TANNOY

i8 AW & i8T AW
USER MANUAL

Contents

1. Introduction

Thank you for purchasing Tannoy i8 AW.

Designed for a wide variety of sound reinforcement applications the Tannoy i8 AW (All Weather) is an ultra compact loudspeaker system capa ble of delivering high sound pressure levels with extremely low distortion, resulting in outstanding clarity, definition and detail.

A truly universal solution, the i8 AW offers outstanding durability and resistance to scuffs and knocks. Able to deliver co nsistent performance under a wide range of adverse conditions the i8 AW is suited to applications indoors or out, whether it be a theme bar or theme park. Available in charcoal grey or white the i8 AW will effectively blend into most backgrounds.

Utilisation of the point source Dual Concentric loudspeaker allows the i8 AW to be mounted on a wall or ceiling in either horizontal or vertical orientations as well as pole mounted, without affecting its performance. A range of hardware options ensures simple and effective installation. Also available with built in line transformer (i8T AW).

The i8 AW comprises one 8 inch (200mm) Dual Concentric driver where the low frequency (LF) and high frequency (HF) sources are coincidentally aligned to a point source, resulti ng in a smooth uniform frequency response over a wide area of coverage. The sophisticated CAD designed waveguide combines 60° conical dispersion and excellent acoustic impedance characteristics.

For applications requiring extended low frequency enhancement , a range of Tannoy sub-bass systems are available and can be used in conjunction with the i8 AW.

2. Unpacking

Every Tannoy i8 AW product is carefully tested and inspected before packing. After unpacking, please inspect your i8 AW for any damage sustained during transit. In the unlikely event of any damage, would you please notify your dealer immediately and retain your shipping carton, as you dealer may ask the faulty unit to be returned for inspection.

3. Connectors/Cabling

The i8 AW is fitted with two 4mm binding posts and a 4-pole Speakon™ for connection to the amplifier. These are paralleled within the enclosure.

The two binding post terminals are capable of accepting cables with a conductor diameter of up to 6mm.

Red is Positive
Black is Negative

For the 4-pole Speakon™ has the following advantages over EP and XLR type connectors: All terminations are solderless, which makes installation and field servicing easier. Contacts will accept 6sq.mm wire with an outside diameter of up to 15mm and a current rating of 30 Amps. Tannoy have adopted the following wiring standard for the Speakon™ socket:

Pin 1+ is Positive
Pin 1- is Negative

Should you encounter any problems obtaining Speakon connectors, please contact Neutrik or its distributors directly on the following numbers: -

UK: NEUTRIK MARKETING 01983 811 441
USA: NEUTRIK USA INC: 1 732 901 9488

For a world wide list of distributors, please contact Neutrik directly: -

NEUTRIK AG +423 237 2424

or visit their website at: http://www.neutrik.com/

Cable choice consists mainly of selecting the correct cross sectional area in relation to the cable length and the load impedance. A small cross sectional area would increase the cables series resistance, inducing power loss and response variati ons (damping factor).

Connectors should be wired with a minimum of 2.5 sq. mm (12 gauge) cable. This will be perfectly satisfactory under normal conditions. In the case of very long cable runs the wire size should exceed this, refer to the following table for guidance:-

CABLE RUN (m)	C.S.A. OF EACH CONDUCTOR (mm)	CABLE RESISTANCE Ω	% POWER LOSS INTO 8Ω LOAD	% POWER LOSS INTO 4Ω LOAD
10	2.5 4.0 6.0	0.14 0.09 0.06	1.7 1.1 0.73	3.5 2.2 1.5
25	2.5 4.0 6.0	0.35 0.22 0.14	4.3 2.7 1.8	8.6 5.4 3.6
50	2.5 4.0 6.0	0.69 0.43 0.29	8.6 5.4 3.6	17.0 11.0 7.2
100	2.5 4.0 6.0	1.38 0.86 0.58	17.0 11.0 7.2	35.0 22.0 14.0

4. Polarity Checking

It is most important to check the polarity of the wiring. A simple method of doing this without a pulse based polarity checker fo r LF units is as follows: Connect two wires to the +ve and -ve terminals of a PP3 battery. Apply the wire which is connected to the +ve terminal of the battery to the speaker cable leg which you believe to be connected to the red speaker terminal and likew ise the -ve leg of the battery to the black speaker terminal.

