

SPL Domina

APPLICATIONS

Monitoring

SPL Domina Systems can be effectively used for measuring industrial sound emissions (both indoors, to study the noise levels of production cycles or machines and outdoors, to study the emission of noise which disturbs the neighbouring areas), for measuring noise caused by circulation (for example inside an environmental measurement centre), or even the measurement of emissions caused by public venues such as bars, discotheques, pubs, betting shops, etc..., which disturb the neighbours.

In all these cases, the possibility of programming SPL Domina over a period of time, allows measurements to be taken at preset times, avoiding periods without any important noise (e.g. when the businesses involved are closed or the machines cycles stopped). The typical configuration for this application involves a Domina central unit and one (or up to three) SPL Sense unit (plus any extension cables).

Industrial Monitoring and Control

As has already been mentioned, SPL Domina has "TTL" alarm outputs, able to control dedicated electromechanical devices: for example, to avoid noise emission during a specific industrial production cycle, it can be decided to close the ventilation system vents of the department in question, either at a preset time or according to an increase in the noise measured...). The typical configuration for this application involves a Domina central unit and one (or up to three) SPL Sense unit (plus any extension cables required).

Sound reinforcement system monitoring and control

When monitoring and controlling sound emitted by sound reinforcement systems, the SPL Domina system can be used to meet the requirements of various norms, including for example that indicating the maximum sound levels permitted in public venues with sound systems, or those which establish limits for exposure to noise in built-up areas and in the external environment or yet again for venue staff.

For example, even if a venue complies with the limits set by law inside, it may cause excessive emission outside or in an area in which some staff work: in this case, SPL Domina can be programmed to limit the signal even more in order to reduce the level in the area(s) involved.

In all Monitoring e Control applications, whether microphones are used for the monitoring, or when the line signal is monitored, the Control can be made to intervene according to "weighting" criteria (A,B,C or Flat) set for measurement, making intervention closer to the limits to be respected.

For these applications, there are two typical configurations: **SPL Domina Control**: provides for the Monitoring and Control of one or more sound system via SPL Monitoring with one or more SPL Sense units. This involves a Domina central unit, an SPL Sense unit (up to three) and an SPL Control unit (up to three).

SPL Domina Level: provides for the Monitoring and Control of one or more sound system via Monitoring of the line SIGNAL, fed to the input of the sound level meter card, from which the microphone has been disconnected.

This involves a Domina central unit an SPL Control unit (up to three) and a special interface cable.

The various possible configurations of the SPL Domina System include:

SPL Domina Cinema, for monitoring and control of the six channels of the Surround sound systems con used in cinema theatres. This involves a Domina central unit (with specific EPROM), an SPL Sense unit and three SPL Control units.

SPL Domina Dynamic, for the dynamic control of sound systems: enables to maintain a constant system level according to noisy



environments such as airports, subways, shopping centres, etc.. This involves a Domina central unit two SPL Sense units and an SPL Control.

Characteristics

Domina: this Central Unit is able to carry out either a single Monitoring function or twin Monitoring and Control" functions on one or more sound reinforcement system.

When SPL Domina is used for Monitoring, it has the same functions as three single Class 2 sound level meters, but with the advantage of a single interface and the simultaneous availability of a printout of the data measured in three areas. When on the other hand the system is used for Monitoring and Control, it enables to control the sound level produced by three distinct sound systems, again proving a single interface for all the necessary regulations. Domina, is a microprocessor-based unit which can be programmed by users, who can set and store all the settings for each of the modules inserted. Domina's obviously has a non-volatile memory, which enables it to run independently and continuously even after a power failure.

Domina offers 16 programs for each of the three channels and each program is subdivided into 16 time intervals in which all the monitoring e control functions can be set.

A lockable protection panel on the programming keys and an access password, ensure security against possible tampering" with settings, and compliance with any legal requirements.

SPL Sense: Sound level meter/micro unit, comprises a sound meter card (fitted in the "Domina" unit) and an external compensated preamplified microphonic unit.

The microphone/integrating sound level meter set-up is in compliance with Class 2 precision and is supplied with a Class 2 certificate, according to EN60651 / EN60804 standards (previously IEC651 / IEC804).

DESCRIPTION

Outline's SPL Domina is a real-time sound level monitoring, and/or monitoring/control system. It's the ideal unit for carrying out a varied list of applications for the environment industry or public venues, as it contains in just one unit modular characteristics (up to three independent zones) with the possibility of directly controlling up to three audio signals, when an automatic intervention is necessary to avoid exceeding certain SPL values produced by a sound reinforcement system.

The SPL Domina System is the only unit available on the market based on a completely modular structure.

Designed and built with the aid of avant-garde digital techniques, SPL Domina comprises a programmable Central Unit (Domina), to which up to three Class 2 sound level measurement units (SPL Sense) and up to three audio signal control units (SPL Control) can be connected.

In Italy as abroad, where there are legislative measures regarding noise, SPL Domina can be used in numerous situations, for monitoring purposes only or for the twin function of sound pressure level monitoring and control. In the latter case, the System can limit the level produced by one or more sound systems, according to sound level (SPL) measurement or by measuring the line signal level.

SPL Domina also allows great freedom regarding the possibility to measure and control different areas, enabling to position the microphones (which are preamplified), and the signal control units (which are digitally controlled) to be positioned up to 100 metres from the Domina central unit, without any signal or data loss. When monitoring industrial noise for example, it's therefore possible to position one microphone near a machine or in a department, another in the offices and a third outside the building and monitor everything from a single point.

For the monitoring/control of sound reinforcement systems, the frequent problem of venues with several dancefloors, therefore with systems in various areas, is easily solved, avoiding needlessly long signal runs, interference and loss of quality.

Lastly, for each of the three channels available, the Domina unit has TTL pre-alarm and alarm outputs whose intervention is obviously programmable. It's therefore possible to interface simple optic or acoustic warning devices with the System, or complex dedicated control systems (see industrial monitoring and control applications).

The advantages of an integrated system like SPL Domina over single units is therefore obvious: compact dimensions, low costs and simple control.

Instead of a microphone, an audio line signal can be connected directly to the input of the Sound level meter Integrator, leaving the possibility of analysis of the signals supplied by the sound level meter function unchanged.

SPL Control: This volume control unit is a digital potentiometer whose intervention on the audio line signal of a sound reinforcement system is controlled by the Domina central unit according to the data received from SPL Sense and the regulations set. SPL Control's circuitry, which has twin balanced inputs and outputs, also includes an adjustable threshold "zero psychoacoustic influence" limiter which, thanks to the circuitry's optimised parameters manages to psychoacoustically mask its intervention even when the music program requires drastic action.

Domina Commander: software for PC which greatly facilitates and streamlines the use and programming of the SPL Domina System. With various levels of password which enable the various functions available, Domina Commander is used to set all the system functions, otherwise done using the "Domina" keypad. In the event of Monitoring and Control of sound systems, Domina Commander allows to load numerous settings in real time, to test and assess the differences; it also allows to save changes in files (ready for use in other similar situations, greatly speeding up calibration times).

Lastly, thanks to the built-in pre-set editor, it's also possible to compile and issue clients a technical report as prescribed by law.



measurement and control systems

SPL Domina

outline

Via L. da Vinci, 56 - 25020 Flero (Brescia) Italy
tel. +39 030 3581351 - fax +39 030 3580431
www.outline.it - e-mail: info@outline.it

