

SMP-230

MICROPROCESSOR CONTROL SYSTEM



DESCRIPTION

The SMP-230 system is a very powerful Microprocessor Controlled Modular Audio Matrix, with full management of audio inputs and outputs.

Its modular conception allows for the customization of all types of specific centrals to meet all the initial requirements of the installation while permitting, at same time, any future expansion. The system is specially suitable for centralized public address installations, since it is a very powerful tool for the management of multiple inputs and outputs, pre-recorded messages, input and output contacts, sirens and alarm tones, etc.

TECHNICAL FEATURES

Capacity up to 64 audio inputs and 996 audio outputs.

Up to 16 simultaneous paging channels.

Possibility of subdivision loudspeakers lines into sub-zones.

Remote control inputs (up to 512) to activate messages, sirens, change the level, change the music program and so on.

Possibility of making auxiliary operations by means of the relay contacts and the digital inputs.

Output relays (up to 512) to make auxiliary operations.

Sirens and alarm tones generation.

Outputs with Automatic Level Control included.

Possibility to assign different priority levels to each input (up to 63).

Assignment of independent music program per zone.

Activation of digital messages from the microphone desk.

Selection of pre-paging, gong and music notes type from each microphone.

Possibility of changing the music program by control input, either manually from the desk or by scheduled programming.

Possibility of changing the zone volume by control input, either manually from the desk or by scheduled programming.

Configuration by PC with Windows NT®, Windows 2000® or Windows XP®.

Easy configuration of the different modules addresses by means of the included dipswitches.

Autonomous operation once configured. The PC is not permanently required for the daily system operation.

The configuration PC can be used to control the installation permanently.

Generation of immediate or scheduled priority digital messages by the PC.

Generation of information or warning text messages by the control PC display.

Use of the PC means to record and play messages (wav format).

Permanent surveillance of the power units and the loudspeakers lines (with DALA-01/B).

SMP-230

The SMP-230 controls public address systems with multiple inputs/outputs, by means of a compact electronic central which reduces the space required in the rack cabinet and the interconnecting time of the equivalent analogical elements. Furthermore, it allows to make the very functions of the microprocess systems, such as the control and configuration by PC, programming time events, assignation of specific actions to remote control inputs, control of audio files, etc. Therefore, the SMP-230 system is suitable for complex public address installations, in which it becomes a benefit for its functionality as well as for its cost compared to the traditional systems based in independent equipments of analogical control.

The **control computer**, equipped with the WINDOWS XP PROFESSIONAL ® operating software and the SMP-23116CT configuring and operating software, is connected to the mainframe through a RS232 serial port. It has a built-in sound card, which allows for the recording and sending pre-recorded messages, which are stored in its HDD. It allows the full control of the installation, as well as the programming of parameters, times, zones...

SMP-23000 Mainframe, with the cards for all the required functions; C.P.U., power supply, inputs, outputs, remote control, pre-recorded messages and alarms, noise sensors, PABX interface, sub-division of power units, lines and power units surveillance, etc. It is 19" and 6 U high.

Microphone desks for paging. They allow the zones selection with priority control, all call and security password for the priority general call. Preamplifier, compressor, high and low frequencies filter, and gong generator are included.

external sensors & remote controls

Remote control; the system allows up to 512 external sensors. It is possible to program the system in order to respond by means of the activation of an output relay, or sending a pre-recorded paging to a zone or group of zones.

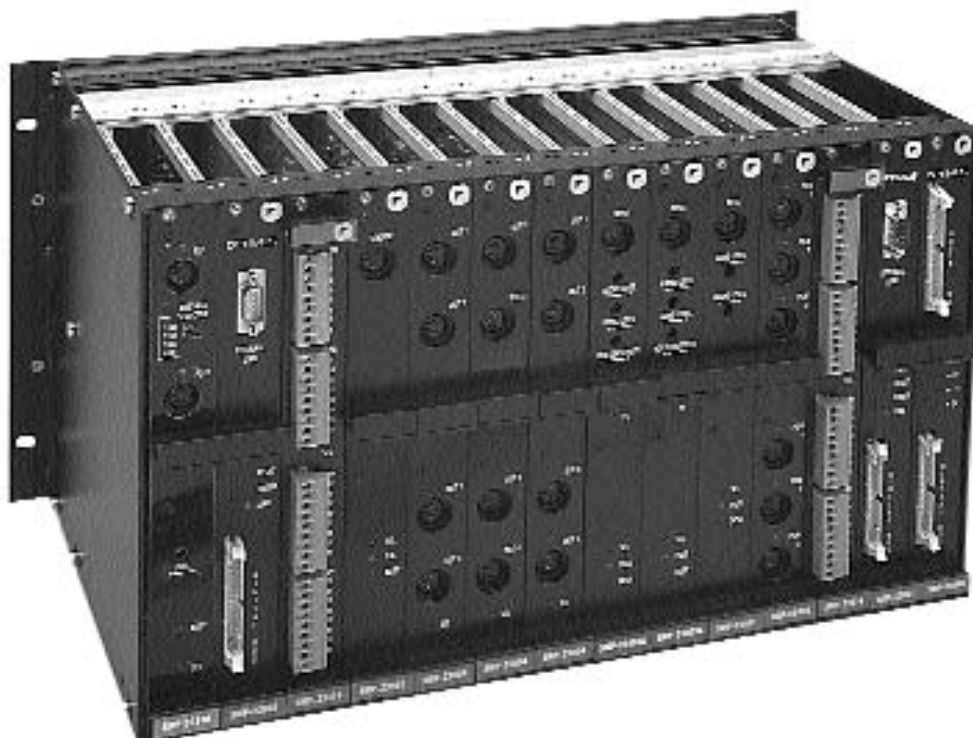
Loudspeakers lines; directly from the power units (up to 996 audio outputs) or from the loudspeakers lines selector cards (up to 512 selections). The system includes automatic volume controls and can do the lines surveillance by means of the surveillance tones.

