

USER GUIDE
for the

ES9802
OUTPUT Module

User Guide for the
Imagine ES9802 OUTPUT Module
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PREFACE

Scope of this User Guide

The descriptions and instructions contained in this guide are based on the assumption that the *OUTPUT* module is being installed and used as part of an Electrosonic *Imagine* Lighting System.

The installation instructions refer to the *OUTPUT* module being installed in a *STACKER* unit.

Technical Specifications

Any technical data required for the correct installation and use of the *OUTPUT* module is contained in this user guide.

For full technical specifications of this product, reference should be made to the Technical Source leaflet (ref: EPD02080).

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SECTION 1

INTRODUCTION

This section covers the following topics:

- General Description.
- External Layout.

GENERAL DESCRIPTION

The ES9802 *OUTPUT* module allows the control of electronic ballasts via the S-DIM (Serial DIMmer communications) data highway of the *Imagine* system.

Both outputs have a mains power switching relay for controlling the power to the ballast, plus an extra-low-voltage control output which can provide the following protocols:

- 0 – 10V Analogue
- PWM (Pulse Width Modulation)
- DSI (Digital Serial Interface)

Various control laws can also be selected allowing the use of most types of electronic ballast.

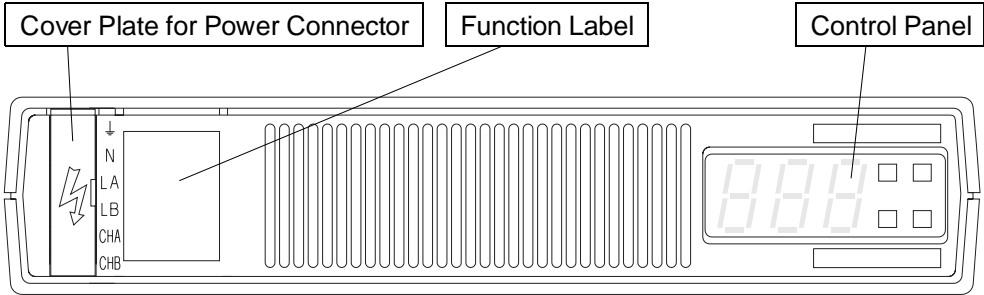
The operating parameters for each output can be set-up using the *OUTPUT* module's integral control panel, or (with the exception of the channel addresses) via the S-DIM highway.

IMPORTANT NOTE

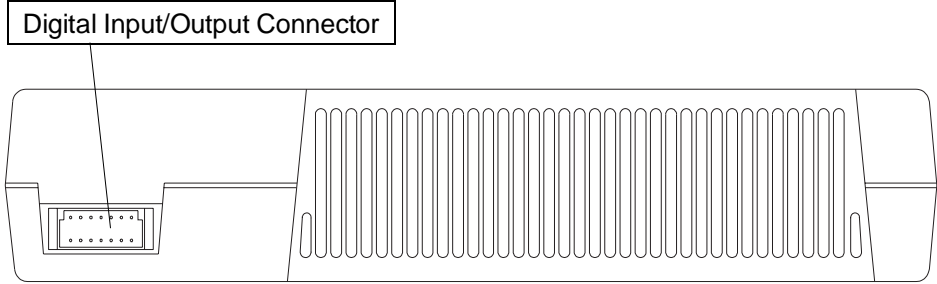
The OUTPUT module will not respond to S-DIM commands from an Imagine System until the output channel addresses have been correctly set.

EXTERNAL LAYOUT

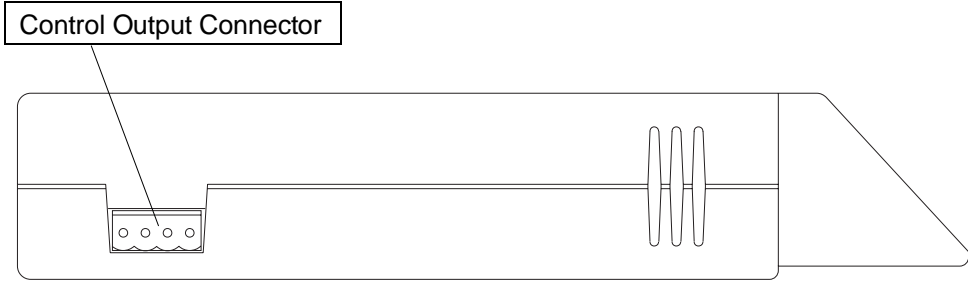
Front Panel



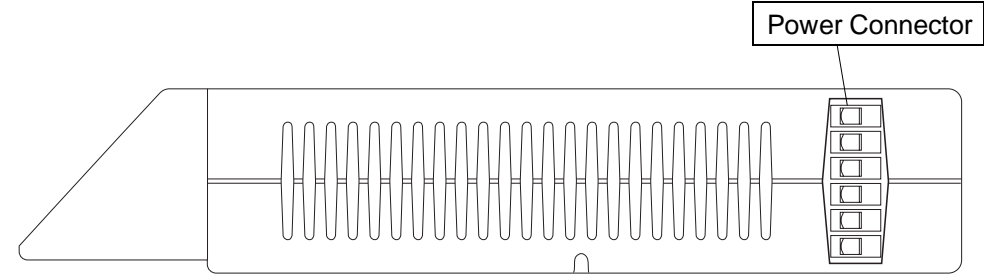
Rear Panel



Right Side Panel



Left Side Panel



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SECTION 2

INSTALLATION

This section covers the following topics:

- Input Supply Requirements.
- Installing into a *STACKER* Unit.
- Connecting Details for Power and Control.
- Removal Procedure.
- Setting-up Procedure.

