REV	DATE	REVISION RECORD	DWN	AUTH
-	10-29-13	Initial Release	PAC	

INPUT

Input Frequency

10 MHz

Input Level

+13 dBm ±3 dB into 50 ohms

OUTPUT

Frequencies

(1) 100 MHz (+8 dBm ±2dB into 50 ohms)
(1) 200 MHz (+8 dBm ±2dB into 50 ohms)
(1) 300 MHz (+8 dBm ±2dB into 50 ohms)
(1) 400 MHz (+8 dBm ±2dB into 50 ohms)
(1) 500 MHz (+8 dBm ±2dB into 50 ohms)
(1) 800 MHz (+8 dBm ±2dB into 50 ohms)
(1) 1000 MHz (+8 dBm ±2dB into 50 ohms)
(1) 2000 MHz (+8 dBm ±2dB into 50 ohms)
(1) 4000 MHz (+8 dBm ±2dB into 50 ohms)
(1) 8000 MHz ((+8 dBm ±2dB into 50 ohms)

STABILITY

Aging

1×10^{-6} per year
after 30 days operating, typical

Phase Noise (dBc/Hz)

	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz
100 MHz	-100	-130	-156	-172	-173
200 MHz	-94	-124	-150	-166	-167
300 MHz	-90	-120	-146	-162	-163
400 MHz	-88	-118	-144	-160	-161
500 MHz	-84	-114	-142	-154	-158
800 MHz	---	-112	-138	-154	-155
1000 MHz	---	-107	-135	-147	-151
2000 MHz	---	-101	-129	-141	-145
4000 MHz	---	-95	-123	-135	-139
8000 MHz	---	-89	-117	-129	-133

Harmonics

≤ -25 dBc

Sub-Harmonics

≤ -60 dBc

Spurious

≤ -80 dBc, excluding supply line related spurs

ENVIRONMENT

Laboratory, 0°C to +50°C operating temperature

ADJUSTMENT

Loop BW (10 MHz Ext Ref PLL)

Target Bandwidth: < 1 Hz
Type 2 Loop

POWER REQUIREMENTS

Supply Voltage

120 VAC, 60 Hz; < 4 amps

Warm-up Time

1 hour, maximum; 15 minutes, typical (@ +25°C)

CRYSTAL

Type

100 MHz SC-cut

MECHANICAL

Dimensions

Standard 19" RETMA rack mount, 3U, 22" depth max

Connectors

RF Input: SMA(f), rear panel
RF Outputs: SMA(f), front panel
AC: IEC-320, EMI Filtered, switched and fused, rear panel (power cord included)

Front Panel

Painted White with Black silkscreen lettering

Monitoring

LED's (Green = Good; Red = Bad) provided on front panel for:
-Lock Detect for PLL
-Power – V_{RAW} and V_{REG}

DESIGN

All output frequencies will be derived from a single 100 MHz ULN OCXO. All frequencies will have a fixed phase relationship with the external 10 MHz reference when phase locked.

OTHER

Test Data

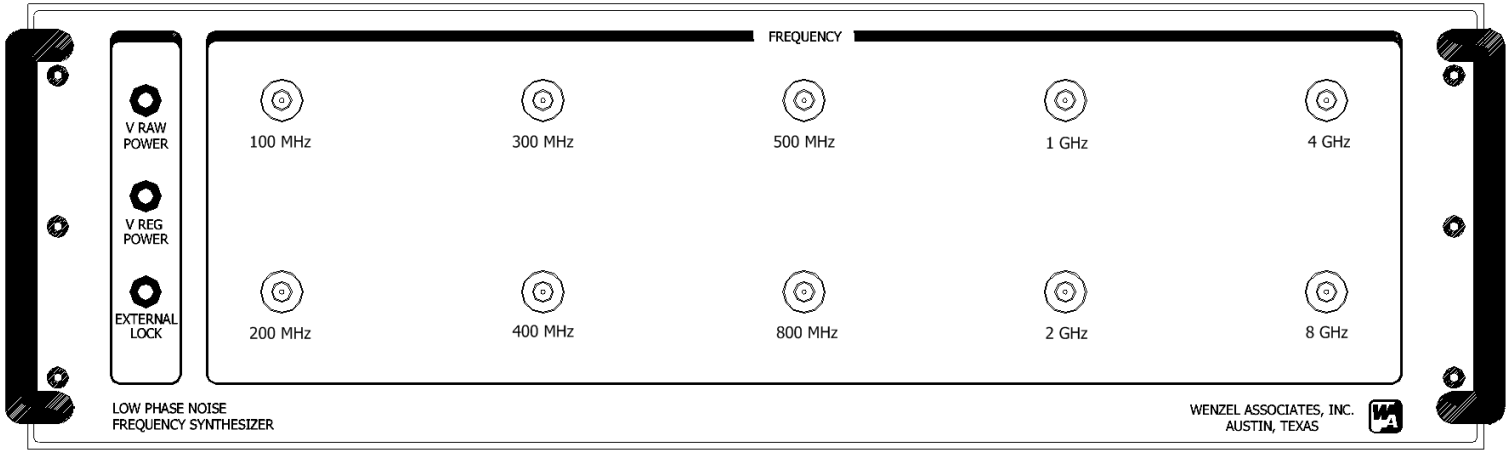
Output Levels
Phase Noise
Harmonics, Subs, Spurious

Wenzel Associates, Inc.
Austin, Texas

Title:
Ultra Low Phase Noise PL Frequency Synthesizer

P/N:	Rev:	Date:	Drawn:	Ref:
501-27278	**-**	**10-29-13**		500-18743

Tolerances: (except as noted) Dimensions are in inches	0.XX Dec:	0.XXX Dec:	FSCM:	
	±0.030"	±0.010"	62821	Page 1 of 2



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