P.A. central; further to house the mainframe with the control system cards, it also includes the music sources, preamplifiers, signal processing systems, power units, etc. as well as all the security elements and required connections for the full operation of the system.

DESCRIPTION

The SMP-23000 Mainframe occupies 6U height in a 19" standard rack and may hold up to 14 cards each. As many mainframes as required, up to the maximum capacity of the system, may be linked together to build up the installation.

The first mainframe needs a SMP-23001 C.P.U. card, only one for the whole system, no matter how many mainframes. Each mainframe must be supplied with 24 V.d.c. and must be equipped with a SMP-23090 card. Depending on the system requirements, it is possible to add the rest of cards of program inputs, microphone desk and PC audio cards, loudspeakers zone output cards to the power units, remote control outputs and inputs cards, gong, sirens, pre-recorded messages, telephone access cards, etc.



SMP-230 SYSTEM CARDS

SMP-23001	Central Process Unit (CPU) card
SMP-23090	Power supply and extension module (1 card for each mainframe)
SMP-23404	6 music programs input module
SMP-23401	SMP-23301 microphone desk input module
SMP-23403A	1 direct audio input with priority
SMP-23403B	Serial RS-232 / RS-422 port system control card
SMP-23403C	PABX telephone access input card
SMP-23604	4 outputs module for audio with level automatic control
SMP-23201	Noise sensor connection module for level automatic control
SMP-23316	32 opto-isolated digital inputs module
SMP-23416	32 relay digital outputs module
SMP-23106	Alarm and siren generator module (4 messages and 7 sirens)
SMP-23406	Alarm and siren generator module (48 messages and 15 sirens)
SMP-23317	Remote audio program selector



FEATURES

This card contains the CPU that holds the configuration of the entire system.

Only one CPU card is needed for each installation. The control signals generated by the CPU are sent over a 34-conductor flat cable to all the mainframe, including the mainframe containing the CPU. This cable, which is known as a digital bus, is connected in parallel to all the digital bus power supply/interconnection inputs on each mainframe.

This card stores the PC configuration in a permanent memory. To make changes in the configuration it is necessary to connect it to a PC but once the card receives the new configuration it will retain it even when the power supply is disconnected.

The External Link Connector located at the front of the CPU card is an RS232 connection, which communicates with the SMP-23010 Control PC (optional), which allows the system configuration and control through the SMP-23116CT software.

Description	Central Processing Unit (CPU)
RS-232 connection	SUB-D 9 pins
External connection (digital bus)	34-conductor flat cable
LED indicators	<i>power, reset, error, link</i>
Power supply and consumption	24 Vdc, 50 mA



FEATURES

This has the double function of supplying the mainframe cards with power and connecting the mainframe to the digital and analogue buses.

One card is required for each SMP-23000 mainframe.

In its function as a power supply card it receives the 24 VDC, which supplies each mainframe with voltages of +5 V, +12 V, and -12 V. There is a pilot light on the front of each card which indicates if power is being supplied or not.

DIGITAL BUS

This transmits the control signals for the entire rack. It is also connected to the digital bus connector on the CPU card located in the first mainframe, through a flat 34 wires cable.

ANALOG BUS

Transmits audio signals between the different mainframes, if there are several. The interconnection between SMP23090 has to be done through a flat 40 wires cable.

Description	Power supply and interconnection card
External connection (analog bus)	40-conductor flat cable
External connection (digital bus)	34-conductor flat cable
LED indicators	-12, + 12, + 5 y + 24 Vdc
Power supply and consumption	24 Vdc, 220 mA



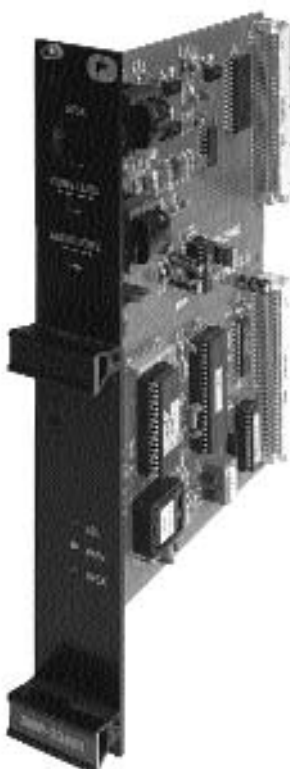
FEATURES

Program input card for up to 6 audio inputs for background music. These are distributed to different zones in the absence of priority messages. The input sensitivity is of 0 dBm.

It admits both differential or earth-linked audio inputs. The type of input is selected by using a module-mounted jumper. Each input has a signal presence detector which activates an LED and notifies the operator in the control centre in the case of a missing input signal.

Up to 2 cards of this type can be used for an entire SMP-230 system, for up to 12 music programs.

Description	Music program input card
Inputs	6 of 0 dB, 600 ohm (DIN 5 pins)
Configuration	Balanced or unbalanced
LED indicators	6, for signal presence in each input
Power supply and consumption	24 Vdc, 30 mA



FEATURES

Card for the connection of the SMP-23301 microphone desk. This card supplies the desk with DC, receives the audio signal and is used as a bridge between the desk and the control centre.

