

# **ELECRAFT KX3 Application Note**

## **Transmit Sideband Null**

### ***(Preliminary)***

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## **Background and Cautions**

All KX3 delivered have had this procedure completed prior to shipment in both KX3 Kit and KX3 Factory versions. Requiring the use of a suitable spectrum analyzer, the procedure documented here is intended for those who wish to experiment with the KX3. Elecraft strongly recommends that you save your KX3 Configuration using the KX3 Utility before you attempt this procedure. This will ensure that you can return the KX3 to its factory settings quickly and easily.

## **Test Equipment and Experience required**

- Rigol model DSA815 or similar Spectrum Analyzer
- This procedure assumes the operator is comfortable adjusting and interpreting the results of a spectrum analyzer.

## **Set up the KX3**

- Conduct TX Bias calibration. See KX3 Owner's Manual, Calibrate section, for the procedure.
- Set the KX3 to 1.9 MHz , DATA mode and set Power to 3 Watts
- Connect the KX3 to an appropriate 50 ohm dummy load or feed though power attenuator. If using a dummy load you will need a coupler to tap the RF for the spectrum analyzer.
  - Alternative: Use a 30 db feed though 20 watt attenuator followed by a 10db pad into the spectrum analyzer.
- Set the KX3 RF power output to 3.0 watts
- Set the spectrum analyzer for the first band:
  - Start Freq =1.8990
  - Stop Freq = 1.909
  - Marker on OSB at 1.9018 MHZ
- In the KX3 Menu, select item, TXSBNUL
- Hold down the RATE Button to unlock the controls

## **Procedure**

For each band 6 meters through 160 meters, use the values in the table below to prepare the spectrum analyzer settings.

For each band, follow these steps:

- Adjust Phase and Gain for min signal at marker
  - Select Phase by tapping "ATTEN"

- Select Gain By tapping "PRE"

<b>Band</b>	<b>Set KX3 VFO to: (Mhz)</b>	<b>Start Frequency (Mhz)</b>	<b>Stop Frequency (Mhz)</b>	<b>OSB Marker (Mhz)</b>
160 M	1.870	1.8668	1.8768	1.8718
80 M	3.590	3.5868	3.5968	3.5918
60 M	5.365	5.3618	5.3718	5.3668
40 M	7.080	7.0768	7.0868	7.0818
30 M	10.120	10.1168	10.1268	10.1218
20 M	14.080	14.0768	14.0868	14.0818
17 M	18.140	18.1368	18.1468	18.1418
15 M	21.125	21.1218	21.1318	21.1268
12 M	24.925	24.9218	24.9318	24.9268
10 M	28.400	28.3968	28.4068	28.4018
6 M	50.030	50.0268	50.0368	50.0318