If you have wired it correctly the LF drive unit will move forward, indicating the wiring is correct. All that remains now is to connect the +ve speaker lead to the +ve terminal on the amplifier and the -ve lead to the -ve terminal on the amplifier. If however the LF driver moves backwards, the input connections should be inverted.

If problems are encountered, inspect the cable wiring in the first instance. It should also be noted that different amplifier manufacturers utilise different pin configurations and polarity conventions, so if you are using amplifiers from more than one manufacturer, check the polarity at the amplifiers as well as the loudspeakers.

5. Amplification & Power Handlin

As with all professional loudspeaker systems, the power handling is a function of voice coil thermal capacity. Care should be taken to avoid running the amplifier into clip (clipping is the end result of overdriving any amplifier). Damage to the loudspe aker will be sustained if the amplifier is driven into clip for any extended period of time. Headroom of at least 3dB should be allowed. When evaluating an amplifier, it is important to take into account its behaviour under low impedance load conditions. A loudspeaker system is highly reactive and with transient signals it can require more current than the nominal impedance would indicate.

Generally a higher power amplifier running free of distortion will do less damage to the loudspeaker than a lower power amplifier continually clipping. It is also worth remembering that a high powered amplifier running at less than 90% of output power generally sounds a lot better than a lower power amplifier running at 100%. An amplifier with insufficient drive capability will not allow the full performance of the loudspeaker to be realised.

It is important when using different manufacturers amplifiers in a single installation that the have very closely matched gains, the variation should be less than +/ - 0.5dB. This precaution is important to the overall system balance when only a single compressor/limiter or active crossover is being used with multiple cabinets; it is therefore recommended that the same amplifiers are used throughout.

6. Power Selection (i8T AW)

Determi ne the maximum power in watts needed at each speaker location. The i8 AW transformer can be tapped at 60W, 30W, 15W, & 7.5W (70V line only) via the rotary switch located on the metal plate at rear of the loudspeaker. When the relevant tappings have been se lected add the individual wattages required at all speakers and select an amplifier with a rating equal to or exceeding the total wattage required. All of the transformer primaries should be connected in parallel to the output of this amplifier. If for example, you select the 7.5-Watt transformer tap, it means that at full rated amplifier output the speaker will receive the full 7.5 Watts. If the amplifier gain is reduced each speaker will receive a proportional amount of power, maintaining the overall syst em balance.

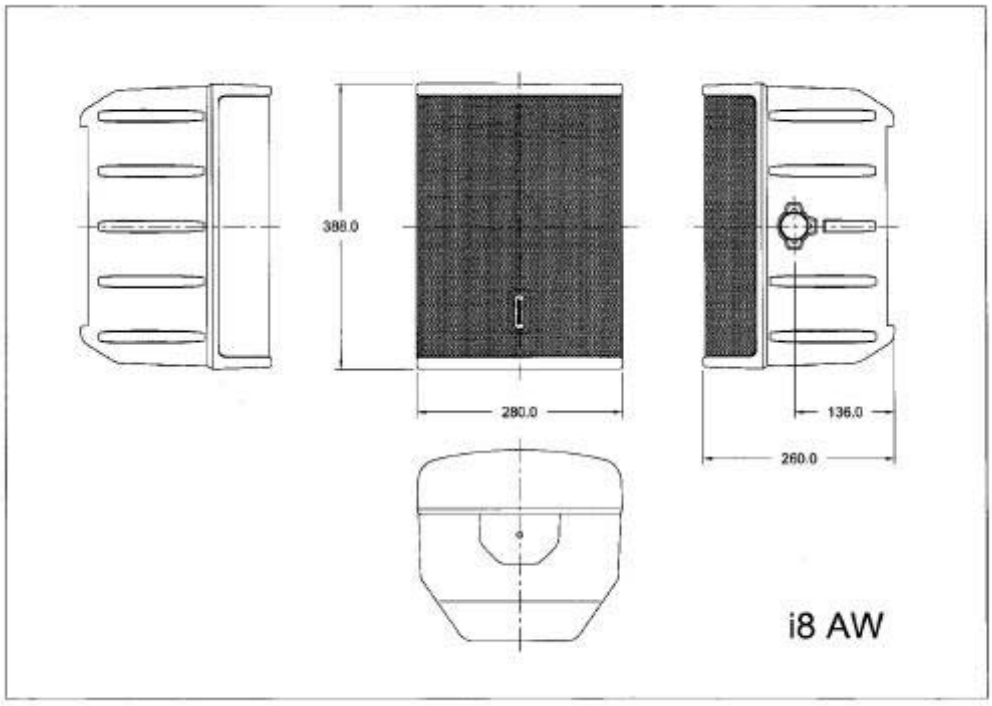
When calculating amplifier wattage requirements for a system, it is recommended that a generous wattage safety margin (3dB of headroom) be left so that the system does not have to operate continuously at its full rated output.

