

The question of best CW settings was recently asked

AGC settings are VERY dependant on personal preferences best thing is to go through manual and work out what you personally prefer. FORTUNATELY these settings are real time and don't need a power on off to change them.

In crowded or noisy conditions (what else is there) I have found the AGC slope MENU 88 quite useful.

The Selectivity settings are not quite well explained in manual and NO graphs presented. to show the MENU effects.

Test method 1
MENU 93 SOFT MENU 94 MEDIUM

I can only detect very minor effects for the MENU 93 settings when looking at AMPLITUDE responses I suspect when I can measure the Group Delay or PHASE response there may be other artefacts. This is primarily because it is not possible to do a A/B test on the SOFT/SHARP options a power ON OFF is needed.(In current software revs) to effect these setting changes.

Using S2 as a reference (-90dBm) and changing RF input in 10dB steps to -10 dBm and searching with FT2000 for S2 again gave following

BW	dBc	S	800Hz
710	0	2	
810	10	5	
900	20	8.5	
1000	30	9+9	
1100	40	9+18	
1240	50	9+28	
1360	60	9+48	
1390	70	9+58	
1420	80	FS	

BW	dBc	S	500Hz
430	0	2	
520	10	5	
570	20	8.5	
630	30	9+9	
710	40	9+18	
800	50	9+28	
890	60	9+48	
920	70	9+58	
950	80	FS	

BW	dBc	S	400Hz
350	0	2	
410	10	5	
460	20	8.5	
510	30	9+9	
570	40	9+18	
640	50	9+28	
730	60	9+48	
750	70	9+58	
770	80	FS	

BW	dBc	S	200Hz
170	0	2	
210	10	5	
230	20	8.5	
250	30	9+9	
290	40	9+18	
330	50	9+28	
370	60	9+48	
390	70	9+58	
420	80	FS	

Test method 2

- 1 Input signal –70dBm (nominal S9 with IPO ON)
- 2 Set Speaker AF out to give harmonic free display on Spectra Plus with MAUDIO 2496 Sound Card
- 3 Set RF gain for S9 Switched off AGC (to stop AGC flattening ripple response)
- 4 Swept FT2000 across signal and peak hold on Spectra Plus

Bandwidths were as follows, Using MENU 95 WIDTH control on center indent position MENU 93 SOFT MENU 94

The effects of the Menu items is best shown with a plot so here they are

NOTE MENU ITEMS 102,103 AFTER CHANGING WITH MENU BUTTON HELD FOR 3SECS A POWER ON OFF IS REQUIRED

There are actually 32 settings of the width control so there are in between values for bandwidth

Note

If you have a PC with a sound card in shack and by connecting it to the AF OUT jack OR REC JACK on rear panel you can get a view of this with several sound card programs such as Spectrum Lab (DL4YHF) or SpectroGram (RThorne) See last plot in following set.

