

TOURMASTER



THEATRRELIGHT NZ

TOURMASTER QUICK OPERATION

Press the Back key to reach the top menu- the LCD shows “**Theatrelight NZ**”. Softkeys are shown in italics e.g.: “*setup*”.

SETTING DMX PATCH ADDRESSES AND LOCKING THE KEYS

To change the DMX address of any dimmer in any bin:

1. From the top menu, press **Menu** three times to arrive at the DMX Patch Address menu.
2. Press **5 / 6** to adjust the address. Press **3 / 4** to set 10s, 100s, or the dimmer or bin number.
3. Press **Back** to return to the top menu: the screen shows “Changes saved to flash memory”.
4. To lock the keypad, hold **3 +4 +5** for 2 seconds. To unlock the keypad, hold **3 +4 +6** for 8 seconds.

SETTING DMX FAIL MODE

To set the DMX Fail Mode of **all** bins in the cabinet, to either “Fade to Black” or “Hold DMX levels”:

1. From the top menu, press **Menu** twice, select “DMX fail mode setup”, press **Menu**.
2. Use **5 / 6** to select the mode, then press “*on*” (**4**) to set the mode On.
3. Press “*times*” (**Menu**) to enter the DMX Fail Fade Delay/Time menu: use the arrow keys to edit the times.
4. Press **Back** to return to the top menu: the screen shows “Changes saved to flash memory”.

SETTING DIMMER PARAMETERS

To set Test, Min, Max, Non-Dim, Off levels, Curve, Proportional levels, or Softstart time for each dimmer in each bin:

1. From the top menu, press **Menu** twice, select “Dimmer & bin setup”, press “*setup*” (**Menu** key).
2. Use **5 / 6** keys to select the parameter to adjust, then press “*setup*” (**Menu** key).
3. Use **3 / 4** keys to select the dimmer, **5 / 6** to adjust parameters, with softkey “*all*” for all dimmers in all bins.
4. Press **Back** to return to the top menu: the screen shows “Changes saved to flash memory”.

RESETTING TOURMASTER BIN PARAMETERS

To reset the dimmer parameters of each bin:

1. From the top menu, press **Menu** twice, select “Dimmer & bin setup”, press “*setup*” (**Menu**).
2. Use **5 / 6** to select “Reset Commands”, press “*setup*”, select “Reset Dimmers + DMX”, press “*select*”.
3. Use **5 / 6** and **3 / 4** keys to select Bin number and set Bin DMX Start address, press “**OK**” (**Menu**).
4. The screen shows “Resetting all Dimmer and DMX parameters”. Repeat step 3 to set other bins

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TOURMASTER INTRODUCTION

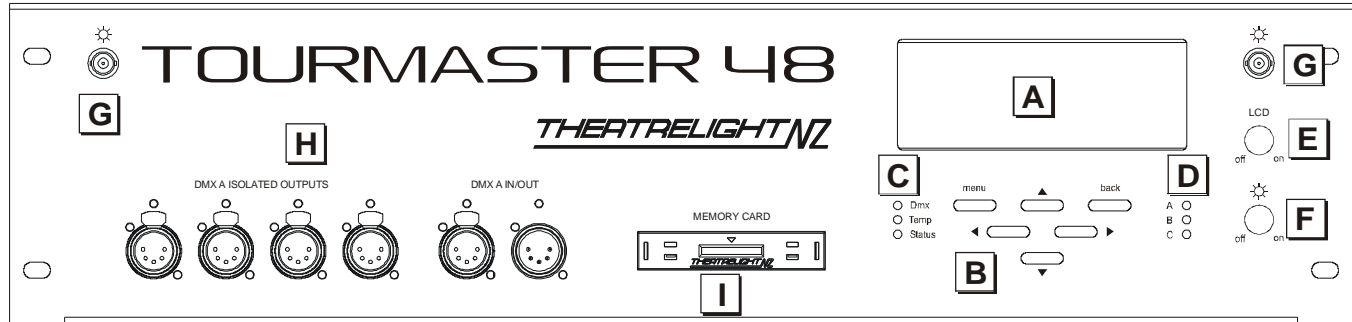
The Theatrelight Tourmaster is a general purpose dimmer cabinet designed for touring and location. The Tourmaster design is based on software and hardware designs already well proven in the Theatrelight products **Nebula**—a 3u high rack-mounting professional dimmer pack, and **Meteor**—a wall mounting Stage or Environmental dimmer. Users familiar with these products will find the menu system and key setup of the Tourmaster intuitive and easy to understand.

The new design uses distributed multiple micro-processors for maximum reliability. Additionally the main CPU needs no expensive back-up system when operating on DMX—in the unlikely event of total failure of the main CPU, all dimmers continue operation without interruption to the show. The switch-mode power supplies have a proven history in Theatrelight's Nebula and RackPack II designs. The built-in DMX splitter presents only one, 1/10th standard load to a DMX cable, allowing many Tourmaster cabinets on a single DMX cable. The Tourmaster can also be fitted with DMX-over-Ethernet communication systems for use with Artnet standard control panels, an optional RS485 system for use with remote keyplate lighting controllers, or an SD Crad logging system. The Tourmaster is available in standard 24 and 48 channel versions. Tourmaster firmware is available in a number of different configurations, and with different communications hardware and software according to customer request.

TOURMASTER FEATURES

- § Simple menu system with large 4 line, 20 character auto dimming LCD display at eye height
- § Every dimmer may be soft-patched to any DMX address.
- § Every dimmer may be set to its own Min, Max, Off, Proportional, Test level, Soft-start Time, and Dimmer Curve
- § All dimmer parameters held in non-volatile flash memory
- § Temperature controlled cooling fans for low acoustic noise and long life
- § Redundant main set-up CPU, and multiple, distributed microprocessors, 1 CPU for every 12 dimmers
- § High reliability power supplies, input 90 volts AC to 265 Volts AC, frequency from 45 to 65 Hertz
- § Isolated, floating DMX input, 1/10th standard load for the whole cabinet
- § Built DMX splitter for supplying DMX to other dimmers cabinets or moving light systems
- § Optional hard patch system
- § Tourmaster can be supplied with mains input and output connectors to customer specification

TOURMASTER CONTROL PANEL LEGEND



- A:** Large clear 4 row x 20 character Blue LCD display with white LED backlight.
- B:** Simple keyboard and easy to understand menu system allow quick setup of all dimmer functions and parameters.
- C:** The DMX LED shows the presence of DMX signal, and flashes continually on a DMX error in any dimmer bin. The TEMP LED flashes to warn of over-temperature conditions. The Status LED indicates active communications with the dimmer bins
- D:** A B C LEDs indicate presence of mains power on each phase in each dimmer bin. Each LED flashes continually on a undervoltage error in any dimmer bin
- E:** Potentiometer control of LCD brightness. The LEDs and key brightness is also controlled.
- F:** Potentiometer control of Gooseneck lights brightness.
- G:** Gooseneck light sockets. Other gooseneck light sockets are fitted on the patch panel and back panel.
- H:** Built-in DMX splitter with 4 isolated outputs.
- I:** SD card socket for data logging (option).

TOURMASTER OVERVIEW

The following description provides an overview of the capabilities of the Tourmaster.

DIMMER MODULES

The Tourmaster is supplied as standard in either 24 or 48 channels. The 24 channel Tourmaster has a single dimmer module of 24 dimmers while the 48 channel Tourmaster has 2 modules. Each 24 dimmer module contains 2 dimmer Bins of 12 dimmers, each bin with its own SCR/Fan unit and its own CPU and power supply. All dimmer parameters (such as min and max levels etc) are set in each bin CPU by the keys and LCD of central microprocessor on the top control panel. After initial setup each bin CPU runs its own 12 dimmers from DMX independently of the central CPU.

SCR/Fan Unit

The SCR/Fan unit is self-contained and mounted on sliders with front access for ease of servicing. The SCR unit is made from heavy aluminium extrusion, finned for maximum transfer of heat from its own fan, Power semiconductors and filter chokes are thermally connected to the finned extrusion for cool operation and maximum reliability. For maximum cooling efficiency, air is sucked in through the patch panel well, and exhausted through each SCR module and out through louvres in the front panel. The speed of all the fans is controlled by the maximum temperature read from the dual thermal sensors on each SCR unit: all fans are set to run at the same speed for correct airflow direction. Tourmaster cabinets should be mounted in a position where fan noise cannot interfere with a performance. The standard dimmer type is a 4kw SCR dimmer with filter chokes suited for touring work. Other specification filter chokes up to TV Studio standards can be supplied.

CONTROL PANEL

Setup of all parameters of all dimmers in the Tourmaster is effected from a central keyboard and LCD. This central microprocessor is only required for dimmer set-up—once all dimmer parameters have been set in each bin CPU it cannot affect the proper operation of the dimmers. Power for the central CPU is contributed from each of the dimmer bin power supplies, and protected by the three control MCBs located in the power distribution section at the lower front panel.

Control Panel LCD display

The large 4 line, 20 character per line Blue LCD display has white LED auto-dimming backlighting, giving excellent contrast and readability under all lighting conditions. The brightness of the display goes to full at the first key press, and reduces after 10 minutes. The display is easily visible across the width of a standard dimmer room. A brightness control is sited to right of the display.

