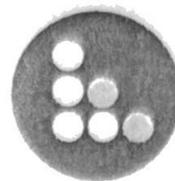


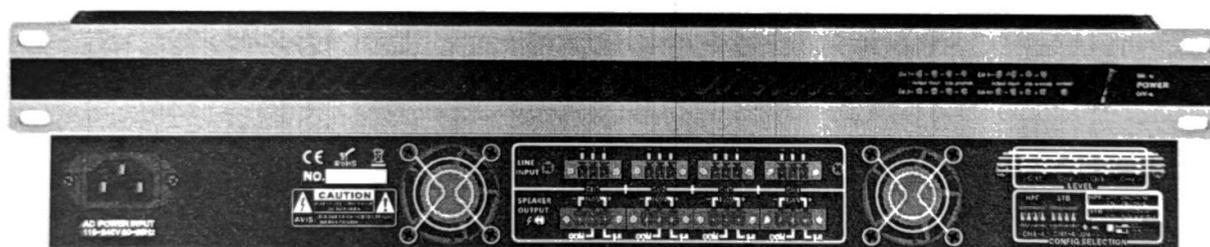
# User's Manual



**L O U D**  
OF SWEDEN

## 4-channel Class D Power Amplifier

4120



Specifications are subject to be changed without notice.



## Important Safety Information

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.
16. Plug this apparatus to the proper wall outlet and make the plug to be disconnected readily operable.
17. Main plug is used as disconnected device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.
18. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
19. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

## WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.  
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.  
TO PREVENT ELECTRICAL SHOCK,  
MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.

 <p>The lightning flash with an overhead symbol, within an equilateral triangle is intended to alert the user to the presence of unshielded "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.</p>	<p><b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p><b>WARNING:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>	 <p>The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance precautions instructions in the literature accompanying the appliance.</p>
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## Features

- ▶ Switching power technology digital power amplifier
- ▶ Class-D PA power amplifier of minimum power consumption
- ▶ Less rack space and less heat generation
- ▶ Four channel power amplifier into 19" rack mount unit
- ▶ Rated power output at 120W by four channels
- ▶ Four channel separate speaker outputs 100V
- ▶ Balanced XLR input by phoenix connector for four channels
- ▶ Each input with separate gain control.
- ▶ Each four channel with high-cut filter.
- ▶ Built-in auto standby feature to save power consumption
- ▶ Separate four channel indicators for protection, clip, input and output
- ▶ Complete short circuit, overload, high temp, clip and DC protection
- ▶ Wide AC input from 110V to 230V

## Description

The PD range digital class-D power amplifier is of switching power technology, which features of minimum power consumption and much higher efficiency up to 85%, moreover it helps to save installation rack space, generate less heat so as to extend its performance life span as a result.

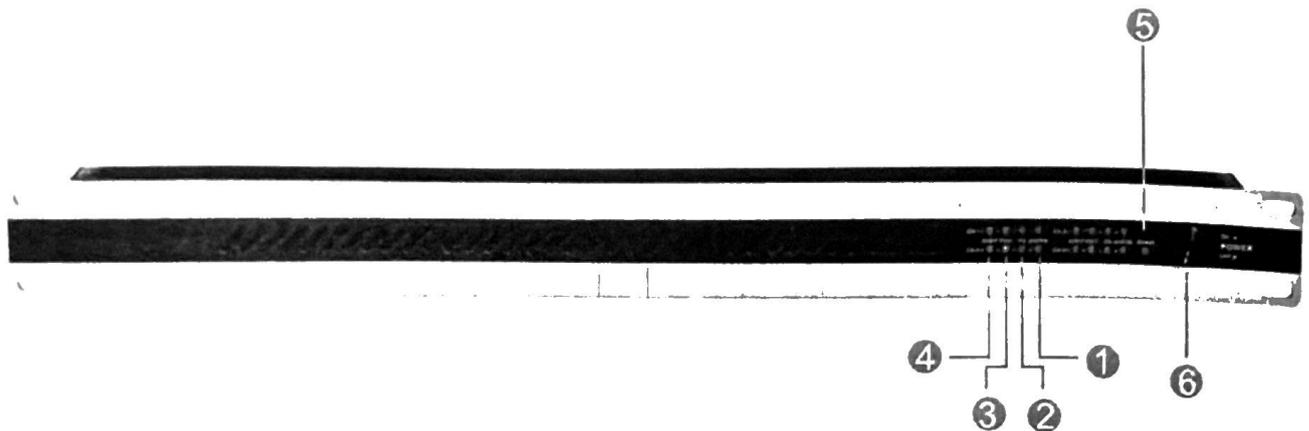
The digital class-D amplifiers are of rated power output at 120W by four channels, so it could be used as four zone multiple sources public address system at minimum cost. The versatile loudspeaker outputs of both high impedance 100V & low impedance 4ohms enable it meet both PA fixed installation and Hi- fistereo sound installation jobs.

