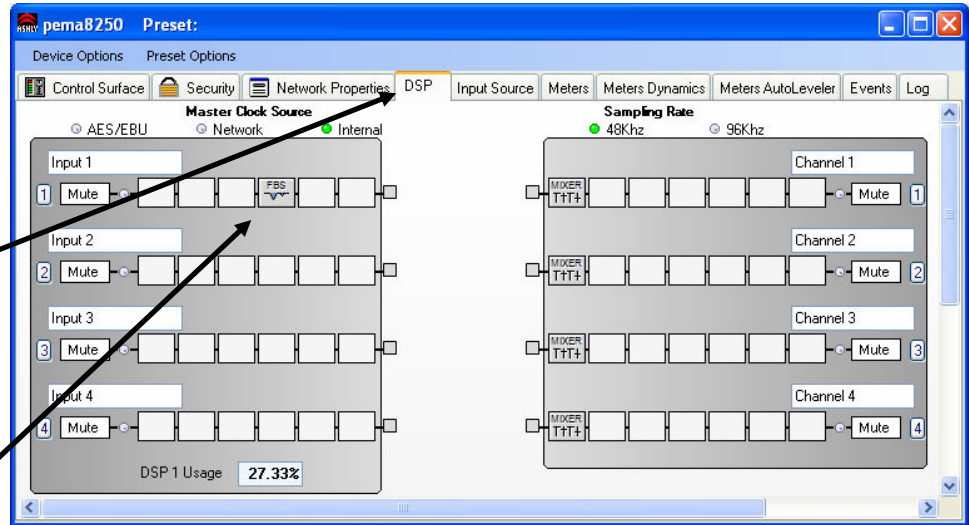# Feedback Suppressor

Software Applications

May 2013

The Feedback Suppressor (FBS) provides automatic feedback control. This is done by constantly monitoring the audio and automatically adjusting any one of 12 filters to remove feedback. Both Notch and Parametric Filter types are used to control feedback depending on the characteristics of the feedback.
Please see the Protea Software Suite "Help > Contents and Index" for additional details.

Feedback Suppressor:
Pema Series (all models)
ne4400 (all)
ne4800 (all)
ne8800 (all)
nXp (all)

Left click the DSP tab

Right click selected box>Equalization>Feedback Suppressor
FBS can be assigned to inputs only

Filter Parameters
Filter (number): Current Active Filter (highlighted)
Filter In/Out: Green = Filter In (engaged), Red = Filter Out (disengaged).
Filter Lock: Lock Filter at its current settings
Filter Mode: There are three filter modes:
 Restricted: Filter will only broaden or deepen
 Floating: Detector may release filter after float time or modify filter type
 PEQ: Detector will not modify the filter, the user may control the filter
Type: Selected Filter Type (Parametric or Notch)
Frequency: Selected Filter Center/Corner frequency.
Level: Selected Filter Boost/Cut amplitude.
Bandwidth: Selected Filter Bandwidth (or Q).
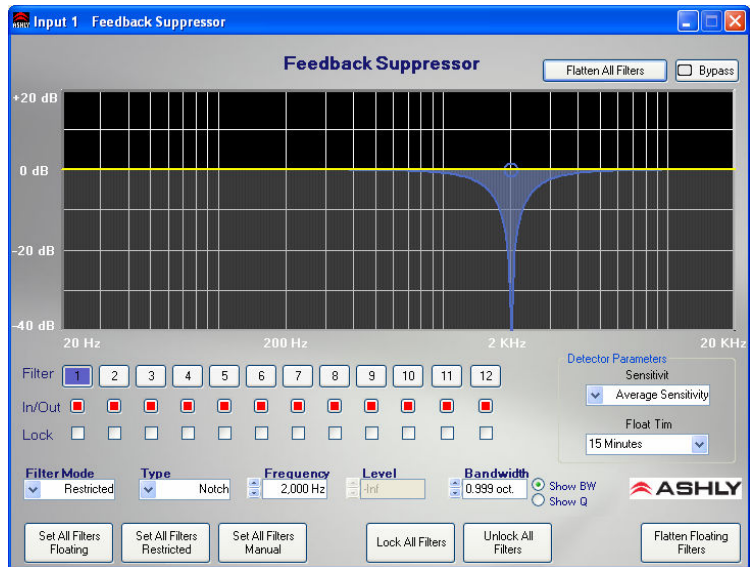
The feedback suppressor (FBS) quickly suppresses multiple feedback tones.
FBS function is only available on input channels at the 48 kHz sampling rate.
Before using the FBS, it is helpful to understand the following basic concepts;

The FBS will automatically use available *restricted* filters first, then *floating* filters.
The FBS will not automatically change *manual* filters.

The *Sensitivity* control adjusts how fast the FBS inserts filters.
It is best to start with an *Average Sensitivity* setting and experiment.
Very Sensitive means the FBS will aggressively look for anything that could be feedback.
The best setting of the Sensitivity control depends on both the content of the audio program.

Note:
Each of the FBS filters can be selected between three different modes:
 Restricted: The filter's attenuation level can only be made deeper,
   or filter bandwidth made broader by the FBS.
 Floating filter: The filter's parameters are dynamic in that the FBS will slowly remove the
   filter if no longer needed. The Float Time parameter sets the duration.
 Manual filter: The filter is only controlled manually by the user.

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