XMT-120A / XMT-350

DMX Measurement Tool /Tester
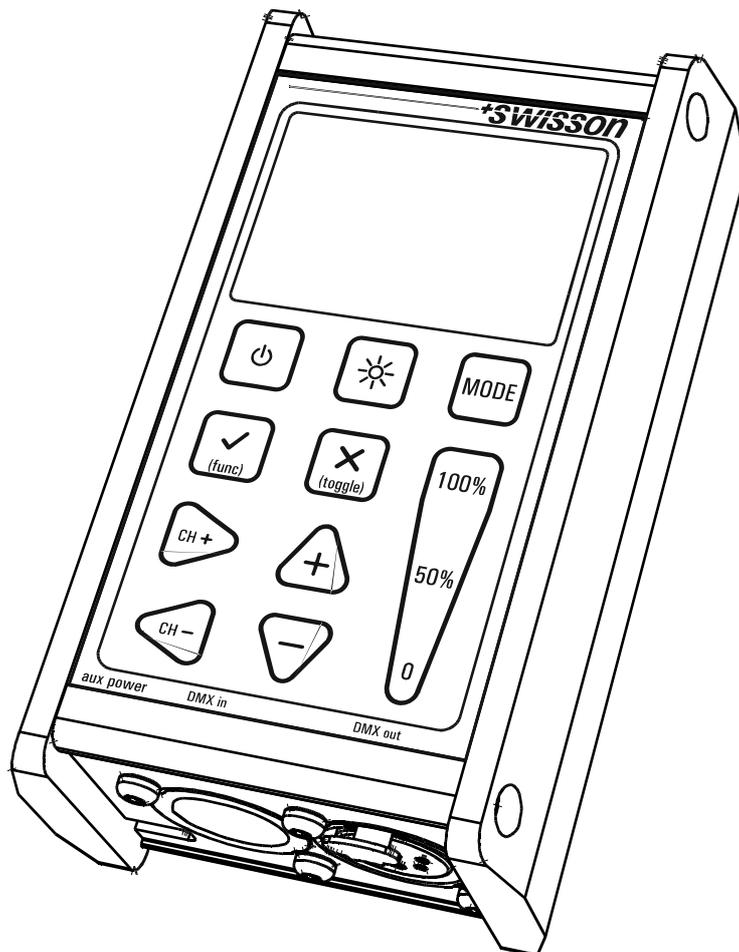
USER MANUAL

Revisions History

Revision	Description	Date
1	First Draft	23.08.12
1.1	Draft English XMT-120A and XMT-350 (ler)	09.10.12

Table of contents

1   Introduction

The XMT-120A and XMT-350 are the new generation of powerful DMX-512 measurement and test equipment for architecture, entertainment, film and TV lighting and installations using DMX512. The versatile functions of the XMT-120A simplify the debugging of lighting and installations, or any application where DMX is used to control lighting. The unit can monitor DMX-512 signals as well as analyze and display them. The device can also generate DMX-512 signal and supports the control of more complex DMX-512 fixtures such as moving lights. The testing of RGB LED lighting with many channels is easy to do with the XMT-120A or the XMT-350. With additional features such as cable tester, timing analysis, sequence editor, channel "tracer", dip-switch display, flicker finder, and Min / Max display this device is ideal for troubleshooting and resolving DMX-512 signal challenges and yet remains very simple to operate. The XMT can be connected via USB to a PC. The Windows software allows managing the fixture library for intelligent devices and new firmware updates.

2   Applications

- Concert Lighting
- Live Events
- Multimedia Shows
- Theater

- TV Sets
- Theme Parks
- Achitectural Lighting
- Installation

3   Typical Application
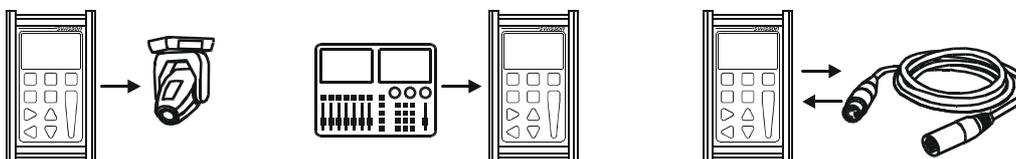
4   Unpacking

XMT-120A: The following items are included:
- The device
- This user manual

XMT-120A-SET: The following items are included:
- The device
- Nylon Case
- 1 Adapter XLR 3Pin to XLR 5Pin
- 1 Adapter XLR 5Pin to XLR 3Pin
- This user manual

XMT-350: The following items are included:
- The device
- This user manual

XMT-350: The following items are included:
- The device
- Nylon Case
- 1 Adapter XLR 3Pin to XLR 5Pin
- 1 Adapter XLR 5Pin to XLR 3Pin
- This user manual

5   Overview

+Swisson

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 [OK]**
Choose a menu point with this button
Enter special settings
Enter to the special settings

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

5 CH+ **CHANNEL + [RIGHT]**
Increase the DMX channel (Address)
NAVITGATE
Use to navigate to the right in the user menu

6 CH− **CHANNEL - [LEFT]**
Decrease the DMX channel (Address)
NAVITGATE
Use to navigate to the left in the user menu

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

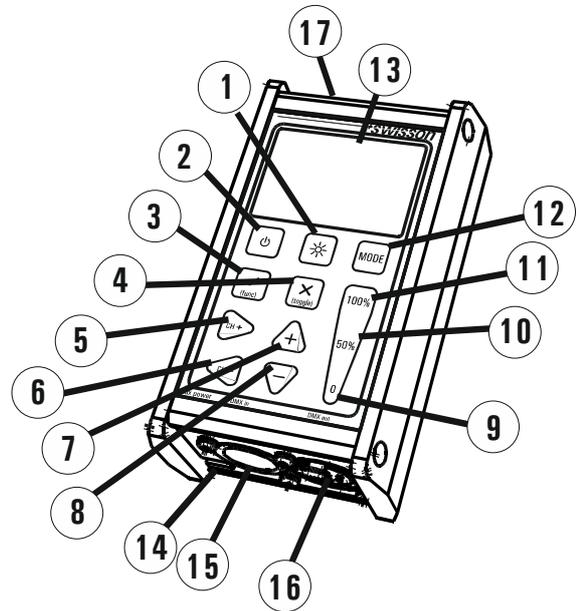**8** − **VALUE - [DOWN]**
Decrease DMX value
NAVITGATE
Use to navigate to the down in the user menu

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

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

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

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

13 **DISPLAY**
LCD Display with LED backlight

14 **MICRO-USB SOCKET**
Micro-USB socket for power-supply, PC connection and firmware-update.

