

**For immediate release**

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**JWM Engineering Group Expands  
Low Noise Microwave Phase Locked Oscillator Line with 902MHz Version**

Trabuco Canyon, CALIF. — March 9th, 2006 — JWM Engineering Group expands their microwave phase locked oscillator line with a 902MHz to 910MHz version. The Model 902 PLL unit joins the existing JWM Model 1152 and Model 5112 PLL units designed to replace crystal local oscillator (LO) chains in microwave receivers and transmitters.

Using an external reference oscillator, the Model 902 can provide 1 part in 10<sup>-7</sup>th frequency stability with a temperature compensated oscillator (TCXO), or 1 part in 10<sup>-9</sup>th when using an ovenized crystal oscillator (OCXO). A rubidium oscillator can provide a stability of 1 part in 10<sup>-11</sup>th. Users must supply an appropriate 10MHz reference source for their application.

The Model 902 PLL can be used as a local oscillator in microwave receivers, transmitters, transverters and signal generators. The new PLL supports 144MHz, 50MHz, 28MHz and 14MHz intermediate frequencies.

Reverse voltage protection is a standard feature in all JWM PLL units, including the Model 902. A three-section low pass filter with a -3db cutoff frequency at 1.2GHz suppresses second- and third-order harmonic frequencies at the RF output port. A cast aluminum RF-tight enclosure provides the best possible suppression of stray RF leakage, ensuring quiet operation.

“The Model 902 is used to replace unstable 902MHz transverter crystal oscillator chains. No matter how precise a crystal oscillator may be, it will continue to drift over several kilohertz, and never really settles down to a stable and constant frequency,” said Jerry Mulchin, N7EME, President of the JWM Engineering Group.

“The JWM PLL units simplify the path to a more robust and stable frequency determining system,” Mulchin added.

Frequency Option	Application	Frequency Band	IF
758MHz	LO	902 - 906MHz	144MHz
762MHz	LO	906 - 910MHz	144MHz
852MHz	LO	902 - 906MHz	50MHz
856MHz	LO	906 - 910MHz	50MHz
874MHz	LO	902 - 906MHz	28MHz
878MHz	LO	906 - 910MHz	28MHz
888MHz	LO	902 - 906MHz	14MHz

**JWM Engineering Group Expands  
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892MHz	LO	906 - 910MHz	14MHz
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**Typical Unit Performance**

- Power requirements: 13.8VDC@240mA typical, designed for battery/remote operations
- 10MHz reference frequency input: BNC female connector
- +17dBm RF output typical
- 2nd harmonic > -20dBc below fundamental
- Phase noise -93 dBc/Hz@10kHz typical
- Phase noise -115 dBc/Hz@100kHz typical
- 200KHz reference spurs > -100dBc
- Operating temperature range -20 Deg C to +80 Deg C
- External lock signal output provided
- Small size: 4-3/4 in. long x 1-1/2 in. wide x 1-1/4 in. high
- Custom frequencies available on special order
- Full 1 year limited warranty

**Price and Availability**

The Model 902 cost US \$249.95 each plus shipping and handling. California residents pay local sales tax.

More information, including a phase noise plot and a complete manual, may be found on the JWM Engineering Group website: <http://jwmeng.com/model902.html>

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