Involve audio DSP implementation test results.
Tested May 2009

Setup

DSP: Texas Instruments TAS3108 on EVM2 platform.

PC: Athlon64 running Windows XP SP3 with
ESI Juli@ pro audio card at 192khz / 24 bit

Test conditions:

- Straight path in / out testing with Liberty Instruments Praxis.
- Linearity testing using CRO and Multimeter.

Sine wave separation test matrix:

- Low band to mid band
- Mid band to high band
- Low band to high band

Vs

- Front left to front right
- Front left to rear left
- Front left to rear right.

Linearity test matrix:

- Input signal balance sweep from 0.1 to 0.9 output levels, with total stereo output totalling 1.0, in 0.1 steps (9 tests per pair)

Vs

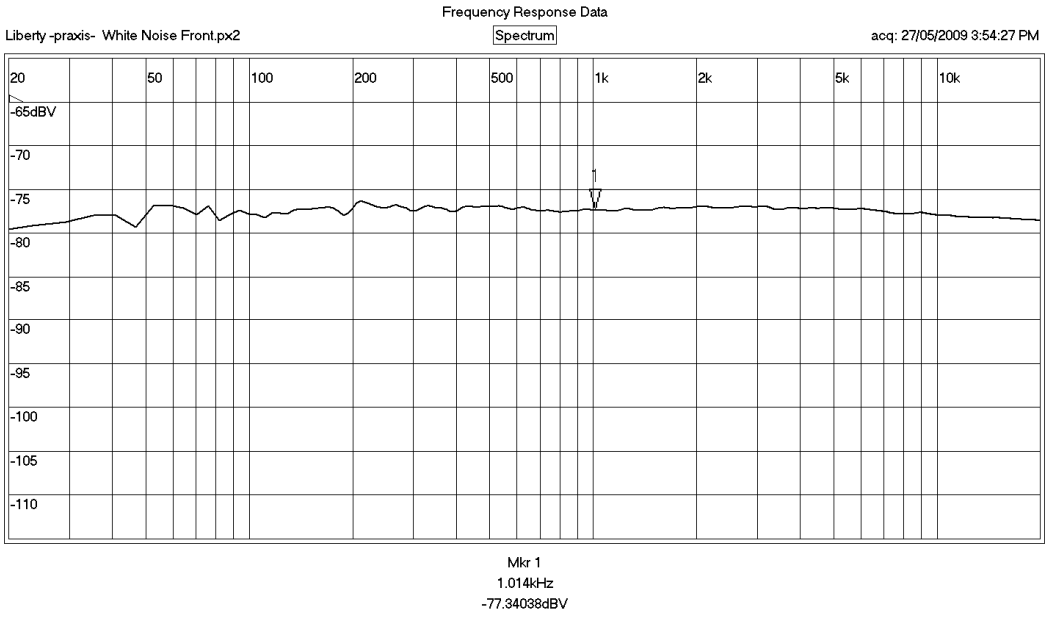
- Front left to front right
- Front left to rear left
- Front left to rear right.

Frequency response front stereo pair and rear stereo pair.

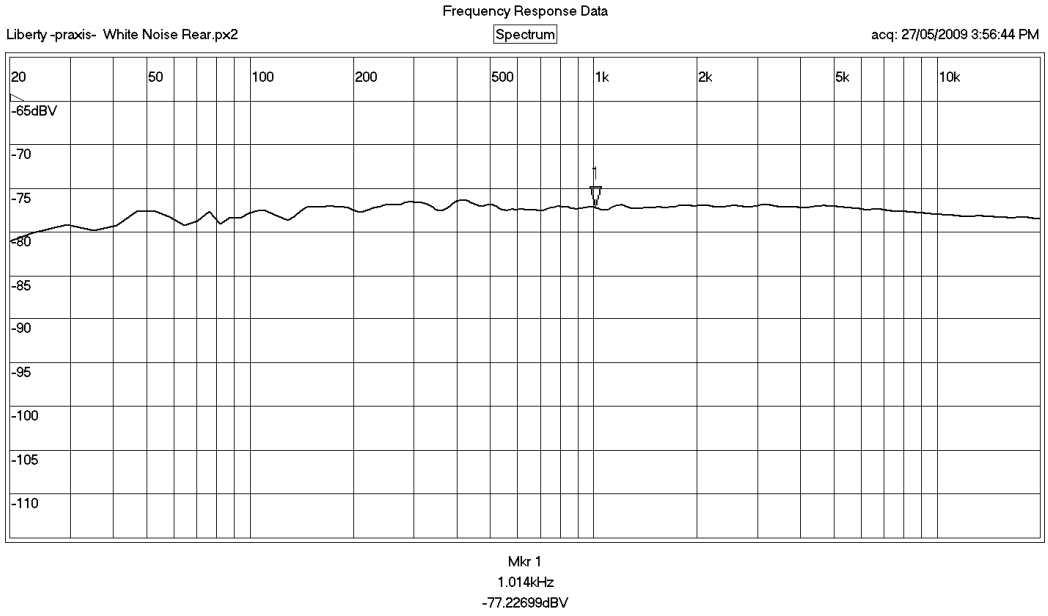
THD front and rear.

