

AL1260WV

# 12 x 60 W LED Moving Head Waver

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## 12 INDEPENDENT TILT + ZOOM HEADS - RGBW 4-IN-1 - USER MANUAL

Professional beam, wash and synchronized wave-effect fixture



**READ BEFORE USE** Keep this manual with the fixture. Installation, operation and service must be performed by qualified personnel.

English Edition - Specifications subject to change without notice

# Contents

| Section | Topic                               |
|---------|-------------------------------------|
| 1       | Safety Information                  |
| 2       | Product Overview and Specifications |
| 3       | Setup and Installation              |
| 4       | Control Panel and Menu              |
| 5       | DMX512 Channel Reference            |
| 6       | Function-Channel Reference          |
| 7       | Routine Maintenance                 |
| 8       | Troubleshooting, RDM and Service    |

**MODEL IDENTIFICATION** This manual is for AL1260WV. Confirm the model, product-label voltage and firmware before installation or programming.

# 1 Safety Information

**DANGER** Disconnect AC power and allow the fixture to cool before opening, cleaning, inspection or service.

- This professional fixture must be installed, operated and serviced by qualified personnel.
- Use only AC 100-240 V, 50/60 Hz as specified by the technical data and product label. Connect to a protected, correctly grounded Class I supply.
- This fixture is IP20. Keep it indoors and away from rain, splashing water, condensation and excessive dust.
- After a large temperature change, keep the fixture disconnected until it reaches ambient temperature and condensation has evaporated.
- Do not operate with a damaged housing, lens, cable, connector, mounting point or safety attachment.
- Do not look directly into the LEDs at close range. Flashing light may affect susceptible people.
- For overhead installation, use rated clamps and an independently rated secondary safety cable.
- Carry the fixture by its fixed handles or base. Never lift it by the moving heads.

**MINIMUM CLEARANCE** Keep combustible materials at least 0.5 m from the fixture and keep ventilation openings unobstructed. Follow any greater distance marked on the product label or required by local regulations.

## 2 Product Overview and Specifications

The AL1260WV combines twelve independently moving 60 W RGBW heads with individual tilt and motorized zoom. It produces synchronized waves, narrow beams, broad washes, patterns and color effects for concerts, theatres, studios, clubs, bars and rental productions.

### 2.1 Technical Specifications

| Parameter             | Specification                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------|
| Input voltage         | AC 100-240 V, 50/60 Hz                                                                  |
| Rated power           | 800 W                                                                                   |
| Light source          | 12 x 60 W RGBW 4-in-1 LEDs                                                              |
| Control               | DMX512 / Auto 1 / Auto 2 / Master-Slave / Sound-active / RDM                            |
| DMX personalities     | 20CH / 53CH / 101CH / 155CH / 169CH / 179CH                                             |
| Dimming               | 32-bit, 0-100% linear dimming (source specification); selectable response and curves    |
| Movement / optics     | 12 independently controlled tilt and motorized zoom heads                               |
| Primary effects       | Individual wave movement, beam, wash, pattern, color-macro and background-color effects |
| Strobe                | 1-30 Hz; multiple synchronized, random and pulse effects                                |
| Operating temperature | -30 °C to 50 °C (source specification)                                                  |
| Firmware update       | Via DMX connection                                                                      |
| Connections           | DMX512 input/output; power input/output                                                 |
| Ingress protection    | IP20                                                                                    |
| Construction / finish | Metal, black                                                                            |

### 2.2 Main Functions

- Twelve independently controllable tilt and zoom heads.
- RGBW color mixing with optional RGBW/CMY-style channel interpretation.
- Built-in tilt macros, color macros, patterns, LED effects and background colors.
- Compact shared personalities and expanded 16-bit per-head personalities up to 179 channels.
- RDM support, DMX firmware updating, sound-active operation and synchronized setup update.
- Built-in alignment pins for rapid joining of compatible fixtures.

### 2.3 Supplied Items

Package contents: AL1260WV fixture x 1; DMX signal cable x 1; power cable x 1; hanging hardware set x 1; user manual x 1.

## 3 Setup and Installation

### 3.1 AC Power

Before connecting power, verify that the product-label voltage and frequency match the local supply. Complete all mounting and data connections before applying power. Disconnect by holding the plug, not by pulling the cable.

