Local Speaker

Connects your telephone system to sound system via LAN …and much more!

• *SIP Network Ads*
• *Call repeater*
• *SIP Security Info Call*
• *Multicast Streaming*
• *PoE Power Supply*
• *Recorded messages*
• *Relay drive via LAN*

App for iOS & Android Smartphones

PA Amplifier

Innovative solutions for Paging and network LAN Control

AD610 interface a generic audio amplifier to a PA paging system in a LAN network by perfectly integrating with the IP-PBX SIP in order to be able to diffuse warning messages from any phone on the internal network and any technology: analog phones, Sip, Smartphones and Softphones on PC. Access can be authorized by me with **Password** to be entered before starting the announcement. An **internal relay** is activated for the duration of the external amplifier to report the event. Programming is done remotely via LAN thanks to the **Web server** integrated into the device.

2nd SIP Account - Night call repeater (SIP Ringer)

AD610 can be registered on the PBX with a second telephone number, different from the one used for the ads and inserted in the night group. At the arrival of an incoming call, the system plays a sound (user selectable) to the ad of all network speakers. The volume can be adjusted independently of the managed volume by the other audio channels.

Amplifier failure detection

AD610 has a combined input for the detection of a failure signal from the amplifier, in which case provides to make a SIP call to a programmed number and inform with a specific voice message event. The signaling can be repeated a number of programmable times, the operator can stop the sequence with a keyboard code.

Audio Multicast Streaming for music and ads paging

AD610 manages up to 16 multicast channels in LAN to priority levels and with different volumes to allow the distribution of background music on the loudspeaker network. The generation of musical programs in streaming audio can be managed from a PC on the LAN / WAN network with special software or special Tema Encoder. A priority Multicast channel can be reserved for a general call from a microphone or a suitable SIP phone.

Automatic announcements at pre-set times

It is possible to program the paging of announcements at predefined times, both on local loudspeaker or streaming to other devices.

"SIP Security Info Call" Service - Emergency SIP Call

By connecting a button or an external contact to AD610, it can call a programmed phone number to alert the event with a warning specific message. It is a security service for emergencies or simple help and information request.

Total remote Management via LAN, integrated Web Server

Programming, configuration, loading and listening to audio files, replace the firmware release, audio volume adjustment, backup and restore the configuration, reboot the device.

Performances

♦ **Transformer isolated 600 Ohm** audio output for amplifiers

♦ Another **internal 2W amplifier** output for local speaker

♦ **Failure detection circuit** of the external amplifier

♦ **Night ringer** (2nd SIP account)

♦ **SIP Security Info Call** Alert/Emergency Phone Call

♦ **1 relay** remotely controllable via LAN

♦ **16 Multicast Channels** for Music/Ads/Messages diffusion also in High Audio Quality with 16bit linear codec up to 44KHz

♦ **P2P (Peer to Peer)** operation without IP-PBX

♦ Audio Volumes with **independent regulation** of the channels

♦ **802.af integrated PoE,** a single UTP cable for connection

♦ **SD Memory** with user-customizable audio file from each 16sec (Option up to 960 min - 1**6 hours of audio**)

♦ **Compatibility** with all IP-PBX of the most prestigious brands including 3CX and Asterisk-based systems

♦ Can be connected to **any type of PA amplifier** on the market

♦ Extremely compact, dimensions **74x58x25mm**

♦ Wall mounting, table and **DIN rail**

♦ **MADE** IN **ITALY** BY **TEMA**: product made in Italy by TEMA which provides **support, technical assistance in time,** the software update and new future capabilities.

Applications

♦ Adapting of paging PA systems on the LAN

♦ Amplified telephone call repeater (Night Ringer)

