

PX348

PxArt

Audio

User manual



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Manufacturer reserves the right to make modifications in order to improve device operation.

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1 Description

PxArt Audio is a component of sound system designed for mounting on GLOBAL Trac® Pulse Control.

The device consists of a speaker, amplifier and *.wav file player, whole is connected to the control bus GT Pulse Control using included adapter.

The PX348 allows you to play audio tracks anywhere in the room equipped with a bus-bar system without the need for additional installation. The maximum number of supported tracks is 85, and their length depends on the capacity of the media (SD / SDHC card). The system can be controlled by any controller operating in the DMX-512 standard.

The device controlled by DMX allows you to play recordings, select a specific song, loop single or multiple tracks and smooth volume control. Using the PxArt Settings Controller (PX277) it is possible to adjust the low and high tones and set the DMX address. PX277 also allows you to define the behavior of the player in the absence of a DMX signal.

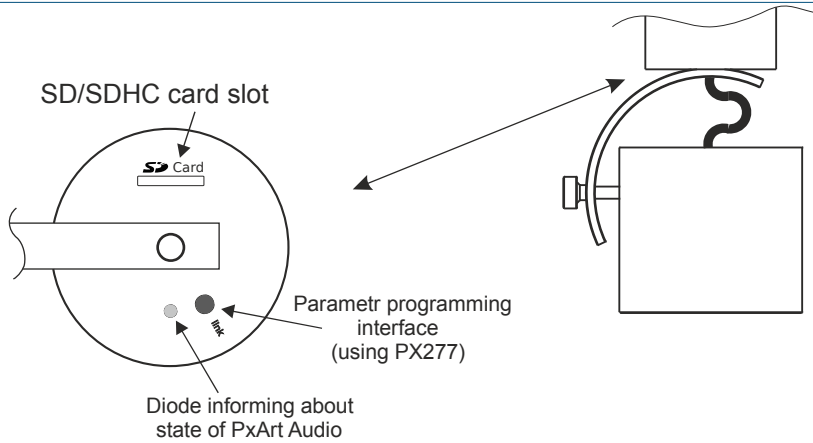
2 Safety conditions

The PX724 device is powered directly from standard 230V AC grid what can cause electric shock when safety rules are not observed.

Therefore it is necessary to observe the following:

1. Installation, particularly power connection, should be performed by a person holding the appropriate qualifications, according to instruction manual.
2. Device can be connected only to grid, which has protecting installation in working order (3-wire grid).
3. All the conductors should be protected against mechanical and thermal damage.
4. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data and attestations.
5. Device with visible mechanical damage cannot be connected to the mains.
6. All repairs, should be made with cut off power supply.
7. The device should be strictly protected against water and other liquids.
8. All sudden shocks, particularly dropping, should be avoided.
9. The device cannot be used in places with temperature lower than 2°C or higher than 40°C.
10. The device cannot be turned on in places with humidity exceeding 90%.
11. Clean with damp cloth only – gate should be made with cut off power supply.

3 Connectors and control elements



4 Information about the version

The PX348 is available in several versions differing in the color of the housing.

Determination of housing color:

PX348 – X

X – available colors of housing:

- 1 – white
- 2 – black
- 3 – grey

Example of the PxArt Audio design for white color:

PX348-1

5 Audio formats, memory card and files naming

The player built into PxArt Audio only supports audio files saved in ***.wav** format with the following parameters:

- *.wav files with bits per sample value of 16-bit on two-channels
- acceptable sampling frequencies:
 - 48kHz
 - 44,1kHz
 - 32kHz
 - 22,05kHz
 - 16kHz
 - 11,025kHz
 - 8kHz

NOTE: The player supports only SD or SDHC cards formatted in the FAT32 file system. Moreover, the memory card cannot contain more than 85 files. A higher number of tracks or additional directories can result in the module's malfunctions when changing tracks.

