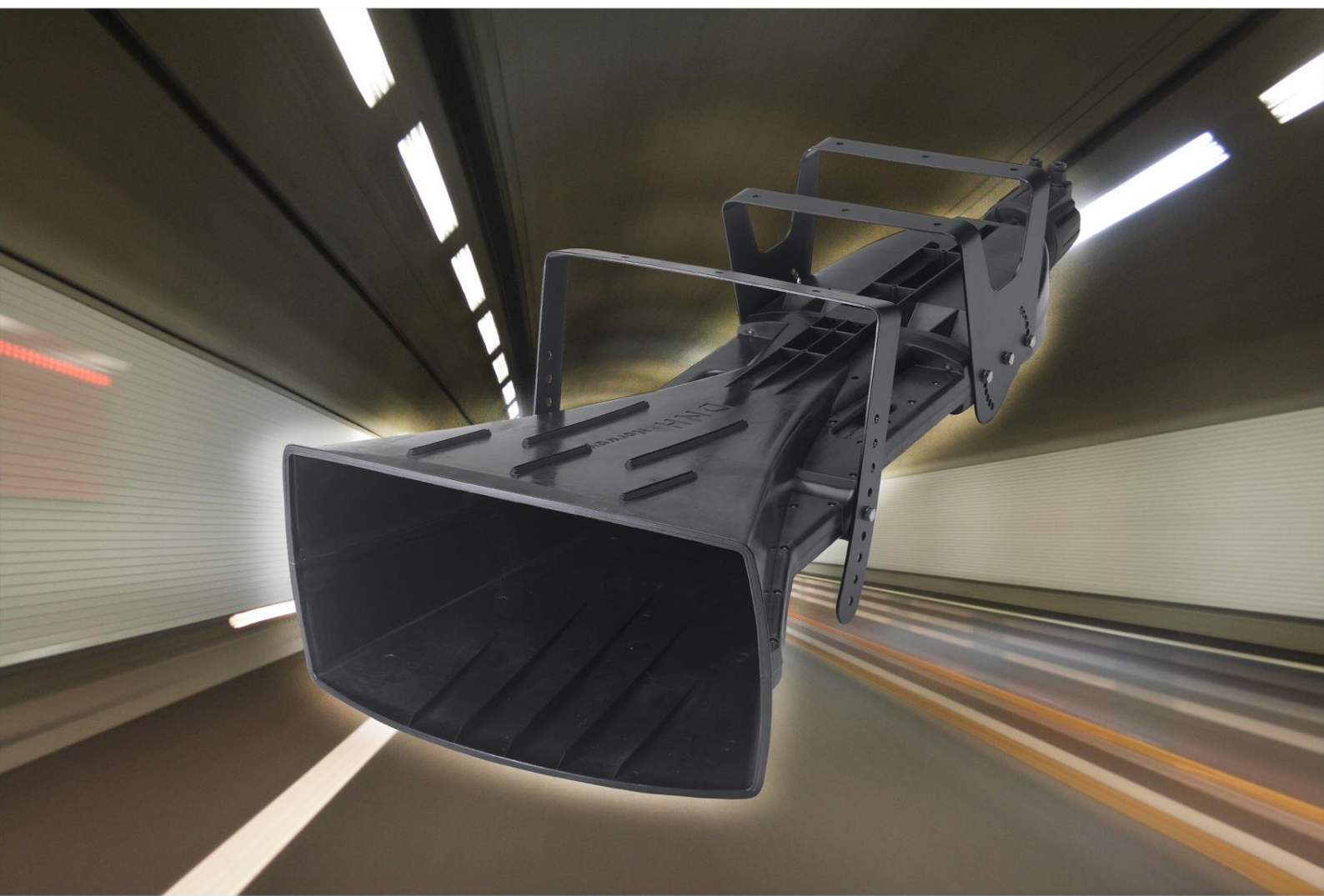




Presents:

Tunnel-500 / DUP-40(T)



“Outstanding quality”



In an emergency, it is essential to provide a voice signal with high speech intelligibility to persons who are involved with the situation.

When you do so, it is imperative to give clear instructions on what actions to take.

