

# Technical Data

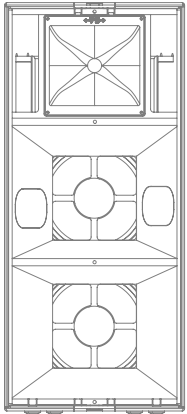
## STiUM



► we amplify emotions.



## General Information



The AD-Systems STiUM is an very compact, hornloaded fullrange loudspeaker system incorporating two 12" neodymium low-mid speakers and a high resolution 1.4" high frequency compression driver. Thanks to its acoustic design it is capable to generate sound pressure levels in excess of 140dB with low distortion. Compared to traditional designs this unit reaches a very low cutoff frequency of 100Hz and so can be used together with any common subwoofer system. Its nominal coverage pattern is 75° x 50°, but the high frequency horn is rotatable by 90° to get a 50° x 75° pattern. The loudspeaker incorporates a passive crossover and has a net weight of close to 42 kilogrammes - features which make the STiUM a highly economic and flexible product.

Corresponding with a high performance system of its class the AD-Systems STiUM is layed out as semi-active system, i.e. a complex, passive 2.5-way crossover provides phase coherent combination of both ways as well as a specifcally optimized coverage pattern, while equalizing and speaker protection is priovided by the Impuls system amplifiers. That's why the powering of the STiUM requires only one amplifier channel.

The handling of the slender, polyurea coated enclosure is pleasantly easy due to the well placed handles on both sides. The available accessories round the systems concept perfectly off: The Quick-Rig flying bar is mounted within seconds and enables easy set up due to the optimally matched pivot point. The detachable front board as well as the padded transport cover protect from dirt and rough handling effectively.

The STiUM is the preferred choice for applications, where maximum profitability meets high sound pressure requirements. Its decent shape and ease of use, its low crossover-capapbility and its remarkable output-to-weight ratio lead to a uniquely versatile system.

### Applications

- ▶ FOH system for audiences of 300 - 3,000 people
- ▶ Sidefill / Outfill / Infill / Drumfill for big stages
- ▶ fixed installation

### Features

- ▶ highly efficient, fully horn loaded loudspeaker system
- ▶ fully usable from 100Hz upwards, SPLmax >140dB
- ▶ 2x 12" high performance neodymium low-mid speakers
- ▶ 1.4" high performance neodymium compression driver
- ▶ heavily braced Baltic birch plywood, Polyurea coated

## Specifications

### Performance Data

Basic layout	2.5-way, horn loaded + bass reflex tuned, semi-active
Frequency response (-6 dB)	100 Hz - 18 kHz
Sensitivity 1W @ 1 m	108 dB (full space)
Maximum SPL	143 dB (peak @ 1 m)
Horizontal coverage (-6 dB)	75°
Vertical coverage (-6 dB)	50°
Power handling	RMS 750 W
	programme 1,500 W
	peak 3,000 W
Nominal impedance	6 Ω

### Transducers / Components

Low-mid frequency	2x 12" Nd woofer w/ 3" voice coil, membrane w/ moisture repellent coating
Nominal impedance	6 Ω
Power handling	750 W AES / 3,000 W Peak
Sensitivity	108 dB, 1W @ 1W
Horn	Exponential horn w/ phase plug
High frequency	1.4" Nd compression driver w/ 3" voice coil
Nominal impedance	8 Ω
Power handling	110 W AES / 400 W Peak
Sensitivity	111 dB, 1 W @ 1m
Horn	BEM-Horn, 75°x 50°
Crossover	2.5-way crossover w/ phase correction, division w/ 12dB/24dB at about 1.4 kHz