15 **DMX IN**
Connector to receive DMX

16 **DMX OUT**
Connector to send DMX

17 **BATTERY**
Battery compartment for 9V block battery

6 Battery

The XMT uses a 9 volt alkaline battery.
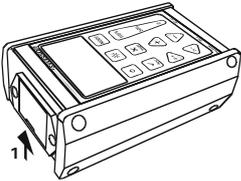
Lift to open the battery compartment.

Pull to remove the battery compartment

Check battery pole position + and -
Push the battery on the spring down into the compartment
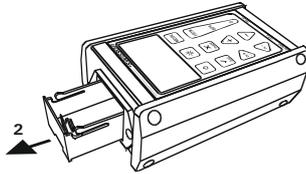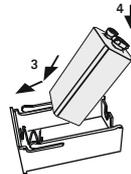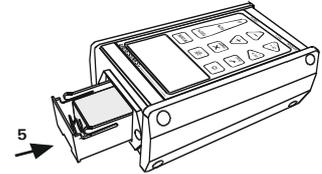
Push the battery compartment to the touch.

If power is supplied to the XMT via the USB port, the battery is disconnected. If the USB power supply turns off, the XMT will automatically switch to battery operation. It's also possible to use a rechargeable 9 volt battery.

The battery is not charged by the XMT.

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

 USB powered   Battery powered

To conserve battery life, the XMT, when in powered by the battery, has a default mode of power off if left unused for a period of time. Please see Power Settings chapter to modify power behavior.

7 USB Port

The USB port is used to power the XMT and to connect to a PC. Any 5V USB adapter which is capable to supply 150mA can be used. The USB socket type is: **Micro-USB B.** The USB cable is not supplied with the XMT.
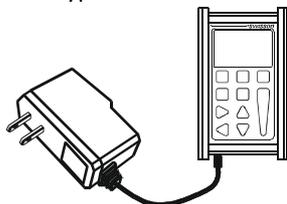
USB Adapter
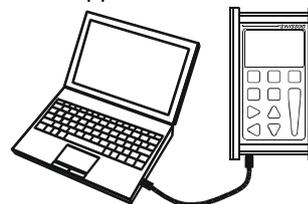
8 Backlight

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

The backlight uses a lot of energy. The battery life-time may be dramatically reduced when the backlight is used excessively.

9 Choose operation modes

When the [MODE] button is pressed, while the device is in one of the basic operation modes, a menu will appear on the display.

RECEIVE DMX	Mode to receive and display DMX values.
SEND DMX	Mode to edit levels and send DMX
RDM CONTROLLER	Mode to operate RDM (Available only on the XMT-350)
CABLE TESTER	Cable test mode
CHANNEL TRACER	Mode to receive a DMX channel and trace the level frame by frame
TIMINGS	Mode to analyze DMX timings
SEQUENCE	Sequence editor and player
FIXTURE	Configure fixtures and patch

OPTIONS   Options of the XMT
CONNECT TO PC   Mode to connect the XMT to the PC Software

On the XMT-120A :

Select the desired mode by using the navigation buttons [CH+] and [CH-].

Press [OK] to confirm the mode or [CANCEL] to return previous mode.

On the XMT-350 :

Select the desired mode by using the navigation buttons [CH+], [CH-], [+] and [-].

Press [OK] to confirm the mode or [CANCEL] to return previous mode.

10 RECEIVE DMX

Press the [MODE] button and choose RECEIVE DMX. Press now the [OK] button to enter the receive mode.
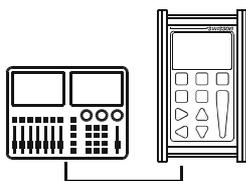
Connect a DMX source with the XMT DMX-in port.
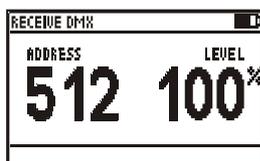
If the DMX signal is received without any errors the data of the DMX will be displayed. Choose the DMX address with [CH+] and [CH-] buttons. The corresponding level will be shown in real time.
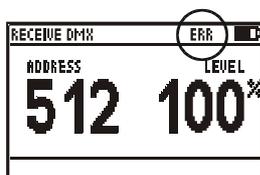
If the DMX signal is good enough to be decoded but some errors are detected the data of the DMX will be displayed with an ERR sign.

If the DMX can't be decoded by the XMT, BAD SIGNAL will be shown instead of the value.

If no signal detected, NO SIGNAL will be shown instead of the value.
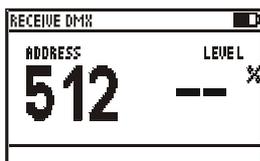
If a DMX signal is received but the selected channel is not available, "--" will be shown instead of the value.

Note: DMX-512 can transmit up to 512 channels but it's possible that a controller sends less than 512 channels.

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 in the middle of the DMX line and the signal will be terminated at the DMX in port.
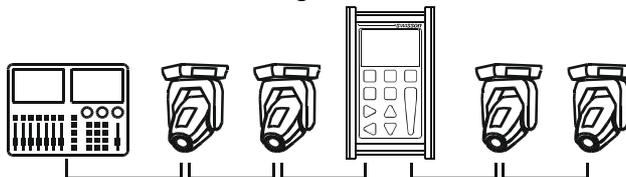
11 Receiver Options

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

STORE SCENE Create a snapshot of the DMX and store the values as scene.
SHOW LEVEL AS Choose level display as percent, decimal or hexadecimal.
DISPLAY MODE Choose receive DMX view type. Normal view, Table view or Graphical view.
ADDRESSES Navigate thru all addresses or only thru addresses which level is not 0.

