DMX REFERENCE

Intellipix XT

Ayrton Intellipix XT

Ayrton



Manufacturer	Ayrton
GDTF file	Ayrton_Intellipix_XT_133719.gdtf
GDTF revision	V2.61 New_SVG · 2026-03-17
Generated	2026-11-23

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1 About this manual

This document describes the Ayrton Intellipix XT by Ayrton. It was compiled from the GDTF file Ayrton_Intellipix_XT_133719.gdtf from the GDTF-Share library.

File revision: “V2.61 New_SVG”.

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 Ayrton; 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
Power consumption	420 W
Weight	15.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	45	11	1, 46, 91, 136, ...
Extended 2	36	14	1, 37, 73, 109, ...
Standard	13	39	1, 14, 27, 40, ...
Basic	6	85	1, 7, 13, 19, ...

No light? Check these channels

- Extended: CH 1 Shutter at 32–63
- Standard: CH 5 Shutter at 32–63
- Basic: CH 5 Shutter at 32–63


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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

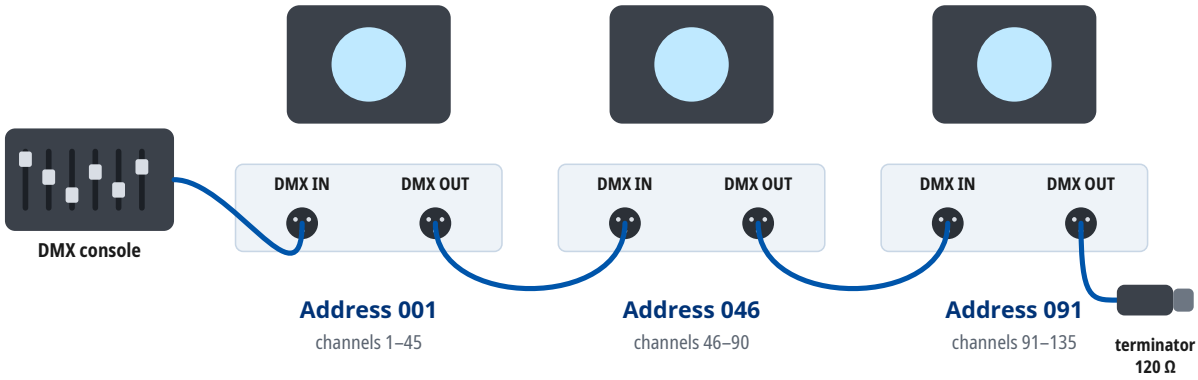
⚠ **WARNING**

- 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.
- Weight of the device: 15.5 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.

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 Extended: every unit occupies 45 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 “Extended”: 45.
- 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 “Extended”, you can use, for example, the start addresses 1, 46, 91, 136.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

7 Functions at a glance

Functions in each DMX mode

	Extended 45 channels	Extended 2 36 channels	Standard 13 channels	Basic 6 channels
Dimmer	2	✓	6	6
Shutter / strobe	1		5	5
Color mixing	10–45	1–36	1–4	1–4
Color wheel	4		8	
Effects / macros	3		7	

