coemar

CF 1200 Hard Edge

CF 1200 Hard Edge

602 mm
368 mm
750 mm
180,5 mm
643 mm

733 mm
750 mm
180,5 mm
440 mm

serial number

date of purchase

retailer

address

suburb

capital city

state

tel./fax/

Please note in the space provided above the relative service information of the model and the retailer from whom you purchased your **CF 1200 Hard Edge**: *This information will assist us in providing spare parts, repairs or in answering any technical enquiries with the utmost speed and accuracy.*

WARNING: *the security of the fixture is granted only if these instructions are strictly followed; therefore it is absolutely necessary to keep this manual.*

Index

Congratulations on having purchased a **coemar** product. You have assured yourself of a fixture of the highest quality, both in componentry and in the technology used. We renew our invitation to you to complete the service information on the previous page, to expedite any request for service information or spares (in case of problems encountered either during, or subsequent to, installation). This information will assist in providing prompt and accurate advice from your **coemar** service centre.

1. Packaging

Following the instructions and procedures outlined in this manual will ensure the maximum efficiency of this product for years to come.

Open the packaging and ensure that no part of the equipment has suffered damage in transit. In case of damage to the equipment, contact your carrier immediately by telephone or fax, following this with formal notification in writing.

packing list
Ensure the packaging contains:
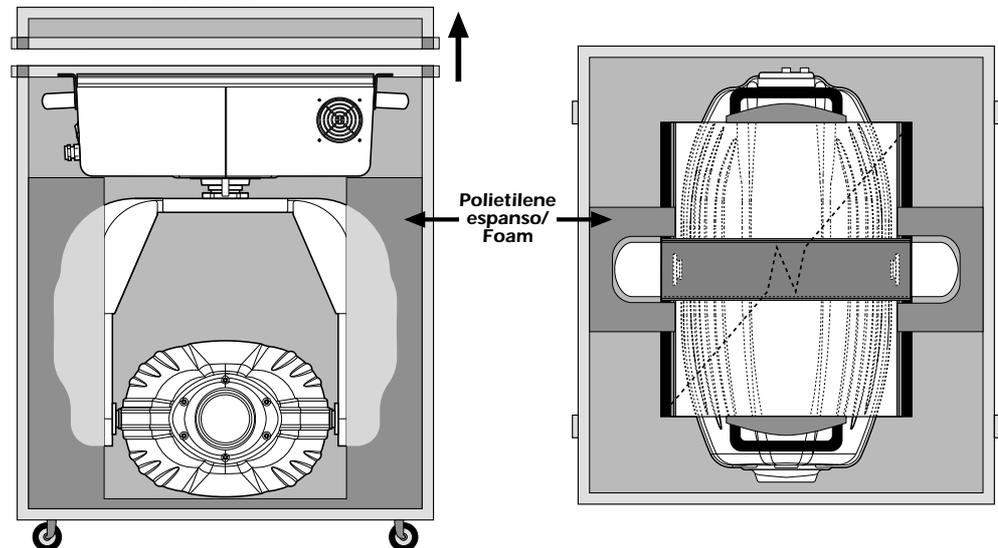1 **CF 1200 Hard Edge**
1 **instruction manual**

2. Transporting

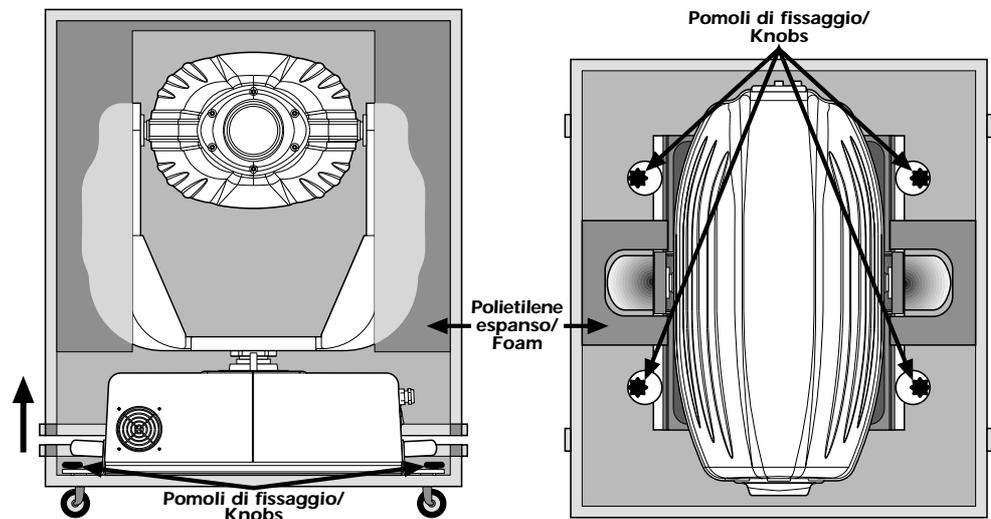The **CF 1200 Hard Edge** should be transported in its original packaging or ain a **coemar approved flight case**.
In order to manufacture a suitable flight case, we recommend the follwing simple procedure be followed, which will stop the articulated movement of the **CF 1200 Hard Edge during transportation**.
Below are illustrated the 2 diverse methods of padding which we recommend:

A) Padding around teh entire projector, including the base, with suitable padding materials.

Polietilene espanso/Foam

B) Fixing the base to a rigid support, with padding surrounding the articulated head.

Pomoli di fissaggio/Knobs

Polietilene espanso/Foam

Pomoli di fissaggio/Knobs

3. Important safety information

Fire prevention:

1. **CF 1200 Hard Edge** utilises a Philips MSR 1200 SA lamp; use of any alternative lamp is not recommended and will null and void the fixture's warranty.

2. Never locate the fixture on any flammable surface.

3. Minimum distance from flammable materials: 0,5 m.

4. Minimum distance from the closest illuminable surface: 2 m.

5. Replace any blown or damaged fuses only with those of identical values. Refer to the schematic diagram if there is any doubt.

6. Connect the projector to mains power via a thermal magnetic circuit breaker.

Prevention of electric shock:

1. High voltage is present in the internals of the unit. Isolate the projector from mains supply prior to performing any function which involves touching the internals of the unit, including lamp replacement.

2. For mains connection, adhere strictly to the guidelines outlined in section 7 of this manual.

3. The level of technology inherent in the **CF 1200 Hard Edge** requires the use of specialised personnel for all service applications; refer all work to your authorised **coemar** service centre.

4. A good earth connection is essential for proper functioning of the projector. Never operate the unit without proper earth connection.

5. The fixture should never be located in an exposed position, or in areas of extreme humidity. A steady supply of circulating air is essential.

Protection against ultraviolet radiation:

1. Never turn on the lamp if any of the lenses, filters, or the carbon fibre housing is damaged; their respective functions will only operate efficiently if they are in perfect working order.
Never look directly into the lamp when it is operating.

Safety:

1. The projector should alwasy be installed with bolts, clamps, and other fixings which are suitably rated to support te weight of the unit.

2. Always use a secondary safety chaing of a suitable rating to sustain the weight of the unit in case of the failure of the primary fixing point.

3. The external surface of the unit, at various points, may exceed 150°C. Never handle the unit until at least 10 minutes have elapsed since the lamp was turned off.

4. Always replace the lamp if any phusical damage is evident.

5. Never install the fixture in an enclosed area lacking sufficient air flow; the ambient temperature should not exceed 35°C.

6. A hot lamp may explode. always wait for at least 10 minutes to elapse after the unit has been turned off prior to attempting to replace the lamp.
Always wear suitable hand protection when handling the lamp.

4. Lamp: Installation and replacement

CF 1200 Hard Edge utilises a Philips MSR 1200 SA lamp of 1200W with a GY 22 base.
The lamp is available from your authorised **coemar sales agent**:

coemar cod.	**105090/1**
wattage	1200 w
luminous flux	96.000 lm
colour temperature	6500° K
base	GY 22
approximate life	500 hours

Attention
Turn off the power prior to opening up the unit.

The fixture's internal temperature can reach 250° C after 5 minutes, with a maximum peak of 350° C; ensure that the lamp is cold prior to attempting removal. The fixture should be allowed to stand and cool for 10 minutes prior to its removal.
MSR/SA lamps are part of the mercury vapour family of discharge lamps and must be handled with great care. The lamp operates at hight pressure, and the slight risk of explosion of the lamp exists if operated over its recommended life of 500 hours.
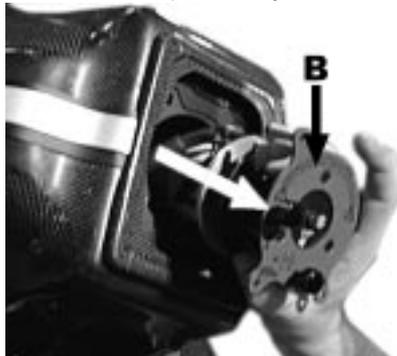We recommend, therefore, that the lamp be replaced within the manufacturer's specified lamp life.

mounting the lamp

1) Using a 3mm hex (Allen) key, remove the two hex bolts (**A**) which affix the lamp assembly to the rear of the projector.
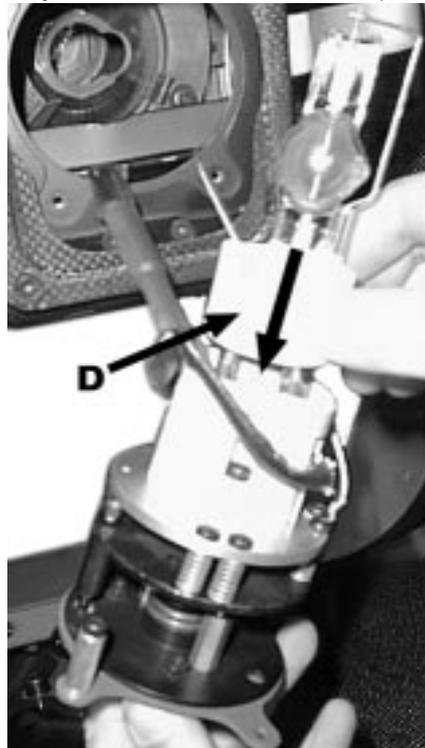
2) Remove the lamp assembly (**B**).

