HYDRA

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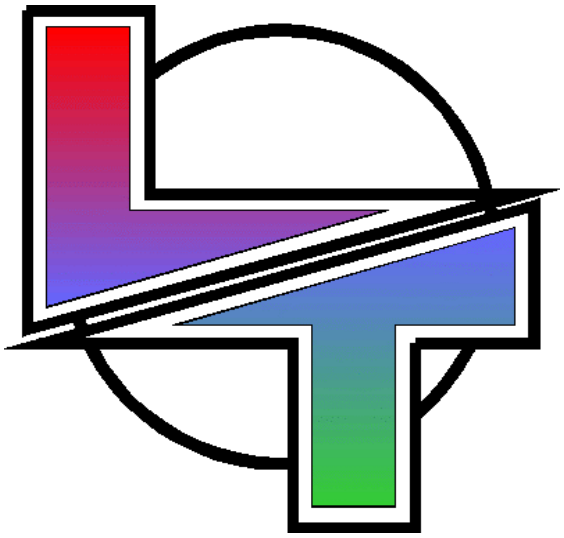
CONTROL FOR THEATRE, SPOTS AND MULTIMEDIA

HYDRA SCAN / HYDRA STAGE



USER MANUAL

Version 2.0 n

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1 .- INTRODUCTION AND CONNECTIONS

HYDRA, thanks to its advanced functions, combines the simplicity of a basic control with the power of the controls most sophisticated, and all, with the typical versatility of the products **LT**.

HYDRA is the ideal solution for any sector: Theatre, tour, studies, television, concerts...

The HYDRA software guides to the user in the edition process, this characteristic summed to the easy philosophy of the console, permits to the user apply the 100% of the HYDRA power.

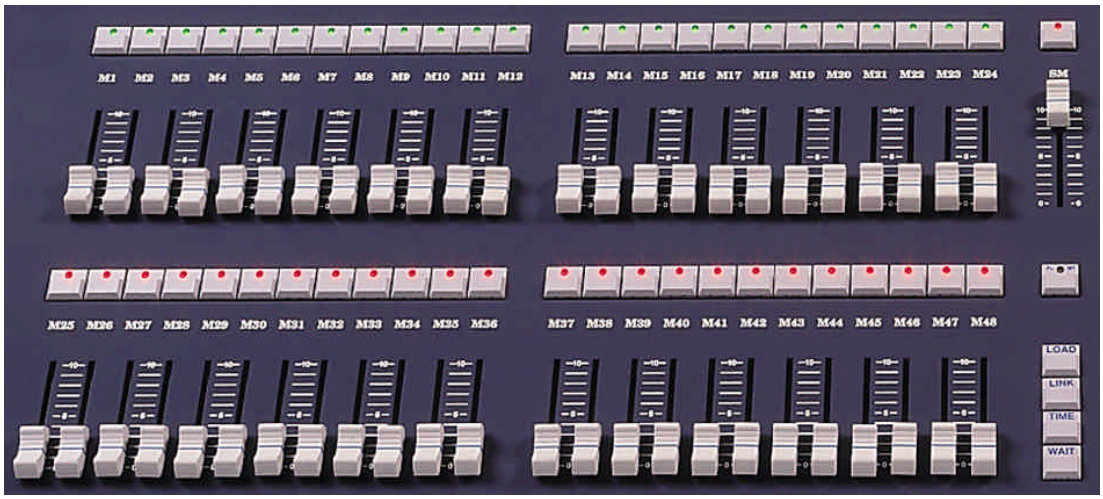
This control board has been designed preserving the CE normative, in electromagnetic emission and electrical security.

There are 2 model for the HYDRA console:

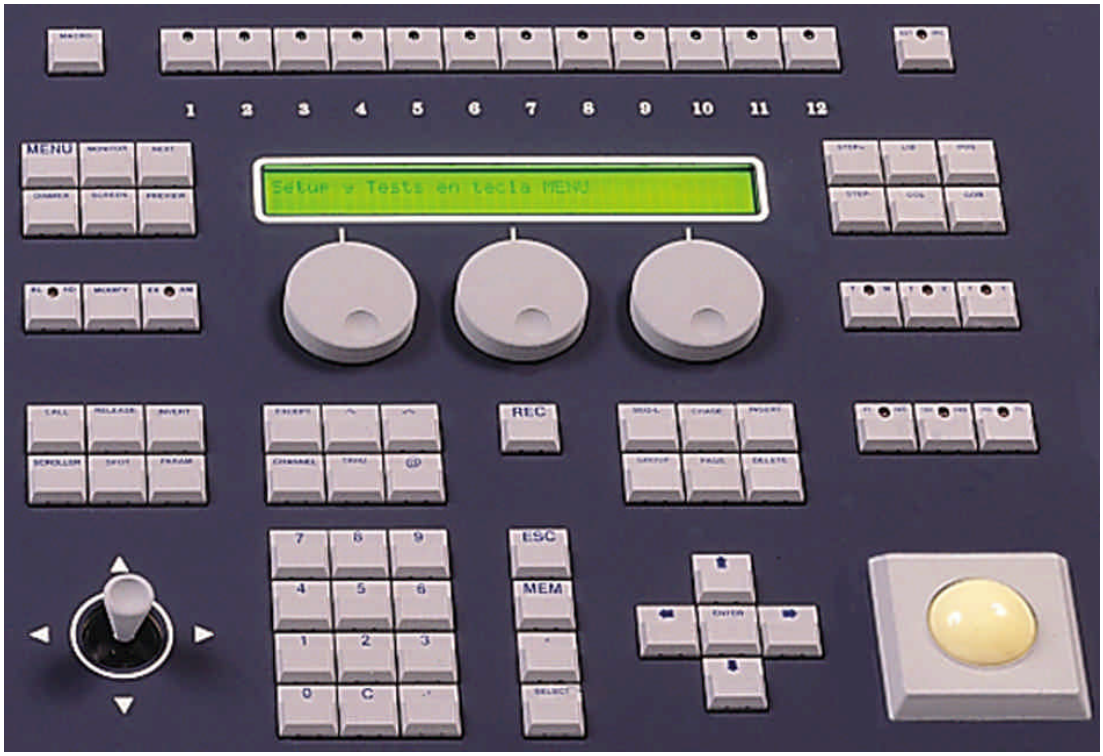
HYDRA STAGE:	For conventional lighting & multimedia shows
HYDRA SCAN:	For conventional lighting, multimedia shows, and moving lights control.

The next figures are based in the HYDRA SCAN, for HYDRA STAGE, the control elements of the moving lights: the trackball, and 2 parameter wheels, don't exits.

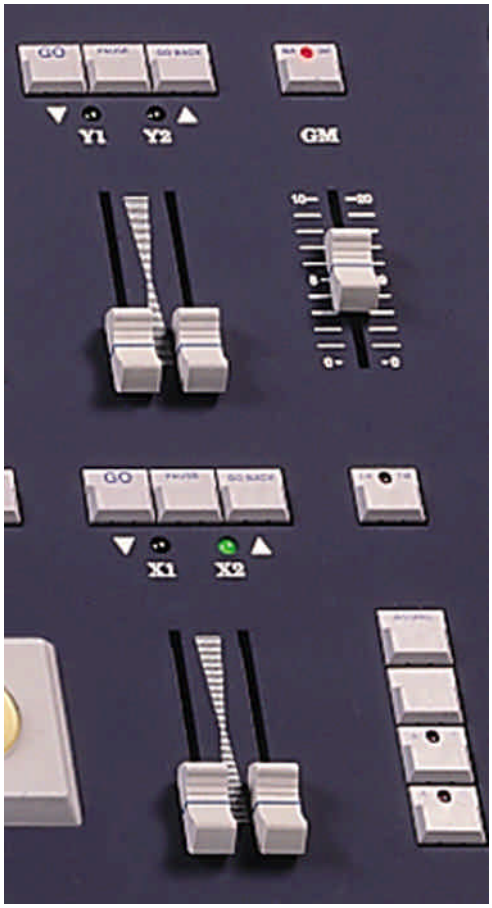
The Masters section:



The Editor section:



The crossfaders section & the General Master:



SECTIONS

EDITOR

The memories, groups, effects, pages & macros are edited, recorded, modified or deleted in the editor.
The channels selections, the moving lights (spots) selections and scrollers selections are the basic functions of the editor.
The HYDRA consoles have 2 independents editors: The "**stage editor**" & the "**blind editor**".
In this section we can fins the mains differences between the HYDRA SCAN and HYDRA STAGE consoles, SCAN model has 1 trackball and 3 parameter wheels, in the other side, the STAGE models only has 1 parameter wheel.

MASTERS

The HYDRA consoles have 48 masters and 1 masters control fader, SM. One linear fader and one associated assign/flash key compose these playbacks. The 48 masters can accept groups, memories, effects, and channels. The user can control the masters in manual mode (faders) or automatic mode (GO). The masters admit times (fade-in, fade-out, delay, wait-in & wait-out), and other specials functions (LINK or EDIT+).

The master control, **SM**, can be configured like a master of masters or like the general control of the DMX input.

THE CROSSFADERS

HYDRA has 2 completes crossfaders. These crossfaders are a tool to playbacks the memories in sequential mode. These crossfaders accept memories with fade-in, fade-out, delay, wait-in & wait-out times, and text, jumps, time parts and commands. The commands permit us the multimedia control and the show automation.

MENUS & INFORMATION

The user has access to the information pages & menus. The used keys for information and menus are **MONITOR**, **EXAM** and **MENU**.

The **MENU** key is the gate to access to the systems menus and the special configurations lines. The menus permit us configure the System, the patch, etc.

TECHNICAL CHARACTERISTICS

GENERAL

HYDRA	**SCAN**	**STAGE**
Control channels	250	750
Parameters of moving lights	512	---
Scrollers (colour changer)	30	30
DMX channels (with curve & limit by channel)	2048 - 4 DMX lines	2048 - 4 DMX lines
Input channels (channels/spots)	250/512	512/512
Groups	999	999
Memories	999.9	999.9
Effects/Effects	999	999
Pages	999	999
Macros	999	999
Crossfaders	2	2
Masters (with Assign/Flash key)	48	48
Master of masters	1	1
Master to control the DMX input	1	1
Gran Master & BO key	1	1
Joystick 2 directions	1	1
Track Ball	1	- - -
Encoders (parameters, speeds…)	3	1
Figures for spots	Yes	- - -
Edition libraries	99 position 99 colour 99 gobo	- - -
Spot configuration	Type library (editable)	- - -
Curves	5 programmed 3 of user	5 programmed 3 of user
Both systems have: Stage editor & Blind editor. Menus of setup & configuration. Alphanumeric display of 2 x 40 characters. Simultaneous fading: 52		

PROCESS UNIT

Main microprocessor: 386. Second microprocessor: H8/3003
Data memory: 1Mbyte. Program memory: 4Mbyte

INPUTS & OUTPUTS

- 1 input DMX 512 connector.
- 4 output DMX 512 connectors.
- 2 external trigger connectors.
- SMPTE input.
- Audio input.
- MIDI IN, THRU & OUT.
- RS-232 (input-output)
- RS-485 (input-output).
- VGA, color, connector.
- Trackball/mouse connector.
- Alphanumeric keyboard connector.
- Printer connector.
- Disk unit, for 3 ½ diskettes.
- 2 working light connectors.
- 1 REMOTE input connector
- IEC base (IN-THRU). Main supply

ELECTRICAL CHARACTERISTICS

Power supply: 85-230V~ /50-60 Hz.
Intensity: 0.45A. (1,45A with monitor connected).
Category: II

AMBIENT

Temperature: -15ºC to 45ºC
Humidity: 80% without condensation.

TECHNICAL SERVICE

GERMANY: Geo-Technic
Fax: 0049 (0) 6188 - 90 11 41
Tel: 0049 (0) 6188 - 90 11 40

You can obtain a updated list of technicals service points in www.dimmer.de

INSTALLATION & START UP

- Unpack the console set. You must find: the HYDRA console, the main cable, this user manual, the control sheet and the guaranty sheet.

Note:

If any irregularity is observed in the package, due to transportation, (blows, humidity...) not attempt to switch on the console and follows the process to solve this type of problems.

- Place the console in a plane surface.
- Connect the monitor to the VGA connector, with a standard video cable (SUBD-15).
- Connect the DMX outputs.
- Connect the mains cable to IEC base of the console. 85-230V~ / 50-60Hz (phase, neutral and **ground**).

Tip:

Connect the console to a SAI to avoid main supply problems.

- Switch on the console (in the IEC base switch in the rear panel).
- After some auto-test, the monitor shows us the stage page. The console is ready to work.
- Set the General Master, **GM**, at 100% and the **B O** key disable (LED off).
- Read this user manual.

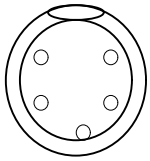
If these directors are not observed the safety of the equipment could be committed.

CONNECTIONS

All connectors are in the rear panel. These connectors are labelled.

Main supply: IEC base for 85-230V~ / 50-60 Hz. Always, used normalised cables (confirm the ground plug).
The main supply is protected by 2 fuses of 2 A, type F.

DMX:
4 Dmx-512 outputs, with optical isolation. Standard XLR-5 female connectors.
1 Dmx-512 input, with optical isolation. Standard XLR-5 male connector.
Code:
Pin 1 : Shield (0 V ref.)
Pin 2 : Data –
Pin 3 : Data +
Pin 4 & 5 : NC.



Always use shielded and twister pairs cables, with 120 ohms of characteristic impedance and low capacitance. Cable for RS485 data transmission. Don't use audio cables. The Data- & Data + signal have to be in the same twister pair.

Tip:
Connect 32 loads maximum in a one DMX line.
Use cables with maximum long of 100 metros.
Use the 120 ohms terminal load, between the pins 2 & 3 of the last DMX THRU connector.
Use DMX Splitters to connect more DMX loads or large cables.

Note:
The HYDRA DMX signal is defined with these Parameters:

PARAMETER	HYDRA DMX	DMX-1990 SPECIFICATIONS
Break Length	101µs	Minimum: 88 µs.
MAB Length	47-48 µs	Minimum: 8 µs.
Bytes/packet	512 channels	1-512 channels
Break to break	49978-50010 µs	170µs – 3 seconds.
Updates/s	20	1-44

Audio Input. Sound:
Stereo jack for 1Vpp audio signals. The signal is computed like mono signal.
Code:
1 – 0 V ref. {jack body}
2 – N.C.
3 – Signal (1Vpp) {jack live point}

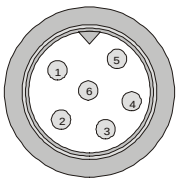
SMPTE.
Stereo jack for 1Vpp Smpte signals. The Smpte input respond to the formats: 24, 25, 30 & 30 drop frame without adjusts.
Code:
1 – 0 V ref. or SMPTE - {jack body}
2 – NC
3 – SMPTE + {jack live point}

External triggers.
2 Din-5 (180º) female connectors. Code:
1 – 0 V ref.
2 – N.C.
3 – Trigger*
4 – N.C .
5 – N.C.

Note:
* Trigger: Only is necessary to connect the Trigger signal (pin 3) with the 0 V ref. signal (pin 1), using a pushbutton.

Working Lights.
2 XLR-3 plastic connectors for 12V-15V/5w lamps. The working light is dimming by the System. Code:
Pin 1: 0 Vdc
Pin 2: 15 Vdc
Pin 3: 0 Vdc

The Remote input.
Mini-RC female connector of 6 pins. Used to connect HYDRA with the HRC (via cable) or with the RF receiver (via wireless). Code:



Pin 1.- GND
Pin 2.- RXTX-
Pin 3.- RXTX +
Pin 4.- 12 Vdc
Pin 5 & 6.- N.C.

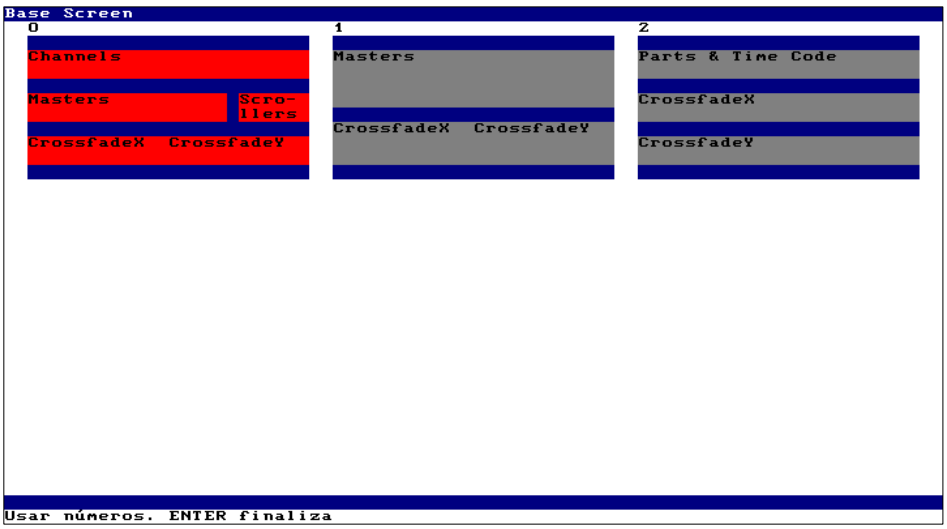
And the PC standard ports:
RS-232 y RS-485
VGA - standar & TFT monitors.
KDB - alphanumeric keyboard.
MOUSE
PRINTER
3 ½ Diskette
MIDI

NOTE:
ALWAYS CONNECT THE MOUSE OR THE EXTERNAL KEYBOARD WITH THE HYDRA TURNNED OFF.

2 .- SCREENS & FORMATS

THE BASE SCREEN SELECTION

The Base Screen can be selected pressing **MONITOR** or from the menu number 60: Base Screen, pressing **MENU** **60**.
The System shows us the available formats in a graphic mode. The format in red, is the format currently selected:



To select one of the available formats, enter its index number (this number appears near each format).
In resume:

Press:

MONITOR	**0**	to select the format 0 as a main page. This is the option by default.
MONITOR	**1**	to select the format 1 as a main page. Special for masters.
MONITOR	**2**	to select the format 2 as a main page. Special for crossfaders.

Or from the menus (60: Base Screen), press:

MENU **60**	**0**	to select the format 0 as a main page. This is the option by default.
MENU **60**	**1**	to select the format 1 as a main page. Special for masters.
MENU **60**	**2**	to select the format 2 as a main page. Special for crossfaders.

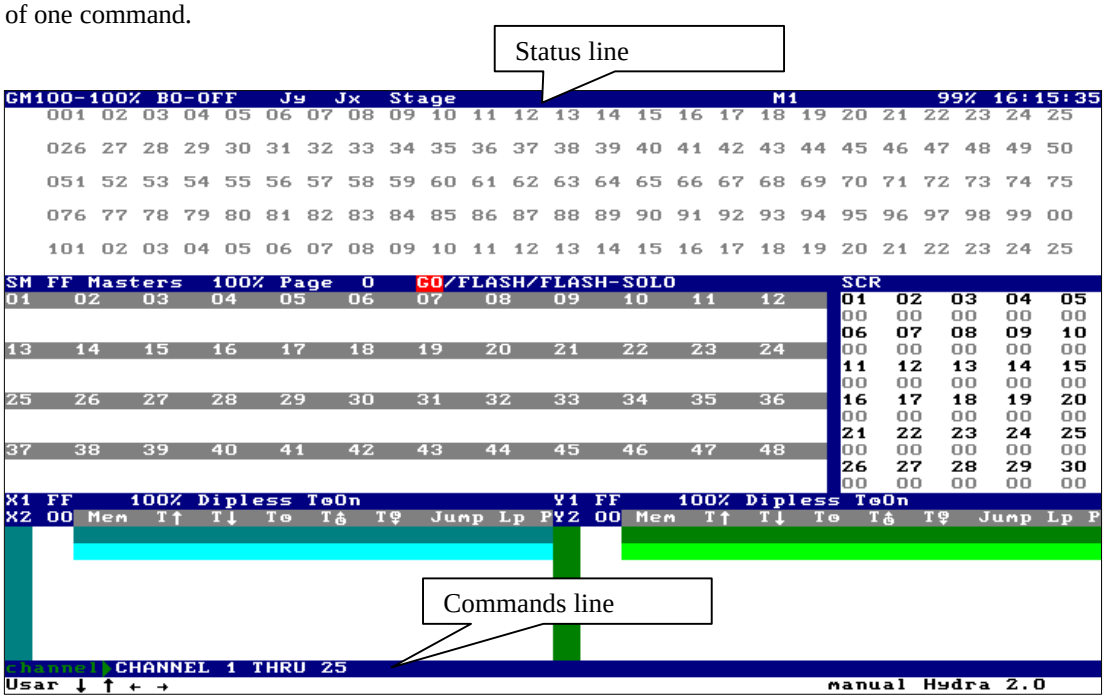
In the format 0, the keys ↑ ↓ toggle the channels bank showed, always in 125 channels blocks.
Hydra Scan, with 250 control channels, has 2 blocks: 1-125 & 126-250.
Hydra Stage, with 750 control channels, has 6 blocks: 1-125, 126-250, 251-375, 376-500, 501-625 & 62-750.

In the format 1, the keys ↑ ↓ toggle the masters bank showed, (masters 1-24 & masters 25-48).

STATUS LINE & COMMANDS LINE

There are **2 special lines**:

The status line, in a blue field: This line shows us the main configuration parameters and the status flags.
The commands line, in a blue filed: This line shows us the current edition process, the pressed keys of one command.



Under the commands line there is a line, in a white field, reserved to the help messages and the loaded show title.

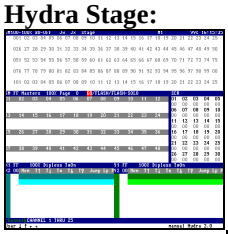
These 3 lines are commons to many monitor screens (base screen, auxiliary screen...).

The Base Screen also is named Main Page.

AUXILIARY SCREEN

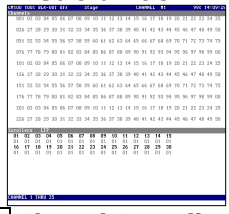
From the base screen (formats 0, 1 or 2) the user can access to the auxiliary screen: Special monitor pages to see all channels & scrollers and all spots. The access to these monitor pages is done pressing [←] [→].

Hydra Stage:



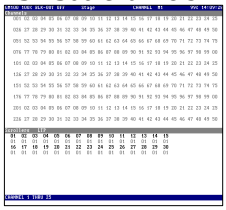
Base Screen
Base Screen

1-250 channels



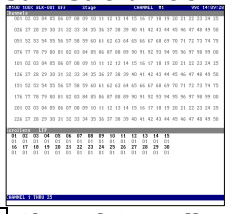
[→] Channel & scroller
[←] Channel & scroller

251-500 channels



[→] Channel & scroller
[←] Channel & scroller

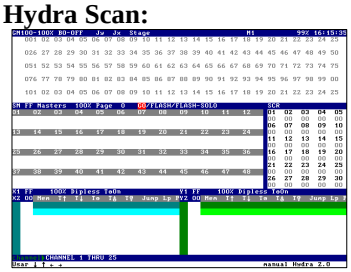
501-750 channels



[→] Channel & scroller
[←] Channel & scroller

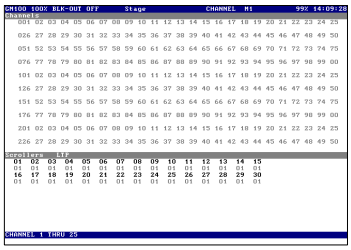
In Hydra Stage the auxiliary screen always is formed by 3 monitor pages.

Hydra Scan:



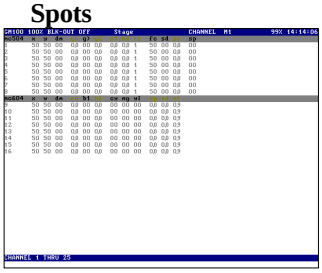
Base Screen
Base Screen

1-250 channels



[→] Channel & scroller
[←] Channel & scroller

Spots



[→] Spots
[←] Spots

In Hydra Scan the auxiliary screen is formed by 2 monitor pages or more.
It is possible that if you have configured Hydra Scan for to many spots or big spots (with more than 21 parameters) there are more monitor pages in the Auxiliary screen. You can access to all monitor pages of the auxiliary screen using these keys: [←] [→].

SCREEN AUTO SCROLL

Hydra can be configured to jump to the appropriate monitor page, each time that a channel, spot or scroller is edited from the editor.

In the menu 62: AUX SCREEN, active the option - **Screen Auto Scroll**. To enable this option, press:

MENU 62 0 ENTER

HYDRA STAGE.- If this option is enabled, Hydra:

- Scrolls to the channels/scrollers auxiliary screen, in the appropriate page, when a channel, or a scroller, is selected from the editor.

Some exceptions to these basic rules are:

- There is not auto scroll when in the monitor are selected a edition screen or a exam screen.

- If in the monitor are selected the MONITOR 0 (base screen), the scroller selection doesn't bring scroll, and the channel selection brings scroll inside this base screen to show us the selected channel.

HYDRA SCAN.- If this option is enabled, Hydra:
- Scrolls to the spots auxiliary screen when a spot is selected from the editor. And scrolls inside this spots auxiliary screen to show us the selected parameter.
- Scrolls to the channels/scrollers auxiliary screen when a channel, or a scroller, is selected from the editor.
- Scrolls to the **EDIT+** base screen when this function is activated.

Some exceptions to these basic rules are:
- There is not auto scroll when in the monitor are selected a edition screen or a exam screen.
- If in the monitor are selected the MONITOR 0 (base screen), the scroller selection doesn't bring scroll, and the channel selection brings scroll inside this base screen to show us the selected channel.

For more information about this option see the chapter 10 – THE MENUS.

CONFIGURATION OF THE AUXILIARY SCREEN

(Only for HYDRA SCAN)
The auxiliary screen mode can be configured/selected inside the menu number **62: Aux Screen**. Usually, the auxiliary screen is formed by 2 monitor pages. One page to show us the channels and scrollers and the other page to show us the spots.
HYDRA permits us to select a Compact mode for this auxiliary screen. The Compact mode shows us channels, scrollers and spots only in 1 monitor page.

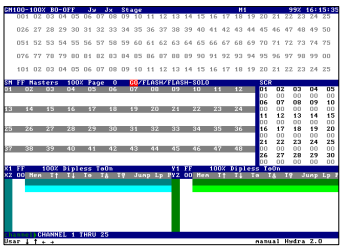
In this same menu, it is possible to configure the Compact mode to see the desired number of channels, scrollers and spots.

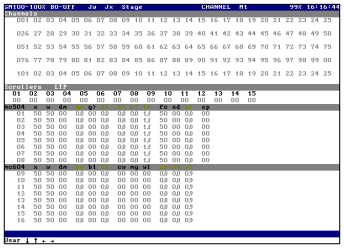
The Compact mode is thought for user that they don't use all HYDRA resources in the same show.

Select the desired mode for the auxiliary screen inside the menu number **61: Aux Screen**, pressing:
MENU 62 ↓ 1 To select the Compact mode for the auxiliary screen (1 page).
MENU 62 ↓ 0 To select the Default mode for the auxiliary screen (2 pages).

In the lower part of this menu, it is possible to configure the Compact mode to see:
The desired number of channels (from 0 up to 250) divisible for 25.
The desired number of scrollers (from 0 up to 30) divisible for 15.
And HYDRA calculates the maximum number of spots to see (in case of all spots are the same type).

In the Cold Start, the **Compact** mode is defined to see 125 channels, 15 scrollers and 17 spots in only 1 monitor page:



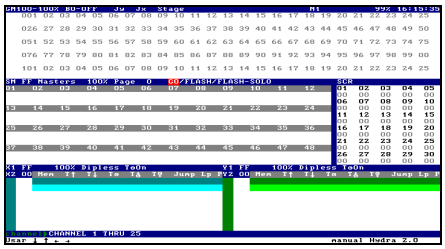


Notes:
The exam screens (for contents of memories, groups, etc) adopt the current mode of the auxiliary screen.
It is possible to store more channels, more scrollers or more spots that the monitored, but in Compact mode it isn't possible to see them. (You must select the Default mode to see them).

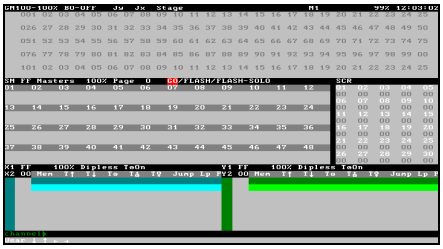
MONITOR PAGES & BACKGROUND COLOUR

It is possible to configure the monitor pages with a background colour in dark or light. This selection is done in the MENU 34, over its option MONITOR. (See chapter 10- THE MENUS).
If the option LIGHT is selected, the monitor pages have a white background.
If the option DARK is selected, the monitor pages have a dark grey colour.

MENU 34/MONITOR: LIGHT



MENU34/MONITOR: DARK



HELP ON-LINE

At any moment the user can access to the help screen, from the menu 61: Help, pressing **MENU 61**

A help index appears in the monitor. Enter the index number of the desired help (in 2 digits) or press ↑ and ↓ to page these help screen.

Example - To obtain help about the Patchs, press: **MENU 61 09**

INFORMATION ABOUT THE CURRENT SHOW

At any moment the user can access to the information screen about the current show, pressing:

EXAM EXAM

In the monitor shows us the numbers of the stored items (libraries, memories, groups, effects, pages and macros) and the number of channels, scrollers and spots used.

After load a show from a disk, HYDRA, always shows us this information screen. Press any key to return to the base screen.

RESUME

Select the format of the Base Screen:
Special for channels: **MONITOR 0 // MENU 60 0**
Special for masters: **MONITOR 1 // MENU 60 1**
Special for playback: **MONITOR 2 // MENU 60 2**

Select the format of the Aux Screen:
Default (2 pages): **MENU 62 ↓ 0**
Compact (1 page): **MENU 62 ↓ 1**
Compact mode definition: **MENU 62**

Enable the option Screen Auto Scroll:
Enable **MENU 62 0**
Disable **MENU 62 1**

Paging:
In the Base Screen: **↑ & ↓**
Aux screen access: **← & →**

Help on Line: **MENU 61**
Information Screen**:** **EXAM EXAM**

3 .- THE EDITOR

THYDRA STAGE has 2 power Editors. The Editors permit us to select channels and scrollers to edit their levels and colours.
HYDRA SCAN has the some 2 editors, extended with the selection and edition of the moving lights (spots) and their parameters.
The channels, scrollers and spots are edited with levels and parameters values to obtain the desired scenes. These scenes are the base of Memories and Groups.

The HYDRA Editor are, a **Stage Editor** and other **Blind Editor**. Both Editors have the same functions, but the Blind Editor doesn't affect in scene, and the Stage Editor affects in scene and its control is the most priority control in all case.

ABOUT THE EDITION

From the editor it is possible to select **simple items: channels, scrollers & spots**, with the objective to edit it, assigning to these items a dimmer level (for channels & dimmer spots) and values for their parameters (scrollers & parameter spots). The edition of the spot parameters permits us to fix the beam position, the beam shape, its colour... depending of the moving light type.

From the editor it is possible to select a **complex item**: **memory & group**. The memories and groups are a mixture of the simple items with their levels and values. The complex items can be edited, store, modify and delete. The complex items will be studied in the next chapters.

Each item type has a function key associated:
Channels: **CHANNEL**, Scrollers: **SCROLLER**, Spots: **SPOT**, Memories: **MEM**, Groups: **GROUP**.

A item is identified by its type and a number. So, the channel 25 is selected pressing **CHANNEL** **25**, or the group 3 is selected pressing **GROUP** **3**.

In the lower part of the monitor, in all screens, there is the **command line** (the blue line).

The command line collects the pressed keys during the editions. The command line has a header, and this header shows us always the item type active. This header appears in green letters. Example, if you are editing channels, you can see in the command line header: *Channel*▸. In others words, the header shows us the **item by default**; and if the command line header is *Channel*▸, it isn't necessary to press **CHANNEL** **25** to select the channel 25, it is enough to press **25**.
The **item by default** changes dynamically each time that you select a item of other type. Example: if the default selection is *Channel*▸, and now, you select spots to edit them, the default selection changes to *Spots*▸.
This dynamic change permits us to save pressed keys in the editions process. In this way, the most of the commands can be only with a "number".

After a Cold Reset, the default selection will be always: *Channel*▸.

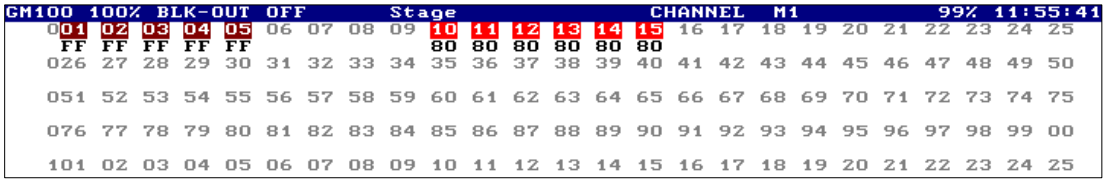
CHANNELS & SCROLLERS

The first step to work with channels & scrollers is configure them in the Channels Patch & the Scrollers Patch (See the Chapter 11 - Patch). Of this configuration depends their behaviour in scene.

CHANNELS SELECTION

It is possible to select one channel, a channels range or a channels group to assign them the same level.

A channel in the editor, can appears in one of these 3 status in the base screen or auxiliary screen:
Present, but currently not selected: in a brown filed.
Pre-selected, but currently without level assignation: With its number in red.
Selected and with active level assignation: in a red filed.



SCROLLERS SELECTION

The control channel for a colour changer is named scroller. A scroller has a different behaviour than a conventional channel.

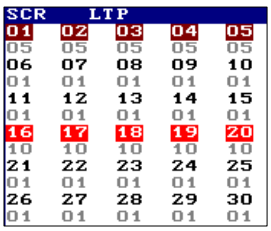
HYDRA controls the scrollers in **LTP** mode, answering to the last “change” done (Last Take Precedence).

HYDRA has 30 scrollers, and in the Cold Reset these scrollers have 18 frames (colour-gels).

It is possible to select one scroller, a range or a group to assign them the same colour or gel.

A scroller in the editor, can appears in one of these 3 status:
Present, but currently not active: in a brown filed.
Pre-selected, but currently without edition: with its number in red.
Selected & active with colour assignation: in a red filed.

Under the scroller-number, the gel number appears.



SELECTING A CHANNEL OR SCROLLER

HYDRA SCAN has **250 control channels** and HYDRA STAGE has **750 control channels**. To select one channel, press:

CHANNEL **#,**

Where # is a channel number (1-250/Scan or 1-750/Stage) entered from the numeric keyboard.

Press **CHANNEL** isn't necessary if the editor is in mode *Channel*▸ (in the command line header). These optional keys are showed like CHANNEL

Hydra has a maximum of 30 scrollers. To select one scroller, press:

SCROLLER **#**

Where # is a scroller-number (1..30) entered from the numeric keyboard.

Press **SCROLLER** isn't necessary if the editor is in mode *Scroller*▸ (in the command line header).

To see the 250/750 channels press → (access to the auxiliary screen) or press ↑ to toggle between the channels banks (1-125, 126-250…) in the base screen format 0. (See chapter 2).

SELECTING RANGES

Select a channels or scrollers range pressing:

CHANNEL #' **THRU** #'' where #' is the first range channel and #'' the last.
or
SCROLLER #' **THRU** #'' where #' is the first range scroller and #'' the last.

Selecting more than one range pressing:
CHANNEL #' **THRU** #'' **CHANNEL** #' **THRU** #''
or
SCROLLER #' **THRU** #'' **SCROLLER** #' **THRU** #''

CHANNEL pressed between 2 ranges is used as "plus" key.
SCROLLER pressed between 2 ranges is used as "plus" key.
In both commands it is possible to use as "plus" key: **SELECT**.

Examples of channels ranges selections.
Select the channels from 1 up to 45:
CHANNEL 1 **THRU** 45.
Select the channels from 1 up to 45 and from 50 up to 52:
CHANNEL 1 **THRU** 45 **CHANNEL** 50 **THRU** 52
CHANNEL 1 **THRU** 45 **SELECT** 50 **THRU** 52

Examples of scrollers ranges selections.
The scrollers from 1 up to 10:
SCROLLER 1 **THRU** 10

The scrollers from 1 up to 5 and from 7 up to 9:
SCROLLER 1 **THRU** 5 **SCROLLER** 7 **THRU** 9
SCROLLER 1 **THRU** 5 **SELECT** 7 **THRU** 9

If the last range channel is the channel 250 (or 750 for HYDRA STAGE), this number isn't necessary.
Example, to select from the channel 76 up to the last of Hydra, press:
CHANNEL 76 **THRU**

If the last range scroller is the scroller 30 (the last of HYDRA), this number isn't necessary. Example, to select from the scroller 17 up to the last of Hydra (30), press: SCROLLER 17 **THRU**

SELECTING A GROUP

CHANNEL or SCROLLER work as "plus" keys between 2 numbers the channel or scroller.
It is possible to use **SELECT** as "plus" key for all cases (channels and scrollers).

To select a group of channels or scrollers, press:
CHANNEL # **CHANNEL** # **CHANNEL** # ...
or
SCROLLER # **SCROLLER** # **SCROLLER** # ...

Examples:

Select the channels 1, 57 & 89
CHANNEL 1 **CHANNEL** 57 **CHANNEL** 89, or
CHANNEL 1 **SELECT** 57 **SELECT** 89

Select the scrollers 1, 7 & 29
SCROLLER 1 **SCROLLER** 7 **SCROLLER** 29 or
SCROLLER 1 **SELCT** 7 **SELECT** 29

Note:
These 3 basic selections can be combined in any order obtaining more complex selections.
Before the level assignation the selected channels appear with their number in red (pre-selection).

SELECTING THE ASSOCIATED SCROLLERS

This option is available when in the Scroller Patch (menu 01), the scroller is associated with the conventional control channel that controls the luminary of this scroller, in this way you can access to the scroller using the channel selection. (See the chapter 11 – The Patch).
Suppose that the scroller 1 is associated with the conventional channel 1.
Pressing CHANNEL **1**, the **scroller 1** is selected too (the scroller associated).
At this moment the user has control of level & colour, simultaneously in the joystick. (vertical direction for level & horizontal direction for colour).

SELECTING CHANNELS & SCROLLERS

At any moment the user can select scrollers & channels to edit them the same level and the same colour and obtain a desired "picture".
Example, select the channels from 1 up to 20 at 50% and the scrollers 3 & 5 at colour 10
CHANNEL **1** **THRU** **20** @ **50** **SCROLLER** **3** **SCROLLER** **5** @ **10** **ó**
CHANNEL **1** **THRU** **20** **SCROLLER** **3** **SCROLLER** **5** **Joystick**

EXCLUDING CHANNELS OF THE SELECTION

EXCEPT permits us to exclude channels (or scrollers) of the current selection.

Examples:

Select the channels from 1 up to 57, except the channel 5, the 7 & the channels from 10 up to 15:
CHANNEL 1 **THRU** 57 **EXCEPT** 5 **EXCEPT** 7 **EXCEPT** 10 **THRU** 15

Select the scrollers from 1 up to 30, except the scroller 5, the 7 & the scrollers from 10 up to 15:
SCROLLER 1 **THRU** 30 **EXCEPT** 5 **EXCEPT** 7 **EXCEPT** 10 **THRU** 15

EDITING LEVELS & COLOURS

To assign level to the selected channels, **{channels selection}**, we can:

- Use **Joy-Stick**. (In vertical movement).
- Use the @ key and insert the level in 2 digits from the numeric keyboard. Level format: ##.
- Use the command @ @ to assign one level at **100%.**
- Use the keys: **+%** & **–%**
- Repeat the last level assignation: @ •
- Assign a level of 100%, fading in 2 seconds, pressing: **CALL**

To assign the desired colour (gel) to the selected scrollers, **{scrollers selection},** we can:

- Use the **Joy-Stick** in its horizontal direction.
- Use @ and insert the gel number (colour) in 2 digits.
- Use the command **PARAM** @ and insert the gel number (colour) in 2 digits. This command is used when the associated channel is selected to edit the scroller. In the command line, the symbol ***@s*** appears denoting a colour edition (not level edition).
- Use the relative level functions: **+%** & **–%**
- Use the functions: **STEP+** or **STEP-** to access to the next colour or previous colour.
- Repeat the last level assignation @ •

Some examples with channels selections:
{channels selection} **Joystick** Adjust the desired level moving the joy-stick (vertical direction).
{channels selection} @ **50** Assign the level at 50 %. To assign a level of 5% insert **05**.
{channels selection} @ @ Assign the level at **100%,** Full.
{channels selection} **CALL** Assign the level at **100%**, Full, fading up in 2 seconds.
{channels selection} **+%** Increase the current level a 5%.
{channels selection} **–%** Decrease the current level a 5%.

Some examples with scrollers selections:
{scrollers selection} **Joy-Stick ⇔** Adjust the colour moving the joy-stick for the selected scrollers.
{scrollers selection} **@ 05** The scrollers 1 are at their gel: 5.
{scrollers selection} **+%** The assigned colour is increased 5%.
{scrollers selection} **–%** The assigned colour is decreased 5%.
{scrollers selection} **STEP+** The active scrollers are placed in their next colour (gel)
{scrollers selection} **STEP -** The active scrollers are placed in their previous colour (gel).

Example with a channels selection with scrollers associated:
{**channels** selection} **PARAM** **@ 05** The associated scroller are at its gel: 5.

The commands of level assignation admit any channels selection.

The channel levels and scroller colour edited from the **Stage** Editor, appear in scene immediately.

Note:
The scroller colour is represented with its colour number, and NO with its DMX output level.

Always that one channel or scroller is selected (in red) it is possible any assignation of level or colour. After a edition of level or colour, we can begin a new channel selection, in this moment, the last selection is showed in brown, indicating us that these channels or scrollers are presents in the editor but no selected.

🗗 **In the menus**
The valour of the **+%** & **–%** keys can be changed in the Setup Editor menu (number 30).
+% y **–%** are keys of auto repetition. If you maintain pressed one of these keys the selected channels increase (or decrease) their levels during the key is pressed.

The number of gels of each scroller can be adjusted in the menu 01:SCROLLER.

SELECTING THE EDITOR CONTENTS

All channels in the editor, present or selected, can be selected (in red) pressing:

CHANNEL **THRU**

All scrollers in the editor, present or selected, can be selected (in red) pressing:

SCROLLER **THRU**

Now, we can modify them (their levels or colours) with the joystick, or **+%** and **–%** (maintaining the relative levels/colours between them) or we can assign them a new absolute level pressing **@ ##**

¡Remember! To edit scroller colours enter the colour number in 2 digits.

THE INVERT FUNCTION

We can select the channels/scrollers present in the editor as selected channels/scrollers (in red) using **INVERT**, at the same time, the selected channels/scrollers nor are present channel/scrollers.

When this key is pressed, the channels/scrollers in red (actives) toggle a channels/scrollers in brown (presents), and the channels/scrollers in brown (present) toggle to channels/scrollers in red (selected). This function is very used to balance cycloramas, or modified edited levels/colours.

In resume, this function toggles between the selections: active & present.

Examples:

CHANNEL **1** @ **50** CHANNEL **2** @ **30** **INVERT** @ **40**
Edit the channel 1 at 50%, after, the channel 2 at 30% and after, newly the channel 1 at 40%. As result: channel 1 at 40% and channel 2 at 30%.

SCROLLER **1** @ **05** SCROLLER **2** @ **03** **INVERT** @ **04**
Edit the scroller 1 at colour 5, after, the scroller 2 at colour 3 and after, newly the scroller 1 at colour 4. As result: scroller 1 at colour 4 and scroller 2 at colour 3.

OTHER SELECTION COMMANDS

Repeat the last selection (of channels or scrollers):
CHANNEL •
SCROLLER •

Select all channels or scrollers in scene and editor:
CHANNEL **THRU** **THRU**
SCROLLER **THRU** **THRU**

Select only the channels or scrollers in scene of the selected range:
CHANNEL **#' THRU THRU #''**
SCROLLER **#' THRU THRU #''**

Example: The channels 4, 7, 9 & 15 are in scene, now, select these channels in scene pressing
CHANNEL 4 THRU THRU 15

DELETING THE EDITOR

The **Stage Editor** works in scene, but:
When **a channel** is removed of the editor, this channel goes out scene (it can follow in scene if it is controlled in some playback).
When **a scroller** is removed of the editor, this scroller maintains its colour in scene (this colour can change if it is controlled in some playback).

We can remove the selected channels/scrollers of the editor, using **RELEASE**.
{selection} **RELEASE**. The selection is released from the editor fading out in 2 seconds.
{selection} **RELEASE** **RELEASE**. The selection is released from the editor immediately.

It is possible to eliminate the editor contents completely to empty it, pressing:

ESC	The editor is emptied in 2 seconds.
ESC ESC	The editor is emptied suddenly.

The progressive erase of the last commands (over the command line) is possible pressing: C
This key doesn't erase the editor contents, and it is used to delete the erroneous entries.

The complete erase of the command line is possible pressing: C C
Doesn't erase the editor contents.

🗗 **In the menus**
The editor time (2 seconds by default), used in the RELEASE, CALL & ESC functions, can be edited in the menu SETUP 30:EDITOR.

Note:
For the RELEASE & ESC functions, when a scroller is released of the Editor, the colour of this scroller is maintained. The scroller is not forced at its 0% (gel 00). Remember, they are LTP! Force all scrollers at frame 0 pressing SCROLLER THRU @ 00

One scroller can scroll in a fade-in time or in a cut time. By default, the HYDRA scrollers change in a cut time at its target value. The user can configure this comportment in the Scroller Patch (see chapter 11 - The Patch).

THE BLIND EDITOR

The **Stage** editor and the **Blind** editor are independents.
Toggle between **Stage** editor and **Blind** editor pressing BLIND.

When the **Blind** editor is selected the LED of BLIND is lit. In the status line appears the flag ***Blind*** in a red field, to indicate us that the **Blind** editor is selected.
In **Blind** mode, in the monitor, only the channels in the editor are showed. To see the channels in scene select the **Stage** editor.
The **Blind** editor doesn't affect to the scene output, neither to the masters and crossfaders outputs.

The editors don't change when we toggle between them. In others words, one editor isn't affected by the other editor.

All the selection and assignment commands, explained for the **Stage** editor, operate of the same way in the **Blind** editor.

SPOTS - HYDRA SCAN

The spots numbers are the numbers that permit us control the moving lights. A spot is a group of parameters, these parameters permit us control each one of the characteristics of our moving light. The number of the parameters of our spot depends of the number of DMX channels that the moving light needs.

The spots work in LTP mode.
LTP Mode- all parameters of the spot responds to the last control command (Last Take Precedence) except its dimmer parameters that it responds in HTP mode (as a conventional lighting channel).

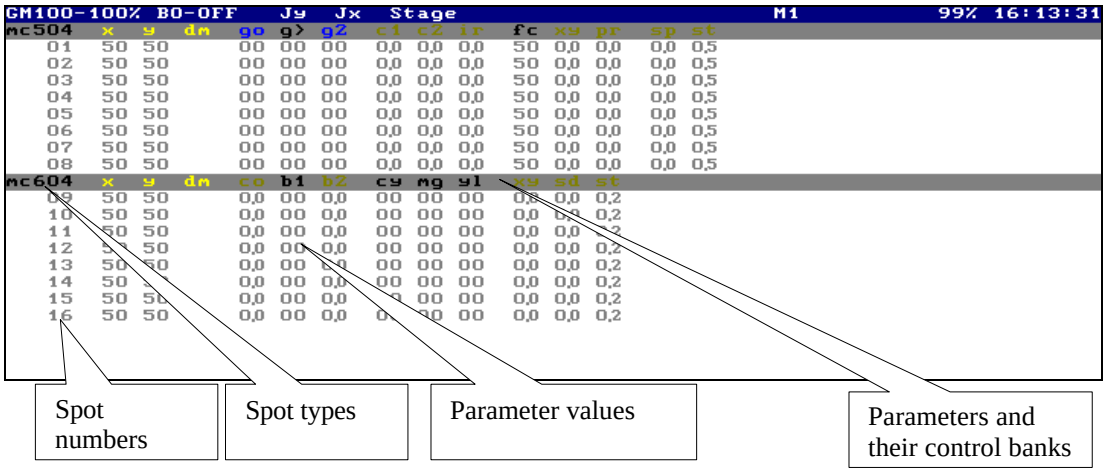
The first step to work with the spots is to define them in the Spot Patch (see chapter 11 - The Patch).

HYDRA can control up to 30 spots. After a Cold Reset, HYDRA is initiated only with 16 spots assigned in the Spot Patch. This chapter is based, mainly, in the spots configuration by default: Spots 1 to 8 are Mac 500 and Spots 9 to 16 are Mac 600, (both in mode 4). See the chapter 11 - The Patch, for more information about the Spots configuration.

SPOTS IN THE MONITOR

The spot is showed in accordance of its type (the type is the model of the moving light that the spot number controls).

In the spots configuration by default, in the auxiliary screen you can see:



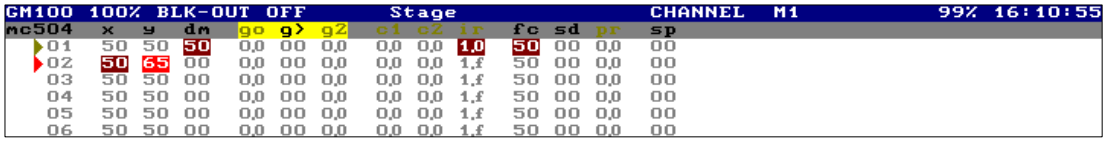
SPOTS SELECTION

The user can select a spot, a spots range or a spots group, to assign values at their parameters.

Spots in the editor can be in 2 modes:
Present, currently not selected: with a brown arrow near the spot number.
Selected and with edited parameters or not: with a red arrow near the spot number. Only the parameters of the selected spots can be edited.

Spot parameters in the editor can be in 4 modes:
Present, the edited parameter is in the editor but is not active: In a brown field.
Pre-selected, The parameter is ready to be edited: Its value is showed in red.
Selected, with a assigned active value: In a red field
Tracking, its value is in scene, but is not controlled by any playback. (Its value is in grey).

In the monitor:



SPOTS SELECTIONS

To **select a spot**, press:
SPOT **#,** # is the spot number assigned in patch (maximum 30).

If the editor is in mode *Spot*▸, it is not necessary press SPOT the first time.

To **select a spots range**, press:
SPOT #' **THRU** #'', where #' is the first spot of the range and #'' the last.

To **select spots ranges**, press:
SPOT # **THRU** # **SPOT** # **THRU** #
or
SPOT # **THRU** # **SELECT** # **THRU** #

To **select a spots group**, press:
SPOT # **SPOT** # **SPOT** # ...

To **eliminate spots of a selection**, use **EXCEPT**, for example, select the spots 1 to 8 except the spots 4 to 6. In other words, select the spots 1, 2, 3, 7 & 8.
SPOT **1 THRU 8 EXCEPT 4 THRU 6**

Examples (with the editor in mode *SPOT*):

Select the spots 1 to 8,	1 **THRU** 8.
Select the spots 1 to 8 and 14 to 16	1 **THRU** 8 **SPOT** 14 **THRU** 16
Select the spots 11 to the last in the System	11 **THRU**

Notes:
These previous commands can be combined to obtain complex selections.

OTHERS SPOTS SELECTIONS

All the spots in the editor (present and selected, marked with red & brown arrows) are selected (marked with red arrows) pressing:
SPOT **THRU**

To repeat the last spots selection, press:
SPOT •

To select all the spots in the editor & in scene, press:
SPOT **THRU** **THRU**

INVERT, RELEASE & ESC FUNCTIONS

INVERT permits us "to toggle" between the active selection (in red) and the present selection (in brown) in the editor.

Example for spots:
SPOT 1 @ 50 SPOT 2 @ 65 INVERT @ 70
The edition is: The dimmer of the spot 1 at 50%, the dimmer of the spot 2 at 65%, and newly the dimmer of the spot 1 at 70%.

RELEASE permits to the user releases the contents of the editor (channels, scrollers or spots). The spots behaviour with this function is:

SPOT #' **THRU** #'' **RELEASE**
Spots from #' up to #'' leave the editor in a cut time, except the dimmer parameter that it leave the editor in 2 seconds (the default editor time).

SPOT #' **THRU** #'' **RELEASE** **RELEASE**
All parameters of the selected spots leave the editor in a cut time, including the dimmer parameter.

Note:
The RELEASE **&** ESC **functions don't force the parameter at 0% (only the dimmer parameter, 3:dm, is forced to 0% as a HTP conventional channel).**

SELECTING SPOTS PARAMETERS

After a spots selections, the user can edit their parameters: Using the trackball to assign values to the x/y parameters, the Joystick to assign value to the dm (dimmer) parameter, or using the control wheels to assign value to the rest of the parameters.

Also it is possible to select one parameter to assign it a value using the numerical keyboard, pressing:
{Spots selection} PARAM #
Where # is the index number of the desired parameter.

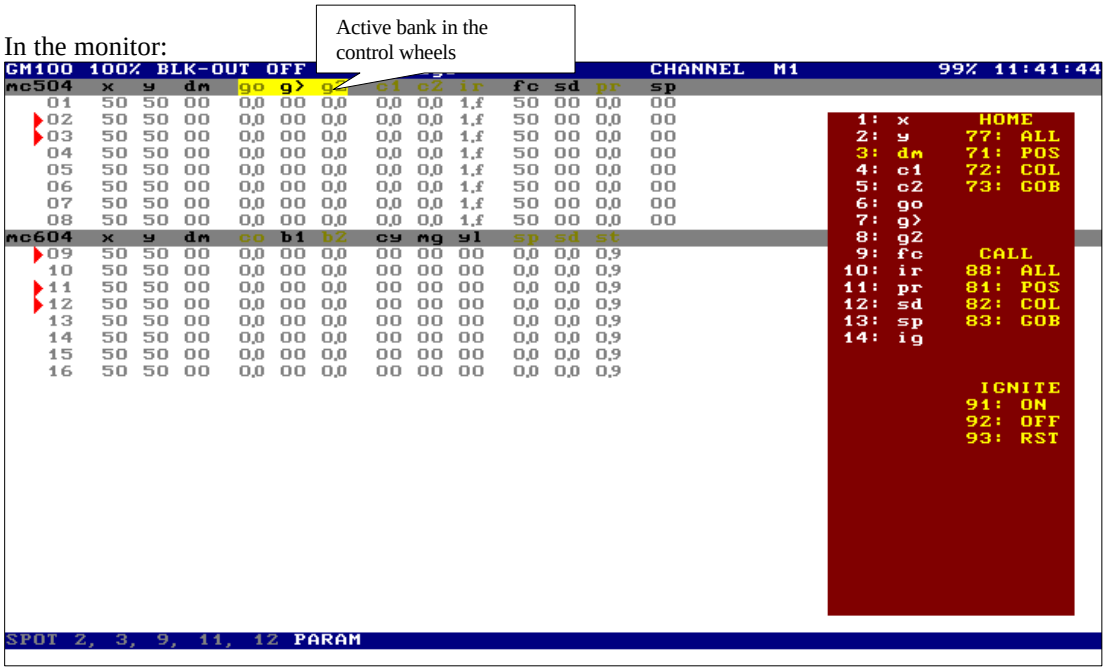
When **PARAM** is pressed, the System shows us a red window with **the index number of each parameter** of the selected spots.

If the spots selection in the editor has spots of different types (example: Spot 1 & 2 are Mac 500, Spot 9, 11 & 12 are Mac 600) their control parameters are different. HYDRA only selects the parameters of the first spot type (except the parameters: **dm**, **x** & **y** that they can be controlled in different types at the same time and are showed in yellow).

The options (over the red interactive menu) in white are applied only to the first spots type (in the previous example, spots 1 & 2) and the options in yellow are applied to all selected spots (spots: 1, 2, 9, 11 & 12).

When a parameter is selected, its bank is activated in the control wheels.