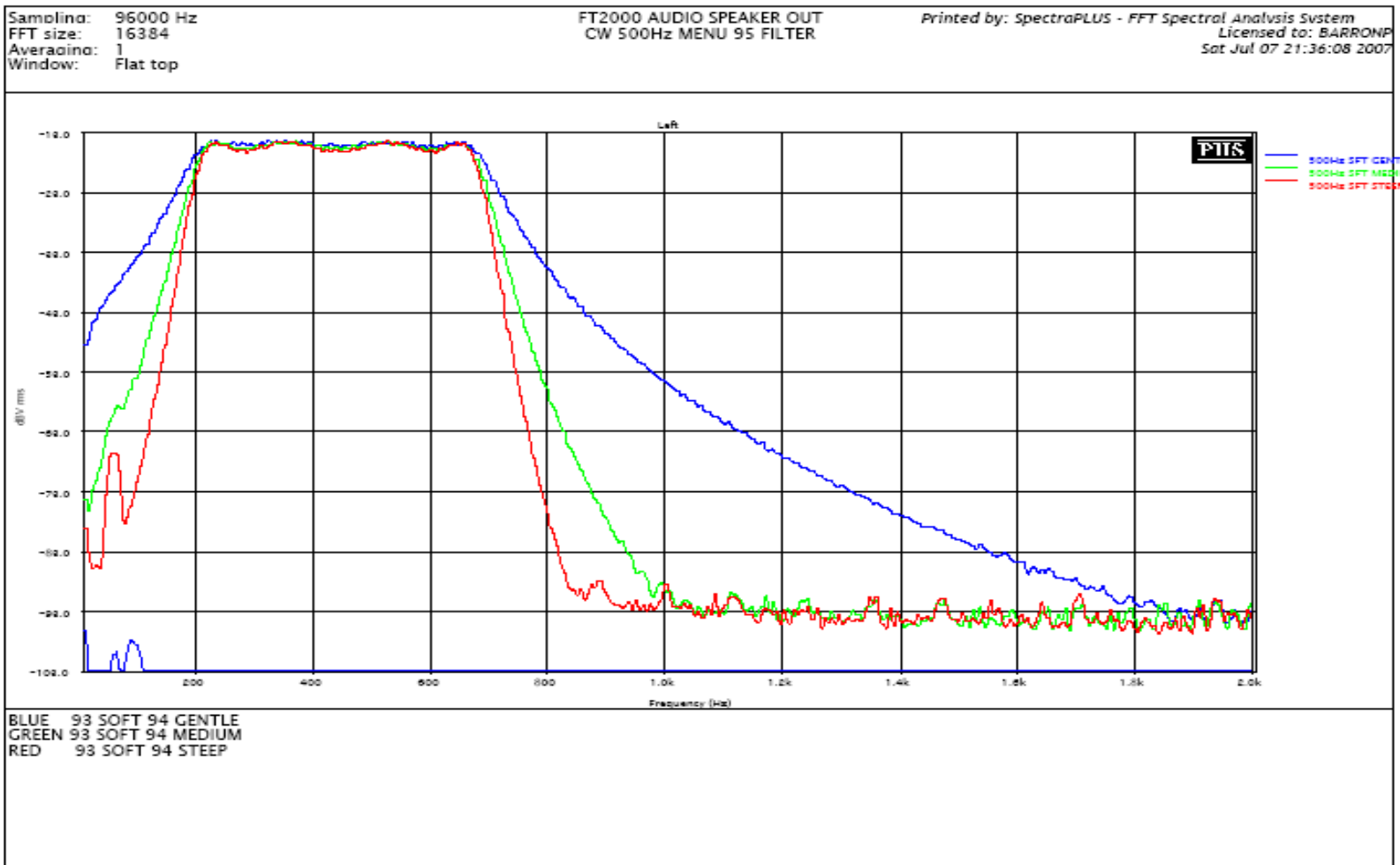
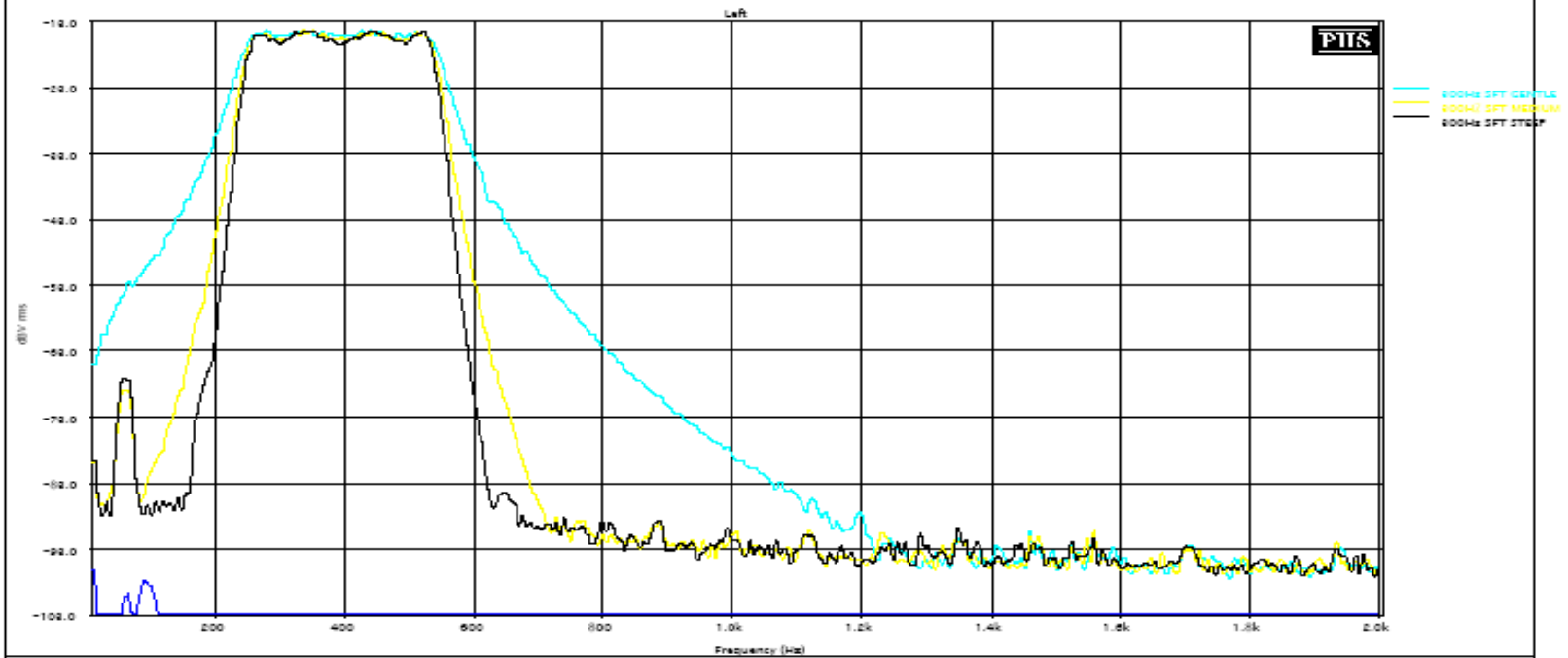


