

T-2212

Architectural and engineering specifications

The loudspeaker unit shall be of the two-way active type with integrated electronics, two 12" low/mid speakers and one 2" ferrofluid cooled driver with carbon-fiber diaphragm. Specially developed horns made of fiberglass reinforced epoxy and coated in order to dampen resonance's shall be mounted on each transducer. The horns shall have an exponential area increase and a constant directivity over a wide frequency range. Arrayability shall be guaranteed by a well defined frequency independent horizontal opening angle in exact correspondence with the shape of the cabinet.

The complete electronics shall be mounted on a chassis which is placed in a separated part at the backside of the enclosure. Electronics shall consist of active filters to implement crossovers and equalization, protection circuitry and three power amplifiers coupled to two independent power supplies. The filter section shall include a 'cluster configuration' switch which enables the user to compensate for coupling effects in the low-mid frequency range when using multiple unit clusters. Protection shall consist of two Dynamic Level Control (DLC) circuits that limit the dissipated mean power of the transducers to a safe value, DC protection on each of the amplifier outputs, high chassis temperature and high voltage on the mains supply. A LED on the front and rear side shall display the status of all protection circuits.

The balanced signal input connector shall be a 3p female XLR type (p2 = +, p3 = -, p1 = gnd), the full-range signal output link connector shall be a 3p male XLR type (p2 = +, p3 and p1 = gnd). A hard-wired bypass relay guarantees the signal transfer to the link output in any condition. A mains voltage switch (115/230 V) shall be implemented on the outside of the unit and the mains connector shall be a male DO-3 type. All connectors shall be grouped together at the lower side of the chassis.

The enclosure shall be constructed of laminated birch plywood reinforced with bracing and two internal aluminum frames to which eight rigging frame attachment tracks are connected (four on top and four on the bottom). It shall contain six recessed handles and shall be trapezoidal shaped to facilitate the construction of clusters. A passive convection system shall ensure an efficient transfer of the heat generated by the transducers and the electronics. The front of the enclosure shall be covered with open cell foam mounted on a protective perforated steel grill. The enclosure shall be finished with a polyurethane coating.

The complete loudspeaker unit shall meet the following performance criteria: Frequency range of 130 - 18k Hz on axis (+/- 3 dB), max. SPL at 1m of 136 dB_{SPL} continuous and 139 dB_{SPL} peak, - 6 dB coverage angle of 35° horizontal by 32° vertical averaged 1k to 15k Hz. Dimensions are 56.7" (1440 mm) H x 21.3" (540 mm) W x 26.4" (670 mm) D, trapezoidal shaped. Weight 203 lbs. (92 kg).

The loudspeaker unit shall be the AXYS model T-2212.

Specifications¹

Acoustical²:

Frequency range	:	130 - 18k Hz (+/-3 dB)
Max SPL (1m) ³	- Continuous	: 136 dB
	- Peak	: 139 dB
Coverage angle ⁴	:	35° H x 32° V
Self generated noise SPL (A-weighted, 1m)	:	34 dB

Electrical:

Input	- Sensitivity (120 dB _{SPL} /1m)	:	-15 dBu
	- Impedance (balanced)	:	20k Ω
	- Connector (XLR female type)	:	p2=+, p3=-, p1=gnd
Link	- Impedance	:	300 ###
	- Connector (XLR male type)	:	p2=+, p3 and p1=gnd
Cross-over	- Type	:	24 dB/Oct HF, 18 dB/Oct MF
	- Frequency (-6 dB)	:	80 Hz LF-MF, 1k7 Hz MF-HF
	- Control switch	:	3 step 'cluster configuration'
Power amplifiers ³	:	3 x 220 W _{rms} (8 ###)	
Protection	- DLC	:	multi band
	- Thermal	:	T _{heatsink} > 80° C
	- Mains voltage guard	:	over / under voltage
	- DC per amplifier	:	
	- Hard-wired bypass	:	on link output
Mains	- Voltage (+5/-10 %) ⁵	:	115/230 V switchable
	- Connector type	:	DO-3 male
	- Fuses (slow type)	:	2 x 6.3 A and 2 x 100 mA
	- Power consumption	:	40 W _{idle} / 600 W _{full load}