11.1 STORE SCENE

In RECEIVE DMX Mode:
• Press [OK] to access RECEIVER OPTIONS
• Press [OK] again to access to scene list
• Choose the scene with [UP] and [DOWN] button
• Press [OK] to confirm.
• Press [CANCEL] twice to exit the receiver options.

The scenes in RECEIVE DMX mode and in SEND DMX mode are shared. All 512 channels are stored into a scene. The scenes are overwritten. The scenes can be combined to a sequence by using the sequence editor. See chapter SEQUENCE.

11.2 SHOW LEVEL AS

In RECEIVE DMX Mode:
• Press [OK] to access RECEIVER OPTIONS
• Choose the SHOW LEVEL AS item with [UP] or [DOWN] button
• Press [OK] to change the level display.
• Press [Cancel] to exit the receiver options.

The Levels can be displayed as percent, as decimal or as hexadecimal.
In the Table Display the levels are always displayed as percent. 100% are marked as "FL".

11.3 DISPLAY MODE

In RECEIVE DMX Mode:
• Press [OK] to access RECEIVER OPTIONS
• Choose the DISPLAY MODE item with [UP] or [DOWN] button
• Press [OK] to change the display mode.
• Press [Cancel] to exit the receiver options.
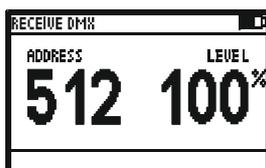
Display Mode: **Normal**
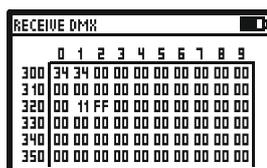
Display Mode: **Table**

Display Mode: **Graph**

11.4 ADDRESSES

In RECEIVE DMX Mode:
- Press [OK] to access RECEIVER OPTIONS
- Choose the ADDRESSES item with [UP] or [DOWN] button
- Press [OK] to change the address access mode.
- Press [Cancel] to exit the receiver options.

ADDRESSES = ALL

ADDRESS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LEVEL	25	36	5	58	0	0	0	0	80	78	12	0	0	77	0	1

ADDRESSES = OPEN

ADDRESS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LEVEL	25	36	5	58	0	0	0	0	80	78	12	0	0	77	0	1

In ADDRESSES ALL mode the address selection goes thru all addresses. In ADDRESSES OPEN mode the address selection goes thru all channels which are open (Level not 0).
This feature is only available in Normal Display mode.

12 SEND DMX

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

Connect the DMX light equipment to the OUT port of the XMT

Use [CH+] and [CH-] buttons to select the address.
Use [+] and [-] buttons to set the level
Use [0%], [50%] and [100%] to set level to 0,50% and 100%

12.1 Set Level of all channels

Use [CH-] button to select address 1.
Use [CH-] button again to access to all channels
Use [+], [-], [0%], [50%] and [100%] buttons to set the level of all channels

12.2 Set Level of group of channels (LED)

Use [CH+] and [CH-] buttons to select the group
Use [+], [-], [0%], [50%] and [100%] buttons to set the level of the group of channels.

3RD

R G B R G B R G B R G B R G B

4TH

D R G B D R G B D R G B D R G B

3RD +1

R G B R G B R G B R G B R G B

4TH +1

D R G B D R G B D R G B D R G B

3RD +2

R G B R G B R G B R G B R G B

4TH +2

D R G B D R G B D R G B D R G B

4TH +2

D R G B D R G B D R G B D R G B

13 Send Options

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

CLEAR ALL CHANNELS	Set all channels to zero
STORE SCENE	Store the edited values as scene
LOAD SCENE	Load a scene
SHOW LEVEL AS	Choose level display as percent, decimal or hexadecimal
EDIT MODE	Choose edit mode. Normal or direct.
REFRESH RATE	Set the DMX refresh rate for the DMX transmitter

13.1 CLEAR ALL CHANNELS

In SEND DMX Mode:
- Press [OK] to access SEND OPTIONS
- Choose CLEAR ALL CHANNELS with [UP] and [DOWN] button
- Press [OK] to confirm.
- Press [CANCEL] to exit the send options.

Because the CLEAR ALL CHANNELS item is in the top of the SEND OPTIONS, a double click on the [OK] button will clear all channels.

13.2 STORE SCENE

In SEND DMX Mode:
- Press [OK] to access SEND OPTIONS
- Choose STORE SCENE with [UP] and [DOWN] button
- Press [OK] to access to scene list
- Choose the scene with [UP] and [DOWN] button
- Press [OK] to confirm.
- Press [CANCEL] twice to exit the receiver options.

The scenes in RECEIVE DMX mode and in SEND DMX mode are shared. All 512 channels are stored into a scene. The scenes are overwritten. The scenes can be combined to a sequence by using the sequence editor. See chapter SEQUENCE.

13.3 LOAD SCENE

In SEND DMX Mode:
- Press [OK] to access SEND OPTIONS
- Choose LOAD SCENE with [UP] and [DOWN] button
- Press [OK] to access to the scene list
- Choose the scene with [UP] and [DOWN] button
- Press [OK] to confirm.
- Press [CANCEL] twice to exit the send options.

All 512 channels are loaded. All levels are overwritten by the loaded scene.

13.4 SHOW LEVEL AS

In SEND DMX Mode:
- Press [OK] to access SEND OPTIONS
- Choose the SHOW LEVEL AS item with [UP] or [DOWN] button
- Press [OK] to change the level display.
- Press [Cancel] to exit the send options.

The Levels can be displayed as percent, as decimal or as hexadecimal.

13.5 EDIT MODE

In SEND DMX Mode:
- Press [OK] to access SEND OPTIONS
- Choose the EDIT MODE item with [UP] or [DOWN] button
- Press [OK] to change the edit mode. The edit mode can be NORMAL or DIRECT.
- Press [Cancel] to exit the send options.

