

***Power Amplifier***

***LX2200***

***CP3000S***

***CPS2.11***

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# 1. General Specifications

## 1.1 Type & Model

The following devices are “class H” technology audio power amps with multi-country suitable two-section switching power supply units. The unit comes in a 2HU enclosure.

Type	Order No.	Mains Voltage	Mains Frequency
CP3000S	170 313	100V	50 - 60 Hz
CP3000S	170 312	120V	50 - 60 Hz
CP3000S	170 311	220V	50 - 60 Hz
CP3000S	170 310	230V	50 - 60 Hz
CP3000S	170 309	240V	50 - 60 Hz
CPS2.11	170 318	100V	50 – 60 Hz
CPS2.11	170 317	120V	50 – 60 Hz
CPS2.11	170 316	220V	50 – 60 Hz
CPS2.11	170 315	230V	50 – 60 Hz
CPS2.11	170 314	240V	50 – 60 Hz
LX2200	112 950	100V	50 – 60 Hz
LX2200	112 949	120V	50 – 60 Hz
LX2200	112 948	220V	50 – 60 Hz
LX2200	112 947	230V	50 – 60 Hz
LX2200	112 946	240V	50 – 60 Hz

## 1.2 PCB-Name & EDP Order No.

Part / PCB	LX2200 / CP3000S				CPS2.11			
	100V	120V	220/230V	240V	100V	120V	220/230V	240V
PCB-Amplifier	84213				84230			
Mains + Output	86287		86286		86289		86288	

## 1.3 Testing Conditions, unless stated otherwise

Measuring Tolerance	$\Delta X = \pm 1.5\text{dB}$
Test Frequency	$f = 1\text{kHz}$
All Levels referred to	$U = 775\text{mV (0dBu)}$
XLR-type Connector Pin-Assignment	PIN 1 = GNDA/SHIELD PIN 2 = + INPUT PIN 3 = - INPUT
Source Impedance for Signal Feeds via XLR-type Connector	$R(Q) = 50\Omega$

- AC-Voltages are stated as effective value

## 1.4 4 Service Plug Pin-Assignment, secondary CNS1, CNS2, CNS3 (A) / 4 (B)

	CNS1 (Supply)	CNS 2	CNS 3 (Ch.A) / CNS 4 (Ch.B)
PIN	Assigned	Assigned	Assigned
1	+ High	+ U1	Limiter Test
2	+ Low	+16V	-15V
3	GNDA	GNDA	Limiter Off
4	GNDA	-16V	Speaker Output
5	- Low	-U1	+15V
6	- High	Relay-Drive	Temperature
7	x	TEMP_S	Bias +
8	x	x	Bias -

### 1.5 Service Plug Pin-Assignment, primary CNS5

**CAUTION:** Signals are *not* galvanic separated from the mains on the primary side! For safety reasons do *not* interconnect the grounds GND\_A and GND\_N!

	CNS5
PIN	Assigned
1	SHUTDOWN
2	SENSE
3	PROTECT
4	TIME_IN2
5	SMPS-TEMP
6	+VH1S
7	125KHZ
8	GND_N

## 2. Measuring Data unit complete

### 2.1 Operating Voltage

#### 2.1.1 Mains Voltage

U(B) = 100V 50Hz ... 60Hz / U(B) = 120V 50Hz ... 60Hz  
U(B) = 220V 50Hz ... 60Hz / U(B) = 230V 50Hz ... 60Hz  
U(B) = 240V 50Hz ... 60Hz

Operating Voltage Deviation: -20% .... +10%

#### 2.1.2 Internal Operating Voltage

Testing Condition: Power Amp in idling mode, supplying mains network with nominal mains impedance

Internal Operating Voltages +/-U2 and +/-U3 (can be measured via Service Plug CNS1) are as follows:

Country Version/Mains Voltage	Mains Impedance	+/-U2 Specified Value	+/-U3 Specified Value
240V	0.4Ω+j0.25Ω	+/- 54.8V	+/- 111.6V
230V	0.4Ω+j0.25Ω	+/- 55.6V	+/- 113.3V
220V	0.4Ω+j0.25Ω	+/- 56.6V	+/- 115.1V
120V	0.4Ω+j0.116Ω	+/- 58.1V	+/- 118.3V
100V	0.4Ω+j0.116Ω	+/- 54.8V	+/- 111.5V

