Roboscan Pro 218
users guide

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INTRODUCTION

Congratulations on your choice of the Roboscan Pro 218 which is a high performance, intelligent lighting projector that features:

- 200 Watt MSD lamp / 150 Watt Arc-Stream lamp depending on the model.
- 17 dichroic colours including 2 multi-colours, plus white.
- 18 motorized gobos.
- Variable speed control on all functions.
- Optional blackout whilst gobo and colour changes.
- Colour- and gobo-mix.
- Fast shutter control for strobe effects.
- 180 degree pan - 90 degree tilt both with micro-stepping precision.
- Precision optics with adjustable focus.
- Can be controlled via the Martin Lighting Controllers: 3032 (128 pcs.), 2032 (32 pcs.), 2208/2308 (8 pcs.) and 2501 (32 pcs.).
- Can be controlled by DMX 512 via use of the Martin DMX-Interface.
- Built-in pre-program or random chases with or without music trig.
- Power Factor Correction ensures low current consumption.
- Efficient fan cooling and over-heat protection.
- Flight-cases, flying-frames and floor-stands are available as optional accessories from your local Martin dealer.

Note: This users guide applies for units fitted with software version 2.

HOW TO INSTALL THE ROBOSCAN PRO 218

The Roboscan Pro 218 is delivered fully adjusted from the factory so only a few basic procedures are necessary, and you will be ready to enjoy your new professional lighting equipment.

Your Roboscan Pro 218 package comes complete with the following items:

- Roboscan Pro 218.
- 5 metre XLR/XLR cable for control.
- Mains cable.
- Mounting bracket.
- Users guide.

IMPORTANT

Before attempting any of the following please ensure that the unit is disconnected from any mains power.

Fitting the mains plug and checking the voltage and frequency setting:
The Roboscan Pro 218 may be delivered from the factory without a plug on the mains lead. You will have to fit a suitable plug (one that fits your local wall outlet) before you can connect the unit to the mains. The double isolated mains lead contains three wires: The brown wire should be connected to the LIVE pin, the blue wire to the NEUTRAL pin and the yellow/green wire to the EARTH pin (ground).

Make sure that the factory settings for voltage and frequency match your local power supply. If necessary then rewire the Roboscan as described in 'SELECTING THE MAINS VOLTAGE AND FREQUENCY'on page 9. The factory setting is printed on the serial number label located on one end of the unit.

Installing the lamp:
- Remove the 3 finger screws which secure the access plate of the lamp housing at the rear of the Roboscan and open the lamp housing.
- Hold the lamp in a clean cloth, avoiding touching the glass part with your fingers, and carefully insert it into the lamp holder. **If you do touch the glass part with your fingers you must clean the lamp thoroughly with alcohol before use.**
- Replace the lamp housing and tighten the finger screws.

Removing the transport fixture:
In order to protect the mirror from getting damaged during the shipment it has been secured by a black plastic strap. Cut and remove this strap before operating the unit. Also, carefully remove the surface protection foil from the mirror.

Fitting the mounting bracket and placing the Roboscan Pro 218:
The Roboscan may be hanged up by means of its mounting bracket. Secure the mounting bracket to the three bolts located on the top of the aluminium chassis. The bracket now allows you to turn or tilt the Roboscan into a desired position.

You may now connect the unit to the mains but do not switch on before you have set the DIP-switch to the desired setting as described in the following.

OPERATING WITHOUT A CONTROLLER (STAND ALONE)

You can now operate your Roboscan Pro 218 in what is called **Stand Alone** mode meaning that your Roboscan Pro 218 will perform a random or a pre-programmed sequence. Please follow this procedure:

- Use the DIP-switch located on the front end of the unit to select the chosen sequence (program). The sequence settings table on page 6 shows the various DIP-switch settings for Stand Alone Sequences. The sequences which are described as "music trig" will use the beat of the music picked up by the built-in microphone to trigger the sequence. The other programs will run at a pre-set speed using an internal trig source.
- Switch on the unit and it will now perform the chosen sequence.

Note: Some sequence settings shown in the table are for service use only and should not be chosen for light performances.