3) Locate the lampholder (**C**)

4) Insert the lamp (**D**). The lamp used is manufactured from quartz glass and should be handled with care; always adhere to the instructions supplied in the lamp's packaging. Never touch the glass directly, use the tissue provided in the lamp's packaging. The GY 22 lampbase is assymetrical in construction, with one lamp pin socket larger than the other; make sure therefore that the correct pin is lined up into its respective pin socket. DO NOT USE UNDUE FORCE. In case of difficulty, re-read the instructions and repeat the procedure.


5) Replace the lamp assembly (**B**) into its original position and replace and tighten the two screws (**A**) which were previously removed.
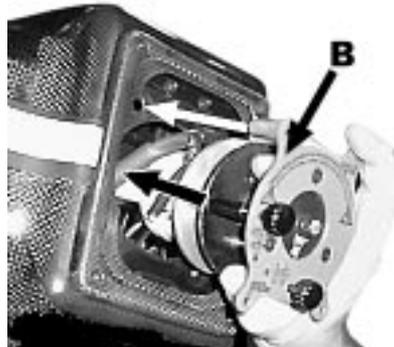
Attention: we recommend that the lamp be realigned in the optical train of the unit to avoid overheating of the dichroic filters and other internal components of the unit. refer to section 13 for instructions about this procedure.

5. Operating voltage and frequency

coemar factory presets (barring specific requests), a voltage of 230v and 240v selectable via the switch on the base of the **CF 1200 Hard Edge**.
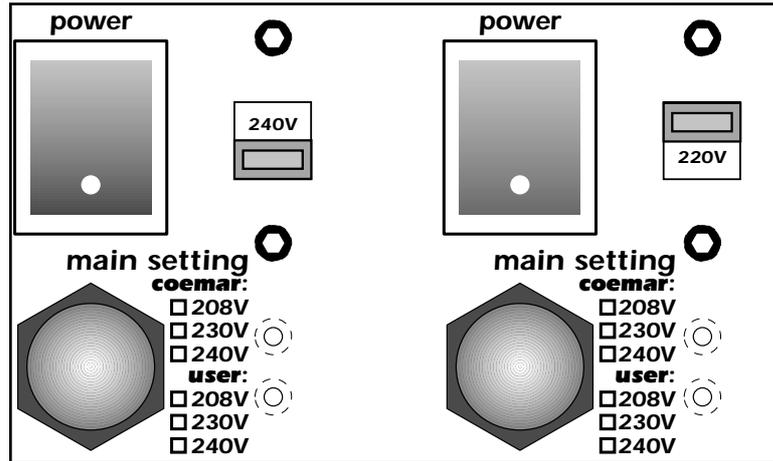
Remember to switch the selector (230 or 240V) to the position which best matches the average voltage available at your particular venue.

If your required operating voltage is 208V, you may select this internally within the unit by moving the cable numbered 21 (currently connected in the 240V position) or the cable numbered 22 (currently connected in the 230V position), thereby no longer availing yourself of either the 230V or 240V option.
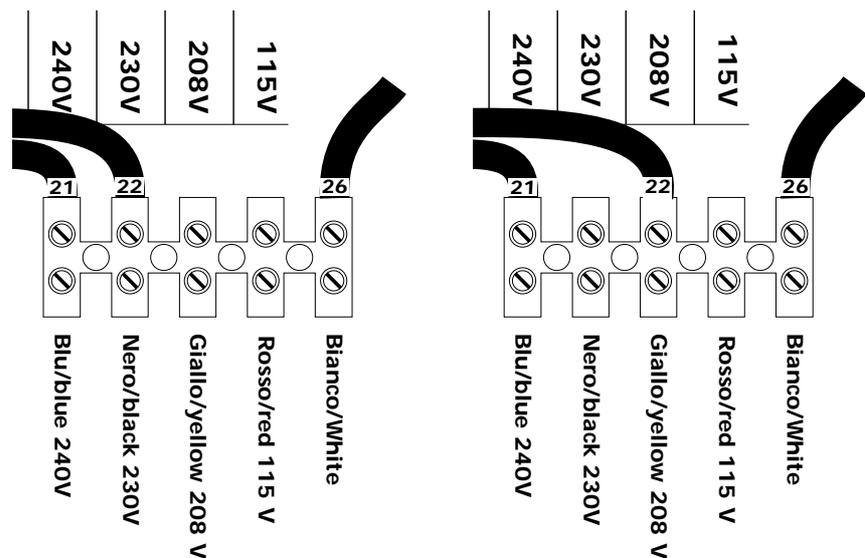
Incorrect voltage selection will detrimentally affect the operation of the projector. Under no circumstance should you move the cable numbered 26.

CF 1200 Hard Edge is fitted with an electronic ballast which automatically stabilises the output voltage to the lamp with any input voltages within the range of 180 to 260V; there is therefore no need for any electrical modifications required for dealing with voltages within this range.

6. Mounting the unit

mounting

The CF 1200 Hard Edge may be either floor or ceiling mounted.
The structure from which the unit is hung should be of sufficient rating to hold the weight of the unit, as should any clamps used to hang the unit.
The structure should also be sufficiently rigid so as not to move or shake whilst the **CF 1200 Hard Edge** moves during its operation.

The mounting holes in the base of the unit allow it to be mounted at various angles to the mounting truss and to trusses of various dimensions.

Note that in order to take advantage of the full articulated movement of the projector, it should be installed with the label marked " Lato frontale/ Front" facing towards the main item to be illuminated; in this manner the "0" or "home" position of the **CF 1200 Hard Edge** will be in the most efficient position.

protection against liquids

The projector contains electric and electronic components that must not come into contact with water, oil, or any other liquid.

movement

The projector has a movement of 370° in the base and 270° in the yoke; **DO NOT** place any obstructions in the path of the projector's movement.

safety chain

The use of a safety chain (cod. 069) - fixed to the **CF 1200 Hard Edge** and to the primary suspension point, is highly recommended to protect against accidental failure, however unlikely, of the primary suspension point.
If using an after-market safety chain not manufactured by **coemar**, ensure that it is of sufficient rating to hold the weight of the fixture.

risk of fire

Each fixture produces heat and must be installed in a well-ventilated position. The minimum recommended distance from flammable material is: 0.5m. Minimum distance from the object being illuminated is: 2 m.

7. Mains connection

cabling

The mains cable provided is thermally resistant, complying to the most recent international standards. It meets or exceeds the VDE and IEC norms, IEC 331, IEC 332 3C,CEI 20 35.

NB: In case of cable replacement, similar cable with comparable thermal resistant qualities must be used exclusivelly (cable 3x1.5 ø external 10 mm, rated 300/500V, tested to 2KV, operating temperature -40° +180°, **coemar** cod. CV5309).
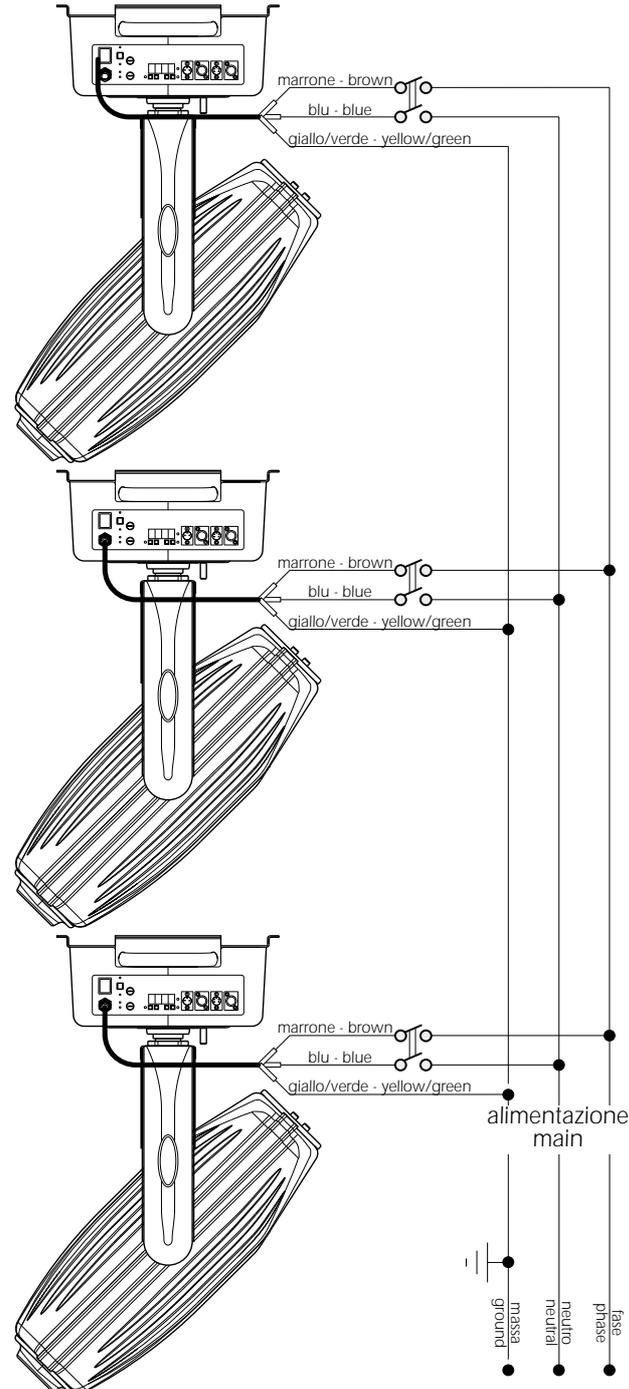
mains connection

The CF 1200 Hard Edge can operate at voltages from 208V-230V-240V at 50 or 60Hz (operating voltage and frequency can be selected as described in section 5 of this manual).

Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available to you.

For connection purposes, ensure your plug is of a suitable rating: 9.5 amps.

Locate the mains cable which exits the base of the unit and connect as shown below:

marrone - brown
blu - blue
giallo/verde - yellow/green

marrone - brown
blu - blue
giallo/verde - yellow/green

marrone - brown
blu - blue
giallo/verde - yellow/green

alimentazione
main

massa
ground

neutro
neutral

fase
phase

protection

The use of a thermal magnetic circuit breaker is recommended for each **CF 1200 Hard Edge**.

A good earth connection is essential for the correct operation of the fixture. Strict adherance to regulatory norms is strongly recommended.

ATTENTION!   DANGER!

The electronic ballast with which the **CF 1200 Hard Edge** is equiped, in common with other electronic devices such as amplifiers, monitors, and TVs, requires attention to the dimensions of the neutral cable, since the total current in the neutral cable is equal to the sum of all the current in all the active phases of the cable

For example, if the current is measured at the distribution point as being 10Amps on phase R, 10Amps on phase S, and 10Amps on phase T, there will be a total of 30 Amps in the neutral.

We ask that you carefully consider your cable current loading and therefore.ensure that your neutral cable is of a suitable rating.

The CF 1200 Hard Edge requires a good earth connection; never install a fixture unless the yellow/green earth cable is properly connected.

8. Signal connection

Control signal is digital, and is transmitted via two pair screened ø0.5mm cable. Connection is serial, utilising XLR 3 or XLR5 male and female sockets located on the base of the **CF 1200 Hard Edge**, labeled **DMX 512** and **DMX 512 standard** (see diagram).

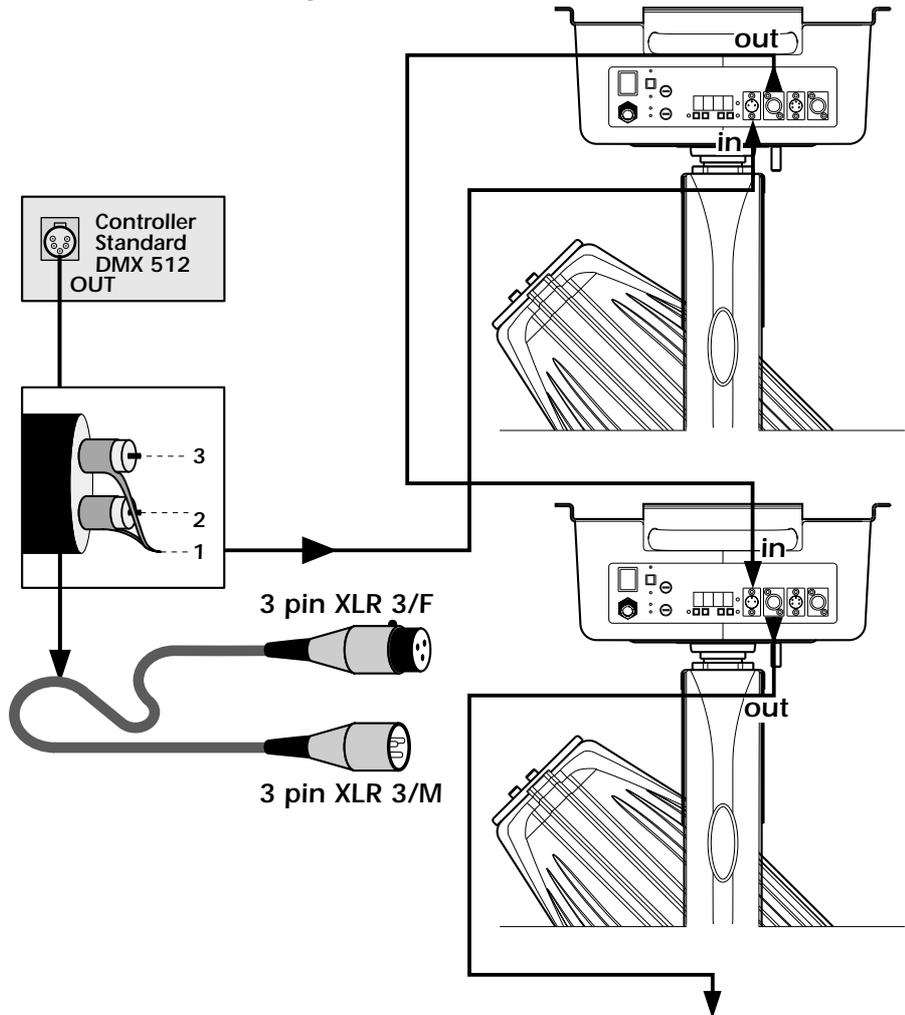Pin connections conform to the international standard:

pin 1= screening 0 volt   pin 4= not connected
pin 2= data -   pin 5= not connected
pin 3= data +

A connection using the 5 Pin XLR 5
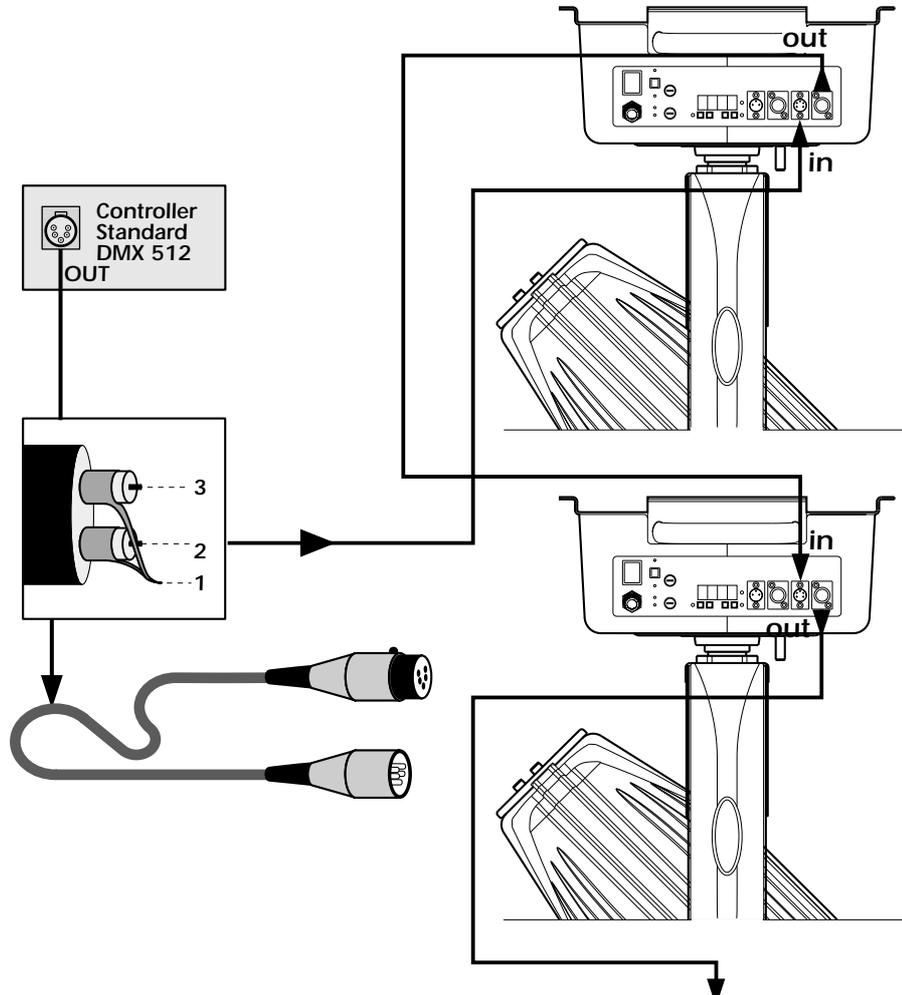
Ad altri CF 1200 Hard **E**dge
Connect to other CF 1200 Hard **E**dge

B connection using the 3 Pin XLR 3

out

Controller
Standard
DMX 512
OUT

in

3
2
1

in

3 pin XLR 3/F

out

3 pin XLR 3/M

Ad altri CF 1200 Hard Edge
Connect to other CF 1200 Hard Edge

Ensure that all data conductors are isolated from one another and the metal housing of the connector.

