

DSP6 manual

□ TECHNICAL SPECIFICATION

Features:

Frequency response: 20Hz~20kHz

THD: 0.01%

Max input level: 10VPP

Unit gain (Bypass): step, 1 dB

Description:

Input gain: -60dB~+6dB

5 band parametric equalizer:

Gain range: -12dB~+12dB, step: ± 0.1 dB

Q range, 0.4~128

Frequency: 19.7Hz~20.2kHz, minimal step: 0.4Hz

Crossover: slope -6 dB,-12 dB,-24 dB butterworth filter

HPF: 10Hz~16kHz, minimal step: 0.2Hz

LPF: 35.1Hz~20kHz, minimal step: 0.7Hz

Delay: 0~8ms (unit ms, m and feet)

Limiters: -61dB~+3dB

Attack/RMS time, 10-1000dB/Sec

Hold time, 0-100ms

Decay time, 10-1000dB/Sec

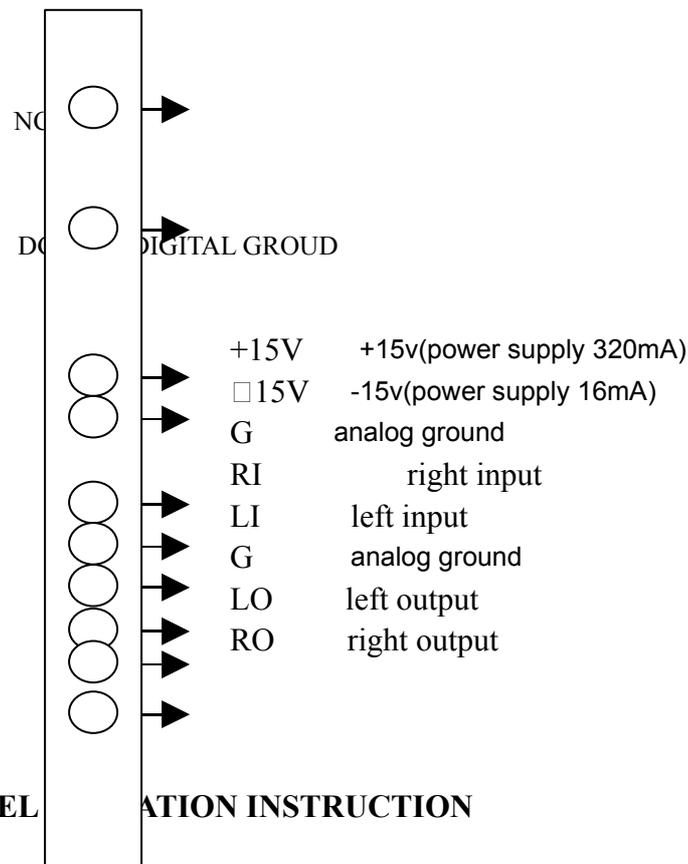
Phase invert: 0, 180°

Signal generator:

1. Sine wave: auto sweep, sweep speed can be adjusted.
manual sweep
sweep frequency range: 20Hz-20kHz

2. White noise

□ CONNECTION DIAGRAM □



1: OFF LINE MODE:

Switch on the power, the system accesses the OFFLINE mode.

A. Adjust the volume: turn CHA/CHB button to adjust the input level of CHA/CHB.

B. Setup the amplifier ID:

Press CHA button for about 3 seconds, the LCD shows as follows:



Then, turn CHA to change the amplifier ID from 1 to 255. Press CHA button again and save the setting.

C. Load program

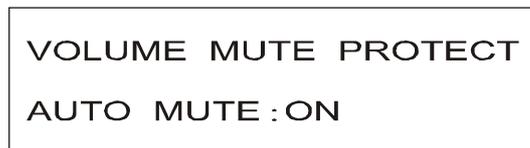
Press the CHB button for about 3 seconds, the LCD shows as follows:



Then, turn CHA to select one program(1-11) . Press CHB button again, save the setting and load the selected program. At the same time, the LCD shows: LOADINGSeveral seconds later, the LOADING is finished and the system return the menu

D. SETUP VOLUME PROTECT

Under the menu of LOAD PROGRAM , press the CHB button again for about 3 seconds and then the LCD shows as follows:



Turn the CHB button to switch on/off AUTO MUTE. Then, press the CHB button again to save the setting.

AUTO MUTE: ON. When the power is on, the volume of CHA/CHB is MUTE automatically.

AUTO MUTE: OFF. When the power is on, the volume of CHA/CHB comes to the setting when power was off last time.