7. Equalisation

The i8 AW loudspeaker is designed to need no equalisation or correction to overcome system limitations. As a result, it will only need equalisation to compensate for difficult acoustic environments.

Over-equalisation can reduce system headroom, and int roduce phase distortion resulting in greater problems than cures. If equalisation is required then it should be applied gently and smoothly. The i8 AW loudspeaker is a point source, phase coherent design and violent equalisation will be detrimental to the overall sound quality.

8. Dimensions



9. Hardware

The i8AW can be wall or ceiling mounted using the **MB8** (optional) bracket (Figure 9a) which is designed to offer maximum flexibility in selecting the desired angles.

The MB8 is supplied with M8 bolts for fixing to the loudspeaker (Figure 9b.& 9c). After fixing the bracket to the wall or ceiling, remove the plastic plugs from the top and bottom of the loudspeaker. Position the cabinet at the required angle as shown and tighten the M8 Bolts to fix the loudspeaker in position.

The loudspeaker can be mounted either horizontally or vertically using the MB8 bracket (Figure 9a & 9b). The i8 AW also has threaded M6 holes for Omni-Mount™ Series 75 (Figure 9d) and other bracketry.

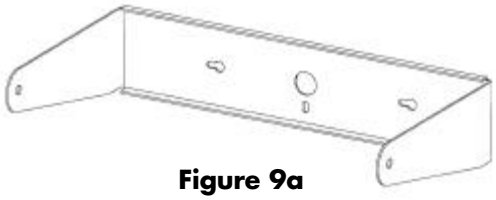


Figure 9a

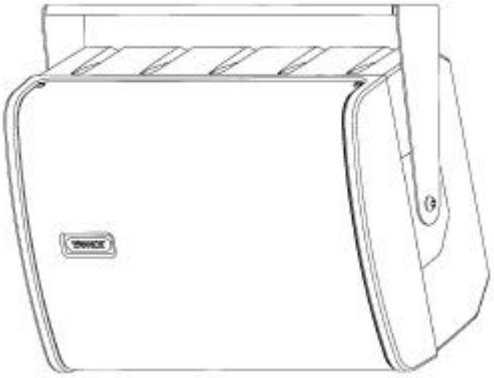


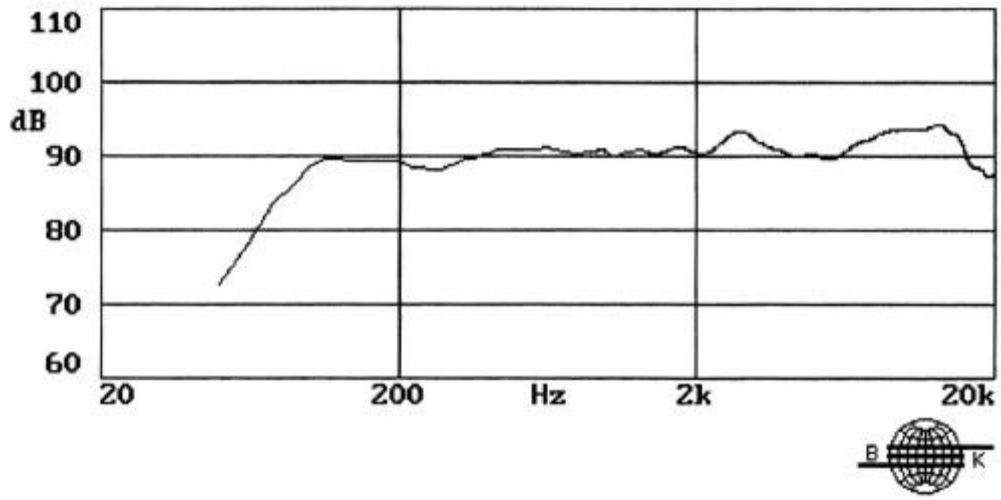
Figure 9b

Figure 9c

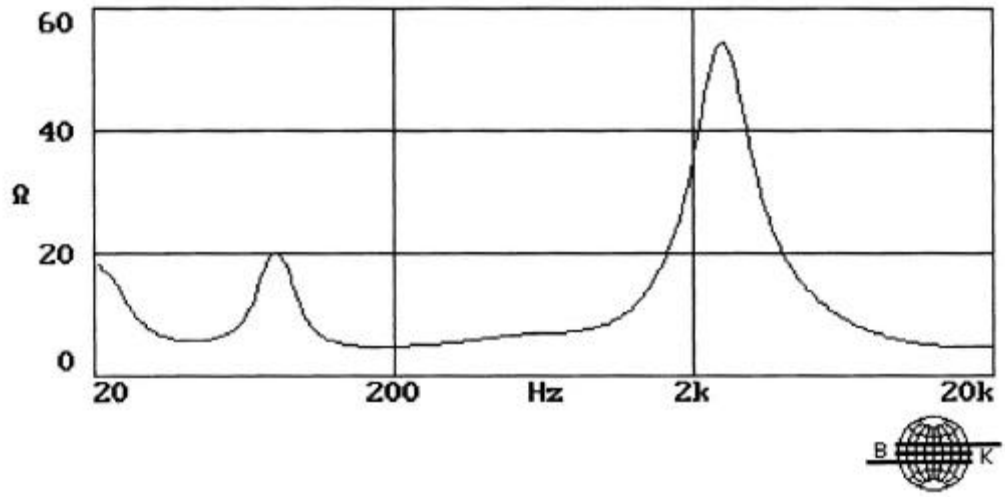
Figure 9d

NOTE: The installation of this product must be carried out in conformity with local building codes and standards. If necessary consult your local safety standards officer before installing any product. Alternatively, check any laws or bylaws.Tannoy will not be held responsible for any damages caused by the improper installation of any bracket or loudspeaker.

