

# Mania SCX500

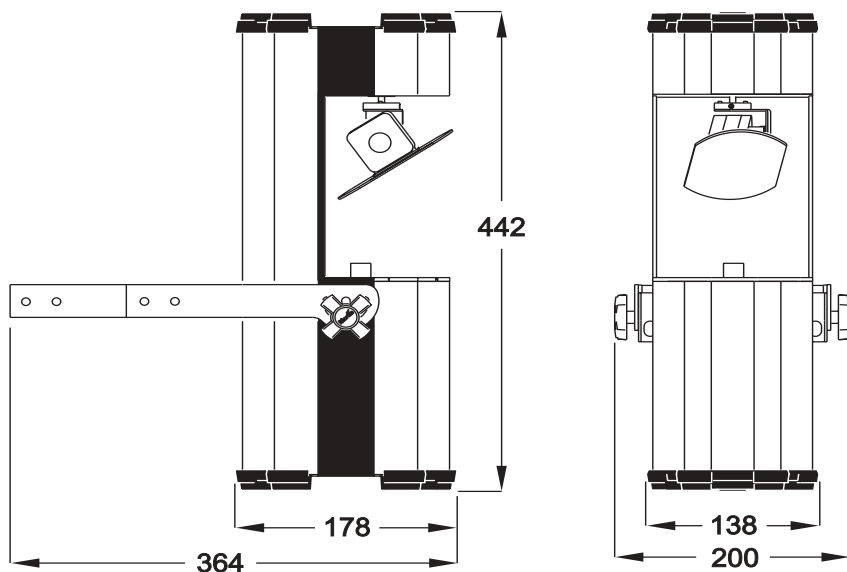
user manual



**Martin**

## DIMENSIONS

All dimensions are in millimeters



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# 1. INTRODUCTION

Thank you for selecting the Martin Mania SCX500. This automated moving-mirror projector has the following features:

- Automatic triggering and music triggering modes
- Stand-alone single fixture and master/slave operation, both with auto trig and music trig
- DMX controllable, choice of 6- or 8-channel DMX control modes
- 12 pre-programmed macros
- 15 full colors (including white) and 5 multi-colors. Split color feature for added color capability
- 16 gobos
- 180° pan and 72° tilt
- Adjustable focus
- 15° beam angle
- 150 watt long-life halogen lamp
- Versatile mounting options

## Unpacking

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The packing material is carefully designed to protect the fixture during shipment - always use it to transport the fixture.

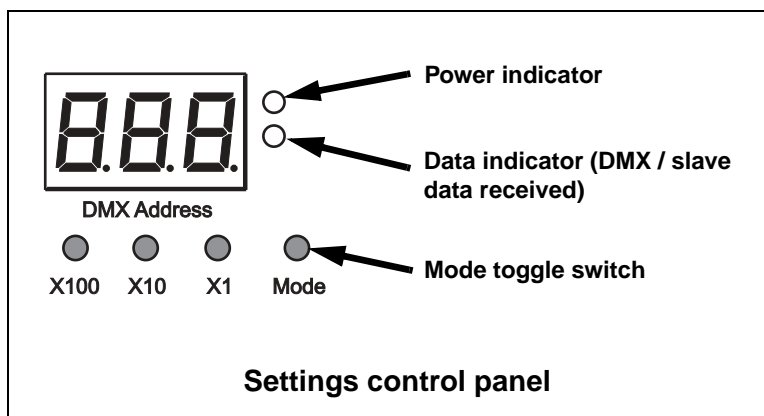
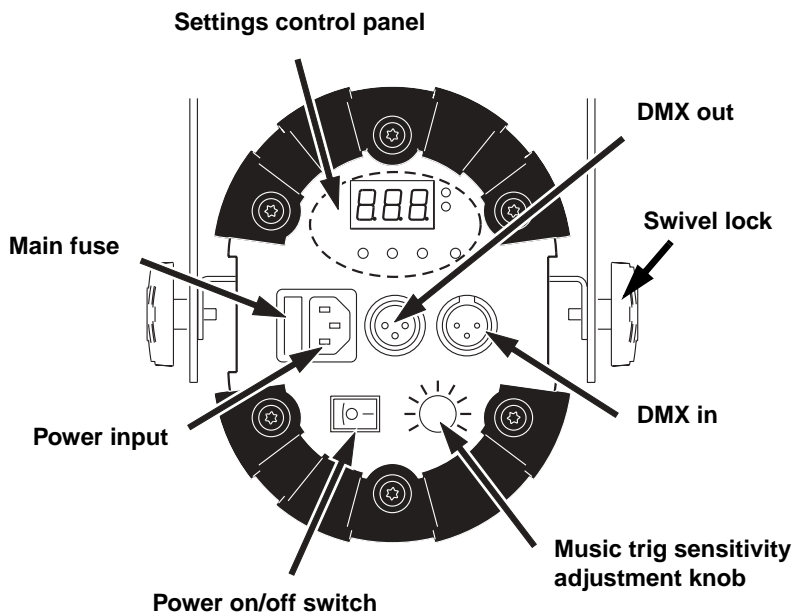
The Mania SCX500 is supplied with:

- Lamp (installed)
- Power cable
- 5 meter (16.4 ft.) RS-485 XLR cable for data link
- User manual
- Mounting U-bracket and mounting plate
- Fasteners for U-bracket and mounting plate

***Important! The mounting plate is attached to the fixture with thumb screws to protect the mirror, and the mirror assembly is secured for transport. Before applying power, remove the mounting plate, remove any transport packaging, and cut and remove any plastic tie-wraps holding the mirror!***

# Mania SCX500 overview

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# Safety information

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**Warning!** ***This product is for professional use only. It is not for household use.***

This product presents risks of lethal or severe injury due to fire and heat, electric shock, ultraviolet radiation, lamp explosion, and falls. **Read this manual** before installing or powering the fixture, follow the safety precautions listed below and observe all warnings in this manual and on the fixture. If you have any questions about how to operate the fixture safely, please contact your Martin dealer or call the Martin 24-hour service hotline.

