ARC 1200

DTS

The Lighting Company

GB

Le informazioni contenute in questo documento sono state attentamente redatte e controllate. Tuttavia non è assunta alcuna responsabilità per eventuali inesattezze. Tutti i diritti sono riservati e questo documento non può essere copiato, fotocopiato, riprodotto per intero o in parte senza previo consenso scritto della DTS .
DTS si riserva il diritto di apportare senza preavviso cambiamenti e modifiche estetiche , funzionali o di design a ciascun proprio prodotto. DTS non assume alcuna responsabilità sull'uso o sull'applicazione dei prodotti o dei circuiti descritti.

The information contained in this publication has been carefully prepared and checked. However, no responsibility will be taken for any errors. All rights are reserved and this document cannot be copied, photocopied or reproduced, in part or completely, without prior written consent from DTS.
DTS reserves the right to make any aesthetic, functional or design modifications to any of its products without prior notice. DTS assumes no responsibility for the use or application of the products or circuits described herein.

Les informations contenues dans le présent manuel ont été rédigées et contrôlées avec le plus grand soin. Nous déclinons toutefois toute responsabilité en cas d'éventuelles inexactitudes. Tous droits réservés. Ce document ne peut être copié, photocopié ou reproduit, dans sa totalité ou partiellement, sans le consentement préalable de DTS.
DTS se réserve le droit d'apporter toutes modifications et améliorations esthétiques, fonctionnelles ou de design, sans préavis, à chacun de ses produits. DTS décline toute responsabilité sur l'utilisation ou sur l'application des produits ou des circuits décrits.

Las informaciones contenidas en este documento han sido cuidadosamenteredactadas y controladas. Con todo, no se asume ninguna responsabilidad por eventuales inexactitudes. Todos los derechos han sido reservados y este documento no puede ser copiado, fotocopiado o reproducido, total o parcialmente, sin previa autorizaciónescrita de DTS.
DTS se reserva el derecho a aportar sin previo aviso cambios y modificaciones de carácter estético, funcional o de diseño a cada producto suyo. DTS no se asume responsabilidad de ningún tipo sobre la utilización o sobre la aplicació
n de los productos o de los circuitos descritos.

INDEX:

1- TECHNICAL FEATURES 4
2- IMPORTANT SAFETY INFORMATION 5
2.1 Fire prevention
2.2 Prevention of electric shock
2.3 Protection against ultraviolet radiation
2.4 Safety
2.5 Level of protection against the penetration of solid and liquid matter
3- MOUNTING THE LAMPS 6
3.1 Lamp alignment
4- VOLTAGE AND FREQUENCY 7
5- INSTALLATION 7
5.1 Safety chain
5.2 Protection against liquids
5.3 Risk of fire
5.4 Forced ventilation
5.5 Ambient temperature
6- MAINS CONNECTION 8
6.1 Protection:
7- DMX SIGNAL CONNECTION 8
7.1 DMX Addresses
7.2 Selecting the DMX address
8- DISPLAY FUNCTIONS 10
9- AUTOMATIC OPERATION (AUTO) 12
9.1 Game 1-2-3..13
9.2 Game P
9.3 Rec mode
10- ERROR MESSAGES 13
11- HIDDEN MENU 13
12- OPENING UP THE PROJECTOR HOUSING 14
13- PERIODIC CLEANING 16
13.1 Lenses and reflectors
13.2- Periodic controls
14- CONTROL MOTORS CARD 16
15- DISPLAY CARD
16- ON / OFF LAMP CIRCUIT SCHEMATIC 17
17- DMX PROTOCOLS 19

1- TECHNICAL FEATURES

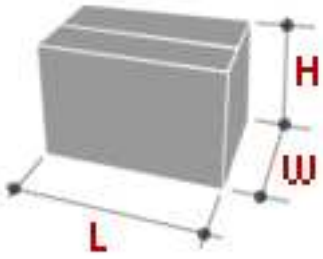
IP grade protection: IP55
Lamp: MSR1200/2 OR MSD1200
Control: MAX 10 DMX512 CHANNELS
Linear CMY colour mixing
Lamp on/off via DMX or by menu
Strobo effect (10 flash/sec) + evanescences (opening and closing)
Dimmer
Cto
Beam shape
Preprogrammed games with Master Slave Function
Net weight: kg65
Dimensions (AxLxP)
projector (870x530x410mm)

ARC 1200 grey DTS CODE 03.E0500
ARC 1200 black DTS CODE 03.E0500.40

OPTIONAL
Barndoor grey 03.E0494.BD
Barndoor black 03.E0494.40.BD
High horizontal light beam code:0506V023
High vertical light beam code:0506v024

Packaging Dimensions (LxWxH)
755x590x840 mm

Packed weight
70 kg



2- IMPORTANT SAFETY INFORMATION

2.1 Fire prevention:

-ARC1200 uses a Philips 1200 MSR/2 or MSD 1200 lamp. The use of any alternative lamp is not recommended and will null and void the fixture's warranty.
-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 m.
-Minimum distance from the closest illuminable surface: 1 m.
-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

2.2 Prevention of electric shock:

-High voltage is present inside the unit. Isolate the projector from the mains supply prior to performing any function which involves touching the inside of the unit, including lamp replacement.
-The level of technology inherent in the ARC1200 requires the assistance of specialised personnel for all servicing.Please refer to an authorised DTS service centre.
-A good earth connection is essential for proper functioning of the projector.
Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

2.3 Protection against ultraviolet radiation:

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

2.4 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety chain to sustain the weight of the unit in case of the failure of the main fixing point.
-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.
-Always replace the lamp if any physical damage is evident.
-Never install the fixture in an enclosed area lacking sufficient air flow. The ambient temperature should not exceed 35°C.
-A hot lamp may explode, so always wait for at least 10 minutes prior to attempting to replace the lamp.
-Always wear suitable hand protection when handling the lamp.

