Allt-i-Ett Design Brief

Allt-i-Ett (Norwegian and Swedish for "all-in-one") is a complete high-performance sound system designed for those who may not have the space, budget, or desire for separate components—as well as for those who already own a full-scale audio system but want uncompromised sound in additional rooms.

Easily connected to your home network, Allt-i-Ett integrates a multi-source streamer, amplifier, and speaker system into a single cabinet. With versatile inputs and outputs, multiple high-resolution streaming options, and advanced digital signal processing (DSP), it delivers rich, room-filling sound from its precision-engineered speaker array.

Compact yet powerful, Allt-i-Ett extends the experience of a true high-end audio system to anyone, anywhere in the home, reflecting Primare's mission to deliver the best possible music and movie experiences to the widest audience.

Connection and Control

Fixed touchscreen and motorised display makes it simple to access and monitor all entertainment options directly from Allt-i-Ett.

PRISMA remote control provides control from a distance for both the Allt-i-Ett and over 160,000 models of smart TVs and Apple TV media players.

Prisma Application
- Switch between all analog and digital inputs, stored or streamed.
- Adjust volume and input sensitivity.
- Customize and rename inputs.
- Create playlists and manage queues from NAS storage.
- Wake on cast signal.
- Access Internet Radio, as well as Qobuz and TIDAL MAX streaming (up to 24-bit/192 kHz) with gapless playback.

AirPlay 2
- Supports Apple Lossless Audio Codec (ALAC) up to CD quality 16-bit/44.1 kHz.
- Streams content wirelessly from Apple devices over WiFi with lossless compression.
- iOS device is both source and controller resulting in some loss of fidelity and control responsiveness.

Bluetooth connection with high-resolution SBC, AAC, AptX, AptX-HD technologies.

Connect Platforms work as controllers to direct the Allt-i-Ett to connect directly with the associated streaming service over the internet, allowing for superior control connection and audio performance as a result of the mobile device not being the source:
- **Spotify Connect** - supports lossless playback at the highest quality offered with Spotify Premium, up to 24-bit/44.1 kHz.
- **Qobuz Connect –** supports lossless high-resolution FLAC playback up to 24-bit/192 kHz.

- **TIDAL Connect** – supports lossless high-resolution FLAC playback up to 24-bit/192 kHz.

FM and DAB+ Radio
- Built-in tuners.
- Six avourites easily saved to touchscreen preset buttons.

Additional Inputs
- HDMI eARC: High-resolution audio direct from TV.
- Dual Optical Inputs: For consoles, streamers, or players.
- Coaxial Digital Input: Detailed playback from digital sources.
- USB-A & USB-B: Local storage playback or direct streaming from computer/media server.
- Stereo RCA / MM Phono: Full support for analog sources and vinyl playback.
- Dual Ethernet ports for connection to the network and to allow for convenient connection of a NAS drive.

Speakers, Amplification and Acoustic Design
Speaker Array:
- 6 low-frequency drivers (2 front-firing, 2 rear-firing, 2 down-firing)
- 2 midrange drivers
- 2 waveguide tweeters

Amplifigation: 300 W peak output, utilising a sophisticated DSP controlled, four amplifier, two-way system:
- Two channels drive the left and right midrange and tweeter sections.
- Two channels power the left and right woofer arrays.
An active digital crossover manages the bass frequencies, while a passive crossover optimizes the midrange and high frequencies for seamless integration.

All drivers are custom-designed and purpose-built to match the unique acoustic characteristics of the Allt-i-Ett, utilising a proprietary polymer material to provide ideal lightness and stiffness unique to each driver type.

The woofer array features long-excursion drivers with a low tuning frequency, delivering powerful, controlled bass even at low power levels.

Each midrange driver sits in its own isolated chamber with non-parallel walls to minimize internal reflections. The six woofers share a single chamber for each left and right array, carefully tuned with a precisely measured amount of damping material to control internal cabinet resonances and ensure clean, natural sound.

The high-frequency waveguide is engineered to align the tweeter's dispersion pattern with that of the midrange driver, achieving smooth, balanced sound both on-axis and off-axis, while the silk dome tweeter features a cardioid shaped rear chamber to capably control back-wave energy without overdamping.

