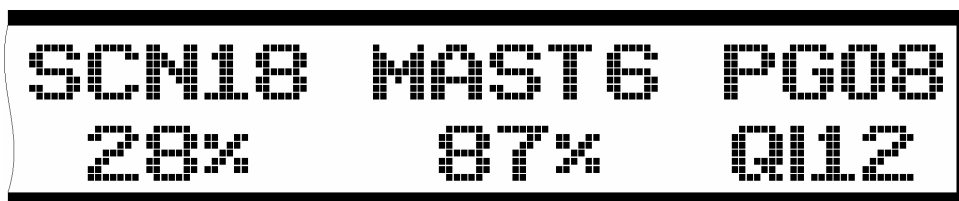

The *Playback Master* key assigns the "Register Master" mode.
The *Single Scene* key assigns the "Manual Cue" mode.
The two modes are mutually exclusive.

Once having chosen, press the key *OK* to confirm. At the same time also the display LCD alphanumeric over the six Controllers Sliders will show the configuration done.

The example shown in the picture presents a situation where the fifth Controller is configured as "Manual Cue" and the sixth as "Playback Master".

4.2 Tools
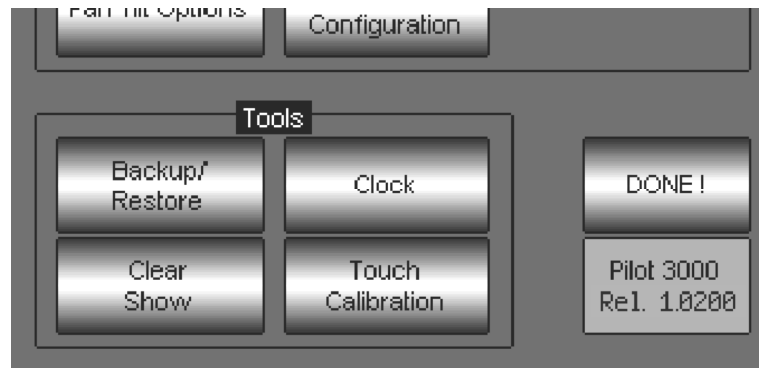
The Tools area gives access to the saving and restore functions of the shows, besides other utilities for the internal clock and the touch panel setting.

We will see now in detail the use of each Tool. The tools are:

- **Backup/Restore**
  In this area all the realized show can be saved or restored into the Compact Flash

- **Clock**
  Allows to set the clock and the date into Pilot 3000

- **Clear Show**
  Enables the console to new show to realize

- **Touch Calibration**
  Utility of re-calibration of the Touch Panel

BACKUP/RESTORE
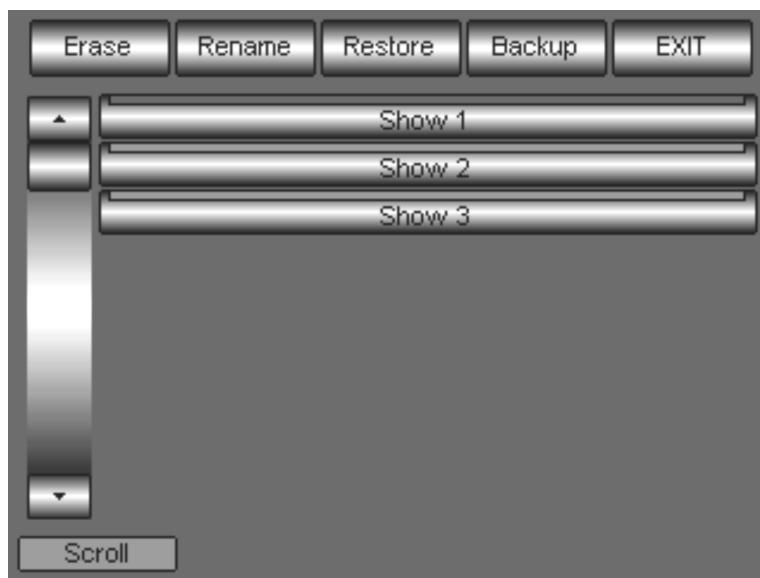
The **Backup/Restore** key opens the panel (shown by the picture on the previous page) which affords the functions for saving and restoring the shows already programmed with Pilot 3000.
Now we will see in detail these very important operations.

ATTENTION!!
All the shows are saved into the Compact Flash located over the Touch screen panel.
Pilot 3000 is not able to work without this Compact Flash.

To Backup the Show

To perform the saving of the show just created:

▪ Press the **Backup** key
▪ Compose the name of the show through the alphanumerical keyboard which appears
▪ Press the **Enter** key to confirm the saving
▪ Wait that white progress-bar is complete
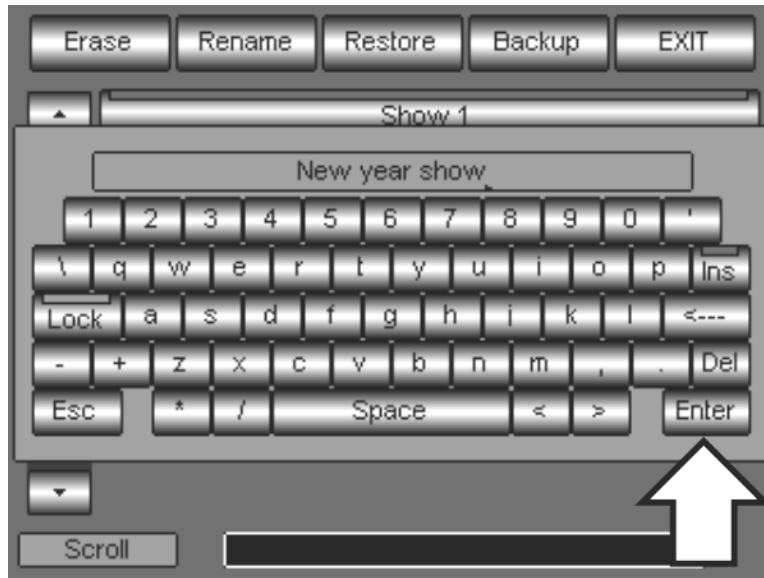
At each new show saving, Pilot 3000 creates a key used for the Restore or the eventual canceling of the show itself. The Show key's label shows the name assigned allowing an immediate recognition.
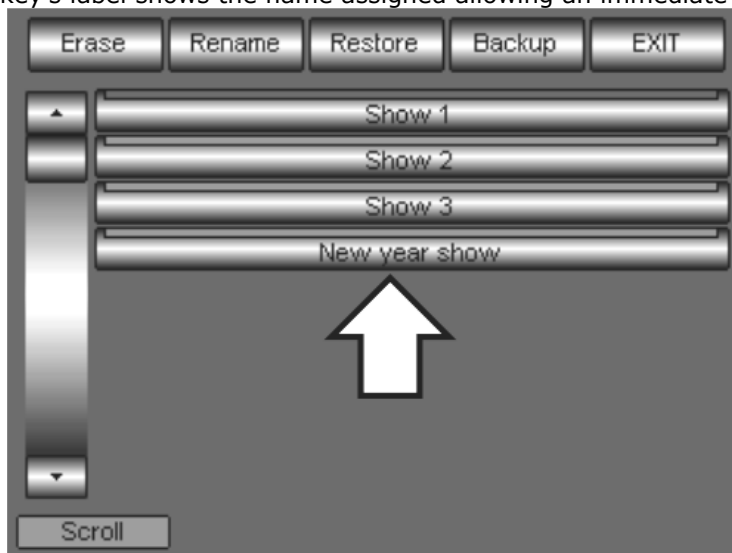
In case the panel is completely covered by the Show keys, use the first Wheel "Scroll" to scroll the selection.

To Restore the Show

The Restore operation is necessary when you want to restore a show previously saved into the Compact flash.
It is important to always save the current Show before starting the Restore operation; in fact this operation replace the current show with the data of the show you intend restoring.

To restore a show proceed as follows:

▪   select the show to be restored with the related key

▪   press the key *Restore*

▪   press *Yes* on the warning window appearing, if you want to go on with the restore procedure

▪   wait that the white progress-bar is completed

Erase Show

The Erase command allows to cancel the Shows previously saved into the Compact flash.

ATTENTION!!
The erase operations are irreversible. This means that once cancelled a Show from the Compact Flash, it will be permanently lost and it won't be possible to restore it through the Restore command. Therefore pay attention before proceeding with the Erase operation and be sure that you don't want to use again the show you are erasing.

To permanently erase a show from the Compact Flash:

▪ select the show to be erased with the related key.

▪ Press the *Erase* key

▪ press *Yes* on the warning window appearing, if you want to go on with the show erase procedure

▪ wait that the white progress-bar is completed

CLEAR SHOW

Clear Show is a function allowing to cancel the current show from the temporary memory in order to start a completely new one and different in the main features.

ATTENTION!!
The Clear Show operations are irreversible. This means that once the show is cancelled the current show cannot be loaded back unless it was previously saved into the Compact-Flash. Therefore it is always necessary to perform a Backup Show before starting any Clear actions.

To Clear the Show:

▪ press the *Clear Show* key in the Tools menu

▪ press *Yes* on the warning window appearing, if you want to go on with the Clear operation

▪ wait the confirmation window.

Clock

Clock is the menu enabling the configuration of the internal clock and the date into Pilot 3000
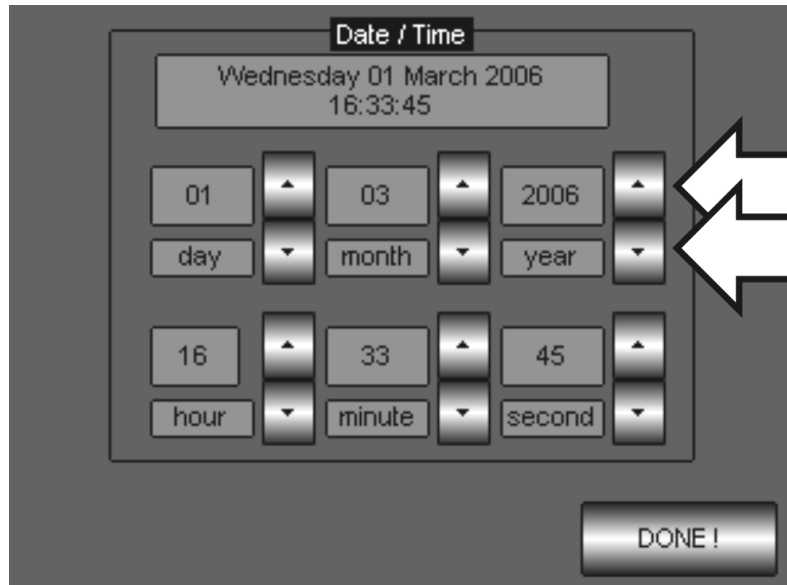

Pressing the *Clock* key on the Tools main menu you can access the panel "Date/Time" shown in the above picture. To set the date and the time of the internal clock, simply use the related Up and Down keys. Press *Done!* to confirm and go out from the panel.

TOUCH CALIBRATION

Through the "Touch calibration" utility it is possible to re-calibrate Pilot 3000 touch panel working area, when there are mismatches between the touch action areas and the interface reactions.

To calibrate the touch panel:

- press the **Touch Calibration** key in the Tools menu
- carefully press the cross symbol **1** located in the upper left hand side of the screen
- carefully press the cross symbol **2** located in the lower right hand side of the screen
- wait the **OK** key powering located in the center of the panel
- press it to confirm the new calibration and go out
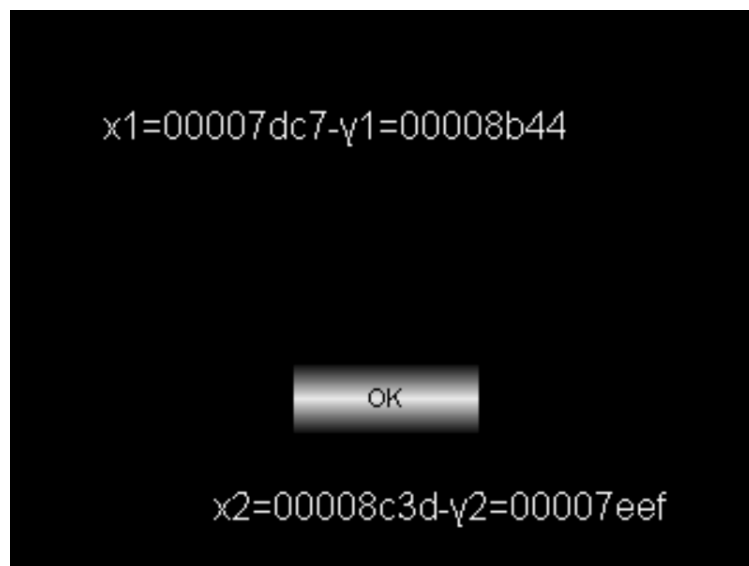
5   TO PROGRAM PILOT 3000

This chapter gives to the user all the elements for a simple and correct programming of Pilot 3000. It is strictly necessary that the Console, before being programmed, is correctly configured as described in the previous chapters.

Pilot 3000 can be programmed in a very personal and flexible way. If you use the Console for the first time, following the below procedure and, once learned the basic notions, you will be able to choose your own programming style.

All the programming operations are enabled by the keys of the "editor keypad" area and the software interface from touch panel. The main programming actions are three:

▪   fixtures selection

▪   editing of the Attributes until obtaining the scene desired.

▪   saving the Attributes status in a Cue.

5.1 Fixtures selection operations

After having configured the Console, the main interface automatically visualizes the Fixtures selection area showing the list of the projectors configured and the control area of the Attributes parameters to assign to the four wheels.

SELECTION FROM THE FIXTURE PANEL

The selection operations are strictly necessary as first step to the programming, as they establish how many and which fixtures will be involved in the editing operation of a Cue.

The selection is done through direct actions using the main interface (touch panel) into the selection area, pressing the keys related to the fixtures desired. In the below example, Pilot 3000 has been configured to control 10 Giotto Spot-400 CMY and 6 Victory II 250. The selection of the first Giotto-400 is easily recognizable by the red LED on the related key.

Pressing the fixtures keys you enable the related fixture selection and the access to the handling of all the relevant Attributes (Pan, Tilt, Dimmer etc..).

The selection of more types of fixtures allows entering all the Attributes of the fixture lastly chosen and at the same time to the Attributes common to the different types of fixture (that is all the Attributes with the same name; in Ex Dimmer or Pan Tilt etc).

To remove the selection of one or more fixtures, simply press again the related selection keys.
To remove the selection of all the fixtures press the key *Unseal All* on the upper Tool-bar.

SELECTION OF THE FIXTURES THROUGH GROUPS

A simply and fast way to select the projectors is that of using the Groups.
In fact it is possible to speed up the programming directly selecting Groups of projectors previously created.

Pilot 3000 allows realizing a set of selection groups accordingly to the control requirements of each operator. Select a group of projectors by pressing a single key instead of pressing each key for every fixture, this operation speeds up and simplify the programming procedure.

To enter the groups selection window simply press the *Groups* key on the upper Tool-Bar.
Press once again the same key (which will have now the *Fixture* label) to visualize the fixtures.
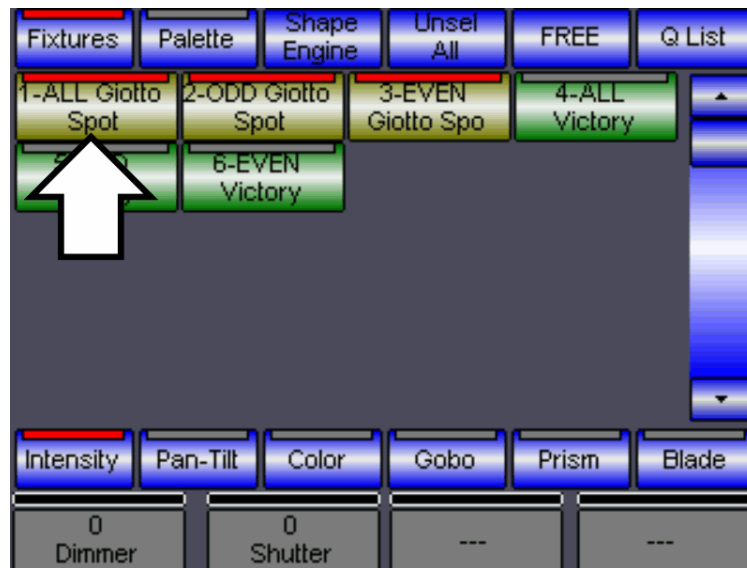
The standard selection groups are automatically created by Pilot 3000 already in phase of console configuration.

