DMX REFERENCE

HW UnThA 260BMHL

HW Untha



Manufacturer	HW Untha
GDTF file	HW_Untha_HW_UnThA_260BMHL_136099.gdtf
GDTF revision	HW UnThA 260BMHL · 2026-03-30
Generated	2026-11-24

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1 About this manual

This document describes the HW UnThA 260BMHL by HW Untha. It was compiled from the GDTF file HW_Untha_HW_UnThA_260BMHL_136099.gdtf from the GDTF-Share library.

File revision: “HW UnThA 260BMHL”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by HW Untha; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Weight	14.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard 16 ch	16	32	1, 17, 33, 49, …

No light? Check these channels

- Standard 16 ch: CH 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 Dimmer above 0



Read the manual before use



Do not stare into the light



Indoor use only

3 Safety instructions



Read the manual before use



Do not stare into the light



Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

⚠ CAUTION

- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

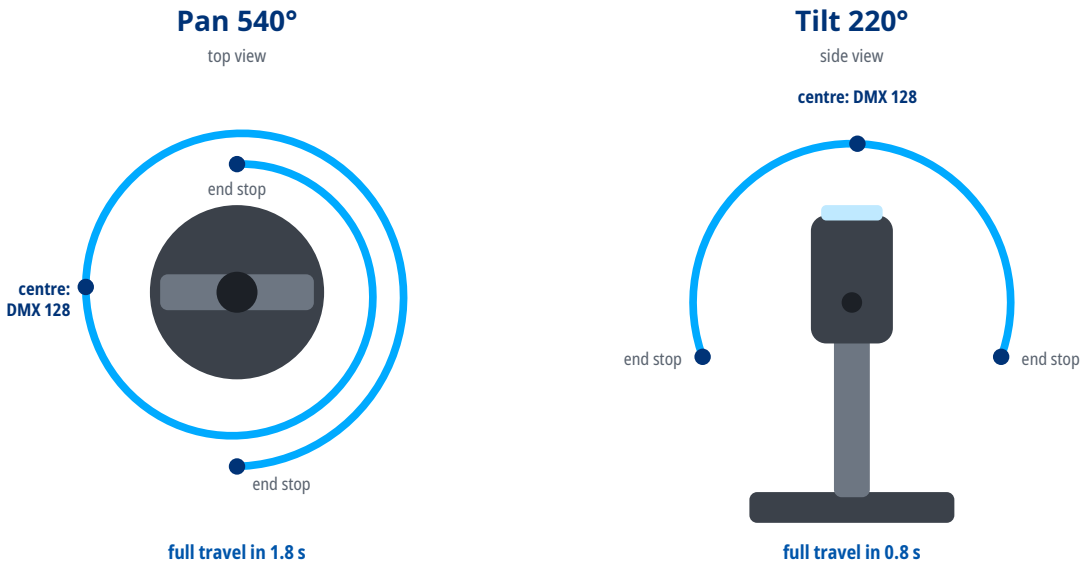
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
> - Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Description in the GDTF file

“HW UnThA original 260BMHL beam moving head”

Range of movement



Full-travel times as stated in the GDTF file.

