

User Manual



DPA440A



Described below are the functions of the front panel control buttons and encoders for the 4IN4OUT Speaker Processor .

- **Getting Started**

As soon as the 4IN4OUT Speaker Processor is turned ON the device model name will appear in the LCD screen:



and a status bar will show the progress of the 4IN4OUT Speaker Processor initialization process:



After the first time activation, the 4IN4OUT Speaker Processor will show on the LCD :



- **Encoders and ENTER, ESC buttons**

The 4IN4OUT Speaker Processor is equipped with 3 Relative Encoders, "NAV/PM1", "PM2" and "PM3", These encoders allow you to navigate the user interface and edit sections of the processor. They allow the user to navigate within the screen for the selection of sub-menus, pages and parameters and to select the values to be assigned during the editing operations.

The "ENTER" and "ESC" buttons allow the user to confirm or NOT confirm the operations performed by the encoders.

- **UTILITY, A/B/C/D and 1/2/3/4/ buttons**

The UTILITY button allows the User to enter the Sub-menus and set the general characteristics of the Processor. The A , B , C , and D buttons allow the User to enter the Editing Menus of the Processor's Input Channels and buttons 1, 2, 3 and 4 allow the User to enter the Editing Menus of the Processor's Output Channels.

The A , B , C and D buttons as well as the 1, 2, 3 and 4 buttons have double functions dependent on the push and hold time.

When the A , B , C and D buttons are pushed and held for more than one second Input Channels A or B or C or D are either muted or unmuted. The red LED will illuminate when the Channel is muted. When the "MUTE" LED is OFF, then the related Input Channel is UN-MUTED.

A momentary push of the A , B , C and D buttons enters the Editing Mode for the Input Channels (see later for the Input Channel Editing details).
The blue "EDIT" LED will now be ON.

When the 1, 2, 3 and 4 buttons are pushed and held for more than one second the Output Channels 1, 2, 3 and 4 are either muted or unmuted. The red LED will illuminate when the Channel is muted. When the "MUTE" LED is OFF, then the related Output Channel is UN-MUTED.

A momentary push of the 1, 2, 3 and 4 buttons enters the Editing Menu for the Output Channels (see later for the Output Channel Editing details). The blue "EDIT" LED will now be ON.

- **4IN4OUT Speaker Processor Menu and Sub-Menu Structures**

As stated above, the start-up default screen is the following factory preset:



From this point, sub-menus are accessed and exited using the UTILITY", "A/B/C/D", "1/2/3/4", "ENTER" and "ESC" buttons and all parameters and values are navigated by the "NAV/PM1", "PM2" and "PM3" encoders. Please refer to the following menu structures:

MENU “UTILITY MENU” [Access by pushing the “UTILITY” button]

NAV/PM1 Encoder

[to navigate between menus]

PM2 or PM3 Encoder

[to chose option, then ENTER to load it;

(*) indicates the selected option]

1 UTILITY MENU:.....

<< System Utilities >>

ENTER ↑ ESC

1.1 SYSTEM UTILITY:
<< Master Gain >>

ESC
ENTER

Master Gain
Master Gain: +12.0dB

:

Master Gain: -18.0dB

1.2 SYSTEM UTILITY:
<< Master Volume >>

ESC
ENTER

Master Volume
Master Volume: +12.0dB

:

Master Volume: -18.0dB

1.3 SYSTEM UTILITY:
<< Input A&B Source >>

ESC
ENTER

Input A&B Source
Source = Analog input
Source = Digital Input
Source = Noise Gen

1.4 SYSTEM UTILITY:
<< Input C&D Source >>

ESC
ENTER

Input C&D Source
Source = Analog input
Source = Digital Input
Source = Noise Gen

1.5 SYSTEM UTILITY:
<< In A&B N.Generator >>

ESC
ENTER

In A&B N.Generator
Type = Pink
Type = White
Lev = 0dB
:
Lev = -40dB

1.6 SYSTEM UTILITY:
<< In C&D N.Generator >>

ESC
ENTER

In C&D N.Generator
Type = Pink
Type = White
Lev = 0dB
:
Lev = -40 dB

1.7 SYSTEM UTILITY:
<<Output 1 Routing >>

ESC
ENTER

Output 1 Routing

Out1/ Out2/ Out3/ Out4/:

Level=0 dB... -30 dB on/off

1.8 SYSTEM UTILITY:
<<Output 2 Routing >>

ESC
ENTER

Output 2 Routing

Out1/ Out2/ Out3/ Out4/:

Level=0 dB... -30 dB on/off

19 SYSTEM UTILITY:
<<Output 3 Routing >>

ESC
ENTER

Output 3 Routing

Out1/ Out2/ Out3/ Out4/:

Level=0 dB... -30 dB on/off

1.10 SYSTEM UTILITY:
<<Output 4 Routing >>

ESC
ENTER

Output 4 Routing

Out1/ Out2/ Out3/ Out4/:

Level=0 dB... -30 dB on/off

1.11 SYSTEM UTILITY:
<< Delay Units >>

ESC
ENTER

Delay Units
Unit = Distance (m)
Unit = Time(ms)

1.12 SYSTEM UTILITY:
<< Set Default Value >>

ESC
ENTER

Set Default Value
[Enter] to confirm

1.13 SYSTEM UTILITY:
<< Firmware Version >>

ESC
ENTER

Firmware Version
Version=2.0.5

2 UTILITY MENU:.....

<< Program Utilities >>

ENTER ↑ ESC

2.1 PROGRAM UTILITY:
<< Recall a Program >>

ESC
ENTER

Recall a Program
P01: Program empty
:
P32 Program empty

2.2 PROGRAM UTILITY:

ESC
ENTER

Save a Program

<< Save a Program >>

2.3 PROGRAM UTILITY:
<< Delete a Program >>



P01: Program empty
:
P32: Program empty

Delete a Program
P01: Program empty
:
P32: Program empty

3 UTILITY MENU:.....
<< Interface Utilities >>



3.1 INTERFACE UTILITY:
Interface Setup



Interface Setup
Source = USB
Source = RS485

ID=1,...,32

4 UTILITY MENU:.....
<< Security Utilities >>



4.1 SECURITY UTILITY:
Show Parameter



Parameter will
be shown
not be shown

4.2 SECURITY UTILITY:
Lock Unit



Lock Unit
Lock = Off
Lock = On

4.3 SECURITY UTILITY:
Change Password



Change Password
[]

4.4 SECURITY UTILITY:
Lock With Password



Enter Password
[]

MENU "Input A/B/C/D" Input Channels Editing [Access by pushing the "A/B/C/D" button]

NAV/PM1 Encoder

[to navigate between menus]

NAV/PM1 Enc.

[to chose values for the parameters, no need to confirm the chosen values, which are automatically loaded during the encoders use]

PM2 Enc.

PM3 Enc.

1. Input A/B/C/D [Name] Name
Name = [Name]

ENTER ↓ ↑ ESC

-> Name = _

(For Editing the Device's Name, refer to the *Details on the "Utility Menus Use"* Section)

2. Input A/B/C/D [Name] N.Gate
Bypass=On

ENTER ↓ ↑ ESC

-> Bypass=On

PM1 N/A.

Byp=On/Off

Thr=-80.0dBu ... -50 dBu

Rel=10ms ... 1000ms

Atk=1ms ... 1000ms

3. Input A/B/C/D [Name] Gain
Gain = + 0.0 dB

ENTER ↓ ↑ ESC

-> Gain = + 0.0 dB

PM1 N/A.

-18 dB

0.1dB

:

+12dB

Step 1dB

:

0.9dB

Step 0.1dB

4. Input A/B/C/D [Name] Delay
Delay = 0.000 ms

ENTER ↓ ↑ ESC

-> Delay = 0.000 ms

PM1 N/A.

000.0000mS

[1 ms steps]

480.0000mS

000.0000mS

[10.4 us steps]

000.9984mS

5. Input A/B/C/D [Name] Phase
Phase=Normal

ENTER ↓ ↑ ESC

-> Phase=Normal

PM1 N/A.

Phase= Normal / Invert

6. Input A/B/C/D [Name] RMS Cmp
Bypass=On

ENTER ↓ ↑ ESC

-> Bypass=On

PM1 N/A.

Byp=On/Off

PM1 N/A.

