DMX REFERENCE

JDC-1

GLP JDC-1

MAnzo



Manufacturer	MAnzo
GDTF file	MAnzo_JDC-1_33625.gdtf
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1 About this manual

This document describes the GLP JDC-1 by MAnzo. It was compiled from the GDTF file MAnzo_JDC-1_33625.gdtf from the GDTF-Share library.

File revision: “ver1.2”.

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 MAnzo; 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 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
SPIX	68	7	1, 69, 137, 205, ...

No light? Check these channels

- SPIX: CH 3 Dimmer 1 above 0; CH 6 Shutter 2 at 133–179 or 252–255 “NO FUNCTION”; CH 8 Dimmer 2 above 0; CH 11 Shutter at 77–179 “NO FUNCTION”; CH 57 Dimmer above 0 (the same in each of the 12 cells)



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

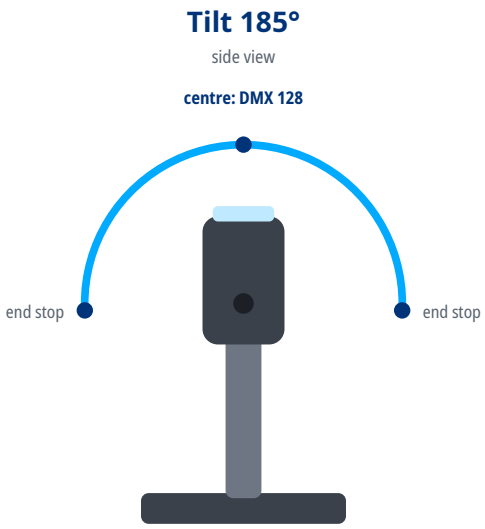
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

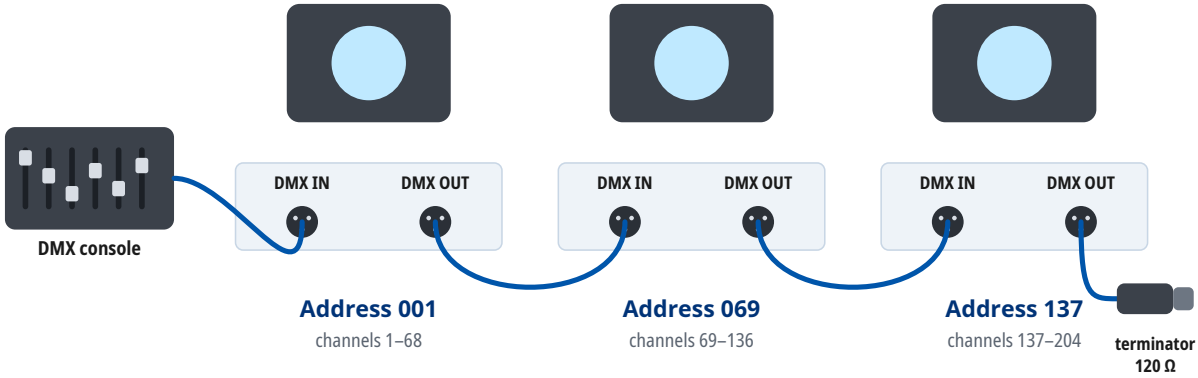
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 12 kg.
- 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 SPIX: every unit occupies 68 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

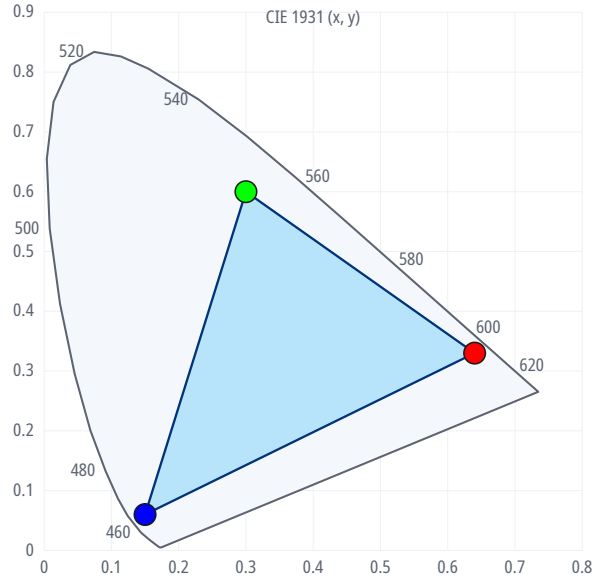
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “SPIX”: 68.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “SPIX”, you can use, for example, the start addresses 1, 69, 137, 205.
- 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