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Control Panel Keys

The Control Panel has a small keypad of 6 keys. The key operation is designed to be simple and to allow the operator fast and easy access to all dimmer functions in all bins. The Menu key steps down through the menu tree, while the Back key steps back. The keys Up⁵, Down⁶, Left³, and Right⁴ are used for navigation and to adjust values. In most menus the function of the key is indicated in the bottom line of the LCD (“softkey”), making for easy understanding. If a value is changed (such as the DMX Address), the new value will be saved automatically to flash memory after a timeout period of 10 minutes. Alternatively the new value can be saved immediately by pressing the Back key to return to the top menu. The keys may also be locked to prevent unauthorised operation.

Control Panel LEDs

Front panel LEDs are provided for display of DMX signal, over-temperature indication, remote control codes, and proper mains presence on Phases A B and C. All LEDs are initially turned on full at power up, before assuming their correct status.

DMX LED

The Green DMX LED is continually On if the DMX (or DMX over Ethernet) signals to all bins are free of errors. The LED flashes continuously if any bin DMX signal is disconnected, or if there are errors during communication with that bin.

Status LED

The Amber Status LED indicates communications activity with the bins, or the Remote control communications network (dependent on software version).

Phase A B C LEDs

Green LEDs A B C indicate correct presence of mains power on each phase. The LEDs flash continuously if any bin phase voltage is low, or if there are errors during communication with that bin.

Temperature/Error LED

The red temperature/error LED is normally Off. In the event that the temperature of any dimmer module in the Tourmaster cabinet reaches 50 degrees Centigrade, the LED blinks rapidly.

DMX inputs and splitter

A built in DMX512 splitter is provided to re-shape and buffer the received DMX, and to prevent issues caused by earth loops and heavy loading. Each Tourmaster cabinet has two DMX inputs “A” and “B”. Each dimmer bin of 12 dimmers can be selected to either DMX universe “A” or “B” from the main keypad.

Memory Card Logger

In Tourmasters fitted with special firmware, an SD card reader can log mains voltage and frequency over time.

Gooseneck light sockets

The front panel is fitted with two BNC sockets for gooseneck panel lights. Two additional sockets are provided on the back panel, and two more on the patch panel (if fitted).

Gooseneck dimmer control

The front panel has a knob for dimming the gooseneck panel lights.

Worklights power sensor

A worklights power sensor (IEC connector) is fitted on the back panel and is normally plugged into the stage working lights circuit. If the stage worklights are switched on, then the Tourmaster will fade up a “Worklight” scene- a previously recorded DMX snapshot held in each dimmer bin. When the worklights are switched off, the Worklight scene levels are faded to black. Worklight scene levels add to the current DMX levels on a Highest take Precedence (HTP) basis.

POWER SUPPLY

The Tourmaster is designed to be supplied with power mains of 90 to 265 volts AC, 3 phase and Neutral, 45 to 65 Hz. The Tourmaster cannot be used in a 3 Phase Delta connection (i.e. with no Neutral wire). Each Tourmaster cabinet must be properly earthed. The standard mains power connectors is PowerLock, with through connector as an option

MCB PROTECTION

Each 12 chn dimmer bin is supplied by a 3 phase 80 amp, 10ka MCB, while each dimmer channel is protected by a 20 amp, 6ka MCB. Additionally the Independent master power is supplied by a 3 phase 80 amp, 10ka MCB, splitting to 8 single phase, 13 amp, 6ka MCBs. Power for the Goose neck lights, DMX splitter, and Test sockets is via by single phase 13 amp, 6ka MCB. RCD mains MCBs can be supplied on request.

HARDPATCH

The Tourmaster can be optionally supplied with a built hard patching system using 20 amp rated patch plugs, stackable two high (with patch cover on). The patch cords store conveniently in a centre well when not in use.

POWER SOCKETS

The Tourmaster 48 is fitted as standard with 96 outputs through 16 Socapex connectors- each channel can be hard patched to any dimmer, test, or independent (non-dim) power supply. In addition there are 12 independent power sockets, each of which can be patched to any dimmer, test, or independent (non-dim) power supply.

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DMX SOFTPATCH

Each Tourmaster cabinet has two DMX inputs "A" and "B". Each dimmer bin of 12 channels can be selected to one of these two DMX universes by software control from the central keyboard.

DMX Patch Addresses

Every dimmer in the cabinet may be set to its own DMX address from the main keyboard. Using this built in patch system allows great flexibility in matching dimmers to loads- if a large number of loads are required to be controlled together, any number of dimmers (even all dimmers in the cabinet) can be controlled by a single DMX channel. The DMX address may be set to be any number between 1 and 4096 to ease the task of calculating dimmer numbers in multiple DMX universe systems.

DMX Fail Modes

The Tourmaster provides two options in case the DMX signal fails, or the DMX signal is turned off, as for example when the control panel is turned off at the end of a show. The options are

Fade to blackout- after a delay time, all dimmers in the cabinet are faded to blackout. Both the delay time and the fade time are programmable from Instant to 30 minutes.

Hold last DMX levels- the last valid DMX levels are held until the next valid DMX input, or the cabinet is switched off

REMOTE CONTROL

The Tourmaster dimmers may also be optionally controlled by RS-485 signal from Theatrelight wallplates, or Ethernet when supplied with optional firmware.

DIMMER PARAMETERS

Each dimmer channel in the Tourmaster has a number of parameters which may be set individually. As incorrect setting of these parameters can prevent the dimmers from working as expected, care must be taken when setting them up.

Test and Set Dimmer levels

Normally each dimmer is controlled from the DMX line (or RS-485/Ethernet line where fitted). However the Test/Set options allow each dimmer to be set to a level which *overrides all control inputs*. This override level can be set to any level between Off and Full. An "All" function allows all Test/Set levels in the cabinet to be set at the same time. Each dimmer can also be flashed instantly to Full for identification. The "All" function may also be used with Flash, allowing all dimmers in a bin to be flashed to Full at the same time. Flashing of all dimmers in the cabinet is not supported as the instant current surge could trip the supply MCBs.

The Test functions are of use during set-up to help check lamps or wiring problems without the use of a control panel. The function is also useful where lights such as orchestra or working lights must be left on permanently.

Minimum and Maximum Dimmer levels

Each dimmer may be set to its own minimum level, and its own maximum level. The "All" function allows all minimum or all maximum levels in the whole cabinet to be set at the same time.

The minimum setting can be used to keep lamp filaments warm for fast response time, or for example to maintain lighting at a minimum level of illumination, a requirement often needed by orchestra lighting and working lights.

The maximum setting can be used for example to prolong lamp life, which is very sensitive to over-voltage conditions. For this reason, the maximum setting has higher priority than the minimum setting.

As both Minimum and Maximum levels may be set to anywhere from Off to Full, care needs to be taken in setting these levels.

Dimmer curves

Each dimmer in the Tourmaster may be set to a number of dimmer curves. Curves fitted as standard are:

Incandescent: The Incandescent dimmer curve is suitable for most Theatre and TV applications using incandescent bulbs whether normal tungsten or tungsten halogen type. The curve is specially tailored to provide linear apparent light under these conditions.

Non-Dim: The Non-Dim curve selection is for use with loads which must be switched on and off, such as motors, smoke machines, and other effects. Each dimmer using the Non-Dim curve switches on at a user programmable Non-Dim level (see below): any control level at this level or above will switch the dimmer to Full instantly. Once On, the dimmer will stay on until the control level goes 5% below the Non-Dim level. An "All" function allows all Non-Dim switch levels in the cabinet to be set at the same time. The Non-Dim facility may be combined with the Minimum and Maximum settings to switch the dimmer output between any two selected output voltages.

Television: A modified Incandescent dimmer curve suitable for adjusting the colour temperature of incandescent bulbs in TV or Film studios. This curve is not intended to be used as a linear dimming curve in normal theatre work.

Fluorescent: This curve is suited to dimming mains ballasted fluorescent lamps fitted with filament transformers and pulse ballasts. The flicker apparent at low dim levels can be controlled by setting the Off level (see below).

Neon: This curve is suited to dimming neon discharge tubes fitted with pulse ballasts. The flicker apparent at low dim levels can be controlled by setting the Off level (see below).

Linear Power: This dimmer curve outputs linear RMS power against DMX level for use when the Tourmaster is used to control heating elements in ovens etc.

Linear Phase Angle: This dimmer curve outputs linear phase angle against DMX level where necessary.

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The "All" function allows all dimmer curves in the whole cabinet to be set at the same time. Other curves, or custom dimmer curves may be included by arrangement with Theatrelight.

Non-Dim levels

When the dimmer curve is set to Non-Dim as described above, the Non-Dim switching level may be programmed individually for each dimmer between the levels of 10 and 90%. The "All" function allows all levels in the whole cabinet to be set at the same time.

Off levels

For all dimmer curves, the Off Level may be programmed individually for each dimmer. If the *control level* is below this level, the dimmer is off; above this level the dimmer follows the normal selected dimmer curve. The "All" function allows all levels in the whole cabinet to be set at the same time. The Off Level is of most use in controlling unwanted flicker of Fluorescent and Neon tubes at low levels.

Proportional Dimmer levels

Each dimmer may be set to its own proportional level. The "All" function allows all levels in the whole cabinet to be set at the same time.

The proportional level acts as a master over the incoming dimmer control level. For example if the proportional level is set at 50%, the dimmer level will always be at half of the fader setting on the control panel. The proportion level setting may be used to balance the light output of luminaires set to the same DMX address, which is useful in balancing cyclorama floodlights. The setting may also be used to proportionally control the maximum output from the dimmer for example where 110 volt Par cans are used on a 220-240 volt mains supply.