INPUT SUPPLY

Voltage Range

The *OUTPUT* module is factory-set for use with one of the following voltage ranges which cannot be changed by the user:

- 180V – 260V r.m.s., or
- 90V – 130V r.m.s.

Check that the module is set for the correct range for the intended power supply by referring to the serial no./rating plate on the underside of the module.

CAUTION

*Connecting a supply which exceeds the maximum limit for the appropriate input range may cause irreparable damage to the *OUTPUT* module.*

Frequency Range

The input supply frequency must be within the the range 45 – 65Hz.

Supply Protection

The supply input for each channel must be protected by a fuse or an MCB. Where an MCB is used, it is recommended that a double-pole type is used such that both channels are isolated or powered in tandem.

The rating of the fuse or MCB must not exceed 20A.

WARNING

The two outputs must not be wired in parallel in order to obtain a higher load capability.

For loads greater than 20A, the output should be used to operate a suitable contactor or relay.

INSTALLING INTO A STACKER UNIT

WARNING

For your own safety, before attempting to install the OUTPUT module, ensure that all of the input supply MCB's are in the 'off' position and if possible, isolate the MCB input terminals from the mains supply.

1. Carefully insert the *OUTPUT* module into the appropriate slot of the *STACKER* unit, ensuring that the rear connector locates firmly into the motherboard at the back of the *STACKER*.
2. If required, secure the module to the *STACKER* by inserting a suitable retaining screw on the left-hand side (see Fig.2-1).

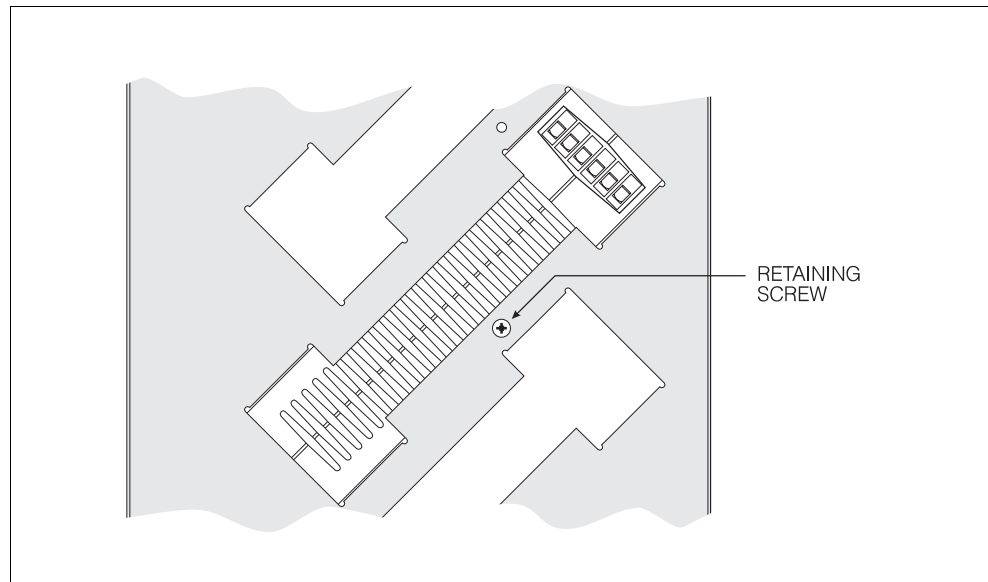


Fig.2-1: Location of retaining screw.

3. Insert the blade of a small flat-bladed screwdriver into the notch on the terminal cover plate, and gently prise out the plate to gain access to the terminal screws for the power connector (see Fig.2-2).

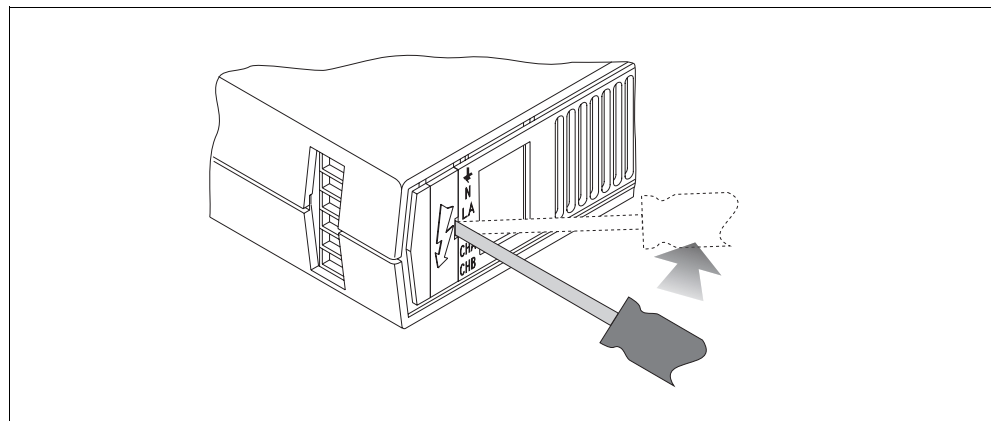


Fig.2-2: Removing the power terminal cover.

