

Adaptive Audio Processor

EN 54-16

EN 54-4

1438-CPR-0948

SMART-DU1604



The SMART-DU1604 is a central processing unit, simultaneously processing up to 16 audio streams corresponding to 16 loud-speaker zones and up to 4 independent streams from system microphones.

Using digital audio processing tools, the SMART-DU1604 dynamically maximises the speech intelligibility parameter. This is done through a number of algorithms implemented in the unit. Among the main ones are the adaptive filtering algorithm and the temporal transposition of the speech signal. In addition, the SMART-DU-1604 is equipped with real-time algorithms responsible for calculating parameters such as: signal-to-noise ratio (SNR); speech comprehension index (STI); reverberation time (RT).

The SMART-DU1604 processes the audio signals picked up from the environment by the 16 SMART-ANSM-01 microphones and modifies the signals transmitted simultaneously to the 16 speaker zones in real time.

An additional element realised by the SMART-DU1604 unit is the auto-calibration, which makes it simple and quick to set up, with most settings selected in a fully automated manner.

CHARACTERISTICS

- » **Certified system EN 54-16:2011 No. 1438-CPR-0948**
- » **2 inputs and 2 logic outputs programmable on board**
- » **2x 1Gbit ports available for system expansion**
- » **1xPOE 1Gbit**
- » **2x SFP connectors for redundant fibre connection**
- » **High quality 48kHz audio processing 32bit resolution**
- » **Powerful processor processing 20 input streams, 20 audio output streams and 16 SMART microphones ANSM-01**

SMART-DU1604	
Power supply	48 V DC (operating range 40-57 V DC), connector with M2.5 screw terminals, distance between partitions 5.08 mm
Power consumption	Up to 17 W
Number of digital audio inputs	20
Sampling frequency	48kHz
Audio resolution	32 bit
Audio format	PCM
Number of digital audio outputs	20
Communication card	Long-distance communication between devices: › 1000BASE-X over fibre, › 2 ports to ensure redundant connection. Communication between devices installed next to each other: › 1000BASE-TX / RJ45 over CAT5E cables - 2 ports available on the rear panel of the device, › 100BASE-TX / RJ45 over CAT5 cables - 1 port available on the rear panel for connection to an external network, connection to configuration software.
Fibre optic module - type of connector / type of fibre optic cable	SFP type modules / SC/LC type connectors Multimode or single-mode fibre E 30 or E 90, OM or OM2
Communication with the PC	PC (commissioning software): RJ45 connector, twisted pair connections in TIA / EIA568A standard via Ethernet protocol
Mechanical parameters	
Finishing	Housing material: steel / Front panel made of metal plate painted black
Dimensions	482 (W) × 44 (H) × 325 (D) mm
Mounting	19" rack-mounted teletechnical cabinet
Weight	4,3 kg
Accessories	2x power connector 1x connector for inputs, logic outputs
Storage and working environment	
Ambient temperature during operation	0°C / +60°C
Ambient humidity during operation	15% to 80% (without condensation)
Storage temperature	-20°C / +70°C
Ambient humidity during storage	15% do 80% (without condensation)
IP degree of protection	20
Compatibility	
Device compatibility	SMART-ANSM-01, SMART-AMAP-6, SMARTVES