

DSM2-6 MKIII

DIGITAL SPEAKER MANAGEMENT SYSTEM

Order ref: 170.660UK
User Manual



Features

- 2 input, 6 output fully balanced
- 6 band parametric EQs
- Delay and Limiter functions
- All inputs/outputs independently controlled
- Linkable and expandable system
- PC editing software included

Introduction

Thank you for choosing the DSM2-6 (MKIII) Digital Speaker Management System.

This unit has been designed to offer professional quality performance with open flexibility to address a wide range of sound reinforcement applications. Please read this manual and keep for reference in order to gain the best results from this equipment and avoid damage through misuse.

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Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this item near water.
6. Clean only with dry cloth.
7. Do not block any of the ventilation openings.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other items (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarised plug. The wide blade is provided for your safety. If the provided plug does not fit into the item or the mains socket, consult an electrician for replacement.
10. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and point where they exit from the item. Only use attachments/accessories specified by the manufacturer.
11. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the item. When a cart is used, use caution when moving the cart/item combination to avoid injury.
12. Unplug this item during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the item 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 item, the item has been exposed to rain or moisture, does not operate normally, or has been dropped (Note: accidental or cosmetic damage is not covered by the items 12 month warranty)
14. Please keep the unit in a safe environment.
15. Do not store anything on top of the item.



CAUTION
RISK OF
ELECTRIC SHOCK



To reduce the risk of electric shock, do not remove any cover.
No user-serviceable parts inside. Refer servicing to qualified personnel only.

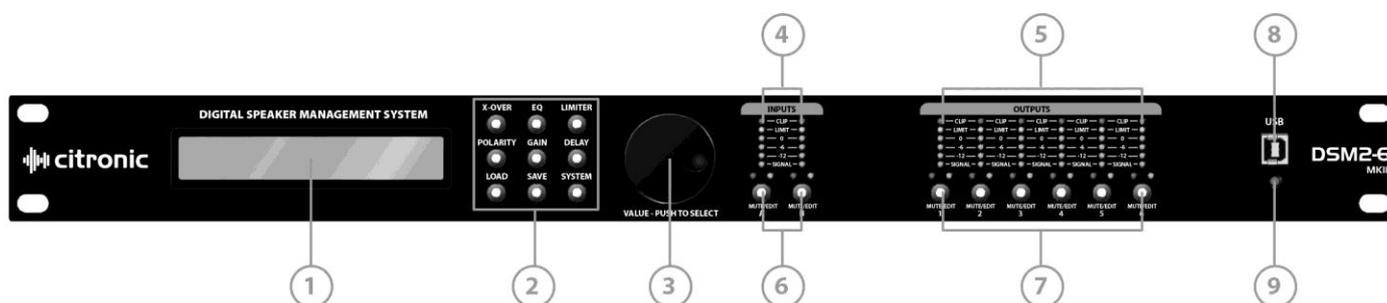


The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation mark within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

Front Panel Controls and Connectors



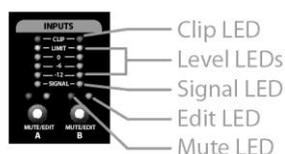
1. LCD Display - Displays parameters and programming menu

2. Function Select Buttons:

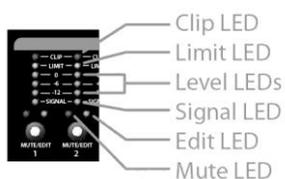
- X-OVER - Crossover settings (output channels only)
- EQ - Equalisation (EQ) settings (each channel)
- LIMITER - Limiter settings (output channels only)
- POLARITY - Signal polarity setting
- GAIN - Gain and input channel setting (output channels only)
- DELAY - Time correction delay setting
- LOAD - Load selected stored program
- SAVE - Save current settings to memory (or delete)
- SYSTEM - System and utilities menu

