

DIGICOM3K - INTERCOM / PA&GA SYSTEM OVER IP

AUDIO&VIDEO INTERCOM / PUBLIC ADDRESS



SYSTEM DESCRIPTION

DIGICOM 3K is an audio communication system with the application of advanced IP Audio TM technology. It allow to make IP public address and general alarm (PA&GA) systems and interphone system.

Each device of the **DIGICOM 3K** system carry out its own function (handset or hands free, Central or Local type amplifier...) and therefore you can make point to point communication by dialing the keypad or just push a button from local terminal. Make a general or group paging via master consol, even complexier, by combining the proper elements, such as extra flashing beacon or siren.

DIGICOM 3K is commonly used on used on Oil & Gas Platforms, Power Generation Plants, Refineries, Chemical Plants and industrial facilities. In order to meet variously customized demands,

Each **DIGICOM 3K** system rack can be equipped with hot standby amplifiers that assume the load in the event of an individual amplifier failure. Defaults amplifiers and power supplies can be replaced quickly without having to power down the system or disconnect wiring. User controls and fault reporting are easily accessible by the optional touch screen PC or remotely via a computer.

FEATURES

- Simultaneous management of intercom and telephone call functions with paging through the speakers network. (Via interface)
- Management of multiple speakers areas and of general call. Management of lines dedicated to the intercom function
- Multiple hot standby power amplifiers and loudspeaker network monitoring
- Connection to VoIP telephones, amplified telephones and paging call stations.
- Multiple combined single, N+1 and A/B architectures supported on a single network

SYSTEM FUNCTION

Intercom / Call

Communicate via Handset or Hands-free by different phone model, a mode of full-duplex.

A quick call to a target terminal by picking up handset (Hotline); Through numerical keys to randomly call any terminals.

Zone Paging

Broadcasting: - to certain / all of part of zones via IP network paging microphone.

- MP3 or WAV format music files to speakers, real-time/ schedule time/triggering broadcasting are available.
- other source such as PABX or Radio via interface.

Alarm Voice

Broadcasting: - pre-record alarm message to certain / all of part of zones, with different priority

- Voice alarm to certain / all zone with highest priority

Activate pre-record alarm message by operator console, or by 3rd party system via dry contact

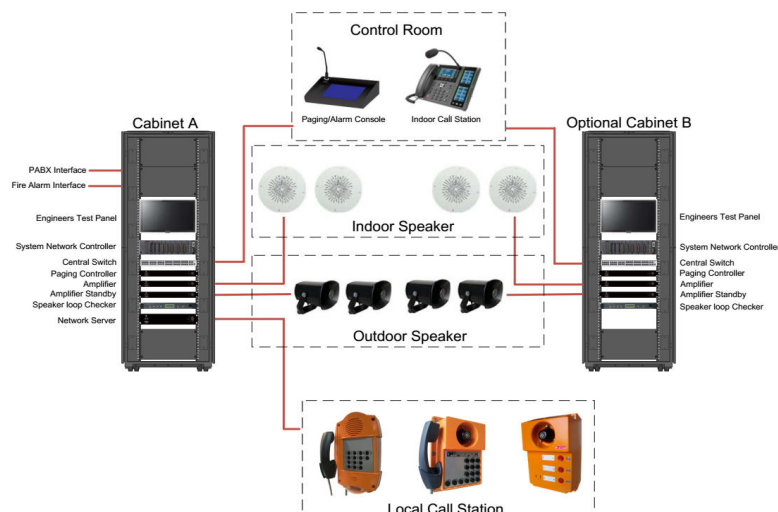
System Monitor (Optional)

Real time monitoring amplifier and hot standby (N+1) function (Optional with additional device)

Real time speaker loop monitor function with alarm (Optional with additional device)

Redundant function for system server, such as CPU and Power unit.

SYSTEM DIAGRAM



DIGICOM3K - INTERCOM / PA&GA SYSTEM OVER IP

AUDIO&VIDEO INTERCOM / PUBLIC ADDRESS

SYSTEM MAIN EQUIPMENT

MAIN ACCESS CONSOLE

Indoor console used for paging and alarm.
LCD touch screen with microphone
High definition 3W built in speaker
Device protected by key and password.



CONTROL ACCESS CONSOLE

Indoor console used as an intercom for broadcasting and P2P call in the control room.
Compatible with standard SIP protocol.
With a paging microphone and 4.3" LCD
77 keys



CENTRAL SERVER

Up to 192 analog type Intercom terminals or maxi 1024 IP subscribers.
Optional Redundancy CPU design.DC 48V or AC 110-240V, Redundancy power supply module as option.



CENTRAL CABINET

Doors and sides are removable, lockable
Lock upgrade options available
Cable pass-throughs on bottom of rack
With different size from 12 to max 42U



TCP / IP



CENTRAL AMPLIFIER



Class D or IP decoder built-in 100V/8 Ohms. Rated power output of 120/240/350/500W.
Enable to broadcast Mp3 program or pre-recorded voice message from PC server to amplifier.
Remote volume control and program.

LOCAL SPEAKER



Wall mounted horn, IP66 from 15 to 30W
Ex type available.
Plastic or metal enclosure. 100V line or 8/16ohm type, for indoor/outdoor Paging system.
With speaker monitoring module(Optional) via additional checking unit.

LOCAL BEACON



Indoor / Outdoor flashing beacon, from 5 to 21J with different color (signal or bi-color as demand).
Polyester or Metal enclosure, IP66 or Ex
Use for site with important noisy or be a part of alarm system.

LOCAL CALL STATION

WP INTERCOM TERMINAL



WEATHER PROOF IP66 402E

- Suitable for communication in extremely harsh environments.
- Durable with Polyester Carbon casing and stainless steel components.
- Four variants: Full keyboard and hot-line (no keyboard), with or without LCD
- Analog or VoIP version with amplifier (Optional)

EX INTERCOM TERMINAL



EX D IIB or IIB+H2 T6 214A

- Aluminum Light-alloy enclosure, with metal button. IP66
- With build in amplifier / 15W Speaker
- Orange as standard color.Blue, yellow gray optional.
- Power over Ethernet (PoE) or 12-24V DC for IP version. Power from Center for analog version.

DATASHEET - RCT900PVLC4 Control Unit

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

Description:

RCT900PVLC4 Control unit is used not only as the PAGA system control core device, but also as the remote node control core. It also supports redundant system and A+B system. It can realize all the DIGI 3K system function with high cost performance.