10. Performance Data

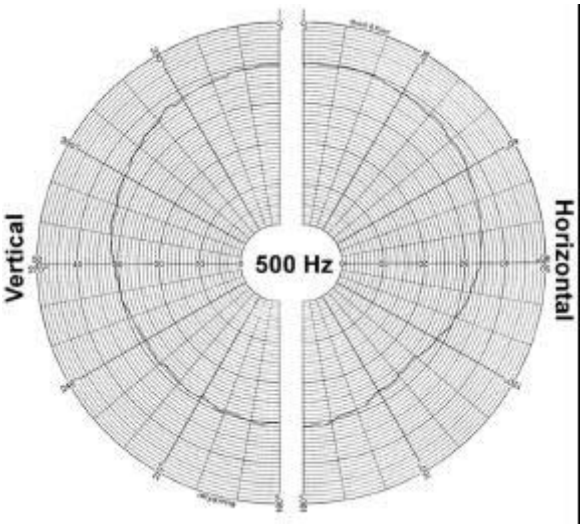


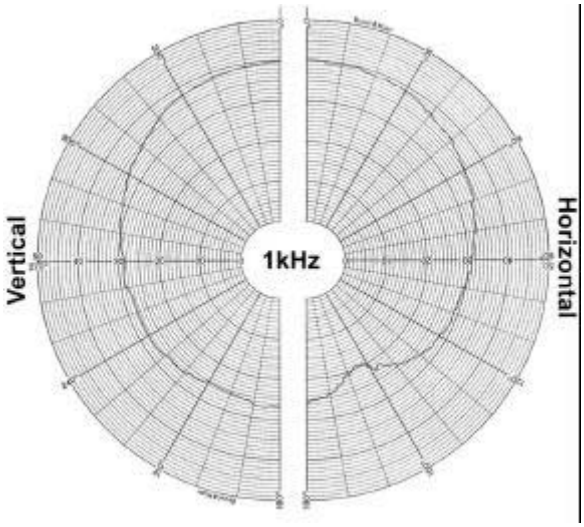
Anechoic Frequency Response, 1watt @ 1m

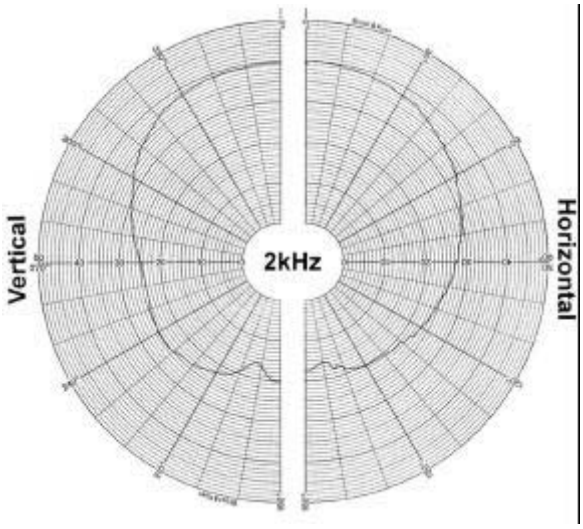


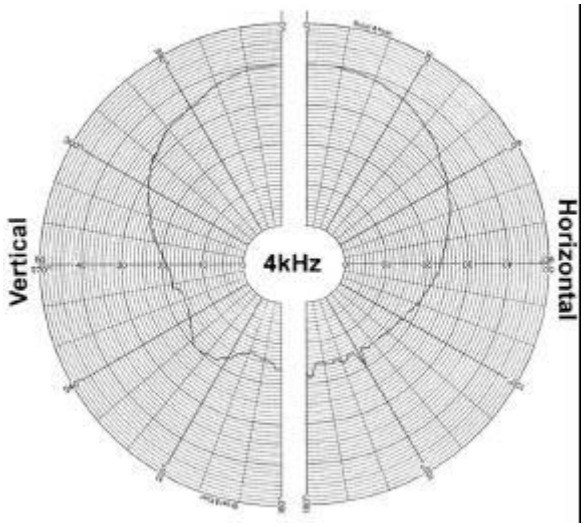
Impedance

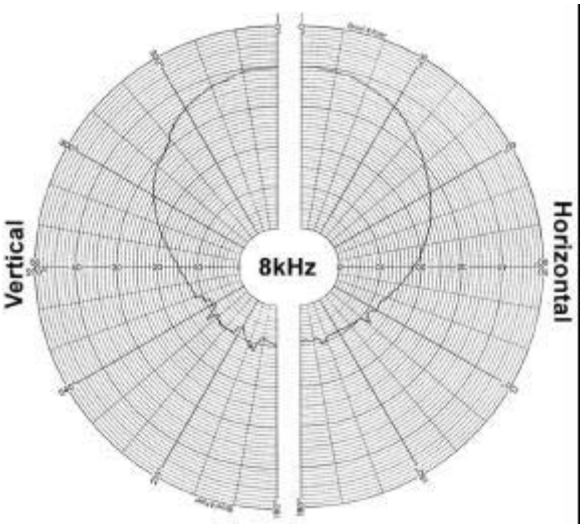
11. Polar Data

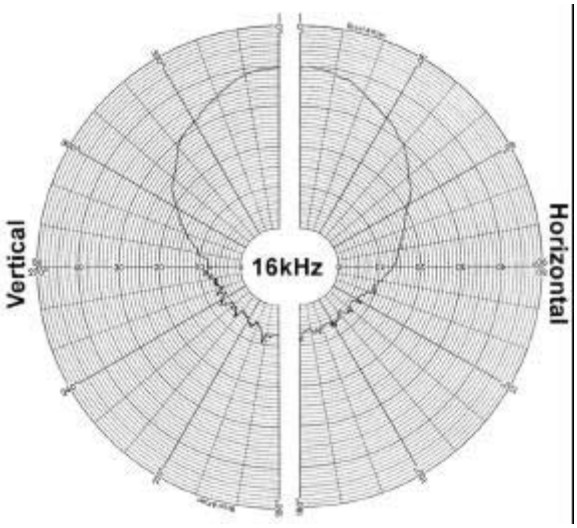












12. Technical Specifications

Frequency Response ±3dB (1)		65Hz– 20kHz
Recommended Amplifier Power		20 - 180 Watts / 8Ω
Power Handling (2)		Average Programme Peak 90 Watt 180 Watt 360 Watt
Sensitivity 2.83 volt @ 1m (3)		91dB (anechoic) 94dB (half space)
Maximum SPL		Average Peak Average (half-space) Peak (half -space) 111dB 117dB 114dB 120dB
Maximum SPL with THP60 Transformer		Average Peak Average (half space) Peak (half space) 109 dB 115dB 112dB 118dB
Transformer (i8T AW)		Max. Insertion loss: 1.1 dB 35Hz– 21kHz ±2dB Primary Taps: 60, 30, 15 & 7.5 Voltage Taps: 100V, 70.7V & 25V
Impedance		Nominal 8Ω
Dispersion		90° Conical
DI Averaged	**500Hz**	4.73
	1kHz	5.48
	2kHz	6.73
	4kHz	8.35
	8kHz	9.95
	16kHz	12.77
Q Averaged	**500Hz**	2.97
	1kHz	3.53
	2kHz	4.71
	4kHz	6.84
	8kHz	9.88
	16kHz	18.9
Driver Complement		1 x 200mm (8") Dual Concentric™
Crossover Frequency		1.3kHz - passive
Enclosure		16 litre polypropylene
Finish		Charcoal or White
Protective Grille		Perforated aluminium