3. Rotary Encoder - Parameter adjust and menu navigation (press to enter)

4. Input channel LEDs



5. Output channel LEDs



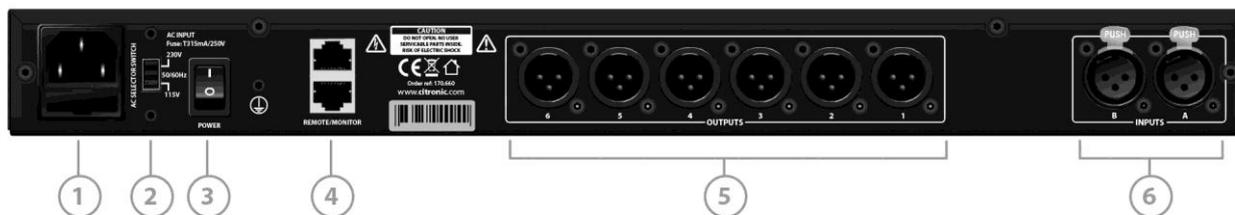
6. Input EDIT/MUTE key - Press to mute, press & hold 3sec to edit

7. Output EDIT/MUTE key - Press to mute, press & hold 3sec to edit

8. USB connection - Type B connector for linking to PC

9. USB indicator - Indicates when USB is connected

Rear Panel Controls and Connectors



1. IEC connector - Mains inlet with integral fuse
2. Mains voltage selector - Check mains supply and switch to correct voltage
3. Power switch - Switches mains power to the DSM2-6
4. RS-485 connector - Connection for networking to PC or other DSM2-6
5. Output connectors - Balanced XLR output connectors
6. Input connectors - Balanced XLR input connectors

Panel Operation:

Input Parameter Setting

Press & hold the MUTE/EDIT key for IN A or IN B for 3 seconds to enter edit mode.
 Pressing a function button edits that particular function for the channel being edited.
 Turning the rotary encoder adjusts the current selected parameter.
 Pressing the rotary encoder enters the value for that field
 Further turning of the encoder navigates to other parameters within the function
 Pressing other function buttons switches to those other functions instantly

1. Input Polarity setting:

[Parameter] Polarity [+] positive [-] negative (independent for each channel)

- example:*
1. Hold IN A MUTE/EDIT button 3secs for edit mode (green LED lit)
 2. Press POLARITY and the display will show as below



3. Turn encoder to change polarity

2. Input Delay setting:

[Parameter] Delay 0 - 1000ms (independent for each channel)
 21µs steps 0 - 10ms, 84µs steps 10-20ms, 0.5ms steps over 20ms

- example:*
1. Hold IN A MUTE/EDIT button 3secs for edit mode (green LED lit)
 2. Press DELAY and the display will show as below



3. Turn encoder to change the time value

3. Parametric EQ setting:

[Parameter] Input EQ1 – EQ6 (6 independent EQs for each channel)
 Frequency 20Hz - 20kHz Gain -20 - +20dB Bandwidth 0.05Oct - 3Oct

example:

1. Hold IN A MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press EQ and the display will show as below



3. Turn encoder clockwise to open the Freq setting and adjust value



4. Press the encoder to confirm value and rotate encoder to move over to Gain



5. Press the encoder to confirm Gain and rotate encoder to adjust the value
6. Press the encoder to confirm value and rotate encoder to move over to Bandwidth



7. Press the encoder to confirm Bandwidth and rotate encoder to adjust the value

A short press of the EQ function button switches through EQ1 to EQ6 to set each EQ Press and hold MUTE/EDIT key of other channels to repeat process for each in turn

Output Parameter setting

Press & hold the MUTE/EDIT key for OUT 1 to OUT 6 for 3 seconds to enter edit mode.

Pressing a function button edits that particular function for the channel being edited.

Turning the rotary encoder adjusts the current selected parameter.

Pressing the rotary encoder enters the value for that field.

Further turning of the encoder navigates to other parameters within the function.

Pressing other function buttons switches to those other functions instantly.

1. Output Gain setting:

[Parameter] Gain -12dB to +12dB in 0.1dB steps
 Select either or both inputs to the output channel

example:

1. Hold OUT 1 MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press GAIN and the display will show as below



3. Turn encoder clockwise to adjust the Gain value



4. Press the encoder to confirm value and rotate encoder to move over to input select



5. Press the encoder to select the input to switch on or off and rotate encoder to select
6. Press the encoder to confirm value and rotate encoder to move over to next input
5. Press the encoder to select the input to switch on or off and rotate encoder to select



2. Output Limiter setting:

[Parameter] Dynamic limiter (independent for each channel)

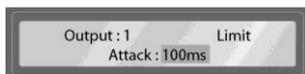
Threshold -20dB to +20dB Attack 0.3 to 100ms Release 2/4/6/8/16/32x

example:

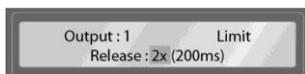
1. Hold OUT 1 MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press LIMITER and the display will show as below
3. Turn encoder clockwise to adjust the Thresh value



4. Press the encoder to confirm value, switch to Attack and rotate encoder to adjust



4. Press the encoder to confirm value, switch to Release and rotate encoder to adjust



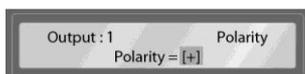
*Release value (2/4/6/8/16/32x) relates to multiple of Attack time

3. Output Polarity setting:

[Parameter] Polarity [+] positive [-] negative (independent for each channel)

example:

1. Hold OUT 1 MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press POLARITY and the display will show as below



3. Turn encoder to change polarity

4. Output Delay setting:

[Parameter] Delay 0 - 1000ms (independent for each channel)

21µs steps 0 - 10ms, 84µs steps 10-20ms, 0.5ms steps over 20ms

example:

1. Hold OUT 1 MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press DELAY and the display will show as below



3. Turn encoder to change the time value

5. X-OVER setting:

[Parameter] X-OVER Independent HPF and LPF per channel
 Frequency 20Hz - 20kHz Type Linkwitz-Riley, Bessel, Butterworth
 Slope 12/18/24/48dB per octave

example:

1. Hold IN A MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press X-OVER and the LPF display will show as below
3. Turn encoder anticlockwise to open the Freq setting and adjust value



4. Press the encoder to confirm value and rotate encoder to move over to Filter Type



5. Press the encoder to confirm Filter Type and rotate encoder to select the Slope



6. Press the encoder to confirm Slope and rotate encoder to adjust the value
7. Press X-OVER function button and the display will switch to HPF screen
8. Turn encoder clockwise to open the Freq setting and adjust value



9. Press the encoder to confirm value and rotate encoder to move over to Filter Type



10. Press the encoder to confirm Filter Type and rotate encoder to select the Slope



11. Press the encoder to confirm Slope and rotate encoder to adjust the value

6. EQ setting:

[Parameter] Output EQ1 – EQ6 (6 independent EQs for each channel)

Parametric mode:

Frequency 20Hz - 20kHz Gain -20 - +20dB Bandwidth 0.05Oct - 3Oct

Shelving mode: (Hi Shelf, Lo Shelf)

Frequency 20Hz - 20kHz Gain -20 - +20dB Slope +6 or +12dB/octave

example:

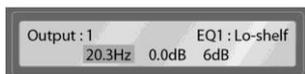
1. Hold OUT 1 MUTE/EDIT button 3secs for edit mode (green LED lit)
2. Press EQ and the display will show as below



3. Turn encoder to select EQ type – PEQ (parametric), Lo Shelf, Hi Shelf



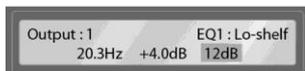
4. Press the encoder to confirm type and rotate encoder to move the Freq



5. Press the encoder to confirm value and rotate encoder to move over to Gain



6. Press the encoder to confirm Gain and rotate encoder to adjust the Slope/Bandwidth value



7. Press the encoder to confirm Slope/Bandwidth

A short press of the EQ function button switches through EQ1 to EQ6 to set each EQ
Press and hold MUTE/EDIT key of other channels to repeat process for each in turn

System Parameter Setting

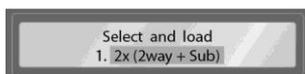
All system settings can be stored in the internal memory of the DSM2-6 mkIII. These functions are edited in a similar way to the input/output channel functions. Pressing the relevant function key opens the current status in the LCD display and these values may be adjusted using the rotary encoder and saved.

1. Load function:

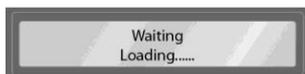
[Parameter] Load channel settings from one of the 30 internal programs

example:

1. Press LOAD and the display will show as below



2. Turn encoder clockwise to select the required program and press to confirm



Channel settings will now all be set as per the selected program

2. Save function:

[Parameter] Save current channel settings to one of the 30 internal programs

example:

1. Press SAVE and the display will show as below



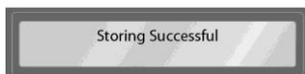
2. Turn encoder clockwise to select the required program and press to confirm



