XMT-120

DMX Measurement Tool

User Manual

XMT-120 DMX Measurement Tool
User Manual
Issue 1 (2006-9-11)

Table of contents

| 1 | ☀ | **BACKLIGHT** |
| | | With this button the backlight can be switched on or off |

| 2 | ⏻ | **POWER** |
| | | With this button the device can be switched on or off |

3	✓ (func)	**OK/Function, Confirm**
		Choose a menu point with this button
		Enter special settings
		Enter to the special settings menu in receive and send mode

4	✕ (toggle)	**Cancel**
		Escape from a menu point with this button.
		Toggle
		Toggle values in send mode.

5 ▷ **CHANNEL +**
Increase the DMX channel
(Address)
NAVITGATE
Use to navigate to the right in the
user menu

6 ◁ **CHANNEL -**
Decrease the DMX channel
(Address)
NAVITGATE
Use to navigate to the left in the user
menu

7 △ **VALUE +**
Increase DMX value
NAVITGATE
Use to navigate to the up in the
user menu

8 ▽ **VALUE –**
Decrease DMX value
NAVITGATE
Use to navigate to the down in the
user menu

9 **CHANNEL at 0% (fast access**
button)
Set the DMX value at 0%
(Fast Access Button)

10 **CHANNEL at 50%**
Set the DMX value at 50%
(Fast Access Button).

11 **CHANNEL at 100%**
Set the DMX value at 100%.
(Fast Access Button)

12 **MODE**
The operating mode can be selected
by pressing the mode button

13 **DISPLAY**
LCD Display with LED backlight

14	**EXTERNAL POWER SUPPLY** Receiver plug for external power supply pin (2.5mm mono jack, 9V -12V AC or DC)
15	**DMX IN** Connector to receive DMX
16	**DMX OUT** Connector to send DMX
17	**BATTERY** Battery compartment for 9V block battery

Starting

Just insert a 9V battery to start
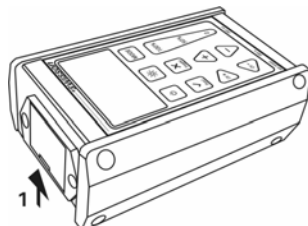
Lift to open the battery compartment.
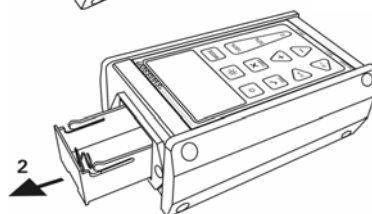
Pull.
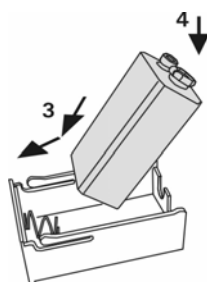
XMT-120 needs a 9V block battery. Check battery pole position + and - Push the battery on the spring down into the compartment Push the battery compartment to the touch.
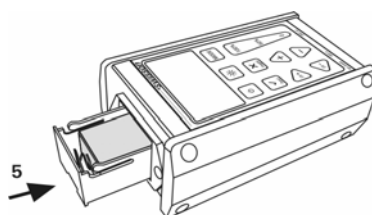
The XMT-120 is now ready to operate

You can also connect the XMT-120 to an external power supply (9V-12V, AC or DC) to start operation. The pin size is a standard 2.5mm mono jack connector

PLEASE NOTE!!!! The XMT-120 does not come supplied with a power adapter.

Turn on/off

Press the [POWER] button to turn on/off. If connected to auxiliary power the device will remain on and can only by powered off by disconnecting from plug. If in the event that the XMT-120 is being used with direct power and for some reason the power supply fail it will automatically switch to battery operation.

Battery status display

The battery status of the XMT-120 is displayed graphically in the upper right corner .When external power is available the battery symbol disappears and is replaced with a power connection symbol

Operation Modes

The XMT-120 has six different main operation modes.

