

---

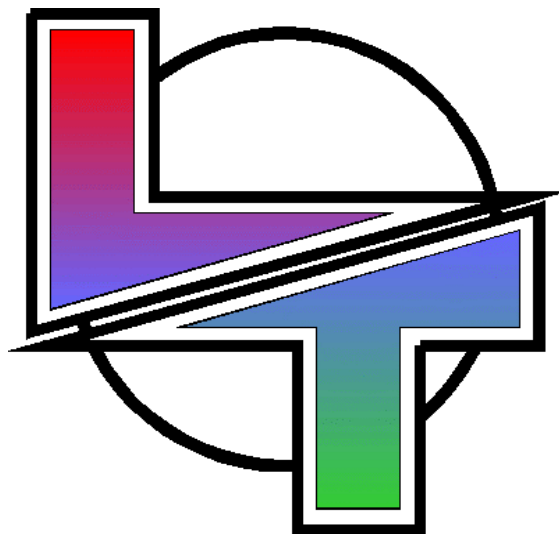
---

# PIRENE

---

[www.it-light.com](http://www.it-light.com)

**MULTIFUNCTION  
PERIPHERAL**  
MERGER, PATCH, CONVERTER,  
GENERATOR, BACKUP...



**USER MANUAL**

Version 1.1



<b>INDEX</b>
--------------

<b>PIRENE.....</b>	<b>3</b>
GENERAL.....	3
PROTOCOLS .....	4
GENERAL CHARACTERISTICS AND CONNECTIONS.....	5
LINK PORT:.....	6
DMX / AVAB PORTS:.....	6
MIDI PORT:.....	7
RS232 PORT:.....	7
SMPTTE PORTS:.....	7
START UP .....	8
RESET PROCEDURE.....	8
NAVIGATING FOR THE PIRENE MENUS .....	9
THE CONFIGURATION (OPERATION MODE) .....	10
<b>PIRENE as MERGER DMX .....</b>	<b>11</b>
THE SETUP PARAMETERS .....	12
AUTOMATIC CONTROL.....	14
USER CONTROL .....	14
BEHAVIOUR OF THE MERGERS IN THE NET .....	16
<b>PIRENE as PATCH DMX .....</b>	<b>18</b>
THE SETUP PARAMETERS AND PATCH EDITION .....	19
EDITING THE PATCH .....	20
AUTOMATIC CONTROL.....	22
USER CONTROL .....	23
<b>PIRENE as DMX&lt; &gt;AVAB CONVERTER .....</b>	<b>24</b>
THE SETUP PARAMETERS .....	25
AUTOMATIC CONTROL.....	26
USER CONTROL .....	26
<b>PIRENE as DMX&lt; &gt;MIDI CONVERTER .....</b>	<b>28</b>
THE SETUP PARAMETERS .....	29
THE CONVERSION MODES .....	30
AUTOMATIC CONTROL.....	33
USER CONTROL .....	33

<b>PIRENE as DMX &lt; &gt; RS232 CONVERTER .....</b>	<b>35</b>
THE SETUP PARAMETERS .....	36
AUTOMATIC CONTROL.....	36
USER CONTROL.....	37
THE RS232 PROTOCOL .....	38
<b>PIRENE as MTC &lt; &gt; SMPTE CONVERTER .....</b>	<b>39</b>
THE SETUP PARAMETERS .....	40
USER CONTROL.....	40
<b>PIRENE as MTC &amp; SMPTE GENERATOR .....</b>	<b>42</b>
THE SETUP PARAMETERS .....	43
USER CONTROL.....	45
<b>PIRENE as BACKUP &amp; SEQUENCER .....</b>	<b>48</b>
THE SETUP PARAMETERS .....	49
AUTOMATIC CONTROL.....	51
USER CONTROL.....	52
THE SEQUENCE EDITION .....	53
SEQUENCE PLAYBACK.....	58
THE EXTERNAL CONTROL COMMANDS .....	61
RS232 & MSC COMMANDS.....	62
MIDI NOTES COMMANDS (MIDIInOTES).....	64
THE EXTERNAL COMMANDS TEST (EXT-IN).....	66
IMPORTANT!!! .....	66
<b>DATA MANAGEMENT – DISK MENU.....</b>	<b>67</b>
<b>TEST.....</b>	<b>69</b>
ABOUT THE HARDWARE TEST.....	70
<b>SOFTWARE UPGRADING.....</b>	<b>72</b>
<b>WINDOWS EMULATOR .....</b>	<b>73</b>
<b>MAINTENANCE AND TECHNICAL SUPPORT.....</b>	<b>74</b>
<b>CONVERSION TABLES .....</b>	<b>75</b>
CANALES DMX < > NOTAS/CONTROLLERS.....	75
VELOCITY < > LEVEL .....	75
<b>BIBLIOGRAPHY.....</b>	<b>77</b>

# PIRENE

## GENERAL



**PIRENE** is a multifunction peripheral, that it permits us to configure its input-output ports, with the objective of to obtain several functionalities. All and each one of the configurations (functionalities) are available in the equipment, and the user chooses the configuration to operate (only one) in accordance with the desired use. Among these functionalities, there are:

- The capacity of “to combine”, in 2 DMX output lines, the 2 DMX control lines of a Main console with the 2 DMX control lines of the Backup console. It is a merger, 2 to 2, of DMX lines, with control of line-fault and control of level mixture.
- The capacity of “to combine” the DMX control line of a conventional lighting console with the DMX control line of a moving light console, to obtain only 1 DMX output line. With control of line-fault and control of level mixture.
- The capacity of to create a DMX Patch of 1024 input dimmers to 1024 output dimmers, 1024:1024. This Patch has help functions for edition and it includes regulation curves and edition of limit level for each output dimmer.
- The capacity of to integrate DMX systems of control & regulation, and AVAB systems of control & regulation, since **PIRENE** permits us “to convert”, simultaneously, a DMX signal to AVAB signal and a AVAB signal to DMX signal.
- The capacity of to integrate in a PC (or programmable automata) the lighting control, using its RS232 port. **PIRENE** converts the RS232 output of the PC to DMX signal, and simultaneously, a DMX signal to RS232 signal with the objective of to capture” this information in the PC.
- The capacity of to control in a sequencer MIDI, or a MIDI keyboard, the lighting, entirely or partially. **PIRENE** translates the MIDI signal to DMX signal, and simultaneously, translates any DMX signal to MIDI signal. It is possible to select the MIDI channel and to select the DMX directions in use. There are several conversion modes.
- The capacity of to synchronize several multimedia units, ones with SMPTE control and others with MTC control. **PIRENE** translates, simultaneously, the SMPTE signal to MTC signal and the MTC signal to SMPTE signal.
- The capacity to generate a time code, that simultaneously, it is accessible in the SMPTE output and in the MTC output. This time code can be controlled from the current date and hour of **PIRENE**, or from an inner counter controlled by the user.
- **PIRENE** can work as a Universal Backup, storing 99 memories with fade times and wait times, it has playback control from the own unit or externally, using RS232 commands, or MSC or MIDI notes. Also, **PIRENE** can work as a Sequencer.

## PROTOCOLS

PIRENE operates with several protocols for lighting, multimedia control and multimedia synch.

### Lighting protocols :

**DMX-512:** Accepted protocol as standard in the lighting sector by the USITT. This protocol transmits information about 512 elements (channels) using 1 EIA485 serial line. This protocol is used in most the lighting equipments.

**AVAB:** This protocol was created by the AVAB Company. This protocol transmits information about 256 elements (channels) using 1 EIA485 serial line. This protocol is used in some AVAB lighting equipments.

PIRENE has 3 input ports and 1 output port for DMX signal, plus, 1 input port and 1 output port, both configurable, for DMX or AVAB signal.  
In short, PIRENE has 4 input ports and 2 output ports.

### Multimedia control protocols :

**RS232:** It is a protocol serial and bi-directional for data transmission. Mainly is used in personal computers, programmable automata, and multimedia equipment (sound-video-light-motor control...).

**MIDI:** It is a serial protocol, at the beginning only for musical instruments and equipments, and nowadays used and integrated in most multimedia equipments. A MIDI port permits to transmit 128 notes and 128 controllers for 1 MIDI channels, in addition to others functions and commands. In 1 line there are 16 MIDI channels.

PIRENE has 1 complete MIDI port (IN-THRU-OUT) and 1 RS232 bi-directional port.

### Multimedia Synch protocols :

**SMPTE:** It is a time code or synch signal, and this signal is based in a clock (hours: minutes: seconds: frames), and is transmitted as audio signal. It is used to synchronise multimedia equipments. The SMPTE code has several formats and several resolutions.

**MTC (Midi Time Code):** It has information similar to the SMPTE protocol. In short, we can say MTC is a translation of the SMPTE code in MIDI format.

PIRENE has 1 SMPTE input and 1 SMPTE output. The MTC is transmitted and received using the MIDI port.

### Others protocols :

**LINK:** It is a serial control protocol, created by LT, and this protocol permits us to connect several **PIRENES** in a net, and it is possible to include a personal computer in this net for a centralized control, software update, etc.

PIRENE has 1 input LINK port and 1 output LINK port.

\*More information about these protocols is available in the bibliographic references at the end of this manual (page 77).

## GENERAL CHARACTERISTICS AND CONNECTIONS

### Interfaces:

- Alphanumeric display of 20 characters x 4 lines, for menus, information and help.
- 2 function keys and 4 cursor keys, used to select menus and data edition.
- 1 lineal fader.
- 6 programmable keys (**F1..F6**) to control of inputs-outputs, and, in accordance to each configuration, to control of specific functions.
- 6 LED's, one by programmable key, to information of inputs-outputs status, and, in accordance to each configuration, to information about the specific functions status.
- 2 LED's bi-colour as additional support to the display information.
- 1 LED bi-colour for status information about the PIRENE electronic.

### General menus:

- **TEST** menu, to check:  
The status of each input and each output that it is used in the current configuration.  
The operability of alls the PIRENE ports, the alls its keys, LEDs, the frontal fader...  
The number of the software version. Etc.
- **SETUP** menu, to select and edit all the user parameters of each one of the configurations.
- **DISK** menu, to store and load alls the data of the current configuration in the data inner memory (as a small hard disk).
- **PIRENE** menu, to select and activate the desired configuration. The operability and use of the PIRENE ports depend of this configuration, as well as the content of the **SETUP** menu.

### Hardware Characteristics:

- High speed microprocessor: HD64F2633
- Program memory: 256 Kb
- Inner data memory: 128 Kb
- Software upgrading by the serial LINK port.

### Electrical Characteristics:

- 230V~ 50/60Hz
- 150mA
- Protection: 2 fuses of 1A, F type. Power filter.
- General power bi-pole switch, to turn the phase and neutral.
- The inner power supply is universal and switched.



**Always, use power cable with ground.**

**LINK PORT:**

It is the unique port placed in the frontal panel, is used to connect in a net several PIRENES or/and a personal computer.

- 1 RJ45 as input port: **LINK IN**.
- 1 RJ45 as output port: **LINK OUT**.

PORT	1	5	2	6	3	7	4	8
LINK IN	DATA +	DATA -	RL in	+12V	0V	+12V	0V	0V
LINK OUT	DATA +	DATA -	+12V	+12V	0 V	RL out	0V	0V



**DMX / AVAB PORTS:**

PIRENE has:

- 3 DMX inputs.  
XLR-5 male connectors, labelled as **IN-1, IN-3** and **IN-4**
- 1 DMX / AVAB input (in accordance with the configuration).  
XLR-5 male connector, labelled as **IN-2**
- 1 DMX output.  
XLR-5 female connector, labelled as **OUT-1**
- 1 DMX / AVAB output (in accordance with the configuration).  
XLR-5 female connector, labelled as **OUT-2**
- 2 outputs, copy of IN-1 & IN-2 inputs.  
XLR-5 female connectors, labelled as **THRU-1** and **THRU-2**.  
Used to link others equipments to the signals of IN-1 and IN-2.

PORTS	1	2	3	4	5
IN-1 / THRU-1 / OUT-1	0 V	DATA-	DATA+	N.C.	N.C.
IN-2 / THRU-2 / OUT-2 (* All for AVAB or all for DMX)	0 V	DATA-	DATA+	N.C.	N.C.
IN-3	0 V	DATA-	DATA+	N.C.	N.C.
IN-4	0 V	DATA-	DATA+	N.C.	N.C.

When PIRENE is switched-on:

- The IN-1 input, always is in THRU-1
- The IN-2 input, always is in THRU-2

When PIRENE is switched-off:

- The IN-1 input, always is in THRU-1 & OUT-1
- The IN-2 input, always is in THRU-2 & OUT-2



Always, use cable for RS484 data transfer, with 120 ohms of impedance and low capacitance. The cable must be formed, at least, for 1 twisted par and shield. In this cable, the Data+ and Data- signals must be in the same twisted par, and the 0V lead, at least, must be connected to the shield. Never use audio cables.

Maximum length cable (recommended): 500m long.

Maximum loads (receivers) DMX in one line: 32.

Use splitters (DMX buffers) to avoid problems of load or length.

**MIDI PORT:**

A complete and standard MIDI port is available, with standard MiniDin-5 (180°) female connectors, labelled as **MIDI PORT / IN, THRU** and **OUT**

MIDI PORT	1	2	3	4	5
IN	N.C.	N.C.	N.C.	RETURN	IN
OUT / THRU	N.C.	Vref	N.C.	RETURN	OUT



Always, use homologated MIDI cables, with a maximum of 15 meters long.

**RS232 PORT:**

Bi-directional port (input and output), with a SubD-9 male connector, labelled as **RS232**

PORT	1	2	3	4	5	6	7	8	9
RS232	N.C.	RXT	TXT	N.C.	Vref.	N.C.	N.C.	N.C.	N.C.

RXT is the receiving data signal (input).

TXT is the transfer data signal (output).



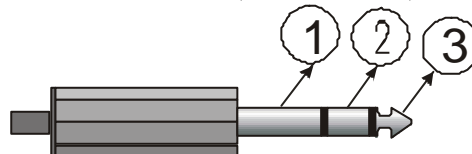
Always, use RS232 data transmission cable. The recommendable maximum length is 10 meters long.

**SMPTE PORTS:**

They are mono audio ports, with 2 JACK (female and stereo) connectors, labelled as **SMPTE-IN** and **SMPTE-OUT**

PORT	1	2	3
SMPTE IN	Common	N.C.	Signal (1,2 Vpp – 2,5 Vpp)
SMPTE OUT	Common	N.C.	Signal (1,2 Vpp)

The correspondence, of pines, with its air JACK (male and stereo) is:



Always, use an audio shielded cable.

## START UP

- Take out the unit of its transport packet. Inside you can find: The own unit, this user manual and the guarantee sheet. If you note any anomalies (stroke, humidity) don't try start up the equipment and follow the usual procedure for this type of questions.
- Place the unit in a plane surface, suitable to operate, or fix it in a 19" standard rack. Observe that the ventilation holes are free.

**Warning:** The equipment should not be exposed to drip or splashes, furthermore the objects that contain liquid, as for example glasses; they will not have to be located on the equipment.

- Connect the power cable to PIRENE. Make sure that the power cable has wired ground.
- To start up the unit the first time:  
Press and hold down pressed the ← key and, at the same time, turn on the power-switch to the position **I**  
Now, release the ← key
- After, to start the unit, is enough turn on the power-switch to the position **I**

After a few second, the current configuration information appears n the PIRENE display.

The unit is running... Please, read this user manual.  
Thanks you for choose LT.

## RESET PROCEDURE

The Reset procedure helps us to get an initiated status for all PIRENE parameters (knew status).

After a Reset, in PIRENE:

- The current configuration is maintained (operation mode).
- The data of the **DISK** are maintained.
- The active data (in accordance with the operation mode or configuration) are initiated with its values by default, in concrete, all the parameters of its **SETUP** menu (as conversion modes, the patch, the language, etc.).

To execute a Reset:

- Turn off the unit (switch in **O** position)
- Press, and hold down pressed the ← key
- Turn on the unit (switch in **I** position)
- After a few seconds, release the ← key

**Warning:** A strong electrostatic discharge (as the caused by a storm lighting) can provoke inconsistence in the unit operation; in this case, will be necessary to execute a Reset procedure to restore the system.

## NAVIGATING FOR THE PIRENE MENUS

The menus and information appear in the Display pages. The next keys are dedicated for their control:



### ENTER

To access to the menu list from the information pages, and to activate the selected menu/option.

Also, is used to open the edition mode (of a numeric data) and to accept this edition.

**To access, to activate, to edit...** are functions of **ENTER**

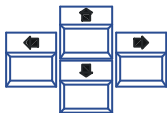


### EXIT

To return to the previous page, to quid of the menu list, and to quit of an edition without accept it.

**To return, to quid..** are functions of **EXIT**

From the generic information pages, also it is possible to access to the menu list pressing this key.



### ARROWS

To move the menu list pages and the information pages, to select with the cursor the desired menu/option and, to edit numeric data.

**To move, to page, to select, to edit ...** are functions of these **ARROWS**

The information pages are the main pages of the Display. When the unit is turned on, its Display shows us these information pages. To move them, use the **ARROWS**

From here (the information pages) to access to the menu list, press **ENTER** or press **EXIT**.

About the menu list, and as general rules:

```

Menu :                               4↓4
DISK
»PIRENE Merge Dmx «
-----
  
```

In the first line of the Display (always fixed), you can find: the title of the active page (**Menu :**) and a flag with the selected option and the available options (**4↓4**). The options list appears below this first line.

Each option uses a complete line, and its name is written in capital letter.

Some options have additional information, which appears in small letter, and shows the current value of the option.

The selected option is marked between the cursor symbols, » «, example:

```

»PIRENE Merge Dmx «
  
```

## THE CONFIGURATION (OPERATION MODE)

The active configuration is maintained active until the user changes it for a new configuration, inclusively if PIRENE is turned off, or a Reset is executed.

The user can change the active configuration at any moment.

The first step, to operate with PIRENE, is to activate the desired configuration. For this:

```

Merger Dmx -----1»3
IN1      +IN3      >OUT1
IN2      +IN4      >OUT2
    
```

Turn on PIRENE.

The information pages, of the active configuration, appear in the Display. In this example, a MERGER DMX.

```

Menu:                1↓4
-----
»TEST                «
  SETUP
    
```

Access to the menus list pressing **ENTER**

```

Menu:                4↓4
DISK
»PIRENE Merger Dmx «
-----
    
```

Select the **PIRENE** option, using the **ARROWS**.

The active configuration is showed in the option line, in the example **Merger Dmx**

```

Pirene:              1↓8
-----
»MERGER DMX      *   «
  PATCH DMX
    
```

Press **ENTER** to access to the options list of configuration, inside the **PIRENE** option.

The active configuration is marked with a asterisk, \*

```

Pirene:              2↓8
MERGER DMX      *
»PATCH DMX     «
  DMX<>AVAB
    
```

Scroll the options list using the **ARROWS** until to select the desired configuration. In the example, **PIRENE** is configured as a **PATCH DMX**

```

Configure PIRENE
as PATCH DMX ???
ENTER confirm
    
```

Press **ENTER** to active the new configuration. PIRENE requests confirmation. Confirm pressing **ENTER** again. (To quid without accept, press **EXIT**)

```

Patch Dmx ----- 1»3
IN1          \  OUT1
IN2          /  OUT2
    
```

The system executes a Reset. After a few seconds, the information pages of the new configuration appear in the Display.

Now, **PATCH DMX** is the active configuration.

In short, to configure PIRENE as a PATCH DMX:

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **PACTH DMX**

## PIRENE as MERGER DMX

This configuration permits to PIRENE merges 4 DMX input lines (2 to 2) in 2 DMX output lines.

Used to merge the DMX outputs of 2 lighting consoles, one working as main console, and other working as backup console. Also is used to merge the DMX output of 2 consoles working in parallel.

