DMX REFERENCE

PIX MAGIC

Harbinger 800W IP

Harbinger

Manufacturer	Harbinger
GDTF file	Harbinger_PIX_MAGIC_170279.gdtf
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1 About this manual

This document describes the Harbinger 800W IP by Harbinger. It was compiled from the GDTF file Harbinger_PIX_MAGIC_170279.gdtf from the GDTF-Share library.

File revision: “11-21over”.

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 Harbinger; 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	12.6 kg

DMX modes

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

No light? Check these channels

- 16CH: CH 3 Dimmer above 0; CH 8 Shutter at 0–5 or 214–255 “OPEN”



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.

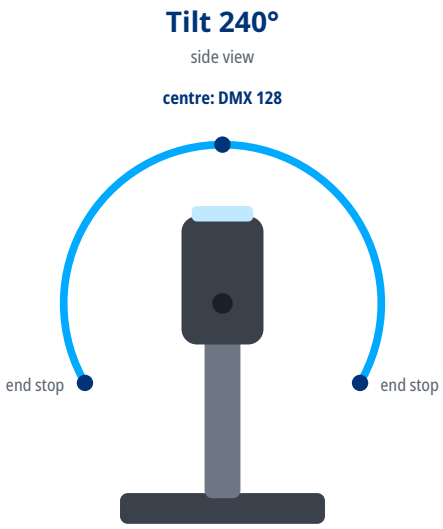
⚠ CAUTION

- 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

Range of movement



5 Installation

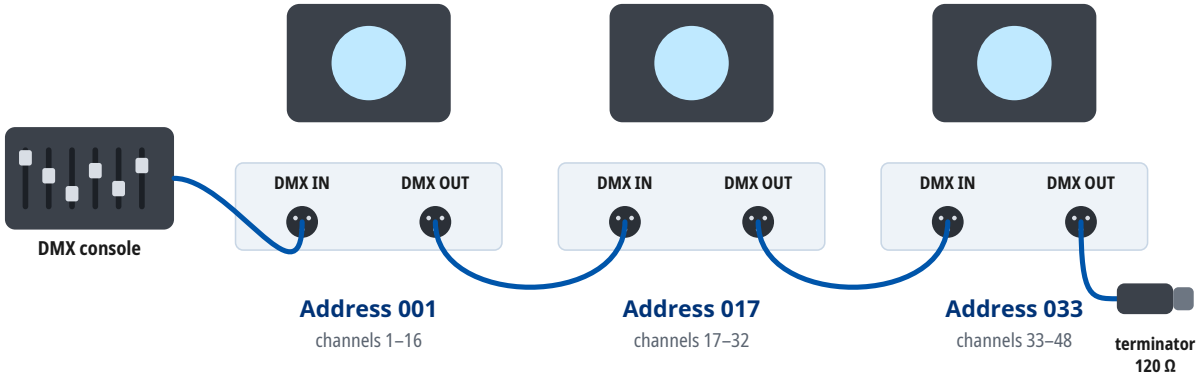
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 12.6 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 16CH: 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

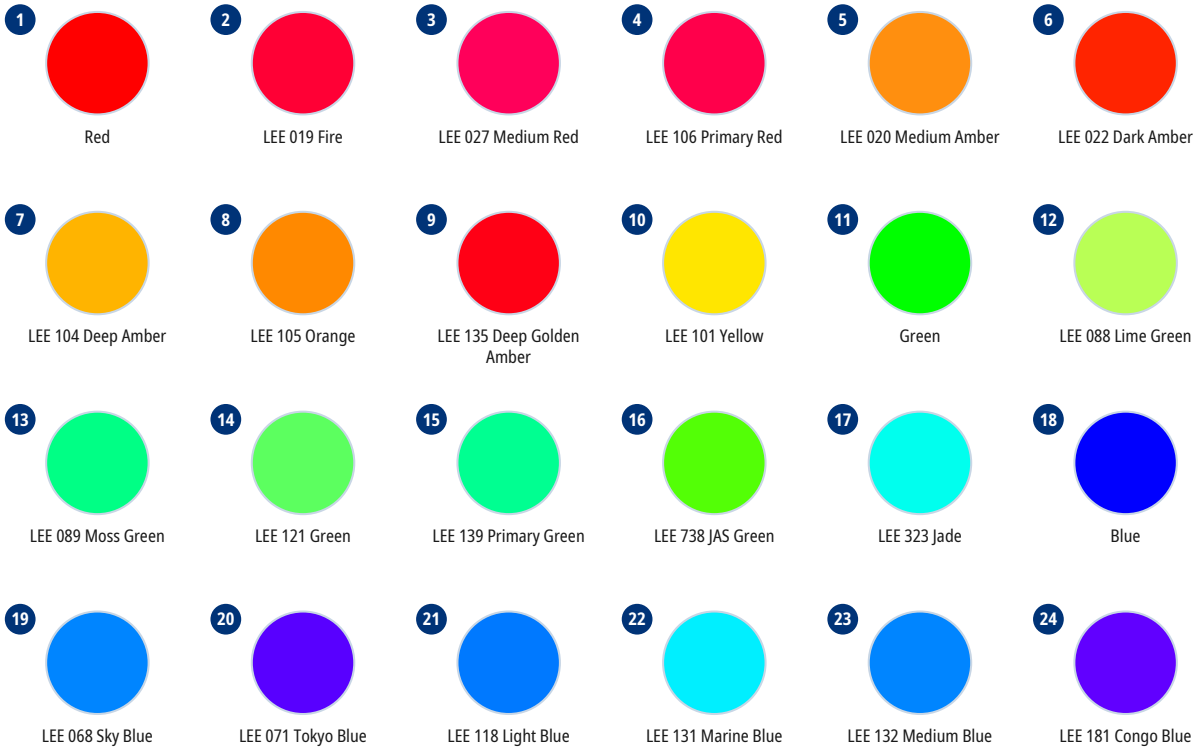
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “16CH”: 16.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “16CH”, 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