Admissible Tolerance: +/-5%

## 2.2 Power Consumption

- Both channels driven, Max. Output @ 1% THD

LX2200 CP3000S/CPS2.11	U <sub>mains</sub> [V]	I <sub>mains</sub> [A]	P <sub>mains</sub> [W]	P <sub>out</sub> [W]	P <sub>d</sub> <sup>(5)</sup> [W]	BTU/hr <sup>(1)</sup>
idle	230V	1.0	80	-	80	273
Max. Output Power @ 8Ω <sup>(1)</sup>	230V	15.0	1780	2 x 600	580	1980
Max. Output Power @ 4Ω <sup>(1)</sup>	230V	25.0	3330	2 x 1100	1130	3860
1/3 Max. Output Power @ 4Ω <sup>(1)</sup>	230V	15.1	1800	2 x 366	1068	3640
1/8 Max. Output Power @ 4Ω <sup>(1)</sup>	230V	6.5	670	2 x 137	396	1350
1/8 Max. Output Power @ 4Ω <sup>(2)</sup>	230V	7.0	850	2 x 137	576	1965
1/8 Max. Output Power @ 4Ω <sup>(2),(4)</sup>	230V	7.5	950	2 x 166	612	2090
Normal Mode (-10dB) @ 4Ω <sup>(1)</sup>	230V	5.8	580	2 x 110	360	1230
Rated Output Power (0dB) @ 4Ω <sup>(1)</sup>	230V	23.2	2990	2 x 900	1190	4060
Alert (Alarm) Mode (-3dB) @ 4Ω <sup>(1)</sup>	230V	16.9	2035	2 x 450	1135	3870
Max. Output Power @ 2Ω <sup>(1)</sup>	230V	34.0 <sup>(6)</sup>	4900	2 x 1600	1700	5800
1/8 Max. Output Power @ 2Ω <sup>(1)</sup>	230V	9.9	1080	2 x 200	680	2320
1/8 Max. Output Power @ 2Ω <sup>(2)</sup>	230V	11.0	1250	2 x 200	850	2900

(1) Sine Signal Modulation (1kHz)      (2) VDE-Noise      (3) 1BTU = 1055.06J = 1055.06Ws

(4) 10% Mains Over Voltage      (5) P<sub>d</sub> = Power Dissipation      (6) Overload Detection activated after 10s

Power consumption is direct proportional for other mains voltages. The following conversion factors are meant for easy conversion:

100V = 2.3; 120V = 1.9; 220V = 1.05; 240V = 0.96

## 2.3 Voltage Amplification

- no load connected at the output, sine signal with f = 1kHz, Bridged Mode switch engaged

Gain	Input	U <sub>E</sub> (dBu)	Measuring Point	U <sub>A</sub> (dBu)	U <sub>A</sub> (V)	P <sub>OUT</sub> (W)
38.0dB	Ch. A	+5.8dBu	BRIDGED OUT	+43.8dBu	120.0 V	1800/8ohms
32.0dB	CH. A/B	+5.8dBu	SPEAKER A/B	+37.8dBu	60.0 V	900/4ohms