To configure PIRENE as **MERGER DMX**:

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **MERGER DMX**

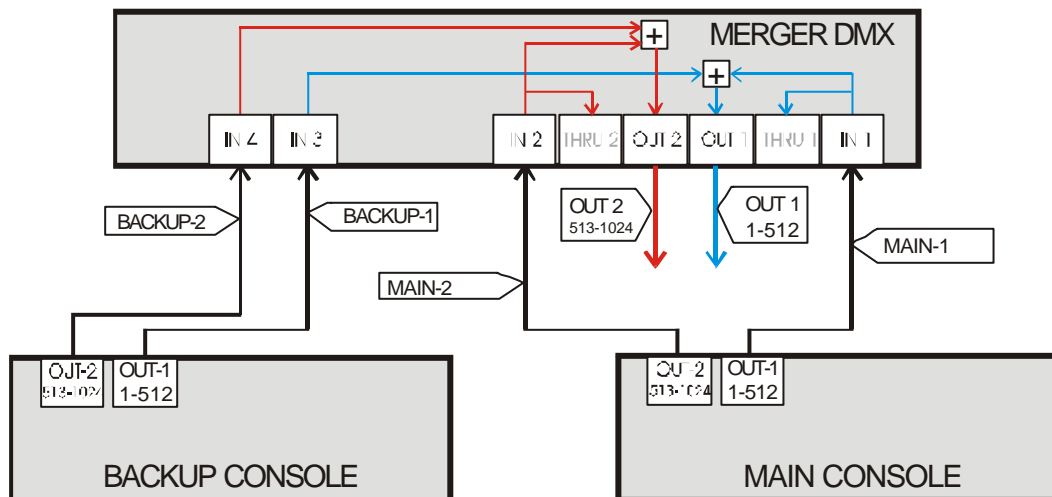
In the main pages, you can see a small connection schematic:

<b>Merger Dmx -----1»3</b>		
<b>IN1</b>	<b>+IN3</b>	<b>&gt;OUT1</b>
<b>IN2</b>	<b>+IN4</b>	<b>&gt;OUT2</b>

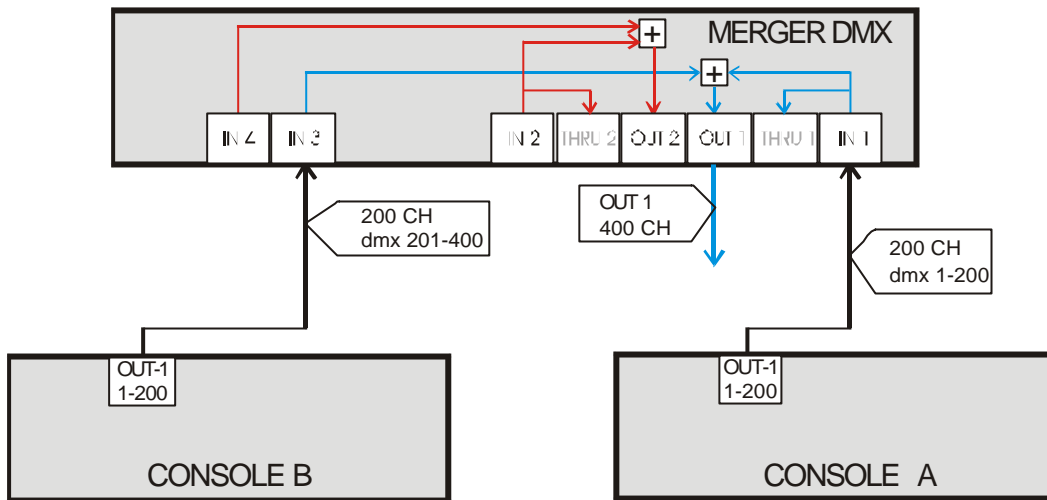
The input signals, connected to IN1 and IN3, once “merged” are available in OUT1.  
 The input signals, connected to IN2 and IN4, once “merged” are available in OUT2.  
 IN1 signal is always available in THRU1.  
 IN2 signal is always available in THRU2.  
 THRU1 and THRU 2 are used to link other DMX equipments with the IN1 and IN2 signals respectively.  
 No other port is active.

Use examples

A.- Merge the DMX output of a Main console and its Backup console:

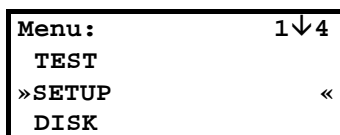


B.- Merge the DMX output of 2 consoles working in parallel:



## THE SETUP PARAMETERS

The user parameters are in the **SETUP** menu. To access to the **SETUP** menu:



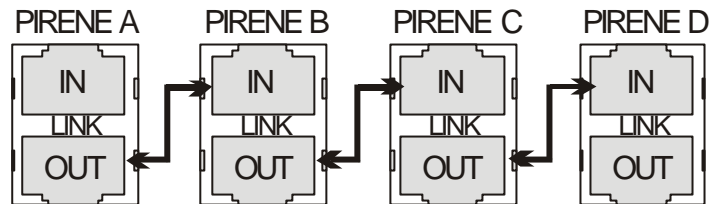
From the main pages:  
Press **ENTER**, to access to the menus list.  
Select and accept **SETUP** option.

Inside **SETUP** menu, there are the next options/parameters:

- OUT1** Permits to select the “combination mode” used to obtain the OUT1 signal. The available combination modes are **MIXER** and **SWITCH**  
The active mode appears in the option-line:  
»OUT1 **Mixer** «  
Press **ENTER** to change it.
- OUT2** Permits to select the “combination mode” used to obtain the OUT2 signal. The available combination modes are **MIXER** and **SWITCH**  
The active mode appears in the option-line:  
»OUT2 **Switch** «  
Press **ENTER** to change it.
- MODE** Permits to select the behaviour of the MERGER when one, or several input lines fault. Working in **AUTO** mode, the unit alerts us and takes control of the combinations to avoid that the wrong inputs contribute in the outputs.  
Working in **MANUAL** mode, mode by default, the unit alerts us, but the user has the control of the combinations.
- PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys and of the Fader. (See **USER CONTROL**, page 14).

**LANG** Permits to select the language used in messages of help and information.  
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**  
The selected language appears in the option-line:  
»**LANG Castellano** «  
Press **ENTER** to change it.

**LINK** (Id) The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.  
The net connection is done with the **LINK** port:



**LINK** (mode) The second **LINK** command permits to set the response mode of the unit in the net.  
The available modes are:  
**ALONE**.- The MERGER operates in independent mode to the net (by default).  
**MASTER**.- The MERGER operates as master of all the **SLAVE** MERGERS connected.  
**SLAVE**.- The MERGER operates controlled by the **MASTER** MERGER connected in its net.

See **BEHAVIOUR OF THE MERGERS IN THE NET**, page 16.

The mixture modes for the options: **OUT1** and **OUT2**

**MIXER** Is a mixture mode thought to combine DMX line with conventional channels information (HTP lines), where, for a same channel, the highest level takes preference. In this mode, the 2 input lines, are combined, channel by channel, to obtain the output scene. These input lines are combined in the same way that 2 active masters.

Example:

The IN1 input has: channel 5 at **100%**, channel 8 at 50%, the rest at 0%.

The IN3 input has: channel 5 at 90%, channel 8 at **75%**, the rest at 0%.

After the **MIXER** combination, the OUT1 output has: channel 5 at **100%**, channel 8 at **75%**, and the rest of the channels at 0%.

**SWITCH** Is a mixture mode thought to operate with DMX lines with moving light information (LTP lines).

In this way, the 2 input lines are “checked”, but only the information of one input line is used to obtain the output.

## AUTOMATIC CONTROL

The MERGER has the next automatic controls, as response to certain status:

### When the MERGER is turned off.

An inner relay will connect the IN1 input with the OUT1 output.  
 An inner relay will connect the IN2 input with the OUT2 output.

Example: In case of that the MERGER is been used to mix the lines of a main console and a backup console, when the MERGER is turned off, the lines of the main console (in IN1 and IN2) will be connected to the MERGER outputs.

### When some DMX input faults

The MERGER informs to the user of this fault (of one or more input lines).  
 And if the MERGER is configured as **AUTO**, will take control about the combination to avoid that the line (or lines) under fault affects to the output line.

#### Example:

If the IN1 (or IN2) line of the main console faults, the MERGER will control the combination to obtain that the OUT1 and OUT 2 outputs are composed only, by the information of the IN3 and IN4 inputs, lines of the backup console.

If the IN3 (or IN4) line of the backup console faults, the MERGER will control the combination to obtain that the OUT1 and OUT 2 outputs are composed only, by the information of the IN1 and IN2 inputs, lines of the main console.

The change is done in a fade of 2 second.

## USER CONTROL

The user can control the combination of the inputs in the OUT1 and OUT2 outputs.  
 The user can inhibit any input line and any output line, at any moment.

The information pages, the fader, the **F1-F6** keys, more all PIRENE LEDs are used for these functions.


From the first information page (Page 1), use the left-right **ARROWS** to access to rest of the information pages:

Page 1: Connections	Page 2: Outputs Levels	Page 3: <b>F1-F6</b> functions
Merger Dmx -----1»3 IN1 +IN3 >OUT1 IN2 +IN4 >OUT2	Merger Dmx -----2»3 [-----■-----] IN1 FF +IN3 FF >OUT1 IN2 FF +IN4*00 >OUT2	Merger Dmx -----2»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 IN1 IN3 OUT1 IN2 IN4 OUT2

### Control of the combination in the OUT1 and OUT2 outputs:

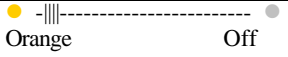
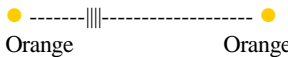
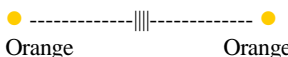
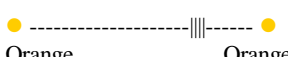
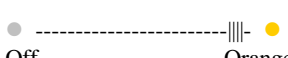
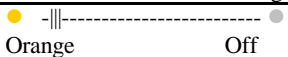
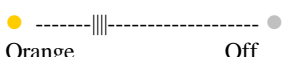
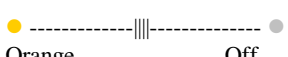
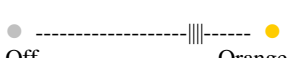
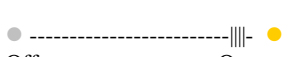
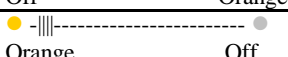
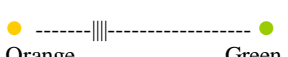

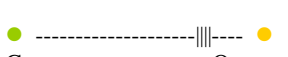
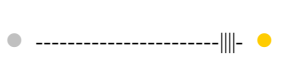
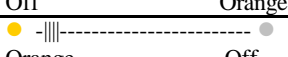
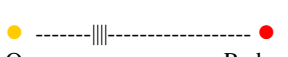
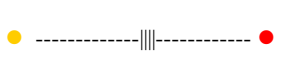
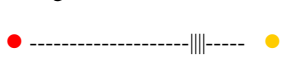

The combination level in the inputs, to obtain OUT1 and OUT2, depends of the fader position and of the selected mode for each output (**MIX** or **SWITCH**). In Page2, you can see:

Merger Dmx -----2»3 [-----■-----] IN1 FF +IN3 FF >OUT1 IN2 FF +IN4*FF >OUT2
--

 The current fader position, in the example, at 50%.

For each output, the combination level of each one of its inputs. In the example, all inputs are providing the 100% 100% (FF) to the output. A asterisk appears when its associated input faults, and this asterisk disappears when its associated line is restored.

The combination is adjusted in both outputs moving the fader, and according to the modes:

MODES	FADER	LEVELS OF THE INPUTS	FADER AND ITS LEDS
OUT1 MIX	0	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	2,5	IN1 <b>FF</b> + IN3 <b>50</b> >OUT1 IN2 <b>FF</b> + IN4 <b>50</b> >OUT2	 Orange Orange
	5	IN1 <b>FF</b> + IN3 <b>FF</b> >OUT1 IN2 <b>FF</b> + IN4 <b>FF</b> >OUT2	 Orange Orange
	7,5	IN1 <b>50</b> + IN3 <b>FF</b> >OUT1 IN2 <b>50</b> + IN4 <b>FF</b> >OUT2	 Orange Orange
	10	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Off Orange
OUT1 SWITCH	0	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	2,5	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	5	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	7,5	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Off Orange
	10	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Off Orange
OUT1 MIX	0	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	2,5	IN1 <b>FF</b> + IN3 <b>50</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Green
	5	IN1 <b>FF</b> + IN3 <b>FF</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Green
	7,5	IN1 <b>50</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Green Orange
	10	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Off Orange
OUT1 SWITCH	0	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>00</b> >OUT2	 Orange Off
	2,5	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>50</b> >OUT2	 Orange Red
	5	IN1 <b>FF</b> + IN3 <b>00</b> >OUT1 IN2 <b>FF</b> + IN4 <b>FF</b> >OUT2	 Orange Red
	7,5	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>50</b> + IN4 <b>FF</b> >OUT2	 Red Orange
	10	IN1 <b>00</b> + IN3 <b>FF</b> >OUT1 IN2 <b>00</b> + IN4 <b>FF</b> >OUT2	 Off Orange

The first LED is associated with the main inputs (IN1 and IN2) and the second LED is associated with the back inputs (IN3 and IN4).

In this way, according to the LED colour, there are the next statuses:

COLOUR	LED 1	LED 2	Status
Green	IN1	IN3	The associated input provides level to scene.
Red	IN2	IN4	The associated input provides level to scene.
Orange	IN1+IN2	IN3+IN4	The associated inputs provide level to scene.
Off	IN1+IN2	IN3+IN4	No associated inputs provide level to scene.

#### Control and check of the active ports: IN1, IN2, IN3, IN4, OUT1, and OUT2

The **F1-F6** keys, and their LEDs, permit us to inhibit any of these ports, and to know their status.

Each key is associated with one port. The correspondence between ports and keys is showed in the Page 3:

<b>Merger Dmx</b>	<b>-----3»3</b>
<b>↓F1-F2</b>	<b>↓F3-F4 ↓F5-F6</b>
<b>IN1</b>	<b>IN3 OUT1</b>
<b>IN2</b>	<b>IN4 OUT2</b>

**F1**, to activate / deactivate the input in **IN1**. The **F1** LED shows the IN1 status.

**F2**, to activate / deactivate the input in **IN2**. The **F2** LED shows the IN2 status.

**F3**, to activate / deactivate the input in **IN3**. The **F3** LED shows the IN3 status.

**F4**, to activate / deactivate the input in **IN4**. The **F4** LED shows the IN4 status.

The LEDs, of **F1** to **F4**, have the next status:

- Off – Its input is deactivated by the user. Activate it pressing its key again.
- On – Its input is active but the input isn't receiving data.
- Blinking – Its input is active and the input is receiving data.

**F5**, to activate / deactivate the output in **OUT1**. The **F5** LED shows the OUT1 status.

**F6**, to activate / deactivate the output in **OUT2**. The **F6** LED shows the OUT2 status.

The LEDs, of **F5** and **F6**, have the next status:

- Off – Its output is deactivated by the user. Activate it pressing its key again.
- Blinking – The output is active and transmitting data.

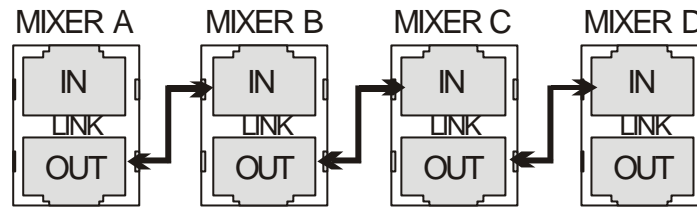
The objective of these functions is, mainly, have an easy ports control.

## BEHAVIOUR OF THE MERGERS IN THE NET

It is possible to increase the power of the system (more inputs & outputs lines) connecting several PIRENES in a net, and centralising the control in only one of them. In short, the next "systems" are available:

MERGERS in the NET (N°)	MAIN INPUTS	BACK INPUTS	OUTPUTS
1	2	2	2
2	4	4	4
3	6	6	6
...	...	...	...
10 (maximum)	20	20	20

The MERGERS (MIXERS) are connected using the LINK port, according to the next diagram:



In the previous example, the MERGERS A, B, C y D are connected in the net, each one must be its **Id**, and this **Id** must be unique (0..9). Any MERGER of this net can be configured as **MASTER** of the system.

The behaviour of the MERGER in a net, according to the configured mode of **LINK**, is:

## MODE      BEHAVIOUR

**ALONE**      The MERGER operates independently, in the same way that when it is not connected to the net.

**SLAVE**      If the unit is in **SLAVE** mode, the user cannot use the fader to control the combinations. The fader of the **MASTER** MERGER connected to the net takes the control of its combinations.  
The menus are actives and can be modified, but the MERGER mode: **MANUAL** or **AUTO** will be not applied to this unit. Its mode is the mode configured in the **MASTER**.

As slave unit, this unit communicates, to the net, any fault of its inputs.

**MASTER**      If the unit is in **MASTER** mode, the user can to control this unit at the same time that he is controlling the rest of the slave units connected to the net. Its menus are actives, can be modified, and its MERGER mode: **MANUAL** or **AUTO** is the mode of all the slave units connected in this net.  
The **MASTER** merger checks the status of all the slave units, and its status. If any unit in the net has problems with one or more inputs, the **MASTER** takes the needed decisions to control the combinations, and communicates these decisions to the salve units. All units, in the net, respond at the same time, adjusting their control in the same way that the **MASTER**.

## PIRENE as PATCH DMX

The PATCH configuration permits us to associate, freely, any dimmers in the inputs IN1 & IN2, to any dimmer, or dimmers, of the outputs OUT1 and OUT2. In short, the information of any input direction can be obtained in the desired output direction/s.

To configure PIRENE as **PATCH DMX**

1. Access to the menus list
2. Select the **PIRENE** menu
3. Select and accept the **PACTH DMX** option

The PACTH DMX has 1024 input dimmers and 1024 output dimmers.

The main page shows us the available connections:

```

Patch Dmx ----- 1»3
IN1          \OUT1
IN2          /OUT2
    
```

The input lines are connected to ports: IN1 and IN2, the output lines are accessible in the ports: OUT1 and OUT2.

The input connected to IN1, always, is accessible in THRU1.

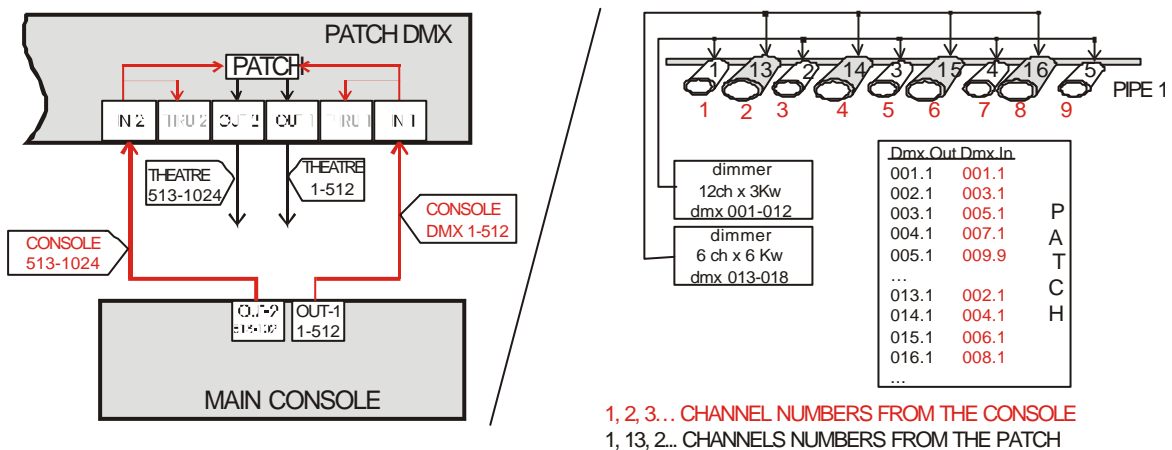
The input connected to IN2, always, is accessible in THRU2.

THRU1 and THRU 2 are used to link others equipments to the signals in IN1 and IN2.

No other connector is active in the PATCH DMX.

Use example

A.- A soft Patch for a theatre with 1024 circuits, used with the objective of reorder the circuits in accordance with their pipe positions (no with their powers and dimmer connections):



## THE SETUP PARAMETERS AND PATCH EDITION

Inside **SETUP** menu, the patch associations are edited.

To access to the **SETUP** menu:

Menu:	1 ↓ 4	From the main page,
TEST		Press <b>ENTER</b> , to access to the menus list.
»SETUP	«	Select <b>SETUP</b> .
DISK		

The options, in **SETUP**, are:

**PACTH** To edit the associations table (Patch) between the inputs (IN1-IN2) and the outputs (OUT1-OUT2).

If the values (of the patch table) are values “by default”, this option appears as:

»**PACTH 1:1 Lif Cu1** «

Press **ENTER** to edit the Patch table. (See below).

