DMX-Audio Unit

User manual

For your own safety, please read this user manual and warnings carefully before installation.

Content

Description

The **DMX Audio Unit** is designed to play audio files in mp3 format.

64 Audio Files
Via DMX up to 64 audio files can be called via one DMX channel.

USB Data Medium
The MP3 audio files are stored on a USB data medium and easily exchangeable.

Several Operation Modes
Depending on the application, the DMX Audio Unit offers different operating modes.
Either 32 or 64 audio files can be called directly or via up/down the audio files can be played back in line.

Playback SINGLE PLAY / LOOP PLAY / CYCLE PLAY / PAUSE / STOP
PlayMode is used to start playback, put the playback into a repeat loop or pause and stop to stop the replay.

Settable Playback Volume
The playback volume can be adjusted via a DMX channel.

Settable Accoustic Colour
The acoustic colour (EQ) can be adjusted between five predefined settings.

Power supply 8V up to 24V
The DMX Audio Unit can be operated with 8V up to 24V DC.

DMX FAIL-Function
An adjustable DMX FAIL function offers the option to hold the current state (HOLD), turn off playback (OFF), or to operate a previously set state in the event of a failed DMX signal.

RDM Support
The DMX Audio Unit allows configuration via RDM over DMX.
Direct access to the device is not necessary. Via RDM, the settings can be made comfortable from distance.

Compact Dimensions
The compact dimension of 29,2mm x 82mm allows the installation on a top hat rail housing with only 35mm width.

Top hat rail mounting
The top-hat rail housing 350 or the top-hat rail housing 350flat are available as equipment for the DMX Audio Unit.

Data sheet

Power supply:	8-24V DC (100mA@12V / 70mA@24V)
Protocol:	DMX512 RDM
DMX channels:	4 or 5 channels (depends on operation mode)
DMX-FAIL:	HOLD / OFF / Predefine
Operation modes:	32Songs/PlayMode/Vol/EQ 64Songs/PlayMode/Vol/EQ SongUp/SongDown/PlayMode/Vol/EQ
Play Mode:	Single Play Loop Play Cycle Play Pause Stop
Acoustic color (EQ):	Normal Pop Rock Jazz Classic
Output:	Line Out (R+L)
Data medium:	USB stick (max. 16GB)
File format:	mp3
Connection:	Screw terminal USB-A 3,5mm Plug
Dimensions:	29,2mm x 82mm

Content

1x   DMX-Audio Unit
1x   USB stick 4GB
1x   Quick guide german and english

Connection
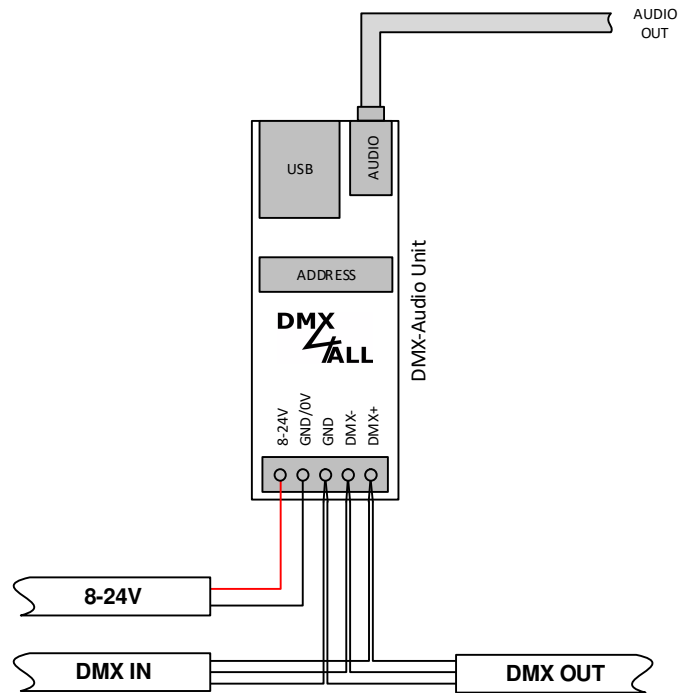
LED Display

The integrated RGB-LED is a multifunctional display.

OFF	Power supply not connected / Display is in MUTE mode
RED flashes 1x	No DMX signal and no audio files detected
RED	No audio files detected
GREEN flashes 1x	No DMX signal detected
GREEN flashes 2x	No DMX start address set
GREEN	Device ready for use
BLUE	Device initialization
RED → GREEN → BLUE	Device shows RDM Identify

USB-Stick

The **DMX Audio Unit** needs an USB stick as data medium for the mp3 audio files.

⚠ Use only USB sticks with maximum 16GB.

The USB-Stick must be formatted with the file system FAT32.

The mp3 audio files must be must be located in the main directory of the USB stick.