In the monitor:



When the parameter is selected, the PARAM window disappears, and now the parameter can be edited with the numeric keyboard or its control wheel. To use the numeric keyboard to edit it, press:
{Spots selection} PARAM # @ 50

At the moment that a spot is selected its **x/y** parameters are accessible in the **trackball**, the **dm** parameter is accessible in the **joystick** and the parameters of the first bank are accessible in the **3 control wheels**.

The parameters of the active bank are showed in the LEDs display, over the control wheels, and in the monitor, marked in a yellow field. To active the previous bank or the next bank, press:
BANK- or **BANK+**.

ASSIGNING VALUES TO THE SPOTS PARAMETERS

To **assign a level to the dimmer parameter** (3:dm),
- Use the **Joy-Stick** (vertical movement),
- Use **@** at enter the level value in 2 digits,
- Press **@ @,** to assign the level 100%
- Press **CALL** to assign the level 100% in a fading of 2 seconds.
- Use **+%** & **–%**
- Press **@ •** to assign the last used level

To **assign values to the x/y parameters** (1:x, 2:y), use the **Trackball**

To **assign values to the parameters of the active bank**, use the control wheels. The LEDs display shows us the parameters of the active bank, and in the monitor these parameters are marked in a yellow field. You can activate the desired bank selecting one of its parameters (**PARAM ##)** or active its bank using **BANK+** & **BANK-**, and use the associated wheel.

To **assign values to a continuous parameter from the numeric keyboard:**
PARAM # @ ## (Parameter value, 0 -99%, and is entered in 2 digits).
PARAM # @ @ (Parameter value at 100%).

To **assign values to a discrete parameter from the numeric keyboard:**
PARAM # @ ## (Step number, and is entered in 2 digits).
PARAM # @ @ (The last step of the parameter).

To **assign values to a mixed parameter from the numeric keyboard:**
PARAM # @ ## (Step number, and is entered in 2 digits).
PARAM # @ • ## (Step value, 0 -99%, and is entered in 2 digits).
PARAM # @ • • (Current step value at 100%).
PARAM # @ @ (The last step at 100%).

For **discrete or mixed parameters**: use **STEP+** & **STEP-** to select the next or previous step. See the chapter 11 - The Patch, for more information about the discrete and mixed parameters.

Note:
The discrete or mixed parameter shows us its step number, not its DMX output level.

Some Examples:

SPOT 1 Joystick	To assign a level to the dimmer of the spot 1.
SPOT 1 PARAM 01 @ 05	To assign a value 5 to the **x** parameter of the spot 1.
SPOT 1 PARAM 05 STEP+	To assign the next step to the parameter 5 of the spot 1.

The editions in the **Stage** editor are showed in scene immediately.

If a spot is selected (marked with a red arrow) it is possible to edit all its parameters. In each new selection (of spots, channels, scrollers, groups...) the previous spots selection toggles to present selection in the editor (marked with a brown arrow).

SPECIAL FUNCTIONS OF PARAM

The special functions of the parameters are accessible in the PARAM window. The System opens the PARAM window when the user press: **PARAM**. To select a special parameters function press:
{spots selection} PARAM ## where ## is the index number of the selected function.

HOME function. To call in the editor to the "home" values edited in the spot type.

77	**ALL**	All parameters of the spots selection are assigned at its HOME value.
71	**POS**	The position parameters of the spots selection are assigned at its HOME value.
72	**COL**	The colour parameters of the spots selection are assigned at its HOME value.
73	**GOB**	The gobo parameters of the spots selection are assigned at its HOME value.

CALL function. To call several parameters in the editor

88	**ALL**	All the parameters of the spots selection are called in the editor.
81	**POS**	The position parameters of the spots selection are called in the editor.
82	**COL**	The colour parameters of the spots selection are called in the editor.
83	**GOB**	The gobo parameters of the spots selection are called in the editor.

IGNITE functions. These functions depend of the spot type definition, in special of the definition of the ignite parameter.

91	**ON**	The command to switch on the lamp is transmitted.
92	**OFF**	The command to switch off the lamp is transmitted.
93	**RST**	The command to initiate the moving light is transmitted (Reset).

Notes:

Due to the importance and use of the function: **{spots selection} PARAM 7 7**, to assign all the spots parameters at their HOME values, this command has a short cut:

{spots selection} PARAM PARAM

The ignition commands only are transmitted when the spot type has defined the ignite parameter, see the chapter 11- The Patch

POSITION, COLOUR & GOBO LIBRARIES

It is possible to assign values to spots parameters using the libraries of position, colour and/or gobo. To obtain more information about the creation of these libraries and their applications and use, see the chapter 4.

FIGURES - HYDRA SCAN

HYDRA SCAN has a Figure Editor for spots. The HYDRA figures are applicable to the spot parameters **x/y** (pan & tilt).

To access to the Figure Editor, press the function key **FIG**.

The figures edits inside the Editor are stored in memories & groups. The figures in memories & groups are activated in **instant** mode each time that its memory/group is activated in scene from any HYDRA playback (including the own Editor).

FIGURE EDITION

To edit a figure for one or more spots:

{Spots selection}{Parameters adjust} FIG # {Figure adjust} SELECT

A figure can be applied to one spot or more spots. A figure is applied to several spots to do the same "figure" in all spots of the selected group or range.

The function key, **FIG** is the access to the interactive menu. This interactive menu has the figure options to apply to the spots selected previously. The figure options are:

0: NONE	0: Used to eliminate any figure active in scene or editor.
1: CIRCLE	1: Used to assign or to initiate (by default) a movement in **circle**.
2: FIGURE-8	2: Used to assign or to initiate (by default) a movement in **"8".**
3: TRIANGLE	3: Used to assign or to initiate (by default) a movement in **triangle**.
4: SQUARE	4: Used to assign or to initiate (by default) a movement in **square**.
- - - - - - - - - - -	**- - - - - -**
9: SINCRO	9: Used to reinitiate the figures for the selected spots.

Each figure is defined by figure-parameters. To access to the figure-parameters, over the auxiliary screen of spot information, press **EXAM** **FIG**. These figure-parameters are:

mc504	x y	fig	XY	Y	SPD	CYC	OFS
01	50↓50	Figure-8	16	16	+12	100	0
02	50↓50	Figure-8	16	16	+12	100	0
03	50↓50	Figure-8	16	16	+12	100	0
04	50↓50	Figure-8	16	16	+12	100	0
05	50↓50	Figure-8	16	16	+12	100	0
06	50↓50	Figure-8	16	16	+12	100	0
07	50↓50	Figure-8	16	16	+12	100	0
08	50↓50	Figure-8	16	16	+12	100	0
mc604	x y	fig	XY	Y	SPD	CYC	OFS

x & **y**: Are the values of pan & tilt, and these values are the figure-centre (geometric). The figure-centre is controlled by the trackball.

XY: Is the size or **amplitude** of the figure. (0 to100)

Y: Is the size or amplitude of the figure-high (Y-axis). This value permits us **unformed** the initial figure. Ovals, rectangles... (0 to100)

SPD: Is the control of **direction & speed** of the figure drawing. (-100 to +100)

CYC: Is the **effective cycle** of the figure. (10 to 800)
OFS: Is the **offset** of the figure. Adjust of the beginning point of the figure drawing. (0 to CYC)

After to assign the desired figure to the selected spots, using the 3 wheels, the figure-parameters can be adjusted. The figure-adjusts are organised in 3 control banks:

Bank	Adjust	Function
<0>	**XY**	Controls the **amplitudes of the X & Y-axis**. Its control is applied to the figure-parameters XY & Y, of all selected spots. (See Figure 0.1)
	Y	Controls the **amplitude of the Y-axis**, and permits us unformed the figure to obtain ovals, rectangles, etc. Its control is applied to the figure-parameter Y, of all selected spots. (See Figure 0.2)
	SPD	Controls the **speed** of the figure drawing. Its control is applied to the figure-parameter SPD, of all selected spots. The negative speed changes the direction of the figure drawing.
<1>	**relXY**	Controls the **amplitudes of the X & Y-axis in relative mode** with the number of selected spots (only works when there is more than 1 spot selected). It permits us to modify the amplitudes, with a different value for each figure-spot selected; this control applies a linear difference between them. (See Figure 1.1)
	relY	Controls the **amplitude of the Y-axis in a relative mode** with the number of selected spots (only works when there is more than 1 spot selected). It permits us to modify the Y-amplitude with a different value for each figure-spot selected; this control applies a linear difference between them. (See Figure 1.2)
	relSPD	Controls the **speed in relative mode** with the number of selected spots (only works when there is more than 1 spot selected). It permits us to modify the speed with a different value for each figure-spot selected; this control applies a linear difference between them.
<2>	**CYC**	**Duty cycle control**. An effect can be always active (100%) or it can be active in intermittent mode. Duplicating the cycle (200%) the figure is in scene only the ½of the cycle. (See Figure 2.1)
	OFS	**Controls the offsets**. It permits us to displace the beginning point of the drawing of the figure. (See Figure 2.2)
	relOFS	Controls the **offsets in relative mode** with the number of the selected spots (only works when there is more than 1 spot selected). Permits us to modify the offset with a different value by each one of the selected spots, applying a linear difference between them. (See Figure 2.3)

The **relative** controls, only work when we have various selected spots in the figure editor. If only we have one selected spot, these controls have not function.

Toggle the active bank (<0>, <1>, or <2>) over the parameter wheels, pressing **BANK+** & **BANK-**.

Graphic examples: using the CIRCLE figure:

Figure 0.1 - Amplitude control (over 3 spots):

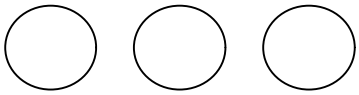
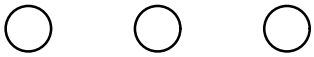
Bank/Control	Spot 1	Spot 2	Spot 3
<0> XY:+5			
<0> XY:+0 (by default)			
<0> XY: -5			

Figure 0.2 - Amplitude Y-axis control (over 3 spots):

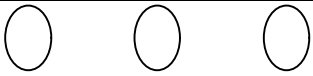
Bank/Control	Spot 1	Spot 2	Spot 3
<0> Y:+5			
<0> Y:+0 (by default)			
<0> Y: -5			

Figure 1.1 - Relative amplitude control (over 3 spots):

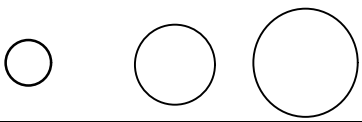
Bank/Control	Spot 1	Spot 2	Spot 3
<1> relXY:+5			
<1> relXY:+0 (by default)			
<1> relXY: -5			

Figure 1.2 - Relative amplitude Y-axis control (over 3 spots):

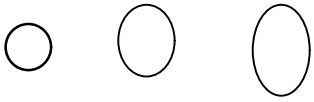
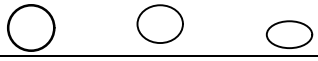
Bank/Control	Spot 1	Spot 2	Spot 3
<1> relY:+5			
<1> relY:+0 (by default)			
<1> relY: -5			

Figure 2.1 - Cycle control (over 1 spot):

Cycle/Spot 1	Time 0	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7
<2> CYC:50	D D	D D	D D	D D	D D	D D	D D	D D
<2> CYC:100 (by default)	O	O	O	O	O	O	O	O
<2> CYC:200	O	-	O	-	O	-	O	-
<2> CYC:300	O	-	-	O	-	-	O	-
<2> CYC:400	O	-	-	-	O	-	-	-
<2> CYC:500	O	-	-	-	-	O	-	-
<2> CYC:600	O	-	-	-	-	-	O	-
<2> CYC:700	O	-	-	-	-	-	-	O
<2> CYC:800	O	-	-	-	-	-	-	-

Each table-cell shows us the figure status in consecutive time periods (1 cycle has a maximum of 8 time periods). The symbol "**—**" shows us that in these time periods the figure is static (no active). The dark cells (by configuration) show us the complete sequence, from here, the sequence is repeated.

Figure 2.2 - Offset control (over 3 spots):

Banco/Control	Spot 1	Spot 2	Spot 3
<2> OFS:+5			
<2> OFS:+0 (by default)			
<2> OFS: -5			

● Beginning point of the figure drawing.

Figura 2.3 - relative Offset control (over 3 spots):

Banco/Control	Spot 1	Spot 2	Spot 3
<2> relOFS:+5			
<2> relOFS:+0 (by default)			
<2> relOFS: -5			

● Beginning point of the figure drawing.

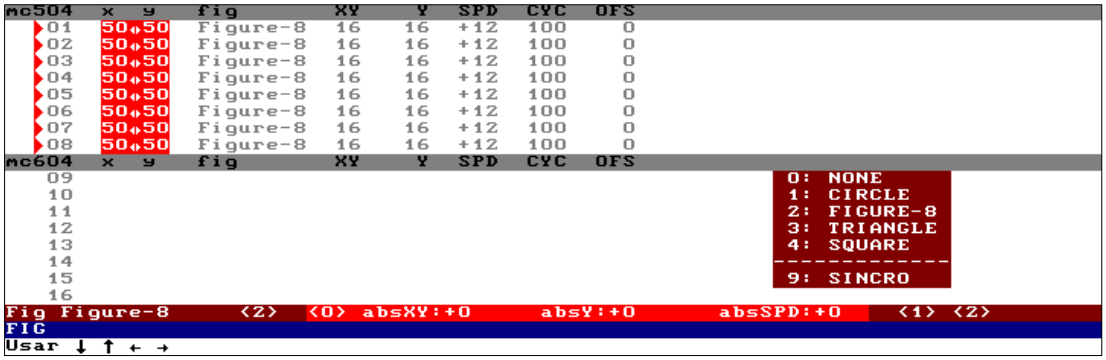
With different values for Cycle and Offset, it is possible to program combined movements for a spots group.

Example: Program a CIRCLE figure in the spots 1 & 2. And spot 1 and spot 2 with Cycle: 200; spot 1 with Offset: 0 and spot 2 with Offset 100. The combined movement is:

CYCLE 200	Time 0	Time 1	Time 2	Time 3
Spot 1 Offset 0	O	-	O	-
Spot 2 Offset 100	-	O	-	O

There is a special visualisation mode, to see the figure-parameters over the spots-information. Access to this special screen pressing **EXAM** **FIG**. To quit of this special screen press **ENTER**.

Each time that the Figure Editor is selected, in the last line of the auxiliary screen, a line in red appears (just over the command line). The controllers of the active bank of the figure-parameters appears in this line:



Figures Edition - Examples:

Edit a FIGURE-8 for the spot 1:

KEYS	COMMENTS
SPOT 1	To select the desired spot (or spots group).
{Trackball}	To **place the figure centre** in the desired point. Optionally edit a dimmer level or other spot parameters (shutter...).
FIG 2	To select the FIGURE-8 to the selected spot. The FIGURE-8 is active in scene, with its values by default.
{wheels} **BANK+ / BANK-** **{wheels}...**	Set the amplitude, speed and offset of the figure. To see the information, about the figure-parameters, access to the special screen pressing **EXAM FIG**.
SELECT	To quit of the Figure Editor. Now you can edit others parameters of the spot 1 or can edit others spots/channels.

Edit a CIRCLE figure for the spots 1 & 3 in alternative mode. In others words, when the spot 1 does its circle, the spot 2 is stopped, and when the spot 2 does its circle, the spot 1 is stopped, and so on:

KEYS	COMMENTS
SPOT 1 SPOT 3	To select the desired spots.
{Trackball}	To **place the figure centres** in the desired points. Optionally edit dimmer levels or other spots-parameters (shutter...).
FIG 1	To select the CIRCLE figure. The CIRCLE is active in scene, with its values by default.
{wheels}, BANK+ / BANK-	Set the amplitude, speed and offset of the figure. To see the information, about the figure-parameters, access to the special screen pressing **EXAM** **FIG** **In this step edit: CYC:200 & relOFS:100**
SELECT	To quit of the Figure Editor. Now you can edit others parameters of the spot 1 or can edit others spots/channels.

Notes:

At any moment, the x/y values, of the spot selected, can be edited using the trackball. And this spot is assigned a "figure", the trackball is moving the geometric centre of this figure.

To stop a figure in scene or Editor, assign the figure **0:NONE** pressing **SPOT** **1** **FIG** **0** **SELECT**. The figure assigned to this spot is stopped.

When the user adjusts the figures-parameters CYCLE & OFFSET from the Figure Editor, is possible that will be needed resynchronise the figures pressing **FIG** **9** (option 9:SINCRO).

THE TRACKBALL – HYDRA SCAN

The trackball of HYDRA SCAN has 3 functions keys associated:

FINE:
This key toggles between the 3 working resolutions of the trackball.
LED OFF: Normal resolution.
LED ON: High resolution, where a big displacement in the trackball is a small displacement of the spot beam in scene.
LED blinking: Low resolution, where a small displacement in the trackball is a big displacement of the spot beam in scene.

Toggle between these resolutions pressing **FINE**, as many times as will be necessary.

ORTO:
This key toggles between the 3 possibilities of movement of the trackball.
LED OFF: **Normal**. The trackball works in the directions **x** (pan) and **y** (tilt).
LED ON: **Inactive**. The trackball doesn't respond to the movement of the ball.
LED blinking: **ORTO**. The trackball only works in one of the directions, only **x** (pan) or only **y** (tilt). The selection direction is the predominant direction in the own movement of its ball. This mode permits us to do editions in a unique direction.

Toggle between these resolutions pressing **ORTO** as many times as will be necessary.

FLIP:
When there are movements parameters in the selected spots (**x** or **y**), this function helps us to search others **x** & **y** values. In resume, FLIP provides us new positions.

Pressing **FLIP** the selected spots are moved immediately to their new position.

In concrete, **FLIP** obtains the new position values in base of this rules:

The **x** parameter: x = previous value + 50 | 100 complement.

The **y** parameter: y = 100 – previous value.

This function, also is used as special effect to obtain quick movements.

FLIP only works with the spot parameters: **x** & **y**. And this function can be used for the 2 position parameters or only for the selected parameter.

Examples:

SPOT 1 FLIP The **x** & **y** parameters of the spot 1 change their values.

SPOT 1 PARAM 1 FLIP Only the **x** parameter of the spot 1 changes its value.

SPOT 1 PARAM 2 FLIP Only the **y** parameter of the spot 1 changes its value.

THE STATUS LINE

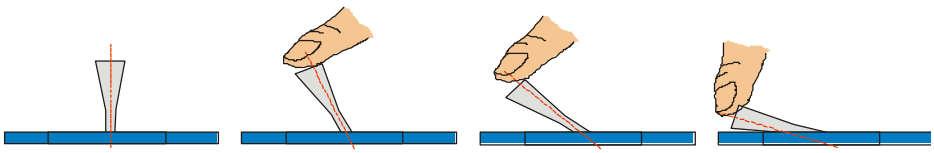
To the right of the status line (the first blue line), near the current time, the System shows us an editor flags: **c s S f**

c: Appears always that in the editor there are channels, present or selected.
s: Appears always that in the editor there are scrollers, present or selected.
S: Appears always that in the editor there are spot parameters, present or selected.
f: Appears always that in the editor there are figures, present or selected.

Note:
These flags, **c s S f**, appear too in the lists of groups and memories (exam or modified mode).

MONITORING OF THE JOYSTICK STATUS

In the status line, on the monitor, the flags **Jy** and **Jx** appear. These flags show us the Joystick status for its 2 possible directions (Jy: vertical, Jx: horizontal).
The Joystick has 3 resolution zones. These resolution zones depend of the Joystick position. The resolution affects, mainly, to the "quantity" of modification that the Joystick produces over the levels that is controlling. The Joystick can produce modification: slow (zone 1), medium (zone 2) or quick (zone 3).



Jy REPOSE **Jy1 SLOW** **Jy2 MEDIUM** **Jy3 QUICK**

Note:
The HYDRA consoles have one **Off Line Editor** for PC, this software simulates the HYDRA editor functions. Your can obtain the **HYDRA OLE** in your LT distributor.

Resume

Channels selections:

Single channel:	**CHANNEL #**
Channels range:	**CHANNEL # THRU #**
Channels ranges:	**CHANNEL # THRU # CHANNEL # THRU #**
Channels group:	**CHANNEL # CHANNEL # CHANNEL** # ...
All editor channels:	**CHANNEL THRU**
All scene channels:	**CHANNEL THRU THRU**
Repeat the last selection:	**CHANNEL •**
Invert the active selection:	**INVERT**
Exclude channels:	**CHANNEL # THRU # EXCEPT # EXCEPT # THRU #**

Level assignation for the conventional channels and dimmer parameters:

Continuos:	{selection} **Joy-Stick**
Numeric level:	{selection} **@ ##**
Level at 100%:	{selection} **@ @**
Level 100% in 2 sec:	{selection} **CALL**
Increase at 5%:	{selection} **+%**
Decrease at 5%:	{selection} **–%**
The last numeric level:	{selection} **@ •**

Scrollers selection:

A single scroller:	**SCROLLER #**
A scrollers range:	**SCROLLER # THRU #**
A scrollers ranges:	**SCROLLER # THRU # SCROLLER # THRU #**
A scrollers group:	**SCROLLER # SCROLLER # SCROLLER** # ...
All editor scrollers:	**SCROLLER THRU**
All scene scrollers:	**SCROLLER THRU THRU**
Repeat the last selection:	**SCROLLER •**
Invert the active selection:	**INVERT**

Gel assignation:

Continuos:	{Scrollers selection} **Joy-Stick⇔**
A numeric gel:	{Scrollers selection} **@ ##** {Channel selection with associated scroller} **PARAM @ ##.**
Increase at 5%:	{Scrollers selection} **+%**
Decrease at 5%:	{Scrollers selection} **–%**
At the next gel:	{Scrollers selection} **STEP+**
At the previous gel:	{Scrollers selection} **STEP -**
At the last assigned gel:	{Scrollers selection} **@ •**

Spots selection:

A spot:	**SPOT #**
A spots range:	**SPOT # THRU #**
Several spots ranges:	**SPOT # THRU # SPOT # THRU #**
A spots group:	**SPOT # SPOT # SPOT** # ...
All spots in the editor:	**SPOT THRU**
All spots in the scene & editor:	**SPOT THRU THRU**
Repeat the last spots selection:	**SPOT •**
Invert the active selection:	**INVERT**

Parameters selections & values assignation:

Level for the spot dimmer:	{Spots selection} **Joystick / @ ## / @ @ / CALL**
Increase a 5% the spot dimmer:	{Spots selection} **+%**
Decrease a 5% the spot dimmer:	{Spots selection} **–%**
Assign values to x/y:	{Spots selection} **Trackball**
Assign values to any parameter:	{Spots selection} **PARAM ## @ ## (@ • ##)**
Select the next step:	{Spots selection} **PARAM ## STEP+**
Select the previous step:	{Spots selection} **PARAM ## STEP -**
Control with the wheels:	{Spots selection} **PARAM ## Control-wheel**
	{Spots selection} **BANK+/BANK- Control-wheel**
HOME functions:	{Spots selection} **PARAM 77 (71, 72 or 73)**
All parameters at HOME:	{Spots selection} **PARAM PARAM**
CALL functions:	{Spots selection} **PARAM 88 (81, 82 or 83)**
IGNITE functions:	{Spots selection} **PARAM 91 (92 or 93)**

Figure Edition

Figures Edition	{Spots selection} **FIG # {Control-wheels} SELECT**
Stop a active figure	{Spots selection} **FIG 0 SELECT**
Special screen for figures	**EXAM FIG**

Free channels/scrollers/parameters from the editor:

The selection in 2 sec:	{Selection} **RELEASE**
The selection in a cut time:	{Selection} **RELEASE RELEASE**
The editor in 2 sec:	**ESC**
The editor in a cut time:	**ESC ESC**

Trackball

FINE, selection of its sensibility (normal, high, low)
ORTO, selection of a option of control x/y (normal, deactivated, orto)
FLIP, selection of the other values for x/y parameters.

4 .- MEMORIES & GROUPS

HYDRA, by defaults, always stores the editor contents (channels/scrollers & spots showed in brown & red).

The memories are numbered from 1 up to 999, with the possibility to include decimals numbers, example, 55.5, 1.9, etc.

The groups are numbered from 1 to 999.

The maximum memories number and maximum groups number depends the their contends and the data memory free in the console.

One group or memory can contain channels, scrollers and spots (spots only for SCAN).

The stored memories and stored groups are used for the playback process, in crossfaders (only memories), masters and effects.

One organised recording of memories and groups helps us to the playback process.

🗗 **In the menus**
Before to store memories and groups, is necessary to edit the patch tables (Menus 00, 01, 02 & 04). The HYDRA output depends of the patch tables.

STORING MEMORIES

Only the editor contents are stored in the memories, before to store a memory, the desired picture must be edited:
{select the desired channels and assign them a level }
{select the desired scrollers and assign them a frame value}
{select the desired spots and edit their parameters}
Repeat these processes until up to obtain the desired "picture" in scene. These contents in the editor are identified with: **{editor}**
To store a new memory, press:

{editor} MEM (#) REC

is the memory number (from 0.1 up to 999.9)
The memory number can be omitted; in this case, HYDRA stores the editor contents in the next memory.
The next memory is exactly: **the last stored/modified memory +1**. In this automatic numeration the decimals number are not computed.
In status line (the first blue line), the next memory number appears like ***M###.#***

To store the next memory press:
{Editor} MEM REC

To store the memory 15.5, press:
{Editor} MEM 15.5 REC

If the memory already exists, HYDRA requests us a confirmation:
REC to confirm. The memory is replaced with the new information, or
C 15.7 REC to store in other memory number.

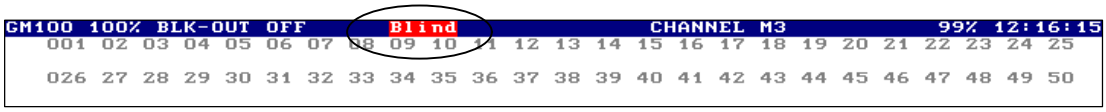
There is a more easy way to store the next memory, (HYDRA stores memories by default):
{editor} REC

Note:
The editor contents (channels, scrollers & spots) are maintained after to record the memory. Now we can use these elements like base of the next memory or delete them. Delete the editor pressing **ESC**.

STORING MEMORIES IN THE BLIND EDITOR

The **Stage** Editor works in live (in scene). The **Blind** Editor is not active in scene.
Toggle between the **Stage** and **Blind** Editors, pressing **BLIND**.
The Blind Editor is used to store or modify memories/groups in blind mode.

The **BLIND** LED is lit when the Blind Editor is active, and the flag ***BLIND*** appears in the status line, in a red field. When the **Blind** Editor is selected, the channels, scrollers & spots controlled in the playbacks, don't show us their scene values, only show us their editor values.



These editors are totally independents. When the Blind Editor is activated the Stage Editor contents are maintained, and when the Stage Editor is selected the Blind Editor is maintained. In others words, the editor contents are maintained when we toggle between the editors.

The edition commands are the same for the 2 editors.

CAPTURING THE SCENE IN THE EDITOR

HYDRA stores in the memories only the editor contents, for this reason to store in the memories the scene output (total or part), to capture the scene to the editor. The scene proceeds of masters and crossfaders and the own editor output.

- Any item in scene can be **pre-selected** (its number in red):

To pre-select all channels in scene output, press:
CHANNEL THRU THRU {level assignation / modifications}

To pre-select all scrollers in scene output, press:
SCROLLER THRU THRU {frame assignation / modifications}

To pre-select all spots in scene output, press:
SPOT THRU THRU {parameters selection & edition / modifications}

To pre-select the channels/scrollers in scene of a specified range, press:
CHANNEL/SCROLLER # THRU THRU #' {level assignation / modifications}

To pre-select the spots in scene of a specified range, press:
SPOT # THRU THRU #' {parameters selection & edition / modifications}

To pre-select all scene, channels, scrollers & spots, press:
SELECT SELECT

To pre-select the contents of one or several masters, press:
SELECT Mn, where **Mn** is the assignation key of the master
SELECT Mn Mn Mn..., press all desired assignation keys, and release **SELECT**.

To pre-select the scene output of the X crossfader or Y crossfader, press:
SELECT AssignX, for the X crossfader.
SELECT AssignY, for the Y crossfader.

- It is possible to pre-select a memory or memories range (only the contents), or to pre-select a group or group range.

To pre-select the contents of a memory or group, press:
MEM # SELECT **or** **GROUP # SELECT**

To pre-select the contents of a range of memories or groups, press:
MEM # THRU #' SELECT **or** **GROUP # THRU #' SELECT**

- Any item in scene can be **called** to the editor (items and its values)

To call the complete scene, channels, scrollers & spots, press:
CALL CALL

To call the scene output of one or several masters, or crossfaders, press:
CALL Mn, where **Mn** is the assignation key of the desired master.
CALL Mn Mn Mn..., press all the desired assignation keys, and release **CALL**.
CALL AssignX, for the X crossfader.
CALL AssignY, for the Y crossfader.

The keys represented in a grey field (example: **CALL**) indicates us that have to be press and hold down pressed up to the end of the command.

- It is possible to call a memory or memories range to the editor, with their contents and values, or to call a group or group range.

To call a memory or group at 100% to the editor in 2 seconds, press:
MEM # CALL **or** **GROUP # CALL**

To call a memories or groups range at 100% to the editor in 2 seconds, press:
MEM # THRU #' CALL **or** **GROUP # THRU #' CALL**

To call a memory or group at 100% to the editor in a cut time (0,1 sc.), press:
MEM # CALL CALL **or** **GROUP #' CALL CALL**

To call a memory or group to the editor controlling it with the joystick:
MEM # JS **or** **GROUP # JS**

- It possible to call a channel or spot dimmer to the editor, and to call a channels selection or spots dimmers selection:

To call a channel or channels selection at 100% to the editor in 2 seconds, press.
CHANNEL # **CALL** **or** **{channels selection}** **CALL**

To call a spot dimmer or spots dimmers selection at 100% to the editor in 2 seconds, press.
SPOT # **CALL** **or** **{channels selection}** **CALL**
When a channel, scroller or spots is called into the editor, is controlled in the editor (the playback output is "captured").

- It is possible to call into the editor to any **channel, scroller, spot or spot parameter,** with the stored value in the selected memory or group. In others words, use the stored data to edit new scenes.

MEM (or GROUP) **#** **CHANNEL** **#'** **CALL** **(** **CALL** **)**

Call into the editor to the channel #' at the stored level in the memory/group #. The channel can fade in (CALL) or can jump (CALL CALL) into the editor.

MEM (or GROUP) **#** **SCROLLER** **#'** **CALL** **(** **CALL** **)**

Call into the editor to the scroller #' at the stored frame (colour) in the memory/group #. The scrollers always jump to their colour in the editor.

MEM (or GROUP) **#** **SPOT** **#' (PARAM #'') CALL (CALL)**

Call into the editor to the spot #' at the same values that the stored in the memory/group #. Optionally, it is possible to call only to a spot parameter. The spot dimmer, and the FADE parameters, can fade, CALL, or can jump, CALL CALL, into the editor.

STORING THE SCENE OUTPUT

To **store the scene** in the **next memory**, HYDRA has a special command:

CALL **REC**

This command is a alternative of the command: **CALL** **CALL** **REC** **ESC** **ESC**

MEMORIES EXAM

We can access to the stored memories-list or can exam a selected memory at any time:

- To exam the recorded memories-list, press:

MEM **EXAM**
The memories-list appears in the monitor, with their associated times, texts and commands.
At the end of each memory there are the contents flags: **csSf**, where "**c**" appears if the memory has channels, "**s**" if the memory has scrollers, "**S**" if the memory has spots, and "**f**" if the memory has figures. Only the flags "**c**" & "**s**" appear in HYDRA STAGE
In the first line of this exam page the total number & range of the stored memories appear.

- To exam a selected memory, press:

MEM **#** **EXAM**

is the number of the memory to exam.
The monitor shows us the memory contents and its associated times, text and command.

To exam the previous or next memory pressing: ↑ or ↓
To see more information inside each memory press: [ ] or [ ]

To exit of the exam pages press **ENTER**.

ASSIGNING FADE TIMES TO A MEMORY

The memories have associated times, these times are used mainly in crossfaders & optionally in masters.

The times associated to one memory are:

Fade-in time. **T↑**
It is the time that its memory needs to fade-in scene at 100% during its crossfade.

Fade-out time. **T↓**
It is the time that the previous memory, now in scene, needs to fade-out scene at 0% during the crossfade of the current memory.

Delay time or automatic time.
It is the time that the memory is in scene (at 100%) before to begin an automatic crossfade to the next memory in the list.

Wait-in time.
It is the time that its memory waits before to fade-in scene. This time is computed from the GO command.

Wait-out time.
It is the time that the previous memory, now in scene at 100%, waits before to fade-out scene. This time is computed from the GO command of the current memory.

These times can be programmed or not.

Notes:

The fading times are applied always to the channels and spots dimmers. Scrollers and the rest of the spots parameters only are affected for these times if they are configured like "**Fade**" in the Scroller Patch & Spot Patchs /Library (See the chapter 11 - The Patchs).
When you edit the times for the memories, by default, **T↑** is copied in **T↓,** always that the previous **T↓** is at its default value or is equal that **T↑.**
These times can be programmed at the same time that the memory or edited later in the memories modification page (**MEM LIST** page).

At the same time that the memory is stored:
The times are programmed using the function keys: **TIME** & **WAIT**.

TIME	To insert the fade-in time, **T↑**
TIME **TIME**	To insert the fade-out time, **T↓**
WAIT	To insert the delay time or automatic time.
WAIT **WAIT**	To insert the wait-in time.
WAIT **WAIT** **WAIT**	To insert the wait-out time.

All times can be programmed at the same time or only the desired times.
The keys sequence is:
{edit the desired channels, scrollers & spots in the editor} and...

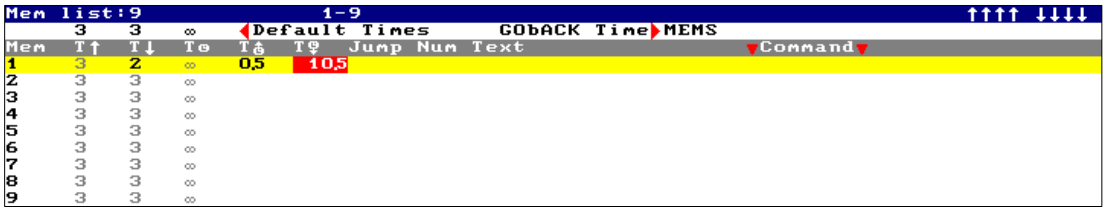
MEM # TIME #' TIME TIME #'' WAIT #''' WAIT WAIT #'''' WAIT WAIT WAIT #''''' REC

Examples:
Program the memory 1 with all the times. (Fade-in time = 1 sec. Fade-out time = 2 sec. Delay time = 3 sec. Wait-in time = 1 sec. And wait-out time = 1 sec.)
{editor} MEM 1 TIME 1 TIME TIME 2 WAIT 3 WAIT WAIT 1 WAIT WAIT WAIT 1 REC

Program the memory 1 with a fade-in time of 5 seconds and a fade-out time of 8.5 seconds.
{editor} MEM 1 TIME 5 TIME TIME 8.5 REC

From the edition (modification) page of memories:
Access to the memories modification page pressing **MEM LIST**. This page is similar to the data sheet. In this page, use the arrows keys or the external mouse to access to the desired cell and insert the numeric data with the numerical keyboard. The inserted numeric data is accepted each time that you press a arrow key or moves the mouse or press **ENTER**.

The **MEM LIST** key is a shortcut for the keys sequence: **MEM MODIFY**



The selected memory is marked with the yellow line. And the active cell is marked with the cursor in brown or in red. Access to the desired time-cell, of the desired memory, and insert the time in seconds. (0.1 - 999.9).

The times assigned by default appear in grey, and the edited times appear in black.

In the menus
By default times can be edited in the MENU/SETUP/SEQUENCE (MENU 31) and in the setup line of the memories modification page.

To edit the default times in the **Mem List** page, press **MENU**, edit the desired times and return to the memories list pressing **MENU** newly.

For more information, see the chapter 7 - SEQUENCES.

ASSIGNING TEXT TO A MEMORY

It is possible to associate a text to a memory, to identify this memory. The texts are always edited from an external alphanumeric keyboard.
Access to the memories edition list, pressing **MEM LIST**.
Access to the **Text** cell of the desired memory (in yellow line), and insert the desired text from the external keyboard. Press **ENTER** o the arrow keys to accept this text.

DELETING A MEMORY

To delete a stored memory, press:
MEM # DELETE

To delete a memories range, press:
MEM # **THRU** #' **DELETE**.

To delete all the stored memories in the console, press:
MEM **DELETE**. HYDRA requests us a confirmation. Press **DELETE** to confirm or press **C** to abort this function.

MODIFYING A MEMORY

To modify a memory:
- Select the desired editor mode (**blind** or **stage**)
- Empty the editor pressing **ESC**
- Select the memory to modify in the editor (fade in 2 seconds), pressing:
  MEM **#** **MODIFY** **or** **MODIFY** **Mn** (the memory in Mn)

In the status line, a flag of this modification appears in a red filed: *Modify M###.#*. The memory is selected in the editor at its 100%. Now, the user can edit this memory, modifying levels, values, adding news channels, scrollers and spots....
And store these modifications pressing **REC**. The modification flag disappears.
After these modifications are stored the editor is emptied (with the editor default time).
It is possible to abort this modification function pressing **ESC**.

Resume: **ESC** **MEM** **#** **MODIFY** **{modifications}** **REC** or
ESC **MODIFY** **Mn** **{modifications}** **REC**
Mn is the assign key of the Master that has the memory to modify.

Also, the **MODIFY** function permits:

Add the editor into a memory or group loaded in a master:
- Select channels, scrollers and/or spots in the editor, and assign levels or parameters values, {editor}.
- Press **MODIFY**
- Press the selected **Mn** (of the masters with the memory or group to modify).
- At this moment, the editor is added into the memory or group loaded in the selected master and after, the editor is release in 2 seconds (default time). If the selected master is at 100% during this process, there are no changes in scene.

Resume: **{editor}** **MODIFY** **Mn**

If the editor is in **Blind mode**, in the modified memory (active in the master Mn), the modification is not effective until that this master arrives its 0% in scene.

Add the editor into the memory placed in X1 or Y1 (crossfaders).
This function is thought to modify the memory (at 100% in scene) that it is in the crossfader X (or Y). In others words, the memory in X1 or memory in Y1 (always that it is at 100%). The philosophy of this process:
1. First, HYDRA attempts modify the memory in X1.
2. If X1 is empty or isn't at 100%, it attempts modify the memory in Y1.
3. If Y1 is empty or isn't at 100%, HYDRA modifies nothing, and emits a warning "beep".

To modify the memory in X1 (or Y1) in add mode:
- Places in X1 the desired memory (at 100%).

- Select channels/levels, scrollers/frames and/or spots/parameters in the editor, {editor}.
- Press **MODIFY** **MODIFY**
- At this moment, the editor is added into the memory in X1 (or Y1).
- The editor is released in 2 seconds (default time).

Resume: **{editor}** **MODIFY** **MODIFY**

Note: To modify the memory in Y1, the process is the same, but X1 must be empty or must be out of at 100%.

If the editor is in **Blind mode**, the sequence **{editor}** **MODIFY** **MODIFY**, adds the modification in the memory in X2 (or Y2).

COPING A MEMORY

To copy the contents of a memory in other memory, press:
MEM # = #' REC

Example: Copy the memory 1 in the memory 25.
The memory 25 is modified, if exists, with the contents of the memory 1. The memory 1 is not modified. **MEM 1 = 25 REC**

To copy the contents of a memories range, press:
MEM # THRU #' = #'' REC

Example: Copy the memories 1 to 10 in the memories 21 to 30.
MEM 1 THRU 10 = 21 REC

The copy of the memories range maintains the numerical order. In the previous example, there is the memory 1.5, and there are not the memories 2 & 3. After the copy, there is the memory 21.5, and there are not the memories 22 & 23.

EXCHANGING A MEMORY

To exchange the contents between 2 selected memories, press:
MEM # = = #' REC

Example: Exchange the contents of the memories 1 & 25.
If the memory 25 doesn't exist, this memory is created with the contents of the memory 1, and the original memory 1, now is empty. **MEM 1 = = 25 REC**

To exchange the contents between 2 memories ranges, press:
MEM # THRU #' = = #'' REC

Example: Exchange the memories 1 to 10 with the memories 21 a 30.
MEM 1 THRU 10 = = 21 REC

The exchange of the memories range maintains the numerical order.

TIME PARTS & MEMORIES

Each memory can be divided in 6 time parts (maximum). And each time part of one memory has its time-in (T↑) and its wait-in time (T ↑), these times can be different to the base memory times and they are applied to the part contents.

The time parts are played in the crossfaders (X1/X2 & Y1/Y2), and the parts does possible that one memory "fades" in stage with deferent velocities:
The base memory contents fade in scene with the memory input times, and the contents of each part fade in scene with the input times of each one.

A channel, scroller or spot parameter in a memory, can be contained in a time part or in the own base memory (base memory is similar to part 0).

A time part can have any channel, scroller and spot parameter. One part exists if has, at least, one channel, scroller or spot parameter.

In general, a memory can be divided in:

<table>
<tr><th colspan="2">THE MEMORY</th></tr>
<tr><td rowspan="6">BASE MEMORY - PART 0
(always exists)
+ input/output times
+ Text
+Jump
+ Command</td><td>PART 1 (optional) + input times</td></tr>
<tr><td>PART 2 (optional) + input times</td></tr>
<tr><td>PART 3 (optional) + input times</td></tr>
<tr><td>PART 4 (optional) + input times</td></tr>
<tr><td>PART 5 (optional) + input times</td></tr>
<tr><td>PART 6 (optional) + input times</td></tr>
</table>

CREATION OF TIME PARTS

In the memory edition, the user can define the time parts, selecting the contents of each time part in the editor.
To include a channel, scroller or/and spot parameter in the desired part:

{Select channels/scrollers/parameters & edit them} PART #

Here, **#** is the part number: 1 to 6.
Near the selected elements, appears a small number, in black. This number is the part number.

Repeat this process as many times as will be necessary to edit all desired memory parts.

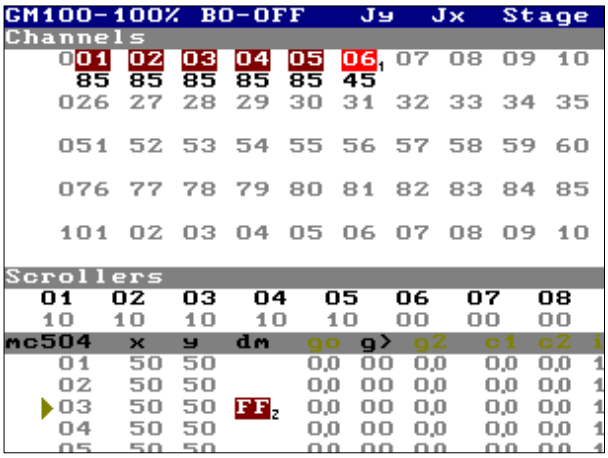
The parts information only is stored in the memories (not in the groups).

To store the memory, follow the usual process:

{Edit the memory and its parts} MEM # REC

Example: Edit the memory 1 including the channels 1 to 5 at 85%, the channel 6 at 45% in its part 1 and the dimmer of the spot 3 at 100% in its part 2:

CHANNEL 1 THRU 5 @ 85 CHANNEL 6 @ 45 PART 1 SPOT 3 @ @ PART 2 REC



A channel, scroller or spot parameter that it is in a part, is marked with the number of its part. In the previous example, the channel 6 is in the part 1, the spot 3 dimmer is in the part 2 and the rest of the channels (1 to 5) are in the base memory.

If the memory is stored, it is possible to divide it in time parts, using a modification process:

MEM # MODIFY {parts edition} REC

In this command **{parts edition}** is:
{Select channels/scrollers/parameters & edit them} PART #

When a memory with parts is stored, the parts will have the same input times that the base memory. In others words, each new part has the same times of input and wait input that the base memory. Edit the part times to observe a different comportment of this part in its Playback in the crossfader. (See bellow)

REMOVE A ITEM OF ITS PART

A channel, scroller or spot parameter in a part can be returned to the base memory. For this: Select the desired item and remove it to the part 0.

Example: Remove the channel 6 from its part 1 at the base memory 3.

MEM 3 MODIFY CHANNEL 6 PART 0

If you remove all items in one part, this part is deleted of the memory.

TIME AUTO-PART

There is a special command to divide a new memory (or memory under modification) in 2:
1. Base memory, with all HTP elements (channels & spot dimmers).
2. Part 1 or Auto-Part, with all LTP elements (scrollers and spot parameters – except the dimmer).

To store a memory with Auto-Part:
{Edit the scene} PART PART (MEM #) REC

If the memory is stored, we can store the Auto-Part using:
MEM # MODIFY PART PART REC

In the memory edition or modification, this command always makes only one part, the part 1. And the part 1 contents all LTP elements of the memory. If there no are LTP elements, the part 1 is not created.
If we are modifying a memory with several parts, and we create an Auto-Part, all the old parts are deleted and a new Part 1 is created (with all LTPs in the memory).

Use example: Edit in the memory 1 the spots 1 to 5 at 100%, in the Position 3 (from library). The new position will be arrived in 2 seconds and the dimmers of these spots fading up in 5 seconds:

SPOT 1 THRU 5 @ @ POS 3 SELECT PART PART REC
MEM LIST {Edit the times of the memory and part}

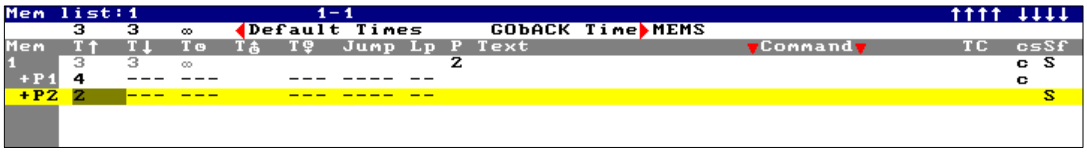
In the base memory are the dimmers of the spots 1 to 5 (HTPs) and in its part 1 are the x/y parameters of these spots (LTPs).

Edit the time-in of the memory as 5 seconds and the time-in of its part 1 as the 2 seconds.

EDITION OF THE TIMES OF THE PARTS

When a part is stored, its times are:
T↑ of the part = T↑ of the base memory.
T ↑ of the part = T ↑ of the base memory.

These times of the part are edited from the **Mem List** screen.
In this screen each new part has an edition line, in this line its time-in (T↑) and its wait-in (T ↑) are available to the edition.



In the example, the memory 1 has a time-in of 3 seconds. This memory is divided in 2 parts (+P1 & +P2), the part 1 has a time-in of 4 seconds, and the part 2 a time-in of 2 seconds.

BEHAVIOR IN THE CROSSFADERS

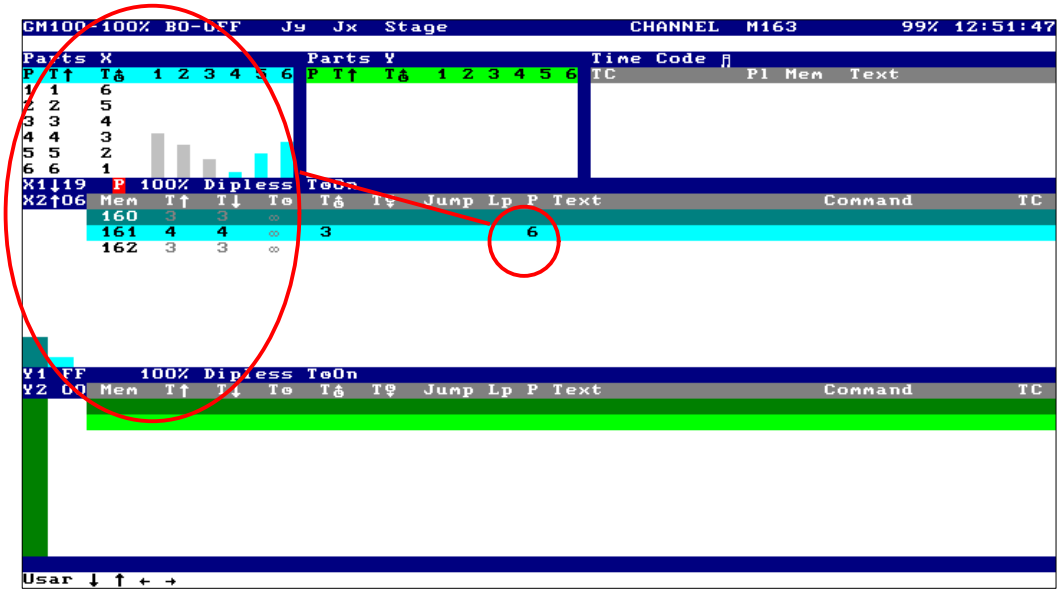
The memory parts only are supported in the crossfaders. And the crossfader must be activated in automatic mode - pressing **GO**.

When the crossfade to a memory with part is activated, in a simultaneous way:
The wait-in and time-in times of the base memory and parts and computed, and each one is applied to its corresponding content.
When all parts and the own base memory are in scene at 100% (all the input times are completely computed), the input of the crossfade has finished.

The parts are not computed when the crossfaders is activated manually.

The base screen in format 2 is a special screen dedicated to show us the status parts in dynamic mode, in both X1/X2 and Y1/Y2. To select this screen format press **MONITOR** or **MENU** **60 2**

In the next example, the memory 161 has 6 time parts. The memory and its parts are fading in scene controlled from the X1/X2 crossfader. (See chapter 7 - THE CROSSFADERS)



In all base screens, the memories loaded in a crossfader have an indication of the number of parts, always under the header **P**. In the crossfader status line, moreover, the "**P**" flag, in a red field, appears when one memory with parts is fading in scene (is in X2 or Y2).

Theatre Example:

In this scene we want a slow nightfall, and just to the end of the nightfall a street lamp must be turned on. The street lamp is the channel 25, and the nightfall is simulated with the channels 10 to 15.
Edit the memory 1 with the channels 10 to 15 and the channel 25. The channel 25 must be in a time part of this memory.

CHANNEL 10 THRU 15 CHANNEL 25 @ @ CHANNEL 25 PART 1 MEM 1 REC

And press **Mem-List** to edit the times of the memory and its part. Edit a T↑= 35 seconds for the base memory and edit a T↑= 0.1 seconds and a T ↑= 35 seconds for the part 1.
When the memory 1 begins its crossfade, all the channels in the base memory fading in scene, slowly (in 35 seconds), while the channel of the part 1 is computing its T ↑ (35 s) and after this 35 seconds this channel (the street lamp) jumps in scene.

In the next scene, we want a slow dawn, and just to the end of the nightfall a street lamp must be turned off. The street lamp is the channel 25, and the dawn is simulated with the channels 20 to 40.
Edit the memory 2 as:

CHANNEL 30 THRU 40 @ @ CHANNEL 25 @ 01 PART 1 MEM 2 REC

And press **Mem List** to edit the times of the memory and its part. Edit a T↑= 35 seconds for the base memory and edit a T↑= 0.1 seconds and a T ↑= 35 seconds for the part 1.

When the memory 2 begins its crossfade, all the channels in the base memory fading in scene, slowly (in 35 seconds), while the channel of the part 1 is computing its T ↑ (35 s) and after this channel (the street lamp) jumps in scene at 01% (is turned off).

Spots Example:
The memory 1 has 10 spots, these spots are in the position 5, and have their dimmers at 100%. The spots need 1 seconds to reach this new position. The spots dimmers must be fade in scene after the spots are in their position 5. First, insert all x/y parameters in a time part:

MEMORY 1 MODIFY SPOT 1 THRU 10 PARAM 81 PART 1 @@ REC

Now, edit the T ↑ (of the base memory) = 1 sec. And the T↑ (of the part) = 0 sec. Only the dimmers wait 1 second before the its fade in scene.

USE A TIME PART AS A GROUP

It is possible to select, to call, to load or to release, a part of a memory as a new group:

MEM # PART #' LOAD Mn

MEM # PART #' SELECT

MEM # PART #' CALL

MEM # PART #' RELEASE

THE GROUPS

HYDRA has 999 groups. The groups can be stored in the editor or loading the editor in the Masters.

A group can have channels, scrollers and/or spots with their dimmers and parameters edited; or can be stored with selections of channels, scrollers and/or spots without levels or parameters edited.
The stored groups with only selections (without levels or parameters edited):
Take the selected channels at 100%.
Take the selected scrollers at their scene value.
Take the selected spots with their dimmers at 100%.

The groups doesn't accept times or commands. The sequences don't accept groups. The groups are used in the Masters, in Effect o like bases in the edition process.

The groups can be playback in Masters or in an Effect. The groups can be used to edit memories.

STORING GROUPS

Before to store a group, in the editor:
- Edit the desires channels, scrollers and/or spots.
- Pre-select the desired channels, scrollers and/or spots.

{editor} GROUP (#) REC

is the group number (1 - 999). This number can be omitted, and in this case the stored group will be the next group. The next group is exactly the **last edited or modified group + 1**.

To store the next group, press:
{editor} or {pre-selection} GROUP REC

To store the group 15, press:
{editor} or { pre-selection} GROUP 15 REC

If group exists, HYDRA requests a confirmation. Confirm pressing **REC**, or try it with a new group number pressing: **C 17 REC**

Note:

After a group is stored the editor maintains its contents. Empty of the editor pressing **ESC**.

STORE GROUPS USING THE MASTERS

When the editor is loaded in a master, HYDRA stores a new group (the next free group):

{editor} LOAD Mn or
{pre-selection} LOAD Mn

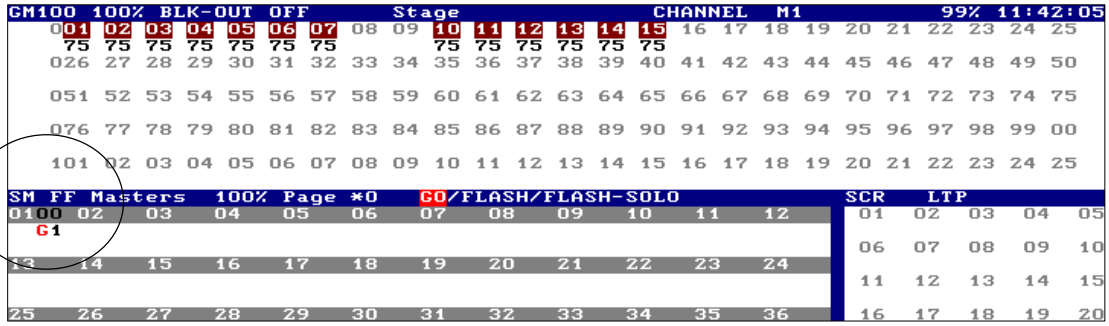
In this moment the editor contents are loaded in the selected Master, as a new Group (G). Note that a G appears under the selected Master in the editor. This G denotes a Group.
The Group takes a number that it is exactly: **the last stored/modified group + 1**.

Examples:
Create a group with the channels 5 to 10 at 100%: **CHANNEL** **5** **THRU** **10** **GROUP** **REC**

Create a group with the dimmer of the spots 1 y 7 at 100%: **SPOT** **1** **SPOT** **7** **GROUP** **REC**

Load in **M1**, Master 1, a Group with the channels 1 to 7 and 10 to 15 at 75%:
CHANNEL **1** **THRU** **07** **CHANNEL** **10** **THRU** **15** **@** **75** **LOAD** **M1**

In the monitor:



Under the Master 1, (01, in white), **G** appears denoting a Group, next to this character is the group number.

For more information, see the chapter 5 - THE MASTERS & THE PAGES.

GROUPS EXAM

It is possible exam a selected Group or the Groups list at any time:

Exam the Groups list:
GROUP **EXAM**
The groups-list appears in the monitor, with their associated text.
At the end of each group there are the contents flags: **csSf**, where "**c**" appears if the group has channels, "**s**" if has scrollers, "**S**" if has spots and "**f**" if has figures. Only the flags "**c**" & "**s**" appear in HYDRA STAGE
In the first line of this exam page the total number & range of the stored group appear.

Exam the selected Group contents:
GROUP **#** **EXAM**
is the number of the group to exam.
The monitor shows us the group contents and its associated text.
To exam the previous or next group press: ↑ or ↓
In HYDRA SCAN, to toggle between the information of channels/scrollers & spots press: ☐ or ☐

Quit of this exam page pressing **ENTER**.