The card includes a 15 tones gong generator and High frequency (HF) and Low frequency (LF) audio filters which can be activated or deactivated from the computer.

Separate audio level adjustments for voice and gongs are possible via adjustable potentiometers which can be accessed through openings on the front marked AUDIO LEVEL and GONG LEVEL.

The audio (basic band) and data (32 kHz tones) signals are transmitted in a balanced way between these cards and the SMP-23301 Microphone Desks.

Up to 64 priority inputs cards can be connected in a SMP-230 system, be it microphone desk or direct inputs.

Description	Microphone desk input card
Audio & control input	DIN 3 pins
Controls	Gong and voice levels
LED indicators	<i>sel, pass, desk</i>
Power supply and consumption	24 Vdc, 80 mA

SMP-23403A

Direct audio input with priority



FEATURES

This card allows priority messages to be received from sources other than the SMP23301 microphone desks. The normal connections are the audio signal of the PC sound card, the output of the SMP-23106 or SMP-23406 sirens and messages cards, pre-recorded messages with external devices (with associated priority contact or with vox control).

It includes a 15 different tones gong generator, audio filters which can be activated or deactivated from the computer keyboard. High frequency (HF) filter and low frequency (LF) filter.

It also has separate audio level adjustments for voice and gongs and the vox-control threshold with potentiometers placed in the front panel.

Through the configuring software, it is possible to assign the direct paging of a message to a pre-set zone, its priority level, a pre-paging gong, and choose between contact or audio threshold (vox control).

Description	Audio input with priority
Inputs	1 of 0 dB, 600 ohm (DIN 5 pins)
Controls	Gong, voice and vox-control levels
LED indicators	<i>sel, pass, busy, pc</i>
Power supply and consumption	24 Vdc, 50 mA

SMP-23403B

Serial RS-232 / RS-422 port system control card



FEATURES

This card allows priority messages to be received from sources other than the SMP-23301 microphone desks. An audio signal and a RS232/422 serial port are connected for external control.

It includes a 15 different tones gong generator, audio filters which can be activated or deactivated from the computer keyboard. High frequency (HF) filter and low frequency (LF) filter.

It also has separate audio level adjustments for voice, gong and the vox-control threshold with potentiometers placed in the front panel.

Through the configuring software, it is possible to assign its priority level and pre-paging gong.

Description	Serial port system control card
Inputs	1 of 0 dB, 600 ohm (DIN 5 pins)
Controls	Gong, voice and vox control levels
LED indicators	<i>sel, pass, busy, mode</i>
Power supply and consumption	24 Vdc, 50 mA
Connection RS-232/422	SUB-D 9 pins



FEATURES

This card permits the integration of a PABX exchange unit with the SMP230, allowing the use of the telephone handsets for paging purposes. Connecting the input of this card to a free extension of a PABX exchange unit, makes it possible to send pagings from any of the telephones connected to the network, by dialling the appropriate access code.

Using of this card facilitates enormously the wiring of an installation, as there is no need to make additional wirings for simple paging purposes. Also, it frees space in the congested working desks, reducing the need to install a paging microphone desk to only those places where it is also necessary to have control capacity, therefore contributing to lower the cost of the installation.

The gong and voice audio levels are separately adjustable through two potentiometers placed in the front panel.

Through the configuring software, it is possible to assign the direct paging of the message to a pre-set zone, its priority level, and the type of pre-paging gong.

Description	Telephone exchange input card
Input	Analogical telephone extension (RJ45)
Controls	Gong and voice levels
LED indicators	<i>hook, busy, pgm</i>
Power supply and consumption	24 Vdc, 50 mA



FEATURES

This allows the system to be connected to an SMP-23201S ambient noise level sensor which automatically controls, through the Automatic Level Control, the output volume of music and messages of the SMP-23604 zones multiplexer cards.

Any given sensor may be assigned simultaneously to several outputs, which are jointly controlled in accordance with the sensor reading. The system allows the use of up to 32 sensor input cards.

The SMP-23201 sensor is connected to the card via the SENSOR connector and a parallel cable which at the same time sends to the sensor the power supply and transmits the results of its measurements.

Description	Noise sensor input card
Input / Output	DIN 5 pins (power supply, datas)
LED indicators	<i>sel, sensor, busy</i>
Power supply and consumption	24 Vdc, 40 mA

SMP-23604

Multiplexer output card with automatic level control



FEATURES

This card has 4 independent audio outputs of 0 dB level, to directly drive power units. Each output can be assigned a different music program or audio source from the different sources available.

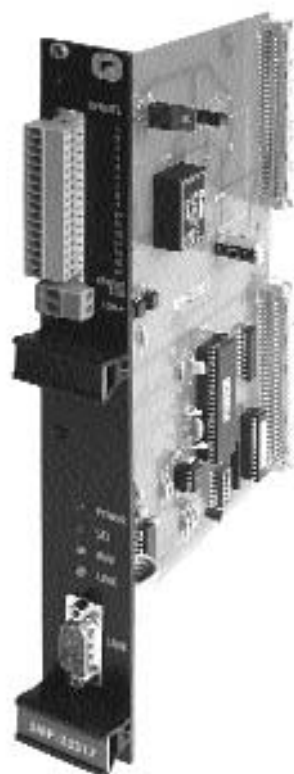
Each of these outputs has a programmable attenuator which can be controlled manually, from the computer or automatically, when connected to a noise sensor. In the latter case, it acts as an Automatic Level Control (ALC).