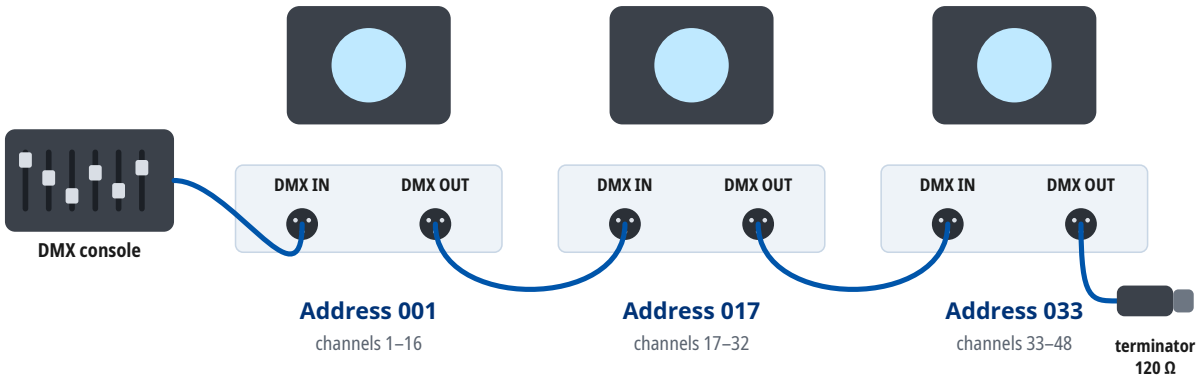
5 Installation

> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 14.8 kg.
> - Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
> - Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
> - During installation and removal, keep people out of the area below the work position.
> - Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode Standard 16 ch: every unit occupies 16 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Standard 16 ch”: 16.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Standard 16 ch”, you can use, for example, the start addresses 1, 17, 33, 49.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

	Standard 16 ch 16 channels
Pan / Tilt	10, 11
Dimmer	3
Shutter / strobe	2
Color wheel	1
Gobo wheel	4
Prism	5–8, 14
Frost	13
Focus	9
Effects / macros	14