	16CH 16 channels
Pan / Tilt	1
Dimmer	3
Shutter / strobe	8
Color mixing	12–15
Color temperature	16
Frost	4

Color wheel



25 LEE 716 Mikkel Blue

26 LEE 002 Rose Pink

27 LEE 036 Medium Pink

28 LEE 052 Light Lavender

29 LEE 058 Lavender

30 LEE 113 Magenta

31 LEE 126 Mauve

32 LEE 127 Smokey Pink

33 LEE 343 Special Medium Lavender

34 LEE 707 Ultimate Violet

35 LEE 795 Magical Magenta

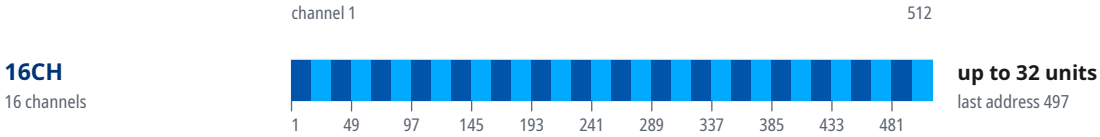
36 LEE 798 Chrysalis Pink

37 LEE 799 Special KH Lavender

38 open

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “16CH”

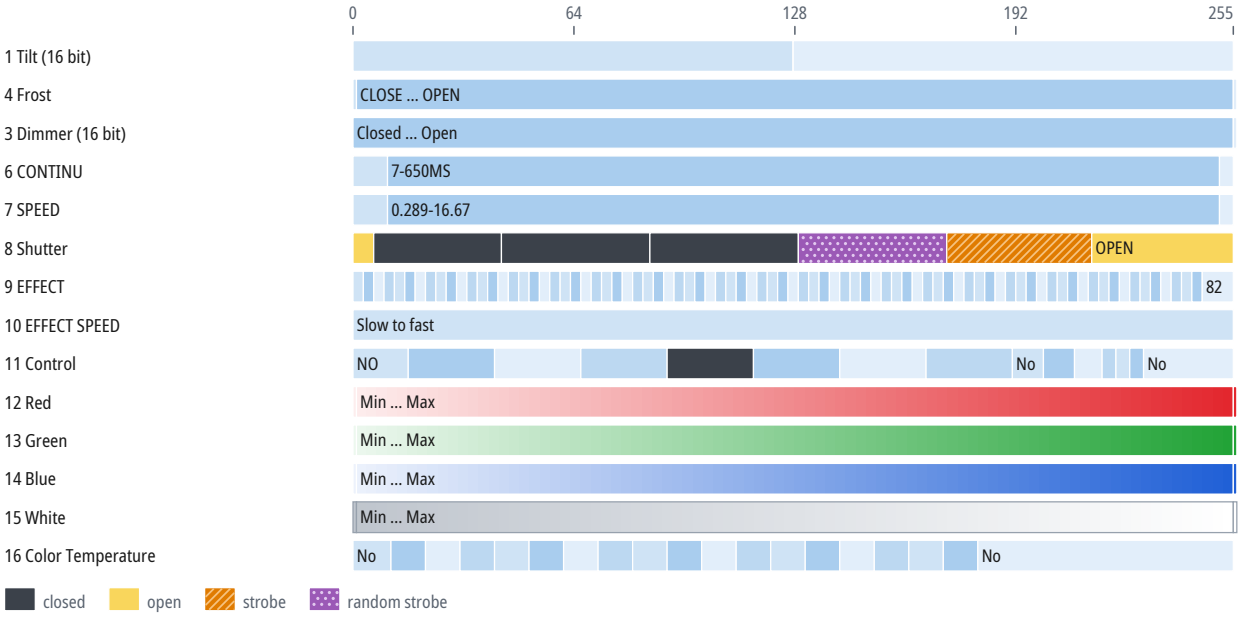
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	81	11	161	16	241
2	17	7	97	12	177	17	257
3	33	8	113	13	193	18	273
4	49	9	129	14	209	19	289
5	65	10	145	15	225	20	305