NOTE:

- 1.Among 11 programs, No.11 is not used under the online mode without PEQ, XOVER and DELAY. The other 10 programs can be saved and recalled on the online mode.
2. The volume is mute automatically after every LOAD PROGRAM.
3. When the system switches from the online mode to the offline, the system can load the program that is saved under th online mode. At the same time, the volume is mute automatically.

2: ONLINE MODE

1. Connect the amplifier to PC with the right cable: insert one end of cable into parallel port of PC and the other end into the PC REMOTE in the front panel of amplifier. Start DSP6 testing software.

2. CONNECTION

Click the Debug button and then click Connect. Select one device number(1-255). If this number is the same as the amplifier ID, the LCD shows as follows:

CONNECT SUCCESSFUL
PC_CONTROL DEVICE

At that time, the system can be tested by DSP6 software. All the functions under the offline mode is not valid.

3. DISCONNECT

Click Debug button and then click Disconnect, the LCD shows as follows:

CONNECT CANCEL
MCU_CONTROL DEVICE

Then the software testing is not valid. The system return the offline mode. Regarding the operation of DSP6 software, please refer to the online help of it.

PC SOFTWARE OPERATION

DSP6 adopts the advanced telecommunication control technology. The user can control the gain, EQ, crossover, delay, limiter, program management etc. through the interface software. The below introduces establish the connection and program management operation.

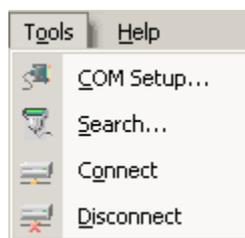
A. Establish the connection

1 Installing the Software

Run the application . Setup will install the DSP6 application onto your PC. You can accept the default directory, or specify a different location to install the application.

2 Connecting a PC

Use a standard computer cable (accessory with the unit) to connect a PC to the DSP amplifier.



3. Configure COM port

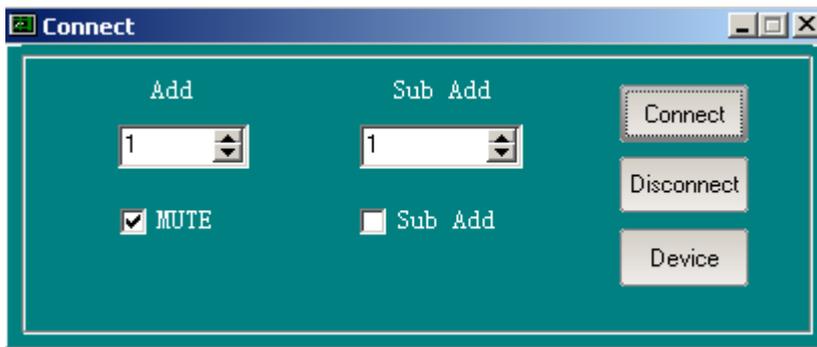
Click on **TOOLS** in the top menu bar, and select **COM Setup...** to open the COM Setup window. The application uses COM1 on the PC by default. If necessary, you can change the COM port used by the application. Click the **COM Select: COM1** pull-down box in the **COM Setup** window, all the serial

ports available in the PC list automatically, then select the desired COM port and click OK button.



Select Search... to open search function that will find out all the units in the net. The multiple units with the same Address (master ID) and different Sub Address (slave ID) can't be identified. You can identify such units only from the Sub Address (slave ID), please keep the Sub Address (slave ID) so that you can control such units when connecting with PC

4. Establish the Communication Connect



Select Connect button to open the Connect window. Fill in the Add and/or Sub Add to select the unit. Click Connect to go “online”, Then you can adjust the amplifier’s parameters of gain, EQ, crossover, delay, compress/limit, mode etc..

The Address (main ID) is from 1 to 255 that can be setup by the user freely. The Sub Address (slave ID) is from 1 to 65536 that is preset in the factory and can't be changed. The Sub Address will display each time the unit powers on or press the left jog-wheel after turning on.

The unit is mute (default) if mute is selected by clicking the MUTE checkbox, otherwise the unit gain remains.

Disconnect means the unit connecting goes out of the PC control. The unit will reload the program automatically while disconnect. The gain will escalate gradually up to the program gain if the program gain is not mute and AUTO MUTE is OFF (refer to SETUP VOLUME PROTECT in amplifier manual).