Tracks on the SD card should be named according to the following principle:

xxx_ABCD...P.wav

where:

xxx – numbers from 001 up to 085, **ABC...P** – up to 16 alphanumeric characters, **.wav** – WAV files extension

NOTE: If the correct track naming or the maximum number of tracks are not followed, playback or track changing problems may occur.

Example:

001_FryderykChopin.wav

002_Beethoven.wav

003_Mozart.wav

...

085_Mendelssohn.wav

6 Cooperation with the PX277 configurator

The PxArt Audio settings can be changed by connecting to the PX277 (PxArt Settings Controller) configurator. It allows in connection with PX348 to define the following parameters: DMX address (in the range of 1 – 512), the value of bass and treble and the behavior of the device in the absence of DMX signal.

When the loudspeaker is connected to the configurator, the PX348 will restart, and the LED will go out for a while.

After the connection has been made and the parameters have been read by the PxArt Settings Controller, the speaker settings are returned to the state before the connection.

6.1 Available parameters

DMX Address – change of DMX address for devices in the range 1 – 512

Commands – defines what the device is currently supposed to do, play / stop / pause

Track – selection of the song to be currently played, range 001 – 085

Volume – volume level of played tracks, value in range 0 – 100%

Bass – setting the bass parameters in the range -10 do +10

Treble – setting the treble parameters in the range -10 do +10

DMX mode – operating mode of the device after connecting the DMX signal (4ch – four-channel, 7ch – seven-channel)

No signal – it defines the device to behave in the absence of DMX signal, possible options to choose from:

- **off** – playback stops when the DMX signal disappears
- **run** – the player automatically starts the song set as default
[*Def. Track*]
- **last** – the player continues its previous work
- **ext1** – starting the song through an external signal (e.g. photocell) with the parameters defined in the default settings, each re-receiving the signal will cause replaying from the beginning of the defined song
- **ext2** – starting the song through an external signal (e.g. photocell) with the parameters defined in the default settings, each re-receiving the signal will not cause any reaction, the defined song will be played back to the end

Def. cmd – default settings for actions performed by the device (play / stop / pause)

Def. track – default song (001 – 085)

Def. play mode – the default operating mode of the device, to choose modes:

- **single track** – playing only once a single song
- **repeat track** – playing a single song continuously
- **single playlist** – repeating only once the song list
- **repeat playlist** – repeating the playlist continuously

Def. volume – default volume of recordings

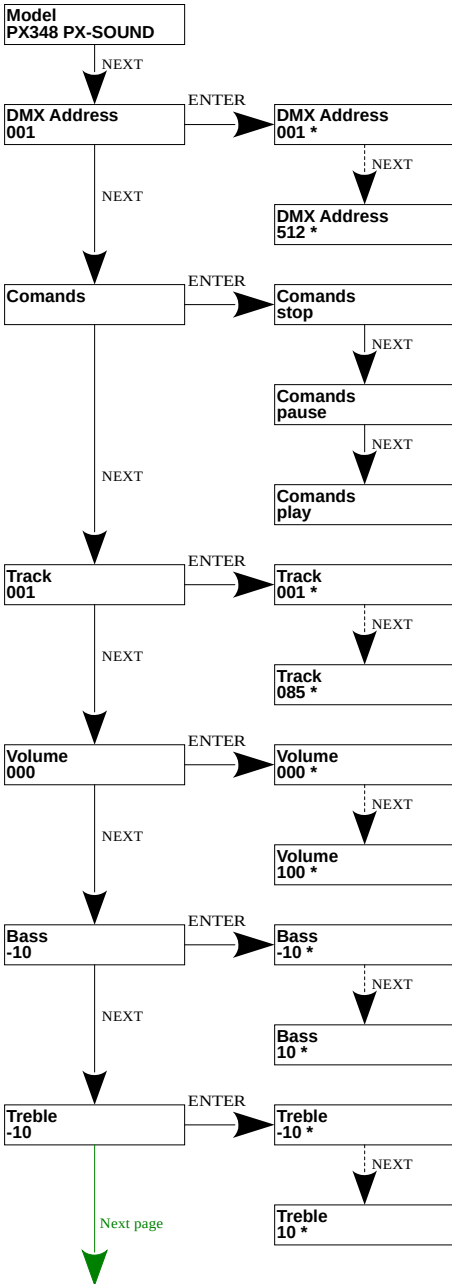
DMX 0 neutral – by default, the zero value for each channel changes the way the device works (e.g. for channel 1 stops playback),

