martinarchitectural

05 Driver

Martin

Measurements are in millimeters

Introduction

1

Thank you for selecting the Martin 05 Driver. The 05 Driver is part of the Alien 05 system of color changers. The 05 Driver contains the electronics that control and operate connected Alien 05 luminaires.

The Alien 05 Series is made up of the following products:

05 Driver — Contains the intelligent control functions, and a mains power relay. Every Alien 05 system must have at least one 05 Driver. An 05 Driver can control up to 24 Alien 05 luminaires (of all models). This number can be extended with the use of 05 Repeaters.

Alien 05 Recessed — Recessed ceiling or wall luminaires for use outside of the United States.

Alien 05 Eyeball — Recessed ceiling or wall luminaires for use in the United States. Designed for mounting in a Cooper Lighting, Halo brand, recessed, low-volt, non-IC fixture housing (item # H7LVT).

Alien 05 Stem Mount — Arm-mounted luminaires that are designed to be hung from a ceiling. Several arm lengths and bases (with built-in dimmable transformers) are available.

05 Repeater — A signal amplifier that enables an additional 24 Alien 05 luminaires to be controlled from a single 05 Driver.

Oracle — A dedicated control unit for the Alien 05 series.

Note that in this document we refer to Alien 05 Recessed, Alien 05 Eyeball and Alien 05 Stem Mount models collectively as "Alien 05" luminaires.

Safety information

Warning!   ***This product is not for household use.***

Read this manual before powering or installing the device, follow the safety precautions listed below and observe all warnings in this manual and on the housing. If you have questions about how to operate the system safely, contact your Martin dealer or call the Martin 24-hour service hotline at +45 70 200 201.

- Install only in a dry area.
- Refer electrical installation to a qualified electrician.
- Refer all service to a Martin technician.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Disconnect the device from AC power before removing the cover.
- Never operate the device without the cover installed.
- Do not modify the device.

Configuring and installing an Alien O5 system

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The following sections in this chapter describe rules and concepts needed to design and implement an Alien 05 installation - specifically regrading data and power. The following tasks are described:

- Positioning the 05 Driver; see "05 Driver location" on page 6.
- Connecting power to the 05 Driver; see page 7.
- Connecting power to the Alien 05 luminaires; see page 7.
- Setting up a control network; see page 10.
- Connecting an Oracle control device; see page 12.
- Connecting a DMX control device; see page 13.

O5 Driver location

Once the Alien system is set-up and running, there should be no need to access the 05 Driver; it may be installed in any convenient location that meets the following conditions:

- The cable run to the Oracle remote interface, if used, does not exceed 40 meters (130 ft.).
- The data cable run from any connector on an 05 Driver to the last connected fixture does not exceed 40 meters (130 ft.) - unless the signal is amplified by an 05 Repeater.
- The ambient temperature does not exceed 40° C (104° F).
- The unit is protected from moisture.

Four 7 mm (1/3 in.) holes are provided on the 05 Driver casing for fixed installation.

Powering the O5 Driver

The 05 Driver features an auto-ranging power supply. It is suitable for use with 90 - 250 V, 50/60 Hz mains supplies.

Use round, 3-conductor 0.75 mm2 (18 AWG) or better electrical cable with an outside diameter of 5 - 6 mm (3/16 - 1/4 in.) for connection to the AC power supply.

Warning!   *For protection from dangerous electric shock, the fixture must be grounded (earthed). The AC mains supply shall be fitted with a fuse or circuit breaker, ground-fault protection, and a means to isolate the fixture from the mains during service or when not in use. Refer electrical installation to a qualified electrician.*

Connecting the AC mains lead

1 Verify that the mains lead (not included) is isolated from AC power.

2 Remove top cover. Feed wire through the opening in the front panel labelled "90 - 250V~ Mains Input".

3 Connect the mains lead to the connection block as shown on top cover.

4 Replace the top cover.

Powering Alien O5s

Each Alien 05 draws 50 watts of power at 4.2 amps from an electronic transformer that supplies 12 volt AC at 50 or 60 hertz (only supplied with bases for the Alien 05 Stem Mount). If you are installing multiple Alien 05s you can use one or more transformers, specified to the number of Alien 05s power is being supplied to.

Warning: *The cable length between transformers and the Alien 05 luminaires that they supply power to must not be more than 45 cm (17.7 in.).*

Note: *Alien 05 Eyeball models draw their power via the transformer that is built into the Halo Recessed fixture housing in which they will be installed. These transformers can draw power through the 05 Driver's 10 amp mains relay but the transformers cannot be dimmed.*

Sample configurations

The following sub-sections illustrate three possible configurations.