- Using suitable cable, make the following connections between the *OUTPUT* module and the distribution panel:

WARNING
Both live feeds to terminals LA and LB must be of the same phase.

<i>OUTPUT</i> Module	Distribution Panel	Wire Colour
Terminal \perp	Earth .	Green/Yellow.
Terminal N.	Neutral.	Blue.
Terminal LA.	Live feed from MCB.	Brown.
Terminal LB.	Live feed from MCB.	Brown.
Terminal CHA.	Appropriate output terminal.	Red.
Terminal CHB.	Appropriate output terminal.	Yellow.

Recommended cable type: TRI rated 105C (BS6231 approved).

Cable size: 2.5mm².

Stripping length: 12mm.

Terminal screw torque: 0.8Nm.

- Clip the terminal cover back into position.
- Write the function or circuit details of both channels on the label in the recessed area of the front panel next to the cover plate. If required, the label may be removed as shown in Fig.2-3.

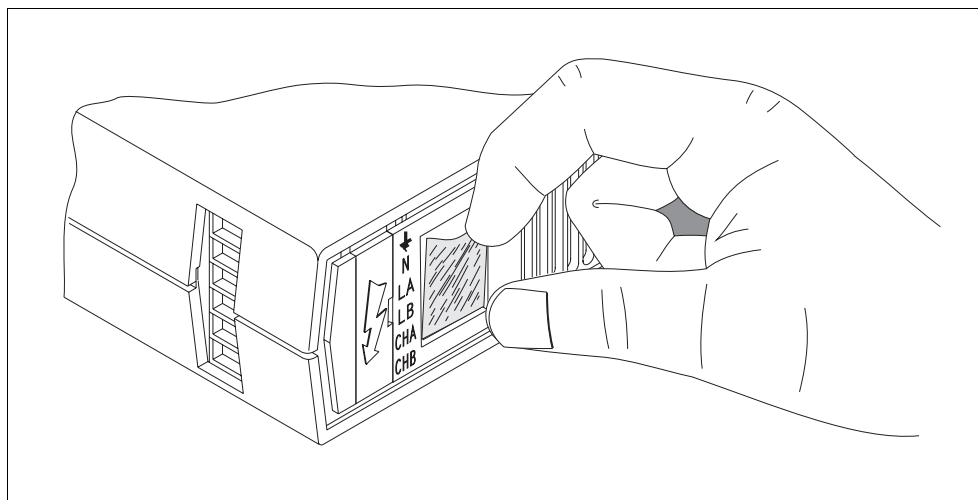


Fig.2-3: Removing the front panel label.

REMOVAL PROCEDURE

If an *OUTPUT* module needs to be removed from the *STACKER* unit, ensure that the channel addresses for both outputs are known.

If not, check the addresses by following the instruction procedure in section 3, page 20. Then proceed as follows:

WARNING

For your own safety, before attempting to remove the OUTPUT module, ensure that all of the input supply MCB's are in the 'off' position and if possible, isolate the MCB input terminals from the mains supply.

1. Insert the blade of a small flat-bladed screwdriver into the notch on the terminal cover plate, and gently prise out the plate to gain access to the terminal screws for the power connector (see Fig.2-2).
2. Unscrew the terminals and withdraw each cable. It is suggested that the input and output cables are identified with a label to assist reconnection.
3. If the module (or a replacement) is not to be refitted immediately, ensure that the ends of the connecting cables are made safe and secured away from all other connections.
4. Unplug any leads to the analogue input connector on the right-hand side.
5. Remove the locking screw (if fitted) from the left-hand side of the module (see Fig.2-1).
6. Grip the sides of the module firmly with both hands (through the slots in either side of the *STACKER*) and carefully ease the module forward to disengage the rear connector. Continue to ease the module out until the front is clear of the other modules enabling it to be withdrawn.

CONTROL CONNECTION

The control output provides an extra-low voltage signal suitable for controlling a wide variety of electronic ballasts. The mode in which the control output operates is determined by the Control Law table (see section 3, page 22).

Always ensure correct polarity between the control output and the input of the ballast.

More than one ballast can be connected to the control output. The input of each device should be linked to the next to form a 'daisy-chain'. The total number of ballasts that may be driven from one output is limited by their current consumption. Each output can source up to 100mA.

Control Output Connector

This is located on the right-hand side of the *OUTPUT* module (see Fig.2-4):