The proportional setting has a higher priority than the maximum setting. As the Proportional level may be set anywhere from Full to Zero, care needs to be taken in setting the level.

Softstart Fade Times

Each dimmer may be set to its own softstart fade time. The "All" function allows all softstart times in the whole cabinet to be set at the same time. A softstart fade up limits the inrush current into cold tungsten filament bulbs. This initial current may be as much as 12 times the normal working current of the filament—limiting this current greatly prolongs lamp life.

The softstart time for each dimmer can be set from 0 to 1 second in 100 millisecond steps. A shorter time gives a faster response; a longer time gives longer lamp life. For most stage lighting requirements, a time of 100 to 400 milliseconds (0.1 to 0.4 seconds) is suitable, while for larger film and TV Studio incandescent bulbs in the range of 5 to 12 kilowatts, a time of up to 1 second will greatly prolong lamp life and reduce running costs. The softstart time is applied after processing of Non-Dim switch levels. This allows limiting high starting currents during start-up of capacitor-start motors or other capacitive loads. If this

facility is not required, then Non-Dim channels should have their softstart times set to zero. Note that an initial softstart time of 2 seconds is applied to all channels after the Tourmaster cabinet is powered on (excepting Non-Dim channels).

DIMMER SETTINGS PRIORITY

The dimmer settings described above are processed in a fixed priority. Levels are processed and passed to the dimmers in the following order of increasing priority:

1/ The DMX control level (or the Fail DMX control level if the DMX signal is not present)) and the Scenes or Preset levels (if fitted) for that dimmer are mixed on an HTP (Highest Takes Precedence) basis.

2/ If the **Test/Set level** for the dimmer is set between Off (0) and Full (F) (or flashed), the Test/Set level replaces the dimmer level. If no Test level is set for that dimmer (-), no change is made. All Test/Set levels are set disabled after the Reset command.

3/ If the control level is below the **Off Level** set for that dimmer, the control level is set zero. If the control level is above the Off Level, no change is made. All Off Levels are set zero after the Reset command.

4/ If the dimmer curve is set to **Non-Dim**, the control level will be switched to Full if over the Non-Dim level, and switched off if under. The Non-Dim level may be set anywhere between 10% and 90%. All Non-Dim levels are set zero after the Reset command.

5/ If the **Minimum level** for the dimmer is set above 0%, the dimmer level cannot be lower than that level. If the Minimum setting is 0% for that dimmer, no change is made to the level. All Minimum levels are set zero after the Reset command.

6/ If the **Maximum level** for the dimmer is set below 100%, the dimmer level cannot be higher than that level. If the Maximum setting is Full for that dimmer, no change is made. Giving Minimum and Maximum a higher priority than Non-Dim permits switching between any two voltages to suit the application. All Maximum levels are set Full by the Reset command.

Note that the normal Incandescent curve is used to define any Minimum or Maximum voltage limits imposed on dimmers selected to Non-Dim.

7/ If the **Proportional level** for the dimmer is set lower than 100%, the control level for that dimmer is multiplied by the Proportional level. If the Proportional Level for the dimmer is set to 100% (F), no change is made. All Proportional levels are set to 100% (F) by the Reset command.

8/ Finally, the **Softstart Time** setting limits the fade up rate of each dimmer channel. If the Softstart time is set to zero for that dimmer, no change is made to the fade up rate. The Softstart time applies only to the Up fade rate—it does not affect the Down fade rate of the control level applied to any dimmer. All Softstart times are set to 300msec by the Reset command.

9/ The phase On time for each dimmer is then calculated from the final dimmer level according to the Dimmer Curve programmed for that dimmer. All dimmer curves are reset to Incandescent by the Reset command.

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LEVEL DISPLAYS

The LCD screen may be set to read out a number of operating conditions.

Bin DMX levels

The LCD displays the latest bin DMX levels before modification by any Test, Minimum or Maximum settings etc. The current bin number may be changed while in this menu.

Bin dimmer levels

The LCD displays the final control level applied to the chosen dimmer curve the dimmers in the bin. This level shows the level modified by the following settings: Test, Min, Max, Non-Dim, Off, Proportional, and Softstart. The current bin number may be changed while in this menu.

Bin mains voltage and frequency

The LCD displays the RMS voltage on Phases A, B, and C, and the frequency in Hertz of each phase. Voltages are shown to the nearest volt, and frequency to the nearest 0.1 Hz. The current bin number may be changed while in this menu.

Bin temperatures and fan test

The LCD displays the current temperature of each bin in the cabinet. All temperatures are in degrees Centigrade. While in this menu, pressing the Menu key provide a Fan test to Full function

Bin temperature history

The LCD displays a temperature history for the bin. The current bin number may be changed while in this menu. The readouts for the bin are the temperature now, the temperature 30 minutes, one hour, and two hours ago, and the temperature averaged over the last 2 hours. Timing is started from power on. Also displayed is the current highest bin temperature together with the bin number.

TLNet receive data

The LCD displays the first 21 values of the received data present on the bin communications network. This display is for setup and diagnostic use only.

TLNet transmit data

The LCD displays the first 21 values of the transmitted data present on the bin communications network. This display is for setup and diagnostic use only.

RESETTING DIMMER DEFAULT PARAMETERS

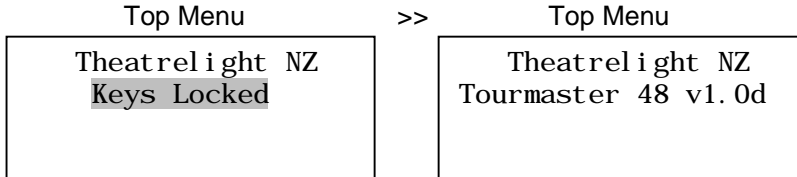
The dimmer parameters in each bin may be reset to default values. These default values are described in the next section.

TOURMASTER DEFAULT PARAMETERS

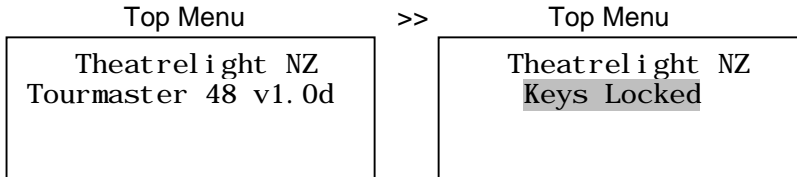
The range and values of the different parameters of each dimmer after a Reset Bin command are described below. All parameters are held in permanent flash memory.

DMX PATCH ADDRESSES	Range	After Reset	Notes
DMX Patch addresses	n/u, 1-4096	1, 2, 3...	Addresses > 512 have (N x 512) subtracted
DMX FAIL MODES	Range	After Reset	Notes
Fade to Black	On/Off	Off	<i>After Reset All only (not Reset Bin)</i>
Fade to Black delay/fade times	Instant-30 minutes	5 mins/30 secs	<i>After Reset All only (not Reset Bin)</i>
Hold Last Levels	On/Off	On	<i>After Reset All only (not Reset Bin)</i>
DIMMER SETTINGS	Range	After Reset	Notes
Test/Set Levels	Disabled, 0-100%	Disabled	<i>Must be disabled for normal dimmer levels</i>
Minimum Levels	0-100%	0%	<i>Must be <100% for normal dimmer levels</i>
Maximum Levels	0-100%	100%	<i>Must be >0% for normal dimmer levels</i>
Non-Dim levels	10-90%	50%	Hysteresis = +0%, -5%
Off levels	0-90%	0%	Hysteresis = +0%, -1%
Dimmer curve	In,ND,TV,FI,Ne,LP,LA	In	In = Incandescent, ND = Non-Dim
TV =TV/Film colour temp control, FI, Ne = Fluo/Neon discharge tubes, LP/LA = Linear Power/Linear Phase Angle			
Proportional Levels	0-100%	100%	<i>Must be >0% for normal dimmer levels</i>
Soft Start Times	0-1.0 second	300 msec	Up time only (Down time always instant)
Worklights Scene Levels	0-100%	unchanged	<i>Active if Worklights IEC socket powered</i>
KEY LOCK	Range	After Reset	Notes
Key Lock	On/Off	Off	Only accessible in Top Menu Level

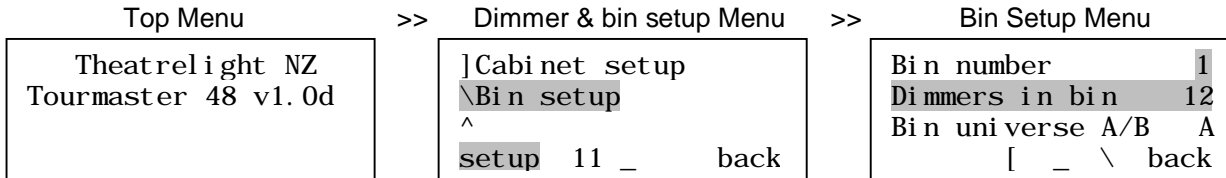
Unlocking the keys:



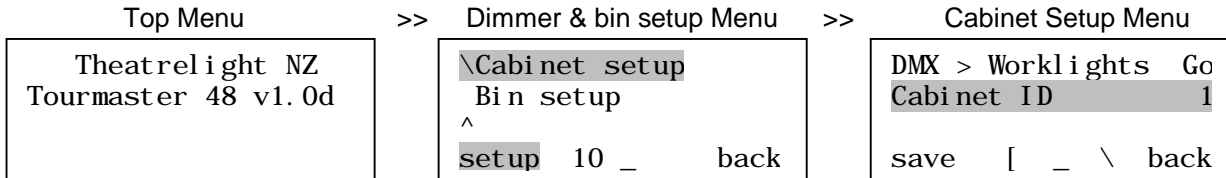
Locking the keys:



Reading the number of dimmers in each bin:



Setting the cabinet ID:



TOURMASTER INITIAL SETUP

All Tourmaster cabinets need an initial setup at installation. The instructions below assume a start from the top menu level—pressing the Back key several times always goes to top menu: the screen shows “**Theatrelight NZ**”, together with the model, number of channels and the software version. If the keys are locked, the LCD will show “Keys Locked”.