3. Rotate the encoder to select a letter and press to move onto the next character

4. Repeat the above process until the program name is complete

5. Press and hold the encoder for 3secs to save the program with the selected name



Channel settings will now all be saved to the selected program

6. Press the encoder to confirm value and rotate encoder to move over to next input

7. Press the encoder to select the input to switch on or off and rotate encoder to select

3. Delete function:

[Parameter] Delete settings in one of the 30 internal programs

example:

1. Press SAVE and the display will show as below



2. Turn encoder clockwise to select the required program
3. Hold SAVE for 3secs to erase data in the selected program



All data in the selected program will now be erased back to default value

4. System function:

[Parameter] System menu settings

Press SYSTEM and scroll through functions using the rotary encoder.

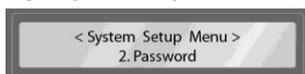
Press rotary encoder to confirm selected function.

Rotate the encoder to adjust setting and press to confirm

1. Device ID setting - allocate a number (1 to 250) to each DSM2-6mkIII connected together in a multi-unit setup.



2. Password setting - If required, enter a 6 figure password to lock the controls from being adjusted by unauthorised users.



Note: It is essential to remember this password. Make a note of the password and keep in a secure place

Test the lock-out by entering a wrong password

3. Power on setting - Select whether all channels are muted on power up
Alternatively, all channels will retain previous mute status



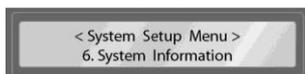
4. Backlight setting - Select whether backlight goes off after 10secs without input
Alternatively, backlight can stay on continuously



5. Current program - Displays the current selected program



6. System info - Displays the firmware version



PC Software Operation

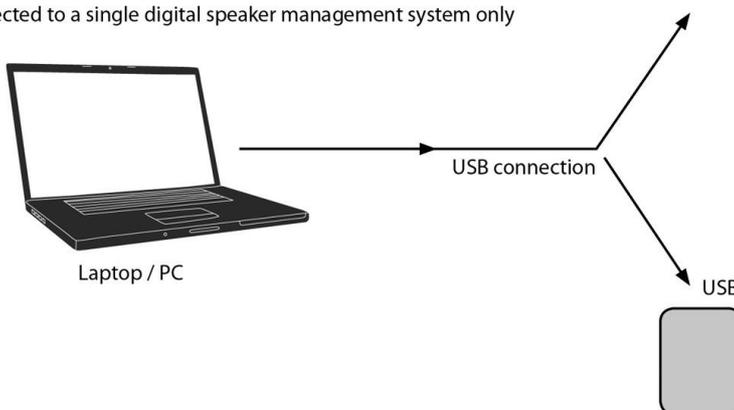
Connection

The Citronic DSM2-6 mkIII can be operated from a PC via USB and can be linked in multiples over a long-distance network via RS-485 connection. A maximum of 250 units may be linked together by this method.

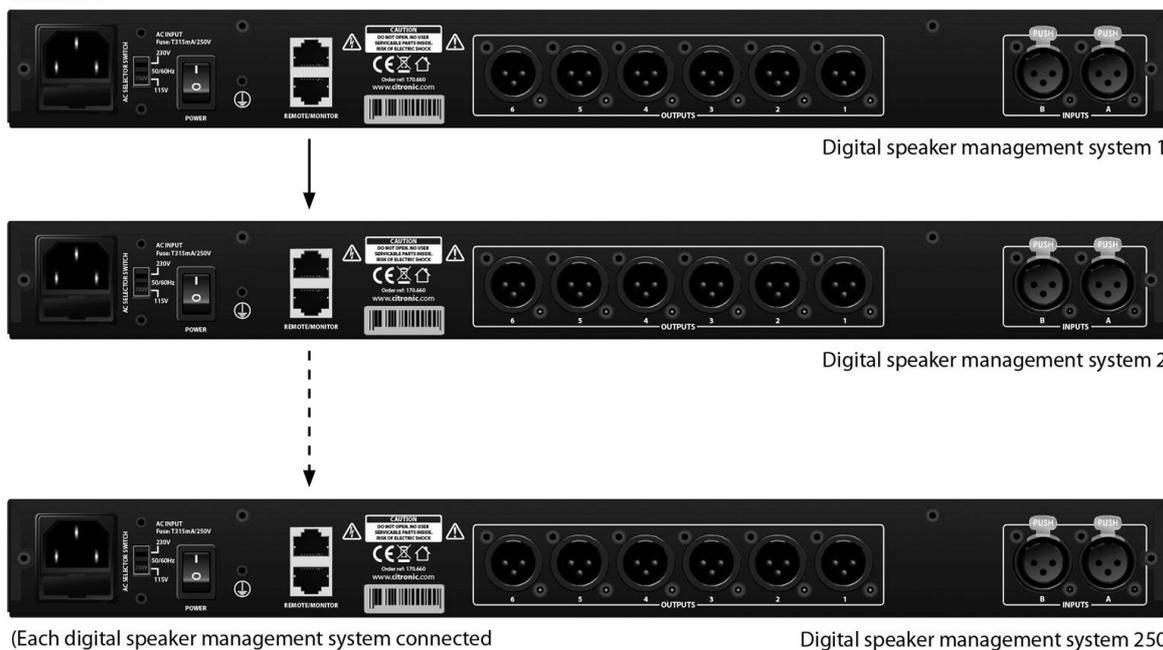
Install the software and any required drivers from the supplied CDROM (also available to download from www.avsl-citronic.com)