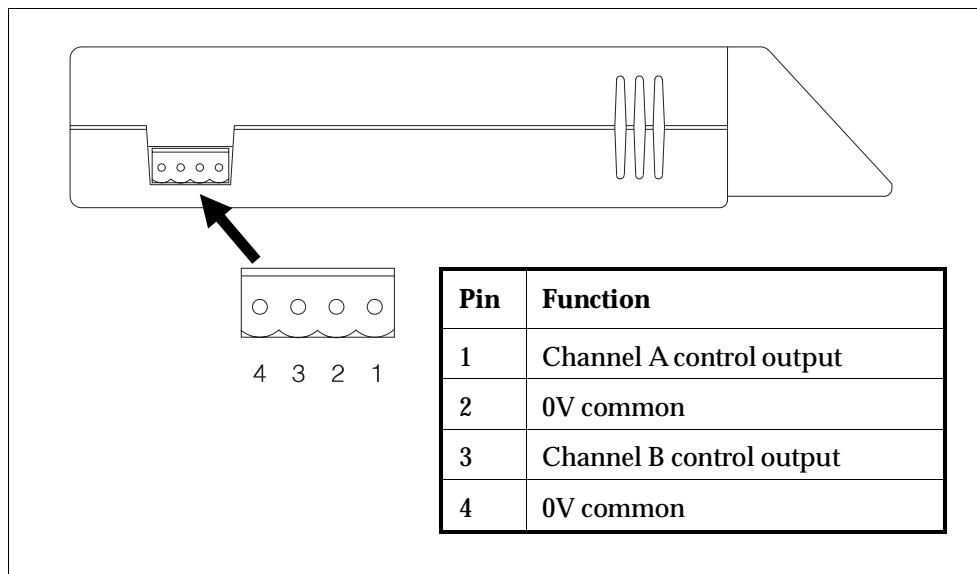


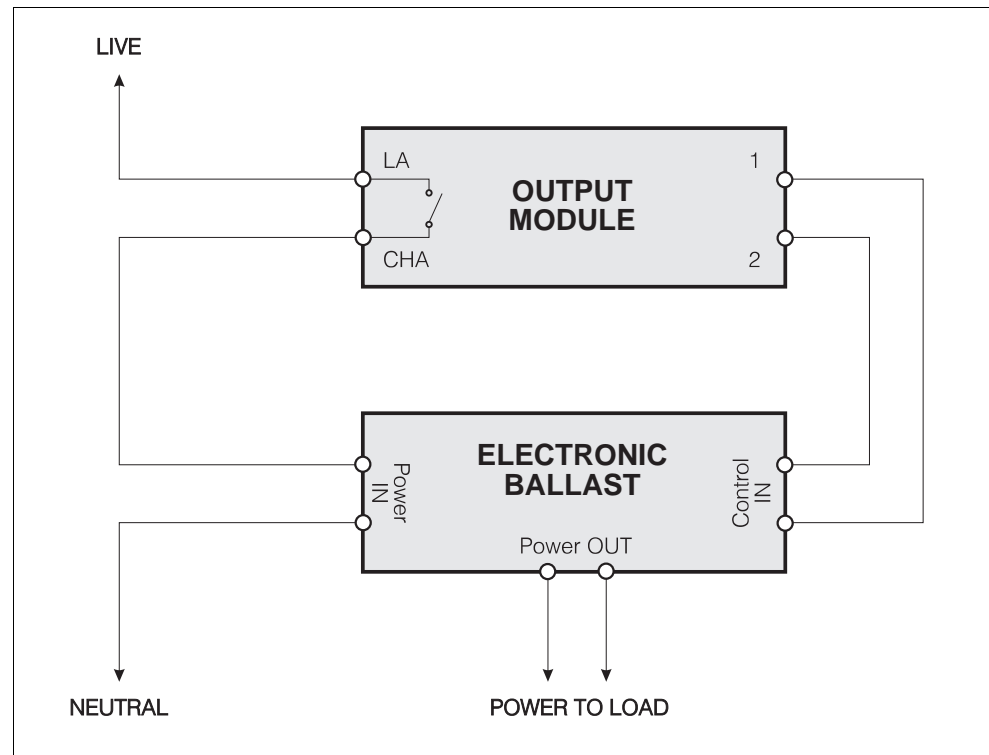
Fig.2-4: Control output connector.

Suitable mating connector: Electrosonic part no. P9840* (*supplied*).
 Cable size: 0.2 – 2.5mm².
 Stripping length: 7mm.
 Recommended cable type: Equipment wire (to BS4808/IEC 189-3).
 Maximum cable length: 100m.

* If preferred, two 2-way connectors (part no. P9820) may be used side by side in place of the single 4-way type.

Connecting Options

Fig.2-5 shows a typical method of connecting the *OUTPUT* module to an electronic ballast. For clarity, only one channel (CHA) is shown and earth connections are omitted.



Certain types of ballast are fitted with internal power switching. In these applications the *OUTPUT* module's power relay may be omitted from the circuit and the Live feed connected directly to the ballast.

If the total power load for the ballast(s) on one circuit is greater than 20A, the relay output of the *OUTPUT* module can be used to operate a contactor which in turn will switch the power input to the ballast(s).

For further application details, refer to the *Imagine* System User Guide.

SETTING-UP PROCEDURE

The setting-up procedure for the *OUTPUT* module is divided into four stages, which must be followed in the order listed below:

- Stage 1 – Power-up Test.
- Stage 2 – Set the Correct Control Law.
- Stage 3 – Output Test.
- Stage 4 – Set the Output Channel Addresses.

If it is not required to test the outputs (i.e. to check for correct load operation and wiring) then stages 2 & 3 may be omitted.

IMPORTANT NOTE

The OUTPUT module will not respond to S-DIM commands from an Imagine System until the output channel addresses have been correctly set (stage 4).

Stage 1 – Power-up Test

Unplug the control connector from the right-hand side of the unit.

Turn on the supply to the *OUTPUT* module; the display will briefly show '888' and then clear to show the default display mode (Fig.2-6).



