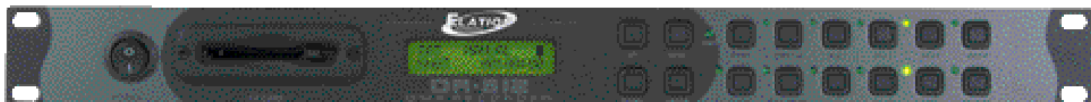




DR-512

USER INSTRUCTIONS

(24-004-1126 Rev 1.0)



E-mail: support@elationlighting.com

Internet: www.elationlighting.com

Rev. 7/04

Table of contents

1 General Instruction	3
2 Features	3
3 Notice Information	3
3.1 Warnings.....	3
3.2 Copyright.....	3
4 Control and Functions	4
4.1 Front panel.....	4
4.2 Rear panel.....	5
5 LCD display	6
	6 Operation Modes
.....	6
6.1 Manual mode	6
6.2 AUTOSTART mode	7
6.3 DMX MON mode.....	7
6.4 DMX TRIGGER mode	8
6.5 PROGRAM mode.....	8
6.5.1 Recording operation.....	8
6.5.2 Changing the sequence name	8
6.6 SETUP mode	9
7 External Terminals	10
8 Note Information for usage	10
9 Troubleshooting (FAQ)	11
10 Specifications	11

1 General Instruction

DR-512 is a professional DMX recorder with many useful functions. This unit can translate standard DMX512 signals into recorded data, and send them out at any convenient moment. These signals can be recorded to both the internal memory storage and/or an external CF card. For internal memory storage, there are six sequences available: sequences I01~I04, STARTUP and SHUTDOWN. And for the CF card, there are 33 different sequences (E01-E33) available. This product also offers SMPTE trigger function. There are 6 different usable modes: MANUAL, AUTOSTART, DMX MON, DMX TRIGGER, PROGRAM and SETUP.

2 Features

- Professional DMX recorder, access to internal memory and CF card.
- 4 sequences (I01-I04) + Startup + Shutdown, available for memory.
- 33 sequences (E01-E33) available for CF card use.
- Capable of PLAY, PAUSE and STOP functions.
- Manual / Autostart / DMX monitor / DMX trigger / Program / Setup mode.
- 24 / 25 / 30 frames SMPTE signal available.
- 32 MB CF card is recommended.
- DMX 3Pin input/output, SMPTE 3Pin input/output, 9Pin connector.
- Line remote control recalls PLAY, STOP and RECORD functions.
- 2_16 characters LCD screen.

3 Notice Information

3.1 Warnings

- Keep the unit dry, do not expose it to water or high levels of humidity.
- Do not dismantle or modify the product.
- Turn the power off, if you will not be using this unit for a long period of time.
- Any strong shocks or vibrations may result in malfunctions.
- This unit must be operated by adults, do not allow children to play with it.

3.2 Copyright:

No part of this product can be reproduced, transmitted, or translated into any language in any form without authorized permission.

Customer Support: Elation Professional® provides a customer support line, to provide set up help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.elationlighting.com for any comments or suggestions. For service related issue please contact Elation Professional®. Service Hours are Monday through Friday 9:00 a.m. to 5:00 p.m. Pacific Standard Time.

Voice: (323) 582-3322
Fax: (323) 582-3108
E-mail: support@elationlighting.com

Warning! To prevent or reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

Caution! There are no user serviceable parts inside this unit. Do not attempt any repairs yourself, doing so will void your manufactures warranty.

Please do not discard the shipping carton in the trash. Please recycle when ever possible.

Safety Warnings!

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- Do not spill water or other liquids into or on to your unit.
- Do not attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in case of an internal short. Do not attempt to operate this unit if the power cord has been frayed or broken.
- Disconnect from main power before making any type of connection.
- Do not remove the cover under any conditions. There are no user serviceable parts inside.
- Always be sure to mount this unit in an area that will allow proper ventilation. Allow about 6" (15cm) between this device and a wall.
- Do not attempt to operate this unit, if it becomes damaged.
- This unit is intended for indoor use only, use of this product outdoors voids all warranties.
- During long periods of non-use, disconnect the unit's main power.
- Always mount this unit in safe and stable matter.
- Power cords should be routed so they are not likely to be walked on, pinched by items placed upon or against them.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 3 for cleaning details.
- Heat -The appliance should be situated away from heat sources such as radiators heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- The fixture should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the unit.
 - C. The unit has been exposed to rain or water.
 - D. The unit does not appear to operate normally or exhibits a marked change in performance.