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See USER CONTROL, page 23)

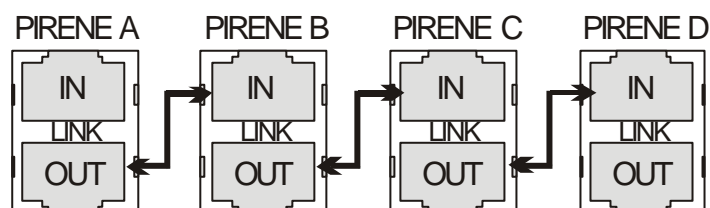
**LANG** Permits to select the language used in messages of help and information.  
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**  
The selected language appears in the option-line:

»**LANG Castellano** «

Press **ENTER** to change it.

**LINK (Id)** The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.

The net connection is done with the LINK port:



**LINK (Mode)** The second **LINK** command permits us to edit the response mode of this unit in the net. In this case, only the **ALONE** mode is available (no editable).

**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

The edition command of the **PATCH** option:

**EDIT** Permits us:  
 To edit any association between input dimmers and output dimmers.  
 To assign to limit level to any output dimmer.  
 To assign a response curve to any output dimmer.

**DEFAULT** Returns to the values of the Patch by default.  
 The relation between input dimmers and output dimmers is **1:1**, example, in 1 to out 1, in 2 to out 2, etc.  
 The output dimmers are not limited, **Lif**, they are at 100% (maximum level).  
 The output dimmers have assigned the lineal curve or curve 1, **Cu1**.

Press **ENTER** to execute this command. The flags of these “by default”, if proceed, appear in the own **EDIT** command:

»**EDIT 1:1 Lif Cu1** «

### EDITING THE PATCH

Select the option: »**EDIT 1:1 Lif Cu1** «, and press **ENTER** to access to the edition table of the Patch:

DiOut	DiIn	Lim	Cur
-----			
»001.1«	001.1	100	1
002.1	002.1	100	1

**Each table line has information about an output dimmer. The output dimmer number heads the line.**

4 columns compose the table:

<b>DiOut</b>	Output dimmer number, from 1.1 to 512.1 (for the 512 dimmers of OUT1) and from 1.2 to 512.2 (for the 512 dimmers of OUT2). <u>These cells are not editable.</u> Can be used to search the entered output dimmer number.
<b>DiIn</b>	Input dimmer number, from 1.1 to 512.1 (for the 512 dimmers of IN1) and from 1.2 to 512.2 (for the 512 dimmers of IN2) that it is associated to <b>DiOut</b> .
<b>Lim</b>	It is the maximum level or limit (from 0 to 100%) that <b>DiOut</b> will arrive in its output.
<b>Cur</b>	It is the response curve for <b>DiOut</b> .

Each time that you select the **EDIT** command, during a few seconds and before to access to the patch table, an informative page appears in the display. This informative page shows us the available edition functions for **F1-F2** and **F5-F6**. These functions only are actives in the edition process of the patch table:

-- Edit Functions --		
↓F1-F2	↓F3-F4	↓F5-F6
COPY		=?
COPY+1		EDIT?

Key	Function	What happen when this key is pressed?
<b>F1</b>	<b>COPY</b>	Copies, in the selected cell, the data of the previous line of the same cell. Moves the cursor to the next line. Exception: If a <b>DiOut</b> cell is selected, this function copies all data of the precedent line ( <b>DiIn</b> , <b>Lim</b> and <b>Cur</b> )
<b>F2</b>	<b>COPY+1</b>	Copies, in the selected cell, the <b>DiIn</b> of the previous line, but incremented in 1 unit. Moves the cursor to the next line. This function only operates when the selected cell is: <b>DiOut</b> or <b>DiIn</b> .
<b>F5</b>	<b>=?</b>	Searches the same data that the selected data. Example, if an input dimmer is selected ( <b>DiIn</b> ), when <b>F5</b> is pressed, the cursor is moved to the next output dimmer that it has associated this <b>DiIn</b> .
<b>F6</b>	<b>EDIT?</b>	Searches all output dimmers ( <b>DiOut</b> ), one by one, that they have some value edited (no-default). Each time that you press <b>F6</b> , the cursor is moved to the next edited output dimmer.

About the patch table:

- Use the **ARROWS** to select the data to edit, the selected data is marked with the symbols » « , and press **ENTER** to activate the edition cursor (or press any function key, **F**, to execute it).

If the edition cursor is activated, (showed as a blinking ■):

- To move the cursor amongst the digits of one data, press right-left **ARROWS**.
- To edit the selected digit, press up-down **ARROWS**.
- To accept the edited data, press **ENTER** (**EXIT** to quid without accept it).
- Repeat this procedure as many times as will be necessary.

Displacement:

If the value of any **DiOut** cell is modified, when this edition is accepted, the cursor is moved to the line of this entered output dimmer (observe that it is not a true edition).

About the limit levels, **Lim**:

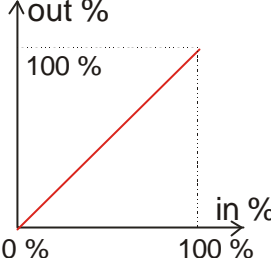
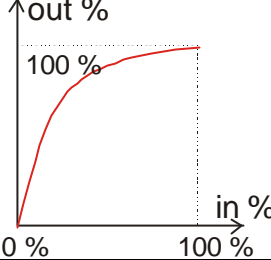
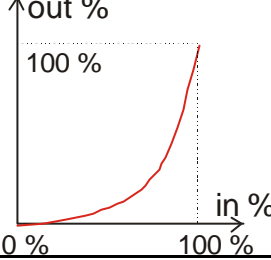
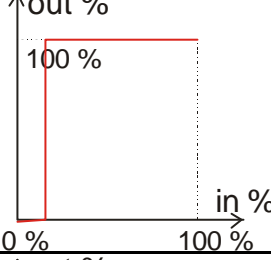
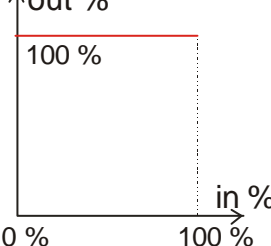
Its value is the maximum value that the level of its output dimmer will arrive.  
Bu default, this value is at 100%, no limited.

Use example: A same control channel controls an array of lamps, and all lamps are similar. If one of these lamps is blown and is restored with a new lamp, it is possible that this new lamp gives a better efficiency... To equalize this new lamp with the old lamps we can use the limit function. In this example will be enough limit the dimmer of the new lamp at 95% (orientating value).

Remember. Don't use this type of functions to connect lowest voltage lamps to the voltage specified in the dimmer.

About the response curves, Cur:

It is the response curve associated to the output dimmer. There are 5 curves available:

Curve	Definition	Behaviour
1	Lineal  Lineal response curve. The level input is not modified.	
2	Square  Fast response curve. It gives highest control for input levels from 60 to 100%.	
3	Invert Square  Slow response curve. It gives highest control for the input levels from 0 to 40%. It is used to control fluorescence.	
4	ON/OFF or NON DIM  No dimming curve. The output level jumps from 0% to 100%. It is used to HMI lamps.	
5	PARK  This curve maintains its output at 100% always, including if the input level is 0. It is used in backstage.	

**AUTOMATIC CONTROL****When the unit is turned off:**

An inner relay connects the signal in IN1 with OUT1 (to avoid signal loss in this output).

An inner relay connects the signal in IN2 with OUT2 (to avoid signal loss in this output).

## USER CONTROL

The information pages show us, among others, the status of the input and output ports. The user, using the **F1-F6** keys, can deactivate any active port, at any moment.

From the first information page, use the left-right **ARROWS** to access to the others information pages:

Page1: Connections	Page2: Status	Page3: <b>F1-F6</b> Functions
Patch Dmx ----- 1»3 IN1            \OUT1 IN2            /OUT2	Patch Dmx ----- 2»3 IN1 512    \OUT1 512 IN2 512    /OUT2 512	Patch DMX ----- 3»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 IN1                    OUT1 IN2                    OUT2

### Status Page:

This page shows us the status of active ports. Each input shows the received channels number (IN1-IN2), and each output shows the transmitted channels number (OUT1-OUT2). If in any of these ports, its signal is not correct, the port is marked with an asterisk:

Patch Dmx ----- 2»3
IN1 512    \OUT1 512
IN2 *       /OUT2 512

### Control and check of inputs, IN1-IN2, and outputs, OUT1-OUT2:

The **F1-F2** and **F5-F6** keys, shows us the status of its associated port, and permits us deactivate/activate this port. The correspondence between keys and ports is showed in the Page 3:

Patch DMX ----- 3»3
↓F1-F2 ↓F3-F4 ↓F5-F6
IN1                    OUT1
IN2                    OUT2

**F1**, activates / deactivates the IN1 port. Its LED shows the IN1 status.

**F2**, activates / deactivates the IN2 port. Its LED shows the IN2 status.

The LED of **F1** and **F2**:

- Off – The input is deactivated. Press its key again to activate this input.
- On – The input is active, but no data is been received.
- Blinking – The input is activated and data is been received.

**F5**, activates / deactivates the OUT1 port. Its LED shows the OUT1 status.

**F6**, activates / deactivates the OUT2 port. Its LED shows the OUT2 status.

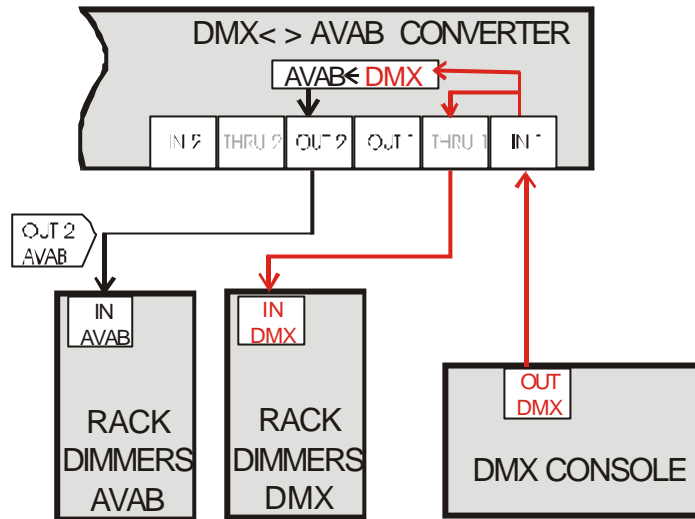
The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.



B.- Integrate AVAB dimmers with our DMX system (console and dimmers).



## THE SETUP PARAMETERS

The DMX <-> AVAB converter is configured from its **SETUP** menu. To access to **SETUP**:

Menu:	1 ↓ 4
TEST	
»SETUP	«
DISK	

From its main page:

Press **ENTER**, to access to the menus list.

Select **SETUP**.

The **SETUP** options are:

- DIR** Permits us to select the desired AVAB line, AVAB1 (dimmers **1-256**) or AVAB2 (dimmers **257-512**) for the conversion, since an AVAB line has a maximum of 256 dimmers and a DMX line has 512 dimmers.

The DMX<->AVAB converter, when **DIR 1-256** is selected, translates:

The dimmers 1 to 256 of the DMX input to the AVAB output.

The dimmers of the AVAB input to the dimmer 1 to 256 of the DMX output, the rest of the dimmers of this DMX output are at 0%.

The DMX<->AVAB converter, when **DIR 257-512** is selected, translates:

The dimmers 257 a 512 of the DMX input to the AVAB output.

The dimmers of the AVAB input to the dimmer 257-512 of the DMX output, the rest of the dimmers of this DMX output are at 0%.

- PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See **USER CONTROL**, page 26)

- LANG** Permits to select the language used in messages of help and information.

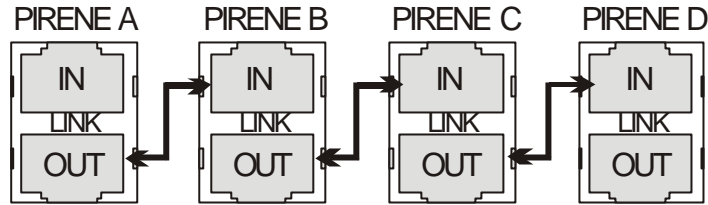
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**

The selected language appears in the option-line:

»LANG Castellano «

Press **ENTER** to change it.

**LINK** (Id) The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.  
The net connection is done with the LINK port:



**LINK** (Mode) The second **LINK** command permits us to edit the response mode of this unit in the net. In this case, only the **ALONE** mode is available (no editable).  
**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

## AUTOMATIC CONTROL

### When the unit is turned off:

An inner relay connects the signal in IN1 with OUT1.  
An inner relay connects the signal in IN2 with OUT2.

## USER CONTROL

The information pages show us, among others, the status of the input and output ports.  
The user, using the **F1-F6** keys, can deactivate any active port, at any moment.

From the first information page, use the left-right **ARROWS** to access to the others information pages:

Page1: Connections	Page2: Status	Page3: F1-F6 Functions
Dmx<>Avab ----- 1»3	Dmx<>Avab ----- 2»3	Dmx<>Avab ----- 3»3
IN1.dmx > OUT2.avab	IN1 512 > OUT2 256	↓F1-F2 ↓F3-F4 ↓F5-F6
IN2.avab > OUT1.dmx	IN2 256 > OUT1 512	IN1 OUT1
		IN2 OUT2

### Status Page:

This page shows us the status of active ports. Each input shows the received channels number (IN1-IN2), and each output shows the transmitted channels number (OUT1-OUT2). If in any of these ports, its signal is not correct, the port is marked with an asterisk (\*):

Dmx<>Avab ----- 2»3
IN1 512 > OUT2 256
IN2 * > OUT1 512

**Control and check of inputs, IN1-IN2, and outputs, OUT1-OUT2:**

The **F1-F2** and **F5-F6** keys, shows us the status of its associated port, and permits us deactivate/activate this port. The correspondence between keys and ports is showed in the Page 3:

Dmx<>Ava <b>b</b> ----- 3»3
↓ <b>F1-F2</b> ↓ <b>F3-F4</b> ↓ <b>F5-F6</b>
<b>IN1</b> <b>OUT1</b>
<b>IN2</b> <b>OUT2</b>

**F1**, activates / deactivates the IN1 port. Its LED shows the IN1 status.

**F2**, activates / deactivates the IN2 port. Its LED shows the IN2 status.

The LED of **F1** and **F2**:

- Off – The input is deactivated. Press its key again to activate this input.
- On – The input is active, but no data is been received.
- Blinking – The input is activated and data is been received.

**F5**, activates / deactivates the OUT1 port. Its LED shows the OUT1 status.

**F6**, activates / deactivates the OUT2 port. Its LED shows the OUT2 status.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.

## PIRENE as DMX<>MIDI CONVERTER

This operation mode (configuration) permits to do conversions between the DMX and MIDI protocols.

To configure PIRENE as DMX<>MIDI

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **DMX<>MIDI**

The DMX <> MIDI converter permits us to convert a DMX input signal to MIDI output signal and, at the same time, a MIDI input signal to DMX output signal.

Its main page shows us the active ports and available connections:

```

Dmx<>Midi ----- 1»3
IN1.dmx  > MIDI-OUT
MIDI-IN  > OUT1.dmx
    
```

The DMX input signal must be connected to IN1 port. The first 128 channels of this signal are converted to MIDI signal that is available in the MIDI-OUT port.  
 The MIDI input signal must be connected to MIDI-IN port. This MIDI signal is converted to DMX output signal that is available in the OUT1 port.

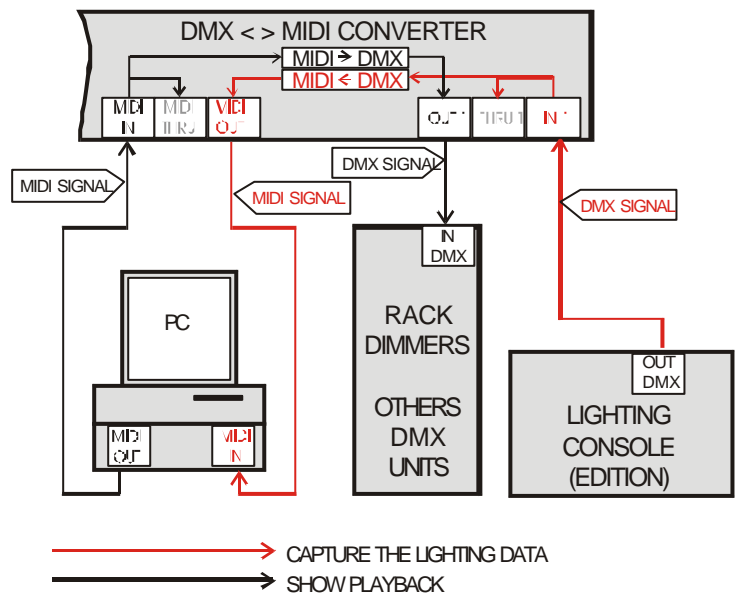
IN1 is always connected to THRU1. Use the THRU1 output to link others DMX equipments to the IN1 signal.

A copy of MIDI-IN is available in MIDI-THRU, to link others MIDI equipment with this signal.  
 Note: MIDI-THRU is an active port that doesn't operate when the PIRENE is turned off.  
 No other connector is active.

If only one conversion direction is required, for example, DMX → MIDI, it is enough to connect the DMX input to IN1 and to take the MIDI output from MIDI-OUT.

Use example

A.- Integrate the lighting control in a MIDI sequencer. In this example, the MIDI sequencer is a multimedia PC.



## THE SETUP PARAMETERS

The DMX <> MIDI converter is configured from its **SETUP** menu. To access to **SETUP**:

Menu:	1↓4
TEST	
»SETUP	«
DISK	

From the main page:  
Press **ENTER** to access to the menus list.  
Select **SETUP**.

The **SETUP** options are:

**MIDI (Channel)** Selects 1 of the 16 channels of the MIDI protocol to set the communication. Both, transmitter and receiver must be configured the same MIDI channel of communication.

The selected MIDI channel appears in the option:

»MIDI Channel 01«

If needed, press **ENTER** to edit the MIDI channel number:

- Press **ENTER** again to activate the edition cursor ( ■ )
- Press left-right **ARROWS** to select the digit.
- Press up-down **ARROWS** to edit the selected digit.
- Press **ENTER** to accept it (**EXIT** to quit without accept it).

**MIDI (Mode)** Permits to select a specific mode for the conversion MIDI → DMX, and the conversion DMX → MIDI. The selected mode is showed in the command:

»MIDI Sequencer «

If needed, press **ENTER** to select a new conversion mode.  
(See below).

**DIR** Permits to select a basic directions set.

Since the MIDI protocol has a maximum of 128 Notes/Controllers, these can be associated with one of the next blocks of DMX channels:

1-128  
127-256  
257-384  
385-512

Example: If the converter has selected the option **DIR 129-256**:

Converts the dimmers 129-256 of the DMX input to the 128 notes/controllers of the MIDI output.

Converts the notes/controllers of the MIDI input to the dimmers 129-256 of the DMX output and the rest of the dimmers are at 0%.

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See USER CONTROL, page 33)

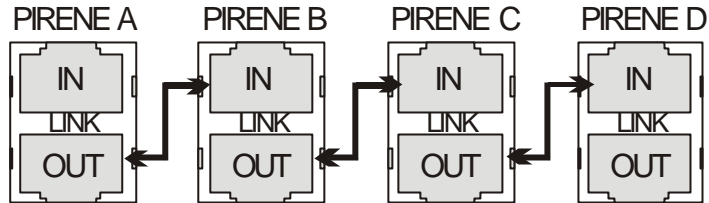
**LANG** Permits to select the language used in messages of help and information. The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**

The selected language appears in the option-line:

»LANG Castellano «

Press **ENTER** to change it.

**LINK (Id)** The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.  
The net connection is done with the LINK port:



**LINK (mode)** The second **LINK** command permits us to edit the response mode of this unit in the net. In this case, only the **ALONE** mode is available (no editable).  
**ALONE** - This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

## THE CONVERSION MODES

For the direction **DMX** → **MIDI**, the converter has the next modes:

**SEQUENCER** The channels/levels of the DMX input are converted in controllers/levels of the MIDI output.

In accordance with the **DIR** option, this conversion will be:

DIR	DMX IN		MIDI OUT	
	CHANN	LEVEL%	CONTROLLER	LEVEL
1-128	1	0-100	0	0-127
	2	0-100	2	0-127
	...	...	...	...
	128	0-100	127	0-127
129-256	129	0-100	0	0-127
	130	0-100	2	0-127
	...	...	...	...
	256	0-100	127	0-127
257-384	257	0-100	0	0-127
	258	0-100	2	0-127
	...	...	...	...
	384	0-100	127	0-127
385-512	385	0-100	0	0-127
	386	0-100	2	0-127
	...	...	...	...
	512	0-100	127	0-127

**FLASH  
SWITCH  
HOLD**

The channels/levels of the DMX input are converted in notes of the MIDI output (all notes are sending at the same velocity value). Each time that the channel goes beyond its 6%, the corresponding note is sending at 100% (velocity 127).