Channel separation cross-talk tests.

Frequency Response

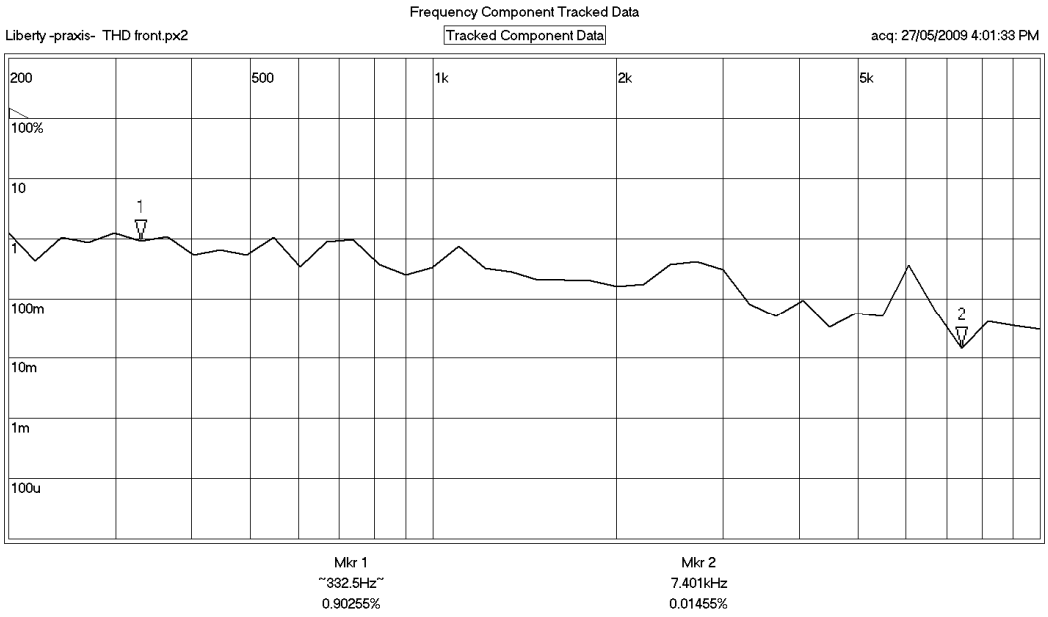


Front Stereo pair

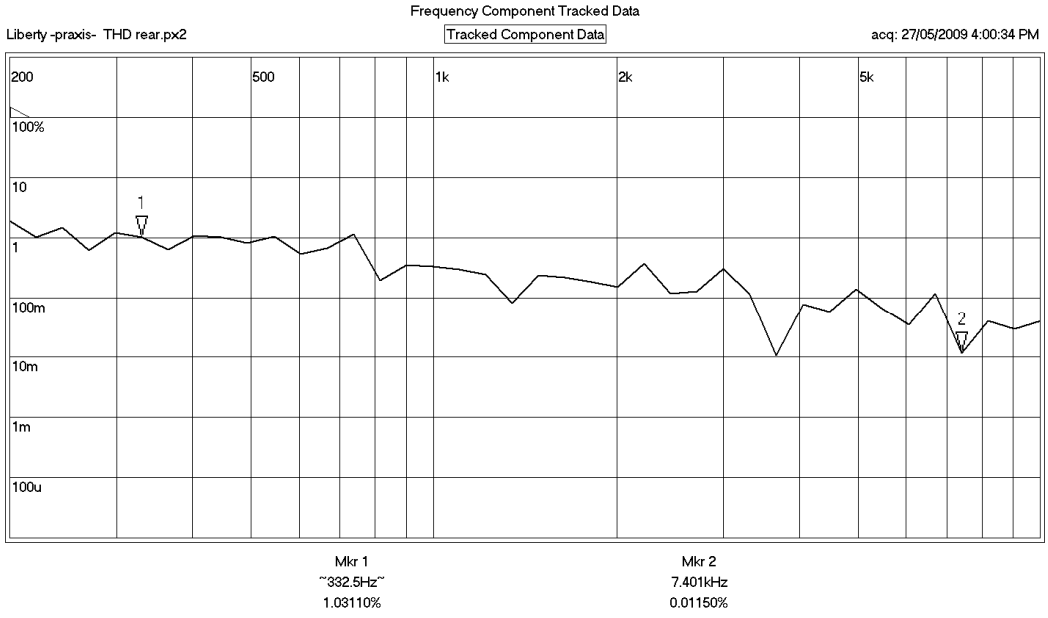


Rear Stereo pair