4 Control and Functions

4.1 Front panel



1. Power Switch:
Used to switch the main power on or off.
2. CF card port:
This port is for CF card usage.
3. LCD-Display:
Display correspondent menus, settings and values depending on the chosen function.
4. UP button:
Press this button to select correspondent options or increase relative values.
5. NEXT button:
Used to select internal sequences or help to change sequence names.
6. DMX indicator:
Indicates DMX input. When the correspondent LED is “on”, that means DMX input is effective, while “off” means no signal input.
7. Mode button:
Used to select different modes (MANUAL, AUTOSTART, DMX MON, DMX TRIGGER, PROGRAM and SETUP modes available). Each tap will change the mode once.
8. STARTUP button:
Used to activate the STARTUP function. (Read through the manual for details)
9. 1~4 Sequence buttons:
Used to select one of the possible sequences (I01~I04).
10. DOWN button:
Press this button to select correspondent options or decrease relative values.
11. ENTER button:
Press this button to confirm your operation or enter the correspondent menu.

12. CARD button:

Press this to switch between the operations for internal storage and the CF card storage. Correspondent LED “on” means CF card operation is available, while LED “off” means internal operation is available.

13. SHUTDOWN button:

Press to activate the SHUTDOWN function. (Read through the manual for details)

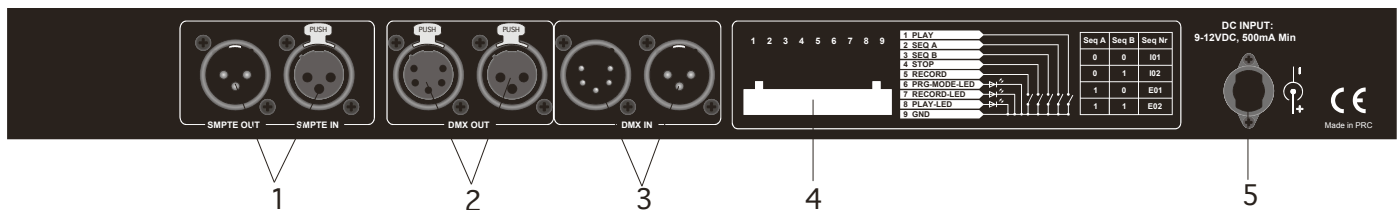
14. / 15. / 16. PLAY / PAUSE / STOP buttons :

These three buttons are used for the flow control. By pushing one of these buttons a chosen sequence can be started, stopped, or finished. How the buttons react in the different modes and what other functions are executed is explained in detail in the modes chapter.

17. RECORD button:

In PROGRAM mode, the recording of a new sequence can be prepared with the RECORD button. In order to do so, user should choose a sequence, then push the RECORD button and start the recording with the PLAY or PAUSE button.

4.2 Rear Panel



1. SMPTE output / input:

Used to output / input SMPTE signals via this port.

2. DMX output (5pin / 3pin):

To output relative DMX signals.

3. DMX input (5pin / 3pin):

To input relative DMX signals.

4. Terminal connector:

Used to connect with external terminals.

5. DC input:

Used to plug in an external power supply (DC 9-12V, 500 mA Min).

5 LCD Display

I01	MANUAL	_
Sh01		00:00:00

- Press “PLAY”, “_” will appear in the top right corner of the LCD;
Press “PAUSE”, “II” will appear in the top right corner of the LCD;
Press “STOP”, and “_” will appear in the top right corner of the LCD.
- The characters in the middle of the first line in the LCD stand for the MANUAL, AUTOSTART, DMX MON, DMX TRIGGER, PRG MODE or SETUP mode.
- In the first display line, “I” means “internal”, while “E” means “external”, and the following “01~33” means one of the sequence numbers.
- In the second display line, “Sh01” means one of the Sequence names. This can be changed by pressing the “Enter” button under PROGRAM mode only. But on the other hand, the StUp (START UP) and StDN (SHUTDOWN) can not be changed.
- The time displays in the bottom right corner of the LCD. When the LCD shows “__:__:__” (Hour, Minute, Second), this means the time of internal storage. While “__:__:__:__” (Hour, Minute, Second, Frame), this means the SMPTE time. The time-display pattern can be switched through “Sys Time” under SETUP mode.