### 3.2 Rigging

**STRUCTURAL RATING** The support and every attachment must be rated for at least ten times the fixture load or the higher factor required by local regulations.

1. Inspect the fixture, quick-lock brackets, rated clamps, M10 fasteners, mounting points, safety cable and support structure.
2. Attach rated clamps to the brackets and lock the brackets securely into the base.
3. Attach an independently rated safety cable to the designated point and supporting structure; never use a handle as the safety point.
4. Confirm unobstructed clearance for the complete movement and zoom range of all twelve heads.
5. Recheck every attachment before applying power and inspect the installation regularly.

### 3.3 DMX512 / RDM Connection

Use shielded twisted-pair cable intended for RS-485/DMX512. Connect the controller to DMX IN, then link DMX OUT to the next fixture. Assign a unique start address to each independently controlled fixture. RDM requires a compatible controller and bidirectional signal equipment.

**TERMINATION** At the last fixture in a long or electrically noisy chain, connect a 120 ohm, 1 W resistor between pins 2 and 3 of a male XLR plug and insert it into DMX OUT.

## 4 Control Panel and Menu

Use MENU to return, UP/DOWN to select or change a value, and ENTER to open an item or confirm a setting. The display also shows the DMX and error indicators, fixture temperature, start address and active personality.

| Menu            | Item                              | Option / Range                             | Operation                                                                      |
|-----------------|-----------------------------------|--------------------------------------------|--------------------------------------------------------------------------------|
| Address         | DMX Start Address                 | 001-512                                    | Set the fixture start address.                                                 |
| System Settings | Operating Mode                    | DMX / Auto 1 / Auto 2 / Sound              | Select controlled or standalone operation.                                     |
| System Settings | Channel Mode                      | 20 / 53 / 101 / 155 / 169 / 179CH          | Select the DMX personality.                                                    |
| System Settings | Pixel Order Reverse               | Off / On                                   | Reverse the head sequence.                                                     |
| System Settings | Tilt Reverse                      | Off / On                                   | Reverse tilt direction.                                                        |
| System Settings | Reserved 1 / 2                    | Off / On                                   | Firmware-reserved functions.                                                   |
| System Settings | DMX Hold                          | Off / On                                   | Return to reset state or hold the last DMX frame after signal loss.            |
| System Settings | Screen Saver                      | Off / On                                   | Keep the display on or turn it off after inactivity.                           |
| System Settings | Display Orientation               | Normal / Inverted / Auto                   | Set or automatically orient the display.                                       |
| System Settings | Synchronized Update               | Off / On                                   | Copy settings/calibration to linked fixtures; disconnect the controller first. |
| System Settings | Language                          | Chinese / English                          | Select the menu language.                                                      |
| System Settings | Dimmer Curve                      | Linear / Square / Inverse Square / S-Curve | Select the dimming curve.                                                      |
| System Settings | Dimmer Response                   | Fast / Smooth                              | Select fast or smoothed dimming.                                               |
| System Settings | Head ID                           | Off / 1-12                                 | Service head identification and assignment.                                    |
| System Settings | Factory Reset                     | Cancel / Confirm                           | Restore factory settings.                                                      |
| Manual          | Current Personality Channels      | 000-255                                    | Manually test each channel.                                                    |
| Calibration     | Password                          | 6688                                       | Open protected calibration settings.                                           |
| Calibration     | Home / White Balance / Power      | Service values                             | Correct motor home, RGBW balance or maximum power.                             |
| Reset           | Effect / Movement / All           | Confirm                                    | Reset a subsystem or the complete fixture.                                     |
| Information     | Errors / DMX / Sensors / Versions | Read-only                                  | View error, signal, sensor, hardware and software data.                        |

**PROTECTED SETTINGS** Home-position, white-balance, maximum-power and head-ID functions are service settings. Record original values before editing.