Subwoofer and Headphone Output
Subwoofer Output: With full bass management for extended low-frequency performance:
- Sub Gain sets the subwoofer gain, from -12dB (quieter) to 12dB (louder), where 0dB is the default setting.

- Sub Freq sets the crossover frequency for the subwoofer, from 10Hz to 150Hz, where 40Hz is the default setting.

Headphones:
  - Wired: 3.5 mm jack (32 ohm at 30 mW).
  - Wireless: High-quality Bluetooth transmission

Digital Signal Processing (DSP)
Foundationally, the digital signal processing in the amplifier and speaker array of the Allt-i-Ett optimizes the output of the speaker drivers within the compact Allt-i-Ett cabinet for best overall performance.

Klippel NFS 3D sound analysis system was used to carefully analyse and shape the output characteristics of the Allt-I Ett in order to determine most effective intervention by the DSP built into the amplifier and speaker array. Klippel NFS (Near-Field-Scanner 3D) performs fully automated 3D sound analysis using a single microphone and automated rig to precisely capture how audio is radiated from any loudspeaker or sound source. NFS provides detailed and comprehensive visualized and quantified sound performance data at any distance or angle in three-dimensional space — from the closest near field to the farthest listening position. This advanced system delivers a complete picture of directivity, sound power, SPL response, and many other key acoustic parameters for every type of audio product, including all-in-one systems like the Allt-i-Ett.

Sound Pressure Level / dB (re 20 µPa/V)
71 74 77 80 83 86 89 92 95 98 101
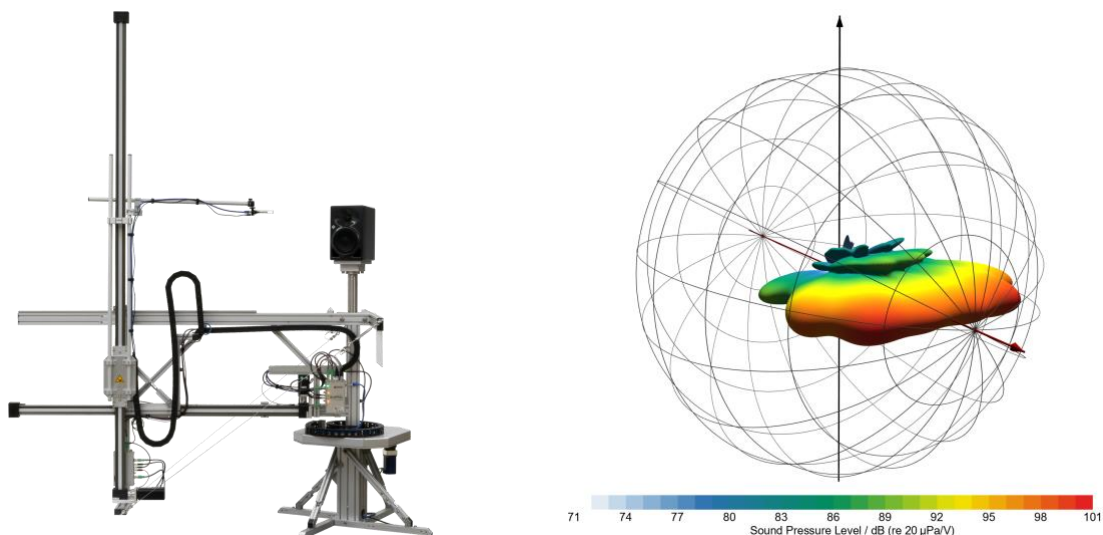
More information available can found on the Klipple website at this link.

Placement options compensate for the fact that full-range systems need to be placed a considerable distance away from the back wall to deliver smooth, linear low bass. The Allt-i-Ett, however, is usually positioned directly against a wall or even in a corner. This placement naturally amplifies bass frequencies, which can make the sound overly heavy or "boomy." To correct this, the system's built-in DSP (Digital Signal Processing) compensates for the room boundary effect (with placement setting options of free standing, wall standing or corner standing) to tailor the basic sound given the position of the Allt-i-Ett.