Normal Mode
In normal mode, the address is set and then the level. The adjusted level stays stored at the changing of address.

Direct Mode
In direct mode, the level is set, then the address. When changing the address, the level of the previous address is cleared and the currently set level is assigned to the new address automatically. One channel is open at the same. To store the level of an address when changing the address, it's possible to store the current level with the [CANCEL] key. It will show "STORED" on the Display when the level is stored.

NORMAL MODE   **DIRECT MODE**

SEND DMX

ADDRESS   LEVEL

512 100%

STORED
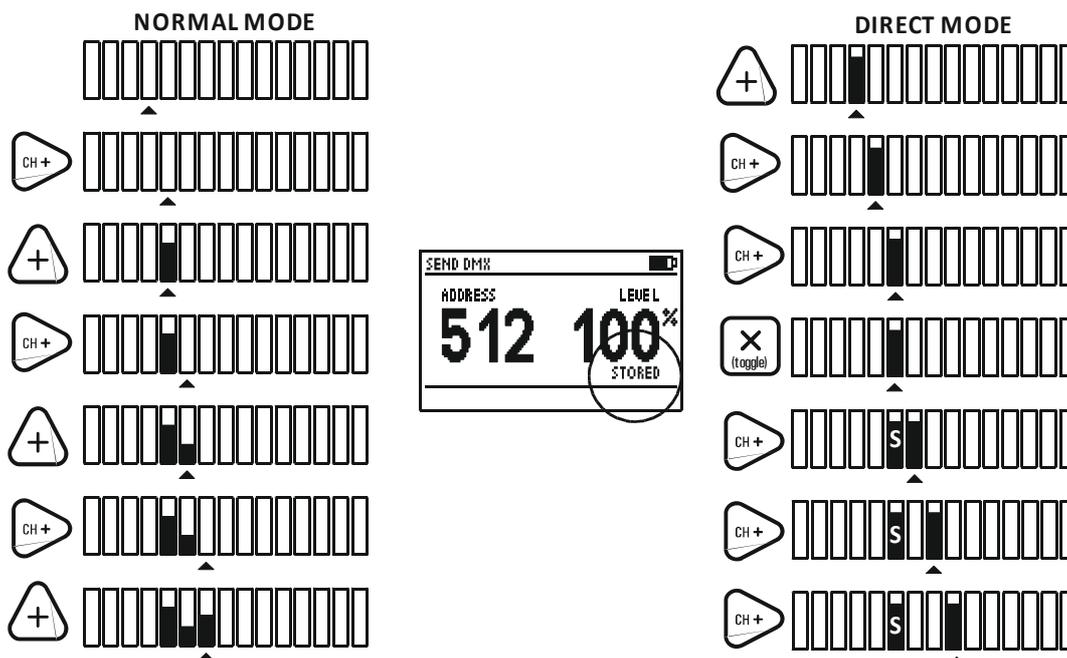
13.6 REFESH RATE

In SEND DMX Mode:
• Press [OK] to access SEND OPTIONS
• Choose the REFRESH RATE item with [UP] or [DOWN] button
• Press [OK] to change the refesh rate.
• Press [Cancel] to exit the send options.
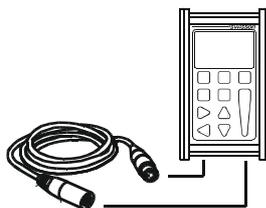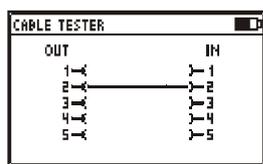The possibel fefresh rates are: 5, 10, 15, 20, 25, 30, 35, 40, 44 Hz (frames/sec)

14 CABLE TESTER

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

Connect the cable to test to the DMX in and DMX out port. The XMT scans all pin connections automatically.

If the connection between pins is ok, it's indicated by a straight line connecting the pin
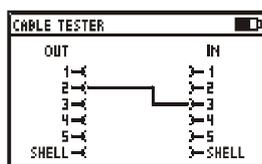
Pin 2 is connected to pin 3. This is usually an error with DMX cables
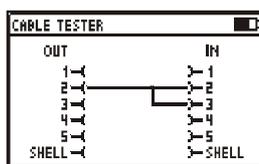
Pin 2 is shorted with pin 3. This is usually an error with DMX cables
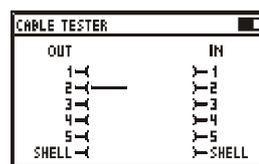
Pin 2 is not connected. (broken circuit) This is usually an error with DMX cables

The speed of the scann can be modified with the [0%], [50%], [100%] buttons

15 CHANEL TRACER

Press the [MODE] button and choose CHANNEL TRACER. Press now the [OK] button to enter the channel tracer mode.
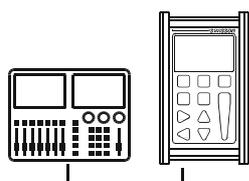
Connect a DMX source with the XMT DMX-in port.
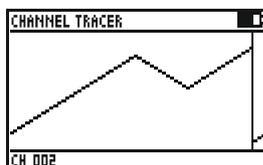
The Level of one channel is traced. The address is displayed on the bottom left of the screen.
Use [CH+] and [CH-] buttons to change the address.
Use [Cancel] button to stop and restart the trace process.
When stopped a small cursor appears. The position of the cursor is displayed on the bottom right of the screen. The first value shows the DMX level and the second value shows the time of the actual frame.
The displayed time is relative to the time the tracer was stopped.
Use [CH+] and [CH-] buttons to move the cursor.
Use [0], [50%] and [100%] buttons to zoom in and out.
Scroll up and down with [+] and [-] when zoomed in.