## Protecting yourself and others from electric shock and injury

- Disconnect the fixture from AC power before removing or installing the lamp, fuse, or any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer all service not described in this manual to a Martin service technician.
- Never operate the fixture with missing or damaged lenses.
- Glass lenses must be changed if they have become visibly damaged to such an extent that their effectiveness is impaired, for example by cracks or deep scratches.
- Never operate the fixture with open, missing or damaged covers.
- Protect your hands and eyes with gloves and safety glasses when changing the lamp.
- Do not stare directly into the light. Never look at an exposed lamp while it is lit.
- Replace the lamp if it becomes defective or worn out.

## Protecting yourself and others from burns and fire

- Never attempt to bypass the thermostatic switch or fuses. Always replace defective fuses with ones of the specified type and rating.
- Keep all combustible materials (for example fabric, wood, paper) at least 0.1 meters (4 inches) away from the fixture. Keep flammable materials well away from the fixture.

- Do not illuminate surfaces within 1 meter (3.3 feet) of the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Never place filters or other materials over the lens or mirror.
- Allow the fixture to cool before handling. Allow the fixture to cool for at least 20 minutes before opening the fixture or removing the lamp.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature ( $T_a$ ) exceeds 40° C (104° F).

## **Protecting yourself and others from injury due to falls**

- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.
- Block access below the work area whenever installing or removing the fixture.



# 2. INSTALLATION

## AC power

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The Mania SCX500 is supplied set up to match local voltage and frequency settings. The factory setting is shown on the serial number label. It is not possible to reconfigure the Mania SCX500 to accept any other voltage or frequency than those stated on the serial number label.

**Warning!** *For protection from fire and electric shock, the fixture must be grounded (earthed). The power supply must have overload and ground-fault protection.*

*Check that power cables are undamaged and rated for the current requirements of all connected devices before use.*

*Check the operating voltage and frequency indicated on the serial number label before applying power. If your Mania SCX500 does not match your local AC power, do not use it.*

**Important!** *Do not connect the fixture to a dimmer system.*

### Installing a plug on the power cable

The power cable must be fitted with a grounding-type (earthed) power plug that matches your power distribution system. Consult a qualified electrician if you have any doubts about proper installation.

If you need to fit a power plug, follow the plug manufacturer's instructions, connecting the yellow and green wire to ground (earth), the brown wire to live, and the blue wire to neutral. The table below shows some pin identification schemes:


Wire	Pin	Marking	Screw color
brown	live	"L"	yellow or brass
blue	neutral	"N"	silver
yellow/green	ground		green

Table 1: Power plug wiring

# Rigging the Mania SCX500

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The Mania SCX500 must be either:

- fastened to a flat surface by means of its adjustable U-bracket,
- fastened to a flat surface by means of its adjustable U-bracket and mounting plate, or
- attached to a rigging clamp by means of its adjustable U-bracket.

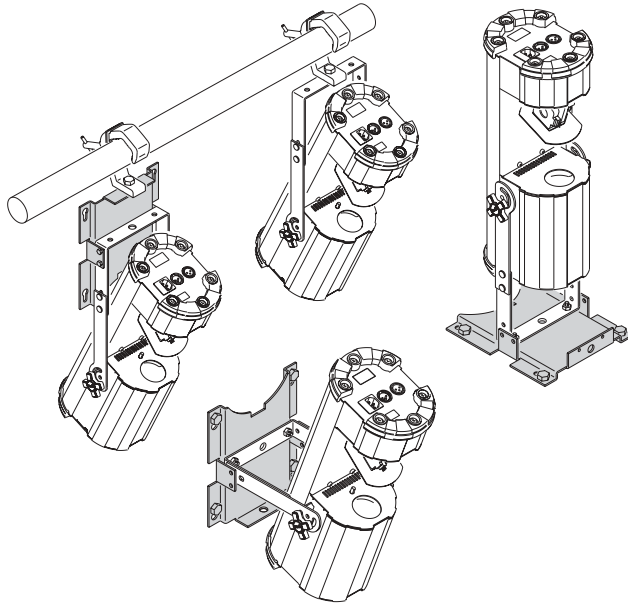
Do not install the fixture by any other means, as this can cause the fixture to overheat.

**Warning!** ***Block access below the work area and work from a stable platform when installing or servicing the fixture.***

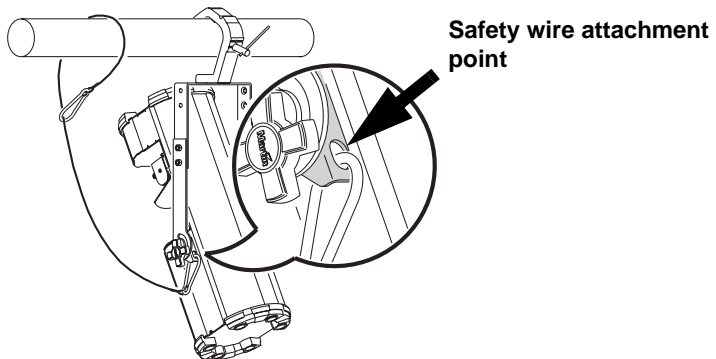
***Always use a secure means of secondary attachment that can hold at least 10 times the weight of the fixture.***

1. The fixture must be located at least 1 meter (3.3 ft.) away from the surface to be illuminated and at least 0.1 meters (4 in.) from any combustible materials (wood, fabric, paper, etc.). Ensure that the clearance around the fan and air vents is at least 0.1 meters (4 in.). Ensure that there are no flammable materials nearby.
2. If using a rigging clamp (not included), ensure that the clamp is undamaged and can bear at least 10 times the fixture's weight. Bolt the clamp securely to the fixture's mounting bracket with a grade 8.8 (minimum) M12 bolt and lock nut through the 13 mm hole in the center of the mounting bracket, or as recommended by the clamp manufacturer.
3. If fastening the fixture directly to a mounting surface, ensure that any fasteners used and the mounting surface can bear at least 10 times the fixture's weight. The fixture may be fastened using any of the following:
  - four 6.5mm holes in the sides of the U-bracket
  - two 8mm holes in the top of the U- bracket
  - one 13mm hole in the top of the U-bracket.