♦ Sending of pre-recorded voice ads on loudspeakers network

♦ "Fair" alarm button, security phone call

♦ Remote Relay Web Control and drives via LAN

♦ Deterrent alerts in video surveillance systems

♦ Multicast on all installed systems, from all over the world

Target

♦ Companies, Industry, Banks, Stores, Shopping Centers

♦ Hospitals, Schools, Spaces Open to the Public, Sports Facilities

♦ Hotel, Parking, Train Stations, Ports, Airports
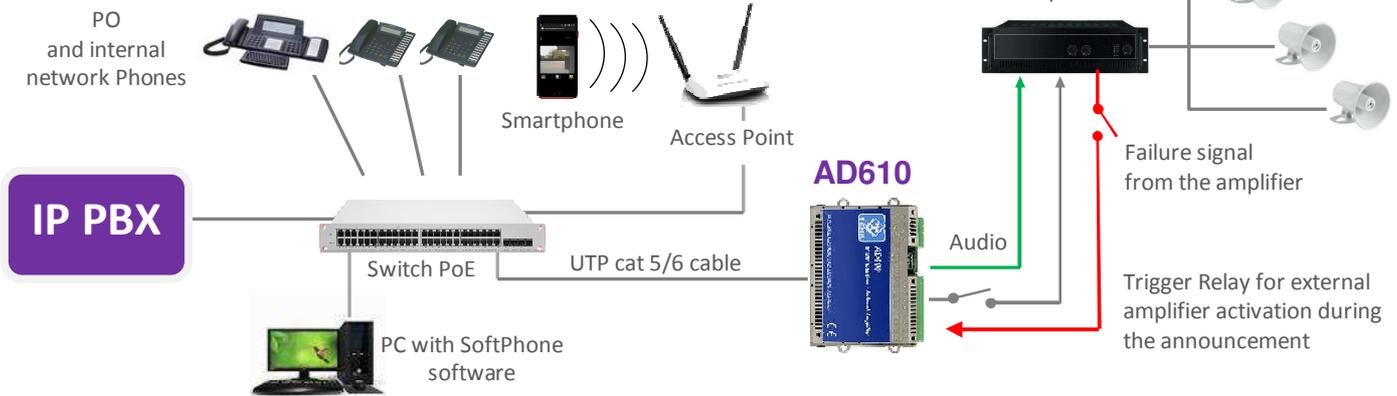
Typical AD610 application with IP-PBX

Figure 1

PO and internal network Phones

Smartphone

Access Point

Existing PA amplifier

AD610

IP PBX

Switch PoE

UTP cat 5/6 cable

Audio

Failure signal from the amplifier

Trigger Relay for external amplifier activation during the announcement

PC with SoftPhone software

AD610 Peer to Peer Application, without PBX

Figure 2

In the absence of an IP-PBX the AD610 module can also operate in a Peer to Peer (Point-to-Point) in a LAN network by simply inserting a generic switch and one or more SIP phones. The power supply to AD610 module can be provided from the switch (if PoE), by an external power supply or a PoE injector inserted in the LAN cable. An internal relay signals to the amplifier the presence of an ad and remains closed for the duration of the same. Upon detection of a fault in the amplifier AD610 a scheduled phone calls and communicates an alarm voice message. The message can be easily customized by the user.
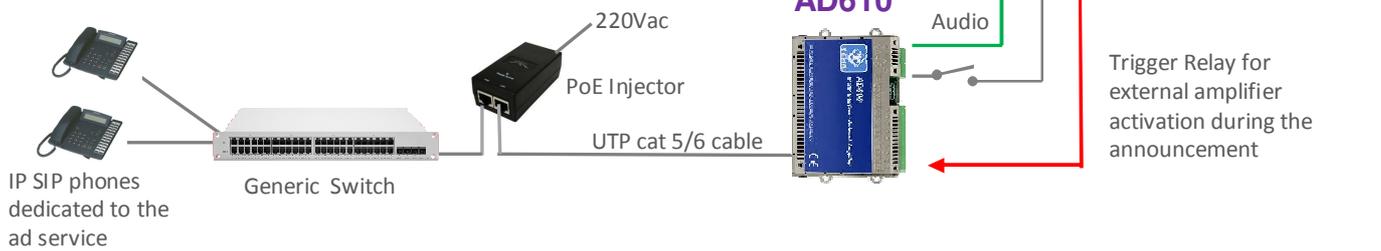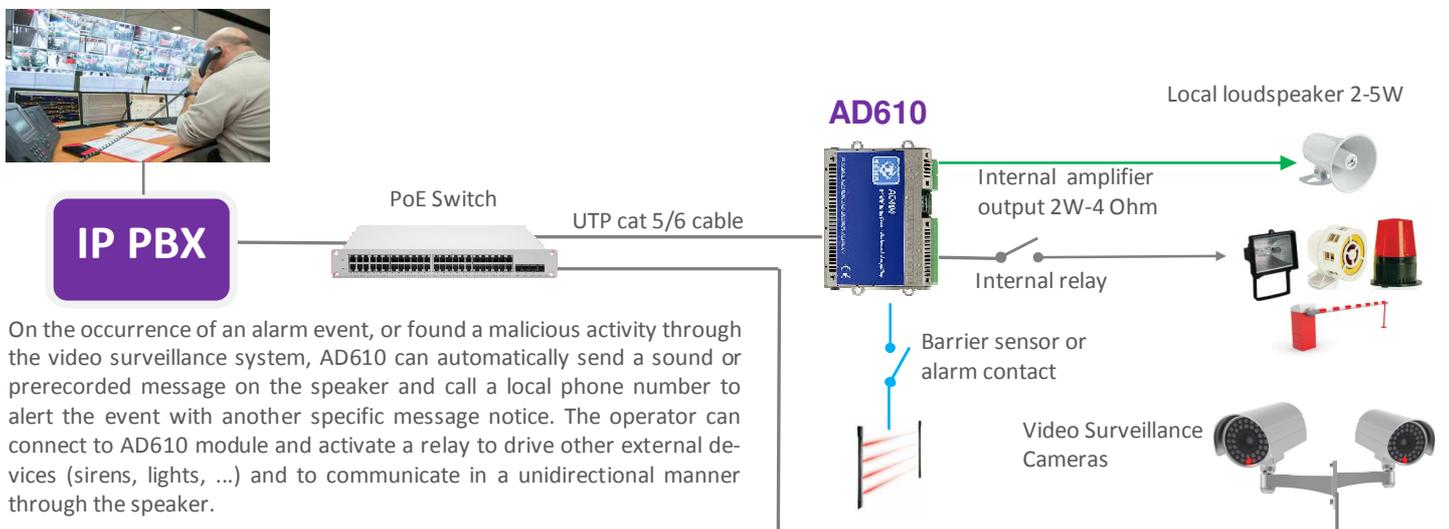
Existing PA amplifier