In accordance with the **DIR** option, this conversion will be:

<b>DIR</b>	<b>DMX IN</b>		<b>MIDI OUT</b>	
	<b>CHANN</b>	<b>LEVEL%</b>	<b>CONTROLLER</b>	<b>LEVEL</b>
<b>1-128</b>	1	6-100	0	127
	2	6-100	2	127
	...	...	...	...
	128	6-100	127	127
...	...	...	...	...
<b>385-512</b>	385	6-100	0	127
	386	6-100	2	127
	...	...	...	...
	512	6-100	127	127

**FLASH+VEL  
SWITCH+VEL  
HOLD+VEL  
MODULATOR**

The channels/levels of the DMX input are converted in notes/velocity of the MIDI output.

In accordance with the **DIR** option, this conversion will be:

<b>DIR</b>	<b>DMX IN</b>		<b>MIDI OUT</b>	
	<b>CHANN</b>	<b>LEVEL%</b>	<b>CONTROLLER</b>	<b>LEVEL</b>
<b>1-128</b>	1	0-100	0	0-127
	2	0-100	2	0-127
	...	...	...	...
	128	0-100	127	0-127
...	...	...	...	...
<b>385-512</b>	385	0-100	0	0-127
	386	0-100	2	0-127
	...	...	...	...
	512	0-100	127	0-127

For the direction **MIDI → DMX**, the converter has the next modes:

**SEQUENCER** Used with MIDI sequencers. It is the used mode to convert MIDI input from a sequencer, specially, if the MIDI track was obtained from this same converter in direction **DMX → MIDI**.

Its conversion rules, **MIDI → DMX**, are :

**Controller** (0-127) / **Level** (0-127) → Channel (1-128\*) / Level (0-100%)

**Note ON** (0-127) / **Velocity** (0-127) → Channel (1-128\*) / Level (0-100%)

**Note OFF** (0-127) → Channel (1-128\*) at 0%

The MIDI controllers permit us to fade. The MIDI notes permit us to flash.

**FLASH**

Used with MIDI keyboards. Its conversion rules are:

**Note ON** (0-127) → Channel (1-128\*) at **100%**

**Note OFF** (0-127) → Channel (1-128\*) at 0%

In short, each time that a note is played, its corresponding channel is flashed at 100%. When this note stops, its channel is at 0%.

**FLASH+VEL** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) / **Velocity** (0-127) → Channel (1-128\*) / Level (0-100%)  
**Note OFF** (0-127) → Channel (1-128\*) at 0%

Each time that a note is played, its corresponding channel is flashed at the level marked for its velocity (pressure). When this note stops, its channel is at 0%.

**SWITCH** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) →  
 If the channel at 0%: Channel (1-128\*) **at 100%**  
 If the channel at 100%: Channel (1-128\*) at 0%

Each time that a note is played, its corresponding channel is flashed at 100%. This channel only returns at 0% when this note is played again.

**SWITCH+VEL** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) / **Velocity** (0-127) →  
 If the channel at 0%: Channel (1-128\*) / Level (0-100%)  
 Of the channel has level: Channel (1-128\*) **at 0%**

Each time that a note is played, its corresponding channel is flashed with a level marked for its velocity (pressure). This channel only returns at 0% when this note is played again.

**HOLD** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) →  
 Channel (1-128\*) **at 100%** and any active channels **since 1 second ago, at 0%**.

Each time that a note is played, its corresponding channel is flashed at 100%. After 1 second, any other played note deactivates this channel.

**HOLD+VEL** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) / **Velocity** (0-127) →  
 Channel (1-128\*) / Level (0-100%) and any active channels **since 1 second ago, at 0%**.

Each time that a note is played, its corresponding channel is flashed at the level marked for its velocity (pressure). After 1 second, any other played note deactivates this channel.

**MODULATOR** Used with MIDI keyboards. Its conversion rules are:  
**Note ON** (0-127) / **Velocity** (0-127) → Channel (1-128\*) / Level (0-100%)

Each note is associated with a light channel. Each time that a note is played, its corresponding channel is activated at the level marked for its velocity (pressure). To deactivate this channel is needed to play its note “weakly”.

\* The DMX channel number depends of the **DIR** option

See CONVERSION TABLES, page 75)

**Important:**

The DMX & MIDI protocols have different speed of data transmission, and DMX is most quick protocol. For this, it is recommended don't use MIDI polyphony of more of 30 notes/controllers. In other words, don't use more than 30 lighting channels at the same time.

The MIDI protocol has smaller resolution than the DMX protocol. In short, MIDI works with levels (or velocities) from 0 to 127, and DMX works with levels from 0 to 255. This difference is a loss of resolution. This loss is not important for conventional lighting, but can be a trouble in the moving lighting.

Some MIDI equipments have special functions (pre-programmed) for the MIDI controllers from 120 to 127. To use these MIDI controllers, please, observe their use in the MIDI equipments, to avoid behaviour undesired.

The MIDI equipments number the 128 notes/controllers from 0 to 127 or from 1 to 128.

## AUTOMATIC CONTROL

### When the unit is turned off:

An inner relay connects the signal in IN1 with OUT1.

## USER CONTROL

The information pages show us, among others, the status of the input and output ports. The user, using the **F1-F6** keys, can deactivate any active port, at any moment.

From the first information page, use the left-right **ARROWS** to access to the others information pages:

Page1: Connections	Page2: Status	Page3: <b>F1-F6</b> Functions
Dmx<>Midi ----- 1»3 IN1.dmx > MIDI-OUT MIDI-IN > OUT1.dmx	Dmx<>Midi ----- 2»3 IN1 512 > MIDI-OUT MIDI-IN > OUT1 512	Dmx<>Midi ----- 3»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 IN1 MIDIou MIDIin OUT1

### Status Page:

In case of the DMX ports, the stage page shows the numbers of received channels (input) and the number of transmitted channels (output). An asterisk, \*, can appear when the DMX input is in fault. In case of the MIDI port (input and output), no additional information is showed. Observe that the MIDI protocol can have no activity for long time.

Dmx<>Midi ----- 2»3
IN1 * > MIDI-OUT
MIDI-IN > OUT1 512

**Control and check of inputs, IN1 and IN2, and outputs, OUT1 and OUT2:**

The **F1-F2** and **F5-F6** keys, shows us the status of its associated port, and permits us deactivate/activate this port. The correspondence between keys and ports is showed in the Page 3:

Dmx<>Midi ----- 3»3		
↓F1-F2	↓F3-F4	↓F5-F6
IN1		MIDIou
MIDIin		OUT1

**F1**, activates / deactivates the IN1 port. Its LED shows the IN1 status.

**F2**, activates / deactivates the MIDIin port. Its LED shows the MIDI IN status.

The LED of **F1** and **F2**:

- Off – The input is deactivated. Press its key again to activate this input.
- On – The input is active, but no data is been received (used only for the DMX input).
- Blinking – The input is activated and data is been received.

**F5**, activates / deactivates the MIDIout port. Its LED shows the MIDI OUT status.

**F6**, activates / deactivates the OUT1 port. Its LED shows the OUT1 status.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.

## PIRENE as DMX < > RS232 CONVERTER

The DMX < > RS232 converter permits us to convert a DMX signal to RS232 signal, and at the same time, a RS232 signal to DMX signal.

To configure PIRENE as DMX < > RS232 converter:

1. Access to the menu list
2. Select **PIRENE**
3. Select and accept **DMX < > RS232**

The available ports and connectors appear in the main page of the DMX < > RS232 converter:

```

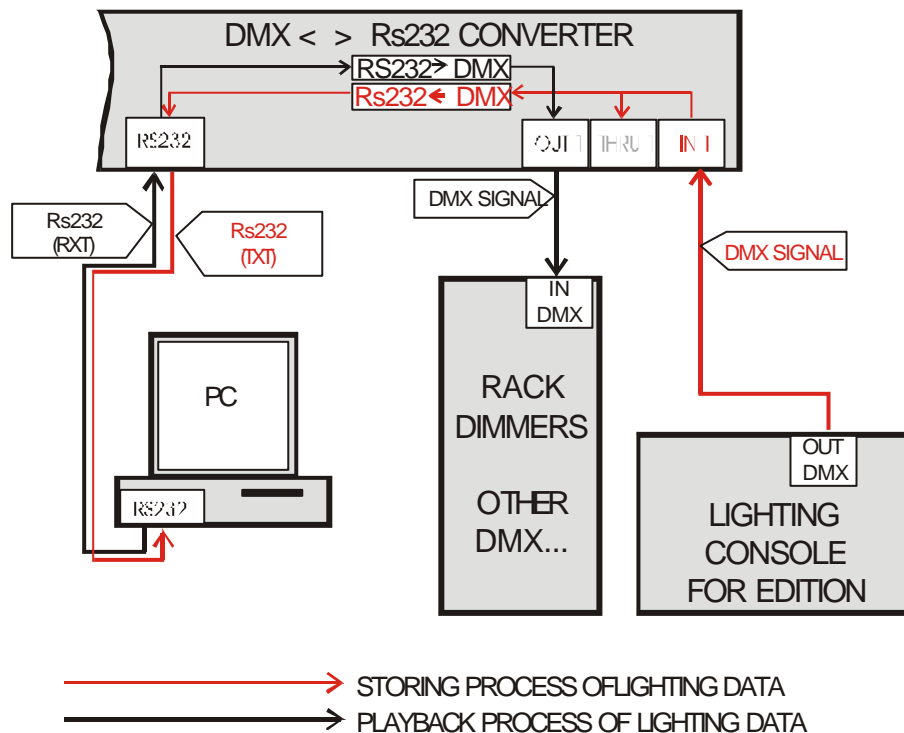
Dmx<>Rs232 -----1»3
IN1.dmx > RS232.out
RS232.in > OUT1.dmx
    
```

The DMX input signal must be connected to IN1. The DMX channels are translated to RS232 signal and this signal is available in the RS232 connector (TX pin).  
 The RS232 input signal must be connected to RS232 (RX pin). The RS232 channels are translated to DMX channels, and this signal is available in the OUT1 connector.  
 THRU1 (output port) always has a copy of the signal of IN1. THRU1 is used to link other DMX units to the IN1 input line.  
 No other connector is active.

If only one conversion direction is required, for example, DMX → RS232, it is enough to connect the DMX input to IN1 and to take the RS232 output from RS232 connector (TX).

Use example

A.- Control the show lighting from a PC.



## THE SETUP PARAMETERS

The DMX <> RS232 converter converts the 512 DMX channels to RS232 protocol, with the same precision, and vice versus. For this reason, this converter doesn't need adjust. In its **SETUP** menu only contents the general options.

To access to the **SETUP**:

<b>Menu:</b>	1↓4
<b>TEST</b>	
» <b>SETUP</b>	«
<b>DISK</b>	

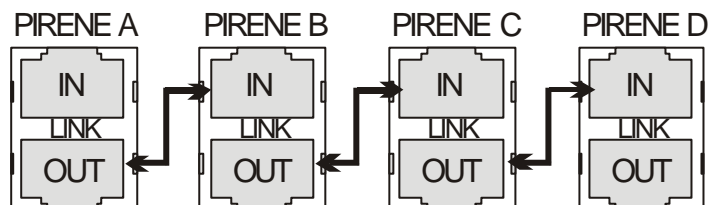
From the main page  
Press **ENTER**, to access to the menus list.  
Select **SETUP**.

The next general options are in **SETUP**:

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See **USER CONTROL**, page 37)

**LANG** Permits to select the language used in messages of help and information.  
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**  
The selected language appears in the option-line:  
»**LANG Castellano** «  
Press **ENTER** to change it.

**LINK** The first **LINK** command permits to set the Identification Number of this unit in a net, (**Id**) this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.  
The net connection is done with the **LINK** port:



**LINK** The second **LINK** command permits us to edit the response mode of this unit in the net.  
(**mode**) In this case, only the **ALONE** mode is available (no editable).  
**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

## AUTOMATIC CONTROL

**When the unit is turned off:**

An inner relay connects the signal in IN1 with OUT1.

## USER CONTROL

The information pages show us, among others, the status of the input and output ports. The user, using the **F1-F6** keys, can deactivate any active port, at any moment.

From the first information page, use the left-right **ARROWS** to access to the others information pages:

Page 1: Connections	Page 2: Status	Page 3: <b>F1-F6</b> Functions
Dmx<>Rs232 ----- 1»3 IN1.dmx > RS232.out RS232.in > OUT1.dmx	Dmx<>Rs232 ----- 2»3 IN1 512 >RS232 512 RS232 512 >OUT1 512	Dmx<>Rs232 ----- 3»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 IN1 RS232o RS232i OUT1

### Status Page:

This page shows us the status of active ports. Each input shows the received channels number (IN1 and RS232), and each output shows the transmitted channels number (RS232 and OUT1). If in any of these ports, its signal is not correct, the port is marked with an asterisk (\*):

Dmx<>Rs232 ----- 2»3
IN1 512 >RS232 512
RS232 * >OUT1 512

### Control and check of inputs and outputs:

The **F1-F2** and **F5-F6** keys, shows us the status of its associated port, and permits us deactivate/activate this port. The correspondence between keys and ports is showed in the Page 3:

Dmx<>Rs232 ----- 3»3
↓F1-F2 ↓F3-F4 ↓F5-F6
IN1 RS232o
RS232i OUT1

**F1**, activates / deactivates the **IN1** port. Its LED shows the IN1 status.

**F2**, activates / deactivates the **RS232in** port. Its LED shows the status of the RS232 signal received (RX).

The LED of **F1** and **F2**:

- Off – The input is deactivated. Press its key again to activate this input.
- On – The input is active, but no data is been received.
- Blinking – The input is activated and data is been received.

**F5**, activates / deactivates the **RS232out** port. Its LED shows the status of the RS232 signal transmitted (TX).

**F6**, activates / deactivates the **OUT1** port. Its LED shows the OUT1 status.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.

## THE RS232 PROTOCOL

The Rs232 protocol used by PIRENE in this configuration, it is defined by the next parameters:

Parameter	Value
Speed	115.200
Byte	8 bits
Parity	No
Stop	1 bit

The RS232 frame is similar to the DMX frame.

The format of the RS232 frame and its code in bytes (bytes are in hexadecimal):

Frame Start	DMX Type	Start Code "0"	Channel 1 Level (0-255)	Channel 2 Level (0-255)	.....	Channel N° (max: 512) Level (0-255)
01	44	00	00-FF*	00-FF*	.....	00-FF*

\* Note: To transmit a level of 01 (hex), will be necessary to send this value to times.

Example: Transmit by RS232 the dimmer 1 at A9(hex) the dimmer 2 at 01(hex) & the dimmer 3 at FF(hex):

01 44 00 A9 **01 01** FF

Conversion table for Level(Format):

0-100(%)	0-255(bin)	00-FF(hex)	0000 0000 – 1111 1111(bits)
0	0	00	0000 0000
25	63	3F	0011 1111
50	127	7F	0111 1111
75	191	BF	1011 1111
100	255	FF	1111 1111

## PIRENE as MTC <> SMPTE CONVERTER

This configuration permits us to convert MTC to SMPTE and, at the same time SMPTE to MTC.

To configure PIRENE as MTC <> SMPTE

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **MTC <> SMPTE**

The MTC<>SMPTE converter shows us its active ports and connection in its main page:

Mtc<>Smpte ----- 1>4	
MIDI-IN	> SMPTE-OUT
SMPTE-IN	> MIDI-OUT

The MTC input signal must be connected to MIDI-IN. This signal is converted to SMPTE that is available in the SMPTE-OUT connector.

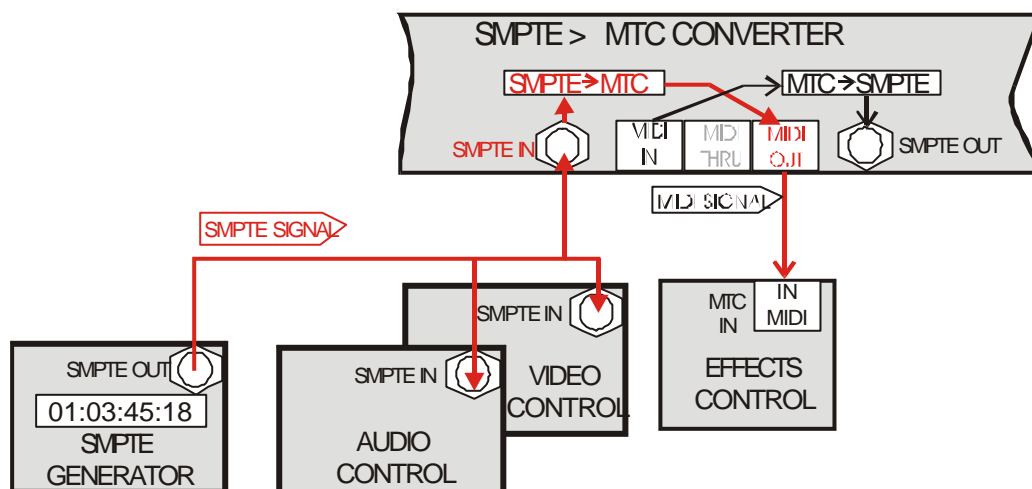
The SMPTE input signal, must be connected to SMPTE-IN connector, and it is translated to MTC output signal that is available in the MIDI-OUT connector.

No other connector is active.

Both conversion directions operate at the same time.

### Use example

Integrate in a system, where a SMPTE generator controls all elements, a new element that only can be synchronised with MTC signal.



## THE SETUP PARAMETERS

Only the general parameters are inside the **SETUP** menu, since this converter doesn't need special adjusts. To access to the **SETUP** menu:

Menu :	1↓4
TEST	
»SETUP	«
DISK	

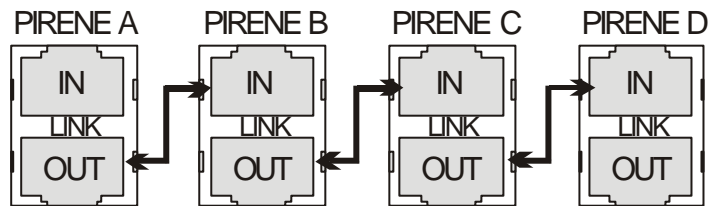
From the main page:  
Press **ENTER** to access to the menus list.  
Select **SETUP**.

The general parameters are:

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See below, USER CONTROL)

**LANG** Permits to select the language used in messages of help and information.  
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**  
The selected language appears in the option-line:  
»LANG Castellano «  
Press **ENTER** to change it.

**LINK** The first **LINK** command permits to set the Identification Number of this unit in a net, (Id) this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.  
The net connection is done with the LINK port:



**LINK** The second **LINK** command permits us to edit the response mode of this unit in the net. (mode) In this case, only the **ALONE** mode is available (no editable).  
**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

## USER CONTROL

The information pages show us, among others, the status of the input and output ports.  
The user, using the **F1-F6** keys, can deactivate any active port, at any moment.

From the first information page, use the left-right **ARROWS** to access to the others information pages:

Page 1: Connections	Page 2 & 3: Conversions status	Page 4: F1-F6 Func.
Mtc<>Smpte ----- 1>4	Mtc<>Smpte ----- 2>4	Mtc<>Smpte ----- 3>4
MIDI-IN > SMPTE-OUT	MTC > SMPTE	SMPTE > MTC
SMPTE-IN > MIDI-OUT	SMPTE    00:00:00:12	SMPTE    00:00:03:23
	SMPTE    00:00:00:12	MTC    00:00:03:23
		MIDIin SMPTEo
		SMPTEi MIDIou

**Status Pages:**

The Page-2 shows the status of the clocks of MTC and SMPTE in the direction MTC→ SMPTE.  
The Page-3 shows the status of the clocks of SMPTE and MTC in the direction SMPTE→ MTC.

In both pages:

The flag || appears when the clock is stopped or inhibited.

The flag > appears when the clock is active.

**Control and check of the inputs and outputs:**

The **F1-F2** and **F5-F6** keys, shows us the status of its associated port, and permits us deactivate/activate this port. The correspondence between keys and ports is showed in the Page 4:

Mtc<>Smpte	-----	4>4
↓F1-F2	↓F3-F4	↓F5-F6
MIDIin		SMPTEo
SMPTEi		MIDIou

**F1**, activates / deactivates the **MIDI IN (MTC)** port. Its LED shows the status of the signal.

**F2**, activates / deactivates the **SMPTE** input port. Its LED shows the status of the signal.

The LED of **F1** and **F2**:

- Off – The input is deactivated. Press its key again to activate this input.
- On – The input is active, but no data is been received.
- Blinking – The input is activated and data is been received.