6 Operation modes

6.1 MANUAL mode

- This mode allows the most freedom to operate this unit. The user can select any one of the sequences at any time to run, pause or stop the current sequence. The user can also start the operating at STARTUP and SHUTDOWN.
- For internal storage, select one of the I01-I04 sequences and press the PLAY button to run the sequence. This sequence will run continuously unless you press the PAUSE or STOP button.
- For internal storage, press the STARTUP button, then the STARTUP sequence will run once, and other sequences will run continuously.
- When the SHUTDOWN button is pressed, the SHUTDOWN sequence will run one time, and other the sequences will be stopped.

- For external storage, press the CARD button, the corresponding LED will light up, that means you have entered the CF card operation (CF card should be firstly formatted before use). The UP / DOWN buttons can be used to choose sequences, and the PLAY / PAUSE / STOP buttons can be used to control the running of sequences. When the sequence is stopped, press the CARD button for a second time to return to the internal operation.
- Should the selected sequence not exist, the PLAY function will not be effective.
- The NEXT, ENTER and RECORD functions are disabled in MANUAL mode.

6.2 AUTOSTART mode

- In AUTOSTART mode, the foregoing recorded sequences can be rerun automatically (With the CF card, the STARTUP and SHUTDOWN functions are not automatic). While sequence is running, press the STOP button to SHUTDOWN the sequence, when it stops running, all sequences will be stopped.
- AUTOSTART can be executed once. After the STARTUP sequence finished, the selected sequences will run automatically, and correspondent operation can be done manually. Pressing the STOP button, will SHUTDOWN the.
- STARTUP and SHUTDOWN sequences cannot be operated manually under this mode, they can only automatically run after respectively pressing the PLAY and STOP buttons.
- AUTOSTART can be rerun after the unit restarts.

6.3 DMX MON mode

- In this mode, DMX signals can be monitored. In the case that the DMX signals are disabled, this unit can initiate a prepared system to enable the pre-selected sequences.
- When there is an effective signal input, the DMX indicator will light up, and the signal (DMX Thru) will be sent out through this unit. If the signal is missing, STARTUP and the selected sequences will start automatically. Pressing the STOP button will stop the running sequences. After the SHUTDOWN sequence run over, all the operation will be finished.
- This unit can only check the effective DMX signals. If there is no data input, the pre-selected sequences will run normally.
- STARTUP and SHUTDOWN sequences cannot be operated manually in this mode. And the AUTOSTART mode may be available for reference to the operation in MANUAL mode.
- Once an effective DMX signal is received, the running sequences will stop automatically. The PLAY, PAUSE and STOP buttons will not function.

- Should the DMX signals be disabled, operation can be done manually.

6.4 DMX TRIGGER mode

- In this mode, the first four DMX channels (Ch1~Ch4) can be used to respectively control I01~I04 sequences. I01~I04 sequences will run when the DMX level of each relative channel $\geq 20\%$. These sequences will stop running when the correspondent level $\leq 20\%$.
- The DMX trigger will only operate when it is receiving a DMX signal.
- Sequences (including STARTUP and SHUTDOWN) can be operated manually in DMX TRIGGER mode.

6.5 PROGRAM mode

In this mode, any one of the sequences can be recorded, and the sequence name can also be changed.

6.5.1 Recording operation

- Select the sequence to be recorded (including the internal sequences and the external sequences). **Remember:** The CF card must be formatted before use.
- Check DMX indicator. When the correspondent LED is “on”, the unit is receiving a DMX signal, when the LED is “off” the unit is not receiving a DMX signal.
- Press the RECORD button, the sequence control will be paused, and the correspondent data will be erased.
- Press the PAUSE or PLAY button to record. Then press the STOP button to stop the operation at any moment you want.
- Warning: during operation, please do not turn off the unit, otherwise the correspondent recorded data will be missing.

