XMT-500

DMX Tester & RDM / Ethernet Controller

quick start

Contents

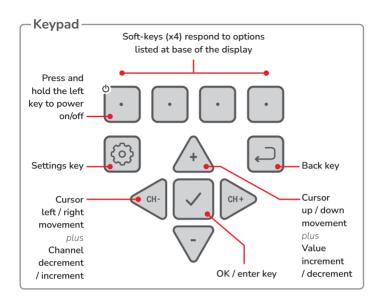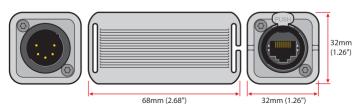# XMT-500 Features

The XMT-500 has a clear full-color display, a robust membrane keypad and rechargeable battery.
The tough chassis and industrialized connectors ensure this tool will reliably serve you for a long time.
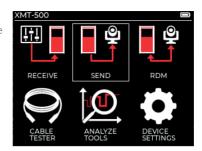
USB-C

Ethercon RJ45

Bright color display

Press and hold to switch on and off

Keypad
see next page

DMX in

DMX out

Keypad

Soft-keys (x4) respond to options listed at base of the display

Press and hold the left key to power on/off

Settings key

Cursor left / right movement
plus
Channel decrement / increment

CH- ✓ CH+

+

–

Back key

Cursor up / down movement
plus
Value increment / decrement

OK / enter key

Cable Test Dongle

XMT-500 can test your loose DMX cables when they are connected between its male and female XLR connectors. If you need to test DMX or Ethernet cables that are fixed in place, use the cable test dongle. Simply connect the compact dongle at one end of the cable and the XMT-500 at the other - then use the Cable Tester section (see page 9) to verify the connected cable.

PUSH

32mm (1.26")

68mm (2.68")

32mm (1.26")

3

Home Page

When you first switch XMT-500 on you will see the home page:

Use the arrow keys to move the highlight box between the app icons. Also use these keys to move between options within an app and to change settings.

When the required app or option is highlighted, press the OK key.

Press the Back key to go return to the previous page.

The changing functions of the four soft-keys are listed above them on the screen.

To view configuration items for a particular app, press the Settings key (not used in all apps).

Receive

This app allows you to view channel levels for a valid input signal received at the DMX and/or Ethernet connectors. Channel/address levels can be viewed in decimal, hex or percentage notation.

Navigation

- Choose channel/address: ⊳ ⊲
- View the Settings page: ⚙
- View the Routing page: • [Routing]
- Return to previous page: ↵

Settings page

- Show Level As: **Decimal** / Hex / Percent
- Address Mode: **All** / Non-Zero *(when selected, shows only channels that have a value above 0)*

Routing

This page manages priorities when two or more valid signal protocols (DMX, Art-Net and/or sACN) are being received. Only the highest priority protocol that is received is displayed.

Send

This app allows you to send channel levels to one or more devices connected via the DMX and/or Ethernet connectors. Channel/address levels can be viewed in decimal, hex or percentage notation.

Navigation

- Choose channel/address: ▷ ◁
- Change the channel level: △ ▽
- View the Settings page: ⚙
- View the Routing page: • [Routing]   See page 7
- Return to previous page: ↩

Settings page

- Clear All Channels: *Returns all channels to zero*
- Show Level As: **Decimal** / Hex / Percent
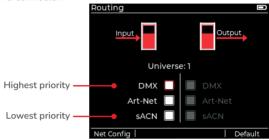- Refresh Rate: 5Hz / 10Hz /15Hz / 20Hz / 25Hz / 30Hz / 35Hz / 40Hz / **44Hz**

Routing

This page manages which protocols (DMX, Art-Net and/or sACN) are sent. More than one can be enabled. See page 7.

Routing

This page is accessed from either the Send or Receive apps by pressing the [Routing] soft-key. The function of this page is to manage the various supported protocols: DMX via the XLR connectors and/or Art-Net / sACN via the RJ45 connector.

Either the Input or Output side will be active, depending on which app is being used: Receive or Send. For Art-Net and sACN signals, use the ⬓ ⬔ keys to choose the required universe.

Input (Receive app)

The protocols currently enabled for receiving by the XMT-500 are indicated by their filled checkbox(es). The Receive app will display the input of the highest checked protocol that is received (and the selected universe) in this list.

Output (Send app)

Each active protocol is shown with a filled checkbox. In the Send app, the chosen channel values are sent to each protocol in parallel. If necessary, use the ⬓ ⬔ keys to change the universe being used for Art-Net & sACN.

Navigation

- Choose signal type: △▽
- Choose Art-Net/sACN universe: ▷◁
- Select/deselect signal: ☑
- View the Network Configuration page: • [Net Config]
- Restore default values: • [Default]
- Return to previous page: ⮐

RDM

This app deals with the Remote Device Management features of connected fixtures that support the protocol. After opening, a discovery will be enacted to find all compatible fixtures (incremental discoveries are also carried out as a background task). Discovered devices will be presented as follows:

Present fixture (identified)

Lost fixture

Present fixture

Label/description

DMX footprint

Start address

Navigation

- Perform new discovery: ⦁ [Discovery]
- Highlight required fixture: ⌦ ⌨ △▽
- Choose highlighted fixture: ☑
- Return to previous page: ↩

Details for a chosen fixture are displayed in a new page.