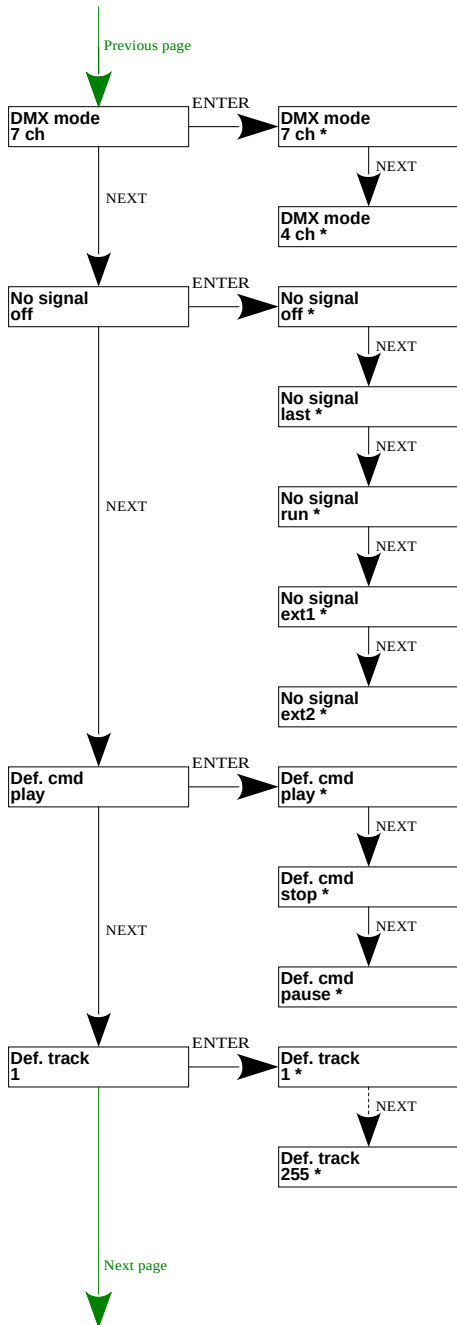
but after confirming the "**On**" check box the value zero is interpreted as neutral and does not affect the operation of the device

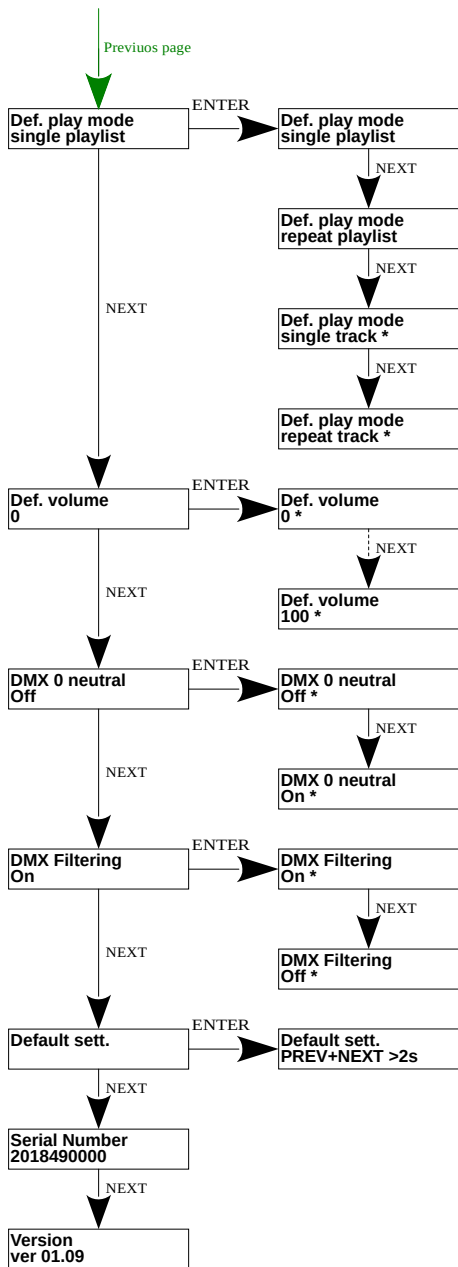
DMX Filtering – filtering short-term changes of the DMX signal, the player will react to the value if it is unchanged for at least 5 DMX frames