**F5**, activates / deactivates the **SMPTE** output port. Its LED shows the status of the signal.

**F6**, activates / deactivates the **MIDI OUT (MTC)** port. Its LED shows the status of the signal.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.

## PIRENE as MTC & SMPTE GENERATOR

This operational mode permits to PIRENE generates MTC and SMPTE codes, in base of its internal clock.

To configure PIRENE as >MTC+SMPTE

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **>MTC+SMPTE**

The >MTC+SMPTE generator shows its active ports and connections in its main page:

```

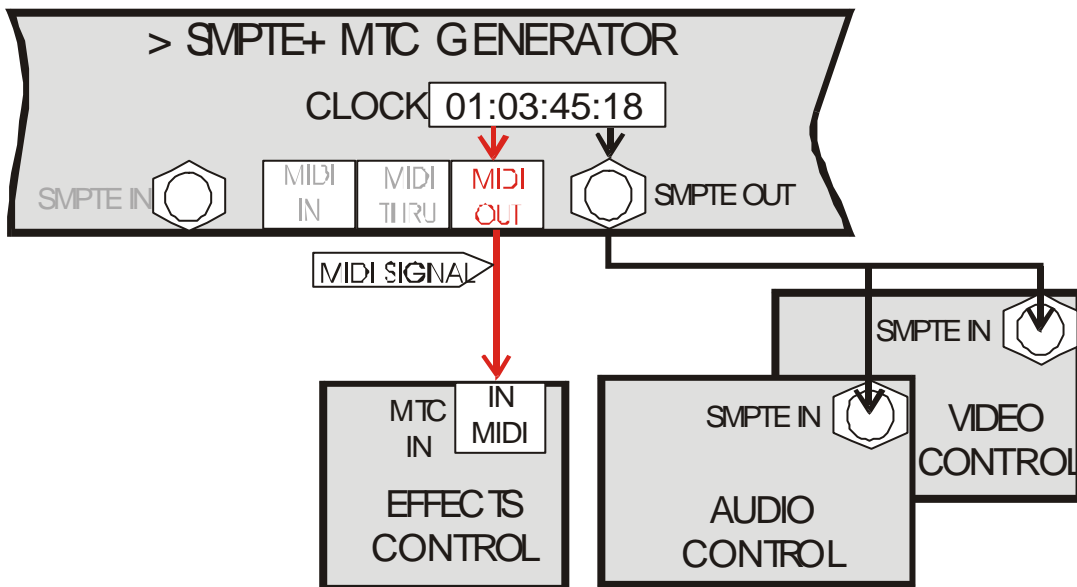
>Mtc+SmpTe ----- 1»3
> MIDI-OUT
> SMPTE-OUT
    
```

The generated SMPTE is available in the SMPTE-OUT connector.  
 The generated MTC is available in the MIDI-OUT connector.  
 No other port is active.

Both formats have the same time information. The time code is based in the PIRENE inner clock.

Use example

Control several units in a show multimedia, where some units have MTC control and other units have SMPTE control.



## THE SETUP PARAMETERS

All adjust parameters, of the >SMPTE+MTC generator, are inside **SETUP** menu. To access to **SETUP**:

Menu:	1 ↓ 4
TEST	
»SETUP	«
DISK	

From the main page:  
Press **ENTER** to access to the menus list  
Select **SETUP**

The **SETUP** parameters are:

**SOURCE** Select the “source” for the time code generation. This source can be the PIRENE clock in real time (**CLOCK**) or a free inner counter (**INNER**).

In accordance with the selected **SOURCE**, inside **SETUP**, the next options can be:  
**CLOCK** and **OFFSET** – for **SOURCE CLOCK**  
**FROM** and **TO** – for **SOURCE INNER**

**CLOCK** »**SOURCE CLOCK**«

To set the current hour in the real time clock. This time is the time used for the time code generation (for SMPTE and MTC signal).

To edit the clock value:

- Select **CLOCK**
- Press **ENTER** to activate the edition cursor (■)
- Use **ARROWS** to edit the data (left-right to select digit, and up-down to edit it).
- Press **ENTER** to accept (or press **EXIT** to quit).
- Press **EXIT** to return to the **SETUP** options.

The format **CLOCK** is:

hh:mm:ss:ff dd/mm/aa (hour:minute:second:frame day/month/year).

This **CLOCK** is the same that the **TEST/HARD/CLOCK** (see page 70)

**OFFSET** »**SOURCE CLOCK**«

Permits us to add an **OFFSET** value to the clock value. In this way, the absolute value of the time code is the clock value plus the offset value. The **OFFSET** objective is generates any time code value without to change the clock value (**CLOCK**).

Suppose that a show, with SMPTE control, is executed every day, at 9 o'clock. The SMPTE generator is a PIRENE. If we want to execute this show, one day, at 7 o'clock, we can edit an **OFFSET** of 2 hours (02:00:00:00). In this way, the SMPTE output will be:

07:00:00:00 (clock value) + 02:00:00:00 (offset) = 09:00:00:00 (absolute time code)

By default, the **OFFSET** value is 00:00:00:00 (no-offset). To edit it:

- Select **OFFSET**
- Press **ENTER** to activate the edition cursor (■)
- Use **ARROWS** to edit the data (left-right to select digit, and up-down to edit it).
- Press **ENTER** to accept (or **EXIT** to quit).
- Press **EXIT** to return to the **SETUP** options.

The format **OFFSET** is hh:mm:ss:ff (hour:minute:second:frame)

**FROM** »SOURCE INNER«

By default, the inner counter, **INNER**, generates a time code **FROM** 00:00:00:00 to 23:59:59:29

It is possible to edit the **FROM** value to limit the counter. For example, if **FROM** is edited to 00:00:50:00, the inner counter generates the time code starting in the second 50. In short, it counts **FROM 00:00:50:00** to 23:59:59:29.

To edit the starting value:

- Select **FROM**
- Press **ENTER** to activate the edition cursor (■)
- Use **ARROWS** to edit the data (left-right to select digit, and up-down to edit it).
- Press **ENTER** to accept (or **EXIT** to quit).
- Press **EXIT** to return to the **SETUP** options.

The **FROM** format is hh:mm:ss:ff (hour:minute:second:frame)

**TO** »SOURCE INNER«

By default, the inner counter, **INNER**, generates a time code from 00:00:00:00 **TO** 23:59:59:29

It is possible to edit the **TO** value to limit the counter. For example, if **TO** is edited to 00:00:50:00, the inner counter generates the time code ending in the second 50. In short, it counts from 00:00:00:00 **TO 00:00:50:00**.

To edit the ending value:

- Select **TO**
- Press **ENTER** to activate the edition cursor (■)
- Use **ARROWS** to edit the data (left-right to select digit, and up-down to edit it).
- Press **ENTER** to accept (or **EXIT** to quit).
- Press **EXIT** to return to the **SETUP** options.

The **TO** format is hh:mm:ss:ff (hour:minute:second:frame)

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See USER CONTROL, page 45)

**LANG** Permits to select the language used in messages of help and information. The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**

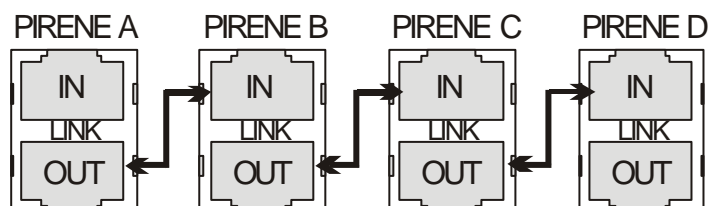
The selected language appears in the option-line:

»LANG Castellano «

Press **ENTER** to change it.

**LINK** (Id) The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9. 10 PIRENES can be connected in one net. In one net each unit must have a unique Id number.

The net connection is done with the **LINK** port:



**LINK** The second **LINK** command permits us to edit the response mode of this unit in the net.  
**(mode)** In this case, only the **ALONE** mode is available (no editable).  
**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

**Important:**

PIRENE generates SMPTE and MTC protocols in accordance with the 30 frames standard. In short, their resolution is 1/30 second.

## USER CONTROL

The user has option to inhibit any of the output signal, and option to kwon their status. In case of operate with **SOURCE INNER**; also, the user has options to control the time code generation. These options are available in the **F1-F6** keys and their associated LEDs.

From the first main page, access to the other main pages pressing left-right **ARROWS**:

Page 1: Connections	Page 2: Status	Page 3: F1-F6 functions
>Mtc+Smppte ----- 1»3 > MIDI-OUT > SMPTE-OUT	>Mtc+Smppte ----- 2»3 CLOCK 15:00:15:23 SMPTE >> 15:00:15:23 MTC >> 15:00:15:23	>Mtc+Smppte ----- 3»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 SMPTEo MIDIou

**Status Page:**

The time code values for SMPTE and MTC outputs appear in the Page 2, dynamically. The value of the time source, its type and status, also appear in this page, and this time source has the next options:

THE DISPLAY VALUE	IS...
CLOCK 15:00:15:23	The value of the real time clock for <b>SOURCE CLOCK</b>
PLAY 15:00:15:23	The inner counter value for <b>SOURCE INNER - PLAY</b> status
AUTOP 15:00:15:23	The inner counter value for <b>SOURCE INNER - AUTO-PLAY</b> status
PAUSE 15:00:15:23	The inner counter value for <b>SOURCE INNER - PAUSE</b> status
STOP 15:00:15:23	The inner counter value for <b>SOURCE INNER - STOP</b> status

The time code values for SMPTE and MTC outputs appear as:

```
SMPTE >> 15:00:15:23
MTC  | | 15:00:15:23
```

Where >> indicates that the output is active (in the previous example, the SMPTE output); and where | | indicates that the output is deactivated (in the previous example, the MTC output).

The format of these values is hh:mm:ss:ff (hour, minute, second and frame).

**Control and check of the outputs in SOURCE CLOCK mode:**

**F5-F6** permit us to inhibit any of the outputs, and their associated LEDs show us the status. The correspondence between keys and outputs is showed in the Page 3:

>Mtc+SmpTe -----3»3		
↓F1-F2	↓F3-F4	↓F5-F6
		SMPTEo
		MIDIou

**F1- F4** have no-function associated. Their LEDs must be at off.

**F5**, activates / deactivates the **SMPTE** output port. Its LED shows the status of the signal.

**F6**, activates / deactivates the **MIDI OUT (MTC)** port. Its LED shows the status of the signal.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

**Control and check for SOURCE INNER mode:**

**F1** to **F4** are functions to control the status of the time code generator (only for **SOURCE INNER**). The status of the time code generator affects directly to the SMPTE & MTC outputs.

The correspondence between functions and key appears in Page 3:

>Mtc+SmpTe -----3»3		
↓F1-F2	↓F3-F4	↓F5-F6
PLAY	AUTOP	SMPTEo
PAUSE	STOP	MIDIou

**F1** is **PLAY**. When the generator is in **PLAY** status, its LED is at on.

**F2** is **PAUSE**. When the generator is in **PAUSE** status, its LED is at on.

**F3** is **AUTOP**. When the generator is in **AUTOP** status, its LED is at on.

**F4** is **STOP**. When the generator is in **STOP** status, its LED is at on.

About these functions:

**F1:PLAY** Starts the counter from its current value to the value edited in the **TO** option, 23:59:59:29 by default. When the counter arrives to this last value is stopped (**STOP** status).

When the unit is turned off in **PLAY** status, after, when the unit is turned on again, it remains in **PLAY** status, and it starts the count from the value edited in the **FROM** option.

**F2:PAUSE** Stops the counter in its current value.

To quit of this status, you can choose:

- Press **PLAY** to continue the count in **PLAY** status.
- Press **AUTOP** to continue the count in **AUTOPLAY** status.
- Press **STOP** to reset the counter to value edited in **FROM**, 00:00:00:00 by default.

**F3:AUTOP** Starts the counter from its current value to the value edited in the **TO** option, 23:59:59:29 by default. When the counter arrives the last value jumps to the **FROM** value, and follows the count.

When the unit is turned off in **AUTOP** status, after, when the unit is turned on again, it remains in **AUTOP** status, and it starts the count from the value edited in the **FROM** option.

**F4:STOP** Stops the counter. The counter is initiated to the value edited in **FROM**, 00:00:00:00 by default.

To quit of this status, you can choose:

- Press **PLAY** to initiate the count in **PLAY** status.
- Press **AUTOP** to initiate the count in **AUTOPLAY** status.

**F5-F6** permit us to inhibit any of the outputs, and their associated LEDs show us the status.

**F5**, activates / deactivates the **SMPTE** output port. Its LED shows the status of the signal.

**F6**, activates / deactivates the **MIDI OUT (MTC)** port. Its LED shows the status of the signal.

The LED of **F5** and **F6**:

- Off – The output is deactivated. Press its key again to activate this output.
- Blinking – The output is active and is transmitting data.

The objective of these functions is, mainly, have an easy ports control.

## PIRENE as BACKUP & SEQUENCER

The BACK+SEQ configuration permits to store a sequence of 99 memories, with fade and wait times, with the objective of to playback the sequence when the DMX input is in fault, or this DMX input isn't connected, working as Universal Backup or Sequencer. The playback control is done in the same unit, or externally, using external commands (Rs232, MSC or MIDI Notes).

To configure PIRENE as BACK+SEQ

1. Access to the menus list
2. Select **PIRENE**
3. Select and accept **BACK+SEQ**

The BACK+SEQ configuration, in the main page, shows its active ports and status:

```

Back+Seq ----- 1»3
IN1 512      >OUT1 512
    
```

The DMX input signal must be connected to IN1. These DMX channels are available in OUT1 connector.

If the input signal, IN1 connector, is not connected, in OUT1, we have the scene output of the inner sequence.

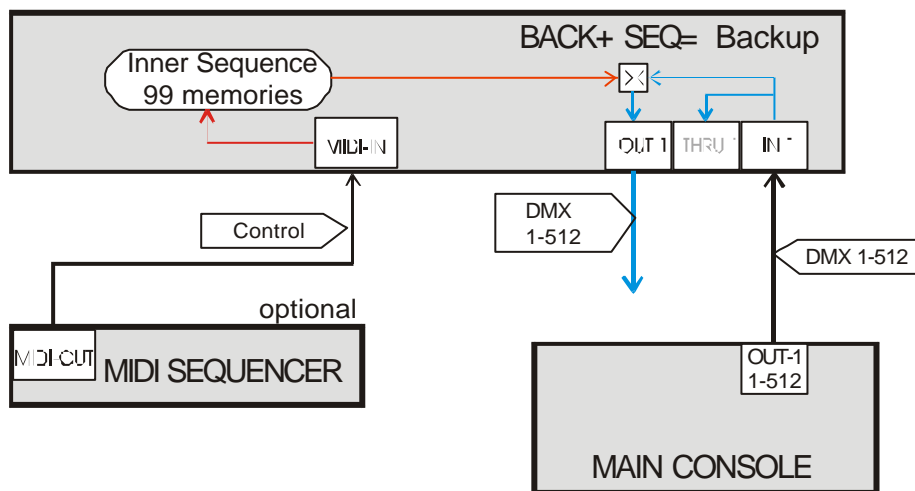
THRU1 (output port) always has a copy of the signal of IN1. THRU1 is used to link other DMX units to the IN1 input line.

Also, it is possible to have actives, with objective of external control, the RS232 (IN) port and the MIDI (IN-THRU) port.

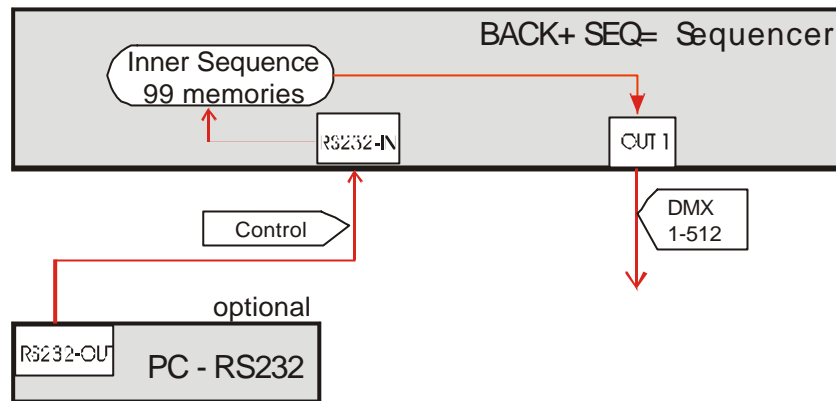
No other connector is active.

Use examples

A.- Universal Backup, controlled from a MIDI sequencer.



## B.- Autonomous Sequencer, controlled from a PC



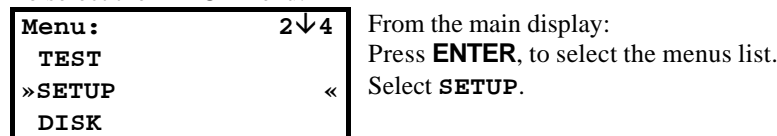
## THE SETUP PARAMETERS

By default, in the BACK+SEQ configuration, **PIRENE** works always as **Backup**. Only when the DMX input is in fault, its working mode toggle from **Backup** to **Sequencer**. Is in Sequencer mode, when we can playback its inner sequence.

A DMX input is needed to can store the inner sequence memories. The contents of these memories cannot be modified manually.

The configuration parameters edition and the sequence edition is done inside the **SETUP** menu.

To select the **SETUP** menu:



Inside the **SETUP** menu, you can find the next options:

- BACK** Set the behavior in the working mode changes, from **Backup** to **Sequencer**, and vice versus.  
The selected option (**MANUAL** or **AUTO**) can be seen in this menu:  
»BACK manual «

When in **Backup** mode, the DMX input faults, BACK+SEQ toggles to **Sequencer** mode, and the inner sequence is activated.

If this option is **AUTO**, the scene output (last DMX input received) will be replaced by the selected memory of the inner sequence, automatically.

If this option is **MANUAL**, the scene output is maintained (last DMX input received), until the user forces its replacement with the selected memory of the inner sequence.

When in **Sequencer** mode, the DMX input is restored, BACK+SEQ toggles to **Backup** mode, and the inner sequence is deactivated.

If this option is **AUTO**, the scene output (from the inner sequence) will be replaced by the DMX input automatically.

If this option is **MANUAL**, the scene output (from the inner sequence) is maintained until the user forces its replacement with the DMX input. If the mode change is produced during a crossfade, this crossfade will be completed.

**SEQ** Permits us to edit (**EDIT**) or to eliminate (**DELETE**) the inner sequence.

In both, **SEQ** and **EDIT** menu, you can see the total number of stored memories in the inner sequence. »**EDIT 1 Items** «

The **DELETE** command permits us to delete, totally, the sequence. This command needs confirmation.

See **THE SEQUENCE EDITION** - page 53

**TIMES** Permits to set the default times for the memories.  
The default times are edited in seconds, and they are:

Fade time (↓↑)

Wait time (⊙)

The values of these times can be seen in the menu line: »**TIMES** ↓↑3 ⊙**GO** «

Example: 3 seconds for the fade time and infinite for the wait time.

To edit these values:

- Select **TIMES**. In the display:  
»003.0↓↑ **GO**⊙ **On** «
- Press **ENTER**. The edition cursor, |, appears in the first data cell:  
Use the right-left arrows to select the desired digit.  
Use the up-down arrows to edit the selected digit.
- When the edition is ended, press **ENTER** to exit of the edition mode.
- Press **EXIT** to return to the previous menu.

Notes about the edition:

The fade time is between 0.1 and 999.9 seconds.

The wait time is between 0.1 and 999.9 seconds.

To edit here a **GO**⊙ value, enter in this cells the value **0.0**. This value shows us that the wait time is infinite, and each new crossfade must be started pressing **F2** (**GO**).

The last cell permits us to deactivate (or activate) the programmed wait times in the sequence memories, without the necessity of to delete their values.

At **On** the wait times are actives, and at **Off** the wait times are deactivated.

When the wait times are deactivated, in the **TIME** menu, you can see:

»**TIMES** ↓↑3 ⊙**Off** «

**EXTERN** Configuration for the external control, by default, deactivated:

»**EXTERN Off** «

Inside **EXTERN**, you can find:

**SOURCE Off**

Including the external control modes (for the inner sequence execution). The modes are:

<b>OFF</b>	*	Default. The external control is deactivated.
<b>RS232</b>		Control from RS232 commands, using the RS232 port.
<b>MIDI<sub>m</sub>SC</b>		Control from MSC commands, using the MIDI port.
<b>MIDI<sub>n</sub>OTES</b>		Control from MIDI Notes, using the MIDI port.