**Note: the housing of the cannon XLR 3 or 5 must be isolated.**

9. Powering up

After having followed the preceding steps, turn on the DMX 512 controller which will be used to control the **CF 1200 Hard Edge.** Following this, turn on the power to the projector, and turn on the projector's power switch. **The projector will perform a reset function on all the internal and external motors. This will last some few seconds, aftr which it will be subject to the external signal from the controller.**
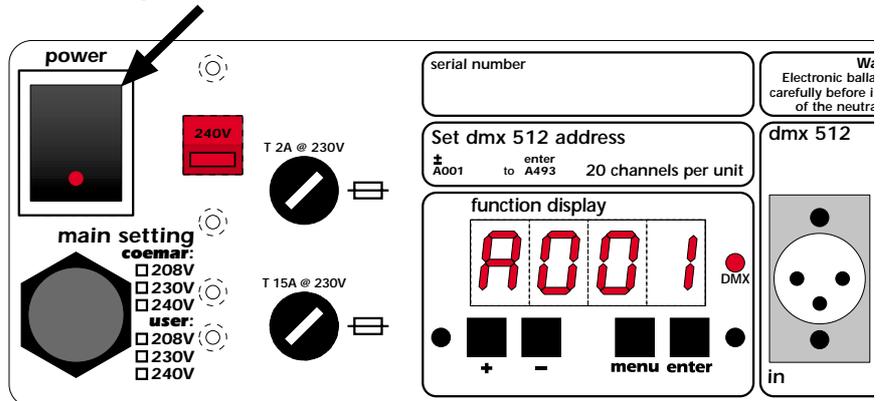
DMX led
The DMX **led** will be static on to indicate that **DMX 512** signal is being correctly received by the projector.
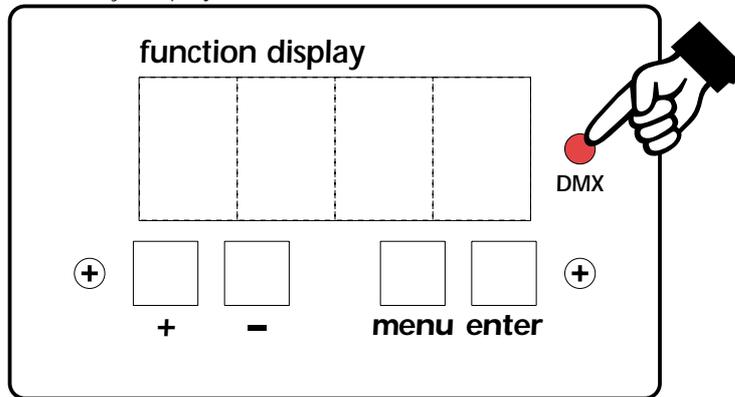
If the led is off, the projector is not receiving signal. check the cabling and the functioning of the controller.

Fuse replacement
Locate the fuse, which protects the lamp and electronics, in the base of the **CF 1200 Hard Edge**.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.

10. DMX addressing

Each **CF 1200 Hard Edge** utilises **20 channels** of **DMX 512 signal** for complete control.

To ensure that each projector accesses the correct signal, it is necessary to correctly address each fixture. Any number between 1 and 495 can be generated via the multifunction panel of the **CF 1200 Hard Edge**.

This procedure must be carried out on every **CF 1200 Hard Edge** being used.

When powered up initially, each projector will show **A001** which indicates **DMX address 1**; a projector thus addressed will respond to commands on channels **1** to **20** from the **DMX 512 controller**. A second projector should be addressed as **21**, a third as **41** and so on until the final **CF 1200 Hard Edge has been addressed.**

Altering DMX addresses

1) Press the **+** or **-** button until the display shows the **DMX** required, the characters in the display panel will flash to indicate that the selection is not stored in memory.

function display

A001

+   menu enter
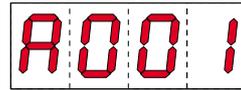
2) Press the **enter** button to confirm your selection; the display will stop flashing and the projector will now respond to the new DMX address.
3) To better understand the function of each channel, we refer you to section **12 "Control channel functions from a DMX 512 controller".**

Important Note: Keeping the **+** or **-** button pressed will cause the display to alter at increased speed, allowing a faster selection to be effected.

By pressing the **-** button, you may inadvertently select a DMX address which is not being communicated to the fixture by the controller, for example 500. If this is the case, the display will slow the data reception, (since it does not exist), and you will note that it is slow to respond to your commands (for example altering an address or requesting or confirming a reset). You may solve this problem by either sengin data to this address, or by altering the incorrect DMX setting of the **CF 1200 Hard Edge** in question.

11. Display panel functions

The display panel at the rear of the **CF 1200 Hard Edge** is used to display and set function information and various parameters.

Altering the **coemar** factory settings may vary the functioning of the projector, causing it to not respond to external **DMX 512** signal. Please read and familiarise yourself with the following information very carefully before altering any selections.

reset
This function causes a reset to occur in the case (however unlikely) that one or more of the motors should lose its reference point.
1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **rESE** (for reset).

function display
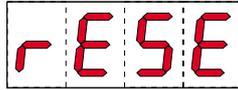
3) Press the **enter** button to confirm your selection; all the motors will perform a reset.

rate
This function provides information on the speed or rate of DMX 512 signal being received by the **CF 1200 Hard Edge**.
1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **rAtE** (for rate/speed).
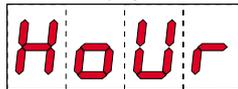
function display
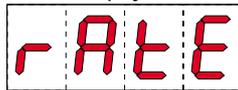
3) Press the **enter** button to confirm your selection; il display visualizza un valore numerico che è la velocità di trasmissione del segnale **DMX 512**.

hour
Permette di visualizzare la vita del proiettore, ovvero il numero di ore nelle quali **CF 1200 Hard Edge** è stato alimentato.
1) Press the **menu** button.
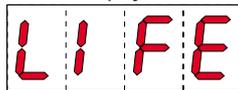2) Press the **+** or **-** button until the display shows **HoUr** (per ore).

function display

3) Press the **enter** button to confirm your selection; the display will show a numerical value which is the rate/speed of the DMX 512 signal being received.

life
This function provides information on the number of hours of operation of the lamp in the unit.
1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **LIFE** (for lamp life).
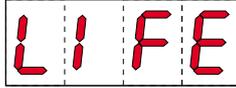
function display

3) Press the **enter** button to confirm your selection; the display will show a numerical value which is the length of time in hours that the lamp has been operated since the counter was last reset.

resetting the lamp life counter

The lamp life counter needs to be reset to zero at every lamp change to provide accurate information on lamp life

1) Turn off the projector
2) Power up the **CF 1200 Hard Edge** whilst simultaneously holding down the **+** and **- buttons**.
3) Press the **menu** button.
4) Press the **+** or **-** button until the display shows **LIFE** (for lamp life).
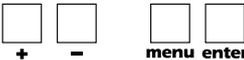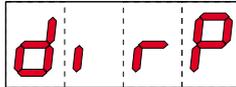
function display

+   −   menu enter

5) Press the **enter** button to confirm your selection; the display will show 0000 confirming that the counter has been reset.

dirp

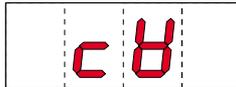This function inverts the movement for horizontal (pan) movements.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **dirP** (for pan direction).
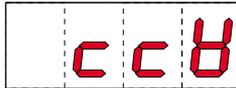
function display

+   −   menu enter

3) Press the **enter** button to confirm your selection; the display will show **cW** (for clockwise).

function display

+   −   menu enter

4) Press the **+** or **- button**; the display will show **ccW** (for counterclockwise).
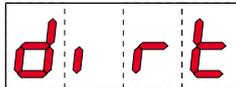
function display

+   −   menu enter

5) Press the **enter** button after either step 3 or 4 to confirm your choice of direction.

dirt

This function inverts the movement for vertical (tilt) movements.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **dirt** (for tilt direction).
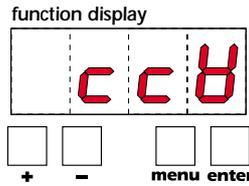
function display

+   −   menu enter

3) Press the **enter** button to confirm your selection; the display will show **cW** (for clockwise).

function display

+   −   menu enter

4) Press the **+** or **- button**; the display will show **ccW** (for counterclockwise).

function display

```
   c  c  W
  [ ] [ ]    [ ] [ ]
   +   -    menu enter
```

5) Press the **enter** button after either step 3 or 4 to confirm your choice of direction.

oPto
This function allows the sensors which read the instantaneous pan and tilt positions of the fixture to be switched on or off.
With the sensors activated (**opto ON**) the projector will automatically return to its correct position in case it is accidentaly moved out of position.
With the sensors deactivated (**opto OFF**) the projector will not return automatically to its correct position if it is accidentaly moved out of position.

NOTE: there will be a noticeable difference in the projector at startup; with **opto ON** the reset procedure will take but a few seconds; the reset can last up to a minute with the **opto oFF.**
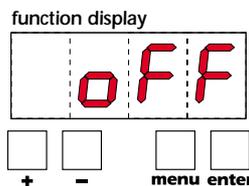1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **oPto**

function display

```
  o  P  t  o
  [ ] [ ]    [ ] [ ]
   +   -    menu enter
```
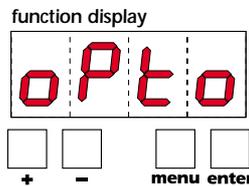
3) Press the **enter** button to confirm your selection; the display will show **on** (opto activated).

function display

```
   o  n
  [ ] [ ]    [ ] [ ]
   +   -    menu enter
```
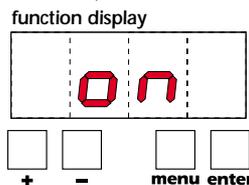
4) Press the **+** or **- button**; the display will show **oFF** (opto deactivated).

function display

```
   o  F  F
  [ ] [ ]    [ ] [ ]
   +   -    menu enter
```

5) Press the **enter** button after either step 3 or 4 to confirm your choice.
**N.B.** We recommend that the opto be deactivated only if it is obviously defective and requires replacement.

Gob1

This function allows the gobos on gobo wheel 1 (rotating gobos) to be either centred in the optical path of the projector or to be utilised in a proportional manner via **DMX 512** signal, thus allowing the creation of split gobos.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **Gob 1** (for gobo).
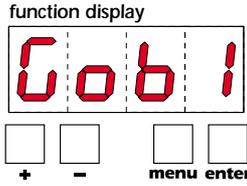
function display

3) Press the **enter** button to confirm your selection; the display whill show **Strd** (for standard) which corresponds to the automatic centring of gobos on gobo wheel 1 in the optical path of the projector.
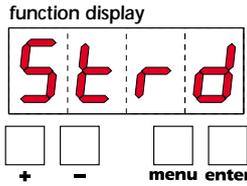
function display

4) Press the **+** or **-** buttons; the display will show **SPEc** (for special) which corresponds to the proportional rotation of gobo wheel 1.

function display
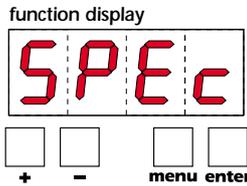
(a variation in the **DMX 512** signal corresponds to a proportional rotation of gobo wheel 1, thus allowing gobos from this wheel to be positioned out of centre in the optical path of the projector)

channel	function	type of control	effect	decimal
10	**gobo 1 selection standard (Strd)**	step	no gobo	0-30
		step	gobo 1	31-61
		step	gobo 2	62-91
		step	gobo 3	92-123
		step	gobo 4	124-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
NOTE: channel 10 function can be varied selecting gobo standard/special function on the back function display				
10	**gobo 1 selection special (SPEc)**	step	no gobo	0-10
		proportional	proportional gobo wheel rotation 360° from no gobo to the last gobo	11-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255

5) Press the **enter** button after either step 3 or 4 to confirm your choice of the manner in which gobo wheel 1 will respond to the DMX signal.