Simple power-supply configuration

In the simplest configuration, the 05 Driver is connected directly to the local mains supply, and the Alien 05s are supplied power from a single, or multiple, transformer/s connected to mains supply.
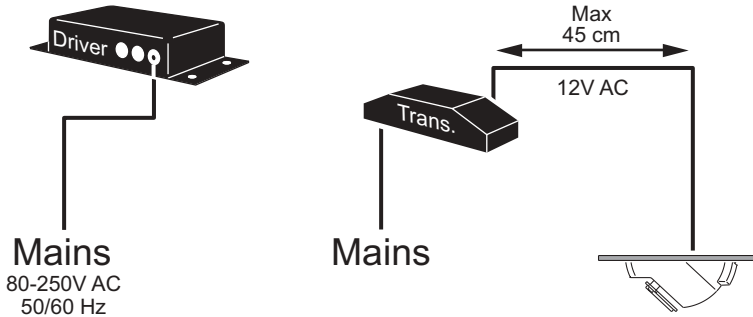
In this configuration the 05 Driver cannot control the supply of power to the Alien 05 luminaires or dim them.

Remote lamp on/off power-supply configuration

In this configuration a transformer, or transformers, supplying 12V AC power to one or more Alien 05s, is connected to the *10A mains relay* on the 05 Driver.

This enables remote control of power on and off of the Alien 05s via either an Oracle controller or DMX control device, that is attached to the 05 Driver (when the intensity channel is set at less than 10% the relay closes and the luminaires switch off.
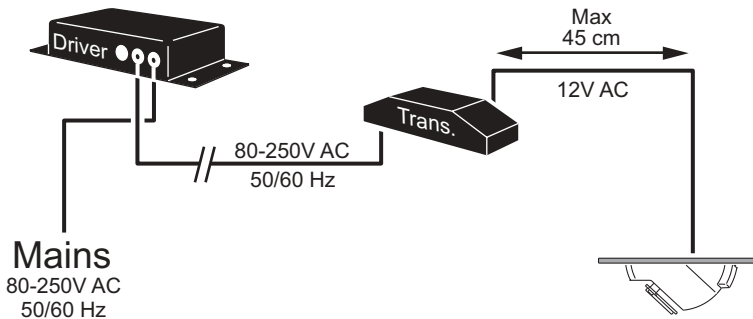
Warning   ***Do not draw more than 10 amps through the 05 Driver mains relay. If the mains supply is under 200 volts and the number of connected Alien 05's is over 15, check that the combined current draw of all transformers will not exceed 10 A.***

Remotely dimmable power-supply configuration

*Note:*   ***This configuration does not apply for Alien 05 Eyeball models as they draw their power via the transformer that is built into the Halo Recessed fixture housing. These transformers are not dimmable.***

In this configuration, one or more dimmable transformers supply 12V power to one or more Alien 05s, and are connected to the *0-10V analog* output on the 05 Driver. The transformer can be powered through the *10A mains relay* (if remote power on/off is required), or directly from the mains supply.
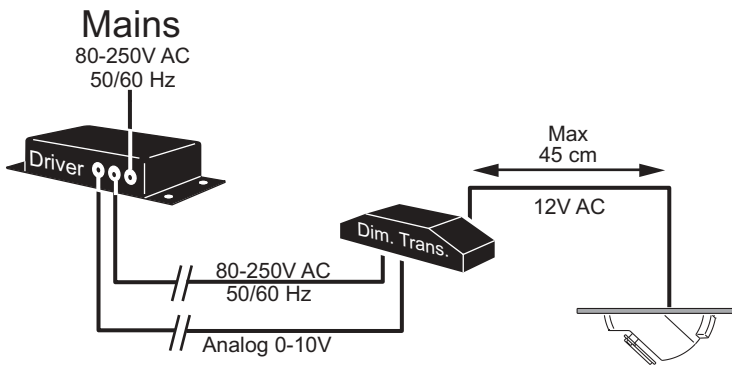
Using the Oracle controller, or a DMX control device, it is possible to dim, and power on and off the Alien 05s via the intensity channel.

Warning   ***Do not draw more than 10 amps through the 05 Driver mains relay. If the mains supply is under 200 volts and the number of connected Alien 05 luminaires is over 15, check that the combined current draw of all transformers will not exceed 10 A.***

Connecting transformers to a power supply

Supplying power through the 05 Driver to the transformers that power the Alien 05 luminaires is *optional* and transformers may be connected directly to the mains supply if there is no requirement for remote dimming or power/on via the 05 Driver. Refer the documentation supplied with you transformer for guidance.

In the cases that remote:

- Power on/off via the 05 Driver is required, transformers may be wired through the 05 Driver's mains output relay. The relay cuts power to the transformer when the intensity is set to less than 10 percent. It supplies power when the intensity is set to 10 percent or more.
- Dimming is required, a dimmable transformer may be connected through the analog 0 - 10 V output on the 05 Driver. This output controls the dimmer function only and does not provide power to illuminate the luminaires. This function is not available for 05 Driver Eyeball models.

Connecting transformers to the 05 Driver

To connect transformers to the 05 Driver, perform the following steps:

1 If the mains supply is under 200 volts and the number of connected Alien 05's is over 15, verify that the combined current draw of all transformers will not exceed 10 A.