Color wheel

1 Open
DMX 0–4

2 White 2700k
DMX 5–9

3 White 3200k
DMX 10–14

4 White 4200k
DMX 15–19

5 White 5600k
DMX 20–24

6 White 6500k
DMX 25–29

7 White 8000k
DMX 30–34

8 Yellow
DMX 35–39

9 Magenta
DMX 40–44

10 Cyan
DMX 45–49

11 Salmon
DMX 50–54

12 Turquoise
DMX 55–59

13 Light Green
DMX 60–64

14 Steel blue
DMX 65–69

15 Orange
DMX 70–74

16 Straw
DMX 75–79

17 Pale Lavander
DMX 80–84

18 Pink
DMX 85–89

19 RED
DMX 90–94

20 GREEN
DMX 95–99

21 BLUE
DMX 100–104

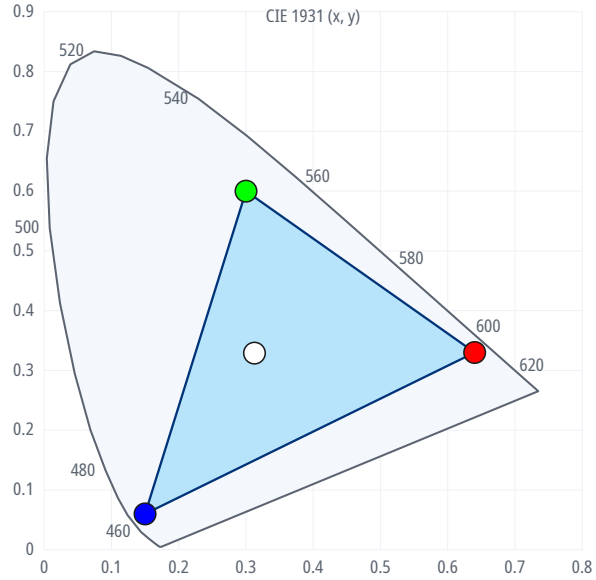
22 White
DMX 105–109

23 Rainbow 1
DMX 110–114

24 Rainbow 2
DMX 115–119

25 Rainbow 3
DMX 120–124

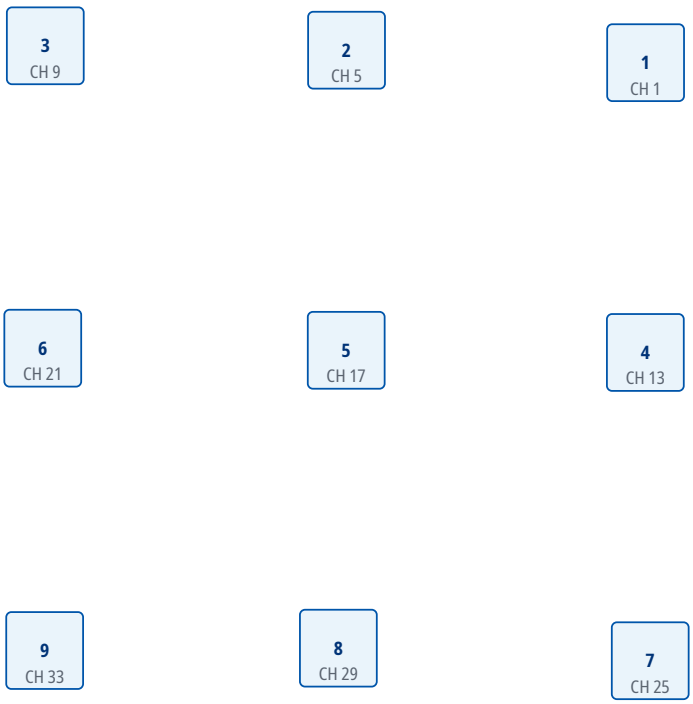
LED colors and the colors they mix



LED	x	y
RED	0.640	0.330
GREEN	0.300	0.600
BLUE	0.150	0.060
WHITE	0.313	0.329

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

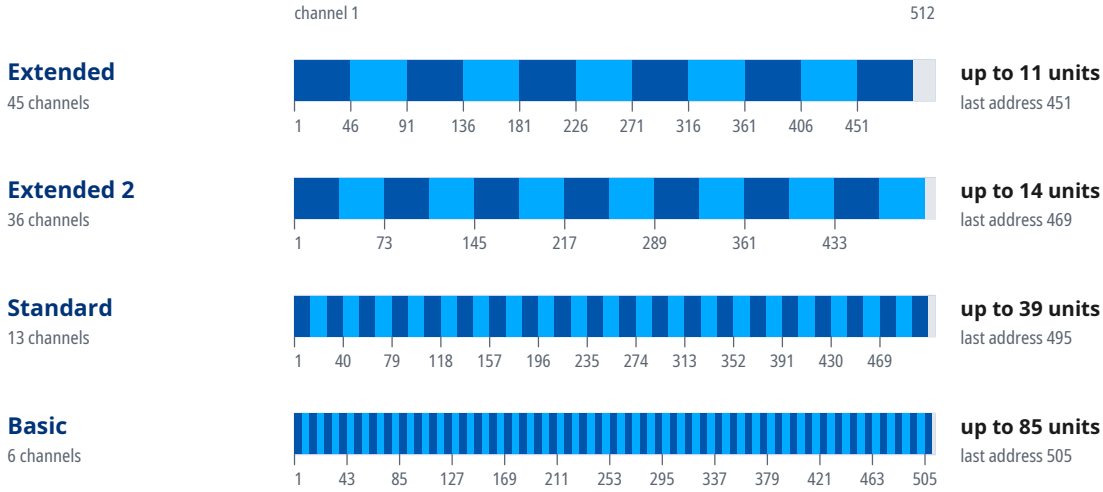
Cells (pixels)



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

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	226	11	451	16	U2 · 181
2	46	7	271	12	U2 · 1	17	U2 · 226
3	91	8	316	13	U2 · 46	18	U2 · 271
4	136	9	361	14	U2 · 91	19	U2 · 316
5	181	10	406	15	U2 · 136	20	U2 · 361

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 Extended

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 32–63. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 32, CH 2 Dimmer 255, CH 4 Colors 0, CH 10 Red 255 (the same in each of the 9 cells), CH 11 Green 255 (the same in each of the 9 cells), CH 12 Blue 255 (the same in each of the 9 cells), CH 13 White 255 (the same in each of the 9 cells).