Loudness compensation: is also included in the DSP system. At low listening levels, it gently increases bass output to maintain a full, rich sound. As the volume rises, the DSP slightly reduces bass to keep the response linear and to protect the drivers from

overload. For larger spaces—such as open-plan living, dining, or kitchen areas—adding a subwoofer, with full bass management can further improve performance. The subwoofer takes over deep bass duties, allowing the internal drivers to operate more efficiently and cleanly at higher volumes.

Auto Room EQ - measurement and calibration system can further refine the sound by balancing the frequency response. It makes use of the natural bass reinforcement from nearby walls while optimizing the overall sound for the specific room acoustics. Key aspects of Auto Room EQ:
- Integrated into the Prisma app.
- iOS devices can measure directly
- Android requires the use of Zen wireless microphone, available seperately, which can also be used with iOS devices for improved results:
    - Transfers data to the app for processing and calibration.
    - Rechargeable, supports Bluetooth setup and 2.4 GHz WiFi.
- Calibration process:
    - Speakers emit pink noise for 30-60 seconds while device/mic is moved around the room, measuring the in room frequecy response from 20-20 kHz.
    - System analyzes room modes, applies bass filters (<300 Hz), and aligns frequency response.
- Users can further fine-tune sound using the Graphic EQ.

Graphic EQ - 11-band equalizer for precise manual tuning before and/or after Auto room eq calibration, effecting both speaker system and subwoofer output.

Bacch 3D Spaital Audio - is a technology that creates an extremely realistic 3D soundstage from standard stereo recordings by canceling out unwanted crosstalk between speakers, allowing the listener's brain to recreate the original recording's full spatial environment. It focuses on faithfully reproducing the audio, rather than upmixing or remastering content, by allowing the inherent 3D cues in well-made stereo recordings to reach the listener's ears naturally. The result is a natural, three-dimensional stereo image with real width, depth, and height.

Key Aspects of BACCH Spatial Audio Filter used in Allt-i-Ett
- Crosstalk Cancellation: The core of BACCH (Band-Assembled Crosstalk Cancellation Hierarchy) is its method of canceling crosstalk, the sound from the opposite speaker that enters each ear. Cross-talk confuses spatial cues, preventing the brain from perceiving a realistic 3D sound image. BACCH digitally removes this cross-talk, allowing the brain to perceive spatial cues that are naturally present in stereo recordings. It acts like an invisible "acoustic barrier" between your ears and the speakers, ensuring that your left ear hears only the left channel and your right ear hears only the right channel.
- Realistic 3D Soundstage: Instead of a sound limited to the speakers' physical location, BACCH creates a soundstage that extends beyond the speakers, and can even place sounds behind and above the listener, creating an immersive and realistic listening experience.
- No Tonal Distortion: Unlike some other audio processing technologies, BACCH aims to reproduce the original sound without adding any tonal coloration or loss of dynamic range. Most importantly, BACCH 3D does not alter or add effects such as reverb or artificial surround sound. Instead, it simply removes unwanted interference, allowing your ears and brain to perceive the soundstage as it was originally recorded.

- Focus on Reality: The goal of BACCH is to let the listener hear the recording as if they were present during the actual recording event, rather than simply enhancing the sound.
- Versatility: BACCH 3D works with all stereo recordings, made over the past 70 years, as well down-mixed to stereo surround sound tracks, providing an impressively realistic surround experience for movies.

More information can be found on the BACCH website at this link.

Specifications

Display & Control
- 1x fixed touchscreen
- 1x motorized display
- Prisma remote (with smart TV and Apple TV media player control)

Inputs & Outputs
- HDMI eARC/CEC: stereo PCM up to 24/48 kHz
- Optical digital: 2x, up to 32/192 kHz
- Coaxial digital: 1x, up to 32/192 kHz
- USB-A (storage, up to 2 TB; FAT32, exFAT, NTFS)
  - PCM up to 768 kHz / 32-bit
  - DSD up to DSD512
  - File types: AAC, AIFF, DSF, DFF, M4A, MP3/MP4, ALAC, FLAC, WAV, APE, WMA, OGG
- Stereo RCA / MM Phono input with ground lug
- FM and DAB+ antenna socket
- Bluetooth wireless and 3.5 mm wired headphone out
- Subwoofer output (bass management)
- Trigger out, IR out (3.5 mm), service port

