

DSP CLASS D

Professional Audio Power Amplifier

User's Manual

1

1, The company has the right of final interpretation of the manual

2, To retain the right to modify this manual without prior notice

Such as the contents of this manual do not match your product, please prevail in kind
In the case of late reservations prior notice of the right to modify product specifications

8

Technical specifications

DSP series from NSP is a new milestone in the ClassD professional power amplifier. Using advanced ClassD power module and SMPS power module, makes it with the high efficiency and reliability, and high power density as well. Built-in DSP, fully digitally controlled, standard with a USB To PC communication port.

Product Characteristic

• Built-in Analog digital signal processor, Lightweight body, strong power output ;

• Audio signals can be processed accurately by route, gain, phase, mute, parametric equalizer, delay, frequency division, compression and limitation

• The power amplifier adopts a stable and efficient ClassD power amplifier module. The efficiency of the ClassD power amplifier module is over 92%, which makes the DH series power amplifiers have high efficiency and reliability, and also has extremely high power density. ;

• Power supply adopts high-efficiency and stable R-SMPS power supply system;

- The soft start LLC resonant SMPS module;
- The active power factor correction (PFC), can be stable working in full voltage range (90-264V)

• Perfect protection system to effectively reduce damage caused by improper use and further improve machine reliability ;

• The efficient speaker EMF absorption system ;

- The unique peak limiter and ripple cancellation network ;
- The low frequency powerful, depth is extremely low, mid high frequency with high transparent, clear and sweet ;
- The integration design of the power amplifier module and power supply module, more than 85% components with mechanical automation operation, to ensure the consistency of the product ;

Applications

• The touring / portable audio performance;

- The Bar / Music Hall;
- The stadium / arena.

Switch machine steps

Power on

Source-Sound console-Peripheral devices-Power Amplifier



Is particularly important for large power systems, switch machine process, not in order to possibled amage to the equipment, therefore it is recomm-ended to use power sequence to manage.

7

2

Power off

Common Problems and Solutions

Fault	No	Elimination method			
	1	Check the machine's power switch is turned on			
Power light is off	2	Check the machine power plug and the power outlet is good contact			
	3	Power outlet if there is AC 100-250V, 50 / 60Hz AC voltage			
	4	After checking the machine plate located overload cutout whether the pop-up			
Silent, Normal power indicator Signal light is not on	1	Machine connected to the music to check the signal cable is good contact			
	2	Provides music signal source power is turned on, the volume is turned on			
	3	The volume potentiometer is turned on			
Overload indicator light The sound is not normal	1	Provides audio output amplitude of the music signal is too large			
	2	After the machine plate gain switch set reasonable, if set too high			
	3	Check the output connection is short-circuit fault, the connected load impedance is correct, check after a good reboot			
Other faults	1	Please check the machine settings and manual control cable is correct			
	2	Technical Support to the factory or local special maintenance advice			

Products limited warranty

The company's professional audio amplifiers guarantee within a certain period of use does not fail because of design, materials and process defects caused from the date of purchase, the product failure problems within a year period of use, the company will provide free product repair or replacement service.

1. Product appearance problem.

2. To "product descriptions" or "User's Manual" has been included project-related problem statement.

3. Users using the product beyond the "product descriptions" or "User's Manual" has been stated range caused by the fault.

- 4. Abuse or misuse of the product due to a malfunction.
- 5. The company's products and services by a non-unit or its designated service representative for maintenance records caused by the failure.
- 6. If the product requires service user shall produce sales orders, purchase invoices and other documents related products as proof.
- 7. The company's products in order to indicate the time limited warranty warranty card shall prevail.
- 8. The company's limited warranty annex to indicate time on the warranty card shall prevail.

The factory packaging box including content:1. Audio power amplifier

- 2. User manual
- 3. Certificate of approval
- 4. The power cord

DSP power amplifier interface



2.In the main interface, short press mute CH1, and long press it enter menu mode, short press it is return function.

3.Short press CH2 in menu mode is for select function.

4.Short press CH3 in menu mode is for select function.

5. In the main interface, short press mute CH4, and long press to enter the password lock mode (the default password is 000000, if you forget the password, please use the universal password: 190906 to unlock). In the menu mode, short press this button is to confirm function

6.USB online interface.

7.Wind hole: Please keep this unobstructed ventilation holes, the internal resistance of cotton dust worry about half the time required for cleaning



Amplifier back panel of each part Features



- 2. Fan wind hole
- 3. XLR signal input (XLR socket): balanced input, pin1- signal ground, pin2- signal positive, pin3- negative signal
- 4. Mode selection switch: ST stereo that each channel operates independently, BRG is bridge. PAP is parallel Sensitivity (rated power 8Ω)
- 5.Pre-signal output
- 6. Signal output terminal

NOTE: Dual channel mode can operate at 4 to 16 ohms, bridged mode can work in 8 to 6 ohms, 4 ohms bridged ban, which is equal to 4 ohms bridged 2 ohms per channel connections will result in shortening the life of the amplifier, or raw unne-cessary failures

The performance parameters

Input impedance	halanced/unhalanced >20K0/>10K0				
T.H.D	≤0.05%				
Frequency response	20Hz-20KHz(±0.5dB)				
S/N (A weighted)	>104dB				
Damping factor	≥600				
Slew rate	>20V/us				
Sensitivity (rated power 8Ω)	0.775V/1V/32dB				
The minimum load	≥2Ω				
Air duct	front to back ventilation				
Protection	Soft start, DC short circuit, Overheat, Overload, Clipping / Distortion Limits.				

1. Global interface:

DSP AM	P											- 0
	C				Connect	t Status:C	onected					
		Schene	Routing	Gun in 1	In 2	In C In 4	Uul 1	Ust 2 - Ust 3	Ual 1	Lawriter		
	Scheme	Routing	Gain	In1	In2	In3	In4	Out1	Out2	Out3	Out4	Limiter

1). Signal source selection: DANTE (digital) input or Analog (Analog) input can be selected;

2). There is a general input routing function, each channel has sensitivity, gain, input EQ, output EQ and pressure-limiter functions. Click the corresponding function button to adjust or jump to the adjustable interface for parameter setting;

3). Each channel has a Copy and Paste function, and you can Copy and Paste each function separately. In other words, after adjusting CH1, you can Copy the parameters of CH1 to CH2;

4). LINK function can be selected below each function of each channel. If CH1 and CH2 choose Link1 at the same time, CH1 and CH2 will be connected together for debugging, and only CH1 can be adjusted

5. 1. Routing interface:

The input source of all input channels can be carried out tunable gain mixing and then output to each output channel. $-\infty$ represents the shielding of the input source of this channel.

DSPTechnical Specifications

DSP Specifications	96KHz Sampling rate, 24-bit A/D and D/A Conversion
LCD display	Backlight 2x16 characteristics LCD display
Input impedance	Balanced / unbalanced: 20k Ω / 10k Ω
Max input leve	+17dBu (5.5V)
Frequency response	20Hz-20kHz(0-0.5dB)
Route	Each output channel can choose a different input channel or any combination of input channels
Gain	Adjustment range:+15dB,-40dB, 0.1dB per unit
Delay	0-20msseparately delay control for each input and output channel, and the adjustment range is 0-800ms
EQ	Each input and output channel can be set up 31 equilibria, the EQ way is: PEQ/Lo-Shelf/Hi-Shelf
Frequency	20Hz-20kHz
Limiter	time:10ms-3000ms, Step:1ms;Hold time:0ms-3000ms, Step:1ms;Release time:10ms-3000ms, Step:1ms;