MULTI-CHANNEL DIGITAL POWER AMPLIFIERS
DA-250F/250FH/250D/250DH/550F/500F-HL

Top-of-the-line operation and performance efficiency
TOA Digital Amplifier technology redefines the very concept of amplifiers.

The power supply unit is the heart of the amplifier. To ensure consistently high performance and reliable operation, TOA engineers have given the DA Series a system that provides power independently to each channel. This testifies to TOA’s attitude to product development, which is always totally motivated by the desire to provide high-quality products that offer worry-free use.

Never compromise — that's the TOA philosophy.
High efficiency
Extremely high amplification efficiency of 80-90%, resulting in reduction in power consumption by more than 60% compared with Class-AB amplifiers.

Amplifier with world-class lightweight design*
Installation has become much easier thanks to the lightweight design.
*TOA comparative data (weight/watt)

Highly durable
Stands up to extended hours of operation. The DA amplifier has undergone a large number of rigorous tests to prove its durability. In addition, TOA has been conducting a “non-stop driving test” of the DA Series.

Compact design
The DA-250 Series is 1-unit size and the DA-500 Series is 2-unit size, and they can be efficiently mounted on a rack, so they require only a small installation space. Because the amplifiers do not generate much heat, 5 units can be stacked together in a rack.

High reliability
The DA amplifier has a comprehensive protection circuitry for protection against excessive current flow due to overload, short circuit, unusual DC voltage output, and heat sink temperature rise (DA-250D/DH, DA-550F/500F-HL: over 100°C, DA-250F/FH: over 110°C).

Independent power supply
Each of the channels has its own power supply. If the power supply of Channel 1 should fail, this won't affect the operation of Channels 2-4 (Channel 2 in case of DA-250D/DH). It is also possible to use one of the channels as a spare amplifier.

*FEATURES*

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**Conventional Amp.**

**DA-250 Series Amp.**

**DA-500 Series Amp.**

Power supply from transformer

Power Amplifier

**Total: 16,000W**

Conventional Amplifier

Power Amplifier

Power Supply

AC power supply

Power Amplifier

Power Supply

Power Amplifier

Power Supply

Inside of DA-250F/FH model.
Design optimization for efficient and reliable high-level performance

The TOA DA-250F/FH, DA-250D/DH and DA-550F/500F-HL multi-channel power amplifiers offer a wider choice of power ratings, advanced digital Class D amplification circuitry, and a highly efficient AC mains to output power ratio, for the complete technological superiority it takes to support long-term installation applications. These energy-efficient, space-saving amplifiers are designed to combine high levels of performance and efficiency, and are well-suited to ensure sound reinforcement reliability in a wide range of venue types. The low-impedance models are ideal for multi-zone applications such as presentation and press-conference rooms, restaurants and similar-sized locations. The high-impedance units are well-suited to such locations as exhibition halls, sports facilities, multipurpose halls and houses of worship.
MT-251H
Matching Transformer (option)

- Capacity: 0 – 250W
- Primary impedance: 100V line: 4Ω (250W), 70V line: 19.6Ω (250W)
- Secondary impedance: 100V line: 4Ω (250W), 70V line: 19.6Ω (250W), 50V line: 10Ω (250W), 35V line: 4.9Ω (250W)
- Frequency Response: 30 – 18,000Hz (+0dB, –3dB)
- Connection Terminal: M3 screw terminal, distance between barriers: 6.6mm (0.26")
- Dimensions: 108(W) × 80 (H) × 122 (D) mm (4.25" × 3.15" × 4.8")
- Weight: 2.4kg (5.29 lb)
### SPECIFICATIONS

#### Power Req.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of Channels</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total Output All Channel Driven</td>
<td>1000W (1kHz, 4Ω)</td>
<td>680W (1kHz, 8Ω)</td>
<td>1000W (1kHz, 19.6Ω)</td>
<td>500W (1kHz, 4Ω)</td>
<td>340W (1kHz, 8Ω)</td>
<td>500W (1kHz, 19.6Ω)</td>
</tr>
<tr>
<td>Output Voltage per Channel</td>
<td>31.6V (1kHz, 4Ω)</td>
<td>36.9V (1kHz, 8Ω)</td>
<td>70V (1kHz, 19.6Ω)</td>
<td>31.6V (1kHz, 4Ω)</td>
<td>36.9V (1kHz, 8Ω)</td>
<td>70V (1kHz, 19.6Ω)</td>
</tr>
<tr>
<td>Output Current per Channel</td>
<td>7.9A (1kHz, 4Ω)</td>
<td>4.6A (1kHz, 8Ω)</td>
<td>3.6A (1kHz, 19.6Ω)</td>
<td>7.9A (1kHz, 4Ω)</td>
<td>4.6A (1kHz, 8Ω)</td>
<td>3.6A (1kHz, 19.6Ω)</td>
</tr>
</tbody>
</table>

#### Power Output

<table>
<thead>
<tr>
<th>Option</th>
<th>8 ohms per channel</th>
<th>4 ohms per channel</th>
<th>16 ohms bridged</th>
<th>8 ohms bridged</th>
<th>Hi-Z 70V per channel</th>
<th>Hi-Z 140V bridged, per channel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>170W</td>
<td>250W</td>
<td>340W</td>
<td>560W</td>
<td>250W</td>
<td>500W</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
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</tbody>
</table>