Connectors		1 x Speakon NL4MP 2 x 4mm binding posts
Fittings		1 x 35mm pole mount 2 x M8 inserts 4 x M6 inserts
Dimensions		388 x 280 x 260mm (15 3/8 x 11 x 10 1/4")
Weight (each)		8.5kg (18lbs 10oz)
Shipping Dimensions		450 x 570 x 340mm (15 3/8 x 22 3/8 x 13 3/8")
Shipping Weight		17.9kg (39lbs 5oz)

NOTES:

(1) Average over stated bandwidth. Measured at 1 meter on axis.
(2) Long term power handling capacity as defined in EIA standard RS - 426A.
(3) Unweighted pink noise input, measured at 1 meter in an anechoic chamber

A full range of measurements, performance data, and Ease™ Data can be downloaded from www.tannoy.com

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

13. i8 AW Service Parts & Accessories

Part Number	Description
7900 0413	Driver Kit Type 2046
7900 0414	Recone Kit Type 2046
7900 0406	HF Diaphragm Kit
7300 0728	Crossover Kit - 1282
8001 1270	MB8 Bracket - Black
8001 1280	MB8 Bracket - White

14. Warranty

No maintenance of the i8 AW loudspeaker is necessary.

All Tannoy professi onal loudspeaker products are covered by a 5 year warranty from the date of manufacture subject to the absence of misuse, overload or accidental damage. Claims will not be considered is the serial number has been altered or removed. Work under warranty should only be carried out by a Tannoy Professional dealer or service agent. This warranty in no way affects your