There are four balanced inputs by phoenix connector for each channel with gain control. Four separate zone speaker outputs both by 100V. The built-in four channel separate high-pass filters could be enabled or disabled through the dip switch pre-setting.

Automatic standby enable after no detection of signal input for one minute, immediately wake up at sight of any input. Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Wide AC power supply from 115V to 230V, thus it support worldwide sound system installation.

## Front Panel



### 1.PROT

Protection indicator will light on in orange once the amplifier comes into protection status. The protection maybe resulted from speaker line short circuit, speaker line open circuit, amplifier overload and inner working temperature over 55°C, this indicator give visually guidance ask for repair and It will light o fforce these failures been repaired. There are four separate protection indicators for each four channels.

### 2.CLIP

Clip indicator will light on in red once the input or output is too high. There are four separate CLIP indicators for each four channels.

### 3.INPUT

Input indicator will light on in green once there is any input signal has been detected. There are four separate input indicators for each four channels.

### 4.OUPUT

Output indicator will light on in green once there is output signal has been passed. There are four separate output indicators for each four channels.

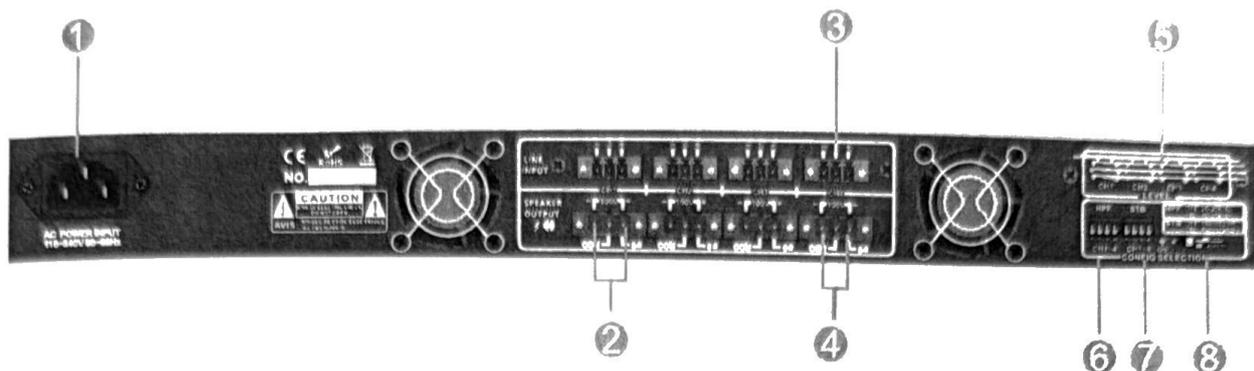
### 5.POWER

Power indicator will be light on in blue once the unit has been powered whether by AC or DC.

### 6.POWER SWITCH

Power switch used to power on and power o ffthe equipment.

## Rear Panel



### 1.AC POWER Socket

AC power cord for input from 110V to 230V, the power cord itself is auto-switching.

### 2.100V SPEAKER OUTPUT

The speaker outputs shall be connected to 100V line loudspeakers, the negative end to the speaker negative end and the positive end to the speaker positive end. There are four channel separate 100V speaker outputs which could be managed respectively. These speaker output are supplied in phoenix connector.

Never mixed the negative end and the positive one, which may cause the short circuit protection.

Never connection the low impedance loudspeaker to these 100V ends, which may burn up the speaker or have heavy distortion.

### 3.LINE INPUT

The line input support both balanced or unbalanced input, these input are supplied in phoenix connectors.

There are four channel separate line inputs which could be managed respectively.

### 4.8Ω SPEAKER OUTPUT

The speaker outputs shall be connected to low impedance 8Ω loudspeakers, the negative end to the speaker negative end and the positive end to the speaker positive end. There are four channel separate 8Ω speaker outputs which could be managed respectively. These speaker output are supplied in phoenix connector.