2.5 Level of protection against the penetration of solid and liquid matter:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid matter is IP 55. ARC1200 uses Philips 1200 MSR/2 lamp with G 22 socket.
The temperature inside the projector can reach 250° C after just 5 minutes, but it can get as high as 350° C. Always check that the lamp is cold before attempting to remove it. In any case, only open the unit 10 minutes after it has been turned off.

3-MOUNTING THE LAMP

Warning:Switch off the unit before replacing the lamp.

Philips MSR1200/2
Power 1200W
Luminous flux 110,000 lm
Colour temperature 7.200°K
Lamp base G 22
Rated life 800 hours

Philips MSD 1200
Power 1200W
Luminous flux 92,000 lm
Colour temperature 6.000°K
Lamp base G 22
Rated life 3000 hours

1) Using a screwdriver, remove the 3 screws (X,Y, Z) (photo 1) which hold the lampholder.

Photo 1

Photo 2

2) Remove the lamp holder assembly (photo1). Insert the lamp (photo 2).
The lamp used on ARC 1200 is made in quartz glass and should be handled with care. Always follow the instructions supplied in the lamp's packaging. Never touch the glass directly but use the tissue provided in the lamp's packaging. The G22 lamp socket is symmetrical.
DO NOT USE UNDUE FORCE ON THE GLASS. In case of difficulty, read again the instructions and repeat the procedure.
3) Replace the lamp assembly and tighten the screws (X,Y,Z), which were previously removed (photo 1).
Attention: be sure to mount the gasket correctly , in order to avoid water infiltrations.

3.1 Lamp alignment:

Attention: we recommend to align the lamp in the optical system to avoid overheating of the dichroic filters and other components inside the unit.

Photo 3

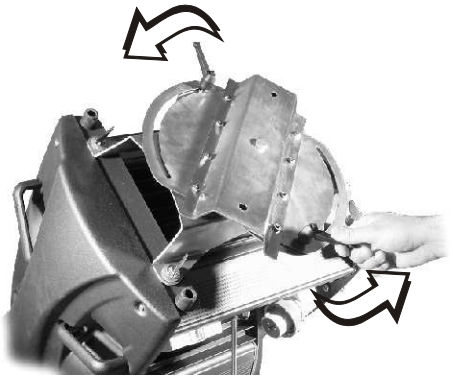
Alignment is carried out using the 3 adjusters A, B and C (white screws).
During this operation you must have a uniform luminosity all around the projected area.

4- VOLTAGE AND FREQUENCY:

The projector can operate at 230V, 50 or 60 Hz. D.T.S. presets a voltage of 230V and a frequency of 50Hz (barring specific requests).

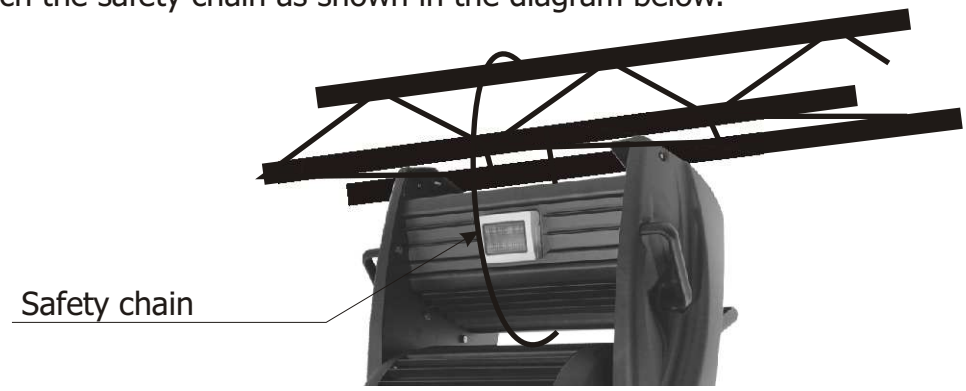
5- INSTALLATION:

ARC1200 may be either floor or ceiling mounted. For floor mounting installations, the ARC1200 is supplied with four rubber mounting feet on the base. For ceiling mounted installations, we suggest to use appropriate clamps or fixings to attach the fixture to the mounting surface. The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hang it: "C" or Aliscaf clamps.



5.1 Safety chain:

We recommend to use a safety cable or chain connected to the ARC1200 and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain as shown in the diagram below.



5.3 Risk of fire:

Each fixture produces heat and must be installed in a well-ventilated position. The minimum recommended distance from flammable material is 1m. Minimum distance from the object being illuminated is 1 m.

5.4 Forced ventilation:

You will note, on inspection, that the fixture features various air inlets and cooling fans located on both the head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

5.5 Ambient temperature:

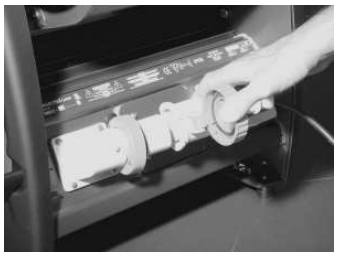
The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 35°C.

6- MAINS CONNECTION:

ARC1200 operates at 230V, 50 or 60Hz. Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available. For connection purposes, ensure that your plug is of a suitable rating of 12 amps at 230V.

Strict adherence to regulatory norms is strongly Recommended.