Tip:
The Groups recording from the editor permit us to use them without the necessity of consume Playbacks (Masters).

DELETING GROUPS

Delete a stored Group pressing:
GROUP # DELETE

Delete a Groups range pressing:
GROUP # THRU #' DELETE

Delete all Groups in HYDRA pressing:
GROUP DELETE. HYDRA requests a confirmation: **DELETE**.

EDITING TEXT FOR A GROUP

The texts are edited in the Groups modification page. Access to this page pressing:
GROUP MODIFY

This page is a data sheet. Move the cursor with the arrow keys or the external mouse and insert the desired text with the external keyboard.

MODIFYING GROUPS

To modify a stored Group:
Select the desired editor mode (Blind or stage), pressing **BLIND**.
Empty the editor pressing **ESC**.
And select the desired group in the editor (fade in 2 seconds) pressing:
GROUP # MODIFY **or** **MODIFY Mn**

In the status line, a modification flag appears in a red field: *Modify G###*. The Group is in the editor at its 100%. Modify the desired channels/scrollers, add new channels/scrollers or release channels/scrollers. Store these modifications pressing **REC**. The modification flag disappears. The editor is emptied with the editor default time.
At any time, to abort the modification function, press **ESC**.

Resume:
ESC GROUP # MODIFY {modifications} REC
ESC MODIFY Mn {modifications} REC

Also, the **MODIFY** function permits add the editor into a group loaded in a master:

- Select channels, scrollers and/or spots in the editor, and assign levels or parameters values, {editor}.
- Press **MODIFY**
- Press the selected **Mn** (of the masters with the memory or group to modify).
- At this moment, the editor is added into the memory or group loaded in the selected master and after, the editor is release in 2 seconds (default time). If the selected master is at 100% during this process, there are no changes in scene.

Resume: **{editor} MODIFY Mn**

To modify a group in Blind mode, press **BLIND** (its LED is lit), and follow one of the previous instructions. If the modified group (in blind) is active in scene, the modification is not effective until that this group arrives its 0% in scene.

COPING GROUPS

A Group or range can be copied, pressing:

GROUP # = #' REC

GROUP # THRU #' = #'' REC

Example: Copy the contents of the Group 1 in a Group 25.
If the Group 25 exits, its contents are replaced with the contents of the Group 1. The Group 1 is not modified. **GROUP 1 = 25 REC**

EXCHANGING GROUPS

The contents of 2 Groups, or ranges, can be exchanged:

GROUP # = = #' REC

GROUP # THRU #' = = #'' REC

Example: Exchange the contents of the Group 1 & the Group 25.
If the Group 25 doesn't exist, the Group 25 is created with the contents of the Group 1, and the Group 1 is emptied. **GROUP 1 = = 25 REC**

MODIFYING A MEMORIES/GROUPS RANGE

It is possible to do a modification over a range of memories or groups.

ESC {memories/groups range} MODIFY {modifications} REC #1 #2 REC

After **MODIFY is pressed,** the first memory of the selected (or group) is loaded in the editor to edit the desired modifications over it.
After **REC** is pressed, a selection pop-up appears in the screen. This pop-up helps us to select the mode (**#1**) and attribute (**#2**) of the modification. When the mode & attribute are selected, entering the numbers **#1 #2**, press newly **REC** to confirm:

MODIFY OPTIONS #1 #2 (REC to confirm)	
#1 HTP/LTP MODE	#2 Atributes
1: ABSOLUTE/ABSOLUTE	0: Normal
2: RELATIVE/BASE	1: +News
3: BASE/BASE	2: Not ↓ HTPs @FF
	3: + News & Not ↓ HTPs @FF

The Mode Options:

#1 MODE	**BEHAVIOR over the memories/groups**
1: Absolute/Absolute	Any modification done in the first memory is applied to the rest of the memories in **absolute** mode.
2: Relative/Base	**HTP**: Any modification of level, of a channel or spot dimmer, done in the first memory of the range, is applied to the rest of the memories in **relative** mode (% of the level variation). **LTP**: Any modification of value, of a parameter or scroller, is applied to the rest of the memories of the range in **absolute** mode. But only if the origin value in the memory is equal to the origin value in the first memory of the range for this parameter or scroller.
3: Base/Base	Any modification done in the first memory is applied to the rest of the memories, **but only if**, the origin value of the parameter, channel or scrollers in the memory to modify is equal to the origin value in the first memory (in the origin modification).

Examples:
Modification in **Absolute** mode **(channel 1@60 & scroller 1@s 03)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, 2@ 30 & scroller 1@s 05	**chan 1@ 60**, 2@ 30 & **scroller 1@s 03**
2	chan 1@ 60, 2@ 30 & scroller 1@s 10	**chan 1@ 60**, 2@ 30 & **scroller 1@s 03**
3	chan 1@ 30 & scroller 1@s 05	**chan 1@ 60** & **scroller 1@s 03**

Modification in **Relative/Base** mode **(channel 1 +10%, scroller 1 @s 05 to 03)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, 2@ 30 & scroller 1@s 05	**chan 1@ 60**, 2@ 30 & **scroller 1@s 03**
2	chan 1@ 60, 2@ 30 & scroller 1@s 10	**chan 1@ 70**, 2@ 30 & scroller 1@s 10
3	chan 1@ 30 & scroller 1@s 05	**chan 1@ 40** & **scroller 1 @s 03**

Modification in **Base/Base** mode **(channel 1@ 50 to 60 & scroller 1@s 05 to 03)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, 2@ 30 & scroller 1@s 05	**chan 1@ 60**, 2@ 30 & **scroller 1@s 03**
2	chan 1@ 60, 2@ 30 & scroller 1@s 10	chan 1@ 60, 2@ 30 & scroller 1@s 10
3	chan 1@ 30 & scroller 1@s 05	chan 1@ 30 & **scroller 1@s 03**

The Attribute Options:

#2 ATTRIBUTES	**BEHAVIOR over the memories/groups**
0: Normal	The modifications, done over the first memory, are applied in the rest of the memories only if the modified element there is. In others words, in the modified memories, new elements don't appear.
1: +News	The modifications, done over the first memory, are applied in the rest of the memories. If in any memory a channel, scroller or spot doesn't exits, this element is added in the memory with the absolute value.
2: Not ↓ HTPs @FF	The modifications, done over the first memory, are applied in the rest of the memories only if the modified element there is. If a modified channel or spot dimmer -**HTP**- is at 100% (full), this element is not modified.
3: + News & Not ↓ HTPs @FF	The modifications, done over the first memory, are applied in the rest of the memories. If in any memory a channel, scroller or spot doesn't exits, this element is added in the memory with the absolute value & if a modified channel or spot dimmer -**HTP**- is at 100% (full), this element is not modified.

Example: Absolute modification, **normal** attribute **(channel 1@60 & channel 2 @ 50)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
2	chan 1@ 60, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
3	chan 1@ FF	**chan 1@ 60**

Absolute modification, **+News** mode **(channel 1@60 & channel 2 @ 50)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
2	chan 1@ 60, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
3	chan 1@ FF	**chan 1@ 60, chan 2 @ 50**

Absolute modification, **Not ↓ HTPs @FF** mode **(channel 1@60 & channel 2 @ 50)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
2	chan 1@ 60, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
3	chan 1@ FF	chan 1@ FF

Absolute modification, **+ News & Not ↓ HTPs @FF** mode **(chan 1@60, & chan 2@50)**

Memory	Origin values	Values after the modification
1	chan 1@ 50, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
2	chan 1@ 60, chan 2 @ 30	**chan 1@ 60**, **chan 2 @ 50**
3	chan 1@ FF	chan 1@ FF**, chan 2 @ 50**

Note: The exam pages of channel, scroller & spot, (Example, **CHANNEL # EXAM**) help us to see these modifications in an easy mode, element by element.

SPOTS RECORDING - HYDRA SCAN

The spots and their parameters, the channels and the scrollers can be recorded in the memories or groups.

In the memories or groups are included only the selected parameters of the spots.

A spot parameter can be a value in scene in **tracking** mode. The tracking values are not controlled in the playbacks or the editor, but these tracking values affect to the scene look. A tracking value is showed in grey.

Example:
All parameters of the spot 1 are at HOME (no colour, no gobo, etc) Now, assign level to the **dimmer** parameter and edit the **x/y** parameters. And:

- You can store it in a memory pressing **REC**, only the **dm** and **x/y** parameters are included in this memory. You can control the colours and gobos of this spot 1 from others memories.
- You can force the storing of all parameters of the spot 1, using the option **88:CALL ALL** (in the **PARAM** window) before to store the memory. This memory controls all the spot parameters.
- You can select the desired parameters, for example, you can force only the storing of the gobo parameters in the memory, with the option **83:CALL GOB** in the **PARAM** window.
- You can release the desired parameters of the editor to avoid the storing of these parameters in the memory, selecting the desired parameters and pressing **RELEASE**.

Storing the spots with all their parameters (83:CALL ALL):
Use this mode in the first memories of a effect or sequence, or when the playback order is not known.

Storing spots only with the parameters in the editor:
Use this mode to program effects or memories of colour, gobos or positions that are wanted playback at the same time. For example: The colour effect & position effect can be executed at the same time without interference between them. And use this mode to program memories when the playback order is known.

All spot parameters, except the dimmer (**dm**), maintain their values when they are released from the editor, waiting a new order from the editor or the playbacks (masters & crossfaders).

To return the spot parameters to a known status, use the options of the function **HOME** (in the **PARAM** window).

The spot parameters are divided in 4 categories:

Dm: **Dimmer**, this is a continuous parameter and this is used like a conventional control channel. The General Master controls it. This parameter works under HTP mode (High Take Precedence).

Continuous: These parameters are controlled in a continuous mode from 0% up to 100%. An example of continuous parameters are **x** and **y** (the movement parameters). These work in LTP mode.

Discrete: These parameters are controlled by steps. It is possible to select the desired step with the control wheel, the **STEP+** and **STEP-** keys or pressing: @ ##, where ## is the number of the step. These work in LTP mode. These parameters are used to control the gobo wheels or colour wheels, where each step is one gobo o colour (example: **co, go**, etc.).

Mixed: These parameters are controlled by steps, but in each step there is a continuous control using the control wheel. To select the previous step or next step is necessary press **STEP-** or **STEP+** or use the command @ ##, where ## is the step number. These work in LTP mode. When a parameter controls more than a spot characteristic, this parameter is defined like a mixed.
Example: A control channel controls the spot dimmer and the spot strobe. This control channel is defined like a mixed parameter of 2 steps. In the first step there is a continuous control of the dimmer and in the second step there is a continuous control of the strobe. When the user select the step 1, with the control wheel, has control of the dimmer (0 to 100%) and cannot access to the strobe control, with the control wheel, until he press **STEP+**.

Ignite: Special parameter of some moving lights. This parameter has control functions about the own spot. These functions can be varied, but HYDRA has in a special form the next ignite functions: Turn-on the lamp (Ignite ON), turn-off the lamp (Ignite OFF) and spot Reset (Ignite RST). This parameter works in a special form and depending of its manufacturer. More information, about its definition and behaviour, in the chapter 11 - THE PATCHS.

THE LIBRARIES - HYDRA SCAN

HYDRA SCAN has 3 library categories:
99 position libraries named **positions:** **POS**
99 colour libraries named **colours:** **COL**
99 gobos libraries named **gobos**: **GOB**

The libraries are a database. The libraries are used to make easy & quick the edition process and the modification process.

The library behaviour depends of its category:
Positions are relatives to **each spot number**. By default, a **position** contains the **x/y** values per included spot.
Colours and **Gobos** are relatives to **each spot type**. By default, a **colour** or **gobo** contains the parameters defined like colour (c) or gobo (g) in the type definition, per included spot type.

POSITION LIBRARIES

Positions are relatives to the spot number. Record **positions** with the most frequently used locations in the show, and use these **positions** to store the memories.
After, if a **position** is modified, all memories based in this position are updates immediately.

To store a **position**:
- Select all the desired spots, and locate their beams in the correct situation.
- Press **POS** **(#)** **REC**

The **x/y** parameters of the selected spots (in the editor) are stored in the position library. If the library exits HYDRA requires us a confirmation, and the position library is replaced with a new information when the user confirm the command.

Each time that you press **POS**, the positions-list appears in the monitor. The positions-list shows us the number and text of each position. The associated text is a great help, you can edit a text for a position pressing:
POS **MODIFY** **{select the desired position and type the "text"}** **ENTER**

Example:
Suppose that the spots 1,2 and 3 are dedicated to the guitar and drum. Place the beam of spots in the guitar point, and store it like a **position 1:"guitar"**. Place the beam of spots in the drum point, and store it like a **position 2:"drum"**.

To select a **position**:
{spots selection} **POS** **1** **SELECT** **or** **{spots selection}** **POS** **1** **CALL**
The **x/y** values content in the position library 1 are applied to the selected spots. In the editor, the library values are showed in a field blue and the library number.

According to the previous example:
Place the beams of the spots 1 & 3 at the drum position and the beam of the spot 2 in the guitar position. And store this "picture" in the next memory:
SPOT **1** **SPOT** **3** **POS** **2** **SELECT**
SPOT **2** **POS** **1** **SELECT** **{optional: edit other parameters}** **REC**

After a library is selected, any edition, of some of its parameters, releases the library and the affected parameters take its absolute value (the library number in a blue field disappears).

If the show is translated to other stage or if it is necessary to displace the localisation of the drum or guitar to other point, it is enough modify the **positions** to updates all memories that use these libraries. It is possible to add or to eliminate spots in the library under modification.

To modify a **position** in the editor:
- Empty the editor pressing **ESC**
- **POS 1 MODIFY {modifications} REC**

Notes:
A **position** can be applied at one, a group or all spots that are contained in the position library.
When a **position** is selected, all the position parameters are selected.

COLOUR & GOBO LIBRARIES

Colour & **gobos** are relatives to spot types. Record **colours & gobos** with the most frequently used colours and gobos in the show, and use these **libraries** to store the memories.
After, if a **library** is modified, all memories based in this library are updates immediately.

The colour & gobo libraries are stored and modified using **the first spot number of each spot type**.
The colour & gobo libraries can be applied over any spot number which type is included in the library.

Example: The spots 1 - 8 are **mc504**. Edit the **colours** and **gobos** using the spot 1. After these **libraries** can be applied to the spots 1- 8.

To store a **colour (**or **gobo**):
- Select the first spot number of the desired spot type in the editor, edit its colour (or gobo) parameters.
- Repeat the previous step per each spot type that we want to include in the library.
- And press: **COL** (or GOB) **(#) REC**

All colour (or gobo) parameters, according to the type definition, are stored in the library.

Each time that you press **COL**, the colours-list appears in the monitor. The colours-list shows us the number and text of each **colour**.
Each time that you press **GOB**, the gobos-list appears in the monitor. The gobos-list shows us the number and text of each **gobo**.

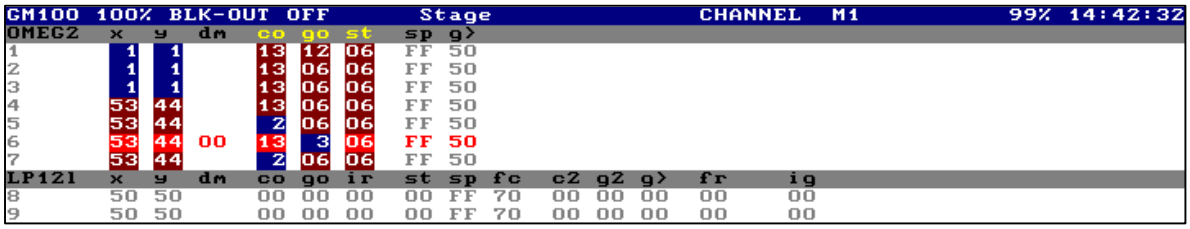
To **add text** use the same commands that in the position libraries.
To **apply a colour or gobo** use the same commands that in the position libraries.

Notes:
A **colour** or **gobo** can be applied at one, a group or all spot types that are contained in the library.
When a **colour** or **gobo** is selected, all the colour or gobo parameters are selected conjointly.

To **modify a colour or gobo** use the same commands that in the position libraries. And remember that the **colour or gobos are modified over the first spot of each type**.

GENERAL

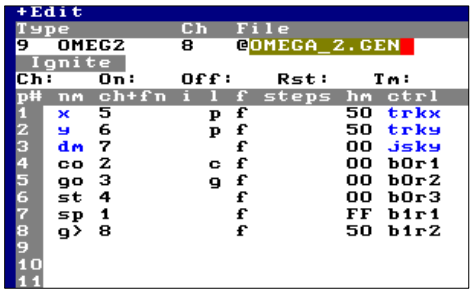
A library selected (applied in the editor) appears in a blue field with its library number:



In the previous figure:

- The spots 5 & 7 have selected the **colour** 2.
- The spot 6 the **gobo** 3.
- And the spots 1 - 3 the **position** 1.

Each parameter only can be in a library category, and this relation responds to the type definition, in the case of the previous example, OMEG2 type, its definition is:



Parameters 1 & 2, **x** & **y,** are **position** parameters (**p**).
The parameter 4, **co**, is a **colour** parameter (**c**).
The parameter 5, **go**, is a gobo parameter (**g**).

Edit the cell **[l]** of the desired type to include or to exclude each parameters of one library category.
See the chapter 11 - The Patch.

COPY & EXCHANGE

To copy a library in other library of the same category, press:
POS (COL/ GOB) # = #' **REC**

To exchange a library with other library of the same category, press:
POS (COL/ GOB) # = = #' **REC**

To copy a libraries range, press:
POS (COL/ GOB) # **THRU** #' = #'' **REC**

To exchange a libraries range, press:
POS (COL/ GOB) # **THRU** #' = = #'' **REC**

EXAM

Exam the positions-list, the colours-list or the gobos-list pressing:
POS (COL/ GOB) **EXAM**

Exam the selected library pressing:
POS (COL/ GOB) **#** **EXAM**

DELETE

Delete the selected library pressing:
POS (COL/ GOB) **#** **DELETE**

Delete the selected range pressing:
POS (COL/ GOB) **#** **THRU** **#'** **DELETE**

Delete all the libraries of the same category pressing:
POS (COL/ GOB) **DELETE**

EDIT+ FUNCTION

HYDRA has a powerful function, named: **EDIT+**. To this function we access using the **EDIT+** key. The **EDIT+** function is an extension of the editor, that it permits us to obtain a maximum efficiency of the spots libraries.

For a correct working of the **EDIT+** function, we need store:
1.- Various groups with basic selections of spots.
2.- Libraries of positions and/or colours and/or gobos.

The **EDIT+** function permits us to select one group or groups, (stored groups) with a simple "click", and to assign them a position, colour and/or gobo in an immediate way.

To do this selections/assignations using the master keys. (**M1..M48**)

EDIT+ divides the 48 masters in 4 sections of 12 masters each one. The 10 first keys of each section are the direct access to the 10 groups, positions, colours or gobos, and the last 2 keys are the keys to select the next or previous 10 items (the active bank).
These sections are fixed, and they are:

- First section, master keys 1-12, groups.
- Second section, master keys 13-24, positions.
- Third section, master keys 25-36, colours.
- Fourth section, master keys 37-48, gobos.

When the **EDIT+** function is selected**,** pressing **EDIT+**, the master keys respond to the new content, and base screen (in the monitor) shows us the new contents:
M1..M10: Are access to stored **GROUPS**, and **M11**-**M12** are keys for bank selection.
M13..M22: Are access to stored **POSITIONS**, and **M23**-**M24** are for bank selection.
M25..M34: Are access to stored **COLOURS**, and **M35**-**M36** are for bank selection.
M37..M46: Are access to stored **GOBOS**, and **M47**-**M48** are for bank selection.

To quit of the **EDIT+** function**,** press **EDIT+** again.

The **EDIT+** function produces the next temporal changes:

In the masters:
The master faders follows controlling their old contents, but their associated keys, **M1..M48**, now, are selection keys to select the groups, positions, colours and gobos, or selection keys for the active bank in each section.

In the LEDs of the master keys:
LED ON (lit at 100%): When the master has a group, position, colour or gobo.
LED BLINKING: When the master content is selected.
The LEDs of the keys of bank selection are always blinking.

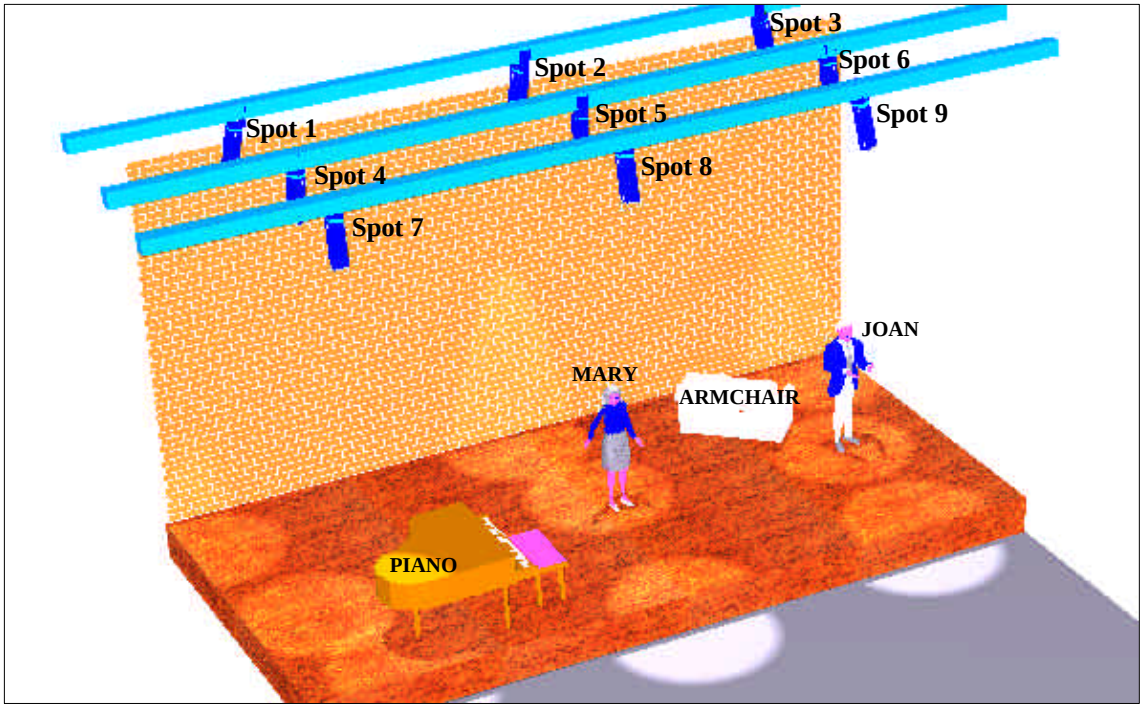
In the monitor:
The **EDIT+ screen** (see below) substitutes the base screen**.** The EDIT+ screen shows us the current masters contents.

During the **EDIT+** function is active, the editor works in normal mode, and moreover, we have access to the auxiliary screens to obtain information about channels, scrollers and spots. **EDIT+** works over

the own editor; therefore **EDIT+** is affected by the editor mode (blind/stage) and by the editor contents.

Working example:

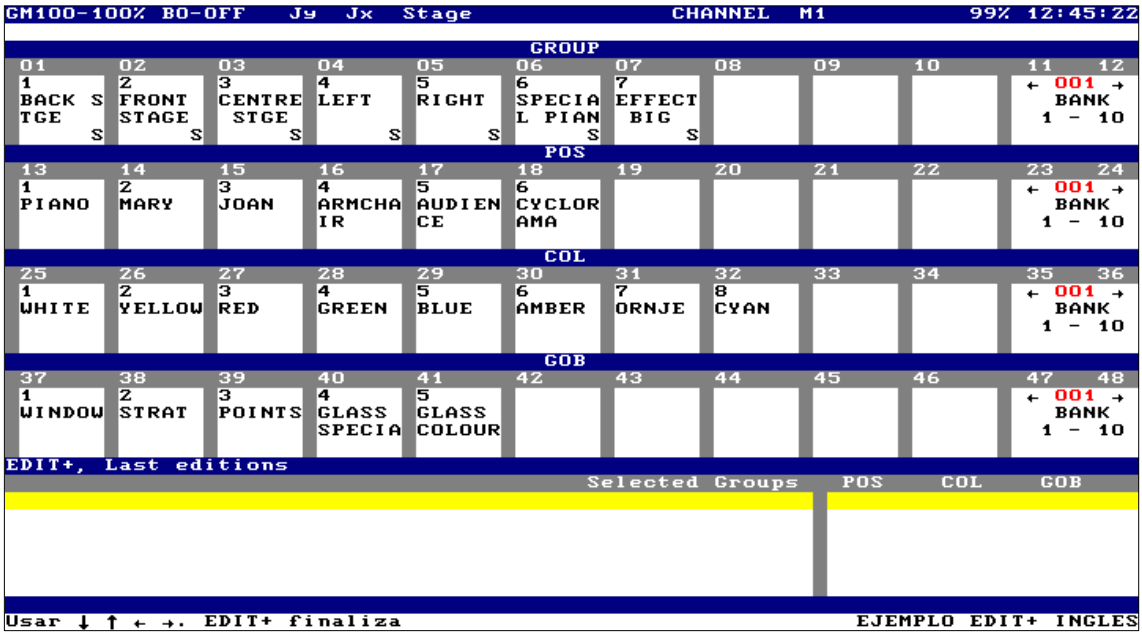
Suppose 9 spots distributed as is showed in the figure:



Store the next groups:
Group 1: BACK STAGE. With the spots: 1, 2 & 3.
Group 2: FRONT STAGE. With the spots: 7, 8 & 9.
Group 3: CENTRE STAGE. With the spots: 4, 5, & 6.
Group 4: LEFT. With the spots: 1, 4 6 7.
Group 5: RIGHT. With the spots: 3, 6 & 9.
Group 6: SPECIAL PIANO. With the spot: 5.
Group 7: EFFECT BIG. With the spots: 2, 6 & 8.

Store the position libraries:
Position 1: PIANO, with all spots focused at "piano".
Position 2: MARY, with all spots focused at "Mary".
Position 3: JOAN, with all spots focused at "Joan".
Position 4: ARMCHAIR, with all spots focused at "armchair".
Position 5: AUDIENCE, with all spots focused at "the audience".
Position 6: CYCLORAMA, with all spots focused at "cyclorama".

And, store some libraries of colour and gobo.
After **EDIT+** has been pressed, the current contents of the master keys are showed in the monitor:



In this way, now, we can select the desired group, or groups, pressing their **Mn**, and after, always with some group selected, we can assign them a position, a colour and/or a gobo.
Select the spots of the groups LEFT and RIGHT, in their "JOAN" position and with their "AMBER" colour, pressing:
M4 & **M5** to select the groups, **M15** to assign them the position, and **M30** to assign them the colour.
With 4 clicks your scene is complete!
Now, you can begin new group selections with their positions, colours and/or gobos, or store the edited scene in a memory number. To store the scene in a memory, use the editor functions, for example, to store this scene as memory 125, press: **MEM 125 REC**
To load this memory in the masters (or others items) is needed to quit of the EDIT+ function, pressing **EDIT+** again.

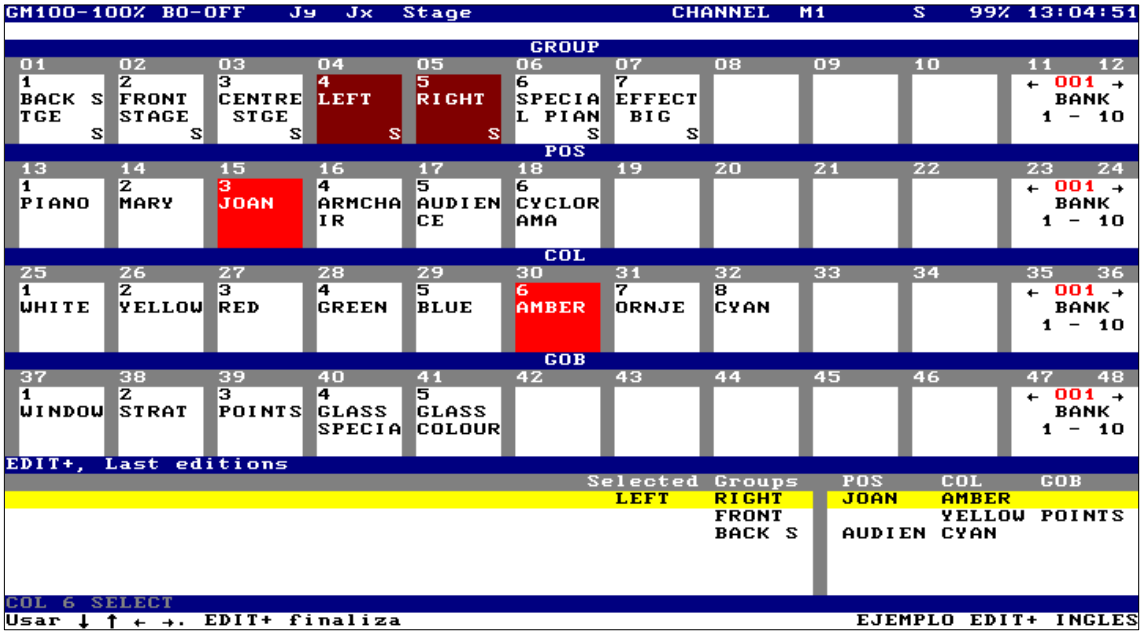
In the groups selections keys, **M1** to **M10**:
A click, select the group, without dimmer level or channel level (SELECT).
A double click, call the group, with the dimmer level or channel level (CALL).
Example:
M1: Select the spot 1, 2 & 3 (Back Stage) without level. In this case, you can control the spots level with the Joystick.
M1 **M1**: Select the spots 1, 2 & 3 (Back Stage) at 100%.

Resume:

- **First, we must be selected a group or groups** (maximum 8 groups).
- Optional, select a position (only the last selected position is active).
- Optional, select a colour (only the last selected colour is active).
- Optional, select a gobo (only the last selected gobo is active).
- Select a new group/s to assign them a POS, COL and/or GOB. The previous edition is maintained in the editor, but not is active, only is present (in brown field).

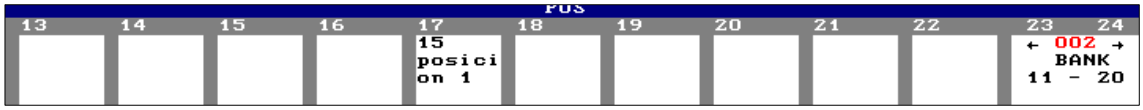
At any moment, during the edition using the EDIT+, we can use the tools of the editor: the parameters control wheels, the trackball, the Joystick and, of course, its function keys.

In the EDIT+ screen, the selected items are marked in brown or red colour:



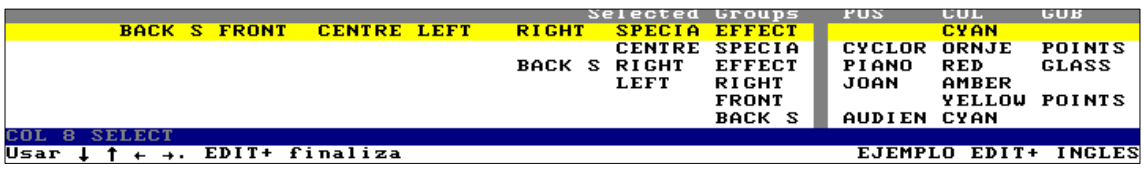
The groups, positions, colours and gobos are loaded in banks of 10 items in the 4 master sections. Press the keys of bank selection (M11-M12, M23-M24, M35-M36 & M47-M48) in each section to access to the follows groups, positions, colours and gobos.

For example, pressing **M24** we have the next 10 positions (11-20). In the figure, you can see that only the position 15 is stored:



In the lower zone of the **EDIT+** screen, you can see a "**recollection**" of the last editions done using the **EDIT+.** In the yellow line, you can see the current edition of the **EDIT+.**

Pressing **ESC** the last EDIT+ edition is erased (yellow line) and pressing **EDIT+** **EDIT+** (double click) the banks 1 are selected in the 4 master sections (items 1-10).

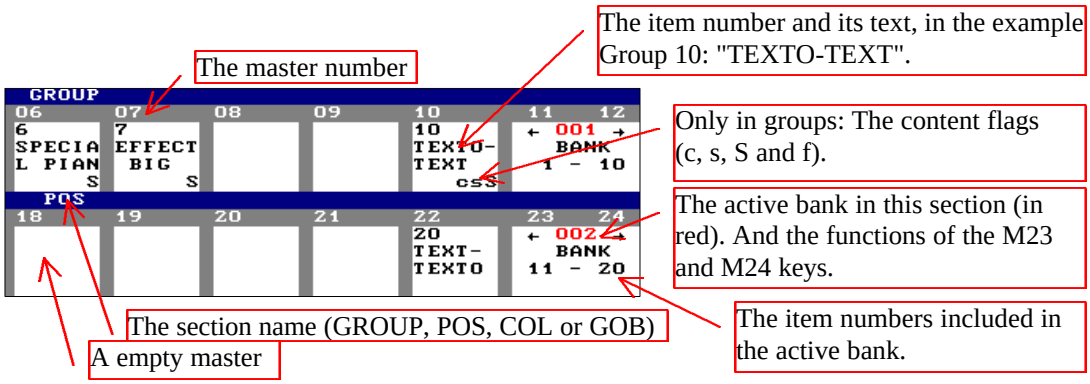


Accessing to **EDIT+:**
Press **EDIT+** to access maintained the last status of the EDIT+.
Press **EDIT+** **EDIT+** to access in the first bank of each section: Groups, positions, colours and gobos.

Inside of **EDIT+**:
Press **EDIT+** to quit of the EDIT+ and return to the masters in playback mode.
Press **ESC** to "delete" the editor and the current edition of **EDIT+.**

A good libraries collection, more the new EDIT+ function, is the more easy way to edit our spots, inclusively in live editions.

MORE ABOUT THE EDIT+ SCREEN



When the function Edit+ is active, a new flag appears in the status line: The symbol **+**, in a red field, is showed near the flag of the editor mode, **Stage+** or **Blind+**.

RESUME

Storing memories:

In a selected memory:	{Editor}	**MEM # REC**
In the next memory:	{Editor}	**MEM REC**
In the next memory:	{Editor}	**REC**
With times:	{Editor}	**MEM # TIME #' TIME TIME #'' WAIT #''' WAIT WAIT #'''' WAIT WAIT WAIT #''''' REC**

Storing Groups:

In a selected group:	{Edit scene}	**GROUP # REC**
	{Pre-selection}	**GROUP # REC**
In the next group:	{Edit scene}	**GROUP REC**
	{Pre-selection}	**GROUP REC**
Loading a Master:	{Edit scene}	**LOAD Mn**
	{Pre-selection}	**LOAD Mn**

Modifying memories/groups:

General. Parameters:	**MEMlIST**
	MEM MODIFY
	GROUP MODIFY
Contents:	**ESC MEM # MODIFY** {modifications} **REC**
	ESC GROUP # MODIFY {modifications} **REC**
	ESC MODIFY Mn {modifications} **REC**
Contents:	{modifications} **MODIFY Mn**
	{modifications} **MODIFY MODIFY** (in X1/Y1)
	{modifications in blind} **MODIFY MODIFY** (in X2/Y2)
A range of memories	**ESC MEM # THRU #' MODIFY** {modifications} **REC #'' REC**
A range of groups	**ESC GROUP # THRU #' MODIFY** {modifications} **REC #'' REC**

Exam memories/Groups:

The memories-list:	**MEM EXAM**
Memory by memory:	**MEM # EXAM**
The groups-list:	**GROUP EXAM**
Group by group:	**GROUP # EXAM**

Deleting memories/groups:

A memory:	**MEM # DELETE**
A memories range:	**MEM # THRU #' DELETE**
All memories:	**MEM DELETE DELETE**
A group:	**GROUP # DELETE**
A groups range:	**GROUP # THRU #' DELETE**
All groups:	**GROUP DELETE DELETE**

Copy & Exchange:

Copy:	**MEM # (THRU #') = #'' REC**
	GROUP # (THRU #') = #'' REC
Exchange:	**MEM # (THRU #') = = #'' REC**
	GROUP # (THRU #') = = #'' REC

Pre-selection:

A memory:	**MEM # SELECT**
A memories range:	**MEM # THRU #' SELECT**
A group:	**GROUP # SELECT**
A groups range:	**GROUP # THRU #' SELECT**
A master content:	**SELECT Mn**
Several master contents:	**SELECT Mn Mn Mn...** And release **SELECT**
Crossfader output	**SELECT AssignX/AssignY**
A scene:	**SELECT SELECT**

Call to memories, groups and scene:

A memory:	**MEM # CALL (CALL)**
A memories range:	**MEM # THRU #' CALL (CALL)**
A group:	**GROUP # CALL (CALL)**
A groups range:	**GROUP # THRU #' CALL (CALL)**
Controlled by the Joystick:	**MEM/GROUP # Joystick**
A master load:	**CALL Mn**
A masters loads:	**CALL Mn Mn Mn...** And release **CALL**
Crossfader output	**CALL AssignX/AssignY**
The scene:	**CALL CALL**

Call to channels & spots dimmers:

Channel/channels:	**CHANNEL # CALL (CALL) / {channels sel} CALL (CALL)**
Spot dimmer/spots dimmers:	**SPOT # CALL (CALL) / {spots selection} CALL (CALL)**
Channel from a memory or group:	**MEM (GROUP) # CHANNEL #' CALL (CALL)**
Scroller form a memory or group:	**MEM (GROUP) # SCROLLER #' CALL (CALL)**
Spot from a memory or group:	**MEM (GROUP) # SPOT #' (PARAM #'') CALL (CALL)**

Call & Storing of the current Scene: CALL REC

Position, colour & gobo libraries:

Storing:	**POS (**COL/GOB**) # REC**
Selection:	**POS (**COL/GOB**) # SELECT** or **POS (**COL/GOB**) # CALL**
Modification:	**POS (**COL/GOB**) # MODIFY**
Add text:	**POS (**COL/GOB**) MODIFY {text} ENTER**
Copy:	**POS (**COL/GOB**) # (THRU #') = #'' REC**
Exchange:	**POS (**COL/GOB**) # (THRU #') = = #'' REC**
Exam a library:	**POS (**COL/GOB**) # EXAM**
Exam the libraries-list:	**POS (**COL/GOB**) EXAM**
Delete a library:	**POS (**COL/GOB**) # (THRU #') DELETE**
Delete all libraries:	**POS (**COL/GOB**) DELETE**

EDIT+ function

Activate/deactivate the EDIT+ function: **EDIT+**

MEMORIES & TIME PARTS

Up to 6 times parts in a memory	**{editor} PART # ... {editor} PART #' (MEM #) REC**
Auto-parts with LTPs	**{editor} HTPs + LTPs} PART PART (MEM #) REC**
Remove a item of its part	**{item} PART 0**
Take a part as a group	**MEM # PART #' SELECT/LOAD/CALL**

5 .- MASTERS & PAGES

MASTERS

The masters are playbacks and these can to contain:

- A **memory**, with associated times.
- A **group**, with associated times.
- A **control channel**, with associated times.
- A **chase or Effect**. The effect needs 2 Master.

Each master has:

- **An assign key**, **Mn**, this key has several functions when the master has contents:
  GO
  Master FLASH
  GO-EFFECT or STEP-EFFECT (See the chapter 6 - THE EFFECTS).
- **A fader** to control the output level of the Master.

In this section is the special control for output of all the Masters, named **SM.**

LOADING MEMORIES IN THE MASTERS

Load a selected memory in the desired Master pressing:
MEM **#** **LOAD** **Mn**

Example, load the memory 5 in the master 8: **MEM** **5** **LOAD** **M8**

Load numerically consecutive memories in the desired Masters pressing:
MEM **#** **LOAD** **Mn**, **Mn** **... and release** **LOAD**

Where # is the number of the first memory and **Mn** are the desired assignations keys, (anyone from **M1** up to **M48**)

When a Master is loaded, its **Mn** LED is lit. The monitor shows us the number of the loaded memory under the master number.

Note:

If the Master fader is out its 0%, the loaded memory jumps to scene at the fader level.

LOADING MEMORIES SEQUENTIALLY

Load the stored memories, beginning from the first stored memory and from the selected Master up to the Master 48 or the last stored memory, pressing:

MEM **THRU** **LOAD** **Mn**

Load the stored memories, beginning from the memory # and from the selected Master up to the Master 48 or the last stored memory, pressing:

MEM # THRU LOAD Mn

Load the stored memories, beginning from the memory # and from the Master 1 up to the Master 48 or the last stored memory, (only for memories) pressing:

MEM # LOAD FL MT

Load a memories range from the selected Master, pressing:

MEM # THRU #' LOAD Mn

In these automatic process the old contents of the Masters are replaced by the new memories. These commands only stop when they arrive to the last stored memory or they arrive to the Master 48.

Examples:
Load the memories 1 to 48 in the Masters 1-48:
MEM 1 LOAD FL MT

Load the memories 1 to 10 beginning from the Master 25 (up to the Master 34):
MEM 1 THRU 10 LOAD M25

LOADING GROUPS IN THE MASTERS

There are 2 ways to load a Group in a Master:

Load a stored Group.

This process is similar to the process the load the memories, see above, only it is necessary to change **MEM** by **GROUP**. Example: **GROUP # LOAD Mn**

Load the editor content, and a new group is stored in this process:

{Editor} LOAD Mn

The editor is loaded in the selected Master like a Group. HYDRA names this Group with the next Group number. In the monitor the loaded Groups are marked with a "G" in brown, under the Master number.

LOADING CHANNELS

It is possible load control channels in the masters.

To load the channel # in the desired master, Mn, press:

CHANNEL # LOAD CHANNEL Mn

To load the channels range in sequential masters, beginning in the desired master, Mn, press:

CHANNEL # THRU #' LOAD CHANNEL Mn

In others words the pre-selected channels (its number in red) are loaded, channel by channel, in sequential masters.

{channels pre-selection} LOAD CHANNEL Mn

In the monitor, a channel loaded in a Master is marked with a little "**c"** in brown, next at its number.

COUPLE MASTERS

If the editor, a memory or a group has a mixed content, HTP + LTP - channels and/or spots dimmers + spots parameters and/or scrollers - it is possible to load this content in 2 masters. These two masters are **couple masters**. The couple masters provide us a control independent for the HTP and LTP.

To load the editor, a group or a memory in 2 couple masters, press:
{editor**}** **LOAD PARAM Mn**

MEM # **LOAD PARAM Mn**

Too, it is possible to load in this way a range of memories or groups:
GROUP # THRU (#') LOAD PARAM Mn

This load of the range is stopped with the first memory/group not mixed of the range, or when all masters are loaded.

In the couple masters**, always,** the **even** master has the HTPs and the **odd** master has the LTPs.

Both couple masters are loaded, modified, deleted or captured as a whole. But their control is independent. The couple masters have a double control (HTP + LTP) for playback.

Moreover, the couple masters permit us to have different times for their HTPs and LTPs.

LOADING CHASES OR EFFECTS

This process is similar to the process the load the memories, see above, only it is necessary to exchange **MEM** by **EFFECT**. Example: **EFFECT # LOAD Mn**

To more information about the Effects see the Chapter 6 – THE EFFECTS.

ASSIGNING A FADE-IN TIME

A fade-in time can be assigned to a Master loaded with a memory, group or channel.
This time is assigned to the master not to the master content. The fade-in time is used in the Master **GO** command and is the time that need the Master to arrive from its 0% at 100%.

Load a fade-in time in a loaded Master pressing:

TIME # LOAD Mn

Load the same fade-in time in several Masters pressing:

TIME # LOAD Mn, Mn .... And releasing LOAD

Load the same fade-in time in all loaded Master pressing:

TIME # LOAD FL MT

Delete a fade-in time, assigning a fade-in time = 0:

TIME 0 LOAD Mn	in a Master
TIME 0 LOAD FL MT	in all loaded Masters

In the command line, the symbol **T↑** appears denoting a fade-in time.

Note: If the Master hasn't assigned a **T↓**, the new **T↑** is copied in its **T↓**.

ASSIGNING A FADE-OUT TIME

A fade-out time can be assigned to a Master loaded with a memory, group or channel.
This time is assigned to the master not to the master content. The fade-out time is used in the Master **GO** command and is the time that need the Master to arrive from its 100% at 0%.

Load a fade-out time in a loaded Master pressing:

TIME TIME # LOAD Mn

Load the same fade-out time in several Masters pressing:

TIME TIME # LOAD Mn, Mn .... And releasing LOAD

Load the same fade-out time in all loaded Master pressing:

TIME TIME # LOAD FL MT

Delete a fade-out time, assigning a fade-out time = 0:

TIME TIME 0 LOAD Mn	in a Master
TIME TIME 0 LOAD FL MT	in all loaded Masters

In the command lime, the symbol **T↓** appears denoting a fade-out time.

ASSIGNING WAIT-TIMES

There are 3 wait times. These times are programmed using **WAIT**.
The wait times can be assigned to the Masters loaded with memories, groups or channels.

Delay/Auto time: It is the time that the Master remain in scene at 100%, before to count the fade-out time. To edit this time press **WAIT**.
Wait-in time: It is the time that the Master waits (at 0%) before to count the fade-in time. To edit this time press **WAIT** **WAIT**.
Wait-out time: It is the time that the Master wait in scene at 100%, after to count the delay time and before to count the fade-out time. This time is added to the delay time. To edit this time press **WAIT** **WAIT** **WAIT**.

Load the desired wait times in a Masters pressing:

WAIT # LOAD Mn	Delay time
WAIT WAIT # LOAD Mn	Wait-in time
WAIT WAIT WAIT # LOAD Mn	Wait-out time.

Load the same wait time in several Masters pressing:

WAIT WAIT # LOAD Mn, Mn .... and releasing LOAD

Load the same selected wait time in all loaded Master, pressing:

WAIT WAIT # LOAD FL MT

Delete the selected wait time, assigning a time = 0:

WAIT WAIT 0 LOAD Mn	in a Master
WAIT WAIT 0 LOAD FL MT	in all loaded Masters

TIMES SELECTION - SUMMARY

TIME	Fade-in time.
TIME TIME	Fade-out time.
WAIT	Delay time.
WAIT WAIT	Wait-in time.
WAIT WAIT WAIT	Wait-out time.

These times can be loaded at the same time.

Example: Load in the Master 14 the next times: Fade-in & fade-out = 2 sec, delay = 5 sec and wait-in = 2.5 sec: **TIME 2 TIME TIME 2 WAIT 5 WAIT WAIT 2.5 LOAD M14**

And the command line shows us:

Times can be loaded with the memory or group: Select the memory or group and after select the desired times. Example: **GROUP 1 TIME 3.5 TIME TIME 4 LOAD Mn**

In the case of memories, the user can copy the times associated to the memory like master times:

MEM # TIME LOAD Mn
MEM # THRU #' TIME LOAD Mn

In case of couple masters, it is possible to load the memories/groups with times:

MEM # TIME (#') LOAD PARAM Mn

The memory times are loaded in the 2 couple masters. After, these times can be modified individually.

MASTER MODES

A master with a memory, group or channel can work in mode:

- **Normal**: The master brings out its information in scene.
- **Inhibit**: An inhibited master doesn't give information in scene, only avoids that others masters give this information. The inhibited elements are showed in a black field.
- **Absolute**: The Master gives its information in scene, and at the same time, forces the rest of the master outputs at 0%.

Load an item, for example a memory, in **normal** mode:

MEM # LOAD Mn, in the command line**:** *MEM # LOAD*

Load an item, for example a memory, in **inhibit** mode:

MEM # LOAD LOAD Mn, in the command line: *MEM # LOAD(INHIBIT)*

Load an item, for example a memory, in **absolute** mode:

MEM # LOAD LOAD LOAD Mn, in the command line: *MEM # LOAD(ABSOLUTE)*

In the monitor, the master modes are marked with a little "**I**"(for inhibit) or little "**A**" (for absolute) next to its content (group or memory number).

For couple masters, it is possible to use modes of load (example - load an couple masters in "Inhibit" mode). The master mode is applied to the 2 couple masters.

MEM # LOAD LOAD PARAM Mn

UNLOADING THE MASTERS

Empty a Master, pressing:

DELETE Mn

Empty several Masters, pressing:

DELETE Mn, Mn.... and release DELETE

Empty the 48 Masters, pressing:

DELETE FL MT

EXAMINING THE MASTERS

Exam a Master pressing:

EXAM **Mn**

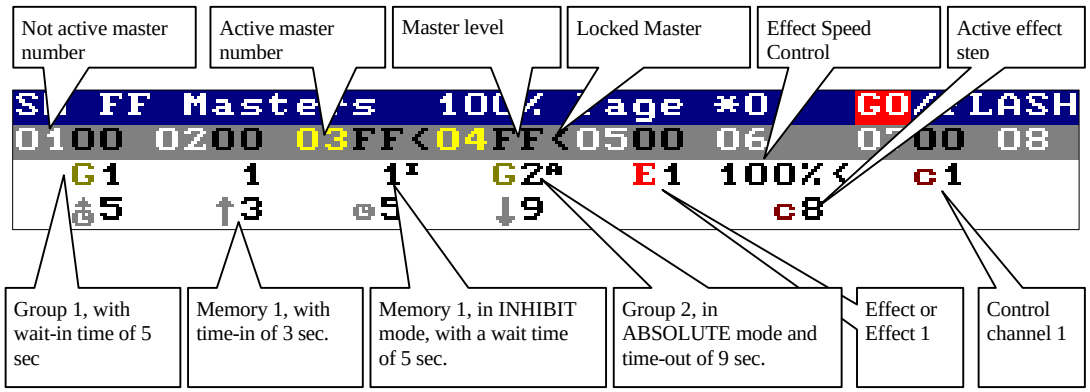
Exam the 48 Masters pressing:

EXAM **FL MT**

In these exam page use the arrow keys to access to more information.

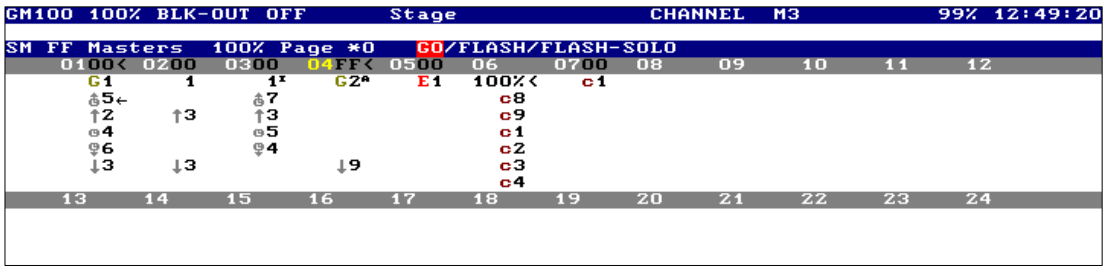
MASTERS VISUALISATION

In the base screen, format 0:



HYDRA shows us the current time of the first time to count.

The base screen, format 1, you can see all information about a master. Select this base screen pressing **MONITOR** **1** or **MENU** **60 1**:

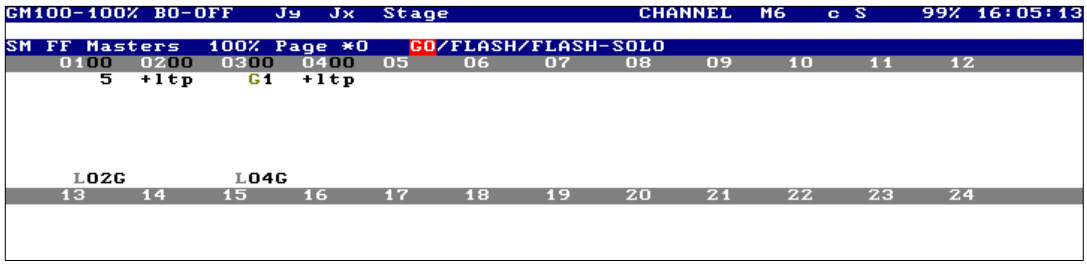


Press ⇑ or ⇓ to toggle between the masters 1-24 and the masters 25-48.

COUPLE MASTERS IN THE MONITOR

The next example is based in the base screen format 1, and in this screen you can see the memory 5 loaded in the couple masters 1 & 2, and the group 1 is loaded in the couple masters 3 & 4:

Observe the **auto-link,** in GO mode, between the couple masters, and the label "**+ltp**" associated to the odd master.



In this example, the masters have not times, but these times can be edited freely.

EDITING THE MASTERS

The Masters can be edited, loaded or modified, from the special modification page. This Masters modification page is a data sheet. Access to this page pressing **MODIFY** **FL MT**

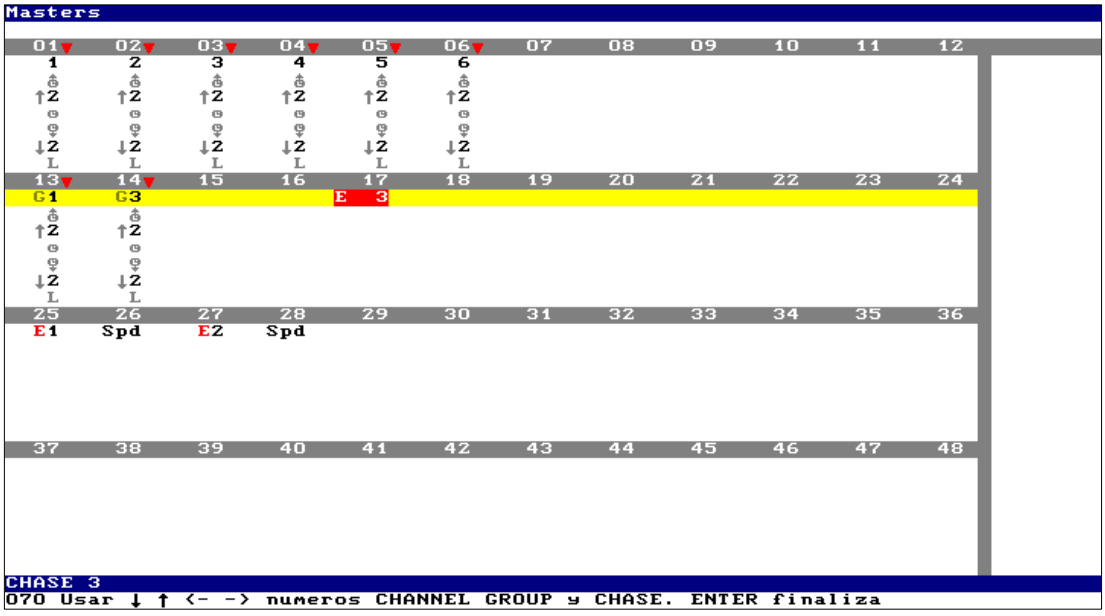
Inside this page use the arrows keys or the external mouse to access to the desired cell, and insert in this cell the numerical data: The master load, its times, the mode, and the **LINK** function (see the next part).

Editing the first master cell can load a memory, group, channel or effect:

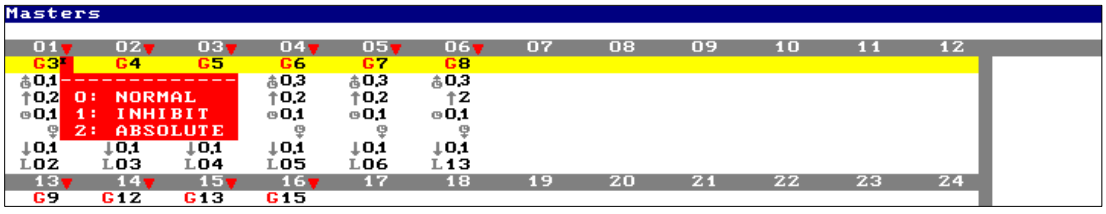
- Load a memory inserting here its number.
- Load a group pressing **GROUP** and its number.
- Load a Effect pressing **EFFECT** and its number.
- Load a control channel pressing **CHANNEL** and its number.

These loads are done in Stage, take care for the possible light jump in scene. When a master is loaded the rest of its cells are activated.

