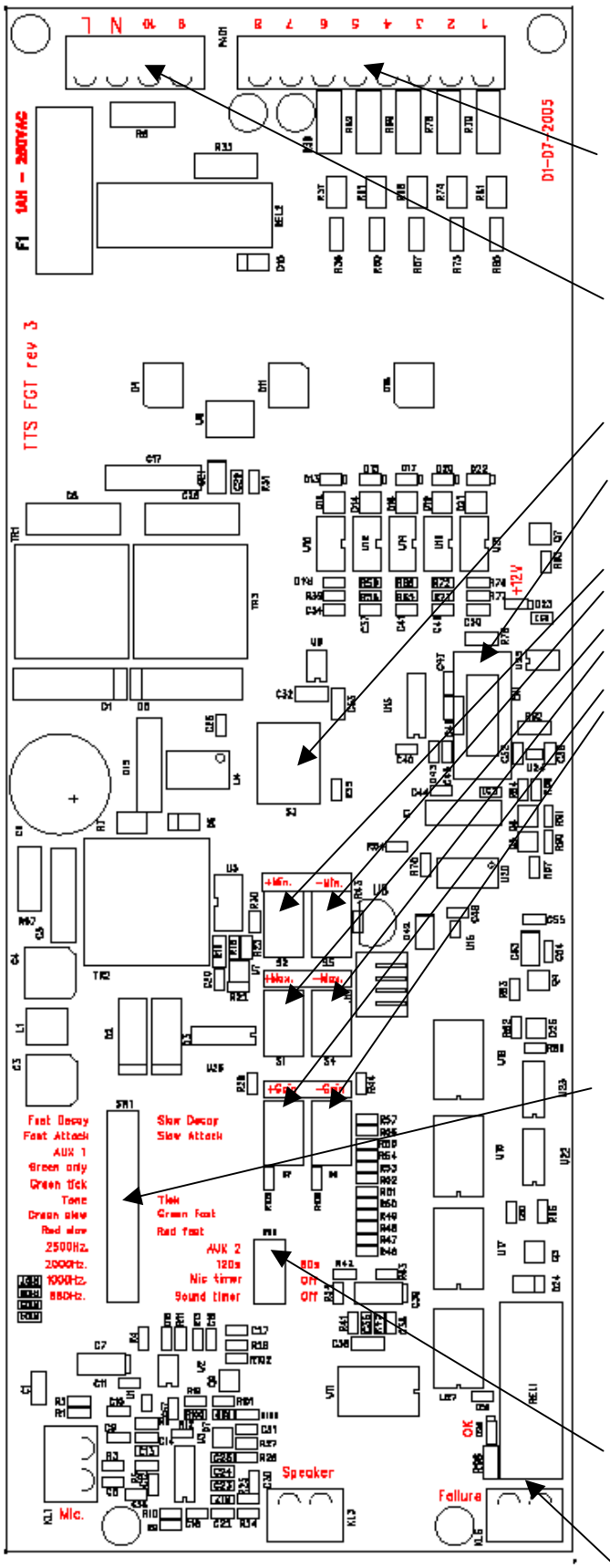
Diagram of terminal and switch settings:



Terminal 1: Signal from red pedestrian.
Terminal 2: Signal from green pedestrian.
Terminal 3: Disconnection of speaker.
Terminal 4: Disconnection of microphone.
Terminal 5: Activation of response signal.
Terminal 6: Free (option).
Terminal 7: Free (option).
Terminal 8: 230Vac zero from the control unit.
Terminal 9: NO switch from demand relay.
Terminal 10: NO switch from demand relay.
Terminal N: 230Vac zero
Terminal L: 230Vac main