## 5 DMX512 Channel Reference

Select the same personality on the fixture and controller. Repeated per-head blocks are expressed as formulas or ranges so every channel remains unambiguous without duplicating hundreds of rows.

| Personality | Coverage                                                        |
|-------------|-----------------------------------------------------------------|
| 20CH        | Compact shared tilt, zoom, RGBW and effect control              |
| 53CH        | Independent 16-bit tilt and zoom for 12 heads; shared RGBW      |
| 101CH       | 53CH base plus per-head 8-bit RGBW                              |
| 155CH       | Independent tilt/zoom and 16-bit RGBW per head                  |
| 169CH       | Global effects plus per-head tilt, zoom, dimmer and 16-bit RGBW |
| 179CH       | 155CH base plus 16-bit dimmer and 16-bit RGBW per head          |

## 5.1 20-Channel Personality

Compact shared control of all twelve heads.

| Channel | Function             | DMX Value               | Description                             |
|---------|----------------------|-------------------------|-----------------------------------------|
| 1       | Heads 1-12 Tilt      | 000-255                 | 0-100%                                  |
| 2       | Heads 1-12 Tilt Fine | 000-255                 | Fine adjustment                         |
| 3       | Tilt Speed           | 000-255                 | Fast to slow                            |
| 4       | Tilt Macro           | 000-004 / 005-255       | No function / See Tilt Macro reference  |
| 5       | Color Temperature    | 000 / 001-255           | No function / 19,000 K to 2,700 K       |
| 6       | Color Macro          | 000 / 001-255           | No function / See Color Macro reference |
| 7       | Pattern              | 000 / 001-255           | No function / Pattern 1-255             |
| 8       | Built-in LED Effect  | 000-015 / 016-255       | No function / one effect per 8 values   |
| 9       | LED Effect Speed     | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast      |
| 10      | LED Effect Delay     | 000-255                 | Fast to slow                            |
| 11      | Background Color     | 000 / 001-255           | No function / See Color Macro reference |
| 12      | Background Dimmer    | 000-255                 | 0-100%                                  |
| 13      | Master Dimmer        | 000-255                 | 0-100%                                  |
| 14      | Main Strobe          | 000-019 / 020-255       | Off / See Main Strobe reference         |
| 15      | Heads 1-12 Zoom      | 000-255                 | 0-100%                                  |
| 16      | Control              | 000-009 / 010-255       | No function / See Control reference     |
| 17      | Red / Cyan           | 000-255                 | 0-100%                                  |
| 18      | Green / Magenta      | 000-255                 | 0-100%                                  |
| 19      | Blue / Yellow        | 000-255                 | 0-100%                                  |
| 20      | White                | 000-255                 | 0-100%                                  |

## 5.2 53-Channel Personality

Independent 16-bit tilt and zoom for all heads, with shared RGBW and effects.

| Channel | Function            | DMX Value               | Description                             |
|---------|---------------------|-------------------------|-----------------------------------------|
| 1-2     | Head 1 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 3-4     | Head 2 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 5-6     | Head 3 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 7-8     | Head 4 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 9-10    | Head 5 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 11-12   | Head 6 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 13-14   | Head 7 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 15-16   | Head 8 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 17-18   | Head 9 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment         |
| 19-20   | Head 10 Tilt / Fine | 000-255                 | Coarse 0-100% / fine adjustment         |
| 21-22   | Head 11 Tilt / Fine | 000-255                 | Coarse 0-100% / fine adjustment         |
| 23-24   | Head 12 Tilt / Fine | 000-255                 | Coarse 0-100% / fine adjustment         |
| 25      | Tilt Speed          | 000-255                 | Fast to slow                            |
| 26      | Tilt Macro          | 000-004 / 005-255       | No function / See Tilt Macro reference  |
| 27      | Color Temperature   | 000 / 001-255           | No function / 19,000 K to 2,700 K       |
| 28      | Color Macro         | 000 / 001-255           | No function / See Color Macro reference |
| 29      | Pattern             | 000 / 001-255           | No function / Pattern 1-255             |
| 30      | Built-in LED Effect | 000-015 / 016-255       | No function / one effect per 8 values   |
| 31      | LED Effect Speed    | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast      |
| 32      | LED Effect Delay    | 000-255                 | Fast to slow                            |
| 33      | Background Color    | 000 / 001-255           | No function / See Color Macro reference |
| 34      | Background Dimmer   | 000-255                 | 0-100%                                  |
| 35      | Master Dimmer       | 000-255                 | 0-100%                                  |
| 36      | Main Strobe         | 000-019 / 020-255       | Off / See Main Strobe reference         |
| 37-48   | Head 1-12 Zoom      | 000-255                 | Channel = 36 + head number; 0-100%      |
| 49      | Control             | 000-009 / 010-255       | No function / See Control reference     |
| 50      | Red / Cyan          | 000-255                 | RGBW 0-100% / CMY 100-0%                |
| 51      | Green / Magenta     | 000-255                 | RGBW 0-100% / CMY 100-0%                |
| 52      | Blue / Yellow       | 000-255                 | RGBW 0-100% / CMY 100-0%                |
| 53      | White               | 000-255                 | 0-100%                                  |