Feature:

Adopts the high performance processor

Built-in 32/48/64/80 I/O points and supports high-speed counters / pulse-train outputs

Built-in RS-485, Ethernet and CANopen

Supports Modbus, Modbus TCP and Ethernet/IP



Specification:

Model	RCT900PVLC4 RCT900PVLC4R(With Redundancy Option) RCT900PVLC4A/B(With A+B system Option)
Description	Control Unit
Operation Performance	Min execution time of basic instruction: 25 ns
Built-in Communication Interfaces	USB: For programming
	RS-485 x 2: Modbus RTU/ASCII
	Ethernet: • Modbus TCP: 16 / 16 connections (Server / Client) • Ethernet/IP: 8 / 16 connections (TCP / CIP)
	CANopen: DS301
Motion Control	High-speed counter: 200 kHz x 4
	High-speed pulse out: 200 kHz x 4 (pulse + direction) or 200 kHz x 8 (pulse)
	Supports 2-axis interpolation (linear and arc)
	Supports table structured position control function
	Supports 8 axes CANopen point-to-point motion control
Program capacity	64k steps
Data capacity	64k words
DIO points	Built-in 32 DIO
Supports micro SD card	YES
Power Supply	Support 230V AC

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DATASHEET - NCT900PVLC16/32/64 CONTROL UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ Input/Output Module for management of Paging source, alarm, dry contact signal for beacon
- ◇ Connection to standard field bus (Modbus®)
- ◇ Expandable up to approximately 1024 I/O's
- ◇ Digital & Analogue Input / Outputs
- ◇ DIN rail mounting design
- ◇ Plug-in, screwless (push-in) terminals for ease of wiring and maintenance
- ◇ Communication: USB / 2 x RS485 ports / EtherNet/IP
- ◇ Support Redundant CPU and Power Supply
- ◇ Support A+B system



DESCRIPTION

The DIGI-3K PA/GA system are managed by a Control Unit.

The Control Unit is comprised of a Central Processing Unit (CPU) Module and Additional I/O Modules (local or remote). Up to 16 I/O Modules can be connected over a three wire Bus to up to 1024 I/O connections.

The CPU can manage an extensive list of remote I/O modules.

The Control Unit includes, as a minimum, one (1) Ethernet port, two (2) RS 232 serial link and one (1) USB ports.

The I/O modules can also be installed separately from the CPU over the three wire bus, to control I/O modules in remote amplifier cabinets, to control the local equipment and/or temperature.

SPECIFICATION

Model	NCT900PVLC16/32/64 NCT900PVLC16/32/64R (With Redundancy Option) NCT900PVLC16/32/64A/B (With A+B system Option)
Description	Control Unit
Power Supply	24Vdc
Number of Inputs and Type	16/32/64 - Digital
Number of Outputs and Type	16/32/64 - Digital
Expandable	32 Modules Max
Memory Size	128K Words
Operating Temperature	-20°C ~ 60°C
Ingress Protection	IP20

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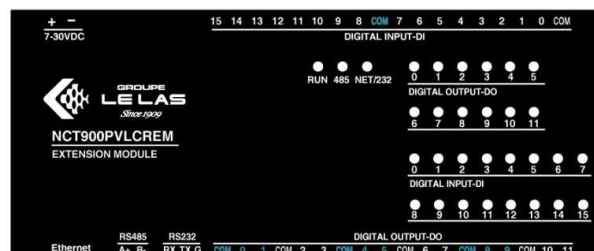
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DATASHEET - NCT900PVLCREM I/O MODULE

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ Support to receive signal for 3rd party system, such as fire&gas etc
- ◇ Support all standard Modbus equipment online communication
- ◇ Support RS232, RS485 interface, Modbus protocol



DESCRIPTION

As an integral assembly in PA&GA system. The NCT900PVLCREM audio interface provide the input/output for 3rd party signal to PA&GA system and broadcas to speakers during emergency conditions.

With maxi 12 dry contacts by each module, the RCT900PVLCREM support extension structure without limitation.

SPECIFICATION

Model	NCT900PVLCREM
CPU	32-bit ATMEL ARM high-speed processor, 72MHZ
DI/DO	16DI/12DO
Communication interface	RS232, RS485, UDP Ethernet
Communication protocol	MODBUS TCP
Channel isolation	2500VDC isolation, anti-interference protection design
Power supply	7-35VDC @2W
Operating temperature	-45°C to 85°C
Installation	Rail mount
Case size	155(L)*95(W)*39(D)mm

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DATASHEET - NCT191P50SER EXCHANGE UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION

NCT191P50SER work as IP type central exchange of DIGICOM3K PAGA / Intercom system, that allows other SIP terminals to register into themselves.

NCT191P50SER central exchange product have excellent properties and stable performance. with network auto record function, Support recording calls and broadcasts within the network. And support output of recording files.

NCT191P50SER exchange administers 50 Users, 25 maxi Concurrent Calls, 8 Ports FXS\FXO

The operating system of the NCT191P50SER is programmed using the latest, object-orientated software. this means that all present and future requirements in the fields of Intercom systems, Paging and Alarm systems, etc. can be met - fully and digitally

FEATURES

- With a new generation of processor, a separate high-end DSP processing chip and powerful hardware processing,
- Comfort Noise Generation (CNG), to provide the same experience as PSTN in calls
- Support the control from superior GK or SIP Server to complete the trunk-ing calls
- Adaptive dynamic buffer technology, to meet the application under bad network.
- G.168 128ms echo cancellation technology,eliminating the echo interference caused by long distance call
- DTMF detection / generation technology, to effectively support the business of the fax, callback, second dial.
- Voice Activity Detection (VAD), to effectively save bandwidth resources
- Flexible routing:Support regular expression, time dependent routing, and packet routing
- Multi-router/ bureau management, group, cluster and exchange management, intelligent routing distribution/equal traffic sharing.
- Flexibly control the incoming and outgoing of lines, the lock of long-distance calls can be controlled by the phone
- High processing capacity in conference.
- Monitor and handle real-time telephone traffic

TECHNICAL DATA

Analog Telephone FXS Ports	• 8
Max FXO/BRI Ports	• 8
Ethernet Interfaces	• 2 x (10/100/1000 Mbps)
Network Protocols	• TUDP, TCP, TLS, SRTP
Universal Power Supply	• AC 100-240V 50/60HZ 0.6A max
DTMF	• In-band, RFC4733, RFC2833, SIP INFO
Maximum Conference capacity	• 8 meeting with maxi 50 user
LED Indicators	• Power 1/2, FXS, FXO, LAN, WAN,
Reset Switch	• Yes, long press for factory reset and short press for reboot
Disconnect Methods	• Busy/Congestion/Howl Tone, Polarity Reversal, Hook Flash Timing, Loop Current Disconnect
Mounting	• Rack
Dimension	• 340mm(L) x 210mm(W) x 44mm(H)
Weight	• 1.65 KG

DATASHEET - NCT900XC160 ANALOG GATEWAY

VOIP TELEPHONE NETWORK UNIT



DESCRIPTION

NCT900XC160 work as analog gateway that makes connection between FXO/FXS and VoIP SIP, that allows other SIP terminals to register into themselves.