Figure 1 Menu 95 set for 500Hz cw narrow

Sampling: 96000 Hz
FFT size: 16384
Averaging: 1
Window: Flat top

FT2000 AUDIO SPEAKER OUT
CW 300Hz MENU 95 FILTER

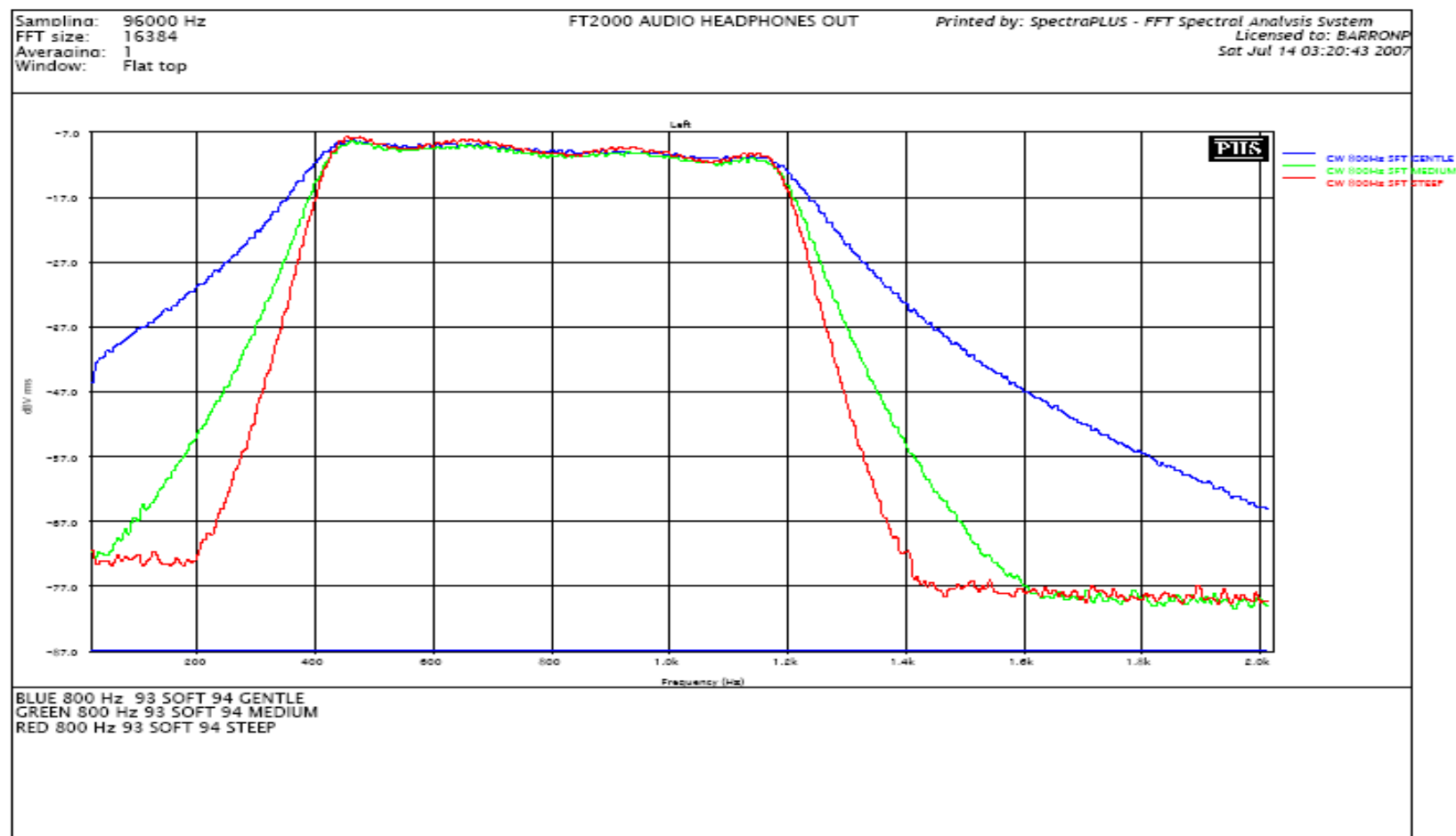
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LIGHT BLUE 93 SOFT 94 GENTLE
YELLOW 93 SOFT 94 MEDIUM
BLACK 93 SOFT 94 STEEP