Color wheel



Gobo wheel

1
Gobo 1: Open
DMX 0–3

2 
Gobo 1: Hole 1
DMX 4–7

3 
Gobo 1: Hole 2
DMX 8–11

4 
Gobo 1: Hole 3
DMX 12–14

5 
Gobo 1: Hole 4
DMX 15–18

6 
Gobo 1: Hole 5
DMX 19–22

7 
Gobo 1: Hole 6
DMX 23–26

8 
Gobo 1: Gobo 7
DMX 27–29

9 
Gobo 1: Gobo 8
DMX 30–33

10 
Gobo 1: Gobo 9
DMX 34–37

11 
Gobo 10
DMX 38–41

12 
Gobo 11
DMX 42–44

13 
Gobo 12
DMX 45–48

14 
Gobo 13
DMX 49–52

15 
Gobo 14
DMX 53–56

16 
Gobo 15
DMX 57–59

17 
Gobo 16
DMX 60–63

18 
Gobo 17
DMX 64–67

Prism 1

1
Open
DMX 0–127

2 
4 facets
Prism Effect
DMX 128–255

Prism 2

1
Open
DMX 0–127

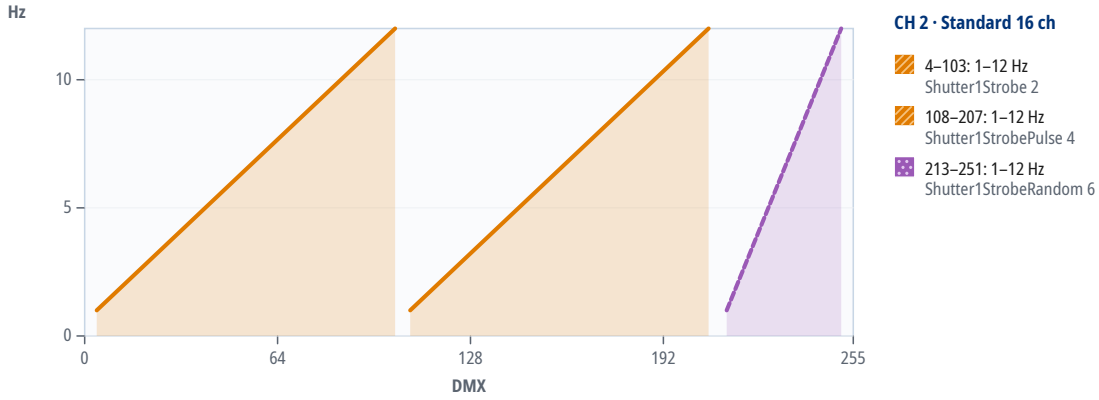
2 
8 facets
Prism 8 Facet
DMX 128–255

Prism 3

1
Open

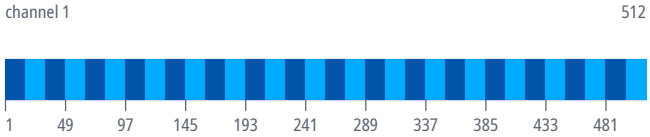
2
RAINBOW LENS

Strobe rate



9 DMX channels

Units in one DMX universe



Standard 16 ch
16 channels

up to 32 units
last address 497

Start addresses of 20 units in the mode “Standard 16 ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	81	11	161	16	241
2	17	7	97	12	177	17	257
3	33	8	113	13	193	18	273
4	49	9	129	14	209	19	289
5	65	10	145	15	225	20	305

Mode Standard 16 ch

If the device receives DMX in this mode but gives no light, check these channels: CH 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Colors 0, CH 2 Shutter 255, CH 3 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Colors	0–23	Open
		24–46	White + UV
		47–69	UV
		70–92	UV + Lavender
		93–115	Lavender
		116–139	Lavender + CTO 3200
		140–162	CTO 3200
		163–185	CTO 3200 + CTO 2500
		186–208	CTO 2500
		209–231	CTO 2500 + Blue Wood
		232–255	Blue Wood
2	Shutter	0–3	Shutter 1: Closed
		4	Slow Strobe
		5–102	Strobe
		103	Fast Strobe
		104–107	Shutter 1: Open
		108	Slow Pulse
		109–206	Pulse
		207	Fast Pulse

CH	Function	DMX	Description
2	Shutter (continued)	208–212	Shutter 1: Open
		213–225	Random Slow
		226–238	Random Medium
		239–251	Random Fast
		252–255	Shutter 1: Open
3	Dimmer	0–255	
4	Gobo	0–3	Gobo 1: Open
		4–7	Gobo 1: Hole 1
		8–11	Gobo 1: Hole 2
		12–14	Gobo 1: Hole 3
		15–18	Gobo 1: Hole 4
		19–22	Gobo 1: Hole 5
		23–26	Gobo 1: Hole 6
		27–29	Gobo 1: Gobo 7
		30–33	Gobo 1: Gobo 8
		34–37	Gobo 1: Gobo 9
		38–41	Gobo 10
		42–44	Gobo 11
		45–48	Gobo 12
		49–52	Gobo 13
		53–56	Gobo 14
		57–59	Gobo 15
		60–63	Gobo 16
		64–67	Gobo 17
		68–71	Gobo 18
		72	Fast Rotation FWD
		73–112	Rotation FWD (179.9–18 °/s)
		113	Slow Rotation FWD
		114–117	Gobo 1 Wheel Spin: Stop
		118	Slow Rotation BWD
		119–158	Rotation BWD (18–179.9 °/s)
		159	Fast Rotation BWD
		160–165	Gobo 1 Select Shake: Hole 1 (1–4 Hz)
		166–170	Gobo 1 Select Shake: Hole 2 (1–4 Hz)
		171–175	Gobo 1 Select Shake: Hole 3 (1–4 Hz)
		176–181	Gobo 1 Select Shake: Hole 4 (1–4 Hz)
		182–186	Gobo 1 Select Shake: Hole 5 (1–4 Hz)
		187–191	Gobo 1 Select Shake: Hole 6 (1–4 Hz)
		192–196	Gobo 1 Select Shake: Gobo 7 (1–4 Hz)
		197–202	Gobo 1 Select Shake: Gobo 8 (1–4 Hz)
		203–207	Gobo 1 Select Shake: Gobo 9 (1–4 Hz)
		208–212	Gobo 1 Select Shake: Gobo 10 (1–4 Hz)

