

DEM Part Number 5760-144 and 5760-144LP 5.7 GHz. Transverters and Transverter Kits

Specifications

Frequency:	5760 GHz = 144,145,147,432 or 435 MHz.
Noise Figure and Gain:	<1.2 dB NF, > 22 dB Gain Optional IF gain stage may be ordered
Power Output:	5760-144 > 2.2 Watts 5760-144LP >10 mW
IF drive requirement	10 W maximum and adjustable
DC Power requirements:	5760-144 10 –15.5 VDC @ 2.5 A 5760-144LP 10 - 15.5 VDC @ 600 mA

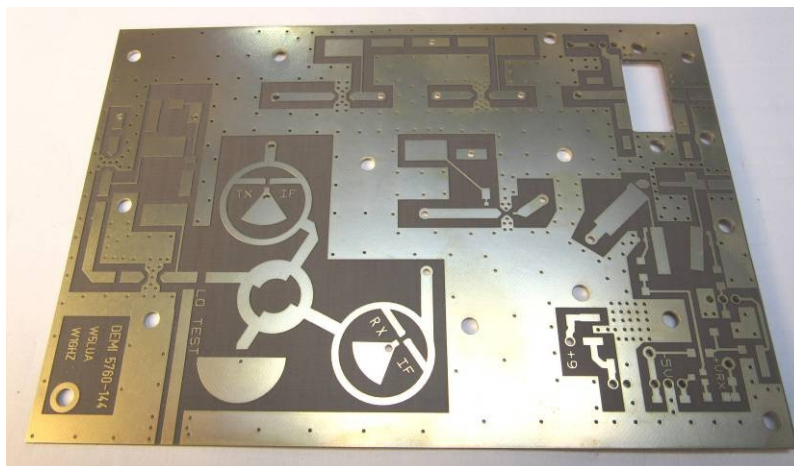
Description:



The DEM 5760-144 or 5760-144LP is a complete ready to go transverter needing only an IF transceiver of 10 watts or less and a 5.7 GHz antenna system. The 5760-144LP model (low power) is a basic design that can be used as a portable rig or integrate into an existing system. It's output level is perfect for most TWT amplifiers or to use for short mountain top contacts.

The 5760-144 is the latest version derived from the original W1GHZ/DEMI design published in the 1999 NEWS VHF conference proceedings. One circuit board combines a +2-watt solid-state power amplifier and an ultra low noise PHEMPT preamplifier with the original design transverter. It is all housed in a single enclosure that results in a great stand-alone unit to mast mount at a home station or use as a complete portable station.

Many new approaches have been taken in this design that improve frequency stability and accuracy while providing a system noise figure of less than 1.0 dB and over 2 watts of output power! Utilizing a Q5 Signal's DigiLO, with a GPS locked 10 MHz standard becomes frequency stable and accurate to within a few Hertz. It also has its own internal source that will provide easy portable operation or back up if a GPS system is not available. The DigiLO synthesizer provides a direct frequency LO after amplification eliminating frequency multiplication harmonics requiring additional filtering output at 5.7 GHz. There are provisions to measure the power levels before the mixer injection point for testing and tuning when aligning the kit version. The transverter PC board utilizes MMIC's in every gain stage except for the PHEMPT LNA. The high power version includes a MMIC to produce the 2+ watts of output. Both versions are identical in size and have the TX and RX ports spaced correctly for a direct connection of common SMA relay so it can be used as a "stand alone" portable rig.





The IF switching, after being keyed by a PTT-L (to ground) or PTT-H (positive voltage) during transmit, is controlled by a transverter control board, the TC. This enables the use of up to a 10 watt IF level input and contains all of the control voltages for the transverter. You simply need to connect one 12VDC (10-15.5 VDC) regulated supply or battery to the transverter. Auxiliary switching controls and a 24V relay driver are included that allow the use of common 24-28 VDC SMA relays with the transverter. In the complete kit version, you will receive all 3 circuit board

kits/assemblies and a prepped extruded aluminum enclosure with all necessary hardware and connectors to get you on the air. You just need to supply a TR relay, an antenna, and an IF rig of 10 watts or less. The 5760-144 or 5760-144LP may also be ordered with an SMA TR relay tested as the "5760-WTR" option that's ready to go!

The Down East Microwave 5.7 GHz. assembled transverters are available as model number DEM 5760-144 (3 watt version) and 5760-144LP (low power version). Complete kits are available as the 5760-144CK and the 5760CK. The PC board kit is only available as a low power transverter, the 5760K. PC boards are available 5760PCB. The 5760-WTR may be ordered with a kit or assembled unit as show in the picture.

Options:

Options for both transverter versions, kit or assembled, include IF frequencies of 145, 147, 432, and 435 MHz.

Common or separate IF signals and PTT keying through the IF cable may be configured. The transverter may also be configured for external Local Oscillators depending on level and frequency. Provisions can be made for adding external power amplifiers and LNAs.

Additional transverter interfaces, sequencers, and LNA's are available. Consult the DEMI or the catalog.

