

**XMT-350**



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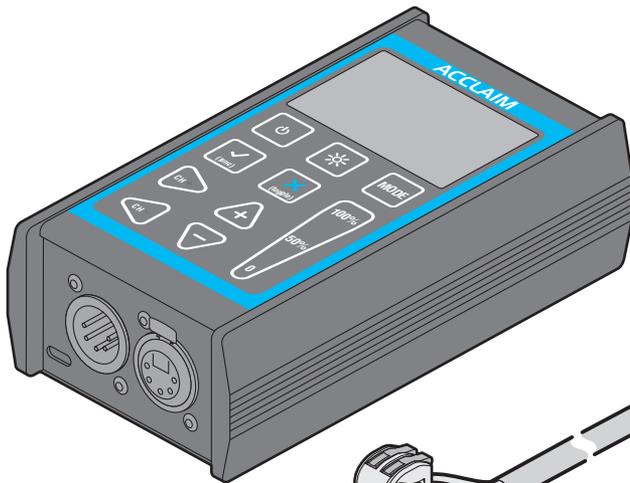
# INTRODUCTION

## WELCOME

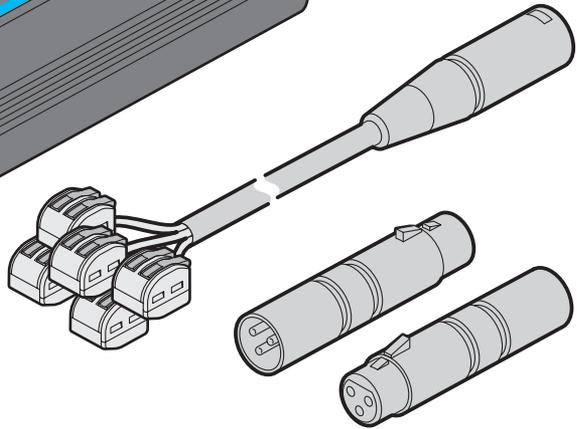
Welcome to the XMT-350 from Acclaim Lighting. This versatile DMX tool is a must for anyone involved with DMX-512 installations. Its various modes of operation simplify the testing and debugging of lighting systems.

The XMT-350 can monitor DMX-512 signals as well as analyze and display them. It can also generate DMX-512 signals and control of more complex DMX-512 fixtures. Testing of multi-channeled RGB LED lighting is made straightforward with the XMT-350. With additional features such as cable testing, timing analysis, sequence editing, channel tracing and min/max display, this device is ideal for troubleshooting and resolving DMX-512 signal challenges and yet remains very straightforward to operate.

The XMT can be connected via USB to a PC. A free, downloadable software application for PC/Mac enables you to managing the fixture library for intelligent devices and also update the XMT-350 firmware.



The XMT-350 is supplied with dual 3-pin to 5-pin converters as well as a hardwire adaptor.



## SAFETY

- Do not expose the device to rain or moisture.
- Do not operate the device if the casing or any component is missing or damaged.
- Provide unrestricted airflow around the device.
- Do not operate the device if the ambient temperature exceeds 55°C (131°F).
- Do not use the device in areas where it is exposed to prolonged direct sunlight.
- Do not use the device in areas that are considered to be highly combustible.

## MODES

The XMT-350 has numerous modes to assist with all aspects of DMX setup, operation and diagnosis. Use the MODE button to show the main menu, then use , ,  and  to move the highlight to the required mode. Finally, press  to enter the highlighted mode.



The XMT-350 will display the values of the DMX signal received at the input connector. The values can be displayed in various ways.

See page 8.



The XMT-350 can send values to one or more DMX addresses via the output connector. Options are available to store and load scenes, and also alter the refresh rate used.

See page 10.



The XMT-350 operates as an RDM (Remote Device Management) controller, able to locate and configure connected devices which support the RDM protocol.

See page 12.



The XMT-350 searches for any variations in values (flickering) from a DMX output source.

See page 14.



The XMT-350 traces the level of any chosen DMX channel in realtime on the screen. Useful for viewing rates of change of levels within an installation.

See page 16.



The XMT-350 will analyze the incoming DMX signal received at the input connector and display the key values on the screen.

See page 17.



The XMT-350 will test all links that exist within a cable attached to the input and output connectors.

See page 18.



Creates a simple sequenced cue stack by arranging the playback of (up to 32) scenes created within the Receive or Send modes. You can adjust the order of scenes, their speed and fade time.

See page 20.



Allows you to patch fixtures into the XMT-350 so that the fixture names and channel definitions are displayed within the Send and Receive modes.

See page 19.



You need to put the XMT-350 into this mode in order to begin a PC/Mac connection, so that fixture definitions can be uploaded/downloaded.

See page 22.



This section contains various options related to the basic operation and behaviors of the XMT-350.

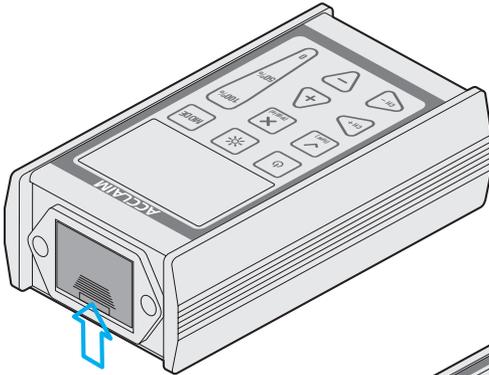
See page 23.

# GETTING STARTED

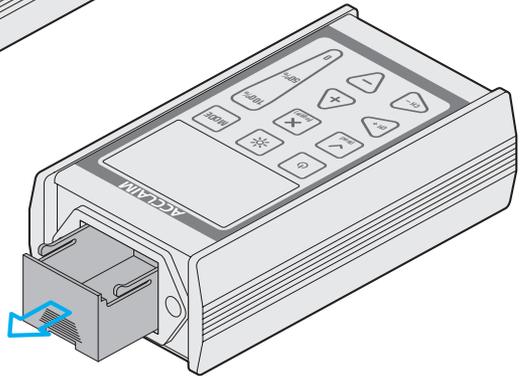
The XMT-350 can operate from a 9V battery (supplied) or from a standard USB port, using a Micro USB cable (not supplied).

## INSERTING A BATTERY

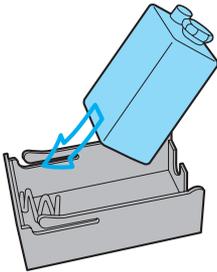
The XMT-350 requires a 9V battery (common codes: PP3, MN1604). The battery is held within a removable tray. It is recommended that you remove the battery if the XMT-350 will not be used for long periods.



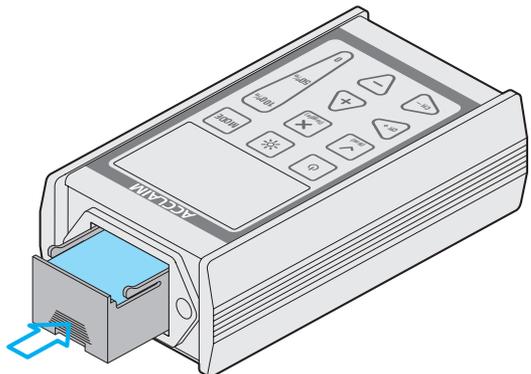
- 1 Push the tray up to release it and then slide it out from the body of the XMT-350.