2 Verify that the 05 Driver is isolated from AC power.

3 If wiring more than 1 transformer, connect the transformer leads to a suitable power distribution strip or junction with a single lead to the 05 Driver. If the transformers are dimmable, similarly gather the control leads to a parallel junction.

4 Remove top cover of the 05 Driver. Feed transformer power lead through opening in the front panel labelled "Mains Output Relay". If required, feed the dimmer control lead through the opening labelled "0 - 10V Dimmer Out". Connect as shown on top cover.

5 Replace the cover.

6 Connect 12 V transformer output to lighting units. See Alien 05 user manual.

Warning: **The cable length between the transformer and the Alien 05/s must not be more than 45 cm (17.7 inches).**

Control network cabling

Alien 05s must be connected to a 05 Driver unit (directly, or indirectly via an 05 Repeater unit) that contains the intelligent control functions. The 05 Driver transmits commands to the Alien 05 luminaires via CAT5 network cables (also available separately).

Each 05 Driver unit has six independent control channels, to each of which an 05 Repeater, or up to four Alien 05s can be connected (in a daisy-chain). Each 05 Driver channel can provide an individual program - with different

effects - to the Alien 05 luminaires connected to that channel. All the fixtures on one channel will mimic each other in their behavior.

Up to eight 05 Repeaters can be daisy-chained to the 05 Driver via the **Channel link Out/In** connectors, but note that this link is unamplified and that the last fixture in this daisy chain should not be more than 40 cable meters (130 feet) away from the 05 Driver.

If you connect 05 Repeaters to each or any one of the 6 amplified **Output (A-F)** connectors on an 05 Driver (or another 05 Repeater), a theoretically unlimited number of Alien 05 luminaires may be connected to an single controlling 05 Driver.
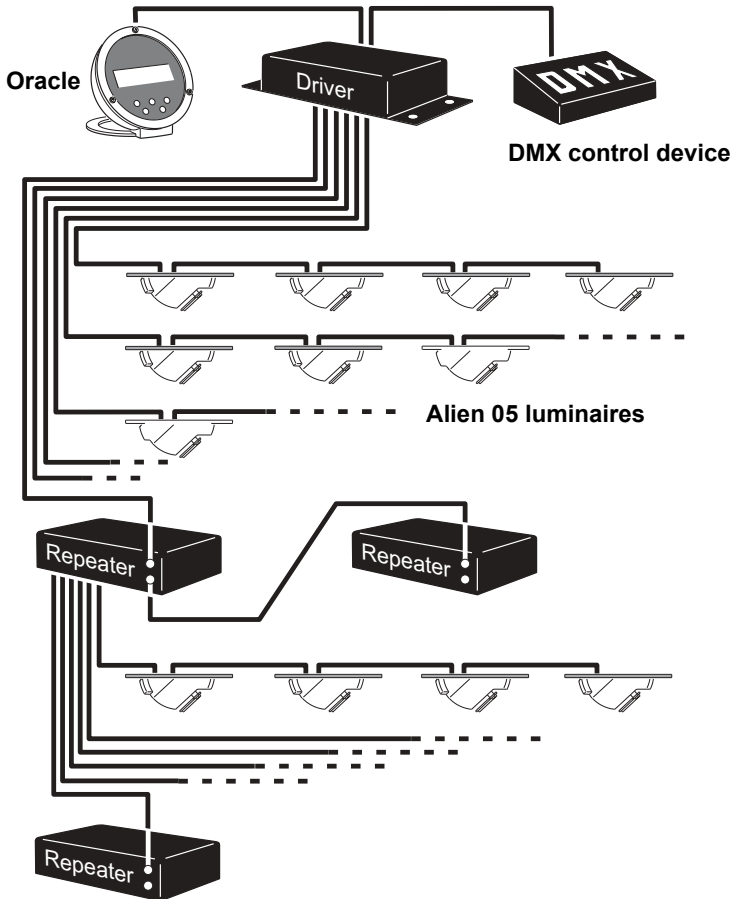
Warning: ***Do not mix Alien 05 luminaires and 05 Repeaters on the same Output link. Connect only Alien 05 luminaires, or only a 05***

Repeater, to an individual connector. This applies to both the 05 Driver and the 05 Repeater.
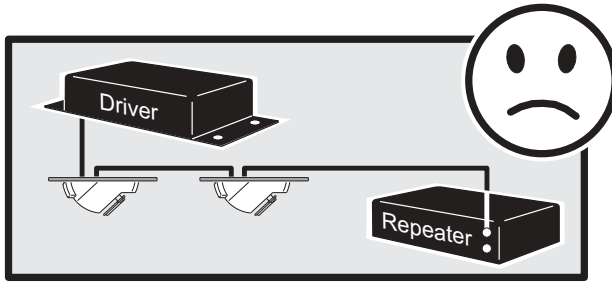
Note: *The maximum control network cable run between the an amplified signal source (05 Driver or 05 Repeater) and the last connected Alien 05 is 40 meters (131 ft.) Solid or stranded cable may be used.*

Laying control network cables

Lay network cables from as many of the 05 Driver's, or 05 Repeater's, six RJ-45 output channel sockets as is necessary to the Alien 05 mounting positions. Start with the locations closest to the 05 Driver or 05 Repeater.