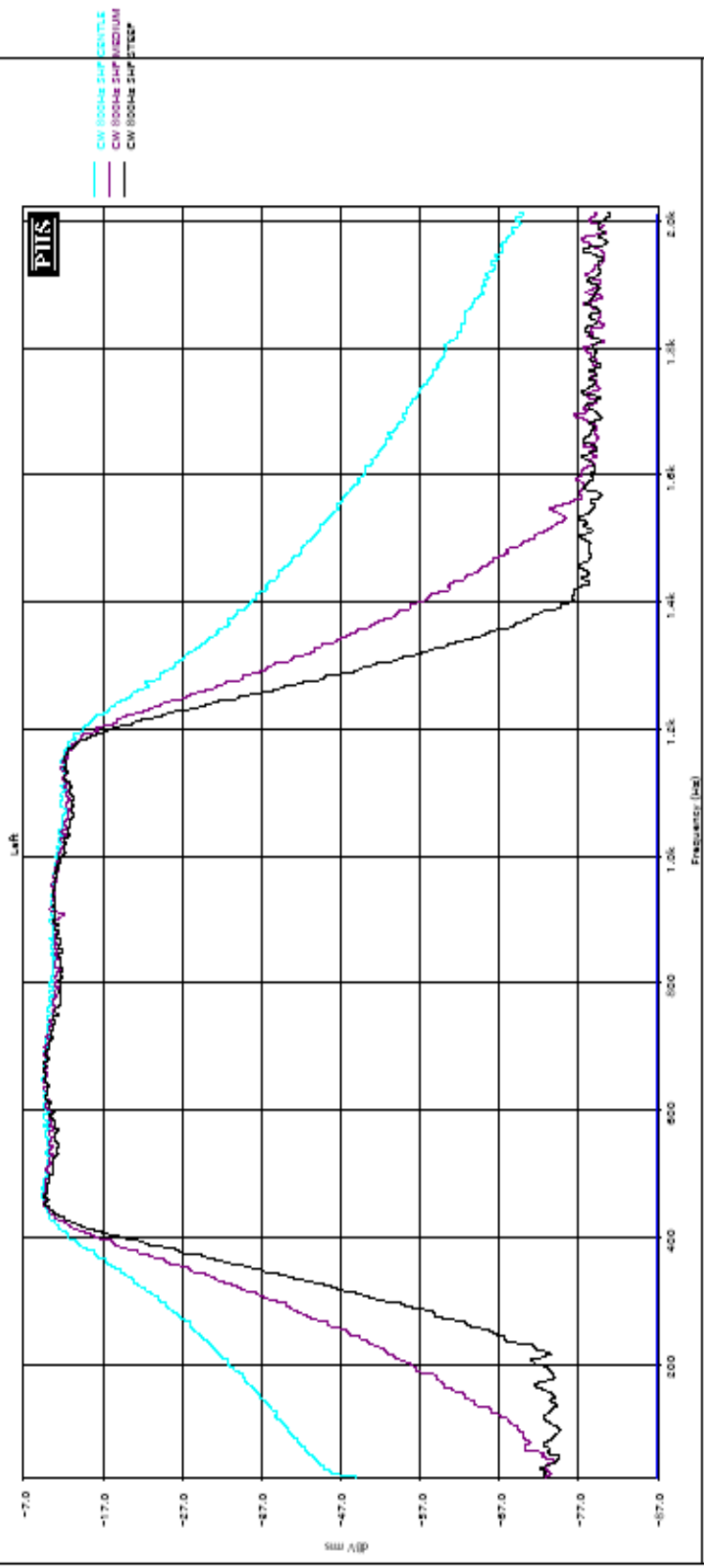
Figure 2 Menu 95 set for 300Hz cw narrow

The next plots are with the PITCH set to 800Hz to show both sides of the selectivity curves.