- Receive DMX
- Send DMX
- Cable Test
- Sequence
- Fixtures
- Options

You can choose the operation mode by pressing the [MODE] button. Confirm your selection by pressing the [OK] button.

Menu Points (Modes)

When changing a setting or the operation mode, a menu will appear on the display.

```
            MODES
RECEIVE DMX              ■
SEND DMX
CABLE TEST
FIXTURES
SEQUENCE
OPTIONS
```
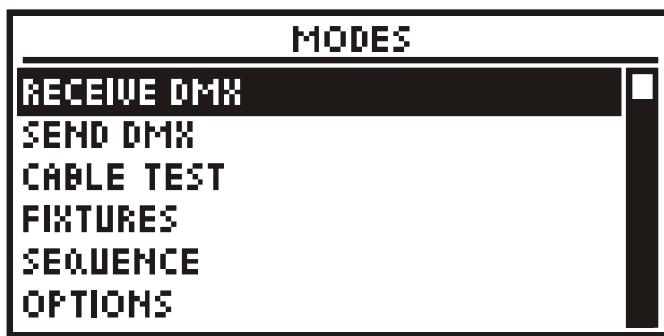
The top line of the menu will always show the actual menu point. Scroll up and down in the menu with the navigation buttons.
If a menu point only contains simple settings, the actual setting will be displayed on the right side of the menu point. Press the [OK] button to change the setting.
If nothing is displayed on the right side of a menu point, this means that pressing the [OK] button will call the next menu point or a specific function.
To go back one menu point or escape from an entry, press the [CANCEL] button.

Backlight

Press the [Backlight] button to turn on and off the backlight.

☀

Note:
The backlight uses a lot of energy. The duration of battery operation with backlight on, will be less than with the backlight off.

Receive DMX Mode

Check DMX signal

- Press the [MODE] button and choose "RECEIVE DMX". Press now the [OK] button to enter the receive mode.

- Connect the DMX tool with the XMT-120 DMX-in port
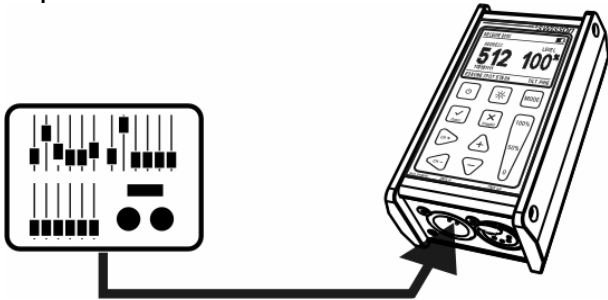
- If the DMX signal is received without any errors the data of the DMX will be displayed.

- If errors are detected or there is no DMX signal, this will be shown instead of the value.
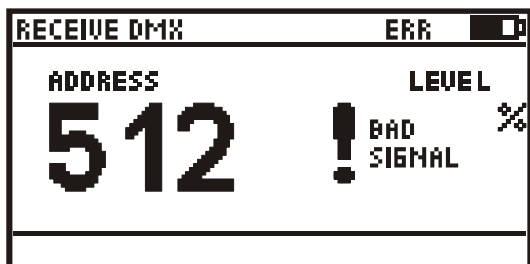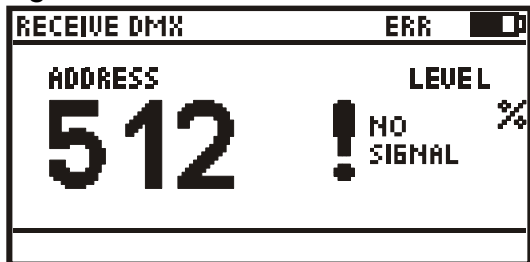
- In Receive mode the received signal will be amplified and be sent to the DMX out port. With this feature you can connect the XMT-120 in the middle of the DMX line and the signal will be terminated at the DMX in port.
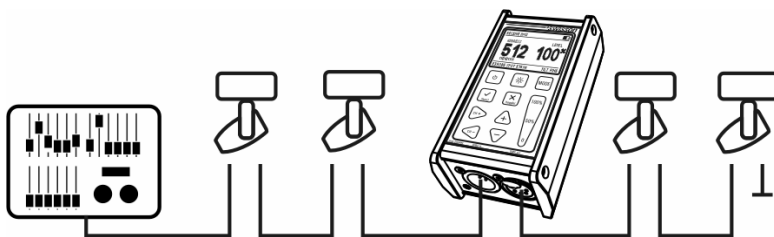
Special settings