Gob2

This function allows the gobos on gobo wheel 2 (static gobos) to be either centred in the optical path of the projector or to be utilised in a proportional manner via **DMX 512** signal, thus allowing the creation of split gobos.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **Gob 2** (for gobo).
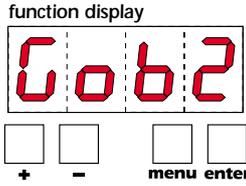
function display

+   -   menu enter

3) Press the **enter** button to confirm your selection; the display whill show **Strd** (for standard) which corresponds to the automatic centring of gobos on gobo wheel 2 in the optical path of the projector
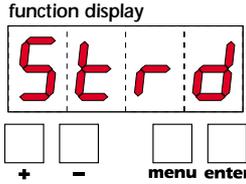
function display

+   -   menu enter

4) Press the **+** or **-** buttons; the display will show **SPEc** (for special) which corresponds to the proportional rotation of gobo wheel 2.

function display

+   -   menu enter
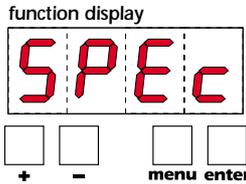
(a variation in the **DMX 512** signal corresponds to a proportional rotation of gobo wheel 2, thus allowing gobos from this wheel to be positioned out of centre in the optical path of the projector)

| channel	function	type of control	effect	decimal
13	**gobo 2 selection standard (Strd)**	step	no gobo (clear)	0-23
		step	gobo 1	24-49
		step	gobo 2	50-73
		step	gobo 3	74-99
		step	gobo 4	100-123
		step	gobo 5	124-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
NOTE: channel 13 function can be varied selecting gobo standard/special function on the back function display				
13	**gobo 2 selection special (SPEc)**	step	no gobo (clear)	0-10
		proportional	proportional gobo wheel rotation 360° from no gobo to the last gobo	11-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255

5) Press the **enter** button after either step 3 or 4 to confirm your choice of the manner in which gobo wheel 2 will respond to the DMX signal.

lamp

This function allows for the on/off control of the lamp via **DMX 512** signal, or for the permanent on (disenabling DMX control of this function) of the lamp.
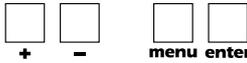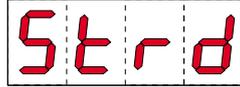
1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **LAMP** (for lamp).
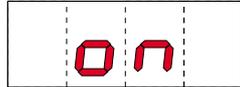
function display
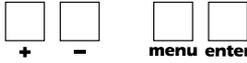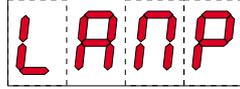
3) Press the **enter** button to confirm your selection; the display will show **Strd** (for standard) which corresponds to the standard configuration whereby the lamp can be turned on remotely by bringing channel 20 up to 100%, or off at 0%.

function display

4) Press the **+** or **- button**; the display will show **on** (for lamp on). At this setting, the lamp will remain on regardless of the level set on channel 20.
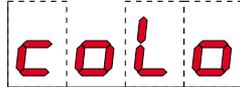
function display

5) Press the **enter** button after step 3 or 4 to confirm your selection.

coLo

This function allows the colour wheel to be used in a proportional manner via DMX 512 signal.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **coLo** (for colour wheel).

function display

3) Press the **enter** button to confirm your selection; the display will show **Strd** (for standard) which corresponds to the automatic centring of the colours on the colour wheel in the optical path of the unit. A change in the DMX 512 signal corresponds to a colour change by the **CF 1200 Hard Edge**.

function display
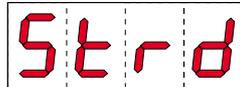
4) Press the **+** or **- button**; the display shows **SPEc** (for special) which corresponds to the proportional selection of the colour on the colour wheel (split colours are thereby possible)

function display
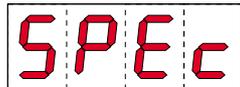
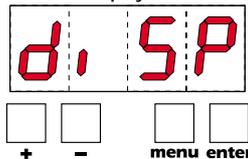5) Press the **enter** button after either step 3 or step 4 to confirm your choice of colour selection.

channel	function	type of control	effect	decimal
16	color selection standard (Strd)	step	White	0-23
		step	color 1	24-49
		step	color 2	50-73
		step	color 3	74-99
		step	color 4	100-123
		step	color 5	124-151
		proportional	color wheel rotate continously, speed from min to max	152-255
NOTE: channel 16 function can be varied selecting color standard/special function on the back function display				
16	color selection special (SPEc)	step	no effect	0-10
		proportional	proportional color wheel rotation 360° from white to the last color	11-151
		proportional	color wheel rotate continously, speed from min to max	152-255

disp

This function inverts the LED display in the display panel, thereby allowing it to be read easily regardless of the position in which the projector is mounted (see section 6. Mounting the unit).
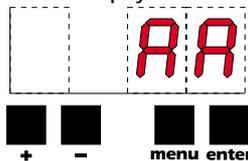
1) Press the **menu** button.

2) Press the **+** or **-** button until the display shows **diSP** (for display).
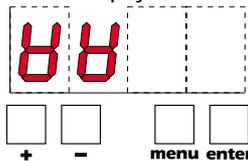
function display

+   -   menu enter

3) Press the **enter** button to confirm your selection; the display shows **AA** (for hanging position).

function display

+   -   menu enter

4) Press the **+** or **- button**; the display shows **∀∀** (for sitting position).
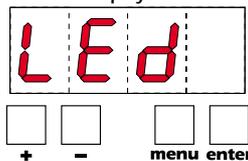
function display

+   -   menu enter

5) Press the **enter** button after either step 3 or step 4 to confirm your selection.

LEd

This function allows the display to be switched on or off.

1) Press the **menu** button.

2) Press the **+** or **-** button until the display shows **Led**.

function display

+   -   menu enter

3) Press the **enter** button to confirm your selection; the display will turn off, reappearing when any button is next pressed.

**function display**

```
  oFF
□ □   □ □
+ −   menu enter
```
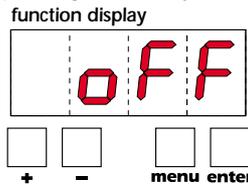
3) Press the **+** or **-button to** confirm your selection; the display will show **oFF** (for display off).

tESt

This function allows for a test sequence to be carried out on the respective motors of the unit in the absence of any DMX signal.
1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **tESt** (for test).

function display

```
 tESt
□ □   □ □
+ −   menu enter
```
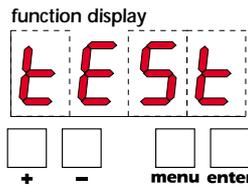
3) Press the **enter** button to confirm your selection; the display will show **t 01** (for test number 1). Press the **+** or **-** buttons for subsequent tests from **t 01** to **t 12**.

function display

```
 t 01
□ □   □ □
+ −   menu enter
```
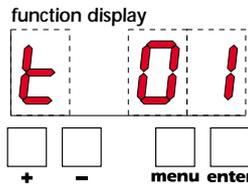
In these tests the projector simulates the reception of a DMX 512 signal which is increasing from 1 to 255 on the selected channel.

t 01 = movement in the X-axis
t 02 = fine movement in the X-axis
t 03 = movement in the Y-axis
t 04 = fine movement in the Y-axis
t 05 = opening/closing of the dimmer
t 06 = opening/closing of the blackout/strobe shutter
t 07 = opening/closing of the iris diaphragm
t 08 = movement of the zoom system
t 09 = focus
t 10 = selecting gobo 1
t 11 = rotation gobo 1 360°
t 12 = rotating gobo 1& and indexing of position
t 13 = selecting gobo 2
t 14 = selecting effect
t 15 = rotating effect
t 16 = rotating colour wheel 1
t 17 = cyan
t 18 = magenta
t 19 = yellow
t 20 = no function

4) Press the **enter** button to confirm your selection of test to be carried out.

11.1. Powering up the CF 1200 Hard Edge with movement disenabled

This function can be useful should you need to power up the **CF 1200 Hard Edge** in its roadcase or for any other reason where you may wish to power up the unit without it moving.

1) Power up the projector whilst simultaneously pressing the **enter** and **-** buttons
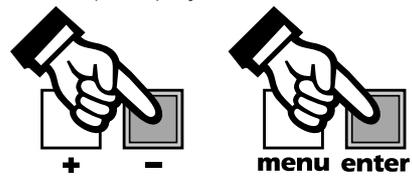
The projector will perform the usual reset functions on every motor barring the pan and tilt motor, which will remain static throughout the reset procedure.

2) You may at this point alter a DMX address, or any other menu-based parameter without projector articulated movement.

3) Top resume normal **CF 1200 Hard Edge** functioning you must turn the projector off and then on again.