LE LAS's NCT 160MG analog gateway product have excellent properties and stable performance. with scalable modular design, it is easy to expand according to customers' requirements.

NCT900XC160 analog gateway administers 16 ports FXO/FXS, 200 SIP Users

The operating system of the NCT900XC160 is programmed using the latest, object-orientated software. this means that all present and future requirements in the fields of Intercom systems, Paging and Alarm systems, etc. can be met - fully and digitally.

FEATURES

- With a new generation of processor, a separate high-end DSP processing chip and powerful hardware processing,
- **Comfort Noise Generation (CNG), to provide the same experience as PSTN in calls**
- Support the control from superior GK or SIP Server to complete the trunk-ing calls
- Adaptive dynamic buffer technology, to meet the application under bad network.
- G.168 128ms echo cancellation technology,eliminating the echo interference caused by long distance call
- DTMF detection / generation technology, to effectively support the business of the fax, callback, second dial.
- Voice Activity Detection (VAD), to effectively save bandwidth resources
- Flexible routing:Support regular expression, time dependent routing, and packet routing
- Multi-router/ bureau management, group, cluster and exchange management, intelligent routing distribution/equal traffic sharing.
- Flexibly control the incoming and outgoing of lines, the lock of long-distance calls can be controlled by the phone
- High processing capacity in conference.
- Monitor and handle real-time telephone traffic

TECHNICAL DATA

VOIP PROTOCOL	• SIP
CODEC	• G.711 U-Law and A-Law, G.711 Appendix 1, G.723.1 and G.723.1 Annex A, G.729 Annex A and Annex B
NETWORK PROTOCOL	• IP, NAT, ICMP, ARP, HTTP, BOOTP, FTP, TFTP, DHCP, PPPOE, SNMP, Diff-Serv
FAX PROTOCOL	• T30, T38, pass through
ADVANCED VOICE PROCESSING TECHNOLOGY	• Voice Activity Detection (VAD), Comfort Noise Generation (CNG), Echo Cancellation, DTMF, Caller ID
ANALOG FXO/FXS PORT(CO LINE/EXTENSION)	• 4 to 16
SIP USER	• 200
SIP COMPATIBILITY	• CISCO, Siemens, AVAYA, Huawei, ZTE, etc
ETHERNET PORT	• 1 (10/100/1000M Base-T)
INPUT VOLTAGE	• DC -48V or AC 110-240V
POWER	• 25W
DIMENSION	• 472mm X 260mm X 44mm-(1U)
WEIGHT	• 3.5KG

DATASHEET - NCT900PVCX320 ANALOG GATEWAY

VOIP TELEPHONE NETWORK UNIT



DESCRIPTION

NCT900PVCX320 work as analog gateway that makes connection between FXO/FXS and VoIP SIP, that allows other SIP terminals to register into themselves.

NCT900PVCX320 analog gateway product have excellent properties and stable performance. with scalable modular design, it is easy to expand according to customers' requirements.

NCT900PVCX320 analog gateway administers 4 to 32 ports FXO/FXS, 16 to 1024 SIP Users

The operating system of the NCT900PVCX320 is programmed using the latest, object-orientated software. this means that all present and future requirements in the fields of Intercom systems, Paging and Alarm systems, etc. can be met - fully and digitally.

FEATURES

- With a new generation of processor, a separate high-end DSP processing chip and powerful hardware processing,
- **Comfort Noise Generation (CNG), to provide the same experience as PSTN in calls**
- Support the control from superior GK or SIP Server to complete the trunk-ing calls
- Adaptive dynamic buffer technology, to meet the application under bad network.
- G.168 128ms echo cancellation technology, eliminating the echo interference caused by long distance call
- DTMF detection / generation technology, to effectively support the business of the fax, callback, second dial.
- Voice Activity Detection (VAD), to effectively save bandwidth resources
- Flexible routing: Support regular expression, time dependent routing, and packet routing
- Multi-router / bureau management, group, cluster and exchange management, intelligent routing distribution/equal traffic sharing.
- Flexibly control the incoming and outgoing of lines, the lock of long-distance calls can be controlled by the phone
- High processing capacity in conference.
- Monitor and handle real-time telephone traffic

TECHNICAL DATA

SOLT FOR PSU/MCU	• N/A(Built-in)
SLOT FOR ANALOG USER CARD	• 1
ANALOG FXO/PXS PORT(CO LINE /EXTENSION)	• 4 to 32
E1 / T1 PORT(PCM) OPTIONAL	• 0 to 4
VOIP IP CHANNEL	• 128
SIP SUBSCRIBERS (OPTIONAL)	• 16 to 1024
SIP COMPATIBILITY	• CISCO, Siemens, AVAYA, Huawei, etc.
CONSOLE PORT	• 1 (RS232 port)
ETHERNET PORT	• 2 (10/100/1000M Base-T)
INPUT VOLTAGE	• DC -48V or AC 110-240V
POWER	• 40W
DIMENSION	• 440mm X 330mm X 45mm-(1U)
WEIGHT	• 4.34KG

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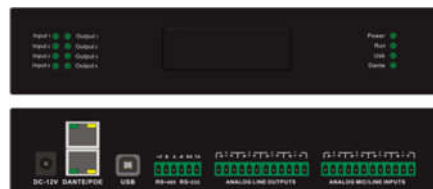
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DATASHEET - NCT900AMAX4 AUDIO PROCESSOR UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ 4-Channel audio input
- ◇ 4-Channel audio output
- ◇ 1 TCP/IP Port for communication
- ◇ 2 Ethernet port for Audio
- ◇ 1 x RS232 interface for communication
- ◇ 1 x USB Port for communication



DESCRIPTION

The NCT900AMAX4 is a highly flexible system, making it suitable for use in both small and medium-sized audio Public Address installations.