AD610

Audio

220Vac

PoE Injector

UTP cat 5/6 cable

Failure signal from the amplifier

Trigger Relay for external amplifier activation during the announcement

IP SIP phones dedicated to the ad service

Generic Switch

NEW!

Other applications of the SIP module AD610

• Sounds and warning messages / deterrence in Video Surveillance plants

Figure 3

Local loudspeaker 2-5W

AD610

IP PBX

PoE Switch

UTP cat 5/6 cable

Internal amplifier output 2W-4 Ohm

Internal relay

Barrier sensor or alarm contact

Video Surveillance Cameras

On the occurrence of an alarm event, or found a malicious activity through the video surveillance system, AD610 can automatically send a sound or prerecorded message on the speaker and call a local phone number to alert the event with another specific message notice. The operator can connect to AD610 module and activate a relay to drive other external devices (sirens, lights, ...) and to communicate in a unidirectional manner through the speaker.

• SIP SECURITY INFO CALL

NEW!

LAN/WAN IP Network

Internal network Phones

Switch - Router

Remote network phones

Switch - Router

UTP cat 5/6 cable with PoE

AD610

Internal Amplifier output 2W-4 Ohm

Internal relay operated via LAN

External button
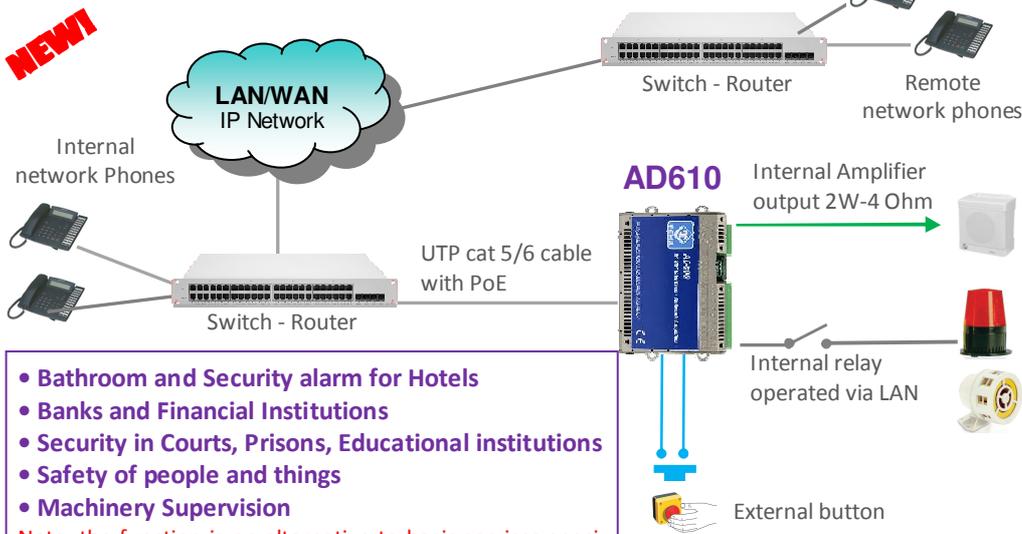
• **Bathroom and Security alarm for Hotels**
• **Banks and Financial Institutions**
• **Security in Courts, Prisons, Educational institutions**
• **Safety of people and things**
• **Machinery Supervision**
Note: the function is an alternative to basic services specified in the figures 1-2.