## 5.3 101-Channel Personality

53CH base plus direct 8-bit RGBW control for each head.

| Channel | Function             | DMX Value               | Description                                  |
|---------|----------------------|-------------------------|----------------------------------------------|
| 1-2     | Head 1 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 3-4     | Head 2 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 5-6     | Head 3 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 7-8     | Head 4 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 9-10    | Head 5 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 11-12   | Head 6 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 13-14   | Head 7 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 15-16   | Head 8 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 17-18   | Head 9 Tilt / Fine   | 000-255                 | Coarse 0-100% / fine adjustment              |
| 19-20   | Head 10 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment              |
| 21-22   | Head 11 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment              |
| 23-24   | Head 12 Tilt / Fine  | 000-255                 | Coarse 0-100% / fine adjustment              |
| 25      | Tilt Speed           | 000-255                 | Fast to slow                                 |
| 26      | Tilt Macro           | 000-004 / 005-255       | No function / See Tilt Macro reference       |
| 27      | Color Temperature    | 000 / 001-255           | No function / 19,000 K to 2,700 K            |
| 28      | Color Macro          | 000 / 001-255           | No function / See Color Macro reference      |
| 29      | Pattern              | 000 / 001-255           | No function / Pattern 1-255                  |
| 30      | Built-in LED Effect  | 000-015 / 016-255       | No function / one effect per 8 values        |
| 31      | LED Effect Speed     | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast           |
| 32      | LED Effect Delay     | 000-255                 | Fast to slow                                 |
| 33      | Background Color     | 000 / 001-255           | No function / See Color Macro reference      |
| 34      | Background Dimmer    | 000-255                 | 0-100%                                       |
| 35      | Master Dimmer        | 000-255                 | 0-100%                                       |
| 36      | Main Strobe          | 000-019 / 020-255       | Off / See Main Strobe reference              |
| 37-48   | Head 1-12 Zoom       | 000-255                 | Channel = 36 + head number; 0-100%           |
| 49      | Control              | 000-009 / 010-255       | No function / See Control reference          |
| 50      | Red / Cyan           | 000-255                 | RGBW 0-100% / CMY 100-0%                     |
| 51      | Green / Magenta      | 000-255                 | RGBW 0-100% / CMY 100-0%                     |
| 52      | Blue / Yellow        | 000-255                 | RGBW 0-100% / CMY 100-0%                     |
| 53      | White                | 000-255                 | 0-100%                                       |
| 54-101  | Per-head RGBW blocks | 000-255                 | Base = 54 + (head-1) x 4; offsets R, G, B, W |
| 54-57   | Head 1 RGBW          | 000-255                 | Red, Green, Blue, White                      |
| 98-101  | Head 12 RGBW         | 000-255                 | Red, Green, Blue, White                      |

## 5.4 155-Channel Personality

Independent tilt, zoom and 16-bit RGBW for every head.