## 2.4 Maximum Input Level

The maximum input level is: U<sub>Emax</sub> = +22dBu

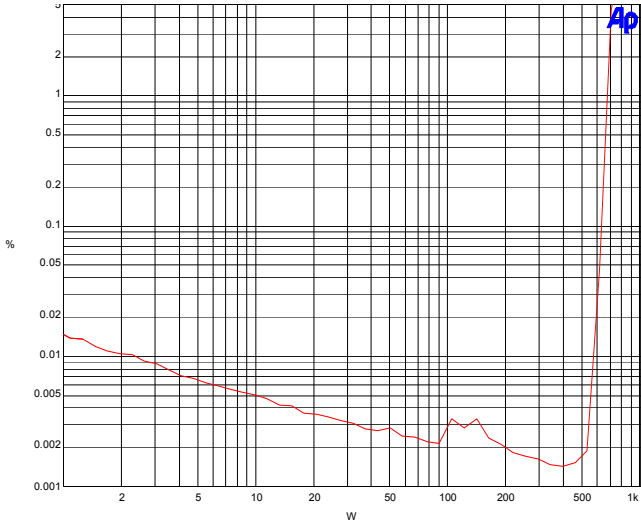
## 2.5 Amplitude – Non-Linearity

### 2.5.1 Amplitude – Non-Linearity, border values

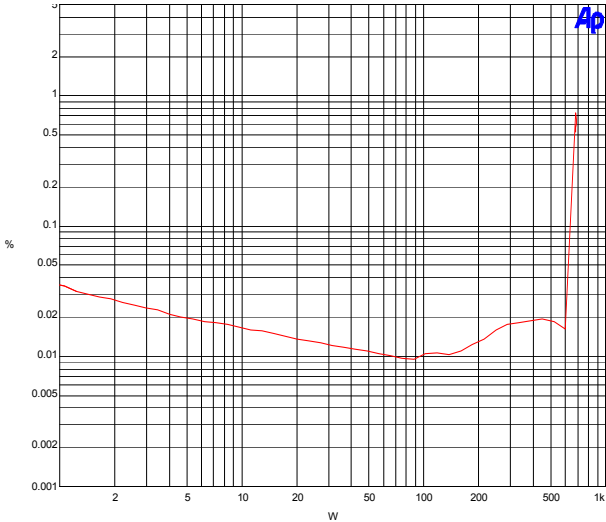
- Measurements with load resistor 8Ω
- Driven up to nominal output
- MBW = 80kHz

Measurement		Remarks
THD+N	<0.05 %	1 kHz
IMD-SMPTE	<0.02 %	60 Hz, 7 kHz
DIM 30	<0.05 %	3,15 kHz, 15 kHz

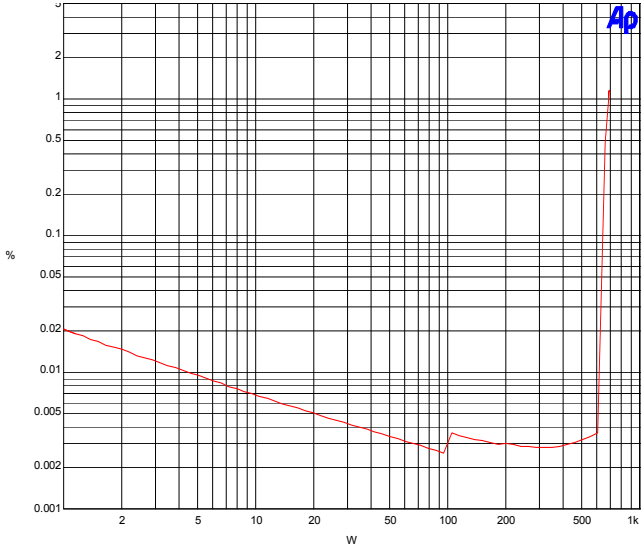
**2.5.2 Amplitude – Non-Linearity, typical values**  
- 8 ohms load, regulated to nominal output, if necessary



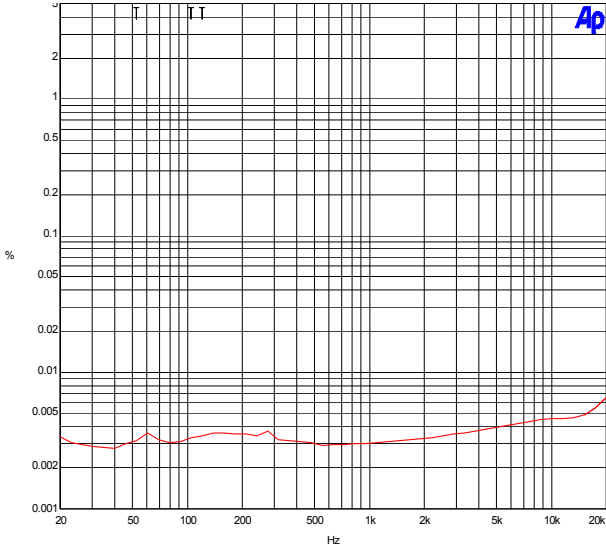
a) SMPTE 60Hz / 7kHz



b) DIM 30



c) THD+N vs Level



c) THD+N vs Frequency

## 2.6 Border Frequencies

- Power amplifier without load connected

	Lower Border Frequency	Upper Border Frequency
-3dB	$f_u < 10 \text{ Hz}$	$f_o = 80 \text{ kHz}$
-1dB	$f_u = 13 \text{ Hz}$	$f_o = 45 \text{ kHz}$