When the XMT-120 is in receive mode, press the [OK] button to enter the special settings menu:

1. Store scene
2. Show level as
3. Display mode
4. Addresses

1. When you select "store scene" by pressing the [OK] button, you can record one of 32 scenes with the actual incoming DMX values channel 1-512. Select scene number and press the [OK] button to store.

2. Select DMX value to be displayed "percent", "decimal" or "hex" by pressing the [OK] button

3. Select the DMX values to be displayed in normal (one channel value), table (60 channel values) or graphic (512 channel values) mode by pressing the [OK] button
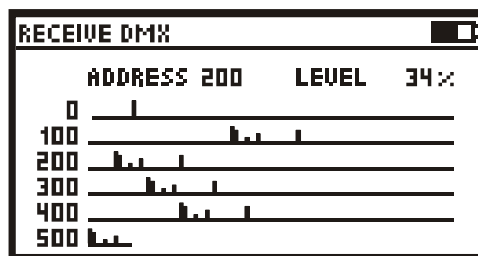
```
RECEIVE DMX            ■□
       0 1 2 3 4 5 6 7 8 9
  300│34 34 00 00 00 00 00 00 00 00
  310│00 00 00 00 00 00 00 00 00 00
  320│00 11 FF 00 00 00 00 00 00 00
  330│00 00 00 00 00 00 00 00 00 00
  340│00 00 00 00 00 00 00 00 00 00
  350│00 00 00 00 00 00 00 00 00 00
```

4. ADDRESSES is only used in normal display mode to view:
   "all" channels regardless of value, or "open" to view all channels with a value above zero.

Send DMX Mode

Send DMX signal

• Press the [MODE] button and choose "SEND DMX". Press now the [OK] button to enter the send mode.
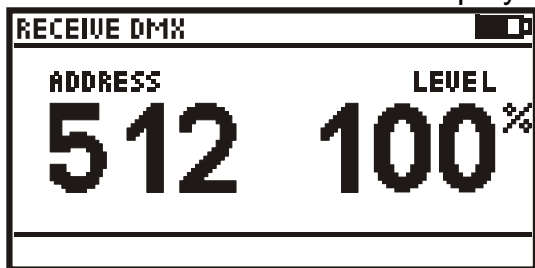
• Connect the XMT-120 DMX-out port with your DMX equipment.
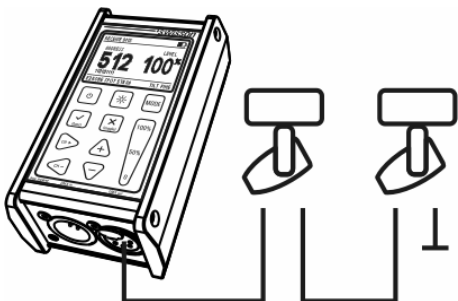
• Choose a DMX channel with the [CH+] and [CH-] button. Edit the output value on the channel with the [+] and [-] button.

  Note: For fast setting of output values, use the fast access buttons.

Special settings

When the XMT-120 is in send mode, press the [OK] button to enter the special settings menu:

1. Clear all channels
2. Store scene
3. Load scene
4. Show level as
5. Edit mode

1. Pressing [OK] on this item will set all out put channels to a value of 0.

2. When you select "store scene" by pressing the [OK] button, you can record one of 32 scenes with the edited DMX values channel 1-512. Select the scene number and press the [OK] button to store.

