Dodecahedron Speaker Set
Omnidirectional Sound Source

Comprised of the DS3 Dodecahedron Loudspeaker and the PA3 Power Amplifier, the set generates a Pink noise signal with an acoustically-flat frequency response.

NOTE Always wear an appropriate ear protection when using the speaker set.

Standard Operation
1. Connect the PA3 to the DS3 with the supplied Speakon cable
2. Connect the PA3 to AC mains power and switch it on => the Signal ON button glows red (amplifier is muted)
3. Attach the remote control antenna to the PA3
4. Press the Signal Source button to select the required test signal => the selected Signal Source LED glows green
5. Press the Signal ON button, or the button on the remote control to unmute / mute the PA3 => the Signal ON button glows green (unmuted) / red (muted)
6. Adjust the DS3 volume using the output level control

Signal Source Selection
• EQ Pink Internal equalized Pink noise for acoustically-flat frequency response (→ see page 3, footnote 3)
• EQ Line Enables Line IN socket. Any external input signal is processed with the default DS3 equalization
• Preset 3 Internal Pink noise without equalization (for maximum output power from the DS3)
• Preset 4 Enables Line IN socket without equalization
• Preset 5 unused (available on request for a customized signal)

Line IN Socket
Connect an external signal generator to the PA3 with an XLR cable and select the Signal Source EQ Line or Preset 4.

Subwoofer Operation
Connect the PA3 to an active subwoofer with an XLR cable. Press the Subwoofer ON button => the Subwoofer ON button glows green.
### Warning LEDs, Troubleshooting

<table>
<thead>
<tr>
<th>Warning LED</th>
<th>Issue</th>
<th>Root cause</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect</td>
<td>Amplifier output is muted</td>
<td>A. The output current of the amplifier is too high</td>
<td>A. Verify the connected cable / load. Switch OFF the amplifier for &gt;20 sec.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Temperature inside amplifier is too high</td>
<td>B. Let the amplifier cool down. Verify that the built-in fan is operating.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C. The amplifier output is oscillating</td>
<td>C. Check the compatibility of the speaker (i.e. verify the load impedance).</td>
</tr>
<tr>
<td>Clip</td>
<td>Distorted output signal</td>
<td>The input signal level is too high</td>
<td>Reduce the Line IN signal volume</td>
</tr>
<tr>
<td>(none)</td>
<td>Amplifier audibly reduces the output volume (Note: this is a protection feature)</td>
<td>D. The input signal is overloading the amplifier</td>
<td>D. Select another test signal. Reduce the Line IN signal volume.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E. The impedance of the output load is too low (i.e. output power too high)</td>
<td>E. Verify or modify the load. Check for external short circuit.</td>
</tr>
</tbody>
</table>

**Output level control**

- **Mute / Unmute amplifier output**
- **Input from external signal generator**

**Signal ON**

- **Level**
- **Signal Source**
  - EQ Pink
  - EQ Line
  - Preset 3
  - Preset 4
  - Preset 5

**Subwoofer ON**

**Output to subwoofer**

*(factory use only)*

**PA3 front panel**

- **Mains power switch**
- **Mains power socket**
- **Output to dodecahedron loudspeaker**

**PA3 rear panel**

- **100-240VAC / 50-60Hz / 850W**
- **Fuse 5 x 20mm / 15,3A**
- **Speaker OUT**

**4-wire connection for DS3 loudspeaker**

**2-wire connection (Bridge mode)**

www.nti-audio.com
Specifications PA3

Maximum short-period output power
2*350 W into 2*3 Ω  |  2*260 W into 2*4 Ω  (@ 1 % THD)

Maximum continuous output power
2*160 W into 2*3 Ω  |  1*120 W into 2*4 Ω  (with internal Pink noise @ maximum level)

Load impedance
≥ 3 Ω  (4-wire connection)  or  ≥ 8 Ω  (2-wire connection / Bridge mode)

Protection
Dynamic compressor, temperature, overcurrent, DC, excessive clipping

Output connector
4-pin Speakon (chn1: 1+|1–  / chn2: 2+|2–  or  Bridge mode: 1+  / 2–)

THD
typ. 0.017 %  @ 2*120 W into 2*4 Ω, 1 kHz

Level flatness
+0 / –3.3 dB  @ 20 Hz to 20 kHz

Signal-to-noise ratio
≥ 86 dB, bandwidth 22 kHz

Damping factor
≥ 120 @ load ≥ 3 Ω and f < 2 kHz

Voltage gain
Muted | Level adjustable from –18 dB to 29.0 dB

Line IN
Input connector
XLR symmetric
Input sensitivity
0 dBu for specified output power into 2*3 Ω / 2*4 Ω  (max. gain)
20 dBu ± 11 Vp
10 dB symmetric

Subwoofer OUT
Output connector
XLR symmetric
Voltage gain
3 dB
Maximum output level
18 dBu ± 8.72 Vp
≤ 600 Ω symmetric

Filter
Lowpass 120 Hz Butterworth 24 dB / Octave (4th order); additional highpass at amplifier output will be automatically activated when the subwoofer is switched ON