Threshold= +20dBu ... -10dBu

PM1 N/A.

Ratio =2:1 ... 32:1

Knee=0% ... 100%

PM1 N/A.

Rel=0.1sec ... 3.0sec

Atk=5ms ... 200ms

PM1 N/A.

Make-up=-12dB ... +12dB

7. Input A/B/C/D [Name] EQ Byp
Bypass=On

ENTER ↓ ↑ ESC

-> Bypass=On

PM1 N/A.

Bypass=On/Off

8. Input A/B/C/D [Name] PEQ-XX(00 to 13)
Byp=on Type=Peaking_Eq

ENTER ↓ ↑ ESC

-> Byp=on Type=Peaking_Eq

PM1 N/A.

Byp=On/Off

Type=Peaking_Eq/ Hi -Shelv

1/ Hi -Shelv 2/ Hi -Shelv Q/ Lo-Shelv 1/ Lo-Shelv 2/ Lo-Shelv Q/ Low-Pass 1/ Low-Pass 2/ Low-Pass Q/ High-Pass1/ High-Pass2/ High-Pass Q/ Band-Pass/ Notch/ ALL Pass 1/ ALL Pass 2

Type=Peaking_Eq

PM1 N/A.

Frequency=20Hz ... 20000Hz

PM1 N/A.

Gain=-15dB ... +15dB

Q=0.4 ... 128

Type= Hi -Shelv 1/ Hi -Shelv 2	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-15dB ... +15dB	Q=Fixed
Type= Hi -Shelv Q	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-15dB ... +15dB	Q=0.1 ... 5.1
Type= Lo-Shelv 1/ Lo-Shelv 2	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-15dB ... +15dB	Q=Fixed
Type= Lo-Shelv Q	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-15dB ... +15dB	Q=0.1 ... 5.1
Type= Low-Pass 1/ Low-Pass 2	PM1 N/A.	Frequency=20Hz ... 20000Hz	
Type= Low-Pass Q	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-Fixed	Q=0.1 ... 5.1
Type= High-Pass1/ High-Pass2	PM1 N/A.	Frequency=20Hz ... 20000Hz	
Type= High-Pass Q	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-Fixed	Q=0.1 ... 5.1
Type= Band-Pass	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=-15dB ... +15dB	Q=4 ... 104
Type= Notch	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=Fixed	Q=4 ... 104
Type= ALL Pass 1	PM1 N/A.	Frequency=20Hz ... 20000Hz	
Type= ALL Pass 2	PM1 N/A. PM1 N/A.	Frequency=20Hz ... 20000Hz Gain=Fixed	Q=4 ... 104

MENU "Output 1/2/3/4" Output Channels Editing [Access by pushing the "1/2/3/4" button]

NAV/PM1 Encoder

[to navigate between menus]

NAV/PM1 Enc.

[to chose values for the parameters, no need to confirm the chosen values, which are automatically loaded during the encoders use]

PM2 Enc.

PM3 Enc.

1. Output[x] [Name] Name
Name = [Name]

ENTER ↑ ESC
↓

-> Name = _

(For Editing the Device's Name, refer to the [Details on the "Utility Menus Use"](#) Section)

2. Output[x] [Name] Routing
InA=On InB=Off InC=Off InD=Off

ENTER ↑ ESC
↓

-> InA: Level=0dB On

PM1 N/A

0 dB
:
-30dB

On / Off

-> InB: Level=0dB Off

PM1 N/A

0 dB
:
-30dB

On / Off

-> InC: Level=0dB Off

PM1 N/A

0 dB
:
-30Db

On / Off

-> InD: Level=0dB Off

PM1 N/A

0 dB
:
-30dB

On / Off

3. Output[x] [Name] Gain
Gain = + 0.0 dB

ENTER ↑ ESC
↓

-> Gain = + 0.0 dB

PM1 N/A

-18 dB
:
+12dB
Step 1dB

0.1dB
:
0.9dB
Step 0.1dB

4. Output[x] [Name] Delay
Delay = 0.000 ms

ENTER ↑ ESC
↓

-> Delay = 0.000 ms

PM1 N/A

000.0000mS
[1 ms steps]
270.0000mS

000.0000mS
[10.4 us steps]
000.9984Ms

5. Output[x] [Name] Phase
Phase=Normal

ENTER ↑ ESC
↓

-> Phase=Normal

PM1 N/A.

Phase= Normal / Invert

Same as PM2

6. Output[x] [Name] RMS Cmp
Bypass=On

ENTER ↑ ESC
↓

-> Bypass=On

PM1 N/A.

Byp=On/Off

PM1 N/A.

Threshold= +20dBu ... -10dBu

PM1 N/A.

Ratio =2:1 ... 32:1

Knee=0% ... 100%

PM1 N/A.

Rel=0.1sec ... 3.0sec

Atk=5ms ... 200ms

PM1 N/A.

Make-up=-12dB ... +12dB

7. Output[x] [Name] Limiter
Bypass=On

ENTER ↑ ESC
↓

-> Bypass=On

PM1 N/A.

Bypass= On / Off

PM1 N/A.

Threshold=-10dBu ... 20 dBu

PM1 N/A.

Rel=0.1sec ... 5sec

Atk=1ms ... 900ms

8. Output[x] [Name] HPF
20.0 Hz Bypass

ENTER ↓ ↑ ESC
-> 20.0 Hz Bypass

PM1 N/A

[Freq.] 20Hz
:
20kHz

[Type/Slope]

Bypass
:
LR -48 dB /Oct

Slope=Bypass/ BW -6 dB/Oct / BW -12 dB/Oct / LR -12 dB/Oct / BS -12 dB/Oct / BW -18 dB/Oct / BW -24 dB/Oct / LR -24 dB/Oct / BS -24 dB/Oct / BW -36 dB/Oct / LR-36 dB/Oct / BW -48 dB/Oct / LR-48 dB/Oct /

9. Output[x] [Name] LPF
20.0 Hz Bypass

ENTER ↓ ↑ ESC
-> 20.0 Hz Bypass

PM1 N/A

[Freq.] 20Hz
:
20kHz

[Type/Slope]

Bypass
:
LR -48dB/Oct

Slope=Bypass/ BW -6 dB/Oct / BW -12 dB/Oct / LR -12 dB/Oct / BS -12 dB/Oct / BW -18 dB/Oct / BW -24 dB/Oct / LR -24 dB/Oct / BS -24 dB/Oct / BW -36 dB/Oct / LR-36 dB/Oct / BW -48 dB/Oct / LR-48 dB/Oct /

10. Output[x] [Name] EQ Byp
Bypass=On

ENTER ↓ ↑ ESC
-> Bypass=On

PM1 N/A.

Bypass=On/Off

11. Output[x] [Name] PEQ-XX(00 to 11)
Byp=on Type=Peaking_Eq

ENTER ↓ ↑ ESC
-> Byp=on Type=Peaking_Eq

PM1 N/A.

Byp=On/Off

Type=Peaking_Eq/ Hi -Shelv

1/ Hi -Shelv 2/ Hi -Shelv Q/ Lo-Shelv 1/ Lo-Shelv 2/Lo-Shelv Q/ Low-Pass 1/ Low-Pass 2/Low-Pass Q/High-Pass1/ High-Pass2/High-Pass Q/Band-Pass/ Notch/ALL Pass 1/ALL Pass 2

Type=Peaking_Eq

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=0.4 ... 128

Type= Hi -Shelv 1/ Hi -Shelv 2

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=Fixed

Type= Hi -Shelv Q

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=0.1 ... 5.1

Type= Lo-Shelv 1/ Lo-Shelv 2

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=Fixed

Type= Lo-Shelv Q

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=0.1 ... 5.1

Type= Low-Pass 1/ Low-Pass 2

PM1 N/A.

Frequency=20Hz ... 20000Hz

Type= Low-Pass Q

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-Fixed Q=0.1 ... 5.1

Type= High-Pass1/ High-Pass2

PM1 N/A.

Frequency=20Hz ... 20000Hz

Type= High-Pass Q

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-Fixed Q=0.1 ... 5.1

Type= Band-Pass

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=-15dB ... +15dB Q=4 ... 104

Type= Notch

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=Fixed Q=4 ... 104

Type= ALL Pass 1

PM1 N/A.

Frequency=20Hz ... 20000Hz

Type= ALL Pass 2

PM1 N/A.
PM1 N/A.