12. DMX 512 signal functions

If all procedures have been correctly carried out to this point, the 20 channels of your **DMX 512** controller will have full control over all the effects available from your **CF 1200 Hard Edge** as described in the following table:

channel	function	type of control	effect	decimal
1	**Base (pan) coarse**	proportional	coarse control of the base movement	0-255
2	**Base (pan) fine**	proportional	fine control of the base movement	0-255
3	**Yoke (tilt) coarse**	proportional	coarse control of the Yoke movement	0-255
4	**Yoke (tilt) fine**	proportional	fine control of the Yoke movement	0-255
5	**dimmer**	step	closed	0-7
		proportional	from close to open	8-255
6	**shutter**	step	closed	0-9
		proportional	strobe effect increasing flash rate	10-127
		proportional	random strobe, increasing flash rate	128-247
		step	open	248-255
7	**iris**	step	open	0-15
		proportional	from large to small	16-115
		step	iris small	116-192
		proportional	iris pulse, with increasing pulse speed	193-251
		step	iris max, wide beam	252-255
8	**Zoom**	proportional	proportional zoom control from small to large beam	0-255
9	**focus**	proportional	proportional focus control	0-255
10	**gobo 1 selection standard (Strd)**	step	no gobo	0-30
		step	gobo 1	31-61
		step	gobo 2	62-91
		step	gobo 3	92-123
		step	gobo 4	124-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
NOTE: channel 10 function can be varied selecting gobo standard/special function on the back function display				
10	**gobo 1 selection special (SPEc)**	step	no gobo	0-10
		proportional	proportional gobo wheel rotation 360° from no gobo to the last gobo	11-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
11	**gobo 1 360° positioning**	step	no effect	0-10
		proportional	proportional indexable gobo positioning 360°	11-255
12	**gobo 1 rotation & fine positioning**	proportional	proportional indexable fine gobo positioning 360°	0-100
		proportional	continuos gobo rotation clockwise with proportional speed from max to min.	101-176
		step	gobo stop	177- 179
		proportional	continuos gobo rotation counter-clockwise with proportional speed from min. to max	180-255
13	**gobo 2 selection standard (Strd)**	step	no gobo (clear)	0-23
		step	gobo 1	24-49
		step	gobo 2	50-73
		step	gobo 3	74-99
		step	gobo 4	100-123
		step	gobo 5	124-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
NOTE: channel 13 function can be varied selecting gobo standard/special function on the back function display				

channel	function	type of control	effect	decimal
13	gobo 2 selection special (SPEc)	step	no gobo (clear)	0-10
		proportional	proportional gobo wheel rotation 360° from no gobo to the last gobo	11-151
		proportional	gobo wheel rotate continously, speed from min to max	152-255
14	effects selection (prism, lens)	step	no effects (clear)	0-62
			effect 1	63-126
			effect 2	127-190
			effect 3	191-255
15	effects rotation	step	no effect	0-26
		proportional	continuos effect rotation clockwise with proportional speed from min. to max.	27-255
16	color selection standard (Strd)	step	White	0-23
		step	color 1	24-49
		step	color 2	50-73
		step	color 3	74-99
		step	color 4	100-123
		step	color 5	124-151
		proportional	color wheel rotate continously, speed from min to max	152-255

NOTE: channel 16 function can be varied selecting color standard/special function on the back function display

channel	function	type of control	effect	decimal
16	color selection special (SPEc)	step	no effect	0-10
		proportional	proportional color wheel rotation 360° from white to the last color	11-151
		proportional	color wheel rotate continously, speed from min to max	152-255
17	cyan	proportional	proportional cyan control from white to cyan	0-255
18	magenta	proportional	proportional magenta control from white to magenta	0-255
19	Yellow	proportional	proportional yellow control from white to yellow	0-255
20	function	step	lamp off	0-19
		step	pan/tilt go to sensor	20-100
		step	all motor reset	101-170
		step	soft focus	171-240
		step	lamp on	241-255

Back panel can modify function channel (inhibit lamp off)

channel	function	type of control	effect	decimal
20	function	step	lamp on	0-19
		step	pan/tilt go to sensor	20-100
		step	all motor reset	101-170
		step	soft focus	171-240
		step	lamp on	241-255

note 1: 2 or 4 numbers close to the end limit levels cannot be used as unstable levels

note 2: function channel has a delay time of 6 second to prevent accidental activation.

note 3 :on/off lamp mode is not affected unless an opposite value is received

13. Aligning the lamp in the optical system

Aligning the lamp in the optical system is achieved via the 3 adjusters at the rear of the projector.

This procedure should be undertaken to properly align the lamp in the optical system and to avoid the possible overheating of the internal components due to the incorrect focusing of the beam onto components not intended to be exposed to this.

alignment procedure

Alignment is effected via the 3 adjusters **A**, **B** and **C** operating in conjunction with each other. The lamp should be on, black-out and dimmer fully open, and no colour filters inserted.

If the lamp is not correctly aligned, a hot-spot will be noticeable. This is a function of the lamp's positioning. Use the two adjusters (**A** and **B**) to bring the hot-spot to the centre of the beam. Use the third adjuster (**C**) to flatten the beam to maximum uniformity.

vertical adjustment

Adjuster (**B**) acts on a lever and spring assembly to position the lamp via a vertical movement within the reflector; rotate it until correct positioning is achieved.

horizontal adjustment

Adjuster (**A**) acts on a lever and spring assembly to position the lamp via a horizontal movement within the reflector; rotate it until correct positioning is achieved.

axial adjustment

Adjuster (**C**) moves the entire lamp assembly axially within the unit; rotate it until correct positioning is achieved, resulting in a flat, even beam.
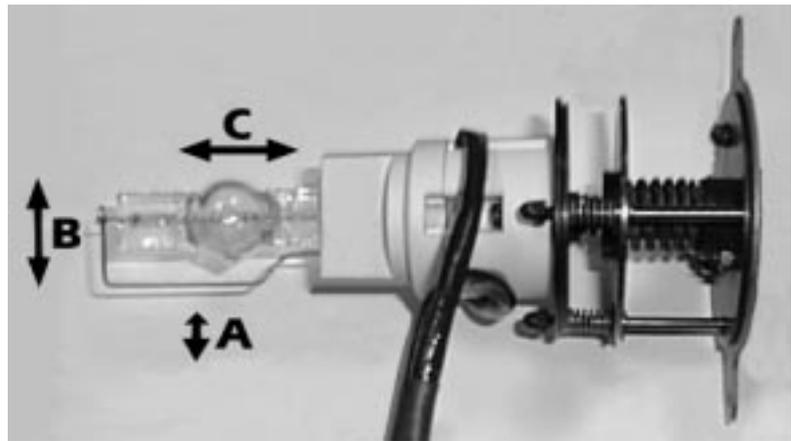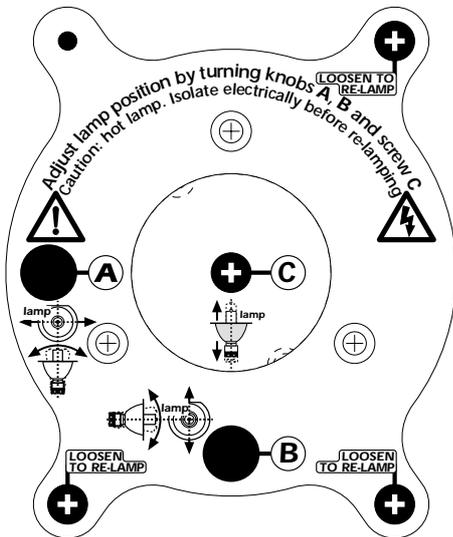
14. Opening up the projector housing

The entire top section of the projector (**B**) may be completely removed thus allowing complete access to the internals of the projector. Disengage the 4 latches (**A**) to release the housing.
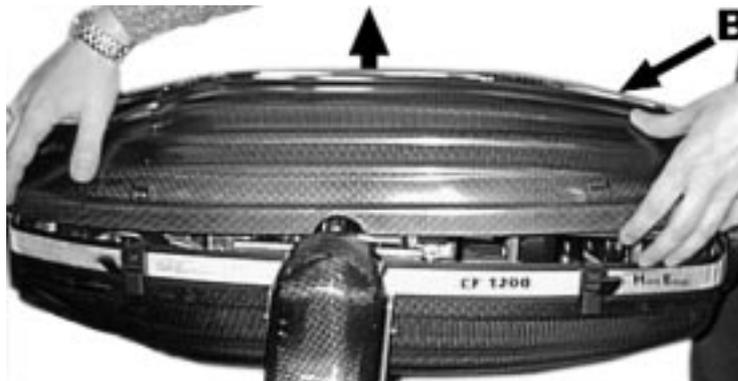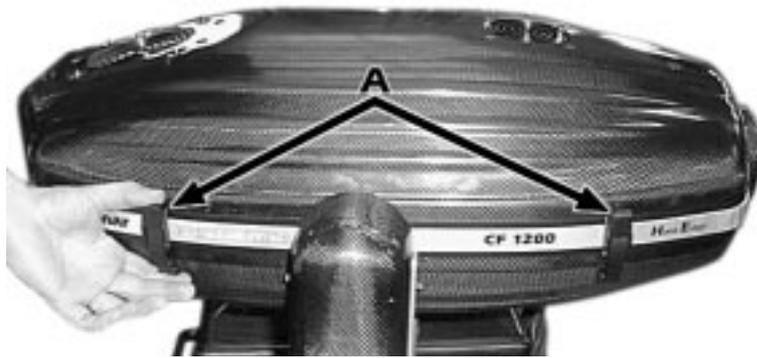
Remove the safety cable (**C**)

15. Interchanging gobos

The **CF 1200 Hard Edge** utilises a mechanical system which allows the fixtures gobos to be removed without the need for specialised equipment.
Replacement gobos should be made of either heat resistant glass or metal.
An ever-increasing range of gobos is available from your coemar sales network.

replacing gobos on the rotating gobo wheel
Gobos may be replaced as required to produce special effects as required.

