Resolution Series® 1811 High-Precision Power Amplifier

The fascinating new FM 1811 is the culmination of FM ACoustics efforts in 35 years of dedicated R&D. No need for many words: the Resolution Series® 1811 is the ultimate solution to highest accuracy in music reproduction.

The FM 1811 provides the new standard of excellence based on the renown Resolution Series® design. Dozens of refinements of FM ACoustics’ unique circuits are combined with new features:

- New symmetrical input stage provides the highest symmetry and most accurate balancing ever
- New ultra high-linearity driver stages
- Newly developed dual chassis eliminates mechanical resonances and reduces mechanical noise to inaudible levels
- The most dramatic output stages ever created provide absolute linearity even at ultra high currents
- New, ultra-quiet fans are controlled by special circuitry which follows the dynamics of the amplifiers performance and thermal demands. The resulting silence contributes to its dramatic dynamic rendering.
- FM ACoustics’ unique resonance isolators avoid spurious surface resonances
- Ultra high efficiency cooling with thermal envelope optimization
- Many custom-made components of singular standard and quality
- Capacitors of ultimate technology made in Switzerland to proprietary specifications
- Phenomenal hand-assembled, layered and frozen transformer uses an unique specially treated ultra high-efficiency steel and weighs only 21 kg (which is light for this kind of power).

Of course, all characteristics that have made FM ACoustics amplifiers world renown (such as singular discrete circuits, individually tuned FM ACoustics class A stages, use of hand- and listening-selected semiconductors etc.) are incorporated.

The Resolution Series® 1811 delivers incredible realism and a "be there" experience for which no words nor technical terms exist.
Specifications Resolution Series® 1811

Specifications are often misused, misunderstood, or utilized only to sell a product instead of indicating its actual performance capabilities. “Typical” specifications will not tell much about the true value of a certain component. Only guaranteed minimum data as specified for all FM ACOUSTICS products, together with carefully controlled listening tests, will provide accurate and useful information.

Please observe these distinctions if you make comparisons with other product’s data sheets. All specifications are guaranteed minimum figures for every single FM 1811 that has completed all selections, pretests, burn-in, vibration and end-tests.

The measurements and specifications below apply to a normal living room environment with a decent mains supply of 12.5A at 230V or 25A at 115V AC (like from well designed home installation). These conditions are more realistic than those which are present in a laboratory, where high-performance power supplies can be utilized. Specifications taken this way are realistically achievable results in a well designed home environment. In a laboratory environment the results may be even better. Keep this in mind when comparing the specifications below with those of other products which are taken in laboratory environments and are typical rather than guaranteed minimum.

Minimum Power Output:
Per channel, both channels operating with continuous music or continuously repetitive toneburst:

<table>
<thead>
<tr>
<th>Power Level</th>
<th>Impedance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 W&lt;sub&gt;p&lt;/sub&gt;</td>
<td>8 Ohm</td>
</tr>
<tr>
<td>1800 W&lt;sub&gt;p&lt;/sub&gt;</td>
<td>4 Ohm</td>
</tr>
<tr>
<td>3200 W&lt;sub&gt;p&lt;/sub&gt;</td>
<td>2 Ohm</td>
</tr>
<tr>
<td>500 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>8 Ohm</td>
</tr>
<tr>
<td>900 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>4 Ohm</td>
</tr>
<tr>
<td>1600 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>2 Ohm</td>
</tr>
</tbody>
</table>

100 hours operation using continuous sine wave in the audio-band at lowest distortion:

<table>
<thead>
<tr>
<th>Power Level</th>
<th>Impedance</th>
</tr>
</thead>
<tbody>
<tr>
<td>450 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>8 Ohm</td>
</tr>
<tr>
<td>750 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>4 Ohm</td>
</tr>
<tr>
<td>* 305 W&lt;sub&gt;RMS&lt;/sub&gt;</td>
<td>2 Ohm</td>
</tr>
</tbody>
</table>

*not quotable as continuous current requirement from mains would be over 25A at 230V. (Just for comparisons sake as other manufacturers use such ratings: the impulse power is more than 4500W per channel).

Max. Output Voltage: 180 V<sub>pp</sub>.

Max. Output Current:
Absolutely unlimited peak current (over 500A). More than 80A continuous per channel allows the FM 1811 to drive any known load without any effect on the audio signal. No fuses, absolutely no form of current, voltage or any other kind of limiting.

Distortion:
Average distortion: 0,005% THD

Gain: 30dB

Bandwidth including Input Filter: (-3dB)
1 Hz to 60 kHz.
If required, internally adjustable to any frequency between 1 kHz and 60 kHz (Low-Pass) and 1 Hz to 1 kHz (High-Pass).

