FP 14000

PRELIMINARY

- **Unprecedented power density –** The FP 14000 delivers a total of 14000 W (2 x 7000 W @ 2 ohms) in only 2U.
- **Lab.gruppen sound quality –** The FP 14000 is optimized for sustained performance into extreme low-frequency loads, yet it also maintains Lab.gruppen's reputation for exceptionally smooth and transparent mid- and high-frequency response.
- **NomadLink® network ready –** Monitoring and control of key functions accessible via the intuitive DeviceControl software and the robust, daisy-chained NomadLink® network, as well as by the leading third party control platforms.
- **Patented Class TD® amplifier topology –** Road-proven output stage delivers Class B audio quality with Class D efficiency.
- **Regulated Switch Mode Power Supply (R.SMPS™) –** Output power remains constant even with significant drops in the mains voltage.
- **Efficient cooling system –** Unique, lightweight Intercooler® copper cooling system dissipates more heat to allow extended peak output.
- **Adjustable parameters –** Selectable Gain, scalable Voltage Peak Limiter (VPL™), and bridge-mode operation allow custom configuration for any system or application.
- **XLR input and link connectors**
- **Heavy-duty binding posts**
- **Comprehensive protection and warning –** Excessive output current, DC, high temperature, very high frequency (VHF), short circuit, open load, mains fuse protection, and soft start.

A Benchmark For Touring Amplification

Over the past decade, the tight and transparent sound of Lab.gruppen touring amplifiers has earned the praise of renowned FOH engineers and leading sound rental companies worldwide. FP 14000, the new flagship model of the FP+ Series, advances this tradition by further augmenting effective power output to effortlessly handle extreme low-frequency loads. The Regulated Switch Mode Power Supply (R.SMPS) has been updated to provide more sustained high power during extended bursts of low frequency content, while at the same time ensuring stable rail voltages even with wide fluctuations of external mains voltage. The forceful, high-current (83 A peak) output stage relies on Lab.gruppen's patented Class TD topology, a breakthrough in amplifier technology that approaches the efficiency of Class D while retaining the sonic purity of proven Class B designs. A highly refined and efficient circuit layout further optimizes the interaction of R.SMPS and Class TD to produce the unprecedented power density of the FP 14000.

To keep its cool under extreme demands, the FP 14000 relies on Lab.gruppen's proprietary Intercooler. This innovation uses thousands of copper fins to multiply the exposed heatsink surface's rapid heat dissipation. Also, all output devices are mounted transverse to the airflow for uniform cooling. As a result, the FP 14000 delivers Lab.gruppen's' trademark "all the power, all the time" with no degradation of sonic performance.

To maximize headroom in any application, the FP 14000 offers adjustable input gain along with Lab.gruppen's exclusive Voltage Peak Limiter (VPL). Adjustable on a per-channel basis, VPL optimizes the output for any load, from a single massive subwoofer to a series of HF compression drivers.

The comprehensive warning and protection features on the FP 14000 safeguard output circuits and connected loads while also extending amplifier life and minimizing the chance of service interuptions. Whether it's a matter of faulty wiring, improper use, or extreme ambient temperatures, the FP 14000 gives clear indication of any problems. Automatic protection measures engage only at critical thresholds. Operating conditions are re-checked every six seconds and, if a fault is detected, normal operation is resumed when measurements return to nominal.

The FP 14000 is shipped with a NomadLink network interface as standard. In conjunction with DeviceControl software, NomadLink allows comprehensive monitoring of amplifier status (including fault or warning indications) and also enables remote control of power on/off, channel mute, and channel solo functions. NomadLink is compatible with popular third-party control platforms; a separate NLB 60E NomadLink Bridge & Network Controller is required.

Specifications FP 14000

General				
Number of channels	2			
Peak total output both channels driven	14000 W			
Peak output voltage per channel	195 V			
Max. output current per channel	83 A peak			
Max. Output Power	**2 ohms**	**4 ohms**	**8 ohms**	**16 ohms**
Per ch. (both ch.'s driven)	7000 W	4400 W	2350 W	1200 W
Bridged per ch.	n.r. [3]	14000 W	8800 W	4700 W
Performance with Gain: 35 dB and VPL: 195 V				
THD 20 Hz - 20 kHz for 1 W	<0.1%			
THD at 1 kHz and 1 dB below clipping	<0.05%			
Signal To Noise Ratio	>112 dBA			
Channel separation (Crosstalk) at 1 kHz	>70 dB			
Frequency response (1 W into 8 ohms) +0/-3 dB	2 Hz - 34.2 kHz			
Input impedance	20 kOhm			
Input Common Mode Rejection, CMR	54 dB			
Output impedance @ 100 Hz	56 mOhm			
Voltage Peak Limiter (VPL), max. peak output				
VPL, selectable per ch.	195, 170, 140, 116, 100, 80, 66, 54 V			
VPL, selectable when bridged [1]	390, 340, 280, 232, 200, 160, 132, 108 V			
Voltage Peak Limiter mode (per ch.)	Hard / Soft			
Gain and Level				
Amplifier gain selectable (all channels) [1] – rear-panel switches	23, 26, 29, 32, 35, 38, 41, 44 dB			
Default gain	38 dB			
Level adjustment (per ch.)	Front-panel potentiometer, 31 position detented from -inf to 0 dB			
Connectors and Switches				
Input connectors (per ch.)	3-pin XLR, electronically balanced			
Output connectors (per ch.)	Binding Posts 2-pole			
Output bridge mode	A+B - Ch. A is signal input source			
NomadLink network	On board, 2 x RJ45 EtherCon® connectors, IN and OUT			
Intelligent fans (on/off)	Yes, depending on presence of output signal			
Power on/off and Remote enable on/off	Individual switches on front-panel			
Cooling	Two fans, front-to-rear airflow, temperature controlled speed			
Front-panel indicators:				
Common	NomadLink Network; Power Average Limiter (PAL) [2]; Power on			
Per channel	Signal present / High-impedance; -20 dB, -15 dB, -10 dB and -4 dB output signal; Voltage Peak Limiter (VPL); Current Peak Limiter (CPL); Very High Frequency (VHF); High temperature; Fault; Mute			
Power				
Operating voltage, 230 V / 115 V nominal [4]	130-265 V / 65-135 V			
Minimum power-up voltage, 230 V / 115 V	171 V / 85 V			
Power Average Limiter (PAL) [2]	Yes			
Soft start / Inrush Current Draw	Yes / max. 5 A			
Mains connector	230 V CE: 16 A, CEE7; 115 V ETL: 30 A Twist lock			
Dimensions (W/H/D)	W: 483 mm (19"), H: 88 mm (2 U), Overall D: 396 mm (15.6"), Mounting D: 358 mm (14.1")			
Weight	12 kg (26.4 lbs.)			
Finish	Black painted steel chassis with gray painted steel front			
Approvals	CE, ANSI/UL 60065 (ETL), CSA C22.2 NO. 60065, FCC			

Note 1): Automatic -6 dB gain compensation when bridging channels.
Note 2): PAL can reduce the maximum output power to keep the power supply operating safely, and/or to prevent excessive current draw tripping the mains breaker. Refer to Operation Manual.
Note 3): Regarding n.r. (not recommended) notes: The amplifier will be fully operational in bridge-mode into 2 ohm and high impedance (Hi-Z) loads, but due to physical constraints in the construction, the max. output power will not be significanty higher than running individual channels and therefore this mode of operation is not recommended.
Note 4): Separate 230 V or 115 V versions available. Not selectable on the amplifier.

All specifications are subject to change without notice.

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