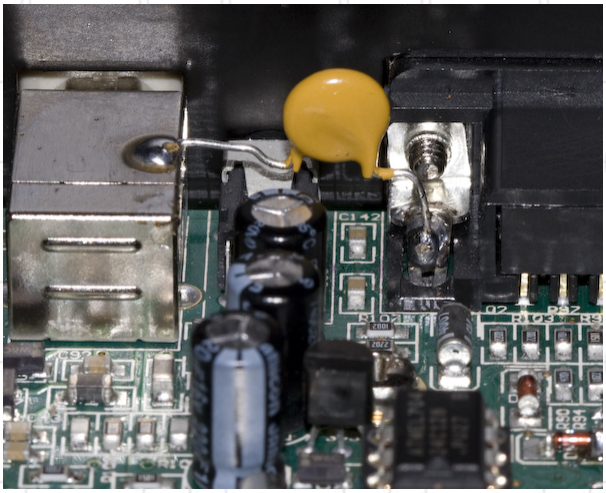
microHAM

Microphone RFI in *micro*KEYER II

The problem: ***micro*HAM** have been receiving reports of distorted microphone audio in otherwise normally functioning ***micro*KEYER II**. Although *micro*KEYER II has been tested for operation in high RF fields, we have found that when the antenna is very close to the ham shack, the antenna is not well balanced (lack of effective balun), or open wire feedlines are used, radiated RF can couple to the shield of the USB cable and from the shield of the USB cable and from the USB cable into the microphone preamplifier resulting in distortion.

In *micro*HAM interfaces the shield of the USB cable is not connected to the radio ground. All ***micro*HAM** interfaces are designed to provide complete DC and low frequency isolation between the computer and radio in order to eliminate "ground loops" and the hum/distortion they cause. Unfortunately, many modern computers fail to provide suitable RF grounds and bypassing and the ferrite chokes commonly used for noise reduction reduce the effectiveness of the bypassing that is present. Due to the difficulties ***micro*HAM** have been looking into ways to improve RF bypassing of the USB cable without losing the benefits of galvanic isolation.

The solution: RFI rejection can be improved significantly while maintaining galvanic isolation and without causing ground loop problems by installing a capacitor from the shield to ground. This change has been incorporated in production for ***micro*KEYER II** serial number 765 and higher.



Those who are experiencing RFI in the microphone circuit can add bypassing in the field by installing a 0.001 - 0.01uF high voltage capacitor (the value in not critical) from the shield of the USB connector to the metal mounting bracket of the DB37 connector as shown here.

Installing the bypass capacitor as shown will not effect warranty. If you need help or are not able to make the modification yourself, please contact us at **support@microham.com**.