- 2 Orientate the battery so that its positive and negative terminals are correctly aligned with the markings shown in the base of the tray.
- 3 Place the battery into the tray so that its base pushes against the tray's spring and the contacts settle into the two cutout slots.



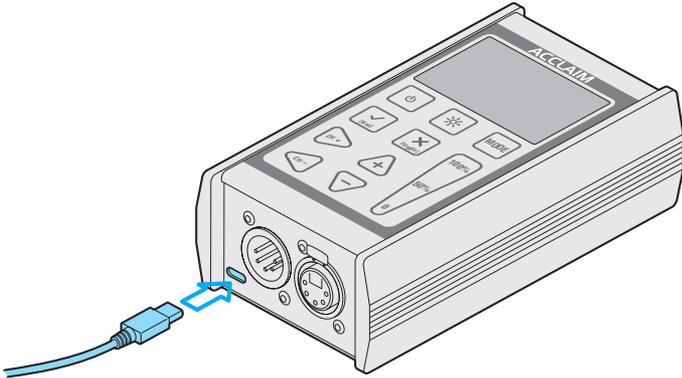
- 4 Push the tray into the XMT-350 slot. There should be a click as it locks into place.



## POWERING FROM A USB PORT

The XMT-350 can optionally be powered from a standard USB socket using a Micro USB cable (not supplied). The socket is located near to the DMX input connector. When USB power is available, the usual battery charge symbol in the top right of the display will be replaced with a  symbol. No power will be taken from the battery, however, the battery will not be charged from the USB supply.

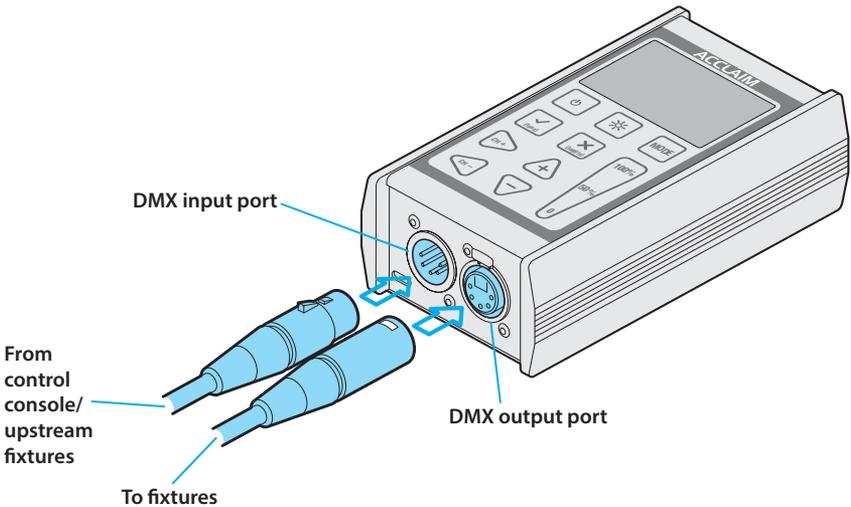
*Note: The Micro USB connector needs to be facing downwards in relation to the XMT-350.*



Micro USB cable  
(facing downwards)

## DMX CONNECTIONS

The XMT-350 has 5-pin XLR input and output connectors located on its base:



DMX input port

From  
control  
console/  
upstream  
fixtures

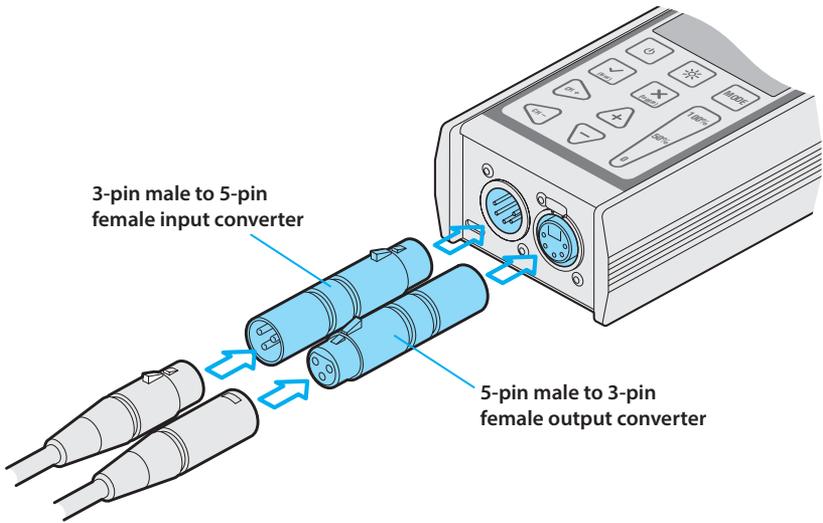
To fixtures

DMX output port

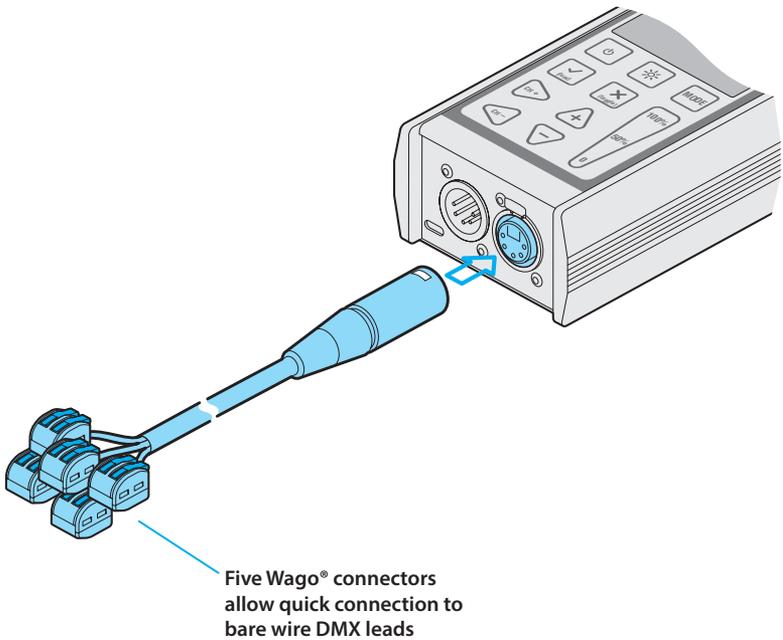
*continued*

## DMX CONNECTIONS (CONTINUED)

The XMT-350 is also supplied with 3-pin to 5-pin converters:



Additionally, the XMT-350 is supplied with a hardwire adaptor to allow bare wire Ground, DMX- and DMX+ connections to be made to a 5-pin XLR male, via five Wago® connectors:



# OPERATION

## SWITCHING ON AND OFF

Press and hold the  button until the display responds.

