# User's Manual

**marani**®

Seed Guangzhou Electronic Ltd.
Seed Asia Ltd.

## DFP-212
### Feedback Eliminator

482mm 19"  DIGITAL  USB

# IMPORTANT SAFETY INSTRUCTIONS

⚠ Note: in order to ensure safety, please read these instructions carefully

All safety and operating instructions should be read before the product is operated.

⚡ Attention:To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture!

### 1 Ventilation

Do not block any ventilation openings.

### 2 Cleaning

Clean only with dry cloth.

### 3 Heat sources

Do not install near any heat sources such as radiators, stoves, or other apparatus that produce heat.

### 4 Power cord proctecion

Protect the power cord from being walked on or pinched particularly at plugs.

### 5 Overload

Power plug should not overload.

### 6 Objects or liquid entry inside the unit

Be careful that no objects fall or liquid is spilled inside the unit through ventilation openings.

### 7 Humidity

The unit should far away form water.

### 8 Maintenance

Refer all servicing to qualified service personnel. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.
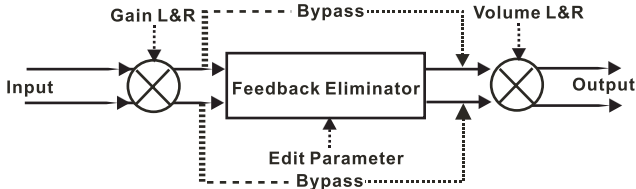
# DFP-212
# Feedback Eliminator

## Controls

- ◆ Key Enter           Enters sub-menus
- ◆ Key Quit           Exits sub-menus
- ◆ Key Process        Bypass L+R
- ◆ Led Clip           Process overflow.
- ◆ Enc Variation       If running Threshold variation, if into menus parameter variation
- ◆ Enc Navigation     Navigation menus
- ◆ Pot Input Level      Input gain Left, Right
- ◆ Pot Output Level    Output volume Left, Right

## Parameters

- ◆ Inputs :              Balanced 2 TRS/2 XLR
- ◆ Outputs :            Balanced 2 TRS/2 XLR
- ◆ Input Max Level :     9 dBu
- ◆ Output Max Level :   9 dBu
- ◆ THD+N :            <0.01% @ −6 dBFS (Bypass)
- ◆ S/N Ratio :          >90 dBA (Bypass)
- ◆ Frequency Response :   20Hz−20kHz +/− 0.5dB
- ◆ A/D and D/A Resolution :   24 bit
- ◆ Process Resolution :    24x48bit
- ◆ Processes :          Feedback Eliminator
- ◆ Display :             LCD 2x20 alphanumeric
- ◆ Connectivity :       MIDI/USB

The DFP-$212$ is a feedback remover dual mono device. The system analyzes frequencies contained into the input signal removing the feedback using Up to $12$ real-time high precision notch filters with $-45$dB attenuation. Sensitivity is adjustable in $15$ steps, allowing the user to Increase or reduce the reactivity of the DFP-212 to the feedback The $12$ notches per channel Used for the feedback eliminator remain Placed and can be saved ınto a user preset. If they are not saved, switching off the device resets the filter configuration to the last saved one.
There are $4$ Factory Presets and $16$ User Presets.
The product has a bypass control in the analog domain and can be linked to external controllers through RS$232$/USB/MIDI.

## User Interface
At power on, after the init phase, the unit shows on LCD display the below

PRESET XX: NAME PRESET
L:|||||||||||    R:|||||||||||

On upper row the preset number and the preset name are visible, on the lower row the vu-meter shows the input signal level after the analog GAIN L&R.

To access the main menu the user pushes the ENTER key or rotates the NAVIGATION encoder.
To return to the vu-meters, the user pushes the QUIT key.
Every time the user pushes a key, the led near it changes its state.

After an encoder rotation or an ENTER key beat, the LCD display shows:

PRESET XX: NAME PRESET
SEARCH FEEDBACK L&R

Using the encoder, the main menu is accessible through the lower row:

$1$. **Search feedback L**&**R**        $2$. **Search feedback L**
$3$. **Search feedback R**            $4$. **Utility Function**
$5$. **Edit Notch left**              $6$. **Edit Notch Right**
$7$. **Load preset**                  $8$. **Save preset**
$9$. **Copy channel L to R**        $10$. **Copy channel R to L**
$11$. **Reset manual notch L**      $12$. **Reset manual notch R**
$13$. **Reset auto notch L**        $14$. **Reset auto notch R**
$15$. **View notch filter L**        $16$. **View notch filter R**

To select one of the menu fields, use the ENCODER (Navigation). To access the sub menus use ENTER, to exit use QUIT. Those keys ore also used to confirm / deny user choices.

