

## K2 General Coverage RX Use

There has been some discussion of the potential use of the K2 out-of-band to serve as a SWL radio as well. During the assembly of my K2, I chose to map the VCO ranges from the lower PLL lock limit to the upper lock limit. While I was doing this I checked the receive sensitivity as well.

The adjustment of L30 in the VCO Calibration sets the lock range of the VCO for every band. The Elecraft choice of 6.0v as the adjustment point allows the VCO ranges to overlap judiciously to cover other frequencies.

The results of my measurements are shown in the first table below. Note that in some cases a valid lock is obtainable while the receiver is not useable because of noise introduced by the PLL near the lock limit. So the first row of a given band is the measured lock limits, while the second row is the usable bandwidth for my K2. The columns are the band selected on the K2 , the frequency when the VCO tune voltage is 1.1v, the minimum discernable signal (MDS), the frequency when the VCO voltage is 7.9v, and the MDS.

<b>Band</b>	<b>Freq (1.1v)</b>	<b>MDS (dBm)</b>	<b>Freq (7.9v)</b>	<b>MDS (dBm)</b>
80m	2460		4167	
	3380	-125	4150	-112
40m	6658		7490	
	6660	-121	7450	-118
30m	9146		10749	
	9150	-118	10750	-114
20m	12458		15771	
	12750	-100	15750	-112
18m	15434		20501	
	(oops)			
15m	20246		22378	
	20300	-110	22350	-112
12m	22237		25600	
	22300	-104	25600	-112
10m	25353		30315	
	25500	-110	30300	-102

NOTE: -107 dBm = 1uv into 50ohms, Freq is in kHz, meas w/ IFR1500

Note these are all 'casual' MDS numbers in dBm, casual in that I guessed at about 6-10dB SNR audio but did not get out the scope or the FFT. Preamp is on. My curiosity was SWL on the trail, not contesting here \*8-) numbers should be very conservative.

The next table maps my K2's band coverage against the standard SWL bands. Of note is that all but 3 SWL bands are covered (60m, 4.7-5.1mhz; 49m, 5.9-6.2; 25m, 11.6-12.1) which is plenty good for me.

The Receive performance data was also impressive to me. For my purposes of casual SWL the K2 is very usable out of band - even though it loses as much as 20dB rx performance in many cases...

SW Band	Freq	K2 VCO	K2 Band	Notes
120m	2250 - 2550	***	160m	
90m	3150 - 3450	3380 - 4150	80m	
75m	3850 - 4050	3380 - 4150	80m	
60m	4700 - 5100			
49m	5900 - 6250			
41m	7100 - 7400	6660 - 7450	40m	
31m	9400 - 10000	9150 - 10750	30m	
25m	11500 - 12150		30m	
22m	13500 - 13900	12750 - 15750	20m	
19m	15000 - 15700	12750 - 15750	20m	**
16m	17450 - 18000	(oops)	18m	**
13m	21450 - 21950	20300 - 22350	15m (12m)	**
11m	25600 - 26100	25500 - 30300	10m	**

NOTE: \*\* indicated bands overlap