Gobo replacement should always be carried out with the power to the unit shut off, and the inspection lid removed as described in section 14.
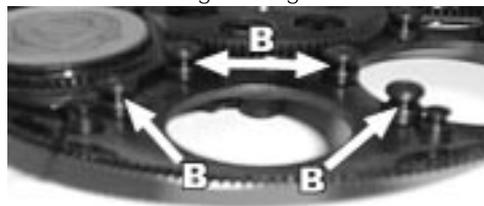
1) Release the gobo retaining spring (D) as shown in the following diagrams.
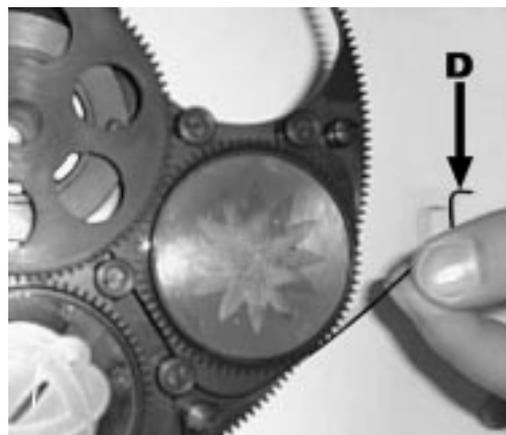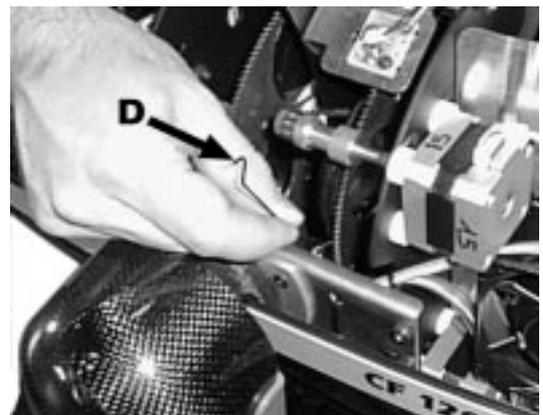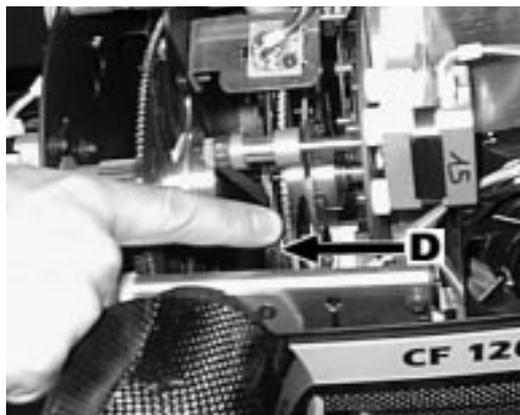
2) Remove the gobo and its geared housing (E)
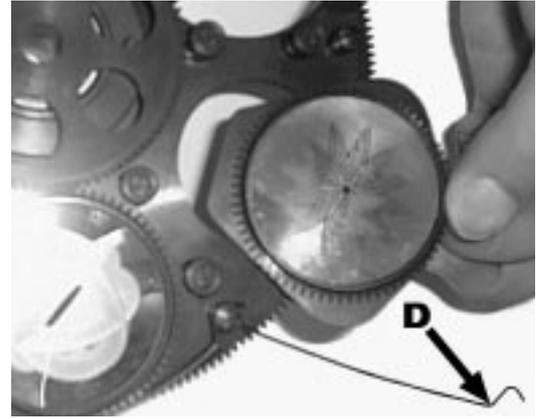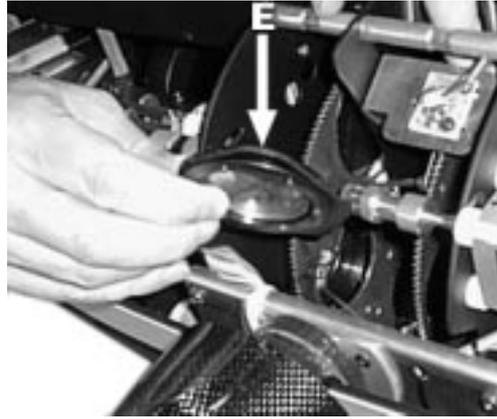
3) Insert the new gobo, making sure it is fitted correctly. You must ensure that the flat support plate fits into its guide B and that there is a correct engagement between the teeth of the cog of the gobo and those of the central rotation wheel's cogs.
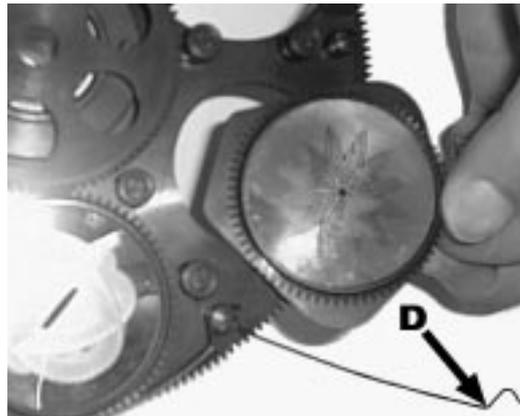

4) Replace the gobo retaining ring (D) making sure it is secured in its catch.

replacing gobos on the fixed gobo wheel

You may replace the standard gobos with either dichroic glass or metal gobos by following these simple instructions:
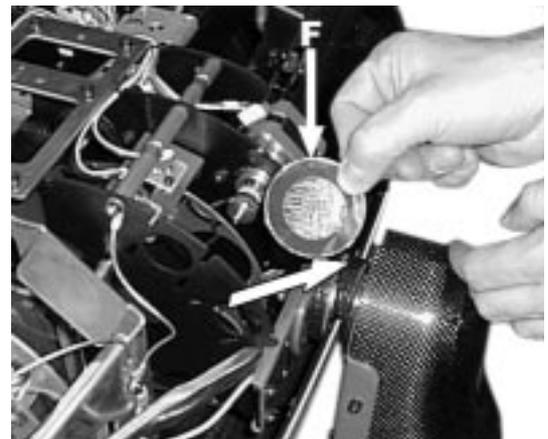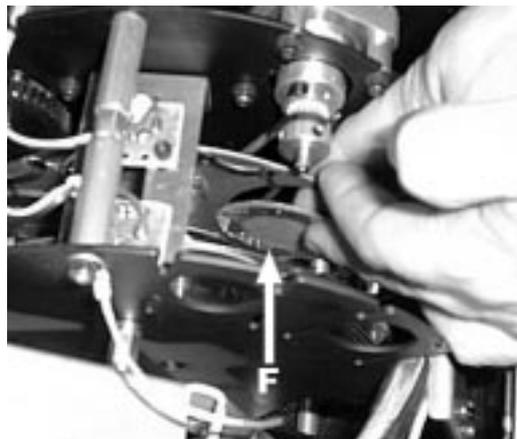
A) replacing glass gobos

1) Slide the gobo gently towards the centre of the gobo wheel in order to release it from the 2 upper retaining clips (A).
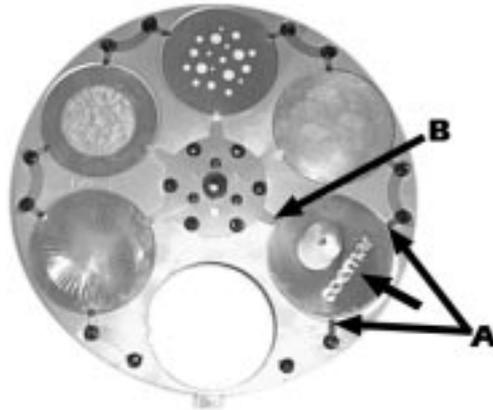
2) Slide the gobo away from the centre of the gobo wheel to release it from the central retaining clip (B) and thus remove it from the unit.
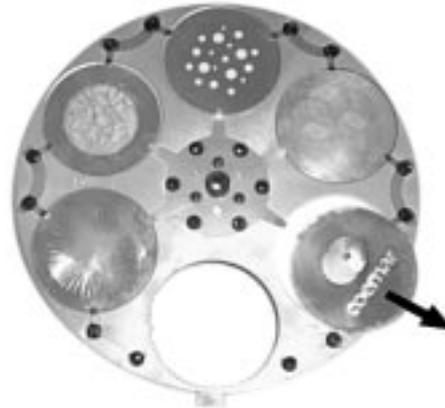
3) To insert a new gobo repeat the procedure in reverse, first sliding the gobo under the central retaining clip (B) then seat it under the two outer clips (A).

3) Ensure that the gobo is seated correctly in its guide under the springs.

B) replacing a glass gobo with a metal gobo

Metal gobos should have an external 50mm Ø with an image area of 38mm Ø; **coemar** can supply a wide range of replacement gobos.

1) To insert the metal gobo, procede as per the previous instructions for glass gobos. You will, however, require a separate retaining ring with a thickness of 1,8 mm, similar to that shown below, which is fitted above the metal gobo directly under the 3 retaining clips.

16. Interchanging dichroic filters

You may replace dichroic glass filters on the colour wheel with colours of your own choosing. These replacements should have a 45mm Ø, with a 1 mm thickness and be of tempax (high temperature resistant) glass.

Ensure that prior to commencing any replacement operation, the projector is disconnected from mains power.

| **Attention** |
| :---: |
| Disconnect mains power prior to attempting any replacement procedure. |

replacing a dichroic filter

1) Remove the inspection lid of the projector as described in section *14. Opening the projector housing*
2) Locate the dichroic colour wheel
3) Manually rotate the colour wheel until you locate the colour you wish to replace.

4) Rotate the colour wheel until you reach the empty slot.