## SEARCH FEEDBACK L & R / L / R
The user has the possibility to select the channel to be monitored simply accessing one of the $3$ functions: Search L&R, only L, only R.
The screen displays (case SEARCH FEEDBACK L & R):

L <SENS> RS ---------M
R <SENS> RS ---------M
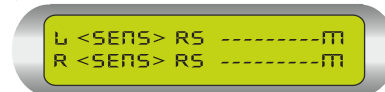
The upper row of the display shows informations on LEFT channel, the lower row shows informations on RIGHT channel.
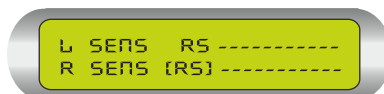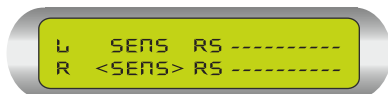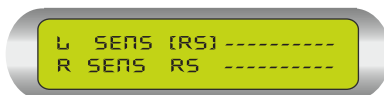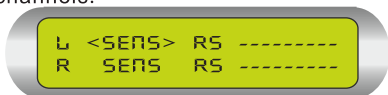
The available informations are:

**Sens**: it shows the system sensitivity to the feedback phenomenon. Its values are included between $1$ (lowest sensitivity) and $16$ (highest sensitivity)

**Rs**: automatic notch filters reset.
The "_" symbol indicates the notch filter is automatic and it is flat.
The "M" symbol indicates the notch filter is manual.

Using the NAVIGATION encoder the user can select **Sens** or **Rs** option for both channels.

```
L <SENS> RS ---------
R  SENS  RS ---------
```

```
L  SENS [RS] ----------
R  SENS  RS  ----------
```

```
L   SENS  RS ----------
R <SENS> RS ----------
```

```
L SENS   RS -----------
R SENS [RS] -----------
```

The parameter name between the $\langle\rangle$ symbols indicates the user can change the parameter value using the VARIATION encoder, the parameter name between the [ ] symbols indicates the user can change the parameter value using the ENTER button.

In order to reset all automatic notch filters, select the Rst option of the desired channel and push ENTER. The LCD display will show:

```
RST AL: ARE YOU SURE?
 YES = ENTER; NO=QUIT
```

```
RST AR: ARE YOU SURE?
 YES = ENTER; NO=QUIT
```

Push the ENTER button in order to confirm, QUIT button in inder to cancel.
After it, the LCD display shows the previous informations.

When the detection engine is active and the notch variable is set, the system automatically removes the inserted notch filters gradually if the feedback conditions are no more present.
Of course the system automatically puts new notch filters when new feedback frequencies arise.
The LCD display shows the disabled notch filters ( and the enabled notch filters
Pushing on QUIT button, the user freezes all automatic notch filters and stops the detection engine.


## UTILITY FUNCTION MENU

It is possible to select one of this functions:
1. **Config communication**
2. **Config mode search L**
3. **Config mode search R**

use the ENCODER to select the desired function and press ENTER to access it, press QUIT to exit.

## Config communication

It is possible to select the remote control interface to use. Use the potentiometer to select one of the following: USB, MIDI Channel $1, \ldots, 15$. Use the potentiometer to change the setting. Check also the coherent setting on the back panel hardware switch. To exit press QUIT.

```
CONFIG COMMUNICATION
  DEVICE: < USB >
```

## Config mode search L / R

It is possible to configure the feedback search engine mode. The user can vary:
The number of automatic notch filters $(1$ to $12)$. The remaining filters are available as manual filters.
Automatic notch filters bandwidth $(1/70, 1/20, 1/10, 1/5$ oct$)$.
Auto removal of automatic notches (Fixed, Variable).
Inside **Config mode search L / R** menu the screen will show:

```
CONFIG MODE SEARCH  L
NUM. NOTCH AUTO < 11 >
```

turning the encoder the screen will display:

```
CONFIG MODE SEARCH  L
Q NOTCH AUTO  < 1/10>
```

turning the encoder the screen will display:

```
CONFIG MODE SEARCH  L
ATT. NOTCH       <FIX>
```

Each parameter can be varied using the encoder:
The Att Notch Var function is operating only when the user positions itself into the Search feedback L&R, L, R function.
To exit this sub-menu, press QUIT.

## EDIT NOTCH LEFT/RIGHT MENU

Here it is possible to edit all the manual notches formerly selected using the utility function. If the number of manual notches is (automatic notches $= 12$) when the user tries to access the sub-menu, the display will briefly show:

```
FEEDBACK ELIMINATOR
 NO  MANUAL NOTCH
```

Otherwise, the following will be displayed:

```
L MANUAL NOTCH  12
 A-45 F 1003 Q1/10
```

The user can edit for each notch: Attenuation, Frequency and Q (bandwidth)
Attenuation varies between $-45$dB and $0$dB with $1$ dB steps.
Frequency varies between $20$Hz and $20$ kHz with $1/70$ octave steps.
Q can be $1/70, 1/20, 1/10, 1/5$ octave.