General:

Temperature range (ambient)	:	0 - 40° C
Transducers	:	2 x 12" / 1 x 2" all horn loaded
Dimensions (H x W x D)	:	1440 x 540 x 670 mm
Weight	:	92 kg

Notes:

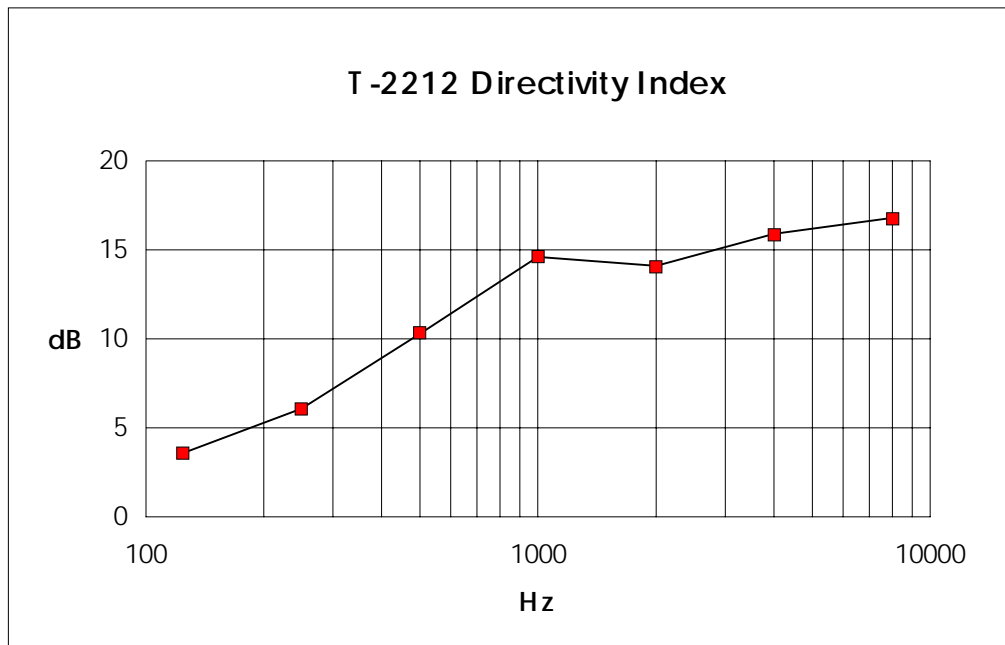
- 1 Specifications are valid for 1 unit with 'cluster configuration' switch at position 1.
- 2 Measured under anechoic 'full-space' conditions unless stated otherwise.
- 3 Measured with gated sine waves.
- 4 -6 dB, average value 1k - 15k Hz.
- 5 Other voltages available upon request