Default sett. – restore factory settings in PX348

6.2 The PxArt Audio menu diagram in PX277



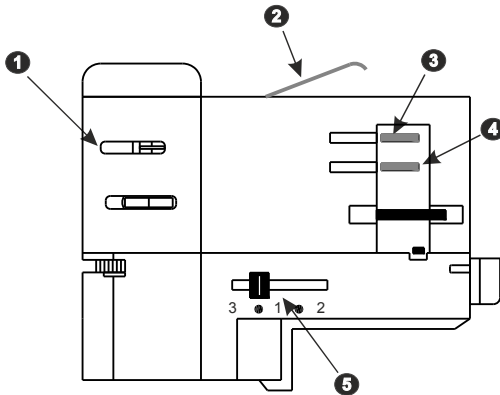




7 DMX connection

PxArt Audio is a device attached to the GLOBAL Trac[®] Pulse Control rail by using the GAC 600 adapter included in the kit.

7.1 GLOBAL Trac[®] GAC 600 adapter



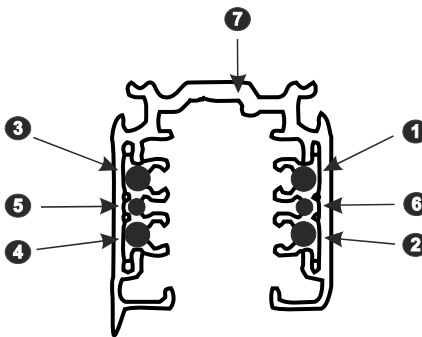
DMX contacts

- 1 DMX - (on the opposite side DMX +)

MAINS POWER SUPPLY

- 2 protective (⊕)
- 3 phase 1 (on the opposite side phase 2)
- 4 neutral (on the opposite side phase 3)
- 5 phase selection switch

7.2 The cross-section of the DMX GLOBAL Trac[®] Pulse Control



POWER SUPPLY

- 1 phase 2
- 2 phase 3
- 3 phase 1
- 4 neutral

DMX

- 5 DMX -
- 6 DMX +
- 7 mass (GND)

8 DMX-512 control

The device can be controlled via four or seven DMX-512 channels.

8.1 Control via four channels

Channel 1: stop, pause, resume, start.

DMX values:

0 – 63 – [*stop*]

64 – 127 – [*pause*]

128 – 255 – resume / start [*play*]

Channel 2: track number selection (1 – 85)