The front panel USB port can only be connected to a single digital speaker management system only

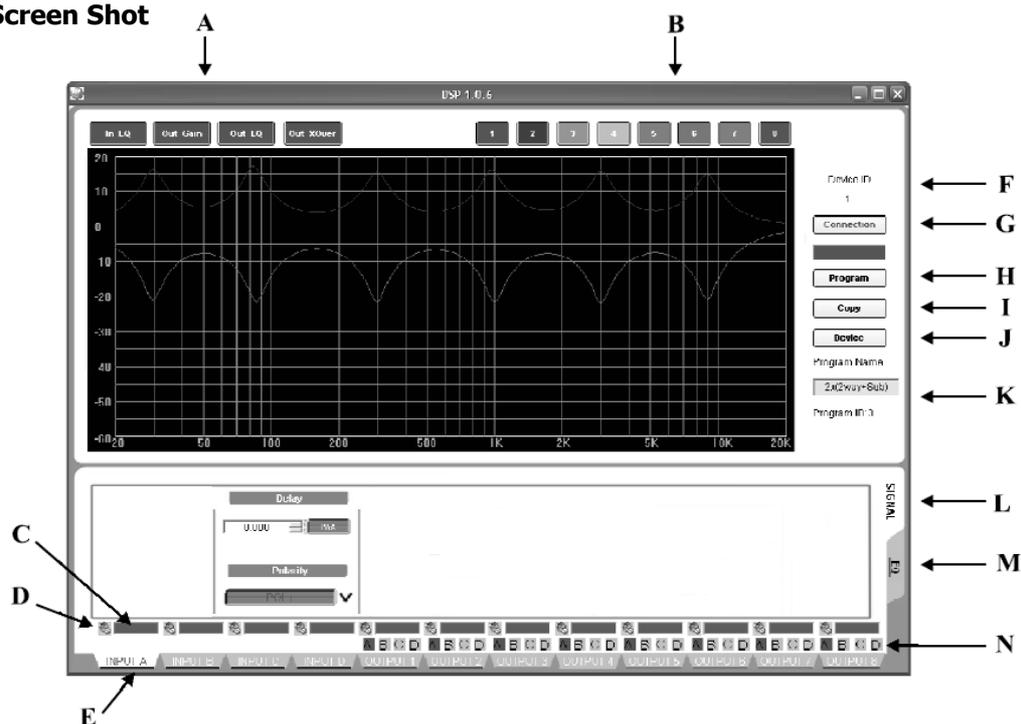


Using the rear panel RS-485 port, up to 250 processors can be connected



(Each digital speaker management system connected to the sequence should be set-up with a different ID)

Screen Shot



- | | |
|------------------------------------|---|
| A. Display Option | H. Save /Read program |
| B. Select display channel | I. Copy |
| C. Signal Display | J. Products selection |
| D. Mute ON(OFF) | K. Current using program and series number |
| E. Channel select switching | L. Signal edit |
| F. Connected products ID | M. EQ edit |
| G. Connection | N. Input channel selection |