T.H.D



Front THD

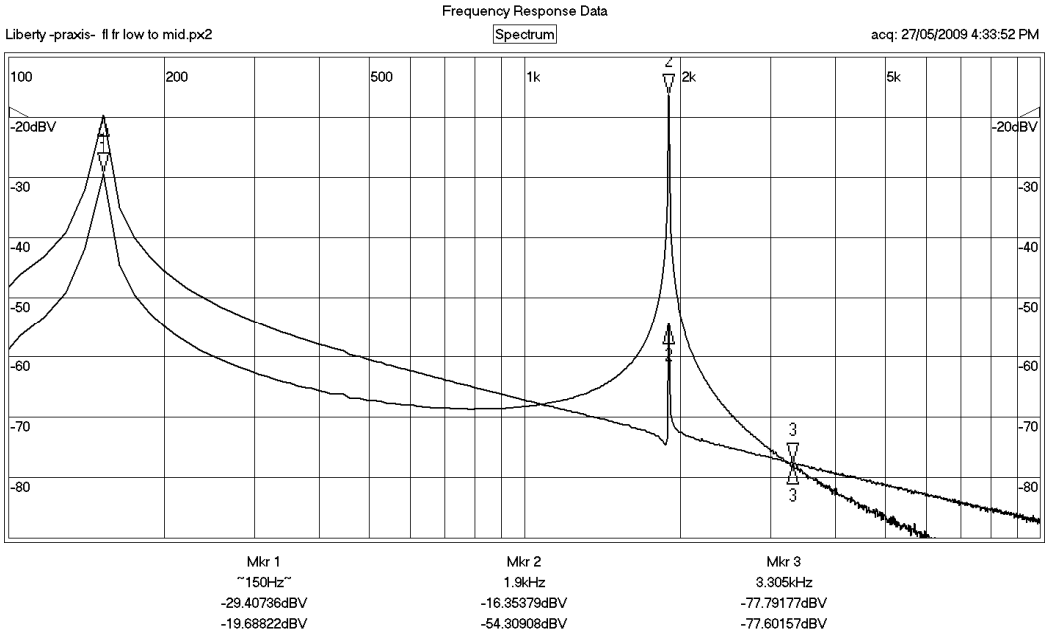


Rear THD

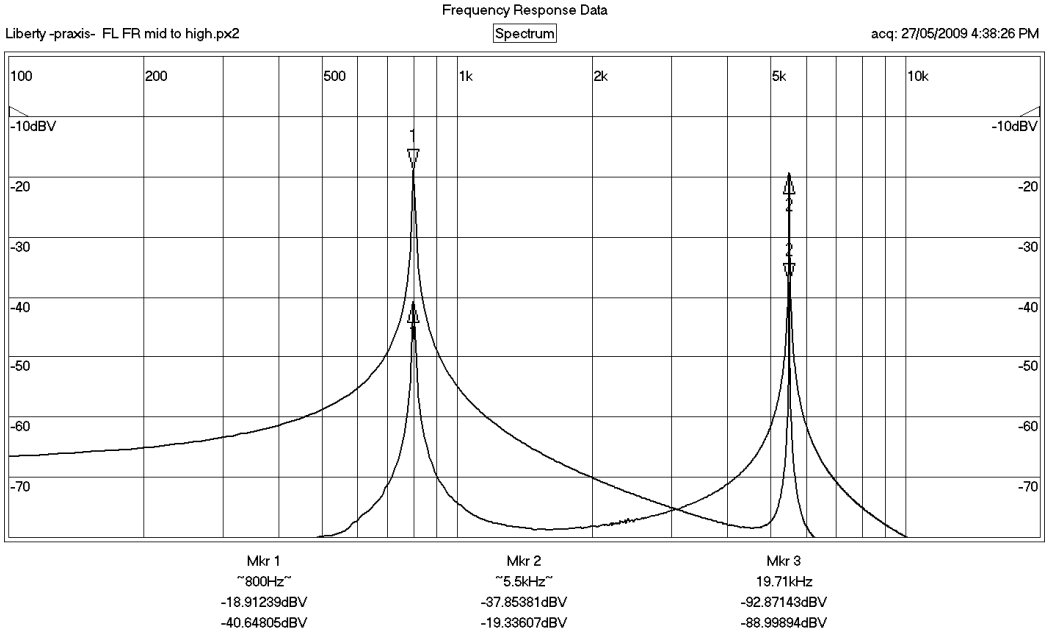
Separation Results

N.B: The third marker in each graph is not used.