The NCT900AMAX4 is a programmable digital audio controller with a wide range of features. Switching may be triggered in a number of ways including according to audio input priority levels. The NCT900AMAX4 also offers audio signal processing such as sound detection, noise gate, tone adjustment and a 5-band parametric equalizer.

Internal processing and signal processing are fully digital, using Digital Signal Processing (DSP) technology. DSP technology provides the NCT900AMAX4 with a wide range of audio signal processing options and at the same time allows extremely flexible configuration. This product is designed for use in applications where several high-quality audio sources need to be selected and broadcasted to several audio outputs.

The NCT900AMAX4 support DIGI-3K "A+B" configuration, typical applications include offshore platforms, refineries plant, power and nuclear plants.

- ✧ The number of analog input and output channels is not less than 4*4;
- ✧ The number of Dante input and output channels is not less than 4*4;
- ✧ Input and output quantization not less than 48KHz/24bit;
- ✧ The input channel should have:
 - No less than 8 segments PEQ, and provide no less than five filter types to choose from;
 - Adaptive echo cancellation (AEC), noise suppression (ANS), Gain sharing automatic mixing (AMC), threshold automatic mixing (Gate Mixer), automatic gain (AGC), evader (Ducker), noise gain compensator (ANC), adaptive feedback rejection (AFC) with no less than 16 points per channel;
- ✧ The output channel should have:
 - No less than 8 segments PEQ, frequency divider, delay, limiter.
 - A/D dynamic range is not less than 113Db;
- ✧ D/A dynamic range is not less than 115Db;
- ✧ Frequency response range is not less than 20 ~ 20kHz (±0.2dB);

DATASHEET - NCT900AMAX4 AUDIO PROCESSOR UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

SPECIFICATION

Model	NCT900-AMAX4
Sampling rate/quantization bits:	48K/24bit
DSP floating-point arithmetic engine	40bit
Number of analog input and output channels	4X4
Number of network audio input and output channels	4X4
Output level	0/-6dB
Total harmonic distortion + noise	0.003%@4dBu
Dynamic range (analog channel)	113dB
Input common mode rejection @60Hz:	103 dB @ +24dBu
Input impedance: 20kΩ balance, 10kΩ unbalance	20kΩ balance, 10kΩ unbalance
Maximum input:	24dBu
Maximum output:	24dBu
D/A dynamic range:	113dB
Channel isolation:	100dB
Frequency response:	20 ~ 20kHz (±0.2dB)
Total harmonic distortion (THD+N):	≤0.002% @1kHz, +4dBu
Output impedance:	100Ω balance, 50 unbalance
Working power:	DC 12V & PoE

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DATASHEET - NCT900AMAX16 AUDIO PROCESSOR UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ 16-Channel audio input
- ◇ 16-Channel audio output
- ◇ 1 TCP/IP Port for communication
- ◇ 1 x RS232 interface for communication
- ◇ 1 x USB Port for communication



DESCRIPTION

The NCT900AMAX16 is a highly flexible system, making it suitable for use in both small and medium-sized audio Public Address installations.

The NCT900AMAX16 is a programmable digital audio controller with a wide range of features. Switching may be triggered in a number of ways including according to audio input priority levels. The NCT900AMAX16 also offers audio signal processing such as sound detection, noise gate, tone adjustment and a 5-band parametric equalizer.

Internal processing and signal processing are fully digital, using Digital Signal Processing (DSP) technology. DSP technology provides the NCT900AMAX16 with a wide range of audio signal processing options and at the same time allows extremely flexible configuration. This product is designed for use in applications where several high-quality audio sources need to be selected and broadcasted to several audio outputs.

The NCT900AMAX16 support DIGI-3K "A+B" configuration, typical applications include offshore platforms, refineries plant, power and nuclear plants.

SPECIFICATION

Model	NCT900-AMAX-16 NCT900-AMAX-16-A/B (With A+B system option)
Description	Audio Processor Unit
Frequency response	20Hz–20kHz, +/-0.5dB
THD+N	<0.01%; 20Hz ~ 20kHz@+4dBu
Dynamic Range	114dB, ADC, DAC
Power Supply	100 to 240VA, 50/60Hz
CMRR	>70dB@1kHz
EIN	<-125dBu, 22Hz-22kHz
Installation	19 " standard 1U height
Power consumption	75 W
Case size	482mm (L) x 464mm (W) x 44mm (H)
Product weight	2.0 Kg

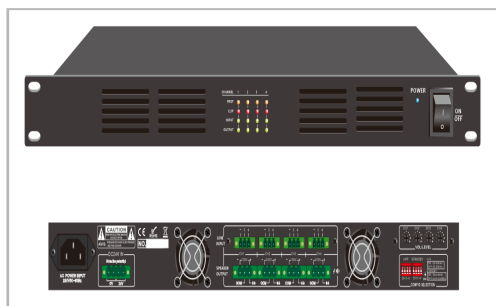
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DATASHEET - AMP172P240C4 AMPLIFIER

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION - AMP172P240C4 Class D type Amplifier

AMP172P240C4 type class-D amplifier with features of minimum power consumption and higher efficiency up to 85%, 1 U design helps to save rack space, generate less heat.

AMP172P240C4 rated power output is 4x240W, could be used as 4 zones multiple PA system. 4 balanced inputs for each channel with gain control. 4 separate zone speaker outputs both by 100V & 4-16ohms. The built-in 4 channel separate high-pass filters could be enabled or disabled through the dip switch pre-setting.

Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Switchable AC power supply from 115V to 230V. DC24V operation is optional.

FEATURE

- ◇ Switching power technology digital power amplifier
- ◇ Class-D PA power amplifier of minimum power consumption
- ◇ Less rack space and less heat generation, 4channels power amplifier into 19" rack mounting
- ◇ Rated power output at 4x240W
- ◇ 4 channel separate speaker outputs 4-16Ω/100V, balanced XLR input by phoenix connector for 4 channels

SPECIFICATION

Model	AMP172P240C4
Description	Class-D Four Channel 240W Power Amplifier
Rated Power Output	4x240W
Speaker Output	4-16Ω & 100V
Frequency Response	L/H Cut ON 20Hz-20KHz (+1/-2dB) L/H Cut OFF 80Hz-20KHz (+1/-3dB)
Input	0.775V, 0dBu, balanced phoenix connector by four channels
Input Impedance	10KΩ
THD	<0.1% (1KHz/-3dBv, 100W)
S/N Ratio	>80dB
Crosstalk	>60dB, 1KHz, Max output
Power Consumption	1200W
Power Supply	AC input switchable between 115V & 230V, 50-60Hz 24V DC input as option at order request.
Dimension	482(W)x420(D)x44(H) mm
Weight	9kg

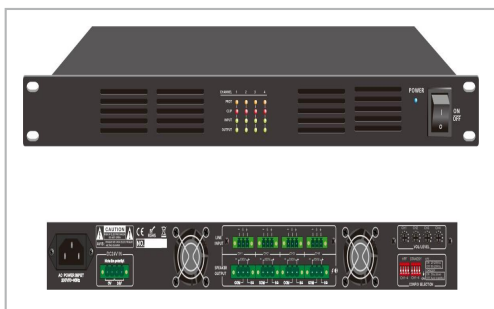
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DATASHEET - AMP172P350C4 AMPLIFIER

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION - AMP172P350C4 Class D type Amplifier

AMP172P350C4 type class-D amplifier with features of minimum power consumption and higher efficiency up to 85%, 1 U design helps to save rack space, generate less heat.