Frequency=20Hz ... 20000Hz
Gain=Fixed Q=4 ... 104

- **Menu “UTILITY” [access by pushing the “UTILITY” button]**

From the “Default Screen”, it is possible access the “UTILITY” menu pushing the “UTILITY” button and the Sub-Menus pages can be selected just rotating clockwise and counter-clockwise the “NAV/PM1” encoder.

Once selected the sub-menu page, using the “ENTER” button can be accessed the Sub-Menus pages, again “scrollable” using the “NAV/PM1” encoder and accessible for the parameters' editing pushing again the “ENTER” button.

Through the “ESC” button, it is any time possible to go back to the action and page operation preceding the “ENTER” button use.

Once inside the Sub-Menus pages, the several options can be scrolled by rotating the PM2 or PM3 encoders and selected/confirmed by pushing the “ENTER” button.

System Utilities Sub-menu – this sub-menu allows to access several operations related to the 4IN4OUT Speaker Processor Start Up and General Configuration:

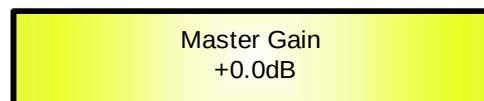


From the “System Utilities Sub-menu”, pushing “ENTER” and then using the “NAV/PM1” encoder for scrolling will give access to the following pages:

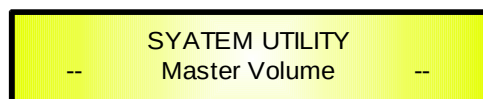
Master Gain Page: From this screen display, it is possible for user to set the master gain, making all input level change from -18dB to +12dB by pressing “ENTER” button, then rotate “PM2” or “PM3” encoder.



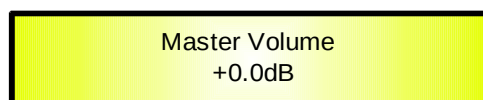
The following screen display example shows that the master gain in page “Master Gain” is +0.0dB:



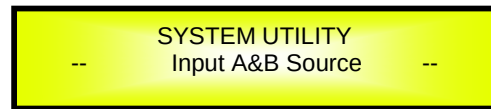
Master Volume page: From this screen display, user is able to set the master volume, making all output level change from -18dB to +12dB, by pressing “ENTER” button, then rotate “PM2” or “PM3” encoder.



The following screen display example shows that the master volume in page “Master Volume” is +0.0dB:



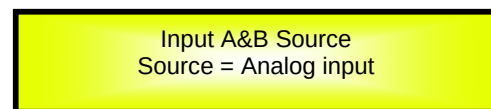
- **Input A&B Source / Input C&D Source:** the 4IN4OUT Speaker Processor is equipped with 4 Analog Inputs (Balanced Female XLR), a stereo S/PDIF Digital Input (RCA connector).and noise generator
The “Input A&B Source” page allows you to select the desired Input type:



By pressing ENTER on Input A&B Source or Input C&D Source and then rotating the “PM2” or “PM3” encoders, it is possible to select the Main Inputs for the 4IN4OUT Speaker Processor, allowing the User to choose between Analog , S/PDIF Digital or Noise Generator.

The selection can be confirmed by pressing the “ENTER” button.

The following screen shows that the Analog Input has been selected:



- **In A&B N.Generator / In C&D N.Generator:** 4IN4OUT Speaker Processor equips with 2 types of noise generator: White Noise and Pink Noise.

```
SYSTEM UTILITY
-- In A&B N.Generator --
```

By pressing ENTER and rotating the “PM2” encoder, it is possible to select between those 2 choice: “Pink” or “White”. By rotating the “PM3” encoder, it is possible to set the value of level of white noise generator and pink noise generator, with whose range from 0dB to -40dB. The following screen shows the selected pink noise with level of -20dB:

```
In A&B N.Generator
Type=Pink      Lev=-20dB
```

Output 1 Routing: From this screen display, it is possible to set the OUTPUT 1 to the 4 Output channels of the processors:

```
SYSTEM UTILITY
-- Output 1 Routing --
```

By pressing the “ENTER” button, rotate “NAV/PM1” encoder to select OUTPUT 1 to the 4 OUTPUT channels; by using “PM2” encoder, user can select OUTPUT 1 to the 4 OUTPUT channels, with the level from -30dB to 0dB; with “PM3” encoder, user can select OUTPUT 1 to the 4 OUTPUT channels as “Off” or “On”.

The following screen display example shows when user set Output 1 in “Output 1 Routing” page to Output 1 of the processor: Level=0dB, “On”:

```
Output 1 Routing
--Out1 : Level=0dB  On
```

Output 2 Routing: From this screen display, it is possible to set the OUTPUT 2 to the 4 Output channels of the processors:

```
SYSTEM UTILITY
-- Output 2 Routing --
```

By pressing the “ENTER” button, rotate “NAV/PM1” encoder to select OUTPUT 2 to the 4 OUTPUT channels; by using “PM2” encoder, user can select OUTPUT 2 to the 4 OUTPUT channels, with the level from -30dB to 0dB; with “PM3” encoder, user can select OUTPUT 2 to the 4 OUTPUT channels as “Off” or “On”.

The following screen display example shows when user set Output 2 in “Output 2 Routing” page to Output 2 of the processor: Level=0dB, “On”:

```
Output 2 Routing
--Out2 : Level=0dB  On
```

Output 3 Routing: From this screen display, it is possible to set the OUTPUT 3 to the 4 Output channels of the processors:

```
SYSTEM UTILITY
-- Output 3 Routing --
```

By pressing the “ENTER” button, rotate “NAV/PM1” encoder to select OUTPUT 3 to the 4 OUTPUT channels; by using “PM2” encoder, user can select OUTPUT 3 to the 4 OUTPUT channels, with the level from -30dB to 0dB; with “PM3” encoder, user can select OUTPUT 3 to the 4 OUTPUT channels as “Off” or “On”.

The following screen display example shows when user set Output 3 in “Output 3 Routing” page to Output 3 of the processor: Level=0dB, “On”:

```

Output 3 Routing
--Out3 : Level=0dB   On
  
```

Output 4 Routing: From this screen display, it is possible to set the OUTPUT 4 to the 4 Output channels of the processors:

```

SYSTEM UTILITY
-- Output 4 Routing --
  
```

By pressing the “ENTER” button, rotate “NAV/PM1” encoder to select OUTPUT 4 to the 4 OUTPUT channels; by using “PM2” encoder, user can select OUTPUT 4 to the 4 OUTPUT channels, with the level from -30dB to 0dB; with “PM3” encoder, user can select OUTPUT 4 to the 4 OUTPUT channels as “Off” or “On”.

The following screen display example shows when user set Output 4 in “Output 4 Routing” page to Output 4 of the processor: Level=0dB, “On”:

```

Output 4 Routing
--Out4 : Level=0dB   On
  
```

- **Delay Time/Distance:** this page allows you to select the measurement unit to be used for the Delays: **Time** (in milliseconds “ms”) or **Distance** (in meters “m”):

```

SYSTEM UTILITY
-- Delay Units --
  
```

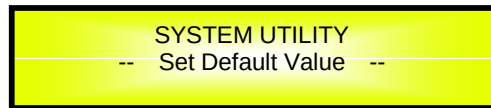
By pressing ENTER button and rotating the “PM2” or “PM3” encoder, it is possible to select the measurement unit to be used for the delay, which will be confirmed by pushing the ENTER button.

The following screen shows the selected delay measurement is Time (milliseconds)

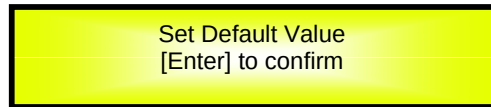
```

Delay Units
Unit = Time (ms)
  
```

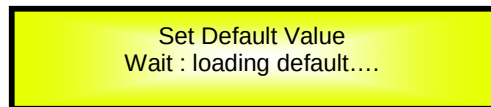
Set Default Value: All setting for 4IN4OUT Speaker Processor can be set to default value:



By pressing ENTER button, will show up the following screen of an interface to confirm to set the default value:



By pressing ENTER button one more time, will show up the following screen:



Wait around 3 sec for the processor set to the default value.