To conserve battery power, the XMT-350 will automatically switch off after a period of inactivity. The length of that period can be altered within the Options section (see page 23) to between 1 and 10 minutes.

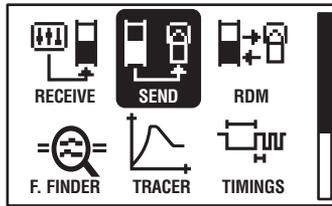
## BACKLIGHT

Press the  button to switch the backlight on and off.

To conserve battery power, the backlight will automatically switch off after a period of inactivity. The length of that period can be altered within the Options section (see page 23) to between 10 seconds and 2 minutes.

## SELECTING A MODE

The XMT-350 has numerous different modes of operation (see page 3) and the required one is chosen using the (top level) main menu, where each mode is represented by an icon:



### TO CHOOSE A MODE

- Use the , ,  and  buttons to move the highlight to the required mode. *Note: Six icons are shown at a time, you may need to scroll up or down to reach the one you need.*
- Press  to enter the highlighted mode.

### TO EXIT FROM A MODE

- 1 Within a mode, simply press the  [MODE] button to return to the main menu.

*Note: Within some modes, you must first withdraw from any sub-menus before the MODE button will have an effect.*

## RECEIVE MODE



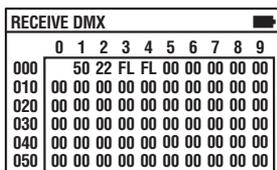
In this mode, the XMT-350 displays the levels of 512 channels from the DMX signal received at the input connector. In this mode, the received DMX signal will be terminated within the XMT-350; the signal will also be amplified and sent to the output connector so that you can connect it anywhere within a string of DMX devices.

There are three display mode options, the last one to be previously used will be shown:



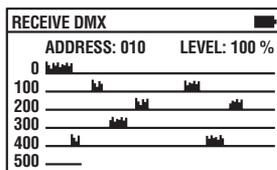
### Normal

Shows a single channel and its corresponding level expressed either as a percentage, decimal or hex, according to the options. Use **▶** and **◀** to view different channels.



### Table

Shows the channel levels in a scrollable table. Use **▲** and **▼** to scroll up/down. Values are always shown as percentages and 100% is represented as 'FL' (Full).



### Graph

Gives an overview of the whole DMX universe in one view, with individual channels represented by thin vertical lines which change in height depending on their levels. Use **▶** and **◀** to highlight the level of a particular channel.

## TO ENTER AND EXIT RECEIVE MODE

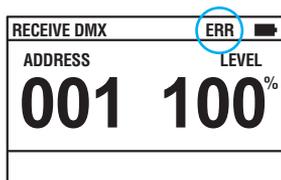
- From the main menu (see page 7) use **▶**, **◀**, **▲** and **▼** to highlight the **RECEIVE** option.
- Press **☑**. The last used display mode: Normal, Table or Graph will be shown.

## TO CHANGE BETWEEN DISPLAY MODES

- Within Receive mode, press **☑**.
- Highlight the Display mode option and press **☑** to cycle through the three settings.
- Press **☒** to return to the main display.

## ALTERNATIVE INDICATIONS

The Normal display option provides the most information about any single channel. Depending on the options applied or the status of the input signal, you may see any of the following conditions:



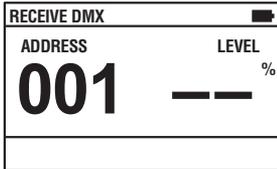
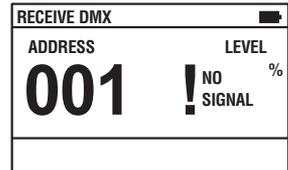
If the DMX signal is good enough to be decoded, but some errors are detected, an ERROR sign will be shown in addition to the received data level.

If the DMX signal is cannot be decoded, ERROR and BAD SIGNAL notices will be shown instead of the value.



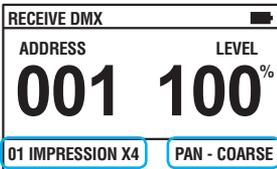
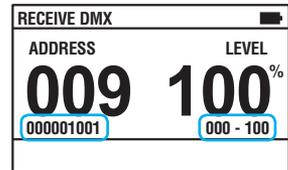
## ALTERNATIVE INDICATIONS (CONTINUED)

If no DMX signal is detected, a NO SIGNAL notice will be shown instead of the value.



If a DMX signal is received, but the selected channel is not available, '--' will be shown instead of the value.  
*Note: Some controllers do not send all 512 channels.*

In the Options section (see page 23), you can enable extra details, such as a binary address decode (useful for dipswitch setting) and also a min-max recorder so you can see the limits of changing levels.



When a fixture definition has been patched (see page 19) into the XMT-350, the lowest line is used to show the fixture type and function of the currently selected channel.

## TO USE THE RECEIVE OPTIONS

- 1 While viewing any of the three display modes (as shown opposite), press . A list of four options will be given:
  - STORE SCENE - Use to create a snapshot of the current levels of the whole DMX universe. When you press  to choose this option, you will be shown a list of 32 memory locations; highlight the required one and press  to store the snapshot there. The stored scene can later be recalled and output within the Send mode (see page 10) or combined into a simple cue stack with other such snapshot scenes using the Sequence editor (see page 20).
  - SHOW LEVEL AS - Allows you to choose how the levels are expressed: Decimal, Hex or Percent. Press  to change between the three options. *Note: In table mode, levels are always expressed in percentages and 100% is shown as 'FL'*
  - DISPLAY MODE - Allows you to choose between the three display modes: Normal, Table and Graph. Press  to change between the three options.
  - ADDRESSES - This option affects the Normal display mode only. When set to All, as you scroll through the channels (using  and ) , the XMT-350 will show every channel regardless of whether the levels are above zero. When this option is set to Open, the XMT-350 will skip any channels whose levels are currently at zero.
- 2 When you have chosen the required options, press  to return to the main display.

## TO RETURN TO THE MAIN MENU

- 1 Press  [MODE].

## SEND MODE



In this mode, the XMT-350 determines the levels of one or more DMX channels via the output connector. You can set any single channel individually, groups of equally spaced channels (for instance, equally affecting all red channels when controlling multiple RGB devices), all 512 channels collectively or you can recall and output a previously stored scene.

### TO ENTER SEND MODE

- 1 From the main menu (see page 7) use , , and to highlight the **SEND** option.
- 2 Press . The last selected channel address will be shown. By default this will be Address 001:



### TO ALTER INDIVIDUAL CHANNELS

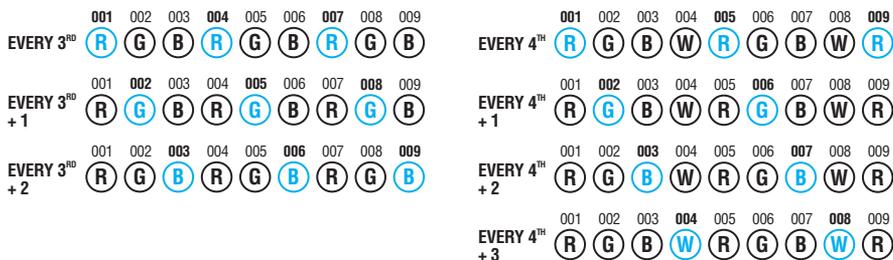
- 1 Use to increment the address ( to decrement).
- 2 Use and to adjust the level for the currently displayed channel. The chosen level will remain latched (until you return it to zero) so you can move to other channels and set their levels alongside. The [0], [50%] and [100%] buttons also offer a quick way to apply levels. See also Direct edit mode within the Send options.