AMP172P350C4 rated power output is 4x350W, could be used as 4 zones multiple PA system. 4 balanced inputs for each channel with gain control. 4 separate zone speaker outputs both by 100V & 4-16ohms. The built-in 4 channel separate high-pass filters could be enabled or disabled through the dip switch pre-setting.

Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Switchable AC power supply from 115V to 230V.

FEATURE

- ◇ Switching power technology digital power amplifier
- ◇ Class-D PA power amplifier of minimum power consumption
- ◇ Less rack space and less heat generation, 4channels power amplifier into 19" rack mounting
- ◇ Rated power output at 4x350W
- ◇ 4 channel separate speaker outputs 4-16Ω/100V, balanced XLR input by phoenix connector for 4 channels

SPECIFICATION

Model	AMP172P350C4
Description	Class-D Four Channel 350W Power Amplifier
Rated Power Output	4x350W
Speaker Output	4-16Ω & 100V
Frequency Response	L/H Cut ON 20Hz-20KHz (+1/-2dB) L/H Cut OFF 80Hz-20KHz (+1/-3dB)
Input	0.775V, 0dBu, balanced phoenix connector by four channels
Input Impedance	10KΩ
THD	<0.1% (1KHz/-3dBv, 100W)
S/N Ratio	>80dB
Crosstalk	>60dB, 1KHz, Max output
Power Consumption	1650W
Power Supply	AC input switchable between 115V & 230V, 50-60Hz
Dimension	482(W)x420(D)x44(H) mm
Weight	9.5kg

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DATASHEET - AMP172P500C2 AMPLIFIER

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION- AMP172P500C2 Class D type Amplifier

AMP172P500C2 type class-D amplifier with features of minimum power consumption and higher efficiency up to 85%, 1 U design helps to save rack space, generate less heat.

AMP172P500C2 rated power output is 2x500W, could be used as 2 zones multiple PA system. 2 balanced inputs for each channel with gain control. 2 separate zone speaker outputs both by 100V & 4-16ohms. The built-in 2 channel separate high-pass filters could be enabled or disabled through the dip switch pre-setting.

Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Switchable AC power supply from 115V to 230V.

FEATURE

- ◇ Switching power technology digital power amplifier
- ◇ Class-D PA power amplifier of minimum power consumption
- ◇ Less rack space and less heat generation, dual channels power amplifier into 19" rack mounting
- ◇ Rated power output at 2x500W
- ◇ 2 channel separate speaker outputs 4-16Ω/100V, balanced XLR input by phoenix connector for 2 channels

SPECIFICATION

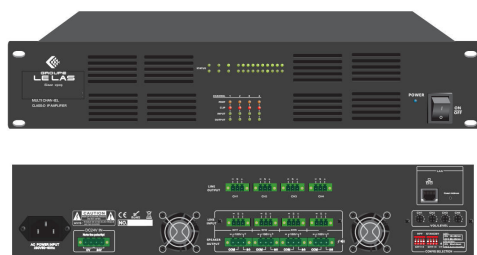
Model	AMP172P500C2
Description	Class-D Dual Channel 500W Power Amplifier
Rated Power Output	2x500W
Speaker Output	4-16Ω & 100V
Frequency Response	L/H Cut ON 20Hz-20KHz (+1/-2dB) L/H Cut OFF 80Hz-20KHz (+1/-3dB)
Input	0.775V, 0dBu, balanced phoenix connector by four channels
Input Impedance	10KΩ
THD	<0.1% (1KHz/-3dBv, 100W)
S/N Ratio	>80dB
Crosstalk	>60dB, 1KHz, Max output
Power Consumption	1250W
Power Supply	AC input switchable between 115V & 230V, 50-60Hz
Dimension	482(W)x420(D)x44(H) mm
Weight	9.2kg

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DATASHEET - AMP172P350C4 IP AMPLIFIER

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION - AMP172P350C4 Range IP Amplifier

AMP172P350C4 range networked amplifier is a kind of fully networking digital analog-digital signal processor supporting 100/10Mbps self-adaptation TCP/IP network transmission protocol, with features of minimum power consumption and higher efficiency up to 85%, 2 U 19" rack mount design helps to save rack space, generate less heat.

AMP172P350C4 rated power output is 4x350W, could be used as 4 zones multiple PA system. 4 balanced inputs for each channel with gain control. 4 separate zone speaker outputs both by 100V & 4-16ohms. The built-in 4 channel separate high-pass filters could be enabled or disabled through the dip switch pre-setting.

Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Switchable AC power supply from 115V to 230V.

FEATURE

- ◇ Built-in IP network audio decoder and PA 350W digital Class-D power amplifier for each channel.
- ◇ Built-up over existing LAN/WAN network system, non-dedicated network system is needed, support over gateway and over router
- ◇ With 100V speaker outputs by screw terminal
- ◇ Over LAN/WAN or Internet. Minimum cable connection by using existing network framework. Compatible with LE LAS's multiple PAGA system
- ◇ Simple system configuration and device status read through browser and realize channel setting