Example: In the figure, the cursor is in the first cell of the Master 17, and the Effect 3 is been loaded.



To select the master mode (normal, absolute or inhibit) in a Master, access to its cell ▼:



HYDRA opens an interactive menu. Select the desired option inserting the index number of the option and pressing **ENTER** or any arrow key to accept it. Quit of this page pressing **ENTER**

It is possible to edit a couple masters**,** for a memory or group, from the modification screen of masters. To access to this screen press **MODIFY** **FL MT**
Inside this screen, only in the even masters, the attribute “couple” is showed as option **3: +LTP**.

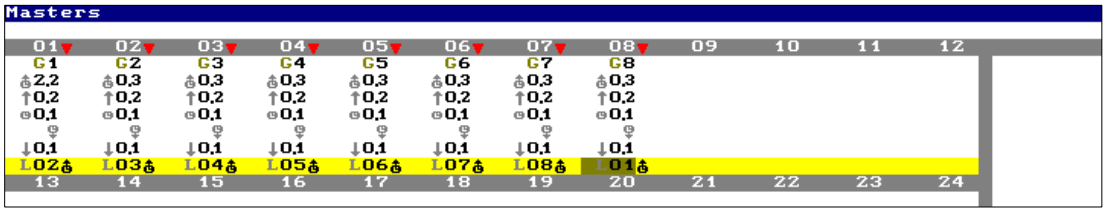
LINK FUNCTION

A Master with a memory, channel or Group; can have associated a **LINK** command. The **LINK** command is an automatic GO for other master number.
By default, this associated GO command is executed after the wait-in time of the master with the **LINK** programmed. If this wait-in time doesn't exist, both masters are started at the same time.
Optionally, the user can select the moment the execution of the **LINK** command.
The **LINK** commands only are executed when the Master is activated with a GO, no when is activated manually.

The **LINK** commands are programmed in the masters modification page: **MODIFY** **FL MT**.

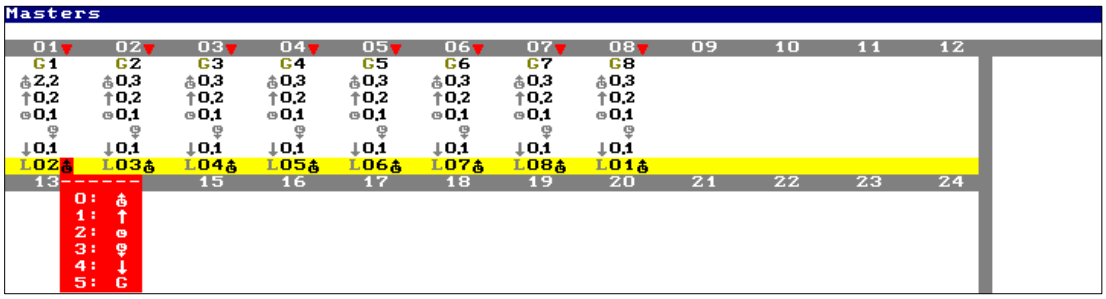
A programmed Link is marked with a little "**L**" and a master number.

Example: In the next figure we can see a programmed LINKS for the Masters 1 to 8:



When the user activates the Master 1 (GO command), after the count of its wait-in time begins its fade-in scene and at the same time the master 2 is activated. The Master 1 follows its progress.
When the Master 2 is activated, and after that its wait-in time is counted, The master 3 is activated...
And so on.
At the end, the Master 8 is activated, and after its wait-in time the Master 1 is activated again.

Optionally, a **LINK** command can be executed after the desired time or in the same time that the GO command, for this, select its cell ▼ and enter the index number of the desired option:



At any moment, the user has the control of the active Masters.
The LINK function in only an automatic GO of a Master.

The **5:G** (go) mode, is the unique mode that is based in the functionality of the master and no in the "key click".
Suppose that you have 3 masters, with different times, linked in **5: G** mode. The master 1 linked with the master 2, an the master 2 with the master 3.
Pressing **M1**, the 3 masters begin their fade-in scene (GO mode).
If before end the fade in the master 1, press again **M1** (PAUSE) the 3 masters are paused (PAUSE mode).
If, with the master 1 at 100%, press again **M1** (GO BACK) the 3 masters begin their fade-out scene (GO-BACK mode).

Program some **LINK** and change the time of the LINK execution, to check the creative possibilities of this powerful function.

THE PAGES

A page can have the contents of the 48 masters and the contents of the 2 crossfaders.

When a page is stored, it captures the "current" contents, of the masters & crossfaders.

HYDRA has 999 pages, from 1 up to 999.

RECORDING PAGES

Load the masters and the crossfaders, with the appropriate memories, groups, channels and effects. Load the desired times in the masters, etc. When the contents are the desired, press:

PAGE (#) REC

is the page number. Omit this number to store in the next free page.
If the selected page number exists, the console asks us for a confirmation. Press **REC** to confirm.

The page is independent to the status masters, only the contents are stored in the page.

LOADING A RECORDING PAGES

HYDRA has 2 modes of load a page; these modes are no-forced & forced. In the **no-forced** mode only the master with content in the page are loaded, and in **forced** mode, the 48 masters are loaded (including the page masters recorded like empty masters).

A page is loaded in the **masters** pressing:

PAGE # LOAD **No-forced mode**
PAGE # LOAD LOAD **Forced mode**

is the selected page number. The status line of the masters shows us this number. An asterisk, *, appears near this number when the masters are modified, indicating that the loaded page is different to the current masters assignations.
Loading a page, in any mode, all the masters are substituted for their news assignations, except the master that are actives in scene. These actives masters are marked in a red field. This indicates us that this masters takes its new assignation after the to cross by its 0% (to avoid light jumps in scene).

Note: This load command doesn't affect to the crossfaders.

It is possible load a page in the crossfaders. In **no-forced** only the contents of X2 & Y2 are replaced and this load doesn't affect to scene. In **forced** mode the contents of X1/X2 & Y1/Y2 are replaced and this load affects to scene.

Load a page in the **crossfaders**, pressing:

PAGE # AssignX **No-forced mode**
PAGE # AssignX AssignX **Forced mode**

Note:
This load command doesn't affect to the masters assignations.
The load pages command works the same way pressing **AssignX** or **AssignY**

Load a complete page in the **masters & crossfaders**, pressing:

PAGE # SELECT **No-forced mode**
PAGE # SELECT SELECT **Forced mode**

Or

PAGE # CALL **No-forced mode**
PAGE # CALL CALL **Forced mode**

Note:
The empty masters, of a page, don't affect to the current assignations of these masters when it is loaded in no-forced mode. When the user load this pages, the recorded empty masters will be not modified. In this mode, the user can store pages for the upper masters, for the downer masters, etc.

EXAMINING THE PAGES

Exam the selected page pressing:

PAGE # EXAM
In this exam screen the arrow keys permit us exam the previous or next master page.

Exam the pages list (all recorded pages), pressing.

PAGE EXAM

Exam the current masters assignations, pressing:

EXAM FL MT

ADDING TEXT TO THE PAGES

Insert the text for the pages, from the pages modification sheet:

MODIFY PAGE
In this page, place the cursor using the arrow keys to access at the cell of "text" of the desired page number, and insert the text with the alphanumeric external keyboard.

MODIFYING A PAGE

Modify a selected page pressing:

MODIFY # PAGE
is the selected page number.

The cursor is moved with the arrows keys, or the external mouse, to the desired cell, to modify the desired data.
To modify the page text, press **MENU** to toggle at the status line of this edition screen.

COPING A PAGE

Copy a page or range, pressing:

PAGE # = #' REC

PAGE # THRU #' = #'' REC

Example: **PAGE 1 = 10 REC** If the page 10 exist, this page is replaced with the contents of the page 1. The page 1 is not modified.

EXCHANGING PAGES

Exchange the contents of 2 pages or range, pressing:

PAGE # = = #' REC

PAGE # THRU #' = = #'' REC

Example: **PAGE 1 = = 10 REC** Now the content of the page 1 are in the page 10, and the content of the page 10 are in the page 1. If page 10 doesn't exist this page 10 is created and the page 1 is empty.

DELETING PAGES

Delete the selected page pressing:

PAGE # **DELETE** The console asks us for a confirmation: **DELETE** to confirm**.**

Delete the selected page pressing:

PAGE # **THRU** #' **DELETE** The console asks us for a confirmation: **DELETE** to confirm**.**

Delete all recorded page, pressing:

PAGE DELETE The console asks us for a confirmation: **DELETE** to confirm**.**

Tip:
Store the masters assignations in pages, this process helps us to playback the show, recovering the masters and sequences assignations.

THE MASTERS IN SCENE

The behaviour of the masters depends of the modes and content of each master.

The content of a master can be:
- A channel, a group o a memory.
- A effect. (The masters with effects are studied in the next chapter).

A master with a channel, group or memory can be classified as:
- **HTP**: The master only has conventional channels and/or spots dimmers.
- **LTP**: The master only has scrollers and/or spots parameters (except the dimmer parameter).
- **MIX**: The master has HTP + LTP. The master has channels and/or spots dimmers, and the master has too scrollers and/or spots parameters.

A master with a channel, group or memory can be in mode:
- **Normal**: A channel, scroller or spot parameter, controlled by a normal master, is displayed on a **yellow** filed.
- **Inhibit**: A Inhibit master only affects to its HTP contents (channels and spots dimmers). A channel or spot dimmer inhibited is displayed with its level on a **black** filed.
- **Absolute**: A channel, scroller or spot parameter, controlled by an absolute master, is displayed on a **yellow** filed. Remember: in the activation of an absolute master, the rest the masters are deactivated in progressive mode.

A master with a channel, group or memory can be controlled in:
- **Manual mode**
- **Automatic mode (GO)**
- **Flash mode:** ***FLASH*** **or** ***FLASH SOLO.***

CONTROL IN MANUAL MODE

Use the its fader to control the master in manual mode.

In manual mode, the fader movement, its position, controls the master output level and:
1. The status of its **Mn** doesn't affect to this mode.
2. The master times are not computed.
3. Is there is a programmed **LINK**, it is not executed.

A master is activated in manual mode when its fader is moved out of its 0% position. Its **Mn** LED is lit at 100%. The master number is displayed in yellow when the master is active.

CONTROL IN AUTOMATIC MODE

Press **FL MT**, as many times as will be necessary, to select the *GO* mode for the **Mn** keys: The **FL MT** LED at off.

Now the **Mn** keys are **GO** keys.

The automatic mode works with all programmed times and the **LINK** commands.

In this mode, pressing the **Mn** of a master - with channel, memory or group- the master content appears in scene respecting the programmed times.

During the master temporisation (the master is counting a programmed time) its **LED** is blinking.
During the master temporisation, use its fader to capture the master control, in this moment a beep is emitted by the System, and the master control, now, is in manual mode.
When a master is activated at 100%, and the master is not counting times, its **LED** is al 100%.
When the master is deactivated, at 0%, its **LED** is at 50% (the master is loaded).

The behaviour of the masters, controlled in automatic mode, depend of their contents:
HTP: Only with channels and/or spots dimmers.
LTP: Only with scrollers and/or spots parameters (except the dimmer parameter).
MIX: The master has HTP and LTP.

The **LTPs,** controlled in a master, can be **FADE** or **NO FADE**. The FADE parameter or scroller fades with the programmed times. A NO FADE parameter or scroller jumps in scene (0.1 seconds). See the chapter 11 – The Patchs to more information.

A HTP master controlled in automatic mode:

Starting with an inactive master (at 0%), when you press its **Mn**, GO:

This **GO** activates the master content in scene, counting the wait-in time and the fade-in time, and then, counting the auto time and the wait-out time and the fade-out time. (Of course, only if these times are programmed).

During the temporisation, its LED is blinking, and in this status, a new GO pauses the time count and other new GO reactive the time count.

If the master has not fade-in time, the master jumps at 100% in 0,1 seconds.

If the master has not auto time, and is active at 100%, a new GO is needed for the master begins to count the times of wait-out and fade-out. When the master arrives at its 0%, the master is deactivated (its LED is at 50%).

If there is a programmed **LINK**, this is executed after the count of the time indicated in the LINK command.

A LTP master controlled in automatic mode:

These masters work in **recharge** mode.

Starting with an inactive master (at 0%), when you press its **Mn**, GO:

This **GO** activates the master content in scene, counting the wait-in time and the fade-in time, and then, counting the auto time and the wait-out time and the fade-out time. (Of course, only if these times are programmed).

During the temporisation, its LED is blinking, and in this status, a new GO pauses the time count and other new GO reactive the time count.

If the master has not fade-in time, the master jumps at 100% in 0,1 seconds.

If the master has not auto time, and arrives its 100% in automatic mode, the recharge mode is activated; in this status:

1. Each new **GO** reactivates its LTP parameters, counting the programmed input times.
2. Use the master fader to deactivate the **recharge** mode, and can deactivate the master. The fader must be arrive at its 100% to deactivate the **recharge** mode. Now, it is possible to deactivate the master manually (moving its fader newly at 0%) or automatically (GO).

Example: The master 1 has 2 spots in red colour. The master 2 has the same 2 spots in green colour. The masters 1 & 2 haven't auto times. Then:
GO of M1.- These spots are in red colour.
GO of M2.- These spots are in the green colour.
GO of M1.- The spots are in red colour newly.
In others words the GO key "recharges" the LTP contented in its master.

A MIX master controlled in automatic mode:

These masters work in **recharge** mode.

Starting with an inactive master (at 0%), when you press its **Mn**, GO:

This **GO** activates the master content in scene, counting the wait-in time and the fade-in time, and then, counting the auto time and the wait-out time and the fade-out time. (Of course, only if these times are programmed).

During the temporisation, its LED is blinking, and in this status, a new GO pauses the time count and other new GO reactive the time count.

If the master has not fade-in time, the master jumps at 100% in 0,1 seconds.

If the master has not auto time, and arrives its 100% in automatic mode, the recharge mode is activated; in this status:

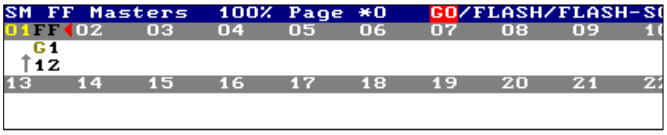
1. Each new **GO** reactivates its LTP parameters, counting the programmed input times and this GO command doesn't affect to the HTP contented in the master (channels and spots dimmers).
2. Use the master fader to deactivate the **recharge** mode, and can deactivate the master contents, both LTPs and HTPs. The fader must be arrive at its 100% to deactivate the **recharge** mode. Now, it is possible to deactivate the master manually (moving its fader newly at 0%) or automatically (GO).

Example: In the master 1 there is 3 spots at red and their dimmers at 50%, in the master 2, the same 3 spots at green and their simmers at 35%, then:

GO of M1.- The spots in red and at 50%.
GO of M2.- The spots in green and at 50%.
GO of M1.- The spots in red and at 50%.
GO of M2.- The spots in green and at 50%.
Now, move the M1 fader up to 100% and up to 0%.- The spots are maintained in green and their dimmers at 35%.
In resume, the GO key "recharges the LTP" of its master. Remember, when the master is in recharge mode, is needed to drive the master at 100% to unlock it and to take the control.

Recharge mode

The recharge mode is a behaviour special of the GO master key. In the recharge mode, the GO key always works as GO↑ for the LTP parameters in the master. When the master is in recharge mode, in the monitor, is marked with the symbol:



In general, a master is in **recharge** mode always after a master GO. The recharge mode is activated when the master arrive at its 100% in scene and is maintained active while its fader is locked. Observe in the previous figure: The master is at 100% in recharge mode (FF) and is ready to do a new input in scene of its LTP parameters (↑12).

If we only work with conventional channels, nothing is different in HYDRA. But if we work with spots or scrollers, we can note that the master response is more efficient.

Couple masters

Both couple masters are loaded, modified, deleted or captured as a whole. But their control is independent. The couple masters have a double control (HTP + LTP) for playback.

Moreover, the couple masters permit us to have different times for their HTPs and LTPs.

Example: The memory 5 has the spots 1 to 5 at 100% in the position 3. When this memory is loaded in a couple masters, we have access to this position at any moment, independently of the status of their dimmers. And too it is possible to obtain a fading in scene with different times for HTPs and LTPs.

To load this memory in a couple masters press: **MEM** **5** **LOAD** **PARAM** **M1**

Now, the HTPs of the memory 5 are in the master 1, and the LTPs in the master 2. The master 1 has a link to the master 2 in GO mode. This LINK is an auto-link and it can not be edited.

Now **M1** is a “GO” of the memory 5 complete. And **M2**, always in recharge mode, permits us to select the position 3 of these spots at any moment and the independent way.

The potentiometers of these masters, always, have a manual control of their contents.

CONTROL IN FLASH MODE

FLASH
Press **FL MT** as many times as will be necessary to select the *FLASH* mode for the **Mn** keys. The **FL MT** LED at ON.

Now the **Mn** keys are Flash keys for the master content.

Each time that a **Mn** is pressed, and as long as this key is pressed, its master is active at 100%. It is possible to press the desired **Mn** keys.

FLASH SOLO
Press **FL MT** as many times as will be necessary to select the *FLASH SOLO* mode for the **Mn** keys. The **FL MT** LED is blinking.

Now the **Mn** keys are Flash Solo keys for the master content.

Each time that a **Mn** is pressed, and as long as this key is pressed, its master is at 100% and at the same time the rest of the master outputs are forced at 0%. It is possible to press the desired **Mn** keys.

In the monitor, in the masters status blue line, the current mode of the **Mn** keys appear:

GO/FLASH/FLASH-SOLO

The *FLASH-SOLO* can affect to the crossfader outputs. See the chapter 10 - THE MENUS to more information.
The level of activation for *FLASH* and *FLASH SOLO*, by default at 100%, can be configured in the HYDRA SETUP. See the chapter 10 - THE MENUS to more information.

SPEED CONTROL FOR THE MASTERS

The fade speed of the masters can be controlled in the central encoder, {**RATE**}. To activate the speed control for the masters, press:

RATE **FL MT**, (and release **RATE**)**,** in the encoder appears **{RATE M}** indicating us that this encoder is controlling the masters speed.

Move clockwise the {**RATE M**} encoder, to accelerate (up to 650%), and move in the other direction to decelerate (up to STOP).

There are 3 ways to deactivate the speed control:
- Pressing **RATE** **FL MT**, (and release **RATE**), the value edited for the speed is maintained.
- Pressing **RATE** **RATE**, the value edited for the speed is maintained.
- Pressing **RATE** **FL MT** **FL MT**, (and release **RATE**), the value for the speed returns to 100%.

The RATE LED:
Is at OFF when all speed controls are inactive & at 100%
Is at ON when all speed controls are inactive but some of them are different of 100%.
Is BLINKING, when some of these speed controls are active in the encoder.

In the monitor:
The value of the speed control appears in percentage (%), and is placed in the status line of the masters.
When this value is different of 100%, is affecting to the programmed times, this value is showed in a red field.

Note:
The masters speed, {**RATE M**}, is applied to all masters, except the masters loaded with a effect.

THE GENERAL CONTROL OF MASTERS: SM

The master **SM**, by default, is a general control of the outputs of all masters. Its level is showed in the status line of the masters.

This special master can be configured like the DMX-INPUT control, from the **menu 03**: DMX IN. (See the chapter 10 - THE MENUS)

Note:
The **SM** only affects to the conventional control channels and the spot dimmers. This fader does not affect the scrollers and the rest of the spot parameters.

RESUME

Loads in the masters:

A memory in a master:	**MEM # LOAD Mn**
A group in a master:	**GROUP # LOAD Mn**
	{editor} LOAD Mn
A channel in a master:	**CHANNEL # LOAD CHANNEL Mn**
Load in Couple Masters:	**{item} LOAD PARAM Mn**
A effect in 2 masters:	**EFFECT # LOAD CHANNEL Mn**
Memories in several masters:	**MEM # LOAD Mn Mn ... release LOAD**
Groups in several masters:	**GROUP # LOAD Mn Mn ... release LOAD**
Effects in several masters:	**EFFECT # LOAD Mn Mn ... release LOAD**
A range in consecutive masters:	**MEM # THRU #' LOAD Mn**
	GROUP # THRU #' LOAD Mn
	CHANNEL # THRU #' LOAD CHANNEL Mn
	EFFECT # THRU #' LOAD Mn
All memories in consecutive masters:	**MEM THRU LOAD Mn**
All groups in consecutive masters:	**GROUP THRU LOAD Mn**
All effects in consecutive masters:	**EFFECT THRU LOAD Mn**
Memories in the 48 masters:	**MEM # LOAD FLmT**
Groups in the 48 masters:	**GROUP # LOAD FLmT**
Effects in the 48 masters:	**EFFECT # LOAD FLmT**
Load from the selected master the range:	**MEM # THRU LOAD Mn**
	GROUP # THRU LOAD Mn
	EFFECT # THRU LOAD Mn
Times in a master:	**{times} LOAD Mn**
The same times in several masters:	**{times} LOAD Mn Mn**...release **LOAD**
The same times in the 48 masters:	**{times} LOAD FLmT**
Time-in:	**TIME #**
Time-out:	**TIME TIME #**
Wait:	**WAIT #**
Wait-in:	**WAIT WAIT #**
Wait-out:	**WAIT WAIT WAIT #**
A memory and its recorded times:	**MEM # TIME LOAD Mn**
A memories range and its times:	**MEM # THRU #' TIME LOAD Mn**
Memories/groups in normal mode:	{mems/grps} **LOAD** {masters}
Memories/groups in inhibit mode:	{mems/grps} **LOAD LOAD** {masters}
Memories/groups in absolute mode:	{mems/grps} **LOAD LOAD LOAD** {masters}

Exam:

A master:	**EXAM Mn**
The 48 masters:	**EXAM FLmT**

Edit the masters: **MODIFY FLmT {modifications} ENTER**

Free the masters:

A master:	**DELETE Mn**
Several masters:	**DELETE Mn Mn...** release **DELETE**
All masters:	**DELETE FL-MT**
A master times:	{times = **0** sg} **LOAD Mn**
Several masters times:	{times = **0** sg} **LOAD Mn Mn**...release **LOAD**
All masters times:	{times = **0** sg} **LOAD FLmT**

Store/Load a page:

Store a selected page :	**PAGE # REC**
Store the next page:	**PAGE REC**
Load page in masters, no-forced:	**PAGE # LOAD**
Load page in masters, forced:	**PAGE # LOAD LOAD**
Load page in crossfaders, no-forced:	**PAGE # AssignX**
Load page in crossfaders, forced:	**PAGE # AssignX AssignX**
Load page in masters & crossfaders, no-forced:	**PAGE # SELECT** **PAGE # CALL**
Load page in masters & crossfaders, forced:	**PAGE # SELECT SELECT** **PAGE # CALL CALL**

Exam:

A page:	**PAGE # EXAM**
A pages-list:	**PAGE EXAM**

Modification:

A page contents:	**PAGE # MODIFY**
General. Parameters:	**PAGE MODIFY**

Copy & Exchange:

Copy:	**PAGE # (THRU #') = #'' REC**
Exchange:	**PAGE # (THRU #') = = #'' REC**

Deleting pages:

A page:	**PAGE # DELETE**
A range:	**PAGE # TRHU #' DELETE**
All pages:	**PAGE DELETE**

Speed control: **RATE FLmT** {**RATE M**} **RATE RATE**

6 .- THE EFFECTS

HYDRA can store **999** Effects (Chases), and **24** of them can be executed simultaneously.

An effect can be stored with memories, channels or Groups into its steps. The Effects are executed in the masters. An effect needs 2 Masters for its control: One Master is a level control and the other Master is a speed control.

An effect is an ordered succession of its steps (memories, channels or groups) in scene. Each **step** of the Effects is in scene a desired time, and then is replaced by the next step.

The Effects can be played in one of these directions:

Direction	Explanation	Example for a 3 steps effect...
>	Up Cyclic	**Step 1**, Step 2, Step 3, **Step 1**...
<	Down Cyclic	**Step 3**, Step 2, Step 1, **Step 3**...
< >	Up-Down Cyclic	**Step1**, Step 2, Step 3, Step 2, **Step 1**...
A	Random	Random sequence (Yet not implemented)

The steps can be replaced in one of these modes:

Mode	Explanation	In scene...
_ |	Jump	The old step jumps out scene, at the same time, the new step jumps in scene.
/ |	Fade-in	The old step jumps out scene, at the same time, the new step begins its fade-in scene in the step-time.
| \	Fade-out	The old step begins its fade-out scene in the step-time. Then the new step jumps in scene.
^	Fade-in & Fade-out	The old step begins its fade-out scene in the step-time, and then, the new step begins its fade-in scene in the step-time.
XX	Crossfade	The new steps crossfades with the old steps in the step-time.

An effect can be programmed with a step time or an effect time. The user programs the desired time and HYDRA calculates the other related time.

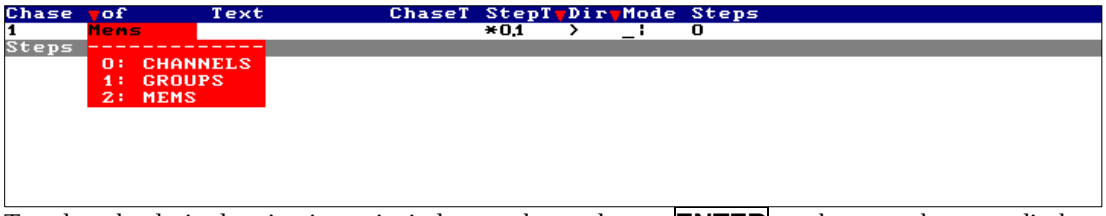
STORING AN EFFECT

The effects are programmed in a special edition page, this page is a data sheet.

Access to this special edition page, to program a new effect, pressing:

EFFECT **#** **REC**	#, is an effect number that the user want program, (1-999).
EFFECT **REC**	to program the next effect number.

The first selection in the special edition page is selected the type of the effect steps (memories, groups or channels):



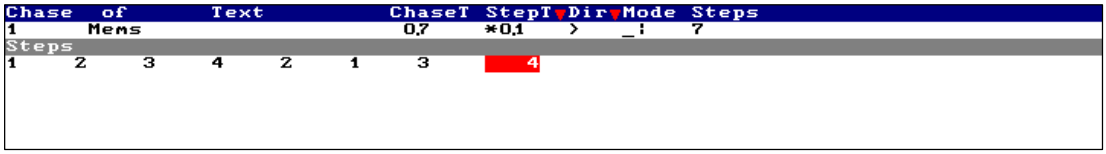
To select the desired option insert its index number and press **ENTER**, or the arrow keys to edit the next effect attributes. This attributes are in this special edition line and they are:

The Effect-number.	**Effect 1**
The type of the Effect steps.	**Mems**
The associated text.	
The Effect-time,	**EffectT**
The Step-time,	**StepT**
Effect direction,	>
Effect mode,	_ |
The current steps number:	**Steps 0**

All numeric data are inserted in the same way. Accessing to the desired cell and inserting the number from the numeric keyboard. In any cells, (direction, mode or type) an interactive selection red window is opened, in this case insert the desired option index number.

The Effect-time and the Step-time are interrelated. The user programs one of them and the HYDRA calculates the other time.

In the inner part of this page, in a white field, the steps edition cells are placed. The steps number is not limited, in other words, an effect can have as many steps as will be necessary. Access to this page part pressing **MENU**. **MENU** toggles between the upper special line and the inner cells of steps edition.



The steps edition cells are ordered from the step 1 up to the last step, and they accept a memory number, or group number or channel number (depending to the effect type):

In these edition cells:
Access to the no-edited first cell and press **INSERT**, to insert the next memory number, (group or channel) in this cell, or enter the desired number of channel (memory or group).
In any cell, press **#** **INSERT**, to insert this channel in a new step, (memory or group). The next steps are displaced by one position up.
To delete an edited step, access to its cell and press **DELETE**. The step is erased. The next steps are displaced by one position down.

To accept the effect edited data, and exit of this edition page, press **ENTER**.

MODIFYING AN EFFECT

At any moment, a stored effect can be modified.
There are 2 ways to modify a stored Effect:

EFFECT # **MODIFY** The effect edition page appears.
EFFECT # **REC** The effect edition page appears.

The effect modifications are done in the same effect edition page, only a parameter can not be modified: The effect type (memory, group or channel).

After the desired modifications press **ENTER** to accept them.

Note:
An effect can be modified at any moment, even if the effect is running.

GENERIC MODIFICATION OF THE EFFECTS

The effects can be modified in generic mode. This mode is special for assign text, times, modes and directions to the effects. This mode is not accepted to edit the effect contents.
Access to the effects modification page pressing:

EFFECT **MODIFY**

The effects list appears in the monitor, and the cells of text, effect-time, step time, mode & direction are actives. Use the arrows keys or the external mouse to select the desired effect (yellow line) and the desired cell (brown cursor). The text is inserted from the external alphanumeric keyboard.

Use any cell of the column with the effect-number (in grey field) to access to the desired effect-number quickly, entering here the number and pressing **ENTER**

EXAM OF THE EFFECTS

To exam all Effects in generic mode, press:

EFFECT **EXAM**

To exam the selected Effect press:

EFFECT # **EXAM**
Use the arrow keys to exam the previous or next stored effect.

COPING AN EFFECT

Copy an effect contents in other effect, (or effects range)pressing:

EFFECT # **-** #' **REC**

EFFECT # THRU #' = #'' REC

Example: **EFFECT 1 = 5 REC**.
The Effect 1 contents are copied in the Effect 5. If the Effect 5 exists, its contents are replaced. If the Effect 5 doesn't exist is stored in this moment. The Effect 1 & the Effect 5, now, are equals.

EXCHANGING EFFECTS

The contents of 2 effects (or ranges) can be exchanged at any time pressing:

EFFECT # = = #' REC
EFFECT # THRU #' = = #'' REC

Example: **EFFECT 1 = = 5 REC.**
The contents of the Effect 1 are stored in the Effect 5 and the contents of the Effect 5 are stored in the Effect 1. If the Effect 5 was not recorded, after this command the Effect 1 is empty.

ERASING AN EFFECT

To erase a selected effect press: **EFFECT # DELETE**

To erase a selected range press: **EFFECT # THRU # DELETE**

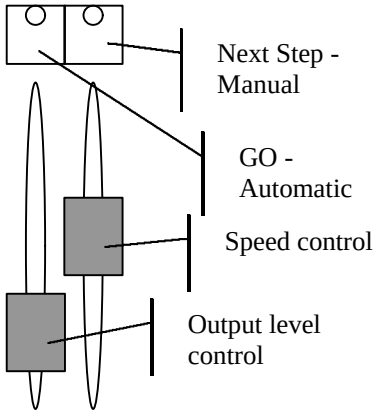
To erase all effects press: **EFFECT DELETE**

HYDRA requests us a confirmation. To confirm press **DELETE** again.

RUNNING AN EFFECT

An effect is executed in 2 consecutive Masters. HYDRA can execute 24 effects simultaneity in its 48 Masters.

The Effect function keys and control faders are:



LOADING EFFECTS IN THE MASTERS

To run an effect is necessary load it in masters. To load the selected Effect in the desired Master press:

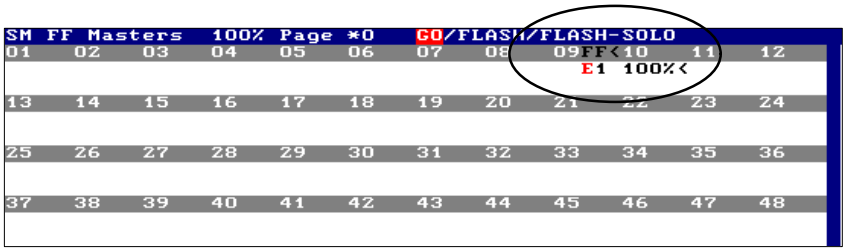
EFFECT # **LOAD** **Mn**

is the effect number and **Mn** the assign key of the desired Master.

To see other load options, consult the chapter 4 - Masters & pages.

Example: Load the Effect 1 in the Masters 9 &10: **EFFECT** **1** **LOAD** **M9**

The **M9** LED is lit when the effect is loaded. The monitor shows us:



The contents of the Masters 9 & 10, the **E** in red denotes that this content is an effect.

When an effects is loaded in the masters, it is loaded in the following mode:
- Its level control fader locked at 100%.
- Its speed control fader locked at 100%.

In this way, it is not necessary to advance these faders to activate the effects in scene. (Very used to load and activate an effect using a macro).
To control de effect level or effect speed, it is enough to advance the corresponding fader until reach the current level (unlocking the fader).

Now, the Effect is ready for its execution in automatic or manual mode.

To release the loaded effect press: **DELETE** **M9**

RUNNING AN EFFECT IN AUTOMATIC MODE

In base to the previous example, press **M9**, or **GO** key for the Effect 1:

If the effect is inactive, when the **M9** is pressed, the effect begins to run in scene from its steps 1, controlled for the faders 9 & 10. The **M9** LED, is blinking, indicating us an automatic playback mode. At any time, we have control of output level & speed:
The fader M9: Controls the output level from 0% up to 100%.
The fader M10: Controls the effect speed from STOP up to 0,1 sec/step.

If the effect is active, when the **M9** is pressed, the effect is deactivated. The **M9** LED is at ON.

In the monitor, the channels, scrollers and spot parameters controlled by an effect appear in yellow filed.

The effect is running in cyclic mode, until that the user stops/deactivates this effect.

An effect can be running a selected times number (loop), and then the effect is deactivates automatically, for this, press:
**M9**
is the times number, loops, that the effect is executed. This number is between 1 & 99.
The loops are showed, dynamically, in the monitor under the Effect-number.

STOPPING THE EFFECT WITH A STEP IN SCENE

In base to the previous example:
Press **M10**, or the **Step** key to stop the effect and maintain in scene the current step. Now the effect is waiting for the next command. The **M10** LED is blinking and the **M9** LED is fixed at ON.

In this situation:
Reactive the effect in automatic mode pressing **GO**: **M9**
Jump to the next step, in manual mode, pressing **Step**: **M10**
Access to the selected step, pressing: # **M10**,

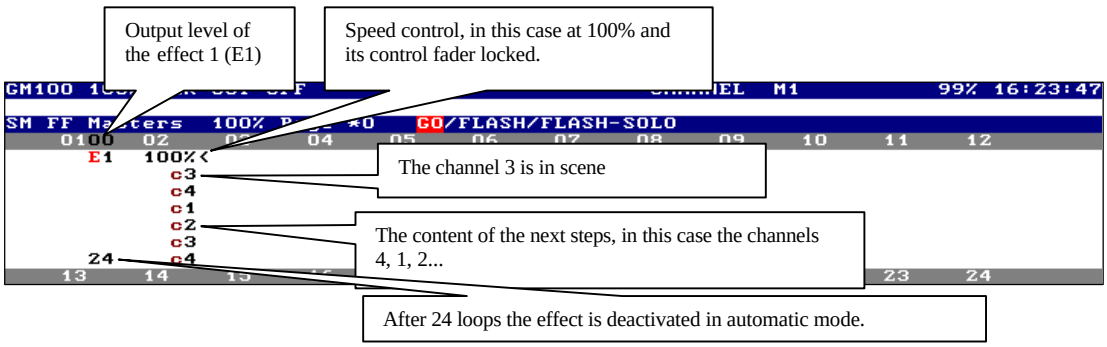
RUNNING AN EFFECT IN MANUAL MODE

In base to the previous example, an effect is controlled manually using its **Step** key: **M10**.
Each time that this key is pressed the effect advances one step in scene.
To access to the selected step, press # **M10**, # is the step number.

The manual mode ended when the user presses **M9**, reactivating the effect in automatic mode.

THE EFFECTS IN THE MONITOR

In the **MONITOR** **1** you can see:



In the **MONITOR** **0**, only is showed the Effect number, the current loops, the faders levels and the step in scene.

In each effect step is showed their content:
Its number if is a memory, a "**G**" and its number if is a group, or a "**c**" and its number if is a channel.

LEARNING THE STEP TIME - LN TM

The **LN TM** key permits us to learn times for effects.

Learning times for effects:
It is possible "to learn" the step time (rhythm) of an effect executed manually using its STEP key, **Mn(even).**
The effects must be loaded in the masters (active or not), and to learn its step time:

- Press **LN TM** (LED on) to activate this function.
- Press **Mn(even).** - STEP placed over the speed control fader, as many times as will be necessary to mark the desired "rhythm".
- Press **Mn(odd).** - GO placed over the level control fader. At this moment:
  The effect is started automatically with the learned step time: the time passed between the last Mn(even) and the Mn(odd).
  The **LN TM** function is deactivated automatically (LED off).
  The speed control fader, if it is necessary, is locked at its 100%.

Always that an action not permitted is done inside the **LN TM** process, HYDRA emits a warning "beep" and deactivates this function.

At the right of the status line (in the monitor) the flag ***L-T #*** appears in a red field, always that the LN.TM function is active. Inside this flag appears the value of the current time that HYDRA is learning (#).

SCROLLERS & SPOTS in EFFECTS

When a scroller or spot parameter (except the dimmer parameter, 3:dm) is controlled by an effects:

1. The effect level fader doesn't affect to the value of the scrollers & parameters. For example, it is possible to execute an effect of scrollers colours with this level fader at 0%.
2. When a step has finished its scrollers and parameters are not forced to 0%. They remain, in tracking mode, in scene.
3. An effect takes the control (over scrollers & spot parameters in other playbacks) only when the effect is activated pressing GO, (never with each new active step).

Example 1:
The effect 1 has the memories 1, 2 and 3.
The memory 1 is in the step 1 and has: channel 1 @ 50% and its scroller at **red**.
The memory 2 is in the step 2 and has: channel 2 @ 75% and its scroller at **blue**.
The memory 3 is in the step 3 and has: channels 1 and 2 @ 25%.

Active step	Step content	In scene
1	CH1 @ 50% SCR1 @s Red	CH1 @ 50% SCR1 @s Red
2	CH2 @ 75% SCR2 @s Blue	**SCR1 @s Red** (tracking) CH2 @ 75% SCR2 @s Blue

3	CH1 @ 25% CH2 @ 25%	**SCR1 @s Red** (tracking) **SCR2 @s Blue** (tracking) CH1 @ 25% CH2 @ 25%
1	CH1 @ 50% SCR1 @s Red	**SCR2 @s Blue** (tracking) CH1 @ 50% SCR1 @s Red
Deactivated		**SCR1 @s Red** (tracking) **SCR2 @s Blue** (tracking)

Example 2:
The effect 2 has the memories 1-10.
Step 1: The memory 1 with the parameter **CO**, of the spot 8, at colour 01.
Step 2: The memory 2 with the parameter **CO**, of the spot 8, at colour 02.
Step 3: The memory 3 with the parameter **CO**, of the spot 8, at colour 03.
... ...
Step 10: The memory 10 with the parameter **CO**, of the spot 8, at colour 10.

This effect permits us select the colour of the spot 8 quickly:

The effect is in M1/M2	**In scene**
Select the 3 Step: **3** **M2**	The spot 8 is at colour 03
Select the 7 Step: **7** **M2**	The spot 8 is at colour 07
GO: **M1**	To activate a colours effect of the spot 8: 01, 02, 03, ..10, 01...

RESUME

Recording:
A selected effect: **EFFECT # REC**
The next effect: **EFFECT REC**

Modification:
A selected effect: **EFFECT # MODIFY**
EFFECT # REC
General. Parameters: **EFFECT MODIFY**

Exam:
An effect: **EFFECT # EXAM**
The effects-list: **EFFECT EXAM**

Deleting:
An effect: **EFFECT # DELETE**
A range: **EFFECT # THRU #' DELETE**
All effects: **EFFECT DELETE**

Copy & Exchange:
Copy: **EFFECT # (THRU #') = #'' REC**
Exchange: **EFFECT # (THRU #') = = #'' REC**

Executing:
GO: **Mn-odd**
Loops number GO: # **Mn-even**
Manual, step to step, STEP: **Mn- odd**
Manual, a selected step, Nº STEP: # **Mn- even**

Learning the Step Time. LN.TM function:
LNtM Mn-odd ... Mn-odd Mn- even

7 .- THE CROSSFADERS

HYDRA has 2 independents and complete crossfaders.

The crossfaders, X1/X2 & Y1/Y2, permit execute memories in sequential crossfades. A crossfade is a double faded between 2 memories, one of them fading in scene and the other fading out scene.

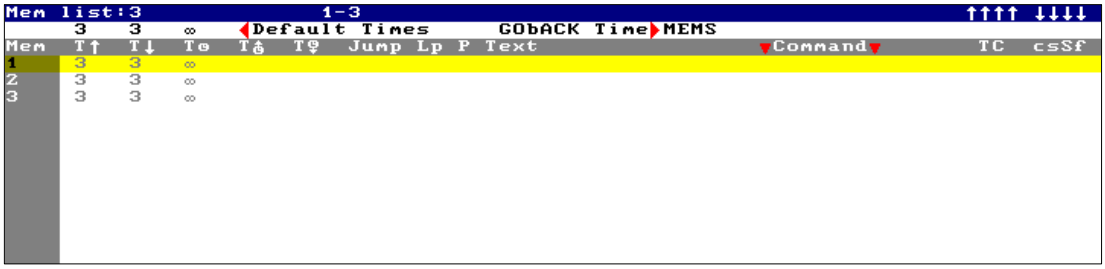
By default, the memories are executed in ascendant numeric order. A finite memories range or all memories can be loaded in a selected crossfader.

The crossfader use all memories attributes, including the "automatic-commands".

EDITING MEMORIES FOR THE CROSSFADER

In the editor, store memories with the desired channels, scrollers & spots. Then, the memories attributes are edited in a special edition page. To access to this edition page press: **MEM LIST**.

This monitor page is a data sheet. In this page, the memories attributes are edited in very simple way. This memories edition page shows us:



Line 1, (blue): The number of memories & their range. (In the previous figure, 3 stored memories). When the external mouse is connected, at the right of this line appear the mouse commands ↑↑↑↑ & ↓↓↓↓ to page this screen. (These commands only appear when the mouse is connected).
Line 2, (setup line): The default times that are assigned to each new stored memory. These times can be edited in this edition page. And the default time for the **GO BACK** function.
Line 3: (data sheet labels line).

From here, the memories list appears, and each memory shows us its editable attributes. The **yellow** line is a cursor. This cursor is moved using the arrow keys or the external mouse. The active cell is marked in a **brown** field, The active cell is moved using the arrow keys or the external mouse. To edit a data is necessity access to it with the active cell.

With the active cell in the data to edit, insert the desired numeric data or the desired text (from the external keyboard). Each line contents the information of the memory that heads this line.
The memories numbers are in a grey filed, these cells can be used like an automatic placement of the cursor: enter the desired memory number and press **ENTER** to access to this memory.
Too, the **SCREEN** command permits us page the monitor.

Toggle between the setup line and the owner memory list, pressing **MENU**. See the Chapter 4 – MEMORIES & GROUPS.

CROSSFADE TIMES

Fade-in time.- T↑, Is the time that a memory needs to fade-in scene at 100% during its crossfade.

Fade-out time.- T↓, Is the time that the previous memory needs to fade-out scene at 0% during the crossfade of the current memory. When the fade-in time & fade-out time are equals the crossfade is a split crossfade. If this time is not edited is considered equal to the fade-in time of the memory.

Wait time – T◷, Is the time that the memory remains in scene, before to begin the next crossfade in automatic mode. This time permits us loop crossfades.

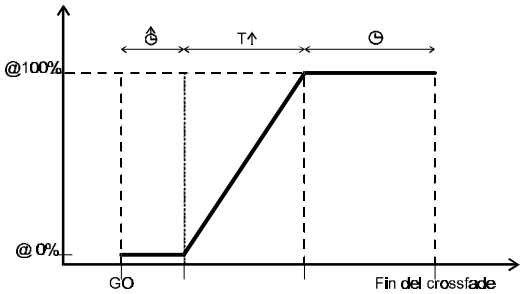
Wait-in time- T◷↑, Is the time that a memory waits before to begin its fade-in scene after its GO command.

Wait-out time- T◷↓, Is the time that the previous memory waits in scene before to begin its fade-out scene, after the GO command of the current memory.

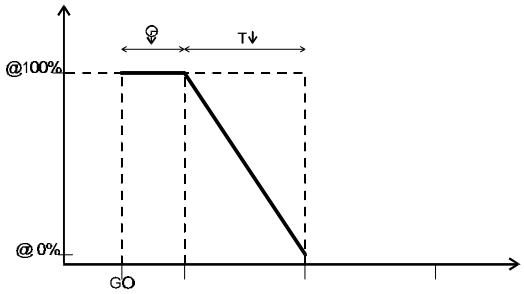
The edited times are showed in black. By default times are showed in grey.

Note:

When the wait-in time & wait-out time are equals, these times can be substituted by a wait time (delay). Normally, only one of them is used.
The associated commands are triggered always in the beginning of the crossfade (GO command).



INCOMING MEMORY TIMES, APPLIED IN THIS MEMORY

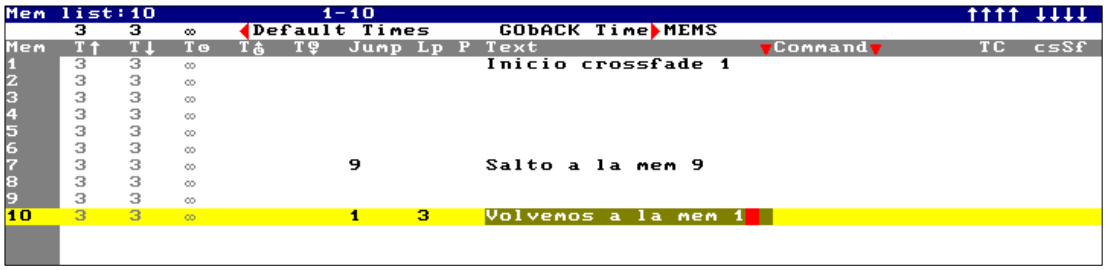


INCOMING MEMORY TIMES, IN THE FADE-OUT MEMORY

SEQUENCE JUMPS

The memories are played in sequential order in the crossfaders. This order can be broken using the **Jump** cell. In this command the next memory is inserted, and the times that this jump is executed are inserted in the **Lp** cell.

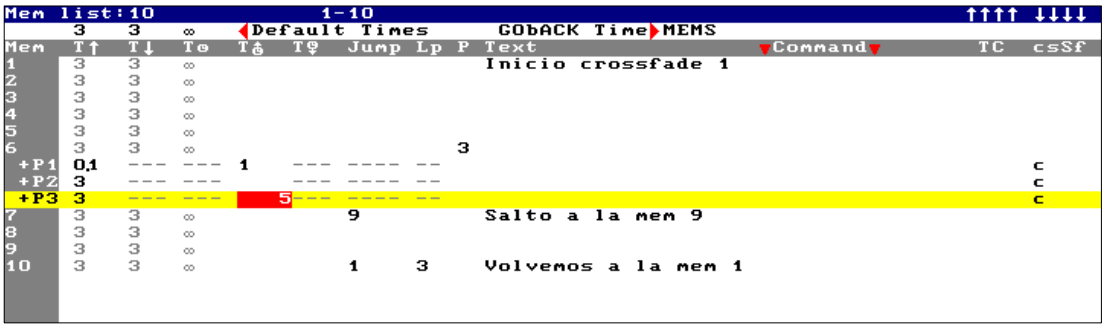
Example:
The memories from 1 to 10 are stored. Now we want some exceptions: that the memory 9 follows to the memory 7. After the memory 10 goes back to the memory 1. This sequence is repeated 3 times:



MEMORIES WITH TIME PARTS

If you have memories with time parts, under the **P** header, the number of parts appears, and under the memory, a line by part appears. In these part lines, it is possible to edit the input time of the each part and the wait-in time. To edit the times of the part, access to the desired cell with the cursor and enter the desired number with the numeric keyboard.

In the next example, the memory 6 has 3 parts:



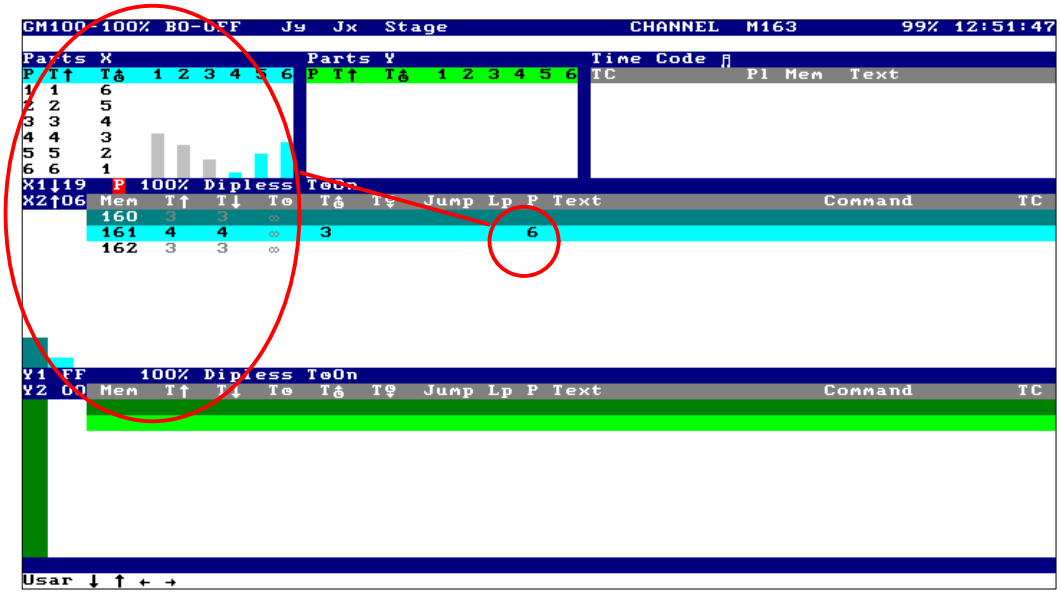
The memory parts only are supported in the crossfaders. And the crossfader must be activated in automatic mode - pressing **GO**.

When the crossfade to a memory with part is activated, in a simultaneous way:
The wait-in and time-in times of the base memory and parts and computed, and each one is applied to its corresponding content.
When all parts and the own base memory are in scene at 100% (all the input times are completely computed), the input of the crossfade has finished.

The parts are not computed when the crossfaders is activated manually.

The base screen in format 2 is a special screen dedicated to show us the status parts in dynamic mode, in both X1/X2 and Y1/Y2. To select this screen format press **MONITOR** or **MENU** **60 2**

In the next example, the memory 161 has 6 time parts. The memory and its parts are fading in scene controlled from the X1/X2 crossfader.



In all base screens, the memories loaded in a crossfader have an indication of the number of parts, always under the header **P**. In the crossfader status line, moreover, the "**P**" flag, in a red field, appears when one memory with parts is fading in scene (is in X2 or Y2).

Theatre Example:
In this scene we want a slow nightfall, and just to the end of the nightfall a street lamp must be turned on. The street lamp is the channel 25, and the nightfall is simulated with the channels 10 to 15.
Edit the memory 1 with the channels 10 to 15 and the channel 25. The channel 25 must be in a time part of this memory.

CHANNEL 10 THRU 15 CHANNEL 25 @ @ CHANNEL 25 PART 1 MEM 1 REC

And press **Mem List** to edit the times of the memory and its part. Edit a T↑= 35 seconds for the base memory and edit a T↑= 0.1 seconds and a T◷↑= 35 seconds for the part 1.
When the memory 1 begins its crossfade, all the channels in the base memory fading in scene, slowly (in 35 seconds), while the channel of the part 1 is computing its T◷↑ (35 s) and after this 35 seconds this channel (the street lamp) jumps in scene.

In the next scene, we want a slow dawn, and just to the end of the nightfall a street lamp must be turned off. The street lamp is the channel 25, and the dawn is simulated with the channels 20 to 40.
Edit the memory 2 as:

CHANNEL 30 THRU 40 @ @ CHANNEL 25 @ 01 PART 1 MEM 2 REC

And press **Mem List** to edit the times of the memory and its part. Edit a T↑= 35 seconds for the base memory and edit a T↑= 0.1 seconds and a T◷↑= 35 seconds for the part 1.
When the memory 2 begins its crossfade, all the channels in the base memory fading in scene, slowly (in 35 seconds), while the channel of the part 1 is computing its T◷↑ (35 s) and after this channel (the street lamp) jumps in scene at 01% (is turned off).

Spots Example:
The memory 1 has 10 spots, these spots are in the position 5, and have their dimmers at 100%. The spots need 1 seconds to reach this new position. The spots dimmers must be fade in scene after the spots are in their position 5. First, insert all x/y parameters in a time part:

MEMORY 1 MODIFY SPOT 1 THRU 10 PARAM 81 PART 1 @@ REC

Now, edit the T🕒↑ (of the base memory) = 1 sec. And the T↑ (of the part) = 0 sec. Only the dimmers wait 1 second before the its fade in scene.

COMMANDS

There are 3 commands types. A command can be associated a one memory and this command is executed automatically when the crossfade of its memory begins (in the GO command).

One memory can be only 1 command. One command can be associated the desired memories.

Selecting the command option:

0: NONE	inserting a **0** in the **Command** cell, the current command is erased. This is the valour by default: None command.
1: MACRO	inserting a **1** in the **Command** cell, press → and the **macros** list appears, showing the stored macros. Now select one of them to associated it in this memory.
2: RS232	inserting a **2** in the **Command** cell, press → and the **RS232** commands list appears, showing the commands programmed for the RS232 port (menu 20). Now select one of them to associated it in this memory.
3: RS485	inserting a **3** in the **Command** cell, press → and the **RS485** commands list appears, showing the commands programmed for the RS485 port (menu 20). Now select one of them to associated it in this memory.

The commands of the ports: RS232 & RS485 are programables, see the chapter 12– THE RS232 & RS485 PORTS.

These commands are one of the gates for the multimedia control: actions in the own console, MIDI equipments control, RS232 equipment control, RS485 equipments control...

LOADING THE CROSSFADERS

The crossfaders X1/X2 & Y1/Y2 work in the same way. For this reason this part is based mainly in the X1/X2 crossfader.

Any memory can be loaded in a crossfader.
When a simple memory is loaded, the next memories (in sequential order) are ready to load them automatically, this sequential order only is broken by a **Jump** command or, manually, by the user.

When a finite range of memories is loaded, only these memories are played in the crossfade. Only a programmed **Jump** or, manually, the user can load a memory out of the loaded range.

The memories are loaded always in X2 (Y2), in this mode the load doesn't affect to the crossfader output and is ready to fade-in scene at the first GO command.

LOADING MEMORIES IN A CROSSFADER

The memories-list can be loaded in the desired crossfade, indicating to HYDRA the number of the first memory to assign.

Assign memories from the selected memory in the crossfader X (or Y):

MEM # AssignX (or AssignY)
is the number of the first memory to load

Assign memories in the crossfader and start the first corssfade:

MEM # AssignX AssignX (or AssignY AssignY)
is the number of the first memory to load

If we want to assign all memories <u>from the first stored memory</u>, is enough:

MEM AssignX (or AssignY)

Observe, in the monitor, the next memories ready to load them in automatic mode.

If a memory has text or a command associated, need 2 information lines (in the monitor crossfader zone). See the next figure- the memory shows us its times, a text and a macro command:

After the desired memory is loaded in the crossfader, the crossfade is ready to execute it.
Observe: In the **MEM LIST** edition table, a light green & light blue lines appear denoting that memories are in X1 or X2. The same occurs with the Y1 & Y2 colour lines.

The entry to the MEM LIST page, always is with the cursor located in the first stored memory:
Press again **MEM LIST** to place the cursor in the X2 memory,
Press again **MEM LIST** to place the cursor in the Y2 memory,
Press again **MEM LIST** to return the cursor to the first stored memory.

LOADING A MEMORIES RANGE

It is possible to load only a finite range of memories in a crossfader. Only a programmed Jump can broke this limitation.