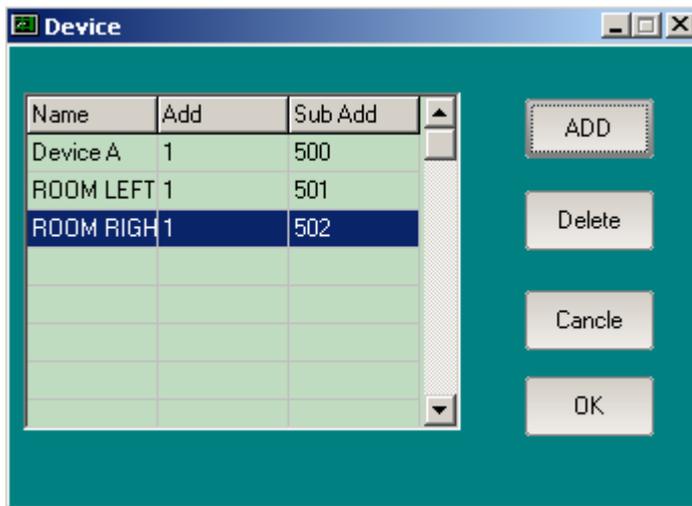
NOTE:

The user must fill in Sub Add (slave ID) to connect the unit if two or above units with the

same Add (master ID). Otherwise the system would connect all the units with the same Add (master ID) to cause communication malfunction.

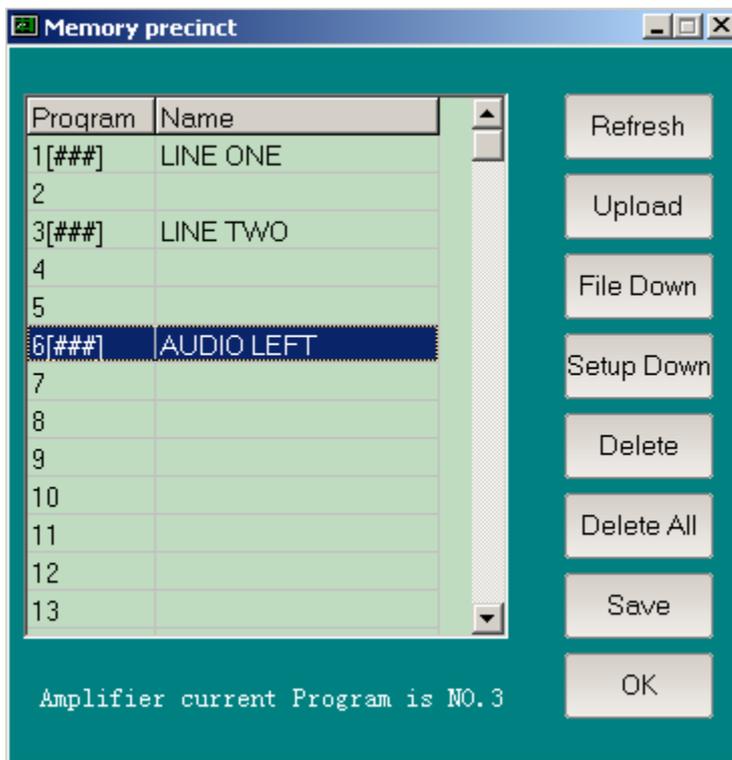
If no units have the same Add (master ID), the user can connect the units without Sub Add (slave ID) setup.

The present connect unit disconnects automatically every time connecting a new unit.



Click Device button to open the Device window. The user can modify the Name of the unit and manage the device information before connect. The maximum units can be managed are 255. Select a device, click OK button, the device information will be sent to the Connect window.

B. Program Management



A program can be stored in any one of the 20 available memory locations. The No. 21 program is a default one, who can't be refreshed, EQ and Limiter curve is smooth. No delay. The phase is zero.

Refresh: Write the current program content into the unit. The "[###]" symbol indicates there are setup parameters in program. Vice versa.

Upload: DSP6 recall the program, and setup the program number as the current one, mute and pass the parameters to the PC program interface.

File Down: Download the file stored in PC into the unit as the program.

Setup Down: Collect the current interface parameters to form a program and download into the DSP6.

Delete: Delete the current program.

Delete All: Delete all the programs.

Save: Store a program in PC.



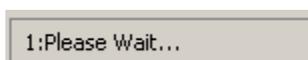
The user can select the file gain in File Down mode (the parameter gain in Setup Down mode) or mute when download the program. Such gain can be effective only if the unit is in the offline mode and AUTO MUTE is OFF. In online mode, the unit will download the file and recall the program when New or Open the file. If the current program is No.21, the user can't New or Open the file.