If you are connecting multiple Alien 05s in daisy chains, run cables from the first positions in the chain to the next ones. In this way you will connect the first Alien 05 luminaire to the second Alien 05 luminaire, the second luminaire to the third, and the third to the fourth. The connection order is not important but keep the cable run from any single 05 Driver or 05 Repeater to the last luminaire in its chain of connected luminaires to less than 40 meters (131 ft.). The cable sockets on the 05 Drivers are identical: either one may be used for input.

Connecting an Oracle control device

If you will be using the optional Oracle controller to program and playback pre-recorded scenes, connect it to the 05 Driver using stranded cable.

1 Lead one end of the network cable over the Oracle's base and plug it into the RJ-45 socket on the back. (Do not lead the cable under the ring base.)

2 Lead the network cable to the 05 Driver and plug it into the bottom link socket, labelled "In/Oracle".

Note: *The cable run from the Oracle remote interface to the 05 Driver must not exceed 40 meters (130 ft.).*

Connecting a DMX control device

If you will be using an (optional) DMX controller to select scenes, connect it using a DMX cable to the 05 Driver's 3-pin XLR input socket. This socket is compatible with the USITT DMX-512 (1990) standard for DMX data connection.

Recommended cable

A reliable data connection begins with the right cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use cable specifically designed for RS-485 applications. Your Martin dealer can supply high quality cable in various lengths.

Cable adaptors

The 05 Driver's XLR data sockets are wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). One or more adaptor cables may be required to connect the 05 Driver to the controller and/or other lights because many devices have 5-pin connectors and others may have reversed signal polarity, that is, pin 2 hot and pin 3 cold.

5-pin to 3-pin Adaptor	3-pin to 5-pin Adaptor	3-pin to 3-pin Phase-Reversing Adaptor
Male Female	Male Female	Male Female

1 ——— 1
2 ——— 2
3 ——— 3
4
5
	1 ——— 1
	2 ——— 2
	3 ——— 3
	      4
	      5
		1 ——— 1
		2 ⤫ 2
		3 ⤫ 3

P/N 11820005	P/N 11820004	P/N 11820006

Connecting the data link

1 Connect a data cable to the controller's output. If controller has a 5-pin output, you will need a 5-pin male to 3-pin female adaptor cable, available separately.

2 Lead the data cable from the controller to the 05 Driver and plug it into the Serial data link (DMX) In socket.

3 To connect additional 05 Drivers or other DMX devices to the link, plug a DMX cable into the female DMX Out socket of the fixture closest to the controller and the input of the next fixture. If the device has a 5-pin input, you will need a 3-pin male to 5-pin female adaptor cable, available separately. Continue connecting fixtures output to input. Up to 32 devices may be connected on a serial link.
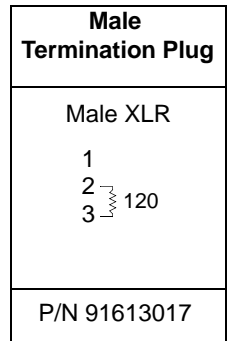
4 Finally, terminate the link by inserting a male termination plug into the data output of the last fixture. A termination plug, which is simply an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3, improves signal transmission.

5 See "DMX configuration" on page 21.

Male Termination Plug
Male XLR 1 2 3 120
P/N 91613017

General operation

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Control methods

The 05 Driver driver can be used to control lighting effects in connected Alien 05s in any one of three ways:

1 Via the separately-orderable Oracle control interface which can be used to program and playback pre-recorded scenes. See "Oracle control" on page 17.

2 Without an external interface, in stand-alone mode, where scenes can be selected using DIP switches on the outside of 05 Driver. See "Stand-alone control" on page 23.

3 Via an attached DMX device such as a DMX controller, or DMX recorder. See "DMX configuration" on page 21.

LED indicators

There are a number of LED indicators on the top of the 05 Driver that provide information about the status of operation.

Output failure LEDS

When illuminated, these red LEDs - for channels 1 to 6 - indicate that there has been line failure, or a short within the 05 Driver, for that channel.

To test for a line failure, disconnect the Alien 05 fixtures on that channel starting from the fixture at the end. Once a damaged cable is removed the remaining fixtures should start to function normally. This indicates that a replacement cable is probably needed.

If there is a short in the channel then return the 05 Driver to your Martin dealer for service.

Link power failure

The Link power failure LED indicates that there has been a line failure in the link from the Oracle remote control. Check and if necessary replace the cable.