Load a memories range in a selected crossfader:

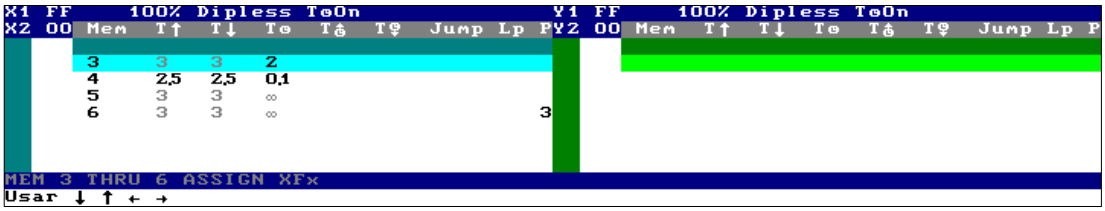
MEM # THRU # AssignX (or AssignY)

Load a memories range in a selected crossfader, and start the first crossfader:

MEM # THRU # AssignX AssignX (or AssignY AssignY)

Example:
The memories from 1 to 10 are stored. Load in the crossfader only the memories 3 to 6:
MEM 3 THRU 6 AssignX

Observe, in the monitor, that after the memory 6 there is not loaded the memory 7.



To assign memories range from the first stored memory to up any other memory, is enough:
MEM THRU # AssignX (or AssignY)

To assign memories range from the first stored memory to up any other memory, is enough:
MEM THRU AssignX (or AssignY)

This last command assigns in the crossfade all stored memories, from the first memory up to the last memory **as a finite range**. I after, new memories are stored, these are not included in the crossfade. (And, this is the main difference with the command: **MEM AssignX**, when the memories are assigned as a open list).

LOADING A PAGE IN THE CROSSFADERS

The crossfaders can be loaded from a recorded page in several ways:

Load the crossfade, in "no-forced" mode, **replacing X2 & Y2**, pressing:
PAGE ### AssignX (or AssignY)

Load the crossfade, in "forced" mode, **replacing X1/X2 & Y1/Y2**, pressing:
PAGE ### AssignX AssignX (or AssignY AssignY)

Load the crossfade & the masters, in "no-forced" mode, pressing:
PAGE ### SELECT o PAGE ### CALL

Load the crossfade & the masters, in "forced" mode, pressing:
PAGE ### SELECT SELECT o PAGE ### CALL CALL

EMPTYING THE CROSSFADER

To empty the desired crossfader, press:
DELETE **AssignX** (or **AssignY**),

CALL OR SELECT THE CROSSFADERS OUTPUT

SELECT **AssignX**
Select the contents of the X1/X2

SELECT **AssignY**
Select the contents of the Y1/Y2

SELECT **AssignY** **AssignX** And release **SELECT**
Select the contents of Y1/Y2 & X1/X2

CALL **AssignX**
Call the output of X1/X2

CALL **AssignY**
Call the output of Y1/Y2

CALL **AssignY** **AssignX** And release **CALL**
Call the outputs of Y1/Y2 & X1/X2

THE CROSSFADERS IN SCENE

The X1/X2 & Y1/Y2 crossfaders are independents, completes and can be work at the same time.
Colour code for the X1/X2 crossfader: the channels, scrollers and parameters appear in a cyan field (X1) or in a light cyan field (X2).
Colour code for the Y1/Y2 crossfader: the channels, scrollers and parameters appear in a green field (Y1) or in a light green field (Y2).

Each crossfader has:

GO	To execute a crossfade. This function permits multi-fades.
PAUSE	To stop the current crossfade.
GO BACK	To invert the crossfade direction. This function can be used as many times as will be necessary, linking the crossfades in invert direction.
AssignX **AssignY**	Are the assignation keys and they permit us to activate/deactivate the wait (auto) times stored in the memories.
Fader X1 / Y1	To control manually the memory in X1 or Y1. Manual crossfader control.
Fader X2 / Y2	To control manually the memory in X2 or Y2. Manual crossfader control.

MANUAL CROSSFADER CONTROL

The crossfader can be played in manual mode using its faders X1 & X2, or Y1 & Y2.

In this case, the programmed memory times are not computes. The user controls the progress of the crossfade with the movement of the faders.

The faders X1/X2 or Y1/Y2 have its scale inverted. One of them is at 100% in the same extreme that the other is at 0%.
The crossfade begins with both faders in the same extreme, and ends with the both faders arrive to the other extreme. In this moment the memory in X2 pass to X1 at100%, and the next memory in the list pass to X2 at 0%. HYDRA is ready to begin the new crossfade, manually or automatically.

At any times, the arrows LEDs of the crossfade (under the function keys) show us the needed direction of the fader movement to end the crossfade manually.
And in the monitor, graphic bars show us the current crossfade progress.

Note:
In a **'dipless'** crossfade, the shared channels between the memories in X1 & X2, never fade-out under the maximum level marked in the incoming memory (memory in X2). This characteristic can be disabled in the menu SETUP, See the chapter 10 –MENUS/31:SEQUENCE.

AUTOMATIC CROSSFADER CONTROL

In this reproduction mode the programmed times in the memories are computed. A crossfade is executed in automatic mode using its function keys:

GO:
Each time that this key is pressed a new crossfade begins, if the previous crossfade had not ended, a multi-fade is done. In other words the current crossfade output pass to X1 at 100% and the next memory pass to X2 at 0%, this process avoids jumps in scene, and in this status begin the new crossfade. This key can be pressed as many times a will be necessary.
In each new crossfade: the previous memory (in X1) begins its fade-out scene, with the programmed outputs times of the memory in X2, and, at the same time, the memory in X2, incoming memory, begins its fade-in scene, with its programmed inputs times.
At any time the user can take the control with the faders or press any other function key (PAUSE or GO-BACK).

About the times...

- When the in & out times are equals the crossfade is homogeneous.
- The wait-in & wait-out times are computed before the beginning of the fading. The memory in X1 (now at 100%) waits the wait-out time before its fade-out scene, the memory in X2 (now at 0%) waits the wait-in time before its fade-in scene. These times are the programmed in the current memory in X2.
- If the wait time exists, after the double-fade is completed, this time is computed. After the wait time a new GO command is automatically executed. The wait times are used to chain crossfades. If there is no wait time programmed, the user has to press **GO** to begin a new crossfade. This time also is known like a delay time or automatic time.

PAUSE:
Stops the current crossfade in progress. Reactivate this stoped crossfade pressing **GO**, **GO BACK**, or moving the control faders. And this keys is the "key" the advance or backward of the sequence.

GO BACK:
Inverts the crossfade direction. Example, if the memory 1 is in X1 (fade-out scene) and the memory 2 in X2 (fade-in scene), when this key is pressed, the memory 1 begins its fade-in scene and the memory 2 begins its fade-out scene.
This key can be pressed as many times as will be neccesary, played the memories sequence in inverted order.
This function can work with the programmed times or with a by-default time. This selection is done in the menu SETUP SEQUENCE or from the **Mem-List** edition page.

Note:
Each crossfader has graphics bars to show us the progress of the current crossfade, in real time.

Colour code of these bars:

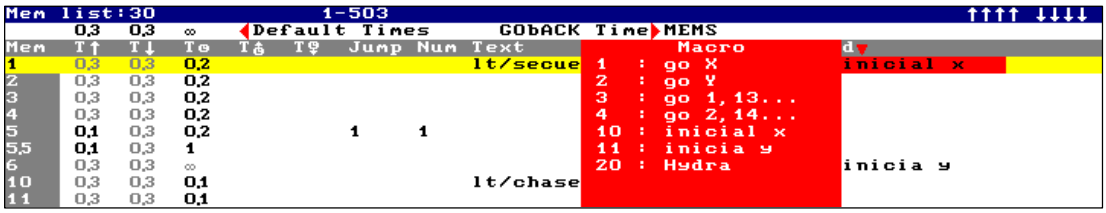
	Fade-in time	**Fade-out time**	**Wait time**	**Wait-in time**	**Wait-out time**
Code	↑	↓	🕒	🕒↑	🕒↓
X1/X2	Light cyan	Cyan	Blue	Dark grey	Light grey
Y1/Y2	Light Green	Green			

The wait times can be deactivates, at any time, pressing **AssignX** (for the X1/X2 crossfader) or **AssignY** (for Y1/Y2 crossfader). In the crossfader status line, in the monitor, a flag appears denoting this selection.

THE COMMANDS

From the crossfaders, and always associated to a memory, a command can be executed. This command can be a MACRO a RS232 command or a RS485 command.
This part is specific to the MACRO commands. For the commands RS232 & RS485, see the chapter 12 – THE RS232 & RS485 PORTS.

The first step is to store the desired Macros. (See the chapter 8 –MACROS).
After, it is necessary to associate the macro to the desired memory. The macro will be executed when the crossfade of its memory begin. HYDRA helps us in this association process:



Example: To associate the Macro 10 ("10: inicial x"), only it is necessary select the command type (inserting a **0** in the **Command** cell), press [→] and insert the desired macro number, in this example the number 10.

Tip:
The commands offer us a great power and versatility. Some examples of its use are: simultaneous triggers, playbacks assignations, external equipment control...
Add always a text to the stored Macros or commands port to facilitate their identification.

THE SPEED CONTROL FOR THE CROSSFADERS

Hydra has a time control for the crossfaders, independently, or for both crossfaders at the same time.

To accelerate or decelerate a crossfader, for example the X crossfaders, press:
RATE **AssignX** (and release **RATE**).

Now, the central encoder is the speed control for the X crossfaders: {**RATE X**}.
Move clockwise the encoder {**RATE X**}, to accelerate it (up to 650%), and move in the other direction to decelerate it (up to STOP or 0%). In the speed control, the value 100%, is the neutral value, in this case the speed control doesn't affect to the programmed times.

To deactivate this speed control in the encoder, press:
RATE **AssignX** (and release **RATE**)
or
RATE **RATE**

To return to the neutral value, 100%, and deactivate the speed control in the encoder, press:
RATE **AssignX** **AssignX** (and release **RATE**).

For the Y1/Y2 crossfader, press its assignation key, **AssignY**, instead of **AssignX**

To control the speed of the both crossfaders, at the same time, press:
RATE **AssignY** **AssignX** **(**and release **RATE**)**.** In the display you can see: **{RATE XY}** indicates us that it is controlling the speeds of both crossfaders.

To deactivate the speed control of only one of the crossfaders, for example of the Y crossfader, press:
RATE **AssignY** **(**and release **RATE**)**.** In the display you can see: **{RATE X}** indicates us that it is controlling only the X crossfader.

To deactivate both speed controls, press:
RATE **RATE** or
RATE **AssignY** **AssignX** **(**and release **RATE**)**

The RATE LED:
Is at OFF when all speed controls are inactive & at 100%
Is at ON when all speed controls are inactive but some of them are different of 100%.
Is BLINKING, when some of these speed controls are active in the encoder.

In the monitor:
The value of each speed control appears in percentage (%), and is placed in the status line of each crossfader, near of the level of X1 and Y1.
When these values are different of 100%, they are affecting to the programmed times in the memories, these values are showed in a red field.

DISPLACEMENTS IN THE SEQUENCE

At any time, during the crossfade reproduction, it is possible advance to the next memory, without compute its programmed times, pressing:

PAUSE **GO** and release **PAUSE**

Also, it is possible return to the previous memory, without compute its recorded times, pressing:

PAUSE **GO BACK** and release **PAUSE**

PAUSE must be pressed when the GO or GO BACK keys are pressed.
These changes to the previous or next memory are done in the CUT time or 0,1 seconds.

LEARNING TIMES IN THE CROSSFADER

The **LN TM** key permits us to learn times for effects and crossfaders.

It is possible "to learn" crossfade times on a crossfade executed or activated manually.
The learned times are always linear times.
The desired memories must be assigned in one of the crossfader. We have 2 possibilities:

- Learn only the **T⊕** for the memories: The time passed between 2 **GO**s executed manually. HYDRA learns the time passed between the end of the current crossfade and the beginning of the next crossfade.
- Learn all crossfade times. When you execute the crossfade using the X1/X2 faders (or Y1/Y2), HYDRA learns the fading times, the wait times, and the auto time, following of the movements of its faders.

When the **LN TM** function is activated, HYDRA deactivates the auto times and locks the speed control at 100%, over the corresponding crossfader.

Learning auto times:

- Press **LN TM** (LED on) to activate the learning function.
- Press **GO.** The crossfade begins. At the end of this crossfade, HYDRA begins to count the T⊕.
- At the desired moment, press **GO.** HYDRA stores the T⊕ on the memory in X1, and after it actives the next crossfade. At the end of this new crossfade, it begins to count the T⊕.
- Repeat the previous step as many times as will be necessary.
- Press **LN TM** again (LED off) to deactivate this function. The T⊕ have been stored in their corresponding memories.

The fading times are subtracted of the time passed between GOs. Learning, in this way, the correct T⊕. If the time passed between 2 consecutive GOs is smaller that the time needed to end the current crossfade (< to the fading times), HYDRA emits a 'beep' and this **T⊕** is not stored. But, the learning process continues for the next memory in the crossfader.

Learning all crossfade times:

- Press **LN TM** (LED on) to activate the learning function.
- Move the X1/X2 faders (ó Y1/Y2) from one of their end to the other end, executing the crossfade manually in the desired time. **HYDRA** learns (in this run) the in & out times and, if it is

necessary, the wait-in & wait-out times (always that both faders don't begin or don't end at the same moment). At the end of the crossfade, HYDRA begins to compute the auto time.

- At the desired moment, Move the X1/X2 faders (or Y1/Y2) again, executing a new crossfade manually. First, HYDRA stores the auto time for the memory in X1 (or Y1) and then it begins the next crossfade. It learning, in this run, the fading times, wait times and the auto time.
- Repeat this previous step as many times as will be necessary.
- Press **LN TM** (LED off) to deactivate this learning function. The crossfade times have been stored in their corresponding memories.

Note: In order to use the LN.TM function correctly, it is necessary begin this process with the crossfader in repose. (Both faders placed in one of their ends and with not crossfade in progress). Always that an action not permitted is done inside the LN.TM process, HYDRA emits a warning "beep" and deactivates this function.

At the right of the status line (in the monitor) the flag ***L-T ###*** appears in a **red** field, always that the LN.TM function is active. Inside this flag appears the value of the current time that HYDRA is learning (###).

When we edit times of fading or wait in the memories-list (**Mem List**) using the numerical keyboard, HYDRA can "calculate" the T⊕ (of the memory in edition) to avoid that the crossfade total time will be modified.
Before to enter the desired fading (or wait) time using the numeric keyboard, active the **LN TM** function (LED on). Now, enter the desired time. HYDRA modifies the T⊕ for that the total time of the crossfade will be the same that before the edition of the fading (or wait) time.
Deactivate the **LN TM** function (LED off).

Example:
The memories 1 & 2 are stored with the next times:

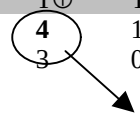
Mem	T↑	T↓	T⊕	T↑⊕	T↓⊕	Total time of the crossfade
1	2.5	2.5	3	1	1	6.5 seconds
2	3	3	3	0.5	0.5	6.5 seconds

Editing the fading times of the memory 1 in a normal way, we have:

Mem	T↑	T↓	T⊕	T↑⊕	T↓⊕	Total time of the crossfade
1	**1.5**	**1.5**	3	1	1	**5,5 seconds**
2	3	3	3	0.5	0.5	6.5 seconds

Editing the fading times of the memory 1, with **LN.TM** function activated, we have:

Mem	T↑	T↓	T⊕	T↑⊕	T↓⊕	Total time of the crossfade
1	**1.5**	**1.5**	**4**	1	1	**6.5 seconds**
2	3	3	3	0.5	0.5	6.5 seconds



HYDRA calculates this T⊕ to maintain the total time invariable.

SCROLLERS & SPOTS in THE CROSSFADERS

The scrollers and spot parameters (except the dimmer parameter, 3:dm) in the crossfaders:

1. The scroller and parameters defined as **NO FADE** (in the Patch), jump at their values at the beginning of the crossfade.
2. Scrollers and parameters controlled in X1 (Y1) are not affected by the output times of the incoming memory.
3. The value of a scroller or parameter remains in tracking mode after that its memory has finished the crossfade.
4. The X1/X2 & Y1/Y2 crossfaders don't take control the scrollers and parameters controlled in other playbacks.
5. X1/X2 has more priority than Y1/Y2.

This behaviour permits us to have a show base in the crossfaders, and any master can modify values of scrollers & parameters.
Example: Suppose that the sequence has basic movements of several spots. At any time, during this sequence, it is possible to do a movement a other point using a master.

RESUME

Loading the crossfaders:
From the memory ###.#: **MEM ###.# AssignX** (or AssignY)
From the first memory: **MEM AssignX** (or AssignY)
A memories-range: **MEM ###.# THRU ###.# AssignX** (or AssignY)
A range of all memories: **MEM THRU AssignX** (or AssignY)

Load and begin the crossfade:
{Memories selection} AssignX AssignX (or AssignY AssignY)

Free the crossfaders: **DELETE AssignX** (or AssignY)

Toggle mode, Dipless/No-dipless: **MENU, 31:SEQUENCE**

Active/Deactivate the auto times: **AssignX** (or AssignY)

Advance to the next memory: **PAUSE GO**

Backward to the previous memory: **PAUSE GObACK**

Speed control:
In X1/X2 **RATE AssignX** {**RATE X**} **RATE RATE**
In Y1/Y2 **RATE AssignY** {**RATE Y**} **RATE RATE**
In both **RATE AssignX AssignY** {**RATE XY**} **RATE RATE**

Learning auto times: **LNtM GO GO ... LNtM**

Learning fading times: **LNtM (manual fading) (manual fading)... LNtM**

8 .- MACROS

A macro is a series of keys, grouped under a macro number, that will are executed in a specific order. A macro can be executed at any time. HYDRA has up to 999 macros.

The macro only stores key pressings (and clicks done with the external mouse). A macro can not accept movements of faders, joystick, trackball or wheels.

A macro can be executed from the editor, the direct access macro keys or from the crossfaders in command mode.

STORING A MACRO

The functions keys dedicated to the working for the MACROS are:
MACRO, **EDT MAC** and the direct access keys for the first 12 stored macros, placed over the LCD display and named: **1** ... **12**

Store a new macro pressing:

MACRO # REC	To store the macro number #
MACRO REC	To store the next free macro number.

When the **MACRO** is pressed, an interactive red window is opened showing us the stored macros. This red window helps us to select the desired macro number, and only is an informative window. This window is empty when no macros are stored.

When the **REC** is pressed, the status line, of the monitor page, shows us a macro recording flag: *MACRO,* in a red field. A macro is in storing process.

Press the keys (in the desired order) that the macro stored.

End the storing process of the macro pressing:
EDT MAC {optional: type a text for this macro...} ENTER

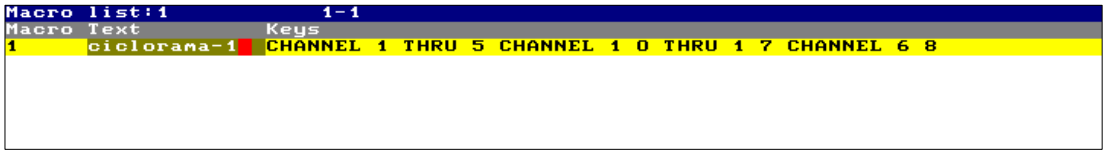
In resume:
MACRO # REC {desired keys} EDT MAC {optional: type a text } ENTER

When the **EDT MAC** is pressed**,** the edition page appears in the monitor. In this page, a text can be assigned to the macro, in this moment or later.

Each time that the **MACRO** is pressed, the red information window appears showing the stored macros list with their associated texts.

Example:
Store the macro 1 to select the cyclorama channels. The cyclorama channels are: 1→5, 10→17 and 68.
MACRO 1 REC
CHANNEL 1 THRU 5 CHANNEL 10 THRU 17 CHANNEL 68
EDT MAC { → "type the text for this macro"} **ENTER**

In the monitor:



Select the desired **Text** cell, with the arrow keys or the external mouse, to type the macro text. Press **ENTER**, to accept the edited text and exit to the main page.
At any time, we can access to this edition page pressing **EDT MAC**.
This edition page, also, shows us the first keys inserted in each macro.

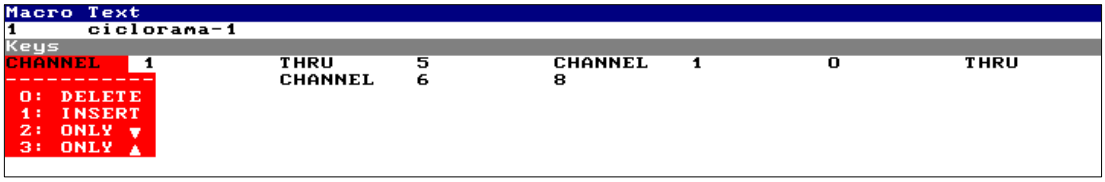
Note:
The macros are stored in scene, in live mode.

MODIFYING A MACRO

A Macro can be modified pressing:
MACRO # **MODIFY**

In the monitor, the selected macro appears in the modification page. In this modification page:
We can select the desired key to edit it with the arrow keys or the external mouse. We can toggle between the special line (with a text of this macro) and the keys table pressing **MENU**.

In each key cell a interactive windows with the possibles options is opened. Select the "key" that you want edits:



Press **0** **ENTER** to erase this key of the macro.
Press **1** **ENTER** to insert, in this position, a new "key". Now HYDRA requests us the new "key" pressing.

With the objective of to can do some functions with the macros, like a Flash function, HYDRA has other special options:
2: ONLY ▼: To store only the "pressing" of the selected key.
3: ONLY ▲: To store only the "releasing" of the selected key.

Press **ENTER** to accept the edited macro and exits to the main monitor page.

A stored macro can be executed inside other macro.

The keys, that for its functionality, is not possible insert them in a macro, can be edited, later, in a modification process of macro.

Example: A macro for load a show from the disk can be stored, only the last "keys" of this command have to inserted in a modification process (ENTER ENTER), to avoid that the macro recording will be aborted.

DELETING MACROS

A macro, a macros range or all macros can be erased at any moment.
Delete the selected macro pressing:
MACRO # DELETE and confirm pressing **DELETE** again.

Delete a macros range pressing:
MACRO # THRU # DELETE and confirm pressing **DELETE** again.

Delete all stored macros pressing:
MACRO DELETE and confirm pressing **DELETE** again.

COPING MACROS

A macro can be copied in other macro number, pressing:

MACRO 1 = 4 REC

Now the macro 1 & the macro 4 are the same macro. If the macro 4 exists will be modified.

EXCHANGING MACROS

A macro number can be exchanged with other macro number pressing:

MACRO 1 = = 4 REC

Now the macro 1 is replaced with the macro 4 and the macro 4 is replaced with the macro 1.
If the macro 4 doesn't exist the macro 1 will be emptied after this exchange command.

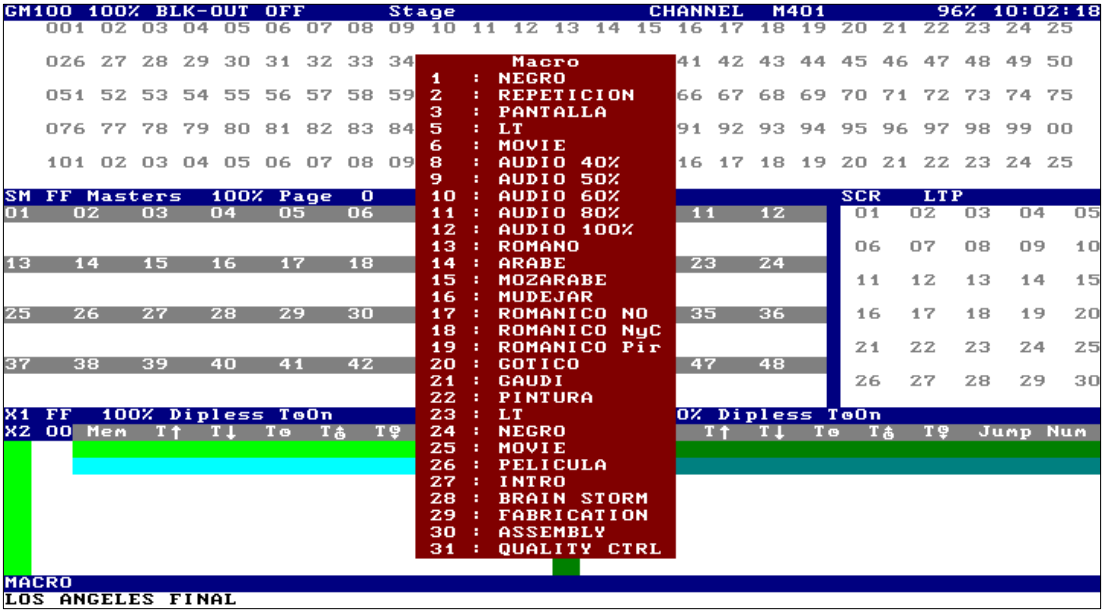
EXECUTING MACROS

There are 3 ways to execute a macro.

FROM THE EDITOR

The command to execute one of the 999 macros is:
MACRO # **SELECT** **or** **MACRO** # **CALL**
is a number of macro.

When **MACRO** is pressed the interactive red window is opened, this windows is informative and helps us to select the desired macro number.
Just at the time of press **SELECT**, the macro is executed.
The interactive red window:



If it is necessary, press **SCREEN** to see the next macros in the list in this red window.

FROM THE DIRECT MACRO KEYS

The first 12 macros have a dedicated key to execute them. These 12 keys are situated over the LCD display and they are numbered from 1 to 12.

To execute a macro (from 1 up to 12), press its associated key.
Example: Execute the macro 5 pressing **5**

At any time, the user can placed a macro in any of the first 12 macros using the exchange functions.

The LEDs of these keys are at ON when their associated macros are stored.

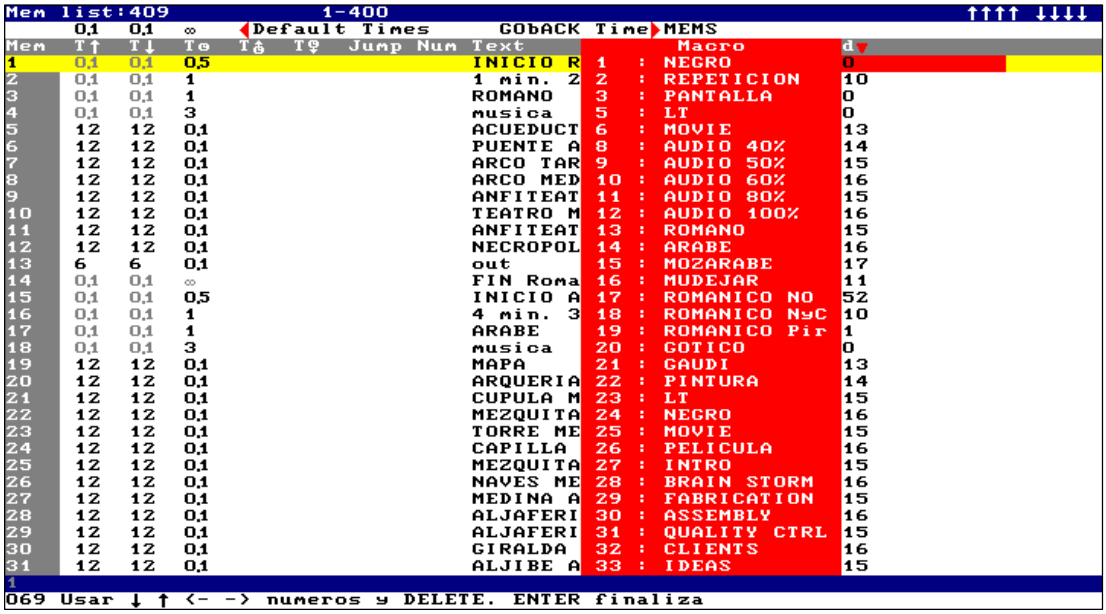
FROM THE CROSSFADERS

A macro can be executed from a crossfader, associated to a memory (like a memory command). In this mode, when this memory begins its fade-in scene the macro is executed in automatic mode.

A macro is associated to the desired memory from the edition page of memories. Access to this edition page pressing:

MEM LIST

Select the **Command** cell of the desired memory, using the arrow keys or the external mouse, and here insert the number **1**, corresponding to the option 1:MACRO. Now, press → and insert the number of the desired macro. (The available macros appear in the interactive red window).



Mem list:409 1-400 ↑↑↑↑ ↓↓↓↓

Mem	T↑	T↓	T⊖	T⊛	T⊜	Jump	Num	Text			Macro	d
	0,1	0,1	∞	Default Times				GObACK Time	MEMS			
1	0,1	0,1	0,5					INICIO R	1	:	NEGRO	0
2	0,1	0,1	1					1 min. 2	2	:	REPETICION	10
3	0,1	0,1	1					ROMANO	3	:	PANTALLA	0
4	0,1	0,1	3					musica	5	:	LT	0
5	12	12	0,1					ACUEDUCT	6	:	MOVIE	13
6	12	12	0,1					PUENTE A	8	:	AUDIO 40%	14
7	12	12	0,1					ARCO TAR	9	:	AUDIO 50%	15
8	12	12	0,1					ARCO MED	10	:	AUDIO 60%	16
9	12	12	0,1					ANFITEAT	11	:	AUDIO 80%	15
10	12	12	0,1					TEATRO M	12	:	AUDIO 100%	16
11	12	12	0,1					ANFITEAT	13	:	ROMANO	15
12	12	12	0,1					NECROPOL	14	:	ARABE	16
13	6	6	0,1					out	15	:	MOZARABE	17
14	0,1	0,1	∞					FIN Roma	16	:	MUDEJAR	11
15	0,1	0,1	0,5					INICIO A	17	:	ROMANICO NO	52
16	0,1	0,1	1					4 min. 3	18	:	ROMANICO NyC	10
17	0,1	0,1	1					ARABE	19	:	ROMANICO Pir	1
18	0,1	0,1	3					musica	20	:	GOTICO	0
19	12	12	0,1					MAPA	21	:	GAUDI	13
20	12	12	0,1					ARQUERIA	22	:	PINTURA	14
21	12	12	0,1					CUPULA M	23	:	LT	15
22	12	12	0,1					MEZQUITA	24	:	NEGRO	16
23	12	12	0,1					TORRE ME	25	:	MOVIE	15
24	12	12	0,1					CAPILLA	26	:	PELICULA	16
25	12	12	0,1					MEZQUITA	27	:	INTRO	15
26	12	12	0,1					NAVES ME	28	:	BRAIN STORM	16
27	12	12	0,1					MEDINA A	29	:	FABRICATION	15
28	12	12	0,1					ALJAFERI	30	:	ASSEMBLY	16
29	12	12	0,1					ALJAFERI	31	:	QUALITY CTRL	15
30	12	12	0,1					GIRALDA	32	:	CLIENTS	16
31	12	12	0,1					ALJIBE A	33	:	IDEAS	15

1

069 Usar ↓ ↑ <- -> numeros y DELETE. ENTER finaliza

In the figure this interactive red window is showed.
If the macros have associated text, the selection is easier.

MACRO EXAM

Exam a selected macro:

MACRO # **EXAM**

Exam the macro-list:

MACRO **EXAM**

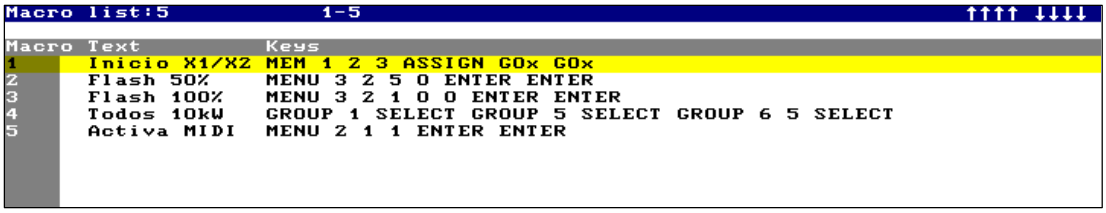
A MACRO INSIDE OTHER MACRO

A macro can be included in other macro. In other word, a macro can be programmed to execute other or others macros.
The first step is the creating the macro that will be included in other macro.

Now, in the recording process of the macro, it is possible to include other macro pressing one of the direct keys, 1 ..12, or executing the macro from the editor.

EXAMPLES OF USE OF THE MACROS

The possibilities of the macros are greater and they depend of the necessities of the show.
Here, we have some basic examples:



- The macro 1, "Inicio X1/X2", loads the X1/X2 crossfaders with the desired memory and actives its crossfade. This macro can be executed from the Y1/Y2 crossfade to synchronise the crossfaders.
- The macros 2 & 3, "Flash 50%" & "Flash al 100%", sets up the Masters Flash level at 50% or 100%, avoids the access to the menus to do this.
- The macro 4, "Todos 10kW", selects all 10kW luminaries, these luminaries are in the groups 1, 5 and 65. When this macro is executed the selected luminaries are readies in the Joystick.
- The macro 5, "Activa MIDI", activates the MIDI port.

SPOTS & MACROS

The macros are very used to access quickly to a spots groups or to several spots parameters, even to assign values to the spot parameters.

Example: Create a macro to set up all colour parameters of the spots 1, 3 & 5 at HOME and after, to empty the editor:
MACRO REC {SPOT 1 SPOT 3 SPOT 5 PARAM 72 ESC} EDT MAC ENTER

Tip:
The macros that begin by a numeric data: is better begin them with the key C. And take careful with the selection by default of the editor in the macro executions.
The first 12 macros can take the current number data in the editor and use it.

RESUME

Recording:
A selected macro: **MACRO ### REC** {"keys"} **EDTmAC → "text" ENTER**
The next macro: **MACRO REC** {"keys"} **EDTmAC → "text" ENTER**

Executing in the editor: **MACRO ### SELECT or MACRO ### CALL**

Modifying:
A selected macro: **MACRO ### MODIFY {modifications} ENTER**
General. Parameters: **MACRO MODIFY {modifications-texts} ENTER**

Exam macros:
A macro: **MACRO ### EXAM**
All macros: **MACRO EXAM**

Copy & Exchange:
Copy: **MACRO ### = ### REC**
Exchange: **MACRO ### = = ### REC**

Deleting:
A macro: **MACRO ### DELETE**
A macros range: **MACRO ### THRU ### DELETE**
All macros: **MACRO DELETE**

9 .- GENERIC FUNCTIONS

SELECTING RANGES

To select a range use **THRU**
A items range is perfectly defined with **# THRU #'**, where # is the first item number in the range, and #' is the last item number in the range.

It is possible to select ranges of the next items: Channels, scrollers, spots, groups, memories, effects, pages, macros, positions, colours & gobos.

In a range, if the first number, **#**, is omitted, Hydra takes the first item in the system.
Examples:
For a channels range, **CHANNEL THRU #'** is the same that **CHANNEL 1 THRU #'**
For a groups range, **GROUP THRU #'** is the same that **GROUP First stored THRU #'**

In a range, if the last number **#'**, is omitted, Hydra takes the last item in the system.
Examples:
For channels, **CHANNEL # THRU,** is the same that **CHANNEL # THRU 750 (or 250 in Scan)**
For groups, **GROUP # THRU,** is the same that **GROUP # THRU Last stored**

If, in a range, **# & #'** are omitted, Hydra takes the first item & the last item.
Examples:
For channels, **CHANNEL THRU,** is the same that **CHANNEL 1 THRU 750 (or 250 in Scan)**
For groups, **GROUP THRU,** is the same that **GROUP first stores THRU Last stored**

NOTE: These shortcuts are available for any command with range selections (**# TRHU #'**).

COPY & EXCAHNGE

The copy function is accessible pressing =
The exchange function is accessible pressing = =

Hydra permits us to copy and to exchange, items in the editor, and, in this cases the commands ended with the key **CALL**:

A channel in the editor
CHANNEL # = #' CALL, the editor level of the channel # is copied to the channel #'
CHANNEL # = = #' CALL, the editor levels for the channels # & #' are exchanged.

A scroller in the editor
SCROLLER # = #' CALL, the editor colour of the scroller #, is copies to the scroller #'
SCROLLER # = = #' CALL, the editor colours of the scrollers # & #' are exchanged.

A spot in the editor
SPOT # = #' CALL, the editor values of the spot #, are copied to the spot #'
SPOT # = = #' CALL, the editor values of the spots # & #' are exchanged.

Note! The spots # & #' must be of the same type.

A spot parameter in the editor

SPOT # = #' **PARAM** #'' **CALL,** the parameter #'' of the spot #, is copied to the spot #'
SPOT # = = #' **PARAM** #'' **CALL,** the values of the parameter #'', of the spots # & #' are exchanged.
Lo Note! The spots # & #' must be of the same type.

Hydra permits us to copy and to exchange, items stored in data memory, and, in this cases the commands ended with the key **REC**:

A stored group or stored groups range.

GROUP # = #' **REC,** the group # is copied in the group #' (#' will be created if there isn't)
GROUP # = = #' **REC,** the groups # & #' are exchanged.
GROUP # **THRU** #' = #'' **REC,** the groups from # to #' are copied in sequential groups from the group #''.
GROUP # **THRU** #' = = #'' **REC,** the groups from # to #' are exchanged with the sequential groups from the group #''

A stored memory or stored memories range.

MEM # = #' **REC,** the memory # is copied in the #' (#' will be created if there isn't)
MEM # = = #' **REC,** the memories # & #' are exchanged.
MEM # **THRU** #' = #'' **REC,** the memories from the # to #' are copied in the sequential memories from the memory #''
MEM # **THRU** #' = = #'' **REC,** the memories from the # to #' are exchanges with the sequential memories from the memory #''

A stored page or stored pages range.

PAGE # = #' **REC,** the page # is copied in the page #' (#' will be created if there isn't)
PAGE # = = #' **REC,** the pages # & #' are exchanged.
PAGE # **THRU** #' = #'' **REC,** the pages from # to #' are copied in sequential pages from the page #''
PAGE # **THRU** #' = = #'' **REC,** the pages from # to #' are exchanged in sequential pages from the page #''

A stored effect or stored effects range.

EFFECT # = #' **REC,** the effect # is copied in the effect #' (#' will be created if there isn't)
EFFECT # = = #' **REC,** the effects # & #' are exchanged.
EFFECT # **THRU** #' = #'' **REC,** the effects from # to #' are copied in sequential effects from the effect #''
EFFECT # **THRU** #' = = #'' **REC,** the effects from # to #' are exchanged in sequential effects from the effect #''

A stored macro or a stored macros range.

MACRO # = #' **REC,** the macro # is copied in the #' (#' will be created if there isn't)
MACRO # = = #' **REC,** the macros # & #' are exchanged.
MACRO # **THRU** #' = #'' **REC,** the macros from # to #' are copied in sequential macros from the macro #''
MACRO # **THRU** #' = = #'' **REC,** the macros from # to #' are exchanged in sequential macros from the macro #''

A stored library or stored libraries range, always into the same library category – POS (position), GOB (gobo) or COL (colour).

POS # = #' REC, the position # is copied in the position #' (#' will be created if there isn't)
POS # = = #' REC, the positions # & #' are exchanged.
POS # THRU #' = #'' REC, the position from # to #' are copied in sequential positions from the position #''
POS # THRU #' = = #'' REC, la e position from # to #' are exchanged in sequential positions from the position #''

Note: When the copy functions work with no stored memories, groups, etc (as destination of the copy) these memories, groups, etc, will be created by the system.
When the exchange functions work with no stored memories, groups, etc (as destination of the exchange) these memories, groups, etc, will be created by the system and, at the same time, the source items will be deleted.

RELEASE

The **RELEASE** function is used to clear the selected items of the editor.
A channel or spot dimmer (HTPs) can be cleared from the editor in a fade-out of 2 seconds, pressing **RELEASE**, or in jump (0,1 sec) pressing **RELEASE RELEASE**.
The scrollers and spot parameters (LTPs) are, always, cleared in jump.

This function can be used with:

A channel and/or scroller and/or spot:
CHANNEL # SCROLLER # SPOT # RELEASE
The channel #, the scroller # and the spot # leave the editor in 2 seconds.

Several channels and/or scrollers and/or spots:
CHANNEL # CHANNEL #' SCROLLER # SCROLLER #' SPOT # SPOT #' RELEASE
The channels # & #', the scrollers # & #' and the spots # &#' leave the editor in 2 seconds.

Ranges of channels and/or scrollers and/or spots:
CHANNEL # THRU #' SCROLLER # THRU #' SPOT # THRU #' RELEASE
The channels from # to #', the scrollers from # to #' and the spots from # to # leave the editor in 2 sec.

The contents of a memory or several memories:
MEM # RELEASE
or
MEM # THRU #' RELEASE
The contents of the memory # or the contents of the memories from # to #' leave the editor in 2 sec.

The contents of a group or several groups:
GROUP # RELEASE
or
GROUP # THRU #' RELEASE
The contents of the group # or the contents of the groups from # to #' leave the editor in 2 sec.

The contents of a memory part:
MEM # PART #' RELEASE
The contents of the part #' of the memory # leave the editor in 2 sec.

Remember:
RELEASE does that the previous selection leaves the editor in 2 sec.
RELEASE **RELEASE** does that the previous selection leaves the editor in a cut time (0,1 sec). The previous examples can be ended with a double click of **RELEASE**

SELECTING & CALLING

To select a item use **SELECT**.
To call a item, selection and values, press **CALL**.

It is possible to select & to call:

- **Any channels combination, scrollers combination and/or spots combination into the editor:**

{channels / scrollers / spots selection} **SELECT**
End and select the channels/scrollers/spots indicated, into the editor. The "selection" is showed with their numbers in red letters. It is not necessary press **SELECT** to edit the pre-selection, but this key helps us to see in the monitor the channels, scrollers and/or spots selected.
{channels / scrollers / spots selection } **CALL**
Call to the channels and spot dimmers pre-selected at 100%, in a fade in of 2 seconds. The scrollers and others spot parameters are not called.
{ channels / scrollers / spots selection } **CALL** **CALL**
Call to the channels and spot dimmers pre-selected at 100%, in a jump in of 0.1 seconds. The scrollers and others spot parameters are not called.

- **A memory, group or range:**

{memories or groups selection} **SELECT**
Select in the editor the contents of the memories or groups indicated. The "selection" is showed with their numbers in red letters. It is not necessary press **SELECT** to edit the pre-selection, but this key helps us to see in the monitor the channels, scrollers and/or spots selected.
{ memories or groups selection } **CALL**
Call the memories or groups indicated at 100%, in a fade in of 2 sec. In these cases, the scrollers and spot parameters are called too.
{ memories or groups selection } **CALL** **CALL**
Call the memories or groups indicated at 100%, in a jump in of 0.1 sec. In these cases, the scrollers and spot parameters are called too.

- **A part of a memory.**

MEM **#** **PART** **#'** **SELECT**
Select in the editor the contents of the part of the memory indicated. The "selection" is showed with their numbers in red letters. It is not necessary press **SELECT** to edit the pre-selection, but this key helps us to see in the monitor the channels, scrollers and/or spots selected.
MEM **#** **PART** **#'** **CALL**
Call the memory part indicated at 100%, in a fade in of 2 sec. In these cases, the scrollers and spot parameters are called too.).
MEM **#** **PART** **#'** **CALL** **CALL**
Call the memory part indicated at 100%, in a jump in of 0.1 sec. In these cases, the scrollers and spot parameters are called too.

- **The Effects**:

The effects can not be selected or called.

- **Masters loaded with channels, groups and memories**:

SELECT **Mn**
The contents of the Master **(Mn)** is selected in the editor.

SELECT **Mn**, **Mn** …**Mn** and release **SELECT**
The contents of the Masters indicated are selected in the editor.

CALL **Mn**
The scene output of the Master **(Mn)** is called to the editor.

CALL **Mn**, **Mn** …**Mn** and release **SELECT**
The scene outputs of the Masters are called to the editor.

- **Crossfaders outputs - X1/X2 or Y1/Y2**:

SELECT **AssignX**
Select the contents of the X1/X2 crossfader output

SELECT **AssignY**
Select the contents of the Y1/Y2 crossfader output

SELECT **Mn**, **AssignX** …**AssignY** and release **SELECT**
Select the contents of the selected playbacks

CALL **AssignX**
Call to the X1/X2 scene output

CALL **AssignY**
Call to the Y1/Y2 scene output

CALL **Mn**, **AssignX** …**AssignY** and release **CALL**
Call the scene outputs of the selected playbacks

- **Scenes**:

SELECT **SELECT**
Select the items in the console scene output

CALL **CALL**
Call to the console scene output

Others special commands with the SELECT function, are execution commands for

- **A page, macro or library (position, colour or gobo):**

{Number of page, macro or library } SELECT
SELECT indicates us a execution command: loading the selected page in normal mode, executing the selected macro or applying the selected library over the active spots.
{Number of page} SELECT SELECT
Load the selected page in forced mode.

CALL, in these selections type, work in the same form that **SELECT**. The user can load a page, execute a macro or applied a library with anyone of these keys.

MODIFY & EXAM

Both functions permit us to access to the same information, but:
EXAM only to see this information in the monitor screen, and
MODIFY to see and to modify this information.

It is possible to access to items lists or a concrete item. And, in some case, to a items range.

- **A channel, scroller or spot over the stored memories or groups:**

{number of channel, scroller or spot} EXAM
To exam this channel/scroller/spot over the stored memories & groups. You can see the levels and values stored in each memory/group.

- **List of items (memories, groups, effects, pages, macros & libraries -pos, col & gob-):**

{item type} EXAM
To exam the list of the selected item type (memory, group...). The list appears ordered numerically, and this list shows us the general attributes (no the contents).
Examples: **MEMORY EXAM** to see the memories list, or **PAGE EXAM** to see the pages list.

{item type} MODIFY
To exam and modify the list of the selected item type (memory, group...). The list appears ordered numerically, and this list shows us the general attributes (no the contents) that they are editable.
Examples: **MEMORY MODIFY** to see the memories list, or **PAGE MODIFY** to see the pages list.

Some item types, very used, have a direct key to access to their list:

MEM MODIFY is the same that **MEM LIST**
This is the edition list more used. From this list are edited the memories times, the memory parts times, the texts, the jumps and associated commands.

MACRO MODIFY it the same that **EDT MAC**
This key is used to ended the storing the each macro, and at the same time, permits edit its text label.

- **Contents of a memory or group:**

{number of memory or group} EXAM
To exam the contents and attributes (text, etc) of the selected memory or group.

ESC { number of memory or group } MODIFY
To modify the contents of the selected memory or group into the editor. The memory (or group) is called into the editor in a fade-in of 2 seconds, and then, is ready to edit it.

ESC {range of memories/groups} MODIFY
To modify the contents of the selected memories or groups, into the editor. The first memory (or group) of the range is called into the editor in 2 seconds. Now you can modify this item and then these modifications can be applied over the selected range in relative or absolute mode.

- **Contents of a effect, page, macro or library (pos, col & gob):**

{number of effect, page, macro or library} EXAM
To exam the contents and attributes (text, etc) of the selected item.

{ number of effect, page, macro or library } MODIFY
To exam & to modify the contents and attributes (text, etc) of the selected item.

- **Content of a master loaded with a memory or group:**

EXAM Mn
To exam the contents and attributes (text, time, etc) of the memory or group loaded in this master.

ESC MODIFY Mn
To modify the contents (into the editor) of the memory or group loaded in this master.

{editor} **MODIFY Mn**
To add the contents of the editor to the contents of the selected master. In this way, the user is modifying the memory or group in this master.

- **Content of a master loaded with a channel or a effect**

EXAM Mn
To exam the contents and attributes (times, etc) of the selected master.

These masters can not be modified only reloaded.

- **Contents of all masters**

EXAM FL MT
To exam the contents and attributes (times, LINK mode, etc) of all masters.

MODIFY FL MT
To exam & to modify the contents and attributes (times, LINK mode, etc) of all masters

- **Others special commands are:**

EXAM **EXAM**
To exam the general data of the current show. Number and range of memories, groups, libraries, effects, pages, etc. And the number of used channels, scrollers and spots. And others general data as patches, etc.

{editor} **MODIFY** **MODIFY**
This special command permits us add the editor content to the memory in X1 (or Y1). See the chapter 7.-The crossfaders.

INTELLIGENT SELECTIONS: NEXT

The **NEXT** function helps us to find the next number of channel, scroller, spot, group or memory. The search with **NEXT** can be applied in **generic mode** (the next item) or in **selective mode** (the next item into the editor, only for channels, scrollers and spots into the editor). The **NEXT** function works to the command line level.

a) **Generic mode for** **NEXT** (LED off). It is used to increment the last number of channel, scroller, spot, group or memory entered. In others words, **NEXT** pre-selects the next item to the last used item in the system.

SELECTION TYPE	RESULTS IN THE COMMAND LINE
{channels selection}{optional level} **NEXT**	Pre-selects the number of the next channel to the last used.
{scrollers selection}{optional colour} **NEXT**	Pre-selects the number of the next scroller to the last used.
{spots selection}{optional editions} **NEXT**	Pre-selects the number of the next spot to the last used.
{group selection}{optional level} **NEXT**	Pre-selects the number of the next group to the last used.
{memory selection}{optional level} **NEXT**	Pre-selects the number of the next memory to the last used.
{mixed selection}{optional level} **NEXT**	Pre-selects the number of the next item to the last used.
{page, macro or effect selection} **NEXT**	Pre-selects the entered number incremented by 1.

NEXT can be pressed as many times as will be necessary to access to the desired channel, scroller, spot, group or memory.

Remember, **NEXT** works with the last entered data. After to press **ESC**, **NEXT** follows working with the last selection done. The type of this last selection is showed in the beginning of the command line: *Channel*▸

Example. Edit the channels 125, 127 & 129:
CHANNEL 125 @ @ 1 2 7 @ @ 1 2 9 @ @

or

CHANNEL 125 @ @ NEXT NEXT @ @ NEXT NEXT @ @

b) **Selective mode for NEXT** (LED on). It is used to pre-select the next item to the last used, inside the items **into the editor**. In this way, **NEXT** works only with **channels, scrollers & spots**.

To use **NEXT** in selective mode, press:

SELECTION TYPE	RESULTS IN THE COMMAND LINE
{editor} **CHANNEL** **NEXT**	The **NEXT** LED is lit**.** Searches the next **channel into the editor** (the next to the last active)
{editor} **SCROLLER** **NEXT**	The **NEXT** LED is lit**.** Searches the next **scroller into the editor** (the next to the last active)
{editor} **SPOT** **NEXT**	The **NEXT** LED is lit**.** Searches the next **spot into the editor** (the next to the last active)

When **NEXT** is in selective mode, its LED is lit:

NEXT	Searches the next **channel, scroller or spot into the editor** (the next to the last active)

To quit of the **NEXT** selective mode, press:

SELECTION TYPE	RESULTS IN THE COMMAND LINE
CHANNEL # {level} **SCROLLER** # {colour} **SPOT** # {values} **GROUP** # {level} **MEM** # {level} **ESC**	The **NEXT** LED is off. These command returns to the **NEXT** generic mode.

Note that any edition, done by the user, returns the **NEXT** function to the generic mode, and the **NEXT** LED is off.

Example. Place the spots 1, 5 & 7:
SPOT 1 SPOT 5 SPOT 7 @@ SPOT NEXT {trackball} NEXT {trackball} NEXT {trackball}

Pressed Keys	**Results**
SPOT 1 SPOT 5 SPOT 7	Selection of the 3 spots
@@	The spots dimmers at 100%
SPOT NEXT	**Pre-selection of the spot 1**. The **NEXT** LED is lit (selective mode).
{trackball}	Place the beam of the spot 1 in the desired point.
NEXT {trackball}	**Pre-selection of the spot 5**, and place its beam.
NEXT {trackball}	**Pre-selection of the spot 7**, and place its beam.

The editions of parameters of the selected spot can be done between 2 **NEXT**, without "break" the working mode of **NEXT** function.

THE TEST FUNCTION

This function is used to check **in scene channels, spots dimmers, groups** and **memories.**

This functions permits us to isolate, in the editor, a channel, spot dimmer, group or memory with the purpose of check it in stage. **To use TEST, the editor must be in *Stage*.**

Any item, under test, involves:
- The editor contents are forced at 0% (in 2 seconds).
- The selected item is forced at 100% (in the same 2 seconds).

KEYS PRESSED	**RESULT in the COMMAND LINE**
{channels selection} **TEST**	Clears the editor. Calls at 100% to the pre-selected channels.
{spots selection} **TEST**	Clears the editor. Calls at 100% to the pre-selected spot dimmers.
{a group selection} **TEST**	Clears the editor. Calls at 100% to the pre-selected group.
{a memory selection} **TEST**	Clears the editor. Calls at 100% to the pre-selected memory.
{mix selection} **TEST**	Clears the editor. Calls at 100% to all the pre-selected channels and spot dimmers.
{editor} **TEST**	Clears the editor. Dependiendo del modo de la línea de comandos: Calls at 100% to the next channel. (*Channel*▸) Calls at 100% to the next spot dimmer (*Spot*▸) Calls at 100% to the next group (*Group*▸) Calls at 100% to the next memory (*Memory*▸)

ESC TEST	Tests the next item in concordance with the command line mode.

RESCUE of DATA

During the edition process, automatically, HYDRA is storing some “data” as backups, that the user can to rescue them more later.

RESCUE permits us the access to the 3 data categories:
Old editor contents. Each time that you press ESC, a editor copy is stored in RESCUE.
Old selections. Each time that a active selection changes to present or it is released, (except with ESC) this selection is stored in RESCUE.
Old memories. Each time that a memory is modified in the editor, the old memory (original memory) is stored in RESCUE.

Using RESCUE, it is possible to recover a modified memory, a editor content or a old selection. And also it is possible to go back of a ESC.

Each new data for rescue function is inserted in the first rescue position (in its category column). Each category can to store up to 5 rescue data, always, the 5 last rescue data.

To recuperate the rescue data, press RESCUE.

A interactive window is opened with the current options (the rescue data). Select the desired option and complete the command with CALL, SELECT, or TEST, according to the necessities:

The RESCUE window is:

SELECTION	EDITOR	MEM
10: *	20: *	30: 3
11: *	21: *	31: 2
12: *	22: *	32: 1
13: *	23: *	33: 7
14: *	24: *	34: 5.6

In the “Selections” & “editor” lists, the * indicates us the stored data (rescue positions with information). In the “Mem” list, the memory number appears in the stored positions.

To select a **old selection** enter a number from 10 to 14. To select a **old editor** enter a number from 20 to 24. And to select a **modified memory** enter a number from 30 to 34.

Example:
MEM 3 MODIFY {modifications} REC. After, to rescue the original memory 3 (the memory 3 before the modification), press: RESCUE 30 CALL MEM 3 REC REC
The original memory 3 is called into the editor, and stored as memory 3.

Resume

RANGES SELECTION

A closed range	# THRU #’
From the first item	THRU #
From the one item to the last item	# THRU
From the first item to the last item	THRU

COPY & EXCHANGE

Copy channels, scrollers & spots	# = #’ CALL
Exchange channels, scrollers & spots	# = = #’ CALL
Copy a spot parameter	# = #’ PARAM #’’ CALL
Exchange a spot parameter	# = = #’ PARAM #’’ CALL
Copy of a group, memory, page, macro, effect or library	# = #’ REC
Exchange of a group, memory, page, macro, effect or library	# = = #’ REC
Copy of ranges of groups, memories, pages, macros, effects or libraries	# THRU #’ = #’’ REC
Exchange of ranges of groups, memories, pages, macros, effects or libraries	# THRU #’ = = #’’ REC

RELEASE

The selection in 2 seconds	{selection} RELEASE
The selection in a cut time	{selection} RELEASE RELEASE

CALL & SELECT

Select channels, scrollers, spots, memories or groups	{selection} SELECT
Call at 100% in 2 seconds to channels, scrollers, spots, memories or groups	{selection} CALL
Call at 100% in cut time to channels, scrollers, spots, memories or groups	{selection} CALL CALL
Execute a page, macro or library in normal mode	{selection} SELECT {selection} CALL
Execute a page, macro or library in forced mode	{selection } SELECT SELECT {selection } CALL CALL
Select the master content	SELECT Mn
Select the several masters content	SELECT Mn, Mn … Mn and release SELECT
Call the master content	CALL Mn
Call the several masters content	CALL Mn, Mn … Mn and release SELECT
Select the crossfader output	SELECT AssignX (or AssignY)
Select the outputs of both crossfaders	SELECT AssignX AssignY and release SELECT
Call the crossfader output	CALL AssignX (or AssignY)
Call the outputs of both crossfaders	CALL AssignX AssignY and release CALL
Select the scene output	SELECT SELECT
Call the scene output	CALL CALL

MODIFY & EXAM

Exam commands	{selection} EXAM
Modification commands	ESC {selection} MODIFY
A master exam	EXAM Mn
A master modification	ESC MODIFY Mn
Add the editor to a master	{editor} MODIFY Mn
All masters exam	EXAM FLmT
All masters modification	MODIFY FLmT
The show exam	EXAM EXAM
Add the editor to X1 (or Y1)	{editor} MODIFY MODIFY

Selections with NEXT

The next item	{item} NEXT
The next channels inside the editor	{editor} CHANNEL NEXT
The next scroller inside the editor	{editor} SCROLLER NEXT
The next spots inside the editor	{editor} SPOT NEXT

TEST for channels, spot dimmers, memories & groups

Item by Item	{item} TEST, TEST...