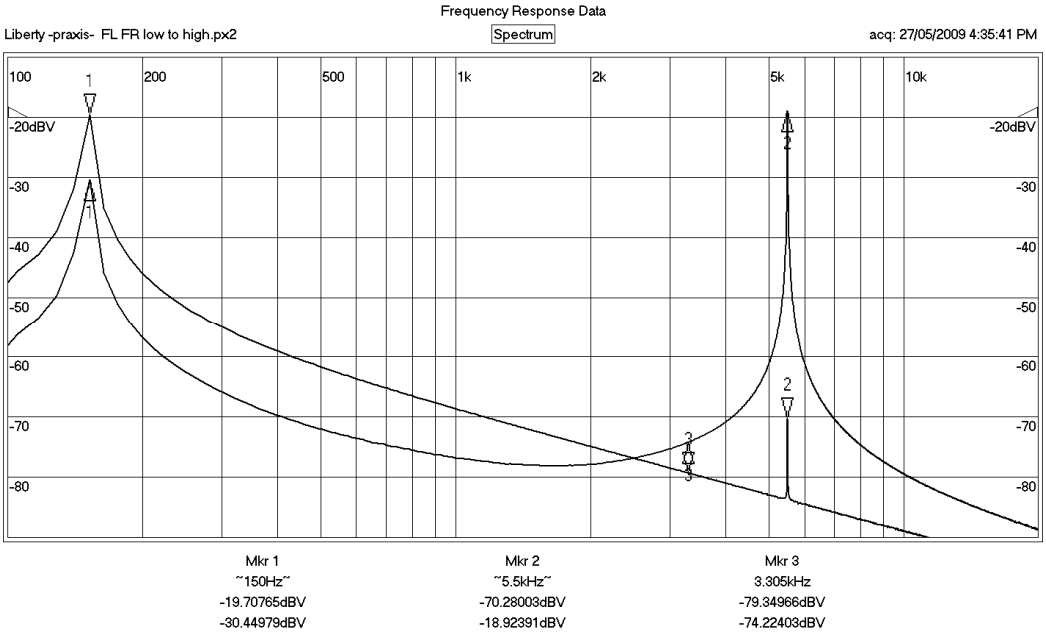
Front left to Front right separation



Low to Mid band

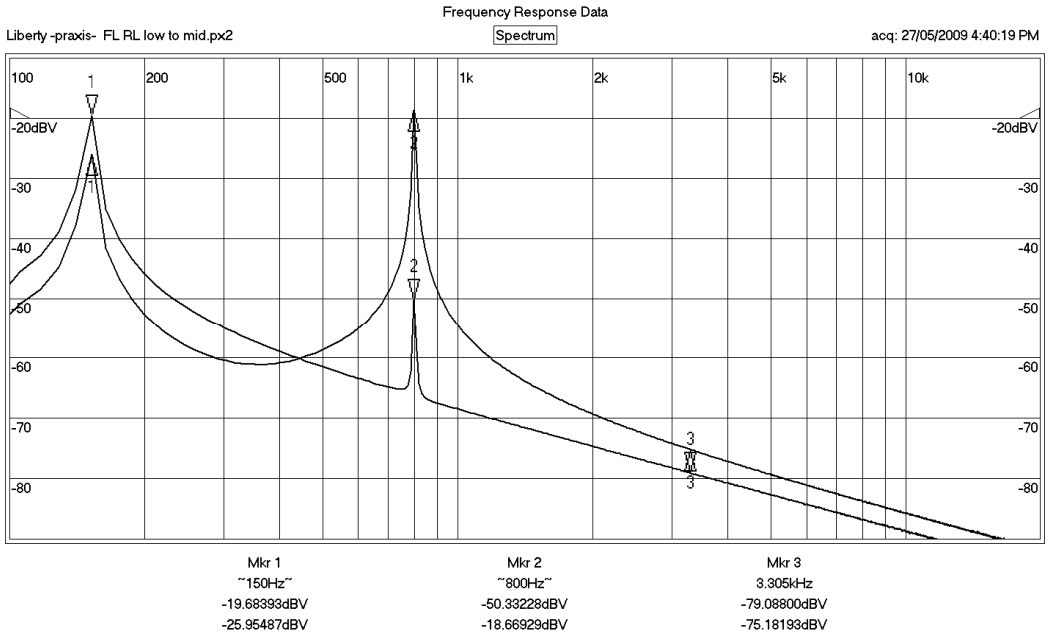


Mid to High band

