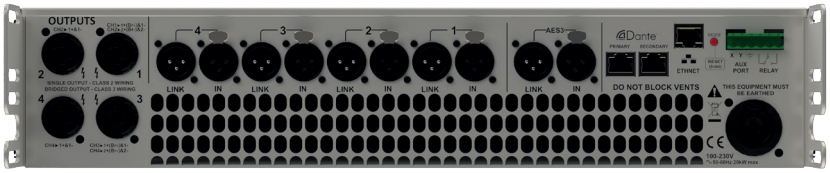
iK41

Four-channel 6000W Class D Power Amplifier





Features

- Four channels of efficient Class D amplification
- High power density in 2U rack height
- Up to 6,000 Watts total power output, depending on load impedance
- 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 operation, control and monitoring via Martin Audio VU-NET™ software
- Comprehensive protection and monitoring functions

Applications

- Dedicated controller amplifier for WPM, TORUS 8 and select other systems.
- Versatile multi-channel amplification for select Martin Audio loudspeakers

The iKON iK41 is an advanced 4-channel power amplifier which combines high power density with superb audio performance, state-of-the-art DSP and network control. A dedicated controller amplifier for Martin Audio WPM line arrays, TORUS 8, and selected other systems, the iK41 can also provide multi-channel amplification for select Martin Audio loudspeakers.

iK41 can deliver a full 1500 watts per channel into 4Ω and 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 iK41 to provide a multitude of features that ensure maximum performance of select loudspeaker systems. 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 WPM line array systems.

The iK41 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)	Current Draw (Amps)		Thermal Dissipation		
	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
132	2	1	132	114	450

Running in 2 Ohm mode* (all channels driven)								
Load Mode	Load (ohms)	Signal duty & Crest Factor	Input power (Watts)	Current Draw (amps)		Thermal Dissipation		
				120Vac	230Vac	Watts	Kcal/hr	Btu/hr
2 Ohm	2	1/8, cf = 4.0 (12dB)	1022	12.8	6.7	272	234	928
2 Ohm	4	1/4, cf = 2.8 (9dB)	991	12.5	6.5	241	207	822
2 Ohm	4	1/8, cf = 4.0 (12dB)	563	7.9	4.1	188	162	642
4 Ohm	4	1/4, cf = 2.8 (9dB)	1780	21.1	11	280	241	955
4 Ohm	4	1/8, cf = 4.0 (12dB)	970	11.5	6	220	189	751
4 Ohm	8	1/4, cf = 2.8 (9dB)	963	11.5	6	213	183	727
4 Ohm	8	1/8, cf = 4.0 (12dB)	552	7.3	3.8	177	152	604
8 Ohm	8	1/4, cf = 2.8 (9dB)	914	10.8	5.7	164	141	558
8 Ohm	8	1/8, cf = 4.0 (12dB)	536	7.1	3.7	161	138	549
100V	-	1/8, cf = 4.0 (12dB)	758	9	4.7	177	152	604
70V	-	1/8, cf = 4.0 (12dB)	970	11.5	6	220	189	751
25V	-	1/8, cf = 4.0 (12dB)	538	7.1	3.7	196	168	669

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
- 100V mode is limited to 77.5Vrms

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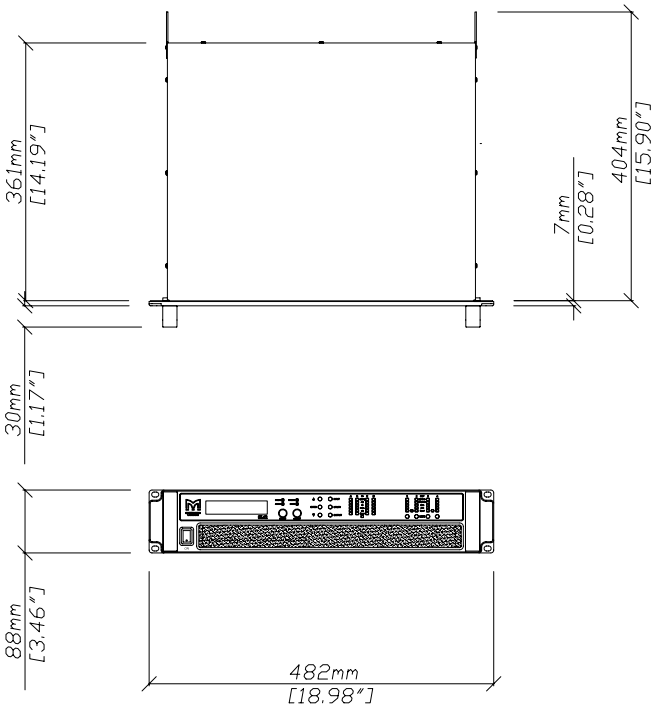
iK41