If required, the fixture may also be installed using the supplied mounting plate (see illustrations):



4. Ensure that the structure used to support the fixture can support at least 10 times the total weight of all installed fixtures, clamps, cables, auxiliary equipment, etc.
5. Install a safety wire that can hold at least 10 times the weight of the



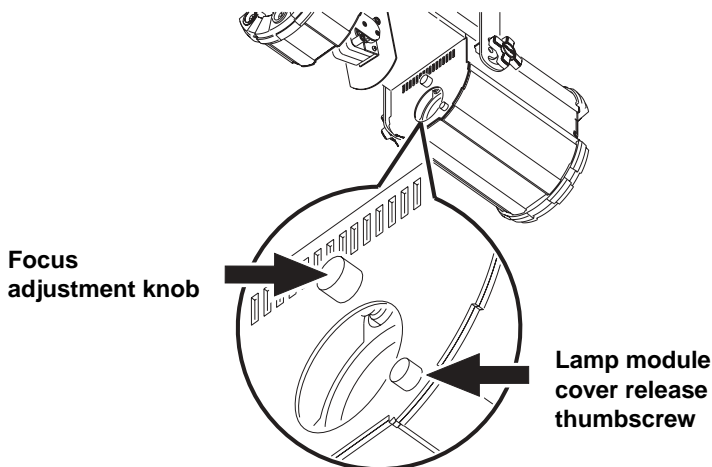
fixture through/over the support and through a safety wire attachment point next to one of the swivel locks on the fixture (see illustration). **Do not simply attach the safety wire to the mounting bracket**, as this will leave the fixture unsecured.

6. Loosen the swivel locks and tilt the fixture to the desired angle. Turn the swivel locks clockwise to tighten. Check that both swivel locks are tight and that the fixture is securely clamped in position.

## Focus adjustment

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The focus adjustment screw is next to the lens aperture. Do not confuse it with the cover release screw.



Do not look directly into the light beam while adjusting the focus.

## Creating a data link for DMX and master/slave operation

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You need a serial data link to run identical light shows on two or more Mania SCX500s (master/slave operation) or run light shows using a DMX controller.

Fixtures on a serial data link must be daisy-chained in one single line, max. 500 meters (1640 ft.) long, with max. 32 fixtures. If you wish to exceed 32 fixtures or 500 meters, or to add branches, use an optically isolated amplifier-splitter such as the Martin RS-485 Opto-Splitter (P/N 90758060).

Reliable data connection requires suitable cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use cable with at least one twisted pair specifically designed for RS-485

applications. Your Martin dealer can supply suitable high quality cable in various lengths.

## Connecting the serial data link

The Mania SCX500's data connections are XLR type, wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). This is the standard configuration for DMX devices.

One or more adaptor cables may be required to connect the Mania SCX500 to the controller and/or other types of fixture, because some devices may have 5-pin XLR connectors, and others may have reversed signal polarity (pin 2 hot and pin 3 cold). Connector polarity is normally specified on the device or in the device's user manual.

5-pin to 3-pin Adaptor	3-pin to 5-pin Adaptor	3-pin to 3-pin Phase-Reversing Adaptor	Male Termination Plug	Female DMX Termination Plug
<div>Male      Female</div> <div> 1 ——— 1  2 ——— 2  3 ——— 3  4  5 </div>	<div>Male      Female</div> <div> 1 ——— 1  2 ——— 2  3 ——— 3  4  5 </div>	<div>Male      Female</div> <div> 1 ——— 1  2 ——— 2  3 ——— 3 </div>	<div>Male XLR</div> <div> 1  2 3 120 Ohm  3 </div>	<div>Female XLR</div> <div> 1  2 3 120 Ohm  3 </div>
P/N 11820005	P/N 11820004	P/N 11820006	P/N 91613017	P/N 91613018

### DMX connectors and polarity

To connect the data link:

1. Power all devices off.
2. If you are using a DMX controller, run a data cable from the DMX controller's data output to the first fixture's data IN socket. If the controller has a 5-pin output, use a 5-pin male to 3-pin female adaptor cable (P/N 11820005).
3. If you are not using a DMX controller, insert a female DMX termination plug (P/N 91613018) in the first fixture's data IN socket.
4. Plug a data cable into the OUT socket of the first fixture and the IN socket of the next one. Continue connecting up to 32 Mania SCX500s output-to-input.
5. Terminate the link by inserting a male termination plug (available from your Martin dealer: P/N 91613017) into the data output of the last fixture. A termination plug is simply an XLR connector with a 120 Ohm, 0.25 W resistor soldered across pins 2 and 3.

# 3. OPERATION

***The Mania SCX500 is supplied in DMX mode. If you are not using a DMX controller, you need to set the fixture to music trig or auto trig mode before you can use it. Read below for details of how to do this!***

Once the Mania SCX500 is correctly and safely installed, power on at the fixture's power on/off switch. The fixture will reset.

If the Mania SCX500 resets and starts up successfully, three digits will appear in the display for a few moments to indicate the software version installed. The first digit is the major release number (i.e. the number before the decimal point in a version number). For example, if software version 1.1 is installed, the message **1 1 0** will appear in the display.

Any other message (see “*Error messages*” on page 21) indicates power reset failure. If this occurs, switch off, wait a few seconds and switch on again. If the software version number still fails to appear, consult your Martin dealer.

The Mania SCX500 has three operating modes:

**Music trig:** In this mode, lighting effects are triggered by music intensity.

**Auto trig:** In this mode, lighting effects are triggered automatically.

Both music trig and auto trig modes can be used in:

- **Single fixture** operation, where a Mania SCX500 operates independently.
- **Master/slave** operation, where one fixture sends signals to others via a data link so that all fixtures perform an identical light show.

**DMX mode:** In this mode, fixtures can be controlled using a DMX controller on the data link.

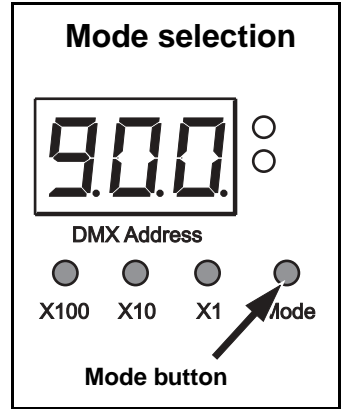
Fixtures need to be in DMX mode to operate as slaves in master/slave operation.

