

2481.92MHz Printer Radio – Theory of Operation

System Architecture:

The radio is a half duplex OOK-modulated (On/Off Keying) heterodyned transceiver operating over a narrow band centered at 2481.92MHz. Operating only as a portable device, its antenna and ground plane are internal to the unit and inaccessible to users. Major functional blocks are listed below and a block diagram of their interconnection follows.

A 1024MHz (doubled) synthesizer;

A hybrid 433.92MHz OOK-modulated transmitter;

A hybrid 433.92MHz OOK-demodulating receiver;

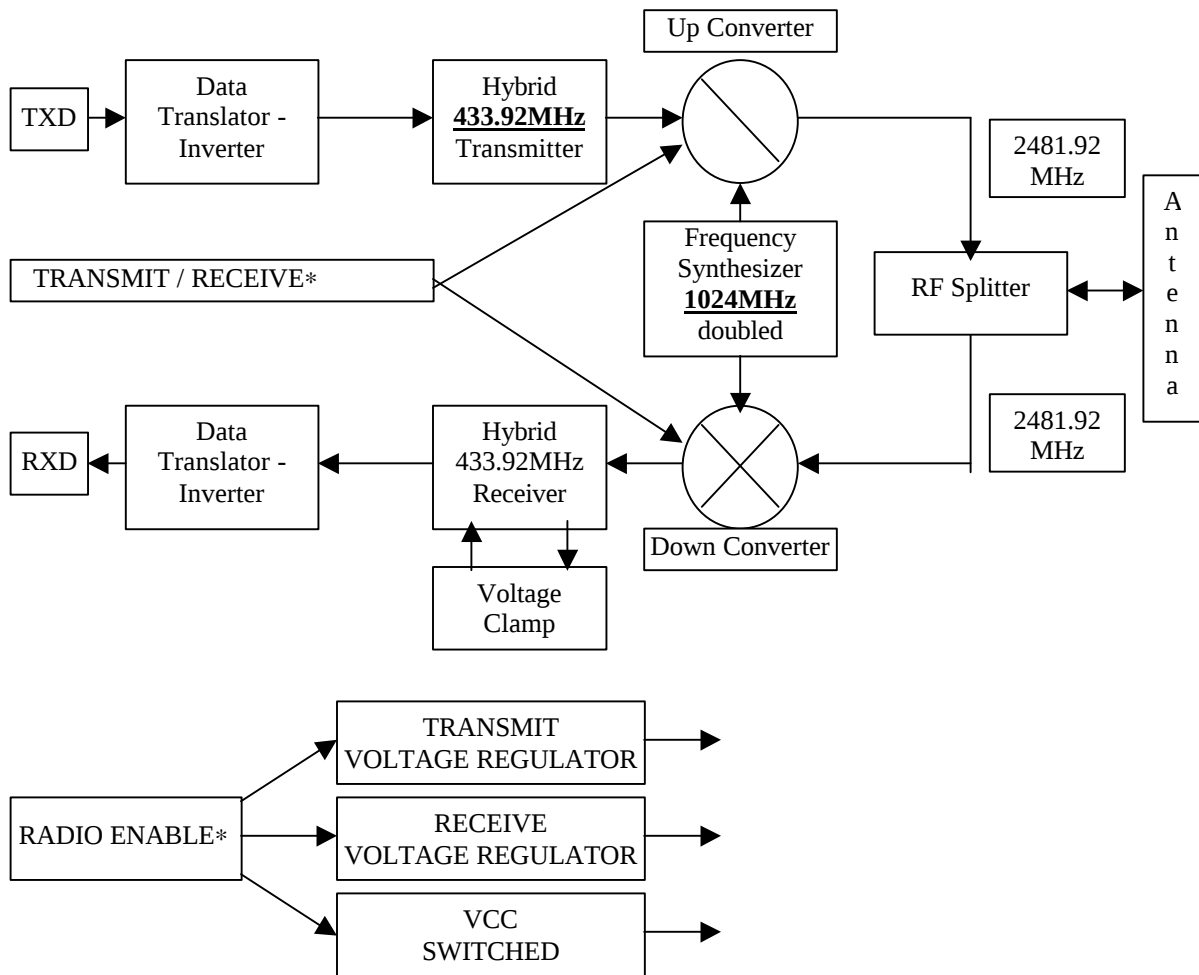
A voltage clamp circuit (proprietary to Symbol);

Up and down converters which implement the interface between the 2481.92MHz RF and the 433.92MHz hybrids;

An RF Splitter which connects the RF transmit and receive signal paths with the antenna;

Receive and transmit voltage regulators plus a voltage switch operating from a single 5V supply;

And miscellaneous control logic and data inverter/level translators.



Frequencies in the Block Diagram which are underlined and in bold typeface represent oscillators. There are no tunable sections in the transceiver.