

ARC 400

USER MANUAL



D.T.S.[®]
Show division

ENG
Ed. 1

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1- TECHNICAL FEATURES

IP grade protection: Ip55

Main supply: 230V 50-60 Hz 450VA

Lamp: MSR400 W GX 9.5 socket

Control: 4 Channel DMX (reset by DMX available)

8 colours available with dichroic filters with high chromatic yeld + white

2 light beam angles: 34° and 58°

Mechanical Dimmer

Shutter:Strobe effect (7 flash/sec) in both opening and closing

Operate in any position

Automatic functioning with a internal programmable chase

Net weight 25 kg

ARC 400 grey 03.E0493

ARC 400 black 03.E0493.40

OPTIONAL

Barndoor grey 03.E0493.BD

Barndoor black 03.E0493.40.BD

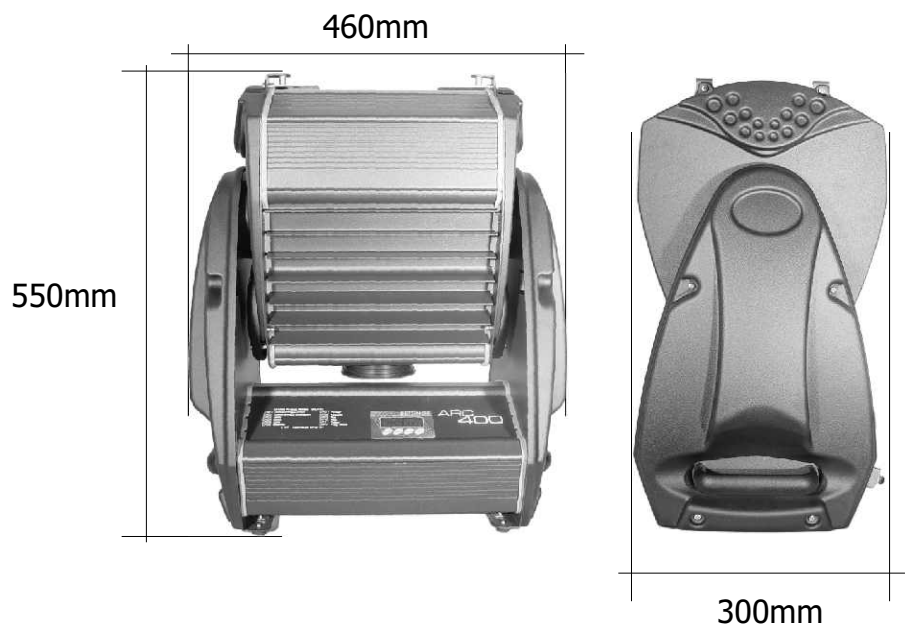
Fixing bracket 03.E0493.BR

High horizontal light beam code:0506V023

High vertical light beam code:0506v024



MADE IN ITALY



2- IMPORTANT SAFETY INFORMATION

2.1 Fire prevention:

- ARC400 uses a Philips MSR400 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 ARC400 requires the assistance of specialised personnel for all servicing. Refer all work to your 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 a steady supply of circulating air is essential.

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 fixtures that are capable of supporting the weight of the unit.
- Always use a second safety chain of a suitable rating 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 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.

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

- The projector is classified as an ordinary appliance and its level of protection against the penetration of solid and liquid matter is IP 55. ARC400 uses 400W Philips lamps with GX 9.5 base. 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

appliance 10 minutes after it has been turned off.

3- MOUNTING THE LAMPS:

Warning: turn power off before opening the appliance.

Philips MSR400
Power 400W
Luminous flux 32,000 lm
Colour temperature 5.900°K
Lampbase GX9,5
Rated life 1,000 hours

1) Using a head screwdriver, remove the 3 screws (A,B,C) (photo 1) which hold the lampholder in place and are located at the rear of the projector head.



Foto 1



Foto 2

2) Remove the lampholder unit. Locate the lampholder (photo 2).

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 but use the tissue provided in the lamp's packaging. The GX 9.5 lampbase is symmetrical.

DO NOT USE UNDUE FORCE ON THE GLASS. In case of difficulty, re-read the instructions and repeat the procedure.

3) Replace the lamp assembly and replace and tighten the screws (A,B,C), which were previously removed (photo 1).

Attention: be sure to mount the gasket correctly with a crossed screw, in order to avoid water infiltrations.

3.1 Alignment lamp:

Attention: we recommend that the lamp be realigned in the optical train of the unit to avoid overheating of the dichroic filters and other components inside the unit.



Foto 3

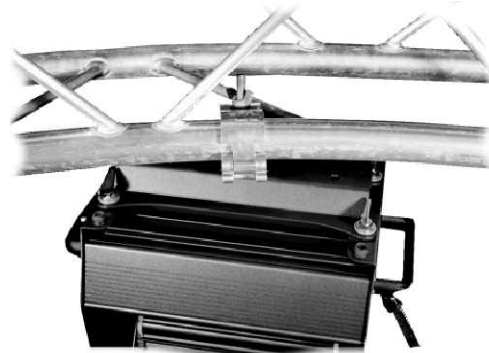
Alignment is carried out using the 3 adjusters X, Y and Z. During this operation you must bring the luminosity as much as possible

4- VOLTAGE AND FREQUENCY:

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

5- INSTALLATION:

ARC400 may be either floor or ceiling mounted. For floor mounting installations, the ARC400 is supplied with four rubber mounting feet on the base. For ceiling mounted installations, we suggest the use of 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 Aliscraf clamps.