SPECIFICATION

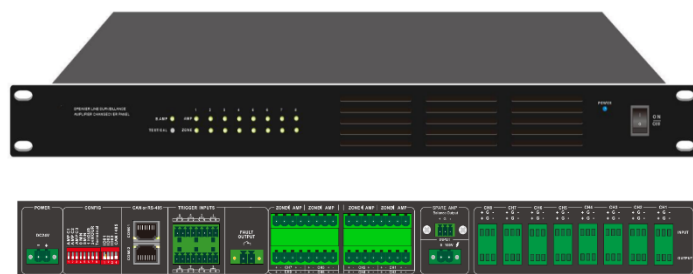
Model	AMP172P350C4S/IP
Description	1400 W Power IP Amplifier
Rated Power Output	4x350W
Protocol Support	TCP/IP, UDP, IGMP (Multicast)
Transmit Speed	10/100Mbps
Audio Format	16 digit stereo CD tone
Frequency Response	20Hz~16KHz
Speaker Output	100 V
THD	≤0.3%
S/N Ratio	>85dB
Working Temperature	-5°C to 55°C
Power Consumption	1650W
Humidity	10% to 90%
Power Supply	AC220V, 50-60Hz
Dimension	482(W)x420(D)x90(H) mm
Weight	10.12 kg

DATASHEET - CFT172P353 MONITORING UNIT

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ Amplifier switching and speaker line check all into one
- ◇ Flexible configuration. Support from 1 main +1 standby to maxi 8 mains+ 1 standby
- ◇ Real-time monitoring of power amplifier status, real-time feedback, automatic switching
- ◇ Speaker bus diagnosis (Open circuit, short circuit, ground)
- ◇ Speaker load detection for each channel from 3 to Maxi 1000W
- ◇ 1 output for fault control signal
- ◇ Support CAN and RS485



DESCRIPTION

The CFT172P353 is a key equipment to realize the real-time monitoring function of the system, use in both small and medium-sized Public Address installations.

By integrating the monitoring functions of the power amplifier and the speaker line into one device, space in the cabinet is saved. And can send real-time device status signals to 3rd party systems.

The CFT172P353 support DIGI-Lite "A+B" configuration, typical applications include offshore platforms, refineries plant, power and nuclear plants.

SPECIFICATION

Model	CFT172P353
Description	Monitoring Unit
Single channel control power	800W rms Maxi /100V 8A
Amplifier failure detection	Maxi 8 main channels
Zone failure detection	Maxi 8 zones
Automatic detection time	No detection / 5 minutes / 1 Hour / 24 Hours
Detection accuracy	±10% Line impedance
Fault signal output	24Vdc 3A
Installation	19 " standard 1U height
Power	24Vdc 0.6A
Case size	435mm (L) x 375mm (W) x 45mm (H)
Product weight	4.1 Kg

DATASHEET - CFT900PV1AIG ALARM GENERATOR

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

FEATURE

- ◇ Support MP3, WAV format
- ◇ Support SPIFLASH to be simulated as a USB, directly update the voice in SPIFLASH like operating a USB flash driver
- ◇ Support 30 levels of volume adjustment
- ◇ Support cycle times setting
- ◇ Support external input audio and MP3 audio mixing, external input, MP3 output, external input and MP3 mixing three output switching
- ◇ Support sip2.0 (RFC3261)
- ◇ Support IGMP
- ◇ Support contact control



DESCRIPTION

As an integral assembly in PA&GA system. The Alarm Generator is responsible for generating the tone messages that are broadcast over the system speakers during emergency conditions.

With 4 audio sources by module, the Alarm Generator can store pre-record alarm ton or background music by .MP3 or .wav format.

It has a 10/100M Ethernet interface and supports G.711 audio decoding. it receives audio data from central Paging console and plays out in real time. Configure one line input and one line output, which can output the internal sound source to the external power amplifier, as well as Mic input.

SPECIFICATION

Model	CFT900PV1AIG
Description	Alarm Generator and Audio gateway
USB Port	2.0
Protocol	TCP/UDP/ARP/ICMP/DHCP/DNS/IGMP
Frequency	70 to 12.5KHz
Contact control	0-5V
Input Voltage	220 Vac
Current Rating	Standby Current: 500 A; Operating Current: 10mA
Operating temperature	-45°C to 85°C
Installation	19" rack mount
Case size	483(W)*44(H)*145(D)mm

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DATASHEET - NCH-153SAL ALARM CONSOLE

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

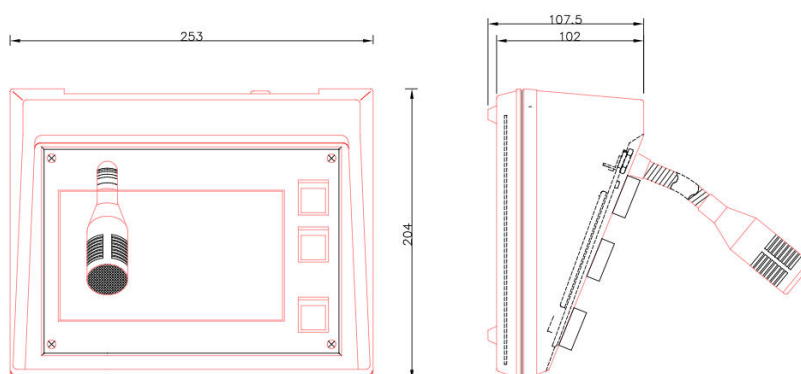
FEATURE

- ◇ IP base console, touch screen with 3 mechanic buttons, with microphone
- ◇ Embed PC technology, built-in DSP & high-speed industrial chip to ensure start time less than 1 second
- ◇ With 7 -inch LCD user-friendly human-machine interface
- ◇ With touch screen control paging to any zone, or mechanic button for paging/alarm
- ◇ Paging/alarm capacities: by zone or all zone. Paging or alarm by 1 click
- ◇ Monitor and display system working status in real time. display fault type at touch screen
- ◇ 24V DC power supply, the power adapter (220VAC) is included in the packaging. (POE Optional as demanded)



SPECIFICATION

Model	NCH-153SAL
	NCH-153SAL/POE
	NCH-153SAL/ACB
Description	Paging & Alarm console for DIGICOM3000 system
Communication Protocol	TCP/IP, UDP, IGMP, ARP, UDP
Audio Format	MP3
Sampling Rate	8K~48KHz
Transmission Speed	10M/100Mbps
Frequency Response	20Hz~16KHz (+1dB, -3dB)
T.H.D.	≤0.3%
S/N Ratio	>70dB
Connector	1X RJ45 port, 1 X mic input , optional 2 X audio output (/ACB version)
Working temp	-5°C to +40°C
Humidity	10% to 90%
Power Consumption	≤10W
Power Supply	220VAC or POE
Dimensions	253 x 204 x 102mm (without gooseneck microphone)
Weight	3.2Kg
Audio Format	MP3



DATASHEET -TCT162P22PC16 PC Type Master Console

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

Feature:

- ✓ Industrial grade fan-less PC.
- ✓ 15.6" 1920 x 1080 FHD IPS LCD touch screen with microphone
- ✓ One PC master console can control a networked PAGA system
- ✓ Desktop or rack versions with touch-screen or mouse facility
- ✓ Up to 128 soft-keys



Specification:

Model	TCT162P22PC16	
Description	PC Type Master Console	
Display	Display	15.6" IPS
	Resolution	1920x 1080
	Brightness (cd/m2)	300
	Contrast Ratio	800:1
	Backlight Type	LED
	Colors	16.2M
	LCD Viewing Angle (T/B/R/L)	89/89/89/89
	Pixel Pitch (mm)	0.17925(H) x 0.17925(V)
Touch Panel	Type	Tempered Glass, Capacitive Type 7H
Memory	Flash	4 GB
	RAM	1 GB
Processor		Quad-core 32-bit RISC 1.6GHz
I/O Port	SD Card Slot	N/A
	USB Host	USB 2.0 x 1
	USB Client	N/A
	Ethernet	10/100 Base-T x 1
	RS-485 Isolation	2
	Audio Output	Built-in Mono Speaker
RTC		Built-in
Power	Input Power	24±20%VDC
	Power Isolation	Built-in
	Power Consumption	1.3A@24VDC
	Voltage Resistance	500VAC (1 min.)
	Isolation Resistance	Exceed 50MQ @ 500VDC
	Vibration Endurance	10 to 25Hz (X, Y, Z direction 2G 30 minutes)
Environment	Protection Structure	NEMA4 / IP66 Compliant Front Panel
	Storage Temperature	-20° ~ 60°C (-4° ~ 140°F)
	Operating Temperature	0° ~ 50°C (32° ~ 122°F)
	Relative Humidity	10% ~ 90% (non-condensing)

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DATASHEET - INDOOR MASTER STATION

VOIP CALL STATION FOR PA/GA & INTERCOM NETWORK SYSTEM



DESCRIPTION

TLS210PH5C9GLX/P is a visualization paging console phone for industry customer. It is equipped with a gooseneck microphone and supports HD hands-free calling. With intelligent programmable DSS buttons.

TLS210PH5C9GLX/P is compatible with the standard SIP protocol, can be used as master call station of DIGICOM2000 PAGA&Intercom system, with functions such as make calls for external & internal intercoms, two-way intercom, monitoring, and broadcasting.

TLS210PH5C9GLX/P stands out from other entry-level IP intercom with its advantaged features like "Excellent full-duplex hands-free voice quality, Wi-Fi stability, higher level encryption method ---ZRTP, 3-way conferencing, fine workmanship of innovative appearance".

FEATURES

- 4.3" main color display, 2x3.5" side color displays for DSS keys
- Video Codec H.264 support for receiving video calls
- Stand with 2 adjustable angles of 40 and 50 degrees
- Support Recording (Through Flash Drive or Server Recording)
- Voice Activity Detection (VAD) / Comfort Noise Generation (CNG) / Background Noise Estimation (BNE) / Noise Reduction (NR)
- Up to 106 DSS keys(42 tri-colored physical keys)
- Network Time Synchronization
- Full-duplex Acoustic Echo Canceller (AEC)
- Dynamic Adaptive Jitter Buffer up to 300ms
- Compatible with major platforms: Asterisk, Broadsoft, Metaswitch, Elastix, Avaya, 3CX, etc.

TECHNICAL DATA

Basic functions	Main LCD x1: 4.3 inch (480x272) color-screen LCD, Intercom, Caller ID Display, Call Forward, Call Transfer, Call Waiting, Hotline, Call Hold, Auto Answer, Redial, Mute, DND, Local 3-Way Conferencing, Speed Dial, Voice Mail, Local Phonebook (up to 2000), Programmable DSS/Soft keys, Support Wi-Fi Dongle.
Shortcut functions	77 keys, including: 4 Soft-keys; 6 Function keys (Hold, Call forward, Phonebook, MWI, Headset, Redial); 4 Navigation keys; 1 OK key; 42 DSS Keys with tri-color LED; 3 Page-Switch (PS) key; 3 Volume Control keys, Up/Down/Mute(Microphone) etc.
IP PBX Features	Intercom, Mute / Unmute (Microphone), Call out / Answer / Reject, Call waiting, Call Hold / Resume, Anonymous Call, Call Park-ing/pickup, Call Forwarding (Always/Busy/No Answer), hotline.
Mult-language	English, German, Italian, French, Spanish, Portuguese, Russian, Chinese, Traditional Chinese, Polish, Turkish, Hebrew.
Advanced Features	LDAP, XML remote phonebook, Action URL, Active URI, CSTA, Multicast paging
Audio Features	HD Voice Microphone/Speaker (Handset/Hands-free, 0 ~ 7KHz Frequency Response), HAC handset, Wideband ADC/DAC 16KHz Sampling, Full-duplex Acoustic Echo Canceller (AEC), Packet Loss Concealment (PLC), Wideband Codec: G.722, AMR-WB, Opus.
Network Features	Physical: 10/100/1000 Mbps Ethernet, dual bridged port for PC bypass, IP Mode: IPv4/IPv6/IPv4&IPv6, VPN: L2TP / OpenVPN IP Configuration: Static / DHCP / PPPoE, Network Access Control: 802.1x, VLAN, LLDP, QoS, RTCP-XR(RFC3611), VQ-RTCPXR (RFC6035)
Physical	Main LCD x1: 4.3 inch (480x272) color-screen LCD, DSS Key-mapping LCD x2: 3.5 inch (320x480) color-screen LCD, USB2.0 Port x1: Standard A, Connect with Wi-Fi USB dongle or Flash Driver, DC Power Input: 5V/2A, Power Consumption (PoE): 2.6~ 9W Power Consumption (Adapter): 2.4~8W
Temperature and Humidity	Operating temperature: 0 ~ 45°C, Operating humidity: 10 ~ 95%

DATASHEET - CFT900PV1AFSP10 Feedback Suppressor

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION- CFT900PV1AFSP10 Feedback Suppressor

The feedback suppressor can effectively suppress the self-excited howling caused by the positive feedback signal between the microphone and the speaker in the system. It consists of :

- Ten microphone inputs with phantom power supply.
- Microprocessor controls speech excitation with free, sequential, designated speech mode.
- Intelligent mixing, feedback suppression, equalization, automatic pressure limit.
- Camera tracking function, support PELCO-P/D, VISCA protocol.
- RS232 and RS485 communication, can be connected to the computer and central control.
- 2 road mixers, 1 Caron output, 2 Lotus output.
- The steel shell blocks interference, and the front panel is finished with aluminum alloy.