## 2.7 Static Noise / Interference

- U(F) = extraneous voltage non-weighted with B = 22Hz ... 22 kHz, effective value (IEC 268-1)
- U(G) = noise voltage, frequency weighting filter according to CCIR-468-3, quasi peak-weighted (IEC 268-1)
- U(A) = interference voltage A-weighted, dB(A), effective value (IEC 268-1)
- S/N ratio referenced to maximum output voltage at 4Ω and interference voltage with A-weighting
- Inputs terminated with R(Q) = 50Ω

Power Amplifier	Output	U(F)	U(A)	U(G)	Gain	EIN(A)	S/N-R.(A)	Remarks
LX/CP CPS	SPEAKER OUT A&B	-67dBu	-69dBu	-57dBu	32.0dB	-101dBu	107dBu	Level Control max.
LX/CP CPS	SPEAKER OUT A&B	-70dBu	-72dBu	-60dBu	-	-	-	Level Control min.

## 2.8 Heat-Sink Feeler Gauge

Power Amplifier Heat-Sink Feeler Gauge	25°C	40°C	60°C	70°C	80°C	90°C	100°C <sup>(1)</sup>
Voltage CNS3/4 Pin6	5.8 V	8.0 V	10.8 V	11.9 V	12.8 V	13.5 V	14.0 V

(1) The switch-off point is 90°C - 95°C, the power amplifier enters Protect-Mode.

Switching Power Supply Unit (secondary) Heat-Sink Feeler Gauge	25°C	40°C	60°C	70°C	80°C	90°C <sup>(2)</sup>	100°C <sup>(2)</sup>
Voltage CNS2 Pin7	6.5 V	8.8 V	11.5 V	12.5 V	13.2 V	13.9 V	14.3 V

(2) The switch-off point is 78°C - 82°C, the power amplifier enters Protect-Mode.

Switching Power Supply Unit (primary) Heat-Sink Feeler Gauge	25°C	40°C	60°C	70°C	80°C	90°C <sup>(3)</sup>	100°C <sup>(3)</sup>
Voltage CNS5 Pin5	5.6 V	7.8 V	10.6 V	11.8 V	12.7 V	13.5 V	14.1 V

(3) The switch-off point is 78°C - 82°C, the power amplifier enters Protect-Mode. If, in case of failure, the temperature at the primary heat-sink of the switching power supply unit exceeds 95°C, the switching power supply unit switches off entirely. The auxiliary power supply unit keeps running.

## 2.9 GROUND LIFT Switch

The resistance is measured between Circuit Ground (at the input or output connector) and Chassis Ground (at the grounding screw on the rear panel or at the mains plug's ground wire contact).

Switch set to	Resistance
GROUNDED	R = 0Ω
UNGROUNDED	R = 5Ω

## 2.10 Dimensions and Weight

Power Amplifier	Weight	Dimensions in mm
LX2200-CP3000S-CPS2.11	8.15kg	483 x 88.1 x 384

## 3. Settings

### 3.1 Idling Current

- Connect a DC voltmeter at the BIAS measuring points (CNS3 7/8 respectively CNS4 7/8)
- Adjust the idling current via trimmer VR103/VR303 (on the PCB-Amplifier). Trim both power amplifier channels A&B to  $U(\text{DC}) = 7.5\text{mV}$
- Idling current adjustment has to be performed at normal room temperature. If the power amplifier had previously been operated, it has to be given several hours to regain normal temperature.

### 3.2 VCA–Offset

- Rhythmically open and short-circuit CNS3(A) respectively 4(B) Pin 1 and Pin 2
- Use VR102 respectively VR302 (on the PCB-Amplifier) to adjust the power amplifier output to minimum offset (with oscilloscope to minimal peak value or to the audible minimum volume of the interference impulse).