Once the fixture has reset after powering on, if the fixture is in DMX mode its DMX address will appear in the display. The Mania SCX500 is factory-set to DMX mode with the DMX address set to 001.

## Selecting operating modes

To switch between DMX, auto trig and music trig modes:

1. Apply power to the fixture. If the display shows **001** after it has reset, the fixture is in **DMX** mode with DMX address 001.
2. Press the Mode button once. The fixture enters **auto trig** mode and **900** appears in the display.
3. Press the Mode button again once. The fixture enters **music trig** mode, and **901** appears in the display.
4. Press the button again once to return to **DMX** mode. The fixture's DMX address appears in the display.
5. Repeat this procedure to continue scrolling through operating modes.



When a fixture is powered off and then on again, it will remember which mode it is set to and start up in that mode.

## Auto trig operation

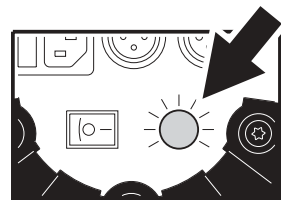
In auto trig operation, the Mania SCX500 runs a factory-set dynamic light show that uses all the fixture's effects in a random program

## Music trig operation

In music trig stand-alone mode, the Mania SCX500 runs a dynamic light show in time with a music beat. Sensitivity can be adjusted for optimum synchronization with the music.

To adjust sensitivity:

1. Power the Mania SCX500 on.
2. Play a typical music track at typical volume for the location.
3. Use the sensitivity knob to adjust the sensitivity until the desired level of light effects is obtained.



**Music trig sensitivity setting**

# Master/slave operation

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In master/slave mode, one master Mania SCX500 sends trigger signals to all the fixtures connected to it, and all fixtures run an identical dynamic light show. Up to 32 Mania SCX500s can be connected together and operated in master/slave mode. More fixtures can be added using an optically isolated splitter/amplifier such as the Martin RS-485 Opto-Splitter (P/N 90758060).

**Important!** *Set only 1 fixture as master: damage can occur if 2 masters, or a master and a controller, are linked together.*

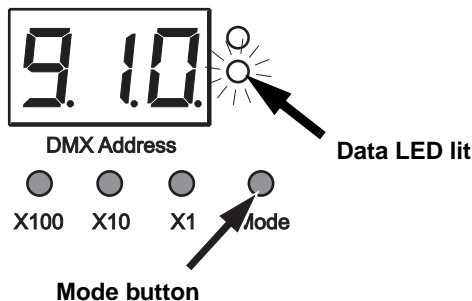
## Setting up Mania SCX500s for master/slave operation

For master/slave operation, the master fixture must be set to auto trig or music trig mode and the slave fixtures must be set to DMX mode using the Mode button on the settings panel.

To set up master/slave operation:

1. Select one fixture to be the master (you will save time if you choose a fixture which is easily accessible).
2. Ensure that all slave fixtures are in DMX mode, and then set the master fixture to auto trig or music trig operation (see “*Selecting operating modes*” on page 15)
3. When slave fixtures receive signals from the master, they will automatically begin operating in slave mode. **9 10** will appear in their displays and the green Data LED will light to show that the fixture is receiving control data.

### Slave mode





When a fixture is set as master, it remembers this setting when it is powered off. This means that it will still be set as master the next time it is powered on.

## DMX controller operation

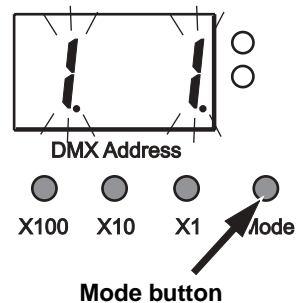
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### Setting 8- or 6-channel DMX mode

The Mania SCX500 can run in two DMX modes: 8-channel and 6-channel mode. The 2 extra channels in 8-channel mode allow you to control the speed of mirror movement (channel 7) as well as gobo and color wheel movement (channel 8), but 6-channel mode can be useful if your DMX controller only has 6 faders, or if your controller has 12 faders and you want to control two fixtures. The Mania SCX500 is supplied in 8-channel mode by default.

To toggle between 8- and 6-channel DMX modes:

1. Apply power to the fixture and wait for the fixture to reset.
2. Hold the Mode button pressed in. After 5 seconds the display will blink. You are now in the control menu. Keeping the Mode button pressed in, press the X100 button repeatedly, until **1** appears on the left of the display.
  - If the display blinks **1 1**, the fixture is in 8-channel mode.
  - If the display blinks **1 2**, the fixture is in 6-channel mode.
3. Keeping the Mode button pressed in, press the X1 button to toggle between 8- and 6-channel mode.
4. Release the Mode button to save the setting and exit the control menu.



### Setting DMX addresses for DMX operation

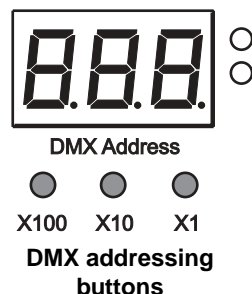
If you intend to use a DMX controller, you will need to set the DMX address for each fixture. The DMX address, also known as the start channel, is the first channel used to receive instructions from the controller. It is set using the three addressing buttons on the Mania SCX500's control panel.

For individual control, each fixture must be assigned its own DMX address and control channels. Fixtures with the same address will receive the same instructions and behave identically.

If a fixture is set to 8-channel mode and you give it DMX address 100, for example, it will use channels 100, 101, 102, 103, 104, 105, 106 and 107. Channel 108 is available for the next fixture.

To set DMX addresses:

1. Power on the fixtures on the DMX link.
2. Depending on which channels are available, decide on suitable DMX addresses for the Mania SCX500s.
3. Enter the DMX address for each Mania SCX500 using the three addressing buttons on the control panel of each fixture. The X1 button increases the last digit in the DMX address, the X10 button increases the address by 10 and the X100 increases the address by 100.