3. When you select "load scene" by pressing the [OK] button, you can load one of the pre-stored 32 scenes. Select the scene number and press the [OK] button. All values from the scene will be sent out from the XMT-120.

4. Select the DMX value to be displayed "percent", "decimal" or "hex" by pressing the [OK] button.

5. Select between "normal" or "direct" edit mode with the [OK] button.
   In normal edit mode, you must set each channel to a specific output value.
   In direct edit mode, you must set a specific output value once. After that, the output value is maintained as you scroll through the channels using the same output value. If you wish for a channel to maintain a specific value as you scroll through channels, press the [TOGGLE] button.

Cable Tester

The Cable Tester of the XMT-120 checks all 5 pins and the shell of the DMX Cable.

- Press the [MODE] button and choose "CABLE TESTER". Press the [OK] button to enter the cable tester mode.

- Connect the cable you want to test
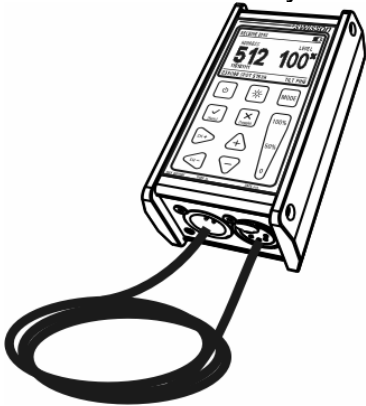
- The X-MT-120 scans the shell and all pin connections automatically.
  If the connection between pins is ok, it's indicated by a straight line connecting the pin numbers.
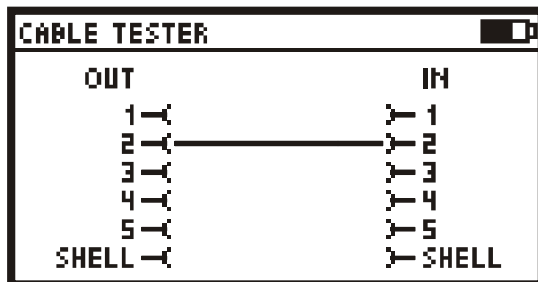
The following picture indicates that two pins are crossed.
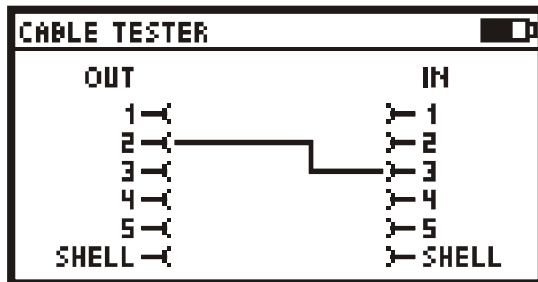
The following picture indicates a short circuit between pins.

```
CABLE TESTER          ■▢
     OUT              IN
      1─┤          ┝─ 1
      2─┤━━━━━━━┐  ┝─ 2
      3─┤       └──┝─ 3
      4─┤          ┝─ 4
      5─┤          ┝─ 5
   SHELL─┤         ┝─SHELL
```
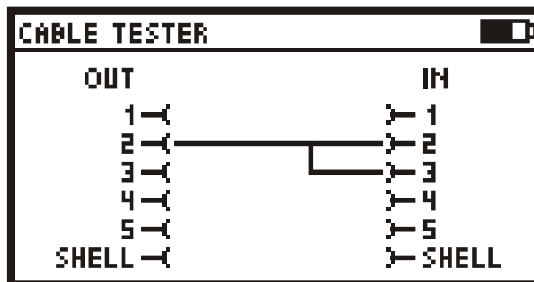
The following picture indicates that a pin is not connected through.


```
CABLE TESTER          ■▢
     OUT              IN
      1─┤          ┝─ 1
      2─┤━━━━      ┝─ 2
      3─┤          ┝─ 3
      4─┤          ┝─ 4
      5─┤          ┝─ 5
   SHELL─┤         ┝─SHELL
```
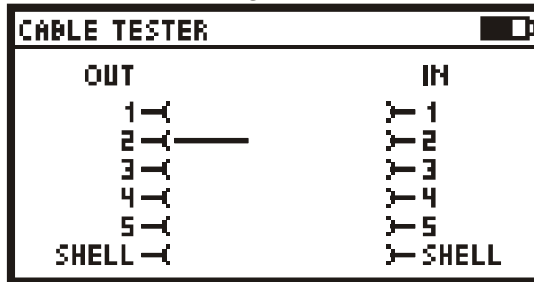
The scan speed can be set by pressing [100%], [50%] or [0].