As you can notice in the above figure, at each type of fixture configured, Pilot 3000 automatically creates three different selection groups:

▪   **ALL** to select all the projectors of the same type (i.e.: Giotto Spot 400 CMY)

▪   **ODD** to select only the odd projectors of the same type (i.e.: Giotto 1,3,5 etc..)

▪   **EVEN** to select only even-numbered projectors of the same type (i.e.: Giotto 2,4,6 etc..)

As for the fixture selection, the red led switched on a key of a group identify its activation.

In the case shown by the above figure, the key "ALL Giotto Spot" enables also the other key groups "ODD Giotto Spot" and "EVEN Giotto Spot" as all the projectors managed by these 2 last groups are included into the "ALL Giotto Spot" one.

To remove the selection of one or more Groups as for the fixtures, simply press again the keys of the active groups. To remove the selection of all the active groups, press the *Unseal All* key on the upper Tool-bar.
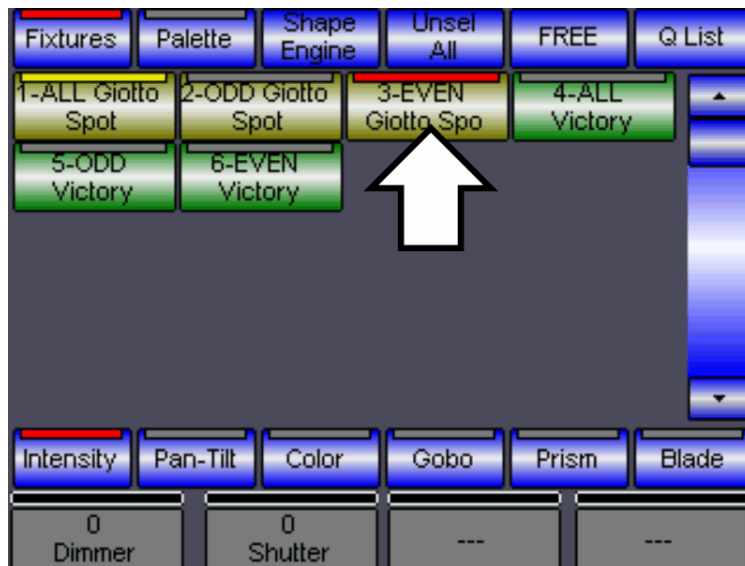
In case a group, involving part of the fixtures managed by other groups, is activated, these groups will be automatically signaled by a yellow led. In the case shown by the above figure, the activation of the "EVEN" group has caused the yellow switching on of the ALL group.

CREATION OF NEW GROUPS

The creation of customized groups is very fast and simple.

Proceed as follows:

- on the fixture panel select the projectors belonging to the new group
- press the **STORE** key
- now press the *Group* key on the "Store: Choose Object" window
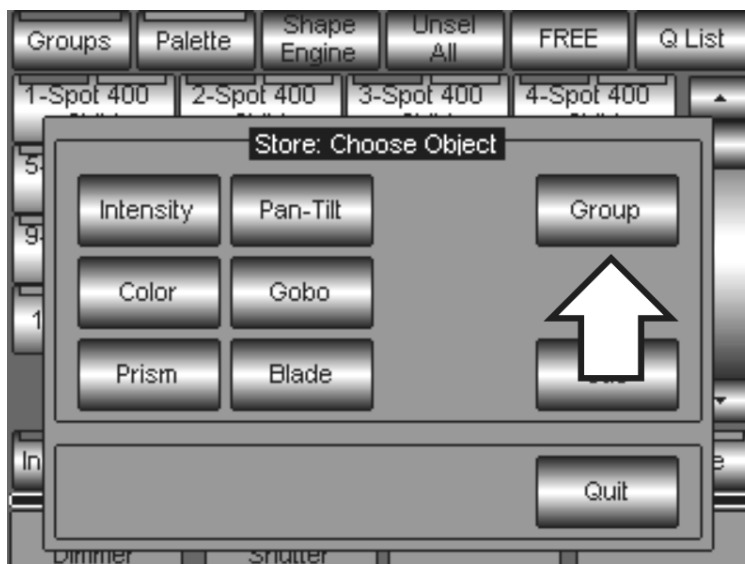
- assign the name of the group to be created through the virtual keyboard appearing on the display
- press the Enter to confirm the creation of the group
- a new key with the name of the group will be then created into the Group selection panel

MOVING A GROUP

Pilot 3000 allows to choose the order in which organizing the groups. Thanks to this function the operator can arrange the group's keys in a more comfortable order for his personal use.

To arrange the order of the groups:

- select the group

- press the MENU key

- press the Move key on the window just appeared
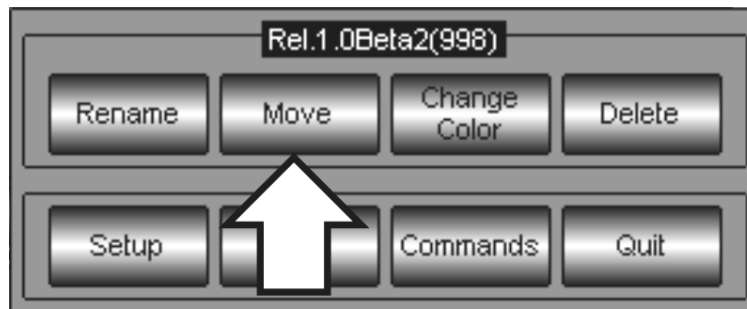
- insert the new ID group number through the appearing numerical keyboard
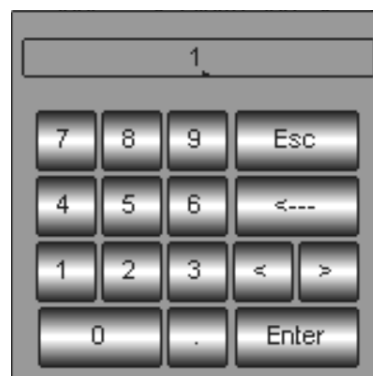
- press Enter to confirm and escape.

ATTENTION!
It is not possible to assign a new ID number already belonging to another group. Each time this will be necessary, you have to firstly release the used ID through the Move command

---

TO DELETE A GROUP

A "Delete" command is available to erase an existing group.

To delete a Group, proceed as follows:

- select the group to be cancelled

- press the MENU key

- press the Delete key on the related menu

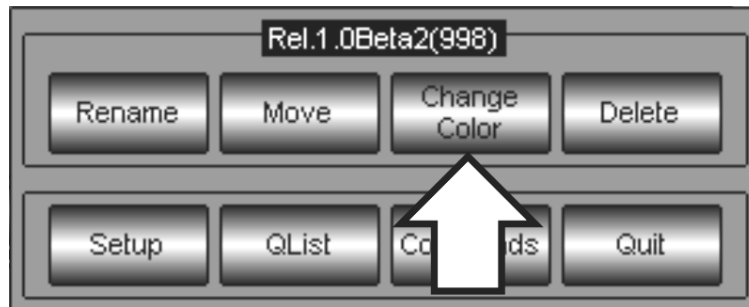- a Warning window will appear to confirm that the group is deleted.

CUSTOMIZATION OF THE GROUP PANEL LAYOUT

The group's panel can be customized in the keys color and in their labels.

Group's key color

To assign a color to the fixture keys proceed as follows:

▪ select a group to which changing the color

▪ press the MENU key

▪ press the Change Color key

▪ Create the color desired by mixing the R-G-B channels. The mix can be done with the scroll bar directly from the Touch Panel or using the first three Wheels controlling the Parameters.
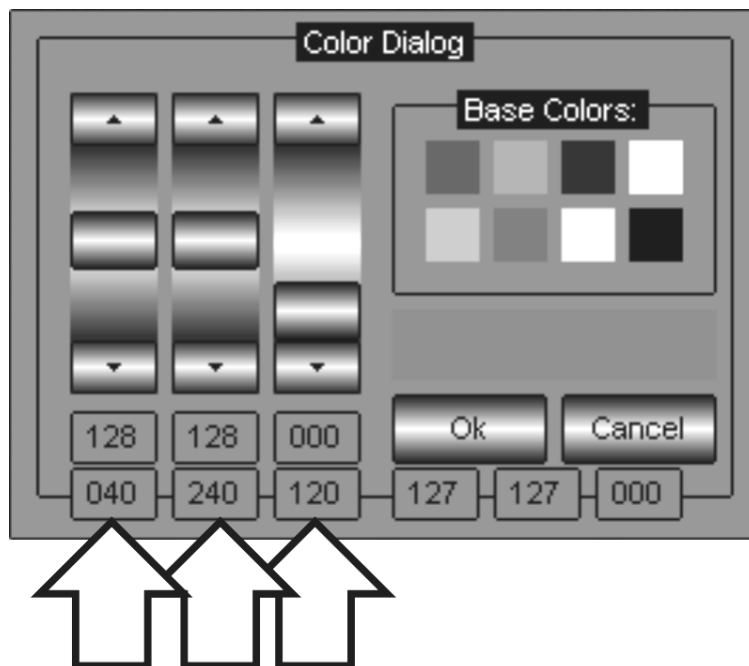
▪ press Ok to confirm and go out from the Color Dialog menu.
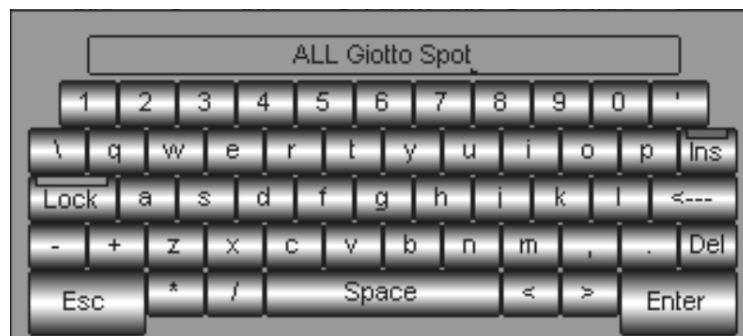
Rename the Groups Key

It is possible to assign the name desired to the groups to better recognize them during the operations.

To rename the Groups key proceed as follows:

- select the group to be renamed
- press the MENU key
- press the Rename key

- write the new name with the virtual keyboard appearing

- press Enter to confirm and go out

FIXTURE PANEL MODIFICATION

It is possible to customize the fixtures selection panel by coloring and renaming the Fixtures keys. This allows the operator to create at will panels for a quicker and easier Fixture selection.
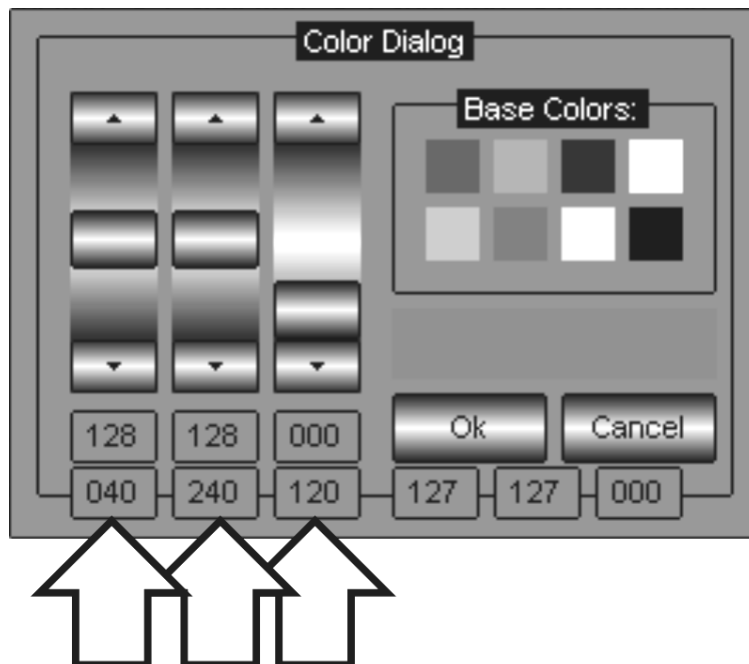
Fixture keys color

To assign color to the fixture key proceed as follows:

▪ select the fixture

▪ press the MENU key

▪ press the Change Color key

▪ generate the color desired by mixing the R-G-B channels. The mix can be done with the scroll bar directly from the Touch Panel or using the first three Wheels controlling the Parameters.

▪ press Ok to confirm and go out from the Color Dialog menu

To Rename the Fixture Keys
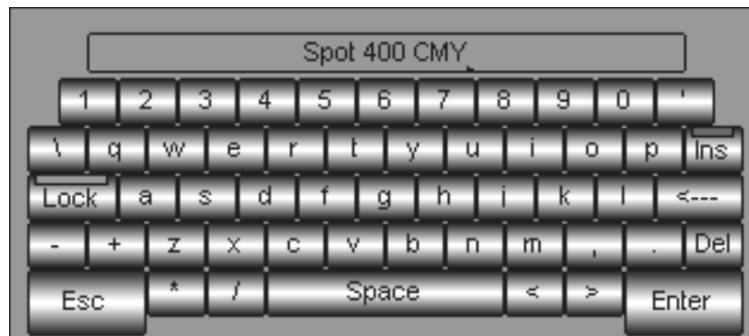
To assign a different name to the Fixture keys can be very useful to easily identify the fixtures and their function (i.e.: "Spot SideDX")

To rename the fixture keys proceed as follows:

- select the fixture you want to rename
- press the **MENU** key

- press the Rename key
- write the new name through the virtual keyboard which appears

- press **Enter** to confirm and go out

5.2 Editing of the Attributes

The Attributes editing of the fixtures selected, represents the main operation for the console programming. It is really important to understand how Pilot 3000 handles the Attributes during the Programming. The below sections describe the most used programming method:

- the Locate command

- pan e Tilt positioning

- choice of the colors

- choice of the gobos

- other Attributes

THE LOCATE COMMAND

To who is programming Pilot 3000 for the first time we suggest to start by assign a precise parameter to all the Attributes of the projectors selected.

The Locate function does it automatically.
The Locate status can be activated in every moment by pressing the **LOCATE** key. The "Locate" status brings all the selection Attributes to zero value, except for the Shutter and Dimmer which, on the contrary, receive the "full" (100%) value. In a selection including Pan and Tilt Attributes, Locate" brings their value to 50% (Home position).

This allows, as first programming operation, to detect the projectors selected also visually, and to modify their Attributes in order to create the scene desired.

Locate satisfy two important requirements:

1. It generates a luminous status of "starting" the programming, where all the projectors go to the "Home Position", with max intensity and without colour, gobos, etc…

2. Assign a Dmx value to all their Attributes of the projectors selected.

All the Attributes into the editor containing a parameter assigned, are Attributes which will be saved later into the Cue.

All the Attributes with no value (it happens if "Locate" is not used as first programming action) will be ignored when saving the Cue and they will be consequently ignored by the Cue itself in its Playback phases.

It is important to use the Locate command because it allows to save all that is in a scene during the programming and then get a precise execution of the Cues in phase of Playback.

The below picture shows the touch panel after the Locate command.
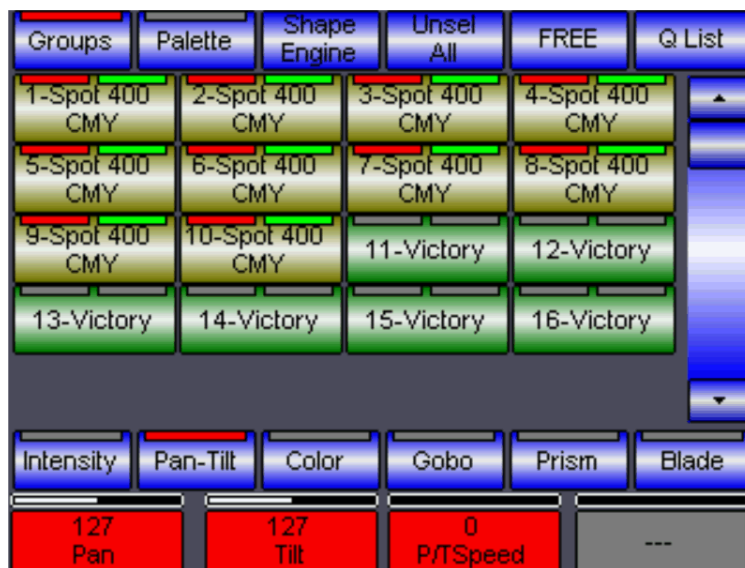
The screen indicates:
The selection

▪ Which fixtures contains Attributes The green LEDs on the Fixtures key indicate that there are values assigned to the fixtures Attributes.