	SPIX 68 channels
Pan / Tilt	1
Dimmer	3, 8, 57–68
Shutter / strobe	4–6, 9–11
Color mixing	12–14, 21–56
Pixel control	12 + 12 cells

LED colors and the colors they mix



LED	x	y
PLATE RED	0.640	0.330
PLATE GREEN	0.300	0.600
PLATE BLUE	0.150	0.060

The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

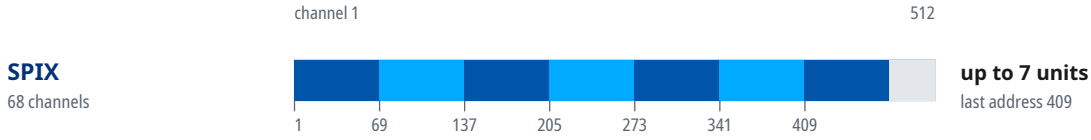
Cells (pixels)

7 CH 19	8 CH 22	9 CH 25	10 CH 28	11 CH 31	12 CH 34
1 CH 1	2 CH 4	3 CH 7	4 CH 10	5 CH 13	6 CH 16

12 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “SPIX”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “SPIX”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	341	11	U2 · 205	16	U3 · 69
2	69	7	409	12	U2 · 273	17	U3 · 137
3	137	8	U2 · 1	13	U2 · 341	18	U3 · 205
4	205	9	U2 · 69	14	U2 · 409	19	U3 · 273
5	273	10	U2 · 137	15	U3 · 1	20	U3 · 341

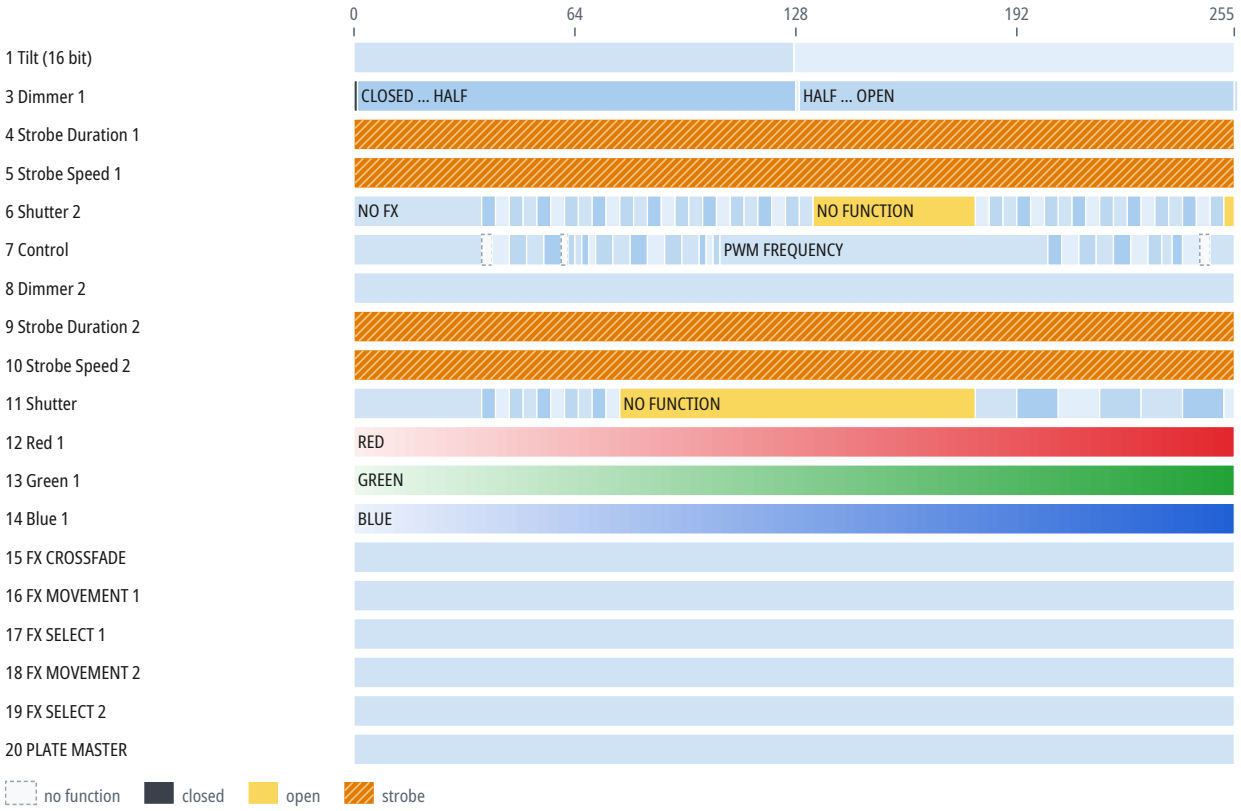
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode SPIX