Data Rescue:

Rescue of the last selections done	RESCUE 1# CALL/SELECT...
Rescue of the last editors erased	RESCUE 2# CALL/SELECT...
Rescue of the last memories modified	RESCUE 3# CALL/SELECT...

10 .- MENUS

HYDRA has a **MENU** key. This key is the access to the menus and special lines (setup lines in the different monitor pages).

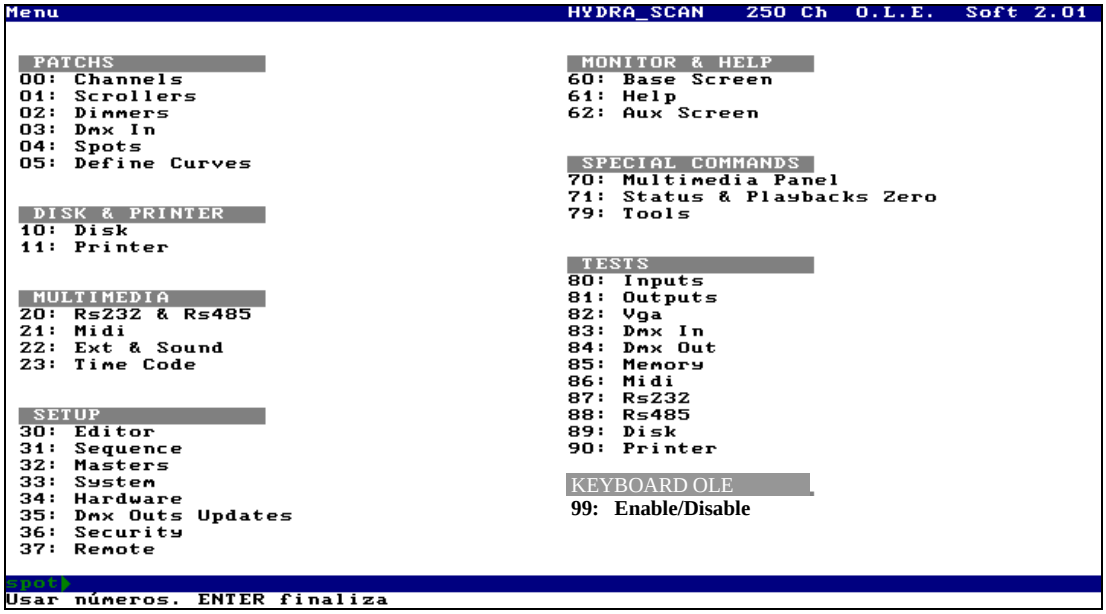
Access to the menus list, from the Base Screen, pressing **MENU**. In the monitor:

In the status line, first line in the blue field, the model & software versions are showed.

Each menu has an index number, this is its selection number.

To select the desired menu only is necessary insert the index number in 2 digits: **##**
Example: From the Base Screen, access to the CHANNELS PATCH menu pressing **MENU 00**

To return to the scene page from any menu pages or from the menus-list press: **ENTER**.
To return to the menus-list press **MENU** **MENU** (double click).



This chapter shows us all the menu options except the menus: PATCHS & MULTIMEDIA. These menus are explained in the chapters: 11 - PATCHS, 12 - RS232 & RS485 PORTS, 13 - MIDI, 14- SOUND INPUT & EXTERNAL TRIGGERS and 15- SYNCHRONISM, TIME CODE.

DATA MANAGEMENT, MENU 10: DISK

The data in the console memory can be stored in a 3-½disk of 1.44MB with standard PC format.

Tip:
Store your show in a disk: This process only takes a few minutes and can solve many working hours.

The HYDRA show-files have a special format (to store and load all show-data quickly), the LT format. Optionally, HYDRA can import or export these data in ASCII light cue format (*.txt) normalised by the USITT.

The LT show-file can be edited in a personal computer, with the application software: **HYDRA OLE**, executed under DOS.
The ASCII show-file can be edited in a personal computer, from a text editor or from the own HYDRA OLE. The exported show-files only store: the memories, the groups and the channel patch.

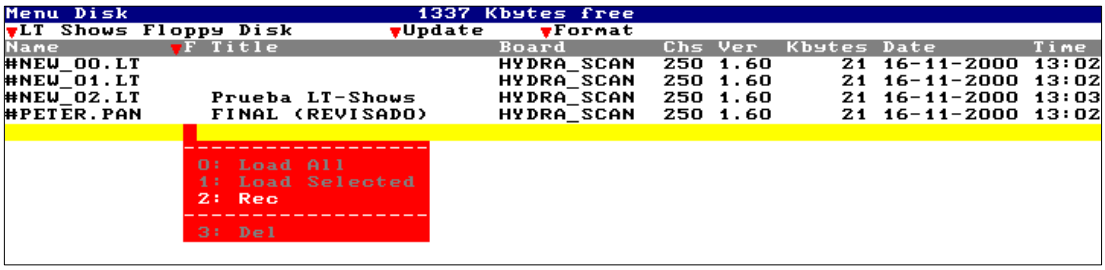
HYDRA OLE, also, permits us store show files in the hard disk of the computer or in a diskette.

The LT show-files have the format: **#name•ext**
Where the name has up to 8 alphanumeric characters (including the obligatory character: #), with the same exceptions that for a file name in DOS, and its extension (ext) has up to 3 alphanumeric characters.

HYDRA names to each new show with a generic name, with the format:
#NEW-01.LT,
After it is possible to edit this name (name and/or extension) and too it is possible to associate a title to this show file.

Note:
The stored shows with HYDRA versions previous to the version 1.42, they must be "converted" to this new format using a PC tool: Xconvert.exe.
You can obtain this PC tool in your LT distributor.
Hydra can to convert these old shows, using the menu 79: Tools.

Access to the menu DISK pressing:
MENU 10



Inside this menu, the directory of the show-files, stored in the current floppy disk, appears. The directory shows us the show file name, the show title, the source console characteristics, the capacity and the storing data & time.

STORING A SHOW-FILE

The show-file contents, exactly, the same data that the HYDRA data memory. For this reason, is necessary to store the contents of the masters in Pages.

In the show-file are stored: memories, groups, pages, macros, libraries... and the configuration data: patch, ports...HYDRA adds to this file the data & time of recording.

HYDRA names the each new show-file in automatic mode. After, the user can edit this name at any time using the external alphanumeric keyboard. Also a 20 characters text can be added in title mode.

General: Use the arrow keys or the external mouse to select the desired show-file and the active cell.

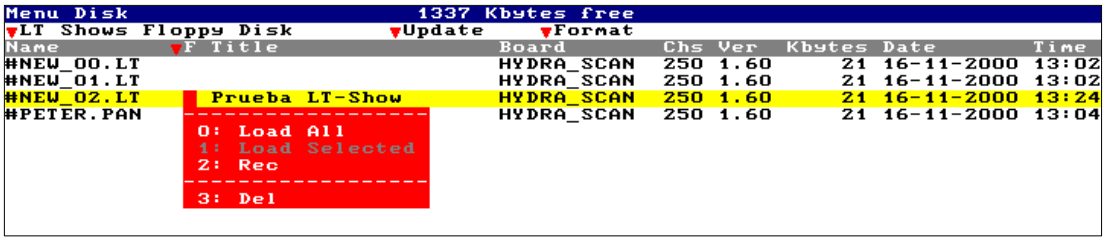
Recording a new show-file:
Each time that the **DISK** menu is selected, HYDRA selects the last show-file position (empty). This is the position to store a new show-file.
If it is necessary, access to this last position and:

- Access to the cell: ▼**F**. An interactive red window is opened.
- Select the option **2: REC**, (here, only this option is active), inserting a **2** and pressing **ENTER** to accept it. HYDRA requests confirmation.

After the show-file is stored appears in the current directory, with the data & time of recording, and a generic name that can be edited in this moment. Also, the show title can be edited.

Update a stored show-file:
Select the desired show-file with the cursor (yellow line). And:

- Access to the cell: ▼**F**. An interactive red window is opened.
- Select the option **2: REC**, inserting a **2** and pressing **ENTER** to accept it. HYDRA requests confirmation.



After the show-file is updated, its date & time are updated too in the directory.

Press **ENTER** to quit of the menu.

LOADING A SHOW-FILE

From the **DISK** menu:

- Select the show-file to load, with the cursor (yellow line).
- Access to the cell: ▼**F**. An interactive red window is opened.
- Select the option **0: Load All**. Inserting a **0** and pressing **ENTER** to accept it. HYDRA requests confirmation.

When the selected show-file is loaded in the console, the generic exam page appears**.**

LOAD SELECTED OF THE SHOW DATA

To load only one or several stores show parts, from the **DISK** menu:

- Select the show-file to load, with the cursor (yellow line).
- Access to the cell: ▼**F**. An interactive red window is opened.
- Select the option **1: Load Selected**. Inserting a **1**.
- Select the desired show parts in the active **Load Selected** window, using the cursors and the numeric keyboard.
- Press **ENTER** to accept it. HYDRA requests confirmation.

When the selected show-file parts are loaded in the console, the generic exam page appears**.**

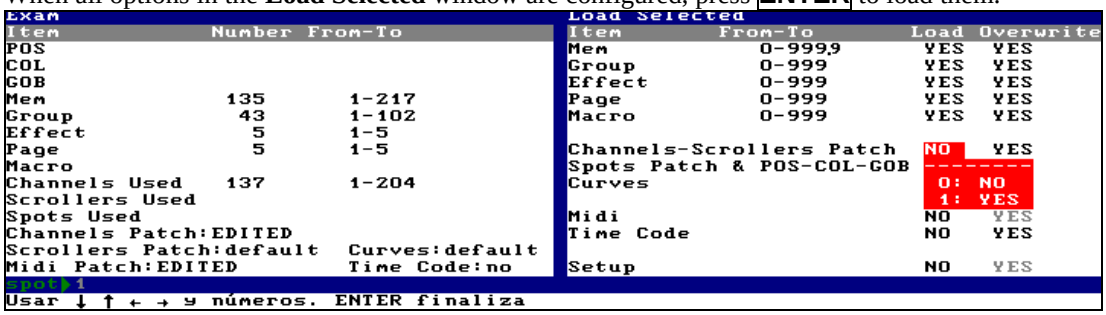
The show parts accessible in independently mode are:
Memories, groups, effects, pages and/or macros. It is possible to load all stored items or only the selected range.

Channels-Scrollers Patch, Spots Patch plus Col-GOB-POS libraries, and/or dimmer curves.
The MIDI configuration, the events list of the TIME CODE menu, and/or the system SETUP.

It is possible to select all or several of these show parts to load them at the same time. And each part has some options available:
Overwrite option: This option indicates us if the new loaded data overwrite the current data in the console if is at YES.
Example, suppose that you have stored the memories from 1 to 100 and memories from 140 to 145 in the console. Now you load the memories (from a selected show) from the 101 to 150.
If you whish the Hydra memories: 140-145, set **Overwrite** at **NO**.
If you whish the show memories: 140-145, **Overwrite** at **YES**.

In the case of load memories, groups, effects, pages and macros, the user can select the desired range of each part. By default all stored items in each part are loaded.

When all options in the **Load Selected** window are configured, press **ENTER** to load them.



Note:
If you need load several parts of the same shows, do it at the same time. If you need load several parts of different shows, the load order is important, in this way load always following the next order:

1. Spots Patch & POS-COL-GOB.
2. Mem/Groups/Macro
3. Effect/Page/Time Code

The rest of the show parts can be loaded in any order.

EXAM OF THE DATA OF THE SHOW FILE

Beside of the data showed in the show files list, there is a specific interactive window: The **Exam** window.
This window shows us a resume of the data stored in the selected show (with the yellow cursor). These data, always in generic mode, are a good way for the identification the each show.

Note:
The show previous to the 2.0 software version have not exam information. For this reason the **Exam** window is empty. Obviously, all load options are available, only the information about them are not available. In this case is enough load the complete show and store it newly.

DELETING A SHOW-FILE FROM THE FLOPPY DISK

From the DISK menu:

- Select the show-file to delete with the cursor (yellow line).
- Access to the cell: ▼**F**. An interactive red window is opened.
- Select the option **3: Del**. Inserting a 3 and pressing **ENTER** to accept it. HYDRA requests confirmation.

The show-file is erased from the floppy disk, and disappears of the current directory.

EDITING A TITLE AND NAME OF THE SHOW-FILE

The text always is inserted from the external alphanumeric keyboard. From the DISK menu:

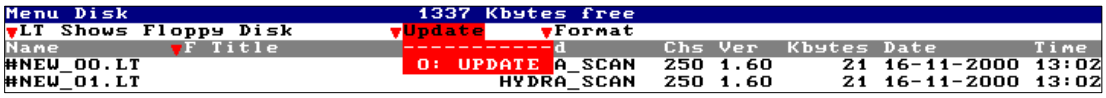
- Select the show-file to edit with the cursor (yellow line).
- Access to the cell: **Name** (to edit its name) or the cell: **Title** (to edit the title).

- If it is necessary delete the previous text (using the **Backspace** of the external keyboard).
- Type the desired text. In the case of the name with the format: #Name.ext.
- Press **ENTER** to accept the text. HYDRA request confirmation.

UPDATING THE CURRENT DISK DIRECTORY

Inside the DISK menu, when the floppy disk is changed in the disk unit, the user has to update the directory:

- Access to the setup line pressing **MENU** or using the external mouse.
- From here, with the arrow keys or mouse, access to the cell: **Update**: An interactive red window is opened.
- Select the **option 0: UPDATE**, inserting a **0** and pressing **ENTER** to accept it.
- Return to the current update directory pressing **MENU** again, or using the mouse.



FORMATTING A FLOPPY DISK

The formatting process does that all data in the disk will be erased. A floppy disk can be formatted in a personal computer (DOS) or in HYDRA. To format a floppy disk in HYDRA, select the DISK menu, and:

- Access to the setup line pressing **MENU** or using the external mouse.
- From here, with the arrow keys or mouse, access to the cell: **Format**: An interactive red window is opened.
- Select the **option 0**: **FORMAT**, inserting a **0** and pressing **ENTER** to accept it. HYDRA requests confirmation.

Note:

When a floppy disk is formatted all data are erased.
Only is necessary to format a disk the first time that you use it, and always that the disk is not previously formatted.

ASCII LIGHT CUE FILES: IMPORT/EXPORT

The HYDRA shows can be exported or imported from the DISK menu. The export & import process are done in ASCII Light Cue format, normalised by the USITT (*.txt).

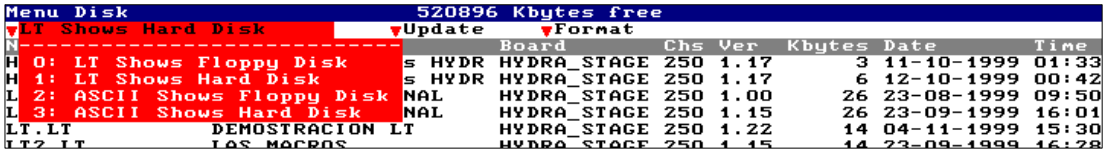
These files can be exported to others consoles or imported from others consoles. For this reason only a more conventional data are exported/imported:

Memories, each one of them with: channels & levels and its times of fade-in & fade-out.
Channel to dimmers patch, (without curves).

Access to the DISK menu pressing: **MENU** **10**
And from the DISK menu:

- Access to the setup line pressing **MENU** or using the mouse.

- Access, with the arrow keys or the mouse, to the cell: **LT Shows Floppy Disk**. The interactive red window is opened.
- Select the desired option, inserting its index number and pressing **ENTER** to accept it. The available options are:
  0: LT Shows Floppy Disk, to work with LT show-files in the floppy disk. Option by default.
  1: LT Shows Hard Disk, to work with LT show-files in the computer hard disk. (This option is active in the OLE application).
  2: ASCII Shows Floppy Disk, to work with ASCII show-files in the floppy disk.
  3: ASCII Shows Hard Disk, to work with ASCII show-files in the computer hard disk. (This option is active in the OLE application).



After your selection the current directory is updated. The selected type files appear in the directory. Access to the directory pressing **MENU** again or using the mouse.

Is recommended use the same extension for the same file type. For example: *.txt for the ASCII show-files and *.LT for the LT show-files.

The commands, to store or to load, are the same for the ASCII files that for the LT files.

Note:

Always that this will be possible, use the show-files format: LT.

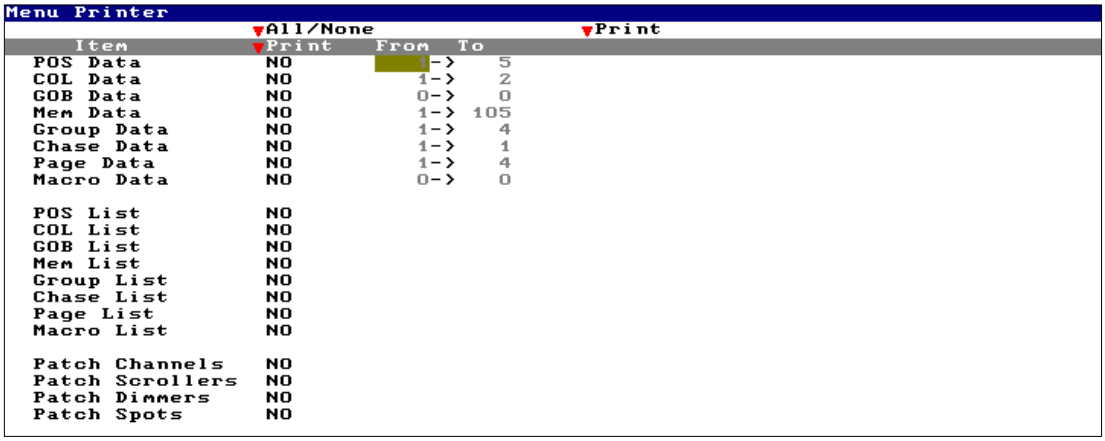
Only use the ASCII format to import a show-file stored in other console or to export our show-file to other console. (Only the memories & channel patch are imported/exported)

After import an ASCII show-file in HYDRA, store the imported data in a new LT show-file, and work with this new LT show-file.

MENU 11: PRINT

This menu permits us print all desired data show. This PRINT menu is the menu 11.
Use a EPSON type printer with Centronic parallel port.

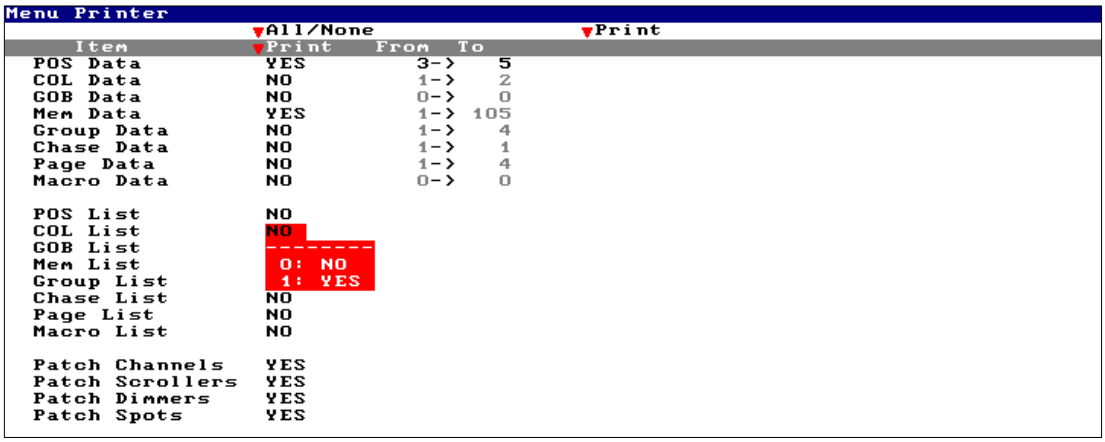
Access to the PRINT menu pressing: **MENU** **11**



These options are deactivated by default, and they can be activates in general mode or option by option. When the desired options are selected only is necessary to activate the ▼**Print** command in the special line.
The command ▼**All/None** permits us to activate/deactivate all printout options at the same time.
It is possible to print list or content of any of the items that they appear in the monitor.

Example: Print all stored memories, all patchs and the position libraries from the 3 up to the 5.

- Access to the PRINT menu pressing: **MENU** **11**
- Select the cell ▼**Print**, using the arrow keys or the mouse, of the options table for the next items: **Pos Data, Mem Data**, and **Patch Channels, Patch Scrollers, Patch Dimmers, & Patch Spots**, and activate this options selecting **1:YES**.
- In the POS Data line, access to the cells: **From** and **To,** to edit the desired range. In this example from **3** to **5** (in **To**). In the monitor:



And remember:
Press **MENU** or use the mouse, to toggle between the status line and the own options table.
Press **ENTER** to quit of this menu.

From the menu 11:PRINT, it is possible "to print" the selected data in a text file, instead of the printer. The text file is named: **printer.txt**

The **printe.txt** file can be opened and edited in any text editor of PC... Erase data, add comments, control the pages configuration, etc.

Note: The print file always has the same name. Each new impression is done over the same **printer.txt** file. To preserve a desired print file, is needed, change its name in the PC or use different diskettes.

This function is located in the command **Print**, in the menu 11, which now has 2 options:
0: TO PRINTER Print the data to the printer.
1: TO FILE PRINTER.TXT Print the data to the "printer.txt" file in a diskette.

Moreover there are new data printing options:

Curves	To print the user curves, edited in the menu 05: DEFINE CURVES
Midi Patch	To print the MIDI data of the menu 21: MIDI
Time Code,	To print the data of the menu 23: TIME CODE
Help,	To print the text of the menu 61: HELP

Note:
At any moment, it is possible print the current screen, from the external keyboard, pressing **Ctrl 99**
Some options, like **POS Data** or **Patch Spots**, only are available in HYDRA SCAN.

CONFIGURATION – SETUP

The HYDRA configuration menus are under the SETUP header.

All the System configurable Parameters are placed here, and they are grouped by functionality. These menus access to the same edition screen.
Remember, to quit of this menu page press **ENTER**.

30: EDITOR

Access to this menu, from the scene page, pressing **MENU** **30**.

The editable Parameters are:
- The valour for the function keys: **+%** & **-%**. This valour, by default, is 5%.
- The editor time, this time is used by the functions: **ESC**, **RELEASE** and **CALL**. (By default 2 sec).

31: SEQUENCES

Access to this menu pressing **MENU** **31**.

The editable Parameters are:
- The memory **fade-in time** by default.
- The memory **fade-out time** by default.
- The memory **delay** time by default. (Insert 0 to edit a delay time ∞)
- The associated time for the **GO BACK function**, by default the memories times are computed, but this time can be edited with a linear time. This linear time is the time that an inverted crossfade is executed. (Insert 0 to return to the memories times: MEM).

These times can be edited in the special line of the **Mem List** screen.

32: MASTERS

Access to this menu pressing **MENU** **32**.

The Parameters are:
- The **Flash level** by default. Each time that a Flash key is pressed, and during the key is pressed, the content of its masters is at 100% in scene. 100% is the level by default and can be edited here.
- **Solo Off Xfs**. The Flash-Solo function, by default, doesn't affect to the crossfaders outputs, is DISABLED. At any moment this option can be activated permitting to the Flash-Solo function affects to the crossfaders outputs (forced them at 0% during the Flash).

33: SYSTEM

Access to this menu pressing **MENU** **33**.

The editable Parameters are:

- **SM**, Here the functioning of the SM master is configured. There are 2 options: Like master outputs control or like DMX-IN control.
- **GM**, to configure the GM scale, between the options: 0 -100% or 0 - 200%.
- **BLACK OUT**, this function key can be enable or disable.
- **CH OUT GM** indicates to the HYDRA the channels that are not controlled by the General Master. These channels always are the last System channels. Example: If **3** channels are excluded, these channels will be the channels 250, 249 & 248 (for the 250 channels HYDRA). By default this option is at 0. The scrollers are excluded automatically of the GM control.
- **LANGUAGE**, here, the user can select the desired working language.
- **KEYBOARD**, here, the user can select the language of the external keyboard. To accept this change will be necessary switch off & on the console.

34: HARDWARE

Access to this menu, pressing **MENU** **34**.

The editable Parameters are:

- **BEEP**: Adjusts or disables the acoustic warning signal: "beep".
  It is possible to select the "beep" frequency, or timbre, that HYDRA emits each time that it needs attract the user attention.
  The BEEP option can have values from 0 up to 100, where the **0 deactivates** the "beep", and the rest of the values (1-99) are used to select the "beep" frequency. (The value **1** corresponds to the **smallest frequency** and the value **100** corresponds to the **highest frequency**).
  By default, after a Cold Reset, the BEEP option is configured to the value **10**.

  Visual help for the BEEP function:
  Each time that HYDRA emits a warning "beep" (including with the BEEP deactivated) the messages line blinks in **red** colour, to attract the user attention.

- **LIGHT:** Adjusts the desired level for the working lights. By default, they are at 100%.

- **DISPLAY**: Adjusts the desired contrast for the LCD display. By default, it is at 100%.

- **DATE**: Edits the current date in format: dd/mm/yyyy.

- **TIME**: Edits the time (the clock).

- **MONITOR:** This option permits us to change the background colour of the HYDRA screens.
  0: LIGHT To select a screens background in **white**.
  1: DARK To select a screens background in **dark grey**.

  The HYDRA colour code doesn't change.

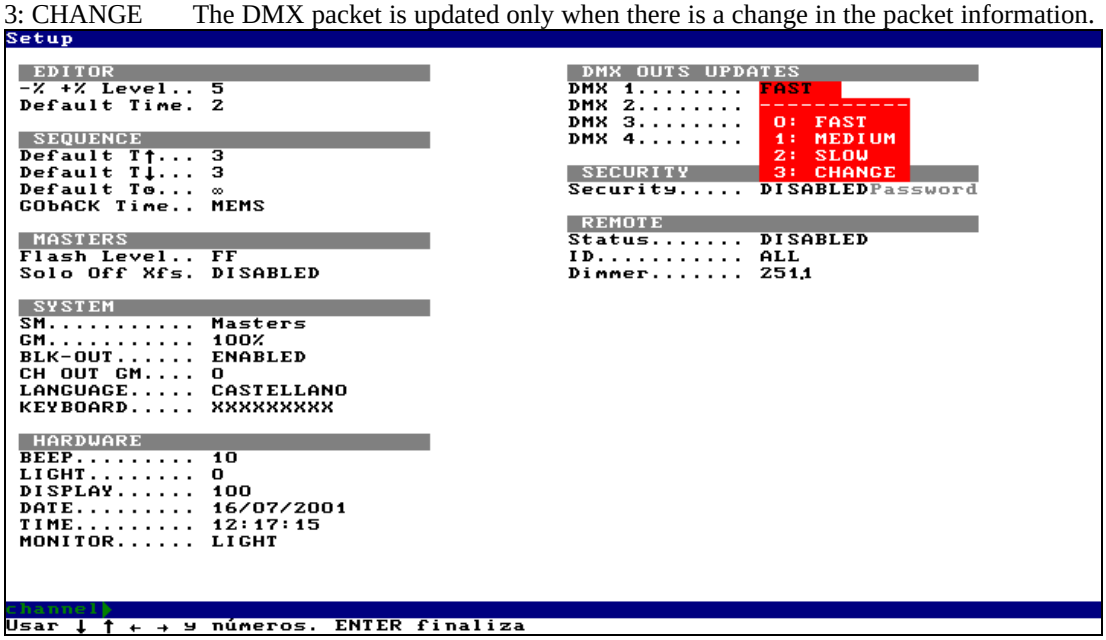
35: DMX OUTS UPDATES

Access to this menu, pressing **MENU 35**.

From here, it is possible adjust the update speed of the DMX packet (of the output digital signal) per DMX line: DMX 1, DMX 2, DMX 3 y DMX 4.

In each one of these DMX lines, it is possible obtain the better speed, the objective is avoid the communication problems between HYDRA and other "DMX" receivers. The available options are:

0: FAST The DMX packet is updated 20 times per second (By default)
1: MEDIUM The DMX packet is updated 10 times per second.
2: SLOW The DMX packet is updated 6,6 times per second.
3: CHANGE The DMX packet is updated only when there is a change in the packet information.



36: SECURITY

Access to this menu, pressing **MENU 36**. Working in the protected mode, or Security mode, the next functions keys are disabled: **REC**, **DELETE** & **MODIFY.** In the way the show data can not are modified, deleted.
To activate the Security mode it is necessary insert a “password”. And this same password will be necessary to deactivate the Security mode and return to the normal working mode.

¡¡¡ Do not forget the password !!!

Enable the Security mode: Insert the desired password (a number of 8 digits), HYDRA requests a password confirmation. After to confirm the password the Security mode is enabled.

Disable the Security mode: Enter the same password used to enable the Security mode.

Note: Any password can enable the Security mode, but only the activation password can disable it.

37: REMOTE

Access to this menu, pressing **MENU** **37**.
From this menu, the communication between Hydra and its remote control can be configured:

Status... This option permits to activate (ENBALE) or to deactivate (DISABLE) the remote communication.

ID... This option permits us to establish communication with remote control units with a ID (identification number) equal that the ID edited here. By default, this option is 8:ALL , and it permits to Hydra communications with all remote control units, independently of their IDs. If here you edit other ID (from 0 to 7) Hydra only admits communications with the remote control units with this same ID.

Dimmer... Permits to establish a dimmer channel to "see", over a lamp connects to this dimmer, the system messages. This dimmer channel blinks each time that the Hydra emits a "beep". Bu default, this dimmer channel is 251.1 (the first free dimmer of the Channel Patch).

THE SPECIAL COMMANDS

70:MULTIMEDIA PANEL

Access pressing **MENU** **70**.

MULTIMEDIA PANEL	
Midi	Off
Time Code ……	Off
Ext.....	Off
Sound.....	Off

Here, you have a central control of all multimedia ON/OFF switchers: MIDI, TIME CODE, EXTERNALS & SOUND switchers. This central control permits us to access more quickly to the multimedia switchers, to check them or to change them.

The switcher ON/OFF of Sound and External there are, moreover, in the menu 22: External & Sound.

71:STAUTS & PLAYBACKS ZERO

Access pressing **MENU** **71**. This menu offers us commands to return to a known status.

STATUS & PLAYBACKS ZERO	
Status……..	Zero
All Playbacks	Zero
All Masters …….	Zero
All Crossfaders ….	Zero

The **Status** option gives the console to a known status by the user, in concrete:

- The Blind editor mode is deactivated. The editor is always in Stage mode.
- The EDIT+ function is deactivated.
- Hydra quits of any exam, edition or menu screen.
- The blackout functions are deactivated (for the masters GM and SM).

- Any macro in process of recording is aborted.
- The LN TM function is deactivated.

The **All Playbacks** option: Is it similar to execute the **All Masters** option and the **All Crossfaders** option.

The **All Masters** option: Any master with scene output is setting at 0%, and any active effect is deactivated and its controls of level and speed are reinitiated. This command maintains the masters contents.

The **All Crossfaders** option: The memories assigned in X1 and/or Y1 are de-assigned (memories in scene). These memories are re-assigned in X2 and/or Y2 at 0% (next memories). In this mode the crossfaders have not scene output but they are ready to follow from the same point.

¡These commands can cause light jumps in scene!

In practice, these commands are used to returns to a known status, both system status and playback status.

79: TOOLS

Access pressing **MENU** **79**.

Tools
0: Concert old shows files
1: Convert old spots files

With these new commands is possible to maintain the compatibility with the old Hydra shows and old spot files, without the necessity of a personal computer.

The option - **0: Concert old shows files**, permits us to convert old Hydra shows (previous to 1.43 software version)

The option - **1: Convert old spots files**, permits us to convert the spot files previous to the 2.0 software version. (Only for Hydra Scan).

Both options work in DOS mode, reading the old files and copying them in the same inserted disk.

¡Don't execute these commands when the playback process !

Notes:
The option **1: Convert old spots files**, can take several minutes in its execution, (depend of the number of spot files in the disk). Execute these command only for the needed spot files.

THE HYDRA TESTS

HYDRA has hardware tests and software tests. These tests help us to isolate problems in the console or to check the console parts. These tests are done from the HYDRA menus.

Note:
These tests can interfere with the console response. (TESTS 80-84 can be executed during the show).

TEST 80: INPUTS

Access to this test, pressing **MENU** **80**.

This test checks the correct function of the keys, faders, externals triggers, sound input & SMPTE port. The check is done pressing the key under test, moving the fader under test, activating the external triggers, and connecting the sound input or the SMPTE input. The results are showed in the inputs map in the monitor.
Also, the external alphanumeric keyboard and the mouse are checked here.
Quit of this test pressing **ENTER**.

TEST 81: OUTPUTS

Access to this test, pressing **MENU** **81**.

This test checks the correct function of the working lights, the acoustic warning signal, the LEDs and the LCD display. Access to the desired item, in the outputs map in the monitor, using: ☐ & ☐.
Each selected item does it a self-test during its selection.
Quit of this test pressing **ENTER**.

TEST 82: VGA

Access to this test, pressing **MENU** **82**.

The monitor shows us its colour map and the HYDRA characters table.
Quit of this test pressing **ENTER**.

TEST 83: DMX-IN

Access to this test, pressing **MENU** **83**.

The monitor shows us the DMX input buffer (all channels & its levels in the DMX-IN signal). Use the arrow keys to page this buffer and see the upper input channels.
Quit of this test pressing **ENTER**.

TEST 84: DMX-OUT

Access to this test, pressing **MENU** **84**.

The monitor shows us the 512 DMX-1 output channels and their levels. Use ↑ & ↓ to page the channels of the DMX-1 line and use ← and → to page between the different DMX lines (1-4).
Quit of this test pressing **ENTER**.

TEST 85: MEMORY

Access to this test, pressing **MENU** **85**.

HYDRA checks its data memory and at the end of this test shows us the memory status.
Quit of this test pressing **ENTER**.
The memory test doesn't affects to the stored data in the memory.

TEST 86: MIDI

Access to this test, pressing **MENU** **86**.

This test checks the MIDI port. Follow the instructions in the monitor. HYDRA shows us the MIDI port status at the end of this test.
Quit of this test pressing **ENTER**.

TEST 87: RS232

Access to this test, pressing **MENU** **87**.

This test checks the RS232 port. Follow the instructions in the monitor. HYDRA shows us the RS232 port status at the end of this test.
Quit of this test pressing **ENTER**.

TEST 88: RS485

Access to this test, pressing **MENU** **88**.

This test checks the RS485 port. Follow the instructions in the monitor. HYDRA shows us the RS485 port status at the end of this test.
Quit of this test pressing **ENTER**.

TEST 89: DISK

Access to this test, pressing **MENU** **89**.

This test checks the disk unit. Follow the instructions in the monitor. HYDRA shows us the DISK unit status at the end of this test.
Quit of this test pressing **ENTER**.

TEST 90: PRINTER

Access to this test, pressing **MENU** **90**.

This test checks the PRINTER. Follow the instructions in the monitor. HYDRA shows us the PRINTER status at the end of this test.
Quit of this test pressing **ENTER**.

Tip:
Use these tests to isolate extraneous compartments in HYDRA and/or to access to the input & output DMX information.

EXTERNAL KEYBOARD AND EDITION

The external alphanumeric keyboard is active to store text to memories, groups, effects, pages, libraries, macros and shows, always than a Text filed is selected in HYDRA.

In addition to this basic function, the external keyboard can simulate the function keys of HYDRA, (in the same code that the OLE editor). But, this extra characteristic can be deactivated, to avoid editions not desired, from the menu **KEYBOARD OLE 99: Enable/Disable**.

99: Enable/Disable

Each time that this option is selected, pressing **MENU** **99**, the status of the external keyboard toggles.

The capacity of the external keyboard to edit text is always activated.

Note:

Evidently, in the OLE editor, there is not this menu, here the external keyboard must be always active.

To see the correspondence between the keys of the external keyboard and the HYDRA keyboard, consult the chapter 17.

11 .- PATCHS

GENERAL. EDITION TABLES

About the working in the edition tables:

Access to the setup line:
Pressing **MENU**, from any edition table, the active cell is moved to its setup line.
Return to the edition table:
From the setup line, pressing **MENU** again, or pressing ⇩, the active cell return to the edition table.
Cursor:
Appear over the edition tables, like a yellow line, and this cursor is moved pressing ← & →.
Active cell:
Is in the edition tables, and the data in the active cell can be edited. Is a brown field (over the cursor) and can be moved with any arrow key.
The table index (list):
The numbers of the table index, in a grey field in a left of the table, are always in numerical order, and they can not be edited. The table index can be used to find a desired item in the table. Move the active cell a any index number and enter the desired item from the numeric keyboard, now, pressing **ENTER** or any arrow key, we move the cursor at the entered item.

If you has connected the external mouse, you can access to any cell, to any edition table and to the setup line with a simple click with the mouse.

In these tables, the data by default are showed in grey and the edited data are showed in black.

ABOUT THE PATCHS...

The control channels of HYDRA SCAN (250) are placed in the first dimmers of the DMX-1 line, accessible in the OUT-1 connector.
The control channels of HYDRA STAGE (750), are placed in the first dimmers of the DMX-1 & DMX-2 lines, accessible in the OUT-1 & OUT-2 connectors.

The 30 scrollers of both consoles, are placed in the first 30 dimmers of the DMX-4 line, accessible in the OUT-4 connector.

After a Cold Reset (default patch), we have:
Control channels in the DMX-1 line, 1 to 1, for Hydra Scan:
The channel 1 is associated to the dimmer 1; the channel 2 to the dimmer 2, and so on until the channels 250 that is associated to the dimmer 250. The rest of the DMX-1 line dimmers are unassigned, example, in a 250 channels HYDRA the dimmers 251 up to 512 are free, without associated control channel.
Control channels in the DMX-1 & DMX-2 lines, 1 to 1, for Hydra Stage:
In the DMX-1 line, the channel 1 is associated to the dimmer 1; the channel 2 to the dimmer 2, and so on until the channels 512 that is associated to the dimmer 512.
In the DMX-2 line, the channel 513 is associated to the dimmer 1; the channel 514 to the dimmer 2, and so on until the channels 750 that is associated to the dimmer 238. The rest of the DMX-2 line

dimmers are unassigned, in concrete the dimmers 239 up to 512 are free, without associated control channel.

Scroller in the DMX-4 line, 1 to 1:
The scroller 1 is associated to the dimmer 1, the scroller 2 to the dimmer 2, and so on until the scroller 30 that is associated to the dimmer 30. The rest of the DMX-4 line dimmers are free (unassigned).

The HYDRA Patchs are editable. Each user can find the desired edition option, from the channels-list, from the dimmers-list or from the scrollers-list... All it is possible!

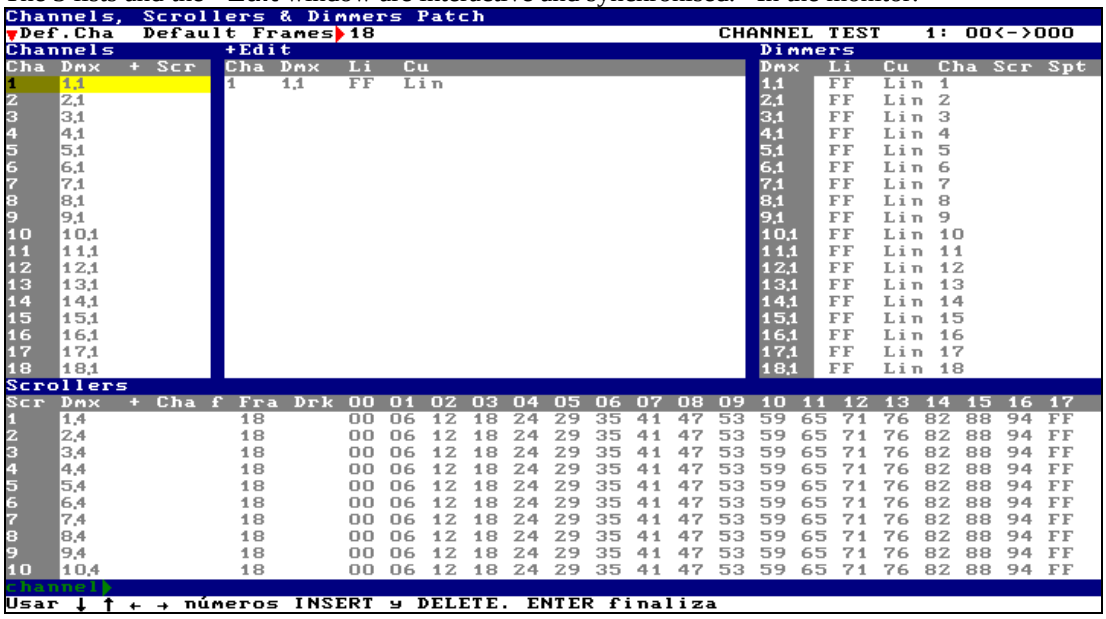
The Patch monitor is divided in 3 basic lists and a **+edit** window. From the menus-list it is possible to access to the desired list pressing:

MENU 00	To access to the channels-list (1 to 250/750)
MENU 01	To access to the scrollers-list (1 to 30)
MENU 02	To access to the dimmers-list. In this list there are the dimmers of the 4 DMX lines (DMX1: 1.1-512.1, DMX2: 1.2 -512.2, DMX3: 1.3 -512.3 and DMX4: 1.4 -512.4).

At these list, it is possible to access immediately, from any system status, pressing (double click):

CHANNEL **CHANNEL**	To access to the channels list
SCROLLER **SCROLLER**	To access to the scrollers list
DIMMER **DIMMER**	To access to the spots list

The 3 lists and the **+Edit** window are interactive and synchronised. In the monitor:



One dimmer only can be controlled by one channel or one scroller.
One control channel can control one dimmer or a group of dimmers.
One scroller can control one dimmer or a group of dimmers.
A control channel only can have one associated scroller.
A scroller can have associated one control channel or a control channels group.

Only dimmers controlled by a control channel:

Have associated 1 of the 5 response curves or 1 of the 3 user curves.
Have associated a limit level (0-100%).

In the Patchs any dimmer direction can be used (from the desired line, 1-4).
A direction DMX is named by its dimmer number (1-512) and by its line number (1-4). The line number is entered like a decimal point. Examples:
The dimmer 250 of the DMX-1 line, is entered like: **250.1**
The dimmer 123 of the DMX-2 line, is entered like: **123.2**

In the channels list, a dimmer number without decimal point is considered of the DMX-1 line (channels line by default). Example: 125 is the same direction that 125.1
In the scroller list, a dimmer number without decimal point is considered of the DMX-4 line (scrollers line by default). Example: 125 is the same direction that 125.4.

Note:
Edit the Patchs before begin the show programming. The Patchs affect to the scene output.

CHANNELS PATCH - CHANNELS-LIST

Access to the channels list pressing:
MENU 00 **or** **CHANNEL CHANNEL**

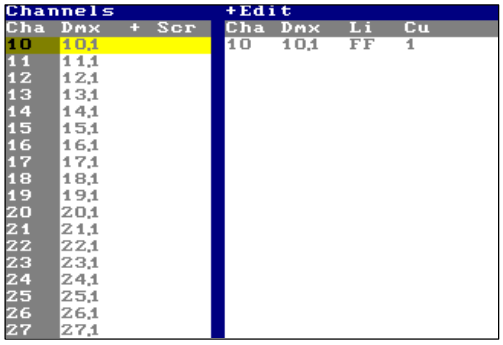
The channels list is organised by channels, in numerical order. The control channels are the list index and are not editable. Each channel shows us its associated dimmer and its possible scroller. If a channel has more than one dimmer associated, these are showed in the **+Edit** window, and a **+** symbol appears in this channel.

One control channel can control as many dimmers as will be desired.
One dimmer is controlled only by one control channel.

VISUALISATION

The channels-list has 4 columns:
Cha: Shows us the channel number and is not editable. Is used to access to a selected channel number.
Dmx: Shows us the first associated DMX direction.
+: A "+" symbol appears here when the channel is controlling more than one dimmer and is the door to the **+Edit** window.
Scr: Shows us the scroller number associated.

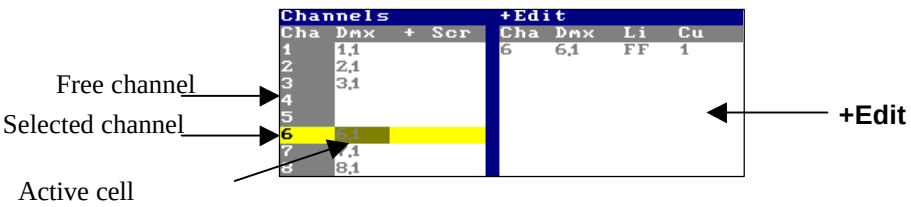
Each line has information about a control channel.



ASSOCIATING DIMMERS TO CHANNELS

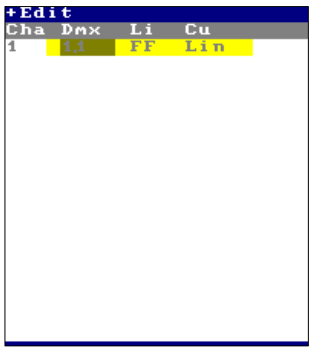
Use the arrow keys or external mouse to select the desired channel and cell. Enter the numeric data form the numeric keyboard or access to the **+Edit** window to can do complex editions.

- Move the cursor up to the desired channel to edit it.
- Active the cell **Dmx**. Insert here the desired Dmx direction (1.1 - 512.4), or press **INSERT** to insert the next dimmer (always respect to the dimmer of the previous channel).
  To free a channel of the dimmer press **DELETE**.



ASSOCIATING MORE THAN ONE DIMMER: +EDIT

If more than one Dmx direction is desired for the **selected channel**, access to the **+Edit** window activating its **+** cell and pressing **ENTER**. Now we are in the **+Edit** window.



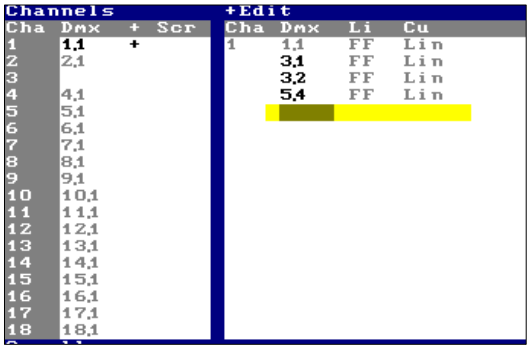
In the **+Edit** window it is possible edit more that one dimmer and the attributes of these dimmers. All information is about the channel selected in the channels-list.
The **+Edit** window is divided in 4 columns:

- **Cha**: The channel number that we are editing.
- **Dmx**: The Dmx directions (dimmers) controlled for this channel.
- **Li**: Is the LIMIT level for the dimmer (see the next part)
- **Cu**: Is the response curve for the dimmer (see the next part).

Each line contains data about one dimmer.

Inside the **+Edit** window, we can edit the desired dimmer or associate a new dimmer to the selected channel:

- Access to the last line and select the **Dmx** cell, insert here the new dimmer number with the format ###•# (direction number • line number).
- Access to any line of the list to edit its dimmer, limit level or response curve.
- Repeat this, as many times as will be necessary.



Notes:

About the channels-list: if a channel has more than one dimmer associated, the symbol "+" appears in its **+** cell.
Remember: one dimmer only can be associated to one control channel.

In the figure, the channel 1 is controlling the dimmers: 1 and 3 of the DMX-1 line, the dimmer 3 of the DMX-2 line and the dimmer 5 of the DMX-4 line.

- Return to the channels-list pressing **ENTER**.

ASSOCIATING A SCROLLER TO A CHANNEL

In the channels-list:

- Select the desired channel.
- Activate its **Scr** cell. Here, enter the desired scroller number (1 - 30). This entered scroller, now, is associated with the control channel. To erase the associated scroller, press **DELETE**.

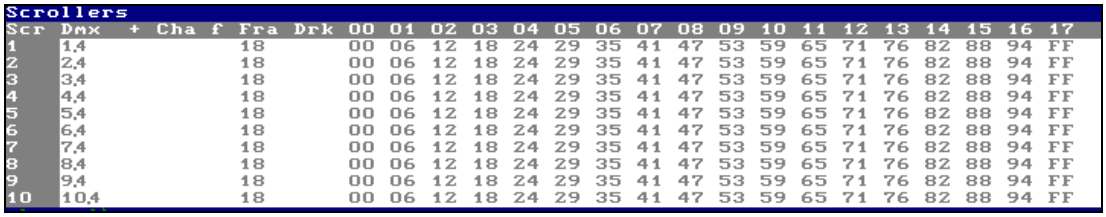
When a channel has a associates scroller, in the editor, this channel works like a element of 2 parameters (level and colour), and when the channel is selected the scroller too is selected.

One channel only can have associated one scroller.

SCROLLERS PATCH, THE SCROLLERS-LIST

Access to the scrollers-list pressing:
MENU 01 **or** **SCROLLER SCROLLER**

VISUALISATION



Scrollers

Scr	Dmx	+	Cha	f	Fra	Drk	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
1	1,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
2	2,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
3	3,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
4	4,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
5	5,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
6	6,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
7	7,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
8	8,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
9	9,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF
10	10,4				18		00	06	12	18	24	29	35	41	47	53	59	65	71	76	82	88	94	FF

The scrollers-list is divided in columns. And each one of the 30 lines has data about one scroller:

Scr: It is the scroller number and the index list. These numbers aren't editable. These cells are used for automatic location.

Dmx: It is the DMX direction. This direction is the same that the local direction of the scroller.

+: Here, a "+" symbol appears when the scroller has more than one DMX direction or more than a associated channel, and this cell permits us access to the **+Edit** window.

Cha: It is the control channel number (1-250 for Scan or 1-750 for Stage) associated to the scroller. This channel is the same that the channel of the lamp that has mounted for colour changer (scroller). The association of this channel is optional, but it permits use the HYDRA advantages.

f: It is the scroller mode, and it indicates us if the scroller jumps or fades in masters & crossfaders. By default, the scrollers jump in the playbacks (NO FADE mode)

Fra: It is the frames number (colours or gels) of the scroller.

Drk: It is a optional function, and it permits us mark a 2 consecutive gels like "dark gel". HYDRA use these 2 gels like the same colour, and when this colour is selected in scene, a slowly movement between these 2 gels is done, avoiding an excessive heating in the gels.

The rest of the columns are the frames, with their values. The frames are adjusted here.

ASSIGNING A DMX DIRECTION TO A SCROLLER

Inside the scrollers-list:

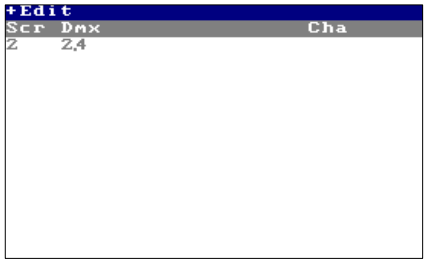
Select the scroller number to edit, with the cursor.

- Access to its **Dmx** cell. And here, enter its DMX direction (1.1 - 512.4), press **INSERT** to insert the next DMX direction (always respect to the previous scroller), or press **DELETE** to erase the current DMX direction.
- Access to the **+Edit** window to edit more than one DMX direction:
  Selecting its **+** cell and pressing **ENTER**. Now the cursor is in the **+Edit** window. (See the next part).

A scroller can control as many dimmers as will be necessary.
A dimmer only can have associated one scroller.

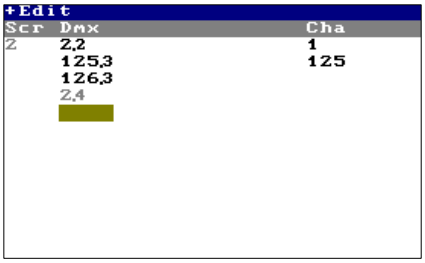
ASSIGNING MORE THAN ONE DMX DIRECTION. +EDIT

To edit more than one DMX direction to one scroller, select the scroller, with the cursor, and access to the **+** cell; press **ENTER** to access to the **+Edit** window.



Now the +**Edit** window is active and has the next columns:
Scr: Shows as the scroller number that we are editing.
Dmx: Shows us the DMX directions for this scroller.
Cha: Shows us the control channels associated with this scroller.

The data of the cells: **Dmx** & **Cha** are independents, only are assigned to the same scroller.



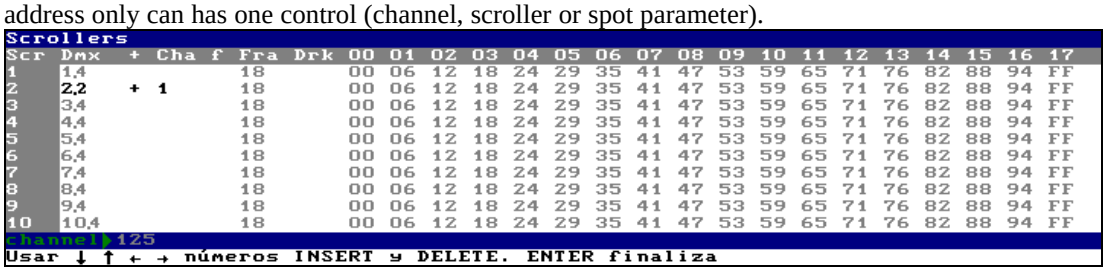
To edit in this window:

- Access to the last **Dmx** cell, here, enter the DMX direction from the numerical keyboard. The DMX direction has the format ###•# (address • line).
- Or access to any edited **Dmx** cell to modify the desired direction.
- Return to the scrollers-list pressing **ENTER**.

In the figure, the scroller 1 has associated the direction 2 of the DMX-2 line, and the directions 125 and 126 of the DMX-3 line & the direction 2 of the line DMX-4.
And this scroller is associated with the control channels 1 and 125.

Notes:

The "+" symbol appears in the **+** cell when its scroller has associated more than one DMX direction. or has associated more than one control channel.
When a DMX address in use, is entered, the old assignation is deleted. Remember! One DMX address only can has one control (channel, scroller or spot parameter).



ASSOCIATING A CONTROL CHANNEL TO A SCROLLER

From the scrollers-list:

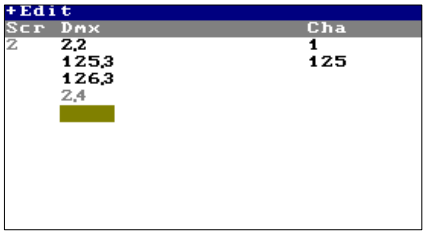
- Select the desired scroller to edit, with the cursor.
- Access to its **Cha** cell, and here, enter the channel number, or press **DELETE** to erase the associated channel.

One scroller can has associated various control channels.
One control channel only can has one associated scroller.

ASSOCIATING MORE THAN ONE CHANNEL. **+EDIT**

To associate more than one channel to one scroller, access to the **+Edit** window:
Select the scroller to edit, with the cursor.