▪ How many Attributes have been assigned to every fixture

▪ The green LED indicates that the fixture holds values for All its Attributes (as it is a status imposed by Locate command). The Cyan LED indicates that a value has been assigned only to a part of the fixture Attributes.

▪ Value of the Attributes assigned. The field of the control area becomes Red when a value is assigned to them.

The Attributes with a value are indicated by the red field on the lower side of the touch panel. To scroll and visualize all of them, simply press the Palette keys, located above the red fields, *Intensity, Pan Tilt, Color, Gobo, Prism, Blade*. The Palette key selection allows having the control on the Attributes of the selection through the four below wheels. Here below we will see how to modify the Attributes through the wheels in order or realize the scene desired once imposed the Locate status.

After the Locate command, you can proceed to the Attributes programming for all the projectors desired, by controlling them through the selection keys:

- **Intensity**

- **Pan Tilt**

- **Color**

- **Gobo**

- **Prism**

- **Blade**

The selection of one of these six keys enables the control of all the Attributes belonging to the family just chosen (i.e. Color), through the four wheels corresponding to the cell indicating the Attribute type.

In example, if a Giotto400 CMY is selected, by pressing the Color key you enable, through the four wheels, the control of all the Attributes related to the color allowed by the projector. In detail, following the four wheels order, you will find the control of the following Attributes:

1. Cyan

2. Magenta

3. Yellow

4. CTO

Giotto 400 CMY has other Attributes belonging to the Color palettes
For having access to them, press again the Color key.
It is necessary to repeatedly press the Palette keys in case they include more than four Attributes.
The remaining Attributes belonging to Giotto 400 CMY "Color" family are:

5. Color

6. ColorMode

POSITIONING THE PROJECTORS BEAMS

If you have configured projectors having beam movement control (Pan-Tilt), it is possible, after the Locate command, to control the beam position by means of the Jog-Ball.
The Jog-Ball always acts on all the fixtures selected controlling their position and operating on relative coordinates and not absolute. In fact the Jog-Ball is mechanically built to always come back on its central position therefore, if it worked for absolute coordinates, the projectors would position themselves always at 50% of pan and tilt, whilst, working for relative coordinates, the Jog-Ball central position will correspond to the pan and tilt position assumed by the projectors. Every movement of the Jog-Ball from its central position will cause the projector's movement from its current position.
Alternatively you can use the control wheel, once having selected the Pan Tilt palette.

THE CHOICE OF A COLOR

As described for Pan and Tilt, the coloring of motorized projectors color beams, is made through the control wheels, after having assigned to them all the Attributes related to the "Color" family.
To choose a color:

▪ Press the Color key.

▪ Rotate the encoder involved until reaching the color desired.

THE CHOICE OF THE GOBOS

To choose a Gobo please proceed as described for the Colors.
In modern projectors, it happens very often that the Attributes related to the Gobo family are the most numerous (I.e.: Gobo - GoboSpin - GoboShake - GoboMode - Iris - Frost - Effect - Macro).
To chose a Gobo:

▪ Press the Gobo key.

▪ Rotate the encoder desired, until getting the gobo.

EDITING ALL THE OTHER ATTRIBUTES TYPES

Editing the Attributes involved is a very simple operation.
It is enough to recall the family of the Attribute to get the control on the Encoder and modify its parameter.

By pressing:

▪ **Intensity** you can control of: Dimmer – Strobe - Focus - Zoom

▪ **Pan Tilt** you can control: Pan and Tilt and eventual related Attributes (anyway always present on the Jog-ball)

▪ **Color** you can control: Color Wheels - Cyan - Magenta - Yellow - CTC- CTO

▪ **Gobo** you can control: Gobo Wheels – Gobo indexing and eventual - Iris - Frost - Effects

▪ **Prism** you can control: Prisms – Prisms rotation and eventual related Attributes

▪ **Blade** you can get the control of the electronic beam shaker blades and eventual related Attributes

The connexion of a fixture Attributes to the six families is defined in the Fixture description file (Fixture library). It could happen that some Fixtures have this association different from the one above described; or, vice versa, some operators could desire an association different from the default one.
It is therefore possible, with the menu, to modify the association between Attributes and Palette families:
MENU --> *Setup* --> *Fixture configuration*
(see chapter: Pilot 3000 Configuration -> Setup -> Fixture Configuration).

Here below the table of the default association Attributes-Palette normally used by Pilot 3000 Fixtures library.

IN	PT	CO	GB	PR	BL
Dimmer	Pan	Color wheels	Static Gobo wheels	Prism	Shutter 1
Shutter	Tilt	Cyan	Index/Rotating Gobo wheels	Rotating Prism	Shutter 1 Angle
Focus	P/T speed	Magenta	Index Gobo	Prism Speed	Shutter 2
	P/T Macro	Yellow	Speed Gobo	Effects	Shutter 2 Angle
		CTC	Zoom		Shutter 3
		CTO	Iris		Shutter 3 Angle
		Color effect	Frost		Shutter 4
			Gobo Macro		Shutter 4 Angle
					Shutter Index

ATTENTION!!
All the operations performed by "Editor", have priority on what the Console is doing (es: Cue o Controllers) except for Grand Master and DBO.

5.3 Store of Cue or Cue-List

Once programmed through the editor the scene desired, you have to save it into Pilot 3000 in order to activate it when necessary. Pilot considers "Cue" a status of Attributes stored, restorable, when necessary, in Playback phase.

Pilot 3000 controls through the Playback Registers all the Cues saved in a show.
The Console is internally equipped with 20 Registers for each page, for a maximum of 20 pages; 400 Registers in total.
Before saving a status of Attributes in a Cue, it is necessary to choose which Register will control the Cue you are going to save.
It is possible to associate to each Register the control of one ore more Cues, until a maximum of 999 Cues.
All the Cues of a List will be activated in phase of Playback by repeatedly pressing the Register key.

In the following paragraphs we will see how selecting a Register on different pages and how storing the Cues.

CHOICE OF THE REGISTER

The choice of the Register where you want to store the Cue can be affected in many ways by means of the SELECT key located in the lower side of the editor keypad.
The SELECT key enables the switching on of the Register LED key currently selected.
To select a Register different from the current one:

▪ press SELECT .

▪ press the key of the Register you are going to select.

This operation has to be carried out in a time not over 4 seconds (Sell time out); otherwise the "Select" status of the Registers is automatically disabled and brought back to its normal Playback status.
The Select status of the Registers is indicated by the LED blinking of the SELECT key.
Alternatively, it is possible to select a Register by repeatedly pressing the SELECT key in order to look through the selection along the Register set of the current page.
Wait the time-out for the selection confirmation.

It is possible to select a Register on one of the 20 pages at disposal different from the current page. The selection, in this case, needs two steps:

1. Page selection

2. Register selection

The page selection is carried out with the same procedure as for a Register, with the only difference that you need to use the **PAGE** key located in the editor Keypad.

Pilot 3000 always supplies the Page and the Register indication normally selected in the right side of the Display LCD placed over the Controllers.
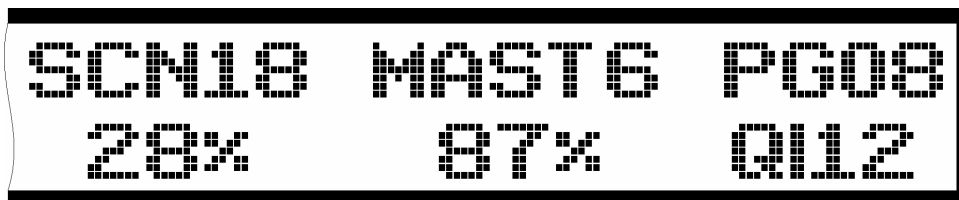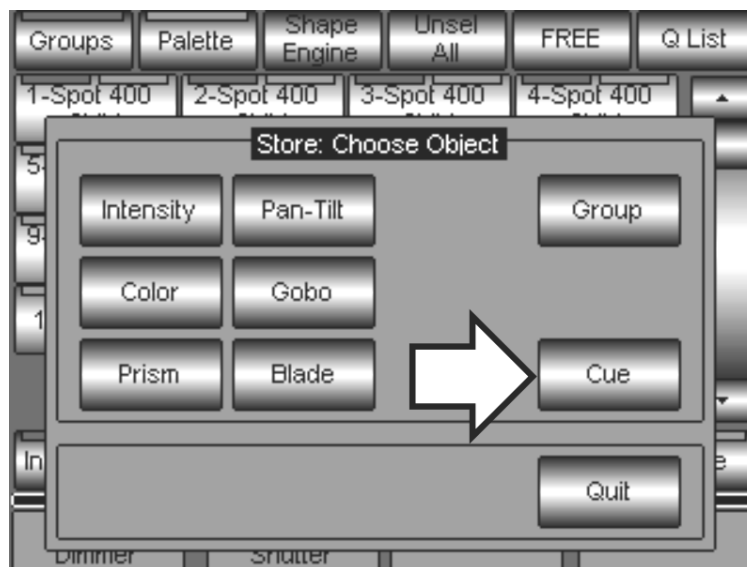

In the above figure the Register selected is the number 12 whilst the current page is the number 8.

CUES SAVING

After having created through the editor the scene desired and chosen the destination of the Cue you are going to save, proceed as follows:

- Press the **STORE** key

- Press the **Cue key** from the window appearing

The following "Store done!" message confirms that the Cue saving has been performed.

There is a rapid method to select a Register and save a Cue inside of it by a single action (short-cut):

▪ Keep pressed the **STORE** key.

▪ Press the Playback Register key where you want to store the Cue.

By this procedure, the Register selection can be done contemporaneously to the Cue store.

The creation of a Cue-List on each Register is done by means of the Store operations in the same Register.

It is very important to remember that each Store operation will stack the new Cue at the end of the Cue-List you are creating.

CLOSING THE PROGRAMMING

Once completed the programming phases, it is necessary to end the section by "closing" the editor.
All the Attributes involved by the editor, have to be released in order to verify the correct playback of the Cues just stored.
As already said, the editor status has always priority on the eventual and contemporaneous action of one or more Playbacks.
Therefore it is necessary to make sure that the editor is "turned off" before doing the Playback verification of any Cue. The editor turning off is done by pressing two times the key
CRL ALL located in the Keypad editor.
The "Clear All" LED is normally on every time an Attribute is handled and therefore still under the editor control.
The "Clear All" LED off identifies the editor OFF status (Playback enabled!).

CUE AND CUE-LIST VERIFICATION

To visualize the effective contents of each Register simply press the **Q List** key on the editor panel.

You will have access to the window related to the content of the Register selected.
The selection of the Registers programmed enables the visualization of the Register content.
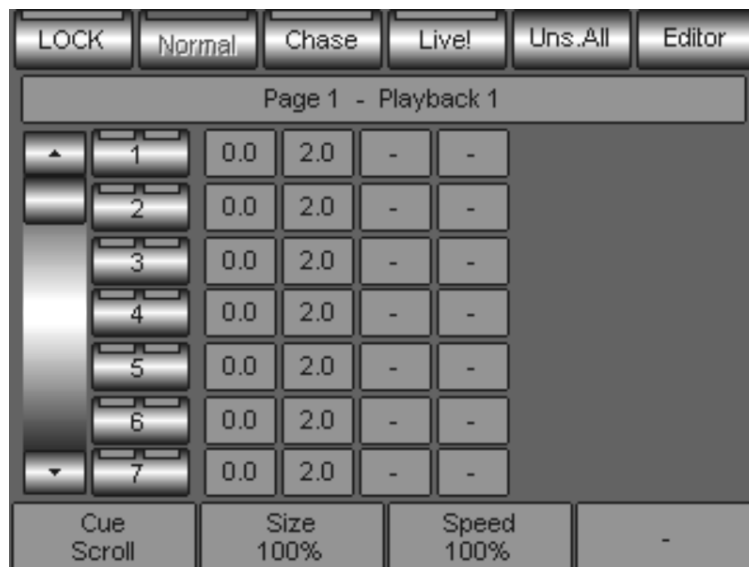
The above example shows the first Register (Playback 1) content of the first page having a list of only 7 Cues.
The Editor key brings back to the **Editor** visualization.

5.4 To store a Manual-Cue

Pilot 3000 is equipped with a set of 6 Controllers dedicated to Playback which can be freely configured.
As default the Controllers manage the Intensity and the flash of the first 6 correspondent Playback
Registers of each of the 20 Pages.

As described in the previous chapters (Pilot 3000 Setup -> Slider Configuration) it is possible to set up
some or all the Controllers for the managing of single Cues (Manual CUE), with an easy and immediate
access. The Playback of each Register gives the access from a minimum of one Manual-Cue to a maximum
of 6 different Manual-Cues accordingly to the configuration chosen.

ATTENTION!!
Version 1.0 of Pilot 3000 does not allow the Manual Cues configuration for all the available Registers (400),
but only of the first 20 that is the ones related to the page 1.
Future development will allow the extension of the Controllers configurations for both the single Cue and all
the Registers.

To store a Manual Cue:

- Proceed to the Attributes editing of the fixture desired as already described

- Press the **STORE** key

- Press "function key" of the addressing Controller

- Insert the Manual-Cue name using the alphanumeric keyboard on the Touch panel appearing later on
  the display LCD.

- Confirm with *Enter*

To verify a Manual Cue just registered, simply:

- Press twice the **CRL ALL** key to turn off the editor.

- Activate the Manual-Cue by means of the pointer related to the Controller.

5.5 Cues modification

There are different methods to modify the Cues.
It is important during the Cues modification to clearly know the procedures in order to avoid consequences not desired.

LOAD AND UPDATE COMMANDS

"Load" and "Update" commands are respectively set for the re-loading of the Cues to modify in the Editor and the updating of the Cue itself, once modified.

To modify a Cue, follow the procedure below described:

- If you are in the Editor, press the *Q List* key to visualize the Cue Lists.

- Use **SELECT** key to select the Register of the Cue to be modified, as previously described.

- Press the key of the Cue you want to modify (I.e.: the Cue 4).
 The left LED of the Red key identifies its selection.
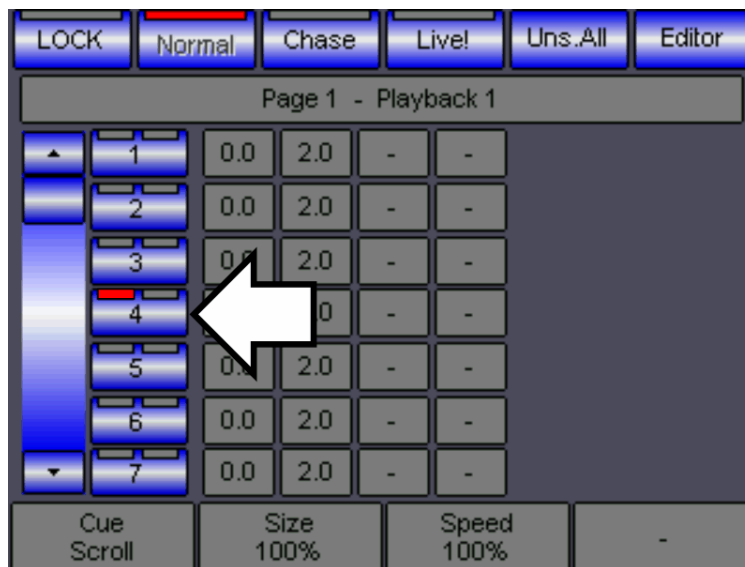
- Press the **LOAD** key.
- A little window indicates the Load phases.
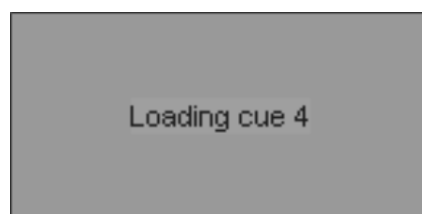
The editor appears automatically, restoring the status of the Attributes into the Cue

- Modify the Attributes

- Press the **UPDATE** key to confirm the saving of the modifications just applied.