Fig.2-6: Default display.

If the display clears to show a diagnostic code (a letter 'E' followed by a two-digit number), the module has detected a fault. Refer to section 4, page 30 for further details.

Stage 2 – Set the Correct Output Control Law

The Control Laws applied to both outputs are normally down-loaded via the S-DIM data line from the controlling *SCENESSET* module.

However, if the outputs are to be tested, a Control Law appropriate to the output load type *must* be selected manually first.

To set the Control Law, refer to section 3, page 22.

Stage 3 – Output Test

CAUTION

Before attempting this test, ensure that any ballasts (and loads) connected to the outputs are suited to the Control Law selected. An incompatible Control Law or load type may result in damage to the module, ballast or the load.

Reconnect the control connector to the right-hand side of the module.

Press and hold the top left-hand button on the *OUTPUT* module's control panel. The left hand digit should step-up in value, and any light sources connected to output CHA should be seen to come on and increase in brightness accordingly.

Repeat this process for output CHB by pressing the top right-hand button.

Press and hold the lower buttons to return the outputs to zero level.

NOTE *If Control Law Tables 0, 5 or 7 are selected, the level will toggle between zero 'o' and full power 'F'.*

Stage 4 – Set the Output Channel Addresses

Before the *OUTPUT* module can operate correctly as part of the *Imagine* System, the Channel Address for each output must be defined.

For details, refer to Section 3, page 20.

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SECTION 3

OPERATING INSTRUCTIONS

This section covers the following topics:

- Controls and Display Functions.
- Output Levels.
- Channel Addresses.
- Control Laws.
- Hysteresis (Turn-on and Turn-off Levels).
- *SCENESET* Number.
- Output Level Override.

CONTROLS AND DISPLAY FUNCTIONS

The *OUTPUT* module has a control panel with four push-buttons and a three character digital display (Fig.3-1).

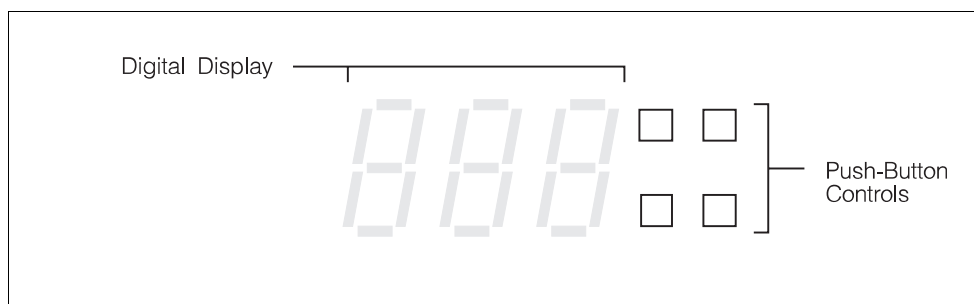


Fig.3-1: DIMMER control panel.

Display Modes

The display can be used in five different modes.

- Output Level.
- Channel Address.
- Output Control Law.
- Hysteresis (turn-on & turn-off level).
- *SCENES*ET Number.

Each mode allows a particular setting for both outputs to be viewed and, if required, a new value (except for the *SCENES*ET number) can be entered.

When controlled by a *SCENES*ET module it is necessary to set the channel addresses only. All other parameters will be down-loaded automatically via the S-DIM data highway.

Control Lock-out




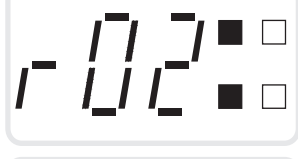





The ability to change individual settings by using the integral control panel can be disabled or 'locked-out' by the controlling *SCENES*ET module.

When a setting is locked-out, the value displayed will flash.

Default Mode

The display defaults to Output Level Mode when the *OUTPUT* module is powered-up. The display will also return to this mode if no buttons are pressed for ten seconds while another mode is selected.

Changing the Display Mode

Procedure	Display & Buttons
<p>1. With the display showing Output Level Mode, press and hold the two left-hand buttons.</p> <p>Note: <i>The left-hand buttons show the settings for output CHA; pressing the two right-hand buttons will show the settings for output CHB.</i></p>	
<p>2. After one second approximately, the display will change to the Channel Address Mode.</p> <p>Maintaining pressure on both buttons will cause the display to step through each mode.</p> <p>Control Law Mode...</p> <p>Hysteresis Mode...</p> <p>SCENESET Number Mode...</p> <p>Then back to Output Level Mode...</p> <p>Channel Address Mode...etc.</p>	    
<p>3. Releasing the buttons will select the mode currently displayed.</p>	
<p>4. The display can be toggled between the two outputs by momentarily pressing one of the right-hand buttons for CHB, or one of the left-hand buttons for CHA.</p>	
<p>5. If no further buttons are pressed within ten seconds, the display will revert to Output Level Mode.</p>	

OUTPUT LEVEL MODE

In this mode, the display shows the following information:

- Output CHA Level.
- Output CHB Level.
- Operating Status.
- S-DIM Data Line Status.