- **Firmware Version:** this page allows you to confirm the Firmware Version running on the 4IN4OUT Speaker Processor:



The correct Version is “2.0.5”

Program Utilities Sub-menu – this sub-menu allows you to access several options related to the 4IN4OUT Speaker Processor operating mode and to manage the presets stored and recallable within the Unit:



By pressing the ENTER button and then using the “NAV/PM1” encoder to scroll, the following pages can be accessed:

- **Recall a Program:** this page allows the Loading of a preset program. You can store up to 32 presets in the 4IN4OUT Speaker Processor memory:



By pressing ENTER and rotating the “NAV/PM1” encoders, it is possible to scroll through all current available presets.

If NO USER PRESETS are stored yet, the screen will show the following:

Recall a Program
No Stored Programs.

If presets have previously been stored by the user, anyone of them can be recalled:

[ENTER] to recall.
P01: PRESET 1

By using the “NAV/PM1” encoder it is possible to scroll through the stored presets. Once the desired preset appears on the screen, select it by pressing the “ENTER” button and this will force the 4IN4OUT Speaker Processor to begin to load this selected preset and the following transitory screen will appear:

Loading program ..
P01: PRESET 1

Once loaded the 4IN4OUT Speaker Processor will exit to the “Recall a Program” screen automatically and the above screen will disappear:

PROGRAM UTILITY
-- Recall a Program --

Note: at any time it is possible to quit the recalling action by pressing the “ESC” button.

- **Save a Program:** this page allows you to store a new preset in the 4IN4OUT Speaker Processor’s memory:

PROGRAM UTILITY
-- Save a Program --

By pressing the ENTER button and rotating the “NAV/PM1” encoder, it is possible to scroll through the previously saved presets or the available empty locations (identified by “Program empty”).

If no user presets are stored, the “Save a Program” screen will show empty memory locations for all 1-32 presets as shown in the example below for location 10:

Save a Program
P10: Program empty

When storing an edited configuration for the 4IN4OUT , select the location for a preset from the **32 available** by using the “NAV/PM1” encoders.

Once the desired location appears on the screen press ENTER button again to reach the “**Edit Program Name**” page.

In this page the User can enter a Preset Name (**up to 16 Characters**) by using the “PM3” encoder to choose a character and the “PM2” encoder to move between the 16 available locations for the character’s positioning.

The current position of the cursor is shown by a “blinking underscore”.

The following is an example of a screen while entering the preset name “Stage 1 2x2” in location 10:



Edit Program Name.
P10: Stage 1 2x2

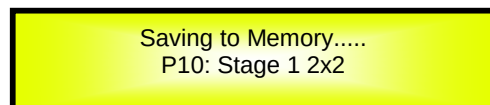
To store the Preset Name press the “ENTER” button again.

The above action will take you to the “**Enter to Save**” page showing the selected location for the preset and the final edited name:



[Enter] to Save
P10: Stage 1 2x2

Pressing “ENTER” again, will store the preset in the selected location with the chosen name and the following transitory screen will appear on the LCD:



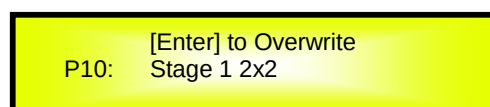
Saving to Memory.....
P10: Stage 1 2x2

Once the preset is stored, the above screen will disappear returning to the following screen:



PROGRAM UTILITY
-- Save a Program --

If during the Preset Storing process you want to overwrite an existing memory location select this location in the “**Set Program Name**” page, then press ENTER button and you will be asked if you want to overwrite this preset with the following “**[ENTER] to Overwrite**” screen displaying the currently stored preset and location:



[Enter] to Overwrite
P10: Stage 1 2x2

If you wish to proceed press “ENTER” again and the 4IN4OUT Speaker Processor will go ahead with the “**Set Program Name**” page and the subsequent overwrite on completion of the

previously described storing process..

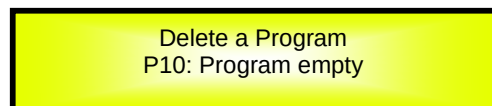
Note: at any time it is possible to quit the storing action by pressing the “ESC” button.

- **Delete a Program:** this page allows you to delete a preset already stored in the 4IN4OUT Speaker Processor memory:



By pressing the ENTER button and rotating the “NAV/PM1” encoder, it is possible to scroll through the previously saved presets and the available empty locations (identified by “Program empty”).

If no user presets are stored, the “Delete a Program” screen will show empty memory locations for all 1-32 presets as shown in the example below for location 10:



If Presets are available they will be shown in the “Delete a Program” page as follows:



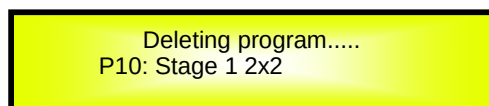
By using the “NAV/PM1” encoder it is possible to select a preset to be deleted.

Pressing the “ENTER” button on a selected preset will bring up the “[Enter] to Delete.” page showing the selected preset.

For example, if we want to delete the preset 10, “Stage 1 2x2”, the screen will be the following:



Confirming the deletion by pressing “ENTER” again, will force the 4IN4OUT Speaker Processor to erase the selected preset and the following transitory screen will appear:



Once the preset is deleted, the above screen will disappear returning to the following screen:



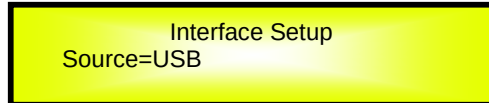
Note: At any time it is possible to quit the deleting action by pressing the “ESC” button.

Interface Utilities Sub-menu – this sub-menu allows you to define the remote control interface [USB or RS485] to be used for controlling the 4IN4OUT Speaker Processor:



From “Interface Utilities”, press “ENTER” button to access the Interface Setup.

- **Interface Setup:** this screen allows you to choose the communication source for the 4IN4OUT Speaker Processor’s.



By using the PM2 encoder you can choose between the two possible interfaces (USB or RS485) for the 4IN4OUT Speaker Processor.

If select RS485, select the ID by using “PM3” encoder, with its range from 01 to 32.

The following screen displaying the currently selected interface as USB:



The following screen displaying the currently selected interface as RS485:



Security Sub-menu – this sub-menu allows the User to set the parameters shown, lock the 4IN4OUT Speaker Processor and set a Password therefore limiting the unit's functions and controls to those who have only access to the appropriate Password.



Press ENTER and then use the “NAV/PM1” encoder to scroll between options.

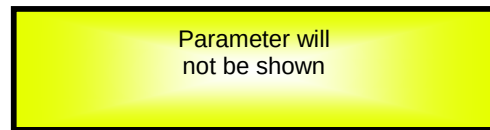
- **Show Parameter:** Pressing ENTER button from the above menu will access the “Show Parameter” Sub Menu



Press ENTER button again and use the PM2 or PM3 encoders to select between “be shown” or “not be shown” options.

Choosing the “be shown” option means that once the unit is locked, you cannot access parameter editing features, but they will be displayed on the LCD screen.

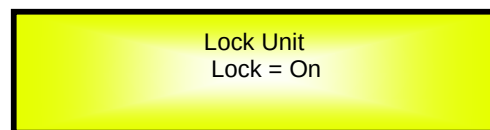
Choosing the “not be shown” option means that once the unit is locked, the parameters will not be shown at all. With this option, when trying to access a parameter, the following screen message will appear:



- **Lock Unit:** this sub-menu allows the user to lock the device so no parameters can be edited or modified.



When the Unit is in an unlocked condition, all parameters will be available for editing. When you select On, all parameters will be locked and are not available for editing.

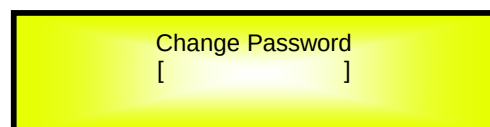


When you select lock from the menu, the unit will be locked and the lock menu automatically exited. The screen will revert to the “Default” showing the current XOVER configuration and the preset selected and beside the preset’s name a “keylock” icon indicating that the 4IN4OUT Speaker Processor is locked.