Info LEDS

Info 1

Info 1 blinks when software is being uploaded. See "Firmware updates" on page 24.

Info 2 & 3

These blink during startup and reset, but when running in stand-alone modes (using the DIP switches) or when DIP pins 1 & 2 are set on the 6 pin DIP switch, these LEDs indicate the software version that is installed on power up. The number of flashes in Info 2 indicates the digit to the left of the decimal point and the number of flashes in Info 3 indicates the digit to the right of the decimal point. For example, if the firmware version is 1.3, Info 2 flashes once and Info 3 flashes three times.

12 V and 5V LEDs

When lit, these green LEDs indicate that power is flowing normally to the Alien 05 color wheel motors (12V through output channels 1-6) and within the 05 Driver itself.

Relay LED

When lit, this green LED indicates that power is passing out of the mains output relay to power the transformers that light the Alien 05s.

Receiving data LED

This green LED flickers when data is being received from a controlling. When the Oracle is connected the flicker is quite faint, but is stronger when a DMX controller is connected.

Oracle control

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The Oracle control interface allows you to do the following:

- Execute factory-installed programs
- Select individual looks (scenes) for static projection
- Program, save, and execute up to 16 sequences
- Edit the welcome text
- Read the Oracle and 05 Driver hardware and software version numbers
- Reset the system

Important! ***Set pins 5 and 6 on the 6-pin DIP-switch to the OFF position to enable Oracle control.***

The Oracle control panel has 5 keys as shown below. In addition to menu navigation, the "Ok", "Back", and "Function" keys have context-sensitive functions that are displayed on the bottom line when they apply.
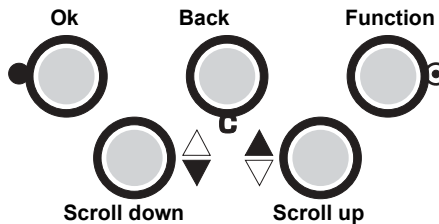
Playback

The Oracle enters playback mode on start-up.

Running a program or displaying a scene

1 Verify that pins 1, 2, 5, and 6 on the 6-pin DIP-switch are in the OFF position (up).

2   Switch on power to the system and wait a few seconds while the system starts up. If lamp power is wired through the system relay, the lamps will not light until you select a program.

3   "SELECT PROGRAM" should be displayed at the top of the screen. Scroll to a program with the ▲ and ▼ and down keys.

4   Press "Ok". This brings you to the scene selection menu where you can manually select and project any scene in the program using the ▲ and ▼ keys. "Start" and "Back" are displayed at the bottom of the screen: these are the current functions of the top-left and top-middle keys.

5   Press "Start" to run the program. The program starts and the program execution screen appears in the Oracle display. It shows the name of the program, the number of the current scene, and remaining scene time. The program loops continuously.

6   To stop execution, press "Stop".

Programming

The 05 Driver's memory stores up to 16 programs, or sequences. These consist of up to 8 scenes that run in a continuous loop. Each scene can be programmed with the following:

- Either a global color (one that applies to all channels) or unique colors for each channel
- A global wait time
- A global fade time
- A global intensity (available if you are using dimmable transformers in your configuration)

Each scene has a dynamic part - the fade - during which effects move to the scene's programmed positions, and a static part - the wait - where the effects in the scene are expressed. The total time it takes a scene to execute is the sum of the fade and wait times.
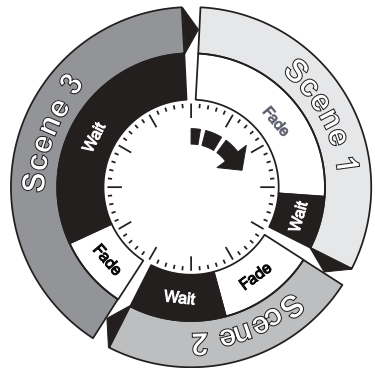
Creating or editing a program

Note: When key functions are not identified on screen, the functions are as shown on page 17.

1 Press the middle key as required until "SELECT PROGRAM" is displayed on the top line. Press and hold "Function" for approximately 3 seconds until the display changes. Press Ok.

2 This brings you to the program selection menu. Scroll down to an available program slot. Press Ok.

3 This brings you to the scene selection list. The list shows, from left to right, each scene's number, status, wait time, and fade time. Select a scene with the ▲ and ▼ keys. Press Ok.

4 This brings you to the scene edit menu. The scene options are listed in Table 1. To make a change, scroll to a parameter with the ▼ and ▲ keys, press Ok, adjust the value with the ▼ and ▲ keys, and press Ok again. For fade and wait times you press Ok after setting the minutes and after setting the seconds.

5 Adjust all parameters as desired. When finished, press Back, or, to jump to the next scene, press and hold Function.

6 Program additional scenes as desired. When finished, press Back until you are prompted to save changes. There are 3 options; to:

   • Save the changes with the current program name, press "Save".
   • Both save the changes and rename the program, press "Rename".
   • Exit without saving, Press "No".