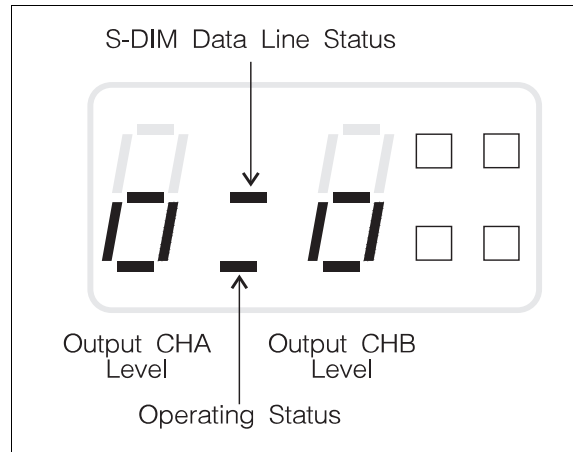


Fig.3-2: Channel level mode display.

Output CHA & CHB Levels

The left-hand digit indicates the level of output CHA, and the right-hand digit indicates the level of CHB.

The level is expressed in terms of percentage control. Note that only the decade (tens) component of the output level is displayed (see Fig.3-3):

0	1	2	3	4	5	6	7	8	9	F	
Off	1-9%	10-19%	20-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-89%	90-99%	100%

Fig.3-3: Display conventions for output levels.

Operating Status

When this segment is illuminated in Channel Level Mode, it indicates that the *OUTPUT* module is operating normally.






S-DIM Data Line Status

When the S-DIM data highway is functioning correctly, this segment will blink every time a valid S-DIM message has been received and decoded (approximately every five seconds).

However, even if S-DIM messages are being received, this segment will not blink until the channel addresses have been correctly set (see page 20).

Changing the Output Levels

The output levels will normally be set by the controlling *SCENESSET* module. However, to change the levels manually, proceed as follows:

Procedure	Display & Buttons
1. Check that the display is showing Output Level Mode.	
2. To change the level of output CHA, press and hold either the top left-hand button to increase the level or the bottom left-hand button to decrease the level.	
3. When the required level is shown, release the button.	
4. To change the level of output CHB, press and hold either the top right-hand button to increase the level or the bottom right-hand button to decrease the level.	
5. When the required level is shown, release the button.	

SCENESSET Control

When the *OUTPUT* module is under *SCENESSET* control, both output levels are checked periodically against the current scene. If the levels are different (e.g. have been changed manually), the *SCENESSET* module will return the levels to the correct setting for that scene.

CHANNEL ADDRESS MODE

This mode enables the addresses for outputs CHA and CHB to be defined. The *OUTPUT* module supports the following addresses:

- **001 – 128** for use with the *Imagine* Lighting System.
- **129 – 250** these are not currently used, and should not be selected unless otherwise instructed.
- **251 – 254** for use with the Electrosonic *Ambience* Lighting System.
- **255 & 000** for test purposes only.

When the *OUTPUT* module is supplied, outputs CHA and CHB are factory-set to addresses 251 and 252 respectively.

IMPORTANT NOTE

The OUTPUT module will not respond to S-DIM commands from an Imagine System until the output channel addresses have been correctly set.

Parallel Operation

By setting CHA and CHB to the same address, they will operate in unison. This enables a greater number of ballasts to be controlled by one channel.



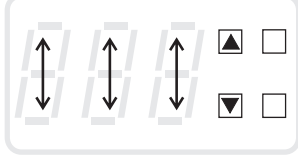
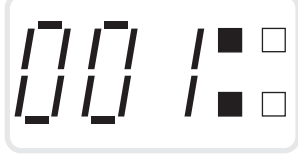

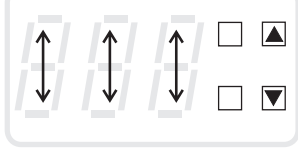


When both outputs are set to the same address, the Control Law, Hysteresis, and Level Override settings for CHA are applied to both channels; the settings for CHB are ignored.

Furthermore, if the analogue input is used, then the input for CHA will control both channels; the input for CHB will be ignored.

Control Lock-out

If an address is selected which has been 'locked' by the controlling *SCENESSET* module, that address cannot be changed again unless the *SCENESSET* is reprogrammed or the *OUTPUT* module de-powered and the address reset before an S-DIM message is received.

Changing the Channel Addresses

Procedure	Display & Buttons
1. With the display showing Output Level Mode, press and hold the two left-hand buttons.	
2. Wait for the display to change to Channel Address Mode (approximately one second) then release both buttons. <i>Note: The display will show the current address for output CHA.</i>	
3. To change the address, press and hold either the top left-hand button to increase, or the bottom left-hand button to decrease the number. To leave the address as it is, go to step 5.	
4. To store the new address shown, press and hold both left-hand buttons until the display briefly shows '888' to confirm that the new value has been stored in the module's memory.	
5. To view the address for output CHB, momentarily press either the top or bottom right-hand buttons.	
6. To change the address, press and hold either the top right-hand button to increase, or the bottom right-hand button to decrease the number. To leave the address as it is, go to step 8.	
7. To store the new address shown, press and hold both right-hand buttons until the display briefly shows '888' to confirm the new value has been stored in the module's memory.	
8. If no further settings need to be changed, release the buttons; the display will revert to Output Level Mode after ten seconds. OR Retain pressure on both buttons until the display changes to the next required mode.	