**MIDI Channel 1**

If the **SOURCE** is **MIDI<sub>n</sub>OTES**, setup here the MIDI communication channel (1-16).

- Press **ENTER** to edit this parameter.

**MIDI Note 0**

If the **SOURCE** is **MIDInotes**, setup here the first MIDI NOTE that you wish for use in the commands.

- Press **ENTER** to edit this parameter.

The commands of external control, according to the modes, are explained in page 61

**PANEL** Permits to enable (**ENABLED**) or to disable (**DISABLED**) the operability of the **F1-F6** keys. (See **USER CONTROL**, page 52)

**LANG** Permits to select the language used in messages of help and information.  
The available languages are: **CASTELLANO**, **ENGLISH** and **FRANCASIE**  
The selected language appears in the option-line:

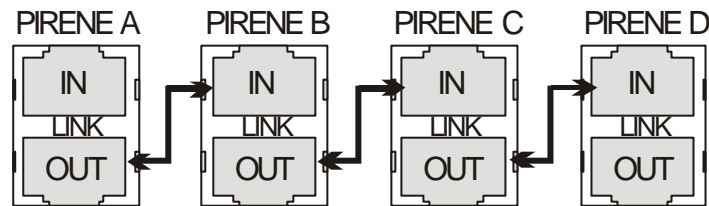
»**LANG Castellano** «

- Press **ENTER** to change it.

**LINK (Id)** The first **LINK** command permits to set the Identification Number of this unit in a net, this number takes a value from 0 to 9.

This **Id** number, moreover, is used to identify each **BACK+SEQ** in the control external commands. (More in page 61).

10 PIRENES can be connected in one net. In one net each unit must have a unique **Id** number. The net connection is done with the **LINK** port:



**LINK (mode)** The second **LINK** command permits us to edit the response mode of this unit in the net. In this case, only the **ALONE** mode is available (no editable).  
**ALONE** .- This unit operates in independent mode to the net.

Note: The net functionality is not implement yet.

## AUTOMATIC CONTROL

### When the unit is turned off:

An inner relay connects **IN1** with **OUT1**.

When **IN1** has a correct **DMX** signal, the system works in **Backup** mode (**OUT1** is a copy of **IN1**, and it is possible to store memories).

When **IN1** has not a correct **DMX** signal, the system works in **Sequencer** mode (**OUT1** is the output of the inner sequence).

## USER CONTROL

The user has special functions for activate or deactivate the input and output lines (IN1 and OUT1) and to control the sequence playback. These functions are accessible in the **F1-F6** keys.

3 pages compose the main screen. To access to the desired page, use the right-left **ARROWS**:

Page1: Connections	Page 2: Status	Page 3: <b>F1-F6</b> functions
Back+Seq ----- 1»3 IN1 512        >OUT1 512	Back+Seq ----- 2»3 --BACK--EXT---AUTO-- DMX-IN 01 STEP01     ↑ 99	Back+Seq ----- 3»3 ↓F1-F2 ↓F3-F4 ↓F5-F6 IN1        SELECT OUT1 GO         PAUSE  BACK

### Page 1 / Connections:

The input (IN1) and output (OUT1) show us the channels number, received and transmitted, or a asterisk, \*, in the case of fault signal.

### Page 2 / Status:

```
Back+Seq ----- 2»3
--BACK--EXT---AUTO--
      DMX-IN
01 STEP01     ↑ 99
```

In the second line, `--BACK--EXT---AUTO--`, you can see the next status flags:

**BACK/SEQ**. This flag appears as **BACK**, for **Backup** mode, or as **SEQ** for **Sequencer** mode.

**EXT**. This flag appears if the external control is activated in any of its formats.

**AUTO/MAN**. This flag shows the selected mode inside the **BACK** menu. (**AUTO** or **MANUAL**)

### Page 3 / F1-F6 functions. Functions for the sequence control and the input-output control:

```
Back+Seq ----- 3»3
↓F1-F2 ↓F3-F4 ↓F5-F6
IN1        SELECT OUT1
GO         PAUSE  BACK
```

#### Input – output control functions:

**F1**: IN1, it permits us to activate / deactivate the **IN1**. Its LED shows the IN1 status.

**F5**: OUT1, it permits us to activate / deactivate the **OUT1**. Its LED shows the OUT1 status.

The **F1** LED can be:

- Off – The input (IN1) is deactivated by the user. Press this key again to restore this input.
- On – No data are received in this input.
- Blinking – Correct data are received in this input.

The **F5** LED can be:

- Off – The output (OUT1) is deactivated by the user. Press this key again to restore this output.
- Blinking – The output is transmitting data.

The objective of these functions is to have an easy tool to check lines.

Moreover, **F1** permits us to force the mode change, from **Backup** to **Sequencer**, or vice versus; it avoiding the necessity of disconnect physically the input signal in IN1.

Sequence control functions active in Sequencer mode:**F2:** GO, it starts a new crossfade to the next memory in the sequence.**F4:** PAUSE, it stops the current crossfade.**F6:** BACK, it starts or follows a crossfade in inverted direction (to the previous memory).Sequence control function actives in Sequencer & Backup mode:**F3:** SELECT, it permits to select the desired next memory in the sequence.

(See SEQUENCE PLAYBACK, page 58)

## THE SEQUENCE EDITION

The inner sequence can be a maximum of 100 memories: The fixed memory 0 and the free memories 1-99. The **memory 0** is a **blackout** memory; it always is and cannot be modified. This memory is labeled as **BLACKOUT**.

Basic concepts about this sequence:

- The memories are, always, ordered numerically.
- The sequence is executed with consecutives crossfades. Each new crossfade is done from the memory in scene the next memory in the list.
- A crossfade is a double fade, for which, the memory in scene is replaced by the next memory in the list: The scene fades from 100 to 0%, and the next scene fades from 0% to 100%.
- The fade times used in the crossfade are the times programmed in the “next memory”.
- The “next memory” fades up scene in its **Time**↑, at the same time that the scene memory fades down scene in the **Time**↓.
- When this crossfade reaches its end, the “next memory” is the “scene memory”. All is ready for a new crossfade. If corresponding, its **Time**⊙ will be computed before to start the new crossfade automatically. If this time is at **GO** value, or the wait times are deactivated, the user have to start the new crossfade pressing **F1:GO**.
- It is possible to break the numerical order for the sequence playback, programming a jump to the desired memory number, **Jp**.

To edit the sequence, select in **SETUP**, the **SEQ** menu and inside this the option: **EDIT**.

Edition-Functions (Temporal)	Data-1	Data-2
-- Edit Functions -- ↓F1-F2 ↓F3-F4 ↓F5-F6	s Mm Text Time↑	s Mm Time↓ Time⊙ Jp
REC INSERT DELETE	»00« Nw	00 »deflt«deflt Nw

The first page is temporal, it appears when **EDIT** is selected and after a few seconds disappears. In this temporal page you can see the new functions for the keys **F1-F6**, functions available while that the **EDIT** menu is opened (this function change affects only to the key, not to its LED). If you want to see this page again, it is needed to exit of the **EDIT** menu, pressing **EXIT**, and to enter again in this menu, pressing **ENTER** again.

The sequence edition table is showed in the next 2 pages. Cells, divided in lines and 9 columns, compose this table. The first line is always visible. This line shows us the label of each column. The rest of the lines have the information about 1 memory each one.

The contents of each column are:

Column number	Data-1 page				Data-2 page				
	1	2	3	4	5	6	7	8	9
Line 2 – memory A	s	Mm	Text	Time↑	s	Mm	Time↓	Time⌚	Jp
Line 3 – memory B	=	00	BLACKOUT	deflt	=		deflt	deflt	
Line 4 - memory C	↑	»01«		deflt	↑		deflt	deflt	
	↑	Nw			↑				


The cells in grey field are no editables. The cursors, » «, mark the active cell.

To active the desired cell, mover the cursor using the **ARROWS**:

- Up-down **ARROWS** to select the previous – next memory in the list.
- Left-right **ARROWS** to select the previous – next column in the same memory.

Cells contents, by column:

<p><b>s</b></p> <p>Columns 1 &amp; 5</p>	<p><b>Working mode flag, and position of memories.</b></p> <p>In line 1, the working mode appears as:</p> <p><b>s</b> If the current mode is <b>Sequencer</b>, and the sequence output is in scene.</p> <p><b>b</b> If the current mode is <b>Backup</b>, and the DMX input is in scene.</p> <p>In the rest of the lines, a position flag, associated to memory in the line, appears as:</p> <p>↓ If the memory number is smaller than the number of the “next memory”</p> <p>= If the memory is the “next memory” in the sequence playback.</p> <p>- If the memory number is grater than the number of the “next memory”</p>
<p><b>Mm</b></p> <p>Columns 2 &amp; 6</p>	<p><b>The memory number for the data of this line. This number can be showed as:</b></p> <p><b>00</b> Memory 0. First memory in the list.</p> <p><b>##</b> Memory ##. Each time that a new memory is stored, the system assigns it a number. The memories always are ordered numerically. When a memory is deleted or inserted, all affected memories are renumbered to maintain the numerical order.</p> <p><b>Nw</b> Option to store a new memory at the end of the list. This option appears always at the end of the list (except when the list is full)</p>
<p><b>Text</b></p> <p>Column 3</p>	<p><b>The associated text to the memory.</b></p> <p>The memory text has a maximum of 8 alphanumeric characters.</p> <p>The memory 0, by default, has the assigned the text: “<b>BALCKOUT</b>”. This text can be edited at any time.</p>
<p><b>Time↑</b></p> <p>Column 4</p>	<p><b>Fade-in time associated to the memory.</b> From 0.1 to 999.9 seconds. Here you can see:</p> <p><b>Deflt</b> If the memory has the default fade time (it programmed in <b>TIMES</b> menu).</p> <p><b>###.#</b> The value of this time if it has been edited by the user.</p>
<p><b>Time↓</b></p> <p>Column 7</p>	<p><b>Fade-out time associated to the memory.</b> From 0.1 to 999.9 seconds. You can see:</p> <p><b>Deflt</b> If the memory has the default fade time (it programmed in <b>TIMES</b> menu).</p> <p><b>###.#</b> The value of this time if it has been edited by the user.</p>

<b>Time</b>  Column 8	<b>Wait time associated to the memory.</b> From 0.1 to 999.9 sec, or infinite. You can see:  <b>Deflt</b> If the memory has the default wait time (it programmed in <b>TIMES</b> menu). <b>###.#</b> The value of this time if it has been edited by the user. <b>GO</b> If this time has been edited as “infinite”. In this case, press <b>GO (F2)</b> will be needed to start the next crossfade.
<b>Jp</b> Column 9	<b>The jump associated to the memory.</b> In this jump any memory number can be specified as the “next memory” in the sequence playback. By default, these cells appear empty indicating that the next memory in the list will be the next memory in numerical order. The programming of the jump is a way to break the order numerical of playback for the memories.

The memories can be stored, modified or deleted at any moment.

<b>Mm</b>	<b>Storing new memories (except memory 00).</b>	<b>F2:REC</b>
»00« Nw ----	<ul style="list-style-type: none"> <li>Connect the DMX signal from a lighting control to IN1. <b>BACK</b> mode must be active.</li> <li>In the lighting control, get ready the scene that will stored in the memory. (Note that this scene is active in the OUT1 connector of PIRENE).</li> </ul>	
00 »Nw« ----	<ul style="list-style-type: none"> <li>Select, using the cursors, the »Nw« cell.</li> <li>Press <b>F2:REC</b>, to store this scene in the new memory.</li> </ul>	
00 01 »Nw« ----	<ul style="list-style-type: none"> <li>The new stored memory appears in the list (01). The cursor is moved to the »Nw« cell, and the system is ready to store other memory.</li> <li>In the lighting control, get ready other scene.</li> <li>Press <b>F2:REC</b>, to store this scene in the new memory.</li> </ul>	
00 01 02 »Nw« ----	<ul style="list-style-type: none"> <li>The new stored memory appears in the list (02). The cursor is moved to the »Nw« cell, and the system is ready to store other memory.</li> <li>Repeat this process, as many times as memories you want to store.</li> </ul>	

<b>Mm</b>	<b>Deleting memories (except memory 00).</b>	<b>F6:DELETE</b>
00 »01« 02 Nw ----	<ul style="list-style-type: none"> <li>Move the cursor to select the memory number cell that you want to delete. For example, the memory number 01.</li> <li>Press <b>F6:DELETE</b>, to delete the selected memory.</li> </ul>	
00 »01« Nw ----	<ul style="list-style-type: none"> <li>The old memory 01 has been deleted. But the memories of the list are renumbered to maintain the numerical order: The previous memory 02, now is the memory 01.</li> <li>Repeat this process, as many times as memories you want to delete.</li> </ul>	

<b>Mm</b>	<b>Inserting a new memory between 2 stored memories.</b>	<b>F4:INSERT</b>
00 01 »02« Nw ----	<ul style="list-style-type: none"> <li>To insert a new memory between the memories 01 &amp; 02, select with the cursor the cell of the memory 02.</li> <li><b>BACK</b> mode must be active!</li> <li>In the lighting control, get ready the desired scene.</li> <li>Press <b>F4:INSERT</b>, to store a new memory between the previous memories 01 and 02.</li> </ul>	

00	<ul style="list-style-type: none"> <li>Note that the memories in the list are renumbered to maintain the order. The new stored memory is now the memory <b>02</b>, and the previous memory <b>02</b>, is now the memory <b>03</b>.</li> </ul>
01	
»02«	
03	
Nw	
----	

Mm	Modifying a stored memory.	F2:REC
00	<ul style="list-style-type: none"> <li>To modify the contents of the memory <b>02</b>, select with the cursor, the cell of its memory number.</li> <li><b>BACK</b> mode must be active! In the lighting control, get ready the desired scene.</li> <li>Press <b>F2:REC</b>, to modify the memory 02 with a new scene.</li> </ul>	
01		
»02«		
Nw		
----		

**Note:** Each time that a no-permitted operation is done (as delete the memory 00, etc) PIRENE emits a warning acoustical signal. This signal indicates that the operation cannot be done.

When a memory is stored, it is possible to edit its associated text.

TEXT	Edit the associated text of a memory.	ENTER
BLACKOUT	<ul style="list-style-type: none"> <li>Select the desired text cell using the cursors.</li> <li>Press <b>ENTER</b>. The edition cursor appears inside the cell.</li> <li>With the right-left <b>ARROWS</b> select the desired character.</li> <li>With the up-down <b>ARROWS</b> edit the selected character.</li> <li>Repeat the 2 previous steps to edit the text completely.</li> <li>Press <b>ENTER</b> to close the text edition.</li> </ul>	
»		
«		
-----		

TEXT	Copy the associated text from the previous memory.	F4:INSERT
BLACKOUT	<ul style="list-style-type: none"> <li>Select the desired text cell using the cursors.</li> <li>Press <b>F4:INSERT</b>. Note that the text of the previous memory has been copied. After, this text can be edited again.</li> </ul>	
»BLACKOUT«		
-----		

TEXT	Delete the associated text.	F6:DELETE
BLACKOUT	<ul style="list-style-type: none"> <li>Select the desired text cell using the cursors</li> <li>Press <b>F6:DELETE</b> Note that the text cell, now is empty.</li> </ul>	
»		
«		
-----		

When a memory is stored, it has assigned the default times (times edited inside the **TIMES** menu). At any moment these times can be edited.

Time↑	Time↓	Edit the fade times of a memory.	ENTER
deflt	deflt	<ul style="list-style-type: none"> <li>Select the desired fade time cell using the cursors.</li> <li>Press <b>ENTER</b>. The edition cursor appears inside the cell.</li> <li>With the right-left <b>ARROWS</b> select the desired digit.</li> <li>With the up-down <b>ARROWS</b> edit the selected digit.</li> <li>Repeat the 2 previous steps to edit the time completely.</li> <li>Press <b>ENTER</b> to close the time edition.</li> </ul>	
»deflt«	deflt		
-----			
deflt	deflt	<ul style="list-style-type: none"> <li>The edited <b>Time↑</b> is copied as <b>Time↓</b> if both fade times had the same value.</li> </ul>	
»010.1«	010.1		
-----		<b>Note:</b> The edition of <b>Time↓</b> doesn't affect to the <b>Time↑</b>	

Time↑	Time↓	Copy the fade times from a previous memory.	F4:INSERT
010.1	010.1	• Select the desired fade time cell using the cursors.	
»deflt«	deflt	• Press <b>F4:INSERT</b> to copy the value of the selected time of the previous memory in the selected time cell.	
-----			
010.1	010.1	• The inserted <b>Time↑</b> is copied as <b>Time↓</b> if both fade times had the same value.	
»010.1«	010.1	<b>Note:</b> The edition of <b>Time↓</b> doesn't affect to the <b>Time↑</b>	
-----			
Time↑	Time↓	Return to the default time.	F6:DELETE
010.1	010.1	• Select the desired fade time cell using the cursors.	
»010.1«	010.1	• Press <b>F6:DELETE</b> to return to the default value.	
-----			
010.1	010.1	• The returned <b>Time↑</b> is copied as <b>Time↓</b> if both fade times had the same value.	
»deflt«	deflt	<b>Note:</b> The edition of <b>Time↓</b> doesn't affect to the <b>Time↑</b>	
-----			
Time⌚		Edit the associated Time⌚.	ENTER
deflt		• Select the desired wait time cell using the cursors	
»deflt«		• Press <b>ENTER</b> . The edition cursor appears inside the cell.	
-----		With the right-left <b>ARROWS</b> select the desired digit.	
		With the up-down <b>ARROWS</b> edit the selected digit.	
		• Repeat the 2 previous steps to edit the time completely.	
		• Press <b>ENTER</b> to close the time edition.	
deflt		• If <b>Time⌚</b> is edited with the value <b>000.0</b> , this time is showed as <b>GO</b> . In these cases, will be necessary start the next crossfade pressing <b>F1:GO</b> .	
» GO«			
-----			
Time⌚		Copy the wait time from a previous memory.	F4:INSERT
010.1		• Select the desired wait time cell using the cursors	
»deflt«		• Press <b>F4:INSERT</b> to copy the wait time value from the previous memory:	
-----		010.1	
		»010.1«	
Time⌚		Return to the default time.	F6:DELETE
010.1		• Select the desired wait time cell using the cursors	
»010.1«		• Press <b>F6:DELETE</b> to return to the default wait time:	
-----		010.1	
		»deflt«	

The sequence memories always are executed in numerical order, from the memory 00 to the last memory. To break this order, will be necessary to program a jump. When a memory has a programmed jump, in the crossfade, this is replaced with the memory programmed in the jump, and no with the next numerical memory. Example, in the memory 02 has a programmed jump to the memory 04. In this case, after the memory 02 does its crossfade with the memory 04.

Jp		Edition of the associated jump.	ENTER
»   «		• Select the desired jump cell using the cursors	
----		• Press <b>ENTER</b> . The edition cursor appears inside the cell.	
		With the right-left <b>ARROWS</b> select the desired digit.	
		With the up-down <b>ARROWS</b> edit the selected digit.	
		• Repeat the 2 previous steps to edit the memory number completely.	
		• Press <b>ENTER</b> to close the number edition.	
		<b>Note:</b> The memory number entered must be a memory number stored.	

Jp	Delete the associated jump.	F6:DELETE
»23«	<ul style="list-style-type: none"> <li>Select the desired jump cell using the cursors</li> </ul>	
----	<ul style="list-style-type: none"> <li>Press <b>F6:DELETE</b> and the jump is delete (empty).</li> </ul>	
	» «	

To delete the complete sequence, select, inside **SETUP**, the **SEQ** menu, and inside this the **DELETE** option. Press **ENTER**, the system requests us confirmation. Confirm pressing **ENTER** again to delete the complete sequence (only the memory 00 is in the list).

## SEQUENCE PLAYBACK

The sequence playback is active when the system is working in **Sequencer** mode, **SEQ**. In this mode, the scene output of the system (OUT1) is the output of the inner sequence.

The BACK+SEQ works in **Sequencer** mode, automatically, when the system doesn't detect a correct DMX input (IN1), or when the user forces this pressing **F1** (IN1) to deactivate this DMX input signal.

The sequence playback is controlled using **F2, F3, F4, F6** and the frontal fader. The **F2, F3, F4 & F6** functions are showed in the main page 3»3.