All file names must be 5-digit with the ending .mp3
The first audio file must be named 00001.mp3, the second 00002.mp3, and so on.

💡 If the playback sequence is incorrect, the USB stick must be formatted. Then the files are to be transferred to the USB stick one after the other, starting with the first one (00001.mp3).

DMX Address

The start address can be set via the DIP switch.

Switch 1 has a value of 20 (=1), switch 2 has a value of 21 (=2) and so on up to switch 9 with a value of 28 (=256).

The sum of the values of the switches set to ON corresponds to the start address.

Address Switch

1

2

3

4

5

Address Switch

...   ...

508

509

510

511
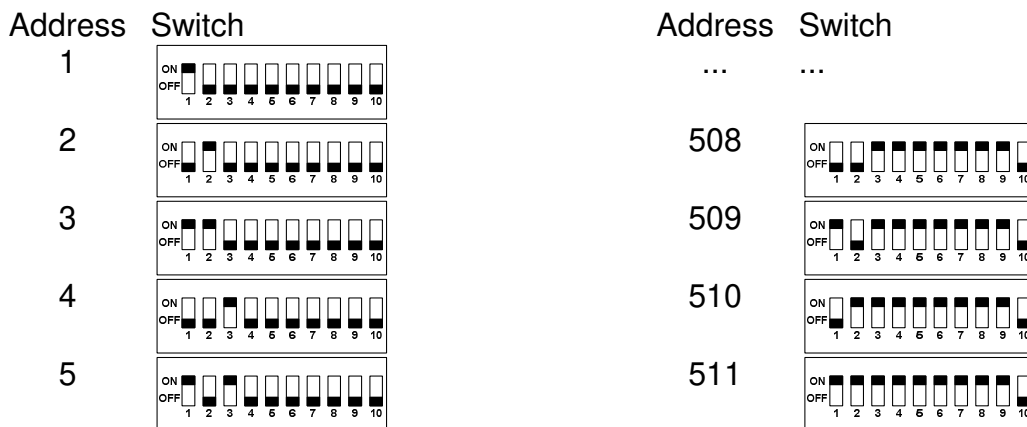
⚠ The RDM parameter DMX_STARTADDRESS can also be used to set the DMX start address.

A DMX start address set via the DIP switches has priority over the start address set via RDM.

Operation modes

The DMX Audio Unit offers separate operating modes adjustable via the RDM Personality:

32Songs/**PlayMode**/**Vol**/**EQ** (Personality 1)

Channel	Function	Value	
1	Song	0-7	Audio-Datei 00001.mp3
		8-15	Audio-Datei 00002.mp3
		16-23	Audio-Datei 00003.mp3
		24-31	Audio-Datei 00004.mp3
		32-39	Audio-Datei 00005.mp3
		40-47	Audio-Datei 00006.mp3
		48-55	Audio-Datei 00007.mp3
		56-63	Audio-Datei 00008.mp3
		64-71	Audio-Datei 00009.mp3
		72-79	Audio-Datei 00010.mp3
		80-87	Audio-Datei 00011.mp3
		88-95	Audio-Datei 00012.mp3
		96-103	Audio-Datei 00013.mp3
		104-111	Audio-Datei 00014.mp3
		112-119	Audio-Datei 00015.mp3
		120-127	Audio-Datei 00016.mp3
		128-135	Audio-Datei 00017.mp3
		136-143	Audio-Datei 00018.mp3
		144-151	Audio-Datei 00019.mp3
		152-159	Audio-Datei 00020.mp3
		160-167	Audio-Datei 00021.mp3
		168-175	Audio-Datei 00022.mp3
		176-183	Audio-Datei 00023.mp3
		184-191	Audio-Datei 00024.mp3
		192-199	Audio-Datei 00025.mp3
		200-207	Audio-Datei 00026.mp3
		208-215	Audio-Datei 00027.mp3
		216-223	Audio-Datei 00028.mp3
		224-231	Audio-Datei 00029.mp3
		232-239	Audio-Datei 00030.mp3
		240-247	Audio-Datei 00031.mp3
		248-255	Audio-Datei 00032.mp3
2	PlayMode	0-63	Stop
		64-127	Single Play
		128-191	Cycle Play
		192-255	Pause
3	Volume	0-255	Quiet → Loud
4	Accoustic colour	0-50	Normal
		51-101	Pop
		102-152	Rock
		153-203	Jazz
		204-255	Classic

64Songs/PlayMode/Vol/EQ (Personality 2)

Channel	Function	Value	
1	Song	0-3	Audio file 00001.mp3
		4-8	Audio file 00002.mp3
		: : :	: : :
		248-251	Audio file 00063.mp3
		252-255	Audio file 00064.mp3
2	PlayMode	0-63	Stop
		64-127	Single Play
		128-191	Loop Play
		192-255	Pause
3	Volume	0-255	Quiet → Loud
4	Accoustic colour	0-50	Normal
		51-101	Pop
		102-152	Rock
		153-203	Jazz
		204-255	Classic