After selecting Edit Notch left/right and pressing enter the user accesses the menu. Using the encoder it is possible to select the required manual notch filter (the number is shown upper right), in order to edit the filter parameters press ENTER, then it is possible to select the parameter (selection is visible within ⟨ ⟩).

```
L MANUAL NOTCH 12
<A-45>F 1003 Q1/10
```

```
L MANUAL NOTCH 12
A-45<FA1003>Q1/10
```

```
L MANUAL NOTCH 12
A-45<FF1003>Q1/10
```

```
L MANUAL NOTCH 12
A-45 F 1003<Q1/10>
```
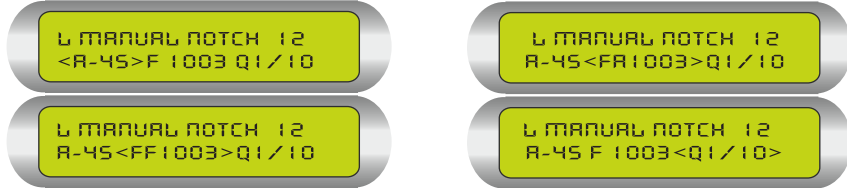
Use the potentiometer to vary the parameter value.
For the frequency edit there are $2$ parameters: FA and FF.
When FA (frequency Adjust) is selected the frequency value varies with $1/3$ oct steps.
When FF (frequency Fine) is selected the frequency value varies with $1/70$ within the selected $1/3$ octave.

## LOAD PRESET MENU
Here it's possible to select and load one of the $4+16$ available presets.
To load a preset select it using the ENCODER, during navigation it is possible to visualize the preset name (max $8$ character) and its position.

```
LOAD PRESET
01:    NAME PRESET
```

If the selected preset is not the current one, the preset number will blink.

```
LOAD PRESET
01:    NAME PRESET  ^
```

To load the selected preset press ENTER, to exit press QUIT. During preset loading the following message will appear:

```
WAIT: LOADING ....
```

If an empty User preset is selected and loaded, the system displays an error message:

```
ERROR: PRESET EMPTY
```

## SAVE PRESET MENU
Using this menu it is possible to save a preset in one of the $16$ user locations available.
Use the ENCODER to select the desired location, only user presets are shown. Press enter to save the preset in the desired location, if the location is already occupied the following message will appear:

```
OVERWRITE  PRESET ?
YES = ENTER; NO=QUIT
```

Press QUIT to return to SAVE menu , press ENTER the preset wil be saved and the display will show:

```
WAIT: SAVING......
```

After that, saved preset name editing will be possible.
Use the ENCODER to select character position, and POTENTIOMETER to change the character. To save press ENTER, to maintain default name press QUIT.
After this the system returns to main menu.

**If a preset is not saved, switching off the device will lose it.**

## COPY CHANNEL L to R / R to L
This function copies the settings of one channel to the other. Press ENTER to show the following message :

```
COPYLR: ARE YOU SURE?
   YES = ENTER; NO=QUIT
```

```
COPYRL: ARE YOU SURE?
   YES = ENTER; NO=QUIT
```

Press ENTER to confirm, QUIT to cancel.

## RESET MANUAL NOTCH L / R
This function resets all manual notches of the Left / Right channel. After pressing ENTER the following message will appear :

```
RST ML: ARE YOU SURE?
  YES = ENTER; NO=QUIT
```

```
RST MR: ARE YOU SURE?
  YES = ENTER; NO=QUIT
```

Press ENTER to confirm, QUIT to cancel.

## RESET AUTO NOTCH L / R
This function resets all automatic notches of the Left / Right channel. After pressing ENTER the following message will appear :

```
RST AL: ARE YOU SURE?
YES = ENTER; NO=QUIT
```

```
RST AR: ARE YOU SURE?
  YES = ENTER; NO=QUIT
```

Press ENTER to confirm, QUIT to cancel.

## VIEW NOTCH FILTER L / R
This function allows to see the configuration of all automatic and manual filters.

```
L NOTCH FILT NUM TYPE
A=-45  F=1003  Q=1/10
```

Rotating the VARIATION encoder, the LCD display shows the configurations of the 12 notch filters.

# Midi Standard
## Program Change

| | | Value Range | Legend |
|---|---|---|---|
| | | 0,...,3<br>4,...,20 | Factory Preset<br>User Preset |

## Control Change

| | Controller | Value Range | Legend |
|---|---|---|---|
| | 0 | 0.1 | Bank select ; Bank = 0: channel  1 (Left);<br>Bank = 1: channel  2 (Right) |
| | | | |
| | 16 | 0,..,11 | Number Manual notch filter (>num Automatic notch) |
| | 17 | 0,..,45 | Attenuation Notch filter (from -45dB to 0dB step 1dB) |
| | 18 | 0,..,26 | Frequency Adj Manual Notch filter  (from 20Hz to 20kHz step 1/3 Oct) |
| | 19 | 0,..,26 | Frequency Fine Manual Notch filter  (step 1/70 Oct) |
| | 20 | 0,..,3 | Band-widt Manual Notch filter  (1/70Oct, 1/20Oct, 1/10Oct, 1/5Oct) |
| | | | |
| | 21 | 0,..,11 | Set num Automatic notch |
| | 22 | 0,...,3 | Set Q Automatic notch |
| | 81 | 0.1 | Set Attenuation Automatic notch fix or variable |
| | 83 | 0,...,15 | Set Sensitivity from min (0%) to max (100%) |
| | | | |
| | 25 | 0,...,3 | Feedback Eliminator 0=OFF; 1=Search L&R;  2=Search L;  3=Search R; |

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