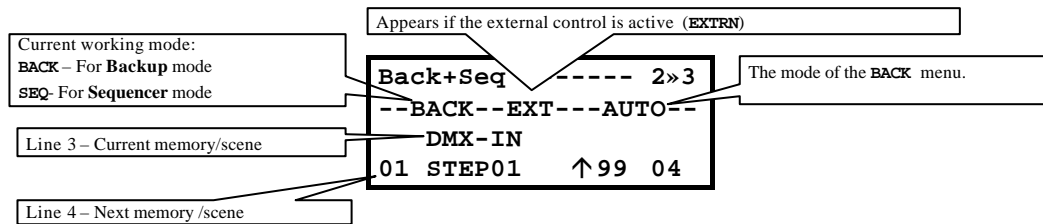
Back+Seq	-----	3»3
↓F1-F2	↓F3-F4	↓F5-F6
IN1	SELECT	OUT1
GO	PAUSE	BACK

The functions are:

<b>F3</b>	<b>SELECT</b>	<p>Accesses to the memories list with the objective to select a memory as “next memory”.</p> <p>To select the desired memory as “next memory”:</p> <ul style="list-style-type: none"> <li>Press <b>F3</b>.</li> <li>Using the up-down <b>ARROWS</b> select the desired memory.</li> <li>Press <b>ENTER</b> to accept it as “next memory”.</li> </ul> <p>This function is active always (LED <b>F3</b> at ON)</p>
<b>F2</b>	<b>GO</b>	<p>Each time that this key is pressed a crossfade to the next memory is started.</p> <p>This function only is active in <b>SEQ</b> mode (LED <b>F2</b> at ON). This function is inactive in <b>BACK</b> mode (LED <b>F2</b> at OFF).</p> <p><b>The crossfade also can be executed manually, moving the frontal fader from an end to the other end.</b></p>
<b>F4</b>	<b>PAUSE</b>	<p>Each time that this key is pressed, the crossfade in progress is stopped.</p> <p>This function only is active in <b>SEQ</b> mode (LED <b>F4</b> at ON). This function is inactive in <b>BACK</b> mode (LED <b>F4</b> at OFF).</p>

<b>F6</b>	<b>BACK</b>	<p>Each time that this key is pressed, the crossfade in progress inverts its direction, or a crossfade to the previous memory is started.</p> <p>This function only is active in <b>SEQ</b> mode (LED <b>F6</b> at ON). This function is inactive in <b>BACK</b> mode (LED <b>F6</b> at OFF).</p>
-----------	-------------	---

In the main page **2»3**, the system shows us the status of the current scene output:



If the system is in **BACK** mode, its output is the own DMX input (OUT1=IN1).

In **BACK** mode:

Line 3 – Current Scene: **DMX-IN** appears to indicate us that this is our scene output.  
Line 4 – Next memory is showed here. (This memory, by default, is the first sequence memory).  
The next memory can be selected using **F3:SELECT** command.  
The next memory is **ready** to fade up scene when the system toggles to **SEQ** mode (when DMX input faults or the user forces this change pressing **F1:IN1**).

In **BACK** mode the functions of sequence control are not actives, only **F3:SELECT** can be used.

In **SEQ** mode:

Line 3 – Current memory is showed here.  
Line 4 – Next memory is showed here.

The data about the current memory & the next memory, for a static and ended crossfade, are:

	Mm	Text	Time*	Jp
Line 3 –Current memory	<b>01</b>	<b>STEP01</b>	<b>↓99</b>	
Line 4 – Next memory	<b>04</b>	<b>STEP04</b>	<b>↑99</b>	<b>20</b>

- The number of the current memory (**01**), and the number of the next memory (**04**).
- The associated text of each memory (**STEP01** & **STEP04**).
- The fade times of the next crossfade. When the crossfade is ended and static, these times appear with their corresponding symbols (**↓** & **↑**).  
In this example, in the next crossfade the memory 01 fades at 0% in **↓99** seconds, at the same time that the memory 04 fades at 100% in **↑99** seconds.
- Only for the line 4, the jump associated to this memory. (**20**)

In **SEQ** mode all functions of sequence control are actives.

Following with the previous example, if **F2:GO** is pressed (or the frontal fader is moved), the crossfade between the memories 01 & 04 begins:

1. If **F2: GO** is pressed, the crossfade begins controlled by the fade times of the memory 04. During the crossfade in progress:


	Mm	Text	Time*	Jp
Line 3 –Current memory	01	STEP01	87	
Line 4 – Next memory	04	STEP04	87	20

Dynamically, you can see:

The remaining time for that the current memory fades out from 100 to 0%.

The remaining time for that the next memory fades in from 0 to 100%.

When this crossfade ends, the memory **04** will be the current memory, and the next memory will be the memory **20** (programmed in the jump of the memory 04):

	Mm	Text	Time*	Jp
Line 3 –Current memory	04	STEP04	 12	
Line 4 – Next memory	20	STEP20	↑15	

If the memory 04 has a wait time programmed, this time is computed now, at the end of this wait time the next crossfade will be executed automatically.

2. If the **frontal fader** is moved, the fader movement controls the crossfade times. At the end of a manual crossfade, a programmed wait time will be not computed.

The frontal fader LEDs:

The LED at ON marks the direction of the fader movement to end the crossfade.

If the LED is ON in **red**, the crossfade control is automatic.

If the LED is ON in **green**, the crossfade control is manual (the fader is controlling it).

During a crossfade in progress, or during a wait-time is in progress, it is possible to pause this process. To pause the current crossfade, press **F4: PAUSE**

A paused crossfade can be reactivated pressing **F2:GO**, or pressing **F6:BACK**.

The **GO & BACK** functions can be pressed at any moment, and as many times as will be necessary.

If **GO** (or **BACK**) is pressed before the current crossfade ends, the new crossfade starts. This is named multi fade GO from the current sequence output to the next memory. This situation is marked with “#” near the current memory.

#### Change of mode from **BACK** to **SEQ**:

This change is done, of working in backup mode, the DMX input faults, or the user press **F1**.

If **BACK** menu is at **AUTO**, when the system detects the change of mode:

- Emits an acoustic signal to indicate us mode change.
- The current scene output, copy of DMX-IN, begins its crossfade with the “next memory”. This crossfade is controlled by the times of the “next memory”.
- The functions **F2, F4 & F6** are activated

Line 2- Mode	--BACK-----AUTO--				--SEQ-----AUTO--			
Line 3 –Current scene	DMX-IN				DMX-IN 35			
Line 4 – Next memory	04	STEP04	↑99	20	04	STEP04	35	20

When this first crossfade ended, the DMX input is totally out scene.

If **BACK** menu is at **MAN**, when the system detects the change of mode:

- Emits an acoustic signal to indicate us mode change.

- The current scene output, copy of DMX-IN, is maintained with the last correct information.
- The functions **F2**, **F4** & **F6** are activated
- The system waits a user GO or external GO to begins its crossfade with the “next memory”. This crossfade is controlled by the times of the “next memory”. In the status line, the character “-” is replaced by the character “=” to indicate us this waiting.
- The user must press **GO** or move the **fader**.

Line 2- Mode	==SEQ=====MAN==	--SEQ-----MAN---
Line 3 –Current scene	DMX-IN	DMX-IN 35
Line 4 – Next memory	04 STEP04 ↑99 20	04 STEP04 35 20

When this first crossfade ended, the DMX input is totally out scene.

#### Change of mode form SEQ to BACK:

This change is done when working in sequencer mode, the DMX input is restored or the user press **F1**.

If **BACK** menu is at **AUTO**, when the system detects the change of mode:

- Emits an acoustic signal to indicate us mode change.
- The DMX input is inserted as “next scene”
- The current scene output, from the inner sequence output, begins its crossfade with the “next scene” (the DMX input). This crossfade is done, approximately in 2 seconds (in fact in done during 50 frames of the DMX input).
- The functions **F2**, **F4** & **F6** are deactivated

Line 2- Mode	--SEQ-----AUTO--	--BACK-----AUTO--
Line 3 –Current scene	04 STEP04 ⌚12	04 STEP04 2
Line 4 – Next memory	20 STEP20 ↑15	DMX-IN 2

When this first crossfade ended, the DMX input is totally in scene.

If **BACK** menu is at **MAN**, when the system detects the change of mode:

- Emits an acoustic signal to indicate us mode change.
- The functions **F4** & **F6** are deactivated
- If a crossfade is in progress, this crossfade will end in a normal way.
- When the crossfade is ended, the DMX input is inserted as “next scene”
- The system waits a user GO to begin its crossfade with the “next scene” (the DMX input). In the status line, the character “-” is replaced by the character “=” to indicate us this waiting.
- The user must press **GO**.
- In this moment, the **F2** function is deactivated too.
- This crossfade takes about 2 seconds.

**Note:** If the user doesn’t want to return to **BACK** mode, he must be press **F1**.

Line 2- Mode	==BACK=====MAN==	--BACK-----MAN---
Line 3 –Current scene	04 STEP04 ↓2	04 STEP04 1.5
Line 4 – Next memory	DMX-IN ↑2	DMX-IN 1.5

When this first crossfade ended, the DMX input is totally in scene.

## THE EXTERNAL CONTROL COMMANDS

The sequence can be controlled using external commands. These commands can be:

RS232 commands. (RS232.IN port)

MSC commands, MIDI SHOW CONTROL. (MIDI-IN port)

MIDI commands based in MIDI notes. (MIDI-IN port)

To active any of the external commands, configure, inside of **SETUP**, the **EXTERN** menu.

## RS232 & MSC COMMANDS

The system uses the same command structure for the MSC commands and the RS232 commands.

Both commands-sets are the same; the difference is only the used port and signal type.

The used MSC commands are a standard of control and synchronization, in our case, the basic-set of MSC.

### EXTERN/ RS232

When the external control unit is a PC or programmable automata, the RS232 external commands are the more used.

The RS232 port (for external commands) must be configured as:

Parameter	Value
Speed	9.600
Byte	8 bits
Parity	No
Stop	1 bit

### EXTERN/ MIDImsc

This set of external commands is a standard of the MIDI protocol, this set permits to a central unit controls the different show parts (video, audio, lighting...).

### THE COMMANDS SET (MSC & RS232)

Commands structure and commands basic set are the same for **MSC & RS232**.

SYS-EXC	ID	MSC	FORMAT	COMMAND	CUE	END
<b>F0 7F</b>	Receiver	<b>02</b>	Type	Command	Memory	<b>F7</b>

\*Data in hexadecimal format.

#### SYS-EXC (System-Exclusive):

Start of a command of exclusive system. This is formed by 2 bytes: **F0 F7**.

These 2 bytes are always needed.

#### ID (Identification Device):

ID identifies the equipment that must execute the command. In our case, this value must be the same that the **LINK ID** of the BACK+SEQ that will execute the command. This parameter uses 1 byte and this byte can have the next values:

**00...09** selects the equipment with Id 00...09, for example, **05** selects the equipment with ID 05.

**7F** selects "all" the equipments connected.

Example: The next command is a command for all connected equipments.

SYS-EXC	ID	MSC	FORMAT	COMMAND	CUE	END
<b>F0 7F</b>	<b>7F</b>	<b>02</b>	Type	Command	Memory	<b>F7</b>

#### MSC (MIDI SHOW CONTROL)

Indicates that the exclusive system command is a MSC command. This parameter uses 1 byte, and this byte is always **02**.

(Remember that the structure used is of MSC commands, but that the RS232 command uses this same structure).

#### FORMAT

Indicates the equipments type that they must execute the command. This parameter uses 1 byte.

For our system (lighting system), only 2 types are implemented.

**01** when the command is for lighting equipments.

**7F** when the command is for all connected equipments (lighting, sound, video...)

Example: The next command is a command for all connected lighting equipments.

SYS-EXC	ID	MSC	FORMAT	COMMAND	CUE	END
<b>F0 7F</b>	<b>7F</b>	<b>02</b>	<b>01</b>	Command	Memory	<b>F7</b>

### COMMAND

This is the own command, and it uses 1 byte. Some commands can have a CUE associated. Our system has the next basic commands:

Byte value	Command name	Behavior
<b>01</b>	GO  +Cue	The GO external command permits to start a new crossfade, it is the same that to press <b>F2:GO</b> . <u>Optionally</u> , this command can have an associated CUE. In this case the response will be as to press: <b>F3:SELECT [memory selection] ENTER F2:GO</b>
<b>02</b>	STOP	The STOP external command permits to pause a crossfade in progress, it is the same that to press <b>F4:PAUSE</b>
<b>03</b>	RESUME	The RESUME external command permits to reactivate a paused crossfade, it is the same that to press <b>F2:GO</b> , but <u>only</u> when the current crossfade is in PAUSE. Nothing happens in other cases.
<b>05</b>	LOAD  +Cue	The LOAD external command permits to select the “next memory”, <u>always</u> has a associated CUE (memory number) and is the same that press: <b>F3:SELECT [memory selection] ENTER</b>
<b>08</b>	ALL OFF	The ALL OFF external command permits to deactivate the system output, and it is similar to press <b>F5:OUT1</b>
<b>09</b>	RESTORE	The RESTORE external command permits to activate the system output (when this output is deactivated). It is similar to press, newly, <b>F5:OUT1</b> .
<b>0A</b>	RESET	The RESET external command permits to initiate the inner sequence. It is the same that press: <b>F3:SELECT [memory 00] ENTER</b>
<b>0B</b>	GO OFF	The GO OFF external command permits to activate a crossfade in reverse direction. It is the same that press <b>F6:BACK</b>

Example: A STOP command for all the connected lighting equipments

SYS-EXC	ID	MSC	FORMAT	COMMAND	CUE	END
<b>F0 7F</b>	<b>7F</b>	<b>02</b>	<b>01</b>	<b>02</b>	Memory	<b>F7</b>

### CUE (The memory number).

CUE is the memory number. CUE only is needed in the LOAD command, and optionally, in the GO command. This command indicates the associated memory number; in our case, these values can be from 00 to 99.

This parameter can use from 2 to 5 bytes.

For example, if you want to send the memory number 43, it is possible to do using any of these formats: 43, 43.0, 043 or 043.0.

To send the memory number, it is needed to send the ASCII value of each digit (the ASCII value is obtained adding a “3” to the numeric digit. The decimal point is always 2E).

Following with the example, you can send the data of memory “43” using one of the next formats:

43     **34 33**           (2 bytes)  
 43.0   **34 33 2E 30**   (4 bytes)  
 043     **30 34 33**       (3 bytes)  
 043.0   **30 34 33 2E 30** (5 bytes)

Example: A “LOAD memory 25” command for all the connected lighting equipments

SYS-EXC	ID	MSC	FROMAT	COMMAND	CUE	END
<b>F0 7F</b>	<b>7F</b>	<b>02</b>	<b>01</b>	<b>05</b>	<b>32 35</b>	<b>F7</b>

#### END

It's the end of the command. This uses 1 byte: **F7**, and always is needed.

In the MSC standard, some command can have more associated data. In our case, these additional data are no read.

### MIDI NOTES COMMANDS (MIDI<sub>In</sub>OTES)

If the external control unit is a multimedia PC, or a MIDI keyboard, you can use this commands set, based only in MIDI notes, to control the BACK+SEQ. In these cases, it is necessary to configure 3 parameters:

**EXTRN/MIDI<sub>In</sub>OTES**           The source  
**EXTRN/MIDI Channel #**       The communication MIDI channel (#: 1 a 16)  
**EXTRN/MIDI Note #'**         And the first MIDI note to use (#': 0..103)

This commands set is developed by LT for the BACK+SEQ.

All commands, based in MIDI notes, can be configured using 24 consecutives notes, by default from N0 to N23. These 24 notes can be placed in other bank; for example it is possible to use the notes bank from N60 to N83, for this only is needed to configure:

**EXTRN/MIDI Note 60**

There is equivalence between MIDI notes and a basic numeric keyboard. This equivalence is used to edit the commands. The table shows us this equivalence for 2 notes banks, N0-N23 & N60-N83:

MIDI note		Number
N0-N23	N60-N83	
N0	N60	0
N1	N61	1
...	...	...
N8	N68	8
N9	N69	9
N10	N70	• (decimal point)

The structure and command set, always using MIDI notes, is:

START	ID	COMMAND	CUE	END
<b>N22</b>	Receiver	Command	Memory	<b>N23</b>

\*All data are showed using the notes bank: N0-N23.

#### START

The command begins always with the note: **N22**.

#### ID (Receiver)

ID identifies the equipment that must execute the command. In our case, this value must be the same that the **LINK Id** of the BACK+SEQ that will execute the command. This note is the corresponding note to the number (from **N0** to **N9**).

Don't send this NOTE for the messages that are for all equipments.

Example: A command only for the equipments with ID=0

START	ID	COMMAND	CUE	END
N22	N0	Command	Memory	N23

### COMMAND

The system has the same basic commands that for RS232 or MSC, but here, each command is identified by one note:

Note	Command	Behavior
N11	GO  +Cue	The GO external command permits to start a new crossfade, it is the same that to press <b>F2:GO</b> . <u>Optionally</u> , this command can have an associated CUE. In this case the response will be as to press: <b>F3:SELECT [memory selection] ENTER F2:GO</b>
N12	STOP	The STOP external command permits to pause a crossfade in progress, it is the same that to press <b>F4:PAUSE</b>
N13	RESUME	The RESUME external command permits to reactivate a paused crossfade, it is the same that to press <b>F2:GO</b> , but <u>only</u> when the current crossfade is in PAUSE. Nothing happens in other cases.
N15	LOAD  +Cue	The LOAD external command permits to select the "next memory", <u>always</u> has a associated CUE (memory number) and is the same that press: <b>F3:SELECT [memory selection] ENTER</b>
N18	ALL OFF	The ALL OFF external command permits to deactivate the system output, and it is similar to press <b>F5:OUT1</b>
N19	RESTORE	The RESTORE external command permits to activate the system output (when this output is deactivated). It is similar to press, newly, <b>F5:OUT1</b> .
N20	RESET	The RESET external command permits to initiate the inner sequence. It is the same that press: <b>F3:SELECT [memory 00] ENTER</b>
N21	GO OFF	The GO OFF external command permits to activate a crossfade in reverse direction. It is the same that press <b>F6:BACK</b>

Example: The STOP command for the equipments with ID=0

START	ID	COMMAND	CUE	END
N22	N0	N12	Memory	N23

### CUE (The memory number)

The CUE value is needed for the LOAD command, and optionally, for the GO command. In CUE is the memory number, in our system from 00 to 99. This number always uses 2 notes.

The memory number is configured with the corresponding notes to the numeric data. Examples:

The cue "43" is **N4 N3**

The cue "03" is **N0 N3**

Example: The “LOAD memory 25” command for the equipments with ID=0

START	ID	COMMAND	CUE	END
N22	N0	N15	N2 N5	N23

### END

The command ends always with the note: N23.

Remember that the used notes are in accordance with the notes bank selected. For example, if the system is configured to work with the notes N60-N83, the “LOAD memory 25” command for the equipments with ID=0 will be:

START	ID	COMMAND	CUE	END
N82	N60	N75	N62 N65	N83

## THE EXTERNAL COMMANDS TEST (EXT-IN)

BACK+SEQ has a test to read the received external commands:

- Select the **TEST** menu
- Select its **EXT-IN** option

In the display page if the external control is at **OFF**, **RS232** or **MIDI<sub>MSC</sub>**, you can see:

EXT-IN				
001	002	003	004	005
F0	7F	7F	02	7F

If the external control is at **MIDI<sub>OTES</sub>**, you can see:

EXT-IN				
001	002	003	004	005
82	60	75	62	65

Where:

Line / Status	OFF / RS232 / MIDI <sub>MSC</sub>	MIDI <sub>OTES</sub>
001 002 003 ...	Command byte order.	Command NOTE order.
F0 7F 7F ... ó 82 60 75 ...	Byte value in hexadecimal. These values are read when the complete command is received.	MIDI note number (0-128). These values are read when the complete command is received.

Use left-right **ARROWS** to see the rest of bytes (or notes) of the command.

## IMPORTANT!!!

Don't forget to store configuration & data of PIRENE in the **DISK** menu.

The show of a BACK+SEQ, if it uses 99 memories, only will be possible to store 1 show in the **DISK** menu.

Any previous show must be deleted with the objective to store this new show.

More information about **DISK**, in DATA MANAGEMENT – DISK MENU, page 67

## DATA MANAGEMENT – DISK MENU

All the parameters of **SETUP** and the corresponding configuration can be stored in the inner memory of PIRENE as a data file. Each stored file can be loaded at any moment to restore all the **SETUP** data and its corresponding configuration.

These data files always remain stored in the inner memory (inclusively if a Reset is done).