Note:

All the communication states are indicated in the bottom left corner.



1 is the Add (master ID), Finish... indicates the communication (send or receive) is completed.



Please Wait ... indicates the data has not been sent out, Please wait.

1: Record...

Record... indicates the correct return signal is not received. Please operate again or check the communication line.

PC software control

1. MENU COMMAND

File menu

Open	Open an existing File of PC
Save	Save current setting to PC
Read From Memory	Read the parameters of the program
Send To Memory	Save the value of parameters to the program
Exit	Exit PC application

Mode menu

Stereo	Stereo mode, the input and output of left and right channel is independent
Bridge	Bridge mode, the output phase of left and right channel is reverse
mono	Mono mode, the output phase of left and right channel is same

Test menu

Sine wave	Sine wave test, generate the sine wave signal for testing the system. Frequency range: 20Hz~20kHz
Noise	white noise test, generate the white noise signal for testing the system

Debug menu

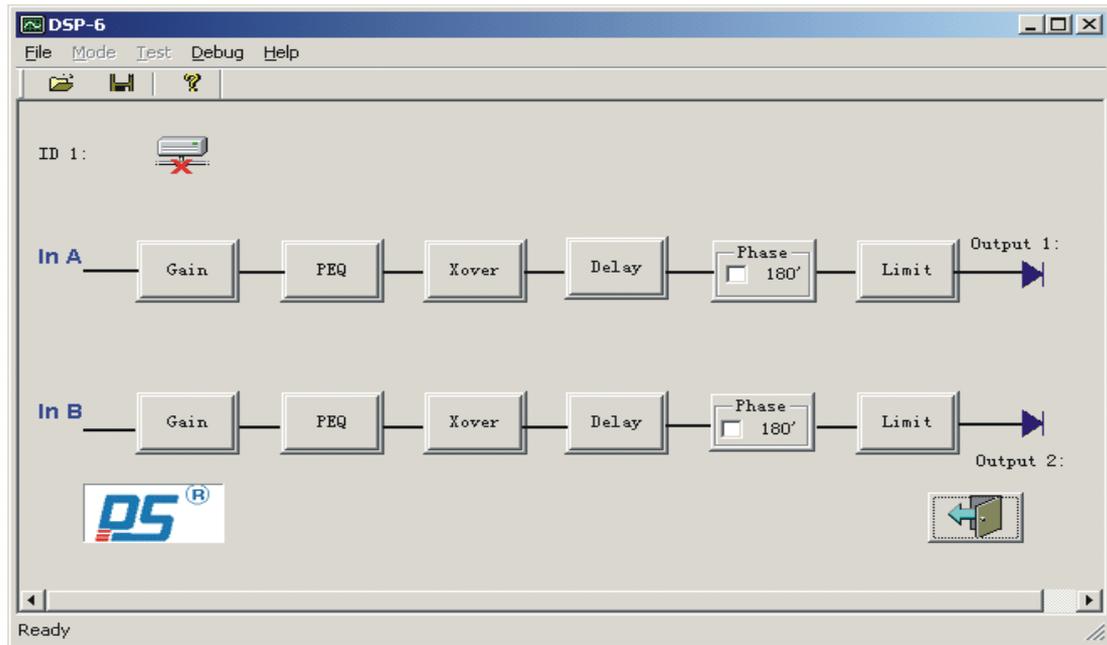
Connect	Connect the device to PC and then controlled by PC
Disconnect	Disconnect the device away from PC

Help menu

Content	Index to topics
About DSP_6	Version and the information of company

2. PARAMETER ADJUSTMENT

Under the main interface, click the relevant button to adjust the parameters of Gain, PEQ, Xover, Delay, Phase and Limiter.



1) Gain

Click Gain button to set the level of the Left/Right Channel. Volume range: -60dB to 6dB.

2) PEQ

Click "PEQ" button and then the frequency, gain, Q value and flat (on/off) of 5 bands PEQ can be set. Frequency range: 19.7Hz~20.2kHz; Q value range: 0.4~128;

3) Xover

Click the Xover button and then the parameters of filter (slope and frequency of HPF/LPF) can be set. The minimum frequency of LPF is not lower than the maximum frequency of HPF.

4) Delay

Click the Delay button and then the delay unit and delay time can be set. Max delay: 8ms.

5) Phase

Click the 180° check box to select the reverse phase 0°, 180°.

6) Limiter

Click the Limiter button and then the threshold, hold time, attack time and release time can be adjusted. Used for protecting the system.