Acoustical data table

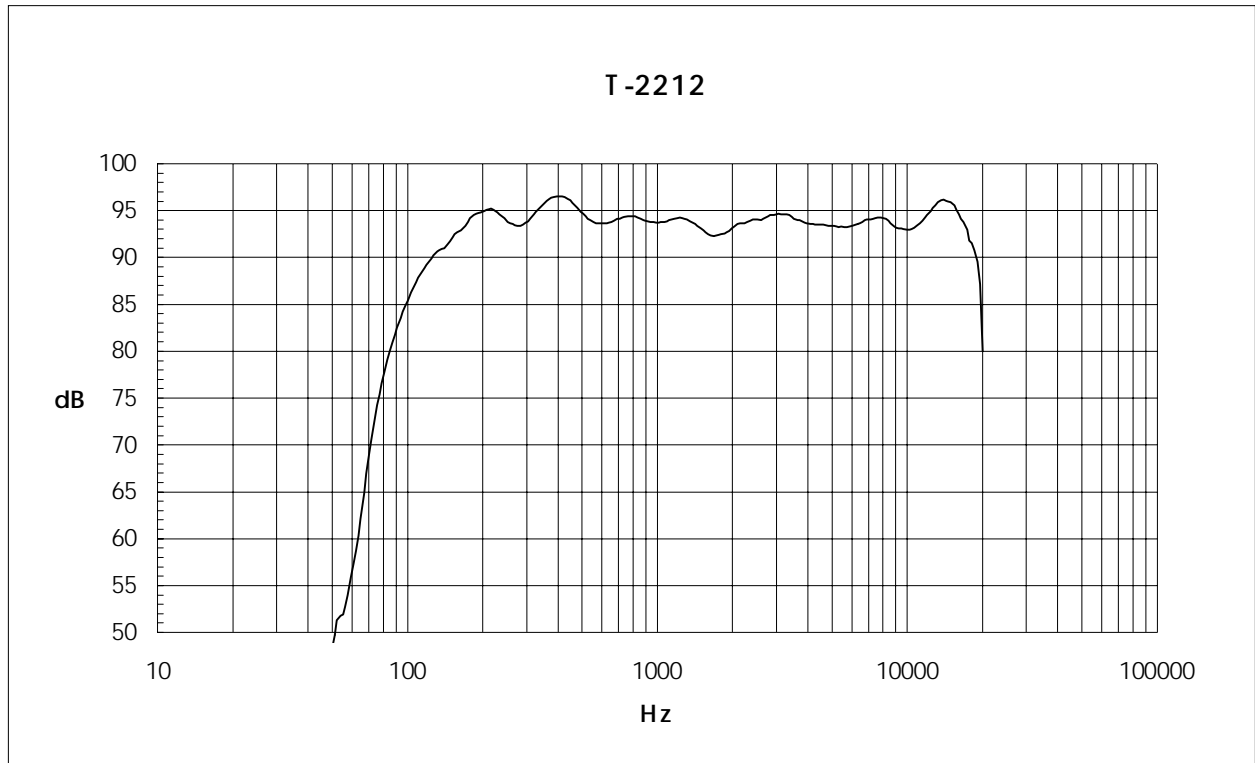
Frequency ¹ (Hz)	DI ² (dB)	Hor. coverage - 6 dB (deg)	Vert. coverage - 6 dB (deg)	Max. SPL at 1m ³ (dB _{SPL})
125	3.6	220	165	128
250	6.1	180	115	135
500	10.3	105	55	137
1k	14.6	60	32	139
2k	14.1	53	27	138
4k	15.9	41	44	135
8k	16.8	35	37	129

1. All frequencies octave band centered, all values measured with 'cluster configuration' switch at position 1.
2. Directivity Index calculated from horizontal and vertical polar data.
3. Peak values measured with gated sine waves under anechoic conditions, scaled to 1m ETC time zero.