FUSE: 10 A

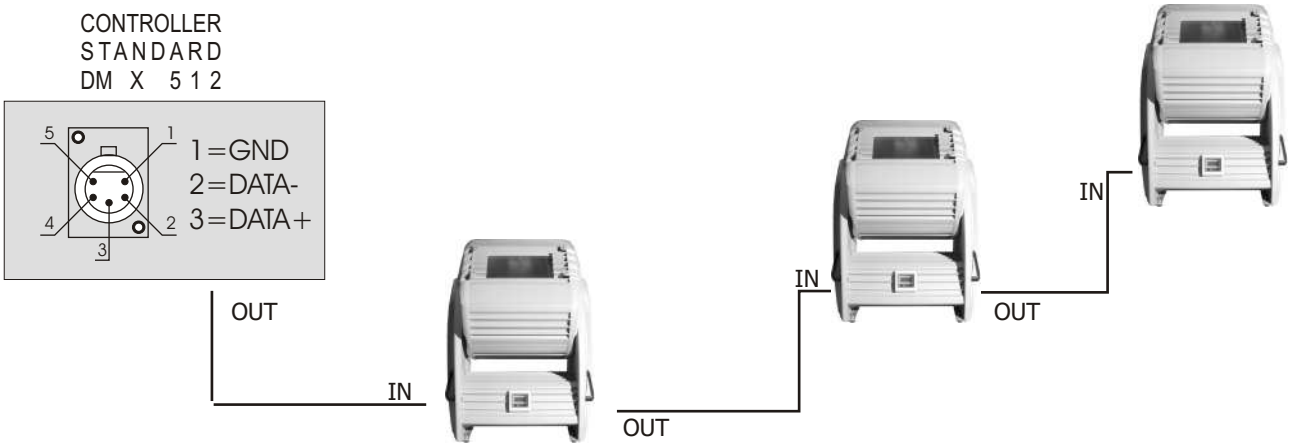


6.1 Protection:

The use of a thermal magnetic circuit breaker is recommended for each ARC1200.
A good earth connection is essential for the correct operation of the projector.

7- DMX SIGNAL CONNECTION:

The unit operates using a digital DMX 512 (1990) signal. Connection between the control box and the projector or between projectors must be carried out using a two pair screened ø0.5 mm cable and a CANNON XLR 5 or 3 pole connector.
Ensure that all conductors are isolated from one another and from the metal plug housing.
The plug housing must be isolated. Connect the control box signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug on the second. In this way, all the projectors are cascade connected.



NB. If the display showing the DMX address flashes, then one of the following errors has occurred:
- DMX signal not present
- DMX reception problem

Photo1

For indoor installation

Photo2

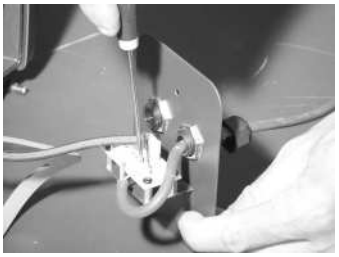


Photo3

For outdoor installation

Photo 4

The standard configuration of the ARC1200 is with XLR 5 pole connection.
To convert to an XLR 3 pole configuration proceed as follows:
Take off the abs cover as shown in pictures 1/2/3. Unscrew completely the profile fixing screws as shown in picture 4, take off the aluminium profile to get into the projector as shown in pictures 5/6. Unscrew the screws that fix the connectors to the DMX panel as shown in the picture 7; make a 180° rotation of the DMX card and then reassembly everyting

Photo 1

Photo 2

Photo 3

Photo 4

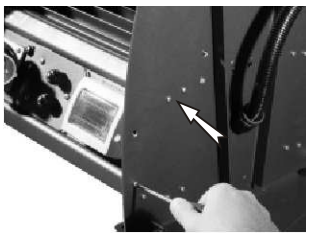


Photo 5

Photo 6

Photo 7

7.1 DMX Addresses:

ARC1200 can be used in 2 different modes: 6, 10 DMX channels.

If you want to use a DMX controller with 6 channels, select the 6 CH mode from the MODE menu and set the following addresses:

Projector 1 A001
Projector 2 A007 If you want to select the next projector, just add "6"
Projector 3 A013
….. A….
projector 6 A031

If you want to use a DMX controller with 10 channels, select the 10 CH mode from the MODE menu and set the following addresses:

Projector 1 A001
Projector 2 A011 If you want to select the next projector, just add "10"
….. A….
Projector 6 A051

The address that has to be set on each projector generally depends on the number of channels that the DMX mixer use for every unit.
If you have a 18 channel controller, set your ARC 1200 to 6CH or 10 CH MODE. The first projector will have an A001 address and if you want to select the next projector, then you have to add 18 (A019).

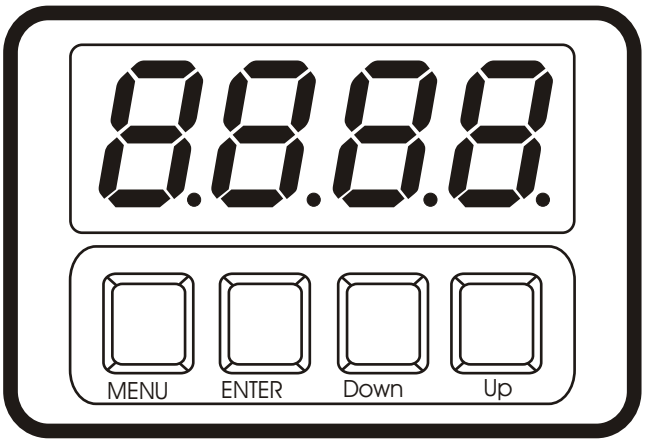
7.2 Changing the DMX address:

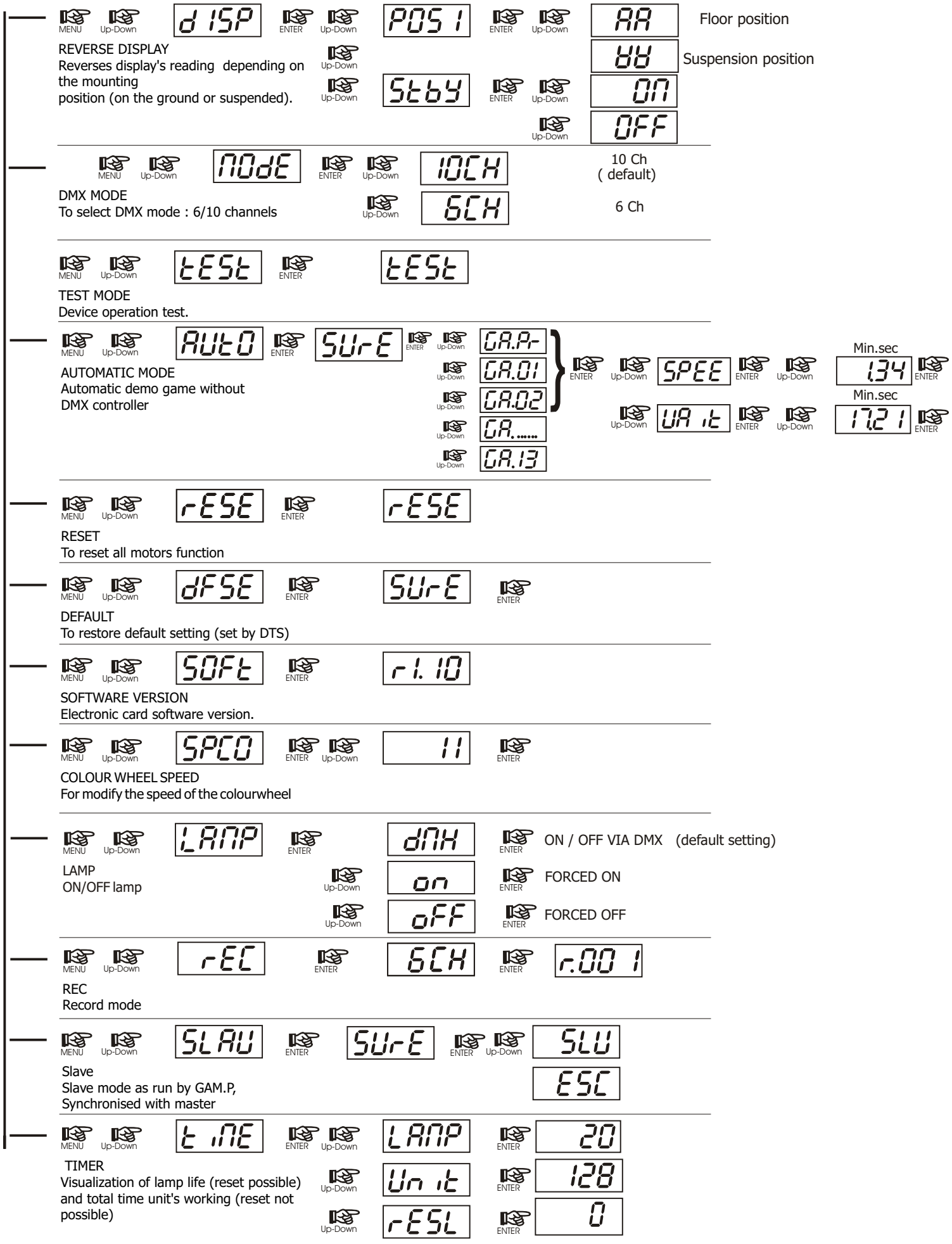
1) Press the UP-DOWN key until you reach the required DMX number. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new 512 DMX number.

WARNING: if you press the UP-DOWN keys together the channels are calculated more quickly and you get a faster selection.

8- DISPLAY FUNCTIONS:

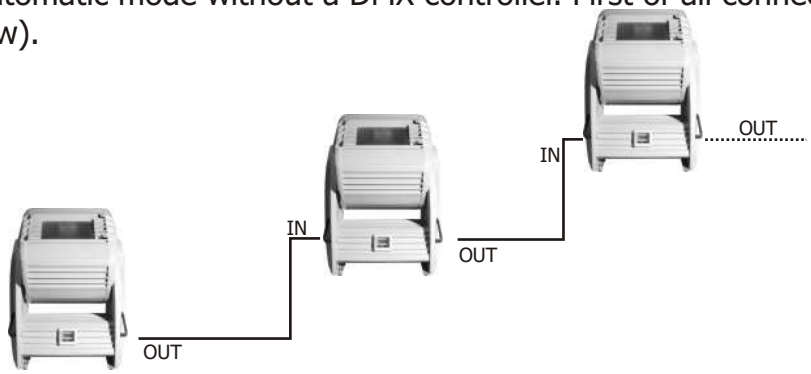
The ARC1200 display panel shows all the functions available. Using these functions, it is possible to change some of the parameters and to add some functions. Changing the DTS setting can vary the functions of the appliance so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the function desired.




MENU
Up-Down
dISP
ENTER
POS1
AA
Floor position
BB
Suspension position
REVERSE DISPLAY
Reverses display's reading depending on the mounting position (on the ground or suspended).
StbY
ON
OFF
MODE
10CH
10 Ch (default)
6CH
6 Ch
DMX MODE
To select DMX mode : 6/10 channels
tESt
TEST MODE
Device operation test.
AUtO
SUrE
CA.P-
CA.01
CA.02
CA.....
CA.13
SPEE
Min.sec
1.34
WAIt
17.21
AUTOMATIC MODE
Automatic demo game without DMX controller
rESE
RESET
To reset all motors function
dFSE
DEFAULT
To restore default setting (set by DTS)
SOFt
r1.10
SOFTWARE VERSION
Electronic card software version.
SPCO
11
COLOUR WHEEL SPEED
For modify the speed of the colourwheel
LAMP
dMX
ON / OFF VIA DMX (default setting)
on
FORCED ON
oFF
FORCED OFF
LAMP
ON/OFF lamp
rEC
r.001
REC
Record mode
SLAU
SLU
ESC
Slave
Slave mode as run by GAM.P,
Synchronised with master
tiME
20
Unit
128
rESL
0
TIMER
Visualization of lamp life (reset possible) and total time unit's working (reset not possible)

9- AUTOMATIC OPERATION (AUTO):

ARC1200 can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below).



To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, at this point press enter.
Now it is possible to choose between the different pre-programmed games (GA.01-13) or Ga.Pr which is user programmable through REC mode. To confirm game activation press ENTER on the chosen GAME.

9.1 Ga 1-2-3- ……-13:

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other projectors have to be place in 6 channels DMX mode (MODE 6CH) and the DMX address should be set at A001. For GA.01 and GA.02 it is possible to select the time for the colour changing (SPEE) and the time of wait before the colour changing (WAIT). With GA.03,...., GA.13 is a selected a fixed color.