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 1 above 0; CH 6 Shutter 2 at 133–179 or 252–255 “NO FUNCTION”; CH 8 Dimmer 2 above 0; CH 11 Shutter at 77–179 “NO FUNCTION”; CH 57 Dimmer above 0 (the same in each of the 12 cells). The GDTF file gives these values for a console's Highlight function: CH 3 Dimmer 1 255, CH 6 Shutter 2 255, CH 8 Dimmer 2 255, CH 11 Shutter 255, CH 12 Red 1 255, CH 13 Green 1 255, CH 14 Blue 1 255, CH 21 Red 255 (the same in each of the 12 cells), CH 22 Green 255 (the same in each of the 12 cells), CH 23 Blue 255 (the same in each of the 12 cells), CH 57 Dimmer 255 (the same in each of the 12 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt	0–127	Tilt 1
		128	HOME
		128–255	Tilt 1
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Dimmer 1	0	CLOSED
		1–127	CLOSED ... HALF
		128	HALF
		129–254	HALF ... OPEN
		255	OPEN
4	Strobe Duration 1	0–255	
5	Strobe Speed 1	0–255	
6	Shutter 2		Beam Shutter FX

CH	Function	DMX	Description
6	Shutter 2 (continued)	0–36	NO FX
		37–40	RAMP UP
		41–44	RAMP UP RANDOM
		45–48	RAMP DOWN
		49–52	RAMP DOWN RANDOM
		53–56	RAMP UP DOWN
		57–60	RAMP UP DOWN RANDOM
		61–64	RANDOM WHITE
		65–68	RANDOM WHITE SINGLE PIXEL
		69–72	LIGHTING
		73–76	SPIKES
		77–80	WHITE BEAM LEFT TO RIGHT
		81–84	WHITE BEAM LEFT TO RIGHT RANDOM
		85–88	WHITE BEAM RIGHT TO LEFT
		89–92	WHITE BEAM RIGHT TO LEFT RANDOM
		93–96	WHITE BEAM LEF TO RIGHT BOUNCE
		97–100	WHITE BEAM LEF TO RIGHT BOUNCE RANDOM
		101–104	WHITE BEAM RIGHT TO LEFT BOUNCE
		105–108	WHITE BEAM RIGHT TO LEFT BOUNCE RANDOM
		109–112	ZIG 6 STEPS OUT TO IN
		113–116	ZIG 6 STEPS OUT TO IN RANDOM
		117–120	ZIGZAG 10 STEPS IN TO OUT
		121–124	ZIG 6 STEPS IN TO OUT RANDOM
		125–128	ZIGZAG 10 STEPS
		129–132	ZIGZAG 10 STEPS RANDOM
		133–179	NO FUNCTION
		180–183	DOUBLE FLASH
		184–187	DOUBLE FLASH RANDOM
		188–191	DOUBLE FLASH BEAM COLOR
		192–195	DOUBLE FLASH BEAM COLOR RANDOM
		196–199	DOUBLE FLASH COLOR BEAM
		200–203	DOUBLE FLASH COLOR BEAM RANDOM
		204–207	TRIPLE FLASH
		208–211	TRIPLE FLASH RANDOM
		212–215	TRIPLE FLASH B-C-B
		216–219	TRIPLE FLASH B-C-B RANDOM
		220–223	TRIPLE FLASH C-B-C
		224–227	TRIPLE FLASH C-B-C RANDOM
		228–231	QUAD FLASH
		232–235	QUAD FLASH RANDOM
		236–239	QUAD FLASH B-C-B-C
		240–243	QUAD FLASH B-C-B-C RANDOM

