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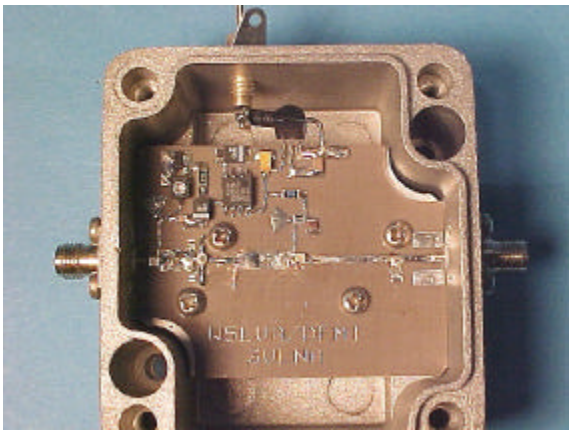
DEM 3ULNA - *10.00-10.500 GHz. Ultra Low Noise Amplifier*

Specifications:

Gain:	12dB minimum
Noise Figure:	<1.10dB maximum
P1dB:	+5dBm output
Input VSWR:	>6dB @ design frequency
Output VSWR:	>10dB 8-12 GHz.
Voltage:	+7 - +16 VDC

Product Description:

The DEM 3ULNA is one of a series of **U**ltra **L**ow **N**oise **A**mplifiers that was designed by W5LUA and Down East Microwave Inc. The 3ULNA series utilizes the latest in PHEMT technology and is designed for receive systems such as EME and weak signal stations requiring higher gain with the lowest noise figure possible. The 3ULNA is receive only LNA and does not provide any RF bypass switching circuitry. Standard gain of our 3ULNA is greater than 12dB. Maximum noise figure is 1.1 dB The 3ULNA is adjusted on an individual basis for the best performance possible. This is accomplished by bias adjustments and circuit manipulation. Each 3ULNA is biased through a external DC feed through. A internal power supply provides external power supply isolation for the LNA.