The four soft-key options allow you to:
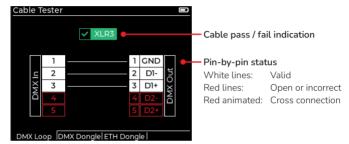
- Set the RDM label
- Reset the fixture
- Change the start address
- Change the fixture personality

Cable Tester

This app allows you to test DMX and Ethernet cables. Loose DMX cables can be tested using the XMT-500 alone; fixed DMX cables and Ethernet cables require the cable test dongle to be also used - see page 3.
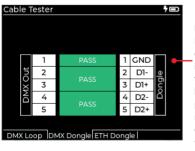
DMX Loop

The app will first show the DMX loop page to test loose DMX cables connected between the input and output XLR sockets.

Cable pass / fail indication

Pin-by-pin status
White lines: Valid
Red lines: Open or incorrect
Red animated: Cross connection

DMX Dongle

When testing a DMX cable between the XLR connectors of the XMT-500 and the dongle, press the DMX Dongle soft-key to show:
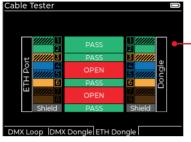

Pass/Fail indications
Note: Unlike the loop test option, dongle tests are carried out in pairs, eg pins 2 and 3 are tested together. If a short occurs between pairs (e.g. short between pins 2 and 4), both pairs will be marked as failed. Similarly, if an open circuit occurs on one line within a pair, both lines in the pair will be shown as open.

ETH Dongle

When testing an Ethernet cable between the RJ45 connectors of the XMT-500 and the cable test dongle, press the ETH Dongle soft-key to show:

Pass/Fail indications
Note: Unlike the loop test option, dongle tests are carried out in pairs, eg pins 1 & 2 are tested together, as are 3 & 6, 4 & 5, and 7 & 8. If a short occurs between pairs (e.g. short between pins 2 and 4), both pairs will be marked as failed. Similarly, if an open circuit occurs on one line within a pair, both lines in the pair will be shown as open.
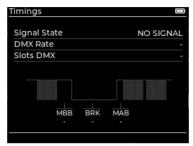
IMPORTANT

When in cable test mode:

- Never connect to a live Ethernet port.
- Fully disconnect DMX from the XMT-500 to enable Ethernet testing.

Analyze Tools

Timings

This app provides a breakdown of DMX timings for signals connected to the XMT-500 input XLR connector.

The following signal aspects are listed in real time:

- Signal State - shows if the signal is present and error free.
- DMX Rate: shows the number of DMX frames per second.
- Slots DMX: shows how many data slots are in the DMX packets.
- MBB: Mark Before Break - high value pause at the end of the last data packet, of variable length.
- BRK: Break - low value pause to denote the beginning of a new data packet.
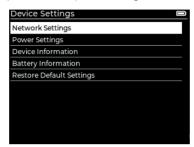- MAB: Mark After Break - high value pause to separate break from the ensuing data.

Signal timings

Designation	Min	Typical	Max
MBB (Mark Before Break)	0	-	< 1.00 s
BRK (Break)	88 us	176 us	-
MAB (Mark After Break)	8 us	-	< 1.00 s

(values for receivers)

Device Settings

This app contains assorted settings related to the operation of the XMT-500, most notably network and power settings.

General navigation

- Choose option/setting:
- Return to previous page:

Network Settings

Use to coordinate the XMT-500 interface with Art-Net / sACN networks.

- DHCP - when disabled, the *IP Address*, *Subnet Mask* and *Gateway* can be edited manually to choose a static IP, otherwise these details are granted by the network. If the XMT-500 cannot get a DHCP lease in time, it will fallback to using the current static IP.

Power Settings

- Brightness - Screen brightness in steps of 10%. Default: **50%**
- Turn Device Off After - Off / 2 Min / **5 Min** / 10 Min / 30 Min / 1 Hour - of no user input.
- Reduce Display Intensity After - Off / 15 Sec / 30 Sec / **1 Min** / 2 Min - after no user input.

Device Information - various XMT-500 internal details.

Battery Information - debug information.

Restore Default Settings - returns XMT-500 to standard settings.

Battery charging

For charging, any common USB charger with at least 4.5W can be used (the charging port has a USB-C connector). For minimal charging time, we recommend using one of the following types (with a USB-C adapter where necessary):

- USB 3.2 Type-A (7.5W, 5V)
- USB Type-C (>=7.5W, 5V)
- USB BC1.2 (7.5W, 5V)

Using USB 1.0 or 2.0 chargers with power less than 4.5W is possible but not recommended. This will take a long time and the XMT-500 internal protection system might stop the charging process after multiple hours of charging.

Technical information

Dimensions	WxHxD 122.5 x 75.3 x 43mm (4.82" x 2.96" x 1.73")
Weight	445g (0.98 lbs)
Operating temperature	-20°C to 50°C (-4°F to 122°F)
Charging temperature	0°C to 50°C (32°F to 122°F)
Rechargeable battery	3.6V, 3200mAh
Protocol standards	Art-Net 1-4 sACN (ANSI E1.31), sACN draft version (v0.2) ANSI E1.11 (DMX-512), ANSI E1.20 (RDM) EIA-485 (electrical standard for signal ports)

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