## DMX control options

In 6-channel mode, the Mania SCX500 responds to the following commands:

- Reset
- Strobe effect
- Macros 1 - 12
- Dimming (0 - 100% intensity)
- Color wheel position and rotation
- Gobo wheel position and rotation
- Pan
- Tilt

In 8-channel mode, you can also control:

- Pan/tilt speed
- Speed of color and gobo wheels

**Reset:** All effects can be reset to their index positions from the controller using channel 1. The reset command must be sent for 5 seconds before it takes effect.

When a fixture is reset via DMX, **800** should appear in the digital display.

**Strobe:** A variable speed strobe effect is available on Channel 1.

**Macros:** The Mania SCX500 features 12 macros on Channel 1. These pre-programmed shows are built into the fixture software. They use all the fixture's effects, giving varied light shows with minimal programming.

**Dimming:** The Mania SCX500 can be dimmed from 0% (blackout) up to 100% intensity using channel 2.

**Color wheel position and rotation:** The color wheel features 14 full-color filters plus white (no filter) and 5 multi-color filters. The wheel may also be positioned between 2 filters for additional split-color effects. Using channel 3, the color wheel can be positioned for static color effects or spun in either direction for dynamic color effects.

**Gobo wheel position and rotation:** The gobo wheel features 15 gobos and an open position. Using channel 4, the gobo wheel can be positioned for static gobo effects or spun in either direction for dynamic gobo effects.

**Pan:** The scanner mirror pans approx. 180°. Pan can be controlled on channel 5. Note that pan can also be inverted using the fixture's control panel (see "*Inverting pan*" on page 20).

**Tilt:** The scanner mirror tilts approx. 72°. Tilt can be controlled on channel 6. Note that tilt can also be inverted using the fixture's control panel (see "*Inverting tilt*" on page 21).

**Pan/tilt speed:** In 8-channel DMX mode, the speed at which the Mania SCX500's mirror pans and tilts can be adjusted on channel 7. Selecting a speed allows you to set fade times when using DMX controllers that do not feature fade time programming (a fade time is the time taken for effects to change from one scene to the next).

The Mania SCX500's pan and tilt movement can also be set to 'tracking' on this channel. If you set the fixture to 'tracking', the DMX controller defines fade times.

**Speed of color and gobo wheels:** In 8-channel DMX mode, the speed at which the color and gobo wheels change from one position to the next can be adjusted from 0 to approximately 1 RPS on channel 8. As with pan and tilt speed, color and gobo wheel movement can also be set to 'tracking'.

## Unsure about speed and tracking?

If you are operating your Mania SCX500 in 8-channel DMX mode and you are not sure whether to select a movement speed or set your Mania SCX500 to tracking on channels 7 and 8, follow these guidelines to obtain optimum movement:

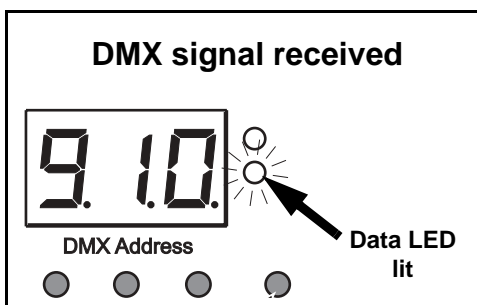
- Set channels 7 and 8 to 'tracking' if you are using programmed fade times or macros on your DMX controller.
- Select a speed on channels 7 and 8 if you are *not* using programmed fade times or macros on your DMX controller.

The Mania SCX500 is set to 'tracking' by default.

See “*DMX protocol*” on page 27 for full details of the DMX values you need to set on each channel to obtain the lighting effects outlined above.

## DMX signal indicator

When the Mania SCX500 receives a valid DMX signal, the green Data LED will light to show that the fixture is receiving control data.



## Inverting pan and tilt

The Mania SCX500's pan and/or tilt can be inverted. This feature lets you set up symmetrical or mirrored movement of pairs of fixtures.

### Inverting pan

To set a Mania SCX500 to inverted pan:

1. Apply power to the fixture and wait for the fixture to reset.
2. Hold the Mode button pressed in. After 5 seconds the display will blink. You are now in the control menu. Keeping the Mode button pressed in, press the X100 button repeatedly, until **2** appears in the left of the display.
  - If the display blinks **2** **0**, the fixture is in normal pan mode.
  - If the display blinks **2** **1**, the fixture is in inverted pan mode.
3. Keeping the Mode button pressed in, press the X1 button to toggle between normal and inverted pan.
4. Release the Mode button to save the setting and return the fixture to normal operation.

## Inverting tilt

To set a Mania SCX500 to inverted tilt:

1. Apply power to the fixture and wait for the fixture to reset.
2. Hold the Mode button pressed in. After 5 seconds the display will blink. You are now in the control menu. Keeping the Mode button pressed in, press the X100 button repeatedly, until **3** appears in the left of the display.
  - If the display blinks **3 0**, the fixture is in normal tilt mode.
  - If the display blinks **3 1**, the fixture is in inverted tilt mode.
3. Keeping the Mode button pressed in, press the X1 button to toggle between normal and inverted tilt.
4. Release the Mode button to save the setting and return the fixture to normal operation.

## Error messages

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In the event of an internal error, the following messages will appear in the digital display:

- **701** – Color wheel error.
- **702** – Gobo wheel error.
- **703** – Error on both gobo and color wheels.

If an error message is displayed, try powering the fixture off and then on again to reset it.

If the problem persists, contact your Martin dealer.

## 4. SERVICE AND MAINTENANCE

The Mania SCX500 requires simple routine maintenance. The maintenance schedule depends heavily on the operating environment; please consult a Martin service technician for recommendations.

Any service procedure not described here should be referred to a qualified technician.

**Warning!** *Disconnect the fixture from power and allow it to cool for at least 20 minutes before removing any cover.*

**Important!** *Excessive dust, grease, and smoke fluid buildup degrades performance and causes overheating and damage to the fixture that is not covered by the warranty. Check and, if necessary, clean fixtures at regular intervals.*

### Lamp

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The Mania SCX500 uses a 15V, 150W halogen lamp with integral reflector (MR16).