UNLOCKING THE KEYS

The keys may be unlocked as follows:

1. **To unlock the keypad, hold 3 +4 +6 until the message “Keys Locked” disappears (about 8 seconds).**
2. **Release all keys: the screen shows “Changes saved to flash memory”.**

LOCKING THE KEYS

After changing any settings, you can disable the keys to prevent unauthorised changes as follows.

1. **Press the Back key several times to reach the top menu. This also saves the latest changes.**
2. **To lock the keypad, hold 3 +4 +5 until the message “Keys Locked” appears (about 2 seconds).**
3. **Release all keys: the screen shows “Changes saved to flash memory”.**

All the following examples need the keys to be unlocked.

READING THE NUMBER OF DIMMERS IN EACH BIN

The number of dimmers in each bin is fixed by the firmware of each Bin CPU. These settings can be checked on the LCD display. To read the number of Dimmers in each Bin:

1. **From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.**
2. **Press 5 /6 to select “Bin Setup” (line 11), press Menu.**
3. **Press 5 /6 to adjust “Bin number”: the number of dimmer is displayed in the line “Dimmers in Bin”.**
4. **Repeat step 3 to read the bin numbers in other bins. (“Error” is shown if a bin does not respond).**
5. **Press Back until you reach the top menu.**

SETTING THE CABINET ID

When optional reporting software is fitted a unique cabinet ID number needs to be allocated to each cabinet:

1. **From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.**
2. **Press 5 /6 to select “Cabinet Setup” (line 10), press Menu.**
3. **Press Right 4 to move the cursor to “Cabinet ID”, press 5 /6 to adjust the ID number (must be unique)**
4. **Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.**

Setting bins to DMX universe “A” or “B”:

Top Menu

```
Theatrelight NZ
Tourmaster 48 v1.0d
```

>> Dimmer & bin setup Menu >>

```
]Cabinet setup
\Bin setup
^
setup 11 _ back
```

Bin Setup Menu

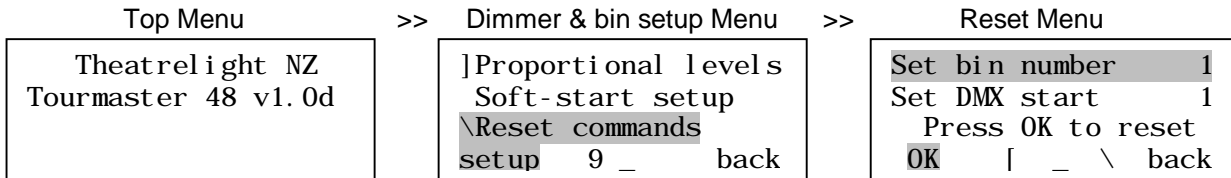
```
Bin number 1
Dimmers in bin 12
Bin universe A/B A
[ _ \ back
```

SETTING BINS TO DMX UNIVERSE “A” OR “B”

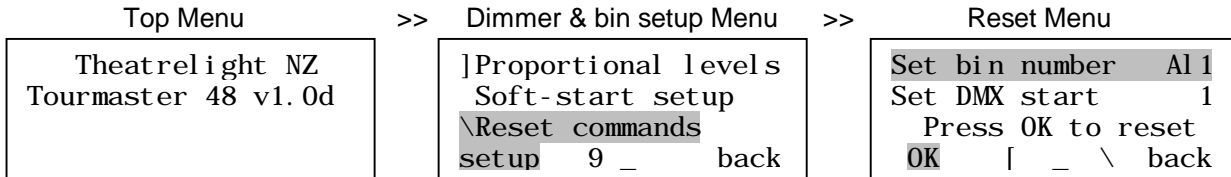
Each bin can be selected to use either of two DMX universes A or B from the two DMX inputs selectable on each Bin CPU. Once the Bin CPU A and B links are setup to input either DMX or Ethernet (where fitted), the bin DMX A/B selection can then be controlled from the Main CPU as follows:

- 1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.**
- 2. Press 5 /6 to select “Bin Setup” (line 11), press Menu.**
- 3. Press 5 /6 to adjust “Bin number”, press 4 to move to “Bin Universe A/B”.**
- 4. Press 6 to set the bin to DMX universe “A”, press 5 to set the bin to DMX universe “B”.**
- 5. Repeat steps 3 and 4 to adjust the bin number to set the DMX universe “A” or “B” for other bins.**
- 6. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.**

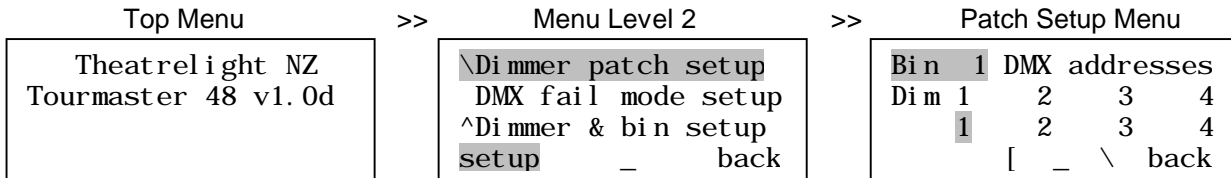
Resetting a bin to default parameters:



Resetting all bins to default parameters:



Setting DMX patch addresses:



SETTING AND DISPLAYING DIMMER PARAMETERS

Once the DMX A/B selection in each bin has been initialised, you can quickly reset the start DMX address and other parameters of all dimmers in a bin, or of all dimmers in the cabinet if required. Then you can display or edit any individual dimmer's DMX address, or its Min, Max, Off, Proportional, or Test level, or its Soft-start Time, or Dimmer Curve, or view other values such as dimmer levels, temperatures etc.

SETTING ALL DIMMER PARAMETERS TO DEFAULTS

To reset all DMX and dimmer parameters in each bin, or all bins in the cabinet to default settings:

1. **From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.**
2. **Press 5/6 to select “Reset Commands” (line 9), press Menu.**
3. **Press 5/6 to select “Reset dimmers and DMX”, press Menu.**
4. **Press 5/6 to select the Bin number to reset, or “All” to reset All bins.**
5. **Press Right4 to move the cursor to the DMX Start address for the bin (or the cabinet if All bins).**
6. **Press 5/6 to adjust the DMX Start address, 3/4 to adjust tens and hundreds for speed.**
7. **Press “OK” (the Menu key).**

The screen flashes the Bin number and the DMX Start number for 2 seconds while the bin is reset. Resetting **All** bins can save time if all DMX addresses in the cabinet are required to be in order—each bin's DMX Start address is automatically incremented by the numbers of dimmers in each bin through all the bins in the cabinet. The dimmer parameters are reset to default values described under the heading **Tourmaster parameters** on Page 13. “Error” is shown if a bin does not respond.

When the screen stops flashing, the Reset menu returns:

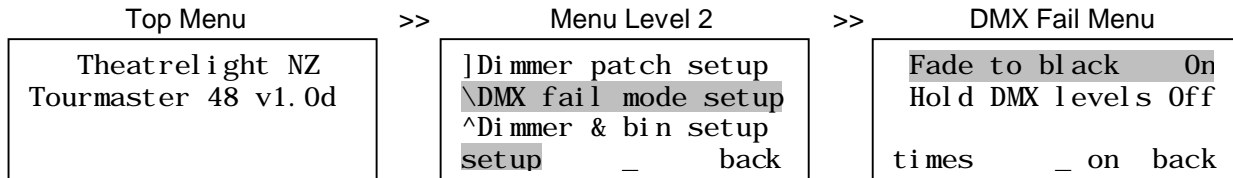
8. **Reset other bins to different DMX Start addresses if required.**
9. **Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.**

SETTING DMX PATCH ADDRESSES

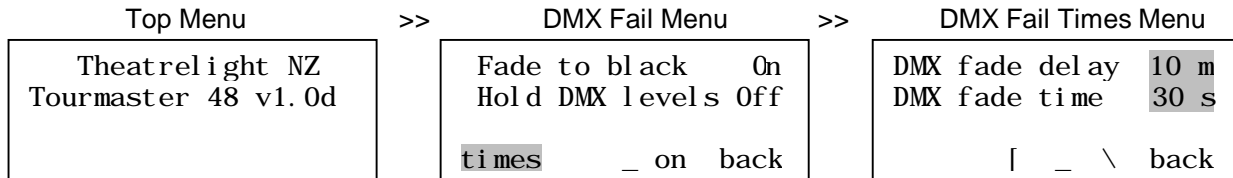
To edit the DMX address of any dimmer in any bin:

1. **From the top menu, press Menu three times. The screen shows the current bin, and the DMX patch.**
2. **Press 5/6 to adjust the DMX address, 3/4 to adjust tens and hundreds for speed, or other dimmers.**
3. **To adjust the bin number down, press Left 3 until the cursor is over the 100s column of the first dimmer in the bin—pressing Left 3 again then decrements the bin number with each press, giving fast bin access.**

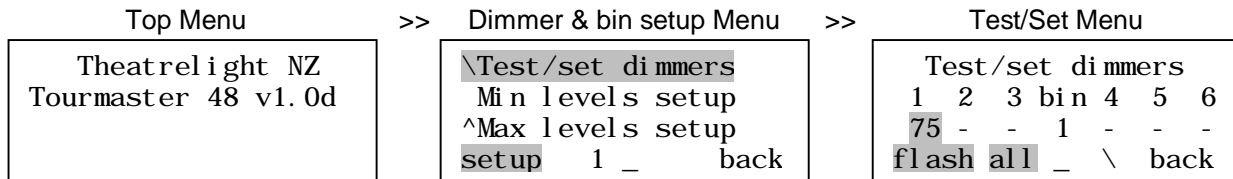
Setting DMX fail mode:



Setting DMX fail mode times:



Testing or setting dimmer levels:



4. To adjust the bin number up, hold **Right4** : the cursor steps quickly through the dimmers and bins—release the key when the bin number is the one you want to edit.

