

iK81

iKON⁸

High Power, Eight-Channel Class D Amplifier





Features

- Eight channels of efficient Class D amplification
- Very high power density in 2U rack height
- 10,000 Watts total power output
- High performance 96kHz DSP on all inputs and outputs (48kHz on outputs when implementing FIR filters)
- Switch mode power supply
- Global mains operation, 85V to 240V auto-sensing
- Intuitive, user-friendly, front panel interface
- Analogue, AES3 and Dante[™] digital audio network inputs
- Ethernet network for system control and monitoring via Martin Audio VU-NET™ software application
- Comprehensive protection and monitoring functions

Applications

- Dedicated controller amplifier for Martin Audio WPM line array
- Versatile multi-channel amplification for Martin Audio loudspeaker systems

The iKON iK81 is an advanced 8-channel power amplifier which combines very high power density with superb audio performance, state-of-the-art DSP and network control. A dedicated controller amplifier for the Martin Audio Wavefront Precision WPM line array, the iK81 can also provide multi-channel amplification across the Martin Audio loudspeaker range.

The iK81 can deliver a full 1250 watts per channel into 2, 4 or 8 ohms with all channels driven while remaining highly efficient. Its high efficiency reduces the energy drawn from the mains supply and ensures the power reserves needed to deliver superb sound under arduous live conditions.

Ethernet is used for system remote control and monitoring via Martin Audio's VU-NET software application, while a user-friendly front panel interface allows full local control of all features. Dante digital audio network inputs are also provided for digital audio distribution and control.

Powerful DSP is fully integrated into the iK81 to provide a multitude of features. It also provides up to 1000 FIR filter taps @ 48kHz on each output channel, which is essential to implement DISPLAY's wide bandwidth optimisation process in the WPM line array. The iK81 employs comprehensive protection functions to maintain safe operating conditions of both the amplifier and the loudspeakers driven — including a sophisticated loudspeaker limiter suite which incorporates peak, RMS and excursion limiting, as well as multiband limiting for passive 2-way systems.



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IKON Power Draw & Thermal Dissipation

| Sleep mode (slow wake up) | | | | | |
|--------------------------------|--------|-----------------|---------------------|---------|--------|
| AC Mains Power Draw (Watts) | | nt Draw nps) | Thermal Dissipation | | |
| Diaw (Watts) | 120Vac | 230Vac | Watts | kcal/hr | btu/hr |
| 4.5 | 0.4 | 0.2 | 4.5 | 4 | 15 |

| Standby mode (fast wake up) | | | | | |
|--------------------------------|------------------------|--------|---------------------|---------|--------|
| AC Mains Power Draw (Watts) | Current Draw (Amps) | | Thermal Dissipation | | |
| | 120Vac | 230Vac | Watts | kcal/hr | btu/hr |
| 60 | 1.0 | 0.5 | 60 | 52 | 205 |

| Running with no audio signal | | | | | |
|--------------------------------|------------------------|--------|---------------------|---------|--------|
| AC Mains Power Draw (Watts) | Current Draw (Amps) | | Thermal Dissipation | | |
| | 120Vac | 230Vac | Watts | kcal/hr | btu/hr |
| 204 | 3 | 1.55 | 204 | 175 | 696 |

| | Running (all channels driven) | | | | | | | |
|--------------------------|-------------------------------|---------------------------|------------------------|--------|---------------------|---------|--------|------|
| Load Load Mode (ohms) | | Input power (Watts) | Current Draw (amps) | | Thermal Dissipation | | | |
| | ractor | | 120Vac | 230Vac | Watts | Kcal/hr | Btu/hr | |
| 2 Ohm | 2 | 1/8, cf = 4.0 (12dB) | 1703 | 20.4 | 10.6 | 453 | 390 | 1547 |
| 2 Ohm | 4 | 1/4, cf = 2.8 (9dB) | 1652 | 19.8 | 10.3 | 402 | 345 | 1371 |
| 2 Ohm | 4 | 1/8, cf = 4.0 (12dB) | 938 | 11.9 | 6.2 | 313 | 269 | 1069 |
| 4 Ohm | 4 | 1/4, cf = 2.8 (9dB) | 2967 | 31.6 | 16.5 | 467 | 401 | 1592 |
| 4 Ohm | 4 | 1/8, cf = 4.0 (12dB) | 1617 | 20 | 10.4 | 367 | 315 | 1251 |
| 4 Ohm | 8 | 1/4, cf = 2.8 (9dB) | 1605 | 19.2 | 10.0 | 355 | 305 | 1211 |
| 4 Ohm | 8 | 1/8, cf = 4.0 (12dB) | 920 | 16.6 | 6.1 | 295 | 254 | 1007 |
| 8 Ohm | 8 | 1/4, cf = 2.8 (9dB) | 2825 | 33.1 | 17.3 | 325 | 279 | 1109 |
| 8 Ohm | 8 | 1/8, cf = 4.0 (12dB) | 1567 | 18.48 | 9.6 | 317 | 272 | 1081 |

