

### Description

The Sound Detection Module DP996 (voice activating circuit) is designed to be mounted inside any of the following STENTO Pro700 stations; AB731, AB731-FAB731A, AB731A-F and Ring-Master stations AB931, AB931-F, AB933, AB933-F, AB931A, AB931A-F, AB933A and AB933A-F.

The circuit on the Sound Detection Module will detect voice, screams or audible noise and then output an alarm signal. The card is flexible in that it can be configured by the installation contractor to fit the particular application. How strong and how long time an audio signal must be present to activate the alarm output is user selectable. An on-board microcontroller is used for signal processing.

The following parameters on DP996 can be adjusted:

*Microphone sensitivity*; an variable resistor is used to adjust the gain of the microphone signal,

*Minimum time*: DIP switches set the minimum time an audio signal must be present to activate the alarm output.

*Maximum time*: DIP switches set the maximum time an audio signal can be present to activate the alarm output. If the signal last longer, it is treated as background noise and will not give an alarm. This function can be disabled.

*Blocking time*: DIP switches set the blocking time between alarm (anti pester function). This will stop recurring alarms and give the operator time to call back to the station. This function can be disabled. Four LED indicators are installed to detect the following activity:

LED NOISE TRIG: Audio signal is above trig level.

LED MIN TIME: Waiting for minimum time timeout.

LED MAX TIME: Waiting for maximum time timeout.

LED ALARM: Alarm signal activated.

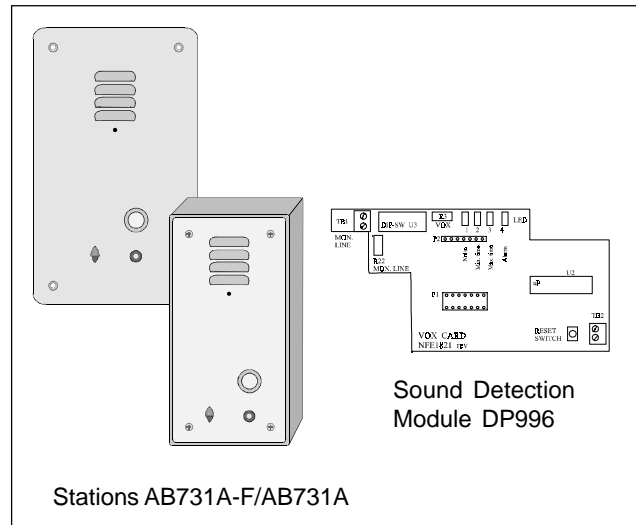
Monitoring line. Adjustable resistor R22 controls the gain of the microphone signal.

### Operation.

The Sound Detection Module detects sounds as speech, screams or other noises. It then gives an alarm pulse to the station in which it is mounted and causes an intercom call to be made.

A sound alarm can go through 1, 2 or 3 phases before being set off.

*Phase 1* is the minimum time that audible noise must be present to qualify for an alarm. There can not be any breaks in the noise, however short. After a break the vox will start counting from zero again.



### Technical Data

The Sound Detection Module DP996 is designed to be used with the Pro700 stations: AB731, AB731-F, AB731A and AB731A-F.

It can be mounted on the following audio cards; NFE1817, NFE1818, NFE1825.

Sound detection sensitivity:

Alarm at a Sound Pressure Level of 75 dB (A) or more, R3 at max. gain. ( Measured close Alarm at 85dB or more , R3 at mid. gain to station mic. )

Alarm at 100dB or more, R3 at min. gain.

( dB reference level is 0,0002 mbar or 0,00002 Pa. )

Operating voltage: 12 - 27 V DC

Current consumption at 24 V:

Max.: 40 mA (during alarm pulse)

Standby: 15 mA

Power consumption at 24 V

Typ. 0,36 W

Max 0,96 W ( during alarm pulse )

Operating temperature: 0 to +40 degrees Celsius.

( The card is not coated.)

Note! if the module is used in weather proof stations or in cold weather the card must be coated.

The operating temperature will then be -20 to +40 degrees Celsius.

The coating must be done locally as the card is shipped from the factory uncoated.

Dimensions:

Depth: 14 mm

Width: 60 mm

Length: 114 mm

*Phase 2* is the maximum additional time that noise can be present. If the noise last longer it is considered to be background noise and the alarm is aborted. This phase can be disabled,

*Phase 3* is the blocking time following an alarm that has been set off. If new alarm conditions occur during

this time, they will be ignored. This "blocking time" can be set to only 2 sec. which, in practical terms, means that it is disabled.

Note. The blocking time can be max. 60 sec. and is therefor not a good "antinag" function. A longer "antinag time" must be made in software. The purpose of the vox blocking time is to relieve the hardware (and software) from lots of repetitive alarm calls.

With the possibility to disable some of the phases, the Sound Detection Module can operate in one of four ways.

**Always alarm:** Whenever the noise is strong enough and lasts long enough an alarm will go off. (Example, hallway in prisons.)

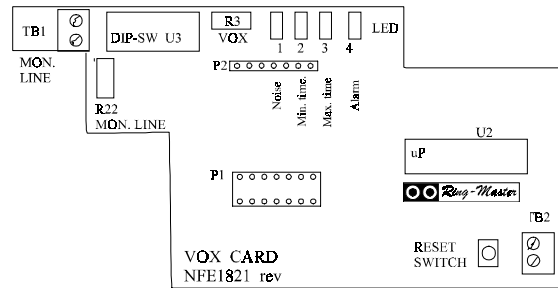
**Alarm which suppresses background noise:** If phase 2 is activated a new timer is started. Now the noise must stop, or have a short break before the timer expires, for the alarm to go off. If the noise does not disappear within this period of time, the alarm will not go off. And as long as the noise continues the sound card will not start preparing for a new alarm. But as soon as a short break in the noise is detected, a new alarm sequence is started. (Example, parking houses.)

**Alarm with blocking time:** After an alarm has been set

off, the sound card enters the "blocking phase" in which new alarm conditions will be ignored. And they will not be stored so alarms conditions during this time will be lost. The blocking time can be 10, 30 or 60 sec. (Example, cells in prisons.)

**Alarm w/background noise suppression and blocking time:** An alarm condition must go through all three phases and is therefore the most difficult alarm to set off.

NOTE! Care must be taken when setting the alarm conditions. Wrong parameter settings may cause real alarms to be lost.



The Sound Detection module DP996 (p.c. board NFE1821) operates with the following stations: AB731, AB731-F, AB731A and AB731A-F. Dismantle the station and replace the 3 nuts on NFE1825 with the 3 supplied spacers. Press NFE1821 into the 7 pin header P2 of NFE1825A. Fasten NFE1821 with the 3 nuts.