9.2 Ga.Pr:

The first unit that will function as a Master must be put in (AUTO) mode, the other projectors have to be put in slave mode (selectable through the menu). In this way all units will be synchronised with the master, the projectors need not be of the same model.
On the master unit it is possible to vary the time for the colour changing (SPEED) and the time of the wait before the colour changing (WAIT)
NB: It is possible to run GA.Pr on the other units even though these do not have GA.Pr programmed. You can do this by setting the units to the same mode as the master is set before programming GA.Pr (6 CH DMX) and selecting A001 ad the DMX address.

9.3 Rec mode:

It is possible to program your own game on the ARC1200 that will then run in AUTO mode (GAME.Pr). Each unit can have its own programmed game.
In REC mode each projector must be set to the same mode (6CH DMX).
For the programming of GA.Pr besides the channels necessary to control the unit a further 3 DMX channels are needed. So that in REC mode will need 9 channels for the program to work correctly.
Connect the unit to a DMX mixer/controller, every unit should be set to its own Address (See the paragraph on DMX addresses). The projectors can also be different of models: ARC575 or ARC1200.
When you are in REC mode R.001 appears on the display (DMX address).

The three new DMX channels are:
-**SCENE** channel
-Form 0-255 are displayed the programmable scenes (max 16 scenes M.001 M016)
-**VIEW** channel:
-From 1-19 the unit runs the scene that has been saved in the units memory and it is possible to play through the other scenes using the scene channel.
-From 20-235 the unit runs the configuration given by the received input DMX values. With the channel scene it is possible to pass from one scene to the next while with REC it is possible to record the selected scene.
-From 236-255 the unit runs the configuration given by the received DMX values from the projector in that moment. It is possible to select a scene and then close the GA.Pr with the REC channel.
-**RECORDING** channel (REC)
Records the set scene with a variable between 0 and 255 (the display flashes indicating that the scene has been recorded).
It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If GA.Pr is not closed, by indicating the last scene, in playback mode all 16 scenes will be played through even if not programmed.

10- ERROR MESSAGES:

— ERROR DMX ADDRESS

— ERROR EEPROM DATA LOADER

— ERROR SENSORS LINE 1 (EFFEC WHEEL)

— ERROR SENSORS LINE 2 (CMY)

— ERROR POSITION BEAM SHAPE

— ERROR POSITION BEAM SHAPE INDEX

— ERROR POSITION MAGENTA

— ERROR POSITION CYAN

— ERROR POSIZION YELLOW

— ERROR AUTOMATIC DMX MODE

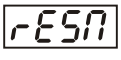
— ERROR POSITION CTO

— ERROR SYNCHRONIZED FREQUENCY MEASURE (Synchronism for lamp ON)

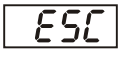
11- HIDDEN MENU:

For technical personnel only.
To operate this menu:
-Connect the projector to the DMX controller (DMX SIGNAL MUST BE CORRECTLY RECEIVED)
-Reset the ARC1200 (reset from the display projector, not from the DMX controller!).
-While reset is running, press the MENU and ENTER keys at the same time.

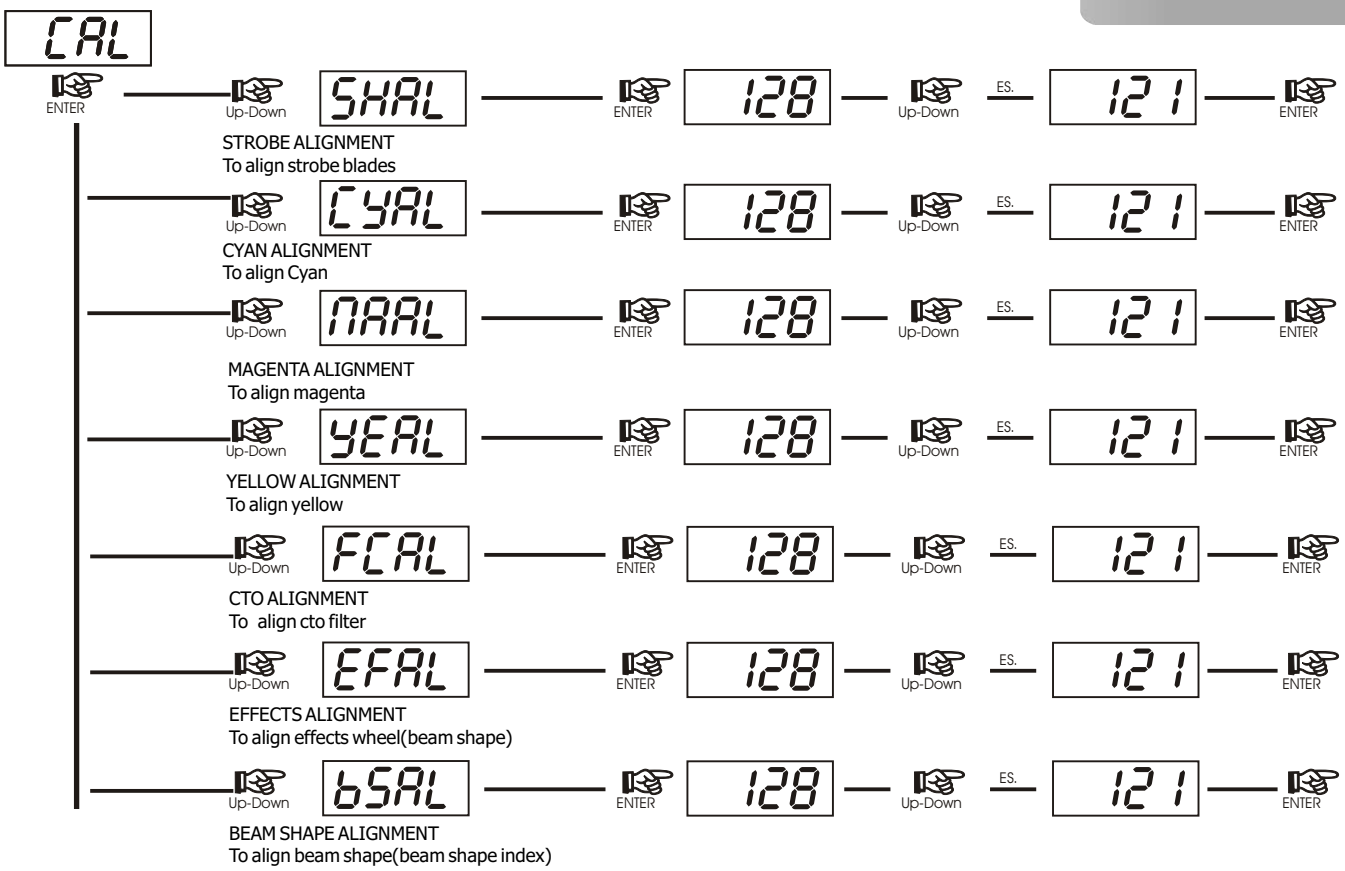
Electronic calibration of the motors.