Signals (selectable)
EQ Pink
Internal noise generator, equalized Pink noise (CI = 3.05)
EQ Line
External signal, equalized
Pink
Internal noise generator, Pink noise without equalization (CI = 3.4)
Line
External signal, without equalization
User
Custom specific (available on request)

Default equalization of Dodecahedron DS3
1/3 Octave
Flat acoustic frequency response from 100 Hz to 8 kHz
100 dB re 1 pW ± 3 dB
105 dB re 1 pW ± 3 dB

Warning LEDs
Clip
Line IN input
Amplifier automatically switches the output OFF at high temperature, overcurrent etc.; with auto-retry function
Protect

Controls
Signal ON
ON/OFF switch with green/red LED
Level
Knob for gain control
Signal Source
Switch for selection of output signal
Subwoofer ON
ON/OFF switch with green LED

Remote control
Function
Amplifier output ON/OFF
Transmission power
1 mW

Conformity
• EU: EMC 2014/30/EU, EN 61326-1:2013, EN 61000-3-4-x, EN 55011+A1:2009
• China: R&TTE standard 1999/5/EG; State Radio Regulation of China
• Japan: ARIB STD-T 67
• USA: 315 MHz sender: according to FCC part 15

Weight
5 kg (11 lbs)

Dimensions (L x W x H)
358 x 173 x 245 mm (14.1” x 6.8” x 9.7”)

Mains supply
100 to 240 VAC, 50/60 Hz, 550 W typical power consumption

Fuse
T6.3 A (5 x 20 mm)

Temperature, humidity
0° to +50°C (32° to 122°F)  @  ≤ 90% RH (non-condensing), active cooling with fan

Accessories (included)
• Remote control
• Carrying bag

Order information NTi Audio #
600 000 506 (433 MHz) / 600 000 510 (315 MHz, USA) / 600 000 511 (426 MHz, JP)

1): Without filtering
2): Without equalization, with 20 kHz Butterworth high pass (24 dB damping factor)
3): The ISO16283-1:2014 standard requires a minimum energy-averaged sound pressure difference between contiguous 1/3rd octave bands. This difference shall not be more than 8 dB in the source room. The PA3 'EQ Pink' signal source is designed to deliver these minimum sound pressure level differences from the DS3. This is most suitable for room insulation measurements taken in accordance with the standard.
Specifications DS3

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Nominal impedance</td>
<td>2*4.2 Ω</td>
</tr>
<tr>
<td>Maximum input power RMS</td>
<td>320 W @ 1 hour Pink noise (Crest factor Cf = 9 dB)</td>
</tr>
<tr>
<td>Maximum peak power</td>
<td>600 W</td>
</tr>
<tr>
<td>Sound power level</td>
<td>&gt; 120.0 dB re 1 pW (typical 120.5 dB re 1 pW)</td>
</tr>
<tr>
<td>Power compression</td>
<td>&lt; 1 dB (after 1 h continuous operation @ maximum power)</td>
</tr>
<tr>
<td>Equalized sound pressure level</td>
<td>PA3 amplifier output adjusted for acoustically equalized DS3 output signal</td>
</tr>
<tr>
<td>1/3 Octave</td>
<td>100 dB re 1 pW ±3 dB from 100 Hz to 8 kHz</td>
</tr>
<tr>
<td>1/1 Octave</td>
<td>105 dB re 1 pW ±3 dB from 125 Hz to 8 kHz</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>50 Hz to 10 kHz</td>
</tr>
<tr>
<td>Input connector</td>
<td>Speakon (chn1: 1+</td>
</tr>
<tr>
<td>Number of speakers</td>
<td>12 pcs. à 5” in dodecahedral configuration</td>
</tr>
<tr>
<td>Weight</td>
<td>75 kg (16.53 lbs)</td>
</tr>
<tr>
<td>Diameter</td>
<td>350 mm (13.8”)</td>
</tr>
<tr>
<td>Accessories (included)</td>
<td>• Included: Carrying bag, Speakon cable 5 m, Manufacturer Calibration Certificate</td>
</tr>
<tr>
<td></td>
<td>• Optional: Speaker stand 35 mm, 130...230 cm retractable, with carrying bag (NTi# 600 000 508)</td>
</tr>
<tr>
<td>Order information</td>
<td>NTi Audio # 600 000 507</td>
</tr>
</tbody>
</table>

DS3 frequency response @ PA3 setting 'Pink' (maximum sound power)

DS3 frequency response @ PA3 setting 'EQ Pink' (equalized)
Polar plot of DS3 @ 1 kHz and 2 kHz for horizontal plane, measured in 1.5 m distance with 3rd octave analysis (signal source: GlideSweep)

Polar plot of DS3 @ 4 kHz and 5 kHz for horizontal plane, measured in 1.5 m distance with 3rd octave analysis (signal source: GlideSweep)
Directivity of DS3 in accordance with ISO 16283-1:2014

Directivity of DS3 in accordance with ISO 3382-1:2009

All information subject to change without notice.