Sampling: 96000 Hz
 FFT size: 16384
 Averaging: 1
 Window: Flat top

FT2000 AUDIO HEADPHONES OUT
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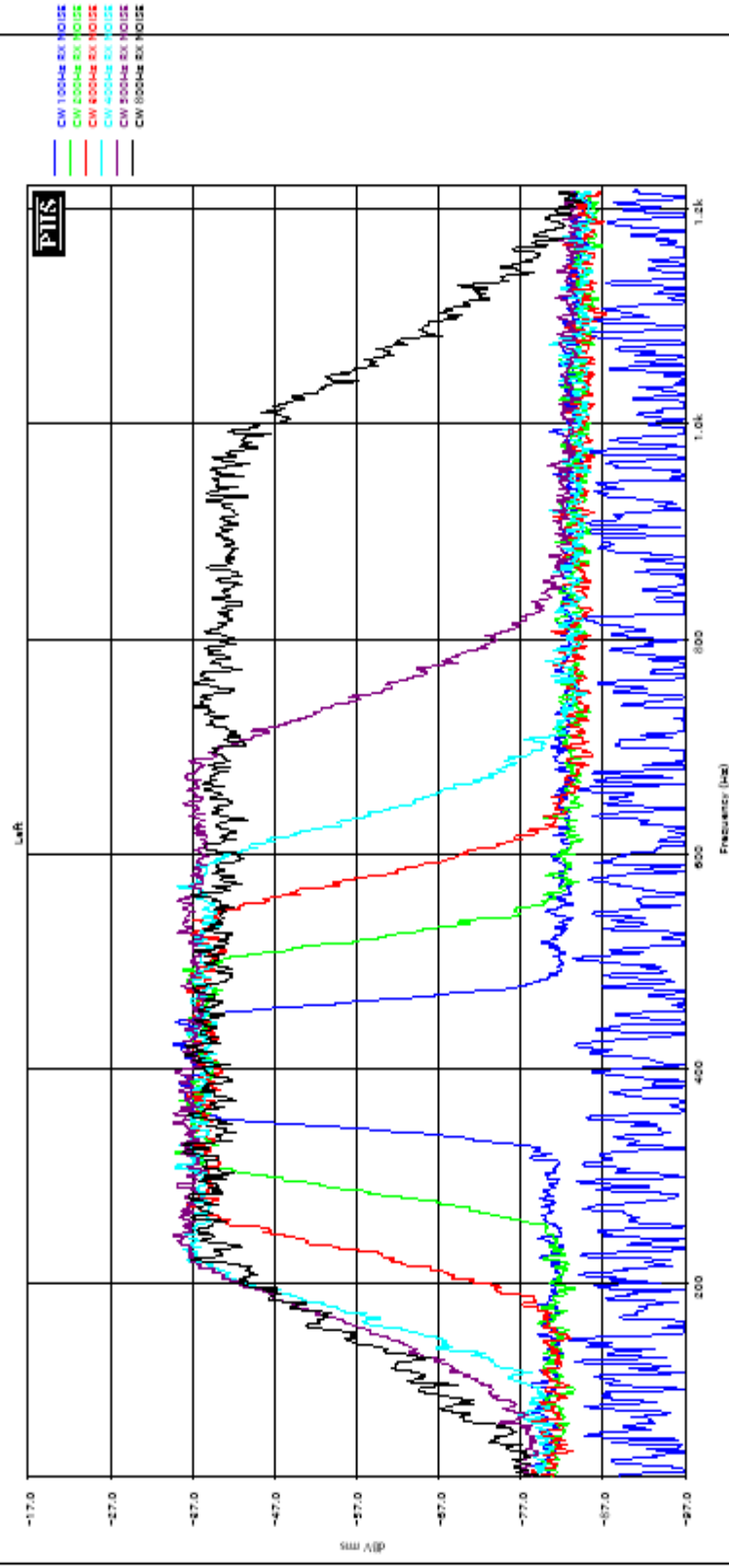


LIGHT BLUE 800 Hz 93 SHARP 94 GENTLE
 VIOLET 800 Hz 93 SHARP 94 MEDIUM
 BLACK 800 Hz 93 SHARP 94 STEEP

Samolina: 96000 Hz
 FFT size: 65536
 Averaging: 1
 Window: Flat top

FT2000 AUDIO HEADPHONES OUT

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BLUE 100Hz CW NOISE
 GREEN 200Hz CW NOISE
 RED 300Hz CW NOISE
 LIGHT BLUE 500 Hz CW NOISE
 VIOLET 800 Hz CW NOISE
 BLACK 800 Hz CW NOISE