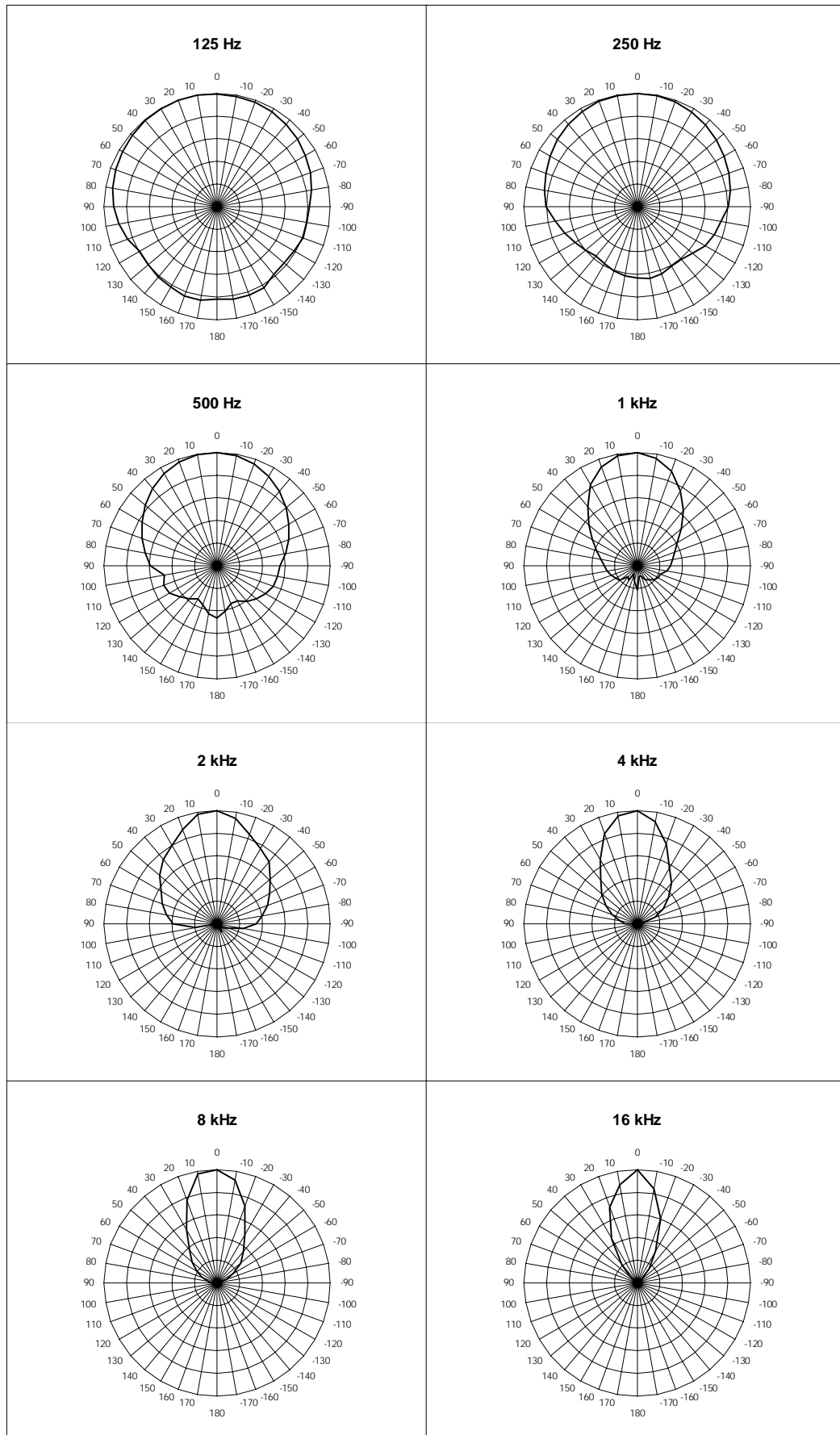
Directivity Index



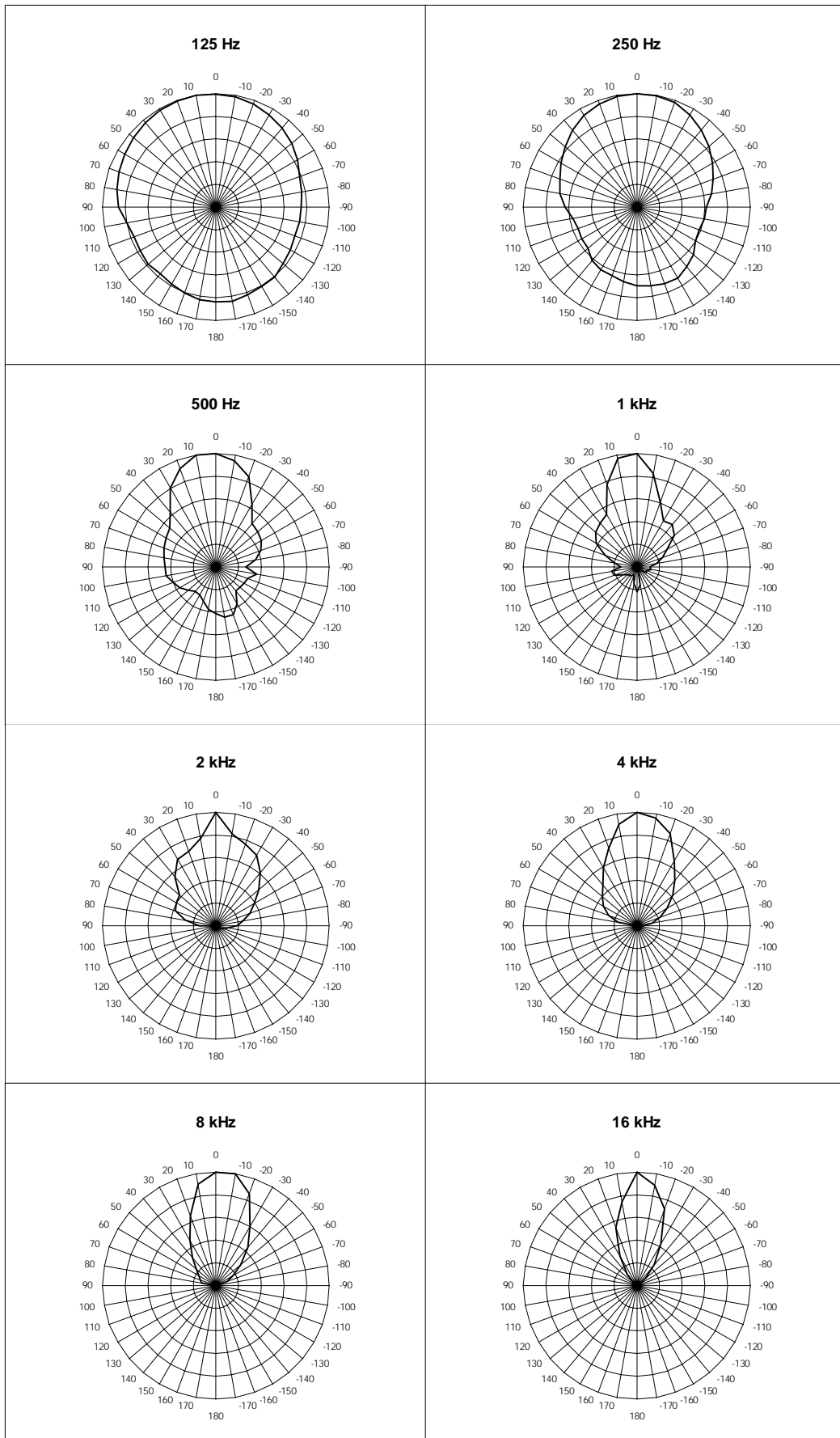
SPL response



T-2212 Full space on axis SPL, 1/3 octave averaged
Distance 4m, 'cluster configuration' at position 1