### TO ALTER GROUPS OF CHANNELS

- 1 When the display is showing Address 001\*, if you press , you will see the first of the group selections: Group All Channels. Now when you set the level, all 512 channels will be equally affected.
- 2 Further presses of will scroll through the other group settings:



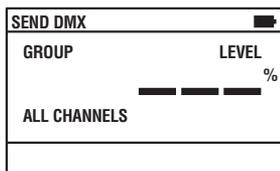
The remaining group settings are useful when you need to collectively control similar emitters of RGB or RGBW fixtures (or RGB units with a master dimmer channel) that are addressed consecutively within the DMX address space. The Group Every 3<sup>rd</sup> settings are for RGB fixtures while the Group Every 4<sup>th</sup> settings are best used for RGBW fixtures:



The chosen group mode will affect addresses spaced throughout the whole DMX universe.

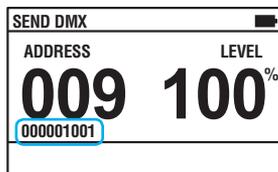
\* If the display is showing channel 512 and you press then the next option to be shown will be Group Every 4<sup>th</sup>.

## ALTERNATIVE INDICATIONS

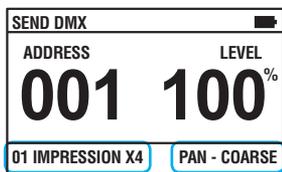


If a common level has been set across a group of channels, then one or more channels in that group changed individually, the XMT-350 will show dashes for the group level as different levels exist.

In the Options section (see page 23), you can enable extra details, such as a binary address decode (useful for dipswitch setting).



When a fixture definition has been patched into the XMT-350 (see page 19), the lowest line is used to show the fixture type and function of the currently selected channel.



## TO USE THE SEND OPTIONS

1 While viewing the Send screen, press . A list of six options will be given:

- CLEAR ALL CHANNELS - Returns all channels to their zero levels. Press  to reset all channels and return to the Send screen.
- STORE SCENE - Use to create a snapshot of the current levels of the whole DMX universe. When you press  to choose this option, you will be shown a list of 32 memory locations; highlight the required one and press  to store the snapshot there. The stored scene can later be recalled and output within the Send mode or combined into a simple cue stack with other such snapshot scenes using the Sequence editor (see page 20).
- LOAD SCENE - Allows you to load and output a scene that has been previously recorded, using the Store Scene option within Send mode or Receive mode. Press  to select this option, highlight the required scene number and then press  again to select it.
- SHOW LEVEL AS - Allows you to choose how the levels are expressed: Decimal, Hex or Percent. Press  to change between the three options.
- EDIT MODE - This option offers two settings: Normal and Direct. Press  to change between the two options. In **NORMAL** mode, a change made to the level of a channel will be applied and latched (until you change it) when you move to other channels. In **DIRECT** mode, when you set a level in a channel, it will remain applied to that channel only while you are viewing it. When you move to any other channel, the chosen level will effectively come with you to affect the new channel, while the original channel returns to zero. In this way you can quickly apply a particular level, in turn, to a series of channels. If you wish to retain a setting at a particular channel, press  to store the current channel level (a 'Stored' message will be shown just below the level) whereupon it will remain fixed until you change it. To un-store, either press  again or change the value of the stored channel.
- REFRESH RATE - Allows you to choose the rate at which DMX frames (i.e. complete sets of levels for all 512 channels) are sent to connected fixtures. Options are 5, 10, 15, 20, 25, 30, 35, 40 (default) and 44Hz. Press  to change between the frame rate options.

2 When you have chosen the required options, press  to return to the main display.

## RDM MODE



In this mode, the XMT-350 operates as an RDM (Remote Device Management) controller, able to interrogate and configure connected devices which support the RDM protocol via the output connector.

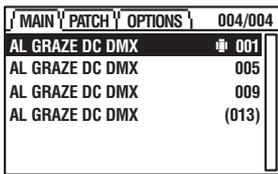
### TO ENTER RDM MODE

- 1 From the main menu (see page 7) use , , and to highlight the **RDM** option.
- 2 Press . The XMT-350 will send out a discovery message across the connected DMX link, to which RDM-capable devices will respond:



Press to halt the discovery process at any time.

- 3 Once the discovery process has completed (or has been halted), the screen will list all of the found RDM fixtures:

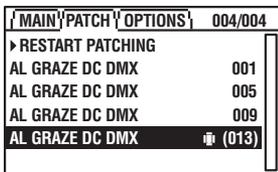


The fixture highlighted within the list should begin flashing its emitters to identify itself (this feature can be disabled in the Options tab).

### TO PATCH FIXTURES

Once the available RDM fixtures have been discovered and listed (see above) you can now determine how they are patched.

- 1 Press to change to the **PATCH** tab:



- 2 If necessary, use and to highlight the required fixture. Fixtures that do not yet have a fixed address will be shown with their temporary address in brackets, e.g. (013).
- 3 Press to set the address for the currently highlighted fixture:



- 4 Use and to set the required DMX address, then press to store it within the fixture.
- 5 The highlight will automatically move to the next fixture so that you can address it.
- 6 Repeat steps 2 to 5 until all fixtures are addressed.

*Note: Fixtures that have been addressed are listed in order of their DMX addresses; while unaddressed fixtures are listed in order of their UIDs (Unique Identifiers). If you wish to remove all fixed addresses so that the devices re-order themselves by their UIDs, highlight the **RESTART PATCHING** entry and press .*

## TO USE THE RDM OPTIONS

- 1 Within RDM mode, press **[F4]** to change to the **OPTIONS** tab. Four options will be listed:
  - IDENTIFY - When enabled, the currently highlighted fixture in the Main and Patch tab pages will flash its emitters to identify itself. Set this option to Disabled to prevent fixtures from identifying themselves in this manner. Press  to change between the options.
  - INCREMENTAL DISC. - When enabled, the XMT-350 will continuously search for RDM devices (while it is in RDM mode). When disabled, the XMT-350 will search for devices only when it first enters RDM mode. Press  to change between the options.
  - SORT PATCH TAB - When set to BY DMX ADDR, the discovered fixtures will be listed in the Patch tab in order of their DMX addresses, unless they are unpatched, in which case they are listed by their UIDs. When this option is Disabled, they will be listed by their UIDs regardless of their patch status. Press  to change between the options.
  - DMX OUTPUT - Determines the mix of DMX and RDM messages sent to devices (only when the XMT-350 is in RDM mode). When set to 'High' it is mostly DMX. When set to 'None' it is all RDM and no DMX. Press  to change between the options.
- 2 When you have chosen the required options, press **[F5]** to return to the other tabs.