5) Remove the dichroic filter by sliding the filter gently up and towards the central retaining clips, thus releasing it from the two clips on the outer edge of the wheel.
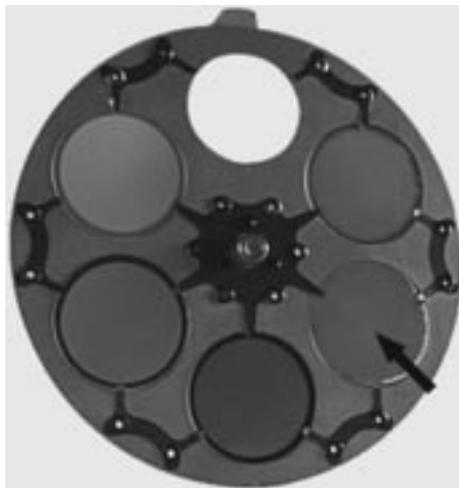
7) Slide out the filter.

8) Insert the new colour filter by first sliding it under the central retaining clip, then sliding it back under the outer clips, ensuring that it is seated correctly in the colour wheel.
9) Replace the **CF 1200 Hard Edge inspection lid**.

17. Automatic internal functions

The **CF 1200 Hard Edge** has several automatic functions and features which at first glance may not be noticed. However, they serve to add functionality to the projector, and to assist in extending the serviceabilty of the unit.

on-board hot-strike timer

This on-board feature ensures that the operator cannot re-ignite the lamp until 6 minutes have passed since the lamp was switched off.

This is designed to avoid damage to the lamp ignition circuit which can occur if an operator contiunally attempts to strike a hot lamp. It further protects the lamp from possible damage due to voltage spikes which may occur at this time.

NOTE: The timer is reset only when the projector is switched off.

on-board lamp ignition timer

This feature ensures that an operator cannot repeatedly attempt to strike a lamp for more than 3 seconds if the lamp does not ignite. It will automatically attempt to restrike the lamp for 3 seconds in every subsequent minute.

This is designed to protect the ballast and lamp ignitor from prolonged usage in less than ideal conditions.

NOTE: it is important to replace a lamp that is at the end of its useful life and replace it. Old lamps are generally progressively more difficult to strike.

thermal protection

Two thermal sensors in the body and base of the **CF 1200 Hard Edge** protect the unit against overheating.

The thermal sensors operate by removing voltage to the lamp if the ambient temperature rises above a preset maximum due to either less than ideal air circulation around the fixture or in the event of cooling fan failure.

automatic realignment

An internal 4 point encoder system allows the **CF 1200 Hard Edge** to return to its correct position in case the unit is accidentally knocked out of alignment whilst operating. This is particularly useful if the projector is to be mounted on the floor in a position where the performer or artist may accidentally bump the unit.

NOTE: this facility may be deactivated if desired (see section 11 opto).

18. Maintenance

Whilst every possible precaution has been taken to ensure the trouble-free operation of your **CF 1200 Hard Edge**, the following periodic maintenance is highly recommended.

Attention
Disconnect mains power prior to opening the inspection lid

To gain access to the internals of the unit refer to section **14.** of this manual, *Opening the projector housing.*

periodic cleaning
lenses and reflectors
Even a fine layer of dust can reduce the luminous output substantially. Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

fans and air passages
The fans and air passages must be cleaned approximately every 6 weeks; the period for this periodic cleaning will depend, of course, upon the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor.

periodic maintenance
lamp
The lamp should be replaced if there is any observable damage or deformation due to heat. This will avoid the danger of the lamp exploding.

mechanicals
Periodically check all mechanical devices for wear and tear; gears, guides, belts, etc., replacing them if necessary. Periodically check the lubrication of all components, particularly the parts subject to high temperatures. If necessary, lubricate with suitable lubricant, available from your coemar distributor.

electrical components
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

19. Electronic alignment of motors

The display panel at the rear of the **CF 1200 Hard Edge** allows for the electronic alignment of the projector's motors. This procedure is performed by **coemar** at the factory. It may be useful to perform this procedure in the case of internal components being replaced.

Altering the factory settings may radically alter the functioning of the projector. Carefully read all of the following prior to attempting any changes.

electronic calibration

Important Note: electronic calibration is only possible if the projector is connected to a **DMX 512** source.

1) Press the **menu** button.
2) Press the **+** or **-** button until the display shows **rESE** (for reset).

function display
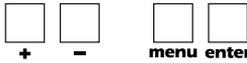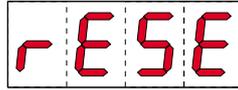
3) Press the **enter** button to confirm your selection then immediately and simultaneously press and hold the **menu button**, holding both pressed for at least **30** seconds. The motors of the unit will perform a reset and the display will show the following for some few seconds, indicating that you have entered the electronic calibration mode:
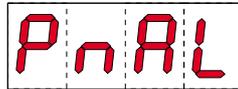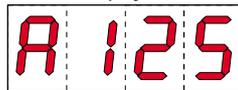
function display
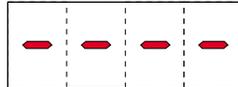
PnAl

1) Press the **+** or **-** button until the display shows **PnAL** (for pan alignment, movement of the base motor of th unit).

function display

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
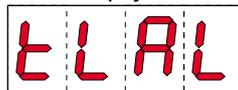
function display

3) Press the **+** or **- button until the numerical value corresponds with the correct alignment of the unit** (note that with each press of the **+** or **-** button the motor will move).
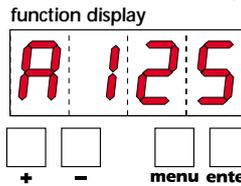4) Press the **enter** button to confirm your selection.

tLAL

1) Press the **+** or **-** button until the display shows **tLAL** (for tilt alignment, movement of the yoke).

function display
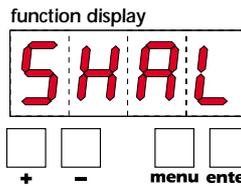
2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.

function display

```
A 125
```

+ − menu enter

3) Press the **+** or **-** button **until the numerical value corresponds with the correct alignment of the unit** (note that with each press of the **+** or **-** button the motor will move).
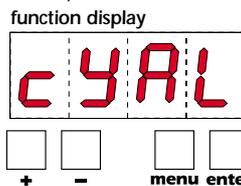4) Press the **enter** button to confirm your selection.

SHAL

1) Press the **+** or **-** button until the display shows **SHAL** (for alignment of the black-out shutter).

function display

```
SHAL
```

+ − menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the black-out shutter in the optical path of the projector.
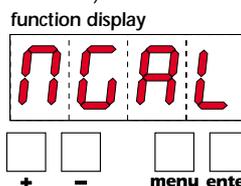4) Press the **enter** button to confirm your selection.

cYAL

1) Press the **+** or **-** button until the display shows **cYAL** (for alignment of the cyan colour).

function display

```
cYAL
```

+ − menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds to the perfect alignment of the cyan colour in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

MGAL

1) Press the **+** or **-** button until the display shows **MGAL** (for alignment of the magenta colour).
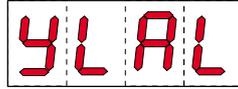
function display

```
MGAL
```

+ − menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds to the perfect alignment of the magenta colour in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

YLAL

1) Press the **+** or **-** button until the display shows **YLAL** (for alignment of the yellow colour).
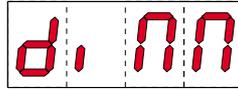
function display

+　–　menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds to the perfect alignment of the yellow colour in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

diMM

1) Press the **+** or **-** button until the display shows **diMM** (for alignment of the dimmer).

function display

+　–　menu enter
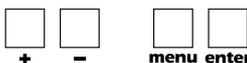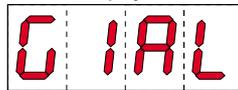
2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds to the full closure of all the dimmers of the **CF 1200 Hard Edge's in your installation**.
4) Press the **enter** button to confirm your selection.

G1AL

1) Press the **+** or **-** button until the display shows **G1AL** (for alignment of the rotating gobo wheel).

function display

+　–　menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the rotating gobo wheel in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

G2AL

1) Press the **+** or **-** button until the display shows **G2AL** (for alignment of the fixed gobo wheel).
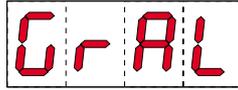
function display

+　–　menu enter

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the static gobo wheel in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

GrAL

1) Press the **+** or **-** button until the display shows **GrAL** (for gobo alignment).
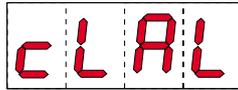
function display

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the gobos on the rotating gobo wheel of all the **CF 1200 Hard Edge** in the same installation.
4) Press the **enter** button to confirm your selection.

cLAL

1) Press the **+** or **-** button until the display shows **cLAL** (for alignment of the colour wheel).

function display
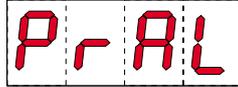

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the colour wheel in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

PrAL

1) Press the **+** or **-** button until the display shows **PrAL** (for alignment of the prism wheel).

function display

2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the factory preset.
3) Press the **+** or **-** button until the numerical value corresponds with the correct alignment of the prism wheel in the optical path of the projector.
4) Press the **enter** button to confirm your selection.

END

1) Press the **+** or **-** button until the display shows **END** (for completion of the electronic alignment procedure)

function display
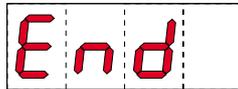
2) Press the **enter** button to confirm your selection. The display will revert to its normal operating mode and the internal memory will record all changes made.

Important Note: At the termination of the above electronic calibration procedure, if the END function is not performed, no memory changes will be effected. This allows the operator to abort any changes made, in case of operator error.

20. Spare parts

All the components of the **CF 1200 Hard Edge** are available as replacement spares from your authorised **coemar** sales agent.

Accurate description of the fixture, model number, and type will assist us in providing for your requirements in an efficient and effective manner.

CE

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instruction manual

CF 1200 Hard **E**dge

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