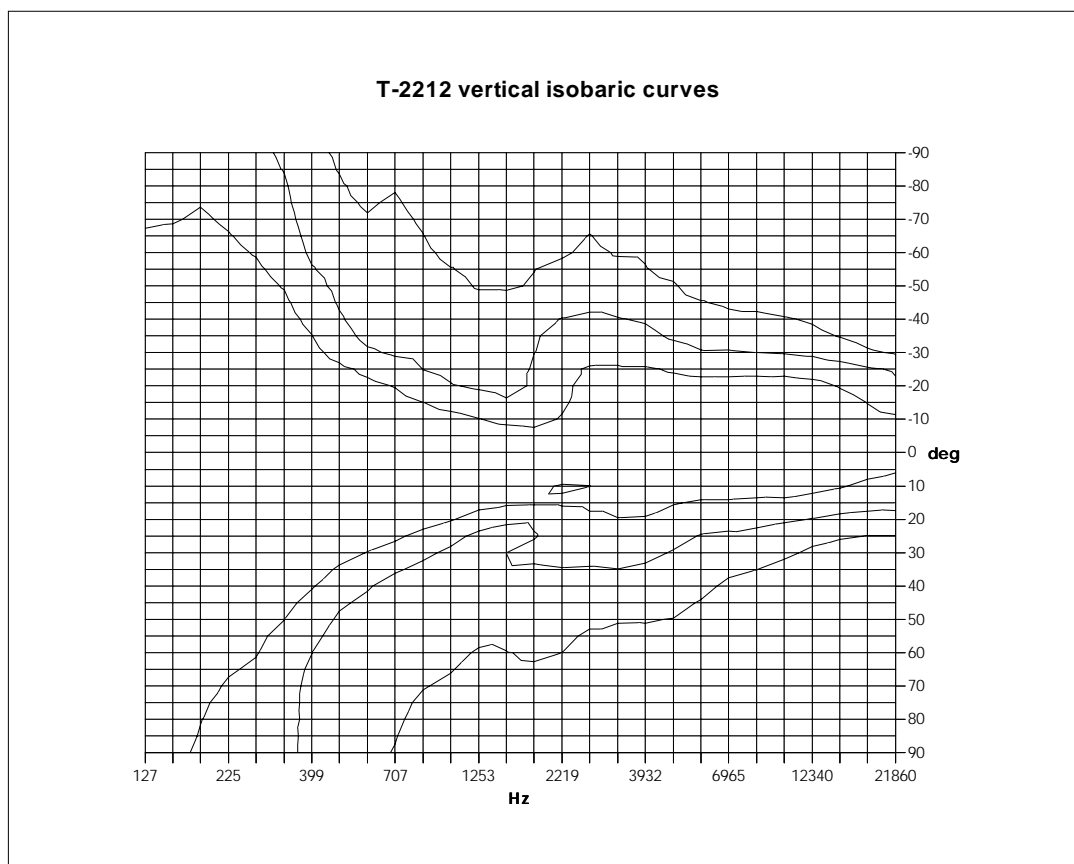
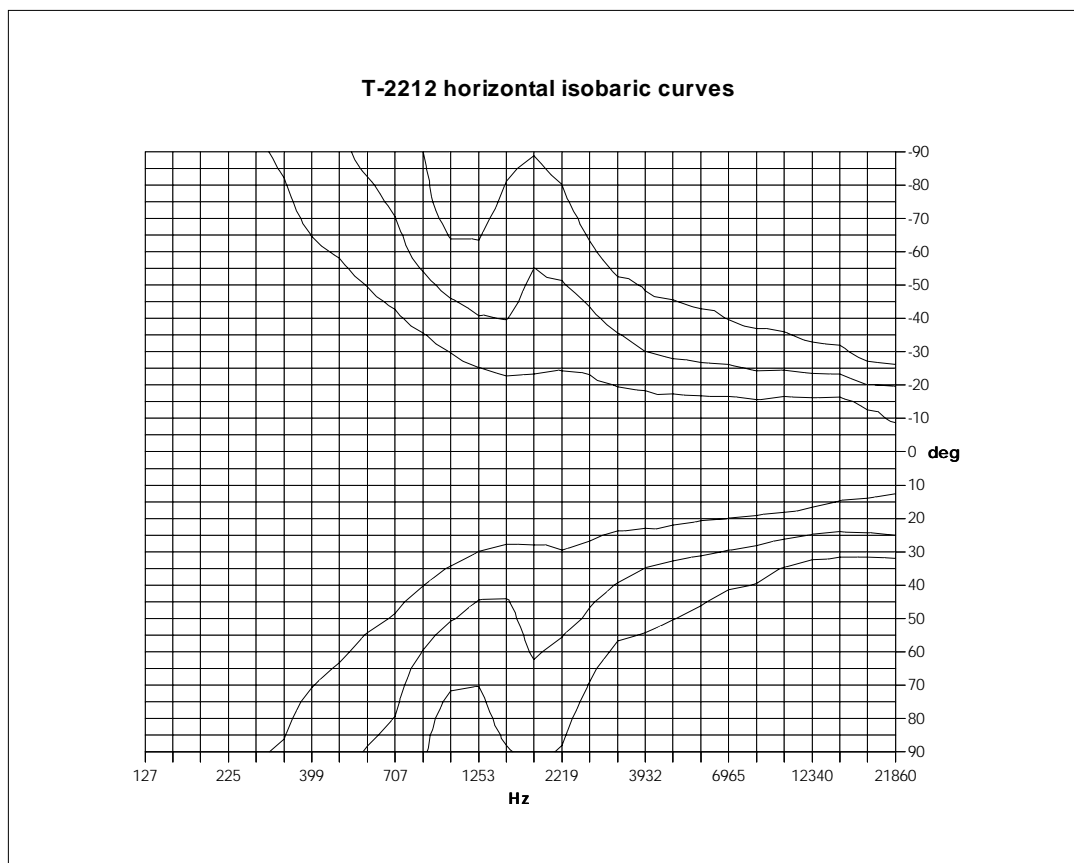