## TO VIEW AND EDIT FIXTURE DETAILS

Most RDM fixtures contain numerous details, some of which can be altered (fixture dependent). Most entries, however, are for information purposes only and cannot be edited. A common entry that can be changed on certain fixtures is the DMX Personality which can affect how the fixture operates in relation to the DMX channels. For a list of supported RDM parameters, see page 26.

- 1 Within RDM mode, move to the **MAIN** tab.
- 2 Use **[F4]** and **[F5]** to highlight the required fixture.
- 3 Press  to view the details for the selected fixture:

AL GRAZE DC DMX	
▶ LABEL:	N/A
MODEL:	AL GRAZE DC DMX
MAN:	ACCLAIM LIGHTING
DMX START ADDRESS:	-
DMX PERSONALITY:	4CH DMX
DMX SLOTS:	4

- 4 Use **[F4]** and **[F5]** to highlight the DMX Personality entry and press . The available settings will be shown:

AL GRAZE DC DMX	
001:	3CH DMX
002:	4CH DMX

- 5 Use **[F4]** and **[F5]** to highlight the required option and press .
- 6 Press **[F5]** to return to the Main tab.

## TO RETURN TO THE MAIN MENU

- 1 Press **[MODE]** [MODE].

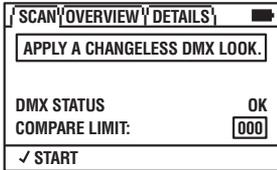
## FLICKER FINDER MODE



In this mode, the XMT-350 will search for any variations in levels (flickering) from a DMX source. The idea is that you temporarily replace the fixture in a circuit that is suffering from flickering with the XMT-350. On your console, you then place static non-zero values on all channels and the XMT-350 will scan all channels simultaneously for any variations in the signal that it receives. You should then repeat this process by replacing other fixtures until the cause of the problem is located.

### TO ENTER FLICKER FINDER MODE

- From the main menu (see page 7) use **▶**, **◀**, **▲** and **▼** to highlight the **F. FINDER** option.
- Press **✓**. The Flicker Finder **SCAN** page will be shown:



- If an existing scan report is already stored within the XMT-350, the bottom row will show **✓ RESUME** **✗ CLEAR REPORT**. To clear the report ready for a new scan, press **✗**.

### TO SCAN FOR FLICKERS

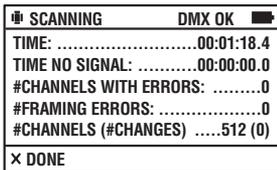
- Replace a fixture in the circuit that is exhibiting flickering with the XMT-350 (both input and output connections).
- Enter Flicker Finder mode, as described above.

*Note: The Compare Limit option is usually left at 000, but can be increased (up to 100) if you wish to allow some margin. The value entered here is the decimal change allowed in a static DMX level before it is counted as an error.*

- On your control console, apply static levels (ideally at about 50%) to all channels on the DMX universe under investigation.
- Press **✓** to start the scan. A reasonable scan time is roughly 20 to 60 minutes; the longer you let it run, the more sure you can be that the transmission stability is good.

*Note: While scanning on battery power, the XMT-350 will not auto power off. When scanning for long periods, it is a good idea to run from USB power to save your battery.*

- While the scan is taking place, the XMT-350 will display a summary:



- TIME NO SIGNAL:** The (accumulated) time during which no signal was received.
- #CHANNELS WITH ERRORS:** The number of channels for which DMX values have been received that differed by more than the configured compare limit from the first received value for that channel.
- #FRAMING ERRORS:** The number of errors detected related to the timing/organization of the DMX frames.
- #CHANNELS (#CHANGES):** Shows the number of channels that have been received. The number enclosed in brackets shows how many times the number of channels has changed.

6 To halt the scan, press **[X]**. The screen will change to the **OVERVIEW** page:

SCAN OVERVIEW DETAILS	
TIME: .....	00:01:18.4
TIME NO SIGNAL: .....	00:00:00.0
#CHANNELS WITH ERRORS: .....	12
#FRAMING ERRORS: .....	0
#CHANNELS RECEIVED: .....	512
#CHANGES OF #CHS RECEIVED: .....	0

To resume the same scan, press **[<]** to move back to the **SCAN** page and press **[✓]**.

## INTERPRETING THE SCAN RESULTS

After scanning, the **OVERVIEW** page will show a recap of the information shown previously in the scanning screen. There are numerous things to check out on this page:

- **TIME NO SIGNAL** - This total is only incremented when there has been no valid signal received for more than a full second; if this value is greater than zero there is certainly an issue with your DMX setup. However, this is not typically the kind of problem that would lead to 'flickers'.
- **#CHANNELS WITH ERRORS** - If this total is greater than zero, this is a clear hint for 'flickers' caused by the DMX transmission (providing the DMX source was correctly configured to send out a changeless/static look).
- **#FRAMING ERRORS** - If any errors are listed here, this is a very bad sign for the state of the DMX transmission setup.
- **#CHANNELS RECEIVED** - Most of the larger consoles send out 512 channels. If less than 512 channels are received this does not have to be a glitch but it may be worth checking the number of received channels with the number specified by the console manufacturer.
- **#CHANGES OF #CHS RECEIVED** - If the number of channels has changed, this does by no means have to be an error. But it is very suspicious.

For further insights, press **[▶]** to change to the **DETAILS** page:

SCAN OVERVIEW DETAILS	
CHANNEL 3.....	277 ERRORS
CHANNEL 7.....	123 ERRORS
CHANNEL 8.....	230 ERRORS
CHANNEL 24.....	167 ERRORS
CHANNEL 45.....	134 ERRORS
CHANNEL 434.....	222 ERRORS

All channels that showed errors will be listed. To view further details for a particular channel, highlight the required channel and press **[✓]**:

CHANNEL 3	
#ERRORS: .....	277
#RECEIVED VALUES: .....	323
REFERENCE VALUE: .....	0
MIN VALUE: .....	0
MAX VALUE: .....	202
X DONE	

- **#ERRORS**: The number of times a DMX level changed, more than the compare limit, from the first received level.
- **#RECEIVED VALUES**: The total number of received levels.
- **REFERENCE VALUE**: The first received level.
- **MIN VALUE**: The smallest level received.
- **MAX VALUE**: The largest level received.

Typically you would expect a relatively small number of **#ERRORS** compared to the number of **#RECEIVED VALUES** in the case of flickers.

## TO RETURN TO THE MAIN MENU

1 Press **[MODE]** [MODE].

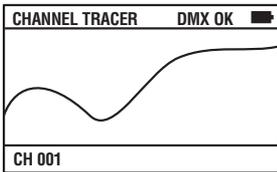
## CHANNEL TRACER MODE



In this mode, the XMT-350 will trace the level of any chosen DMX channel in realtime on the screen. This can be useful for viewing rates of change of levels within an installation.