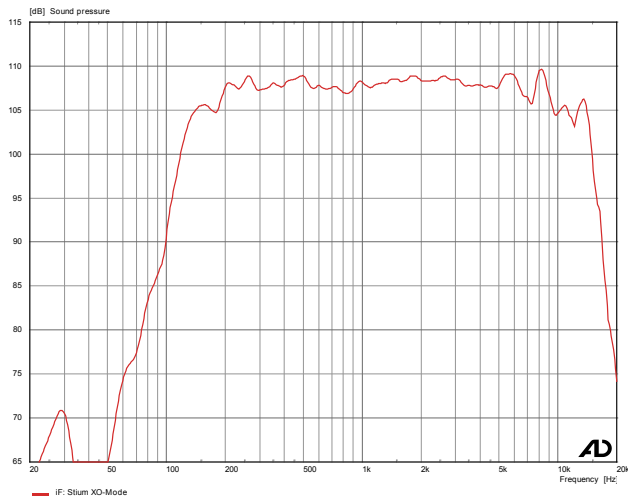
### Physical data

Enclosure	tapered shape, side angles 15° each, 15mm birch plywood, Polyurea coated
Rigging hardware	pan-tilt flying bracket made of Aluminium and Steel, powder coated in black colour
Colour	black, optionally: RAL standard colours
Protective grille	sheet steel w/ 2mm thickness, hex-stamped, powder coated, black acoustic foam on inside
Connectors	3 x Speakon NL4 MP (1+/1-)
Dimensions (W x H x D)	450 x 1020 x 420 mm
Net weight	43 kg

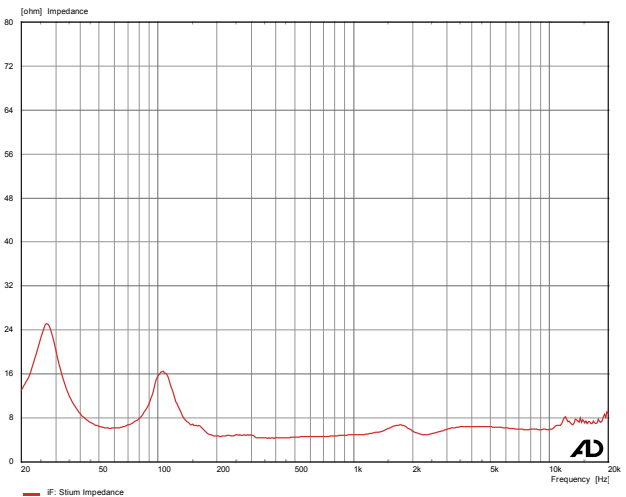


## Measurement Data

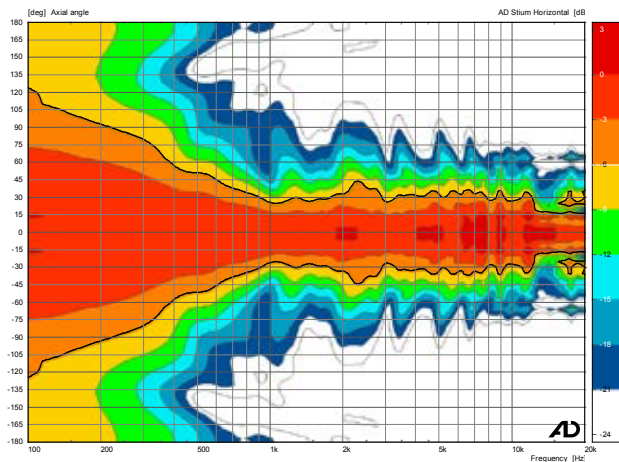
Processed frequency response



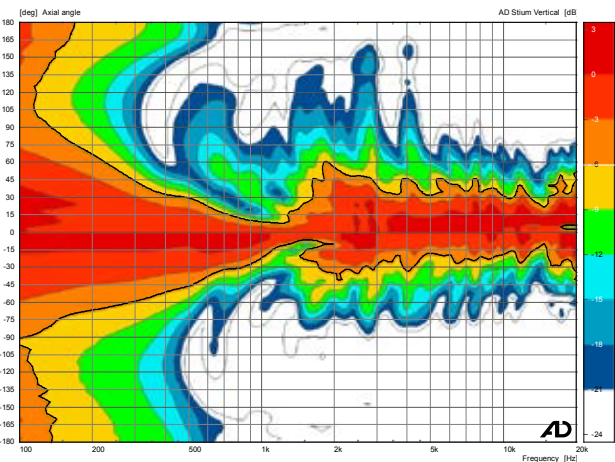
Impedance



Horizontal coverage pattern



Vertical coverage pattern



Notes on performance data and graphs:

- 1) Performance Specifications: All acoustic specifications rounded to nearest whole number.  
Either AD Impulse DSP Amplifiers or external DSP with provided settings are required to achieve the specified performance.
- 2) Frequency response: Range of the processed response, where the level stays within 6dB from nominal sensitivity.
- 3) Power Handling: Is based on the AES power handling of the transducers.
- 4) Nominal Sensitivity: SPL produced by the unit at 1 Watt at nominal impedance, referenced to 1 Meter.  
Measurement condition: Full space in the far field of the speaker. Time-windowed to approximate an anechoic environment.
- 5) Maximum SPL: Calculated from nominal sensitivity at stated peak input power.
- 6) Resolution: For better readability a 1/6 octave smoothing is applied to all response graphs shown.

