PRS-1AIP1 IP Audio Interface

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Invented for life

▶ All-in-one solution for audio transport on IP-networks

▶ Supervised control inputs and outputs

▶ Supports re-broadcasting

▶ Configurable audio delay on the output for loudspeaker alignment

▶ EN 54-16 compliant IP solution

The PRS-1AIP1 is a universal, IP-based audio device supporting VoIP and Audio over IP applications. It is an ideal solution for bridging audio and contact closures over long distance LAN and WAN networks, e.g. in shopping malls, tunnels, in and between railway stations. It extends and interfaces to Praesideo and non-network based traditional public address systems without the need for a PC during operation.
The unit has analog audio inputs and outputs for easy interfacing with optional pilot-tone supervision for emergency sound purposes. One audio input can be switched to microphone sensitivity with built-in microphone supervision. Also, the control inputs offer cable and connection supervision.
Control inputs and outputs can be used to set up an audio connection to start a remote call, but also to pass remote fault events to the system controller.

Functions

Audio
Multiple audio formats are supported: single channel, full duplex 16-bit PCM or G.711 for very low latency, and two-channel send or receive MP3 for high quality audio with various sample rates and compression settings.
The unit provides two balanced line inputs and two balanced line outputs. One of the inputs can be configured as balanced microphone input with a

phantom power supply for electret / condenser microphones and microphone connection supervision. The output level is configurable.
Audio connection supervision using a 20 kHz pilot tone is supported, with detection on the audio input of the transmitter and regeneration on the audio output of the receiver.
A configurable audio delay can be used to artificially delay the playback of audio for loudspeaker alignment, e.g. in tunnels.

Audio Routing
Audio signals can be routed in uni-cast to up to 16 receivers, preconfigured or on activation of control inputs. Receivers are able to re-broadcast the incoming audio stream to other receivers. In case the interfaces are on the same LAN also broadcast is supported.
In PCM and G.711 (uLaw and aLaw) full duplex audio interfacing between two units is possible.

Control inputs and outputs
The unit has eight control inputs with configurable supervision on open and/or short-circuits. Eight control outputs have dry relay contacts. Control inputs can be routed to control outputs for remote actions or to pass on fault information between audio transmitter and receiver, in both directions. Control inputs can also be configured to change the audio routing.

An additional dry relay contact is provided for fault indication of the unit, including a high temperature fault situation.

Network Interfaces
The unit interfaces to 10 and 100 Mbit Ethernet networks and announces its IP-address that was given by a DHCP server. It can also search the network for a free IP-address or can be given a static IP-address. A second Ethernet connection is available to support network redundancy.
An RS 232 interface is build-in to communicate additional serial data over the IP network.

Power Supplies
Two power supply connections are provided as main input and backup input with supervision of both supplies.

Controls and Indicators (front)
- Reset button, recessed
- Two status indicator LEDs for network
- Eight status LEDs for control inputs

Interconnections (rear)
- Eight control inputs on Euro-connector
- Eight control outputs on Euro-connector
- Fault relay output on Euro-connector
- Two balanced audio inputs on Euro-connector (one line input, one line / microphone input)
- Two balanced audio outputs on Euro-connector
- Two Ethernet connections on RJ45
- RS 232 on Sub-D
- RS 485 on Euro-connector
- Main power supply on jack
- Backup power supply on Euro-connector

Certifications and approvals

Electromagnetic compatibility	EN55011:2009 (Limit Class: B) EN50130-4:1995 + A1:1998 + A2:2003
Electrical safety	IEC60065 (CB-scheme)
Approvals	CE marking EN54-16 (0560 - CPD - 10219002/AA/04)

Region	Certification	
Europe	CPR	EU CPR Telefication
	CE	
	CE	COC
	CE	CertAlarm
	CE	DOP

Parts included

Quantity	Component
1	PRS-1AIP1 IP Audio Interface
1	Power supply
1	Set of connectors

Technical specifications

Electrical

External power supply 1	18 to 56 VDC
External power supply 2	18 to 56 VDC
Power consumption	8 W max
Microphone input (Audio input 1)	
Sensitivity	-48.5 to -26 dBV
Impedance	1360 ohm
Frequency response	100 Hz to 15 kHz
S/N	>60 dB
Supervision detection	Electret: 0.4 – 5 mA Dynamic: 120 – 1300 ohm
Line Inputs (Audio input 1 and 2)	
Sensitivity	-16.5 to +6 dBV
Impedance	22 kohm
Frequency response	20 Hz to 15 kHz
S/N	>70 dB
Pilot tone detection level (Input 2 only)	-30 dBV
Line outputs (Audio output 1 and 2)	
Level	6 dBV max
Pilot tone level (Output 2 only)	-20 dBV (20 kHz)
Audio formats	
MPEG 1-layer 3 (MP3)	32, 44.1 and 48 kHz sample rate
	Encoding up to 192 kbps VBR
	Decoding up to 320 kbps (Stereo)
MPEG 1-layer 2	16, 22.05 and 24 kHz sample rate
G.711	uLaw, aLaw at 8 or 24 kHz sample rate
PCM	16-bit at 8 or 24 kHz sample rate
Control inputs	8 x
Connectors	Removable screw terminals
Operation	Closing contact (with supervision)

Control / fault outputs	8 x / 1 x
Connectors	Removable screw terminals
Operation	Make contact (SPST, voltage free)
Rating	24 V, 0.5 A
Ethernet 1 and 2	
Connector	Dual RJ45, DTE-pinout
Standard	802.3i / 802.3u
Speed	10 / 100 Mbps, auto-negotiation
Flow	Full / half-duplex, auto-negotiation
Protocol	TCP/IP, UDP, RTP, SIP, IGMP, DHCP, SNMP
RS 232 / RS 485	
Connector RS 232	9-pin Sub-D male, DTE-pinout
Connector RS 485	Removable screw terminals
Pinout	300 to 115.200 Baud
Setting (default)	9600, 8, N, 1

Mechanical

Dimensions (H x W x D)	216 x 38 x 125 mm(8.5 x 1.5 x 4.92 in) (half 19" wide)
Weight	0.7 kg (1.5 lb)
Mounting	Stand-alone or in 19"-rack with additional frame
Color	Silver with Charcoal

Environmental

Operating temperature	-5 ºC to +50 ºC (+23 ºF to +122 ºF)
Start-up temperature	0 ºC to +50 ºC (+32 ºF to +122 ºF)
Storage and transport temperature	-20 ºC to +70 ºC (-4 ºF to +158 ºF)
Humidity	15 to 90 %
Air pressure	600 to 1100 hPa

Ordering information

PRS-1AIP1 IP Audio Interface
Compact bi-directional 1 or 2 channel interface for supervised audio with RS232/485 tunnel and GPIO.
Order number **PRS-1AIP1**