5.1 Safety chain:

We recommend the use of a safety cable or chain connected to the ARC400 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.



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 flow of air. The ambient temperature should NOT exceed 35°C.

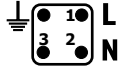
6- MAINS CONNECTION:

ARC400 operates at voltage 230V at 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 8 amps at 230V.

Strict adherence to regulatory norms is strongly Recommended.

ATTENZIONE: provide for a correct connection of the cable gland to avoid any water seepage

CURRENT
230V~50-60 Hz



Fuse:5 A



6.1 Protection:

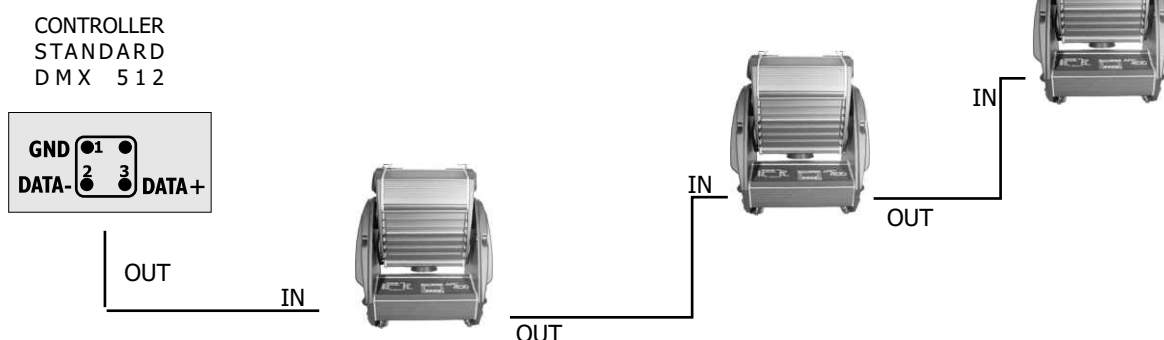
The use of a thermal magnetic circuit breaker is recommended for each ARC400. A good earth connection is essential for the correct operation of the projector.

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 two pair screened 0.5 mm cable and a special 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.



ATTENTION: in stand alone mode please plug the connectors by the plastic cap.

Provide for a correct connection of the cable gland to avoid any water seepage



NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX reception problem

7.1 DMX Addresses:

ARC400 use 4 DMX channels.

If you want to use a DMX controller with 4 channels, set the following addresses:

Projector 1 A001
 Projector 2 A005 If you want to select the next projector, just add "4"
 Projector 3 A009
 A....
 projector 6 A021

If you want to use a DMX controller with 10 channels, 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 allots it.

If you have a 18 channel controller, the first projector will have an A001 address and if you want to select the next projector, you have to add 18 (A019).


7.2 Changing the DMX address:

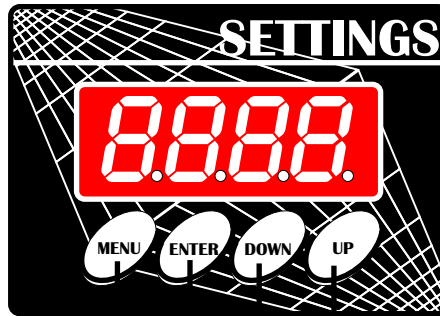
- 1) Press the UP-DOWN key until you reach the required DMX number. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
- 2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new 512 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 ARC400 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 — ENTER — UP
DOWN

ADD 1



Menu

 **DISP**



ENTER



UP-DOWN

POS 1



ENTER



UP-DOWN

Floor position

AA

Suspension position

BB

REVERSE DISPLAY
Reverses display's reading depending on the mounting position (on the ground or suspended).



UP-DOWN

Stby



ENTER



UP-DOWN

ON

OFF



UP-DOWN

SPCO



ENTER



UP-DOWN

11



ENTER

COLOUR WHEEL SPEED
For modify the speed of the colourwheel



UP-DOWN

LINE



ENTER



UP-DOWN

LAMP



ENTER

20

TIMER
Visualization of lamp life (reset possible) and total time unit's working (reset not possible)



UP-DOWN

UNIT



ENTER

128



UP-DOWN

RESL



ENTER

0



SOFTWARE VERSION
Electronic card software version.



DEFAULT
To restore default setting (set by DTS)



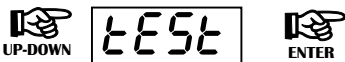
RESET
To reset all motors function

AUTOMATIC MODE
Automatic demo game without DMX controller

ENTER UP-DOWN } GR.P1
 GR.01
 GR.02
 GR.03
 ...
 GR.11
 L 16E

Min.sec
 ENTER UP-DOWN } 1.34
 UP-DOWN } 5 3
 ENTER

ENTER UP-DOWN } L 34
 UP-DOWN } L 58
 ENTER



TEST MODE
Device operation test.