Mode 16CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 3 Dimmer above 0; CH 8 Shutter at 0–5 or 214–255 “OPEN”. The GDTF file gives these values for a console's Highlight function: CH 3 Dimmer 255, CH 12 Red 255, CH 13 Green 255, CH 14 Blue 255, CH 15 White 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt	0–127	Tilt 1
		128	Center
		128–255	Tilt 1
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Dimmer	0–255	Closed ... Open

CH	Function	DMX	Description
3	Dimmer (continued)	255	Open
4	Frost	0	CLOSE
		1–254	CLOSE ... OPEN
		255	OPEN
5	Dimmer Fine	0–255	Fine adjustment of CH 3
6	CONTINU	0–9	OPEN LIGHT
		10–250	7-650MS
		251–255	OPEN LIGHT
7	SPEED	0–9	OPEN LIGHT
		10–250	0.289-16.67
		251–255	OPEN LIGHT
8	Shutter	0–5	Shutter 1: OPEN
		6–42	Shutter 1: SLOW OPEN FAST CLOSED
		43–85	Shutter 1: FAST OPEN SLOW CLOSED
		86–128	Shutter 1: SLOW CLOSED SLOW OPEN
		129–171	Shutter 1 Strobe Random 2
		172–213	Shutter 1 Strobe Pulse 3
		214–255	OPEN
9	EFFECT	0–2	NO
		3–5	1
		6–8	2
		9–11	3
		12–14	4
		15–17	5
		18–20	6
		21–23	7
		24–26	8
		27–29	9
		30–32	10
		33–35	11
		36–38	12
		39–41	13
		42–44	14
		45–47	15
		48–50	16
		51–53	17
		54–56	18
		57–59	19
		60–62	20
		63–65	21
		66–68	22
		69–71	23

CH	Function	DMX	Description
9	EFFECT (continued)	72–74	24
		75–77	25
		78–80	26
		81–83	27
		84–86	28
		87–89	29
		90–92	30
		93–95	31
		96–98	32
		99–101	33
		102–104	34
		105–107	35
		108–110	36
		111–113	37
		114–116	38
		117–119	39
		120–122	40
		123–125	41
		126–128	42
		129–131	43
		132–134	44
		135–137	45
		138–140	46
		141–143	47
		144–146	48
		147–149	49
		150–152	50
		153–155	51
		156–158	52
		159–161	53
		162–164	54
		165–167	55
		168–170	56
		171–173	57
		174–176	58
		177–179	59
		180–182	60
		183–185	61
		186–188	62
		189–191	63
		192–194	64
		195–197	65

CH	Function	DMX	Description
9	EFFECT (continued)	198–200	66
		201–203	67
		204–206	68
		207–209	69
		210–212	70
		213–215	71
		216–218	72
		219–221	73
		222–224	74
		225–227	75
		228–230	76
		231–233	77
		234–236	78
		237–239	79
		240–242	80
		243–245	81
		246–255	82
10	EFFECT SPEED		slow to fast
		0–255	Slow to fast
11	Control	0–15	NO
		16–40	FAN MODE OPEN
		41–65	FAN MODE AUTO
		66–90	FAN MODE QUIET
		91–115	PIXEL INVERT CLOSED
		116–140	PIXEL INVERT OPEN
		141–165	Hold stay when no dmx
		166–190	Standy state when no dmx
		191–199	No
		200–208	Dim linear on
		209–216	Dim linear off
		217–220	Video
		221–224	Art net
		225–228	Sacn
		229–255	No
12	Red	0	Min
		1–254	Min ... Max
		255	Max
13	Green	0	Min
		1–254	Min ... Max
		255	Max
14	Blue	0	Min
		1–254	Min ... Max

CH	Function	DMX	Description
14	Blue (continued)	255	Max
15	White	0	Min
		1–254	Min … Max
		255	Max
16	Color Temperature	0–10	No
		11–20	2700k
		21–30	2800k
		31–40	2900k
		41–50	3000k
		51–60	3200k
		61–70	3500k
		71–80	3700k
		81–90	4000k
		91–100	4300k
		101–110	4700k
		111–120	5000k
		121–130	5600k
		131–140	6000k
		141–150	6500k
		151–160	7000k
		161–170	7500k
		171–180	8000k
		181–255	No

10 Technical specifications

Parameter	Value
Tilt	240°
Weight	12.6 kg
Operating temperature	-40 to 45 °C

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.