16 TIMINGS

Press the [MODE] button and choose TIMINGS. Press now the [OK] button to enter the timing mode.
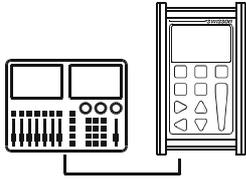
Connect a DMX source with the XMT DMX-in port.

```
TIMINGS DMX IN
DMX SIGNAL ..........................OK
REFRESH RATE...................32 HZ
BREAK LENGTH...................192 US
MARK AFTER BREAK..............16 US
CHANNEL RECEIVED................512
```

The XMT shows basic DMX-512 timings.

DMX SIGNAL	Shows if a DMX signal is OK or faulty.
REFRESH RATE	Shows the numbers of frames per second received
BREAK LENGHT	Shows the length of the break in microseconds
MARK AFTER BREAK	Shows the mark after break value in microseconds
CHANNEL RECEIVED	Shows the number of channels received
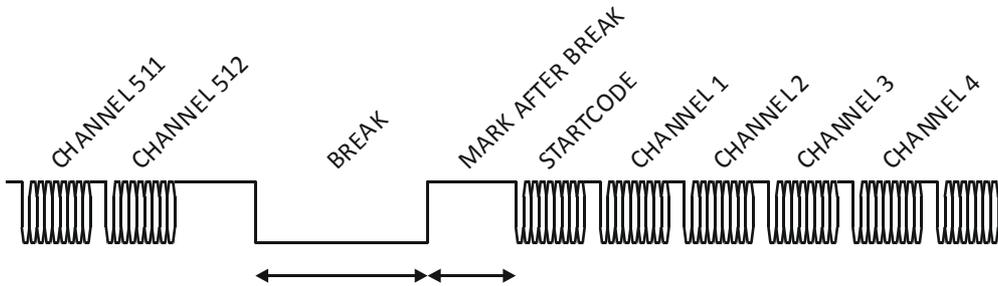
	BREAK LENGTH	MAB LENGTH
USITT DMX-512/1986	≥88us	≥4us
USITT DMX-512/1990	≥88us	≥8us
ANSI E1.11-2004	≥92us	≥12us

REFRESH RATES (indicative only)

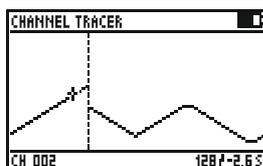|	
<1 frames per second	not compliant to standard
1-10 frames per second	very slow, compliant to standard but may cause problems with some equipment.
10-25 frames per second	slow
25-44 frames per second	typical for most equipment
44 frames per second	maximum speed when sending all 512 channel.
>44 frames per second	only possible when sending less than 512 channel. Compliant to standard but may cause problems with some equipment.

Refer to ANSI E1.11 for more detailed information on DMX-512 timings. The accuracy of the XMT timing measurement is approximately 1.5 microseconds.

17 SEQUENCE

Press the [MODE] button and choose SEQUENCE. Press now the [OK] button to enter the sequence menu.
The sequence menu has three items.

EDIT SEQUENCE	Create and edit the Sequence.
PLAY SEQUENCE	Play and stop the sequence, edit speed and fade time.
DELETE SEQUENCE	Delete the sequence

17.1 EDIT SEQUENCE

- Choose the EDIT SEQUENCE item with [UP] or [DOWN] button
- Press [OK] to enter the sequence editor.

The sequence can be created with up to 100 steps using 32 scenes. The scenes can be recorded in receive and send mode.

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").

EDIT SEQUENCE	
STEP	SCENE
001	001
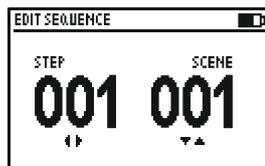
Step 1	Scene 1
Step 2	Scene 2
Step 3	Scene 15
Step 4	Scene 16
Step 5	Scene 16
Step 6	Scene 8
Step 7	Scene 9
Step 8	END

17.2 PLAY SEQUENCE

- Choose the PLAY SEQUENCE item with [UP] or [DOWN] button
- Press [OK] to enter the play mode.

PLAY SEQUENCE	
ACTUAL STEP: 23	PLAY
▲▼ SPEED	
100 FADE +	0 FADE −
✓ PLAY STOP	✗ EXIT

- Use [OK] button to play and stop the sequence
- Use [+] button to increase and [-] button decrease speed
- Use [0] and [100%] to increase decrease fade time

Step 1 — Step 2 — Step 3 — Step 4 — Step 5 — Step 6 — Step 7

Speed   Fade Time
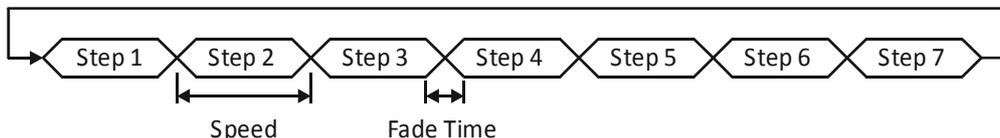
17.3 DELETE SEQUENCE

- Choose the DELETE SEQUENCE item with [UP] or [DOWN] button and press [OK]
- Press [OK] again to confirm

18 FIXTURES

Press the [MODE] button and choose FIXTURES. Press now the [OK] button to enter the fixtures menu.

The sequence menu has three items.

PATCH FIXTURES   Patch fixtures to DMX address
CLEAR PATCH   Clear the entire patch
EDIT FIXTURES   Edit fixture types

18.1 PATCH FIXTURES

- Choose the PATCH FIXTURES item with [UP] or [DOWN] button
- Press [OK] to enter the fixture patch editor.

A list with the defined fixtures types appear.

- Select a fixture type with the [+] and [-] buttons, and press [OK]

```
      PATCH FIXTURE
 ID:                  23
 FIXTURE :  ROBE SPOT 575AT
 ADDRESS :           123

 ◀▶ SELECT ADDRESS
 ✓ PATCH      ✗ EXIT
```

ID The number of fixture will increment automatically
FIXTURE Name of the fixture
ADDRESS The start address for the fixtures.
The XMT propose the next free DMX address for patch. This address can be changed with the [CH+] and [CH-] buttons.
• Press [OK] to patch the device.

```
 RECEIVE DMX          ▮▯
  ADDRESS      LEVEL
  022 100%
 25 MARTIN MAC 101  TILT FINE
```

If a fixture patched, the RECEIVE DMX and the SEND DMX mode will show the information about the fixture on the bottom of the screen.

