DMX REFERENCE

PT-MZ16K

Panasonic

Manufacturer	Panasonic
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1 About this manual

This document describes the PT-MZ16K by Panasonic. It was compiled from the GDTF file Panasonic_PT-MZ16K_39354.gdtf from the GDTF-Share library.

File revision: “Final Tested”.

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 Panasonic; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 2	12	42	1, 13, 25, 37, ...
Mode 1	12	42	1, 13, 25, 37, ...
USER	12	42	1, 13, 25, 37, ...

No light? Check these channels

- Mode 2: CH 1 Dimmer above 0
- Mode 1: CH 6 Dimmer above 0
- USER: CH 1 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.

4 Installation

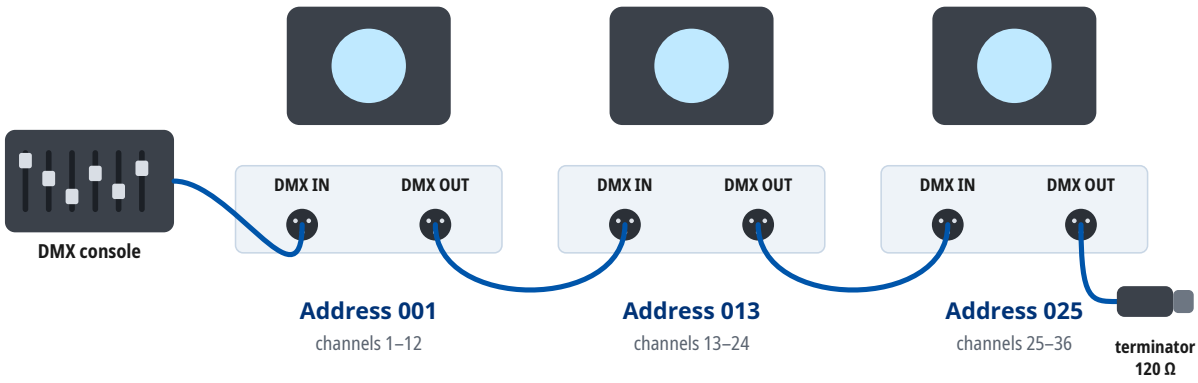
⚠ WARNING

- 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.
- 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.

5 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 2: every unit occupies 12 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.

6 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 “Mode 2”: 12.
- 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 “Mode 2”, you can use, for example, the start addresses 1, 13, 25, 37.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

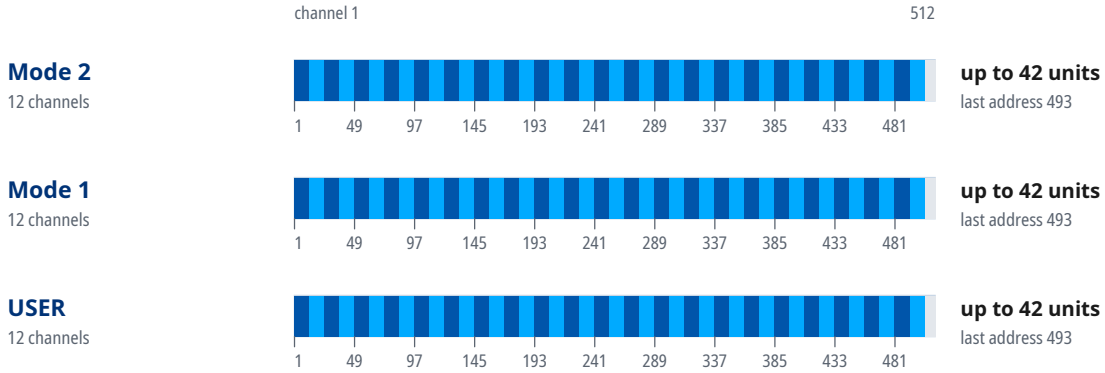
7 Functions at a glance

Functions in each DMX mode

	Mode 2 12 channels	Mode 1 12 channels	USER 12 channels
Dimmer	1	6	1
Shutter / strobe		1	12

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 2”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	61	11	121	16	181
2	13	7	73	12	133	17	193
3	25	8	85	13	145	18	205
4	37	9	97	14	157	19	217
5	49	10	109	15	169	20	229

Mode 2

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 0.

CH	Function	DMX	Description
1	Dimmer		Light Output
		0–255	Light Output
2	Input select	0–7	No operation
		8–15	RGB
		16–23	No operation
		24–31	DVI-D
		32–39	HDMI
		40–47	DIGITAL LINK
		48–55	SDI
		56–255	No operation
3	Lens Position	0–31	No operation
		32–63	Move to the home position
		64–79	Load LENS MEMORY1
		80–95	Load LENS MEMORY2
		96–111	Load LENS MEMORY3
		112–127	Load LENS MEMORY4
		128–143	Load LENS MEMORY5
		144–159	Load LENS MEMORY6