The unit has a LED on the front of the module, which indicates that the control centre is communicating correctly with the card. The system allows up to 249 SMP-23604 cards, allowing up to 996 zone outputs.

Description	Multiplexer output card
Outputs	4 of 0dB, 600 ohm (DIN 5 pins)
Controls	Output level from PC or CPU
LED indicators	<i>sel</i>
Power supply and consumption	24 Vdc, 45 mA

SMP-23317

Volume remote control & audio programs selection



FEATURES

This card has been designed to allow the user to remotely control from each zone not only the volume, but also the program being diffused.

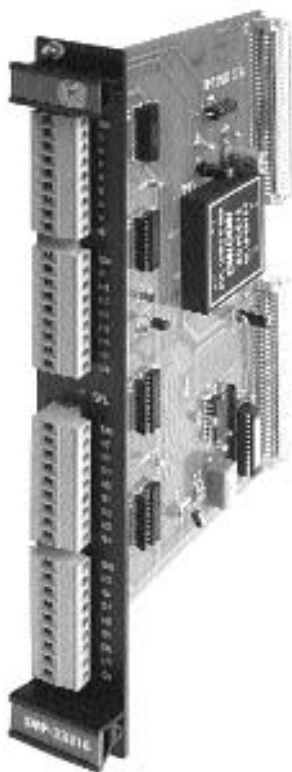
The SMP-23317 card must be used in combination with the SMP-23317R remote selectors, which shall be installed in (or near) the zones or areas to be controlled; wiring is done via a 2 wire non-polarized cable. Up to 16 of these remote selectors may be connected to an SMP-23317 card.

From each of the SMP-23317R remote selectors, the selection of volume/program is made at 0 dB bus level, rather than making it from the 100 V output of the amplifier. Made this way, it is not necessary any longer to use one dedicated power unit for each program in one given zone, but only a common one (or more, according to the power requirement) in each zone.

Description	Remote audio program selector
Input	16+2 contacts terminal block
LED indicators	<i>power, sel, rem, link</i>
Power supply and consumption	24 Vdc, 40 mA

SMP-23316

Input card for remote control



FEATURES

Reads up to 32 inputs (Voltage-free, normally open contacts) from external contacts. All the inputs are isolated from the audio rack power supply by means of opto-coupler devices.

The operations are programmed from the control PC and consist of automatic generation of pre-recorded messages, activation/deactivation of the sound sources or changing the output level of the multiplexer zone output cards.

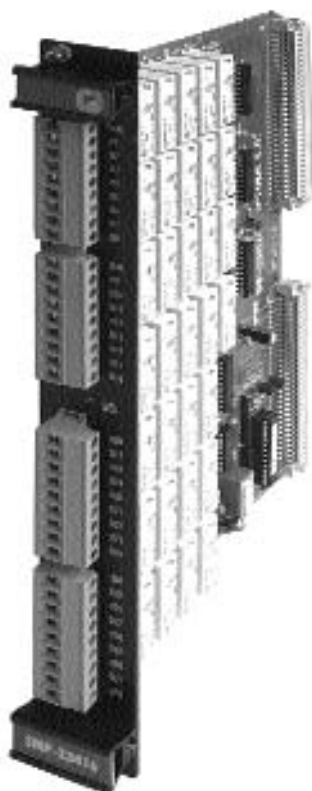
It is also possible to co-ordinate the same with the relays outputs provided by the SMP-23416 card, and by using these cards, the SMP-230 system may be very easily integrate with other systems (Fire Alarm, Building Management System, etc.), in a very cost-effective way.

This card also has one LED on the front of the module, which indicates that the control centre is communicating correctly with the module. The system can have up to 16 SMP-23316 cards, with a total of 512 control inputs.

Description	Input card for remote control
Inputs	32 opto-isolated digital inputs module
Connectors	4 terminal blocks of 9 contacts (common+8 inputs)
LED indicators	sel
Power supply and consumption	24 Vdc, 100 mA (max)

SMP-23416

Output card (relays)



FEATURES

This card has 32 relay outputs (Voltage-free, normally open) which can be activated by the system to perform auxiliary operations, such as the creation of sub-zones, activation of a flashing light, siren or else, opening or closing doors, etc.

These relays may be activated by the system in different ways: timetable activation, from a microphone desk, upon activation of any given input contact, message or zone, exceeding a given ambient noise threshold, etc.

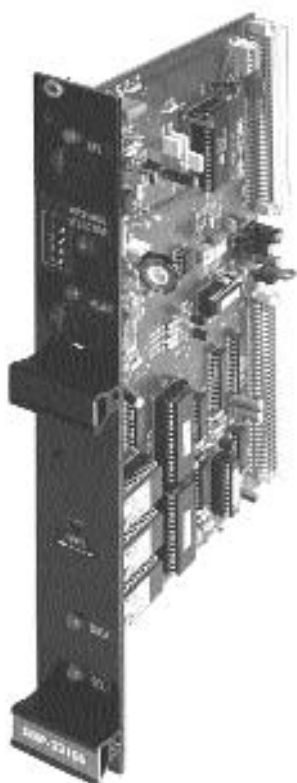
SMP-23416 has one LED on the front panel of the module, which indicates that the control centre is communicating correctly with the module.

The system can have up to 16 SMP-23416 cards, with a total of 512 control inputs.