Parameter Description
Fixture Name
Fixture ID

18.2 EDIT FIXTURES

The fixture types can be created and modified on the XMT itself or more convenient with the XMT PC Software.
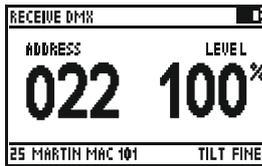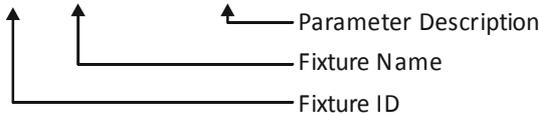• Choose the EDIT FIXTURES item with [UP] or [DOWN] button
• Press [OK] to enter the fixture type editor.
The entire patch will be cleared.
• Press [OK] to confirm.
• Use [+] and [-] button to edit a fixture or CREATE NEW FIXTURE to create a new one.

NAME   Name of the fixture
NUMBER OF CH   Number of DMX channels used by this fixture
CHANNEL DEF   Definition of the channel description
DELETE FIXTURE   Delete the fixture

Name
• Use [+] and [-] buttons to select NAME.
• 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 done press [OK] and the name will be saved. Press [CANCEL] keep the old name.
Number of channels
• Use [+] and [-] buttons to select NUMBER OF CHANNEL
• Use [+] and [-] to set the number of channels for the fixture
Channel definition
• Use [+] and [-] buttons to select CHANNEL DEF.
A list with all channels of the fixture appears.
• Use [+] and [-] buttons to select the channel.
• Press [OK] to edit the channel description.
• 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 done press [OK] and the name will be saved. Press [CANCEL] keep the old name.

18.3 EDIT FIXTURES on PC

The XMT PC software has it's own user manual only avaliable in electronic form.

19 Connect to PC

The XMT PC Software includes its own user manual, driver and installation instruction can be downloaded from the Swisson website. www.swisson.com
- Install the XMT PC Software before connecting the XMT to the PC.
- Conntect the XMT to the PC with a USB cable.
- Press the [MODE] button and choose PC Connection. Press now the [OK] button to enter the PC connection mode.

PC   XMT-120A / XMT-350
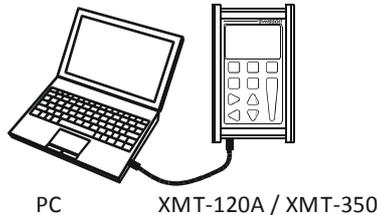
20 OPTIONS

Press the [MODE] button and choose OPTIONS. Press now the [OK] button to enter the options menu.

The options menu has following items.

ENTER NAME	Personalize your XMT
STORE DEFAULT OPTIONS	Store options settings as default
SHOW BINARY ADDRESS	Show a binary representation of the address
SHOW MIN MAX	Show minimum and maximum values in receive dmx mode
CONTRAST	Contrast settings for LCD display
POWER SETTINGS	Configure power settings of the XMT
FIRMWARE UPDATE	Mode to perform firmware update of the XMT

20.1 ENTER NAME

Choose the ENTER NAME item with [UP] or [DOWN] button
Press [OK] to enter the name dialog.
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 done press [OK] and the name will be saved. Press [CANCEL] keep the old name.

```
ENTER NAME
SWISSON
```
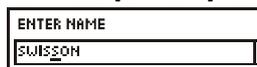
The name is displayed on main boot screen every time the XMT is turned on.

20.2 STORE DEFAULT OPTIONS

- Choose the STORE DEFAULT OPTIONS item with [UP] or [DOWN] buttons.
- Press [OK] to enter store the option settings as defaullt.

20.3 SHOW BINARY ADDRESS

- Choose the SHOW BINARY ADDRESS item with [UP] or [DOWN] buttons.
- Press [OK] to select between NO, YES 0 and YES 1.

NO	Binary address display is disabled
YES 0	Binary address display is enables. Address is displayed as binary 0. Address 1 to 512 is displayed binary from 0 to 511. This is usefull for 9bit dip switches on DMX fixtures.
YES 1	Binary address display is enables. Address is displayed as binary 1. Address 1 to 512 is displayed binary from 1 to 512.

RECEIVE DMX

ADDRESS　　LEVEL

512 100[%]

11111111
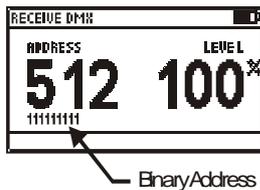
— Binary Address

If enabled the binary representation of the address is displayed below the address in RECEIVE DMX and SEND DMX mode.

20.4 SHOW MIN and MAX values

- Choose the SHOW MIN-MAX item with [UP] or [DOWN] buttons.
- Press [OK] to select between NO and YES.

RECEIVE DMX

ADDRESS　　LEVEL

512 100[%]

11111111　　68-100

Min Level —
Max Level —

If enabled the min and max values of a level is displayed below the level in RECEIVE DMX mode.

20.5 CONTRAST

- Choose the CONTRAST item with [UP] or [DOWN] buttons.
- Press [OK] to enter the contrast editor.
- Use [+] and [-] buttons to modify the contrast.

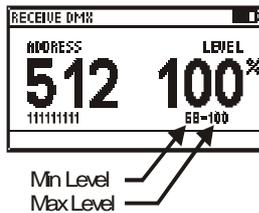## 20.6 POWER SETTINGS

- Choose the POWER SETTINGS item with [UP] or [DOWN] buttons.
- Press [OK] to enter the power settings menu.