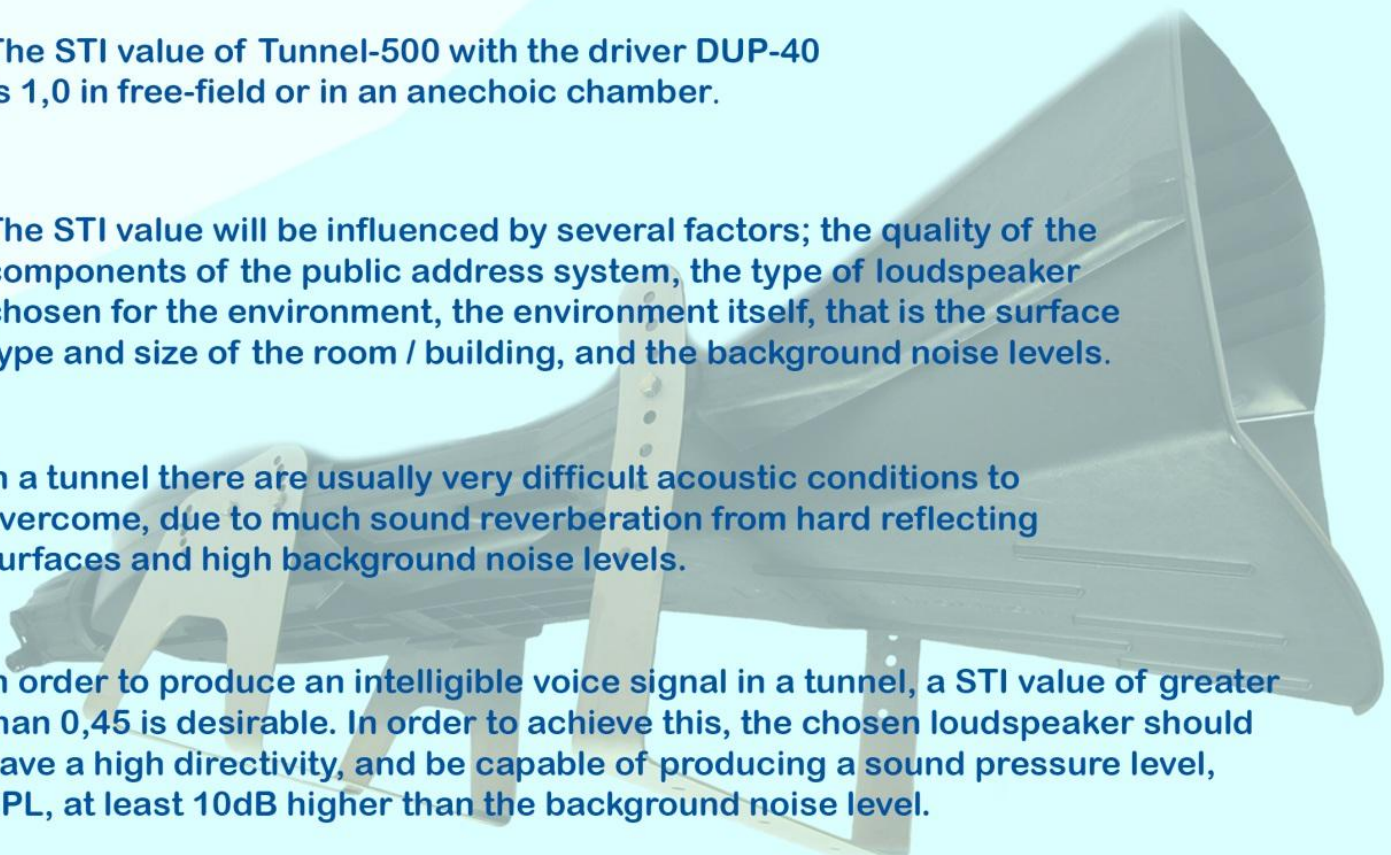
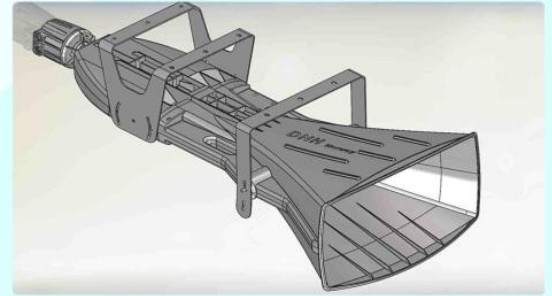
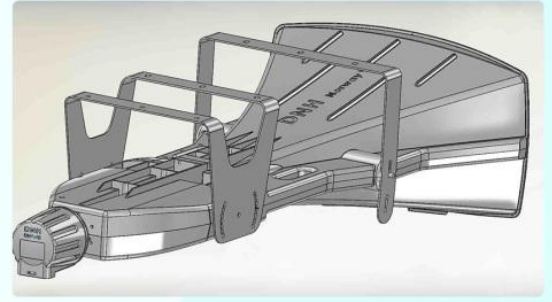
STI, speech intelligibility index, is a way to quantify the understandability of the human voice through a loudspeaker, where 1,0 is the best.