Connection

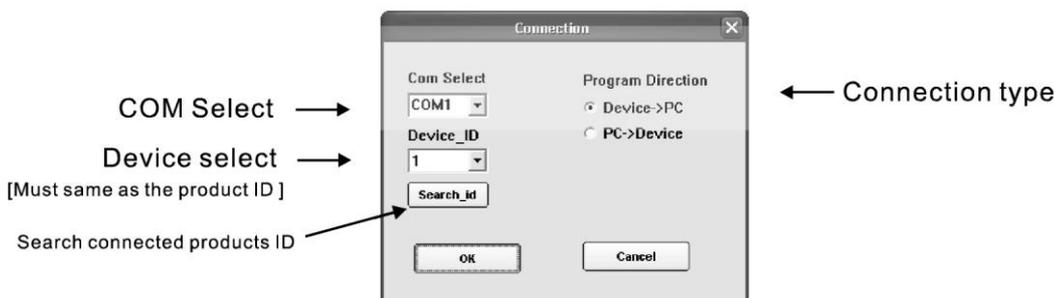
Connect the DSM2-6 to the PC using the supplied USB cable or serial RS485 to network adapter. Use further network connections to link multiple units together. Switch on the DSM2-6 mkIII and the PC should recognise it as a connected device. If not, repeat the installation process, ensuring all drivers are installed from the CD.

In order for the PC to communicate with the DSM2-6, it is necessary to establish a COM connection.

Click on "Connection" (G)



The following menu will be displayed



If known, select the correct COM port.

If COM port is not known, open the PC's Hardware Device Manager (e.g. "Start-Settings-Control Panel-System-Hardware-Device Manager")

Look in "Ports" to identify which port is being used for the DSM2-6 mkIII

Click on the "search_id" button to identify the connected unit's ID number

Click OK and the connection process will begin.

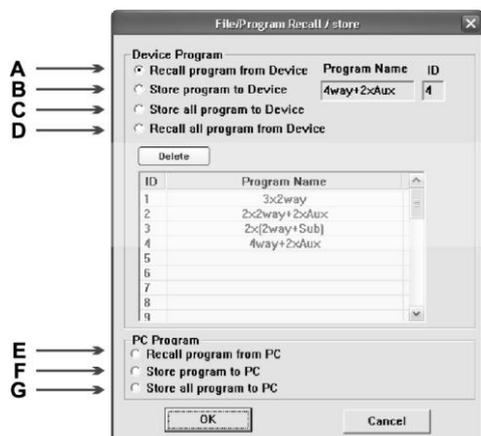
Program

Allows storage of DSM2-6 mkIII programs to PC and transfer from PC to the unit.

Click on "Program" (H)

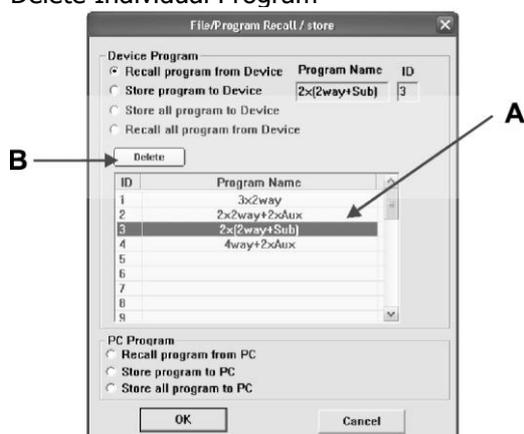


The following menu will be displayed



1. Recall/Store Individual Program
 - A. Recall program from DSM2-6 mkIII
 - B. Store program to DSM2-6 mkIII
 - E. Recall program from PC
 - F. Store program to PC
(for individual programs, save as DIA format)
2. Recall/Store All programs
 - D. Recall all 30 programs from DSM2-6 mkIII
 - G. Store all 30 programs to PC
 - C. Store all 30 programs to DSM2-6 mkIII
(for all 30 programs, save as DAT format)

Delete Individual Program



Click on the program to be deleted (A)

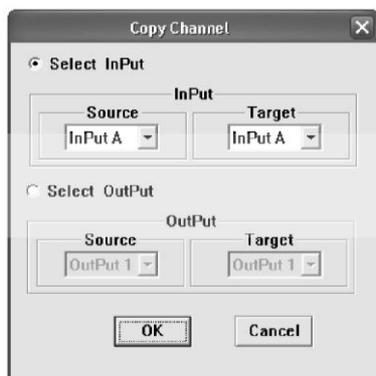
Click the "Delete" button (B)

Copy Channel

Click "Copy" button



The following menu will be displayed



Select whether input or output channels

Select source and target channels

Click "OK" to copy from source to target

Device ID

Click "Device" button



The following menu will be displayed



The current device ID can be changed (1)

To switch control to another DSM2-6 mkIII, select the new ID number (2)

Key to Software Button Controls

Mute off, channel normal use. Mute on, channel in mute.