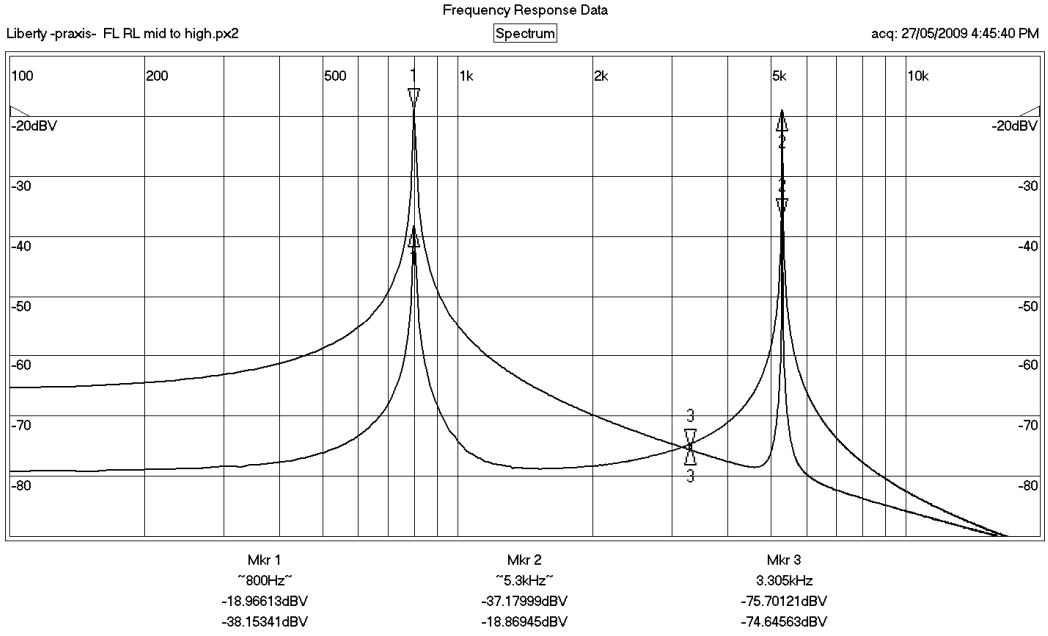


Low to High band.

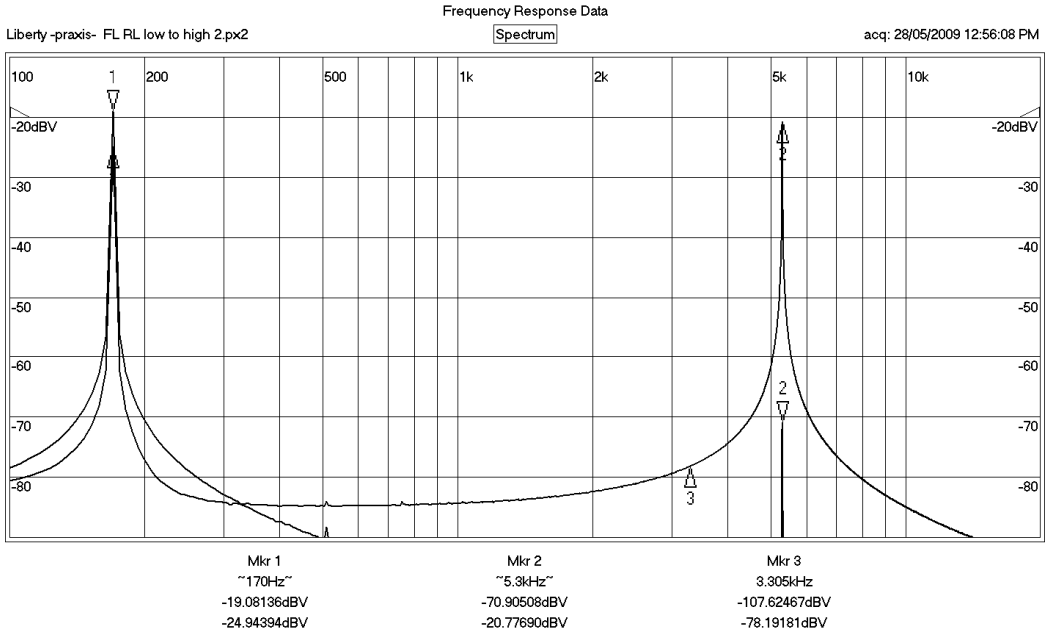
Front left to Rear Left separation.