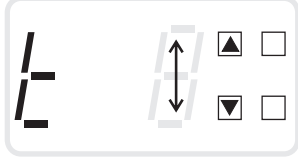
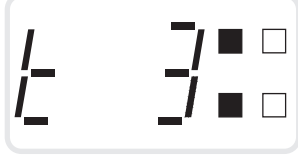

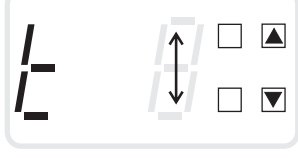


CONTROL LAW MODE

Both outputs need to be configured to the type of ballast that they are driving. The *OUTPUT* module incorporates ten Control Law tables which can be applied separately to each output:

- 0 = Switched 0 – 10 Volts.
- 1 = Analogue 1 – 10 Volts.
- 2 = Analogue 0 – 10 Volts.
- 3 = PWM (Pulse Width Modulation).
- 4 = Analogue 3.5 – 10 Volts.
- 5 = Switched PWM.
- 6 = DSI (Digital Serial Interface).
- 7 = Switched DSI.
- 8 = PWM (with relay delay)
- 9 = Special use only.

When the *OUTPUT* module is supplied, both outputs CHA and CHB are set to Control Law table 1.

Changing the Control Law Table

Procedure	Display & Buttons
<p>1. Press and hold the two left-hand buttons until the display shows the Control Law Mode.</p> <p><i>Note: The display will show the current table number for output CHA.</i></p>	
<p>2. To change the table, press and hold either the top left-hand button to increase, or the bottom left-hand button to decrease the number.</p> <p>To leave the table number as it is, go to step 4.</p>	
<p>3. To store the new table number shown, press and hold both left-hand buttons until the display briefly shows '888' to confirm that the new value has been stored in the module's memory.</p>	
<p>4. To view the table number for output CHB, momentarily press either the top or bottom right-hand buttons.</p>	
<p>5. To change the table number, press and hold either the top right-hand button to increase, or the bottom right-hand button to decrease the number.</p> <p>To leave the table number as it is, go to step 7.</p>	
<p>6. To store the new table number shown, press and hold both right-hand buttons until the display briefly shows '888' to confirm the new value has been stored in the module's memory.</p>	
<p>7. If no further settings need to be changed, release the buttons; the display will revert to Output Level Mode after ten seconds.</p> <p>OR</p> <p>Retain pressure on both buttons until the display changes to the next required mode.</p>	

HYSTERESIS MODE (Turn-on/ Turn-off Levels)

This mode is used to set the percentage level at which each output turns on and off (assuming maximum level is 100%). This is referred to as 'hysteresis' or as the turn-on and turn-off levels.

The display will show a letter and a two-digit value. The letter indicates the turn-off level and the digits show the turn-on level.

- The turn-on level can be set between 2% and 64% in 2% increments.
- The turn-off level can be set to be either 1% *less than* the turn-on level (display shows the letter 'r') or to 80% *of* the turn-on level (display shows the letter 'h').

When the *DIMMER* module is supplied, both outputs are set to a turn-on level of 2% with a turn-off level of 1% (as example 1):

Example 1

Turn-on level = 2%.

Turn-off level 'r' = (2 - 1)
= 1%.



Example 2


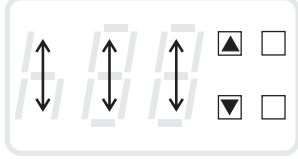


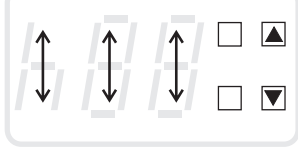
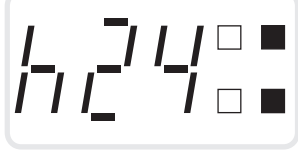
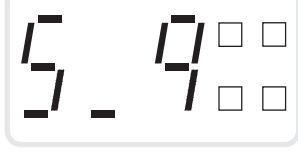
Turn-on level = 50%.

Turn-off level 'h' = (50 x 0.8)
= 40%.



Note: The turn-off level for the 'h' setting is calculated to the nearest 0.5%.

Changing the Turn-on and Turn-off Levels

Procedure	Display & Buttons
<p>1. Press and hold the two left-hand buttons until the display shows the Hysteresis Mode.</p> <p><i>Note: The display will show the current setting for output CHA.</i></p>	
<p>2. To change the setting, press and hold either the top left-hand button to increase, or the bottom left-hand button to decrease the setting.</p> <p><i>Note: The display will cycle through the turn-on levels for 'r' and 'h' turn-off settings.</i></p> <p>To leave the setting as it is, go to step 4.</p>	
<p>3. To store the new setting shown, press and hold both left-hand buttons until the display briefly shows '888' to confirm that the new value has been stored in the module's memory.</p>	
<p>4. To view the setting for output CHB, momentarily press either the top or bottom right-hand buttons.</p>	
<p>5. To change the setting, press and hold either the top right-hand button to increase, or the bottom right-hand button to decrease the setting.</p> <p><i>Note: The display will cycle through the turn-on levels for 'r' and 'h' turn-off settings.</i></p> <p>To leave the setting as it is, go to step 7.</p>	
<p>6. To store the new setting shown, press and hold both right-hand buttons until the display briefly shows '888' to confirm the new value has been stored in the module's memory.</p>	
<p>7. If no further settings need to be changed, release the buttons; the display will revert to Output Level Mode after ten seconds.</p> <p>OR</p> <p>Retain pressure on both buttons until the display changes to the next required mode.</p>	



SCENESET NUMBER MODE

In a large system, each *OUTPUT* module can be connected to one of up to eight *SCENESET* modules.