Channel in grey colour means the channel doesn't be selected.

Click channel can switch the selection state, selected channel display relevant colour.

White background display the editing channel.

Grey background display non-editing channel.

Input Edit Screen



1. Input Delay setting
Click "ms" button to select units - milliseconds (ms), feet (ft), metres (m)

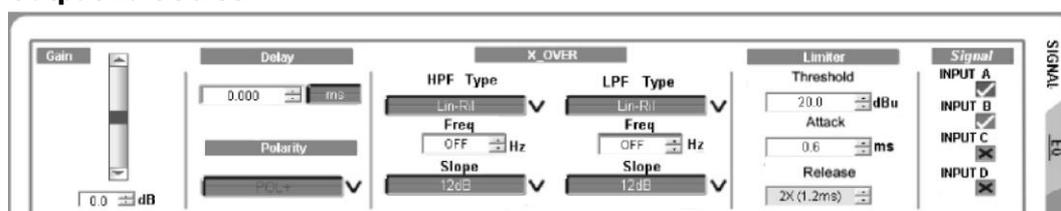
: ms

Range 0-1000ms or equivalent in distance

2. Input Polarity setting
Click "Polarity" button to select polarity (+/-)

: POL+

Output Edit Screen



1. Output Gain setting
Virtual Gain control can be adjusted from -12dB to +12dB in 0.1dB steps
2. Output Delay setting
Click "ms" button to select units - milliseconds (ms), feet (ft), metres (m)

: ms

Range 0-1000ms or equivalent in distance

3. Output Polarity setting
Click "Polarity" button to select polarity (+/-)

: POL+

4. X-OVER setting
HPF and LPF curves can be clicked and dragged on the frequency graph
Alternatively, frequency can be entered in the "Freq" fields
Filter type can be change by clicking the "Type" button

: L_R

Slope can be adjusted by clicking the "Slope" button

: 12dB

5. Limiter setting
"Threshold" value is the level at which the limiter takes effect (dBu)
"Attack" is the speed at which the limiter acts upon the signal
"Release" is the ratio of attack speed at which the limiter stops acting

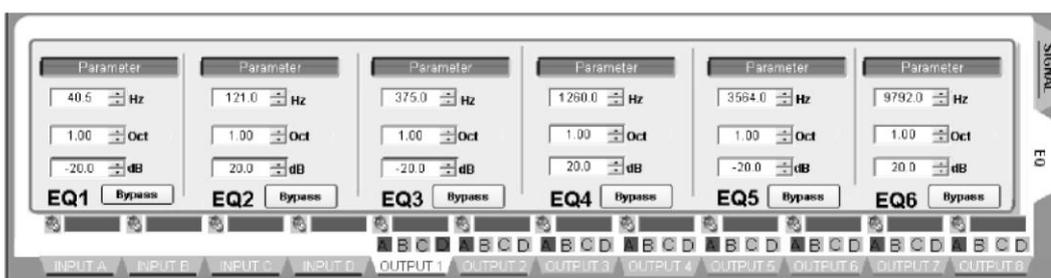
6. Select input channel

Input, A, input B, inputs A+B or no input can be selected as follows



Input/Output:

EQ Edit Screen



1. Input Channel Parametric EQ setting ("Parameter" EQ)

EQ1-EQ6 curves can be clicked and dragged on the frequency graph
 Frequency can be entered in the "Freq" fields
 Bandwidth (in octaves) can be entered in the "Oct" fields
 Gain (dB) can be entered in the "dB" fields

2. Output Channel Parametric EQ setting ("Parameter" EQ)

EQ1-EQ6 curves can be clicked and dragged on the frequency graph
 Filter type can be selected by clicking the Type button



EQ can be bypassed by clicking the Bypass button (black=on, red=off)



Frequency can be entered in the "Freq" fields
 Bandwidth (in octaves) can be entered in the "Oct" fields
 Gain (dB) can be entered in the "dB" fields
 - or if Shelving EQ type is selected -