Never mixed the negative end and the positive one, which may cause the short circuit protection.

Never connection the 100V line loudspeaker to these 8Ω ends, which may burn up the speaker or have heavy distortion.

### 5.Volume Control

The Volume control is used to adjustment the input volume.

### 6.HIGH PASS FILTER

The high pass filter function will be enabled or disabled by pre-set the four channel separate dipswitch. There are four channel separate high pass filters which could be managed respectively.

### 7.AUTO-STANDBY

The Auto standby function will be enabled or disabled by pre-set the four channel separate dipswitch. The enabled auto-standby function will automatically power come into standby once no input has been detected within 2 minutes. The amplifier will immediately wake up once there is detection of input signal. There are four channel separate auto-standby dipswitch which could be managed respectively.

### 8.100V and 70V line switch

This switch is for 100V and 70V line switch for the speaker line match.

## Speaker Connection

Before connecting speakers, disconnect the AC power cable. Note the proper connecting terminals as shown below. Make sure that the total impedance is not less than the rated impedance indicated.

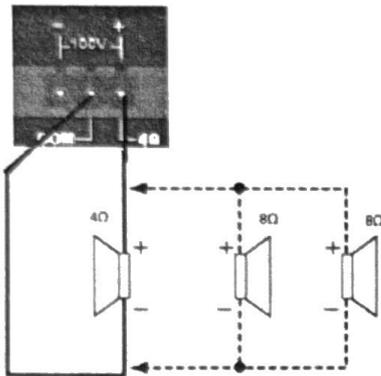
### - Connecting 4-16Ω Speaker Systems

When connecting conventional 4-16Ω speaker systems, connect the speaker's positive (+) side to the terminal labeled 4-16Ω. Connect the speaker's negative (-) side to the terminal labeled COM.

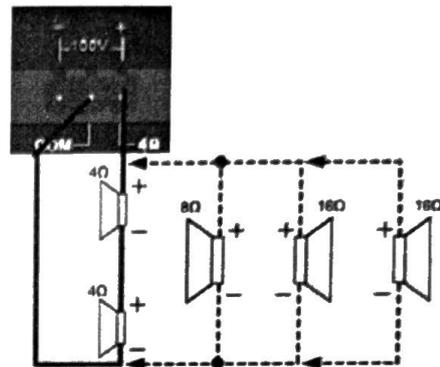
### - Connecting High-Voltage Distributed Speaker Systems

When connecting a low-impedance (100V) speaker system in parallel, connect the speaker's positive (+) side to the terminal labeled 100V. Connect the speaker's negative (-) side to the terminal labeled COM.

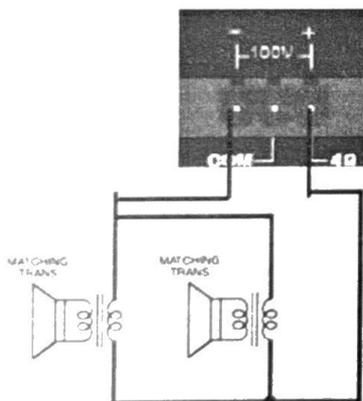
#### FOR 4Ω LOW IMPEDANCE SPEAKER CONNECTION



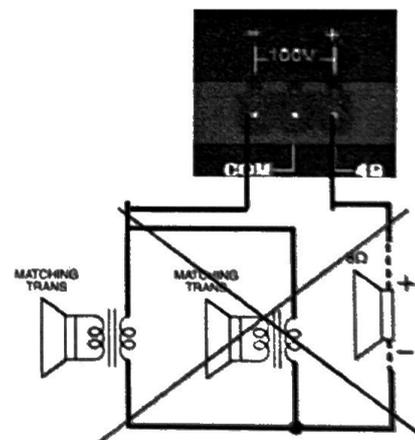
#### FOR 8Ω LOW IMPEDANCE SPEAKER CONNECTION