SongUp/SongDown/PlayMode/Vol/ EQ (Personality 3)

Channel	Function	Value	
1	Next Song	Transition 0-127 to 128-255	
2	Previous Song	Transition 0-127 to 128-255	
3	PlayMode	0-63	Stop
		64-127	Single Play
		128-191	Cycle Play
		192-255	Pause
4	Volume	0-255	Quiet → Loud
5	Accoustic colour	0-50	Normal
		51-101	Pop
		102-152	Rock
		153-203	Jazz
		204-255	Classic

Play Mode

Stop   The playback stops. After restarting (play), playback will start from the beginning of the audio file.

Single Play   The audio file is played back one time. After the audio file ends, playback stops.

Loop Play   The audio file is played back in a loop. After the audio file ends, the playback of this file starts again.

Cycle Play   All audio files are played back one after the other. After the end of the last audio file, it will start again from the first one.

Pause   Playback is paused. After restarting (play), playback will be continued.

DMX Fail Behavior

In case of a DMX signal failure (DMX fail) the DMX Audio Unit can continue the current playback (HOLD), stop the playback (OFF) or execute a predefined saved setting.

Via the RDM parameter DMX_FAIL_MODE or the setting directly at the device the DMX failure behavior can be adjusted.

⚠ After a power failure the held DMX values are not restored by the HOLD function. In this case the values are set to 0 (OFF).

Settings at the Device

The **DMX-Audio Unit** has different operating modes and a DMX-Fail setting, which can be set via RDM or as follows at the unit:

- Turn the device off

- Switch 10 on ON

- Switch 9 on OFF

- Adjust the settings via switch 1-8

- Turn the device on

   ➔ The LED flashes green fast

- Switch 10 on OFF

   ➔ The LED now flashes green 4 times to confirm that the setting has been accepted

- Turn the device off

Switch 1 and 2:   Operation mode

   1 OFF / 2 OFF: 32Songs/PlayMode/Vol/EQ

   1 ON / 2 OFF: 64Songs/PlayMode/Vol/EQ

   1 OFF / 2 ON: SongUp/SongDown/PlayMode/Vol/EQ

Switch 3 to 6:   Reserved (OFF)

Switch 7 and 8:   FAIL-Mode

   7 OFF / 8 OFF: OFF

   7 ON / 8 OFF: HOLD

   7 OFF / 8 ON: Saves the values set via DMX

RDM

RDM is the short form for **R**emote **D**evice **M**anagement.

As soon as the device is within the system, device-dependent settings can occur remotely via RDM command due to the uniquely assigned UID. A direct access to the device is not necessary.

⚠️ If the DMX start address is set via RDM, all address switches at the DMX-Audio Unit must be set to OFF ! A DMX start address set by the address switches is always prior !

This device supports the following RDM commands:

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
DISC_UNIQUE_BRANCH	✓			E1.20
DISC_MUTE	✓			E1.20
DISC_UN_MUTE	✓			E1.20
DEVICE_INFO			✓	E1.20
SUPPORTED_PARAMETERS			✓	E1.20
PARAMETER_DESCRIPTION			✓	E1.20
SOFTWARE_VERSION_LABEL			✓	E1.20
DMX_START_ADDRESS		✓	✓	E1.20
DEVICE_LABEL		✓	✓	E1.20
MANUFACTURER_LABEL			✓	E1.20
DEVICE_MODEL_DESCRIPTION			✓	E1.20
IDENTIFY_DEVICE		✓	✓	E1.20
FACTORY_DEFAULTS		✓	✓	E1.20
DMX_PERSONALITY		✓	✓	E1.20
DMX_PERSONALITY_DESCRIPTION			✓	E1.20
DISPLAY_LEVEL		✓	✓	E1.20

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
SERIAL_NUMBER[1]			✓	PID: 0xD400
DMX_FAIL_MODE[1]		✓	✓	PID: 0xD403

1) Manufacturer depending RDM control commands (MSC - Manufacturer Specific Type)

Manufacturer depending RDM control commands:

SERIAL_NUMBER
PID: 0xD400

Outputs a text description (ASCII text) of the device serial number.

GET   Send: PDL=0
      Receive: PDL=21   (21 Byte ASCII text)

DMX_FAIL_MODE
PID: 0xD403

Sets the behavior in case of DMX failure.

GET   Send: PDL=0
      Receive: PDL=1   (1 Byte Function)

SET   Send: PDL=1   (1 Byte Function)
      Receive: PDL=0

Parameter	Function
0	Hold
1	Off
2	Save actual values and use on DMX fail

Factory Reset

⚠️   Before performing the factory reset, read all the steps carefully.