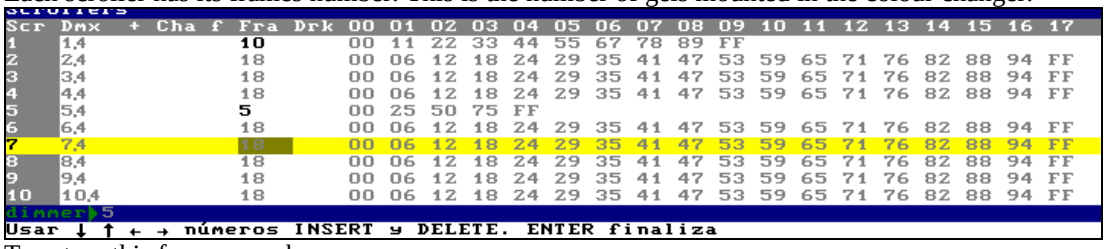
- Access to the **+** cells, and here, press **ENTER**. Now the **+Edit** window is active.
- Access to its last **Cha** cell, and here enter the new channel number.
- Or access to any of its edited **Cha** cells to modify them.
- Return to the scrollers-list pressing **ENTER**.



In the figure example, the scroller 1 is associated with the control channels 1 and 125.

THE FRAMES NUMBER

Each scroller has its frames number. This is the number of gels mounted in the colour changer.



To set up this frames number:

- Select the desired scroller to edit, with the cursor.
- Access to its **Fra** cell and:
  Enter its frames number (1-18),
  Press **INSERT** to copy the same frames number and setup that the previous scroller.
  Press **DELETE** to return at its frames number by default.

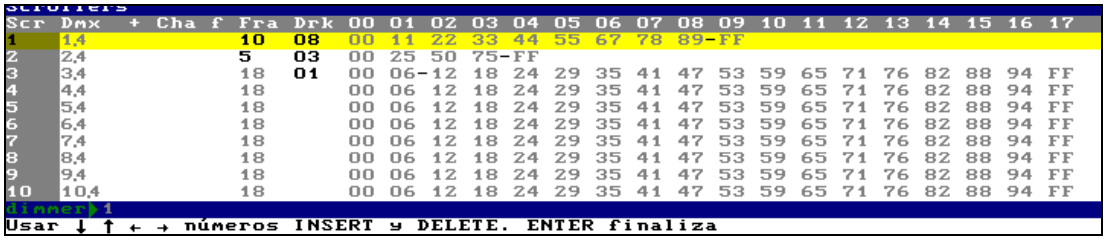
Note that the next cells, 00-17, are adjusted with this frames number.

The frames number by default, for the 30 scrollers, is edited in the setup line of this menu. Access to this special line, pressing **MENU**.
In this setup line access to the cell: **Default Frames** and here enter the desired number. This number only is update in the frames numbers showed in grey.

No more than 18 gels are permitted.

"DARK GEL" FUNCTION

The gels of dark colours have a fatigue more pronounced than the light gels. The cause of this fatigue is the lamp heat. A dark colour absorbs more heat than the light gels.
To avoid this fatigue, HYDRA has a special function: The "Dark Gel" function. This function uses 2 consecutive gels, of the same colour, and works with these gels like a unique colour. Then, when this dark colour is active in scene, HYDRA maintains a slowly moving between these 2 gels. The colour in stage is the same and the absorbed heat decreases in the gels: The heat doesn't impact in a gel point, impacts in a more great gel zone.



- Select the desired scroller to edit, with the cursor.
- Access to its cell: **Drk**, and here, enter the number of the first dark frame, or press **DELETE** to erase the edited number.

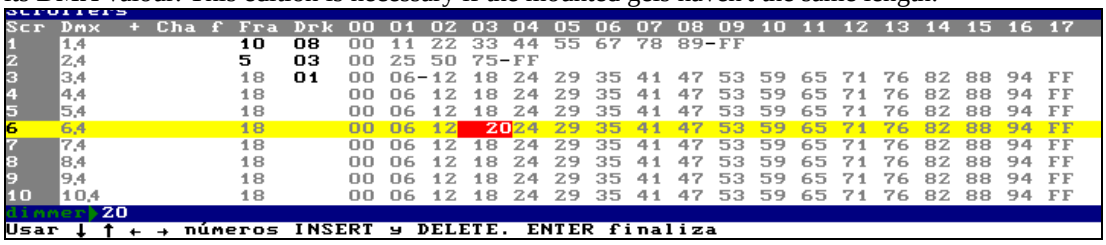
HYDRA takes this frame number and the next frame like the 2 gels of the same dark colour. A "-" symbol appears between the 2 dark gels.

In the previous figure, for example, the scroller 1 has 10 frames, and the frames 09 and 10 have the same colour gel, and they are the frames used by the dark gel function.

One scroller only can have one "dark gel" function.

ADJUSTING THE FRAMES

HYDRA adjusts the DMX valour to access to each frame. When the frames number (Fra) is edited, the DMX valour of each frame is adjusted in lineal mode. After the user can adjust any frame editing its DMX valour. This edition is necessary if the mounted gels haven't the same length:



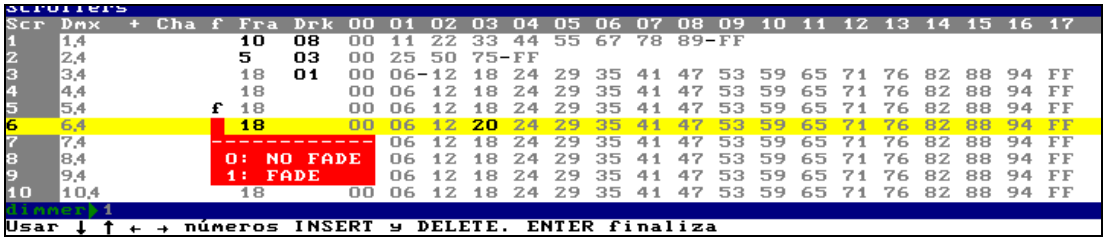
- Select the desired scroller to edit, with the cursor.
- Access to its desired frame cell (00-17) and enter the DMX valour from the numerical keyboard or press **DELETE** to return to its DMX valour by default.

Note:

The desired DMX valour can be obtained moving the wheel **{SCROLLER TEST}**, under the LCD display: This wheel controls the scene output of the selected scrollers and its current DMX valour is showed in the upper right corner of this monitor. Obtain the desired value using the TEST wheel, and press **INSERT** to capture the Test value in the active cell.
(See the next part: PATCH TEST IN SCENE).

SCROLLER BEHAVIOUR - FADE / NO FADE

A scroller, by default, doesn't fade when it is controlled in a master or crossfader, the scroller jumps at its value when the master is activated or in the beginning of the crossfade. It is possible change this scroller characteristic.



In the **[f]** cell of the desired scroller, select the option **1:FADE**, (pressing: 1), the scroller is marked with a little **f** in this cell, and now, the scroller fades in the masters and crossfades.

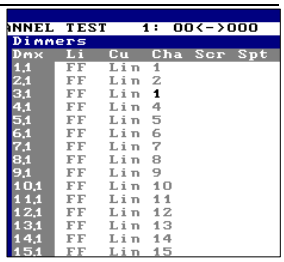
Return to default mode selecting here the option **0: NO FADE**.

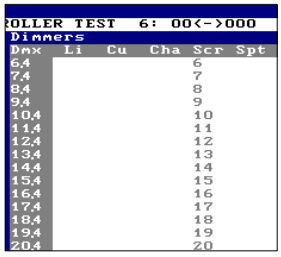
DIMMERS PATCH - THE DIMMERS-LIST

Access to the dimmers-list pressing:
MENU 02 **or** **DIMMER DIMMER**

The dimmer numbers are the index of this list. And Hydra has 2048 dimmers, ordered by DMX lines.

VISUALISATION





The dimmers-list is divided in 6 columns:

Dmx: Is the dimmer number. This column isn't editable and is used to access to the selected dimmer.

Li: Is the limit level, by default at 100% (FF), not limited.
Cu: Is the response curve. By default, the lineal curve.
Cha: Is the control channel (1-250 for Scan, or 1-750 for Stage).
Scr: Is the scroller number (1-30).
Spt: Is the spot number.

Each line has the information about one dimmer.

The channels are assigned to the first DMX directions of the DMX-1 line (& for Hydra Stage, DMX-1 & DMX-2).
The scrollers are assigned to the first DMX directions of the DMX-4 line.

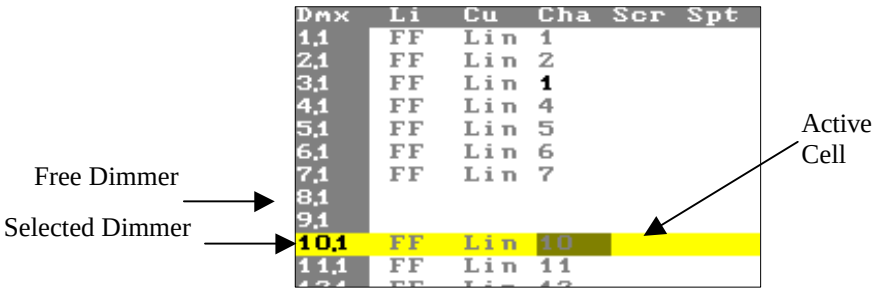
One DMX direction only can have one scroller or one control channel.

ASSIGNING A CHANNEL TO A DIMMER

Inside the dimmers-list:

- Select the dimmer to edit, with the cursor.
  NOTE: If you are using the index to find a dimmer, and the dimmer is in the line DMX 2, 3 or 4, enter the dimmer number has the format ###•# (address • line).
- Active its **Cha** cell (cursor in brown filed). And here, enter the channel number, or press INSERT to insert the next channel (respect to the previous dimmer), or press **DELETE** to erase the associated channel.

  A free dimmer is showed like in the next figure:

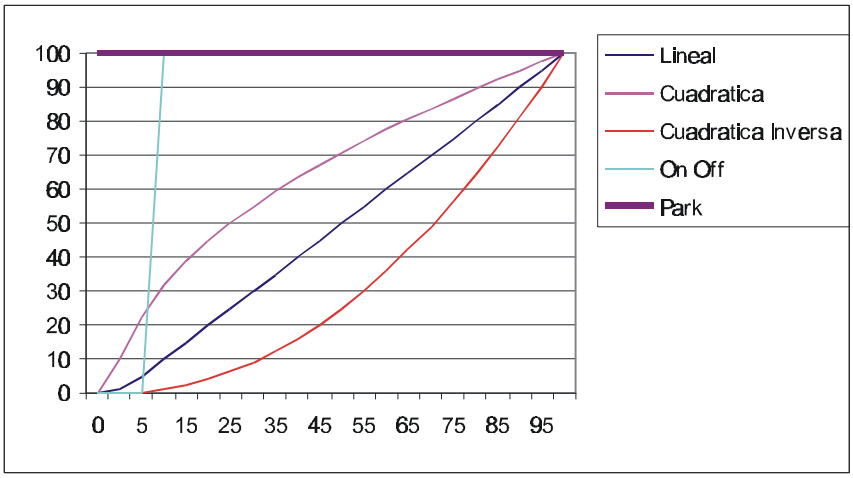


One channel can be associated to different dimmers.
One dimmer only has associated one channel.

ASSIGNING RESPONSE CURVES TO DIMMERS

HYDRA has 5 programmed regulation curves and 3 user curves:
1: Lineal curve. It is the curve by default.
2: Square curve.
3: Invert square curve
4: ON/OFF or non-dim curve
5: Park curve, its dimmer is always actives at its LIMIT level.
6: US6 curve, user curve.
7: US7 curve, user curve.
8: US8 curve, user curve.
To program the user curves access to the menu **05: Define Curve**.

The programmed response curves graphically:



Inside the dimmers-list, to edit the response curve:

- Select the desired dimmer with the cursor.
- Activate its **Cu** cell, and here a interactive menu is opened, enter the desired curve number. Press **ENTER** to accept it.
- Repeat the previous steps as many times as will be necessary.

LIMITING THE DIMMER OUTPUT, LIMIT LEVEL

The LIMIT level is the maximum level for the dimmer output, and its response curve is adjusted between the 0% and the LIMIT level.

To edit the LIMIT level:

- Select the desired dimmer.
- Activate its **Li** cell, and here, enter the LIMIT level (0%-100%). This value can be captured from the Scene Test, see bellow. Press **ENTER** to accept it.
- Repeat the previous steps as many times as will be necessary.

To obtain the desired LIMIT level, the **DIMMER TEST** wheel can be used, when the desired level is in scene, press **INSERT** to capture this level in the active LIMIT cell.

Note:
The dimmer never surpasses the **LIMIT** level. If a dimmer is limited at 50%, and has the lineal curve associated, its maximum output will be 110Vrms, but can reach the 220Vpp.
A limited dimmer at 00% hasn't scene output.

ASSIGNING A SCROLLER TO A DIMMER

Inside the dimmers-list:

- Optional: Select the DMX-4 line (by default for scrollers) entering a DMX address: **1.4** in any **Dmx** cell and pressing **ENTER**.
- Select the desired DMX address with the cursor.
- Activate its cell: **Scr**. Here, enter the scroller number (1-30), or press **INSERT** to insert the next scroller (respect the previous dimmer), or press **DELETE** to erase an assigned scroller.

One scroller can controls as many DMX directions as will be necessary.
One DMX direction can be controlled only for one scroller.

PATCH TEST IN SCENE

In anyone of the patch lists, HYDRA has a test wheel in live mode. This test wheel is located under the LCD display. This wheel, always, controls the output level of the selected item (channel, Dmx direction or scroller).

In the channels-list, moving this wheel, {CHANNEL TEST}, the scene output, of the selected channels, is controlled.

In the scrollers-list, moving this wheel, {SCROLLER TEST}, the scene output, of the selected scroller, is controlled.

In the dimmers-list, moving this wheel, {DIMMER TEST}, the scene output, of the selected dimmer, is controlled.

In the patch monitor, the valour (in 2 scales, 0-255 and 0-100) and status of this test wheel is showed in its upper right corner:

Remember, situated in any LIMIT cell of the dimmers table or in any FRAMES cell of the scrollers table, pressing **INSERT** the current level test is captured.

TOGGLE TO THE DESIRED LIST

Activate the desired list (channels, scrollers or dimmers), from the current active list, using:
1. The setup special line. Access to this setup line, pressing **MENU**.
2. The external mouse.
3. The function keys.

Using the setup line: access to its first cell: ▼ **Def. Chan** and select the desired list:

0: **Def. Channels**	To activate the channels-list.
1: **Def. Scrollers**	To activate the scrollers-list.
2: **Def. Dimmers**	To activate the dimmers-list.

Entering the option index number in this cell and pressing **ENTER** to accept it or pressing ⇓ to toggle directly to the selected list.
Resume:

MENU 0 ⇓	To activate the channels-list.
MENU 1 ⇓	To activate the scrollers-list.
MENU 2 ⇓	To activate the dimmers-list.

Using the external mouse:
Click in the desired cell of the desired list or of the **+Edit** window. (Too, is possible to select a cell of the setup line).

Using the function keys:

CHANNEL **CHANNEL**	To activate the channels-list.
SCROLLER **SCROLLER**	To activate the scrollers-list.
DIMMER **DIMMER**	To activate the dimmers-list.

SPECIAL FUNCTIONS FOR THE DIMMERS

A dimmer or dimmers range can be copied, exchanged, deleted or returned to their valour by defaults.

From any active patch list, a dimmer, a dimmers range, a DMX line or a DMX lines range can be selected.
Select a simple dimmer pressing:
DIMM ###.#

Select a closed dimmers range pressing:
DIMM ###.# THRU ###.#

Select an opened dimmers range pressing:
DIMM ###.# THRU

Select a simple DMX-line pressing:
DIMM .#

Select a closed DMX-lines range pressing:
DIMM .# THRU .#

Select an opened DMX-lines range pressing:
DIMM .# THRU

In base to the dimmers/lines selections it is possible...
Copy these dimmers/lines in others dimmers/lines:
{dimmers/lines selection} = **###.# REC** Entered the first dimmer to begin the copy.
{dimmers/lines selection} = **.# REC** Entered the first DMX line to begin the copy.

Exchange these dimmers/lines with other dimmers/lines:
{dimmers/lines selection} = = **###.# REC** Entered the first dimmer to begin the exchange.
{dimmers/lines selection} = = **.# REC** Entered the first DMX line to begin the exchange.

Delete the selected dimmers/lines:
{dimmers/lines selection} DELETE
DIMMER DELETE To erase all dimmers & lines

Return to their valour by default:
{dimmers/lines selection} REC
DIMMER REC To return all dimmers & lines

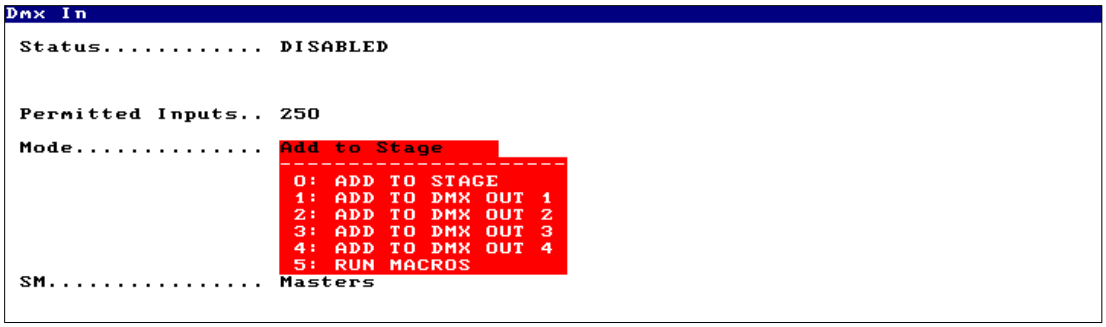
All these commands request confirmation.

Examples:
Copy the DMX-2 line to the DMX-3 line: **DIMMER .2 = .3 REC**
Delete the dimmers: 1.2 to 312.2: **DIMMER 1.2 THRU 312.2 DELETE**
Return to the valour by default of the dimmers: 1.2 to 30.2: **DIMMER 1.2 THRU 30.2 REC**
Return all dimmers of the line 1 to their valour by default: **DIMMER.1 THRU REC**

INPUT PATCH. MENU 03: Dmx In

HYDRA has 1 DMX input, its configuration and use are sets up in the menu Dmx In (03).

Select the Dmx In menu, pressing **MENU 03**



Use the arrow keys or the external mouse to access to the edition cells. The options are:

Status..... 0: ENABLE
1: DISABLE.

Access to the **Status** cell and here, enter the index number of the desired option. By default, the DMX input is disable, in others words, HYDRA doesn't compute the Dmx Input. Activate the DMX input pressing here: **0 ENTER**. Now HYDRA read the DMX input.

Permitted Inputs ..250

The maximum input DMX number is **512**, except for the working mode 0 in Hydra Scan, that this maximum number is **250** (as much as conventional control channels).

Mode..... 0: Add to Stage (Channels)
1: Add to DMX OUT 1
2: Add to DMX OUT 2
3: Add to DMX OUT 3
4: Add to DMX OUT 4
5: RUN MACROS
6: Add to Stage (Spots)

The DMX input has 7 possible functioning modes. By default, the mode **0:Add to Stage (Channels)**, is selected. In this mode the input channels are added directly to the HYDRA scene output as control channels. And the relation between the input channels and control channels is 1:1.
To capture the DMX input in the HYDRA editor, use the function **CALL**.

The options **1 to 4: Add to DMX OUT#,** permit us "add" the DMX input to any of the DMX output lines. In these modes the HYDRA works as a DMX merger, and HYDRA cannot capture the Dmx input.

The option **5:Run Macros**, each input channel executes the macro of its same number. In other words, the DMX input can execute the first 512 macros, in relation 1:1. Example, when the input channel 1 arrives at its 5% the macro 1 is executed.

The option **6:Add to Stage (Spots)**, in this mode the DMX inputs are added directly to the HYDRA scene output as spots parameters. And the relation between the DMX inputs and the spots parameters is 1:1. To capture the DMX input in the HYDRA editor, use the function **CALL**.

This working mode permits us "to capture" scenes from the outputs DMX of others spots consoles. Take care with the spot patch configuration in this mode, this spot patch must be the same in both consoles.

Notes:
In base to the properties of the spots parameters (LTP), in the moment that there is information in the DMX input, all reading inputs are activated (too the inputs at level 0%).
For this reason is important use and configure the SM master as Dmx In general control. The blackout key of this master SM, can be used to deactivate the DMX input at any moment.

Observe, that if you store memories from scene, using the command CALL RED, all spots parameters (from the DMX input) will be stored in the memories.

SM.....Masters
The fader **SM**, can be used to control the DMX input (option 1: DMX IN).
By default, this fader is the general control of the 48 masters, (option 0: MASTERS).

When this fader SM is controlling the DMX input works as the General Master of the linked DMX console, and its **SM** like blackout key.

This parameter can be configured in this menu 03, or in the menu 33 (SETUP/SYSTEM).

SPOTS PATCH, MENU 04 - HYDRA SCAN

OVERVIEW

HYDRA SCAN can control up to **30** moving lights, or **spots**, or a maximum of **512** attributes. These spots can have any number of DMX control channels (spot parameters) between 2 and 32.

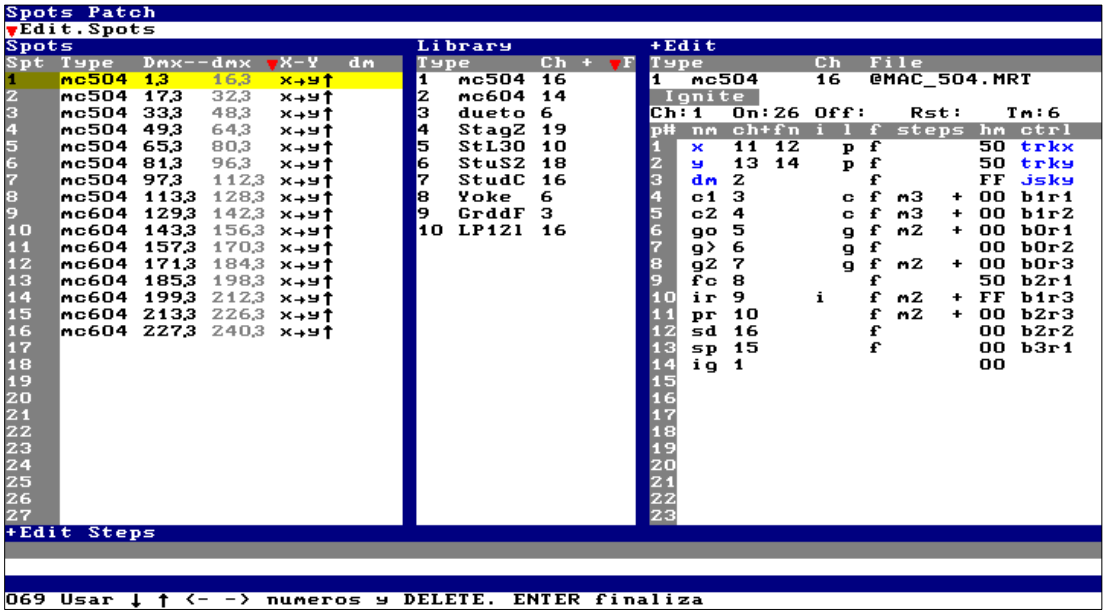
The 30 spots controlled by HYDRA can be of 10 different types (model of the moving light).

By default, after a Cold Reset:
The 16 spots are addressed in the DMX-3 line, they are ordered by spot number consecutive mode.
Spots 1-8 are assigned to the type 1 (Mac500 in mode 4, 16 channels, by MARTIN).
Spots 9-16 are assigned to the type 2 (Mac600 in mode 4, 14 channels, by MARTIN).

This Spot Patch is assigned in the Cold Reset like an example, and can be edited totally, types, DMX directions...

SPOTS PATCH

This menu is 04, to access to it press:
MENU 04 **or** **SPOT SPOT**



This screen is divided in 4 parts. These parts are:
1- Special or Selection Line (The white line between the first two blue lines)
2- The own Spot Patch - **Spots**
3- The Active Types List - **Library**
4- The table of Types edition - **+Edit**

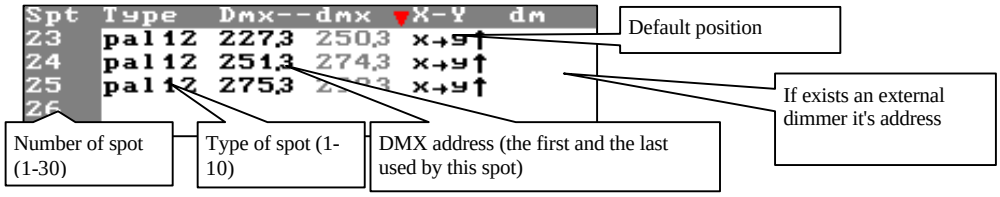
Each time you enter in **MENU 04**, the cursor is placed in the Spot Patch, **Spot**.
From here we can use the mouse to place the cursor in the desired list/cell or from the setup line:

Access to the actives types list, **Library**, pressing: **MENU** **1** ⇓
Return to the Spot Patch, **Spots**, pressing: **MENU** **0** ⇓ **or** **SPOT** **SPOT**

To access to the edition table of a spot type, **+Edit**, first select the desired type in the **Library** table and position the cursor in the: **[+]**, once here, to edit it, press **ENTER**.

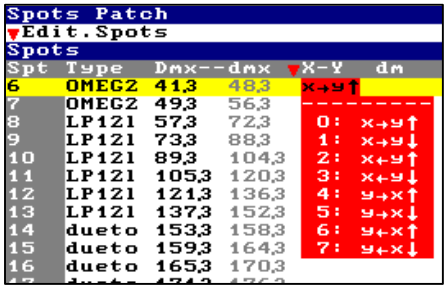
SPOTS PATCH, **SPOTS**

The types are assigned to the spots numbers and DMX addresses in the Spot Patch, **Spots**. Access to this list, from the stage page pressing:
MENU **04** **or** **SPOT** **SPOT**



To configure the Spot Patch, access with the cursor to the desired spot number (1-30). Then access to its **[Type]** cell and insert the index number of the type (from the Library list: 1-10) or pressing **DELETE** to free its assignation. Access to the **[DMX]** cell to insert the DMX address (the first DMX address of the spot (this address is the same that the stabilised in the local moving light). The System calculates the last used address for this spot and shows us this last DMX address (in the grey colour).
If you make a mistake entering the DMX address the System shows us a warning message (an address is considered not good when some of the DMX channel are overlapping other spots parameters).

In the **[X-Y]** cell, we can configure the position Patch. Adjust this option to find a homogeneous beam movement respect to the trackball movement. In this cell an interactive window is opened to show us the available options:

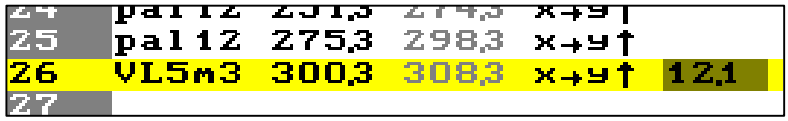


Select the desired option inserting its index number and pressing **ENTER**.
In this position use the trackball to check this spot. You can select other position option if the previous selection is not good.

This cell only is active in the spot that its type has **x/y** control.

In the spots that they need an external dimmer to control their lamps (example: VL5 by VariLite) the **[dm]** cell is active. Access to the **dm** cell and insert here the DMX address of the external dimmer.

In the example you can see the spot 26 that it is a VL5 and its lamp connected to the dimmer 12 of the DMX-1 line. The VL5 is addressed to the DMX direction 300 in the DMX-3 line.



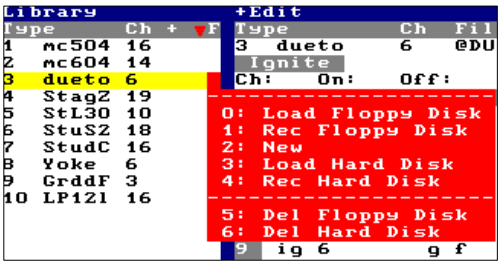
SELECTING THE ACTIVE TYPES, **LIBRARY**

Only the Spot types not assigned in the spot patch can be loaded with a new Spot type. If necessary, eliminate the assignation of the spots of this selected type before loading a new type (See bellow).

The 10 types actives in HYDRA can be selected by the user.
To select a new Spot type, insert the **LT Spot Library disk** in the disk drive. Then, select the types list, **Library**.

In this situation, activate its **[F]** cell.
An interactive window is opened; this window shows us the next options:

- **0: Load Floppy Disk**: Load a type from the diskette to HYDRA.
- **1: Rec Floppy Disk**: Record a type from HYDRA to the diskette.
- **2: New**: Edit a new type from HYDRA.
- 3: Load Hard Disk: Load a type from the hard disk of the PC to HYDRA (For OLE application).
- 4: Rec Hard Disk: Record a type from HYDRA to the hard disk of the PC (For OLE application).
- **5: Del Floppy Disk**: Delete a type stored in the diskette.
- 6: Del Hard Disk: Delete a type stored in the hard disk of the PC (For OLE application).



To load a new type from the spots disk:
Press **0** **ENTER** to access to the disk directory. And select the type to insert entering its index number and accept it pressing **ENTER**. The new selected type replaces the previous one.

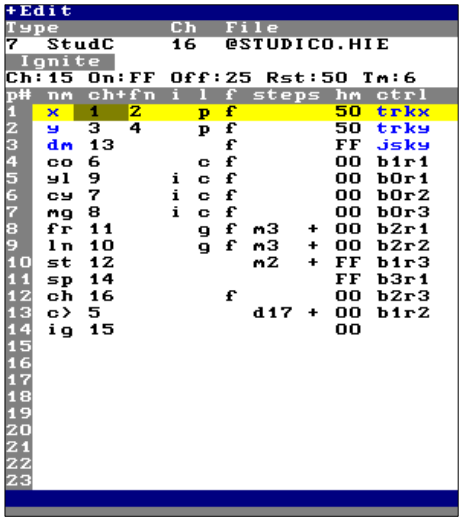
Repeat this process as many times as types you want replace.

In the active types list you can see the number of DMX channels used to control this type, and in the **+Edit** window, you can see the complete definition of the current selected type. (See bellow).

Notes:
When you select a type of spot already assigned, the **0: Load Floppy Disk** option is not available, it is not possible to replace a type in use.
Before to load a new type, you can store the old type in the disk (selecting the option **1:Rec Floppy Disk**).
It is possible to use the LT Spot Library diskette or any diskette with the type file.

MODIFYING SPOT TYPES, **+EDIT**

You can modify the definition of any spot to adjust the spot to our preferences or to edit a different spot. Select the spot type to edit, in the list **Library**, and activate its **[+]** cell, and press **ENTER** to enter to the edition table, **+Edit**.



The **+Edit** window is divided in 3 parts:
The upper part with:
The number and name of the type, and its file name.
And informatively, the number of DMX channels used for this type

A special part for the ignition channel definition.

The inner part with:
All its parameters, with names, DMX order and others attributes...

Edit any cell that you wish. When the spot type is configured completely, press **ENTER** to return to **Library**, from here you can record this new configuration.

Note:
To edit a moving light you need the technical specifications from the manufacture of this moving light, and an external alphanumeric keyboard to edit the parameter names and type & file names. The data in blue are not editable.

In the active **+Edit** window, for example, you can:

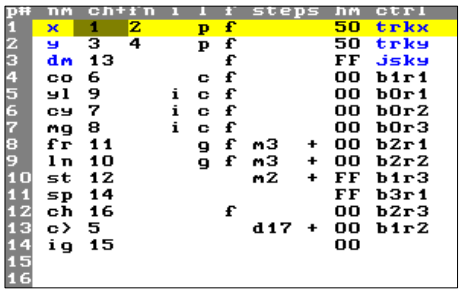
- Edit the type name, **Type** (StudC). This name is used in the HYDRA editor, in the Spot Patch and in the **Library**.
- Edit the file name, **File** (@STUDICO.HIE). This is the file name that is stored in the disk.

For this, activate the cell to edit, and delete the "current text" (pressing **DELETE**) to enter the "new text" with the external keyboard.

Note: Modify the file name only if we want to create a new file. If the file name is not modified, the new definition is stored over the original definition.

The parameters **x, y, dm** and their control devices (**trkx**: horizontal trackball, **trky**: vertical trackball, **jsky**: vertical joystick) cannot be edited, only can be configured.

The rest of the parameters are completely editable, and their attributes are:



[P#]: It is the parameter number, no editable.
[Nm]: It is the parameter name, in 2 characters, used in the editor and the wheels banks.
[ch+fn]: It is the DMX order of the control channel. (follow the instructions of the moving light) and the high-resolution parameters, the x/y parameters, too the second DMX order used.
[i]: To invert the control channel. When this parameter is loaded in a control wheel or master, in its 0 position the parameter is at its 100%, and in the upper position of the master this parameter is at 0%.
[l]: To define if this parameter will be recorded in some library (**p**osition [p], **c**olour [c] or **g**obo [g]).
[f]: To define if this parameter works in fading or not fading mode.
[Steps]: To define the parameters of mixed or discrete steps. (See below).

[hm]: This is the value by default for the parameter, this value is used in the HOME function and after a Cold Reset of the console (The home value, normally, is a null value, for example no-colour, no-gobo, etc).
[Ctrl]: To select the wheel and bank that controls this parameter when the spot is selected in the editor. By default:

x is controlled by the trackball in a horizontal movement (trkx)
y is controlled by the trackball in a vertical movement (trky)
dm is controlled by the joystick in a vertical movement (jsky)

The rest of the parameters are grouped in 8 banks of 3 wheels each one.
In this cell an interactive windows is opened. This window shows us all the possibilities, with the format **b0r1** (where 0 is the bank number and 1 is the wheel number) and the option NONE (Select the option NONE if you don't want to control this parameter with the wheels).

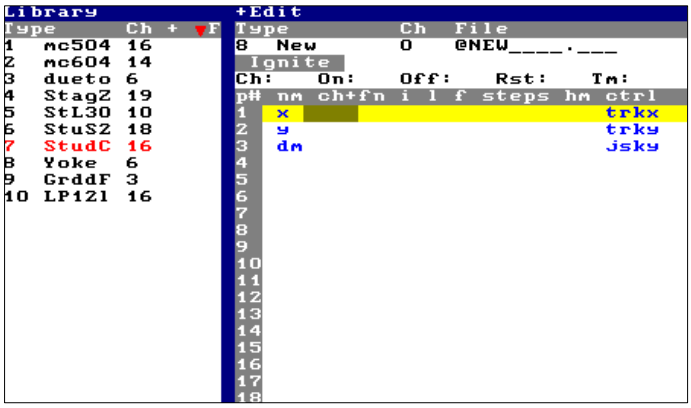
The ignition parameter has to define in this list too, but it is not necessary to assign it a control wheel.

When the type is configured completely, ENTER returns us to the types list, **Library**, (HYDRA requests us a confirmation). Now the modified type is showed in red until it is recorded in the floppy disk or the show file.

In the switching on the edited types are maintained. In the show files the edited types are stored. And only in the **Cold Reset**, the edited types are replaced with the default types.
After to modify or to edit a spot, its name appears in **red** in the types-list: the spot type is modified but not recorded. Only after to store the current show or the own type (1:REC option) its name returns to the black colour.

EDITION OF A NEW TYPE, **EDIT**

If the spot type that you wish to control is not in the LT spots library, you can edit it, starting of a empty table. From the **Library** table, select the type to replace with the cursor, activate the **[F]** cell and select the option 2:NEW, entering the **2** and pressing ENTER.



The **+Edit** window is "empty". Edit the new spot, and when the edition is finished, press ENTER to quit to **Library**.
After to modify or to edit a spot, its name appears in **red** in the types-list: the spot type is modified but not recorded. Only after to store the current show or the own type (1:REC option) its name returns to the black colour.

DISCRETE & MIXED PARAMETERS - [Steps]

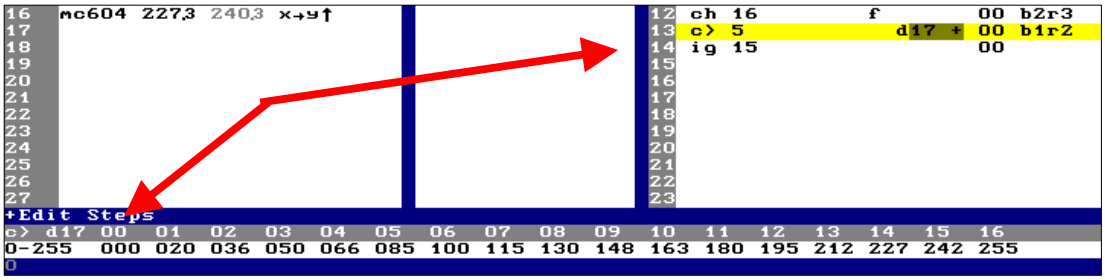
HYDRA SCAN can work with continuous parameters or steps parameters. The steps parameters can be discrete or mixed.

- **Discrete** parameters are used to control gobos or colours wheels, they permit select the desired step, but each step has a fixed value (not control inside the step).
- **Mixed** parameters are used to control parameters that they control more than one characteristic, for example, a channel to control the dimmer and strobe in a moving light. These parameters have a continuous control inside the selected step, and the desired step is selected, obligatorily, using **STEP+** & **STEP-**.

To define one of these parameters select its **[Step]** cell and:
Press **1** (1: DISCRETE) ☐ to define it like **discrete**
Press **2** (2: MIXED) ☐ to define it like **mixed**
Press **0** (0: NONE) ☐ to define it like **continuous**

If the options 1 or 2 have been selected, now insert the step number:
The number maximum of steps for a discrete parameter is 36.
The number maximum of steps for a mixed parameter is 18.

To adjust the values of the parameter steps, access at **[+]** and press **ENTER**.
Now the values-table (of this parameter) is active. This values-table is named **+Edit Steps**. Edit these values and accept them pressing **ENTER**.



In the figure, the **+Edit Steps** is showed the values for the parameter 13, **c>**. This parameter is discrete and has 17 steps. The values are showed in a 0-255 scale.

These step values can be edited/modified in a 0-255 scale or a 0-100 scale. Select the desired scale in the first cell of this table, **+Edit Steps**.

In the scene page, a discrete parameter is showed in **blue** (its name), a mixed parameter in **brown** and a continuo parameter in **black**.

THE IGNITE CHANNEL

Some moving lights use a special channel to control it. This channels is named **ignite** channels. The ignite channel permits us do special functions like:
Turn on the lamp: ON
Turn off the lamp: OFF
Spot Reset: RST

These ignite channels have different working modes, these modes are defined by each manufacturer. Some ignite channels can have more functions, but HYDRA only works with these 3 basic functions (ON, OFF and RST).

Spots with a dedicated **ignite** channel:
Inside the spot type definition table - Define a parameter named "ig", in the spot type, only with its channel number. This parameter has not associated control wheel. In the special Ignite table, edit the next cells:

Ch: Value of the **ignite** channel (this value is the same that the of the "ig" parameter).
On: Level to send by this channel to turn on the lamp.
Off: Level to send by this channel to turn off the lamp.
Rst: Level to send by this channel to Reset the spot.
Tm: Is the time to transmit the previous levels. This time can be edited from 0 sec up to 31 sec. If you edit this cell with a time of **0 sec**. the transmission has an infinite time. In others words, the user must to end a new value by this ignite channel to "change" the sending level.

Example: The MAC 500 uses its channel 1 like an ignite channel. The ignite channel turns on the lamp when it is at 26% during 6 seconds. This ignite channels is defined as:

Ignite
Ch: 1 On:26 Off: Rst: Tm:6

And, in the parameters table is needed:

P#	nm	ch+fn	i	l	f	steps	hm	ctrl
...	...	...	...	...	...	...	...	...
15	ig	1					00	

Spots without a dedicated **ignite** channel:
These spots do the special functions using all its channels. And in this case the definition of Ignite is:
Ch: **0** (Edit, in this cell, **the 0** to indicate to HYDRA that it works with all spot channels)
On: Level to send by this channel to turn on the lamp.
Off: Level to send by this channel to turn off the lamp.
Rst: Level to send by this channel to Reset the spot.
Tm: Is the time to transmit the previous levels. This time can be edited **from 1 sec up to 31 sec**. Here it is not possible to edit a time 0 sec.

Example: The next spot does a Reset when all its channels are at FF% during 2 seconds. This **Ignite** process is defined like:

Ignite
Ch: 0 On: Off: Rst:FF Tm:2

From the Editor, after, the user actives the **ignite** command using the **PARAM** key. Example, to turn on the lamp (Ignite ON) select the PARAM option **91: Ignite On**:

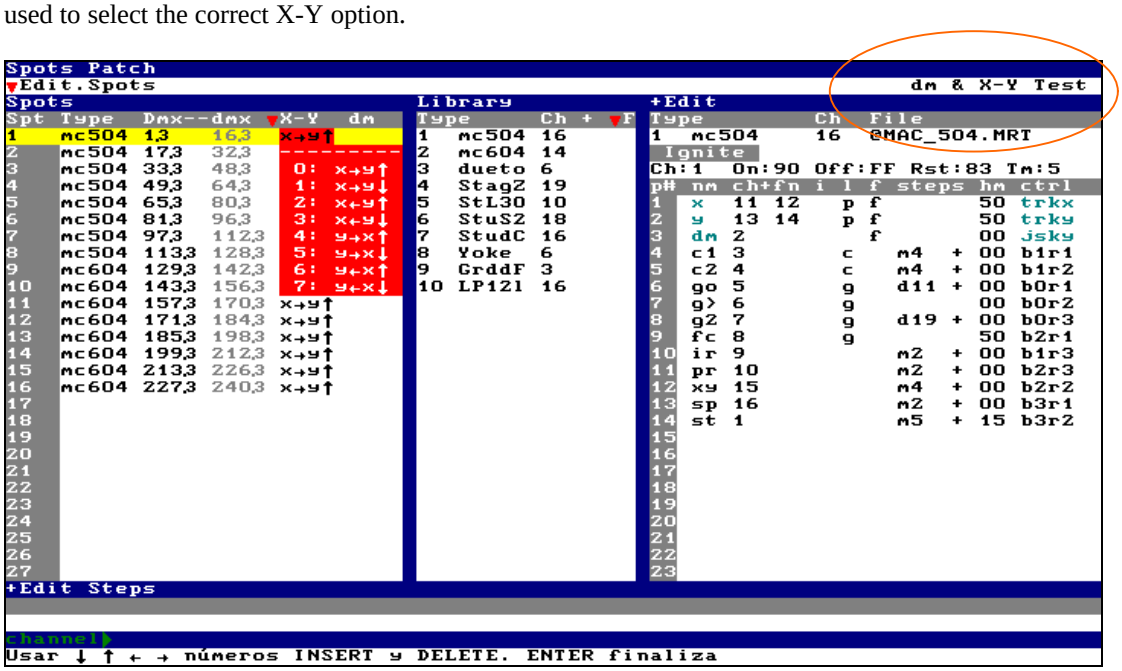
SPOT 1 PARAM 91

THE DIMMER CHANNEL

If the spot use a external dimmer, enter a number 99 in its **Ch** cell. After, in the Spot Patch, we can assign a DMX direction for this channel.

SCENE TEST

When you are in the spots table, in its cell X-Y, a movement test is activated for the selected spot. And in this situation you can move the trackball to control the parameters X-Y and you can move the Joystick (vertically) to control the spot dimmer level to “see” the movement in stage. This test is very used to select the correct X-Y option.



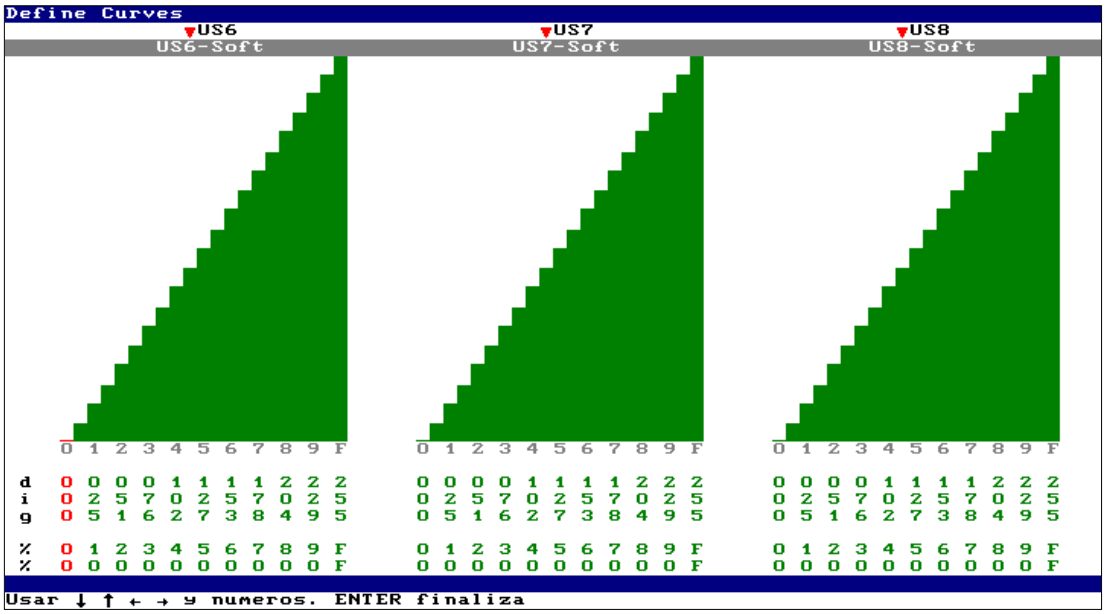
USER CURVES, MENU 05

The user curves are defined / modified inside of menu **05: Define curves**.
HYDRA has 3 user curves, and these curves can be applied to any dimmer or dimmers group always that these dimmers have assigned control channels.

The user curves, US6, US7 and US8:

- After a Cold Reset, they are the same that the lineal curve.
- Are stored in the show file.
- Can be **Soft** (by default mode) or **Hard** (special mode).
- Are defined with 10 points per curve.

To define a curve, select the menu **05:Define Curves**, pressing **MENU** **05**.
The monitor shows us the current curves in a graphic mode and a numerical mode in 2 scales: 0-255 (dig) and 0-100 (%):



- Press the keys and/or to place the desired point of the curve to edit. The active point is in red (both graphic bar and numeric value) and ready for its edition.
- Press the keys ↑ and/or ↓ to edit the level of the active point (these keys work in the 0-255 scale - fine adjust) or insert the level from the numeric keyboard in a scale 0-100%.
- Repeat these steps as many times as will be necessary to edit all desired points or curves. .

When the edition is finished, press **ENTER** to quit of this menu.

In the special line of this menu, there is the commands ∇US6, ∇US7 and ∇US8. These commands permit us the selection of the curve mode and the copy of values from others curves. Remember! press **MENU** to access to this special line.

SELECTING THE CURVE MODE

The available options are:

90: Soft

91: Hard

For a **Soft** curve, by default mode, HYDRA calculates values between its 10 defined points, and HYDRA uses these averages values between point and point. For a **Hard** curve, HYDRA only works with the 10 defined values, there are not average values, and this type of curves is more used for special effects.

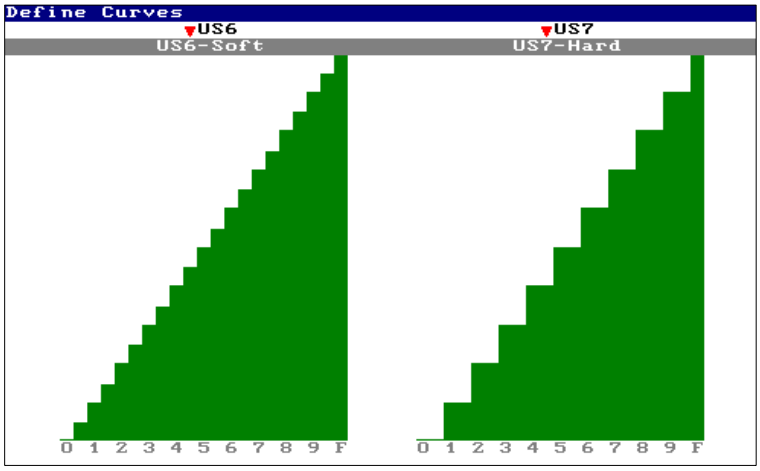
In the monitor, the **Hard** curves are showed only with 10 graphic bars per curve, and the **Soft** curves are showed with more average graphics bars.

Only the user curves can be **Hard**. The rest of HYDRA curves are always **Soft**.

Example: The curve US6 has defined the point 0 at 00% and the point 1 at 25%, so:

Control level	Selected point	Output if: US6 Soft	Output if: US6 Hard
0%	0	0%	0%
5%	0	12%	0%
10%	1	25%	25%
15%	1	38%	25%

Soft and Hard modes in the monitor. The curve US6 is Soft and the curve US7 is Hard:



COPYING VALUES FROM OTHERS CURVES

The options 1 to 8 permit us to copy, to the corresponding user curve, the values of any of the HYDRA curves, including the user curves. These "copied" values are used as base to edit a new curve in a quick way.

This characteristic permit us test visually any of the HYDRA curves.

RESUME

Tests in scene:
In channels-list, {wheel **channel test**}
In scrollers-list, {wheel **scroller test**}
In dimmers-list, {wheel **dimmer test**}
In spots-list, X-Y cell, {trackball **X-Y test**} & {Joystick Y, **dm test**}

Activating the selected list in the lists of channels, scrollers & dimmers:
Channels-list: **MENU 0 MENU (CHANNEL CHANNEL)**
Scrollers-list: **MENU 1 MENU (SCROLLER SCROLLER)**
Dimmers-list: **MENU 2 MENU (DIMMER DIMMER)**

Patch. Copying dimmers:

Source line to target line:	**DIMMER •# = •# REC**
Source lines-range to target lines-range:	**DIMMER •# THRU = •# REC**
	DIMMER •# THRU •# = •# REC
Source dimmer to target dimmer:	**DIMMER ###•# = ###•# REC**
Source dimmers-range to target dimmers-range:	**DIMMER ###•# THRU = ###•# REC**
	DIMMER ###•# THRU ###•# = ###•# REC

Patch. Exchanging dimmers:

Source line to target line:	**DIMMER •# = = •# REC**
Source lines-range to target lines-range:	**DIMMER •# THRU = = •# REC**
	DIMMER •# THRU •# = = •# REC
Source dimmer to target dimmer:	**DIMMER ###•# = = ###•# REC**
Source dimmers-range to target dimmers-range:	**DIMMER ###•# THRU = = ###•# REC**
	DIMMER ###•# THRU ###•# = = ###•# REC

Patch. Returning to the default valour:

All dimmers & all lines:	**DIMMER REC**
All dimmers of the selected line:	**DIMMER •# REC**
All dimmers of the lines-range:	**DIMMER •# THRU REC**
	DIMMER •# THRU •# REC
The selected dimmer:	**DIMMER ###•# REC**
The dimmers-range of one line:	**DIMMER ###•# THRU REC**
The dimmers-range in several lines:	**DIMMER ###•# THRU ###•# REC**

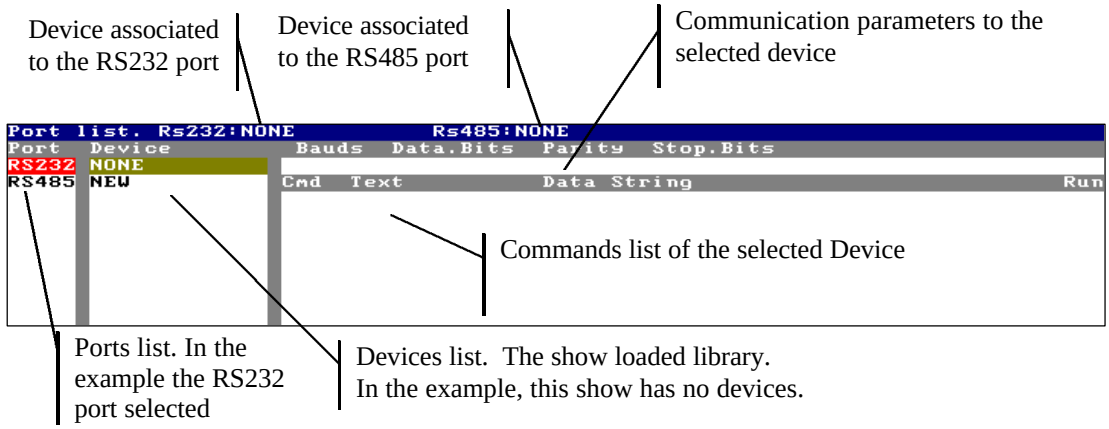
12 .- THE RS232 & RS485 PORTS

MIDI, SMPTE, SOUND, SERIAL PORTS... All is possible with Hydra!
Hydra has a power multimedia control, this multimedia control permits us synchronise RS232 devices and RS485 devices.
The RS232 & RS485 Hydra ports are configured completely in the MULTIMEDIA MENU: **RS232 & RS485**. It is the menu number 20, and this menu is selected pressing:

MENU 20

Hydra has a library with 2 serial devices. The library is loaded from a floppy disk and can be supplied for your LT distributor. However, the user can create its own library at any moment.

The devices configuration, the ports configuration and the devices edition is done into the **RS232 & RS485** menu. This menu has the next appearance:



This page is similar to an edition table. Use the arrow keys to select the desired cell and use the numerical keyboard to enter a numerical data. The external alphanumerical keyboard is used to entering the associated texts.

THE PORTS CONFIGURATION

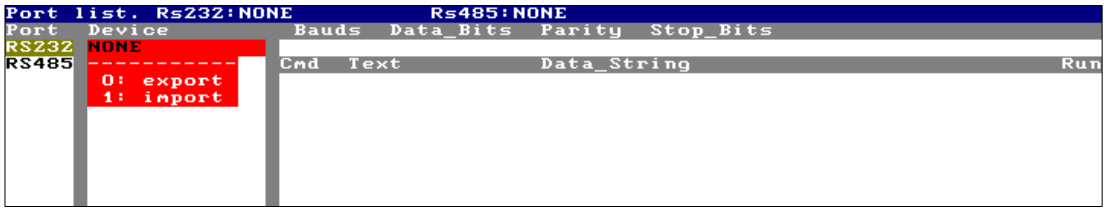
A device can be associated to each physical port. The device definition sets up the port communication parameters. These communication parameters are:
Bauds: Data transmission speed.
Data.Bits: Bits number of each string.
Parity: Define the parity type: odd, even or no-parity.
Stop.Bits: Define the spots bits number used. (1 or 2).

The port is configured with these communication parameters.
The user can find the corrects valour in the technical specifications of your device (slide machine, digital video machine, etc.)

Example: We want control a RS232 slide machine from the RS232 port. Define a device for this slide machine and assign this device to the RS232 port. The port is configured with the communication parameters defined in this device.

THE DEVICES LIBRARY

Select the cell **NONE** with the cursor (in red) and a pop-up red window is opened with the library options.



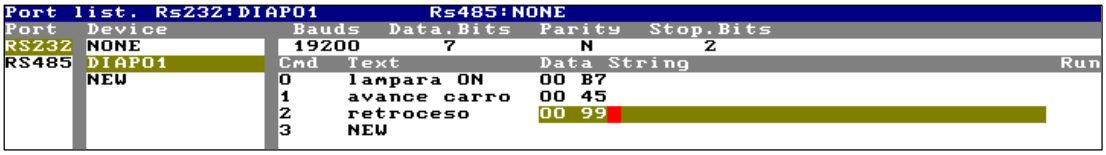
Enter the number **1**, to **import** the devices library from a floppy disk, or enter the number **0**, to **export** the current device list as a library in a empty floppy disk.

The library is unitary. All devices are included in the library. No delete the defined devices loaded before to update the library.

EDITING NEW DEVICES

A device can be edited at any moment.
Example: Define a new "device" to control a RS232 slide machine. From the stage monitor:

1. Select the menu: RS232 & RS485, pressing MENU 20.
2. Select the cell: **RS232**.
3. From here press →, to access to the devices list.
   Select the cell: **NEW** with the cursor and typing a device name, for example: DIAPO1.
   Note that in the status line appears **RS232:DIAPO1**.
4. From here press →, to access to the communication parameters.
5. Enter each parameter following the manufacture specifications of the slide machine. Remember, use the arrow keys and the numerical keyboard to edit them. Hydra helps us with a pop-up windows.
6. From here press ↓, to edit the device commands. Each new command is numbered in automatic mode. Type a identification text from the external alphanumeric keyboard for each new command. And then edit the command "string", always following the manufacture instructions.
7. Repeat the last step to edit others new commands, or repeat the previous steps to edit new devices.