7 This brings you back to the top of the programming menu. Press "Back" twice to return to the playback menu.

Parameter	Options	Notes
Scene No.	disabled, enabled	Select "enabled" to include the scene in the program.
Wait time	00:00 - 99:59	The wait is the period during which the scene does not change. A wait time of 00:00 results in continuous change. The time is expressed in minutes and seconds.
Fade time	00:00 - 59:59	The fade is the period during which the scene changes from the previous scene. A fade time of 00:00 results in instant change; a fade time of 59:59 is imperceptible.
All Channel col.	1 - 9	The global color position for all channels. This parameter automatically changes to N/A when a color is selected for one of the channels. The standard color positions are shown in Table 2.
Channel X col.	1 - 9	The color position for the individual channel. Unique colors are overridden when a global color is selected.

Table 1: Scene Parameters

Parameter	Options	Notes
Intensity	0 - 100%	Full range dimming requires dimmable transformers connected to the 0 - 10V dimmer output. On/off switching of lamp power is available through the mains output relay. It opens when intensity is 0% and closes when it is 10% or more.

Table 1: Scene Parameters

Position	Filter
1	No filter - open position (a filter can be installed if required)
2	Color temperature correction (CTC) 5500-3400 K (warmer light)
3	Yellow 604
4	Red 305
5	Pink 312
6	CTC 3200-5600 K (colder light)
7	Blue 106
8	Blue 103
9	Green 201

Table 2: Standard Alien 05 Colors

DMX configuration

<div align="right">

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This section describes how to set-up the Alien 05 system with a DMX controller. For further information on DMX operation, refer to your controller manual. See also the DMX protocol on page 27.

Important!   *Set pins 5 and 6 on the 6-pin DIP-switch to the OFF position to enable DMX control.*

DMX modes

The 05 Driver has 3 DMX control options to suit your programming capacity and preferences. To select the DMX mode, set pins 1 and 2 of the 6-pin DIP-switch as shown in Table 3. Set pins 5 and 6 to OFF.

	Mode 1	Mode 2	Mode 3
DMX channels	7	9	14
Intensity control	N/A	Global	Individual channel
Color control	Individual channel	Individual channel	Individual channel
Speed control	N/A	Global	Global
DIP setting	Pin 1 off, pin 2 off	Pin 1 on, pin 2 off	Pin 1 off, pin 2 on

Table 3: DMX Mode Summary

DMX address

The 05 Driver requires from 7-14 DMX control channels. The DMX address, also known as the start channel, is the first control channel used. It is a logical address to which control instructions are sent. In this way a controller, can send instructions to a fixture, or fixtures, at a particular address. For example if the 05 Driver uses seven channels of control data, it reads the data on the start channel (DMX address) and the next six channels. If the DMX address is set to 100, the 05 Driver uses channels 100, 101, 102, 103, 104, 105, and 106.

Setting the DMX address

1 Select a DMX address for the fixture on your controller.

2 Locate the 10-pin DIP-switch on the front panel of the 05 Driver. Look up the DIP-switch setting for the address in Table 5 on page 28. Set pins 1 through 9 to the ON (1) or OFF (0) position as listed in the table. Set pin 10 to the OFF (0) position.

Stand-alone control 6

This section describes how to operate the system without an external interface.

Overview

The 05 Driver provides 2 stand-alone control modes. In mode 1, the color wheel rotates between two color positions, then stops and waits at each end position before reversing and scrolling back. Mode 2 is similar but the color wheel stops and waits at each intermediate color position as well.

The stand-alone settings apply to all output channels; individual channel control is not provided.

Set-up

Stand-alone options are set with the 05 Driver's DIP-switches. The 10-pin DIP switch allows you to select the following:

- Start color position (1 - 8)
- End color position (2 - 9)
- Fade speed (very slow, slow, medium, fast)
- Wait time (0, 10, 30, 120 seconds)

The mode is selected on the 6-pin DIP-switch. Note: DMX and Oracle control are disabled when a stand-alone mode is selected.

Operating in stand-alone mode

1 Apply power to the system.

2 Select mode 1 or 2 on the 6-pin DIP-switch.

- To select mode 1, set pin 5 to ON and pin 6 to OFF.

- To select mode 2, set pin 5 to OFF and pin 6 to ON.

3 Select color and timing options with the 10-pin DIP-switch. See Table 6 on page 29.

Service 7

This section describes service procedures that can be performed by the user. Refer all service not described here to a qualified Martin technician.

Warning!   *Disconnect the fixture from power before removing the cover.*

Firmware updates

Firmware updates are released when features are added. The latest version is available from the Support Area of the Martin Professional web site at http://www.martin.dk.