- A Warning window appears before proceeding with the update. Press *Yes* if you want to proceed or *No* if you don't want to save any Cue modification.
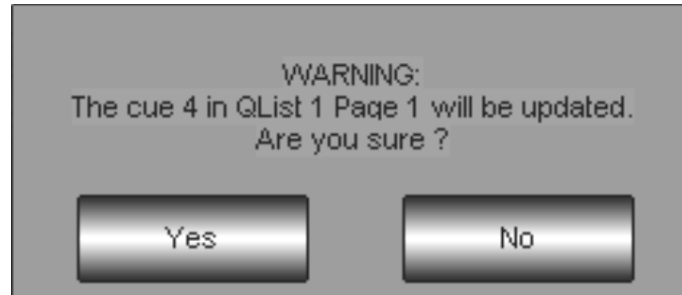
- Wait the completing of the Updating operations indicated by the windows appearing.
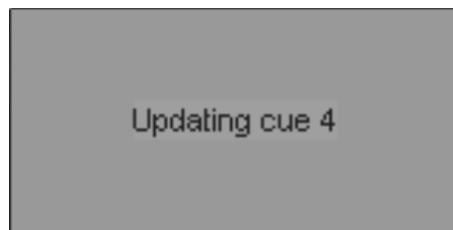
More rapid Cue updating systems will be available in the future software versions.

MANUAL-CUE MODIFICATION

To re-load and update a Manual-Cue into the editor, in order to carry out a necessary modification, simply:

- Keep pressed the **LOAD** key

- Press the "*Function key*" of the Controller owing the Manual-Cue to modify

- Apply the necessary modifications from the Editor

To update the manual cue follow the same procedure used for the saving:

- Press the **STORE** key

- Press the "function key" of the addressing Controller

- Insert again the Manual-Cue name using the alphanumeric keyboard on the Touch panel.

- Confirm with *Enter*

GB

HILITE USE

HILITE is a key allowing to "open" (Dimmer full) the projectors selected in order to detect them.

The cases when using HILITE are:

- Physical detecting of one or more projectors
  to detect the physical position of the projectors installed:

  - press the **HILITE** key
  - by pressing the fixture and/or groups keys the related projectors will switch on.

For an easy detecting of the physical position on the stage.

- Palette modification
  Normally the Palettes do not include Dimmer information (which is reserved to the Dimmer's Palettes).
  So it is necessary to see them during the phases of their eventual editing.
  - press the **HILITE** key
  - load in the editor the palette to modify (i.e.Red Color)
  - modify the palette
  - update the palette
  Without active HILITE, it wouldn't have been possible to visualize the palette.

- Programming with the Controllers
  HILITE owns two statuses. In fact by continuously pressing the **HILITE** key for more than two seconds, you will bring the HILITE status in "RECORD" mode.
  The mode is recognizable as active when the LED blinks, whilst in the NORMAL mode the key led is on and fix.
  The RECORD mode allows creating new Cues using Manual-Cues previously stored into the Controllers.
  The procedure is the following:
  - Keep pressed the HILITE key until activating the RECORD status (blinking led)
  - Control the Controllers which will automatically assign their status to the Editor.
  - Save the editor status as new Cue

HILITE's RECORD mode is used to create new dimmer Cues, when the Controllers already own the memories for the dimmer control.
This method allows a more rapid and precise programming.

ATTENTION!!
Oppositely to LOCATE, HILITE activation does not effect the Editor except for the RECORD mode.

6   Cue Playback

Playing back a Cue is the final action of the Show representation.
Also in this case it is good to know in detail all the various solutions you can adopt accordingly to the necessities and the habits.
To prevently know how to arrange your own Playback method, means to adopt the right choices already in the programming phases.

6.1 Playback Architectures

As already said in the previous chapters, Pilot 3000 Playback structure is composed by 20 Registers, each one able to manage a Cue-list containing until 999 Cues.
The Register set, called Page, is not unique; there is in fact a total of 20 Registers Pages available for each show.

Each Playback key represents the physical controller of each Cue included into the Cue-list of the Register itself.

As describe in the paragraph "Cue and Cue-List Verification", the access to the visualization of the panels controlling the Registers Playback, is possible by pressing the **Q-List key** in case you are in "Editor" field.
On the contrary, in Playback phase editing operations are possible by pressing the Editor key.
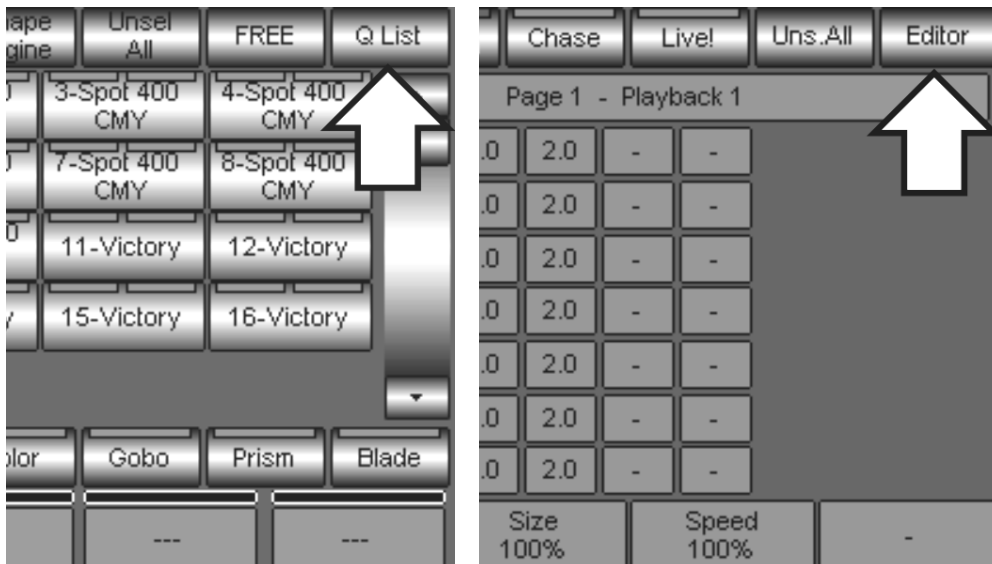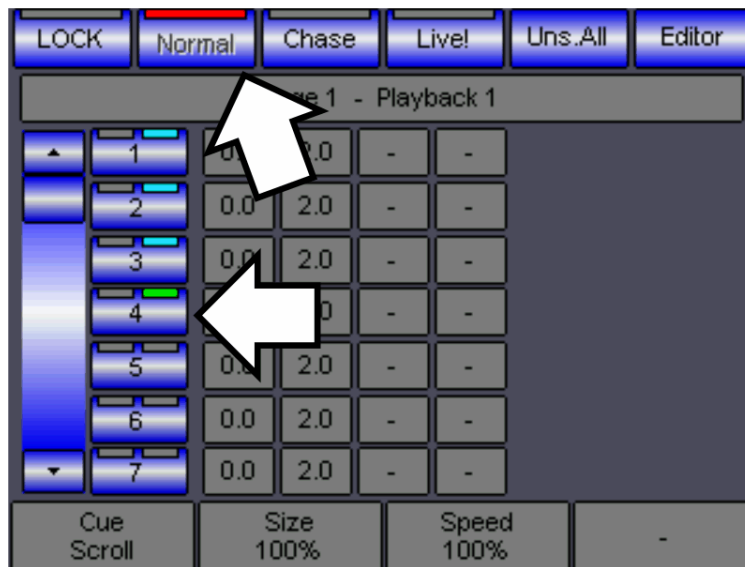

Each Register can be configured in three different Playback modes:

- Normal

- Chase

- Live!

In the next paragraphs we will analyse the different Registers uses and functionalities.

THE NORMAL MODE

In the "Normal" Playback mode, pressing the **PLAYBACKS** keys is the main action for the Cues activation. By repeatedly pressing the keys, you activate in a sequential way the Cues of the Cue-list related to each Register.

As shown in the previous page picture, the active Cue Playback is indicated by the Cyan LED in the Cue key.
The Cue currently (LTP) running are indicated by the green LED (see the "Cue 4" in the picture).

In case you have activated more Cues from different Cue-lists, controlling the same Projectors, Pilot 3000 follows a priority control order of LTP type (the last one gets the priority). This means that the last Cue activated, in time order, will take the control of Projectors already controlled by other Cues previously activated.

THE CHASE MODE
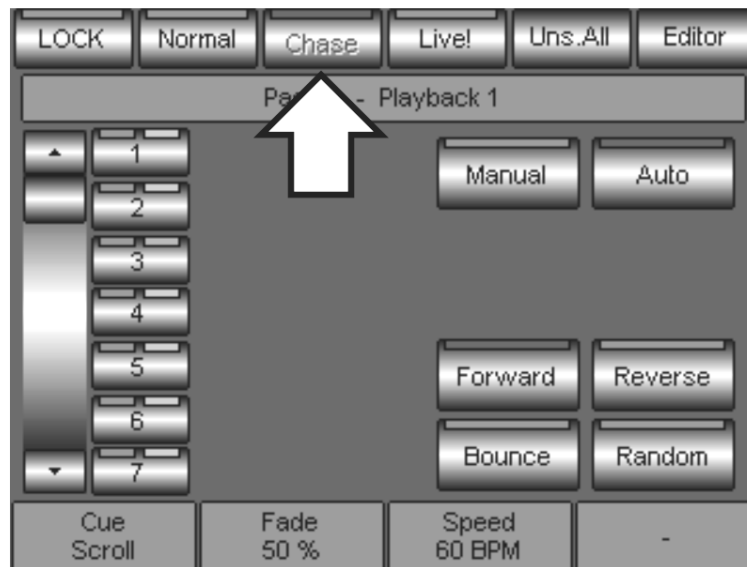
By pressing the **Chase** key the Cue-List is converted into a Chase.
This causes, in a sequential and automatic way, the Cues Auto-trig every time the Chase is activated through the Playback key of the relevant Register.
As shown in the picture, the Chase panel gives access to the Chase visualization and its eventual setting.

The control Chase keys are:

- ▪ **Manual**: if active, it enables the Chase manual control through the Register key

- ▪ **Auto**: if active, it enables the Cues Auto-trig status

- ▪ **Forward**: it selects the Triggering direction from the first Cue to the last one

- ▪ **Reverse**: it selects the Triggering direction from the last Cue to the first one

- ▪ **Bounce**: it selects the triggering mode up and down (ping pong)

- ▪ **Random**: it selects the casual triggering mode

As previously described for the Normal mode, also in this case the Cues triggering is indicated by the Cue keys LEDs, with the Cyan color for the Cues already activated and the Green color for the currently active Cue.

THE LIVE! MODE
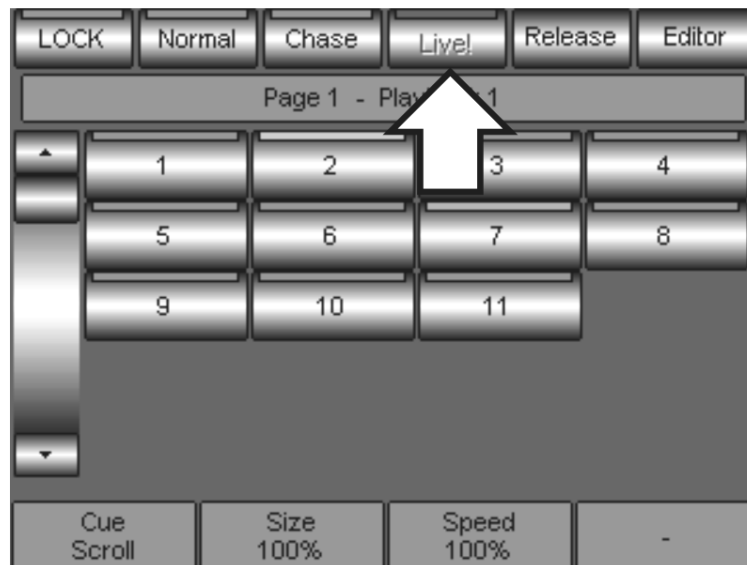
By pressing the Live! Key you can convert the Cue-lists visualization into Live! mode.
This mode allows the direct access to the Cue-List Cues, each one can be enabled by the relevant direct Playback keys.
In the case shown in the picture, it is possible to see the eleven Cues activation keys of the first page Cue-List one.

The Live! Mode is very useful when you need an immediate access to each Cue of a Cue-List desired. This wouldn't be possible in the "Normal" mode, where the Cues can be enabled only in a sequential way following the order in which they were stored.

RELEASING THE REGISTERS

The **PLAYBACKS** keys allow the Cue-List activation and the consequent Cue-lists execution.
The Cues Playback enables the active Register status indicated by the switching on of the Playbacks keys Green LED.

When it is necessary to disable the PLAY status of a Register, that is to switch on its Playback activity, you have to use the "Release" command.
The Release action of a Register allows the Cues switching off of the active Register.
To release a Register:

▪ Press the editor keypad **RELEASE** key

▪ Press the Playbacks corresponding to the Register you are going to switch off. It is possible to switch off all the active Cue-lists by pressing twice the RELEASE key.

ATTENTION!!
The double RELEASE command allows the switching off of all the active Cues and therefore the live Black-out!

In the practise all the projectors controlled by the Cue of a Register which will be disabled, go to a "Stand-by" status. If same projectors are controlled by more Registers, the eventual release of one of them allows other active Playbacks to take over the control of the projectors. The Stand by status can be defined at will by the user in the SETUP menu-> Fixture Configuration.

6.2 The Cues Timing

Pilot 3000 manages the Cues timing accordingly to the necessities and obviously to the type of Playback.
We will analyse Pilot 3000 timing of Cues activated in the Normal and Live! Modes and in the Chase mode.

TIMING NORMAL – LIVE!

By default, every time you store a Cue, Pilot 3000 automatically assign a set of four times to ALL the Attributes involved by the Cue itself. The times are:

▪   "Delay"

▪   "Fade IN"

▪   "Wait"

▪   "Fade OUT"

The default times values are:

▪   0 seconds for the Delay time

▪   2 seconds for the Fade IN time

▪   Wait time not assigned (same as Delay time)

▪   Fade OUT not assigned (same as Fade IN time)

Each operator can change the Default times for each Show through the menu:

▪   **SETUP** -> *Option* -> ***Default Delay Time***

▪   **SETUP** -> *Option* -> ***Default FadeIn Time***

The "Wait" e "Fade-OU T" times aren't normally assigned for default and, in case you want to introduce them, they will consequently modify the Cue's behavior during the Playback.
We will see here below as these times act during the Playback.

The Delay and Fade IN timings
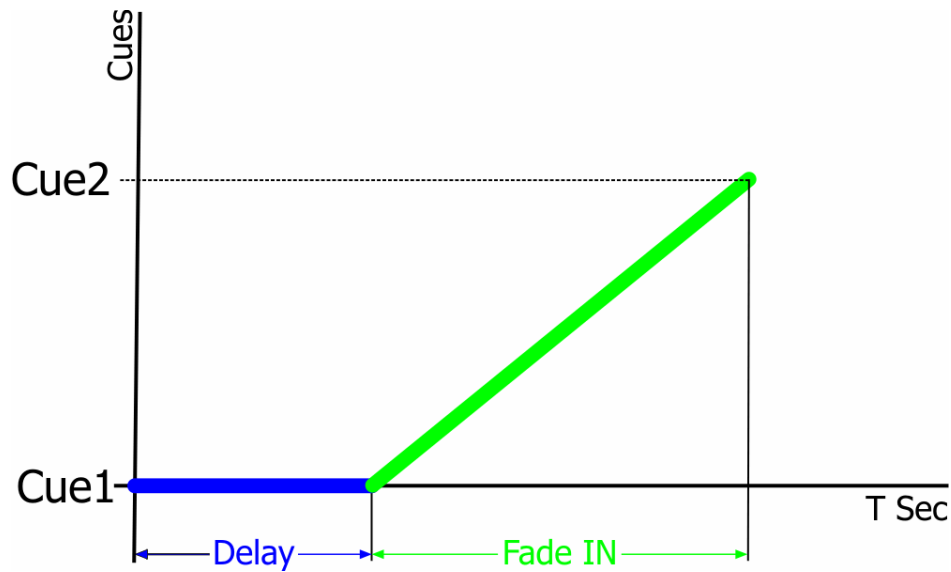
DELAY TIME
The Delay time, literally apply a delay to the start of the incoming Cue keeping frozen the state of the Attributes controlled by the Cue.
A Cue having a Delay time applied, will react to the triggering command GO, by standing still until the end of the Delay time. Then the Fade IN time will take over allowing the Cue to run.

Every time a new Cue is created, Pilot 3000 assigns a Delay time value of zero seconds by default.

FADE IN TIME
The Fade IN time is the most important time for a Cue and can be defined as a timed transition from one state to another.
With the Fade IN time each of the Attributes controlled by the Cue, change their state within a certain time as specified during the programming and storing procedure. The Fade IN time can also be intended as a raise time since allows the Cue to enter and reach the new Attribute' settings stored into the Cue itself.

Every time a new Cue is created, Pilot 3000 assigns a Fade IN time value of two seconds by default.

