739/144 MHz QO-100 RECEIVING CONVERTER

This receiving converter was designed and described by **David Bowman G0MRF** in his article **"G0MRF UHF-VHF Receive Converter for use with a satellite LNB"** in open source on **AMSAT-UK** web site. I included printed copy of this article with this converter.

If you bought this Converter I guess you know what you will do with it and how to use it. So I very shortly described this things below.

This converter was designed to use it to receive the signals from modern **QO-100** or **Es'hail-2** amateur radio satellite. This satellite was put on the **geostationary orbit at position 25.9°E**. Its uplink frequency is on **2.4 GHz** band and downlink frequency is on the **10 GHz** band. So the low cost **Satellite TV dish** (**60cm min**) with **10 GHz (LO 9.75 GHz) modified LNB** can be used to receive its signals. Modification of LNB represents a replacing of **27 MHz crystal** in LO of **LNB** to the high stability **TCXO of 27 MHz**. **Not all LNB will work there**. It needs the modern **LNB with PLL synthesizer** in its LO.

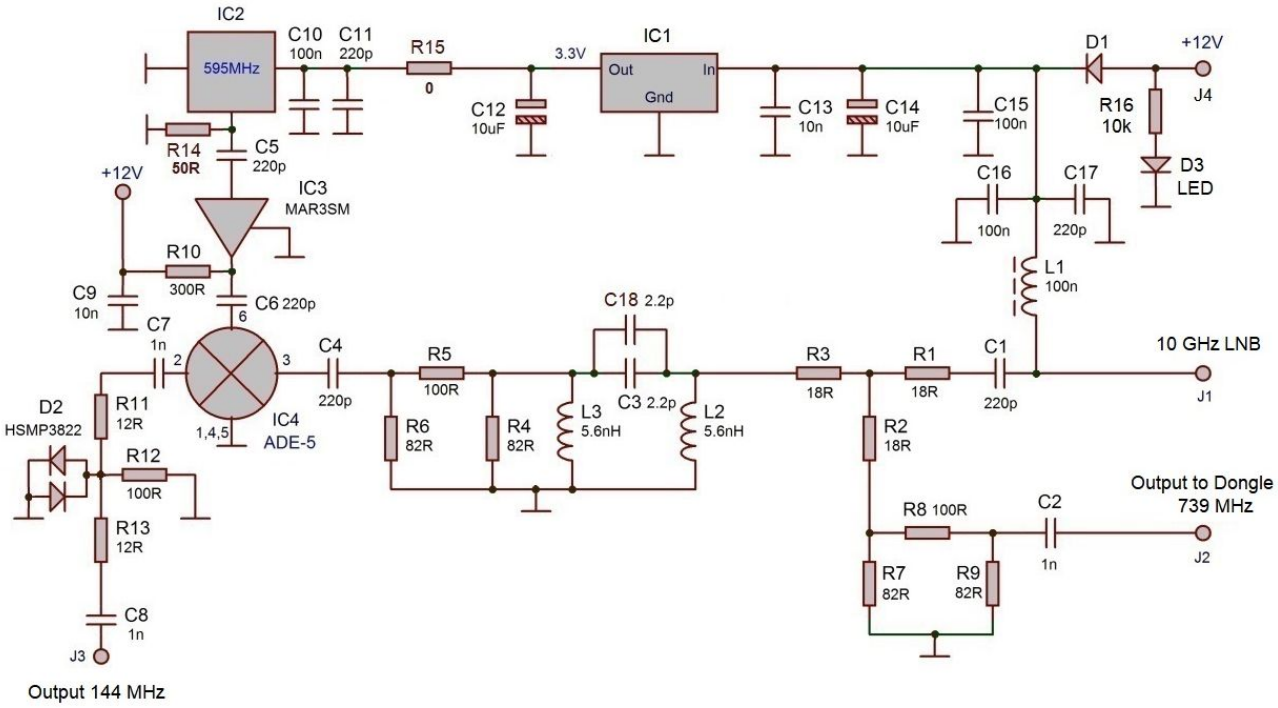
Using this converter **along with the low cost Dongle SDR** tuned around **739 MHz** or **2 meters band receiver** tuned in a range of **144.550 - 144.800 MHz** you can receive the signals of **narrow band transponder** of this satellite.