| Channel | Function                  | DMX Value               | Description                                              |
|---------|---------------------------|-------------------------|----------------------------------------------------------|
| 1-2     | Head 1 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 3-4     | Head 2 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 5-6     | Head 3 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 7-8     | Head 4 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 9-10    | Head 5 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 11-12   | Head 6 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 13-14   | Head 7 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 15-16   | Head 8 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 17-18   | Head 9 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 19-20   | Head 10 Tilt / Fine       | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 21-22   | Head 11 Tilt / Fine       | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 23-24   | Head 12 Tilt / Fine       | 000-255                 | Coarse 0-100% / fine adjustment                          |
| 25      | Tilt Speed                | 000-255                 | Fast to slow                                             |
| 26      | Tilt Macro                | 000-004 / 005-255       | No function / See Tilt Macro reference                   |
| 27      | Color Temperature         | 000 / 001-255           | No function / 19,000 K to 2,700 K                        |
| 28      | Color Macro               | 000 / 001-255           | No function / See Color Macro reference                  |
| 29      | Pattern                   | 000 / 001-255           | No function / Pattern 1-255                              |
| 30      | Built-in LED Effect       | 000-015 / 016-255       | No function / one effect per 8 values                    |
| 31      | LED Effect Speed          | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast                       |
| 32      | LED Effect Delay          | 000-255                 | Fast to slow                                             |
| 33      | Background Color          | 000 / 001-255           | No function / See Color Macro reference                  |
| 34      | Background Dimmer         | 000-255                 | 0-100%                                                   |
| 35      | Background Dimmer Fine    | 000-255                 | Fine adjustment                                          |
| 36      | Master Dimmer             | 000-255                 | 0-100%                                                   |
| 37      | Master Dimmer Fine        | 000-255                 | Fine adjustment                                          |
| 38      | Main Strobe               | 000-019 / 020-255       | Off / See Main Strobe reference                          |
| 39-50   | Head 1-12 Zoom            | 000-255                 | Channel = 38 + head number; 0-100%                       |
| 51      | Control                   | 000-009 / 010-255       | No function / See Control reference                      |
| 52-59   | Shared RGBW / Fine        | 000-255                 | R/R Fine, G/G Fine, B/B Fine, W/W Fine                   |
| 60-155  | Per-head 8-channel blocks | 000-255                 | Base = 60 + (head-1) x 8; R/Fine, G/Fine, B/Fine, W/Fine |
| 60-67   | Head 1 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 68-75   | Head 2 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 76-83   | Head 3 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 84-91   | Head 4 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 92-99   | Head 5 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 100-107 | Head 6 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 108-115 | Head 7 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 116-123 | Head 8 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 124-131 | Head 9 block              | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 132-139 | Head 10 block             | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 140-147 | Head 11 block             | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |
| 148-155 | Head 12 block             | 000-255                 | R/Fine, G/Fine, B/Fine, W/Fine                           |

## 5.5 169-Channel Personality

Global effects plus a complete 13-channel block for each head.

| Channel | Function                   | DMX Value               | Description                                                                             |
|---------|----------------------------|-------------------------|-----------------------------------------------------------------------------------------|
| 1       | Control                    | 000-009 / 010-255       | No function / See Control reference                                                     |
| 2       | Tilt Speed                 | 000-255                 | Fast to slow                                                                            |
| 3       | Tilt Macro                 | 000-004 / 005-255       | No function / See Tilt Macro reference                                                  |
| 4       | Color Temperature          | 000 / 001-255           | No function / 19,000 K to 2,700 K                                                       |
| 5       | Color Macro                | 000 / 001-255           | No function / See Color Macro reference                                                 |
| 6       | Pattern                    | 000 / 001-255           | No function / Pattern 1-255                                                             |
| 7       | Built-in LED Effect        | 000-015 / 016-255       | No function / one effect per 8 values                                                   |
| 8       | LED Effect Speed           | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast                                                      |
| 9       | LED Effect Delay           | 000-255                 | Fast to slow                                                                            |
| 10      | Background Color           | 000 / 001-255           | No function / See Color Macro reference                                                 |
| 11      | Background Dimmer          | 000-255                 | 0-100%                                                                                  |
| 12      | Background Dimmer Fine     | 000-255                 | Fine adjustment                                                                         |
| 13      | Main Strobe                | 000-019 / 020-255       | Off / See Main Strobe reference                                                         |
| 14-169  | Per-head 13-channel blocks | 000-255                 | Base = 14 + (head-1) x 13; Tilt/Fine, Zoom, Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine |
| 14-26   | Head 1 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 27-39   | Head 2 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 40-52   | Head 3 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 53-65   | Head 4 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 66-78   | Head 5 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 79-91   | Head 6 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 92-104  | Head 7 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 105-117 | Head 8 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 118-130 | Head 9 block               | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 131-143 | Head 10 block              | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 144-156 | Head 11 block              | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |
| 157-169 | Head 12 block              | 000-255                 | Tilt/Fine, Zoom, Dimmer/Fine, 16-bit RGBW                                               |