Sequence/Chaser

Press the [MODE] button and choose "SEQUENCE". Press the [OK] button to create a sequence / chaser.

Play sequence

In sequence mode, choose "play sequence" to playback a pre defined sequence / chaser.


```
       PLAY SEQUENCE
ACTUAL STEP:    23      PLAY

▲▼ SPEED
100 FADE +      0  FADE −
✓  PLAY STOP    ✗  EXIT
```

If the sequence is not defined, "empty sequence" appears on the top left. If there is a sequence defined, the actual step will be displayed on the top left.

Play and stop the sequence by pressing the [OK] button.
With the [+] and [-] buttons, increase and decrease the speed of the sequence.
With the [100%] button the fade time can be increased, the [0] button decreases the fade time.

Edit sequence

The sequence can be created with up to 100 steps using 32 scenes. The scenes can be recorded in receive and send mode. Refer to pages 8 and 11. Choose a step with the [CH+] and [CH-] buttons. For each step, choose a scene with the [+] and [-] button. Set the end of the sequence by choosing scene 0 (will be displayed as "end").

Delete sequence

Press [OK] and you will be asked if "sure". Pressing [OK] again will delete the entire sequence and set all steps to "end".

Fixtures

Press the [MODE] button and choose "FIXTURES". Press the [OK] button to enter the fixtures settings.

Patch fixtures

In fixture mode, choose "patch fixtures" to set up the DMX patch. Press [OK] and select one of the 32 fixtures you wish to patch and press [OK] again. The XMT-120 searches the next free DMX address where the fixture fits in. If you want to patch the fixture to this address, press [OK]. With the [CH+] and [CH-] button you can enter a specified address to patch the fixture.

```
┌────────────────────────────────┐
│        PATCH FIXTURE           │
├────────────────────────────────┤
│ ID:                      23    │
│ FIXTURE :      ROBE SPOT 575AT │
│ ADDRESS :               123    │
│                                │
│ ◀ ▶ SELECT ADDRESS            │
│ ✓  PATCH         ✕ EXIT       │
└────────────────────────────────┘
```
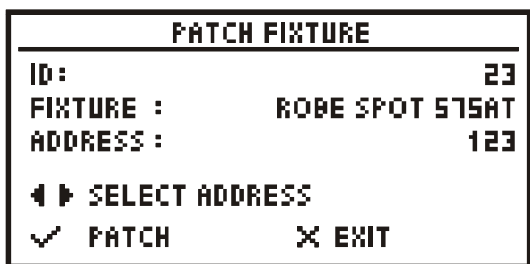
Clear patch

Choose "clear patch" and press [OK]. You will be asked if sure. Press [OK] again and the entire patch will be cleared.

Edit fixture

Choose "edit fixture" and press [OK] if you wish to add a new fixture type.
You can now select one out of 32 different fixtures spaces. Press [OK], a submenu will appear where you can choose between:

1. Name
2. Number of channels
3. Channel definition

1. Press [OK] and enter the name of the fixture. Select the character position by pressing [CH+] or [CH-] and change this value with [+] or [-]. Pressing [0] will set the character to a blank space.
When you're done press [OK] and the name will be saved. Press [CANCEL] if you wish to keep the old name.
2. Press [OK] and enter the number of channels of the fixture using [+] and [-].
3. Press [OK] and you will see the list of all channels. Select a channel and press [OK] again. Now you must enter a name for the selected channel. Use the [CH+], [CH-], [+] and [-] button for entering the name.