I am not providing information where you can buy the LNB or how to modify it. Also I can not help you about installation and pointing the dish. This all things you should know and do by yourself.

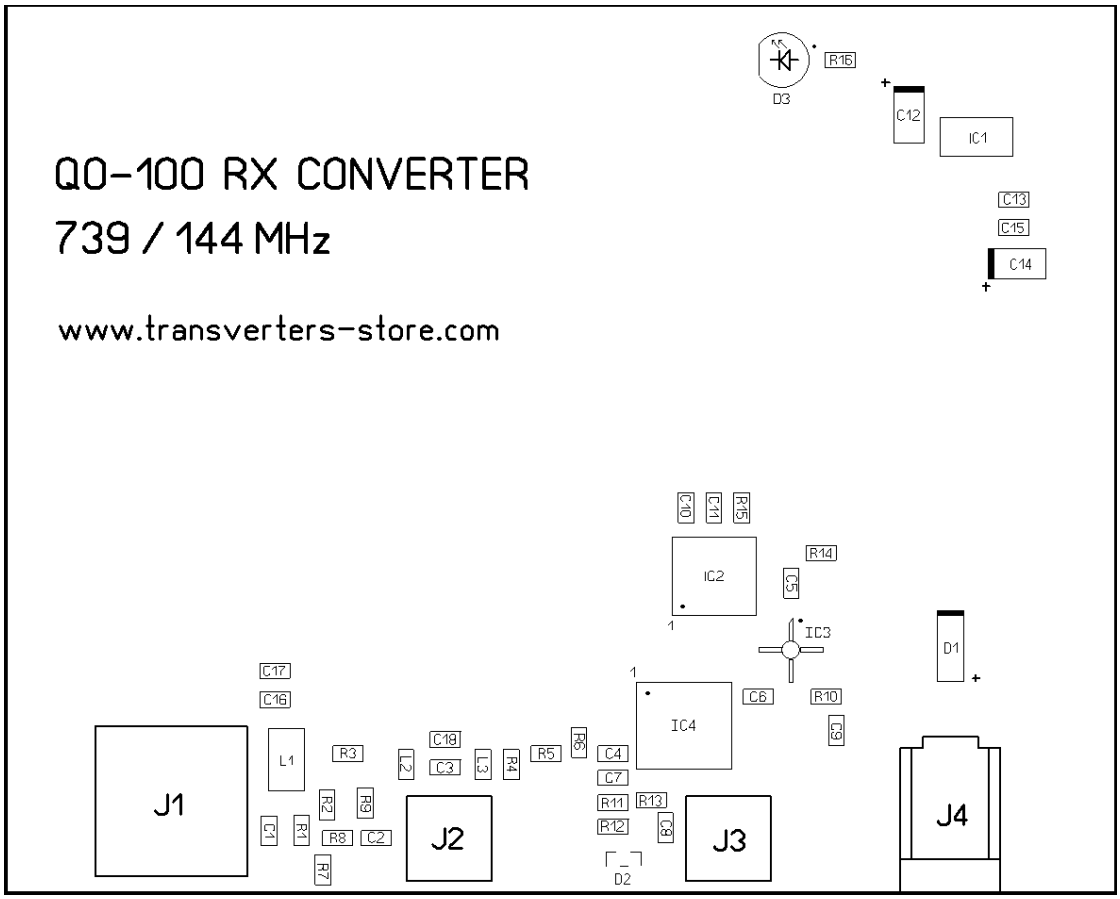
More information about this satellite, its transponder band-plan and antenna beam coverage you can find in the Internet.

Also on **YouTube** you find a lot of videos showing how people works with this satellite and their equipment. Just do a search by "**QO-100**" words on YouTube.

Circuit diagram of the Converter



Top View of PCB



Pinout of the connectors:

J1 - **F Connector** - IF input from **LNB** and **+12V** to the **LNB**
J2 - **SMA Connector** - **739 MHz** output to the **Dongle SDR**
J3 - **SMA Connector - 144 MHz** output to the **2 meters** band receiver
J4 - **5.5 x 2.5 mm female Connector** - Power connector **+12V** central pin

BE CAREFUL! **To avoid damage of the converter to use a power cord with 0.25 - 0.5 A a power fuse on it. Shorten LNB coax cable will cause to burn this fuse so the converter stay safe.**

Web Store: **http://transverters-store.com/**
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