Slope can be adjusted by clicking the "Slope" button
 [12dB button image]

Graphic Display

EQ and X-OVER curves may be switched on and off on the graphic display.
 This can help to visually separate each curve for editing.
 Click the curve content buttons to toggle each type on (blue) or off (grey)

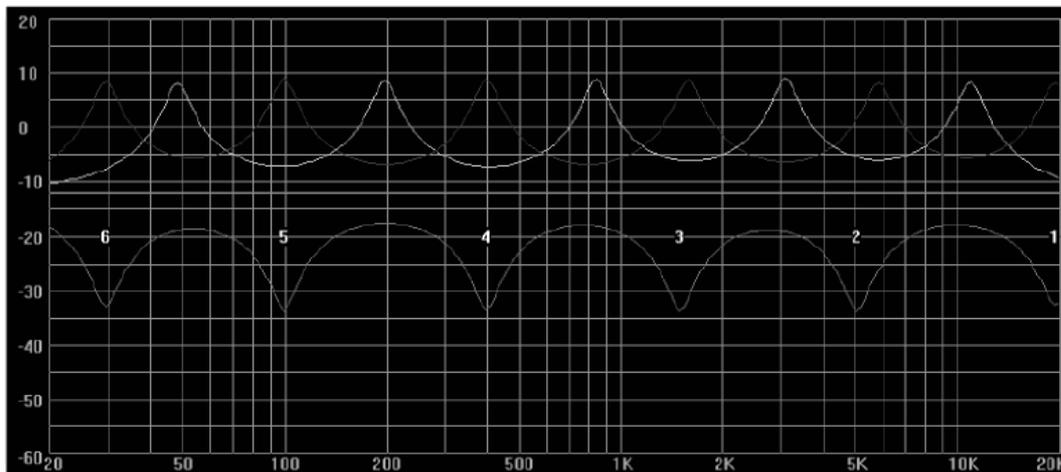


Curves for each channel may be switched on and off on the graphic display.
 Click the channel buttons to toggle each channel on (colour) or off (grey)



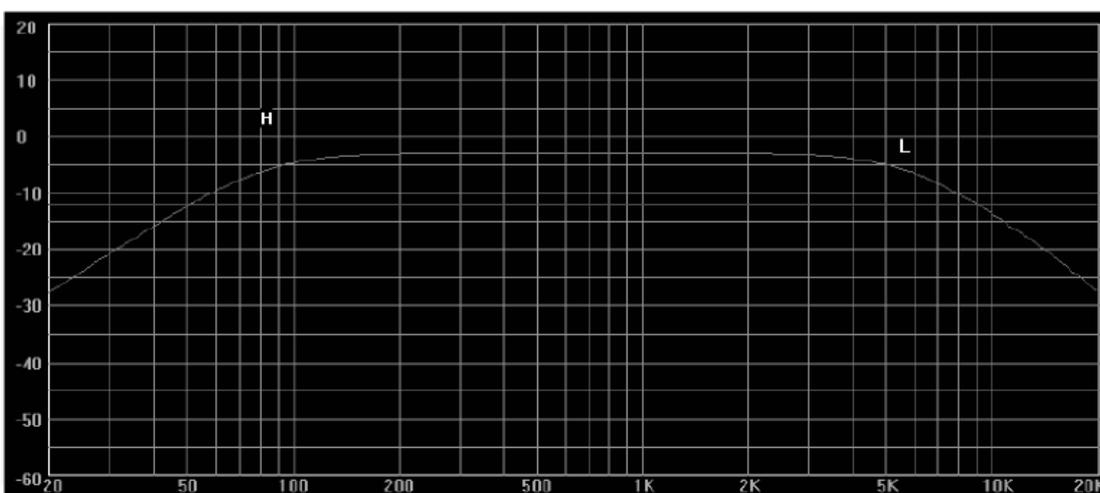
EQ Curve Display

Clicking and dragging the number on screen can adjust frequency and gain



X-OVER Curve Display

Clicking and dragging "L" or "H" on screen can adjust cut-off frequency



Specification

Power supply	AC 115V/230V 50Hz/60Hz
Fuse	T315mA
Frequency response	20Hz - 20kHz
Power consumption	<25W
Dimensions	483 x 44 x 220mm
Weight	3.19kg

*Errors and omissions excepted.
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