§ For large loads such as cyclorama lighting, you can set any numbers of dimmers to the same DMX address

SETTING DMX FAIL MODE AND DMX FAIL MODE TIMES

To set the DMX Fail Mode for **all** dimmers in the cabinet to either “Fade to Black” or “Hold DMX levels”:

1. From the top menu, press **Menu** twice, select “DMX Fail Mode”, press **setup** (the Menu key).
2. Press **Up5** or **Down6** to select the mode, then press “**on**” (**Right4**) to set the mode On.

To set the DMX Fail Mode times for **all** dimmers in the cabinet (Fade to Black mode only):

1. While In the Fail Mode Menu above (with Fade to Black mode set On), press “**times**” (Menu).
2. Press **Left3** or **Right4** to select the Delay or Fade times, then press **Up5** or **Down6** to set the time.
3. Press **Back** until you reach the top menu: the screen shows “Changes saved to flash memory”.

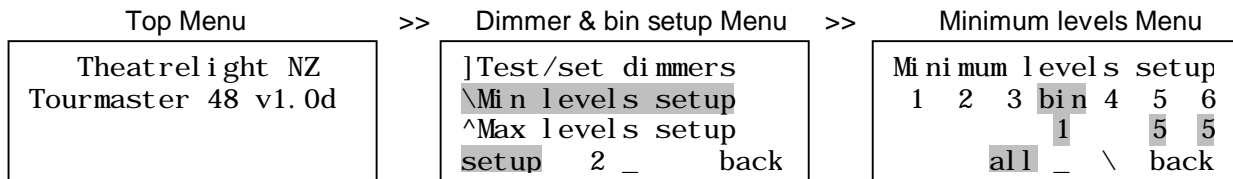
§ DMX Fail mode and fade times (if set to Fade to Black mode) apply to all dimmers in the cabinet

TESTING OR SETTING DIMMER LEVELS

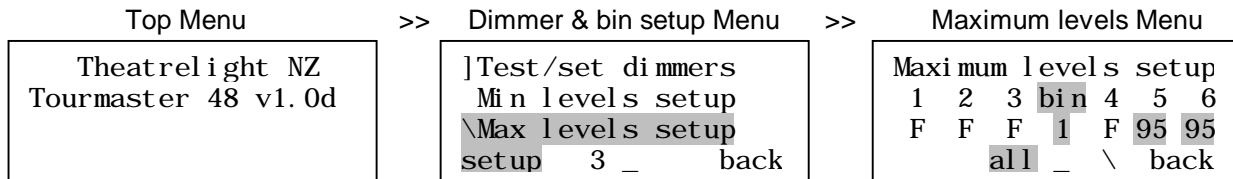
Test/Set levels take over control from any input DMX or other control level. You can also use this mode to temporarily flash levels to Full for identification or test. To set Test/Set levels for each dimmer, or all dimmers in the cabinet, or to flash dimmers:

1. From the top menu, press **Menu** twice, select “Dimmer & bin setup”, press **Menu**.
2. Select “Test/set dimmers”, press **Menu**.
3. Press **Left 3** or **Right4** to select the dimmer, **Up5** or **Down6** to adjust the level.
4. Press “**All**” (Left key) with **Up5** or **Down6** to adjust the Test levels of all dimmers *in the cabinet*.
5. Press “**Flash**” (Menu key) to flash the dimmer if required to identify the channel.
6. Hold down “**Flash**” (Menu key) then press “**All**” (Left key) to flash all dimmers in the bin (*not the cabinet*).
7. Press **Back** until you reach the top menu: the screen shows “Changes saved to flash memory”.

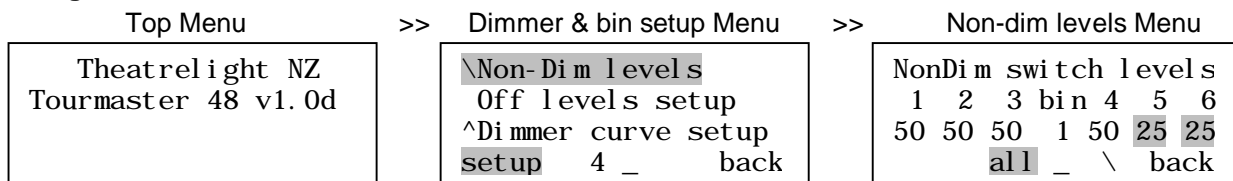
Setting dimmer minimum levels:



Setting dimmer maximum levels:



Setting non-dim levels:



SETTING DIMMER MINIMUM AND MAXIMUM LEVELS

To set Minimum levels for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
2. Select “Min levels setup”, press Menu.
3. Press Left $\bar{3}$ or Right $\bar{4}$ to select the dimmer, Up $\bar{5}$ or Down $\bar{6}$ to adjust the level.
4. Press “All” (Left key) with Up $\bar{5}$ or Down $\bar{6}$ to adjust the levels of all dimmers *in the cabinet*.
5. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

To set Maximum levels for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
1. Select “Max levels setup”, press Menu.
2. Press Left $\bar{3}$ or Right $\bar{4}$ to select the dimmer, Up $\bar{5}$ or Down $\bar{6}$ to adjust the level.
3. Press “All” (Left key) with Up $\bar{5}$ or Down $\bar{6}$ to adjust the levels of all dimmers *in the cabinet*.
4. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

SETTING NON-DIM LEVELS

To set Non-Dim levels for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
2. Select “Non-Dim levels” (line 4), press Menu.
3. Press Left $\bar{3}$ or Right $\bar{4}$ to select the dimmer, Up $\bar{5}$ or Down $\bar{6}$ to set the level.
4. Press “All” (Left key) with Up $\bar{5}$ or Down $\bar{6}$ to adjust the levels of all dimmers *in the cabinet*.
5. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

SETTING OFF LEVELS

To set Off levels for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press **Menu** twice, select “**Dimmer & bin setup**”, press **Menu**.
2. Select “**Off levels**” (line 5), press **Menu**.
3. Press **Left**3 or **Right**4 to select the dimmer, **Up**5 or **Down**6 to set the level.
4. Press “**All**” (Left key) with **Up**5 or **Down**6 to adjust the levels of all dimmers *in the cabinet*.
5. Press **Back** until you reach the top menu: the screen shows “**Changes saved to flash memory**”.

SETTING DIMMER CURVES

To set the Dimmer Curve for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press **Menu** twice, select “**Dimmer & bin setup**”, press **Menu**.
2. Select “**Dimmer curve setup**” (line 6), press **Menu**.
3. Press **Left**3 or **Right**4 to select the dimmer, **Up**5 or **Down**6 to set the curve.
4. Press “**All**” (Left key) with **Up**5 or **Down**6 to adjust the curves of all dimmers *in the cabinet*.
5. Press **Back** until you reach the top menu: the screen shows “**Changes saved to flash memory**”.

Dimmer curves available are In = Incandescent, ND = Non-Dim, TV =Television/Film colour temperature control, Fl, Ne = Fluorescent, Neon discharge tubes, LP = Linear Power, LA = Linear Phase Angle.

SETTING PROPORTIONAL LEVELS

To set Proportional levels for each dimmer, or all dimmers in the cabinet:

1. From the top menu, press **Menu** twice, select “**Dimmer & bin setup**”, press **Menu**.
2. Select “**Proportional levels**” (line 7), press **Menu**.
3. Press **Left**3 or **Right**4 to select the dimmer, **Up**5 or **Down**6 to set the level.
4. Press “**All**” (Left key) with **Up**5 or **Down**6 to adjust the levels of all dimmers *in the cabinet*.
5. Press **Back** until you reach the top menu: the screen shows “**Changes saved to flash memory**”.