The installed firmware version number is displayed by the LEDs Info 2 & Info 3 on power up. The number of flashes in Info 2 indicates the digit to the left of the decimal point and the number of flashes in Info 3 indicates the digit to the right of the decimal point. For example, if the firmware version is 1.3, Info 2 flashes once and Info 3 flashes three times.

Firmware updates are installed by serial upload with either the MP-2 or some LightJockey DMX interfaces: please refer to the MP-2 user manual or the LightJockey's online help.

Updating firmware with an MP-2 Uploader

Pre-requisites

The following are required in order to install firmware using an MP-2.

- The 05 Driver update file, available for download from the User Support Area of the Martin web site (http://www.martin.dk).
- The Martin Software Uploader program, version 4.0 or later, available for download from the User Support Area of the Martin web site.
- A Martin MP-2 Uploader
- A Windows 95/98/ME/2000 PC, or a LightJockey

Procedure

1 Connect a prepared MP-2 Uploader to the 05 Driver DMX input.

2 Apply power to the 05 Driver and the MP-2.

3 Wait a few moments for the 05 Driver to reset.

4 Select Read Memory Card from the MP-2 main menu.

5 Use the buttons on the right to scroll through the card slots. Select the slot that holds the desired version of 05 Driver firmware.

6 Select Update Software. Select Yes to confirm.

7 Select Update in DMX mode to start the upload. The MP-2 initializes all connected 05 Drivers. Avoid interrupting the process: this will corrupt the software.

Fuse replacement

To replace the fuse:

1 Disconnect the fixture from power.

2 Remove the fixture cover.

3 The fuse can be found on the printed circuit board. Remove the old fuse and replace with a new 3.15 AT fuse.

4 Replace the fixture cover and apply power.

Troubleshooting

8

Problem	Probable cause(s)	Remedy
No response from fixture when power is applied.	No power to fixture.	Check power cables.
	Main fuse blown.	Check and replace fuse if necessary.
Alien 05s do not respond correctly to 05 Driver unit	05 Driver unit not connected.	Connect 05 Driver unit.
	Bad data link connection.	Inspect cables and correct poor connections and/or broken cables.
	Short in one of the output channels (indicated by one or more red output failure LEDs)	Return the fixture to your Martin dealer for service.
Alien 05s do not respond to commands issued from an Oracle control interface.	Line failure in the link from the Oracle remote control.	Check and if necessary replace the cable between the Oracle and the 05 Driver.
Everything lights but the fixtures do not respond.	Incorrect setting on 6-pin DIP-switch.	Set all pins on 6-pin DIP-switch to the OFF position (up). For DMX control, select DMX mode (page 21). For stand-alone control, select mode 1 or 2 (page 23).

DMX protocol

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Mode1	Mode 2	Mode 3	Value	Percent	Function
N/A	Ch. 1	Ch. 1 - 6	0 - 255	0 - 100	intensity 0 - 100%
Ch. 1 - 6	Ch. 2 - 7	Ch. 7 - 12	0 - 19 19 - 38 38 - 57 57 - 76 76 - 95 95 - 114 114 - 133 133 - 152 153 - 163 164 - 174 175 - 185 186 - 196 197 - 207 208 - 218 219 - 229 230 - 240 241 - 255	0 - 8 8 -15 15 - 22 22 - 30 30 - 37 37 - 45 45 - 51 51 - 60 60 - 64 64 - 68 69 - 73 73 - 77 77 - 81 82 - 86 86 - 90 90 - 94 95 - 100	Color position Stepless scroll Color 1 -> Color 2 Color 2 -> Color 3 Color 3 -> Color 4 Color 4 -> Color 5 Color 5 -> Color 6 Color 6 -> Color 7 Color 7 -> Color 8 Color 8 -> Color 9 Stepped scroll Color 9 (Green 201) Color 8 (Blue 103) Color 7 (Blue 106) Color 6 (Cold CTC) Color 5 (Pink 312) Color 4 (Red 305) Color 3 (Yellow 604) Color 2 (Warm CTC) Color 1 (Open white)
N/A	Ch. 8	Ch. 13	0 - 2 3 - 255	0 - 1 1 - 100	Color speed Speed function off (tracking) Color speed, fast to slow
Ch. 7	Ch. 9	Ch. 14	0 - 250 251 - 255	0 - 98 98 - 100	Reset Reserved Reset system (hold 5 seconds)

Table 4: DMX Protocol

DMX address settings

B

#1	#2	#3	#4	#5																	
DIP-Switch Setting					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
0 = OFF					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
1 = ON					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
0	0	0	0	0			32	64	96	128	160	192	224	256	288	320	352	384	416	448	480
1	0	0	0	0		1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
0	1	0	0	0		2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
1	1	0	0	0		3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483
0	0	1	0	0		4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
1	0	1	0	0		5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485
0	1	1	0	0		6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486
1	1	1	0	0		7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
0	0	0	1	0		8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488
1	0	0	1	0		9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489
0	1	0	1	0		10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
1	1	0	1	0		11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
0	0	1	1	0		12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
1	0	1	1	0		13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
0	1	1	1	0		14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
1	1	1	1	0		15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
0	0	0	0	1		16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
1	0	0	0	1		17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
0	1	0	0	1		18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
1	1	0	0	1		19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
0	0	1	0	1		20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
1	0	1	0	1		21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
0	1	1	0	1		22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
1	1	1	0	1		23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
0	0	0	1	1		24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
1	0	0	1	1		25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
0	1	0	1	1		26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
1	1	0	1	1		27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
0	0	1	1	1		28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
1	0	1	1	1		29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
0	1	1	1	1		30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
1	1	1	1	1		31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511