6.5.2 Changing the sequence name

- In PRG Mode, when the unit is “STOPPED”, press the “Enter” button to enter the menu, an underline will appear in the top left corner of the LCD-display.
- Press the NEXT button to move to the selected character, and use UP/DOWN buttons to change the correspondent characters. Press ENTER button to confirm your operation.
- The Smpte time will not change while changing the sequence name.

6.6 SETUP mode

Seven items are offered and can be selected in this SETUP mode as below.

- (1) **Smpte Trig** : enter this submenu to trigger the Smpte signals and to set the trigger time. Press the NEXT button, and then use the UP / DOWN buttons to choose Yes

or No (Y/N), and press the ENTER button to enter the trigger time setting mode.

I01	_	00:00:00:00
		_ 00:00:00:00

E01	_	00:00:00:00
		_ 00:00:00:00

There are 8 Trigger times that are available to change, for sequences I01~I04 and sequences E01~E04. The interval between two Trigger Times is at least 2 seconds.

If the Trigger time is zero, the Trigger time is not set.

- (2) **Smpte Rec:** In this mode you can enable or disable the Smpte Record function. Press the NEXT button, and then use the UP / DOWN buttons to choose "ON".
- (3) **Smpte Frame:** use this submenu to set the frame levels of Smpte time. 24/25/30 frames are available. The preset level must be identical with the frame level of the received Smpte signals.
- (4) **Sys Time:** this submenu is used to set the system time for internal operation or external operation. Press the NEXT button, and then use the UP / DOWN buttons to choose the option of "IN" or "EXT".
- (5) **Format Card:** Use this submenu to format the CF card. Press the NEXT button, and then use the UP / DOWN buttons to choose Yes or No (Y/N).
- (6) **First Trigger Time:** this item is related with **Smpte Trig** and **Smpte Rec**. In this mode, the user can see the current recorded Smpte trigger time. (the First trigger point can be accessed after the Smpte signals have been triggered and the corresponding trigger time has been set. The Smpte trigger time can be recorded only under the condition that not all the DMX levels are at zero.)
- (7) **Lock Program:** in this submenu you are able to lock or unlock the PRG mode. The LCD will show you Yes or No (Y / N) to select one. Choose your option and press "Enter" to confirm, The LCD will display "**Lock Program!**" or "**Unlock Program!**". If you choose "Y", the Program mode will be in hidden state.

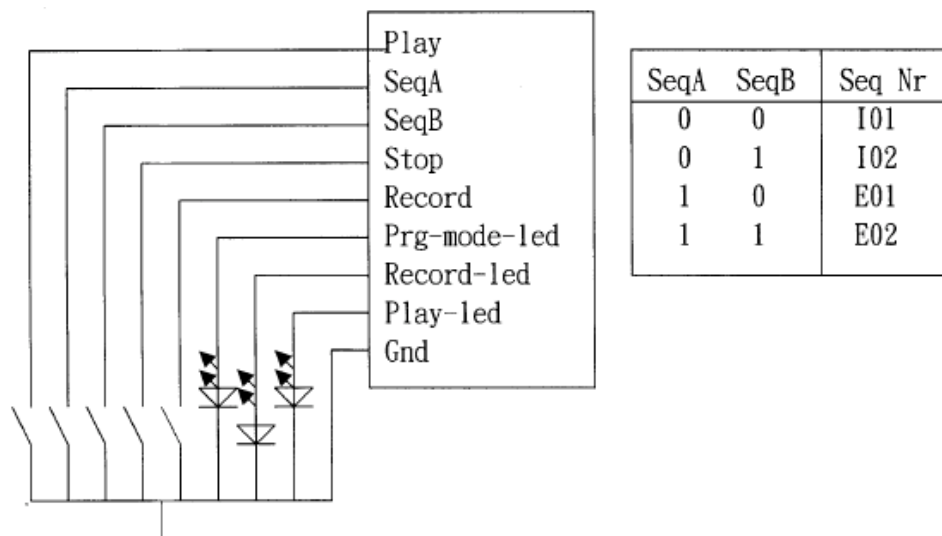
7 External Terminals

The following flowchart shows, SeqA and SeqB can be used to realize the remote control upon I01/I02/E01/E02. The PLAY, STOP, RECORD buttons can be used to control the running states.