Notes

- The amplifier was configured to have no audio processing
- Measurements were performed with a Hameg HM8115-2 power analyser
- All measurements were done at 230Vac, 50Hz.
- The Current Draw figures for 120Vac are calculated



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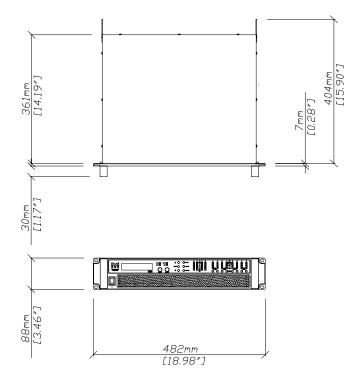
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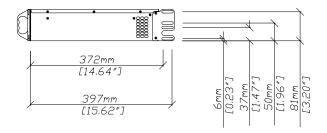
Technical Specifications

| General | |
|--------------------------------|---|
| TYPE | Eight-channel Class D amplifier |
| POWER OUTPUT* | 1250W into 2 ohms |
| | 1250W into 4 ohms |
| | 1250W into 8 ohms |
| | 2500W bridged per channel pair, 4 or 8 ohms |
| CV LINE OUTPUT* | 625W, 25V line |
| | 1250W, 70V line |
| | 1250W, 100V line |
| DIGITAL SIGNAL PROCESSING | 96kHz/48kHz DSP on all inputs and outputs |
| COOLING | Dual vari-speed fans, front-to-back airflow |
| MAXIMUM AMBIENT TEMPERATURE | 40°C (104°F) |
| Audio Inputs/Outputs | |
| ANALOGUE IN/LINK (4 CHANNELS) | 4 x female, 4 x male Neutrik™ XLR |
| ANALOGUE INPUT IMPEDANCE | 20kΩ balanced to ground |
| MAXIMUM ANALOGUE INPUT LEVEL | +20dBu |
| AES3 IN/LINK (2 CHANNELS) | 1 x female, 1 x male Neutrik™ XLR, balanced |
| DANTETM (4 CHANNELS) | 2 x shielded RJ45, primary and secondary |
| AMPLIFIER OUTPUTS | 4 x Neutrik Speakon TM NL4 |
| Audio Performance | TATIONALIN OPPONION TIET |
| DYNAMIC RANGE | >113dBA, analogue input |
| 2110111101111102 | >114dBA AES/Dante™ input |
| FREQUENCY RESPONSE | 7Hz-30kHz (-2.5dB points, 4 ohm load) |
| TOTAL HARMONIC DISTORTION | <0.05% typical @ 1kHz, 4 ohm load |
| SLEW RATE | >60V per microsecond |
| DAMPING FACTOR | >800 at amplifier output, ref 8 ohms |
| Control and Monitoring Network | |
| PROTOCOL | Ethernet |
| CONTROL APPLICATION | Martin Audio VU-NET TM |
| Digital Signal Processing | marchi riadio vo rizi |
| SAMPLE RATE | 96kHz (48kHz for FIR filter implementation) |
| PHYSICAL INPUTS | 4 x analogue, 2 x AES, 4 x Dante TM inputs |
| | routable to four DSP drive modules |
| DRIVE MODULE INPUT DSP | Input signal routing, delay, gain, HPF, Phase, Mute |
| DITTE MODULE IIII OT DOI | EQ: 2 x low shelf, 6 x PEQ/bandpass and FIR |
| | shelving filters |
| DRIVE MODULE OUTPUT DSP | Source, delay, gain, Phase, Mute, crossover filters, |
| DRIVE MIODOLL COTT OT DOI | limiters |
| | EQ: low shelf, 8 x PEQ / band pass and shelving |
| | filters |
| Power Supply | Intoio |
| ТҮРЕ | High performance Series Resonant |
| AC INPUT OPERATING RANGE | 85 – 240V ~ AC, 47 - 63Hz |
| MAINS INRUSH CURRENT | 6A at 115V, 12A at 230V (max for <10ms) |
| MAINS CONNECTOR | Neutrik 32A Powercon TM |
| Physical | HOULIN OLIT I OTTOIOUII |
| DIMENSIONS | (W) 482 x (H) 2U/88mm x (D) 441mm |
| J.III.ETTOTOTTO | (W) 18.98in x (H) 2U/3.46in x (D) 17.35in |
| | incl handles and optional rear support |
| WEIGHT | 12.5kg (27.5lbs) |
| | 22.0.0 (2.10100) |

^{*} RMS output power per channel, all channels driven with continuous program material and a nominal ambient temperature of $40^{\circ}C$ /105°F







Trade Descriptions Act

Due to Martin Audio's policy of continuing improvement, we reserve the right to alter these specifications without prior notice. Martin Audio is committed to refining state of the art sound reinforcement, combining in-depth product and field applications research with advanced manufacturing techniques. Every Martin Audio product is built to the highest manufacturing standards and rigorously tested to ensure that it meets the performance criteria specified in the design.



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