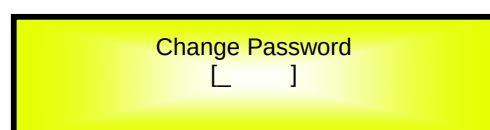
- **Change Password:** from the “Change Password” sub-menu:



Press “ENTER” to access the “**Change Password**” page:



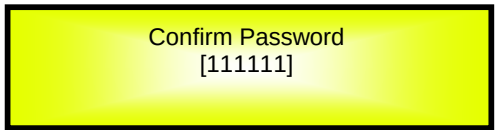
Use the PM2 encoder to move between available locations, and the PM3 encoder to choose a character. The current position of the cursor for the characters to be entered is shown by a “blinking underscore”.



Input the original password “000000” for the 4IN4OUT Speaker Processor, and press ENTER button, will access to the “**New Password**” Page. Use the PM2 encoder to move between available locations, and rotate the PM3 encoder to edit a 6-position new password. The following screen is the example with the new password after edition is “111111”



Press the ENTER button again, will access the “**Confirm password**” page, use the “PM2” encoder to move between available locations and rotate “PM3” encoder to choose a character, input the new password edited just now. The following screen is the example with typing in new password “111111” edited just now.



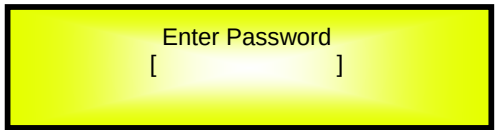
Press the ENTER button one more time, the new password will be set successfully.

- **Lock With Password:** from the “Lock With Password” sub-menu:

There’s limitation to the editing function if the 4IN4OUT Speaker Processor is locked with password. All functions for this unit are banned, including MUTE A/B/C/D and MUTE 1/2/3/4 buttons.



Press “ENTER” to gain access to the “**Enter Password**” screen:



Use the “PM2” encoder to move between available locations, and rotate “PM3” encoder to select characters. If the password of this 4IN4OUT Speaker Processor never modified, input the default password “000000”, the unit will be locked. In this case, default screen will show a “Key” icon, user cannot enter into the sub-menu, unless he holds the password.

- **Menu “Input A/B/C/D” Input Channels Editing [access by pushing the “A/B/C/D” buttons]**

From the “Default Screen”, it is possible to access the “Input A/B/C/D” menu by pushing the “A” or “B” or “C” or “D” button. Once the button is pressed, the related blue “EDIT” LED will turn ON. The Sub-Menu pages can now be scrolled through by rotating clockwise and counter-clockwise the “NAV/PM1” encoder.

For parameter editing it is necessary to press ENTER button and an arrow will appear on the left of the screen “->”. Then use the “PM2” and “PM3” encoders for editing and setting the parameter values. On some parameters that have three independent values, you will also need to use the PM1 encoder, eg filter parameter settings.

Note: All options can be done using the “NAV/PM1”, “PM2”, and “PM3” encoders and the current shown value of the selected option is AUTOMATICALLY loaded during the encoders' use and stored as the current value once leaving the page.

Audio Signal Input (A/B/C/D) Path Block Scheme



Name page – from this screen, it is possible to assign input channel a name with 6 characters. For example, name the Input A as “In L” in the Name Page:

InputA:	In L	Name
Name	=	In L

By pressing ENTER in the Name page, user can edit the name, and there will be an arrow, as the following screen shows:

InputA:	In L	Name
->Name	=	In L

The first character will flash.

Select character from these 6 positions by rotating “PM2” encoder and choose the desired characters by rotating “PM3” encoder. Once the new name is defined, for example, “In A”, confirm this new name by pressing ENTER... A new name will display on the screen, after replaced the old one.

The following screen is shown with the new name “In A”, by replacing the previous one “In L”

InputA:	In A	Name
Name	=	In A

N.Gate page– from this page, it is possible to set the Input Channels Noise Gate. Noise gate can be set as “ON” or “OFF” status. The following screen is the selected “ON” status:

InputA:	Name	N.Gate
Bypass	=	On

By pressing ENTER button in this page, an arrow “->” will show up on the left of the screen, and enter into the setting interface 1 of the noise gate:

InputA:	Name	N.Gate
->Byp	=	On
	Thr	= -80.0dBu

By using the “PM2” encoder, it is possible to set the noise gate as “ON” or “OFF”. By using the “PM3” encoder, it is possible to select its attack threshold from -80dBu to -50dBu.

By rotating “NAV/PM1” encoder, user can enter into the setting interface 2 of the noise gate:

InputA:	Name	N.Gate
->Rel	=	50ms
	Atk	= 3ms

By using “PM2” encoder, user can set noise gate release time: from 10ms to 1000ms, and using “PM3” encoder to set noise gate attack time: from 1ms to 1000ms.

Gain page – from this screen it is possible to set the Input Channels Level from -18dB to +12dB, press ENTER button, an arrow will appear on the left of the screen “->” then use the “PM2” or “PM3” to set parameters.

The value set on this screen will only affect the input level of the selected Channel A or B.

The following is an example screen for the “Gain” page that has set the Gain of Input Channel A to +0.0dB:

InputA	Name	Gain
-> Gain	=	+ 0.0dB

Delay page – from this page it is possible to set the Input Channels Delay Time from 000.0000mS up to 480.9984mS, by steps of 1mS or 10.4uS.

To set the Delay time press ENTER, an arrow will appear on the left of the screen “->”. then use the “PM2” encoder to set the Delay Time in steps of 1mS and the “PM3” for setting the “fine” Delay Time in steps of 10.4 microseconds.

The following is an example screen for the “Delay” page where the Delay Time of Input Channel A is set to 160.1872mS:

InputA	Name	Delay
-> Delay	=	160.1872mS

Phase page– from this page, it is possible to set input channels phase as “Normal” or “Invert”. The following is an example screen of “Normal” Phase:

InputA:	Name	Phase
Phase	=	Normal

By pressing ENTER button in this page, an arrow will appear on the left of the screen “->”. then use the “PM2” or “PM3” encoder for setting “Normal” or “Invert” Phase.

RMS Cmp page– from this page, it is possible to set RMS Compressor for input channels. RMS Compressor can be set as “ON” or “OFF” status. The following is an example screen of “ON” status:

```
InputA:  Name      RMS Cmp
      Bypass  =  On
```

By pressing ENTER in this page, an arrow will appear on the left of the screen “->”. Then enter into the setting interface 1 of RMS Compressor.

```
InputA:  Name      RMS Cmp
->Bypass  =  On
```

RMS compressor status can be set as “ON” or “OFF” by using “PM2” or “PM3” encoder.

By rotating “NAV/PM1” encoder, user can enter into setting interface 2 of RMS Compressor:

```
InputA:  Name      RMS Cmp
->Threshold  =  +20.0dBu
```

RMS Compressor attack threshold can be set with “PM2” or “PM3” encoder, with its range from -10dBu to +20dBu.

By rotating “NAV/PM1” encoder one more time, user can enter setting interface 3 of RMS Compressor:

```
InputA:  Name      RMS Cmp
->Ratio =32:1  Knee =0%
```

RMS Compressor ratio can be set by “PM2” encoder, with its range from 2:1 ~ 32:1. RMS Compressor knee can be set by “PM3” encoder, with its range from 0% ~ 100%.

By rotating “NAV/PM1” encoder once again, user can enter setting interface 4 of RMS Compressor:

```
InputA:  Name      RMS Cmp
->Rel =0.1sec  Atk =5ms
```

RMS Compressor release time can be set by “PM2” encoder, with its selectable range from 0.1s ~ 3s, and its attack time can be set by “PM3” encoder from 5ms ~ 200ms.

By rotating “NAV/PM1” encoder, user can enter setting interface 5 of RMS Compressor:

```
InputA:  Name      RMS Cmp
->Make-up  =  0.0dB
```

By using “PM2” and “PM3” encoder, user can set RMS Compressor make up, from -12dBu to +12dBu.

EQ Byp page – in this page, it is possible to set EQ Bypass of input channels, with its selectable status of “ON” and “OFF”. Following is the example screen as Bypass ON:

```
InputA:  Name      EQ Byp
      Bypass = On
```

By pressing ENTER in this page, an arrow will appear on the left of the screen “->”, then enter setting interface of EQ Bypass:

```
InputA:  Name      EQ Byp
->Bypass=On
```

By using “PM2” or “PM3” encoder, user can set the EQ Bypass as “ON” or “OFF”.