The STI value of Tunnel-500 with the driver DUP-40 is 1,0 in free-field or in an anechoic chamber.

The STI value will be influenced by several factors; the quality of the components of the public address system, the type of loudspeaker chosen for the environment, the environment itself, that is the surface type and size of the room / building, and the background noise levels.

In a tunnel there are usually very difficult acoustic conditions to overcome, due to much sound reverberation from hard reflecting surfaces and high background noise levels.

In order to produce an intelligible voice signal in a tunnel, a STI value of greater than 0,45 is desirable. In order to achieve this, the chosen loudspeaker should have a high directivity, and be capable of producing a sound pressure level, SPL, at least 10dB higher than the background noise level.



"Easy to install"



Preferably, the reverberation time should be less than 2,5 sec. Reverberation time, T 60, is the time in seconds it will take to reduce the original SPL value with 60 dB.

Polar plots

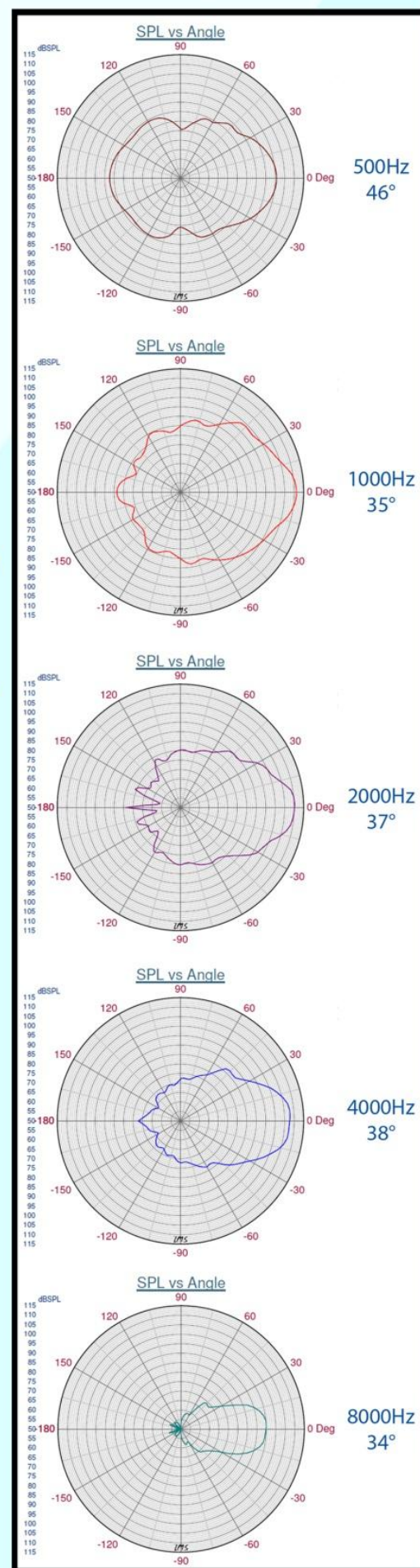
To specify the directivity of a loudspeaker we use horizontal and vertical coverage angles when the loudspeaker is rotated 360° around the reference axis.

The coverage angles are defined to be the angle resulting in a reduction of 6dB compared to the original SPL on axis for both clockwise and counter clockwise movement.

In general terms, the smaller a loudspeaker's coverage angle is, the greater the directivity of the loudspeaker.