The DMX Audio Unit can be reset via RDM to the delivery state with the RDM parameter FACTORY_RESET.

To reset the **DMX-Audio Unit** into the delivery state at the device proceed as follows:

- Turn off the device (Disconnect power supply !)

- Set address switch 1 to 10 on ON

- Turn on the device (Connect power supply !)

- Now, the LED flashes 20x within ca. 3 seconds

  ➔ While the LED is flashing, set switch 10 to OFF

- The factory reset is now performed

  ➔ Now, the LED flashes with event number 4

- Turn off the device (Disconnect power and USB supply !)

- The device can now be used

💡 If another factory reset is necessary, this procedure can be repeated.

Dimensions
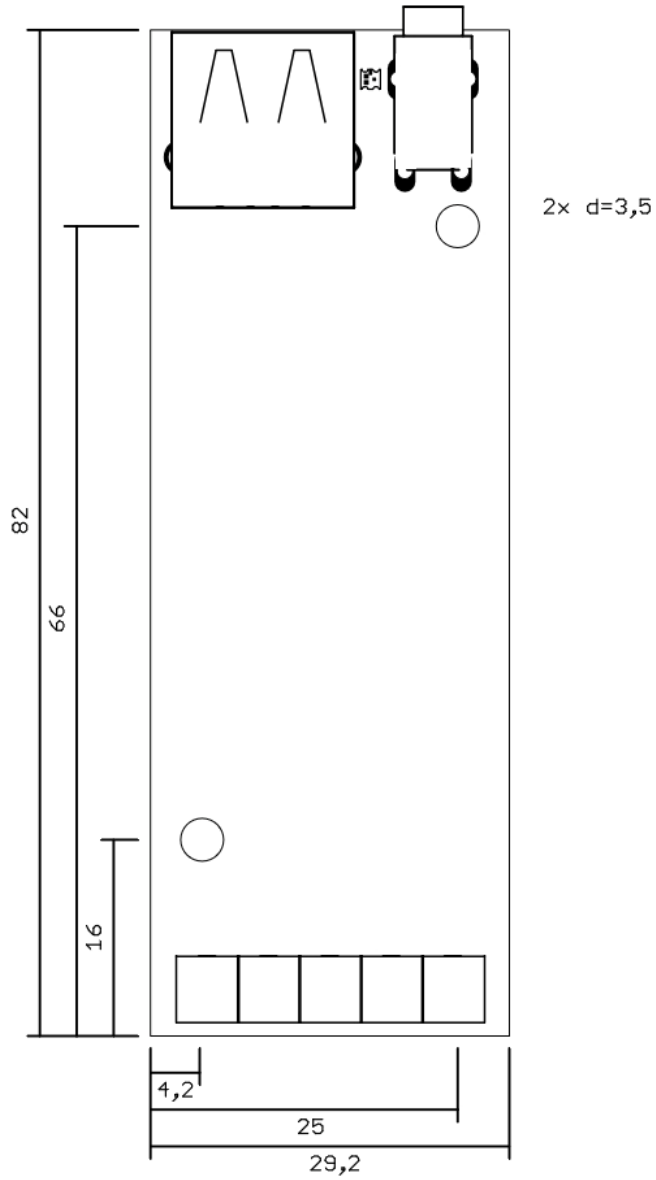
All details in mm

Equipment

Top hat rail mounting 350

Top hat rail mounting 350flat

Power supply 12V

CE-Conformity

This assembly (board) is controlled by a microprocessor and uses high frequency. In order to maintain the properties of the module with regard to CE conformity, installation into a closed metal housing in accordance with the EMC directive 2014/30/EU is necessary.

Disposal

Electronical and electronic products must not be disposed in domestic waste. Dispose the product at the end of its service life in accordance with applicable legal regulations. Information on this can be obtained from your local waste disposal company.

Warning

This device is no toy. Keep out of the reach of children. Parents are liable for consequential damages caused by nonobservance for their children.

Risk Notes

You purchased a technical product. Conformable to the best available technology the following risks should not excluded:

Failure risk:
The device can drop out partially or completely at any time without warning. To reduce the probability of a failure a redundant system structure is necessary.

Initiation risk:
For the installation of the board, the board must be connected and adjusted to foreign components according to the device paperwork. This work can only be done by qualified personnel, which read the full device paperwork and understand it.

Operating risk:
The Change or the operation under special conditions of the installed systems/components could as well as hidden defects cause to breakdown within the running time.

Misusage risk:
Any nonstandard use could cause incalculable risks and is not allowed.

Waning:
It is not allowed to use the device in an operation, where the safety of persons depend on this device.

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WWW.DMX4ALL.DE

DMX4ALL GmbH
Reiterweg 2A
D-44869 Bochum
Germany

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