### 3.3 Country-Specific Settings

Some settings of the power amps are country-specific and differ from country to country (refer to the following table). Visual examination is necessary to make sure that especially the transformers are correctly inserted (CN606 and CN611)!

LX2200-CP3000S-CPS2.11	100V	120V	220V	230V	240V
CN616 via Switch bridged to:	CN620	CN620	CN619	CN619	CN619
CN617 via Jumper bridged to:	CN619	CN619	CN618	CN618	CN618
CN606 via Jumper bridged to:	CN610	CN608	CN609	CN608	CN607
CN611 via Jumper bridged to:	CN615	CN613	CN614	CN613	CN612
Mains Fuse F800 to Mains Input	T25A 348 866	T25A 348 866	T15A 351 850	T15A 351 850	T15A 351 850
Varistor R805 to Mains Input	Q20K150 362 273	Q20K150 362 273	Q20K300 362 274	Q20K300 362 274	Q20K300 362 274

CPS2.11 additionally differs from all other power amps through its supplementary Power Remote function, the input and output connectors, and the location of level controls.

## 4. Function Test

Power Amplifier in original shipping state, unless stated otherwise

### 4.1 Output–Offset Voltage

- DC voltage measurement at loudspeaker outputs SPEAKER A/B.
- $U_{\text{DC}} \leq \pm 10\text{mV}$ .

### 4.2 Limiter

#### 4.2.1 Attenuation

- Drive both channels separately with a 1 kHz signal up to  $U_A = 63.4\text{V}$  (without load)
- Increase the input voltage by 10dB
- The LIMITER LED lights, while the output voltage rises by approx. 2dB to approx. 79.6V. Slight clipping occurs.
- The distortion rate of the limited signal is at THD = 1.0 ... 1.5%
- Further increasing the input signal up to +22dBu should not result in remarkably higher clipping of the output signal.



#### **4.2.2 Attack- and Release Times**

- Test the power amplifier channels separately
- Test without load resistors connected
- Drive the power amplifier with a burst signal ( $f = 1\text{ kHz}$ , 10 cycles, rate :  $\approx 0.5\text{ sec.}$ ) and  $U_E = +14\text{ dBu}$  applied to the input. The level is lowered to +4 dBu (by  $-10\text{ dB}$ ) during OFF-time.
- Monitor the output signal via oscilloscope. The limiter has controlled the major distortion down to a minor residual distortion ( $\text{THD} = 1\% \dots 1.5\%$ ) after 3 - 4 signal periods.

**Attack Time: 3-4 ms**

**Release Time: 30-40 ms**

#### **4.3 Power-On Delay**

- Apply the signal at the power amplifier's input
- Switch the power amplifier's power on using its Power-On switch. The Power-Led lights immediately.
- After approx. 1s fans run for approx. 3s at max. speed, Signal-, 0dB-, and Protect-LEDs light for approx. 3s (Power-On Operation).
- The power amplifier leaves Protect Mode approximately 4 seconds after pressing the power switch and the signal will be present at the output.

#### **4.4 Fan Control**

- The fans run for approx. 3 seconds upon power-on ( $U_{fan}=28.2\text{ Vdc}$ ). If the power amplifier has not been operated before (cold), the fans stop running
- In case the amplifier is in idle condition (Power-On, no modulation) the fans switch between SLOW ( $U_{fan}=15.0\text{ Vdc}$ ) and OFF state, depending on the operational temperature of the heat sinks.
- Bridging Pin 6 (CNS3/4) and Pin 5 (CNS3/4) using according resistors provides forced fan operation: SLOW via 10k, FAST via 3k, PROTECT via 1k.

#### **4.5 SOA-Protection**

- Separately drive the channels with a sine signal up to 66.3V ( $U_E=+6.4\text{ dBu}$ ) into  $2\Omega$ . Set the generator for burst 1kHz, 10 cycles On, Rate = 100ms.
- Parallel connect a  $1\Omega$  resistor
- The protection circuitry reacts and continuously tries to restart! The Protect-LED lights
- Caution: During this test, the mains voltage has to be kept as constant as possible at nominal mains voltage (e.g. 230V).