OPERATING WITH A MARTIN LIGHTING CONTROLLER

The way to get the most out of your Roboscan Pro 218 is by controlling it via a Martin Lighting Controller. In order to allow instructions to be transmitted from the controller to the Roboscans you will have to link all units together on a serial communication link which will be known as the **Martin Serial Link**. The following instructions show how to do this:

- Connect the Roboscan Pro 218 to your Martin Lighting Controller (3032/2032/2308/ 2208/2501) using the XLR/XLR or the XLR/DSUB cable that came with the lighting controller.
- If you are using one Roboscan Pro 218 only, then insert the XLR terminating plug that came with the controller into the unused XLR socket on the Roboscan.
- If you are using more lighting units with the controller they should be connected together using XLR/XLR cables. The order is not important and has no influence on the address as far as the controller is concerned - use an order which gives the easiest and shortest cable routing. The last unit on the link should be terminated with the XLR terminating plug.
- Set the DIP-switch on each of the Roboscans to the desired controller channel as shown in the address setting table on page 6. **Make sure that none of the Roboscans are set to Stand Alone mode.**
- Switch on the Roboscans before you switch on the controller. A short start-up and test routine will be performed lasting about half a minute.
- You may now switch on your controller and start operating the units. It is possible to access the built-in sequences marked with ■ on page 6 from the 3032- or the 2501-controller, thus allowing the Roboscans to be temporarily in stand-alone mode.

FOCUSING

When the Roboscan Pro 218 is mounted in its final position you can select a gobo and adjust the focus manually to produce a sharp image on the desired target.

DIP SWITCH SETTINGS FOR THE ROBOSCAN PRO 218

Address settings for the Roboscan Pro 218			
		Unit No.	
1	1	17	1,5
2	2	18	2,5
3	1,2	19	1,2,5
4	3	20	3,5
5	1,3	21	1,3,5
6	2,3	22	2,3,5
7	1,2,3	23	1,2,3,5
8	4	24	4,5
9	1,4	25	1,4,5
10	2,4	26	2,4,5
11	1,2,4	27	1,2,4,5
12	3,4	28	3,4,5
13	1,3,4	29	1,3,4,5
14	2,3,4	30	2,3,4,5
15	1,2,3,4	31	1,2,3,4,5
16	5	32	6

Sequence settings for the Roboscan Pro 218	
Description	
Reset	All switches set to OFF position
Demo random wide angle	2,3,6
Demo random wide angle, with music trig	1,2,3,6
Demo random narrow angle	4,6
Demo random narrow angle, with music trig	1,4,6
Pre-program chase ■	2,4,6
Pre-program chase with music trig ■	1,2,4,6
Mechanical stop (for service use)	1,3,4,5,6
Adjustment (for service use)	3,4,5,6
L.E.D. chase (for service use)	2,4,5,6

This appendix shows the different address and sequence settings for the DIP-switch on the Roboscan Pro 218.

The above settings refer to the pin(s) on the DIP-switch which are set to the ON position.

SERVICE INFORMATION FOR THE EXPERIENCED USER

The Roboscan Pro 218 comes fully adjusted from the factory, however, readjustment of the mechanical parts may be necessary after extensive use. We recommend that you read the following descriptions carefully before trying to make any corrections. If you are not an experienced user and are not absolutely sure how to go about solving the problem contact your Martin dealer for assistance.

ADJUSTING THE LAMP FOR MAXIMUM OUTPUT.

- In order to obtain maximum light output position the filament (hot-spot of the lamp) at the focal-point of the parabolic reflector.This is achieved by moving the lamp-holder in the lamp housing.
- At the rear of the Roboscan the access plate of the lamp housing is held in place by 3 finger screws. On the access plate there are 3 Phillips screws which are used to adjust the lamp-holder in the lamp housing. Turning these clockwise will pull the lamp towards the rear of the lamp housing and vice versa.
- Start by making a rough adjustment by positioning the lamp-holder so that there is a distance of 13 mm (8 mm for the Arc-Stream) measured between the back-plate of the lamp-holder to the access plate of the lamp housing.
- Select the service setting named 'Adjustment' as listed on page 6, and turn on the Roboscan. This will produce a white light with open gobo for adjustment purposes. Wait approximately 15 minutes until the lamp is fully on.
- If the hot-spot of the light is not centered, make adjustments by turning one or more of the screws as shown in figure 1.