CH	Function	DMX	Description
6	Shutter 2 (continued)	244–247	QUAD FLASH C-B-C-B
		248–251	QUAD FLASH C-B-C-B RANDOM
		252–255	NO FUNCTION
7	Control	0–36	FX PATTERNS OFFSET
		37–39	FUNCTION CONTROL: NO FUNCTION
		40–44	Position feedback on
		45–49	Position feedback off
		50–54	Barndoor on
		55–59	Barndoor off
		60–61	FUNCTION CONTROL: NO FUNCTION
		62–63	Tilt power on
		64–65	Tilt power off
		66–67	Tilt reset on
		68–69	Tilt reset off
		70–74	Normal tilt control
		75–79	Inverse tilt control
		80–84	Normal pixel numbering plates 1+2
		85–89	Inverse pixel numbering plates 1+2
		90–94	Normal pixel numbering 2nd plate
		95–99	Inverse pixel numbering 2nd plate
		100–101	Linear dimming curve
		102–103	Soft dimming curve
		104–105	Extra-soft dimming curve
		106–200	PWM FREQUENCY
		201–204	Fan mode = Auto
		205–209	Fan mode = High
		210–214	Percentage flash mode
		215–219	Normal flash mode
		220–224	Dimmer flash mode on
		225–229	Dimmer flash mode off
		230–233	FX color priority = Beam
		234–236	FX color priority = Mixed
		237–239	FX color priority = Plate
		240–244	Aggressive flash mode
		245–247	CONTROL: NO FUNCTION
		248–255	Reset
8	Dimmer 2	0–255	
9	Strobe Duration 2	0–255	
10	Strobe Speed 2	0–255	
11	Shutter	0–36	Plate FX patterns offset
		37–40	RAMP UP
		41–44	RAMP UP RANDOM

CH	Function	DMX	Description
11	Shutter (continued)	45–48	RAMP DOWN
		49–52	RAMP DOWN RANDOM
		53–56	RAMP UP DOWN
		57–60	RAMP UP DOWN RANDOM
		61–64	RANDOM WHITE BEAM
		65–68	RANDOM SINGLE PIXEL WHITE BEAM
		69–72	LIGHTING
		73–76	SPIKES
		77–179	NO FUNCTION
		180–191	DOUBLE FLASH
		192–203	DOUBLE FLASH RANDOM
		204–215	TRIPLE FLASH
		216–227	TRIPLE FLASH RANDOM
		228–239	QUAD FLASH
		240–251	QUAD FLASH RANDOM
		252–255	NO FX
12	Red 1	0–255	RED
13	Green 1	0–255	GREEN
14	Blue 1	0–255	BLUE
15	FX CROSSFADE	0–255	
16	FX MOVEMENT 1	0–255	
17	FX SELECT 1	0–255	
18	FX MOVEMENT 2	0–255	
19	FX SELECT 2	0–255	
20	PLATE MASTER	0–255	
21	Red 2		When CH 20 is 0:
		0–255	RED
22	Green 2		When CH 20 is 0:
		0–255	GREEN
23	Blue 2		When CH 20 is 0:
		0–255	BLUE
57	Dimmer 3	0–255	

CH 21–56: 12 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 21–23); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	21	22	23	2	24	25	26	3	27	28	29
4	30	31	32	5	33	34	35	6	36	37	38
7	39	40	41	8	42	43	44	9	45	46	47
10	48	49	50	11	51	52	53	12	54	55	56

CH 57–68: 12 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 57); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	57	2	58	3	59	4	60	5	61	6	62
7	63	8	64	9	65	10	66	11	67	12	68

10 Technical specifications

Parameter	Value
Light source	LED
Tilt	185°
DMX connection	5-pin XLR IN/OUT
Power connectors	powerCON TRUE1 IN/OUT
Weight	12 kg
Operating temperature	0 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.

Problem	Remedy
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.