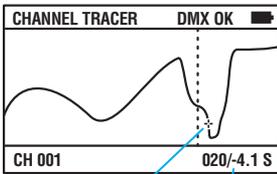
### TO ENTER AND USE CHANNEL TRACER MODE

- 1 From the main menu (see page 7) use **[▶]**, **[◀]**, **[▲]** and **[▼]** to highlight the **TRACER** option.
- 2 Press **[✓]**. The XMT-350 will immediately begin tracing the level of the last selected channel:



The currently selected channel is shown in the lower left corner.

- 3 To choose a different channel: Use **[▶]** and **[◀]**.
- 4 If required, you can freeze the trace at any point: Press **[X]**. A dotted line marks the halt point:

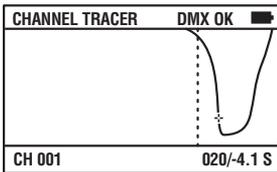


Cursor

Cursor details

While the trace is frozen, a small cursor will be shown. The values shown in the lower right corner are related to the cursor position and indicate the DMX level (020 shown here) and the time at which the cursor is located relative to the point at which the trace was halted.

- 5 To move the cursor to a different part of the trace: Use **[▶]** and **[◀]**.
- 6 If you need a closer look, use the **[0]**, **[50%]** and **[100%]** buttons to zoom the trace:



Continue to use **[▶]** and **[◀]** to move the cursor.  
To scroll up/down the trace: Use **[▲]** and **[▼]**.

### TO RETURN TO THE MAIN MENU

- 7 Press **[MODE]** **[MODE]**.

## TIMINGS MODE



### TIMINGS

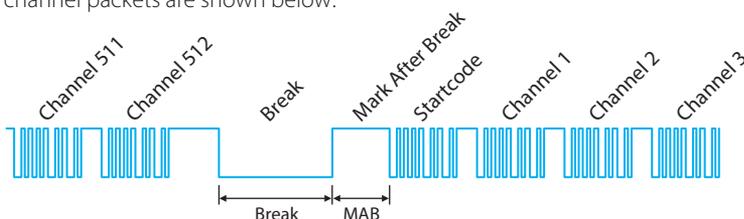
In this mode, the XMT-350 will analyze the incoming DMX signal received at the input connector and display the key values on the screen. The timing measurements performed by the XMT-350 are accurate to within 1.5 microseconds.

### TO ENTER AND USE TIMINGS MODE

- From the main menu (see page 7) use , , and to highlight the **TIMINGS** option.
- Press . The XMT-350 will show key details related to the received DMX signal:

TIMINGS DMX IN	
DMX SIGNAL .....	OK
REFRESH RATE .....	28 HZ
BREAK LENGTH .....	202 US
MARK AFTER BREAK .....	14 US
CHANNELS RECEIVED .....	512

The relationship between the Break, the Mark After Break (MAB), Startcode and the channel packets are shown below:



Depending on which iteration of the DMX standard is used by your console, you can expect to see the following Break and MAB lengths:

DMX standard	Break length	MAB length
USITT DMX-512/1986	≥ 88 μS	≥ 4 μS
USITT DMX-512/1990	≥ 88 μS	≥ 8 μS
ANSI E1.11-2004	≥ 92 μS	≥ 12 μS

The following provides a guide to frame refresh rates:

Refresh rate	Expected outcome
<1 Hz	Not compliant to the standard
1 to 10 Hz	Very slow, compliant to standard but may cause issues with some fixtures
10 to 25 Hz	Slow
25 to 44 Hz	Typical for most equipment
44 Hz	Maximum speed when sending all 512 channels
> 44 Hz	Only possible when sending less than 512 channels; compliant to standard but may cause problems with some equipment

For more detailed information on DMX 512 timings, refer to the ANSI E1.11 standard.

### TO RETURN TO THE MAIN MENU

Press [MODE].

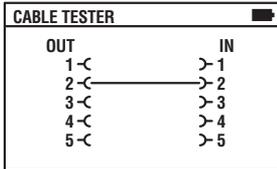
## CABLE TESTER MODE



In this mode, the XMT-350 will test all links that exist within a cable attached between the input and output connectors. When testing it is a good idea to agitate the cable slightly along its length to flush out any intermittent connection faults.

### TO ENTER AND USE CABLE TESTER MODE

- From the main menu (see page 7) use , , and to highlight the **CABLE** option.
- Press . The XMT-350 will immediately begin sequentially scanning the connections within the attached cable:



- Optionally use the [0], [50%] and [100%] buttons to control the speed of scanning.

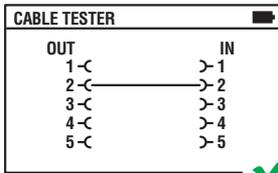
### INTERPRETING THE RESULTS

In a standard DMX cable, regardless of whether the connectors have 5-pins or 3-pins, pins 1 to 3 are directly linked to their counterparts in the other connector, with no cross-overs:



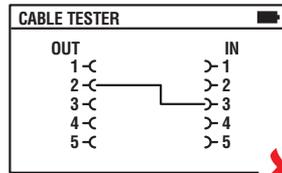
In some 5-pin cables, pins 4 and 5 are similarly directly connected, although this is not required for normal DMX operation.

Typical results that you will see are as follows:



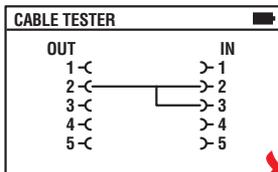
OK

A straight line between two pins indicates a correct link. This needs to occur for each connection (pins 1 to 3).



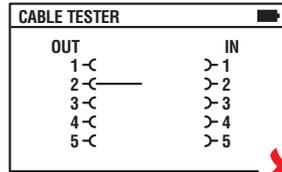
Cross link

Pin 2 is cross linked to pin 3. This is an error in a DMX cable.



Shorted

Pins 2 and 3 are shorted at one end. This is an error in a DMX cable.



Open circuit

Pin 2 is open circuit. This is an error for pins 1, 2 and 3 in a DMX cable.

## FIXTURES MODE

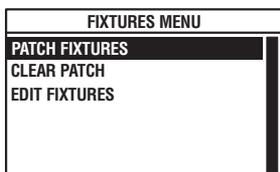


### FIXTURES

This mode allows you patch fixtures into the XMT-350 so that the fixture names and channel definitions are clearly displayed within the Send and Receive modes. Within this mode you can also edit fixture definitions, although the free PC/Mac application from Swisson ([www.swisson.com](http://www.swisson.com)) is recommended if you are making any significant changes.

### TO ENTER FIXTURES MODE

- 1 From the main menu (see page 7) use **▶**, **◀**, **▲** and **▼** to highlight the **FIXTURES** option.
- 2 Press **☑**. The Fixtures menu will be displayed:



### TO EDIT FIXTURES

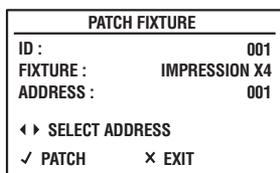
It is possible to create a fixture definition from scratch using the XMT-350, however, you are strongly recommended to download and use the PC/Mac application available from the Swisson website ([www.swisson.com](http://www.swisson.com)) as performing all but the simplest changes on the XMT-350 itself is a very time consuming process.