Description	Relays outputs
Outputs	32 voltage-free, normally open contacts
Connectors	4 terminal blocks of 9 contacts (common+8 inputs)
LED indicators	sel
Power supply and consumption	24 Vdc, 300 mA (max)

SMP-23106

Alarm tones and siren generator



FEATURES

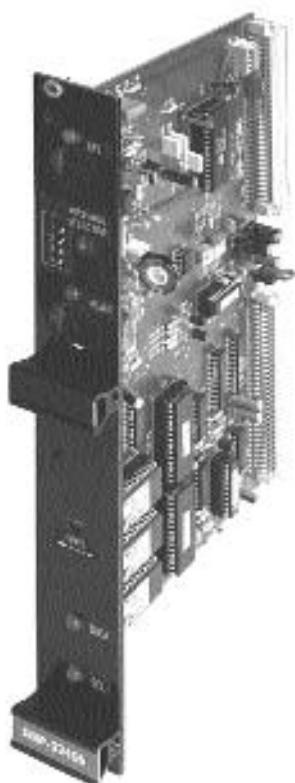
This card allows for the recording and reproduction of 4 different messages of a maximum recording time of 12 seconds each. It can also hold 7 different types of alarm tones or sirens configurable in the same card. The unit is fitted with dipswitches for the configuration of its functions and also with an output to connect a monitor loudspeaker which allows to monitorize the proper recording of the messages or alarms, prior to its storage. A potentiometer allows to adjust the volume of the monitor output. The card also contains the connector for recording from a microphone (we recommend the model PM306D) and the message selector. The card has several LED indicators to display the different status of the card.

The use of the SMP-23106 card requires the use of, at least, 1 SMP-23403A card in the system, in order to manage the gong, zones and priority selection.

Description	Alarm tones and siren generator
Messages	4 x 12 seconds (max.)
Alarms	7 tones or sirens
Controls	Recording and supervision
Inputs / Outputs	DIN 5 pins (recording / supervision)
LED indicators	<i>rec, play, busy, sel</i>
Power supply and consumption	24 Vdc, 35 mA (max)

SMP-23406

Alarm and siren generator



FEATURES

This card allows for the recording and reproduction of 48 different messages and 15 sirens of a maximum recording time of 14 seconds each. Format used is .wav.

The unit is fitted with dipswitches for the configuration of its functions and also with an output to connect a monitor loudspeaker which allows to monitorize the proper recording of the messages or alarms, prior to its storage. A potentiometer allows to adjust the volume of the monitor output. The card also contains the connector for recording from a microphone (we recommend the model PM-306D) and the message selector. The card has several LED indicators to display the different status of the card.

The card may be connected directly to the audio bus of the system, without the need of additional cards. Up to 4 messages and/or sirens may be reproduced simultaneously.

Description	Alarms and messages output
Mensajes	48 (max 14 min, including alarms)
Alarms	15 tones or sirens
Controls	Recording and supervision
Inputs / Outputs	DIN 5 pins (recording / supervision)
LED indicators	<i>rec, play, busy, sel</i>
Power supply and consumption	24 Vdc, 50 mA (max)



FEATURES

The control computer SMP-23010, equipped with the WINDOWS XP PROFESSIONAL ® operating software and the SMP-23116CT configuration and operating software, is connected to the mainframe through a RS232 serial port (or any other with the appropriate converters).

The SMP-23010, with a built-in sound card, allows for the recording and sending pre-recorded messages, which are stored in its HDD.

This control PC does not need to be permanently connected, as the system keeps the configuration in its own SMP23001 CPU card. However, by keeping it connected and operating, the features and power of the SMP-230 system are increased since it is provided of surveillance capacity, direct paging of messages, on-line programming, time adjustments...

By means of the appropriate software, other PC's in the network can access the system control.



FEATURES

The SMP23301 Microphone Desks have a double function. On the one hand they allow for the basic function of sending live messages to any zone of the installation. On the other hand, they may be used as a small control desk, because they permit also, from its numeric keyboard, the activation of special functions such like changing volumes or music programs from the zones, releasing pre-recorded messages, activation of external devices, etc..

The units have a built-in LCD and LED indicators of gong, speak and busy system, numerical keyboard for the zones selection, control keys for paging message, LCD display, light indicators of status...

Each desk is connected by means of a two wires shielded cable (cable model C392JJ).

The SMP-23301D unit has also the possibility of sending delayed pagings, that is, recording first the paging while pressing the TALK button, and sending it upon its releasing.

Control program for the parameters configuration of the cards and equipments making up the P.A. system, and for the assignation of actions according to the pre-set programming, pre-set timetable, orders given from the microphone desks and remote control inputs. The Windows® environment provides an easy learning and an intuitive use of the program. It allows to monitorise the status of the system, to change the parameters in real time, etc.

VIEW OF SOME OF THE SMP-23116CT SCREENS



VIEW OF SYSTEM CARDS CONFIGURATION SCREEN

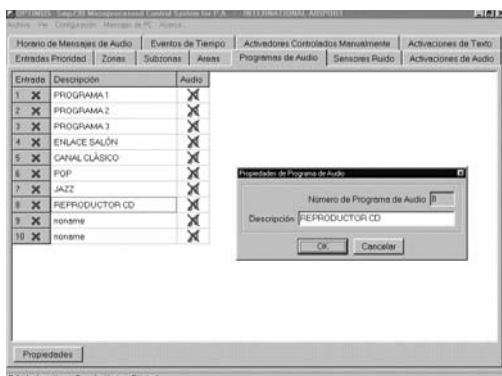
From this screen, and after having entered properly the specifications of the installation, it comes out automatically a list with a detail of the model and quantities required of each card, so that the requirements of the installation are met.



