

# ONE 120.4 DSP

4-channel AB class amplifier with Digital Signal Processor

[ Rev 2.0 – 2012.04 ]

## CEA-2006-A SPECIFICATIONS

**POWER RATING:** 120 Watt per channel @ 4 Ohm < 1% THD+N  
**SN RATIO:** >67 dBA (reference: 1 Watt into 4 Ohm)

## MOS SPECIFICATIONS (Tcase = 25 °C / 4 Ohm stereo / 0.2V input level @ 14.4 Volt if not otherwise specified)

**TARGET POWERS:**  
120 Watt x 4 - ST @ 4 Ohm  
165 Watt x 4 - ST @ 2 Ohm  
330 Watt x 2 - BTL @ 4 Ohm

**EFFECTIVE POWERS:**  
120 Watt (92 Watt @12V6) x 4 @ 4 Ohm / ST mode / 1% THD / 1KHz - 51.9 A (η = 64.1 %)  
168 Watt (129 Watt @12V6) x 4 @ 2 Ohm / ST mode / 1% THD / 1KHz - 87.2 A (η = 53.5 %)  
336 Watt (258 Watt @12V6) x 2 @ 4 Ohm / BTL mode / 1% THD / 1KHz - 87.2 A (η = 53.5 %)

**THD @ 4 Ohm / ST mode:** < 0.20 % (1KHz / 90% Power rating ref)  
**THD @ 2 Ohm / ST mode:** < 0.20 % (1KHz / 90% Power rating ref)  
**DIM @ 4 Ohm / ST mode:** < ---- % (Power rating ref)  
**DIM @ 2 Ohm / ST mode:** < ---- % (Power rating ref)

**DC-DC converter typology:** Unregulated  
**Conversion frequency:** 45 KHz (± 6 %)  
**Absolute maximum operation supply voltage range:** 10.5 V ÷ 15 V  
**Recommended operation supply voltage range:** 11 V ÷ 14.4 V  
**Power-on/Power-off Voltage Threshold:** 9.5 V / 8.0 V  
**Mute delay time:** 3 secs  
**Secondary voltages (Amp. / Driver / Pre.):** ±36.7 V / ±13.6 V / ±14.9 V  
**Max output offset voltage (each channel):** ±15 mV  
**Standby current:** < 0.1 mA (typical)  
**Quiescent consumption @ 12V6 / 14V4:** 0.82 A / 0.88 A (no idle current regulation)  
**Idle current regulation @ 14V4 (no signal):** 0.05 A (each trimmer)  
**Quiescent consumption @ 12V6 / 14V4:** 0.90 A / 0.98 A (with idle current set)  
**Thermal protection consumption:** ≈ 0.2 A  
**Battery ground vs secondary ground decoupling:** 1 KOhm  
**Body ground vs battery ground decoupling:** 68 Ohm  
**Bandwidth (-3dB ÷ 1 Watt):** < 5 Hz ÷ 20 KHz  
**Input sensitivity (Power rating ref):** 0.28 Vrms ÷ 5.7 Vrms [Low Level] / 0.8 Vrms ÷ 16 Vrms [High Level]  
**Input impedance @ 1 KHz (STEREO input):** 11 Kohm [Low Level] / 47R [High Level]  
**Input capacitance @ 1 KHz (STEREO input):** 10 nF [High Level]  
**Input ground decoupling:** 47R [Low Level] / 50 Kohm [High Level]  
**S/N ratio (AP filter 10 Hz - 500 KHz) – Power rating ref:** 68 dB  
**S/N ratio (AP filter 10 Hz - 22 KHz) – Power rating ref:** 87 dB (“A” weighted)  
**Eq. Input noise (AP filter 10 Hz - 500 KHz):** 118 uV  
**Eq. Input noise (AP filter 10 Hz - 22 KHz):** 13.3 uV (“A” weighted)  
**Channel separation @ 100Hz / 1KHz / 10KHz – 10 Watt ref:** 61 dB / 61 dB / 56 dB  
**Features:** DSP onboard (configurable with PC)  
AUX-IN autosensing mode  
High Low Adapter Front & Rear [auto switch-on (BTL/SE)]  
88 °C (±5°C)  
50 °C (±5°C)  
104 / 128 [Front] - 100 / 118 [Rear]  
104 / 131 [Front] - 97 / 118 [Rear]  
89 / 109 [Front] - 95 / 85 [Rear]  
2 Ohm / 4 Ohm (Stereo / Bridged)  
2x40 A (onboard)

**Thermal cutoff Threshold:**

**Cooling Fan Temperature Threshold:**

**Damping factor @ 100 Hz - 10 Watt ref (Right / Left):**

**Damping factor @ 1 KHz - 10 Watt ref (Right / Left):**

**Damping factor @ 10 KHz - 10 Watt ref (Right / Left):**

**Load drive limitations (\*):**

**Suggested fuse:**

(\* VERY IMPORTANT NOTE - READ CAREFULLY)

4 Ohm ST or 8 Ohm BTL – CONTINUOUS SINEWAVE SIGNAL – pure resistive load or speaker load

2 Ohm ST or 4 Ohm BTL – MUSICAL SIGNAL – pure resistive load or speaker load