

New control definitions:

BW Control pushbutton:

toggles between LH and WS modes. The BWC mode shall be saved with the filter bandwidth, detection mode, etc. Note: the LH mode works better for SSB, AM and so forth, whereas the WS mode seems more suited for CW, RTTY and the like. However, that choice is up to the user and can be changed on the fly, as the situation requires.

### **The LH mode allows the 2 sliders to set the lower & upper edges of the receiver passband.**

The Low slider sets the low-frequency cutoff

The High slider sets the upper frequency cutoff

The WS mode allows the two sliders to control the Width of the passband and Shift its position relative to the operating frequency.

### **The Width slider sets the width of the receiver passband**

The Shift slider sets the position of the passband relative to 0Hz.

Reset pushbutton:

This button resets the Bandwidth control parameters back to their initial state. If the sliders were used, the Reset pushbutton will restore the BWC parameters to their original values.

In the LH mode; the Low & High frequency settings will be restored.

In the WS mode; the Width & Shift settings will be restored.

The upper slider:

In the LH mode; this slider controls the Low frequency cutoff of the receiver passband. The freq. is displayed in a box labeled 'Low', left of the slider.

In the WS mode; this slider controls the Width of the receiver passband. The bw is displayed in a box labeled 'Width', left of the slider.

The lower slider:

In the LH mode; this slider controls the High frequency cutoff of the receiver passband. The freq. is displayed in a box labeled 'High', left of the slider.

In the WS mode; this slider controls the IF Shift of the receiver passband. The offset freq. is displayed in a box labeled 'Shift', left of the slider.

The following table suggests the way the sliders operate, defining the step size and range of control. The slider's behavior is mode dependent. BWC is the bandwidth control button and LH & WS are its two states.

BWC	Slider	Step size	Range	Notes
LH	Low	10Hz	0Hz to 500Hz	Voice mode settings, SSB,AM, etc
	High	100Hz	1kHz to 10kHz	
WS	Width	100Hz	bw/2 to 2bw	
	Shift	50Hz	0Hz to 500Hz	
LH	Low	width/10	100Hz to High	CW mode settings
	High	width/10	Low to 2000Hz	
WS	Width	width/10	20Hz to 2width	
	Shift	width/10	200Hz to 2000Hz	

Closing thoughts –

1. In CW replace the console's Shift slider with the CW Pitch control in the DSP Setup page! Then the transmitter will always be 'zerobeat' to the receiver because the CW Pitch freq. = IF Shift freq.
2. The state of BWC must be saved with the user's filter selection.
3. IMHO the following mode groups ought to SHARE THE SAME FILTER SETTINGS –
  - a. LSB & USB
  - b. LCW & UCW
  - c. AM & SAM & DSB
4. Let's stop using negative frequency offsets for lower sideband modes. Its logically implied. The higher frequencies in lower sideband modes should be displayed consistently – not inverted with negative values.

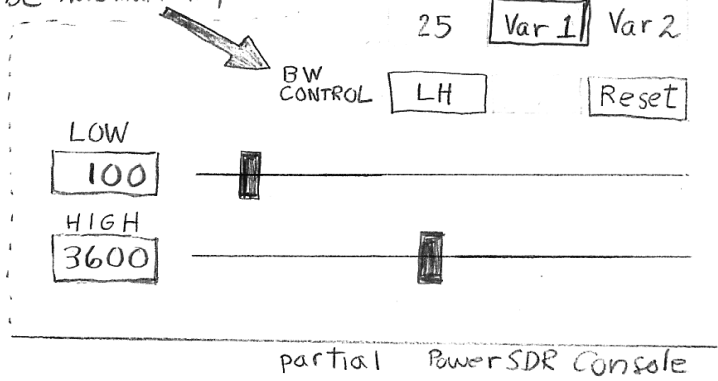
Bandwidth Control set to LH (Low, High)

CWL	CWH	FMN
AM	SAM	SPEC
RTTY	PSK	DRM

Filter-Var1		
6.0	4.0	2.6
2.1	1.0	500
250	100	50
25	Var1	Var2

Note: the BW control toggles from 'LH' to 'WS' and changes the labelling and function of the two sliders. The BW control setting shall be automatically SAVED with each mode!

In LH mode, the sliders act like Kenwood's slope tuning, independently setting the low & high freq. cutoff. The labelled indicators display the cutoff freq., as the current system does.



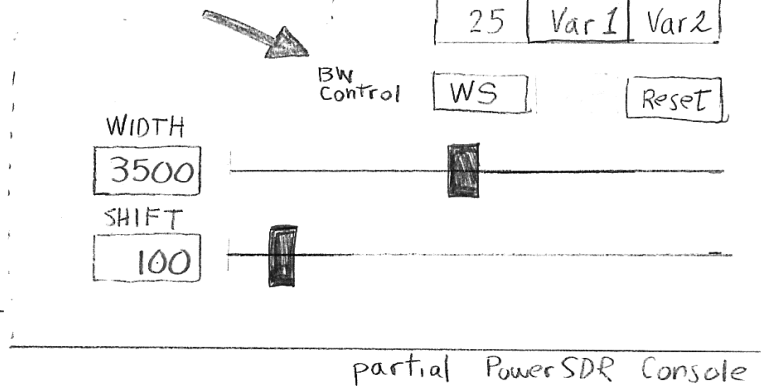
partial PowerSDR Console

Bandwidth Control set to WS (Width, Shift)

RTTY	PSK	DRM
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Filter-Var1		
6.0	4.0	2.6
2.1	1.0	500
250	100	50
25	Var1	Var2

In WS mode, the sliders act like Yaesu's controls, independently setting the bandwidth & IF-shift frequency. The labelled indicators display the bandwidth & offset from the "BFO" in Hz.



partial PowerSDR Console

HiFi SSB example

Suggestion for Bandwidth Control on SDR-1000  
 K2WS, Alan DAVIS 05/27/05

## Bandwidth Control set to LH (Low, High)

Note: the BW control toggles from 'LH' to 'WS' and changes the labelling and function of the two sliders. The BW control setting shall be **SAVED** with each mode!

In LH mode, the sliders act like Kenwood's slope tuning, independently setting the low & high freq. cutoff. The labelled indicators display the cutoff freq., as the current system does.

CWL	CWH	FMN
AM	SAM	SPEC
RTTY	PSK	DRM

Filter - <b>500</b>		
6.0	4.0	2.6
2.1	1.0	<b>500</b>
250	100	50
25	Var 1	Var 2

BW CONTROL **LH** **Reset**

partial PowerSDR Console

## Bandwidth Control set to WS (Width, Shift)

In WS mode, the sliders act like Yaesu's controls, independently setting the bandwidth & IF-shift frequency. The labelled indicators display the bandwidth & offset from the "BFO" in Hz.

RTTY	PSK	DRM
Filter - <b>500</b>		
6.0	4.0	2.6
2.1	1.0	<b>500</b>
250	100	50
25	Var 1	Var 2

BW Control **WS** **Reset**

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CW example

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