Unica 4T

4-Channel Amplifier Platform for Touring Applications

1U · **4** CHANNELS · RECYCLING ENERGY · **PoE+** · DANTE EMBEDDED · **DSP** ON BOARD · HYPERCMRR · **3rd PARTY** CONTROL & MONITORING · AUDIO NETWORK · ROUTING CHANNEL · POWER SHARING · SAFETY RELIABILITY · **A+** ARMONIA

The touring version of Unica™ is a compact, 1RU amplifier platform developed for rental companies and live shows. This 4-channel version features a 20.8kW total power model, keeping true the power density of the Unica™ platform.

The output channels can deliver up to 7500W @ 2.7 Ω for the 20K4T model when asymmetrically loaded. The power supply allows worldwide operation (100-240VAC), and it is equipped with the latest generation of single-stage power factor correction (PFC). The proprietary Smart Rails Management (SRM) allows the supply rails to adapt in real-time to the required output voltage to maximize efficiency and reduce idle losses.

Unica™ platform features Powersoft's next-generation DSP for state-of-the-art processing and pristine audio performance. The three 1Gb Ethernet ports, along with the native Dante™ and AES67 support, allow for different network topologies, including daisy-chain and Dante™ redundant.

Studio-grade Galvanically Insulated Analog Inputs for each channel provide immunity to noise coupling, excellent common mode rejection ratio (>90dB up to 1KHz), and abuse tolerance on the analog inputs.

The front panel display allows quick access to the amplifier operating status, including headroom, input levels, and more information for local monitoring.

Custom Ruggedized Phoenix Connectors Housings, designed for heavy-duty applications, provide strain relief and quick locking/unlocking functionality (pat. pending).

Lastly, Unica™ Series amplifiers natively support cloud connectivity for remote monitoring and control from any device anywhere in the world via the Powersoft Cloud.

▶ Large scale touring systems
▶ Arena & concert halls
▶ Stadiums & open-air venues
▶ Multi-zone venues & live clubs
▶ Mission critical applications
▶ Theaters, performace venues
▶ Houses of worship

Unica 4T

4-Channel Amplifier Platform for Touring Applications
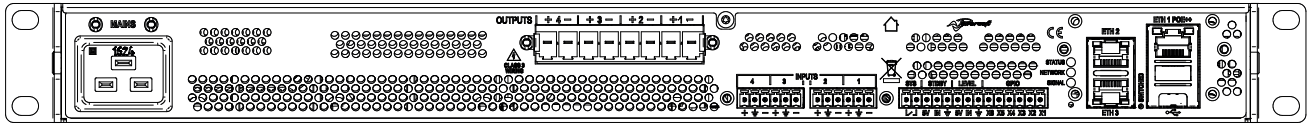
Specifications

Channel Handling		
Number of output channels	4 (bridgeable per ch. pair)	Phoenix PC 5/8-STF1-7,62 (with patent pending shells)
Number of input channels		
Analog	4	Phoenix MC 1,5/6-ST-3,81 (with patent pending shells)
Dante/AES67	8	3 x RJ45

Audio		
Default gain	32 dB	
	20K4	
Input sensitivity	3.9 V$_{rms}$ 14 dBu	
Output noise floor (Analog Input)	-72 dBV(A) typical	
SNR (Analog Input)	116 dB(A)	
Output noise floor (Dante™ Input)	-76 dBV(A) typical	
SNR (Dante™ Input)	120 dB(A)	
Max input level	>+24 dBu	
Frequency Response	20 Hz - 20 kHz +0.0 dB/-1.0 dB, @ 8 Ω	
Crosstalk	<-80dB typical, 20Hz to 1 kHz range <-60dB @20kHz typical	
Input impedance	20 kΩ balanced/unbalanced, fully floating	
THD+N (from 0.1 W to Half Power)	< 0.05%	
SMPTE IMD (from 0.1 W to Half Power)	< 0.01%	
Damping factor	>2500 20Hz to 500 Hz	

