



# C 68:4



- ▶ **Unprecedented power density** – Total output of 6800 W (4 ohms) in a 2U cabinet
- ▶ **Four channels** – All channels bridgeable for 2- or 3-channel configurations
- ▶ **Lo-Z or Hi-Z (70 V / 100 V)** – Selectable per channel, normal or bridged
- ▶ **Patented Class TD amplifier topology**
- ▶ **Voltage Peak Limiter (VPL)** – Configurable per channel to optimize each output for connected loads
- ▶ **Phoenix-type input connectors**
- ▶ **Screw terminal output connectors**
- ▶ **Comprehensive protection and warning** – Excessive output current, DC, high temperature, very high frequency (VHF), short circuit, open load, mains fuse protection, and soft start
- ▶ **Efficient and uniform Intercooler® cooling**
- ▶ **NomadLink® network ready**

## An Installation Amplifier without Compromise

Installed or on tour, uncompromising quality begins with superior sound. Over the past decade, the sound of Lab.gruppen amplifiers has earned praise from renowned FOH engineers and owners of the world's premier sound rental companies. At the core of the C Series high-power\* model's tight and transparent sound is patented Class TD technology. As a proprietary implementation of tracking Class D, Class TD approaches the exceptional efficiency of Class D while retaining the superior sonic quality of the best Class B output stages.

A Regulated Switch Mode Power Supply (R.SMPS) contributes to the remarkable efficiency of the C Series high-power models, while at the same time providing stable operation even with wide fluctuations in mains voltage. R.SMPS also works in conjunction with Class TD to give extraordinary power density. More channels with more power are condensed into a smaller package, allowing C Series amplifiers to minimize rack space requirements and reduce installation costs.

Extreme power density demands efficient cooling, and here Lab.gruppen's Intercooler® proves remarkably effective. Thousands of small copper cooling fins dissipate heat, and all output devices are mounted on one row perpendicular to airflow for uniform cooling.

C Series amplifiers are uniquely capable of adapting to a wide variety of demanding load conditions. Each channel has an individually configurable Voltage Peak Limiter (VPL), which allows the output to be optimized for any loudspeaker load – whether

one massive subwoofer or a series of small 100 V loudspeakers. VPL works in combination with adjustable input gain to achieve maximum headroom regardless of input levels or output impedances.

To assure reliability, and minimize service interruptions, C Series amplifiers offer comprehensive warning and protection features. Whenever faulty wiring, improper use, or extreme ambient temperatures threaten trouble, a C Series amplifier gives clear and accurate warning indications. Protection measures are inserted only when dangerous thresholds are passed. Conditions are re-checked at six-second intervals, and normal operation resumes when measurements return to nominal.

Every C Series amplifier is ready for the NomadLink network right out of the box. With NomadLink, key amplifier parameters are displayed via DeviceControl software, and remote control of channel mutes and power on/off is under network control. (NomadLink requires the separate NLB 60E NomadLink Bridge & Network Controller.)

## Applications

- Auditoriums
- Performing Arts Centers
- Convention Centers
- Stadiums and Arenas
- Theme Parks
- Hotels
- Houses of Worship
- Restaurants
- Clubs
- Educational Establishments
- Boardrooms
- Museums
- Offices
- Shopping Malls
- Transportation Facilities



## Specifications C 68:4

### General

|                                       |           |
|---------------------------------------|-----------|
| Number of channels                    | 4         |
| Peak total output all channels driven | 6800 W    |
| Peak output voltage per channel       | 141 V     |
| Max. output current per channel       | 24.5 Arms |

| Max. Output Power          | 16 ohms | 8 ohms | 4 ohms | 2 ohms             | Hi-Z 70 Vrms/100 V peak | Hi-Z 100 Vrms/141 V peak | Hi-Z 140 Vrms/200 V peak |
|----------------------------|---------|--------|--------|--------------------|-------------------------|--------------------------|--------------------------|
| Per ch. (all ch.'s driven) | 625 W   | 1200 W | 1700 W | 600 W              | 1600 W                  | 1200 W                   | n.a.                     |
| Bridged per ch.            | 2400 W  | 3400 W | 2400 W | n.r. <sup>1)</sup> | n.a.                    | n.a.                     | 3200 W                   |

### Performance with Gain: 35 dB and VPL: 100 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 | 6.8 Hz - 34 kHz         |
| Input impedance                               | 20 kOhm                 |
| Common Mode Rejection (CMR)                   | >50 dB, 20 Hz to 20 kHz |
| Output impedance @ 100 Hz                     | 30 mOhm                 |

### Voltage Peak Limiter (VPL), max. peak output

|                                       |   |
|---------------------------------------|---|
| VPL, selectable per ch. <sup>2)</sup> | 141, 118, 100, 85, 71, 59, 50, 42 V     |
| VPL, when bridged <sup>2) 3)</sup>    | 282, 236, 200, 170, 142, 118, 100, 84 V |
| Voltage Peak Limiter mode (per ch.)   | Hard / Soft                             |

### Gain and Level

|  |  |
|--|--|
| Amplifier gain selectable (all channels) <sup>3)</sup> | 23, 26, 29, 32, 35, 38, 41, 44 dB  |
| - rear-panel switches                                  |  |
| Default gain   | 35 dB  |
| Level adjustment (per ch.)                             | Front-panel potentiometer, 21 position detented from -inf to 0 dB, hidden behind security panel/dust filter grille |

### Connectors and switches

|                                       |   |
|---------------------------------------|---|
| Input connectors (per ch.)            | 3-pin Phoenix, electronically balanced                        |
| Output connectors (per ch.)           | Barrier strip 2-pole screw terminals                          |
| Output bridge mode                    | A+B and/or C+D, inputs A and C are input source               |
| NomadLink network                     | On board, 2 x RJ45 connectors                                 |
| 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) <sup>5)</sup> ; Power on   |
| Per channel | Signal present / High-impedance; -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  | 130 -265 / 65-135 V <sup>4)</sup>     |
| Minimum power-up voltage, 230 V / 115 V   | 171 V / 85 V                          |
| Power Average Limiter (PAL) <sup>5)</sup> | Yes                                   |
| Power Factor Correction (PFC)             | No                                    |
| Soft start / Inrush Current Draw          | Yes / max. 5 A                        |
| Mains connector                           | 230 V CE: 16 A, CEE7; 115 V ETL: 20 A |

### Dimensions

|        |   |
|--------|---|
| Weight | W: 483 mm (19"), H: 88 mm (2 U), D: 343 mm (13.5")        |
| Finish | 12 kg (26.4 lbs.)   |
|        | Black painted steel chassis with gray painted steel front |

### Approvals

|  |  |
|--|--|
|  | CE, ANSI/JUL 60065 (ETL), CSA C22.2 NO. 60065, FCC |
|--|--|

**Note 1):** 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 significantly higher than running individual channels and therefore this mode of operation is not recommended.

**Note 2):** For sine waves, peak voltage output values translate to Vrms with the formula  $V/1.41 = Vrms$ . E.g. 100 V peak equals app. 70 Vrms. Hence, outputs can be set for high-impedance loads without requiring a transformer.

**Note 3):** Automatic -6 dB gain compensation when bridging channels. Ch.'s A+B and/or C+D, can be bridged individually.

**Note 4):** Separate 230 V or 115 V versions available. Not selectable on the amplifier.

**Note 5):** 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.

All specifications are subject to change without notice.

**LAB.GRUPPEN**

WWW.LABGRUPPEN.COM

Item no. TDS-C684\_V8 - 30.11.2015