VIEW OF ZONES CONFIGURATION SCREEN

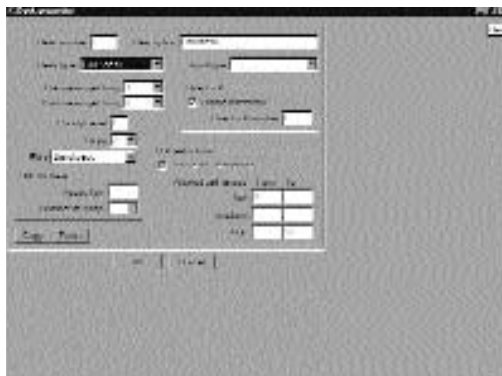
This screen, through its different folders, allows the configuration of the parameters and properties of each and every zone: Name of the zone, music program assigned to it, program and priority volumes, etc.

Other screens allow to define areas or zones groups, and direct the messages to an area or groups of areas. This possibility simplifies the use of the microphone desks, since it is possible to access to any group of loudspeakers zones with two or three digits.



CONFIGURATION OF PROGRAM INPUTS

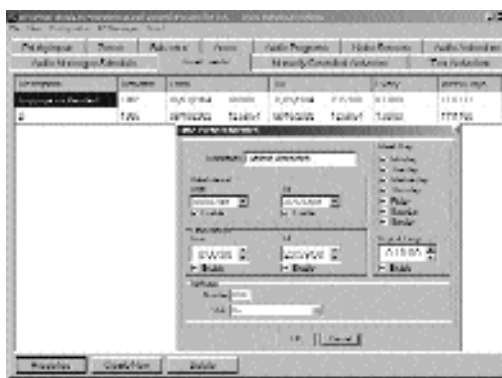
This screen allows to insert an identificative text for each one of the inputs, as well as to do the surveillance of the audio signal presence in each one.



VIEW OF MICROPHONE DESKS CONFIGURATION SCREEN

The properties of each microphone desk can be set up from this screen: desk number and type, desk name, type of pre-message chime and after message chime, low and high voice filters, direct call enabling/disabling, etc.

It is possible to configure in each and every of the microphone desks a "restricted range" of zones or areas where they cannot access.



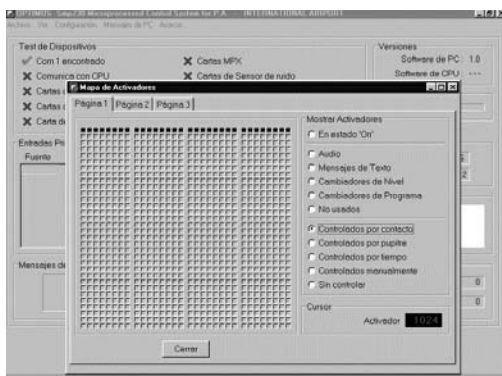
TIMETABLE MESSAGES PROGRAMMING SCREEN

All the scheduled pre-recorded messages are very easily programmed from this screen. Each message operating timetable is set by entering its start date and ending date, days of the week active or not, starting hour and ending hour, interval between messages, priority level, zone or area to be addressed, etc.



VIEW OF NOISE SENSOR CONFIGURATION SCREEN

This screen allows the setting of the parameters of the Noise Sensor installed in any particular zone: Zone name and number, average noise level, reverberation time, status of the sensor, remote control activation/deactivation, maximum time between measurements, separate Program (A-B) and Priority (A-B) maximum and minimum working ranges, etc.



CONFIGURATION OF ACTIVATORS

A number of functions of the SMP-230 can be controlled (activate, deactivate, change or re-program) by means of the "activators"; pre-recorded messages, music programs, priorities, program and priority volumes, and so on.

These functions are defined into the activators screens and can be put in operation from the PC keyboard, from the microphone desk, timetable programming, external contacts, etc.

The selection of an activator can be accompanied of a description text warning or informing to the operator.

DALA-01

Lines and amplifiers surveillance module



Power supply	24 Vdc
Consumption	80 mA (without cards) + 50 mA per card
Construction	Modular, with empty slots for 13 cards DALA-01/DA
Adjustments	Low and high impedances thresholds
Finishing	Front panel and cover in black "skinplate"
Weight	4,8 Kg
Dimensions (mm)	433 x 89 x 290 (2 Rack units high)

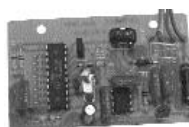
FEATURES

DALA-01 module is designed to ensure permanent surveillance of the power units, loudspeakers lines and the speakers within a P.A. installation. The system consists of the DALA-01/0B mainframe, ready to house up to 13 modules DALA01/DA, one for each loud-speaker line and power unit.

It has external contacts that, when combined with the SMP-23316 inputs card, the SMP-230 can define activators to send pagers into the PC, alarm messages or any other programmed action.

This module can be combined with the COU-01, Automatic Changeover to Back-up Amplifier, activating the changing of a faulty amplifier for the stand-by one.

The correct integrity of the system is displayed by a green LED, located in the front panel. Another two red LED's in the same panel would light in case of an open line, overload or short-circuit. The time interval between the measurements is selectable (15, 30, 60 minutes, or continuous).



OSC-01 Electronic Circuit. OSC-01 is a 19.350 KHz oscillator to be installed inside the power units to be monitored. The signal generated by this oscillator is picked up and analysed by the DALA-01/DA cards, which determine that the power unit is working properly and that the impedance of the loudspeakers line is within the right parameters.