CH	Function	DMX	Description
3	Lens Position (continued)	160–175	Load LENS MEMORY7
		176–191	Load LENS MEMORY8
		192–207	Load LENS MEMORY9
		208–223	Load LENS MEMORY10
		224–255	No operation
4	Lens HSHIFT	0–31	Lens adjustment (-): (-) High speed
		32–63	Lens adjustment (-): (-) Low speed
		64–95	(-) Fine adjustment
		96–159	Operation stop
		160–191	(+) Fine adjustment
		192–223	Lens adjustment (+): (+) Low speed
		224–255	Lens adjustment (+): (+) High speed
5	Lens VSHIFT	0–31	Lens adjustment (-): (-) High speed
		32–63	Lens adjustment (-): (-) Low speed
		64–95	(-) Fine adjustment
		96–159	Operation stop
		160–191	(+) Fine adjustment
		192–223	Lens adjustment (+): (+) Low speed
		224–255	Lens adjustment (+): (+) High speed
6	Lens Focus	0–31	Lens adjustment (-): (-) High speed
		32–63	Lens adjustment (-): (-) Low speed
		64–95	(-) Fine adjustment
		96–159	Operation stop
		160–191	(+) Fine adjustment
		192–223	Lens adjustment (+): (+) Low speed
		224–255	Lens adjustment (+): (+) High speed
7	Lens Zoom	0–31	Lens adjustment (-): (-) High speed
		32–63	Lens adjustment (-): (-) Low speed
		64–95	(-) Fine adjustment
		96–159	Operation stop
		160–191	(+) Fine adjustment
		192–223	Lens adjustment (+): (+) Low speed
		224–255	Lens adjustment (+): (+) High speed
8	Power	0–63	Standby
		64–191	No operation
		192–255	Power on
9	Geometry	0–15	OFF
		16–31	KEYSTONE
		32–47	CURVED CORRECTION
		48–63	PC-1
		64–79	PC-2
		80–95	PC-3

CH	Function	DMX	Description
9	Geometry (continued)	96–111	CORNER CORRECTION
		112–255	No operation
10	Costum Masking	0–31	OFF
		32–63	PC-1
		64–95	PC-2
		96–127	PC-3
		128–255	No operation
11	Enable/Disable	0–127	Disable
		128–255	Enable
12	Reserved	0–255	

Mode 1

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 0.

CH	Function	DMX	Description
1	Shutter	0–63	Shutter: Opened
		64–191	No operation
		192–255	Shutter: Closed
2	Input select	0–7	No operation
		8–15	RGB
		16–31	No operation
		32–39	DVI-D
		40–47	HDMI
		48–55	DIGITAL LINK
		56–63	SDI
		64–255	No operation
3	Lens function select	0–15	No operation
		16–31	LENS H SHIFT
		32–47	LENS V SHIFT
		48–63	LENS FOCUS
		64–79	LENS ZOOM
		80–95	Move to the home position
		96–111	Load LENS MEMORY1
		112–127	Load LENS MEMORY2
		128–143	Load LENS MEMORY3
		144–255	No operation
4	Lens Control	0–31	Lens adjustment (-): (-) High speed
		32–63	Lens adjustment (-): (-) Low speed
		64–95	(-) Fine adjustment
		96–127	Operation stop
		128–159	(+) Fine adjustment
		160–191	Lens adjustment (+): (+) Low speed

CH	Function	DMX	Description
4	Lens Control (continued)	192–223	Lens adjustment (+): (+) High speed
		224–255	Execute command action
5	Power		Same as CH 8 in the mode “Mode 2” (p. 8)
6	Dimmer		Same as CH 1 in the mode “Mode 2” (p. 7)
7	Enable/Disable		Same as CH 11 in the mode “Mode 2” (p. 9)
8	Fade-In	0–15	OFF
		16–31	0s5
		32–47	1s
		48–63	1s5
		64–79	2s
		80–95	2s5
		96–111	3s
		112–127	3s5
		128–143	4s
		144–159	5s
		160–175	7s
		176–191	10s
		192–255	No operation
9	Fade-Out	0–15	OFF
		16–31	0s5
		32–47	1s
		48–63	1s5
		64–79	2s
		80–95	2s5
		96–111	3s
		112–127	3s5
		128–143	4s
		144–159	5s
		160–175	7s
		176–191	10s
		192–255	No operation
10	Costum Masking		Same as CH 10 in the mode “Mode 2” (p. 9)
11	Geometry		Same as CH 9 in the mode “Mode 2” (p. 8)
12	Reserved	0–255	

Mode USER

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 0.

CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Mode 2” (p. 7)
2	Input select		Same as CH 2 in the mode “Mode 2” (p. 7)
3	Lens Position		Same as CH 3 in the mode “Mode 2” (p. 7)

CH	Function	DMX	Description
4	Lens HSHIFT		Same as CH 4 in the mode “Mode 2” (p. 8)
5	Lens VSHIFT		Same as CH 5 in the mode “Mode 2” (p. 8)
6	Lens Focus		Same as CH 6 in the mode “Mode 2” (p. 8)
7	Lens Zoom		Same as CH 7 in the mode “Mode 2” (p. 8)
8	Power		Same as CH 8 in the mode “Mode 2” (p. 8)
9	Geometry		Same as CH 9 in the mode “Mode 2” (p. 8)
10	Raster Pattern	0–15	No operation
		16–31	OFF
		32–47	WHITE
		48–63	YELLOW
		64–79	CYAN
		80–95	GREEN
		96–111	MAGENTA
		112–127	RED
		128–143	BLUE
		144–159	BLACK
		160–175	USER LOGO
		176–255	No operation
11	Enable/Disable		Same as CH 11 in the mode “Mode 2” (p. 9)
12	Shutter		Same as CH 1 in the mode “Mode 1” (p. 9)

9 Technical specifications

Parameter	Value
Operating temperature	0 to 40 °C

10 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.

11 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.

12 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.