Networking
- WiFi 6 (2.4 GHz and 5 GHz)
- LAN: 10/100 Mbps, dual sockets (in/out)
- Prisma UPnP/DLNA:
  - Radio (MP3 default)
  - Qobuz: up to 24/192 kHz
  - TIDAL MAX: up to 24/192 kHz
  - NAS: PCM up to 768 kHz / 32-bit; DSD up to DSD512

Streaming Protocols
- AirPlay 2
- Qobuz Connect
- TIDAL Connect
- Spotify Connect
- Bluetooth 5.0 (Rx: SBC, AAC, AptX, AptX-HD; Tx: SBC, AptX)

Amplification & Drivers
- DSP-controlled amplifier, 300 W peak
- 6x 4" woofers
- 2x 4" midrange drivers
- 2x 0.75" waveguide tweeters

DSP Features
- Placement optimization (Free, Near Wall, Corner)
- Auto Room EQ (iOS/Zen mic)
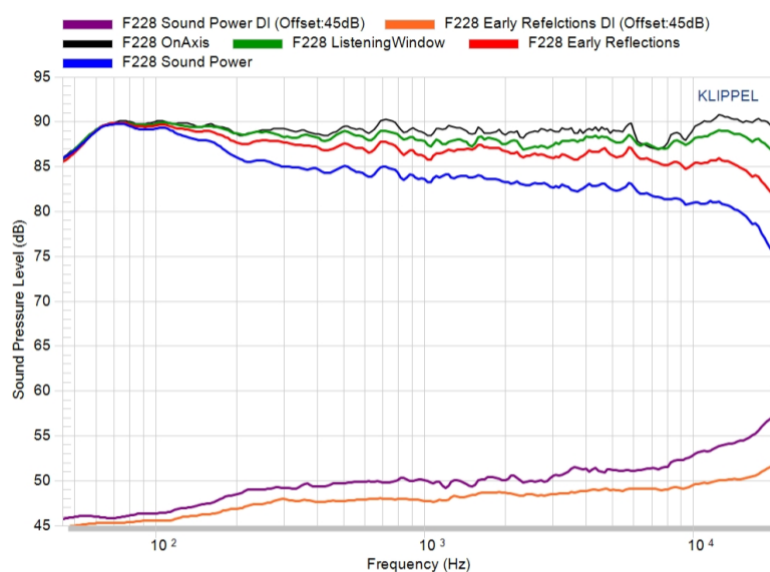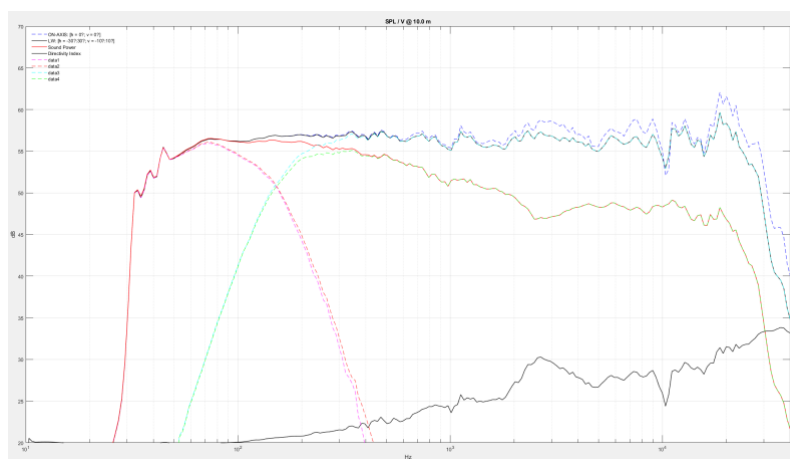- 11-band Graphic EQ
- BACCH 3D Spatial Audio

Power
- Multi-voltage (100–120 V, 220–240 V)
- Operating: 18 W
- Normal standby: 5 W (remote/app wake)
- Eco standby: <0.5 W (manual wake)
- Continuous: 300 W

Finish, Dimensions & Weight
- "Blackwood" finish
- 690 mm (W) x 303 mm (D) x 150 mm (H)
- 230 mm height with display fully raised
- Weight: 16 kg

Allt-i-Ett frequency response measurements

Specifications subject to change.