The power settings menu has three items:

BACKLIGHT BRIGHTNESS	Set the brightness of the backlight
BACKLIGHT DURATION	Set the duration of the backlight
TURN OFF IF IDLE	Automatic turn off time for the XMT

BACKLIGHT BRIGHTNESS
- Choose the BACKLIGHT BRIGHTNESS item with [UP] or [DOWN] buttons.
- Press [OK] to change the backlight brightness from 10% to 100% in steps of 10%

BACKLIGHT DURATION
- Choose the BACKLIGHT DURATION item with [UP] or [DOWN] buttons.
- Press [OK] to change the backlight duration from 10sec to 2min.

> The LED backlight of the LCD screen use a lot of energy. Try to set the backlight as low as possible and the duration of the backlight as short as necessary to save battery life.

TURN OFF IF IDLE
- Choose the TURN OFF IF IDLE item with [UP] or [DOWN] buttons.
- Press [OK] to change the time after the XMT will turn off automatically.

Possible values are: NO = stays on, 1min, 2min, 3min, 5min, 10min. The time start to count after the last button pressed by the user.

The XMT will not turn off automatically when it's USB powered.

20.7 FIRMWARE UPDATE

- Choose the FIRMWARE UPDATE item with [UP] or [DOWN] buttons.
- Press [OK] to enter firmware update mode.

This feature does the same as PC Connection. See chapter PC CONNECTION.

21 RDM Controller (Only XMT-350)

Press the [MODE] button and choose RDM. Press now the [OK] button to Start the RDM Controller.

21.1 RDM Discovery

The XMT performs a Full discovery when entering the RDM Controller. During discovery the XMT search for the connected RDM devices.

```
REMOTE DEVICE MANAGMENT
   DEVICES FOUND: 34
[                    ]
     DISCOVERING...
```

21.2 RDM Main Screen

After the full discovery the main screen of the RDM Controller is displayed. An incremental discovery is running in background to detect RDM fixtures connected after the full discovery was completed.
The main screen shows a list of the RDM devices found by the discovery.

```
/MAIN\PATCH\OPTIONS\     44/44
MAC 101              O  103
MAC 101                 222
MAC 101                 446
MAC 101                 329
MAC 101                  57
DMX/RDM SPLITTER        N/A
```

The device description and the DMX address is displayed for all found RDM devices:

```
MAC 101                 329
```

The actually selected device is inverted:

```
MAC 101                 329
```

A small rotating animation appears when the connection to a RDM devices is lost:

```
⟲ MAC 101
```

N/A is displayed instead of the DMX When the RDM device has no DMX address. Typically devices such DMX splitters has no DMX address:

```
DMX/RDM SPLITTER        N/A
```

Each RDM device has an identify mode to be identified. A blinking dot shows which device is identifying. Identify mode can be disabled. See Chapter 21.5 RDM Options on page 20.

```
MAC 101              ⬤ 329
```

When a RDM is fond, the UID is shown until more detailed information is available.

```
(4567AC5CD32B)
```

On the upper right corner the number of actually connected devices and the initially detected number of device.

```
42/44
```

21.3 RDM Device Details

Use [+] and [-] buttons to select a RDM device. And press OK to enter detail screen of the RDM device.

```
DMX/RDM SPLITTER
►LABEL:        BACKTRUSS LEFT
MODEL:      DMX/RDM SPLITTER
MAN.:            SWISSON AG
DMX STARTADDR:          N/A
DMX PERSONALITY:        N/A
DMX                       0
```

Parameters with a small arrow on the left can be edited by pressing [OK].

```
►LABEL:        BACKTRUSS LEFT
```

Following Parameter are supported by the XMT-350:

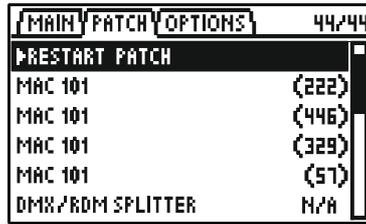|	
LABEL:	Label can be edited when supported by device
MODEL:	Model is a fixed name set by manufacturer
MAN.:	Manufacturer of the RDM device
DMX STARTADDRESS:	Actual DMX Startaddress of the RDM device
DMX PERSONALITY:	Actual Personality (Mode). Press [OK] to select other personality.
DMX SLOTS:	Number of slots used by the RDM Device in the actual DMX Personality. (Number of DMX Channel)
MOVING LIGHT MENU:	
PAN INVERT:	Pan Invert Mode of the RDM device. Toggle on or off with [OK]
TILT INVERT:	Tilt Invert Mode of the RDM device. Toggle on or off with [OK]
PAN TILT SWAP:	Pan Tilt Swap Mode of the RDM device. Toggle on or off with [OK]
DEVICE DETAILS:	
RESET:	
WARM RESET:	Press [OK] to execute a warm reset of the RDM device
COLT RESET:	Press [OK] to execute a cold reset of the RDM device
DEVICE HOURS:	Operating hours of the RDM device
LAMP MENU:	
LAMP ON MODE:	Press [OK] 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:	Numbers of strikes of the lamp
SENSOR MENU:	The sensor menu list the sensors and it's values reported by the RDM devices
UID:	The RDM unique identifier of the RDM device.

Newer firmware versions may support additional undocumented parameters.

Parameters not supported by the RDM Device will be displayed as N/A. Some editable parameters may be "read only" with some RDM devices.

21.4 RDM Patch DMX Addresses

Use [CH+] or [CH-] to enable patch mode.

```
/MAIN\PATCH\OPTIONS\      44/44
▶RESTART PATCH
MAC 101                  (222)
MAC 101                  (446)
MAC 101                  (329)
MAC 101                   (57)
DMX/RDM SPLITTER          N/A
```

To select a device with [+] and [-] buttons and press [ok] to patch the device respectively to readdress the device.
A patch dialog will show up. The XMT-350 proposes a DMX address. This address can be changed manually.
Use the [+] and [-] to change the proposed DMX address.
Press [OK] to patch the device or [CANCEL] to abort.

```
      MARTIN MAC 101
  ACTUAL ADDRESS:   244
  PATCH TO ADDRESS  222⬍
   ✓OK    ✗CANCEL
```

A device which has not been patched yet, is displayed with the DMX address in brackets. A soon the device is patched the brackets disappears.