T-2212 Horizontal polar data 1/1 octave averaged
Angular resolution 10 deg, scale 6 dB/div, positive angles = right side



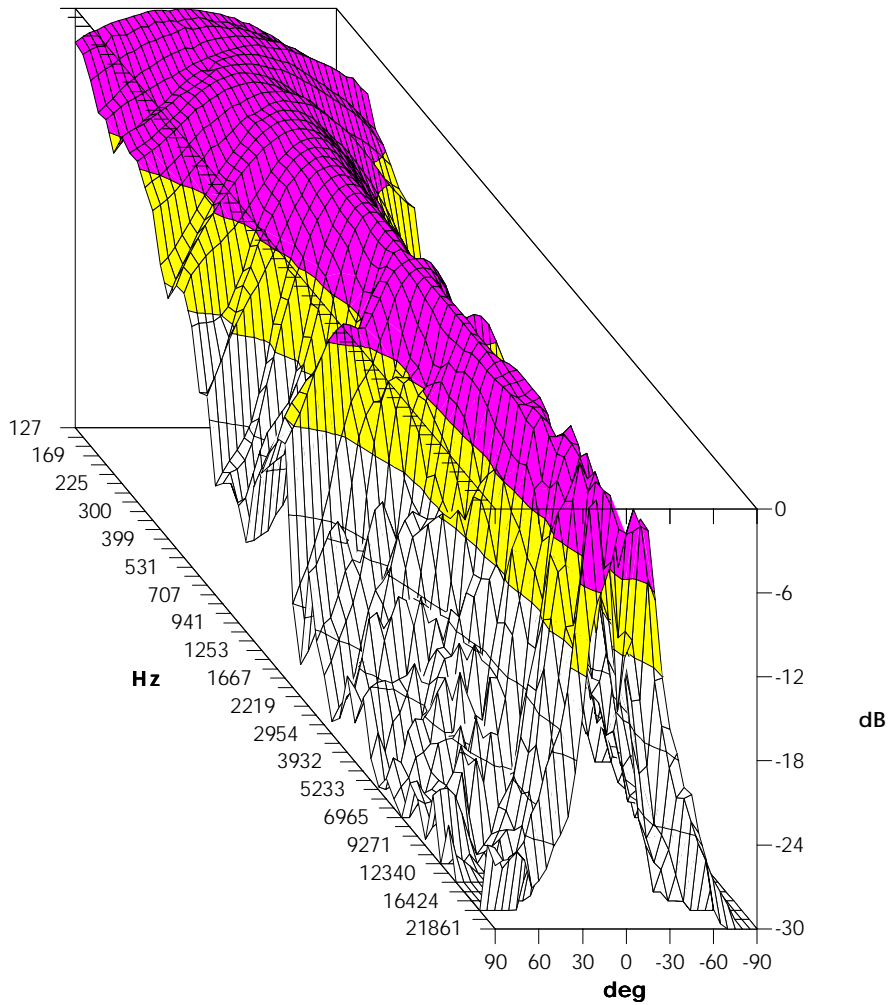
T-2212

Vertical polar data 1/1 octave averaged
Angular resolution 10 deg, scale 6 dB/div, positive angles = top side