DMX value	0-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33
Track number	1	2	3	4	5	6	7	8	9	10	11
DMX value	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	64-66
Track number	12	13	14	15	16	17	18	19	20	21	22
DMX value	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99
Track number	23	24	25	26	27	28	29	30	31	32	33
DMX value	100-102	103-105	106-108	109-111	112-114	115-117	118-120	121-123	124-126	127-129	130-132
Track number	34	35	36	37	38	39	40	41	42	43	44
DMX value	133-135	136-138	139-141	142-144	145-147	148-150	151-153	154-156	157-159	160-162	163-165
Track number	45	46	47	48	49	50	51	52	53	54	55
DMX value	166-168	169-171	172-174	175-177	178-180	181-183	184-186	187-189	190-192	193-195	196-198
Track number	56	57	58	59	60	61	62	63	64	65	66
DMX value	199-201	202-204	205-207	208-210	211-213	214-216	217-219	220-222	223-225	226-228	229-231
Track number	67	68	69	70	71	72	73	74	75	76	77
DMX value	232-234	235-237	238-240	241-243	244-246	247-249	250-252	253-255			
Track number	78	79	80	81	82	83	84	85			

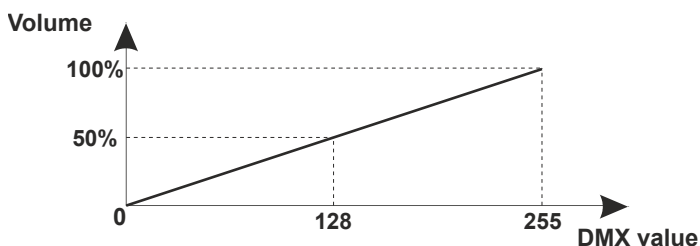
Channel 3: playback mode – *single* (a selected track is played once), *single loop* (a selected track is played back repeatedly), *single continuous* (starting from a selected track, the playback runs one after the other, the playback is stopped after the last track), *continuous loop* (starting from a selected track, the playback runs in a specific order, the first track is played after the last one in the list)

DMX values:

- 0 – 63 – single playback [**single track**]
- 64 – 127 – single loop playback [**repeat track**]
- 128 – 191 – single continuous playback [**single playlist**]
- 192 – 255 – continuous loop playback [**repeat playlist**]

Channel 4: volume control

On the fourth DMX channel, the device supports volume control in the range from 0 up to 100%. The volume is changed linearly in accordance with the following schedule: for the DMX signal with a value of 0 the volume is 0%, while for the value of 255 the volume is 100%.



8.2 Control via seven channels

In the seven DMX channels mode, in addition to the same settings on the first four channels (as for the four-channel mode), PX249 can change parameters of [**Bass**], [**Treble**] and [**Balance**] on the fifth, sixth and seventh channel.

All channels in this mode are described below:

Channel 1: stop / pause / play

Channel 2: track number selection (1 – 85)

Channel 3: playback mode – single, single loop, single track list, looped track list

Channel 4: volume control (0 – 100%)

Channel 5: bass control (-10 to +10)

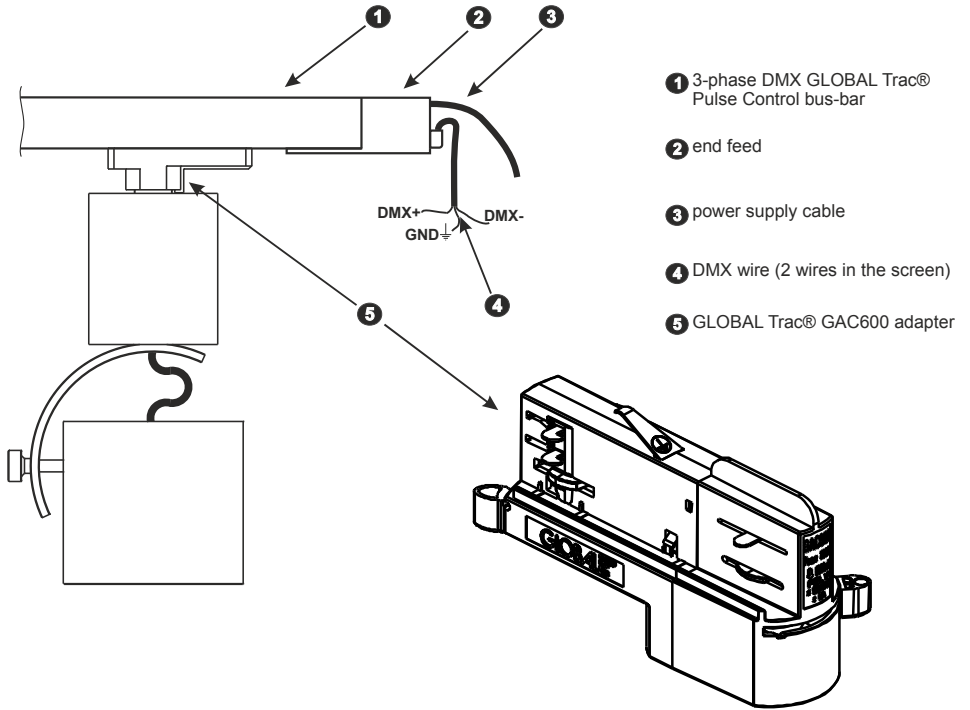
Channel 6: treble control (-10 to +10)