Low to Mid band

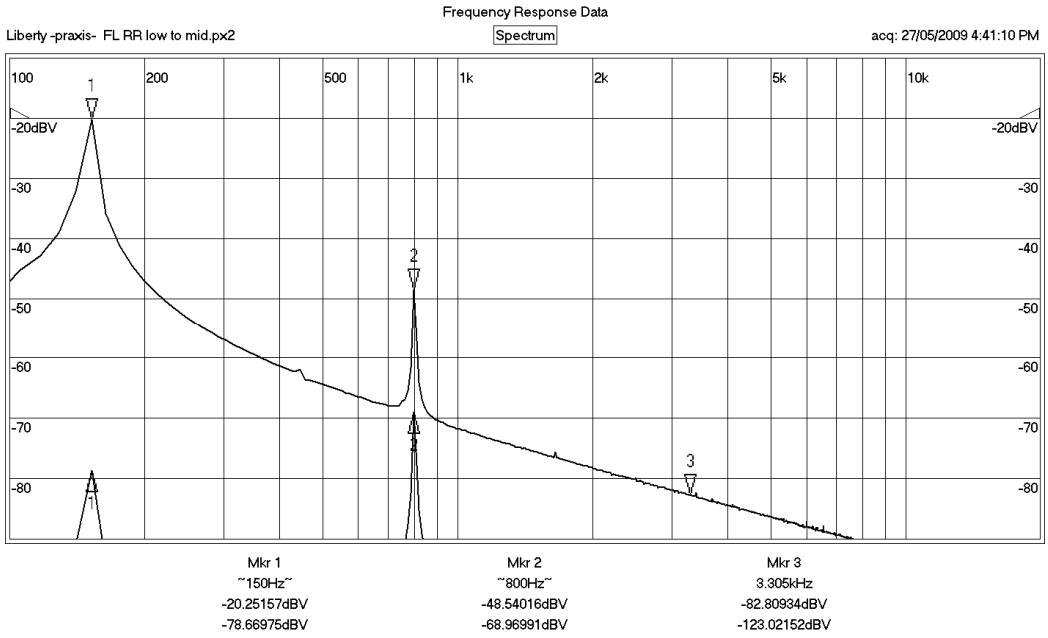


Mid to High band

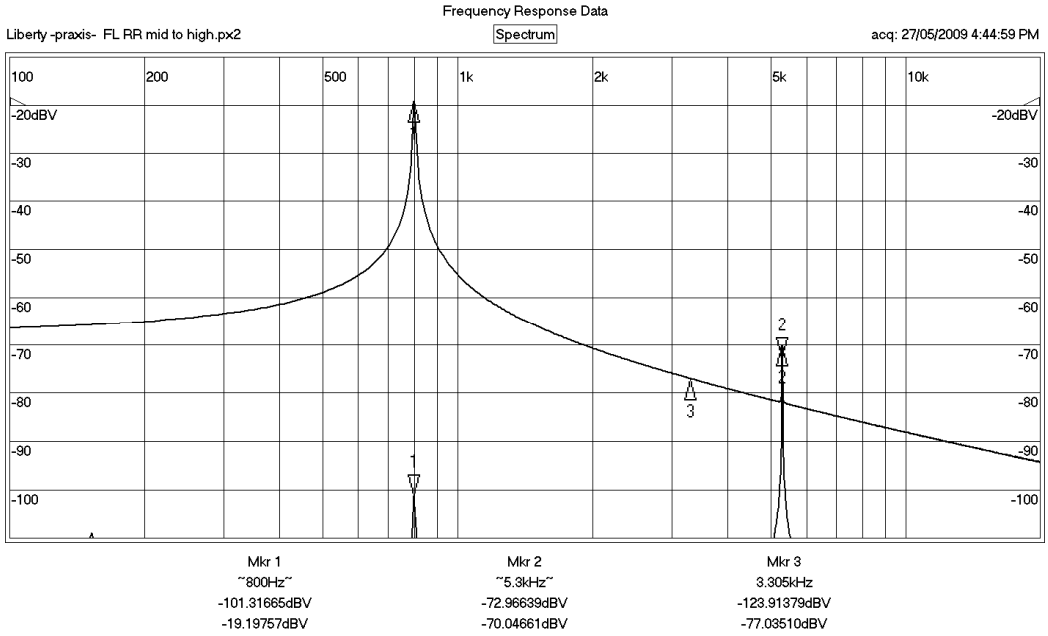


Low to High band

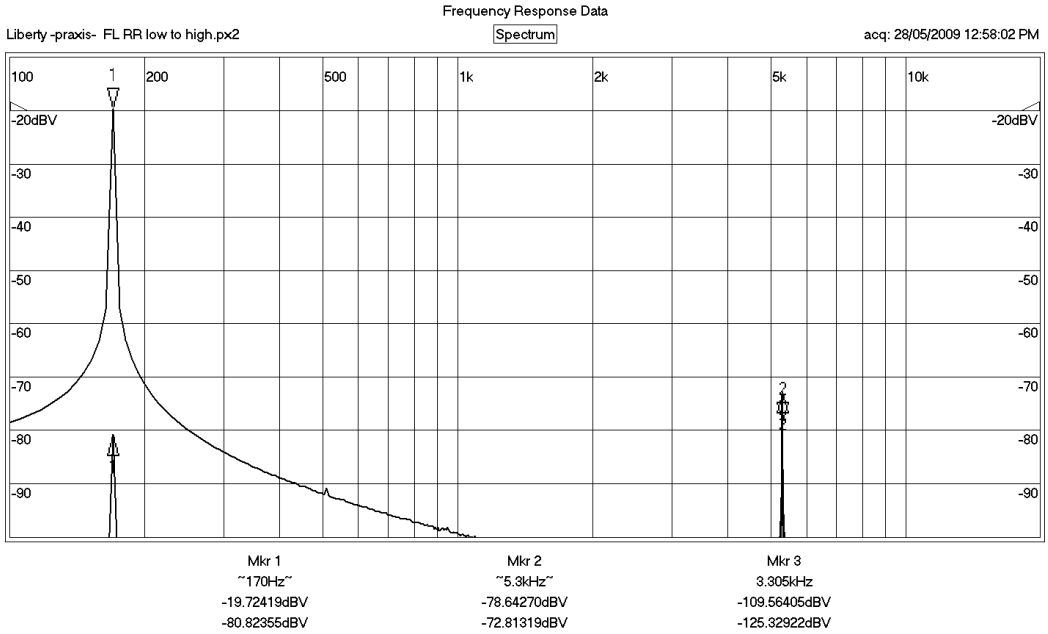
Front left to Rear Right Separation



Low to Mid Band



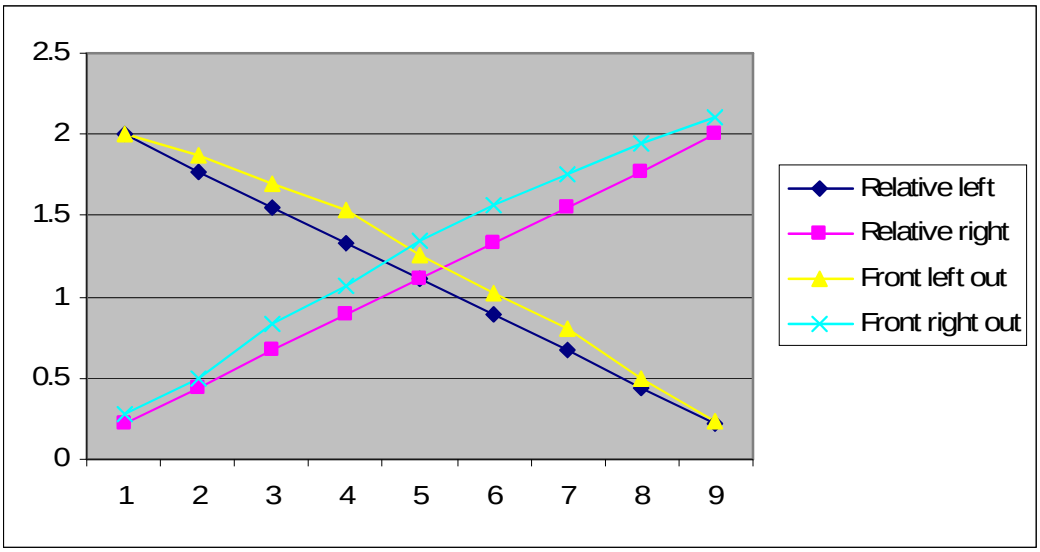
Mid to High Band



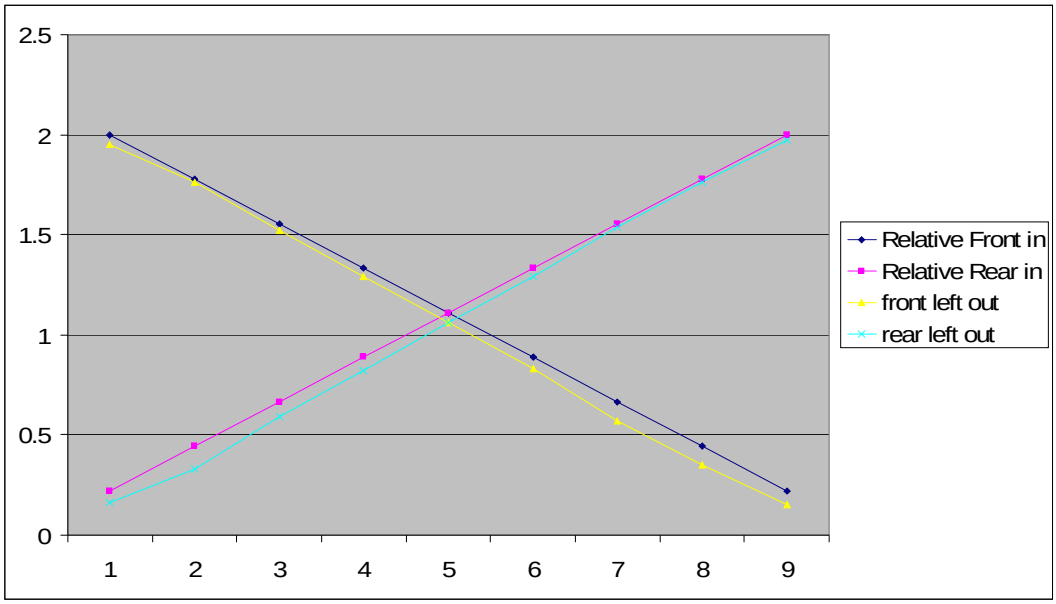
Low to High Band