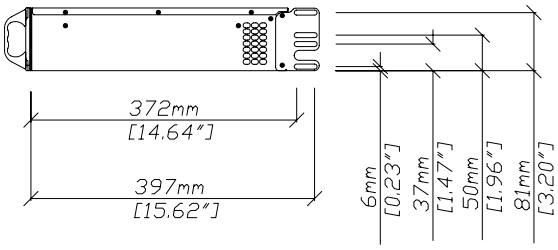
Four-channel 6000W Class D Power Amplifier

Technical Specifications

General	
TYPE	Four-channel Class D amplifier
POWER OUTPUT*	1500W into 2Ω 1500W into 4Ω 750W into 8Ω 325W into 16Ω 3000W bridged per channel pair, 4Ω 3000W bridged per channel pair, 8Ω
CV LINE OUTPUT*	685W, 25V line 1500W, 70V line 1163W, 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 (105°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
DANTE™ (4 CHANNELS)	2 x shielded RJ45, primary and secondary
AMPLIFIER OUTPUTS	4 x Neutrik Speakon™ NL4
Audio Performance	
DYNAMIC RANGE	>113dBA, analogue input >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™
Digital Signal Processing	
SAMPLE RATE	96kHz (48kHz for FIR filter implementation)
PHYSICAL INPUTS	4 x analogue, 1 x AES pair with link output, 4 x Dante™ inputs routable to four DSP drive modules
DRIVE MODULE INPUT DSP	Input signal routing, delay, gain, HPF, Phase, Mute EQ: 2 x low shelf, 6 x PEQ/bandpass and FIR shelving filters
DRIVE MODULE OUTPUT DSP	Source, delay, gain, Phase, Mute, crossover filters, limiters EQ: low shelf, 8 x PEQ / band pass and shelving filters
Power Supply	
TYPE	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™
Physical	
DIMENSIONS	(W) 482 x (H) 2U/88mm x (D) 441mm (W) 18.98in x (H) 2U/3.46in x (D) 17.35in incl handles and optional rear support
WEIGHT	12.5kg (27.5lbs)







* RMS output power per channel, all channels driven with continuous program material and a nominal ambient temperature of 40˚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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Loudspeaker Compatibility

The following table provides compatibility of iK41 with core Martin Audio loudspeakers.

	16 Ω	8 Ω	4 Ω	2 Ω	8 Ω Bridged	4 Ω Bridged
	325w	750w	1500w	1500w	3000w	3000w
CDD						
CDD5	N/A	✓	✓	✓	N/A	N/A
CDD6	N/A	✓	✓	✓	N/A	N/A
CDD8	N/A	✓	✓	✓	N/A	N/A
CDD10	N/A	✓	✓	✓	N/A	N/A
CDD12	N/A	✓	✓	-1.5dB	N/A	N/A
CDD15	N/A	-0.2dB	-0.2dB	×	N/A	N/A
FlexPoint						
FP4	✓	✓	✓	✓	N/A	N/A
FP6	✓	✓	✓	✓	N/A	N/A
FP8	N/A	✓	✓	✓	N/A	N/A
FP12	N/A	✓	✓	×	N/A	N/A
FP15	N/A	-1.2dB	-1.2dB	×	N/A	N/A
LE Monitors						
LE100	N/A	✓	✓	✓	N/A	N/A
LE200	N/A	-0.2dB	-0.2dB	×	N/A	N/A
O-LINE						
O-Line	✓	✓	✓	✓	N/A	N/A
SX Subwoofers						
SX110	N/A	✓	✓	✓	×	×
SX210	N/A	✓	✓	✓	×	×
SX112	N/A	✓	✓	✓	×	×
SX212	N/A	N/A	-0.3dB	×	N/A	×
SX115	N/A	×	×	×	✓	-0.3dB
SXC(F)115	N/A	×	×	×	✓	-1.2dB
SX215	N/A	N/A	×	×	N/A	-0.3dB
SX118	N/A	×	×	×	✓	-1.2dB
SXC(F)118	N/A	×	×	×	✓	-1.2dB
SX218	N/A	×	×	×	✓	-1.2dB
SXH(F)218	N/A	×	×	×	N/A	×
TORUS						
T8	N/A	✓	✓	✓	N/A	N/A
T12	N/A	-0.2dB	-0.2dB	×	N/A	N/A
Wavefront Precision						
WPM	✓	✓	✓	✓	N/A	N/A
WPS	N/A	✓	✓	×	N/A	N/A
WPC	N/A	×	×	×	N/A	N/A
WPL	N/A	×	×	×	N/A	N/A
XE Monitors						
XE300	N/A	✓	✓	✓	N/A	N/A
XE500	N/A	×	×	×	N/A	N/A

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