#### **4.6 Short-Circuit Limiting**

- Operate the power amplifier without load connected
- Individually perform the test for each power amplifier channel
- Drive one channel with a burst signal ( $f = 1\text{ kHz}$ , 1-3 cycles, rate  $\approx 1\text{ s}$ , with  $U_E = +14\text{ dBu}$ )
- Connect a  $1\Omega$  load resistor
- The short-circuit current-limiter limits the output voltage at the load resistor symmetrically (monitor via oscilloscope) to a peak voltage value of **51-53V (approx. 51-53Apk)**

#### **4.7 DC-Protection**

- Operate the power amplifier without load connected
- Individually perform the test for each power amplifier channel
- Drive the power amplifier with a test signal  $f = 7\text{ Hz}$
- Starting with an input voltage of approx. 12dBu the protection circuitry reacts and continuously tries to restart. The Protect LED blinks rhythmically
- Repeat the test with  $f = 14\text{ Hz}$ . The power amplifier should not switch off.

#### **4.8 HF-Protection**

- CAUTION: Operating the power amplifier without load connected is mandatory. Set the limiter to OFF by bridging pins 2 and 3 of CNS3/4
- Drive the power amplifier with a  $f = 60\text{ kHz}$  sine burst signal 100ms ON, 900ms OFF applied to a single channel with +20dBu (7.7V).
- The protection circuit has to respond. The power amplifier continuously tries to restart
- The PROTECT LED blinks rhythmically
- Repeat the test with  $f = 30\text{ kHz}$  and the limiter set to ON. The power amplifier should not switch off.

#### 4.9 Level Meters

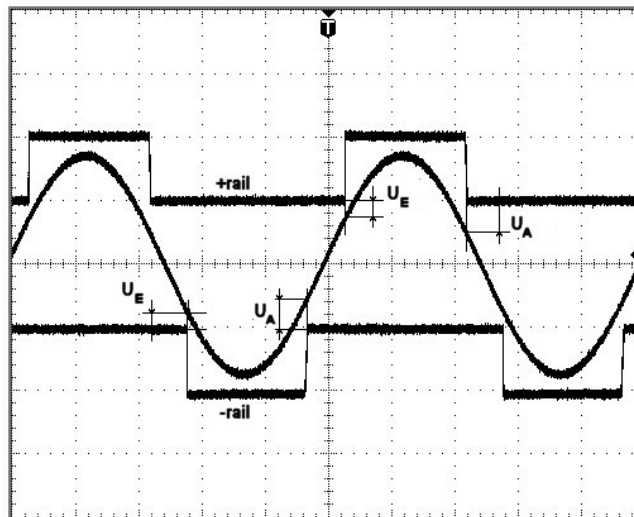
- Apply a sine signal  $f = 1\text{kHz}$  with  $-40\text{dBu}$  and slowly increase the signal
- The **SIGNAL** LEDs light at approx.  $-22\text{dBu}$
- The **0dB** LEDs light at approx.  $+8\text{dBu}$
- The **LIMIT** LEDs start lighting (dimmed) at  $+9\text{dBu}$
- The **LIMIT** LEDs light bright at  $+13\text{dBu}$

#### 4.10 Shipping State

- GND-Lift = GROUNDED
- Dual/Parallel Routing = Dual
- Normal/Bridged Mode = Normal
- CPS2.11 only: Switch 1 to ON and CN804 bridged to CN805

#### 4.11 Function Test „Class H“

- Monitor the corresponding operating voltage (Rail+ or Rail-, e.g. measured at the according heat-sink) and the power amp output via milli-voltmeter and oscilloscope.  
Nominal Mains Voltage:  $U_{\text{Low}} = \text{approx. } 56\text{V}$ ,  $U_{\text{High}} = \text{approx. } 113\text{V}$
- Apply a sine signal  $f = 1\text{kHz}$  to channel A or B and slowly increase it.  
Once the  $U_A$  at the power amp output reaches approx.  $29\text{V}-31\text{V}_{\text{eff}}$ , Rail+ and Rail- have to switch to the next higher operating voltage.
- Switching operating voltages should not have any influence on audio signal quality.
- The edges of the control signal rise with a speed of  $20-30\text{V}/\mu\text{s}$  (see diagram).
- With an output signal of  $66\text{V}_{\text{eff}}$ , the control margin  $\Delta U_{\text{Ein}}$  between Rail and  $U_A$  is between  $12,5\text{V}$  and  $14,5\text{V}$  while  $\Delta U_{\text{Aus}}$  is between  $23\text{V}$  and  $28\text{V}$ .