PEQ-[xx] (01to13) page – In this page, it is possible to set 13 available parametric equalization filters for input channels, with each parametric equalization filters can be selected as BELL, Shevling, High-Pass, Low-Pass, Band-Pass , Notch and All Pass filter.

```
InputA:  Name      PEQ-01
      Byp=Off  Type=Peaking_Eq
```

When EQ Bypass is set as “OFF”, by pressing ENTER in any parametric equalization page, an arrow will appear on the left of the screen “->”, then enter setting interface 1 of parametric equalization filter:

```
InputA:  Name      PEQ-01
->Byp=Off  Type=Peaking_Eq
```

By using “PM2” encoder, it is possible to set the flat on or off for the current parametric equalization filter. By using “PM3” encoder, user can set the current parametric equalization filter’s type, selectable as **Peaking_Eq / Hi -Shelv 1 / Hi -Shelv 2 / Hi -Shelv Q / Lo-Shelv 1 / Lo-Shelv 2 / Lo-Shelv Q / Low-Pass 1 / Low-Pass 2 / Low-Pass Q / High-Pass1 / High-Pass2 / High-Pass Q / Band-Pass / Notch / ALL Pass 1 / ALL Pass 2**

When the parametric equalization filter is selected as Peaking Eq, by rotating “NAV/PM1” encoder again, user can enter the setting interface 2 of current input parametric equalization filter:

```
InputA:  Name      PEQ-01
->Frequency = 20Hz
```

By using “PM2” or “PM3” encoder, it is possible to set current input PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating "NAV/PM1" encoder again, user can enter the setting interface 3 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Gain=0.0dB		Q=0.40

By using "PM2" encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB, and by using "PM3" encoder, it is possible to set the Q factor of current parametric equalization filter from 0.4 to 128.

When the parametric equalization filter is selected as **Hi-Shelv 1 / Hi-Shelv 2 / Lo-Shelv 1 / Lo-Shelv 2**, by rotating "NAV/PM1" encoder again, user can enter the setting interface 4 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Frequency =		20Hz

By using "PM2" or "PM3" encoder, it is possible to set current input PEQ filter's frequency from the range of 20Hz to 20kHz.

By rotating "NAV/PM1" encoder again, user can enter the setting interface 5 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Gain=0.0dB		Q=Fixed

By using "PM2" or "PM3" encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB.

When the parametric equalization filter is selected as **Hi-Shelv Q / Lo-Shelv Q**, by rotating "NAV/PM1" encoder, user can enter the setting interface 6 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Frequency =		20Hz

By using "PM2" or "PM3" encoder, it is possible to set current input PEQ filter's frequency from the range of 20Hz to 20kHz.

By rotating "NAV/PM1" encoder again, user can enter the setting interface 7 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Gain=0.0dB		Q=0.1

By using "PM2" encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB, and by using "PM3" encoder, it is possible to set the Q factor of current parametric equalization filter from 0.1 to 5.1.

When the parametric equalization filter is selected as **Low-Pass 1 / Low-Pass 2 / High-Pass 1 / High-Pass**

2, by rotating "NAV/PM1" encoder, user can enter the setting interface 8 of current input parametric equalization filter:

InputA: Name PEQ-01
->Frequency = 20Hz

By using "PM2" or "PM3" encoder, it is possible to set current input PEQ filter's frequency from the range of 20Hz to 20kHz.

When the parametric equalization filter is selected as Low-Pass Q/ High-Pass Q, by rotating "NAV/PM1" encoder, user can enter the setting interface 9 of current input parametric equalization filter:

InputA: Name PEQ-01
->Frequency = 20Hz

By using "PM2" or "PM3" encoder, it is possible to set current input PEQ filter's frequency from the range of 20Hz to 20kHz.

By rotating "NAV/PM1" encoder again, user can enter the setting interface 10 of current input parametric equalization filter:

InputA: Name PEQ-01
->Gain=Fixed Q=0.1

By using "PM2" or "PM3" encoder, it is possible to set the Q factor of current parametric equalization filter from 0.1 to 5.1.

When the parametric equalization filter is selected as **Band-Pass**, by rotating "NAV/PM1" encoder, user can enter the setting interface 11 of current input parametric equalization filter:

InputA: Name PEQ-01
->Frequency = 20Hz

By using "PM2" or "PM3" encoder, it is possible to set current input PEQ filter's frequency from the range of 20Hz to 20kHz.

By rotating "NAV/PM1" encoder again, user can enter the setting interface 12 of current input parametric equalization filter:

InputA: Name PEQ-01
->Gain=0.0dB Q=4

By using "PM2" encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB, and by using "PM3" encoder, it is possible to set the Q factor of current parametric equalization filter from 4 to 104.

When the parametric equalization filter is selected as **Notch/All Pass 2**, by rotating "NAV/PM1" encoder, user can enter the setting interface 13 of current input parametric equalization filter:

InputA: Name PEQ-01
->Frequency = 20Hz

By using “PM2” or “PM3” encoder, it is possible to set current input PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 14 of current input parametric equalization filter:

InputA:	Name	PEQ-01
->Gain=Fixed		Q=4

By using “PM2” or “PM3” encoder, it is possible to set the Q factor of current parametric equalization filter from 4 to 104.

Note 1: If selected the desired options by using 3 encoders, the option would be set as a current one for the unit automatically, and will be stored in the 4IN4OUT Speaker Processor system when you exit the page.

Note 2: By pressing “ESC” button, you can exit the page any time.

- **Menu “Output 1/2/3/4” Output Channels Editing [access by pushing the “1/2/3/4” buttons]**

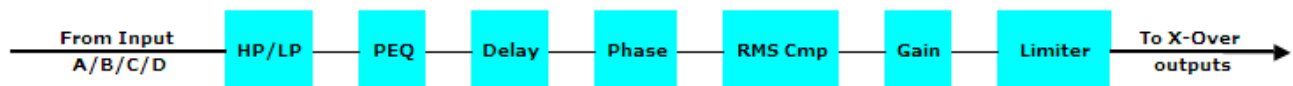
From the “Default Screen”, it is possible to access the “Output 1/2/3/4” menu by pressing the “1” or “2” or “3” or “4” button. Once pressed, the related blue “EDIT” LED will turn ON.

The Sub-Menus pages can now be scrolled through by rotating clockwise and counter-clockwise the “NAV/PM1” encoder.

For parameter editing it is necessary to press ENTER and an arrow will appear on the left of the screen “->”. Then use the “PM2” and “PM3” encoders for selecting and setting the parameter values. On some parameters that have three independent values, you will also need to use the PM1 encoder, for example for the filter’s parameter setting.

Note: All parameter editing can be done using the “NAV/PM1”, “PM2”, and “PM3” encoders and the current shown value of the selected option is AUTOMATICALLY loaded during the encoders' use and stored as the current value once leaving the page.

Audio Signal Output (1/2/3/4) Path Block Scheme



Name page – from this screen, it is possible to assign output channel a name with 6 characters. For example, name the Output 1 as “Low” in the Name Page:

```

Output1:  Low  Name
Name = Low
  
```

By pressing ENTER in the Name page, user can edit the name, and there will be an arrow, as the following screen shows:

```

Output1:  Low  Name
-> Name = Low
  
```

The first character will flash.

Select character from these 6 positions by using “PM2” encoder and choose the desired characters by rotating “PM3” encoder. Once the new name is defined, for example, “Sub”, confirm this new name by pressing ENTER... A new name will display on the screen, after replaced the old one. The following screen is shown with the new name “Sub”, by replacing the previous one “Low”

```

Output1:  Sub  Name
Name = Sub
  
```

Source page – in this page, it is possible to assign input “A/B/C/D” to any output channel:

Output1	Name	Source
InA=0dB	InB=OFF	InC=OFF

By pressing “ENTER” button, an arrow will appear on the left of the screen “->”. By using the “PM2” encoder, user can choose level of INPUT A to any output channel, from -30dB to 0dB. By using “PM3” encoder, user can choose “ON” or “OFF” the INPUT A to any output channel.

Output1	Name	Source
->InA:	Level=0dB	On

By rotating “NAV/PAR1” encoder, by using the “PM2” encoder, user can choose level of INPUT B to any output channel, from -30dB to 0dB. By using “PM3” encoder, user can choose “ON” or “OFF” the INPUT B to any output channel.