statutory rights. For further information please contact your dealer or distributor in your country. If you cannot locate your distributor please contact Customer Services, Tannoy Ltd at the address given below.

Customer Services
Tannoy Ltd.
Rosehall Industrial Estate
Coatbridge
Strathclyde
ML5 4TF
Scotland

Telephone:	01236 420199	(National)
	+44 1236 420199	(Intern ational)
Fax:	01236 428230	(National)
	+44 1236 428230	(International)
E-Mail:	prosales@tannoy.com	

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Our policy commits us to incorporating improvements to our products through continuous research and development. Please confirm current specifications for critical applications with your supplier.

EASE™ Data for Tannoy Professional products available on request.

Tannoy Limited, Professional Division, Coatbridge, Strathclyde, ML5 4TF, Scotland.
Tel: +44 (0) 1236 420199 Fax +44 (0) 1236 428230
e-mail: prosales@tannoy.com Website: www.tannoy.com

Tannoy North America Inc., 335 Gage Avenue, Suite 1, Kitchener, Ontario, Canada N2M 5E1.
Tel: (519) 745-1158 Fax: (519) 745-2364
e-mail: inquiries@tannoyna.com Website: www.tannoy.com

Tannoy Nederland b.v., Anthonetta Kuijlstraat 19, 3066 GS Rotterdam.
Tel: (010) 286 0554 Fax: (010) 286 0431
e-mail: info@tannoy.nl Website: www.tannoy.nl

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