The Wait and Fade OUT timings

Whenever they will be used, is important to remember that, both the Wait and Fade OUT timings, will affect only the Dimmer Attributes, of the selected Cue, in which are intended to go to level zero. All the other Attributes different from the Dimmer ones, will be controlled by the Delay and Fade IN timings.

Every time a new Cue is created, Pilot 3000 will not assigns any value to the Wait and Fade OUT by default, in that case all the Dimmer Attributes will be controlled by the Delay and Fade IN timings.
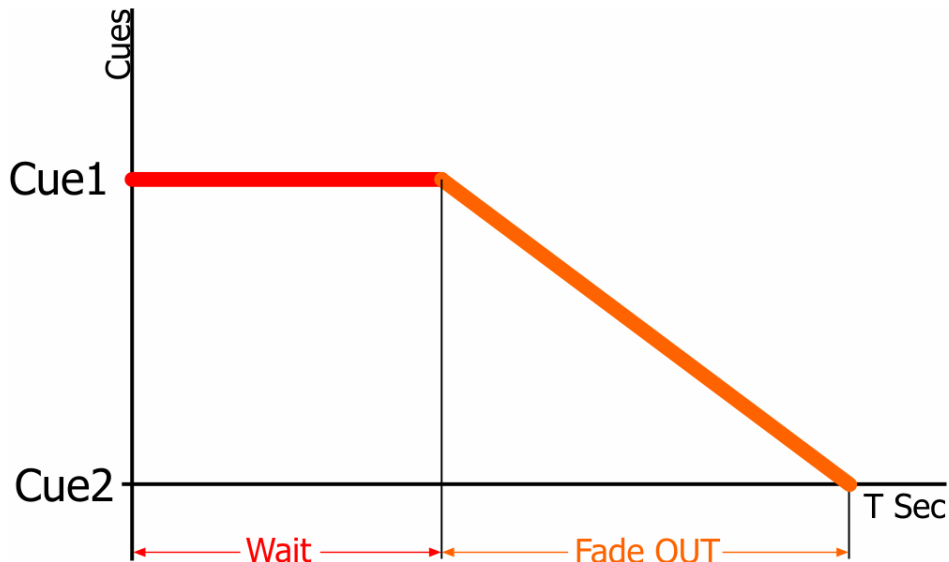
WAIT TIME
The Wait time will affect all the Dimmer Attributes which are intended to go to level zero, by placing them into a stand-by state before the Fade OUT time will take over to the Wait time.

FADE OUT
The Fade OUT time affects all those Dimmer Attributes within a Cue and having a value equal to zero or for those Dimmer channels activated by the previous Cues but without any value stored into the current Cue (Empty condition)

ATTENTION!!
When enabling a Cue , the Delay-Fade In timings and the Wait–Fade OUT timings, they all run simultaneously and affect the Attributes in a different way according to the Attribute's type (Dimmer and not Dimmer ones).
That means that the Delay and then the Fade In timings will take control on all the Attributes of the Cue, and at the same time the Wait and Fade OUT timings will take control only on the Dimmer Attributes which go to zero, so the result of the Cue playback action might be different than expected.


The table below shows the behaviour of a Cue in some typical case of Timings:

| Delay	Fade IN	Wait	Fade OUT	Trigger
0.00	2.00	-	-	Cue Fade IN within 2 sec. Pause until the next trigger. All the Dimmer Attributes which has either a level zero or empty (no information) , have turned off according to the Delay and Fade IN timings.
3.00	2.00	-	-	Cue Fade of 2 sec. after a delay of 3 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty (no information) , have turned off according to the Delay and Fade IN timings.
3.00	0.00	-	-	Cue Fade of 0 sec. after a delay of 3 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty (no information) , have turned off according to the Delay and Fade IN timings.
0.00	0.00	-	-	Cue Fade of 0 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty (no information) , have turned off according to the Delay and Fade IN timings.
0.00	2.00	4.00	-	Cue Fade of 2 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty , have turned off after the end of the Wait time following the Fade IN time.
3.00	2.00	4.00	-	Cue Fade of 2 sec. after a delay of 3 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty , have turned off after the end of the Wait time following the Fade IN time.
3.00	0.00	4.00	6.00	Cue Fade of 0 sec. after a delay of 3 sec. Pause until the next trig. All the Dimmer Attributes which has either a level zero or empty , have turned off after the end of the Wait time following the Fade OUT time.
0.00	4.50	-	6.70	Cue Fade of 4.5 sec. Pause until the next trig All the Dimmer Attributes which has either a level zero or empty , have turned off after the end of the Delay time following the Fade OUT time.

MODIFICATION OF THE TIMING NORMAL – LIVE!

To modify the Cue timing, follow the simple procedure here below:
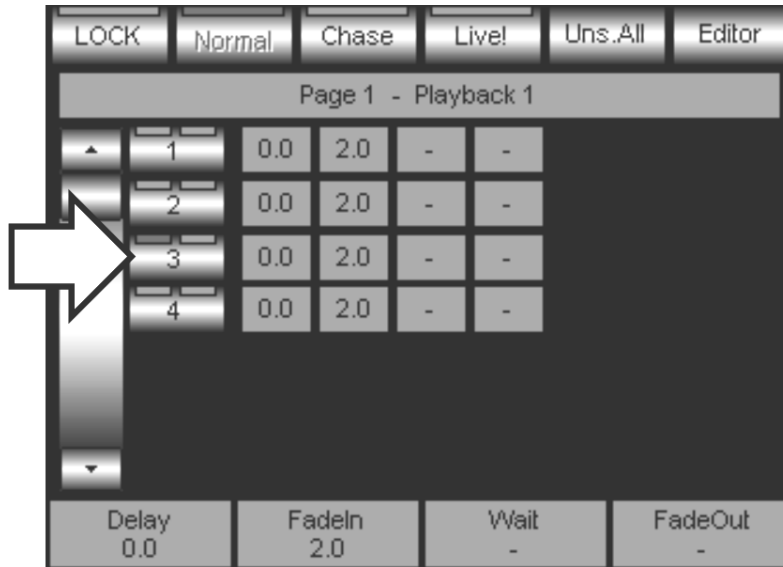
- By means of the **SELECT** key, select the Playback register which contains the Cue that needs a timing modification

- Push the Touch key of the relevant Cue to be modified (i.e.: Cue 3).
  The left hand red LED lit ON the touch key will show the selection of the Cue.

- The four Encoder wheels will be automatically assigned and enabled to any modification of each of the Cue timings available and the fields on top of the encoders will show the changes.
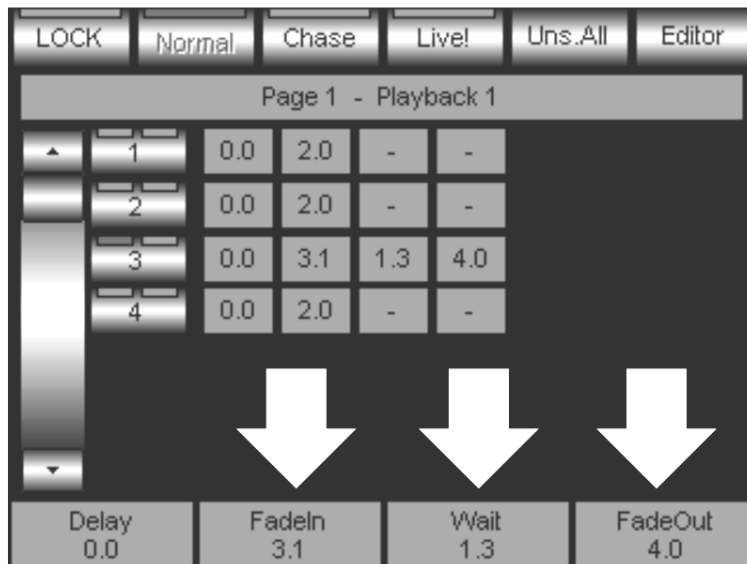
- Modify now the Cue timings according to the needs.
  The above example shows Cue timing changes for the Fade IN, Wait and Fade OUT.

- Push the Cue Touch key to end the timings editing.

For the selected Cue-List, is also possible to group all the Cues or part of them and perform the timings modification at the same time.
Should be necessary to set the default state for the Wait and the Fade-OUT timings, simply spin their encoder wheels back to 0.00 seconds.

TIMING OF A CHASE

The timing of a Chase differs from the timing Normal – Live!.
In fact, while for the Normal – Live! mode, each Cue can have a unique timing set totally different from other Cues, the Chase mode has the same timing set for all the Cues. The timing of a Chase can therefore be modified while the Chase runs, but these changes will affect all the Chase' steps at the same time.

Pilot 3000 handles the timing of a Chase by means of the following two parameters:

- "Speed (Bpm)"   Triggering frequency of the steps of a Chase

- "Fade(%)"   Fade percentage with respect to the Speed time
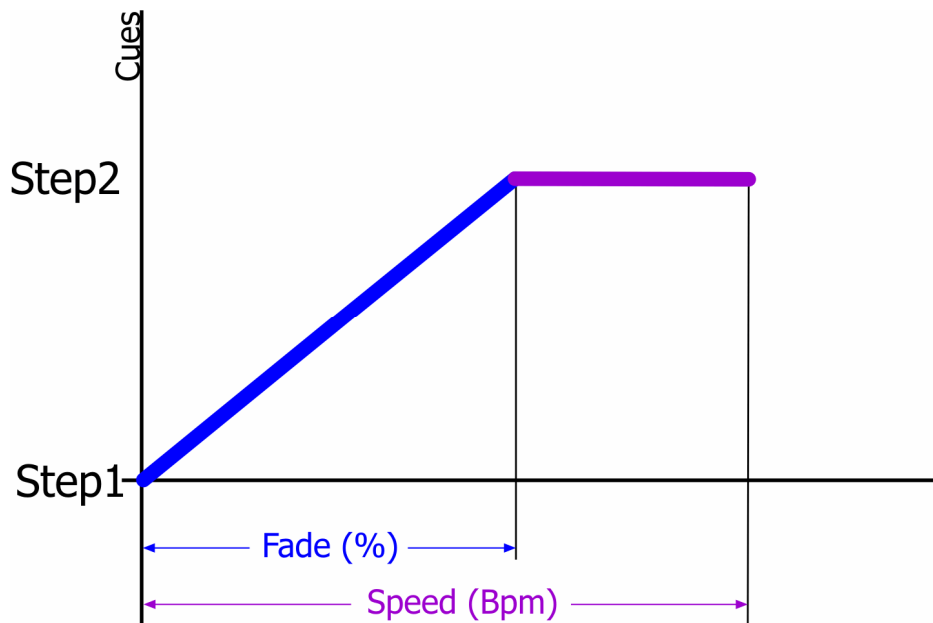
Speed (Bpm)

The Speed time is the triggering frequency at which, each step of a Chase, is enabled and is expressed into BPM (**B**eat **per M**inute).
A Speed value of 60 Bpm, means a frequency of a Cue triggered every second.
A Speed value of 120 Bpm, means a frequency of a Cue triggered every 0.5 seconds.
The speed value for a Chase can be thought as the "Tic" of a metronome.

Fade (%)

The Fade timing for each step of the Chase, can be defined as a percentage of the Speed time.
A Fade value of 50% applied to a Speed time of 60 Bpm, allows an overall step's time of 1 second in which 0.5 seconds will be a fading transition and for the remaining time the step will stand still.
A Fade value of 0%, will not cause any fading transition so the Chase steps will enabled the Cues instantly at each trigger.
A Fade value of 100%, will not cause the steps to stand still as the Fade time will use the whole Speed time to complete its transition. As a result of this setting, the Chase steps will continuously flow with a fade transition without any pause.

MODIFICATION OF THE TIMING OF A CHASE
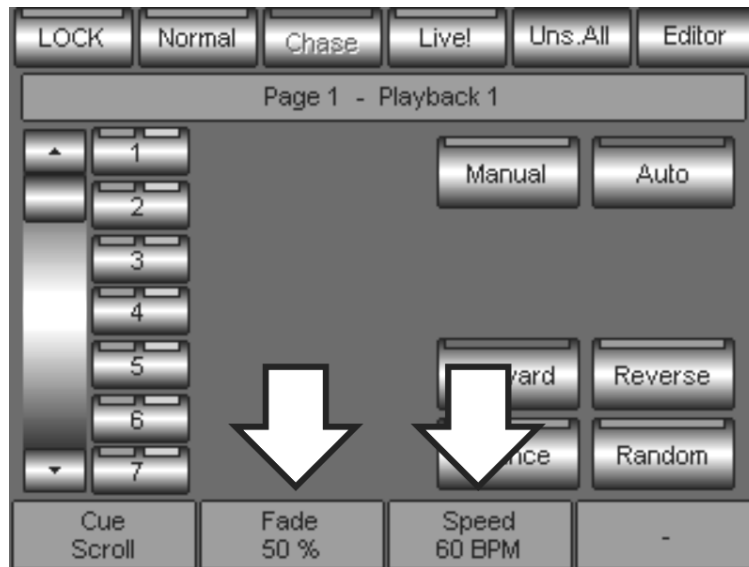
The Speed and Fade timings of a selected Chase, can be modified by means of the two Encoder Wheels as showed on the above picture. The modifications are affecting the steps of the Chase on real time basis.

6.3 The Playback Registers Pages

As already mentioned, the operator can choose his own way to play back Cues by creating several different Cue-Lists assigned to the Playback Register for each page. The available Register pages are 20.
This chapter will now explain how the running Playback Registers will behave when changing a Page.

TO CHANGE A PAGE WHILE PLAYING BACK THE REGISTERS

Pilot 3000 is capable of running 20 Cue-lists, having maximum 999 Cues each, simultaneously.
Therefore, that doesn't mean a Page should be filled up of Cues for the 20 Cue Lists available, whilst could result much more convenient to organize the Cue-List on different Pages according to a preferred order. That kind of organization requires a change Page action while the Show is running.

As fundamental rule, Pilot 3000 doesn't make any change to the active state of Playbacks and their relevant Cue-Lists, after having changed a Page.

That means the active Registers of the previous Page will keep on running even after a new Page has been selected. Thus all the running Cue-lists of the previous Page will also be available in the new Page just enabled.

So, a Register of the current Page cannot be used if the same Register is still activated by the previous Page. To take control of the Register into the new current page, is very important to release the register itself prior to activate it again into the new Page.

The Release command (RELEASE) is acting on the Register as described into the chapter "Releasing Registers"

To change Page:

- Push the **PAGE** key.

- Push the **PLAYBACK** key of the Register related to the Page number required (**1**-**20**).

As already described into the chapter "The LCD Display", the right hand side of the Display will show the number of the current Page.

```
SCN18  MAST6  PG08
 28%     87%    Q112
```
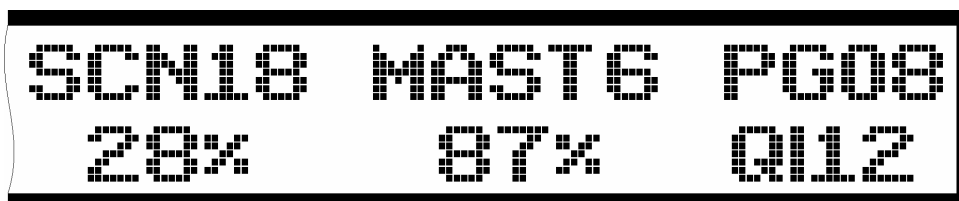
7   PALETTE

The Palette is an extremely useful tool which can speed up both the programming procedure and the modification of Cues or Cue-lists.
The following chapter will explain in the detail how they can be used, created and modified.

7.1 Palette Structure

Pilot 3000 Palettes are particular Attribute statuses that can be used to build up Cues.

The advantage of programming Cues by using Palettes is that in the case of modification of an existing Palette, all the Cues containing that Palette will be automatically updated to the new content of the modified Palette.
The use of Palettes to create Cues during the programming procedure is fundamental to be able to modify later all the Cues that use them, when required and simply by making just a few rapid changes to the Palettes them self.