DSP	
AD converters	24 Bit Tandem™ @ 48 kHz 130 dB(A) Dynamic Range - 0.00005 % THD+N
DA converters	24 Bit Tandem™ @ 48 kHz 132 dB(A) Dynamic Range - 0.00003 % THD+N
Latency	2.5 ms analog Input to amplifier Output
Onboard memory	Store and recall up to 50 amplifier snapshot
Delay	2 s (input) + 100 ms (output) for time alignment
Equalizer	Raised-cosine, custom FIR, parametric IIR: peaking, hi/lo-shelving, all-pass, band-pass, band-stop, hi/lo-pass
Crossover	linear phase (FIR), Butterworth, Linkwitz-Riley, Bessel: 6 dB/oct to 48 dB/oct (IIR)
Limiters	RMS voltage, RMS current, Peak limiter, TruePower™, Dynamic EQ
Damping control	Active DampingControl™
Loudspeaker diagnostic	Pilot tone monitoring, average impedance monitoring, load impedance measurement
Startup time	<10 s <0.5 s (with PoE backup power)

Construction	
Dimensions	489 x 400 x 44.3 (WxDxH) mm 19.3 x 15.8 x 1.7 (WxDxH) in
Weight	8 Kg (17.6 lb)
IP Class	IP 20

Environmental	
Operating temperature range	0°C to +50°C (derating above 35°C)
Storage relative humidity range	10% to 85% humidity (non condensing)

Data subject to change without notice.

Output Stage		20K4	
Commercial total rated power @ 2.7 Ω full load		20800	W
	per channel @ 16 Ω (symmetrical)*	1300	W
	per channel @ 8 Ω (symmetrical)*	2500	W
	per channel @ 4 Ω (symmetrical)*	4400	W
	per channel @ 2.7 Ω (symmetrical)*	5200	W
Maximum output power	per channel @ 2 Ω (symmetrical)*	5500	W
	per bridged pair @ 8 Ω (symmetrical)*	8800	W
	per bridged pair @ 5.4 Ω (symmetrical)*	10400	W
	per channel @ 16 Ω (asymmetrical)**	1400	W
	per channel @ 8 Ω (asymmetrical)**	2700	W
	per channel @ 4 Ω (asymmetrical)**	5400	W
	per channel @ 2.7 Ω (asymmetrical)**	7500	W
	per channel @ 2 Ω (asymmetrical)**	5500	W
Maximum unclipped output voltage		220	V$_{peak}$
Maximum output current		80	A$_{peak}$

*: Available by driving and loading all the channels symmetrically.
**: Maximum power-sharing capacity per channel

Power & Thermal			20K4	
@ 120 V	Idle	Input Power	68.6	W
		Current Draw	0.93	A$_{rms}$
		Thermal Loss	234	BTU/h
	1/8 Max Power @ 4Ω	Input Power	2283	W
		Current Draw	19.37	A$_{rms}$
		Thermal Loss	1915	BTU/h
@ 230 V	Idle	Input Power	82.5	W
		Current Draw	0.83	A$_{rms}$
		Thermal Loss	281	BTU/h
	1/8 Max Power @ 4Ω	Input Power	2987	W
		Current Draw	13.38	A$_{rms}$
		Thermal Loss	2680	BTU/h
Power supply		Universal regulated switch mode with PFC and SRM		
Nominal Voltage		100-240 VAC @ 50/60 Hz (400 VAC surge)		
Operating Voltage		80-265 VAC @ 50/60 Hz		
Supply tolerance		+10% -10%		
Power system		TT/TN		
Overvoltage category		II		
Class of equipment		I		
AC Mains connector		IEC C20 inlet (20 A max) region-specific power cord provided		
Eco Mode consumption		35 W		
Standby consumption		20 W Typical, CPU fully functional		
PoE Input		Class 4 or higher		

Networking	
Network	3 x Gigabit Ethernet ports RJ45 connectors
Network modes	Switched Mode, Split-Redundant Mode
Remote interface	ArmoníaPlus™, Powersoft Cloud