Some information about Prg-mode LED, Record LED and Play LED:

In PRG mode, the **Prg-mode LED** will be "on". When the internal **Record LED** is "on",

the external Record LED will also light up. And when the internal **Play LED** is “on”, the external Play LED will light up, too.



Note: In the previous table, “1” means the switch is “on”, while “0” means “off”.

8 Note information for usage

- The CF card must be either in, or taken out of the unit before turning on the machine, otherwise, this will result in malfunction. This unit can only use 32M CF card, and if the card is new, it should be formatted before using.
- Choose your desired settings under SETUP mode, and press “Enter” to confirm and save your settings. Generally speaking, the correspondent sequences under different modes can only be stored through mode switching.
- The STARTUP and SHUTDOWN function is only be available during internal operation. During CF card operation, the STARTUP and SHUTDOWN functions will be disabled.
- If something goes wrong or malfunctions during operation, you can restart the unit by pressing and holding down the SHUTDOWN and RECORD buttons. Due to the above operation. Due to this restart operation all recorded data in the unit will be cleared.

9 Troubleshooting (FAQ)

- **Problem 1: The Program mode is skipped during mode switching.**

Cause : In order to protect the data and prevent them from being erased, the Program mode has been locked.

Recovery : press the MODE button to enter the SETUP mode, select submenu 7 choose “N” for unlocking.

- **Problem 2: Nothing happens when the PLAY button is pushed.**

Cause : Because the selected Sequence does not exist.

Recovery: The sequence must be recorded first, and then it should be able to play.

- **Problem 3: Nothing happens when the RECORD button is pushed.**

Cause : Because recordings can only be made in the Program mode.

Also, check and be sure that the unit is receiving a DMX signal.

Recovery: Switch to the Program mode and make sure that the DMX signal input is OK.

- **Problem 4: Nothing happens when I push the PLAY or PAUSE button while recording data under Program mode.**

Cause : Because there is no vacant space for recording.

Recovery: Delete useless data to have more space for recording.

- **Problem 5: Nothing happens when pushing the STARTUP or SHUTDOWN button.**

Cause : These two buttons can't be used freely in every operation mode. They can only be used in MANUAL mode, DMX TRIGGER mode or PROGRAM mode.

In other modes, they are controlled automatically.

Recovery: Select a mode that allows the use of the STARTUP and SHUTDOWN function.

- **Problem 6: Sequences can not be triggered in TRIGGER mode when operating .**

Cause : Sequences can only be triggered when the unit is receiving a DMX signal.

Recovery : Be sure the DMX indicator is "on". This means that the unit is receiving a DMX signal.

WARRANTY

2-YEAR LIMITED WARRANTY

A. Elation Professional® hereby warrants, to the original purchaser, Elation Professional® products to be free of manufacturing defects in material and workmanship for a period of two years, (730 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the Elation Professional® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Elation Professional® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Elation Professional® shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Elation Professional® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Elation Professional® factory unless prior written authorization was issued to purchaser by Elation Professional®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, Elation Professional® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Elation Professional® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Elation Professional®. All products covered by this warranty were manufactured after January 1, 1990, and bear identifying marks to that effect.

E. Elation Professional® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by Elation Professional® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall Elation Professional® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G. This warranty is the only written warranty applicable to Elation Professional® Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

10 Specifications

Power Requirement.....	DC 9-12V, 500mA min.
Fuse.....	F 500mA 250V 5_20mm
CF Card Requirement.....	Exclusive 32 MB
LCD Screen.....	2_16 characters
Dimensions.....	482_120_44mm
Weight.....	approx. 1.6 kg
(Binary coded) switch input.....	0~5V (no external voltage) /1mA
LED output (Prg-mode LED / Record LED / Play-LED).....	.2V / 25mA