#### Power Consumption*

<table>
<thead>
<tr>
<th>Idle power consumption</th>
<th>56W, 1.0A</th>
<th>58W, 1.0A</th>
<th>280W, 0.5A</th>
<th>35W, 0.7A</th>
<th>63W, 1.2A</th>
<th>69W, 1.3A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1kHz</td>
<td>8 ohms</td>
<td>1300W, 16.9A</td>
<td>1200W, 15.9A</td>
<td>580W, 7.8A</td>
<td>2800W, 35.5A</td>
<td>3600W, 33.2A</td>
</tr>
<tr>
<td>1/8 Power Pink noise**</td>
<td>8 ohms</td>
<td>252W, 4.2A</td>
<td>265W, 4.1A</td>
<td>147W, 2.3A</td>
<td>569W, 7.7A</td>
<td>594W, 7.4A</td>
</tr>
<tr>
<td>1/3 Power Pink noise**</td>
<td>8 ohms</td>
<td>597W, 8.6A</td>
<td>609W, 8.5A</td>
<td>311W, 4.5A</td>
<td>667W, 9.5A</td>
<td>437W, 6.7A</td>
</tr>
<tr>
<td>1/8 Power 1kHz</td>
<td>8 ohms</td>
<td>219W, 3.5A</td>
<td>224W, 3.6A</td>
<td>123W, 2.0A</td>
<td>277W, 4.5A</td>
<td>410W, 6.3A</td>
</tr>
<tr>
<td>1/3 Power 1kHz</td>
<td>8 ohms</td>
<td>570W, 7.3A</td>
<td>595W, 8.6A</td>
<td>958W, 13.0A</td>
<td>260W, 4.3A</td>
<td>880W, 12.2A</td>
</tr>
</tbody>
</table>

#### Frequency Response

<table>
<thead>
<tr>
<th>20Hz – 20kHz (±1dB)</th>
<th>HFP ON: 50Hz – 20kHz (±3dB), HFP OFF: 20Hz – 20kHz (±1dB)</th>
<th>20Hz – 20kHz (±1dB)</th>
<th>HFP ON: 50Hz – 20kHz (±3dB), HFP OFF: 20Hz – 20kHz (±1dB)</th>
<th>20Hz – 20kHz (±3dB), HFP OFF: 20Hz – 20kHz (±1dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>THD</td>
<td>0.1 % (1kHz)</td>
<td>0.3 % (20Hz – 20kHz)</td>
<td>0.1 % (1kHz)</td>
<td>0.3 % (20Hz – 20kHz)</td>
</tr>
<tr>
<td>S/N Ratio (A weighted)</td>
<td>100dB</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Crosstalk at 1kHz (A weighted)</td>
<td>70dB</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>DC Offset*</td>
<td>±5mV</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Voltage Gain*</td>
<td>29.5dB</td>
<td>35.1dB</td>
<td>29.5dB</td>
<td>35.1dB</td>
</tr>
<tr>
<td>Damping Factor*</td>
<td>100</td>
<td>220</td>
<td>100</td>
<td>220</td>
</tr>
<tr>
<td>Inputs</td>
<td>10kΩ (unbalanced), 20kΩ (balanced) +4dB (1.23V)</td>
<td>14V (25.1dBu)</td>
<td>10kΩ (unbalanced), 20kΩ (balanced) +4dB (1.23V)</td>
<td>12V (23.8dBu)</td>
</tr>
<tr>
<td>Protection Circuit</td>
<td>DC output, overheat protection, load shorting, overload current, maximum output</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>–10°C to +40°C (14°F to 104°F)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>Under 90% RH (no condensation)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Dimensions</td>
<td>482 (W) × 44 (H) × 401.8 (D) mm (18.98 × 1.73 × 15.82&quot;)</td>
<td>—</td>
<td>482 (W) × 88.4 (H) × 404.2 (D) mm (19.88 × 3.48 × 15.91&quot;)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>6.6kg (14.6 lb)</td>
<td>—</td>
<td>5kg (11.02 lb)</td>
<td>—</td>
</tr>
<tr>
<td>Finish</td>
<td>Panel: Aluminum, alumiite process, black/Casing: Plated steel sheet</td>
<td>—</td>
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</tr>
<tr>
<td>Accessory</td>
<td>Euro style terminal block connector (3-pin) ×4, Tamper-proof cap ×4</td>
<td>Euro style terminal block connector (3-pin) ×2, Tamper-proof cap ×2</td>
<td>Euro style terminal block connector (3-pin) ×4, Tamper-proof cap ×4</td>
<td>—</td>
</tr>
<tr>
<td>Option</td>
<td>—</td>
<td>Matching transformer: MT-251H</td>
<td>—</td>
<td>Matching transformer: MT-251H</td>
</tr>
</tbody>
</table>

* Typical data
** For a 4Ω speaker, max. output is limited to 100W
*** 1/8 power with pink noise represents typical program with occasional clipping.
**** 1/3 power with pink noise represents severe program with heavy clipping.