Reset EEPROM (Reset all settings. ATTENTION: by pressing this key you must repeat all previous calibrations)



Exit from hidden menu.



2- OPENING UP THE PROJECTOR HOUSING:

It is possible to inspect the inside of the projector by removing the cover as shown below.
Attention: REMOVE MAINS POWER PRIOR TO ACCESSING THE PROJECTOR'S INTERNAL COMPONENTS.

LOW PART
Proceed as per the pictures below

Note repeat the same actions on both sides of the projector

Photo 1

Photo 2

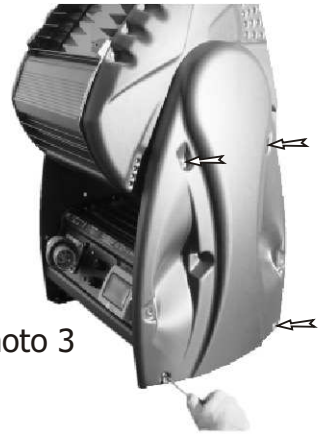
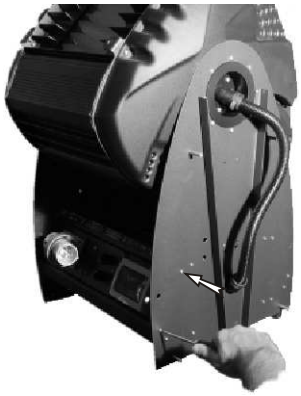


Photo 3

Photo 4



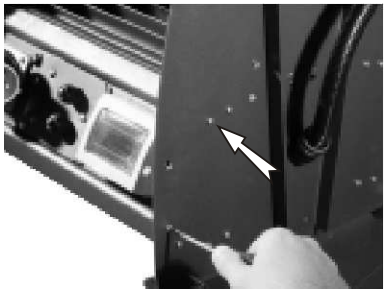


Photo 5

Photo 6

Photo 7

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

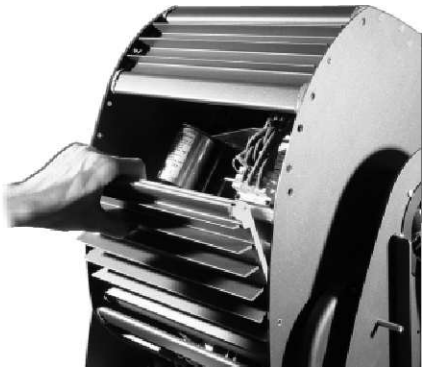


Photo 7

Photo 8

13- PERIODIC CLEANING:

13.1 Glasses and filters

The dust can reduce the luminous output substantially. Regularly clean the glasses and the filters using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

13.2- Periodic controls:

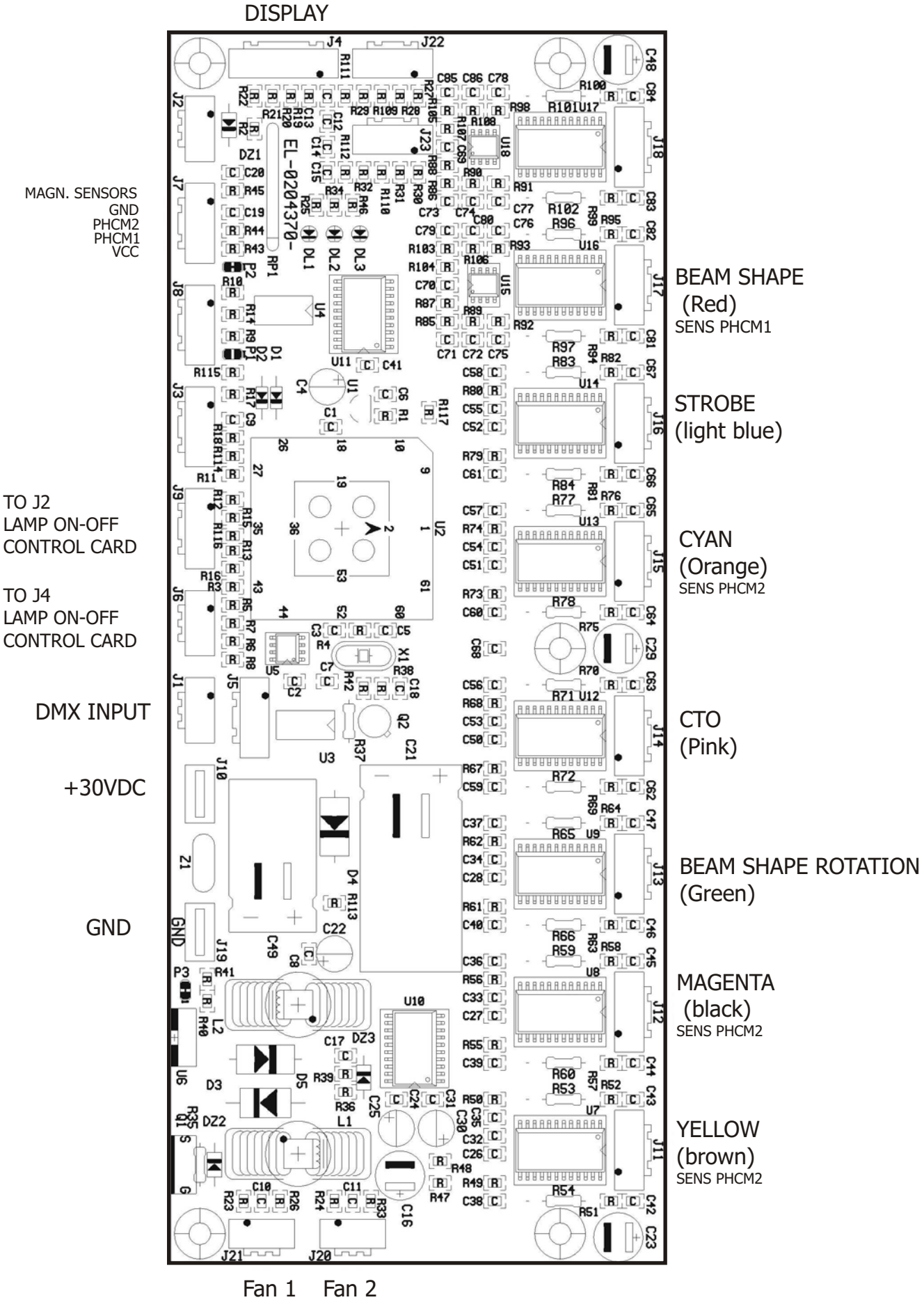
Lamp:
The lamp should be replaced if there is any visible damage or deformation due to heat. This will help to avoid the danger of the lamp exploding.