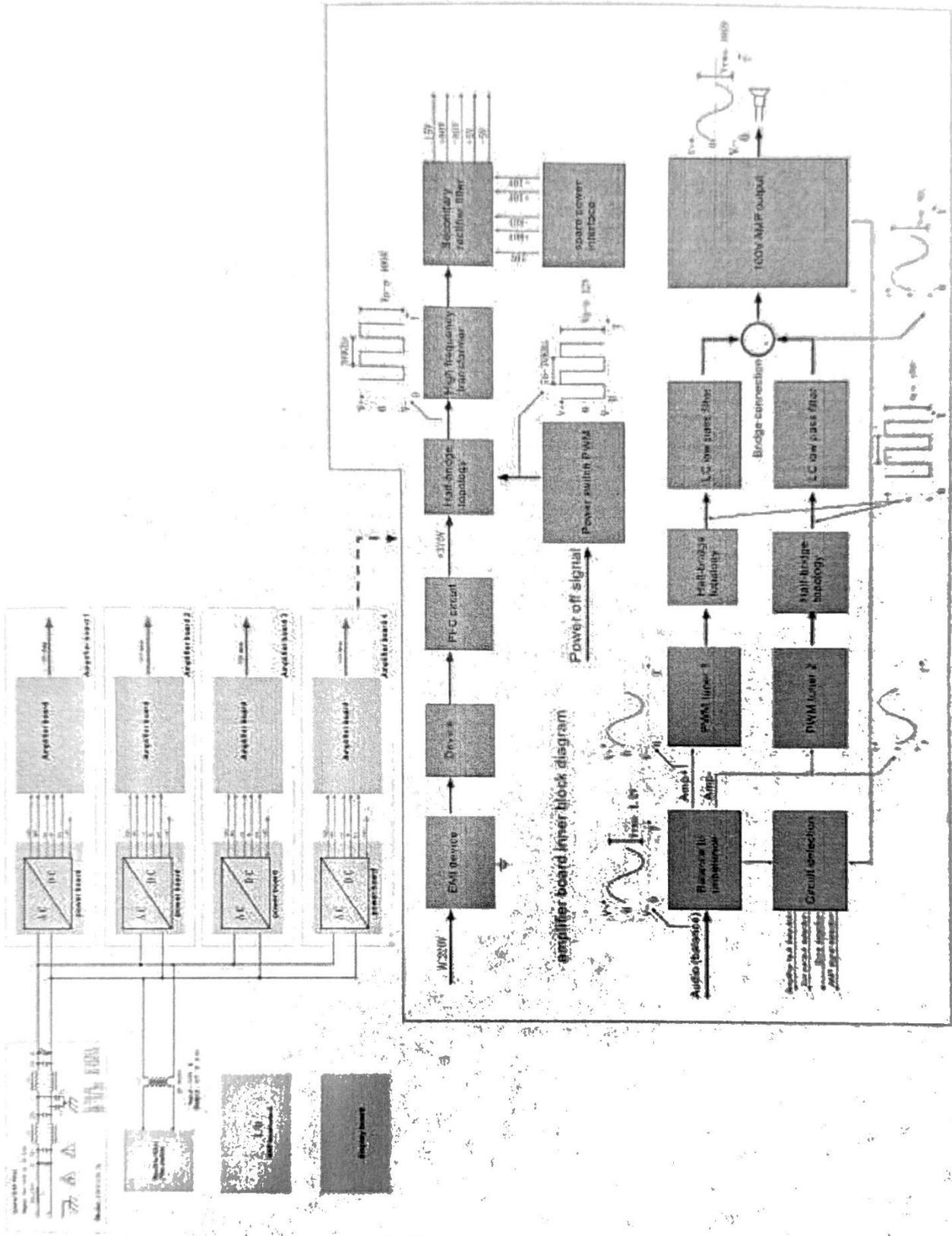
#### FOR 100V SPEAKER WITH TRANSFORMER CONNECTION



#### WRONG SPEAKER CONNECTION



## Block Diagram



## Parameter

Description	4 Channel Class-D Power Amplifier
Rated Power Output	4x120W
Speaker Output	100V
Frequency Response	H Cut OFF 20Hz-20KHz (+1/-2dB) H Cut ON 70Hz-20KHz (+1/-3dB)
Input	0.775V, 0dBu, balanced phoenix connector by four channels
Input Impedance	10K $\Omega$
THD	<0.1% (1KHz/-3dBv, 100W)
S/N Ratio	>80dB
Crosstalk	>60dB, 1KHz, Max output
Power Consumption	550W
Power Supply	AC 100-240V, 50-60Hz
Dimension	484x420x44 mm
Weight	8.3kg