All the Fixture's Attributes are grouped into the internal fixture library by 6 "families".
These kinds of classification are the basic structure of the programming procedure into the Editor window (see also chapter: Programming Pilot 3000)
Pilot 3000 has 6 types of Palettes:

- INTENSITY   (**IN**)
- PAN TILT   (**PT**)
- COLOR   (**CO**)
- GOBO   (**GB**)
- PRISM   (**PR**)
- BLADE   (**BL**)

The following table is a summary of the default control of the Attributes of the Palettes for the Pilot 3000 fixture library:

IN	PT	CO	GB	PR	BL
Dimmer	Pan	Color wheels	Static Gobo wheels	Prism	Shutter 1
Shutter	Tilt	Cyan	Index/Rotating Gobo wheels	Rotating Prism	Shutter 1 Angle
Focus	P/T speed	Magenta	Index Gobo	Prism Speed	Shutter 2
	P/T Macro	Yellow	Speed Gobo	Effects	Shutter 2 Angle
		CTC	Zoom		Shutter 3
		CTO	Iris		Shutter 3 Angle
		Color effect	Frost		Shutter 4
			Gobo Macro		Shutter 4 Angle
					Shutter Index

The table clearly shows which fixture's Attribute are related to each type of Palette, so, for example, a Color Palette will contain only the relevant information for the color Attributes (Color wheel; Cyan; Magenta; Yellow) and so on for the other Palette types.

The relation between the Palette type and their Attributes, is set by default into the Fixture library as showed by the above table, therefore is it possible to change it according to the operator requirements (see chapter: **SETUP** -> **Fixture Configuration** -> Column "P-type").
For example, it could be helpful to relate the Focus Attribute to the Pan Tilt Palette, so that each Palette of this kind will contain the information of the Focusing for each fixture's position programmed.

7.2 Creating Palettes

Pilot 3000 has by the default a set of pre-programmed Color, Gobo, Intensity and Prism Palettes for the Fixtures patched.
These default set of Palettes can be modified or it can be added some new ones according to the needs.
All these changes to the Palettes will be exclusively related to the current show and won't be permanently stored into the memory for future shows. Starting a new show will then, delete all the Palettes edited with the old show, and will load back the default set of Palettes.

CREATING PAN TILT PALETTES

Pan and Tilt Palettes are among the most useful and important "things to do" before to start editing new Cues in the event of touring shows where the dimensions of the stage may change.
To create a Pan-Tilt Palette, proceed as follows:

- Select the Fixtures which will be involved into the Pan Tilt Palette

- Push the **LOCATE** key

- Individually Set the position for each fixture

- Push the **STORE** key
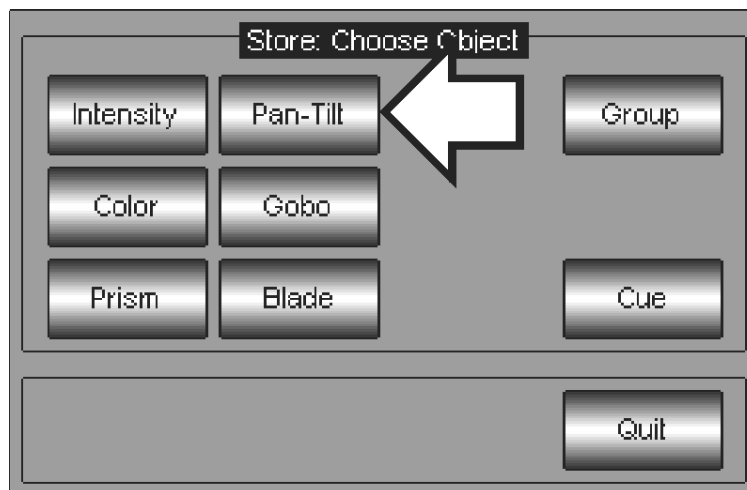
- Chose the ***Pan-Tilt*** key from the pop-up window "*Choose Object*", as showed into the picture

- Digit the new Palette name by using the alphanumeric keyboard appearing on the touch screen

- Push ***Enter*** to confirm the name and save the new Palette

At the end of the Palette storing procedure, the Editor window of the Pilot 3000 will automatically show the available touch keys for the last Palette type stored.
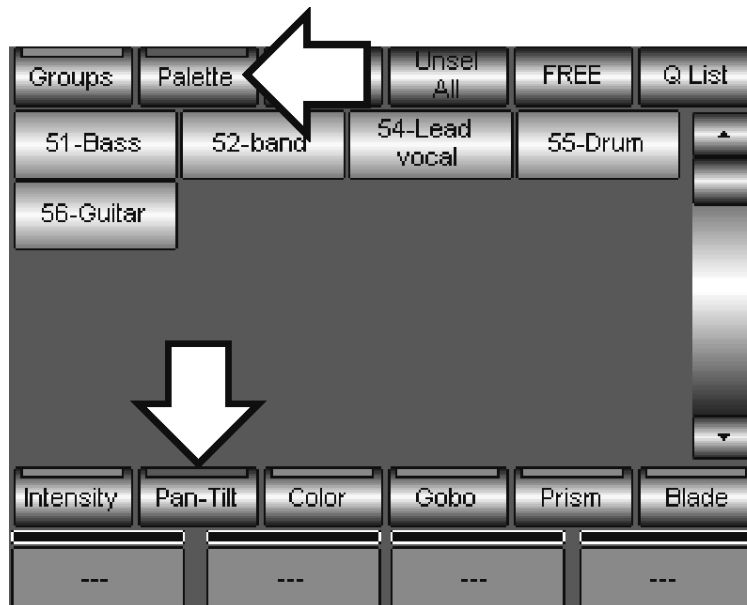
Push the touch key **Groups** (or **Fixture**) to take the control of the Fixture's Attributes and create new Pan Tilt Palettes.

CREATING COLOR PALETTE

Unlike the Pan Tilt Palette, the Color Palette is already created into the internal library. These Palettes are available for all those fixtures having a set of dichroic colors fitted onto their color wheels.
The way to create Color Palettes is the same described for the Pan Tilt Palettes:

- Select the Fixtures which will be involved into the color Palette

- Push the **LOCATE** key

- Choose the required color by either the color Attribute or the CMY Attributes

- Push the **STORE** key.

- Push the ***Color*** key from the pop-up window "*Choose Object*"

- Digit the new Palette name by using the alphanumeric keyboard appearing on the touch screen

- Push ***Enter*** to confirm the name and save the new Palette

CREATING OTHER PALETTES

The way to create other kind of Palettes (Intensity; color; PanTilt; Gobo; Prism; Blade) is the same described for the color Palette by acting on the **STORE** command to choose the group of Attributes to be stored as a Palette and then confirm the choice by assigning a name to the new Palette.

CREATING PARTIALIZED PALETTES

The **STORE** Pan-Tilt command creates a Palette with the values of all the Attributes of the Pan and Tilt category for the selected fixtures, only if these Attributes all have a set value (i.e: Pan= 20%, Tilt=43%, P/T Speed=0%,).
The **LOCATE** command assigns to all the Attributes of the selected fixtures, a precise value.
This ensures that, saving the Palette, a specific value will be included to all the Attributes belonging to that Palette (modified or not).

It is also possible to create Palettes that do not contain information about all the Attributes related to that type of Palette, but only part of them.
This can be very useful in those cases in which it's necessary to create Palettes that only affect specific Attributes and not all of them within the same category.

The simplest example regards the creation of Color Palettes for fixtures having two color wheels.
In fact, it can be helpful to realize color Palettes that only involve the first color wheel, without interfering with the Palettes related to the second color wheel.
In this way, it will be possible to mix the various Palettes of each Color wheel, increasing the number of possible combinations.

To create a Pan Tilt "partial" Palette, proceed as follows:

▪ Select the fixtures which will be involved into the new Palette

▪ Push the **LOCATE** key.

▪ Assign a position to each fixture
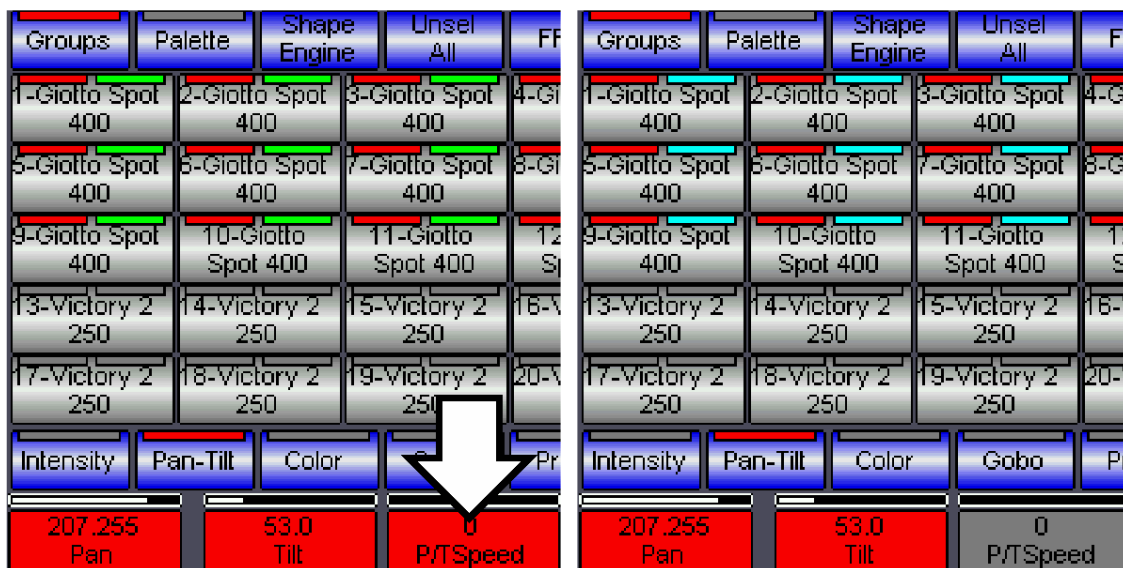
▪ Push now the Red cell above the Encoder wheels, related to the Attribute intended not to be stored into the Palette (in the above picture the "P/T speed" Attribute). The cell will change to Grey color.

▪ Push the **STORE** key.

▪ Push the **Pan-Tilt** key from the pop-up window "Choose Object"

▪ Digit the name for the new Palette by using the alphanumeric keyboard appearing on the Touch screen.

▪ Push **Enter** to confirm and store the new Palette.

In this way the operator will have always available the information about fixture positions on the Palette having, at the same time, the freedom to change the Speed information into the Cues, while programming.

TO MODIFY A PALETTE

In a similar way as for the Cue, the modification of a Palette consist of recalling the Palette itself through the Load command, change the settings and then store the changes by the Update command.
To modify a Palette, proceed as follows:

▪ Click on the Palette to be modified

▪ Push the **LOAD** key

▪ Push the **HILITE** key in order to see the content of the Palette

▪ Select the fixtures involved into the Palette and having the Led keys colored in Cyan.

▪ Change the settings for the Fixtures' Attribute

▪ Push the **UPDATE** key

TO MOVE A PALETTE

Pilot 3000 allows organizing and changing the order in which the Palettes have been stored. This operation will enable the operator to give an order to the Palettes that fits his own needs.

To move the order of the Palettes, proceed as follow:

▪ Select the Palette

▪ Push the **MENU** key.

▪ Push the *Move* key from the appearing pop-up window
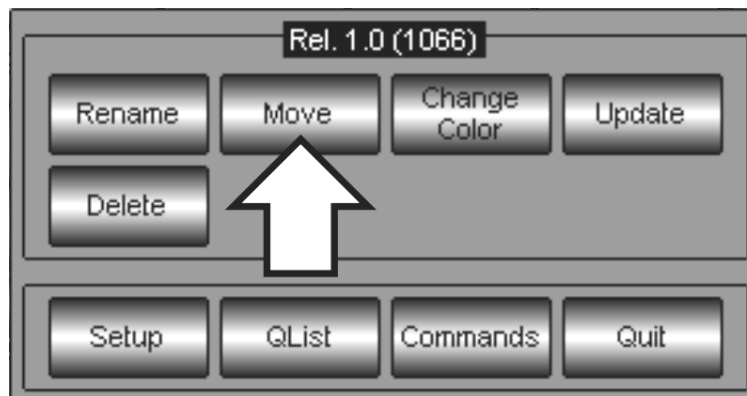
▪ Digit the Palette's new ID number by using the numeric keyboard which will appear.
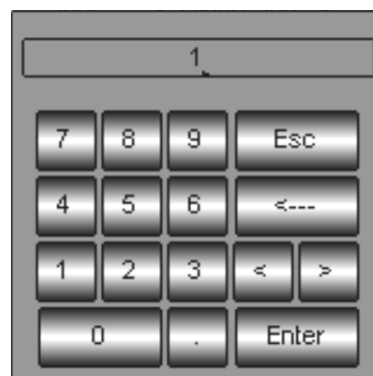
▪ Push *Enter* to confirm and escape from the menu.

ATTENTION!
It is not possible to assign a new ID to Palette when the same ID is already used by another Palette. Should this action be strictly necessary, then the busy ID must be removed so that it becomes free to be used. This operation can be made by the Move command, as well.

DELETING A PALETTE

To delete a Palette, proceed as follow:

- Select the Palette
- Push the **MENU** key.
- Push the *Delete* key from the appearing pop-up window

- A pop-up Warning window requiring an additional confirm to the deleting operation will appears.

- Push **Yes** to definitively Delete the Palette or **No** to interrupt the process and escape.

ATTENTION!
The Palette delete procedure is not reversible. That means once a Palette has been deleted, is not possible to restore it unless making a new one (no Undo).

MODIFICATION OF THE PALETTE WINDOW

The Palette window can be customized either in terms of colors and labels applied to the Palettes' touch key.

To change the color of the Palettes' key

To assign a color to the Palette keys, proceed as follow:

▪ Select the Palette

▪ Push the **MENU** key.

▪ Push the *Change Color* key from the appearing pop-up window
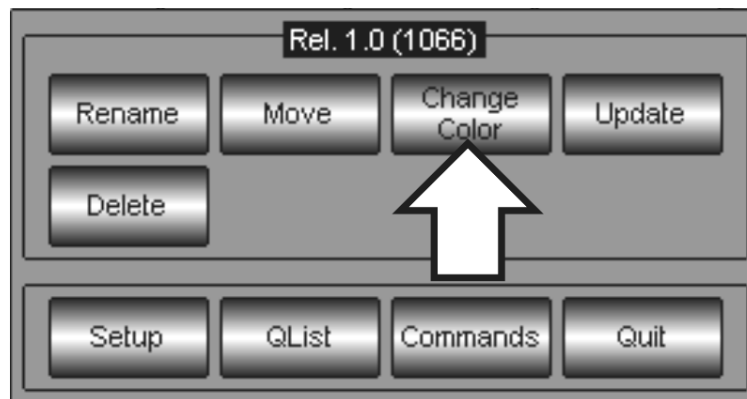
▪ A Color Dialog window will appear. Mix the R-G-B colors in order to obtain the desired color to assign to the Palette touch key. The color mixing can be obtained by means of the scroll bars on the touch screen or through the use of the Encoder wheels.
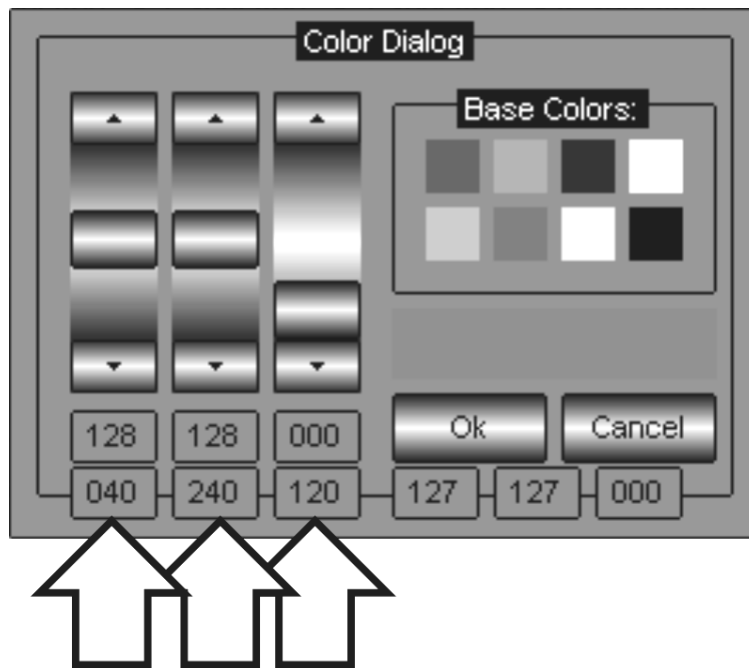
- Push **Ok** to confirm and escape from the Color Dialog window.

To Rename the Palette

It is possible to rename an existing Palette by proceeding as follow:

- Select the Palette
- Push the **MENU** key.
- Push the *Rename* key from the appearing pop-up window

- Digit the name for the new Palette by using the alphanumeric keyboard appearing on the Touch screen.
- Push *Enter* to confirm and store the new Palette name.