#### 4.12 Function Test – Switching Power Supply

##### 4.12.1 Function Test – Mains Failure

- Switch the power amplifier's power off using the Power Switch. The ON-LED has to dim and the relays drop immediately.
- Acoustic monitoring: No audible static noise when switching the power off or pulling the mains plug.

##### 4.12.2 Function Test – Mains Under Voltage

Operate the power amplifier on a Control Power Supply unit

- 220V/230V/240V devices:

- Increase the voltage of the variable isolating transformer starting from  $0\text{V}$ . At  $128\text{V}-148\text{V}_{\text{eff}}$  the power amplifier switches on.
- Decrease the voltage of the variable isolating transformer starting from nominal voltage. At  $85\text{V}-105\text{V}_{\text{eff}}$  the power amplifier switches off.

- 100V/120V devices:

- Increase the voltage of the variable isolating transformer starting from  $0\text{V}$ . At  $65\text{V}-75\text{V}_{\text{eff}}$  the power amplifier switches on.

- Decrease the voltage of the variable isolating transformer starting from nominal voltage. At 46V- 56V eff. the power amplifier switches off.

#### **4.12.3 Function Test – Overload Detection**

Drive both channels of the power amplifier with a 1kHz signal into 2ohms up to 2x1600W. Monitor the Mains Input Voltage to constantly keep it at nominal value. The power amplifier enters Protect Mode after approx. 5s-10s and regains normal operation after approx. 3s. CAUTION: Test results depend on Mains Impedance!

## **5. CPS2.11 Extension**

### **5.1 INPUTS A / B**

- Other than the OUTPUT connectors A / B the inputs A and B are carried out via 3-pole terminal strips.

### **5.2 POWER OUTPUTS A / B**

- The POWER OUTPUTS A / B are carried out via a single 4-pole terminal strip and not via Speakon-type connectors. The BRIDGED OUT-connector is does not exist.

### **5.3 LEVELREGLER A / B**

- CPS-Series amplifiers' Level Controls A / B are located at the rear panel.

### **5.4 POWER REMOTE**

- Operation without POWER REMOTE: CN804 on the Mains Input-PCB 86288/86289 has to be bridged to CN805 (Power Remote Disabled = shipping state). The power amplifier can be powered on and off by use of the Power Switch as usual.
- POWER REMOTE Operation: CN804 on the Mains Input-PCB 86288/86289 has to be bridged to CN806 (Parking) (Power Remote Enabled). Power-**ON** the power amplifier using the Power-Switch (different from CPS 2.8!). Apply a control voltage +24V at the Power Remote Input. The power amplifier has to power on. After removing the control voltage it has to power off again.

### **5.5 POWER ON DELAY**

- 6 Dipswitches ( $t_1 - t_6$ ) allow setting different delay times.

$t_1 = 0,25 \text{ s}$	switch 1 to ON
$t_2 = 0,50 \text{ s}$	switch 2 to ON
$t_3 = 1,00 \text{ s}$	switch 3 to ON
$t_4 = 1,50 \text{ s}$	switch 4 to ON
$t_5 = 2,00 \text{ s}$	switch 5 to ON
$t_6 = 2,50 \text{ s}$	switch 6 to ON
$t_0 = 5,00 \text{ s}$	no switch to ON

### **5.6 Shipping State CPS2.11 Extension**

- $t_1 = 0,25 \text{ s}$  Switch 1 to ON
- CN804 bridged to CN805 (Power Remote Disabled)

## 6. Technical Specifications

- Amplifier at rated conditions, both channels driven, 8Ω loads, unless otherwise specified.

