



A Division of SCARECROW BIO-ACOUSTIC SYSTEMS LIMITED

EZI – LISTENING: Serial No.....

AMBIENT NOISE-SENSOR

LEVEL REGULATING MODULE ANS-1A

A GUIDE TO SETTING UP

Thank you for buying this EZI-LISTENING product. Please ensure that the SERIAL NUMBER in the top right hand corner of this page is quoted in all communications; it can be found on each product carton and inside EZI-LISTENING.

Please take the time to carefully read the Instructions and ensure that the setting up sequence is maintained.

Note the signal level, AUDIO INPUT/OUTPUT, shall be 500mV, unbalanced.

PHYSICAL INSTALLATION

ANS-1A should be installed in close proximity to the Public Address system that it will control; this could be within the system rack or wall mounted. In either case, remove the lid of ANS-1A using the four spring loaded, quick release, screws and set to one side.

In each enclosure corner there is provision for permanent ‘through hole’ fixing in the chosen location.

DESCRIPTION

Level regulating/ambient noise following module type ANS-1A is designed to collect audio signals from an ambient sensing microphone and use these to adjust signal levels to the output section of the installed power amplifier.

The output level of the module will automatically and constantly adjust to follow the rise and fall in ambient noise in the area served by the host amplifier (airports, hotel reception areas, transport termini, sports stadia, etc.) The ambient noise is continually sampled by dedicated microphone/s sited as close to the sources of change as possible.

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BRIEF SPECIFICATION

SUPPLY : 24V DC @ 40mA

MICROPHONE/SENSOR SENSITIVITY # : 200uV balanced low impedance
150mV, unbalanced high impedance

AUDIO INPUT/OUTPUT PREFERRED LEVEL : 500mV, unbalanced

REACTION TIME (TO NOISE CHANGE) : 20 secs, 10dB range

adjacent BLUE link in 1/P position for LOW Z mic; in P/K position for HIGH Z. (LK1)

ENCLOSURE DIMENSIONS: 180 x 120 x 70 deep

INTERFACE CONNECTION

All signal interfaces are XLR; inputs are female, output male.

MIC INPUT

This is a balanced input: PINS TWO & THREE being signal, ONE screen/ground.

POWER INPUT

The d.c. power requirement is 24v @ 40mA. The source is at the Installers discretion: switchable phantom powering for Communication Technology C200 Boundary microphones is available. Please refer to the p.c layout drawing for switch details.

The dc power input is via a locking SWITCHCRAFT 2.5mm co-axial connector. + is the central pin, - the outer sleeve.

AUDIO INPUT, UNBALANCED

This will be from the paging/music source; PIN TWO signal, pin ONE ground

AUDIO OUTPUT, UNBALANCED

This should be connected to the power amplifier section of the Public Address system to which the controlled signal is inputted; PIN TWO signal, PIN ONE ground.

MONITORING MICROPHONE: CHOICE AND POSITIONING

The Boundary microphone offers many advantages over more conventional types, providing good omni-directional pickup for overall ambient noise monitoring.

ANS-1A has been designed to use the Communication Technology C200 Boundary microphone and phantom powering is provided for this product.

One of the most remarkable features of a Boundary microphone is its 'reach'. In the near field, the output falls as distance from the source increases in a similar manner to a conventional microphone, but in the free field beyond, where there is normally a 6dB drop for a doubling of distance, the microphone output barely changes.

The one possible problem is feedback. The long reach, together with the hemispherical response may make the microphone vulnerable to sound pickup from loudspeakers within the monitored environment, where the public address sound level is to be proportionately controlled. Great care should therefore be taken to site Boundary microphones where the majority of their sound field is monitoring the ambient noise, not the loudspeaker output.

Boundary microphones can be directly mounted on most non-resonant, smooth, non-sound absorbent, surfaces to provide the benefits earlier described. In enclosed environments, where the ambient noise is to be monitored and sound controlled, the chosen surface on which the microphone is to be mounted should also take note of loudspeaker proximity.

Where large areas have various localised sources of variable 'ambient' noise, it may be desirable to cover each with a separate sensor; for example, an underground railway tube would benefit from having one sensor at each end to detect the noise of trains arriving from either direction.

SETTING UP

Under no circumstances should VR4 be adjusted for any reason (factory set)

Provide a signal source (music, pink noise, etc, but NOT tones) at a comfortable listening level through the PA system to be controlled. The red "UP" internal LED indicator will illuminate and the system gain will increase due to the sensor receiving signal from the system loudspeakers. Remove or reduce the audio signal at source and the green "DOWN" LED indicator will illuminate briefly as the system gain decreases.

Reduce the sensor gain using VR2 and repeat until neither indicator is on for more than approximately one second each time the audio signal level is changed.

The input is now set so that it is sensitive to changes in ambient noise but has limited response to a normal audio programme from the loudspeakers.

It should not be altered once it has been set for a particular installation condition.

If the “DOWN” indicator illuminates when the audio signal is increased at input, the sensor gain is too low.

CONTROL RANGE AND MAXIMUM LEVEL ADJUSTMENT

The controlled dynamic range can be adjusted by preset VR3 to a maximum of 20dB (10 times). Amplifiers must therefore be carefully selected to ensure that sufficient power is available at the required maximum system output.

The attack/release time is designed to suit the average environment.

1. Set the **RED LINK** to its “TEST” (LK2) position and using the host amplifier volume controls, adjust, the music/paging level to the maximum that is required during conditions of **high** ambient noise.
2. Set the **RED LINK** to its “park” (LK3) position and with the ambient microphone/s disabled adjust VR3 (**range**) for the minimum signal required during conditions of **low** ambient noise.

SENSOR SENSITIVITY

The sensitivity can be increased using VR1 if the sensor cannot be situated nearer the noise source, but care must be taken that the noise signal received by the sensor is always stronger than the loudspeaker signal at the monitoring, sensing location.

WARNING

The controlled dynamic range is set by VR3. When rotated fully clockwise the range of the controller is 20dB. **Ensure that the power amplifier system will not be overdriven under high ambient noise conditions.**

ON COMPLETION OF SET-UP

With dynamic operational systems it is always advisable to conduct a ‘live’ check during Functions/Events, the reason why the system was installed. Often ‘fine tuning’ during real time events can improve performance and noise tracking.

When fully completed, securely replace the enclosure lid.

In the event of any questions, please contact your Supplier or our Service Department on **0800 917 8488**.

PA SYSTEM INTERFACE

EZI-LISTENING

AMBIENT NOISE SENSOR
ANS-1

MADE IN THE UK BY:
COMMUNICATION TECHNOLOGY
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↑
SENSING
MICROPHONE
INPUT

↑
AUDIO
INPUT

↑
AUDIO
OUTPUT

↑
24V dc
POWER INPUT