## 5.6 179-Channel Personality

Maximum independent 16-bit dimmer and RGBW control for each head.

| Channel | Function                   | DMX Value               | Description                                                               |
|---------|----------------------------|-------------------------|---------------------------------------------------------------------------|
| 1-2     | Head 1 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 3-4     | Head 2 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 5-6     | Head 3 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 7-8     | Head 4 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 9-10    | Head 5 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 11-12   | Head 6 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 13-14   | Head 7 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 15-16   | Head 8 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 17-18   | Head 9 Tilt / Fine         | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 19-20   | Head 10 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 21-22   | Head 11 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 23-24   | Head 12 Tilt / Fine        | 000-255                 | Coarse 0-100% / fine adjustment                                           |
| 25      | Tilt Speed                 | 000-255                 | Fast to slow                                                              |
| 26      | Tilt Macro                 | 000-004 / 005-255       | No function / See Tilt Macro reference                                    |
| 27      | Color Temperature          | 000 / 001-255           | No function / 19,000 K to 2,700 K                                         |
| 28      | Color Macro                | 000 / 001-255           | No function / See Color Macro reference                                   |
| 29      | Pattern                    | 000 / 001-255           | No function / Pattern 1-255                                               |
| 30      | Built-in LED Effect        | 000-015 / 016-255       | No function / one effect per 8 values                                     |
| 31      | LED Effect Speed           | 000-127 / 128 / 129-255 | Fast to slow / stop / slow to fast                                        |
| 32      | LED Effect Delay           | 000-255                 | Fast to slow                                                              |
| 33      | Background Color           | 000 / 001-255           | No function / See Color Macro reference                                   |
| 34      | Background Dimmer          | 000-255                 | 0-100%                                                                    |
| 35      | Background Dimmer Fine     | 000-255                 | Fine adjustment                                                           |
| 36      | Master Dimmer              | 000-255                 | 0-100%                                                                    |
| 37      | Master Dimmer Fine         | 000-255                 | Fine adjustment                                                           |
| 38      | Main Strobe                | 000-019 / 020-255       | Off / See Main Strobe reference                                           |
| 39-50   | Head 1-12 Zoom             | 000-255                 | Channel = 38 + head number; 0-100%                                        |
| 51      | Control                    | 000-009 / 010-255       | No function / See Control reference                                       |
| 52-59   | Shared RGBW / Fine         | 000-255                 | R/R Fine, G/G Fine, B/B Fine, W/W Fine                                    |
| 60-179  | Per-head 10-channel blocks | 000-255                 | Base = 60 + (head-1) x 10; Dimmer/Fine and R/Fine, G/Fine, B/Fine, W/Fine |
| 60-69   | Head 1 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 70-79   | Head 2 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 80-89   | Head 3 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 90-99   | Head 4 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 100-109 | Head 5 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 110-119 | Head 6 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 120-129 | Head 7 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 130-139 | Head 8 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 140-149 | Head 9 block               | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 150-159 | Head 10 block              | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 160-169 | Head 11 block              | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |
| 170-179 | Head 12 block              | 000-255                 | Dimmer/Fine, R/Fine, G/Fine, B/Fine, W/Fine                               |

## 6 Function-Channel Reference

Use these tables whenever a personality row points to a shared macro, strobe or control reference.

### 6.1 Tilt Macro Ranges

| DMX Value | Function                                      |
|-----------|-----------------------------------------------|
| 000-004   | No function                                   |
| 005-009   | Tilt Macro 1                                  |
| 010-014   | Tilt Macro 2                                  |
| 015-249   | Tilt Macros 3-49 in consecutive 5-value steps |
| 250-254   | Tilt Macro 50                                 |
| 255       | Tilt Macro 51                                 |

**MACRO OPERATION** When a tilt macro is active, Head 1 Tilt sets the start position, Head 1 Tilt Fine sets swing amplitude, and Tilt Speed sets macro speed. Valid amplitude values are 001-255.