The Tunnel-500 can also be fitted with an adapter to allow for two DUP-40 to be used. (80 W)



"Clear and powerful"



Tunnel 500 / DUP 40:

- 1) **High sound pressure level; 128 dB / 40W**
- 2) **High directivity, with a high STI value**
- 3) **Manufactured from black halogen free flame retardant plastic material to 5VA standard**
- 4) **Stainless steel fixing brackets (316) for easy and safe installation on flat or curved surfaces and allow excellent angle of adjustment**
- 5) **Weather proof to IP-67 when fitted with DUP-40**
- 6) **An industry standard UNEF 1 3/8" -18 driver thread**
- 7) **Light weight / cost effective**



”The excellence of STI”



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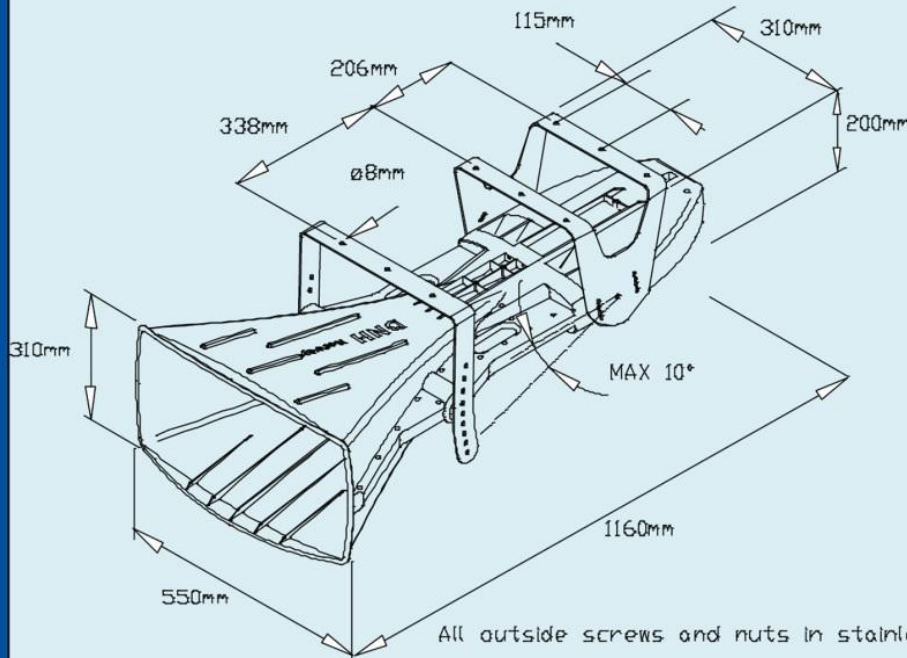
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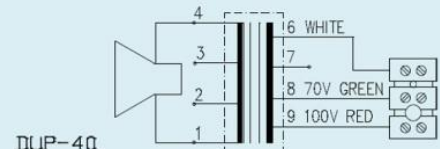
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ISO 9001 CERTIFIED

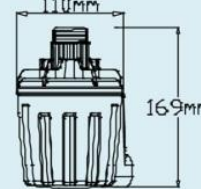
TUNNEL-500 / DUP-40(T)



CIRCUIT DIAGRAM



DUP-40



Secondary nominal tapings

1 : 4	40 W
1 : 3	23 W
2 : 4	15 W
1 : 2	12 W
3 : 4	6,0 W
2 : 3	3,0 W

Sound pressure levels at 1W/1m TUNNEL500/DUP-40

SPL vs Freq



Specifications

Material / Color	Plastic V0 Halogen free / Black
Mounting	2 brackets
Brackets material	V4A/A4/316
Termination	Inside ceramic terminal
Weight	13 Kg
IP-rating with DUP-40	67
Max. / min. amb. temp	90 °C / -40 °C
Rated / max. power	40 W / 60 W
SPL 1W/1m	114 dB
SPL rated power	129 dB
Effective freq. range	300 – 8125 Hz
Dispersion (-6dB) 1kHz / 4kHz	40° / 35°
Options	Impedances, colors, labels

Installation, Operation and Maintenance Procedures

- TUNNEL-500 with DUP-40 is designed to be very directional and therefore excellent for tunnel applications.
- When using the DUP-40 driver use enclosed gasket. Screw driver unit into TUNNEL – 500, UNEF 1 3/8 -18 thread.
- Remove lid, lead cable through cable gland, connect to terminal and choose required power on transformer.
- Screw lid back into place 2 – 3 Nm
- Fasten brackets and choose wanted angle of loudspeaker.
- To change the position of the loudspeaker, please adjust the brackets (by loosening / tightening the screws) as required.
- For optimum performance, always use the correct voltage / power and operate within the frequency limits as stated.
- Do not open loudspeaker when energized.
- This loudspeaker is supplied with a 2 year warranty against defective workmanship.



"Strong and durable"