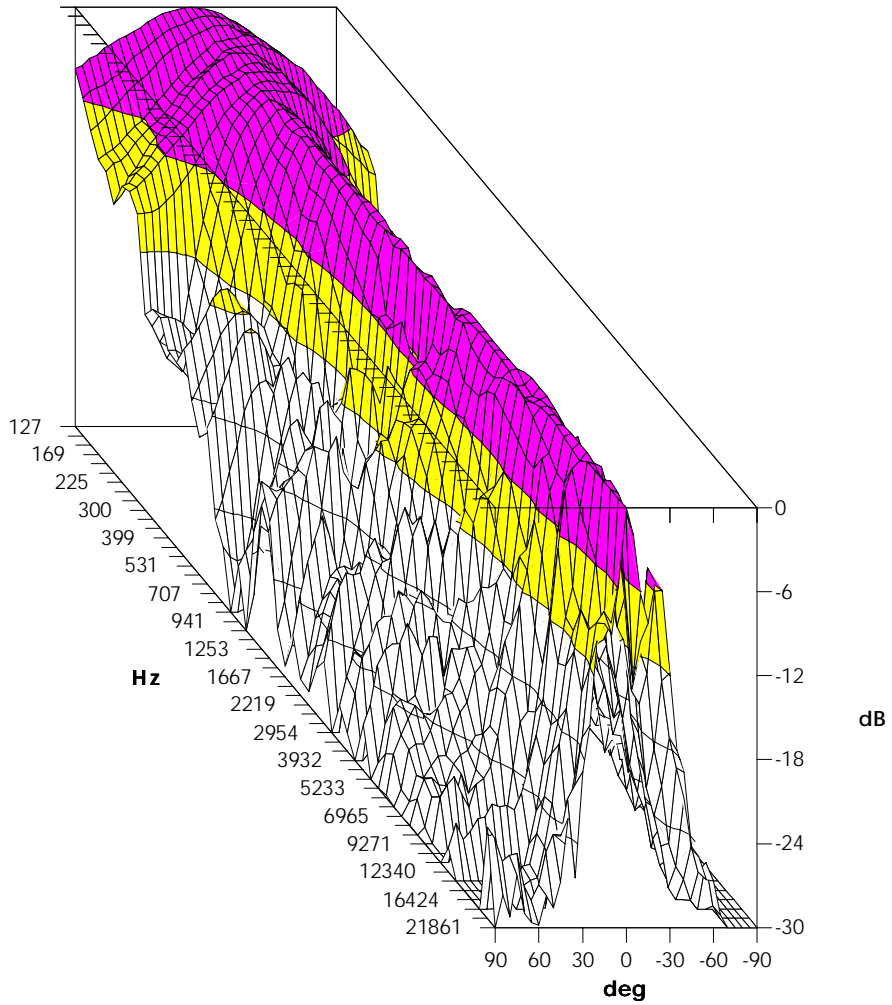
T-2212 Isobaric curves 1/1 octave averaged -6, -12 and -18 dB

T-2212 horizontal 3-D graph



T-2212 Horizontal 3-D graph 1/6 octave averaged

T-2212 vertical 3-D graph



T-2212 Vertical 3-D graph 1/6 octave averaged