CH	Function	DMX	Description
4	Gobo (continued)	213–218	Gobo 1 Select Shake: Gobo 11 (1–4 Hz)
		219–223	Gobo 1 Select Shake: Gobo 12 (1–4 Hz)
		224–228	Gobo 1 Select Shake: Gobo 13 (1–4 Hz)
		229–233	Gobo 1 Select Shake: Gobo 14 (1–4 Hz)
		234–239	Gobo 1 Select Shake: Gobo 15 (1–4 Hz)
		240–244	Gobo 1 Select Shake: Gobo 16 (1–4 Hz)
		245–249	Gobo 1 Select Shake: Gobo 17 (1–4 Hz)
		250–255	Gobo 1 Select Shake: Gobo 18 (1–4 Hz)
5	Prism	0–127	Open
		128–255	Prism Effect
6	Prism Rotation	0–21	CW 0 to 90
		22–42	CW 90 to 180
		43–63	CW 180 to 270
		64–84	CW 270 to 360
		85–105	CW 360 to 450
		106–127	CW 450 to 540
		128	CW
		129–190	CW ... Stop
		191–192	Prism 1 Pos Rotate: Stop
		193–254	Stop ... CCW
		255	CCW
7	Prism 2	0–127	Open
		128–255	Prism 8 Facet
8	Prism 2 Rotation	0–21	CW 0 to 90
		22–42	CW 90 to 180
		43–63	CW 180 to 270
		64–84	CW 270 to 360
		85–105	CW 360 to 450
		106–127	Empty Channel Set
		128	CCW
		129–190	CCW ... Stop
		191	Prism 2 Pos Rotate: Stop
		192–254	Stop ... CW
		255	CW
9	Focus	0–1	Far
		2–127	Far ... Middle
		128–129	Middle
		130–254	Middle ... Near
		255	Near
10	Pan	0–127	Pan 1
		128	Home
		129–255	Pan 1

CH	Function	DMX	Description
11	Tilt	0–127	Tilt 1
		128	Home
		129–255	Tilt 1
12	Position Effect Speed	0–255	
13	Frost	0	Open
		1–254	Frosting
		255	Full Frost
14	Prism Macro	0–255	
15	Reset	0	No Function
		1–25	Attribute 402 Attribute 402 1
		26–76	EFFECTS RESET
		77–127	Pan Tilt Reset
		128–255	Complete Reset
16	Lamp Control	0	No Function
		1–25	No Function ... LAMP OFF
		26–100	LAMP OFF
		101–255	LAMP ON

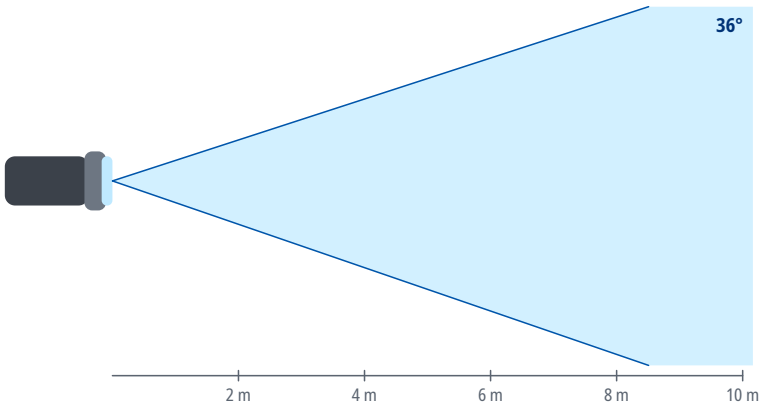
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	330 W
Luminous flux	12,000 lm
Color temperature	8,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	36°
Movement	
Pan	540°
Tilt	220°
Control	
DMX connection	BNC IN/OUT
Dimensions and construction	
Weight	14.8 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–12 Hz
Gobo wheel rotation	up to 360 °/s (60 rpm)
Prism 1 rotation	up to 573 °/s (95 rpm)
Prism 2 rotation	up to 687.5 °/s (115 rpm)

Spot diameter



Distance	Ø 36°
2 m	1.3 m
4 m	2.6 m
6 m	3.9 m
8 m	5.2 m
10 m	6.5 m
15 m	9.7 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let

it cool down.

- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.