THE SENTRY Mk2

FORMULA SOUND

SENTRY — ENVIRONMENTAL NOISE CONTROL SYSTEM

0dB -10dB -7dB -5dB -3dB -1dB 0dB +1dB WARNING OVER LIMIT

THIS UNIT IS MONITORING NOISE LEVELS AND MAY SWITCH OFF POWER IF MAXIMUM PERMITTED LEVELS ARE EXCEEDED

DO "NOT" PRESS RESET UNTIL YOU HAVE CHECKED THAT IT IS SAFE TO DO SO

MIC TAMPER

LEVEL 2 SELECTED   RESET

With the strict noise regulations in force today, no-one can afford to contravene the noise levels laid down by the local governing body.

The SENTRY, designed and manufactured by Formula Sound, is a product which will help solve some of the environmental noise problems encountered in entertainment venues and industry today.

The SENTRY works in conjunction with a relay or contactor and usually controls mains power. But the SENTRY is not limited to this function; any function that can be controlled by a relay or switch can be controlled by the SENTRY.

FORMULA SOUND

The Sentry was designed to help solve some of the environmental noise problems encountered in entertainment venues and working areas.

New features on the MK2 version:-

- New case design provides easier connections via cable entry knock-outs and screw terminals.
- A choice of internal microphone (supplied factory fitted as standard) or external microphone.
- Removable cover provides access to all connectors and settings. Anti-tamper seals are provided.
- Anti-tamper microphone circuitry is incorporated with a front panel indicator.
- Dual mains voltage operation is standard (internally switchable)
- Provision to connect a security loop is provided. This may be required to detect open doors or windows that would impair the sound proofing of a building, etc.

The Sentry incorporates the facility to operate at two different sound level thresholds which may be selected manually by a remote key switch or similar, or automatically by a time switch. (Switches not supplied)

Entertainment Venues

Under the Environmental Health act entertainment licences can be at risk if a Local Authority decides excessive noise from entertainment venues is a nuisance.

But what happens in an entertainment venue when a live band or mobile disco is using their own equipment?

It is still the responsibility of the venue manager to ensure that the regulations are adhered to and this is now possible with the SENTRY.

The permitted level of noise in any venue is determined by the local environmental health officer (EHO). The sensitivity of the SENTRY can be set-up in accordance with any of these regulations.

If the permitted levels are exceeded in any venue where a SENTRY is installed and the warnings ignored, the offending equipment will be disconnected from mains power. Re-connection is only possible by operating the reset button.

The SENTRY has the advantage over other units in that it features a large bar-graph VU meter with 23dB range to give visual indication of the noise level in a venue. Anyone can see what the volume level is and how their actions are contributing to this level.

Industrial Application

The SENTRY can be helpful with regard to legislation concerning Noise in the Workplace. One or more units can be used as display units indicating sound pressure levels or to switch on warning lamps or illuminated signs to advise the need to wear ear defenders, when the safe noise level is exceeded.

Operation

The SENTRY works in conjunction with a relay or contactor. The unit operates by supplying a continuous voltage to the contactor which is connected to designated power outlets. If the unit is tripped or should anyone disconnect the SENTRY the power outlets will be disconnected.

The bar graph meter is colour coded from green to red, and indicates the volume level in the venue. The red section increases in size to aid viewing. While the meter is operating in the green section, with even an occasional peak into the red, there is no cause for concern .

If the two red "WARNING" segments are lit this indicates that the volume level in the venue is nearing the permitted limit. A connector is provided so that a mains powered warning lamp or beacon can be connected which operates at the same point as these two red sections of the meter. This lamp or beacon may be situated in a remote position.

If the noise level is high enough to light the "over limit" section (3 red segments) of the meter, the noise has exceeded the permitted limit. If this is allowed to continue the unit will trip and remove the power to the contactor. Visual indication is provided by the lamp adjacent to the re-set button labelled "Power off". The unit must then be re-set manually in order to restore power.