MAC 101   (222)

The brackets are a guide for the user to know which devices has already be readdressed (patched).
The first item on the list is ">RESTART PATCH".
Select this Item to restart the patch. In this case all devices will be marked with the brackets.

▶RESTART PATCH

The devices in the list which are marked as "not patched" with the brackets are sorted by UID (unique identifier). All patched devices are sorted by DMX address and grouped on top of the list. The sorting can be disabled. See Chapter 21.5 RDM Options on page 20.
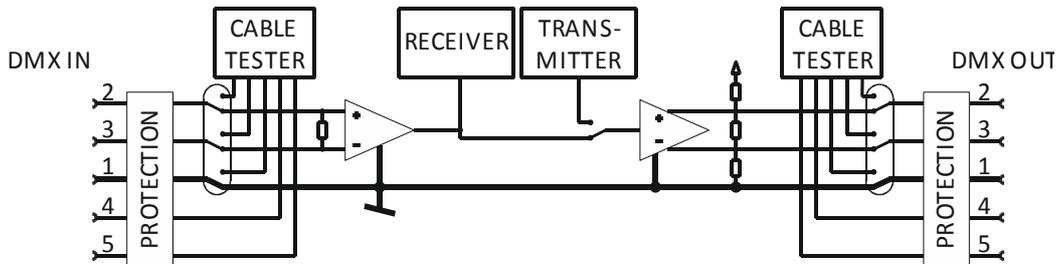
21.5 RDM Options

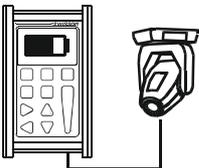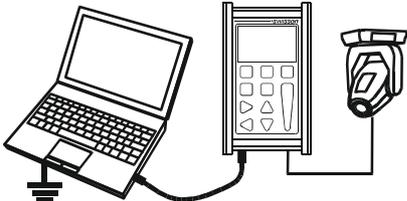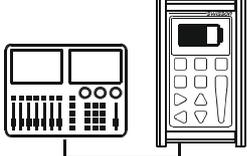Use [CH+] or [CH-] to enter the RDM options.
Following options are available:
IDENTIFY: Enable and disable identify mode
SORT PATCH TAB.:   Enable and disable the sorting of the patch table.

22 ADDITIONAL TECHNICAL INFORMATION

22.1 Block diagramm XMT interfaces

22.2 Ground topologies

  Is the XMT battery operated, the DMX out port is a **ISOLATED TRANSMITTER**	 Is the XMT connected to a PC, the DMX out port might be a **GROUND REFERENCED TRANSMITTER** when the USB is grounded.
  Is the XMT battery opperated, the DMX in port is a **ISOLATED RECEIVER**	 Is the XMT connected to a PC, the DMX in port might be a **GROUND REFERENCED RECEIVER** when the USB is grounded.
  Is the XMT connected to a DMX controller with a GROUND REFERENCED TRANSMITTER the XMT DMX out port is a **GROUND REFERENCED TRANSMITTER**	 Is the XMT connected to a USB charger, the DMX in port might be a **ISOLATED TRANSMITTER** when the USB is not grounded.
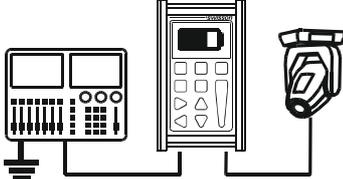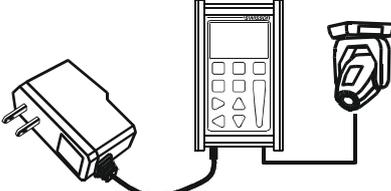
23 Safety Information

Consider the following notes absolutely when you set up, connect and use the XMT.
This product is not for household use. Read this manual before operating the device, follow the safety precautions and observe all warnings in this manual.
Use this device only in accordance with local laws and regulations.

- Do not expose the device to rain or moisture.
- Do not operate the device if any cover or component is missing damaged or deformed.
- Refer any service operation not described is this manual to Swisson.
- Provide unrestricted airflow around the device
- Do not operate the device if the ambient temperature exceeds 55°C (131°F)
- Do not modify the device in any way not described in this manual or install other than genuine Swisson parts.
- Do not use the device in areas where it is exposed to direct sunlight.
- Do not use the device in areas that are considered to be 'highly combustible'.

24 TECHNICAL DATA

HARDWARE

Display type..LCD
Display back light..LED green
Display resolution.......................................128x64 pixel
Storage Flash Memory...............................16MByte
DMX in port..Neutrik 5pin male connector
DMX out port..Neutrik 5pin female connector
DMX ports electrical standard...................ANSI E1.11 / ANSI E1.20
USB port..Micro USB B type
Battery..9V Block battery
USB Power consumption.............................150mA max
Use of rechargeable battery.......................Yes
Battery recharge...No
Cable Tester..5 Pin, Open circuit, short circuit, wrong wiring
DMX in termination.....................................120 Ohm, permanent (except cable tester)
DMX out termination..................................RDM bias Network, RC termination
Operating Temperature..............................0°C to +45°C / 32°F to 113°F
Dimensions...119mm x 71mm x 46mm / 4.7" x 2.8" x 1.8"
Weight...400g / 0.88 lbs

FIRMWARE (Version 1.04)

Received DMX channels...............................512
Transmitted DMX channels.........................512
Refresh rates..5, 10, 15, 20, 25, 30, 35, 44 frames per second
Transmitter Break length............................140-150 microseconds / not configurable
Transmitter MAB length..............................28-32 microseconds / not configurable
Timing Measurement..................................Frames per Sec / Break / MAB
Display formats...Percent, Decimal, Hexadecimal
DMX scene storage.....................................32 scenes 512 channel each
Number of Sequences.................................1
Steps in Sequence.......................................99
Number fixture types..................................100
Channels per fixture....................................45
RDM Controller...XMT-120A : NO / XMT-350 : YES