To manage this data files there is the **DISK** menu. To select **DISK** menu, from the main pages:

Menu: 1↓4	
-----	
»TEST <	
<b>SETUP</b>	
Menu: 3↓4	
<b>SETUP</b>	
»DISK <	
<b>PIRENE Patch Dmx</b>	

Press **ENTER** to access to the menus list.

Press up-down **ARROWS** to select **DISK**.

And press **ENTER** to active the **DISK** options.

The **DISK** options are:

**LOAD**   Accesses to the data files list, in the inner memory, to load a data file:

- Press **ENTER** to access to the stored data files list.
- Use the **ARROWS** to select the data file that you going to load.
- Press **ENTER** to load it.

**NOTE:**

When a data file is loaded, its **SETUP** parameters and its configuration (operation mode) and restored completely.

Example: If a data file of a Patch Dmx is loaded from a Merge Dmx, after the load PIRENE is configured as Patch Dmx and the Patch ports are actives.

**REC**    Accesses to the data files list, in the inner memory, to store a new data file:

- Press **ENTER** to access to the stored data files list.
- Use the **ARROWS** to select the position **\*\*REC NEW\*\*** (always at the end of the list), where a new file can be stored.
- Press **ENTER** to store it.

And accesses to the data files list, in the inner memory, to overwrite a stored data file:

- Press **ENTER** to access to the stored data files list.
- Use the **ARROWS** to select the desired data file that you going to overwrite.
- Press **ENTER** to overwrite it.
- The system requests confirmation, press **ENTER** again to confirm.

**DEL**   Accesses to the data files list, in the inner memory, to delete a data file:

- Press **ENTER** to access to the stored data files list.
- Use the **ARROWS** to select the desired data file that you going to delete.
- Press **ENTER** to delete it.
- The system requests confirmation, press **ENTER** again to confirm.

**TEXT** Accesses to the data files list, in the inner memory, to edit a name of a data file:

- Press **ENTER** to access to the stored data files list.
- Use the **ARROWS** to select the desired data file that you going to name.
- Press **ENTER** to name it.

When **ENTER** is pressed, the edition cursor appears (■). Use the left-right **ARROWS** to select the character and use the up-down **ARROWS** to edit the selected character.

- Press **ENTER** to accept the edition (or press **EXIT** to quit).

**FORMAT** Formats the inner memory to delete all the stored data files:

- Press **ENTER** to format the inner memory.

**All the stored data files are deleted!**

- The system requests confirmation, press **ENTER** again to confirm.

The data files has 4 pages:

Disk/Load: 1↓2 1»4 ----65412 b free---- 01»01 02 text for show	Disk/Load: 1↓2 2»4 ----65412 b free---- 01»Merger Dmx «V1.00 02 >Smpte+Mtc V1.00	Disk/Load: 1↓2 3»4 ----65412 b free---- 01» 44 b «06/09/02 02 54 b 30/09/02	Disk/Load: 1↓2 4»4 ----65412 b free---- 01»17:04:59« 02 09:10:23
---	---	--	---

In the general information of these pages (first lines) you can see:

The number of the selected data file ↓ and the number of the total files / 1↓2

The number of the active page » and the number of the total pages / 1»4

The free space of the inner memory / ----65412 b free----

**The information about one data file appears in one line (but in 4 pages)**

Use the left-right **ARROWS** to select the desired page. Looking over these 4 pages, you can see:

**Index number:** 01, 02, 03...etc. / this number appears in all pages.

**Show name:** At the beginning, the show name is a copy of the index number, but when this name is edited (from the DISK/TEXT option) the show name has up to 16 alphanumeric characters to distinguish it easily.

**Configuration:** Is the PIRENE configuration (operation mode), which is stored in the data file.

**Size:** The data file size, in bytes (b).

**Version:** Is the PIRENE software version that was used to store the data file.

**Data and time,** with format dd/mm/yy and hh:mm:ss.

## TEST

From the **TEST** option, you can check any active port in the current configuration and, also you can check its software version, and any hardware element.

To access to the **TEST** options, from the main pages:

Menu:	1↓4
-----	
»TEST	«
SETUP	

- Press **ENTER** to access to the menus list.
- Select **TEST**
- Press **ENTER** to access to the **TEST** options.

The first **TEST** options depend of the active configuration and permit to exam the buffers of the active ports in this configuration. The last **TEST** options are generals for all the configurations.

In accordance with each configuration, the first **TEST** options are:

PIRENE	OPTIONS	INFORMATION
MERGER DMX	IN1.dmx IN2.dmx IN3.dmx IN4.dmx OUT1.dmx OUT2.dmx	To check any of these ports, press <b>ENTER</b> . The display shows us a information page with this format: <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <pre style="margin: 0;">MIDI-IN      128Chs       ENABLED 001 002 003 004 005 00 00   00 50 75</pre> </div>
PATCH DMX	IN1.dmx IN2.dmx OUT1.dmx OUT2.dmx	Where: <b>MIDI-IN</b> is the name of the port that is been examined <b>128 Chs</b> is the channels number in the line. <b>ENABLED</b> indicates the status of the line. <b>001 . . . 005</b> are the numbers of the 5 first channels. The associated level appears under each channel number in %.
DMX<>AVAB	IN1.dmx IN2.avab OUT1.dmx OUT2.avab	In case of the MIDI ports, <b>001 . . . 005</b> are the numbers of the 5 first notes and controllers. In short, the level under <b>001</b> number is the information about the NOTE 0 and about the Controller 0.
DMX<>MIDI	IN1.dmx MIDI-IN OUT1.dmx MIDI-OUT	To exam the next channels, press left-right <b>ARROWS</b> .
DMX<>RS232	IN1.dmx RS232.in OUT1.dmx RS232.out	Press <b>EXIT</b> to return to the <b>TEST</b> options.  El test <b>EXT-IN</b> es particular del equipo BACK+SEQ y se explica en la página 66.
BACK+SEQ	IN1.dmx OUT1.dmx EXT-IN	
MTC<>SMPTE	MTC-IN SMPTE-IN MTC-OUT SMPTE-OUT	To check any of these ports (with time code information), press <b>ENTER</b> . The display shows us a information page with this format:  >> 00:00:00:00 or    00:00:00:00
>SMPTE+MTC	MTC-OUT SMPTE-OUT	>> indicates active port, and    indicates deactivated port.  Press <b>EXIT</b> to return to the <b>TEST</b> options.

The last **TEST** options, generals, are:

**VERSION** It is the number of the software version burned in PIRENE:

»**VERSION**      **1.00**    «

This number can be seen in the own option (in the example, **1.00**).

Press **ENTER** to see the same information in this format:

LT	
COPYRIGHT	1992-2002
PIRENE	1.00

**HARD** Any hardware element can be checked here. Press **ENTER** to access to the **HARD** options. (See below).

## ABOUT THE HARDWARE TEST

The **TEST HARD** has options to check all the PIRENE ports (actives or not); and to check the inner memory, the clock, the external keys, the LEDs, the Display, etc... In short, it is possible to check any hardware element.

**NOTA:**

**The TEST HARD affects to the normal use of PIRENE. Run this TEST HARD when the system isn't operating.**

The **HARD** options are:

**MEMORY** To check the inner memory, press **ENTER**  
After a self-test procedure of the inner data memory, the system shows us the status memory.  
This test doesn't affect to the stored data in the inner memory.

**CLOCK** To check and edit date & time, press **ENTER**  
The date & time values are showed in the Display. Their format:  
hh:mm:ss                      dd/mm/yy  
hour:minute:second        day/month/year

To edit the date & the time:

- Press **ENTER** again, to active the edition cursor (■)
- Use the left-right **ARROWS** to move the cursor to the desired digit.
- Use the up-down **ARROWS** to edit the selected digit.
- Press **ENTER** to accept the edited data (or press **EXIT** to quit).
- Press **EXIT** to return to the **HARD** options list.

- INPUTS** To check keys and fader, press **ENTER**  
To test one key, press it. Its name must appear in the Display.  
To test the fader, move it. Its read value (0 to 255) must appear in the Display.  
To start and end the **INPUTS** test, press **ENTER**
- OUTPUTS** To check LEDs, acoustic signal (beep) and Display, press **ENTER**  
The name of the element under test appears in the Display, and if it is a LED blinks, if is the beep sounds, and if is the Display shows a black page.  
To select the desired element press left-right **ARROWS**.  
To start and end the **OUTPUTS** test, press **ENTER**
- OUT1>IN2** To check the ports OUT1 and IN2, press **ENTER**.  
With a good DMX cable, interconnect the ports OUT1 and IN2.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of these ports.
- OUT2>IN1** To check the ports OUT2 and IN1, press **ENTER**.  
With a good DMX cable, interconnect the ports OUT2 and IN1.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of these ports.
- OUT2>IN3** To check the ports OUT2 and IN3, press **ENTER**.  
With a good DMX cable, interconnect the ports OUT2 and IN3.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of these ports.
- OUT2>IN4** To check the ports OUT2 and IN4, press **ENTER**.  
With a good DMX cable, interconnect the ports OUT2 and IN4.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of these ports.
- MIDI** To check the MIDI port, press **ENTER**.  
With a good MIDI cable, interconnect the ports MIDI-IN and MIDI-OUT.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of the MIDI-IN and MIDI-OUT
- RS232** To check the RS232 port, press **ENTER**.  
Interconnect the pins 2 & 3 of the RS232 connector.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of the RS232 port (RXT & TXT).
- SMPTE** To check the SMPTE ports (input & output), press **ENTER**.  
With a good SMPTE cable, interconnect the ports SMPTE-IN and SMPTE-OUT.  
To start this test press **ENTER** again.  
After a self-test, the system shows the status of the SMPTE-IN and SMPTE-OUT

## SOFTWARE UPGRADING

PIRENE can be upgrading with any available software version. You can download these software versions from [www.lt-light.com](http://www.lt-light.com) (support) or from your LT distributor.

To update the software, it is needed:

- A personal computer.
- The PIRENEUPDT###.EXE soft version application. Where ### is a numeric reference of the soft version number.
- The connection cable between the PC and PIRENE (provided by LT).

The code of this connection cable is:

PC	PIRENE
SUDB-9	RJ-45
PIN 3	→ PIN 5
PIN 5	→ PIN 1

To update PIRENE, follow the next steps:

- Form your PC, execute the application PIRENEUPDT###.EXE
- Connect the previous cable from COM1, or COM2 (of your PC) to the RJ-45 connector of PIRENE (LINK-IN).
- Inside the application, select the serial port, which the cable has been connected (COM1 or COM2) from **Port** option, in **Options** menu.
- In PIRENE. Press, at the same time, the keys ← and → and turn on the unit while these keys are pressed.
- The PIRENE display shows us **'UPDT'**
- In the PC application, execute the **Send** command, in the **File** menu, to start the upgrading procedure. The transmission commences.
- During the transmission, The **ON LED** of PIRENE must lit in **red**.
- In case of fault in the upgrading procedure, this **ON LED** blinks in **red**. And the upgrading procedure can be repeated from the beginning.
- At the end of the upgrading procedure, if all is correct, this **ON LED** must lit in **green**.
- Turn off PIRENE, and disconnect the upgrading cable.
- Turn on PIRENE, and check it. PIRENE is ready!

## WINDOWS EMULATOR

The PIRENE Windows emulator is a “copy” of PIRENE in way of informatics application. The emulator permits us to familiarize oneself with the PIRENE use, easily, from a PC.

The PIRENE emulator can be downloaded from [www.lt-light.com](http://www.lt-light.com), it is available in the zipped file WPIRENE###.zip.

To install it, unzip the file WPIRENE###.zip in a new folder after, execute (double click) the application WPIRENE###.EXE. In both names of these files, ### is the soft version number.

In the PC monitor, you can see:



Inside the application (PIRENE emulator):

- To press one key, click on it with the mouse left-button.
- To move the fader, click on it and drag the fader up to the desired position.
- To quit the application, click on the bitmap of the main switcher.

### NOTES:

This emulator is a tool with didactical purpose, and it doesn't take control of the ports of your PC.

The emulator doesn't take control of the real clock of your PC, for this reason, some PIRENE configurations, specially **>SMPTE+MTC**, can operate in a no-correct mode.

For the **BACK+SEQ** configuration, the emulator simulates that the DMX input is always active.

It is possible to use the **DISK** menu to store/load “data files”. These “simulated files” are stored in one true file that is created for this application, with the objective to simulate the inner memory of PIRENE.

## MAINTENANCE AND TECHNICAL SUPPORT

PIRENE doesn't need internal adjusts for its correct operation.  
PIRENE hasn't inner elements that can be replaced by the user.

### External cleaning:

Disconnected the unit of the main power!  
Wash the external surfaces using a gentle cloth moistened in water.

### Internal cleaning:

Disconnected the unit of the main power!  
Remove the PIRENE upper cover, and wash the inner surfaces, including the electronic circuits, using a small vacuum or a clean paintbrush.  
Internal cleaning period: 1 time each 2 year (recommended). If the unit operates in dirty environments (smoke, confetti...), this period must be 1 time per year.

### Change of the external protection fuses:

PIRENE uses 2 fuses type F, of 1A/250V.  
The fuses are placed in the fuses-drawer of the IEC power connector (in the rear of the unit). To change them:

- Disconnected the unit of the main power!
- Open the fuses-drawer, pulling in its rim with a small screwdriver.
- Remove out the old fuses, and replace them with new fuses.
- Close the fuses-drawer.

### Change of the inner protection fuse:

PIRENE use 1 fuse type F, of 4A/250V. This fuse is placed in the inner power supply. To change this fuse:

- Disconnected the unit of the main power!
- Remove the PIRENE upper cover.
- Take out the old fuse, and replace it with a new fuse.
- Place the PIRENE upper cover.

### Technical Support Points:

---

<b>Madrid / Spain</b>	C/ Matilde Hernández 31, 3 <sup>o</sup> C Edificio JAEN 28019 Madrid Tlf: 91 472 06 66
<b>Zaragoza / Spain</b>	Pol. Ind. Malpica-Alfindén C/ Los Almendros, 61 50171 La Puebla de Alfindén - Zaragoza Tlf 976 10 89 59

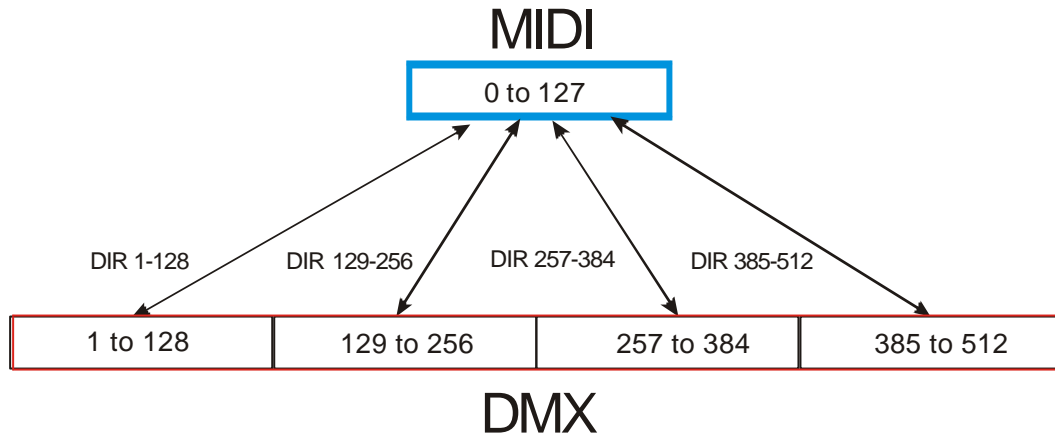
---

Besides, the technical support offered by the LT distributors. About them, you can find an actualised list in <http://www.lt-light.com>

---

## CONVERSION TABLES

### CANALES DMX < > NOTAS/CONTROLLERS



### VELOCITY < > LEVEL

Conversion table: all modes of DMX to MIDI, and mode **SEQUENCER** of MIDI to DMX.

VEL.	LEVEL
0	---
1	0
2	0
3	2
4	3
5	4
6	5
7	6
8	6
9	7
10	8
11	9
12	10
13	10
14	11
15	12
16	13
17	13
18	14
19	15
20	16
21	16
22	17
23	18
24	19
25	20
26	20
27	21
28	22
29	23
30	24
31	24

VEL.	LEVEL
32	25
33	26
34	27
35	27
36	28
37	29
38	30
39	31
40	31
41	32
42	33
43	34
44	35
45	35
46	36
47	37
48	38
49	39
50	39
51	40
52	41
53	42
54	42
55	43
56	44
57	45
58	46
59	46
60	47
61	48
62	49
63	50

VEL.	LEVEL
64	50
65	51
66	52
67	53
68	53
69	54
70	55
71	56
72	57
73	57
74	58
75	59
76	60
77	61
78	61
79	62
80	63
81	64
82	65
83	65
84	66
85	67
86	68
87	68
88	69
89	70
90	71
91	72
92	72
93	73
94	74
95	75

VEL.	LEVEL
96	75
97	76
98	77
99	78
100	79
101	79
102	80
103	81
104	82
105	83
106	83
107	84
108	85
109	86
110	87
111	87
112	88
113	89
114	90
115	91
116	91
117	92
118	93
119	94
120	94
121	95
122	96
123	97
124	98
125	98
126	99
127	100

Conversion table, from MIDI to DMX, used in the modes: **FLASH+VEL**, **SWITCH+VEL**, **HOLD+VEL** and **MODULATOR**

VEL.	LEVEL	VEL.	LEVEL	VEL.	LEVEL	VEL.	LEVEL
0	0	32	25	64	54	96	83
1	0	33	26	65	55	97	84
2	0	34	27	66	56	98	85
3	0	35	28	67	57	99	85
4	0	36	29	68	57	100	86
5	0	37	30	69	58	101	87
6	0	38	30	70	59	102	88
7	2	39	31	71	60	103	89
8	3	40	32	72	61	104	90
9	4	41	33	73	62	105	91
10	5	42	34	74	63	106	92
11	6	43	35	75	64	107	93
12	7	44	36	76	65	108	94
13	8	45	37	77	66	109	95
14	9	46	38	78	67	110	96
15	10	47	38	79	67	111	96
16	11	48	39	80	68	112	97
17	11	49	40	81	69	113	98
18	12	50	41	82	70	114	99
19	13	51	42	83	71	115	100
20	14	52	43	84	72	116	100
21	15	53	44	85	73	117	100
22	16	54	45	86	74	118	100
23	17	55	46	87	75	119	100
24	18	56	47	88	76	120	100
25	19	57	48	89	76	121	100
26	20	58	48	90	77	122	100
27	20	59	49	91	78	123	100
28	21	60	50	92	79	124	100
29	22	61	51	93	80	125	100
30	23	62	52	94	81	126	100
31	24	63	53	95	82	127	100

This table is the answer to the difficulty to obtain with a MIDI keyboard a VELOCITY < 6 or a VELOCITY > 115.

The DMX<> MIDI converter operates only with the next MIDI commands:  
NOTA ON, NOTA OFF and CONTROLLER.

It uses RUNNING STATUS, for the input and output, with the objective to improvement the effective transmission speed.

It filters the rest of MIDI commands, including Timing clock, Start, Continue, Stop, Active Sensing and System Reset. Although, these messages continue been actives in the MIDI-THRU connector.

## BIBLIOGRAPHY...

Some books:

*TIMECODE. A USER'S GUIDE*

John Ratcliff. Ed. FOCAL PRESS.

*MIDI SYSTEMS AND CONTROL*

Francis Rumsey. Ed. FOCAL PRESS.

*TÉCNICAS DE INTERFACES MIDI. MUSICA Y ORDENADORES PERSONALES.*

G. Perotti. Ed. GRUPO EDITORIAL JACKSON

*RECOMMENDED PRACTICE FOR DMX512. A GUIDE FOR USERS AND INSTALLERS*

Adam Bennette. Ed. PLASA

And same Internet sits:

*ESTA (Entertainment Services and Technology Association)*

[www.esta.org](http://www.esta.org)

*PLASA (Professional Lighting and Sound Association)*

[www.plasa.org](http://www.plasa.org)

*EIA (Electronic Industries Alliance)*

[www.eia.org](http://www.eia.org)

*SMPTE (Society of Motion Picture and Television Engineers)*

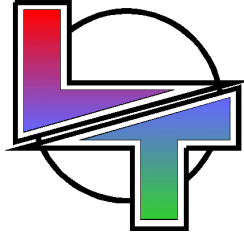
[www.smpte.org](http://www.smpte.org)

*MIDI MANUFACTURES ASSOCIATION*

[www.midi.org](http://www.midi.org)







***Because your  
successes are  
ours***

[www.lt-light.com](http://www.lt-light.com)



Specifications can be changed without previous notice.