All data provided are subject to change without prior notice.

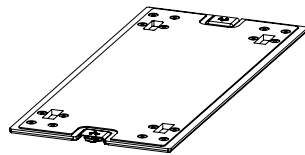


## Accessories

For perfect day-to-day usability of the STiUM system various application optimized accessories are available:

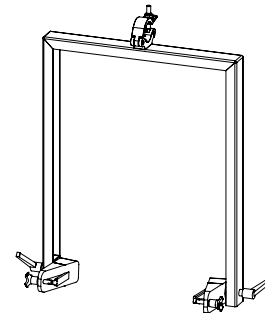
Flown applications are realized perfectly simple with the pan-tilt flying bracket, which - due to its clever design - is mounted within seconds. Simply slide the alloy runners into the sheaths on both sides of the enclosure, safe with a ball locking pin on either side, ready to fly! The pivot point is located exactly in the loudspeaker's center of gravity, so panning, tilting and locking is done almost effortless.

The detachable front board protects the loudspeaker's front and takes up optional swivel castors. Extra protection from dirt and rough handling is provided by a padded transport cover made of durable fabric.



**7011000819**  
STiUM front board

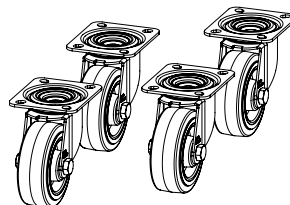
**7011000820**  
STiUM transport cover



**7011000818**  
STiUM pan-tilt flying bracket



**7011000132**  
Ball lock pin 10mm

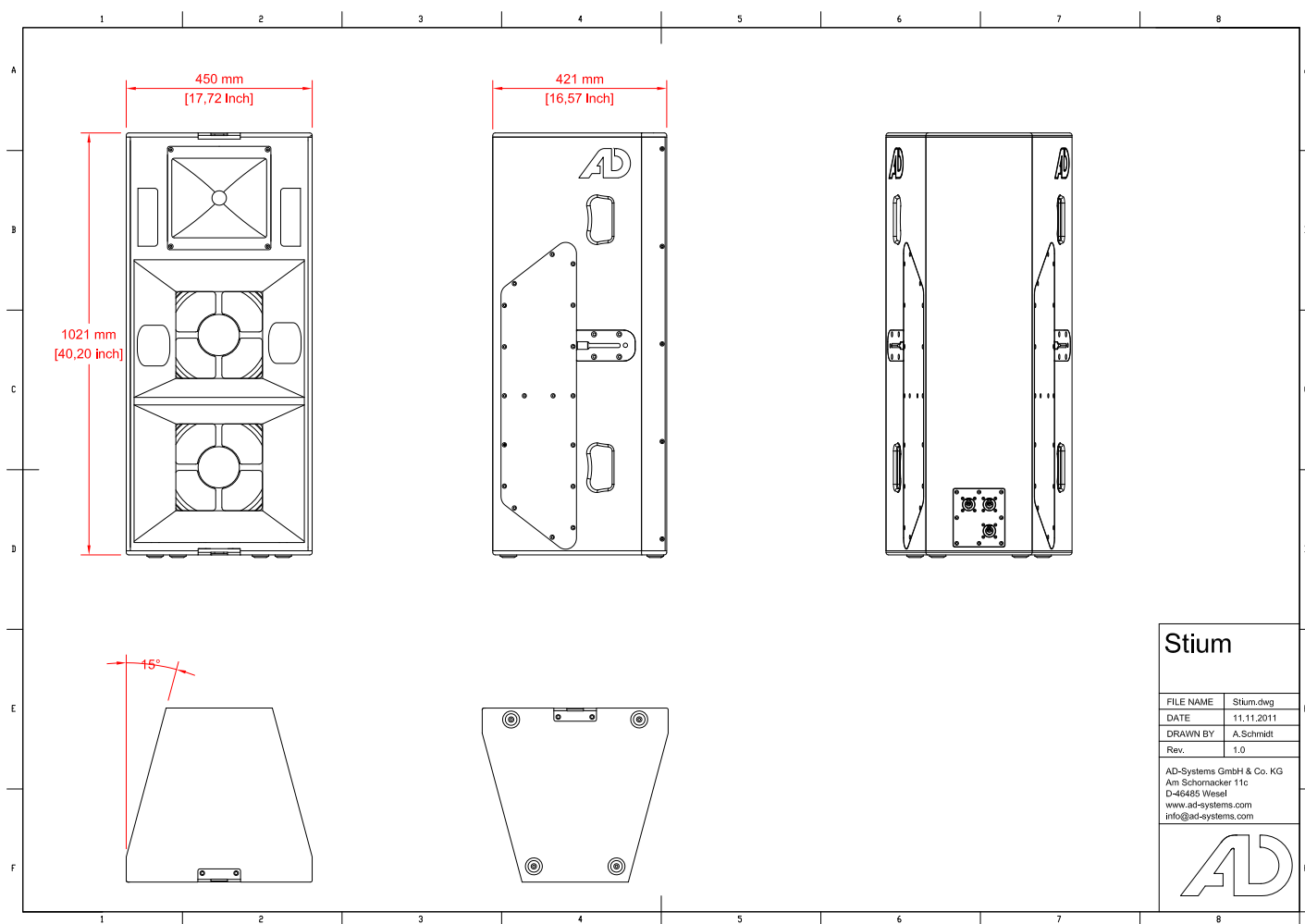


**7011000186**  
100mm swivel castor

7011000819	STiUM front board
7011000820	STiUM transport cover
7011000818	STiUM pan-tilt flying bracket
7011000132	Ball locking pin 10mm
7100000186	100mm swivel castor



## Drawings



### Stium

FILE NAME	Stium.dwg
DATE	11.11.2011
DRAWN BY	A.Schmidt
Rev.	1.0

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### Spare parts

7011000198	12" LF woofer
tba.	12" Recone kit
7100000183	1.4" (35mm) Compression Driver
7100000052	1.4" Diaphragm
7100000561	X-Over STIUM
7100000476	spare grille

## Architectural & Engineering Specifications

The professional 2.5-way fullrange loudspeaker system shall incorporate 2x 12 inch neodymium LF transducers and a 1.4 inch neodymium HF compression driver. The LF transducers shall be mounted in a vented enclosure to extend the systems frequency response down to 100Hz. The front sides of the LF transducers shall radiate into a horn with a concentric phase correction device. The HF compression driver shall be coupled to a rotatable 75° (h) x 50° (v) constant directivity BEM horn. The loudspeaker shall withstand short peaks