When entering of name, number of channels and channel definitions are done, press [CANCEL] to go back one menu point to save all the edited settings. Now you can choose the next fixture.

16

Options

Press the [MODE] button and choose "OPTIONS".
Press the [OK] button to enter the option settings.

Enter name

Press [OK] and enter the name you wish to appear
upon power up on the XMT-120.
Select the character position by pressing [CH+] or
[CH-] and change this value with [+] or [-]. Pressing
[0] will set the character to a blank space.
When you're done press [OK] and the name will be
saved. Press [CANCEL] if you wish to keep the old
name.

Store default operation

Press [OK] and all actual settings will be saved as
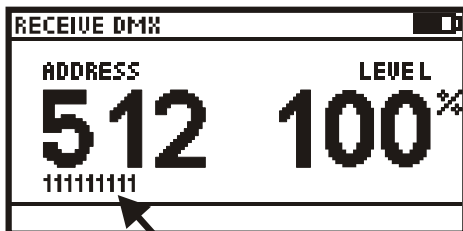the default settings for the XMT-120.

Show binary address

Select between "yes 1", "yes 0" and "no" by
pressing [OK].
"No" means no binary address will be displayed
when sending or receiving DMX.
"Yes 0" will show you the binary address when
sending or receiving DMX.
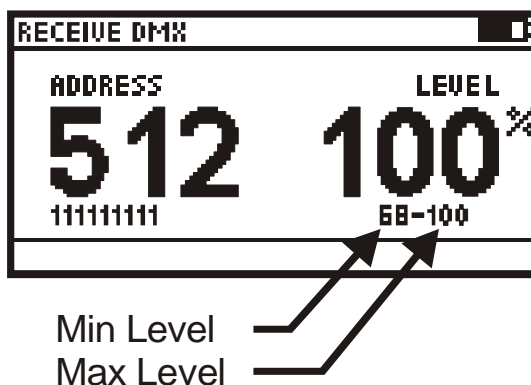"Yes 1" will show you the binary address+1 when
sending or receiving DMX.

Binary Address

Show min-max

Select between "yes" and "no" by pressing [OK].
"No" means no min-max values are displayed during normal operation in DMX receiving.
"Yes" means that you will always see the current maximum and minimum value from the actual DMX channel in receive mode.

Min Level
Max Level

Technical Data

DMX receiver and display	512 channels
DMX editor and transmitter	512 channels
DMX scene storage	32 Scenes 512 channels each
Sequence / Chaser	100 steps, each configurable with one of the 32 scenes Speed and fade time adjustable
Display format of DMX values	percent 0%-100% / decimal 0-255 / Hexadecimal 0-FF
Viewing format of DMX values	normal (1 value) table (60 values) graphic (512 values)
Cable tester	All 5 Pins and connector shell
Termination resistor	120 Ohm built in
Display and backlight	turn manually on/off
Battery	9V
External Power	9V-12V AC/DC Connector: 2.5mm mono jack
Operating temperature	-10°C to 75°C
Dimensions / weight	111 mm x 60mm x 45mm / 400g

Safety notes

Consider the following notes absolutely when you set up, connect and use the XMT-120 DMX Measurement Tool:

- Connect the cables only with the proper plugs and sockets.

- Set the cables in an accident-proof fashion. Connected cables mustn't be stressed mechanically too much.

- Keep the device away from sources of electrical interference.

- Only connect accessories certified for this device.

- Never open the device yourself. Don't touch the plug contacts with metal or other pointed objects.

- Clean the XMT-120 DMX Measurement Tool only with a soft, damp cloth. Don't use chemicals or other harsh scrubbing agents.

- Protect the device against extreme dampness, liquids, dust and dirt.

- Don't use the device in places with excessive direct sunlight or heat.

- Don't use the device in highly combustible areas.