7.3 Use of the Palette

Once realized the Palette needed for the programming, you can proceed with the creation of the Cues which will make use of them. If necessary, it is possible to create Palette also in the Cue-Lists programming phase.

Here below we will see an example on how to use Palette of Color and Pan Tilt in a Cue programming.

▪ Select a group of fixtures to program

▪ Press the LOCATE key

▪ Press the *Palette* key and then the *Pan-Tilt* key. Pilot 3000 will visualize the panel for the access to the recall keys of the Pan Tilt Palette previously created.
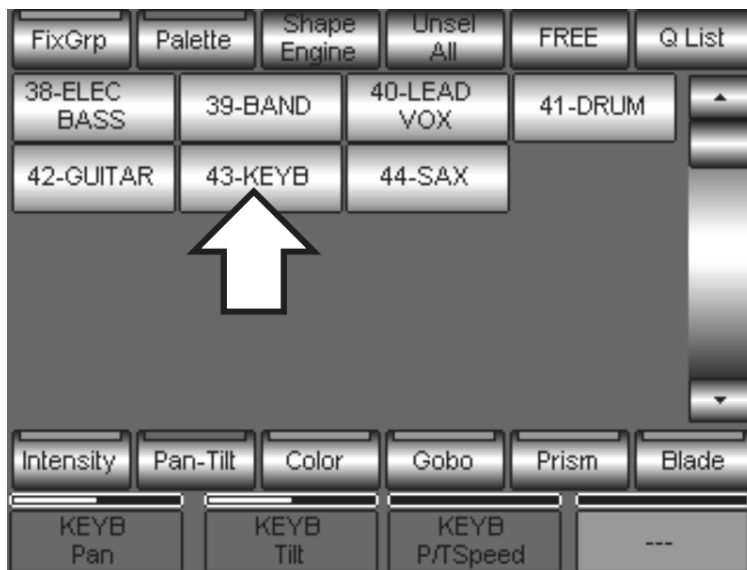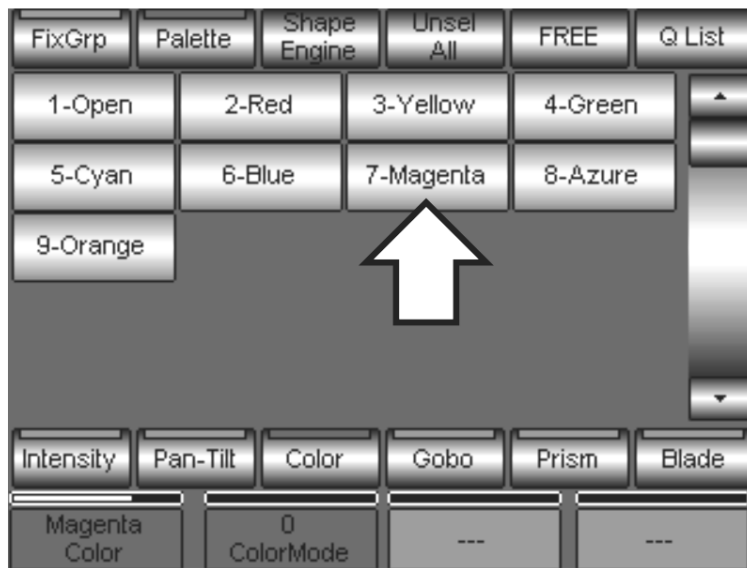

▪ Now press the position Palette which you desire to apply to the Cue. In the above example the Palette number 43 *KEYB* (keyboard) has been chosen..

Please notice that in the Editor red spaces, the Pan, Tilt and the P/T Speed Attributes won't show numerical values but the name of the Palette to which they refer.
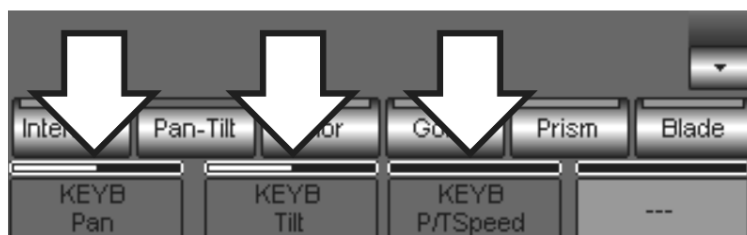
▪ Now press the *Color* key to access to the Color Palette.

▪ Press the Palette of the color which you want to apply to the Cue. In the above example we have chosen the Palette number 7 *Magenta*.

Also in this case the red space related to the Color Attribute shows the name of the Palette to which it refers (Magenta) and no longer a numerical value.
Whilst the ColorMode Attribute keeps showing the numerical value (Zero); this means that the Palette number 7 Magenta is a Partialized Palette.

▪ Save the Cue by the **STORE** command and then *Cue*.

All the eventual modifications applied to the "KEYB" and/or "Magenta" Palette will be visible in the Playback of the Cue just saved.

8   SHAPE ENGINE

Pilot 3000 Shape-Engine allows to rapidly creating complex dynamic effects of movement, Color, Gobos..
Each Cue can therefore contain one or more different effects applied to relevant Attributes, each one able to work with its own parameters assigned. Pilot 3000 is equipped with an effects generator making the programming more rapid and simple.

8.1 Shape Engine's Architecture

The Shape-Engine is a very useful and powerful instrument allowing creating very complex effects in few operations.
The Shape-Engine applies an "oscillator" to the Attribute desired and the relevant parameters managing its action range, speed and phase displacements.
Obviously in a single Cue it is possible to apply more effects and Attributes, each one able to work contemporaneously and separately.

The available oscillators which the operator can choose are of two types:

- *Linear wave*

- *Square wave*

Once applied one of the two oscillators to the Attribute selected, the parameters handling their features and bringing to the final effect are:

- Widnes of the effect into the Attribute's range *(A-B)*

- Oscillation speed *(Speed)*

- Effect's phase displacement related to the Projectors group to which the effect is applied (Spread)

Concerning the Pan-Tilt Attributes, Pilot 3000 offers a set of oscillators helping the operator to create effects which could be very long and complex to generate. It handles of real shapes which the projectors can trace during the effect by means of the synchronic Pan and Tilt action.
The shapes are

- *Circle*

- *Ellipse*

- *Eight*

- *Square*

- *Stepped Square*

By simply pressing a key you can generate projectors beams circle or Eight shaped movement and so on.

8.2 The Shape Engine Editor

The area which allows applying one or more effects to the Attributes is called "Shape Engine". The Shape Engine can be activated by pressing the **Shape Engine** key located in the Editor area.
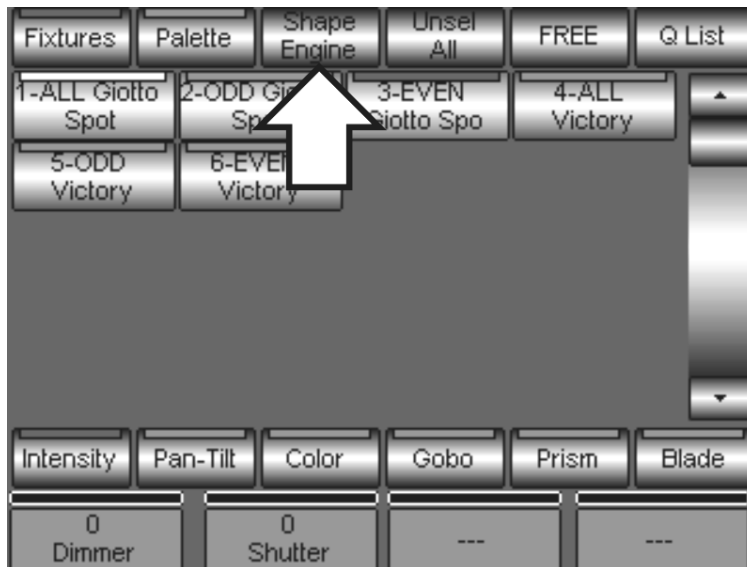
The Shape Engine key gives access to the panel to generate the effects in the Attributes of the Palette families currently selected. (in the above example the Intensity family).

In the following pages we will see in detail the Shape Engine panel functionalities.

Palette Selection bar
The bar for the Palette selection allows to choose the family of the Attribute to which you desire to apply an effect. Please notice that the "Prism" family is missing as Pilot 3000 does not allow the application of the Prism type Attributes.

Oscillator application bar
It is a set composed by three main keys deciding the application or the removal of the oscillator type to the Attribute chosen.

- ▪ **SQUARE**: when pressed it associates the square shaped oscillator to the Attribute desired

- ▪ **LINEAR**: when pressed it associates the linear shaped oscillator to the Attribute desired

- ▪ **FREE**: when pressed it removes the eventual oscillator applied to an Attribute

Navigation keys
The navigation keys are two, they allow different fixtures selection in the effects application and to go out from the Shape engine.

- **EDITOR**: if pressed, it allows going back to the Editor panel. The eventual effects applied will remain the same as Pilot 3000 doesn't need their confirmation or saving command.

- **SELECTOR**: when pressed, it allows entering a fixture selection panel dedicated to the Shape Engine. It is really useful as it allows selecting different fixtures and applying the same number of effects to the Attributes desired, without obligatorily returning to the Editor panel.

Palette keys
Pilot 3000 offers the chance to use the Palette for the effects creation. This is really useful as the update applied to the Palettes grants the consequent modification of the effect involved into the Palette.
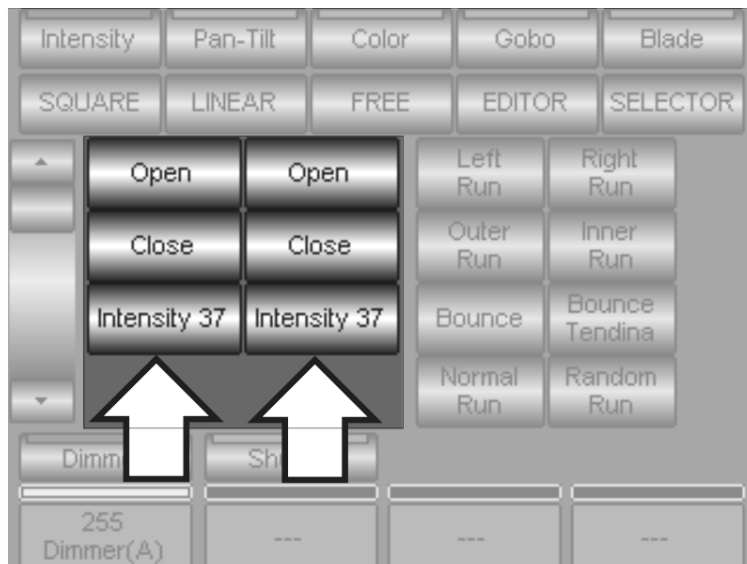
As you can notice in the figure in the previous page, there are two columns of Palettes where each of them has the same keys sequence. This is due to the fact that the choice of a Palette from the left column effects the oscillator's starting point (A), whilst the choice of a Palette from the right column effects the oscillator's arrival point (B). The selection of two Palettes defines the range that will be applied to the Attribute.

Phase displacement keys
By means of the phase displacement keys you can delay an effect related to a group of fixtures.
The phase displacement types which can be applied to an effect are:

- **Left Run**: The phase displacement moves the effect applied in a sequential way from the left to the right.

- **Right Run**: The phase displacement moves the effect applied in a sequential way from the right to the left.

- **Outer Run**: The phase displacement moves the effect applied in sequential a sequential way from the centre to the external.

- **Inner Run**: The phase displacement moves the effect applied in a sequential way from the external to the centre.

- **Bounce**: The phase displacement moves the effect applied bouncing back and forth.

- **Bounce Tendina**: The phase displacement moves the effect applied bouncing from the centre outwards in both directions.

- **Normal Run**: All the fixtures selected are re-phased so that they move all together at the same time.

- **Random Run**: The phase displacement moves the effect applied random.

Attributes and Parameters keys
The Attributes keys allow to choose the attribute to which applying the effect in the Pallette family. Once applied the Attribute effect desired, the four red cells will show the Parameters of the effect. The below encoders modifies the parameters of the effect at will.

In the below figure we will show an example of the Dimmer Attribute selection without the application of any effect.

Once applied the effect, al the cell will show the relevant parameters.
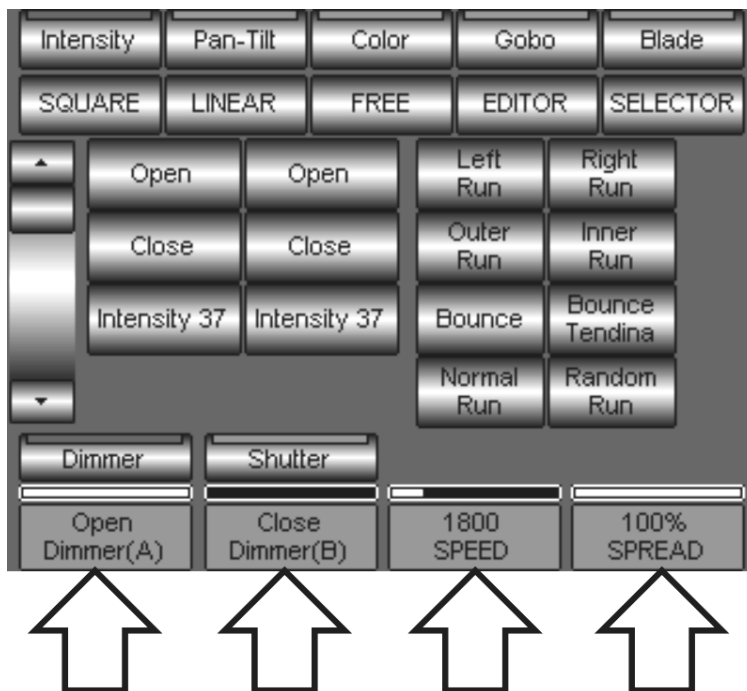
The figure shows now the effect applied to the Dimmer Attribute and the relevant parameters now are:

- *(A)*: Effect Margin. In the above figure it handles of the "Open" Palette

- *(B)*: Effect Margin. In the above figure it handles of the "Close" Palette

- *Speed*: Effect Speed

- *Spread*: it decides the eventual delay time between an oscillation and the next one. At value 100% the effect will never stop.

8.3 Creating effects with the Shape Engine

In the next paragraphs we will see some examples on how creating effects on different Attributes types and the relevant specific techniques.
The operations sequence which is normally adopted in the application of a new effect is:

▪ Selection of the fixtures involved by the effect

▪ Definition of their Attributes

▪ Choice of the Attribute/s to which applying the effect

▪ Application of the oscillator type (*linear* or *square*)

▪ Definition of the effect margins (*A-B*)

▪ Definition of the effect parameters (*Speed- Phase displacement- Spread*)

▪ Cue saving.

CREATING A COLOR EFFECT

We will now define the steps for the creation of an effect applied to a fixture's color wheel.
We will now try to Select the group of the fixtures involved

▪ Press **LOCATE**

▪ Define the Attributes involved (Pan, Tilt, Gobo, Focus etc.)