of up to 3,000 Watt generating a maximum sound pressure level of 143 dB. System frequency response shall vary no more than +/-3dB from 100 Hz to 18 kHz measured on axis. The loudspeaker enclosure shall be tapered in shape, constructed of weatherproof Baltic birch plywood and finished in black Polyurea coating. Optionally all RAL standard colours shall be available. The loudspeaker components shall be protected by a powder coated grille made of hex-stamped sheet steel and internally attached acoustic foam in appropriate colour. Flexible and easy to use rigging hardware made of T6 aluminium and steel shall be provided. Suspended application shall be possible with a separately available flying bracket. CAAD simulation data for ULYSSES and EASE suites shall be available. The loudspeaker system shall be the AD-Systems STIUM.

### Optional features:

Pan-tilt flying bracket

Padded transport cover

Front board, optionally w/ 100mm swivel castors, non-chalking

Special colours: all standard RAL colours

### Technical specifications:

Acoustical design: Point source, passive loudspeaker, 2.5-way, horn loaded, bass reflex tuned

Components: 2x 12" low-mid woofer w/ 3" voice coil / 1.4" HF driver w/ 3" voice coil

Power handling (nominal): 750 W

Power handling (programme): 1,500 W

Power handling (peak): 3,000 W

Nominal sensitivity: 108 dB (100Hz - 1,4kHz), 111 dB (1,4kHz-10kHz)

Maximum sound pressure level: 143 dB

Frequency response: 100 Hz – 18 kHz

Nominal coverage pattern (h x v): 75° x 50° rotatable

Nominal impedance: 6 Ohm

### Features:

Enclosure: 15mm Baltic birch plywood, tapered shape, Polyurea coated

Protective grille: hex-stamped sheet steel, powder coated

Rigging hardware: T6 aluminium and steel, anodised black

Connectors: 3x Neutrik NL4 Speakon

Front design: Acoustic foam in appropriate colour behind the grille

Dimensions (W x H x D): 450 x 1020 x 420 mm

Net weight: 43 kg

CAAD simulation data: ULYSSES, EASE

Brand: AD-Systems

Model: STIUM



For more information please visit our website! There you will find also:

Autocad Files (DXF, DWG, PDF)

Measurement data for acoustical simulation in Ease and Ulysses

Manuals

Architectural & Engineering Specs

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