Linearity Results

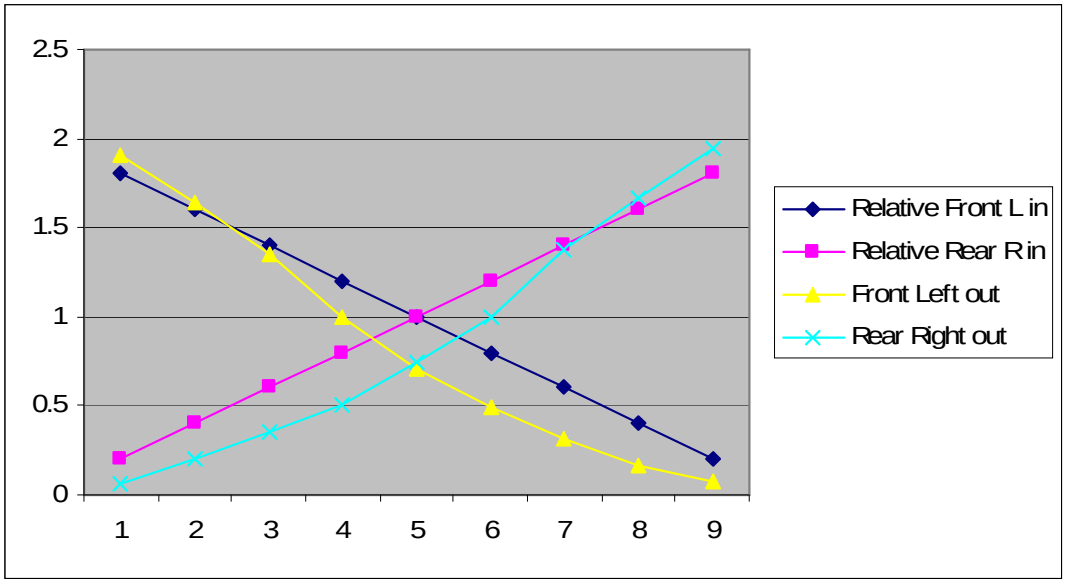
NB: Input levels are uniformly scaled to be relative to output. Slight experimental error is assumed in measurement.



Front left to Front Right



Front left to Rear Left



Front left to rear right

Channel separation cross-talk tests.
(Input to Involve Encoder (4 / 5 to 2 channel) and out through Involve decoder to 4 channel)

	Output	Front Left	Front Right	Rear Left	Rear Right
Input					
Front left		0	-37.832607	-34.0728	-38.202275
Front Right		-43.5663	0	-35.21554	-36.302696
Rear left		-36.4471	-33.568967	0	-41.868434
Rear Right		-34.9732	-33.302235	-39.32283	0

All results are in dB and referenced to zero on relevant channel.