## 6.2 Color Macro Ranges

| DMX Value | Function                 |
|-----------|--------------------------|
| 000       | No function              |
| 001-002   | White 2700 K             |
| 003-004   | White 3200 K             |
| 005-006   | White 4200 K             |
| 007-008   | White 5600 K             |
| 009-010   | White 8000 K             |
| 011       | Blue                     |
| 012-048   | Add Green                |
| 049       | Cyan                     |
| 050-086   | Reduce Blue              |
| 087       | Green                    |
| 088-124   | Add Red                  |
| 125       | Yellow                   |
| 126-162   | Reduce Green             |
| 163       | Red                      |
| 164-200   | Add Blue                 |
| 201       | Magenta                  |
| 202-238   | Reduce Red               |
| 239       | Blue                     |
| 240-247   | Color fade, fast to slow |
| 248-255   | Color snap, fast to slow |

## 6.3 Main Strobe Ranges

| DMX Value | Function                               |
|-----------|----------------------------------------|
| 000-019   | Off                                    |
| 020-024   | On                                     |
| 025-064   | Strobe, fast to slow                   |
| 065-069   | On                                     |
| 070-084   | 100%-to-0% strobe, fast to slow        |
| 085-089   | On                                     |
| 090-104   | 0%-to-100% strobe, fast to slow        |
| 105-109   | On                                     |
| 110-124   | Random strobe, fast to slow            |
| 125-129   | On                                     |
| 130-144   | Random 100%-to-0% strobe, fast to slow |
| 145-149   | On                                     |
| 150-164   | Random 0%-to-100% strobe, fast to slow |
| 165-169   | On                                     |
| 170-184   | Pulse strobe, fast to slow             |
| 185-189   | On                                     |
| 190-204   | Random pulse strobe, fast to slow      |
| 205-209   | On                                     |
| 210-224   | 0%-100%-0% strobe, fast to slow        |
| 225-229   | On                                     |
| 230-244   | Random pulse strobe, fast to slow      |
| 245-255   | On                                     |

## 6.4 Control Ranges

| DMX Value | Function                                 |
|-----------|------------------------------------------|
| 000-054   | No function                              |
| 055       | Source table contains no assigned action |
| 056-060   | Tilt motors reset; hold 5 seconds        |
| 061-065   | Zoom motors reset; hold 5 seconds        |
| 066-075   | Full fixture reset; hold 5 seconds       |
| 076-255   | Reserved                                 |

## 7 Routine Maintenance

**ATTENTION** Disconnect AC power and allow the fixture to cool completely before inspection or cleaning.

- Inspect the housing, lenses, mounting points, clamps, safety cable, power cable and data connectors before every use.
- Replace damaged lenses, cables, connectors and structural parts before returning the fixture to service.
- Clean optical surfaces with a soft, lint-free cloth and suitable optical cleaner. Do not use alcohol or solvents unless approved by the manufacturer.
- Keep fans and ventilation openings free of dust and fog-fluid residue. The source recommends monthly cleaning in dusty environments.
- Inspect every tilt and zoom mechanism for unusual noise, resistance, imbalance or positioning errors.
- Have internal electrical connections and protective devices inspected periodically by qualified service personnel.

## 8 Troubleshooting, RDM and Service

| Symptom                      | Check                                                                                                                                    |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| No light output              | Verify supply voltage, power connection, circuit protection, dimmer/strobe values and controller output.                                 |
| No DMX response after reset  | Confirm DMX mode, start address, selected personality, controller patch, cable polarity and connectors.                                  |
| Intermittent or unstable DMX | Use shielded twisted-pair cable, separate signal and power cables, inspect connectors and terminate the final fixture with 120 ohms.     |
| Fixture does not start       | Check supply rating, circuit protection, transport damage and loose external connections. Refer internal inspection to service.          |
| Abnormal tilt or zoom        | Remove obstructions, run the appropriate reset, inspect reversal/ID settings, and refer Hall sensors or mechanisms to qualified service. |
| Reduced or unstable output   | Check temperature, ventilation, fan operation, optical cleanliness, supply quality, power calibration and error records.                 |
| DMX works but RDM does not   | Confirm an RDM-compatible controller, bidirectional amplifier and continuity on data pins 2 and 3; all fixtures must remain in DMX mode. |

**SERVICE** There are no user-serviceable high-voltage parts inside. Refer internal repair, LED-board replacement, motor service and calibration to the manufacturer or qualified service personnel.

End of manual