The unit has its own internal microphone and can be easily adjusted to operate at different levels. The facility to use an external microphone is incorporated in the unit. (Microphone not supplied)
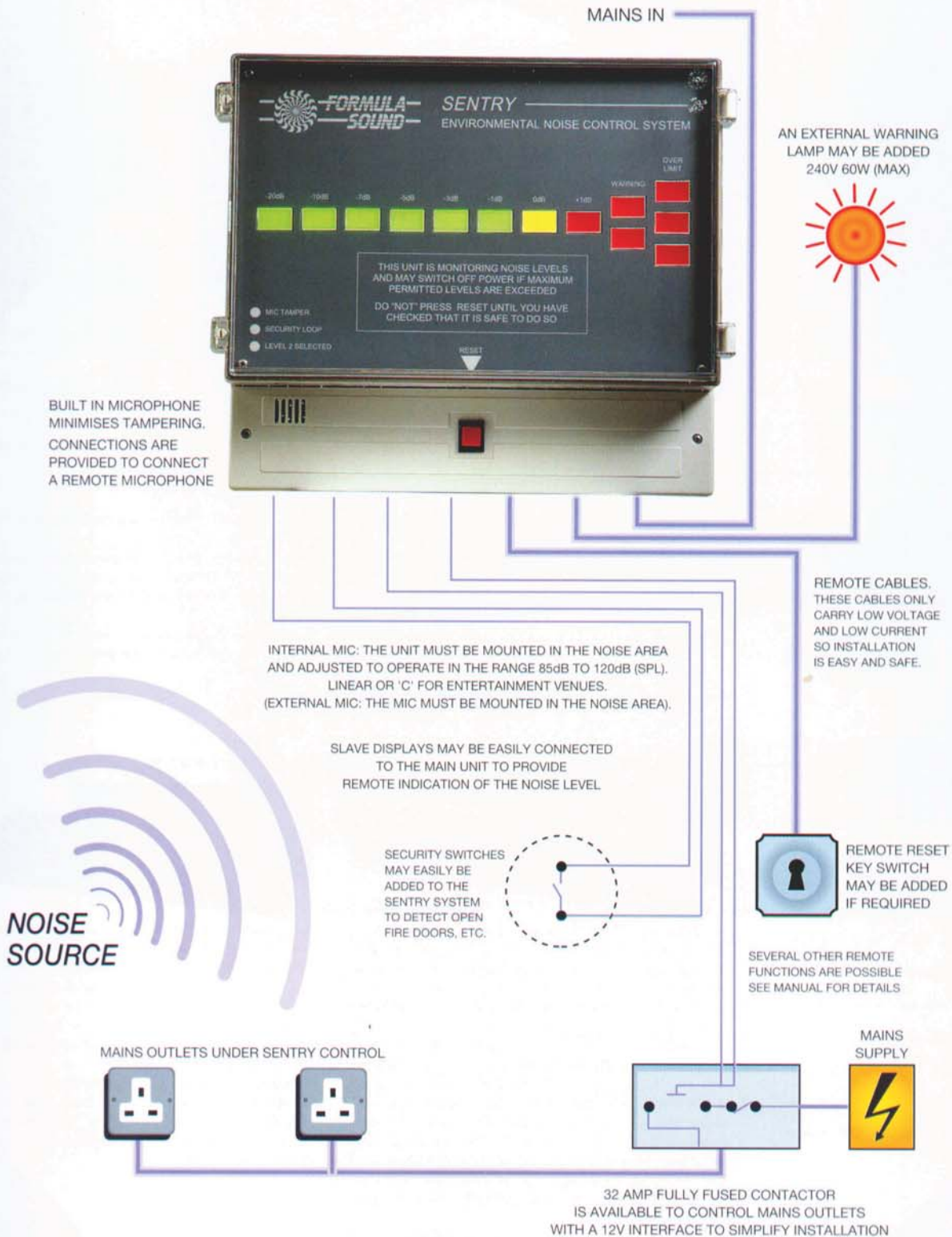
A remote reset switch can be connected to the unit.

A 32 amp, fully fused, boxed contactor with low voltage interface is available from Formula Sound. Added benefits are the extra safety and possibly lower installation costs stemming from the fact that only low voltage cable is required as a connection to the SENTRY.

Alternatively 220/240V AC is available from the SENTRY to interface with 220/240V contactors or relays.

TYPICAL SENTRY Mk2 INSTALLATION FOR AN ENTERTAINMENT VENUE

THE SENTRY FEATURES A LARGE BARGRAPH METER TO INDICATE THE ACTUAL NOISE LEVEL.
THE RED SECTION ON THE RIGHT IS LARGER TO CLEARLY SHOW WHEN THE PERMITTED LEVEL IS EXCEEDED.

MAINS IN

FORMULA SOUND
SENTRY
ENVIRONMENTAL NOISE CONTROL SYSTEM

WARNING

OVER LIMIT

-20dB -10dB -7dB -5dB -3dB -1dB 0dB +1dB

THIS UNIT IS MONITORING NOISE LEVELS
AND MAY SWITCH OFF POWER IF MAXIMUM
PERMITTED LEVELS ARE EXCEEDED

DO "NOT" PRESS RESET UNTIL YOU HAVE
CHECKED THAT IT IS SAFE TO DO SO

MIC TAMPER
SECURITY LOOP
LEVEL 2 SELECTED

RESET

AN EXTERNAL WARNING
LAMP MAY BE ADDED
240V 60W (MAX)

BUILT IN MICROPHONE
MINIMISES TAMPERING.
CONNECTIONS ARE
PROVIDED TO CONNECT
A REMOTE MICROPHONE

REMOTE CABLES.
THESE CABLES ONLY
CARRY LOW VOLTAGE
AND LOW CURRENT
SO INSTALLATION
IS EASY AND SAFE.