COU-01

Automatic changeover unit to back-up amplifier



Power supply	24 Vdc
Consumption	200 mA (without cards) + 130 mA per card
Construction	Modular, with 6 COU-01/ES cards
Finishing	Front panel and cover in black "skinplate"
Weight	5,2 Kg
Dimensions (mm)	433 x 89 x 290 (3 Racks units high)

FEATURES

The COU-01 unit allows for the automatic changeover of a faulty amplifier for a stand-by one.

The system consists of a mainframe, COU-01/0, with capacity to insert up to 6 cards COU-01/ES. Each card allows for the connection of two active power units.

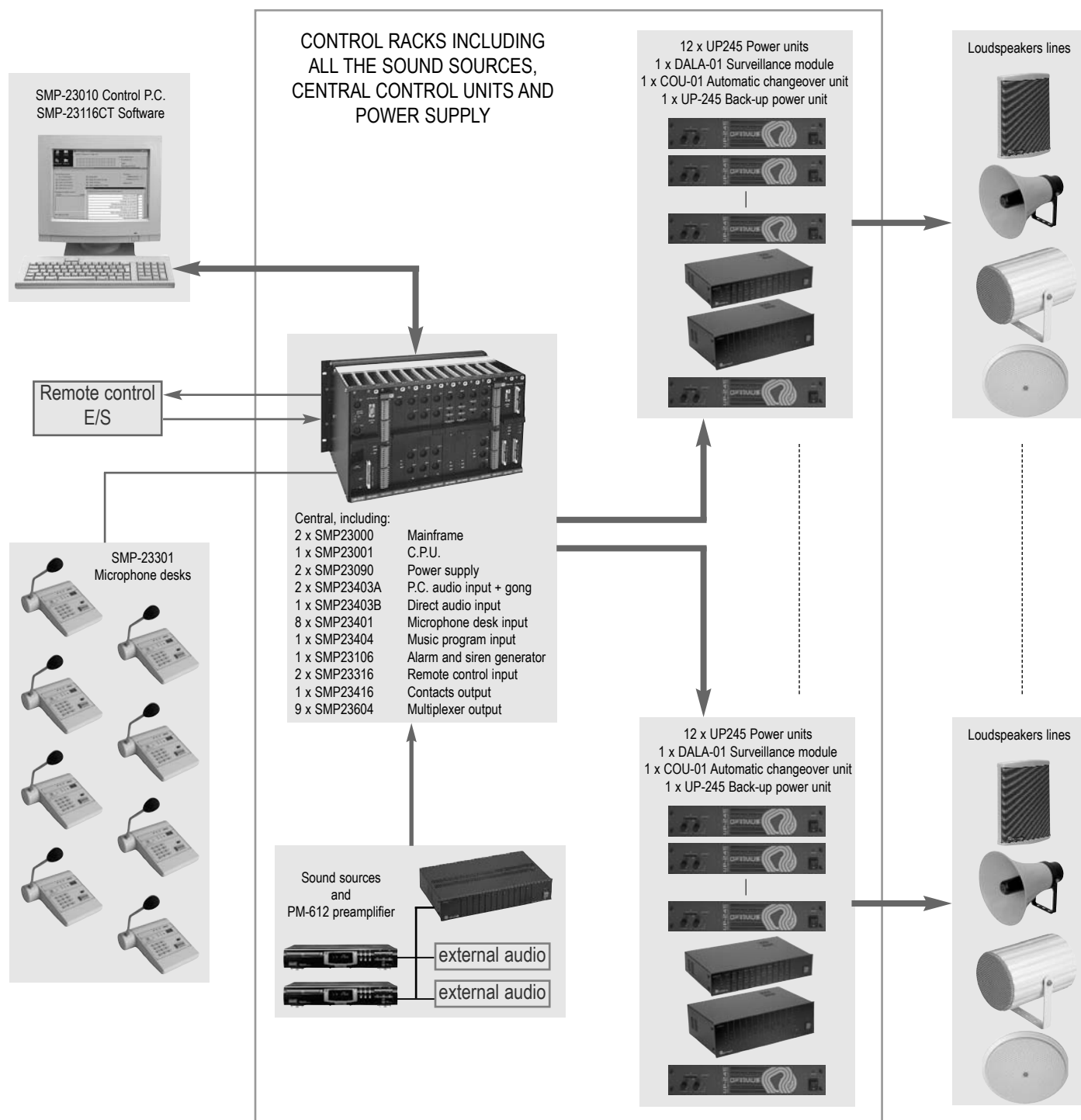
The unit has frontal LED indicators that display the status of each power unit (OK/FAIL). There are other LED's that show the status of the back-up amplifier (STAND-BY/IN USE). The unit is also provided with a switch to configure the operating mode of the back-up amplifier, according to the hierarchy of the active power units (first-in-first or cascade).

In case of a short-circuit in the loudspeakers line, the equipment will detect it, and the back-up power unit will not be switched but kept in stand-by.

Centralized installation in an industrial building with annex offices. A total of 36 different areas (9 SMP-23604 cards), have been set up throughout this complex, so that the control centre (SMP23010+SMP23116CT, connected to the SMP-23001 card) can modify at any time the program and paging volumes in each area, as well as to change the music program diffused on them. The pre-recorded messages and alarms are stored in the main control PC (SMP-23403A card). Pre-recorded messages and alarms can be also generated autonomously from the SMP-23316 card, in combination with a SMP-23403A card.