### Approved lamps

The Philips JCR/H5 (EFR/LL) 15 V, 150 W long-life halogen lamp, average lamp life 500 hours, color temperature 3100 K, is approved for use with the Mania SCX500.

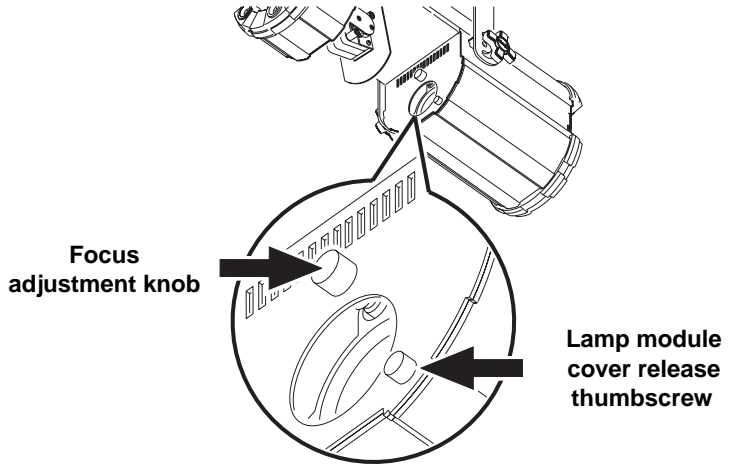
**Important!** *Use only an approved lamp. Installing any other lamp type may damage the fixture.*

### Replacing the lamp

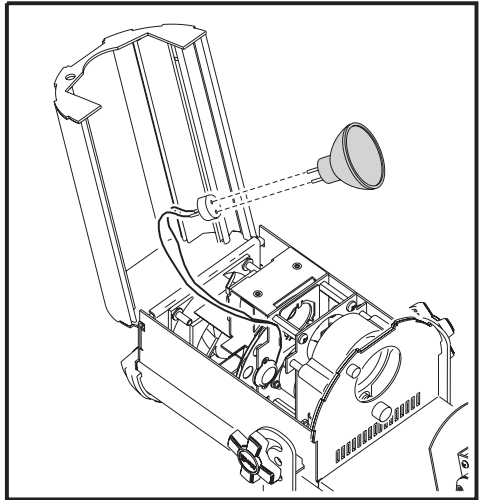
**Warning!** *Wear safety glasses and gloves and allow the fixture to cool for at least 20 minutes before removing the lamp.*

1. Disconnect the fixture from power and allow it to cool for at least 20 minutes.

2. Remove the lamp module cover release thumbscrew and open the cover on its hinge. Do not confuse the cover release thumbscrew with the focus adjustment knob.



3. Remove the old lamp from its metal clip and, being careful not to strain any wires, gently pull the lamp off its ceramic base.
4. Hold the new lamp by its base (do not touch the inside of the reflector or the bulb). Push the lamp pins squarely into the ceramic base.
5. If you touched the bulb, the reflector or any optical components, clean them with a clean, lint-free cloth wetted with isopropyl alcohol. Alcohol is extremely inflammable, so take precautions to avoid fire risk.
6. Replace the lamp in the metal clip, making sure that the wires are clear of the gobo and color wheels. Close the cover, checking that no wires are trapped, and replace the thumbscrew.



# Cleaning

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## Cleaning optical components

Use care when cleaning optical components. The coated surfaces are fragile and small scratches may be visible in the fixture's light output.

1. Disconnect the fixture from AC power and allow it to cool for at least 20 minutes.
2. Remove the lamp module cover release thumbscrew and open the lamp module cover on its hinge.
3. Blow or vacuum away loose dust. Remove residues from lenses and filters with a soft cloth or cotton swabs wetted with isopropyl alcohol. Regular glass cleaner may also be used, but no residues may remain.
4. Any streaking that remains can be removed by rinsing with distilled water. Mixing the water with a small amount of wetting agent such as Kodak Photoflo will help give a perfectly clear surface.
5. Dry with a clean, soft, lint-free cloth or blow dry with compressed air.
6. Replace the lamp module cover before reapplying power.

## Cleaning the fan and air vents

To maintain adequate cooling, dust must be cleaned from the fan and air vents periodically. Check and, if necessary, clean fixtures at regular intervals.

1. Disconnect the data and power cables and allow the fixture to cool for at least 20 minutes.
2. Remove dust and dirt from the fan blades and vent grill using a soft brush, cotton swab, vacuum, or compressed air.

## Replacing the main fuse

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The Mania SCX500 uses a time-delay fuse for protection against current overload. An indication that the fuse may have blown is that when power is applied and the lamp is switched on, no light is produced.

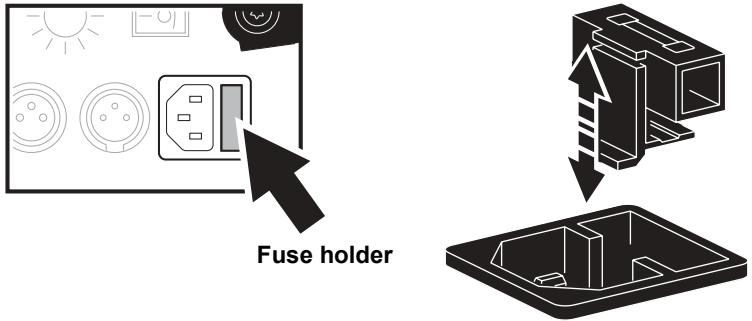
If the fuse blows repeatedly, there is a fault with the unit that requires service by a Martin technician.

Never bypass the fuse or replace it with one of another size or rating.

1. Disconnect the power cable.



2. Pry open the fuse holder (located next to the power cable entry, EU model illustrated) with a flat-head screwdriver and remove the fuse.



Fuse holder

3. Replace the fuse with one of the same type. The fuse rating is listed on the serial number label and in “*Mania SCX 500 specifications*” on page 30.
4. Replace the fuse holder.
5. If fuses continue to blow, there is probably a fault. Disconnect the fixture from power and data and contact a Martin service technician.