Mechanical parts:
Periodically check all mechanical parts and the gaskets, replacing them if necessary.

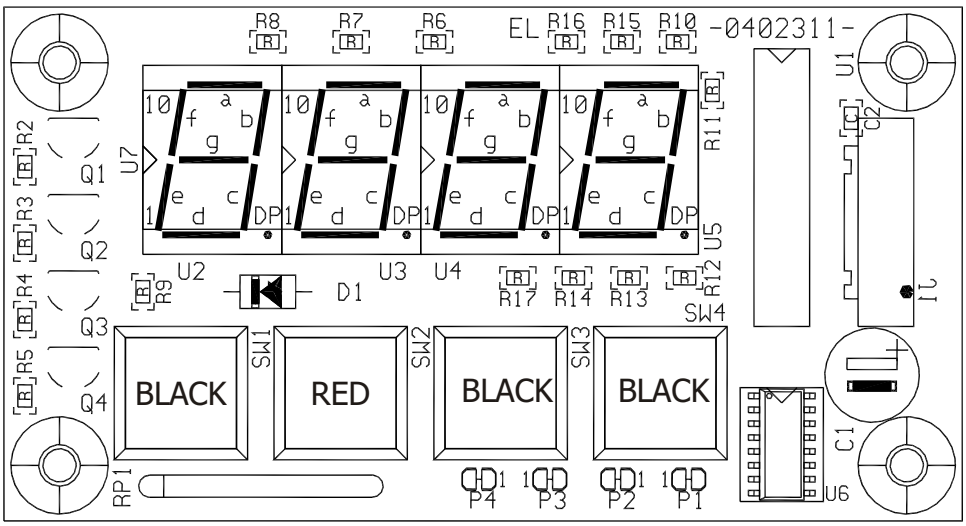
Electrical components:
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

Fuse replacement:
Locate the fuse, which protects the lamp and electronics, in the base of the ARC575.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.
Attention: Disconnect mains power prior to removing the projector housing.