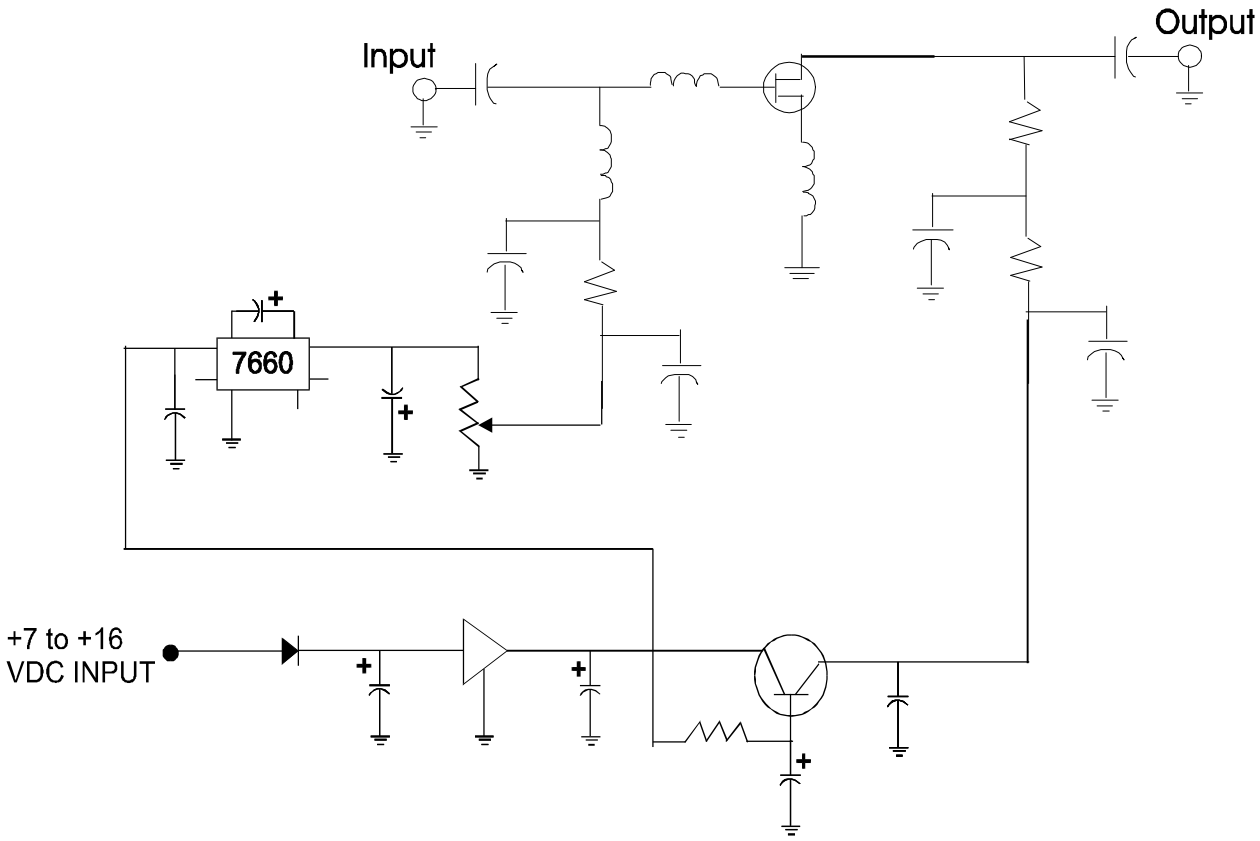


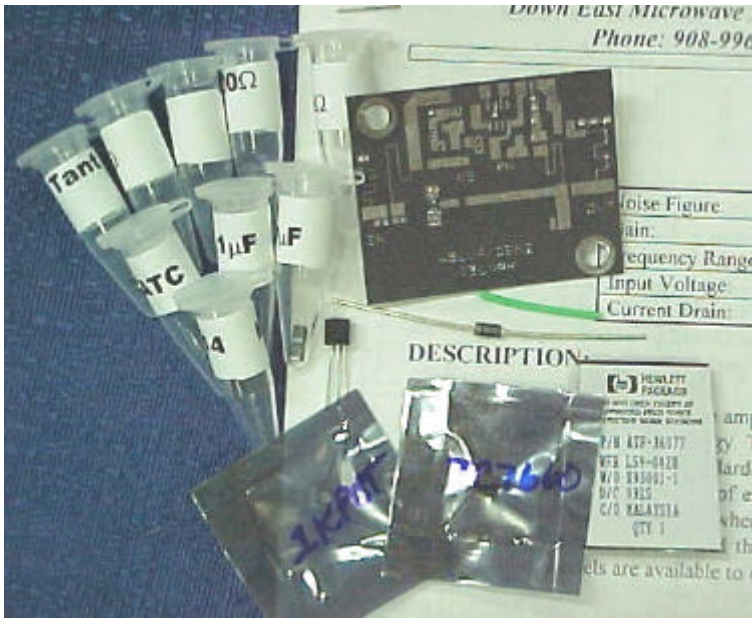
Our ULNA design incorporates low loss microstrip circuitry to accomplish all RF matching. During testing, the input circuit and output circuit is optimized for gain and noise figure. The Bias is adjusted to control the noise figure and gain and is then tested for a constant wide bandwidth output impedance. This is important for stability and to resist products caused by reflections from band pass filters or high Q receiver front ends. In this design, we use a tuned input and output circuit that offers a constant impedance over a wide bandwidth to eliminate out of band instabilities from reflected signals.

This 3ULNA design is provided with SMA connectors only that are mounted on a weather proof die cast aluminum enclosure that measures 2.5” L x 2.25” W x 1.375” H. This enclosure enhances RF insusceptibility and protects against stray external EMI. DC power is applied through a Pi-circuit feed through filter connector which is a simple solder connection that attenuates frequencies through 18 GHz. The 3ULNA design is also offered in kit form as a PC board kit or complete kit depending on you requirements.

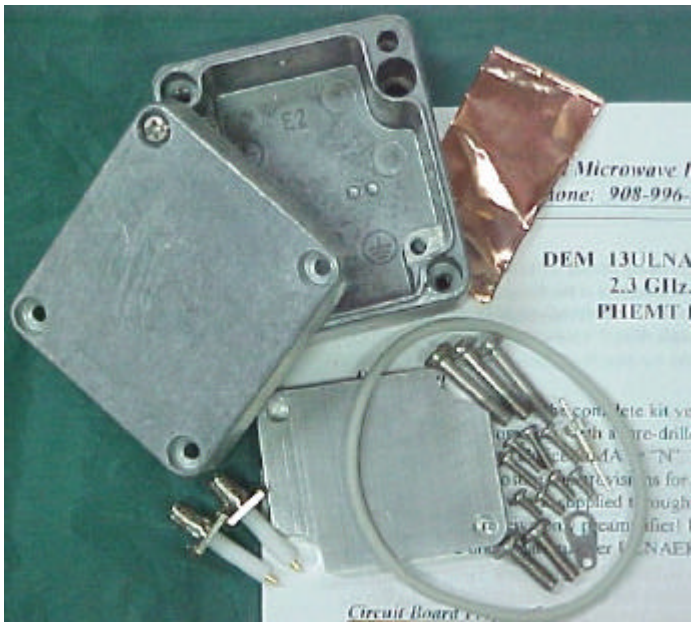
ULNAs with operating frequencies, configurations, gains and noise figures not found on our price list or product descriptions can be designed by Down East Microwave Inc. and produced with relatively short delivery times. Please contact us with your specifications and/or requirements.

Schematic Diagram of ULNA Design:





3ULNAK-PC Board Parts Kit Hardware



3ULNACK-Contains Parts Kit and