Figure 4

By connecting **a button or an external contact,** AD160 it can call a phone number programmed to alert the event with a warning specific message.

The remote operator can acknowledge the event and break the repetition with a code, also can remotely activate a relay. By connecting a speaker to AD610 it is possible to play a message or a pre-recorded sound file before sending the call.

This function is ideal in all those cases of **emergency, call for help or information, alarm systems, video surveillance, machine controls** etc.. in any geographical point of the network. The service can be used in a **"fair"** way by banks and security services with an

• Multicast Audio Streaming for Paging

Each AD610 with its own speaker is accessible from IP-PBX registered SIP phones and smartphones that can launch an advertisement. With the help of an encoder TEMA AD615 it is possible to stream music on multicast channels managed by AD610, the music is taken in analogue audio from the PC (or any audio player) and sent to the Encoder that will redistribute on the LAN. The announcement from a SIP call to a specific AD610 device will stop the music that will be automatically restored at the end.

Note: the function is an alternative to basic services specified in the figures 1-2.

IP PBX

Smartphone with TEMA APP

Access Point

ZONE 1   ZONE 2   ZONE 3

IP SIP Phone

Network PC used as a multicast control station with VLC

Analog audio

TEMA AD615/S Mini Encoder

Figure 5

AD610 connections, dimensions

AD610 *SipComStage*

+Vout → +12...+24Vdc
GND → Max 200mA
A ← +12V/24Vdc Max
C ← 12/18Vac Max

LAN RJ45 Plug Internal PoE Power Supply

Internal amplifier 2W

K1 Relay

Isolation transformer

Alarm Input 1

9 SP1 +
8 SP1 -
7
6
5
4 → Audio 600 Ohm
3
2 GND
1 IN1

4-8 Ohm 2-5W Loudspeaker

25,4   25,4

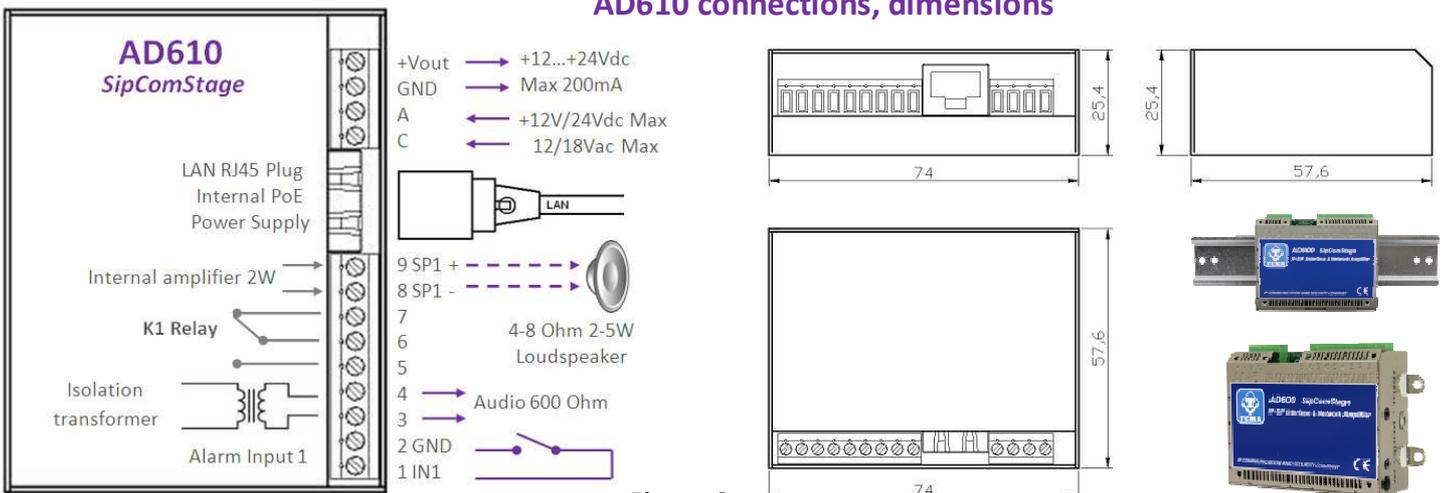74   57,6

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74

Figure 6

Technical Features

LAN:	TCP/IP Network 10/100BaseTx
Protocols:	SIP 2.0, RFC 3261
Power Supply:	PoE, PoE Injector and/or ext Ac/Dc power supply
PoE:	802.3af class 0 12,95W
External Power Supply (Opt.):	230Vac/12-24Vdc-1A
Connection:	SIP Server (IP-PBX) or P2P (Peer To Peer)
Messages/Sounds:	pre-recorded into the internal SD memory card
Audio File Format:	Windows .wav 8KHz - 16 bit
Duration:	16sec each. standard (Option 8 minutes each.)
Technology:	IMX25 400MHz microprocessor
Memory:	256MB Ram, Micro-SD Flash 2GB
Relay contacts capacity:	max 30Vdc - 1.5A
Internal Audio Amplifier:	2W Class D
Impedance:	4 Ohm
2nd isolated transformer audio output:	2Vpp – 600 Ohm