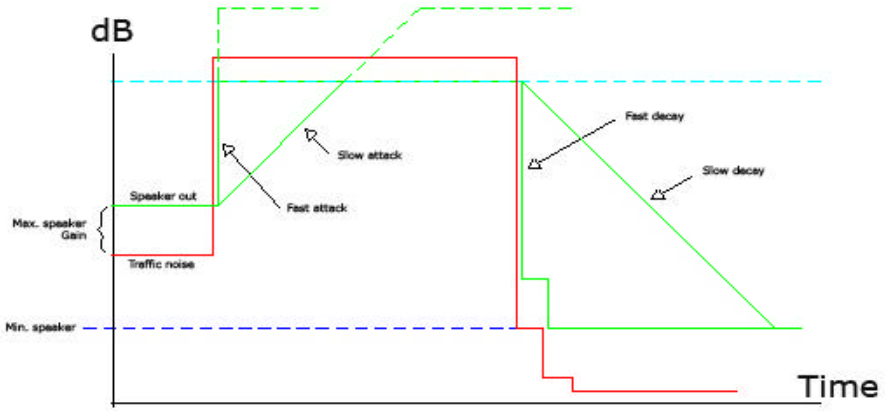
SW1	X = Factory settings in Denmark			
12	Fast decay	X		Slow decay
11	Quick attack		X	Slow attack
10	Requested beep		X	Off
9	Green only		X	No function
8	Green tick		X	Off
7	Tone	X		Tick
6	Green slow	X		Green fast
5	Red slow	X		Red fast
4	2500 Hz		X	
3	2000 Hz		X	
2	1000 Hz		X	
1	880 Hz	X		

SW2	X = Factory settings in Denmark			
4	Aux 2		X	
3	120 seconds		X	60 seconds
2	Mic. timer		X	Off
1	Sound timer		X	Off

Technical Traffic Solution A/S

SØ-LUND DESIGN

Principe for sound exit level, compared to the surrounding noise



Terminal program:

Using a terminal program, for instance, ”HyperTerminal”, it is possible to se settings made on buttons min, max and gain. Furthermore for sound in and out levels, an error can be shown.

Attachment to PC

A ribbon cable with a 10-core ribbon cable plug is used for attachment to the acoustic unit in plug CN1 and a 9-poled sub-D plug is used for attachment to the PC. The connection in the cable is:

9 pol Sub-D	2	3	5
10 poled ribbon cable plug	3	5	9

Settings for the terminal program:

The terminal program is set for 9600, N, 8, 1 and no handshake.

Reading:

By pressing one of the buttons +Min, -Min, +Max, -Max, +Gain or –Gain, the terminal program will show the actual setting for each of the 3 setting possibilities.

The sound pressure against the microphone (surrounding noise) and the output from the speaker is shown constantly in dB.

Order number:	**Part no.:**
Combined acoustic and push button:	57 07871 05 5000
Acoustic without push button and light:	57 07871 05 5001
Push button without acoustic:	57 07871 05 5002

Technical data:

Supply:	230Vac -10% - +6%.
Power consumption:	Max. 20W
Classification:	IP65
Weight:	3,4 kg.
Surrounding temperature:	In use -40° C - + 70° C
Dimensions (h x w x d)	370x118x116 mm

Odense, the 4th August 2005
Rev. 1. 2006-10-04.

Settings:

Italic settings are standard settings for the acoustic signals and submit to the Danish standards.

The designations SWx,x are references to the switches in which the settings are executed.

Basic frequency:
The basic frequency is available in the following frequencies: 884 Hz, 1000 Hz, 2000 Hz and 2500 Hz, SW1,1 – SW1,4.

Red signal:
Can be set to *0,4 sec. sound / 1,6 sec. pause* or 0,2 sec. sound / 0,8 sec. pause, SW1,5.

Green signal:
Can be set to *0,2 sec. sound /0,2 sec. pause* or 0,1 sec. sound / 0,1 sec. pause, SW1,6. *Off* / 650 tapering pr. minute, SW1,8.

As an option the unit can give a signal, only when green to the pedestrians, and no sound when red; SW 1,9. It should be noticed that for red pedestrian signal a connection must be made for safety reasons. Only green sound/*Off*

Tone/tapering:
Tone or tapering is optional, SW1,7.

Response sound:
The signal unit is as acoustic and push button available with response sound along side with response light, SW1,10.

Microphone response time:
The microphone reacts on changes in traffic noise accordingly to these times:

For increasing sound, starting, 10 msec. or *2 sec*., SW1,11. For decreasing sound, stopping, *10 msec.* or 2 sec., SW1,12. 10 msec. is resulting in an immediate audio reaction to traffic noise.