Output1	Name	Source
->InB:	Level=0dB	Off

By rotating “NAV/PAR1” encoder, by using the “PM2” encoder, user can choose level of INPUT C to any output channel, from -30dB to 0dB. By using “PM3” encoder, user can choose “ON” or “OFF” the INPUT C to any output channel.

Output1	Name	Source
->InC:	Level=0dB	Off

Gain page – from this screen it is possible to set the Output Channels Level from -18dB to +12dB, press ENTER an arrow will appear on the left of the screen “->” then use the “PM2” or “PM3” to set parameters.

The value set on this screen will only affect the output level of the selected Channel 1/2/3/4.

The following is an example screen for the “Gain” page that has set the Gain of Output Channel 1 to +0.0dB:

Output1	Name	Gain
-> Gain	= +	0.0dB

Delay page – from this page it is possible to set the Output Channels Delay Time from 000.0000mS up to 270.9984mS, by steps of 1mS or 10.4us.

To set the Delay time press ENTER, an arrow will appear on the left of the screen “->”. then use the “PM2” encoder to set the Delay Time in steps of 1mS and the “PM3” for setting the “fine” Delay Time in steps of 10.4 microseconds.

The following is an example screen for the “Delay” page where the Delay Time of Output Channel 1 is set to 160.1872mS:

Output1	Name	Delay
-> Delay	=	160.1872mS

Phase page– from this page, it is possible to set output channels phase as “Normal” or “Invert”. The following is an example screen of “Normal” Phase:

```
Output1:  Name      Phase
          Phase = Normal
```

By pressing ENTER in this page, an arrow will appear on the left of the screen “->”. then use the “PM2” or “PM3” encoder for setting “Normal” or “Invert” Phase.

RMS Cmp page – from this page it is possible to set the Output Channels RMS Compressor. RMS Compressor can be set as “ON” or “OFF”. The following is an example screen for the RMS Compressor page where it is ON:

```
Output1:  Name      RMS Cmp
          Bypass = On
```

By pressing ENTER in this page, an arrow will appear on the left of the screen “->”, then enter into the setting interface 1 of RMS Compressor:

```
Output1:  Name      RMS Cmp
          ->Bypass = On
```

By using “PM2” or “PM3” encoder, it is possible to set the RMS Compressor as “ON” or “OFF”.

By rotating “NAV/PM1” encoder, will enter into the setting interface 2 of RMS Compressor:

```
Output1:  Name      RMS Cmp
          ->Threshold = +20.0dBu
```

By using “PM2” and “PM3” encoder, user can set RMS Compressor attack threshold, with its range from -10dBu to +20dBu.

By rotating “NAV/PM1” encoder again, it will enter setting interface 3 of RMS Compressor:

```
Output1:  Name      RMS Cmp
          ->Ratio =32:1  Knee =0%
```

User can set RMS Compressor’s release time by using “PM2” encoder from 0.1sec to 5sec. With “PM3” encoder, it is possible to set RMS Compressor’s attack time from 1ms to 900ms.

By rotating “NAV/PM1” encoder again, it will enter setting interface 3 of RMS Compressor:

```
Output1:  Name      RMS Cmp
          ->Ratio =32:1  Knee =0%
```

User can set RMS Compressor's Ratio by using "PM2" encoder from 2:1 to 32:1. With "PM3" encoder, it is possible to set RMS Compressor's Knee from 0% to 100%.

By rotating "NAV/PM1" encoder again, it will enter setting interface 4 of RMS Compressor:

Output1:	Name	RMS Cmp
->Rel	=0.1sec	Atk =5ms

User can set RMS Compressor's release time by using "PM2" encoder from 0.1sec to 3sec. With "PM3" encoder, it is possible to set RMS Compressor's attack time from 5ms to 200ms.

By rotating "NAV/PM1" encoder again, it will enter setting interface 5 of RMS Compressor:

Output1:	Name	RMS Cmp
->Make-up	=	0.0dB

User can set RMS Compressor's Make-up by using "PM2" encoder from -12dBu to +12dBu.

Limiter page – from this page it is possible to set the Output Channels Limiter. Limiter can be set as "ON" or "OFF". The following is an example screen for the Limiter page where it is ON:

Output1:	Name	Limiter
Bypass	=	On

By pressing ENTER in this page, an arrow will appear on the left of the screen "->", then enter into the setting interface 1 of limiter:

Output1:	Name	Limiter
->Bypass	=	On

By using "PM2" or "PM3" encoder, it is possible to set the limiter as "ON" or "OFF".

By rotating "NAV/PM1" encoder, will enter into the setting interface 2 of limiter:

Output1:	Name	Limiter
->Threshold	=	+20.0dBu

By using "PM2" and "PM3" encoder, user can set limiter attack threshold, with its range from -10dBu to +20dBu.

By rotating "NAV/PM1" encoder again, it will enter setting interface 3 of limiter:

Output1:	Name	Limiter
->Rel	=1:1sec	Atk =3ms

User can set limiter's release time by using "PM2" encoder from 0.1sec to 5sec. With "PM3" encoder, it is possible to set limiter attack time from 1ms to 900ms.

HPF page – in this page, it is possible to set the High-Pass filter of output channels:

```
Output1:  Name      HPF
F= 20Hz    Bypass
```

By pressing ENTER button in this page, an arrow will appear on the left of the screen "->", then enter into the setting interface 1 of High-Pass filter:

```
Output1:  Name      HPF
->Frequency = 20Hz
```

By using "PM2" or "PM3" encoder, it is possible to set output channels' High-Pass filter frequency from 20Hz to 20kHz.

By rotating "NAV/PM1" encoder, it will enter setting interface 2 of High-Pass filter:

```
Output1:  Name      HPF
->Slope   = Bypass
```

By using "PM2" or "PM3" encoder, it is possible to set the High-Pass filter's shape and order of the output High-Pass filter. Following is the available shape and order of the High-Pass filter: **Bypass / BW -6 dB/Oct / BW -12 dB/Oct / LR -12 dB/Oct / BS -12 dB/Oct / BW -18 dB/Oct / BW -24 dB/Oct / LR -24 dB/Oct / BS -24 dB/Oct / BW -36 dB/Oct / LR-36 dB/Oct / BW -48 dB/Oct / LR-48 dB/Oct /**

LPF page – in this page, it is possible to set the Low-Pass filter of output channels:

```
Output1:  Name      LPF
F= 20Hz    Bypass
```

By pressing ENTER in this page, an arrow will appear on the left of the screen "->", then enter into the setting interface 1 of Low-Pass filter:

```
Output1:  Name      LPF
->Frequency = 20Hz
```

By using "PM2" or "PM3" encoder, it is possible to set output channels' Low-Pass filter frequency from 20Hz to 20kHz.

By rotating "NAV/PM1" encoder, it will enter setting interface 2 of Low-Pass filter:

```
Output1:  Name      LPF
->Slope   = Bypass
```

By using “PM2” or “PM3” encoder, it is possible to set the Low-Pass filter’s shape and order of the output Low-Pass filter. Following is the available shape and order of the Low-Pass filter: **Bypass/ BW -6 dB/Oct / BW -12 dB/Oct / LR -12 dB/Oct / BS -12 dB/Oct / BW -18 dB/Oct / BW -24 dB/Oct / LR -24 dB/Oct / BS -24 dB/Oct / BW -36 dB/Oct / LR-36 dB/Oct / BW -48 dB/Oct / LR-48 dB/Oct /**

EQ Byp page – in this page, it is possible to set EQ Bypass of output channels, with its selectable status of “ON” and “OFF”. Following is the example screen as Bypass ON:

Output1:	Name	EQ Byp
Bypass	=	On

By pressing ENTER in this page, an arrow will appear on the left of the screen “->”, then enter setting interface of EQ Bypass:

Output1:	Name	EQ Byp
->Bypass=		On

By using “PM2” or “PM3” encoder, user can set the EQ Bypass as “ON” or “OFF”.

PEQ-[xx] (01to11) page – In this page, it is possible to set 11 available parametric equalization filters for output channels, with each parametric equalization filters can be selected as BELL, Shevling, High-Pass, Low-Pass, Band-Pass Notch and All-Pass filter.