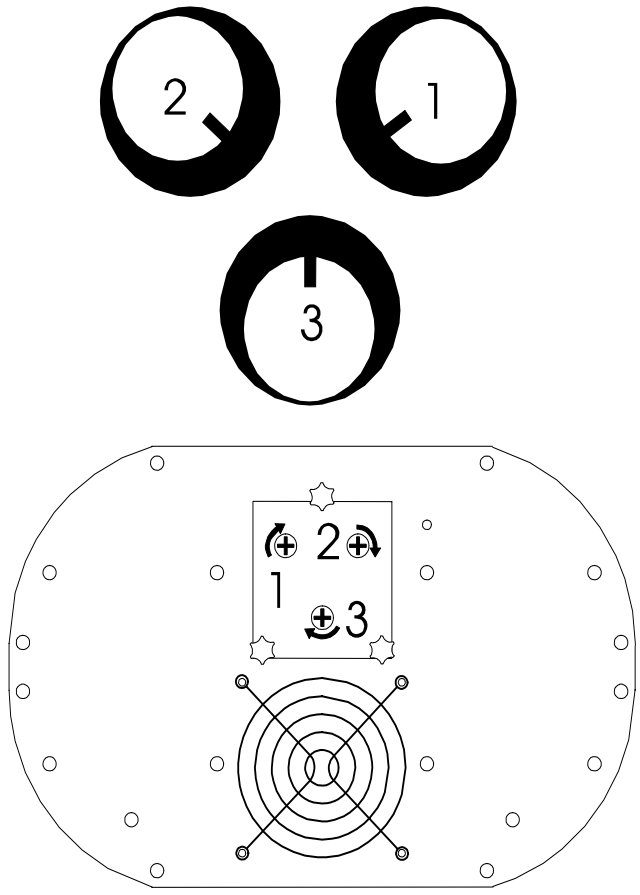

Figure 1

- If you are not satisfied with the light-output you can try to adjust the lamp-holder further by turning all of the screws a 1/4 turn clockwise, making sure that the hot-spot is centered, if the result is an improvement then repeat the procedure until there is no more improvement. If the light-output gets less then turn the screws a 1/4 turn counter-clockwise a few times and observe the result.
- N.B. It is important that the lamp is firmly in place in the lamp-holder at all times. Make sure that this is the case, especially after you have made an adjustment because the inner-rim of the parabolic reflector can dislodge the lamp, especially if you use excessive numbers of turns of the adjusting screws.

CAUTION: The lamp is not a hot-restrike type, so you must wait approximately 10 minutes after having turned off the lamp before you can turn it back on again.

ADJUSTING THE MIRROR AND DAMPERS

Re-adjusting the mechanical stop on the Roboscan Pro 218 mirror adaptor is required if the pan or tilt motor occasionally loses steps, leaving the mirror incorrectly positioned after a reset is performed. This error occurs when the recoil of the mechanical reset bounces the mirror and bracket a whole pan or tilt motor step.

- Connect the Roboscan Pro 218 to a controller and set the DIP-switch according to the configuration on the controller.
- Switch on the Roboscan Pro 218 and the controller - a reset will then be performed.

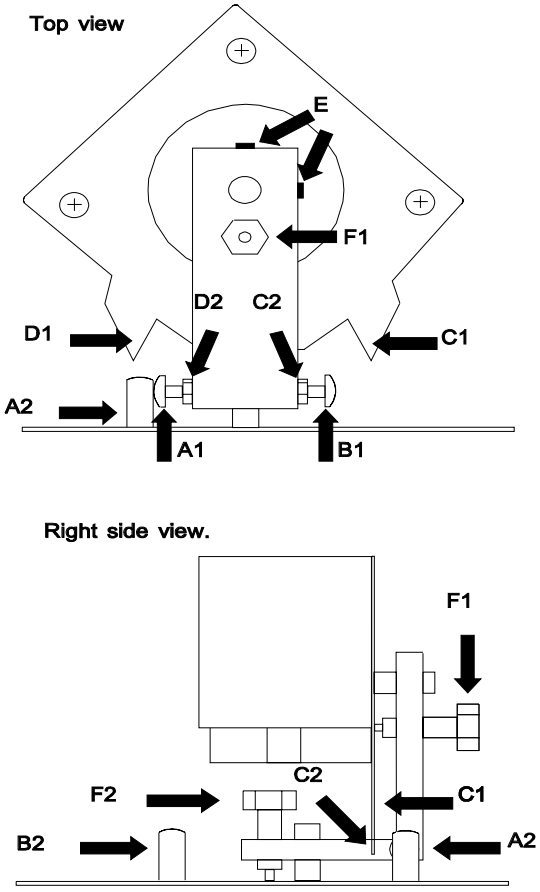

Figure 2

The pan motor adjustment:

- Use the controller to move the mirror to the extreme left position, thus positioning the screw (A1) in figure 2 at the upper mechanical stop (A2).
- Release the lock-nut on the adjusting screw (A1).
- Turn the screw (A1) clockwise about 1/2 - 1 turn, hereby increasing the distance between the head of the screw and the mechanical stop (A2).
- Tighten the lock-nut on screw (A1).
- Reset the Roboscan Pro 218 a number of times to check the accuracy of the new reset position.
- Use the controller to move the mirror through all extreme positions, checking that the adjustment screw (B1) does NOT touch the mechanical stop (B2) during these steps. If it does then adjust screw (B1) accordingly.