CH	Function	DMX	Description
1	Shutter	0	LED OFF
		1–31	Led OFF
		32–63	LED ON
		64	STROBE: Min
		65–79	STROBE: Min ... Mid
		80	STROBE: Mid
		81–94	STROBE: Mid ... Max
		95	STROBE: Max
		96–127	No function
		128	STROBE PULSE: Min

CH	Function	DMX	Description
1	Shutter (continued)	129–144	STROBE PULSE: Min ... Mid
		145	STROBE PULSE: Mid
		146–158	STROBE PULSE: Mid ... Max
		159	STROBE PULSE: Max
		160–191	No function
		192	Strobe Random: Min
		193–204	Strobe Random: Min ... Mid
		205	Strobe Random: Mid
		206–222	Strobe Random: Mid ... Max
		223	Strobe Random: Max
		224–255	No function
2	Dimmer	0	Min
		1–254	Min ... Max
		255	Max
3	Color Macro	0–255	
4	Colors	0–4	Open
		5–9	White 2700k
		10–14	White 3200k
		15–19	White 4200k
		20–24	White 5600k
		25–29	White 6500k
		30–34	White 8000k
		35–39	Yellow
		40–44	Magenta
		45–49	Cyan
		50–54	Salmon
		55–59	Turquoise
		60–64	Light Green
		65–69	Steel blue
		70–74	Orange
		75–79	Straw
		80–84	Pale Lavander
		85–89	Pink
		90–94	RED
		95–99	GREEN
		100–104	BLUE
		105–109	White
		110–114	Rainbow 1
		115–119	Rainbow 2
		120–124	Rainbow 3
		125–255	Color 1
5	color 1 Dimmer	0–255	

CH	Function	DMX	Description
6	Chase Patterns	0–255	
7	Chase Speed	0	<<<
		1–49	<<< ... <<
		50	<<
		51–119	<< ... <
		120	<
		121–127	< ... Stop(=0)
		128	Stop(=0)
		129–134	Stop(=0) ... >
		135	>
		136–204	> ... >>
		205	>>
		206–254	>> ... >>>
		255	>>>
8	Chase Fade	0–255	
9	Reset	0–255	
10	Red 1	0–255	
11	Green 1	0–255	
12	Blue 1	0–255	
13	White 1	0–255	

CH 10–45: 9 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 10–13); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	10	11	12	13	2	14	15	16	17
3	18	19	20	21	4	22	23	24	25
5	26	27	28	29	6	30	31	32	33
7	34	35	36	37	8	38	39	40	41
9	42	43	44	45					

Mode Extended 2

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 9 cells), CH 2 Green 255 (the same in each of the 9 cells), CH 3 Blue 255 (the same in each of the 9 cells), CH 4 White 255 (the same in each of the 9 cells).

CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
4	White 1	0–255	

CH 1–36: 9 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	1	2	3	4	2	5	6	7	8
3	9	10	11	12	4	13	14	15	16
5	17	18	19	20	6	21	22	23	24
7	25	26	27	28	8	29	30	31	32
9	33	34	35	36					

Mode Standard

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Shutter at 32–63. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 255, CH 5 Shutter 32, CH 6 Dimmer 255, CH 8 Colors 0.

CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Shutter		Same as CH 1 in the mode “Extended” (p. 9)
6	Dimmer		Same as CH 2 in the mode “Extended” (p. 10)
7	Color Macro	0–255	
8	Colors		Same as CH 4 in the mode “Extended” (p. 10)
9	color 1 Dimmer	0–255	
10	Chase Patterns	0–255	
11	Chase Speed		Same as CH 7 in the mode “Extended” (p. 11)
12	Chase Fade	0–255	
13	Reset	0–255	

Mode Basic

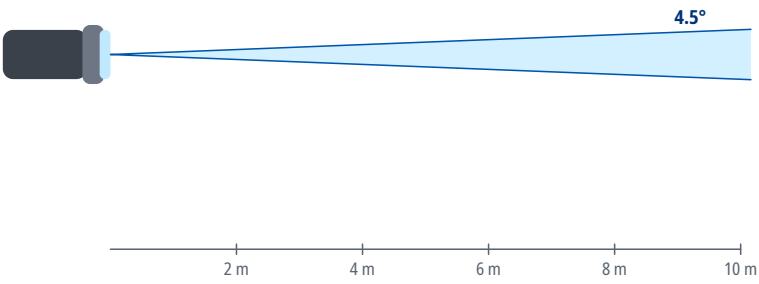
If the device receives DMX in this mode but gives no light, check these channels: CH 5 Shutter at 32–63. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 255, CH 5 Shutter 32, CH 6 Dimmer 255.

CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Shutter		Same as CH 1 in the mode “Extended” (p. 9)
6	Dimmer		Same as CH 2 in the mode “Extended” (p. 10)

9 Technical specifications

Parameter	Value
Light	
Light source	LED
Control	
DMX connection	5-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x4179, device model ID 0x0A47)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	420 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	15.5 kg
Operating environment	
Operating temperature	-10 to 45 °C

Spot diameter



Distance	Ø 4.5°
2 m	0.16 m
4 m	0.31 m
6 m	0.47 m
8 m	0.63 m
10 m	0.79 m
15 m	1.2 m

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

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.