2 sec. is resulting in a reaction time of 2 sec. for audio outputs (graph at page 3).

Connection and disconnection can be combined with a slow connection and a quick disconnection.

Controller for signal strength:
The microphone amplifier has 37 steps increasing 2 dB each. These are named +Gain/-Gain, S7 and S6. This means that with a traffic noise of 60 dB and a gain at 12 dB, the volume would be 72 dB (a maximum limit of 90dB is set).

The speaker's amplification can be set for:

Maximum sound pressure from the speaker's is up to 90 dB also named +Max/-Max, S1 and S4.

Minimum sound pressure from the speaker's regardless of traffic noise is named +Min/-Min, S2 and S5. This signal is used to guide the visually impaired in the right direction with no traffic noise.

The setting from factory is 66 dB for Max, 6 dB for min and 6 dB for Gain. To reset this setting:

Press +Min, -Max and +Gain simultaneously fore 3 sec. A "beep" indicates resetting.

Sound off:
Of concern to the environment it could be appropriate to outfase the sound in red and with no activation of the push button, under the assumption that the sound is not needed. This can be done by disconnecting the microphone or the speaker. By disconnecting the microphone, the minimum sound will still be active. When the push button is activated, the normal function will be resumed.

Microphone settings:
Attach 230 Volt to input 4 in the terminal block. The microphone has two optional functions, depending on the switch for function, SW2,2, and the switch for timer function, SW2,3.

The microphone can be disconnected as long as there is 230 Volt on input 4 or after pressing the push button the microphone will react to traffic noise for 60 or 120 sec; SW2,2 and SW2,3.

Speaker settings:
Attach 230V to input 3 in the terminal block and the speaker will be disconnected the same way as for the microphone settings. For versions without push button, this function can be used as switch off at night.

Directional arrow:
Directional arrows are available as described in the Danish road regulative:

At curb and no refuge:	- - - K	Part no.: 57 07871 05 5020
At curb and several refuge:	- - K K	Part no.: 57 07871 05 5021
On only refuge:	K - - K	Part no.: 57 07871 05 5022
On refuge with refuge in more than one direction:	K - K K	Part no.: 57 07871 05 5023
On refuge with refuge in both directions:	K K K K	Part no.: 57 07871 05 5024

Technical Traffic Solution A/

SØ-LUND DESIGN

User manual to Nordic ATS

TTS acoustic signal and push button

TTS acoustic signal and push button, is a newly developed microprocessor based unit, which is available in three options.

1. As a standard pedestrian push button with a white response light, based upon three ultra bright LED's.
2. As a standard acoustic signal.
3. As a combination of 1 and 2.

The acoustic signal and push button has features in the software, thus different adjustments and demands for all countries in the north are covered. This results in a free choice of frequency as well as possibility to choose between tone and tapering. The unit submits to the specifications in the European standards HD638 and EN50293.

All supplies are 230Vac in and out.

Terminal 1: Signal from red pedestrian
Terminal 2: Signal from green pedestrian
Terminal 3: Disconnection of speaker
Terminal 4: Disconnection of microphone
Terminal 5: Activation of response
Terminal 6: Option
Terminal 7: Option
Terminal 8: 230Vac zero from the control unit
Terminal 9: NO switch from demand relay
Terminal 10: NO switch from demand relay
Terminal N: 230Vac zero
Terminal L: 230Vac main

Options to basic models:

The push buttons is available with a response sound.

Signals for the visually handicapped can be delivered with the following extra features:

1. Remote control for regulation of volume
2. Bluetooth interface which can increase volume in the approach of an visually handicapped with the correct set cell phone
3. As push button for bicyclists
4. As a two button system.
5. Supply through red and green. Alternate supply is not necessary.

Choice of colour:

The basic models are as standard delivered in the following RAL colours:

1. As pedestrian push button; Steel blue 5011
2. As audio signal for the visually handicapped; Black 9011
3. As combined; Steel blue 5011.

Basic models can be delivered in RAL colour free of choice.

Technical Traffic Solution A/S
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