The Tilt-motor adjustment:

- Use the controller to move the mirror to the upper-left position until the top mechanical stop (C1) in figure 2 is positioned at the edge of the mirror bracket (C2)
- Loosen the two allen-screws (E) holding the axle of the motor while observing that the motor does not slide vertically from its current position.
- Carefully turn the motor and mirror clockwise (observe that the motor axle does NOT turn.) until there is a distance of about 1/2 to 1 mm between the edge of the mirror bracket (C2) and the top mechanical stop (C1).
- Tighten the allen-screws.
- Use the controller to reset the unit and then move the mirror through all extreme positions, checking that the bottom mechanical stop (D1) does NOT touch the edge of the mirror bracket (D2) during these steps. If it does then re-adjust as described making the distance between (C2) and (C1) even smaller.

Adjusting the pan/tilt dampers:

In order to produce a smoother mirror movement and prevent the mirror motors from losing steps during high-speed direction changes, the dampers F1 and F2 in figure 2 must be adjusted

properly. Re-adjustment of the Pan or Tilt dampers is necessary if the end-stop adjustments have caused either of the motors to slide along its axis at any time.

- Loosen the dampers marked (F1) and (F2), see figure 2, until the spring-loaded plastic pin is not touching the motor. Using the controller, set the Pan/Tilt speed to minimum and turn the lamp on. Then, still using the controller, move the mirror from either extreme left to extreme right for Pan adjustment, or, extreme top to extreme bottom for Tilt adjustment. Whilst the mirror is moving watch the beam movement to ensure that it is smooth. Tighten the dampers (F1) and (F2) until the smoothness of the mirror movement is affected and it becomes more 'twitchy'. At this point you should turn the dampers slightly back so that you restore the full smoothness of the mirror movement.

- If the dampers are set to a position that is too loose you will find that the mirror will lose steps when running at the higher movement speeds.

- If the dampers are set to a position that is too tight you will find that it will affect the smoothness of the mirror movement at the lower movement speeds.

SELECTING THE MAINS VOLTAGE AND FREQUENCY

It may be necessary to rewire your Roboscan Pro 218 according to the mains supply to ensure proper operation. The table below shows the possible wirings.

Unit	Selectable voltage wirings	Selectable frequency wirings
Roboscan Pro 218 EU	220 V / 230 V / 245 V	50 Hz
Roboscan Pro 218 US	100 V / 110 V / 120 V	50 Hz / 60 Hz
Roboscan Pro 218 US Arc-Stream	100 V / 110 V / 120 V	60 Hz

To rewire the unit, please follow this procedure carefully:

IMPORTANT

Before attempting any of the following, please ensure that the unit is disconnected from any mains power.

- Unscrew the 8 screws which secure the casing over the lamp house and remove the casing.

Roboscan Pro 218 US:

- Locate the ballast at the rear-left corner of the unit and move the GREY wire to either the 50 Hz or the 60 Hz terminal on top thereby selecting the correct frequency.
- Similarly, locate the mains transformer at the rear-right corner of the unit, and move the BROWN wire to either the 100 V, the 110 V or the 120 V terminal thereby selecting the correct

mains voltage.
- Re-assemble the unit before connecting to the mains.

Roboscan Pro 218 EU:
- Locate the ballast at the rear-left corner of the unit and move the BROWN wire to either the 220 V, the 230 V or the 245 V terminal on top thereby selecting the correct mains voltage.
- Re-assemble the unit before connecting to the mains.

Roboscan Pro 218 US Arc-stream:
- Locate the mains transformer at the rear-right corner of the unit, and move the BROWN wire to either the 100 V, the 110 V or the 120 V terminal thereby selecting the correct mains voltage.
- Re-assemble the unit before connecting to the mains.

TECHNICAL SPECIFICATIONS

Dimensions:	
Height without mounting bracket	185 mm (7.3")
Height with mounting bracket	321 mm (12.6")
Length	560 mm (22.0")
Width	281 mm (11.1")
Weight:	14 Kg (31 lb)
Power and current consumption:	
EU model:	290 W , 1.3 A at 230 V / 50 Hz
US model:	290 W , 2.4 A at 120 V / 60 Hz
US Arc-stream model:	220 W , 2.1 A at 120 V / 60 Hz
AC voltage and frequency:	
EU model:	210 V to 260 V, 50 Hz
US model:	95 V to 125 V, 50 Hz / 60 Hz
US Arc-stream model:	95 V to 125 V, 60 Hz
Fuse:	
EU model:	T 3.15 A
US model:	T 6.3 A
US Arc-Stream model:	T 3.15 A
Lamp type:	
EU and US model:	Philips: MSD 200 W
US Arc-Stream model:	GE Lighting: Arc-Stream 150 W
Spread angle:	11 °