## Firmware /hard boot uploads

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It is possible to upload new firmware to the Mania SCX500 via the data IN connector using, for example, an uploader such as the Martin MP-2 Uploader, or a PC using a Martin DABS interface device and suitable software. The latest version of the Mania SCX500 firmware is available in the Support area of the Martin website at <http://www.martin.com>

If the Mania SCX500 will not accept normal firmware uploads, it can be forced to accept an upload by starting it in hard boot mode. To start in hard boot mode, hold both the Mode button and the X100 button pressed in while powering on the fixture. When the Mania SCX500 is in hard boot mode, the data LED blinks.

If you are not sure how to carry out uploads, your Martin dealer will be able to give advice or carry out the upload for you.

# 5. TROUBLESHOOTING

Problem	Probable cause(s)	Remedy
One or more fixtures is completely dead.	No power to fixture.	Check that power is switched on and cables are plugged in.
	Main fuse blown.	Replace fuse.
Fixtures reset correctly but all respond erratically or not at all to controller.	Controller not connected.	Connect controller.
	XLR pin-out of controller does not match pin-out of first fixture on link (i.e. polarity is reversed).	Install phase-reversing cable between controller and first fixture on link.
Fixtures reset correctly but some respond erratically or not at all.	Bad data link connection	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Data link not terminated.	Use DMX termination plug on last fixture on link for DMX control, or first and last fixtures for master/slave mode.
	Incorrect fixture addressing.	Check DMX addresses.
	You are trying to control via DMX but one or more fixtures is set to auto or music trig.	Set all fixtures to DMX mode for DMX control.
	You are trying to operate in master/slave mode but more than one fixture is set to auto or music trig.	Set all fixtures except the master to DMX mode for master/slave operation.
	One of the fixtures is defective.	Bypass one fixture at a time (unplug both DMX connectors and connect them directly together) until normal operation is regained. Have the defective fixture serviced by a Martin technician.
Fixture will not run a stand-alone light show. Display shows number between 1 and 512.	Fixture is set to DMX mode and is displaying DMX address.	Use Mode switch to change fixture from DMX to either auto trig or music trig mode.
An effect fails to reset correctly.	The effect requires mechanical adjustment.	Contact Martin technician for service.
Lamp cuts out intermittently or burns out too quickly.	Fixture too hot.	Allow fixture to cool. Check air vents and fan, and clean if necessary.
Fixture does not respond correctly to music beat in music trig mode	Music sensor incorrectly adjusted.	Adjust sensitivity control until fixture responds satisfactorily to music.

## 6. DMX PROTOCOL

Channel	Value	Percent	Function
<b>1</b>	0 - 4	0 - 1	<b>Strobe, music trig, macros, reset</b> No function
	5 - 68	2 - 26	Strobe (fast to slow)
	69 - 100	27 - 39	Remote stand-alone, auto trig
	101 - 112	40 - 44	Macro 1
	113 - 124	45 - 48	Macro 2
	125 - 136	49 - 53	Macro 3
	137 - 148	54 - 58	Macro 4
	149 - 160	59 - 62	Macro 5
	161 - 172	63 - 67	Macro 6
	173 - 184	68 - 72	Macro 7
	185 - 196	73 - 76	Macro 8
	197 - 208	77 - 81	Macro 9
	209 - 220	82 - 86	Macro 10
	221 - 232	87 - 91	Macro 11
	233 - 249	92 - 97	Macro 12
	250 - 255	98 - 100	Reset fixture (value must be held for 5 seconds)
<b>2</b>			<b>Intensity</b>
	0 - 255	0 - 100	0 - 100%

Channel	Value	Percent	Function
3			<b>Color wheel</b>
	0 - 5	0 - 1	Color 1 (White)
	6 - 11	2 - 3	Split Color 1-2 (White and Blue B04)
	12 - 17	4 - 6	Color 2 (Blue B04)
	18 - 23	7 - 8	Split Color 2-3 (Blue B04 and Orange B09)
	24 - 29	9 - 11	Color 3 (Orange B09)
	30 - 35	12 - 13	Split Color 3-4 (Orange B09 and Red B01)
	36 - 41	14 - 15	Color 4 (Red B01)
	42 - 47	16 - 18	Split Color 4-5 (Red B01 and Light Yellow B03)
	48 - 53	19 - 20	Color 5 (Light Yellow B03)
	54 - 59	21 - 22	Split Color 5-6 (Light Yellow B03 and Pink B12)
	60 - 65	23 - 25	Color 6 (Pink B12)
	66 - 71	26 - 27	Split Color 6-7 (Pink B12 and Medium Blue B13)
	72 - 77	28 - 29	Color 7 (Medium Blue B13)
	78 - 83	30 - 32	Split Color 7-8 (Medium Blue B13 and Light Red B19)
	84 - 89	33 - 34	Color 8 (Light Red B19)
	90 - 95	35 - 37	Split Color 8-9 (Light Red B19 and Light Green B08)
	96 - 101	38 - 39	Color 9 (Light Green B08)
	102 - 107	40 - 41	Split Color 9-10 (Light Green B08 and Blue B05)
	108 - 113	42 - 44	Color 10 (Blue B05)
	114 - 119	45 - 46	Split Color 10-11 (Blue B05 and Pink B11)
	120 - 125	47 - 48	Color 11 (Pink B11)
	126 - 131	49 - 51	Split Color 11-12 (Pink B11 and Light Blue B06)
	132 - 137	52 - 53	Color 12 (Light Blue B06)
	138 - 143	54 - 55	Split Color 12-13 (Light Blue B06 and Yellow B02)
	144 - 149	56 - 58	Color 13 (Yellow B02)
	150 - 155	59 - 60	Split Color 13-14 (Yellow B02 and Primary Red B14)
	156 - 161	61 - 62	Color 14 (Primary Red B14)
	162 - 167	63 - 65	Split Color 14-15 (Primary Red B14 and Green B07)
	168 - 173	66 - 67	Color 15 (Green B07)
	174 - 179	68 - 70	Color 16 (Mix 1)
	180 - 185	71 - 72	Color 17 (Mix 2)
	186 - 191	73 - 74	Color 18 (Mix 3)
	192 - 197	75 - 77	Color 19 (Mix 4)
	198 - 203	78 - 79	Color 20 (Mix 5)
			<b>Continuous rotation</b>
	204 - 229	80 - 89	Clockwise rotation (fast to slow)
	230 - 255	90 - 100	Counter-clockwise rotation (slow to fast)