Table 5: DMX Address DIP-Switch Settings

Stand-alone settings

C

Effect	Value	Pin setting (0 = OFF, 1 = ON)									
		1	2	3	4	5	6	7	8	9	10
Start color	1. White	0	0	0							
	2. Warm CTC	1	0	0							
	3. Yellow 604	0	1	0							
	4. Red 305	1	1	0							
	5. Pink 312	0	0	1							
	6. Cold CTC	1	0	1							
	7. Blue 106	0	1	1							
	8. Blue 103	1	1	1							
End color	2. Warm CTC				0	0	0				
	3. Yellow 604				1	0	0				
	4. Red 305				0	1	0				
	5. Pink 312				1	1	0				
	6. Cold CTC				0	0	1				
	7. Blue 106				1	0	1				
	8. Blue 103				0	1	1				
	9. Green 201				1	1	1				
Fade speed	Very slow							0	0		
	Slow							1	0		
	Medium							0	1		
	Fast							1	1		
Wait time	0 seconds									0	0
	10 seconds									0	1
	30 seconds									1	0
	120 seconds									1	1

Table 6: Stand-Alone Settings

6-pin DIP-switch settings

D

Mode or Function	Pin setting (0 = OFF, 1 = ON)					
	1	2	3	4	5	6
Oracle control	0	0			0	0
DMX mode 1	0	0			0	0
DMX mode 2	1	0			0	0
DMX mode 3	0	1			0	0
Reset & hold	1	1				
Stand-alone mode 1	Note: Overrides DMX and Oracle control!				1	0
Stand-alone mode 2					0	1

Table 7: 6-pin DIP-Switch Settings

Specifications

E

Physical

Size (L X W x H). .375 x 104 x 43 mm (14.8 x 4.1 x 1.7 in.)
Weight. . . . . 0.8 kg (1.8 lbs.)

Control

Remote interfaces. . . . . DMX-512, Martin Oracle
Onboard option and address setting. . . . . 2 DIP-switches
Data input . . . . CAT5 network cable (not supplied)
Data output . . . . CAT5 network cable (not supplied)

Thermal

Maximum ambient temperature (Ta). . . . . .40° C (104° F)

AC Supply

05 Driver unit power supply . . . . Auto-ranging - 80 - 250 V, 50/60 Hz
Power consumption (excluding lamp transformers) . . . . 50 W
Current consumption (excluding lamp transformers) . 0.4 A @ 120 V, 0.2 A @ 230 V
Fuse . . . . 3.15 AT

Construction

Housing . . . . .sheet aluminum
Finish . . . . electrostatic powder coating
Color . . . . black (RAL 9005)

Design standards

EU safety . . . . EN 60598-2-2

Control & Programming

Control options . . . . .DMX-512, stand-alone using DIP switches
. . . . .dedicated operator panel - Oracle
Data input . . . . . . CAT5 network cable (not supplied) - maximum length 10 m (33 ft)
Data output . . . . . CAT5 network cable (not supplied) - maximum length 10 m (33 ft)

Dynamic effects

8 color filters plus open
Speed control
Lamp on and off
Intensity

Ordering information

05 Driver . . . . .P/N 90722010
05 Repeater . . . . .P/N 90722020
Oracle controller . . . . .P/N 90722000

Alien 05 Stem Mount, 12V, 50 W. . . . . .P/N 90340200
600 mm Arm . . . . .P/N 91611068
150 mm Arm . . . . .P/N 91611067
Base (230V/12V-75W) . . . . .P/N 90722030
Base (120V/12V-75W) . . . . .P/N 90722040

Alien 05 Eyeball, 12V, 50 W . . . . .P/N 90340100
Halo brand, recessed low-volt non-IC fixture housing. . Cooper Lighting item number
H7LVT

Alien 05 Recessed, 12V, 50 W . . . . .P/N 90340000
Dimmable transformer - 230 V @ 50/60 Hz/35-105 W @ 12 V . . . . . P/N 91611054

Accessories

CAT5 network cables - 2 m (6.5 ft) x 50 pieces. . . . . .P/N 91611044
CAT5 network cables - 5 m (16.4 ft) x 30 pieces. . . . . .P/N 91611045
CAT5 network cables - 10 m (32.8 ft) x 15 pieces. . . . . .P/N 91611045