INTERNAL MIC: THE UNIT MUST BE MOUNTED IN THE NOISE AREA
AND ADJUSTED TO OPERATE IN THE RANGE 85dB TO 120dB (SPL).
LINEAR OR 'C' FOR ENTERTAINMENT VENUES.
(EXTERNAL MIC: THE MIC MUST BE MOUNTED IN THE NOISE AREA).

SLAVE DISPLAYS MAY BE EASILY CONNECTED
TO THE MAIN UNIT TO PROVIDE
REMOTE INDICATION OF THE NOISE LEVEL

NOISE
SOURCE

SECURITY SWITCHES
MAY EASILY BE
ADDED TO THE
SENTRY SYSTEM
TO DETECT OPEN
FIRE DOORS, ETC.

REMOTE RESET
KEY SWITCH
MAY BE ADDED
IF REQUIRED

SEVERAL OTHER REMOTE
FUNCTIONS ARE POSSIBLE
SEE MANUAL FOR DETAILS

MAINS
SUPPLY

MAINS OUTLETS UNDER SENTRY CONTROL

32 AMP FULLY FUSED CONTACTOR
IS AVAILABLE TO CONTROL MAINS OUTLETS
WITH A 12V INTERFACE TO SIMPLIFY INSTALLATION

THE SENTRY IS NOT RESTICTED TO THIS TYPE OF APPLICATION. ANY FUNCTION
WHICH CAN BE CONTROLLED BY A RELAY OR SWITCH CAN BE CONTROLLED BY THE SENTRY

WARNING CORRECT WIRING PRACTICE MUST BE OBSERVED ON ALL 240V MAINS CONNECTIONS
IF IN ANY DOUBT CONTACT A QUALIFIED ELECTRICIAN

Display:	Large bar graph VU meter with 13 segments each 20mm x 12mm. Mic tamper, Security loop, Level 2 selected and Reset indicators.
Microphone:	The unit is fitted with a built-in Electret microphone. Sensitivity range 85dB to 120dB SPL continuously variable. Provision is also made for an external microphone. (Not supplied) Microphone frequency response is selectable to "A", "C" or Linear.
Delay:	The delay between "over limit" and "power off" is adjustable from 10 to 70 seconds.
Connections:	All connections are located beneath the lower removable front cover and are screwdriver operated terminals.
Power Inputs:	220/240V AC or internal selection 110/120V AC.
Dimensions:	Width 320mm (including hinges) Height 261mm Depth 120mm.
Case:	High impact polycarbonate, Flame resistance - UL 94-V2. Standard colour Grey (RAL7035). Clear polycarbonate cover.
Installation:	Installation instruction manual is provided. The unit should only be adjusted by a competent operator using a precision sound level meter.

Factory Options for THE SENTRY Mk2

Slave Display:	Two Sentrys may be connected together, one acting purely as a slave display of the other. Specify slave display unit when ordering.
Hearing Protection Indicator:	The Sentry may also be used in industrial situations to control warning signs, usually indicating the need for hearing protection. When used for this purpose the contactor output is reversed and only switches on after the time period. Units for this application need to be specified when ordering.
Auto Power On:	This option allows the Sentry to provide power to the contactor when first powered up. As normally supplied the Sentry requires the reset button to be pressed when the power is first applied.
Auto Power Reset:	This option allows the Sentry to turn back on after a defined period. Contact Formula Sound for more information.

Other Products in the Formula Sound Noise Control Range

THE AVC2

The AVC2 is a 19" IRU stereo unit which performs as an intelligent automatic volume control. As long as the average operating level is kept below the internally adjustable threshold the AVC2 has no effect. If the threshold is exceeded the unit will reduce the output level in discreet steps. These steps are indicated on the front panel led meter. The AVC2 fades between these steps and is virtually undetectable in use. The more one tries to increase the level the more the AVC2 will intercede in such a way that the volume level in the sound system will barely change. The AVC2 is slow acting and does not compress the dynamics of the music. The unit features an input level clip indicator and an anti-tamper relay. It also has the provision to connect an external time switch to switch between two levels and can have a security back panel fitted.

THE GUARDIAN Mk2

The Guardian CX4 Mk2 fire alarm interface unit will interface with any existing or new sound installation. It is a four channel device and has two distinct functions.
Priority override - the control input is connected to the fire alarm or any other triggering method. When the unit is triggered the programme level in all four channels will be attenuated and the priority input automatically mixed into all four outputs.
Noise limiter - the unit has the provision for controlling the maximum permitted volume level in any venue to conform with noise pollution requirements. The attenuation and mic levels are fully adjustable to meet any local authority regulations.