### LX2200 – CP3000S – CPS2.11

Load Impedance	2Ω	4Ω	8Ω
<b>Maximum Midband Output Power</b> THD = 1%, 1kHz, Dual Channel	1600 W	1100 W	600 W
<b>Rated Output Power</b> THD < 0.1%, 20Hz ... 20kHz	----	900 W	450W
<b>Maximum Single Channel Output Power</b> Dynamic-Headroom, IHF-A	2600 W	1400 W	720 W
<b>Maximum Single Channel Output Power</b> Continuous, 1kHz	2100 W	1300 W	660 W
<b>Maximum Bridged Output Power</b> THD = 1%, 1kHz	-----	3200 W	2200 W
<b>Maximum RMS Voltage Swing</b> THD = 1%, 1kHz		78 V	
<b>Power Bandwidth</b> THD = 1%, ref. 1kHz, half power @ 4Ω		10 Hz ... 60kHz	
<b>Voltage Gain</b> ref.1kHz		32.0 dB	
<b>Input Sensitivity</b> at rated output power		+5.8 dBu (1.51V rms)	
<b>THD at rated output power</b> , MBW = 80kHz, 1kHz		< 0.05%	
<b>IMD-SMPTE</b> 60Hz, 7kHz		< 0.02%	
<b>DIM30</b> 3.15kHz, 15kHz		< 0.05%	
<b>Maximum Input Level</b>		+22dBu (9.76 Vrms)	
<b>Crosstalk</b> ref. 1kHz, at rated output power		< -80dB	
<b>Frequency Response</b> -1dB, ref. 1kHz		15 Hz ... 40 kHz	
<b>Input Impedance</b> active balanced		20kΩ	
<b>Damping Factor</b> 1kHz		> 300	
<b>Slew Rate</b>		35 V/μs	
<b>Signal to Noise Ratio Amplifier</b> A-weighted		107 dB	
<b>Output Stage Topology</b>		Class H	
<b>Power Requirements</b>	240, 230, 220, 120V or 100V; 50Hz ... 60Hz ( factory configured )		
<b>Power Consumption</b> at 1/8 maximum output power @ 4Ω		850 W	
<b>Protection</b>	Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn-on delay Front-to-rear, 3-stage-fans		
<b>Cooling</b>			
<b>Ambient Temperature Limits</b>	+5°C ... +40°C ( 40°F ... 105°F )		
<b>Safety Class</b>	I		
<b>Dimensions</b> (W x H x D), mm	483 x 88.1 x 384		
<b>Weight</b>	8.15 kg (18.0lbs)		
<b>Remote Power On (CPS2.11 only)</b>	+24Vdc, delay-time selectable		
<b>Optional:</b>			
<b>Rear-rackmount 15,5"</b>	112930 (RMS15-CL)		
<b>Rear-rackmount 18"</b>	112933 (RMS18-CL)		
<b>2-Way Crossover</b> , internal filter-card, 24dB, LR	330Hz (NRS 90249), 500Hz (NRS 90250), 800Hz (NRS 90251), 1200Hz (NRS 90252)		

#### Notes:

- Depending on the ambient temperature, the unit might not operate continuously at 2Ω load.
- Due to mains voltage in Japan (100V/50Hz) the values for the maximum output power can be decreased up to 15% (only 100V version)!

Stand: 17.12.2003, JP

## 7. Index Documentation

- Index A:
- 1) Gain Switch that existed in the Test Series LX2000 removed
  - 2) New Type names and Order Numbers LX2200/CP3000S/CPS2.11
  - 3) Power Remote Option CPS2.11 changed
  - 4) Country-Specific Differences table added
  - 5) Mains Under Voltage values changed
- Index B:
- 1) Power Consumption table: Line 1/8 Max. Output VDE-Noise changed
  - 2) Technical Specifications: Japan footnote changed from 10% to 15%
  - 3) New values for Mains Under Voltage
  - 4) Technical Specifications: Power Consumption changed from 820W to 850W
  - 5) PCB-Names: 100V units do not have unique PCB
  - 6) Country-Specific Operating Voltages table added
  - 7) Upper Border Frequency of –3dB-Point changed from 85kHz to 80kHz
  - 8) Accessories mentioned in Technical Specifications changed
- Index C:
- 1) New Current Limiting value
  - 2) New Fan Control (4.4) values