▪ Press the **Color** Palette and then the **Shape Engine** key which will activate the effects editor

To the Color Attributes section (*Color* and *Color Mode* in the below example)
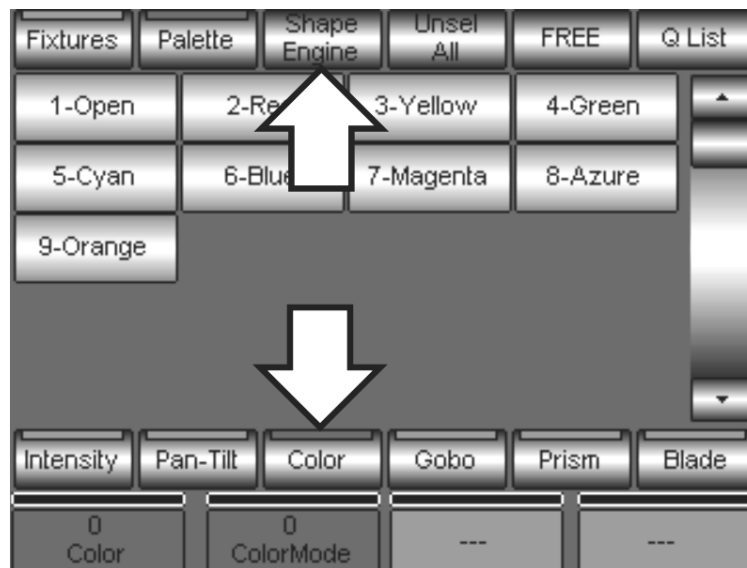
▪ Choose now the oscillator type to apply to the Color Attribute selected (Red Led ON) using the **SQUARE** or **LINEAR** keys

The choice of the oscillator type is very important: it depends on the effect you want to obtain and, above all, on the Attribute selected. For the Color wheel it is important to choose an oscillator appropriate to its mechanical movement.
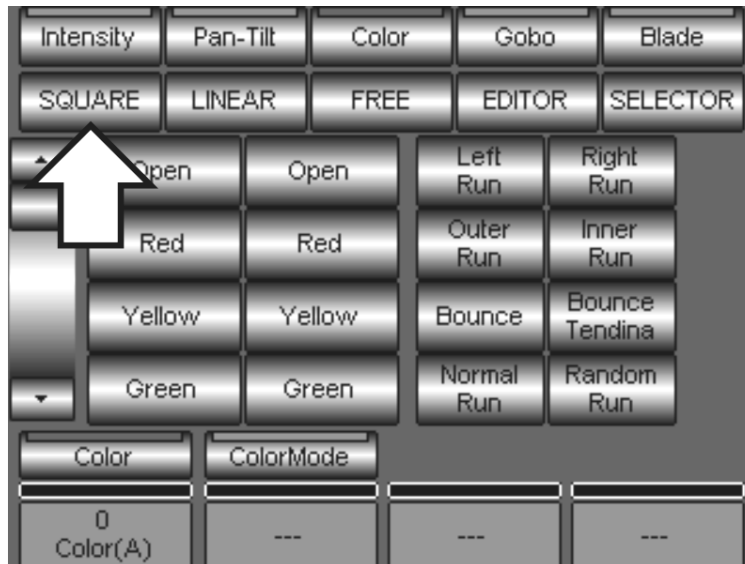
- In our example we decide to apply a SQUARE WAVE oscillator by pressing the **SQUARE** key. Please note that once chosen the oscillator, all the relevant parameters cells are activated.
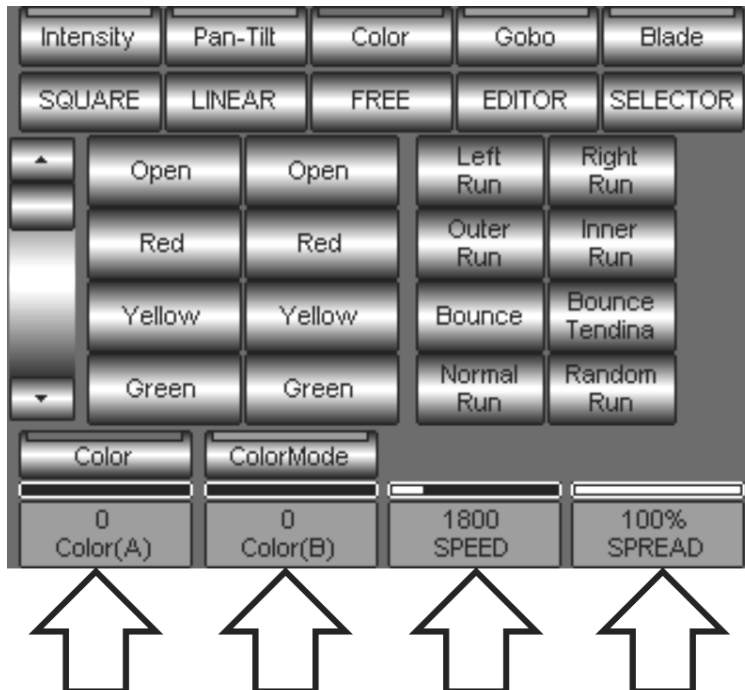
- The first parameter to be set is the range of values related to the Attribute where the effect has to moved, You have to determine the points (A) and (B) between which the oscillation will take place. You will only have to move the encoders to set the effect "starting" (A value) and the "arrival" color (B value).
  Instead of using the encoders, it is also possible to set the values "A" and "B" by pressing the Palette keys respectively from the Left (A) column to the Right one (B).
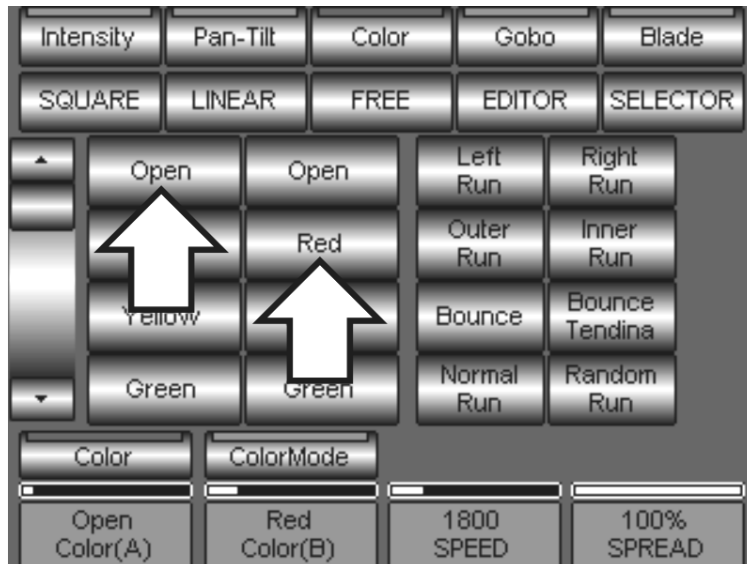
- The ***Open*** key allows to assign the White color to A whilst the ***Red*** key assigns the Red color to B. In this way our effect will oscillate from White to Red.

- The operator can freely choose an inverse assignment, which is the Red color for the starting limit A and the White for the B value. Apparently nothing changes until when you don't intervene with the "SPREAD" parameter. The different assignment of same values to A and B causes a different 'behaviour' of the effect in case a "SPREAD" value lower than 100% (default value) is applied.

- Modify the SPEED value to get the effect's speed desired.

- Choose the phase displacement type to apply a specific sequential order to the effect.

 Scegliere inoltre il tipo di sfasamento per applicare una specifica sequenzialità all'effetto stesso.
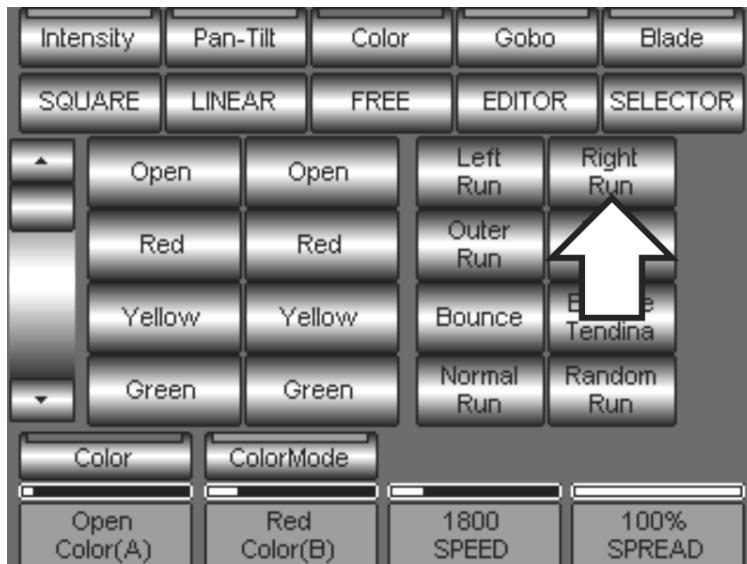
CREATING A DIMMER EFFECT

At this point we will describe how to create a Dimmer effect consequently to the Color effect just created.

▪ From the Shape Engine panel press the ***Intensity*** Palette key to visualize the relevant Attributes and so to "Dimmer".

▪ Select the ***Dimmer*** Attribute to assign a ***LINEAR*** oscillator

▪ Define the limit "A" and "B" values by means of the relevant encoders, as already described for the Color effect.

▪ In addition, it will be possible to assign Palettes to the limits "A" and "B". In the below example we have assigned the ***Close*** and ***Open*** palette.

▪ Then define the SPEED value to fix the effect speed desired

▪ Choose the phase displacement type to apply a specific sequential order to the effect (***Left Run*** or ***Right Run*** Etc.).

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PAN AND TILT EFFECTS

A particular attention should be given to all the effects to apply to the Pan and Tilt Attributes.
In fact, there is a series of Shapes dedicated to the Pan and Tilt effects creation, available only for these Attributes.

The Pan and Tilt Shapes are expressly created to make easier the combined use of the two Attributes, so that you can quickly and easily create movement effects such as: circle, eight, square etc.
Creating such type of effects by combining simple wave shapes wouldn't have surely been so rapid and comfortable.
The main difference between the two normal wave Shapes, applicable to each Attribute, and Pan and Tilt Shapes, is that for Pan and Tilt, the path resulting form the combination of movement of both these Attributes will match the effect's shape.
Further more, it is important to remember that there is also the possibility to apply the common wave shapes (LINEAR e SQUARE) to the single Pan or Tilt Attributes, as described in the previous paragraphs.

▪ From the Shape Engine panel press the *Pan-Tilt* Palette key to visualize the relevant Attributes.

▪ Activate the *Pan* Attribute

▪ Press the *Circle* key to assign the "Circle" shape to Pan and Tilt. In this way you contemporaneously apply two oscillators, both to Pan and Tilt. They are synchronized and make possible the projectors beams circle movement.
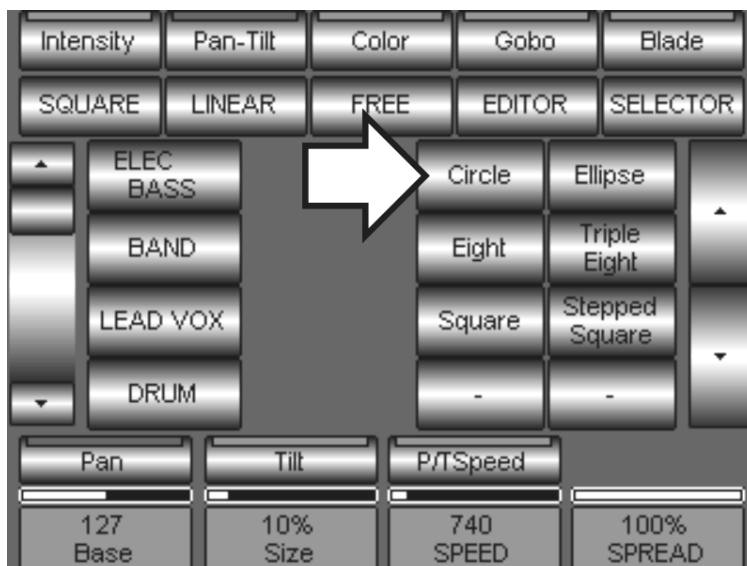
Please notice that now the effect's oscillation Parameters are no longer represented by the two limits "A" and "B" but by a "Base" value (to which you can assign a Palette) and an oscillation percentage around the Base itself.

By pressing the *Pan* and *Tilt* keys alternately, it is possible to have access to each effect parameters in order to eventually modify the base point and the effect section.

▪ Use the SPEED value to set the effect speed desired.

The SPEED value is unique for both Pan and tilt Attributes.

▪ Choose the phase displacement type to apply a specific sequential order to the effect itself. (*Left Run* or *Right Run* Etc.).

▪ To close the Shape engine section and save the effects set just created in a Cue:

▪ Press the *EDITOR* key to go back to the Editor visualization

▪ Save the Cue by pressing STORE and then *Cue* from the panel appearing.

SELECTOR's Use

The "SELECTOR" window is used in phase of Effects Creation and Editing.
It is represented by a panel giving access to the selection of the Fixtures and/or the Groups involved in phase of effects creation. Further more, it is functional in the editing phases following the creation of one or more effects which can be applied also to the same Attributes of a single fixtures selection.
By means of the SELECTOR panel you avoid going into the Editor to select the various effects applied to the fixtures during the creation of the different effects applied to as many different fixtures.
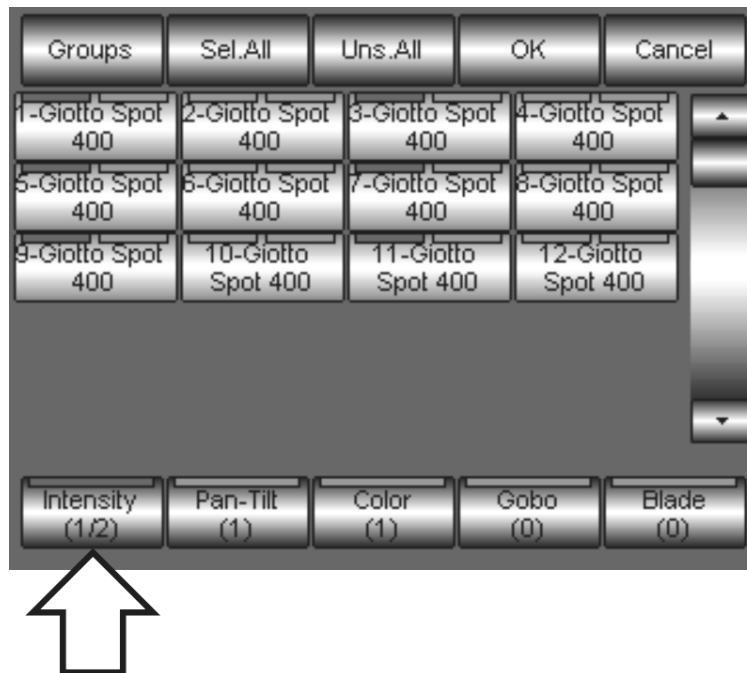
The above figure shows the active SELECTOR window and the relevant fixtures involved (red led ON on the Fixture keys) in one of the two effects applied to one of the Intensity Attribute. The key indicated by the arrow shows that the active selection is the one involved by the first of the two effects applied to the Intensity Attributes (1/2).
By pressing the **Intensity** key, you will activate the fixtures involved in the second of the Intensity effects.
As you can note, the same projectors group (or part of it) is also involved in Pan Tilt and Color effects.
By pressing the relevant keys (**Pan-Tilt** e **Color**), you will activate the fixtures involved by the relevant effects.

Once activated the fixtures to which you desire applying or modifying the effect, you simply have to press the **OK** key to go back to the Shape Engine panel and proceeding with the editing.

CANCELLING AN EFFECT

An effect's cancelling has to be carried out into the "Shape Engine" window by means of the "FREE" key.
To cancel an effect:

▪ Select the Family and the Attribute to which is applied the effect you desire to remove

▪ Press the **FREE** key.

The cancelling of an effect removes all the parameters of the effect itself into the Shape Engine and it doesn't affect the Editor Attributes directly. If, when creating an effect, values A and B of an Attribute have been used, the subsequent effect's removal doesn't restore in the Editor the values initially set.

8.4 Cue Playback with Effects

The Playback of Cues with one or more effects is the same as the one of static Cues. Pilot 3000 offers the chance to modify some basic parameters of an effect during its Playback.
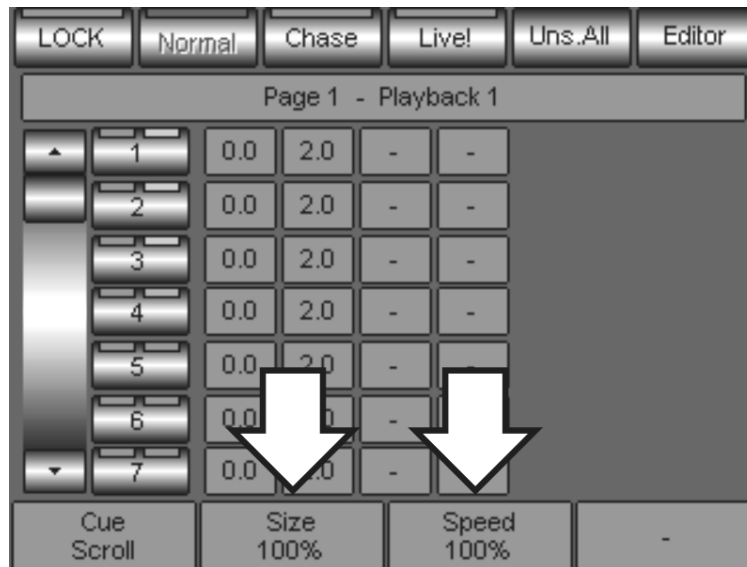
In the Cue-List visualizing panel, the controls by means of the "Size" and "Speed" Wheels are always possible. Therefore, with the action of the two Wheels, you can to modify the wideness of an eventual effect used by one of the active Cue of the relevant Cue-List.
You can also slow down or speed up all the effects type activated by the "Speed" Wheel.

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