Setting soft-start times:

Top Menu

```
Theatrelight NZ
Tourmaster 48 v1.0d
```

>> Dimmer & bin setup Menu >>

```
]Proportional levels
\Soft-start setup
^Reset commands
setup 8 _ back
```

Soft-start Menu

```
S/Start times x100ms
1 2 3 bin 4 5 6
3 3 3 1 3 10 10
all _ \ back
```

Saving a worklights scene:

Top Menu

```
Theatrelight NZ
Tourmaster 48 v1.0d
```

>> Dimmer & bin setup Menu >>

```
\Cabinet setup
Bin setup
^
setup 10 _ back
```

Worklights Save Menu

```
DMX > Worklights Go
Cabinet ID 1
save [ _ \ back
```

SETTING SOFT-START TIMES

To set Soft-start times for each dimmer, or all dimmers in the cabinet:

1. **From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.**
2. **Select “Soft-start setup” (line 8), press Menu.**
3. **Press Left³ or Right⁴ to select the dimmer, Up⁵ or Down⁶ to adjust the time.**
4. **Press “All” (Left key) with Up⁵ or Down⁶ to adjust the times of all dimmers *in the cabinet*.**
5. **Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.**

SAVING A WORKLIGHTS SCENE

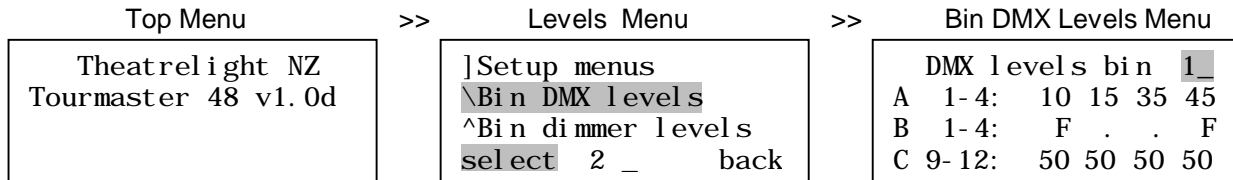
The Tourmaster is fitted with an IEC connector to sense whenever the stage worklights are powered on. When power is sensed the Tourmaster fades up a worklights scene previously saved as a snapshot from DMX. When the stage worklights are turned off, these levels fade to black. Up and down fade times are 3 seconds. To save the worklights scene levels as a snapshot from DMX:

1. **Using your DMX control panel, setup a suitable scene on the stage lighting to use as your worklights scene.**
2. **From the top menu of the Tourmaster, press Menu twice, select “Dimmer & bin setup”, press Menu.**
3. **Select “Cabinet setup” (line 10), press Menu.**
4. **Press “save” (Menu key): the screen shows “Current DMX levels saved as worklights scene”.**
5. **Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.**

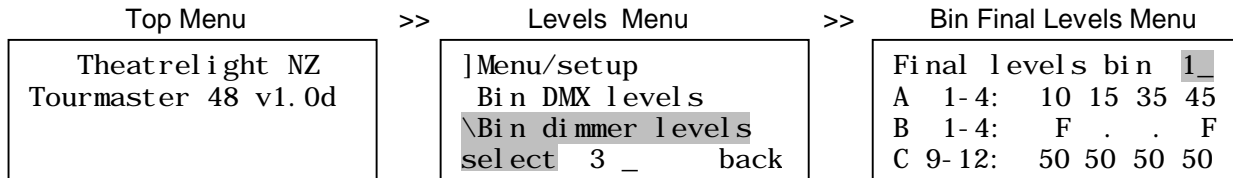
§ Whenever a voltage over 90vac is sensed on the worklights IEC power socket, the LCD flashes “Worklights ON” while in the top menu. Worklights scene levels are mixed on a highest takes precedence basis with normal DMX control levels.

28 TOURMASTER OPERATION

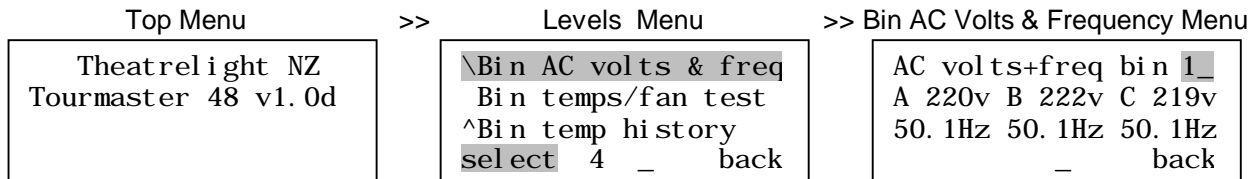
Displaying bin DMX levels:



Displaying bin final dimmer levels:



Displaying bin mains voltage and frequency:



TOURMASTER LEVELS AND ERROR DISPLAYS

To display the input DMX levels for each dimmer in any bin (100msec update)

DISPLAYING BIN DMX LEVELS

To display the input DMX levels for each dimmer in any bin (100msec update):

1. **From the top menu, press Menu once, select “Bin DMX levels” (line 2), press Menu.**
2. **Press 5/6 to select the Bin number. The display shows the input DMX levels of the selected bin.**
3. **Press Back to reach the top menu.**

DISPLAYING BIN FINAL DIMMER LEVELS

Final Dimmer levels are the actual dimmer levels after Test, Min, Max, and other parameters have been applied to the input control level. To display the final dimmer levels for each dimmer in any bin (100msec update).

1. **From the top menu, press Menu once, select “Bin dimmer levels” (line 3), press Menu.**
2. **Press 5/6 to select the Bin number. The display shows the final dimmer levels of the selected bin.**
3. **Press Back to reach the top menu.**

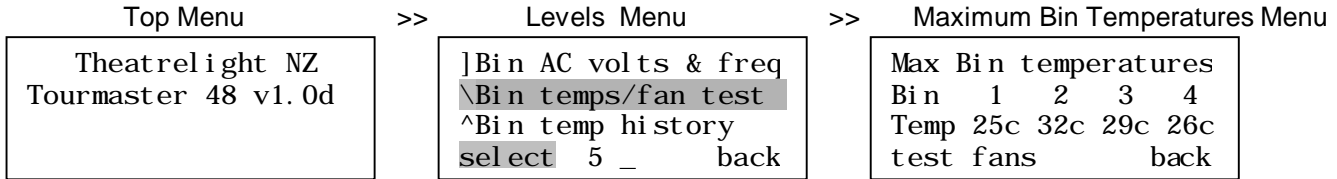
DISPLAYING BIN MAINS VOLTAGE AND FREQUENCY

To display the voltage (max 255v) and frequency of phases A, B, and C of the supply mains for each of the bins (100msec update):

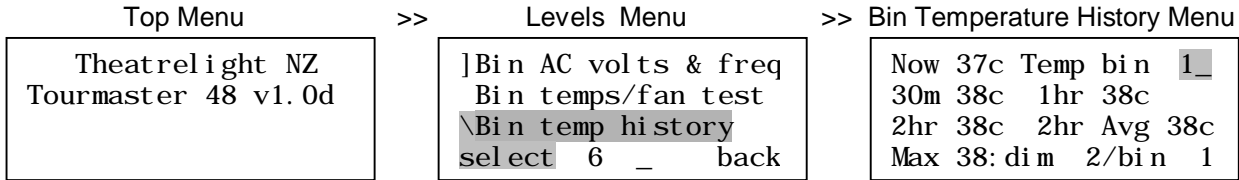
1. **From the top menu, press Menu once, select “Voltage and Frequency” (line 4), press Menu.**
2. **Press 5/6 to select the Bin number. The display shows the AC volts and frequency of the selected bin.**
3. **Press Back to reach the top menu.**

§ Mains voltage and frequency settings are pre-calibrated. Accuracy: AC volts +/- 2 vac, frequency +/- 0.1 Hz.

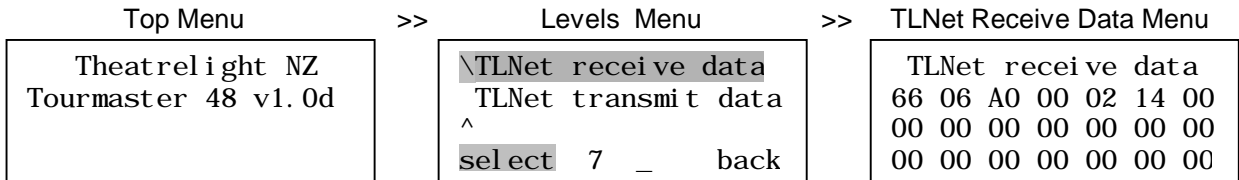
Displaying bin temperatures/fan test:



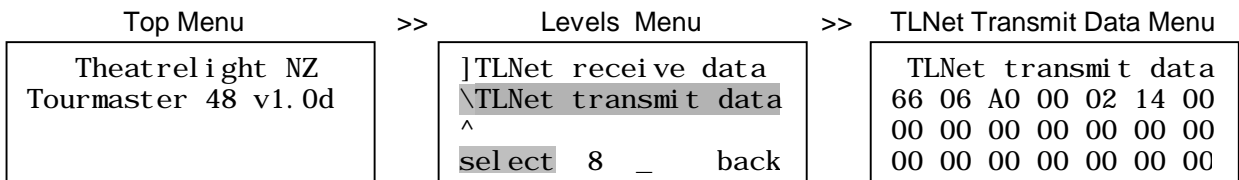
Displaying bin temperature history:



Displaying TLNet receive data :



Displaying TLNet transmit data:



DISPLAYING BIN TEMPERATURES/FAN TEST

To display the maximum temperatures in all bin, and to test all fans at full:

1. **From the top menu, press Menu once, select “Bin dimmer temps” (line 5), press Menu.**
2. **The display shows the current maximum temperature of each bin.**
3. **Press Back to reach the top menu.**

§ While in the Bin Temps/Fan Test Menu above, holding the Menu key will set all the fans at full speed.