Using the PC/Mac application you can obtain existing fixture definitions and download those to the XMT-350. Within the application, you can also edit an existing definition to suit an unsupported fixture, or create a new definition from scratch.

To download new fixture definitions, you need to place the XMT-350 into PC CONN. mode (see page 22), use the Find Devices option within the application and then upload the definitions from the application to the XMT-350.

### TO PATCH FIXTURES

- 1 Within the Fixtures menu, choose the **PATCH FIXTURES** option.
- 2 In the subsequent list, choose the required fixture name (one that you have downloaded, edited or created). The Patch Fixture screen will be displayed:



- 3 In the Patch Fixture screen, use **▶** and **◀** to choose the start address.
- 4 Press **☑** to patch the first fixture.
- 5 To patch another fixture of the same type consecutively and press **☑**. Alternatively, choose a different start address first and then press **☑**.
- 6 Repeat step 5 until all required fixtures are patched.

### TO RETURN TO THE MAIN MENU

- 1 Press **✕** until you return to the Fixtures menu.
- 2 Press **MODE** [MODE].

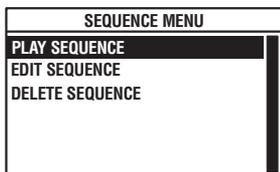
## SEQUENCE MODE



In this mode, you can create a simple sequenced cue stack by arranging the playback of (up to 32) scenes created within the Receive or Send modes. Within this mode, you can adjust the order of scenes, their speed and fade time. Remember, this mode merely sequences the scenes, it does not affect the content of the scenes themselves, which can be changed at any time in the Receive or Send modes.

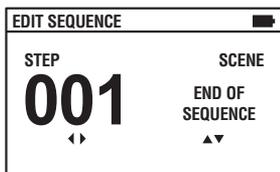
### TO ENTER SEQUENCE MODE

- 1 From the main menu (see page 7) use , , and to highlight the **SEQUENCE** option.
- 2 Press . The XMT-350 will display the Sequence menu:



### TO EDIT A NEW SEQUENCE

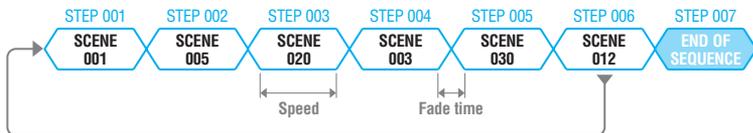
- 1 Within the Sequence mode menu, highlight the **EDIT SEQUENCE** option and press . The Edit Sequence screen will be shown:



If Step 001 shows a scene number rather than 'END OF SEQUENCE', it is likely that an existing sequence is already stored. To start from scratch, choose the 'DELETE SEQUENCE' option from the main sequence menu.

- 2 You can create sequences of up to 100 steps, one scene per step, where any scene can be used more than once. The creation process can be summarized as follows:

- Starting at Step 001, you assign one Scene to it.
- You then move to the next step and repeat as necessary.
- When you are done, the next step merely needs to show 'END OF SEQUENCE'.



- 3 The controls used to achieve the sequence build are:

- To change the Step number: Use and
- To change the Scene number: Use and
- To save and return to the menu: Press or

- 4 You can re-enter and change the sequence at any time. The speed and fade time aspects are controlled within the Play screen.

## TO PLAY A SEQUENCE

- 1 Within the Sequence mode menu, use  to highlight the **PLAY SEQUENCE** option and press . The Play Sequence screen will be shown:

PLAY SEQUENCE	
ACTUAL STEP :	1 STOP
▲▼ SPEED	
100 FADE +	0 FADE -
✓ PLAY STOP	✕ EXIT

- 2 The controls used to play back the sequence are:
  - To start and stop: Press 
  - To adjust playback speed: Use  and 
  - To adjust the fade time between scenes: [0] and [100%]
- 3 To return to the sequence menu: Press 

## TO RETURN TO THE MAIN MENU

Press  [MODE].

## PC CONNECTION MODE



You need to put the XMT-350 into this mode in order to begin a PC/Mac connection, so that fixture definitions can be uploaded/downloaded. On the computer you need to install the free PC/Mac application from Swisson ([www.swisson.com](http://www.swisson.com)). You also need to connect the XMT-350 to your computer using a Micro USB cable (see page 5).

### TO ENTER PC CONNECTION MODE

- 1 From the main menu (see page 7) use , ,  and  to highlight the **PC CONN.** option.
- 2 Press . The display will initially state: 'NOT CONNECTED TO PC APPLICATION.'
- 3 In the Swisson Fixture Library Editor application, click the Find Devices button. The application should locate the XMT-350.
- 4 You can now upload/download fixture definitions as required.

## OPTIONS MODE



This section contains various options related to the basic operation and behaviors of the XMT-350.

### OPTIONS

#### TO ENTER OPTIONS MODE

- 1 From the main menu (see page 7) use , , and to highlight **OPTIONS**.
- 2 Press . The display will show seven options:

- **CHANGE NAME** - Allows you to edit the sub-heading that is displayed when the XMT-350 is first powered on. Press to enter this option, then use and to move between characters. Use and to change the selected character. Press to exit and save when finished or to exit without saving your changes.
- **LOAD DEFAULT SETTINGS** - Returns the XMT-350 to its standard settings, such as screen contrast, backlight duration, etc. Press to load the default settings when this option is highlighted.
- **SHOW BINARY ADDRESS** - When set to 'Yes 1' the XMT-350 will display a binary equivalent below the decimal address in the Send and Receive modes:



Binary equivalent shown below the decimal DMX address.

If set to 'Yes 0', the address is displayed as 0-based binary where addresses 1 to 512 are mapped onto the range of 0 to 511 (useful for 9-bit DIP switch-equipped fixtures). Press to change between settings when this option is highlighted.

- **SHOW MIN-MAX** - When set to 'Yes', in Receive mode, the XMT-350 will display minimum and maximum levels received for the currently selected channel:



Minimum and maximum limits for the current channel shown below the level.

Press to change between settings when this option is highlighted.

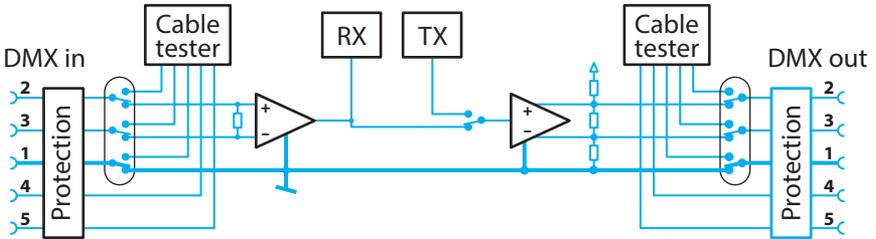
- **CONTRAST** - Allows you to adjust the contrast setting for the display screen. Press to enter this option, then use and to change the contrast level. Press or to exit and save.
- **POWER SETTINGS** - Allows you to determine the backlight brightness, backlight duration and also the 'turn off if idle' settings for the XMT-350. Press to enter this option, then use and to move between the three options. Press to cycle through the settings for the highlighted option. Press to exit and save.
- **FIRMWARE UPDATE** - Use this option to place the XMT-350 into firmware update mode. A PC/mac connection plus the Swisson application (available free from [www.swisson.com](http://www.swisson.com)) are also required.

