REV	DATE	REVISION RECORD	DWN	AUTH
-	01-09-03	Initial Release	KH	BH
A	08-07-06	Warm-Up, Warm-Up Power	YR	BH
B	03-03-14	Updated Spec Sheet Format	PAC	

INPUT – External Reference

Input Frequency (Rear Panel)

5 MHz or 10 MHz

(Auto selects when present – External Mode Only)

Input Level

+1 to +15 dBm into 50 ohms

OUTPUT

Output Frequencies (Rear Panel)

(3) 5 MHz (+13 dBm ±2dB into 50 ohms, each output)

(3) 10 MHz (5 x 2) (+13 dBm ±2dB into 50 ohms, each output)

VSWR

2:0.1, max

STABILITY

Aging

5×10^{-10} per day

after 30 days operating, typical (free-running)

Warm-Up

24 hours to 1×10^{-9} of frequency after 48 hours off time

Phase Noise L(f), dBc/Hz

	1 Hz	10 Hz	100 Hz	300 Hz	1 kHz	10 kHz	100 kHz
5 MHz	-120	-150	-170	-173	-174	-174	-174
10 MHz	-112	-142	-162	-165	-169	-169	-169

Harmonics

≤ -30 dBc

Sub-Harmonics and Products of 5 MHz

≤ -40 dBc

Non-Harmonic Spurious

≤ -80 dBc, excluding power supply line related spurs

ADJUSTMENT

Loop BW

(External Reference locked to internal 5 MHz ULN)

Target Bandwidth: < 2 Hz

Type 2 Loop

Mechanical Tuning

(Provided for adjustment of 5 MHz ULN when Internal Mode is selected only)

$\pm 1 \times 10^{-6}$

ENVIRONMENT

Laboratory, +15°C to +35°C

operating temperature

POWER REQUIREMENTS

Supply Voltage (Selectable)

115 VAC ±5%, 50/60 Hz or 240 VAC ±5%, 50/60 Hz

(with over-voltage protection)

MECHANICAL

Dimensions

Standard 19” RETMA rack mount, 2U (3.5”), 17” depth, max

Mounting

Front panel mounting holes provided, 4 each

Connectors

RF Input: SMA(f), rear panel

RF Outputs: SMA(f), rear panel

AC Supply: IEC-320, EMI filtered, switched, and fused

TTL Status: DB-15, rear panel (Reference and Lock Alarms)

Front Panel

Painted White with Black silkscreen lettering

Monitoring

LED’s provided on front panel for:

-Lock Detect for External Reference PLL

(Green = Locked; Red = Unlocked)

-Power On

MODES

(Mechanical switch provided to select either internal or external mode of operation)

External Mode

When external mode is selected, the electrical tuning of the internal 5 MHz ULN is routed to the External Reference PLL for phase locking with an external reference signal.

Internal Mode

When internal mode is selected, the electrical tuning of the internal 5 MHz ULN is routed to the Course and Fine potentiometers for mechanical adjustment.

OTHER

Test Data

Output Levels

Phase Noise

Harmonics, Subs, Spurious

Wenzel Associates, Inc.

Austin, Texas

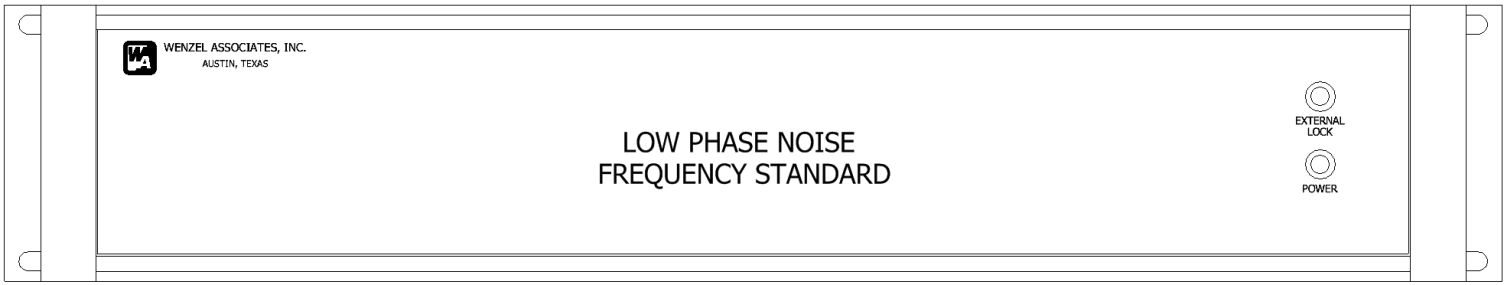
Title:

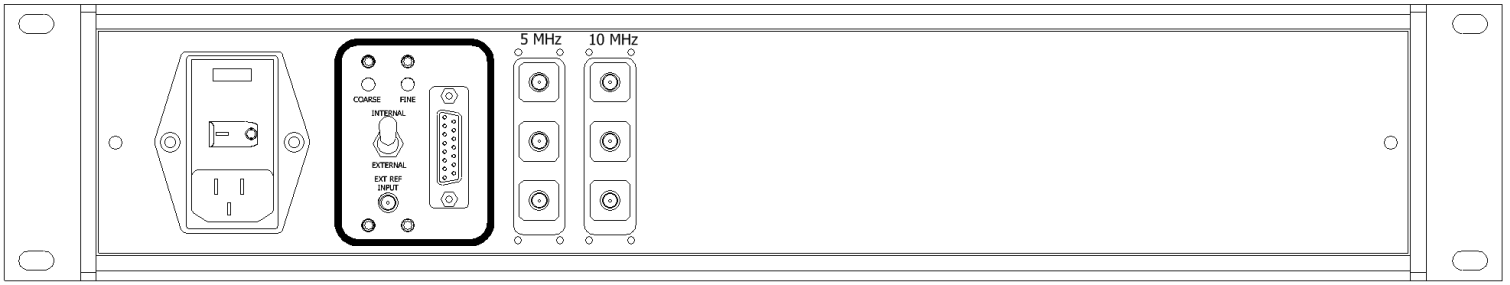
5 & 10 MHz Wizard III Frequency Standard

P/N:	Rev:	Date:	Drawn:	Ref:
501-10301	**B**	**03-03-14**		

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

Front Panel





Rear Panel

PIN	Function
1	Phase Lock Alarm
2	N/C
3	N/C
4	EXT Ref Detect
5	INT Ref Detect
6	GND

Wenzel Associates, Inc. Austin, Texas				
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