

SETI League Technical Manual -- Receivers

Interference Profile of an ICOM 7100 Receiver

Editor's Note: See this <u>article</u> for information on how to generate your own custom radio frequency interference (*rfi*) database using the SETIFOX digital signal processing program.

All heterodyne type receivers are subject to various forms of internal and external interference, and the ICOM receivers popular for SETI are no exception. SETI League member Alfred A. Aburto Jr. has tested an ICOM model IC-R7100 receiver to determine its internally generated interference profile.

Al's test was performed by removing the antenna from his receiver, and scanning its entire frequency range (25.000 MHz to 1999.995 MHz) in 5 kHz steps, in USB mode. He recommends that members building SETI stations prepare a similar interference database for any receivers which they might happen to be using, so that signal analysis software can be "trained" to eliminate known interference from consideration.

Frequency	Audio Output
101.435 MHz	tone, garble
119.085 MHz	
121.500 MHz	tone
133.905 MHz - 133.920 MHz,	tone
164.300 MHz	tone
185.750 MHz	garble
197.745 MHz - 197.755 MHz	garble
223.900 MHz	tone
241.735 MHz	tone
252.435 MHz	tone
256.000 MHz	buzz
266.700 MHz	tone (low freq)
266.705 MHz	tone (high freq)
294.930 MHz	tone
307.200 MHz	tone
326.300 MHz	tone
333.330 MHz	tone
343.205 MHz	
369.100 MHz	tone
441.105 MHz - 441.120 MHz	
460.800 MHz	tone
471.500 MHz	tone (low freq)
471.505 MHz	tone (high freq)
477.250 MHz	buzz
481.750 MHz	garble
490.600 MHz	tone

512.000 MHz	buzz
621.220 MHz	tone
621.235 MHz	tone
621.250 MHz	buzz
625.750 MHz	garble
693.190 MHz	tone
693.205 MHz	tone
693.220 MHz	tone (loud)
693.235 MHz	tone (loud)
693.250 MHz	tone (loud)
693.300 MHz	tone
693.315 MHz	tone
693.330 MHz	tone
693.345 MHz	tone
697.735 MHz - 697.765 MHz	garble
716.800 MHz	tone
733.745 MHz - 733.760 MHz	garble
735.900 MHz	tone
746.600 MHz	tone
768.000 MHz	tone
801.250 MHz	tone
805.745 MHz - 805.755 MHz	garble
929.940 MHz	intermittent tones
931.110 MHz	BB noise
931.285 MHz - 931.295 MHz	intermittent BB noise
931.535 MHz	tone
953.105 MHz - 953.120 MHz	tone
1002.600 MHz	tone
1024.000 MHz	buzz
1055.555 MHz	tone
1111.115 MHz	tone
1119.085 MHz	tone
1121.500 MHz	tone
1147.535 MHz	tone
1164.300 MHz	tone
1164.305 MHz	tone
1166.670 MHz	tone (loud)
1222,225 MHz	tone (loud)
1241.735 MHz	tone
1252.435 MHz	tone
1266.700 MHz	tone
1277 780 MHz	tone (loud)
1333.335 MHz	tone (loud)

	tone
1388.890 MHz	tone (loud)
1441.105 MHz	tone
1444.445 MHz	BB tone (loud)
1471.500 MHz	tone
1477.250 MHz	BB tone
1481.750 MHz	garble
1500.000 MHz	buzz
1512.000 MHz	tone (low freq)
1536.000 MHz	tone
1555.555 MHz	BB tone
1611.115 MHz	BB tone
1621.220 MHz	tones (low level)
1625.740 MHz - 1625.765 MHz	garble
1666.670 MHz	tone (loud)
1686.405 MHz - 1686.420 MHz	tone
1722.225 MHz	tone
1735.900 MHz	tone
1768.000 MHz	tone (low freq)
1777.780 MHz	tone (loud)
1792.000 MHz	tone
1833.335 MHz	tone
1881.100 MHz	tone
1888.890 MHz	tone
1931.535 MHz	tone
1944.445 MHz	tone (loud)
1953.105 MHz - 1953.120 MHz	garble
1977.735 MHz	BB tone
1978.600 MHz	BB tone
1978.605 MHz	tone
1988.700 MHz	tone
1999.550 MHz	tone
1999.920 MHz - 1999.995 MHz	BB noise increases greatly



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