Output1:	Name	PEQ-01
Byp=Off	Type=	Peaking_Eq

When EQ Bypass is set as “OFF”, by pressing ENTER button in any parametric equalization page, an arrow will appear on the left of the screen “->”, then enter setting interface 1 of parametric equalization filter:

Output1:	Name	PEQ-01
->Byp=Off	Type=	Peaking_Eq

By using “PM2” encoder, it is possible to set the flat on or off for the current parametric equalization filter. By using “PM3” encoder, user can set the current parametric equalization filter’s type, selectable as **Peaking_Eq/ Hi -Shelv 1/ Hi -Shelv 2/ Hi -Shelv Q/ Lo-Shelv 1/ Lo-Shelv 2/Lo-Shelv Q/ Low-Pass 1/ Low-Pass 2/Low-Pass Q/High-Pass1/ High-Pass2/High-Pass Q/Band-Pass/ Notch/ All-Pass 1/ All-Pass 2**

When the parametric equalization filter type is selected as **Peaking_Eq**, by rotaing “NAV/PM1” encoder again, user can enter the setting interface 2 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency =		20Hz

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 3 of current input parametric equalization filter:

Output1:	Name	PEQ-01
->Gain=0.0dB		Q=0.40

By using “PM2” encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB, and by using “PM3” encoder, it is possible to set the Q factor of current parametric equalization filter from 0.4 to 128.

When the parametric equalization filter type is selected as **Hi-Shelv 1/ Hi-Shelv 2/ Lo-Shelv 1/ Lo-Shelv 2**, by rotating “NAV/PM1” encoder again, user can enter the setting interface 4 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency =		20Hz

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 5 of current input parametric equalization filter:

Output1:	Name	PEQ-01
->Gain=0.0dB		Q=Fixed

By using “PM2” or “PM3” encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB.

When the parametric equalization filter type is selected as **Hi-Shelv Q/ Lo-Shelv Q**, by rotating “NAV/PM1” encoder again, user can enter the setting interface 6 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency =		20Hz

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 7 of current input parametric equalization filter:

Output1:	Name	PEQ-01
->Gain=0.0dB		Q=0.1

By using “PM2” encoder, user can set the gain of current parametric equalization filter from -15dB to +15dB, and by using “PM3” encoder, it is possible to set the Q factor of current parametric

equalization filter from 0.1 to 5.1.

When the parametric equalization filter type is selected as **Low-Pass 1/ Low-Pass 2/ High-Pass 1/ High-Pass 2/ All-Pass 1**, by rotating “NAV/PM1” encoder again, user can enter the setting interface 8 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency = 20Hz		

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

When the parametric equalization filter type is selected as **Low-Pass Q/ High-Pass Q**, by rotating “NAV/PM1” encoder again, user can enter the setting interface 9 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency = 20Hz		

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 10 of current input parametric equalization filter:

Output1:	Name	PEQ-01
->Gain=Fixed		Q=0.1

By using “PM2” or “PM3” encoder, it is possible to set the Q factor of current parametric equalization filter from 0.1 to 5.1.

When the parametric equalization filter type is selected as **Band-Pass**, by rotating “NAV/PM1” encoder, user can enter the setting interface 11 of current output parametric equalization filter:

Output1:	Name	PEQ-01
->Frequency = 20Hz		

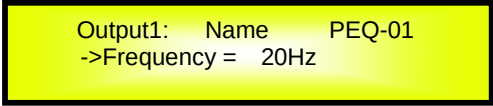
By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 12 of current input parametric equalization filter:

Output1:	Name	PEQ-01
->Gain=0.0dB		Q=4

By using “PM2”, it is possible to set the gain of current parametric equalization filter from -15dB to +15dB. By using “PM3” encoder, it is possible to set the Q factor of current parametric equalization filter from 4 to 104.

When the parametric equalization filter type is selected as **Notch / All-Pass 2**, by rotating “NAV/PM1” encoder, user can enter the setting interface 13 of current output parametric equalization filter:



Output1: Name PEQ-01
->Frequency = 20Hz

By using “PM2” or “PM3” encoder, it is possible to set current output PEQ filter’s frequency from the range of 20Hz to 20kHz.

By rotating “NAV/PM1” encoder again, user can enter the setting interface 12 of current input parametric equalization filter:



Output1: Name PEQ-01
->Gain=Fixed Q=4

By using “PM2” or “PM3” encoder, it is possible to set the Q factor of current parametric equalization filter from 4 to 104.

Note 1: After selected the desired choice with 3 encoders, the choice would be set as the current one for the unit automatically, and would be stored in the 4IN4OUT Speaker Processor system when user quits this page.

Note 2: By pressing “ESC” to quit this page.

Input and Output Channels Last Edited Parameter Return Function

Once you have escaped out of parameter editing within the individual Input or Output channels the 4IN4OUT Speaker Processor will remember this last editing action on that Channel. When you return for your next editing action pressing the EDIT button on that channel will immediately return you to the screen related to this last editing action.

This function makes fine tuning or modifying easier when it is necessary to make a number of adjustments to the same parameter in a short time sequence.

Input Channels and output Channels LINK Function

The 4IN4OUT Speaker Processor is able to perform a unique LINK MODE between Input Channels as well as a link between Output Channels to enable quick and immediate editing (you cannot link output to input channels).

To link channels when editing, you will need to select a "Master" channel that will be the one to be edited and have it's parameters displayed on the LCD screen. You can then select and link other channels (Slaves) that you wish to apply the same changes to.

To enter a link mode session, select the Master channel Edit mode, then link the Slaves by pressing their related Edit buttons.

All Linked channels will be selected ready for adjustment when their "Blue" LED is lit in the Editing mode.

Now all Slave channels and only those selected will modify their parameters accordingly as you edit the Master channel.

All other existing parameters will stay the same within the Slave Channels unless edited by this link with the Master channel.

Note: The LINK function is NOT a COPY function.

If we want to edit the limiter of the Output channels 1/2/4, we can enter the editing mode of Output Channel 1 by pressing the related Edit button and turning on the Blue LED below the Output Channel 1 LED meters. This assigns the "role" of Master and displays this channel's parameters on the LCD:



Output1: Name Limiter
->Rel =1:1sec Atk =3ms

Then press the Edit button of Output Channels 2/4, turning on their related "Blue" LED's. Now all parameters edited on Output Channel 1, will also be applied to channels 2 and 4.

If we want to remove one of the linked channels from the Link, press the related Edit button.

Exiting the editing of the Master channel during a Link session will automatically terminate that session. The Link will also be automatically terminated if, during the editing of Output Channels you jump across to begin editing an Input channel or vice versa.

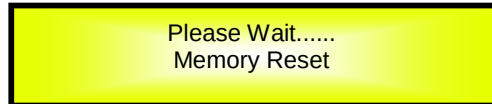
- **Factory Reset**

In the event of the password being lost or any other reason the user may require the unit to be reset to the original factory settings, a "Factory Reset" that will clear all settings of the 4IN4OUT Speaker Processor and return the device to the original factory setting, is available to the user.

Note: Continuing with this process will mean the 4IN4OUT Speaker Processor will re-initialize to the original factory settings and any previously stored information and changed parameters will be permanently lost.

– **Use the following procedure to perform the factory reset:**

1. While the 4IN4OUT Speaker Processor is switched OFF, simultaneously press the ENTER+ESC+UTILITY buttons on the front panel.
2. Maintain pressure on all three buttons as you turn the power switch to On and the following LCD screen appears on the 4IN4OUT :



3. Release the buttons and wait for the 4IN4OUT Speaker Processor to re-initialize.

Once completed, the 4IN4OUT Speaker Processor will resume regular operation as though it was a new unit from the factory and no previously programmed parameters will be available for use.

- **4IN4OUT Speaker Processor Technical Specifications**



The 4IN4OUT Speaker Processor is based on a powerful analog and digital DSP platform having the following specifications

Analog Input Signal:	ChA/ChB/ChC/ChD	Bal. Female XLR
Maximum Input Level:	+20dBu	
Analog Output Signal:	Ch1/Ch2/Ch3/Ch4	Bal. Male XLR
Maximum Output Level:	+20dBu	
Sampling Frequency:	96kHz	
S/PDIF Stereo Digital Input:	32kHz, 44.1kHz and 48kHz Sources Accepted	
S/N:	110dBA	
THD+N:	0.005%	
Frequency Response (Bypass):	20Hz – 20kHz (+/- 1 dB)	
Power Supply:	Switching Power Supply	
Remote Control:	USB, RS485	