14-CONTROL MOTORS CARD



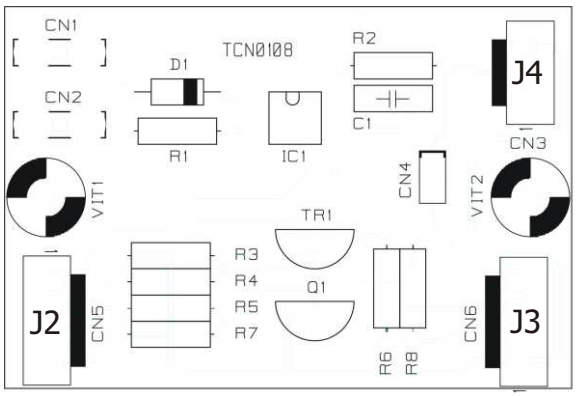
15-DISPLAY CARD



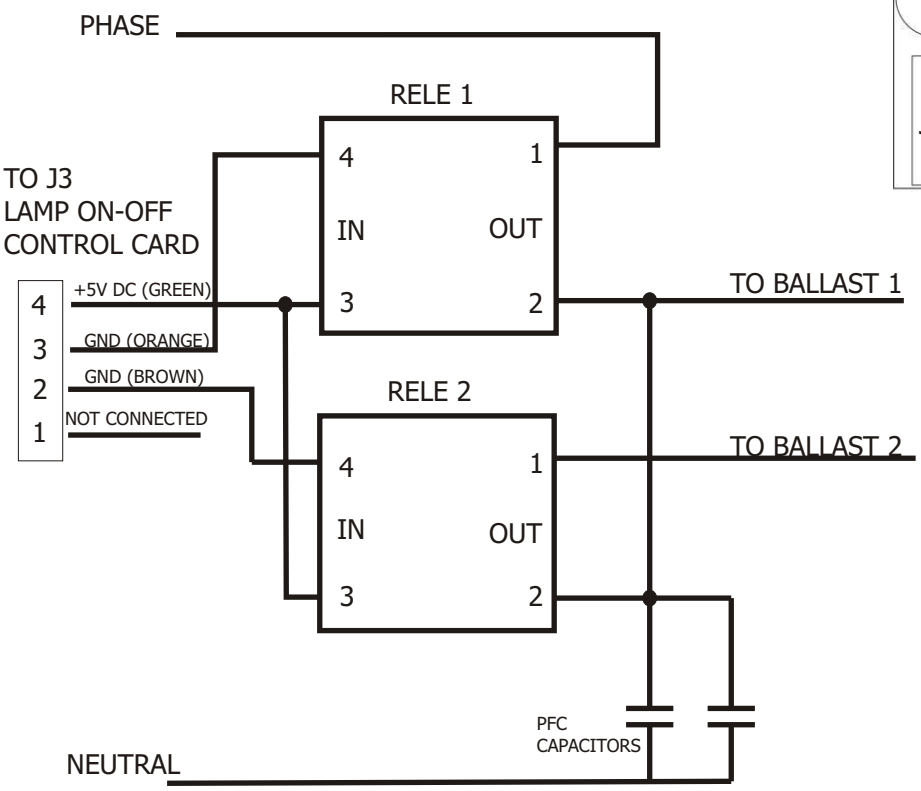
FROM J4
8 MOTORS CARD

16-ON-OFF LAMP CIRCUIT SCHEMATIC

LAMP ON-OFF CONTROL CARD



24V AC



ARC 1200 DMX CHANNELS

10 CH MODE

DMX CHANNEL	1	**Dimmer**
DMX CHANNEL	2	**Shutter**
DMX CHANNEL	3	**Cyan**
DMX CHANNEL	4	**Magenta**
DMX CHANNEL	5	**Yellow**
DMX CHANNEL	6	**Macro for colours and rainbow (priority channel)**
DMX CHANNEL	7	**CTO**
DMX CHANNEL	8	**Beam shaper**
DMX CHANNEL	9	**Beam shaper index**
DMX CHANNEL	10	**Lamp & reset**

DMX CHANNEL:	**1**	**PARAMETER:**	**DIMMER**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 8			Linear dimmer
9 – 255			
DMX CHANNEL:	**2**	**PARAMETER:**	**SHUTTER**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 9			Black out
10 – 23			Strobe random speed
24 – 37			Strobe Speed 1 min
38 – 51			Strobe Speed 2
52 – 65			Strobe Speed 3
66 – 79			Strobe Speed 4
80 – 93			Strobe Speed 5
94 – 107			Strobe Speed 6 MAX
108 – 121			Pulse open speed 1 min
122 – 135			pulse open speed 2
136 – 149			pulse open speed 3
150 – 163			pulse open speed 4 MAX
164 – 177			pulse closed speed 1 min
178 – 191			pulse closed speed 2
192 – 205			pulse closed speed 3
206 – 219			pulse closed speed 4 MAX
220 – 233			CMY / MACRO in BLACKOUT
234 – 255			Open
DMX CHANNEL:	**3**	**PARAMETER:**	**CYAN**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 255			Proportioanal color
DMX CHANNEL:	**4**	**PARAMETER:**	**MAGENTA**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 255			Proportional color
DMX CHANNEL:	**5**	**PARAMETER:**	**YELLOW**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 255			Proportional color

DMX CHANNEL:	6	PARAMETER:	MACRO CMY / RAINBOW
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 19			No function
20 – 235			CMY Macro
236 – 255			Rainbow
DMX CHANNEL:	**7**	**PARAMETER:**	**CTO**
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 128			No function
129 – 255			CTO
DMX CHANNEL:	**8**	**PARAMETER:**	**BEAM SHAPER**
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 128			No function
129 – 255			Beam shaper
DMX CHANNEL:	**9**	**PARAMETER:**	**BEAM SHAPER INDEX**
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 9			No effect
10 – 255			Beam shaper index
DMX CHANNEL:	**10**	**PARAMETER:**	**LAMP / RESET**
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 29			No function
30 – 85			Lamp Off
86 – 170			Motor Reset
171 – 236			No function
236 – 255			Lamp On

6 CH MODE

DMX CHANNEL	1	**Cyan**
DMX CHANNEL	2	**Magenta**
DMX CHANNEL	3	**Yellow**
DMX CHANNEL	4	**Dimmer/Shutter**
DMX CHANNEL	5	**CTO**
DMX CHANNEL	6	**Beam shaper**

DMX CHANNEL:	1	PARAMETER:	CYAN
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 255			Proportioanal color
DMX CHANNEL:	**2**	**PARAMETER:**	**MAGENTA**
DMX RANGE VALUE	*MID POINT DMX VALUE*	*MOVE RANGE DEGREES*	*FUNCTION*
0 – 255			Proportioanal color

DMX CHANNEL:	**3**	**PARAMETER:**	**YELLOW**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 255			Proportioanal color
DMX CHANNEL:	**4**	**PARAMETER:**	**DIMMER / SHUTTER**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 9			Black out
10 – 85			Dimmer
86 – 95			strobe random speed
96 – 105			strobe Speed 1 min
106 – 115			strobe Speed 2
116 – 125			strobe Speed 3
126 – 135			strobe Speed 4
136 – 145			strobe Speed 5
146 – 155			strobe Speed 6 MAX
156 – 165			pulse open speed 1 min
166 – 175			pulse open speed 2
176 – 185			pulse open speed 3
186 – 195			pulse open speed 4 MAX
196 – 205			pulse closed speed 1 min
206 – 215			pulse closed speed 2
216 – 225			pulse closed speed 3
226 – 235			pulse closed speed 4 MAX
236 – 245			CMY in BLACKOUT
246 – 255			Open
DMX CHANNEL:	**5**	**PARAMETER:**	**CTO**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 128			No function
129 – 255			CTO
DMX CHANNEL:	**6**	**PARAMETER:**	**BEAM SHAPER**
DMX RANGE VALUE	***MID POINT DMX VALUE***	***MOVE RANGE DEGREES***	***FUNCTION***
0 – 9			No function
10 – 255			beam shaper insertion + index