Bandwidth:	80Hz – 20KHz
Audio Communication:	Unidirectional
Multicast Audio Streaming:	G711µ, G711a, G722, L16 16 / 44 kHz
Inputs from buttons or external commands:	1
Acoustic signals:	call tone, Ding-dong announcement
Smartphone APP:	iOS, Android
Programming:	user-friendly web interface and password
Installation:	table, wall, DIN rail
Storage temperature:	from -20° to +65°C
Operating temperature:	from -20° to +55°C
Relative Umidity:	up to 95% non-condensing
Dimensions:	74x58x25mm
Weight:	160gr
Warranty:	2 years, possibility of extension (Option)
Compatibility:	CE, ROHS

*Products tested with most popular PBXs on the market:*
**SIEMENS - AVAYA - ALCATEL – PANASONIC – SAMSUNG - NEC
3CX - WILDIX - AASTRA - ASCOM - VT NITSUKO - SELTA – PHILIPS**
… and many more brands and IP-PBX models

Optional Accessories

AA-39DL	220Vac/12Vdc-1,0A Power Supply
AA-39D1A	Switching DIN Power Supply 220Vca/15Vcc-1,00A self-protected, adjustable 13,2-16,8Vdc
AA-39P4	PoE injector 230Vac/ 48Vdc-0,5A
AA-36	Protected Power Relay Actuator 250Vac / 16A / 4KVA, command in AC / DC 12V / 24V, 1 contact, Led, contacts protected by electric arcs.
AD301R	30W Amplifier, 2 channels, Base version, Volume-High-Low +/-12dB controls
AD320/30	PA 100V line transformer 30W, constant voltage, high efficiency toroidal type with low magnetic flux leakage.
AD32	Isolation transformer, balancing mixer, attenuator, audio filter, low-impedance output.
AA-39D2	DIN Switching Power Supply 220Vca/15Vcc-2,0A self-protected, adjustable 13,2-16,8Vdc
	Power Supply used for the AD301R amplifiers
AD-330/xx	Are available Speakers of different power, Horns and Loudspeakers for flush and ceiling mount.

Packing List

- 1 AD610 IP VoIP IP SIP interface
- 1 printed Technical Manual
- 1 CD-ROM with complete documentation
- 1 UTP LAN Patch Cord 1,5 meters cable
- 1 DIN rail kit (plastic adapter, 2 screws and 2 washers for fixing the unit, DIN bracket, 2 dowels and screws), 4 self-adhesive foots
- 1 Audio output cable with RCA male plug
- 1 RCA adapter female/male Jack mono 6.3 mm.
- 1 RCA adapter female/male Jack 3.5 mm.
- 1 RCA adapter female / male XLR

Other products from x600 series "SipComStage"   "SipComPoint"

AD611
IP-SIP PoE 10W Amplifier (2x5W) and Multifunction VoIP interface
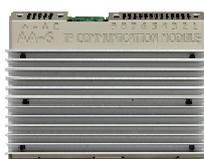
AD612
IP-SIP PoE 40W Amplifier (2X20W) and Multifunction VoIP interface

AD615/S
Audio encoder from analog to digital on network LAN into Multicast/Broadcast channels

AA-600
2-way Intercom IP-SIP PoE with 4W-10W-20W internal amplifier (choice)

"IP COMMUNICATION AND SECURITY COMPANY"