In this mode, the display will show the address number of the controlling *SCENESET* module. This is an advisory display only and cannot be changed.

The display will show the letters 'ch' followed by a number from 1 to 8. If the display shows 'ch0', then there is no *SCENESET* connected.

Checking the SCENESET Number

Procedure	Display & Buttons
<p>1. Press and hold the two left-hand buttons until the display shows the <i>SCENESET</i> Number Mode.</p> <p><i>Note: This value is the same for both outputs; pressing the two right-hand buttons will show the same result.</i></p>	
<p>2. The display will revert to Output Level Mode after ten seconds if no buttons are pressed.</p> <p>OR</p> <p>Press and hold the two left-hand buttons until the display changes to the next required mode.</p>	

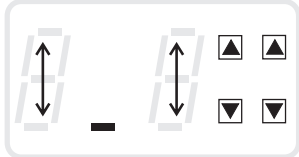

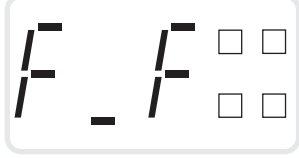

OUTPUT LEVEL OVERRIDE

Each output can be pre-programmed with a an override level. This is the level that will be applied to the output if the module's Output Level Override circuit is activated. Both outputs CHA and CHB are factory-set to full power (100%), but these can be changed as required.

This function is normally used by the Watchdog facility on the controlling *SCENESET* module.

Setting the Override Levels

Whilst each output can have a different override level, both levels have to be set at the same time by the following method:

Procedure	Display & Buttons
1. With the display showing Output Level Mode, adjust the levels of both outputs to the required value (as described on page 19).	
2. When the correct settings are shown, press and hold all four buttons simultaneously until the display briefly flashes '888' to confirm the values have been stored in the module's memory.	
3. Release the buttons; the display will revert to Output Level Mode. <i>Note: The levels will remain as just set for Level Override, but may be changed if required.</i>	
4. If the Level Override circuit is now activated, the display will show the programmed levels. Also, vertical bars in the centre of the display will move from side to side. <i>Note: Whilst Level Override is active, the levels for outputs CHA and CHB cannot be changed by the OUTPUT module's controls.</i>	

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SECTION 4

TROUBLESHOOTING

This section covers the following topics:

- Diagnostic Messages.
- Fault Diagnosis.

DIAGNOSTIC CODES

Whenever the *OUTPUT* module detects a fault condition, a flashing diagnostic code will be displayed. They are intended to advise of a problem and should not change the current status of the *OUTPUT* module. However, subsequent S-DIM or control panel commands may be ignored until the problem has cleared.

The table on the next page lists the possible diagnostic codes, their likely causes and, if necessary, what action to take.

If a code is displayed which is not listed, this may indicate an internal fault condition. If this occurs, call for service.

Noise and Interference

Repeated errors on the S-DIM data link are likely to be caused by bad connections, data cables running through electrically 'noisy' environments or incorrect data link configuration.

Code	Cause	Action
E50	Data corruption in S-DIM message.	The S-DIM message is ignored. The error condition should clear automatically after ten seconds.
E52	Error in S-DIM message.	The S-DIM message is ignored. The error condition should clear automatically after ten seconds.
E53	Noise detected in S-DIM message.	The S-DIM message is ignored. The error condition should clear automatically after ten seconds.
E54	General error in S-DIM communications link.	The S-DIM message is ignored. The error condition should clear automatically after ten seconds.
E55	Front panel switch 'stuck on'.	Call for service.
E56	Checksum error in S-DIM message.	The S-DIM message is ignored. The error condition should clear automatically after ten seconds.
E04	Internal circuit fault.	Switch-off the supply to the <i>OUTPUT</i> module for a few seconds, then switch-on again. If the code is still displayed, call for service.

FAULT DIAGNOSIS

If the *OUTPUT* module fails to operate as expected, it is more likely to be the result of incorrect setting-up and configuration than a fault with the module itself. Alternatively, there may be a fault or an error elsewhere in the system.

Before calling for service, check through the following list of problems and likely causes:

Problem	Likely Cause & Remedy
Display is blank.	No power to power input LA. Check appropriate MCB or fuse.
Output CHA or CHB will not dim – will only change between zero and full power.	A non-dimming (switched) Control Law Table is currently selected (see section 3, page 22).
Output loads not dimming correctly.	Wrong Control Law selected for the load type (see section 3, page 22). Hysteresis set incorrectly (see section 3, page 24).
Output CHA or CHB not responding to S-DIM control.	Channel Addresses not correctly set (see section 3, page 20). Incorrect or faulty connections on the S-DIM data line. Check that the rear connector is fully seated on to the <i>STACKER</i> motherboard. <i>OUTPUT</i> module is not connected to a <i>SCENESET</i> (see section 3, page 26).
The Channel Address or other parameters cannot be changed by the front panel controls. When current setting is viewed, the display flashes.	The controls have been 'locked-out' by the <i>SCENESET</i> module. (see section 3, page 16).

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