Channel	Value	Percent	Function
<b>4</b>	0 - 11	0 - 4	<b>Gobo wheel</b>
	12 - 23	5 - 8	Gobo 1 (Open)
	24 - 35	9 - 13	Gobo 2 - Dune)
	36 - 47	14 - 18	Gobo 3 - Sunburst
	48 - 59	19 - 23	Gobo 4 - Gemini
	60 - 71	24 - 27	Gobo 5 - Mr. Spok
	72 - 83	28 - 32	Gobo 6 - Triptych
	84 - 95	33 - 37	Gobo 7 - Space lice
	96 - 107	38 - 41	Gobo 8 - Nova
	108 - 119	42 - 46	Gobo 9 - Circular saw
	120 - 131	47 - 51	Gobo 10 - Racer
	132 - 143	52 - 55	Gobo 11 - Black hole
	144 - 155	56 - 60	Gobo 12 - Bat
	156 - 167	61 - 65	Gobo 13 - Beep
	168 - 179	66 - 70	Gobo 14 - Fame
	180 - 191	71 - 74	Gobo 15 - Thatch
			Gobo 16 - Black out
<b>5</b>			<b>Continuous rotation</b>
	192 - 223	75 - 87	Clockwise rotation (fast to slow)
	224 - 255	88 - 100	Counter-clockwise rotation (slow to fast)
<b>6</b>	0 - 255	0 - 100	<b>Pan</b> Left to right (127 = neutral)
<b>7*</b>	0 - 255	0 - 100	<b>Tilt</b> Down to up (127 = neutral)
<b>7*</b>			<b>Pan &amp; tilt speed (8-channel mode only)</b>
	0 - 2	0 - 1	Tracking (default)
	3 - 255	2 - 79	Fast to slow
<b>8*</b>			<b>Color &amp; gobo wheels rotation speed (8-channel mode only)</b>
	0 - 2	0 - 1	Tracking (default)
	3 - 255	2 - 100	Fast to slow

**\* Channels 7 and 8 are available in 8-channel DMX mode only. In 6-channel DMX mode, pan & tilt speed and color & gobo wheel rotation speed are set to 'tracking'.**

# MANIA SCX 500 SPECIFICATIONS

## Physical

Size (L x W x H) .....	445 x 204 x 178 mm (17.5 x 8.0 x 7.0 in.)
Height with bracket attached .....	375 mm (14.8 in.)
Weight (including bracket) .....	6.7 kg (14.8 lbs)

## Construction

Housing .....	Steel and aluminum
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## Lamp

Type .....	15 V, 150 W, H5 MR16 halogen
Approved models .....	Philips JCR 15 V, 150 W H5 (EFR/LL)
Lamp base .....	GZ6.35

## Thermal

Maximum ambient temperature ( $T_a$ ) .....	40° C (104° F)
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## Control and programming

Control options .....	DMX, stand-alone, master/slave
DMX channels .....	8- and 6-channel modes
Stand-alone triggering options .....	Music trig, auto trig
Addressing and programming .....	Control panel with LED display
Protocol .....	USITT DMX-512 (1990)
DMX connection .....	3-pin locking XLR, pin 1 shield, pin 2 cold (-), pin 3 hot (+)

## Dynamic effects

Full range continuous dimmer
Color wheel: 15 colors (including white), 5 multi-colors, split color function
Gobo wheel: 16 gobos
Moving mirror: 180° pan and 72° tilt

## Optics

Beam angle .....	15°
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## Maximum power and current – US model

@ 110 V, 60 Hz .....	138 W, 1.27 A
@ 115 V, 60 Hz .....	150 W, 1.30 A
@ 120 V, 60 Hz .....	159 W, 1.35 A

## Maximum power and current – EU model

@ 220 V, 50 Hz .....	144 W, 0.66 A
@ 230 V, 50 Hz .....	154 W, 0.66 A
@ 240 V, 50 Hz .....	164 W, 0.68 A

## Fuse

Main fuse (US model) .....	3.15 AT
Main fuse (EU model) .....	2 AT

## Installation

Minimum distance to combustible materials .....	0.1 m (4 in.)
Minimum distance to illuminated surfaces .....	1 m (3.3 ft.)
Minimum clearance around fan and air vents .....	0.1 m (4 in.)

## Included items – US model

2 meter (6.5 ft.) US power cable 18AWG with US male connector (UL approved)  
5 meter (16.4 ft.) RS-485 XLR cable for data link.....P/N 11820008  
Lamp (installed)  
User manual  
Adjustable U-bracket  
Mounting plate

## Included items – EU model

3 meter (9.8 ft) EU power cable 3x1.0mm<sup>2</sup> with Schuko male connector  
3 meter (9.8 ft) EU power cable 3x1.0mm<sup>2</sup> with no male connector  
5 meter (16.4 ft.) RS-485 XLR cable for data link.....P/N 11820008  
Lamp (installed)  
User manual  
Adjustable U-bracket  
Mounting plate

## Accessories

DMX termination plug (end of link), XLR male ..... P/N 91613017 || DMX termination plug, (start of link, master/slave), XLR female .. | P/N 91613018 |
G-clamp .....	P/N 91602003
Half-coupler clamp .....	P/N 91602005
5-pin male to 3-pin female XLR adaptor cable .....	P/N 11820005
5 meter (16.4 ft.) RS-485 XLR cable for data link .....	P/N 11820008

## Ordering information

Mania SCX500 US model, 115-120 V, 60Hz ..... P/N 90430081 || Mania SCX500 EU model, 220-240 V, 50Hz ..... | P/N 90430080 |
Philips JCR/H5 15 V, 150 W (EFR/LL) lamp .....	P/N 97000110
3.15 AT main fuse (US model, 115-120 V) .....	P/N 05020013
2 AT main fuse (EU model, 220-240 V) .....	P/N 05020009













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