REC
Record mode



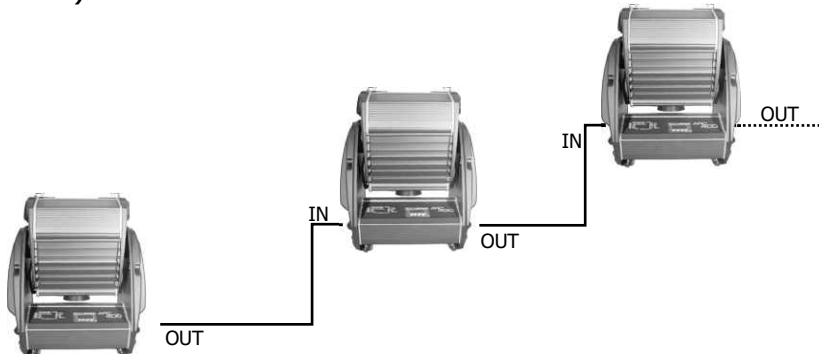
Slave
Slave mode as run by GAM.P,
Synchronised with master



Colour wheel movement
Movement regulation of the
colour wheel

9- AUTOMATIC OPERATION (AUTO):

ARC400 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.01-11) 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--11:

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other projectors have to 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.11 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 and selecting A001 ad the DMX address.

9.3 Rec mode:

It is possible to programme your own game on the ARC400 that will then run in AUTO mode (GAME P). Each unit can have its own programmed game.

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 7 channels for the programme 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: ARC400 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:

AdEr

— DMX ADDRESS ERROR

dtEr

— DATA EEPROM LOADING ERROR

AUER

— DMX ERROR IN AUTOMATIC MODE

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 ARC400 (reset from the display projector, not from the DMX controller!).

-While reset is working, press the MENU and ENTER keys at the same time.

CAL

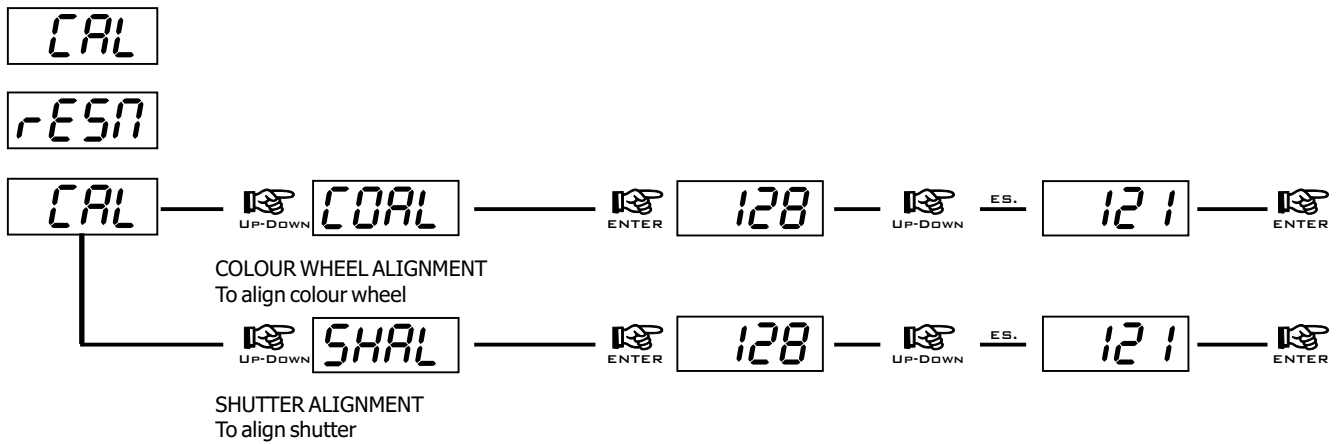
Electronic calibration of the motors.

rESn

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

ESC

Exit from hidden menu.



12- 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.

HIGH PART

Proceed as per the pictures below

Note: repeat the same actions on both sides of the projector

Foto 1



Foto 2

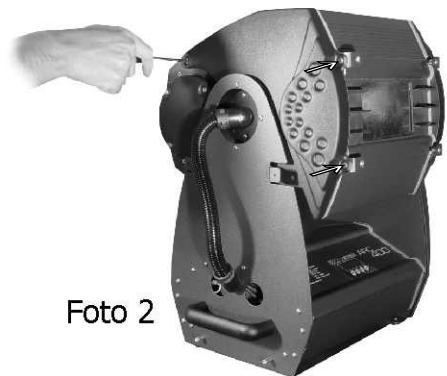


Foto 3



Foto 4



LOW PART

Proceed as per the pictures below

Note: repeat the same actions on both sides of the projector

**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 ARC400.

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.

16- SCHEDA DISPLAY+2 MOTORI