A number of 8 SMP-23301 desk paging microphones (connected to the SMP-23401 cards) have been installed for the selective or all-call live paging. From the same, the pre-recorded messages and alarms can also be activated. The system is interfaced with a fire alarm central (SMP-23316) and with a Building Management System (SMP-23416); it also receives paging from a remote building (SMP-23403B).

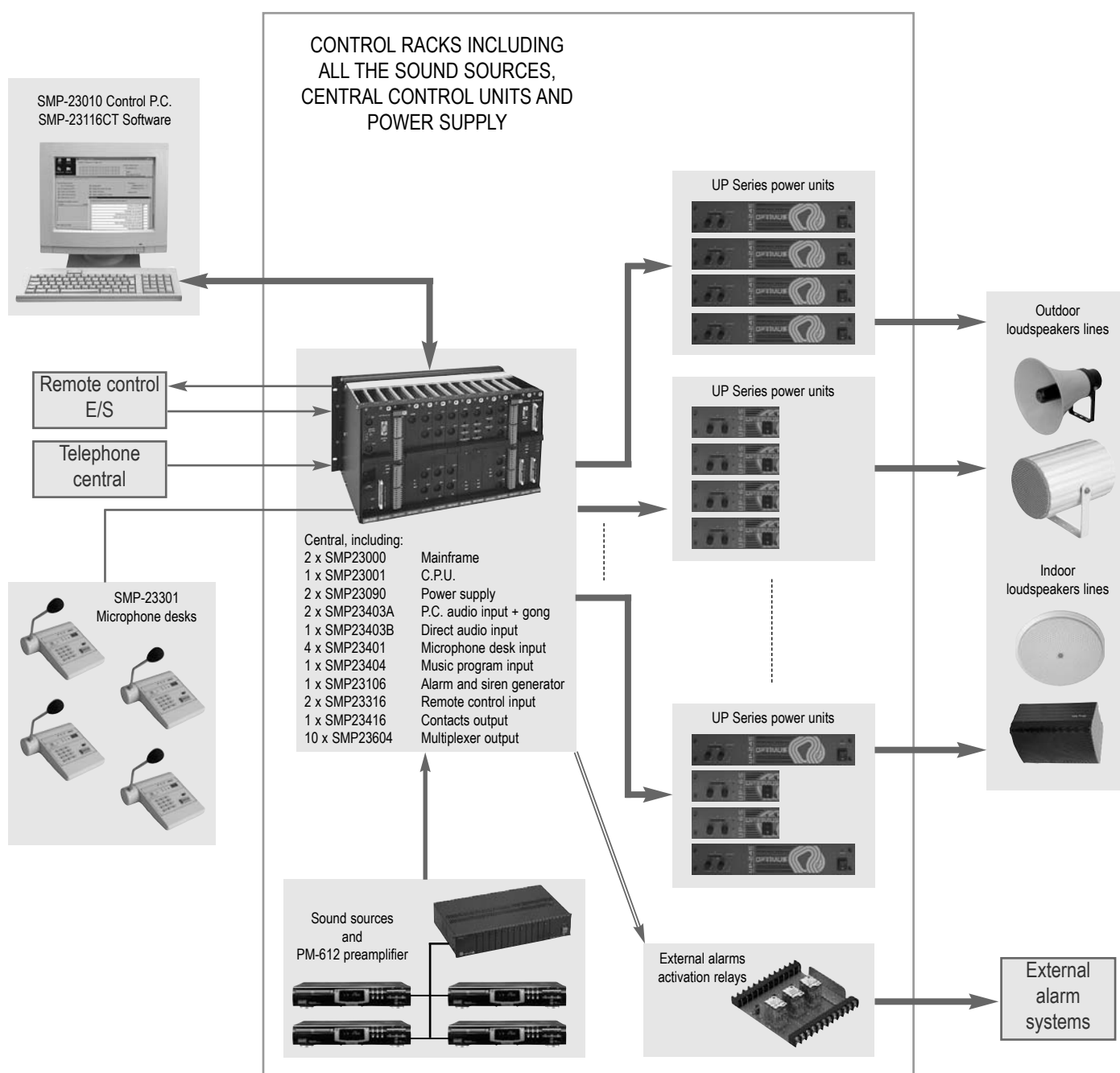
The installation is equipped with surveillance system for loudspeaker lines and power units (DALA-01 and OSC-01 circuit in each power unit), which permanently monitors their integrity, and automatic changeover devices (COU-01) will immediately replace any faulty amplifier for one in stand-by. The failure of an amplifier or line, as well as the automatic replacement for a stand-by unit, will be automatically reported to the equipment or to the PC display programming the contacts of the SMP-23316 card.



This example illustrates an installation in a Refinery, with 40 indoor and outdoor paging zones. The system is controlled from the PC (SMP-23010 + SMP-23116CT) connected to the SMP-23000 mainframe by means of the SMP-23001 CPU card. There is a total of 4 SMP-23301 Desk Microphones (connected to the SMP-23401 cards) and also a SMP-23043C PABX DTMF adaptor, to access to the P.A. system from any telephone handset within the installation.

The system is interfaced with a Fire and Gas alarm system and also to the general Building Management System through the SMP-23316 and SMP-23416 input and output cards. Furthermore, the control outputs are used to activate flashing lights / beacons (by means of relays) and to indicate certain alarm situations, such as the next paging of an important message according to possible procedures of alarm or evacuation plans.

A main Control Computer permits permanent access to all the parameters and configuration of the system and it holds the pre-recorded alert and alarm messages, which can be released from the P.C. and Microphone Desks, from manual push-buttons spread around the installation and also automatically from the Fire and Gas Alarm systems.



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