DISPLAYING BIN TEMPERATURE HISTORY

To display the temperature history for each bin in the cabinet (100msec update):

1. **From the top menu, press Menu once, select “Bin temp history” (line 6), press Menu.**
2. **Press 5 / 6 to change the Bin—the display shows the temperature history of the selected bin.**
3. **Press Back to reach the top menu.**

§ Temperature display codes (see opposite): **Now**: highest dimmer temperature now; **30m** / **1hr** / **2hr**: highest dimmer temperatures 30 minutes ago, 1 hour ago, and 2 hours ago; **2 hr Avg**: average highest dimmer temperature over the last 2 hours; **Max 38:Dim 2/Bin 1**: highest current dimmer temperature of all dimmers in the cabinet: 39 degrees, found in Dimmer 2 of Bin 1.

DISPLAYING TLNET RECEIVE AND TRANSMIT DATA

To display the TL Net received data for the cabinet communications (for diagnostic purposes only):

1. **From the top menu, press Menu once, select “TLNet Receive Data” (line 7), press Menu.**
2. **The display shows the first 21 values of the received data.**
3. **Press Back to reach the top menu.**

To display the TL Net transmitted data for the cabinet communications (for diagnostic purposes only):

1. **From the top menu, press Menu once, select “TLNet Receive Data” (line 8), press Menu.**
2. **The display shows the first 21 values of the transmitted data.**
3. **Press Back to reach the top menu.**

§ Note that all level and error displays will return to the top menu 10 minutes after the last key press.

Bin response error display:

Top Menu

>>

Bin error display

Theatrelight NZ
Tourmaster 48 v1.0d

Theatrelight NZ
ERROR Bin 4
No response

Bin DMX and Phase fail error display:

Top Menu

>>

DMX and Phase error displays

Theatrelight NZ
Tourmaster 48 v1.0d

Theatrelight NZ
ERROR Bin 4
DMX Phs Phs Phs
err A B C

Overtemperature error display:

Top Menu

>>

Overtemperature display

Theatrelight NZ
Tourmaster 48 v1.0d

Theatrelight NZ
ERROR Bin 4
Overtemperature

Worklights status / emergency fan displays:

Top Menu

>>

Worklights status

>>

Emergency fan status

Theatrelight NZ
Tourmaster 48 v1.0d

Theatrelight NZ
Tourmaster 48 v1.0d

Worklights ON

Theatrelight NZ
Tourmaster 48 v1.0d

Emergency Fan ON

STATUS DISPLAYS

While In the top menu, the main cpu scans each bin for correct operation. The status is displayed on the LCD (and LEDs) as follows:

Bin response error display

If any bin fails to respond to a scan, a “No reponse” error message (see opposite) is flashed on the LCD together with the number of the bin which failed to respond. At the same time the DMX and all Phase LEDs are flashed continuously to draw attention to the fault.

Bin DMX error display

If any bin responds with a DMX error, a “DMX error” message (see opposite) is flashed on the LCD together with the number of the bin. When any DMX error occurs, the Green DMX LED is flashed continuously to draw attention to the fault. This fault will show not only on DMX errors, but also for example if the bin is set to DMX B when no data is present on the DMX B input to the cabinet.

Phase fail error display

If any of the three mains phase power supplies fails on a bin, an error message showing “Phs A” (or “Phs B” or “Phs C” see opposite) is flashed on the LCD together with the number of the bin. When an error occurs on any phase in any bin, that phase LED is flashed continuously to draw attention to the fault.

Overtemperature error display

If any bin temperature exceeds 50 degrees C, an “Overtemperature” error message (see opposite) is flashed on the LCD together with the number of the bin. At the same time the red Overtemperature LED is flashed continuously to draw attention to the fault.

Emergency fan status

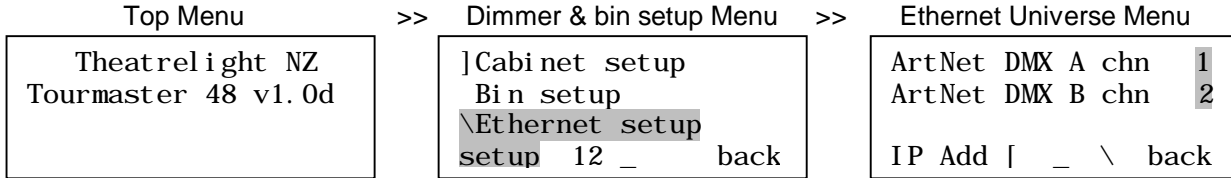
If any bin temperature exceeds 50 degrees C, all fans in the cabinet are set to full, and the “Emergency Fan ON” message (see opposite) is flashed on the LCD.

Worklights scene status

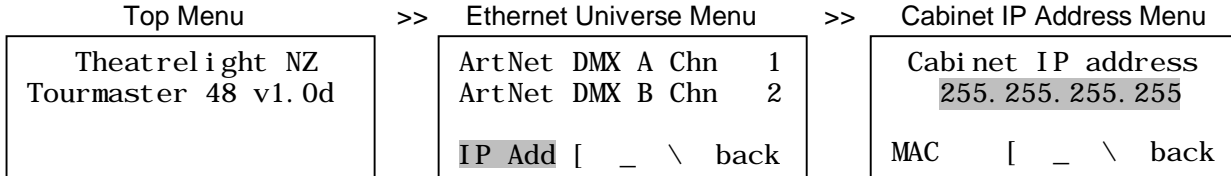
If the Worklights IEC power connector senses a mains voltage greater than 90 vac, all bins in the cabinet add their pre-recorded Worklights scene to the current DMX control levels, and the “Worklights ON” message (see opposite) is flashed on the LCD.

§ These messages are displayed only in the top menu. Error and status messages are displayed in rotation.

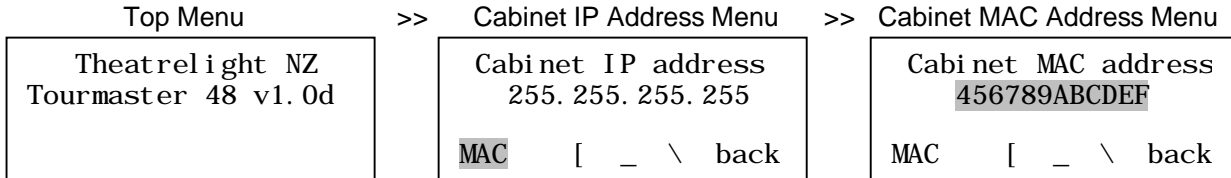
Setting the DMX-over-Ethernet universes:



Setting the IP Address :



Setting the MAC Address:



ETHERNET OPTION

SETTING THE DMX-OVER-ETHERNET UNIVERSES

When DMX over Ethernet option is fitted, either or both of the bin universes A or B can be derived from the DMX-over Ethernet receiver. Bin CPU DMX or DMX-over-Ethernet link setup is shown at the end of this manual. If either of the Bin A/B Select links on the bin CPU are set to Enet, then the bin receives its DMX control signal from the Ethernet receivers as follows:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
2. Press 5/6 to select “Ethernet Setup” (line 12), press Menu.
3. Press 5/6 to select the “ArtNet DMX A” DMX universe to be directed to all bins “Enet A” line.
4. Press Right4 then 5/6 to adjust the “ArtNet DMX B” universe.
5. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

SETTING THE IP ADDRESS

The IP address of the cabinet should not need to be changed after initial factory setup. In case this is necessary, it may be carried out as follows:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
2. Press 5/6 to select “Ethernet Setup” (line 12), press Menu twice to view the IP address
3. Press Left3 or Right4 to select the IP address digit, hold Left3, then press 5/6 to edit the digit.
4. Repeat steps 3 and 4 to adjust other IP address digits.
5. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

SETTING THE MAC ADDRESS

The MAC address of the cabinet should never need to be changed after initial factory setup. In case this is necessary, it may be carried out as follows as follows:

1. From the top menu, press Menu twice, select “Dimmer & bin setup”, press Menu.
2. Press 5/6 to select “Ethernet Setup” (line 12), press Menu three times to view the MAC address
3. Press Left3 or Right4 to select a MAC address digit, hold Left3, then press 5/6 to edit the digit.
4. Repeat steps 3 and 4 to adjust other MAC address digits.
5. Press Back until you reach the top menu: the screen shows “Changes saved to flash memory”.

MAINTENANCE

To keep the equipment working well take note of these points:

- § Keep the Tourmaster in a clean air environment: dust is detrimental to electronic insulation and fan life.
 - § Ensure adequate ventilation: heat is detrimental to electronic components.
 - § Use a damp cloth to keep the cabinet clean. Do not use solvents.
 - § Take care that all power connections are firmly screwed down.
 - § Ensure all Tourmaster cabinets are properly earthed to a low impedance earth system.
 - § Use the built-in DMX splitter to ensure a clean DMX signal.
 - § Terminate the last cabinet in the DMX line with a 120 ohm resistor for reliable operation.
-

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E-mail: sales@theatrelight.co.nz

SPECIFICATIONS

CONSTRUCTION

Cabinet: Theatrelight proprietary design touring cabinet, with lockable patch cover

Panels: Powder coated hard aluminium

SCR bin modules: Fan cooled custom aluminium extrusions, glass filled high temperature plastic supports

Legend: Silk-screened in solvent and abrasion resistant two pot epoxy ink.

WEIGHTS

All versions complete with front cover, back cover, top (patch cover) and wheels; approximate weights:

48 Channel version, with Patch, Socapex outlets, PowerLock In/Out: 110kg

48 Channel version, no Patch, Socapex outlets, PowerLock In: 102kg

24 Channel version, with Patch, Aust/NZ outlets, PowerLock In/Out: 75kg

24 Channel version, no Patch, Aust/NZ outlets, PowerLock In: 70kg

ELECTRONICS

LCD: Large 4 line, 20 character display, STN Blue with auto-dimming super-bright white LED backlight.