Risetime at Full Power -3dB: 3 us

Hum and Noise:
(20Hz-20kHz).
Below full power typically: -115 dB
Min. unweighted: better than -100 dB

Input:
Proprietary, electronically balanced, discrete enhanced class A circuitry, floating ground, non-inverting or inverting mode. Optimal performance with either balanced or unbalanced (single-ended) sources. Unbalanced sources are automatically balanced right at the inputs of the FM 1811.

Input Sensitivity:
1,8 V<sub>RMS</sub> for full output

Input Impedance:
At all level settings from balanced and unbalanced sources: 40 kOhm

Input Stage Common Mode Rejection:
105 dB typically, better than 95 dB at 50Hz even better at other frequencies.

Maximum Input Level:
+20 dBm (7,75 VRMS)

Load Impedance:
No minimum impedance. Designed for below 1 Ohm to above 10'000 Ohm systems. Can drive any speaker impedance - dynamic, electrostatic, ribbon, planar etc.- without any limiting, compression or other negative effects on the audio signal. Despite this, the amplifier is fully protected against short circuits and all other adverse conditions via a unique on-board system that continuously surveys all important parameters.
Protection:  
Proprietary protection systems safeguard against adverse conditions such as short circuit, open circuit, HF Oscillation, RF interference, +DC and -DC offset, parasitic frequencies, fan inactivity, overtemperature, blocked or dirty fan filters, damage to the protection system itself, etc.

Chassis Resonance Damping:  
New dual chassis design effectively isolates sensitive electronic and mechanical components from potential negative influence such as induced resonances. Mechanical resonance damping on panels is employed. The whole chassis including cover, transformer mounting, transformer leaves, side panels, capacitor mounting etc. use specific anti-resonance technology.

Average Life Expectancy:  
At 25°C ambient temperature, medium power, 10h/day, 365 days/year: 38 years.

AC Voltage:  
either 110/120/220/240 V, 50 - 60 Hz

Maximum Mains Overvoltage:  
Short-term, not on switch-on: 160% $V_{\text{nominal}}$  
Long-term, incl. switch-on: 110% $V_{\text{nominal}}$

Power Consumption:  
At idle: 200 W$^{\text{RMS}}$  
At 30% power: 1400 W$^{\text{RMS}}$  
At full power: 3600 W$^{\text{RMS}}$  
With dynamic signals: 10000 W$^{\text{peak}}$ repetitive

Mains Supply Requirement:  
To deliver its promise the FM 1811 requires high-quality low-impedance mains power. No mains voltage drop when supplying:  
25A continuous, 100A$^{\text{peak}}$ at 110V - 120V  
12.5A continuous, 50A$^{\text{peak}}$ at 220V - 240V

Operating Temperature:  
-20°C to +40°C

Operating Humidity:  
Short-term: 0 to 95%  
Long-term: 0 to 85%  
Amplifier works perfectly in high humidity areas but continuous high humidity may somewhat shorten life time of certain components.

Burn-in Time at Factory:  
Minimum 100 hours (500 thermal cycles)

Vibration Test at Factory:  
Minimum 60 minutes (50'000 vibration cycles)

Input Connectors:  
Female XLR 3-pin balanced:  
Non-inverting: Pin 1: ground  
Inverting: Pin 1: ground  
Pin 2: return (cold) Pin 2: signal (hot)  
Pin 3: signal (hot) Pin 3: return (cold)

Output Connectors (on FORCELINES):  
FORCEPLUG 200, ultra low-loss high-performance connectors.  
Continuous current handling = 200A, 1200A$^p$  
FORCELINES 3 are required

Spare Parts Availability:  
Guaranteed available for a minimum of 10 years. Ex stock availability of 99% of all individual parts.

Weight:  
45 kg net  
50 kg packed

Dimensions:  
430 mm wide  
260 mm high  
550 mm deep

IEC, DIN and MIL (Military) Standards of components used:  
IEC 68 = 55/155/56 DIN 384-4  
IEC 68 = 55/085/21 DIN 40040  
IEC 144/IP 65 DIN 40046  
IEC 40/100/56 DIN 40050 P 54  
IEC 115-1 DIN 41332 TYPE IIA  
IEC 384-9 DIN 44061  
IEC 384-8 IB DIN 44112  
IEC 68: 2-6 DIN 44356  
IEC 68: 55/085/056 DIN 45910 PART 1201  
IEC 68: 55/200/56 DIN 45921-107  
MIL-R-STD 202 method 101, 103, 106, 204, 213, 301  
MIL-R-11804/2B/G  
MIL-R-22097  
MIL-R-10509  
MIL-R-55182  
MIL-R-22684  
MIL-R-45204 TYPE 2  
MIL-R-23285  
MIL-C-19978 B  
MIL-VG-95-295  
MIL-S-23190 R.I.N.A. NR. 5/206/85

Due to continuous research, FM ACOUSTICS LTD. reserves the right to change specifications without further notice.

"You've never heard it so good"

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