FUNCTION

The 10 channels smart mixer has a very high signal-to-noise ratio, the sound quality is clear and natural, and its built-in large-capacity microprocessor makes the process control of the conference more smooth.

Any priority function can be achieved. Due to its good scalability, users can adopt multiple hosts in series according to the microphone needs, and the function settings of each station remain unchanged.

The built-in pressure limiter, equalizer, and digital feedback suppressor function can prevent feedback due to the large number of microphones turned on.

TECHNICAL PARAMETERS

Actually the ETP push buttons have the following configuration:

Power supply: 15V/DC/500MA

Frequency shift response range: 70Hz-16KHz (pass-frequency response 20Hz-20KHz)

Phantom power supply: 48V

Input impedance: microphone input: 4KR; Line input: 30KR

Output impedance: Balanced output: 200R; unbalanced output: 400R

Max input level: Microphone: -24DBV; Line input: +30DBV; AUX input: +17DBV

Volume (width * height * depth) : 490mm*190mm*55mm

Weight (including package) : 4.1KG

DATASHEET - NCT900TP2UMB TEST PANEL

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT

DESCRIPTION - NCT900TP2UMB Test Panel

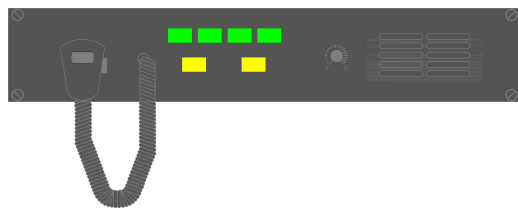
The ETP (engineering test panel) NCT900TP2UMB is a rapid access platform for broadcasting, test and maintenance operations.

It consists of :

- 1 x noise suppressor microphone with relative Push to talk(PTT) button
- 4 x green buttons for prerecorded messages / alarm audio broadcast
- 2x yellow lights for fault signaling with 1 yellow integrated pushbuttons for fault management and maintenance interventions.

From the ETP, each operator that have access to the cabinet can:

- Perform a test voice broadcast
- Broadcast four different alarms / pre-recorded messages
- Acknowledge a fault notification



FUNCTION

• Perform a test voice broadcast

- Hang up the microphone and hold on the PTT button
- The voice will be broadcasted to all zones
- Release the PTT button to end the broadcast

Note : ETP broadcast has the lower priority; any other broadcast is able to mute it

• Activate an alarm / prerecorded message broadcast

- Press and release one of the four green pushbuttons
- The relative green LED will becomes steady to confirm the activation
- The configured tone / pre-recorded message will be broadcast to the configured zones; even beacons could be activated, if configured
- Press again to stop the diffusion

Note : the four pushbuttons are customizable by the System configuration.

Factory defaults :

- MESSAGE 1 : Test Tone on Zone 1 (AMP 1);
- MESSAGE 2 : Test Tone on Zone 2 (AMP 2);
- MESSAGE 3: Test Tone on Zone 3 (AMP 3);

• Acknowledge a fault notification

In case of device fault / field fault , the system notify the event trough the internal buzzer, that start sounding, and the relevant "BUZZER ACK" yellow led, that stars flashing and "SYSTEM FAULT LED" that becomes steady.

To acknowledge the fault and stop the alarm notification (both buzzer sound and buzzer led) press the "BUZZER ACK" button.

Contrary, the "SYSTEM FAULT LED" keep steady until the fault will be cleared.

MESSAGE CONFIGURATION

Actually the ETP push buttons have the following configuration:

- 1.MESSAGE 1 : Test Tone on Zone 1 ;
- 2.MESSAGE 2 : Test Tone on Zone 2 ;
- 3.MESSAGE 3: Test Tone on Zone 3 ;

It is possible to perform some configuration in order to modify the actual behavior.

Example:

Message 1 will change from Test Tone Zone 1 to Test Tone ALL ZONES

Message 2 will change from Test Tone Zone 2 to Evacuation Alarm

Message 3 will change from Test Tone Zone 2 to GFA Alarm

Here follows the Configuration for the three push buttons coming from the PAGA Controller

MESSAGE 1-3

Event selection	Message X
Zone configuration	Z1-Z32
Priority configuration	1-1000
Audio configuration	CH1-CH16
Timeout configuration	0-3000
Recover	Yes/No

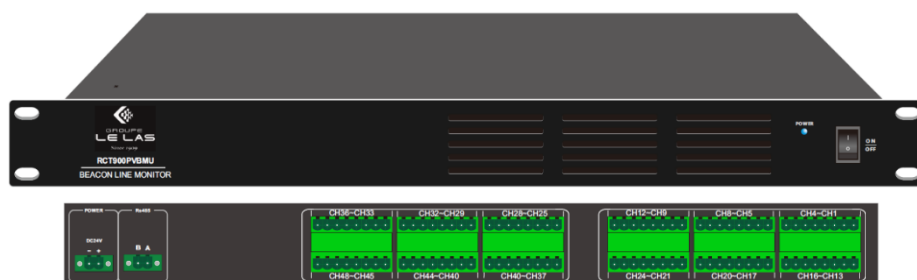
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DATASHEET - RCT900PV1BMU BEACON LINE MONITOR

PA&GA / INTERCOM NETWORK SYSTEM EQUIPMENT



DESCRIPTION- Beacon Line Monitor

The electronic circuit during stand-by operation, continuously monitors the beacons line status, for example an open or shorted condition status preventing a malfunctioning of the beacons.

The result of the line condition measurement, is available to a dedicated output that is connected to PAGA controller.

The connection is made by the wiring of the RS485 connector.

The circuit, during the stand-by operation also verifies the availability of the applied AC Power.

CONNECTORS

CH1-CH48 (2.5mm)	Beacons testing loops
RS485 (2.5mm)	- A Power Supply OUT for Beacons Line (Live) - to field - B Power Supply OUT for Beacons Line (Neutral) - to field
POWER (2.5mm)	- 1 +24VDC power input - 2 GND (24Vdc)

SPECIFICATION

- ◇ Mechanical life: 1million operations
- ◇ Electrical life: 100,000 operations (inductive load 3A-24VAC)
- ◇ Insulation between adjacent contacts (1.2/50μs) : 28VAC Maximum operating AC
- ◇ Mains Voltage : 24VAC – 50Hz / 60Hz Maximum operating current :3A
- ◇ Maximum instantaneous current: 5A

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