The command data, string, can be entered in ASCII or Hexadecimal format:
ASCII: By default format, nothing is needed to edit them. Example: 00 06
Hexadecimal: Each group of 2 characters is preceded by a character *. Example: *00 *06.

Note:
One string can have different formats, example: 00 *06, where 00 is ASCII and 06 is hex.
Send in ASCII the character *, its edited inserting: **.

If the RS232 slide unit is connected to the RS232 Hydra port, we can check the correct functioning of the string accessing to the command cell: **Run** and pressing **ENTER**. At his moment the command is send by the RS232 port and the connected slide machine will respond to this command.

The edited devices and the ports configuration are stored in the show file.
Update the devices library (export) to can load the devices independently of the show file.

EDITING A NEW COMMAND

Any device of the devices list can be edited. The commands or the communication parameters can be edited. A new command can be added. A existing command can be deleted:
Select the desired device and edit it in the same mode that a new device.

Delete a existing command, selecting it, and pressing **DELETE** in its **Cmd** cell.

DELETING A DEVICE

Before delete any device of the console, it is commendatory export the update library.
Delete a desired device (in the devices list), selecting this device with the cursor and pressing **DELETE**. The device and its commands are deleted.

ASSIGNING A DEVICE TO A PORT

Each Hydra serial port can have only a associated device. From the **RS232 & RS484** menu:

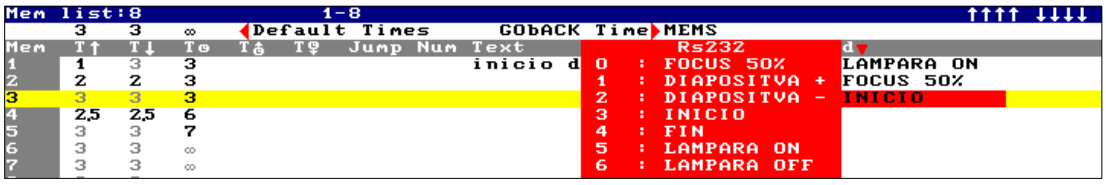
1. Select the desired port, accessing to the cell: **RS232** or **RS485** with the cursor.
2. From here press →, and select the desired "device" using the arrow keys.
   From here press → or ← to accept this assignation.

The status line (blue line) indicates us the ports assignations.

THE COMMANDS EXECUTION

These commands are executed from the sequences. The command have to assigned to a memory. The possible commands are the commands of the devices assigned to the ports.

Configure de devices and ports in its menu.
From the stage monitor pressing **Mem List** to assign the desired command in the selected memory.



Select the desired memory with the yellow line. Access to its **Command** cell. Enter the command type, for example: press the **2** to select the RS232 commands (or **3** for RS485 commands). And then, select the desired command from the opened list in the next cell. (See chapter: The sequences).

COMPORTMENT

When one memory with an associated command begins its crossfade in X2 (or Y2), its associated command is executed. In others words the data string is send by its serial port.
In the previous example, when the crossfade of the memory 1 begins, its associated command is send by the RS232 port and the slide machine lamp is switched ON.

Tip:
Always assign a text to the command to identify this command easily.

13 .- MIDI

MIDI, SMPTE, SOUND, serial ports... All is possible with HYDRA!

The HYDRA has a standard MIDI port. This port is used to control the console from a PC sequencer, to control MIDI devices from the own console, to synchronise 2 HYDRA consoles...

MIDI (Musical Instruments Digital Interfaces) is a digital protocol. This protocol had born as a musical instrument interface, but now, is very used in multimedia communications.

A simple digital communication that permits us to transmit or receive keystrokes and/or fader movements.

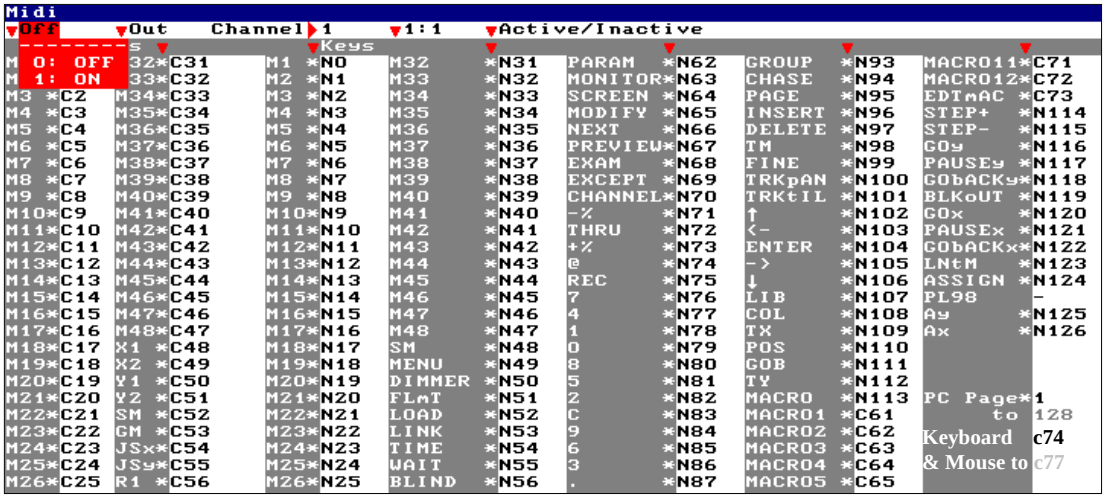
In HYDRA, the configuration of these keys or faders is done in the MULTIMEDIA MIDI menu. This menu is the number 21, and it is selected pressing:

MENU 21

THE MIDI MENU

The menu MIDI is divided in 2 parts:
The special line or status line and the own HYDRA MIDI table. Toggle between these parts pressing **MENU** or using the external mouse.

The MIDI port is configured in the status line, and the status line indicates is the port status: If the port is activated or not, if the port is in transmission o reception mode, and the communication CHANNEL MIDI.
The MIDI table is the associations between the console keys/faders and its NOTES/CONTROLLERS MIDI. Edit this table to communicate us correctly with others MIDI devices. And a association between MIDI Program Changes with Page numbers of HYDRA.



The MIDI of HYDRA works with the MIDI commands Program Changes (PC), only in reception mode, these commands are related directly with the load of the HYDRA pages.

THE STATUS LINE

By default the MIDI port is:
Deactivated (**Off**): The console doesn't transmit or receive MIDI commands.
In transmission mode (**Out**), the console transmits MIDI commands in MIDI-OUT connector but doesn't receive MIDI commands in MIDI-IN connector. (When the port will be activated)
The communication MIDI CHANNEL by default is the channel **1**. The MIDI protocol has 16 MIDI channels multiplexed in the same physical cable.

These port parameters are located in the first 3 cells of the status line.
The last 2 cells are commands to edit the MIDI table. The MIDI table is located under this special line.

The commands:

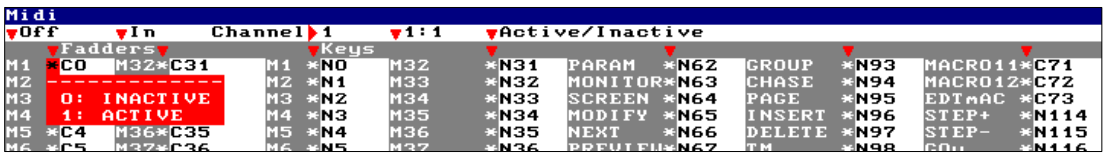
▼ **Off** / ▼ **Out**	Its options, **0:Off** & **1:On,** permit us activate or deactivate the MIDI port. Its options, **0:Out** & **1:In,** permit us set up the MIDI mode. The transmission mode (out) or reception mode (In).
Channel ▸	The communication CHANNEL MIDI is entered here. MIDI has 16 communication channels simultaneously. The console only uses one of them.
▼ **1:1**	Its option, **0:Default,** permits us return to the by default parameters of the MIDI table. No affect to the MIDI port status.
▼ **Active/Inactive**	Its options permit us activate or deactivate the keys, faders or PCs (Program Changes) in general mode. The individual activation or deactivation is done in the own MIDI table.

Select the desired options accessing to its cell with the arrow keys and entering the number with the numerical keyboard and pressing **ENTER** to accept.

MIDI TABLE EDITION

Each key and each fader of HYDRA can be activated or deactivated individually. A key or fader deactivated doesn't respond to the MIDI communication. In others words, only the desired keys and faders respond transmitting MIDI commands or respond when their MIDI commands and received.

Activate or deactivate from theirs associated cells: ▼



The asterisk, *, between the key or fader name and its command MIDI, indicates us that it is activate. The HYDRA keys and faders names, in a grey field, are a no editable list. Only the MIDI NOTES and MIDI CONTROLLERS can be edited.

There are 96 MIDI CONTROLLERS in Hydra consoles. In the table are preceded with a **C**.
Example: C1 is the CONTROLLER 1.
There are 127 MIDI NOTES. In the table are preceded with a "**N**".
Example: N1 is the NOTE 1.

Change the CONTROLLER number, accessing to this CONTROLLER and entering a new CONTROLLER number.

Change the NOTE number, accessing to this NOTE and entering a new NOTE number.

To change a NOTE by a CONTROLLER, entering the controller number finished its number with the decimal point, [.].

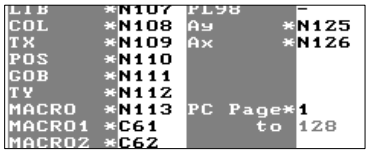
Example: Change the MIDI NOTE, N#, by the MIDI CONTROLLER 1, entering [1][.] . Note that the "C" (of controller) replaces the character "N".

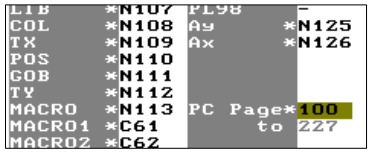
Program Changes (PC):
The MIDI PC only works in mode of reception MIDI. When HYDRA receives a PC###, by MIDI, HYDRA loads the page number ###, in the same way that if the user presses:

- **PAGE ### SELECT**

HYDRA has 999 pages, but MIDI only has 128 PC (PC1..PC128). For this reason it is possible, in this MIDI menu, edit the desired page numbers to use with the PC.

This MIDI menu shows us (at the end of the MIDI table) if the PC are activates and its assigned pages. (By default the first 128 HYDRA pages):





To change the numbers of the HYDRA pages only it is necessary to edit the first number of the pages range. For example, if we want that the PC load the HYDRA pages from the 100 to 227 edit in the corresponding cell the number 100.

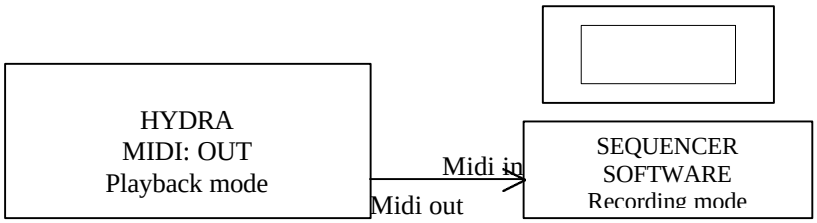
Keyboard & Mouse:
Under this option is enclosed a special tools for the MIDI & Hydras. This option permits us to send by 4 MIDI Controllers (consecutives): The keys pressed from the external keyboard connected to Hydra, and the cells selected from the external mouse connected to Hydra.
By default, these 4 MIDI Controllers are C74 to C77.
This tool is very used to synchronize 2 Hydras.

Note:
The HYDRA MIDI protocol accepts Running Status. The Running Status increases the speed transmission.

CONNECTION EXAMPLES

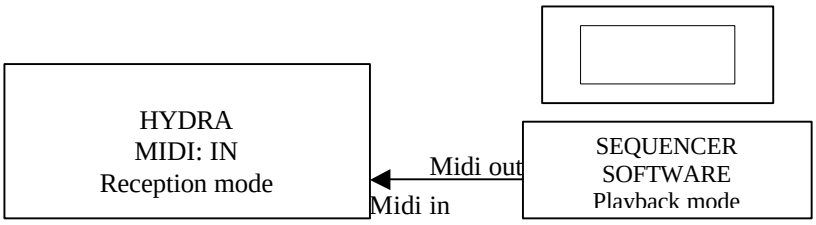
Connect the HYDRA to a PC with MIDI software. Store the MIDI commands transmitted from HYDRA in one PC sequencer channel:
The HYDRA port MIDI is configured as:

▼On, ▼Out, and the desired communication channel, for example the 10, **Channel ▸10**.
The schematic connection:



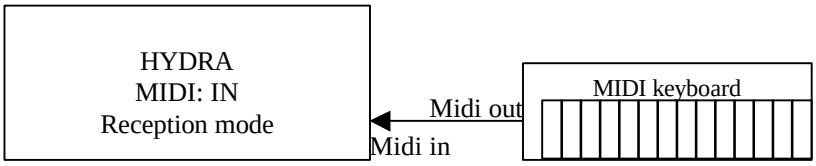
Now can synchrony the HYDRA console from the PC. HYDRA is configured as:

▼On, ▼In, and the same MIDI CHANNEL, **Channel ▸10**.
The schematic connection is:



Others possibilities are: connect a MIDI keyboard to the console to simulate a lights organ or only to synchrony a special effect.

In this cases, is better deactivate the keys or faders not used (in the MIDI table) and the schematic connection is:



14 .- SOUND INPUT & EXTERNAL TRIGGERS

MIDI, SMPTE, SOUND, SERIAL PORTS, 2 externals triggers... All it is possible with HYDRA!

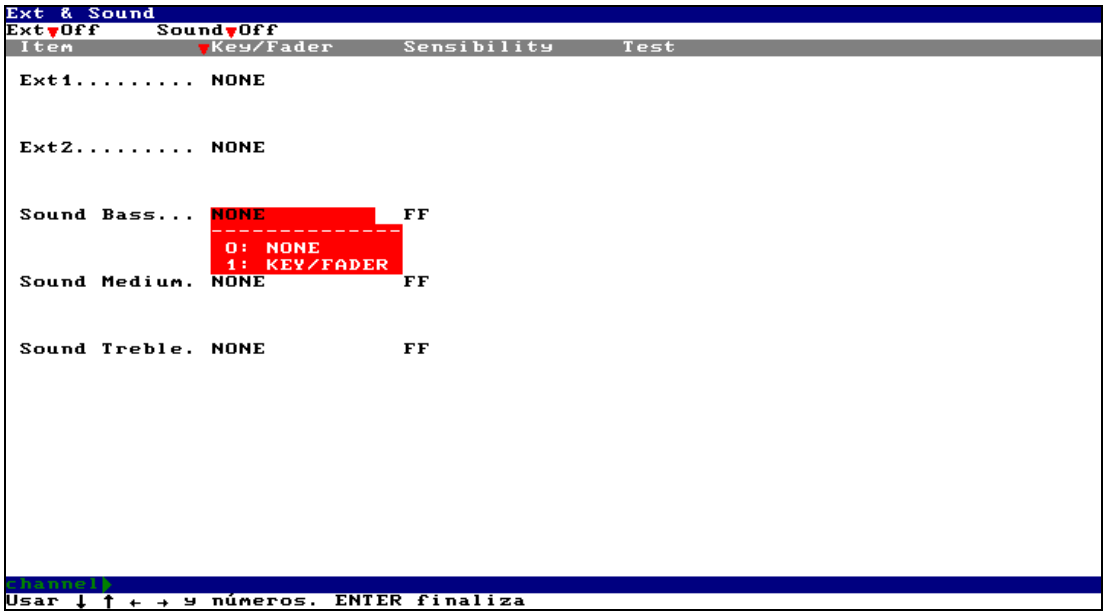
HYDRA has 1 sound input and 2 external triggers. These inputs are configured from the MULTIMEDIA/**Ext & Sound** menu. This menu is the number 22. Select this menu pressing:

MENU 22

Each **external trigger** can be associated with the desired physical key of HYDRA. Each time that this input is activated the associated key is activated too.

The **sound** general input is divided in its 3 bands: Bass, medium, and treble. Each one of the outs of these 3 sound bands can be associated with a physical key or a physical fader. The filter sensibility is adjusted by a level (0-100%). Near this adjust, you can see the current filter input (with the sensibility applied) to do more easy the configuration.
Each time that a band is activated, its associated key is activated.
Each time that a band is activated its associated fader is proportionally moved.

In the monitor:



By default, and after a Cold Reset, these inputs are disables, they are not associated a key or a fader. To configure these inputs:

- Place the cursor over the desired input, in its cell **Key/Fader**.
- Select the option - 1: KEY/FADER (or 1: KEY), pressing **1** **ENTER**; and press the desired key or move the desired fader to assign it.
- Or select the option - 0: NONE, to free the associated key or fader.

Each input shows us, in this cell, the associated key name or the associated fader name.

In the menu 22, in its special line (press **MENU** to access to this special line), there are the ON/OFF switchers, of the sound input and the externals triggers:

Ext▼Off Sound▼Off

In other words, it is possible to activate or to deactivate these input ports (sound & externals triggers).

These switchers, also are located in the menu 70: Multimedia Panel, next to the switchers of the inputs of MIDI & TIME CODE. (See the chapter 10 – The menus).

Note:

The SOUND input is very used to synchrony the effects. The effect STEP key is associated to the sound input of the desired band.

For more information about these inputs, see the chapter 1 - PRESENTATIONS & CONNECTIONS.

15 .- SYNCHRONISM, TIME CODE

SMPTE, MTC, CLOCK & INTERNAL

HYDRA can synchronise a show using a time code, TC. This time code can be obtained with:

A external synchronism	**SMPTE or MTC (**Midi Time Code**)**
The clock in real time of HYDRA	**CLOCK**
A counter simulated internally	**INTERNAL**

From the **MENU 23: TIME CODE,** the user configures the desired TIME CODE type and can edit the "events" to synchronise.
From here, we say TIME CODE (TC) to reference any time code source: SMPTE, MTC, CLOK or INTERNAL. The time code source depends of the HYDRA configuration.

A "event" is the playback action associated to a concrete TC:

A TC is a time value with the format **hh:mm:ss:ff** where:

hh is the hour (0-23)
mm is the minute (0-59)
ss is the second (0-59)
ff is the frame or division of the second (0-29). The frame value permits a precision of 1/30 second.

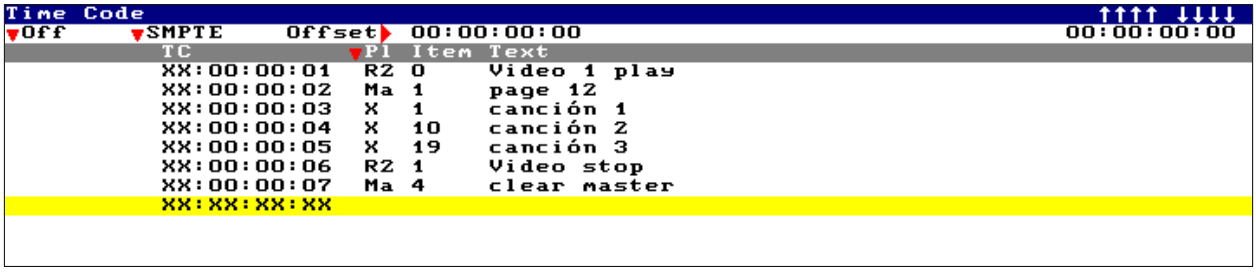
The playback action is defined with a playback type and an item number. The playback action is executed only when the current TC is equal to the TC associated in the event. There are 5 types of playback actions:

Execute a memory in the **X** crossfader, need a memory number.
Execute a memory in the **Y** crossfader, need a memory number.
Execute a macro, **Ma**, need a macro number.
Execute a RS232 command, **R2**, need a command number.
Execute a RS485 command, **R4**, need a command number.

MENU 23: TIME CODE

The show synchronisation is based in the execution of the events.
Each event is executed when its edited TC coincides with the control current TC.

The menu 23 page:



In the Setup line, you can find:

▼ **ON** (0:OFF, 1:ON)
To activate (ON) or deactivate (OFF) the execution of the events-list. When the TIME CODE is deactivated, OFF, the events are not executed, and in the base screen format 2, there is no data about this menu.

▼ **SMPTE** (0: SMPTE, 1: MTC, 2: CLOCK, 3:INTERNAL).
Here, the user selects the source type for the TC. In others words the TC to edit/execute the events is configured here. If the execution of the events-list is activated, ON, the source type appears in the base screen format 2, near the current TC reading.

If the source type is SMPTE, MTC or CLOCK, the user has not control about the current TC. The TC is external or the own real clock of HYDRA. But in these cases, the user has an offset control. The offset permits us to move forward or to move backward the current TC value with a fixed time value:

> **Offset** ▸ 00:00:00:00
> The Offset value will add to the current TC (the value reading from the SMPTE input, MTC input or the HYDRA clock).
> *Example*: The TC is obtained from the HYDRA clock. The current time is **11**:29:23:11. If an offset of 1 hour is edited (01:00:00:00), the current TC will be **12**:29:23:11. If an offset of 23 hours is edited (23:00:00:00), the current TC will be **10**:29:23:11.

If the source type is INTERNAL, the user has the control about the current TC, because the current TC is simulated. In this case, in the Setup line you can the next functions:

> ▼ **STOP** (0:STOP, 1:PLAY, 2:PAUSE, 3:AUTOPLAY)
> Only available to the control of the TC-INTERNAL, the control functions are:
> **PLAY**: To activate the TC counter. The TC counter is active until the counter arrives its maximum value (To - 23:59:59:29 by default).
> **PAUSE**: To pause the TC counter. The TC value is maintained.
> **STOP**: To stop the TC counter. The TC value is initiated to its minimum value (From - 00:00:00:00 by default).
> **AUTOPLAY**: The TC counter is activated in a cyclic mode, when the TC counter arrives the maximum value follows from the minimum value again.
>
> **From** ▸ 00:00:00:00
> Minimum value for the TC counter. By default 00:00:00:00.
> The events, with an edited TC smaller to the value edited as **From**, will not be executed, because the TC-INTERNAL never arrives its values.
> The **From** value can be “copied” from an event of the list, using the option **0: SET FROM** available in its ▼ **Internal** cell.
>
> **To** ▸ 23:59:59:29
> Maximum value for the TC counter. By default 23:59:59:29.
> The events, with an edited TC bigger to the value edited as **To**, will not be executed, because the TC-INTERNAL never arrives its values.
> The **To** value can be “copied” from an event of the list, using the option **0: SET TO** available in its ▼ **Internal** cell.

NOTE:
The **Internal** cells of the events-list, only are available when the source type selected is INTERNAL.

At the right end of the Setup line, you can see the reading of the current TC (obviously based in the selected source type).

Under the Setup line is the events-list. A table of 5 columns composes the events-list. Each table line is relative to one event. The 5 columns are:

Internal	Only is activated when the source type is INTERNAL. From here the user can sets the values of **From** (minimum) and **To** (maximum) for the TC counter.
TC	Is time code for the event (edited or captured), when the current TC arrives this value, the event is executed. The TC is always in format hh:mm:ss:ff
Pl	Permits us to select the playback action for the event. The options are **0: CROSSFADER X** Playback a memory in the X crossfader **1: CROSSFADER Y** Playback a memory in the Y crossfader **2: MACRO** Execute a macro **3: RS232** Execute a RS232 command **4: RS485** Execute a RS485 command
Item	Here is the memory number, macro number or command number; its content depends of the selected playback action.
Text	Shows us the memory text, macro text or command text. These cells are not editable.

PROGRAMMING THE EVENTS-LIST:

- It is possible to edit the playback action before to edit the event TC.
- It is possible to edit (or capture) de event TC before to edit the playback actions.
- And it is possible to edit the event completely, with its TC and its playback action.

EDITION OR "CAPTURE" OF THE EVENT TC:

The value of the event TC can be edited from the numeric keypad or can be captured from the current TC. To capture the current TC, move the cursor to the desired event TC, and press **INSERT**. In this way the current TC value is "inserted" as value of the event TC.

It is not necessary that the execution of the events-list is active (ON), only the TC source must be activated.
But, if the execution of the events-list is active (ON) at the same time that you "captures" the current TC, the event is executed (if programmed). In this way, it is possible to simulate the result of the execution of the events-list.

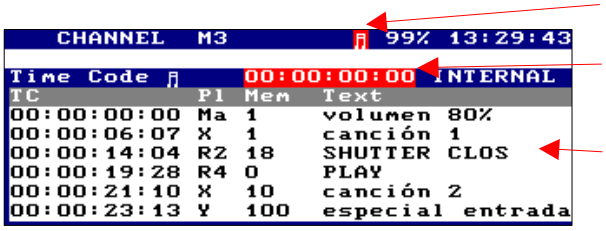
Commentaries:
- The order of the events-list is marked by the TC values of the events.
- There are not 2 events with the same TC.

- The TC-CLOCK permits to execute events at a concrete time. It is a TC source appropriated to execute the same show all days, at the same time, without use externals elements.
- The TC-SMPTE or TC-MSC permits us to execute a show synchronised with an external source as master of the time control (Video player, CD player...)
- The TC-INTERNAL permits us to "simulate" a TC source, but controlled in HYDRA. It is ideal to execute a show based in events where the console is the master of the time control.

EXECUTION OF THE EVENTS-LIST

When the execution of the events-list is activated (at ON), in the status line of screens base & auxiliaries, appears an icon of a musical note in a red field. And the events-list and the current TC reading appear in the base screen 2.

Access to the base screen 2 pressing **MONITOR** **2** (or **MENU** **60 2**):



Flag of execution of events-list active: **ON**

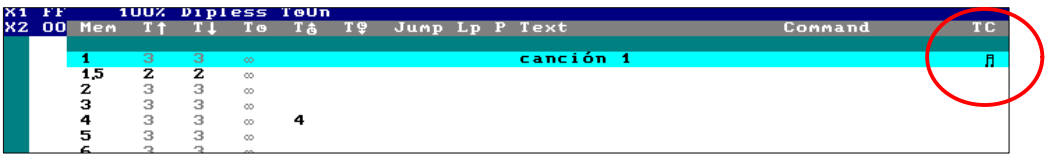
Current TC reading, in this example, from the INTERNAL source.

Events-list. Here you can see the next 6 events to execute.

When an event is executed, it disappears of this list. In this events-list always you can see the **next** 6 events (their TC are greater the current TC).

When the current TC reading arrives to an event TC value, HYDRA executes this event automatically as:
MEM ###.# AssignX AssignX (or AssignY AssignY)
MACRO ### SELECT (from the editor)
COMANDO ### RUN *(inside the menu 20)*

A memory included in the events-list is marked with a icon of a musical note under the label TC. This icon appears in the memory exam screens, and **Mem List** screen. This icon too appears in the information about the memories assigned in the crossfaders in the base screen 2.



A memory included in an event too can be used in a normal mode in any HYDRA playback.

16 .- RESET AND SOFTWARE UPDATES

COLD RESET

The Cold Reset is a complete Reset for your console.

Store the show!!! All data will be erased.

A Cold Reset is done:
- Switching off the console.
- Pressing and holding down ←
- Switching On the console.
- After the message "**RST: Loading System**" appears in the LCD display, releasing the key ←

The console does an auto-test, clear all memory data, and starts in normal mode.

All parameters return to by default valour, and the data memory is empty.

HYDRA SCAN: The moving light types are replaced by default types in the Cold Reset. You can load them from your show-file or load them from the spot library (see the chapter 11- The Patchs)

SOFTWARE UPDATES

A Cold Reset is needed after the software update. Store your show!.

Update the Hydra software from the disk unit.
To update the software it is needed an empty and formatted disk, and a new software disk.

The new software disk is supplied for your LT distributor.

Update the software:
- Switching Off the console.
- Inserting the new software disk in the disk unit.
- Pressing and holding down pressed ENTER and →.
- Switching On the console.
- After the message "**Updating System**" appears in the LCD display, release ENTER and →.
- Following the monitor instructions... These instructions can appear in English, Spanish...This is the first choice. Insert the index number of the selected language... and follow the instructions in the monitor.

Tip:
Here, the console permits us copy the old software. Always, do this copy.

17 .- OLE

The Hydra consoles have an off line editor to work in a PC. The software application: HYDRA OLE. This software can be supplied for your LT distributor.
In each new HYDRA software version, a new OLE version will be available.

THE SYSTEM

Computer: PC 386 or upper.
Operative System: DOS or WIN95/WIN98/WIN2000.

INSTALLATION

Copy all files of the OLE disk in a new folder in a computer Hard Disk:

1. Create a New folder in your hard disk.
2. Open the A:\ disk.
3. Select all files and copy them
4. Select the new created folder
5. Paste the selected files

Execute OLESTAGE.EXE / OLESCAN.EXE in full screen mode:

1. With the mouse, double click in the file OLESTAGE.EXE / OLESCAN.EXE, (or typed OLESTAGE.EXE / OLESCAN.EXE for DOS users)
2. The next steps are only for Windows users:
    3. With the mouse right button, select the properties of this file.
    4. Select the Screen properties in mode: Full Screen.
    5. Execute OLE from its direct access icon.

OLE & HARD DISK

The Off Line Editor for PC, OLE, can work in the HARD DISK of your computer. The HARD DISK is accessible from the DISK menu and the SPOTS PATCH menu.

When the OLE is installed in the PC, will create 2 special folders:
\SHOWS, where are stored the HYDRA shows.
\SPOTS, where are stored the spots types.

Help in the HYDRA OLE:

Inside the application: OLESTAGE.EXE / OLESCAN.EXE, press the Tab in the computer keyboard, and the list menus appears in your monitor, press 61 to access to the HELP menu.
Or press **h** to consult the help screen with the correspondence between the HYDRA functions and the keys of the external keyboard.

The keyboard keys accessible with **Alt** (written in green) correspond with playback functions.

The keyboard keys accessible with **Shift** (written in red) are functions with smaller use that the direct key.

The keyboard keys accessible with **Ctrl** correspond with function keys of playbacks.

Notes for Ctrl:

- Ctrl only works with the keys of the numerical block of the external keyboard.
- If you external keyboard is a **compact model**, without numeric block, you must to access to the numeric block simulated in the character keys, pressing previously **FN**.
- The pressing order, for these commands (commands with CTRL.) will be always: FN+CTRL+ # #

The functions exclusives of the external keyboard:
HELP shows us the help screen with the functions and their corresponding external keys.
PRINT prints the current pages in the monitor.

General Note: This information is based in a QWERTY external keyboard, but is extrapolable to a ACERTY external keyboard.

18 - QUICK REFERENCE

MONITOR PAGES

Select the format of the Base Screen:

Special for channels:	**MONITOR 0 // MENU 60 0**
Special for masters:	**MONITOR 1 // MENU 60 1**
Special for playback:	**MONITOR 2 // MENU 60 2**

Select the format of the Aux Screen:

Default (2 pages):	**MENU 62 ↓ 0**
Compact (1 page):	**MENU 62 ↓ 1**
Compact mode definition:	**MENU 62**

Enable the option Screen Auto Scroll:

Enable	**MENU 62 0**
Disable	**MENU 62 1**

Paging:

In the Base Screen:	**↑ & ↓**
Aux screen access:	**← & →**

Help on Line:	**MENU 61**
Information Screen**:**	**EXAM EXAM**

THE EDITOR

Channels selections:

Single channel:	**CHANNEL #**
Channels range:	**CHANNEL # THRU #**
Channels ranges:	**CHANNEL # THRU # CHANNEL # THRU #**
Channels group:	**CHANNEL # CHANNEL # CHANNEL #** ...
All editor channels:	**CHANNEL THRU**
All scene channels:	**CHANNEL THRU THRU**
Repeat the last selection:	**CHANNEL •**
Invert the active selection:	**INVERT**
Exclude channels:	**CHANNEL # THRU # EXCEPT # EXCEPT # THRU #**

Level assignation for the conventional channels and dimmer parameters:

Continuos:	{selection} **Joy-Stick⇳**
Numeric level:	{selection} **@ ##**
Level at 100%:	{selection} **@ @**
Level 100% in 2 sec:	{selection} **CALL**
Increase at 5%:	{selection} **+%**
Decrease at 5%:	{selection} **–%**
The last numeric level:	{selection} **@ •**

Scrollers selection:

A single scroller:	**SCROLLER #**
A scrollers range:	**SCROLLER # THRU #**

A scrollers ranges: **SCROLLER # THRU # SCROLLER # THRU #**
A scrollers group: **SCROLLER # SCROLLER # SCROLLER #** ...
All editor scrollers: **SCROLLER THRU**
All scene scrollers: **SCROLLER THRU THRU**
Repeat the last selection: **SCROLLER •**
Invert the active selection:**INVERT**

Gel assignation:
Continuos: {Scrollers selection} **Joy-Stick⇔**
A numeric gel: {Scrollers selection} **@ ##**
{Channel selection with associated scroller} **PARAM @ ##.**
Increase at 5%: {Scrollers selection} **+%**
Decrease at 5%: {Scrollers selection} **–%**
At the next gel: {Scrollers selection} **STEP+**
At the previous gel: {Scrollers selection} **STEP -**
At the last assigned gel: {Scrollers selection} **@ •**

Spots selection:
A spot: **SPOT #**
A spots range: **SPOT # THRU #**
Several spots ranges: **SPOT # THRU # SPOT # THRU #**
A spots group: **SPOT # SPOT # SPOT #** ...
All spots in the editor: **SPOT THRU**
All spots in the scene & editor: **SPOT THRU THRU**
Repeat the last spots selection: **SPOT •**
Invert the active selection: **INVERT**

Parameters selections & values assignation:
Level for the spot dimmer: {Spots selection} **Joystick⇳ / @ ## / @ @ / CALL**
Increase a 5% the spot dimmer: {Spots selection} **+%**
Decrease a 5% the spot dimmer: {Spots selection} **–%**
Assign values to x/y: {Spots selection} **Trackball**
Assign values to any parameter: {Spots selection} **PARAM ## @ ## (@ • ##)**
Select the next step: {Spots selection} **PARAM ## STEP+**
Select the previous step: {Spots selection} **PARAM ## STEP -**
Control with the wheels: {Spots selection} **PARAM ## Control-wheel**
{Spots selection} **BANK+/BANK- Control-wheel**
HOME functions: {Spots selection} **PARAM 77 (71, 72 or 73)**
All parameters at HOME: {Spots selection} **PARAM PARAM**
CALL functions: {Spots selection} **PARAM 88 (81, 82 or 83)**
IGNITE functions: {Spots selection} **PARAM 91 (92 or 93)**

Figure Edition
Figures Edition {Spots selection} **FIG # {Control-wheels} SELECT**
Stop a active figure {Spots selection} **FIG 0 SELECT**
Special screen for figures **EXAM FIG**

Free channels/scrollers/parameters from the editor:
The selection in 2 sec: {Selection} **RELEASE**
The selection in a cut time: {Selection} **RELEASE RELEASE**
The editor in 2 sec: **ESC**
The editor in a cut time: **ESC ESC**

Trackball
FINE, selection of its sensibility (normal, high, low)
ORTO, selection of a option of control x/y (normal, deactivated, orto)
FLIP, selection of the other values for x/y parameters.

GROUPS & MEMORIES

Storing memories:

In a selected memory:	{Editor}	**MEM # REC**
In the next memory:	{Editor}	**MEM REC**
In the next memory:	{Editor}	**REC**
With times:	{Editor}	**MEM # TIME #' TIME TIME #'' WAIT #''' WAIT WAIT #'''' WAIT WAIT WAIT #''''' REC**

Storing Groups:

In a selected group:	{Edit scene}	**GROUP # REC**
	{Pre-selection}	**GROUP # REC**
In the next group:	{Edit scene}	**GROUP REC**
	{Pre-selection}	**GROUP REC**
Loading a Master:	{Edit scene}	**LOAD Mn**
	{Pre-selection}	**LOAD Mn**

Modifying memories/groups:

General. Parameters:	**MEMlIST**
	MEM MODIFY
	GROUP MODIFY
Contents:	**ESC MEM # MODIFY** {modifications} **REC**
	ESC GROUP # MODIFY {modifications} **REC**
	ESC MODIFY Mn {modifications} **REC**
Contents:	{modifications} **MODIFY Mn**
	{modifications} **MODIFY MODIFY** (in X1/Y1)
	{modifications in blind} **MODIFY MODIFY** (in X2/Y2)
A range of memories	**ESC MEM # THRU #' MODIFY** {modifications} **REC #'' REC**
A range of groups	**ESC GROUP # THRU #' MODIFY** {modifications} **REC #'' REC**

Exam memories/Groups:

The memories-list:	**MEM EXAM**
Memory by memory:	**MEM # EXAM**
The groups-list:	**GROUP EXAM**
Group by group:	**GROUP # EXAM**

Deleting memories/groups:

A memory:	**MEM # DELETE**
A memories range:	**MEM # THRU #' DELETE**
All memories:	**MEM DELETE DELETE**
A group:	**GROUP # DELETE**
A groups range:	**GROUP # THRU #' DELETE**
All groups:	**GROUP DELETE DELETE**

Copy & Exchange:

Copy:	**MEM # (THRU #') = #'' REC**
	GROUP # (THRU #') = #'' REC

Exchange: **MEM # (THRU #') = = #'' REC**
GROUP # (THRU #') = = #'' REC

Pre-selection:
A memory: **MEM # SELECT**
A memories range: **MEM # THRU #' SELECT**
A group: **GROUP # SELECT**
A groups range: **GROUP # THRU #' SELECT**
A master content: **SELECT Mn**
Several master contents: **SELECT Mn Mn Mn...** And release **SELECT**
Crossfader output **SELECT AssignX/AssignY**
A scene: **SELECT SELECT**

Call to memories, groups and scene:
A memory: **MEM # CALL (CALL)**
A memories range: **MEM # THRU #' CALL (CALL)**
A group: **GROUP # CALL (CALL)**
A groups range: **GROUP # THRU #' CALL (CALL)**
Controlled by the Joystick: **MEM/GROUP # Joystick⇳**
A master load: **CALL Mn**
A masters loads: **CALL Mn Mn Mn...** And release **CALL**
Crossfader output **CALL AssignX/AssignY**
The scene: **CALL CALL**

Call to channels & spots dimmers:
Channel/channels: **CHANNEL # CALL (CALL) / {channels sel} CALL (CALL)**
Spot dimmer/spots dimmers: **SPOT # CALL (CALL) / {spots selection} CALL (CALL)**
Channel from a memory or group: **MEM (GROUP) # CHANNEL #' CALL (CALL)**
Scroller form a memory or group: **MEM (GROUP) # SCROLLER #' CALL (CALL)**
Spot from a memory or group: **MEM (GROUP) # SPOT #' (PARAM #'') CALL (CALL)**

Call & Storing of the current Scene: CALL REC

Position, colour & gobo libraries:
Storing: **POS (**COL/GOB**) # REC**
Selection: **POS (**COL/GOB**) # SELECT** or
POS (COL/GOB**) # CALL**
Modification: **POS (**COL/GOB**) # MODIFY**
Add text: **POS (**COL/GOB**) MODIFY {text} ENTER**
Copy: **POS (**COL/GOB**) # (THRU #') = #'' REC**
Exchange: **POS (**COL/GOB**) # (THRU #') = = #'' REC**
Exam a library: **POS (**COL/GOB**) # EXAM**
Exam the libraries-list: **POS (**COL/GOB**) EXAM**
Delete a library: **POS (**COL/GOB**) # (THRU #') DELETE**
Delete all libraries: **POS (**COL/GOB**) DELETE**

EDIT+ function
Activate/deactivate the EDIT+ function: **EDIT+**

MEMORIES & TIME PARTS
Up to 6 times parts in a memory **{editor} PART # ... {editor} PART #' (MEM #) REC**
Auto-parts with LTPs **{editor} HTPs + LTPs} PART PART (MEM #) REC**
Remove a item of its part **{item} PART 0**
Take a part as a group **MEM # PART #' SELECT/LOAD/CALL**

MASTERS & PAGES

Loads in the masters:

A memory in a master:	**MEM # LOAD Mn**
A group in a master:	**GROUP # LOAD Mn**
	{editor} LOAD Mn
A channel in a master:	**CHANNEL # LOAD CHANNEL Mn**
Load in Couple Masters:	**{item} LOAD PARAM Mn**
A effect in 2 masters:	**EFFECT # LOAD CHANNEL Mn**
Memories in several masters:	**MEM # LOAD Mn Mn ... release LOAD**
Groups in several masters:	**GROUP # LOAD Mn Mn ... release LOAD**
Effects in several masters:	**EFFECT # LOAD Mn Mn ... release LOAD**
A range in consecutive masters:	**MEM # THRU #' LOAD Mn**
	GROUP # THRU #' LOAD Mn
	CHANNEL # THRU #' LOAD CHANNEL Mn
	EFFECT # THRU #' LOAD Mn
All memories in consecutive masters:	**MEM THRU LOAD Mn**
All groups in consecutive masters:	**GROUP THRU LOAD Mn**
All effects in consecutive masters:	**EFFECT THRU LOAD Mn**
Memories in the 48 masters:	**MEM # LOAD FLmT**
Groups in the 48 masters:	**GROUP # LOAD FLmT**
Effects in the 48 masters:	**EFFECT # LOAD FLmT**
Load from the selected master the range:	**MEM # THRU LOAD Mn**
	GROUP # THRU LOAD Mn
	EFFECT # THRU LOAD Mn
Times in a master:	**{times} LOAD Mn**
The same times in several masters:	**{times} LOAD Mn Mn**...release **LOAD**
The same times in the 48 masters:	**{times} LOAD FLmT**
Time-in:	**TIME #**
Time-out:	**TIME TIME #**
Wait:	**WAIT #**
Wait-in:	**WAIT WAIT #**
Wait-out:	**WAIT WAIT WAIT #**
A memory and its recorded times:	**MEM # TIME LOAD Mn**
A memories range and its times:	**MEM # THRU #' TIME LOAD Mn**
Memories/groups in normal mode:	{mems/grps} **LOAD** {masters}
Memories/groups in inhibit mode:	{mems/grps} **LOAD LOAD** {masters}
Memories/groups in absolute mode:	{mems/grps} **LOAD LOAD LOAD** {masters}

Exam:

A master:	**EXAM Mn**
The 48 masters:	**EXAM FLmT**

Edit the masters: **MODIFY FLmT {modifications} ENTER**

Free the masters:

A master:	**DELETE Mn**
Several masters:	**DELETE Mn Mn...** release **DELETE**
All masters:	**DELETE FL-MT**
A master times:	{times = **0** sg} **LOAD Mn**
Several masters times:	{times = **0** sg} **LOAD Mn Mn**...release **LOAD**
All masters times:	{times = **0** sg} **LOAD FLmT**

Store/Load a page:

Store a selected page :	**PAGE # REC**
Store the next page:	**PAGE REC**
Load page in masters, no-forced:	**PAGE # LOAD**
Load page in masters, forced:	**PAGE # LOAD LOAD**
Load page in crossfaders, no-forced:	**PAGE # AssignX**
Load page in crossfaders, forced:	**PAGE # AssignX AssignX**
Load page in masters & crossfaders, no-forced:	**PAGE # SELECT** **PAGE # CALL**
Load page in masters & crossfaders, forced:	**PAGE # SELECT SELECT** **PAGE # CALL CALL**

Exam:

A page:	**PAGE # EXAM**
A pages-list:	**PAGE EXAM**

Modification:

A page contents:	**PAGE # MODIFY**
General. Parameters:	**PAGE MODIFY**

Copy & Exchange:

Copy:	**PAGE # (THRU #') = #'' REC**
Exchange:	**PAGE # (THRU #') = = #'' REC**

Deleting pages:

A page:	**PAGE # DELETE**
A range:	**PAGE # TRHU #' DELETE**
All pages:	**PAGE DELETE**

Speed control: **RATE FLmT** {**RATE M**} **RATE RATE**

EFFECTS

Recording:

A selected effect:	**EFFECT # REC**
The next effect:	**EFFECT REC**

Modification:

A selected effect:	**EFFECT # MODIFY** **EFFECT # REC**
General. Parameters:	**EFFECT MODIFY**

Exam:

An effect:	**EFFECT # EXAM**
The effects-list:	**EFFECT EXAM**

Deleting:

An effect:	**EFFECT # DELETE**
A range:	**EFFECT # THRU #' DELETE**
All effects:	**EFFECT DELETE**

Copy & Exchange:
Copy: **EFFECT # (THRU #') = #'' REC**
Exchange: **EFFECT # (THRU #') = = #'' REC**

Executing:
GO: **Mn-odd**
Loops number GO: # **Mn-even**
Manual, step to step, STEP: **Mn- odd**
Manual, a selected step, Nº STEP: # **Mn- even**

Learning the Step Time. LN.TM function: **LNtM Mn-odd ... Mn-odd Mn- even**

CROSSFADERS

Loading the crossfaders:
From the memory ###.#: **MEM ###.# AssignX** (or AssignY)
From the first memory: **MEM AssignX** (or AssignY)
A memories-range: **MEM ###.# THRU ###.# AssignX** (or AssignY)
A range of all memories: **MEM THRU AssignX** (or AssignY)

Load and begin the crossfade:
{Memories selection} AssignX AssignX (or AssignY AssignY)

Free the crossfaders: **DELETE AssignX** (or AssignY)

Toggle mode, Dipless/No-dipless: **MENU, 31:SEQUENCE**

Active/Deactivate the auto times: **AssignX** (or AssignY)

Advance to the next memory: **PAUSE GO**

Backward to the previous memory: **PAUSE GObACK**

Speed control:
In X1/X2 **RATE AssignX** {**RATE X**} **RATE RATE**
In Y1/Y2 **RATE AssignY** {**RATE Y**} **RATE RATE**
In both **RATE AssignX AssignY** {**RATE XY**} **RATE RATE**

Learning auto times: **LNtM GO GO ... LNtM**

Learning fading times: **LNtM (manual fading) (manual fading)... LNtM**

MACROS

Recording:
A selected macro: **MACRO ### REC** {"keys"} **EDTmAC → "text" ENTER**
The next macro: **MACRO REC** {"keys"} **EDTmAC → "text" ENTER**

Executing in the editor: **MACRO ### SELECT or MACRO ### CALL**

Modifying:
A selected macro: **MACRO ### MODIFY {modifications} ENTER**
General. Parameters: **MACRO MODIFY {modifications-texts} ENTER**

Exam macros:
A macro: **MACRO ### EXAM**
All macros: **MACRO EXAM**

Copy & Exchange:
Copy: **MACRO ### = ### REC**
Exchange: **MACRO ### = = ### REC**

Deleting:
A macro: **MACRO ### DELETE**
A macros range: **MACRO ### THRU ### DELETE**
All macros: **MACRO DELETE**

EDITION FUNCTIONS

RANGES SELECTION
A closed range # THRU #'
From the first item THRU #
From the one item to the last item # THRU
From the first item to the last item THRU

COPY & EXCHANGE
Copy channels, scrollers & spots # = #' CALL
Exchange channels, scrollers & spots # = = #' CALL

Copy a spot parameter # = #' PARAM #'' CALL
Exchange a spot parameter # = = #' PARAM #'' CALL

Copy of a group, memory, page, macro, effect or library # = #' REC
Exchange of a group, memory, page, macro, effect or library # = = #' REC
Copy of ranges of groups, memories, pages, macros, effects or libraries # THRU #' = #'' REC
Exchange of ranges of groups, memories, pages, macros, effects or libraries # THRU #' = = #'' REC

RELEASE
The selection in 2 seconds {selection} RELEASE
The selection in a cut time {selection} RELEASE RELEASE

CALL & SELECT
Select channels, scrollers, spots, memories or groups {selection} SELECT
Call at 100% in 2 seconds to channels, scrollers, spots, memories or groups {selection} CALL
Call at 100% in cut time to channels, scrollers, spots, memories or groups {selection} CALL CALL
Execute a page, macro or library in normal mode {selection} SELECT
{selection} CALL
Execute a page, macro or library in forced mode {selection } SELECT SELECT
{selection } CALL CALL
Select the master content SELECT Mn
Select the several masters content SELECT Mn, Mn … Mn and release SELECT
Call the master content CALL Mn
Call the several masters content CALL Mn, Mn … Mn and release SELECT

Select the crossfader output	SELECT AssignX (or AssignY)
Select the outputs of both crossfaders	SELECT AssignX AssignY and release SELECT
Call the crossfader output	CALL AssignX (or AssignY)
Call the outputs of both crossfaders	CALL AssignX AssignY and release CALL
Select the scene output	SELECT SELECT
Call the scene output	CALL CALL

MODIFY & EXAM

Exam commands	{selection} EXAM
Modification commands	ESC {selection} MODIFY
A master exam	EXAM Mn
A master modification	ESC MODIFY Mn
Add the editor to a master	{editor} MODIFY Mn
All masters exam	EXAM FLmT
All masters modification	MODIFY FLmT
The show exam	EXAM EXAM
Add the editor to X1 (or Y1)	{editor} MODIFY MODIFY

Selections with NEXT

The next item	{item} NEXT
The next channels inside the editor	{editor} CHANNEL NEXT
The next scroller inside the editor	{editor} SCROLLER NEXT
The next spots inside the editor	{editor} SPOT NEXT

TEST for channels, spot dimmers, memories & groups

Item by Item	{item} TEST, TEST...

Data Rescue:

Rescue of the last selections done	RESCUE 1# CALL/SELECT...
Rescue of the last editors erased	RESCUE 2# CALL/SELECT...
Rescue of the last memories modified	RESCUE 3# CALL/SELECT...

THE MENUS

Access: **MENU** ##

PATCHS

Tests in scene:

In channels-list,	{wheel **channel test**}
In scrollers-list,	{wheel **scroller test**}
In dimmers-list,	{wheel **dimmer test**}
In spots-list, X-Y cell,	{trackball **X-Y test**} & {Joystick Y, **dm test**}

Activating the selected list in the lists of channels, scrollers & dimmers:

Channels-list:	**MENU 0 MENU (CHANNEL CHANNEL)**
Scrollers-list:	**MENU 1 MENU (SCROLLER SCROLLER)**
Dimmers-list:	**MENU 2 MENU (DIMMER DIMMER)**

Patch. Copying dimmers:

Source line to target line:	**DIMMER •# = •# REC**
Source lines-range to target lines-range:	**DIMMER •# THRU = •# REC**
	DIMMER •# THRU •# = •# REC
Source dimmer to target dimmer:	**DIMMER ###•# = ###•# REC**
Source dimmers-range to target dimmers-range:	**DIMMER ###•# THRU = ###•# REC**
	DIMMER ###•# THRU ###•# = ###•# REC

Patch. Exchanging dimmers:

Source line to target line:	**DIMMER •# = = •# REC**
Source lines-range to target lines-range:	**DIMMER •# THRU = = •# REC**
	DIMMER •# THRU •# = = •# REC
Source dimmer to target dimmer:	**DIMMER ###•# = = ###•# REC**
Source dimmers-range to target dimmers-range:	**DIMMER ###•# THRU = = ###•# REC**
	DIMMER ###•# THRU ###•# = = ###•# REC

Patch. Returning to the default valour:

All dimmers & all lines:	**DIMMER REC**
All dimmers of the selected line:	**DIMMER •# REC**
All dimmers of the lines-range:	**DIMMER •# THRU REC**
	DIMMER •# THRU •# REC
The selected dimmer:	**DIMMER ###•# REC**
The dimmers-range of one line:	**DIMMER ###•# THRU REC**
The dimmers-range in several lines:	**DIMMER ###•# THRU ###•# REC**

RS232 & RS485 PORTS

Commands edition: **MENU** **MENU** 20

ASCII format. Example: 00 06

Hex format. Example: *00 *06

RESET

- Switch off HYDRA.
- Press and hold down pressed ☐
- Switch on the console and release the pressed key.

SOFTWARE UPDATE

- Switch off HYDRA:
- Insert the new software disk in its unit disk.
- Press and hold down pressed **ENTER** & ☐
- Switch on HYDRA, and release the pressed keys.
- Follow the instructions in the monitor...

ANEXO A: BACKUP SYSTEM

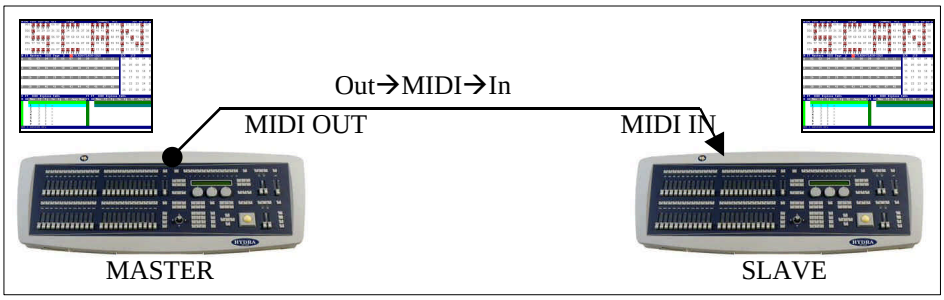
BACKUP in MASTER/SLAVE MODE

The Master/Slave system is composed by 2 consoles working in synchronized mode. One of the consoles as master console (main console), and the other console as a slave console (backup console).

The user works over the main console, and the slave console follows his actions in a synchronized mode. In this way, at any moment, it is possible to appeal to the slave console to follow the show (programming or edition) if the main console faults.

2 Hydra consoles can be synchronized in Master/Slave mode using their MIDI ports.

The next drawing shows us the connections of 2 Hydras in Master/Slave mode:



SYSTEM CONFIGURATION

It is important, for a correct synchronization, that both Hydra consoles are in the same status. To obtain in the 2 consoles the same status:

- Do it a Cold Reset in both consoles.
- Load the same show file in both consoles.

Now, to synchronize both consoles in Master/Slave mode, and following this order:

- Connect the MIDI cable from the MIDI-OUT port of the master console to the MIDI-IN port of the slave console.
- Over the slave console:
  Configure the MIDI port as: **ON-IN-DEFAULT**
  The MIDI code will be the MIDI code by default.
  The selected communication direction will be MIDI IN.
  The MIDI port will be active: ON.
- Over the master console:
  Configure the MIDI port as: **ON-OUT-DEFAULT**
  The MIDI code will be the MIDI code by default.
  The selected communication direction will be MIDI OUT.
  The MIDI port will be active: ON.

After these steps, the consoles are synchronized, and any key, fader, joystick, wheel or trackball that you move in the master console, will be transmitted, and moved too, in the slave console. In others words, any edition or playback action done in the master console, are too done in the slave console; both consoles are in the same status, in perfect synchronization.

Important:

- Don't forget to insert a floppy disk in both consoles (to store/load the data show at the same time). You can copy the target disk to other disk, in a PC to have 2 disks with the same information.
- All operation done in the frontal panel, the external keyboard and the mouse over the master console are communicated to the slave console.
- If a show previous to the 2.0 version is loaded in both consoles, will be necessary re-edit in the Patch MIDI of both consoles, the same controller number in the last option: : Keyboard & Mouse (For example the Controllers C74-C77). See the Chapter 13 – MIDI.
- The operations done in the external peripherals (Remote control, DMX-in, externals, etc) aren't communicated to the slave console. If it is needed, the user must be provide these externals signal to both consoles physically.

IF THE MASTER CONSOLE FAULTS…

When the both consoles are synchronized, any edition or playback process are done in the 2 Hydras. The slave console works at any moment, and the user can follow working over the slave console at the moment that he wishes (for example when the master console faults).

No special command is required to take the control in the slave console.

So, when a console faults, is enough "to change" to the other console, and follow working in this console. If the master console faults, you can follow working with the slave console.

As preventive measure, you can deactivate the MIDI port in the slave console (MIDI OFF) if the master console is faulting.

Notes:

- Working in the slave console, the operations are done **only** in this console.
- The commands received from external control signals (Remote Control, SMPTE, etc) must be provided to both consoles physically, in other case, these commands can produce a no-synchronization.

The "external" control signals must be provided to both consoles using the appropriated connections. The "external" control signals are: DMX-IN, REMOTE, SMPTE, MTC, EXTERNALS & SOUND.

- The slave console isn't closed to work only as backup, at any moment, it can work like a independent console.

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Specifications can be changed without previous notice.