Channel 7: balance control (L – -10, -9, ... 0 ..., +9, +10 – R)

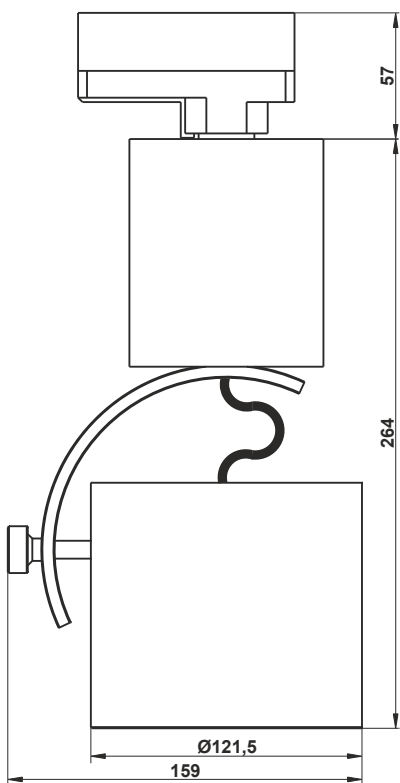
For each of the three additional channels (5, 6, 7), adjustment through DMX control is made for the same values. These values are shown in the table below.

DMX value	0-12	13-24	25-36	37-48	49-60	61-72	73-84	85-96	67-108	109-120	121-135
Adjustment value	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
DMX value	136-147	148-159	160-171	172-183	184-195	196-207	208-219	220-231	232-243	244-255	
Adjustment value	1	2	3	4	5	6	7	8	9	10	

9 Connection scheme



10 Dimensions



11 Technical data

type	PX348
power supply	230V AC
amplifier power output	10W
audio digital format	*.wav
audio media cards type	SD / SDHC
max. supported number of tracks	85
device programming	yes (using PX277)
DMX-512 control LED	yes
mounting	GLOBAL Trac® Pulse Control bus-bar
available housing colors	silver, black or white
weight	3.6kg
dimensions	diameter: 121,5mm height: 264mm

DECLARATION OF CONFORMITY

PXM Marek Żupnik spółka komandytowa
Podłęże 654, 32-003 Podłęże

we declare that our product:

Product name: PxArt Audio

Product code: PX348

meets the requirements of the following standards, as well as harmonised standards:

PN-EN IEC 63000:2019-01	EN IEC 63000:2019-01
PN-EN 55103-2:2012	EN 55103-2:2009
PN-EN 62368-1:2015-03	EN 62368-1:2014
PN-EN 61000-4-2:2011	EN 61000-4-2:2009
PN-EN 61000-6-1:2008	EN 61000-6-1:2007
PN-EN 61000-6-3:2008	EN 61000-6-3:2007

and meets the essential requirements of the following directives:

2011/65/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
Text with EEA relevance.

2014/30/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
Text with EEA relevance.

2014/35/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits


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