Keys: "Alps" brand gold plated computer keys with custom moulded keycaps.

Main CPU: The Main microprocessor is used for setting the bin microprocessors with their dimmer parameters. All dimmer settings are held in longlife Flash memory. This design ensures that in the event of complete failure of the Main CPU, dimmer operation is not affected.

Bin CPUs: Each 24 channel dimmer module is composed of 2, 12 chn SCR modules, each driven by its own microprocessor and switchmode power supplies. All power supplies use long-life 105 degree rated capacitors.

MCBs

6KA rated Module MCBs provide full overload and short-circuit protection of power devices.

FILTERING

SCR dimmer bins use Iron powder toroidal chokes for linear current rise and minimum EMI. Theatrelight can provide filtering to customer specification on request.

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COOLING

Each dimmer bin is cooled by its own variable speed fan. The speeds of all fans in the cabinet are synchronised for maximum cooling. The cooling system takes air through the patch well at the top of the cabinet, exhausting through the dimmer modules and out the front of the cabinet. Air intakes and exits must be kept clear to ensure adequate airflow.

ENVIRONMENTAL SPECIFICATION

Ambient temperature extremes: 0 - 40° C

Recommended ambient temperature: 10 - 30° C

Relative humidity: 10 - 95% non-condensing

DMX CONNECTION

USITT DMX-512 1990 Digital multiplex system requiring twin twisted shielded cable approved for RS-422/485 of up to 600 metres. Dimmer refresh rate is every 22 milliseconds. Each Tourmaster cabinet presents 1/10th normal RS-485 unit load,

DMX SPLITTER

The built-in splitter re-shapes and buffers the received DMX and drives 4 isolated floating DMX transmitters for external usints such as moving lights or other dimmer cabinets.

POWER SUPPLY

Input: 90 to 265 volts AC, 1, 2 or 3 phase and Neutral, 45 to 65 Hz. Power consumption at no load is less than 10 watts.

EXTERNAL CONNECTIONS

Mains input: Powerlock standard with optional loop out. Other connectors on request

Load outputs: Socpax or Aust/NZ 3 pin sockets. Other connectors on request

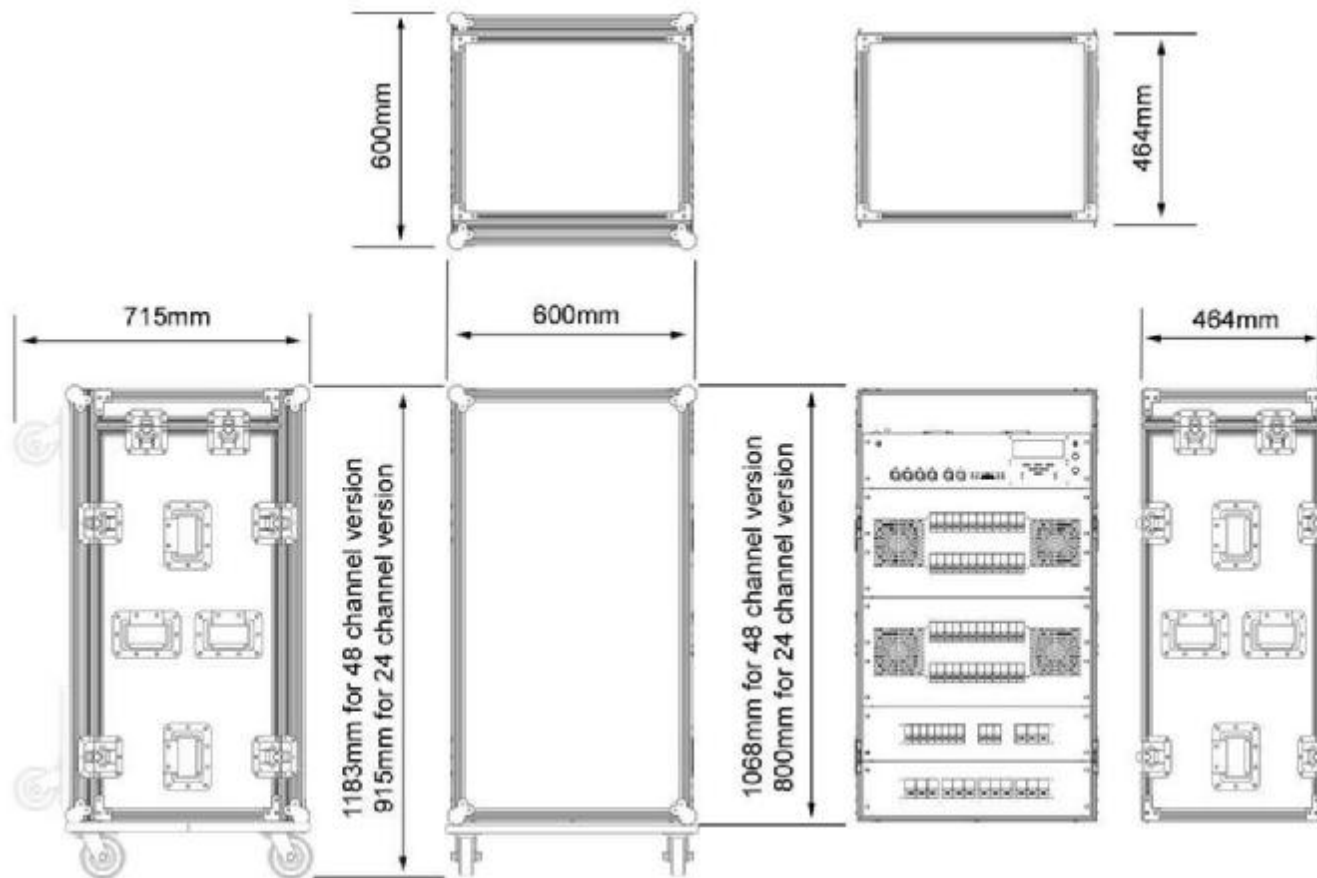
DMX Control Input: via Neutrix brand gold plated 5 Pin XLR In/Thru connectors

Worklights power sense: via IEC chassis mounted male connector

RS-485 Control Input (where fitted): via RJ 45 connectors

Ethernet Control Input (where fitted): via RJ45 connectors

DIMENSIONS



GLOSSARY

ADD MODE	Mode in which pressing a channel Flash key adds the channel to the other lighting.
ANALOGUE	A smooth changing voltage (as opposed to digital)
BLACKOUT	All lights out on stage.
BLIND	Not showing on stage.
BO	Blackout; all lights out on stage.
BPM	Beats per minute: applied to music rhythms.
CHANNEL	One of the controlled output lines from a lighting desk; or a dimmer channel.
CHASE	A repetitive pattern of lighting changes.
CROSS-FADE	A smooth change from one lighting state to another.
CUE	An action or time event which results in new lighting on stage; the lighting state following the cue
DBO	Dead Black-out: no light on stage.
DIMMER	A power controller which changes the brilliance of lights connected to it.
DIPLESS	Applied to a cross-fade where a dimmer up at the same level on both the new and the old lighting states does not change level during the cross-fade.
DMX-512	A method of transmitting dimmer levels digitally over a two wire cable. (Digital MultipleX, 512 dimmers)
EEPROM	Electrically Erasable Programmable Read Only Memory: otherwise know as Flash Memory.
EMI	Electro-Magnetic Interference. Electrical noise.
ERASE	To clear and reset the memory.
FADER	A slider control.
FADE TIME	The time taken to complete a fade from full off to full on.
FLASH KEY	Any key which flashes a channel or scene to Full. Sometimes called Bump keys (USA).
GRAND MASTER	A master fader which controls the final output levels of a lighting desk.
HTP	Highest Takes Precedence: the highest command level is used as the controlling level

KILL	Turn off a light.
KILL MODE	If Kill is on, pressing a Flash key turns off all other lighting. Sometimes called Solo or Swap mode.
LCD	Liquid Crystal Display
LED	Light Emitting Diode.
LEVEL	The brightness of a dimmer as a number from 0 (off), to 10 (full on), or from 0% to 100%.
LTP	Latest Takes Precedence: the latest command level is used as the controlling level
MASTER	A fader which has overall control of a number of levels or some other major function.
MCB	Miniature Circuit Breaker- a re-settable current protection device.
MIMIC DISPLAY	A display often using Light Emitting Diodes (LEDs).
NON-DIM	A dimmer set to Non-dim acts like a switch: on or off
PRESET	A row of faders representing all the channels in a scene; to set up faders in advance of a cue.
PREVIEW	To view a set of recorded levels without showing on stage.
SCENE	A recording which stores a single set of all channel levels.
SCENEMASTER	A master fader which controls the playback of a scene of recorded levels.
SCR	Silicon Controlled Rectifier. A unidirectional power switch used in dimmers
SEQUENCE	A repetitive pattern of lighting changes.
SHOW	A performance. In Theatrelight control panels, a Scenemaster which stores a sequence of cues.
SOFTSTART	A minimum fade up time programmed into a dimmer to enhance lamp life.
SOLO MODE	Another name for Kill mode.
SNAP FADE	An instant change from one lighting state to another.
STEP	To change from one scene or cue to another. Also, one scene of a Show or Chase.
TRIAC	A bi-directional power switch. Dimmers using triacs should be used with care on inductive loads.
USITT	United States Institute of Theatre Technicians. Arbiters of the DMX-512 standard.

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