# FURTHER INFORMATION

## SPECIFICATIONS

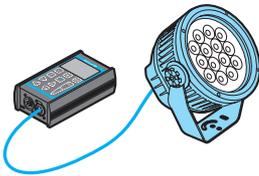
Display type	LCD
Display resolution	128 x 64 pixels
Display backlight	LED green
Flash memory	16 MB
DMX input port	Neutrik® 5-pin male connector
DMX output port	Neutrik® 5-pin female connector
Ports electrical standard	ANSI E1.11 / ANSI E1.20
USB power port	Micro USB B-type
USB power consumption	150mA maximum
Battery	9V PP3, MN1604 type
Use of rechargeable battery	Yes
Battery recharge	No
DMX in termination	120 Ohm permanent (except when cable testing)
DMX out termination	RDM bias network, RC termination
Operating temperature	32°F to 113°F (0°C to 45°C)
Weight	0.88 lbs (400g)

## XMT-350 INTERNAL CIRCUITRY BLOCK DIAGRAM

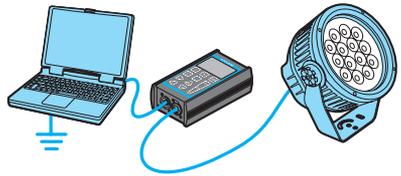


## GROUND TOPOLOGIES

The following examples show the expected ground topologies in varying common connection situations. All diagrams are for rough guidance and cannot be guaranteed.



If the XMT-350 is battery operated, the DMX output port is an **isolated transmitter**.



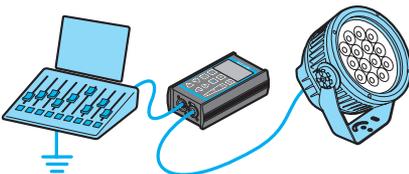
If the XMT-350 is connected to a PC, the DMX output port might be a **ground referenced transmitter** when the USB is grounded.



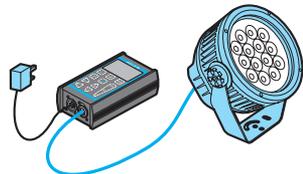
If the XMT-350 is battery operated, the DMX input port is an **isolated receiver**.



If the XMT-350 is connected to a PC, the DMX input port might be a **ground referenced receiver** when the USB is grounded.



If the XMT-350 is connected to a DMX controller with a ground referenced transmitter, the XMT-350 DMX output port is a **ground referenced transmitter**.



If the XMT-350 is connected to a USB charger, the DMX input port might be an **isolated transmitter** when the USB is not grounded.

## SUPPORTED RDM PARAMETERS

The following parameters are currently supported by the XMT-350 in RDM mode:

LABEL:	Editing is currently not supported by the XMT-350.
MODEL:	Model is a fixed name set by manufacturer.
MAN.:	Manufacturer of the RDM device.
DMX START ADDRESS:	Current DMX address of the RDM device.
DMX PERSONALITY:	Current personality (mode). Press [OK] to change the personality.
DMX SLOTS:	Number of slots used by the RDM responder in the current DMX personality. (Number of DMX channels)
MOVING LIGHT MENU:	
PAN INVERT:	Pan invert mode of the RDM device. <input checked="" type="checkbox"/> to toggle on or off.
TILT INVERT:	Tilt invert mode of the RDM device. <input checked="" type="checkbox"/> to toggle on or off.
PAN TILT SWAP:	Pan/tilt swap mode of the RDM device. <input checked="" type="checkbox"/> to toggle on or off.
DEVICE DETAILS:	
RESET:	
WARM RESET:	Press <input checked="" type="checkbox"/> to start a warm reset of the RDM device.
COLT RESET:	Press <input checked="" type="checkbox"/> to start a cold reset of the RDM device.
DEVICE HOURS:	Operating hours of the RDM device.
LAMP MENU:	
LAMP ON MODE:	Press <input checked="" type="checkbox"/> to change the lamp on mode.
OFF	Lamp stays off until directly instructed to strike.
DMX	Lamp strikes upon receiving a DMX512 signal.
ON	Lamp strikes automatically at power-up.
AFTER CALIBRATION	Lamp strikes after calibration or homing procedure.
LAMP STATE:	Status of the lamp. OFF, ON, STRIKE, STANDBY, NOT PRESENT, ERROR.
LAMP HOURS:	Operating hours of the lamp.
LAMP STRIKES:	Number of strikes of the lamp.
SENSOR MENU:	The sensor menu lists the sensors and their values reported by the RDM device.
UID:	The RDM unique identifier of the RDM device.

Newer firmware versions may support additional undocumented parameters.

Parameters not supported by the RDM responder will be displayed as N/A. Some editable parameters may be 'read only' with some RDM responders.

## LIMITED PRODUCT WARRANTY

A. Acclaim Lighting™ hereby warrants, to the original purchaser, Acclaim Lighting finished products to be free of manufacturing defects in material and workmanship for a standard period of:

- Fixtures: 5 Years (1,825 days) from the date of purchase.
- Drivers, power supplies and accessories: 5 Years (1,825 days) from the date of purchase.
- Flex Products: 3 Years (1,095 days) from the date of purchase.
- Controllers: 2 Years (730 days) from the date of purchase.

It is the owner's responsibility to establish the date and place of purchase and warranty terms by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the Acclaim factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Acclaim Lighting will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Acclaim Lighting shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof. Acclaim reserves the right to replace the item with same or similar product at its discretion.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Acclaim concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Acclaim Lighting factory unless prior written authorization was issued to purchaser by Acclaim Lighting; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up nor do we guarantee as part of this warranty any lumen performance during period. Parts not covered by this warranty include: fuses, external power supplies, third party items not manufactures by Acclaim lighting. During the period specified above, Acclaim Lighting will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Acclaim Lighting under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Acclaim Lighting. At no time will installation or re-installation or products labor or liability costs will be assumed by Acclaim Lighting. All products covered by this warranty were manufactured after January 1, 2012, and bear identifying serial number marks to that effect.

E. Acclaim Lighting reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products describe above. Except to the extent prohibited by applicable law, all implied warranties made by Acclaim Lighting in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired.

F. Marine or extreme weather location applications using Acclaim lighting products are subject to a 2 year limited warranty and Acclaim must be notified prior to delivery of units for such applications so that preventative treatment can be made to the products to ensure proper performance and product life with a special marine code coating / sealing process at an additional cost.

G. The consumer's and or dealer's sole remedy shall be such repair or replacement as is expressly provide above; and under no circumstances shall Acclaim Lighting be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product. This warranty is the only written warranty applicable to Acclaim Lighting products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

[www.acclaimlighting.com](http://www.acclaimlighting.com)