BENCHTOP MODELS

LUCID SERIES

THINK RF THINK **LUCID**

Tabor is proud to introduce its latest addition to its line of RF analog signal generators. The all-new Lucid Series benchtop platform offers up to 4 phase coherent channels in a standalone compact unit. The series feature 3, 6 and 12 GHz models in single, dual or four channel versions, all sharing the very same industry leading highlighted features. Featuring extremely fast switching speed, superior signal integrity and purity, removable memory card for maximum security, all the necessary modulated signals for analog communication systems, with built in LAN and USB interface, the Lucid Series is designed to meet today's most demanding specifications, needed from the R&D benches to the production lines.

- 3, 6 & 12GHz multi-channel RF analog signal generator
- Remotely programmable via MATLAB, Python, LabVIEW and other software programming environments.
- Exceptionally Low Phase Noise of -145dBc/Hz @100MHz and 10@kHz offset
- Extremely Fast Switching speed of <100us
- USB and LAN interfaces
- Small form factor and space efficient benchtop platform
- Single, Dual and four phase coherent channels in a single box
- Removable SD card for instrument security
- AM, FM, PM, Sweep & Pulse Modulation
- Easy to use benchtop platform with 5" touch screen and user friendly GUI

Extremely Fast Switching

In today's world, time is a crucial factor, whether in design, on the production floor or inside ATE systems. With a switching speed of less than 100•µs, Tabor's All-New Lucid Series ensures maximum measurements at minimum time, setting the industry's highest throughput standard.

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Signal Integrity and Purity

One of the most important requirement in today's testing and measurement applications is high signal quality. With a typical SSB phase noise of -145dBc at 100MHz, and -132dBc at 1GHz, at 10 kHz carrier offset, Tabor's All-New Lucid Series platform delivers one of the best quality signals available on the market today, answering the ever-growing demand for clear and precise signals.

Multiple Ways to Control the Unit and Write Your Code

Tabor's Lucid Series comes with its own dedicated software to control the instrument functions, modes and features via a graphical user interface (GUI) as well as a complete set of drivers, allowing you to write your application in various environments including Labview, Python, CVI, C++, VB and MATLab. You may also link the supplied dll to other Windows-based API's or use low-level SCPI commands to program the instrument, regardless of whether your application is written for Windows, Linux or Macintosh operating systems.

Modulation Schemes

Signal bursts and chirps have become common need in the daily life of any aerospace or defense application. With Tabor's All-New Lucid Series, any pulse modulation is possible, no matter if its "narrow" or "standard" pulse need. On top of its outstanding pulse modulation performance, the Lucid Series is also equipped with many CW interferers, and modulated signals such as AM, FM, PM and Sweep.

Multi-channel, phase coherent, benchtop generator

Many test systems and experimental setups require multiple RF channels, either separate or synchronized. The new Lucid series benchtop platform offers up to 4, separate or phase coherent, RF outputs in a single, 2U, ¾ 19" box, saving up to 4 times that space compared to available benchtop solutions on the market. Tabor's all-new Lucid series benchtop version saves both valuable bench or rack space and investment capital without compromising performance.

Easy to use

Tabor's Lucid series benchtop platform offers a 5" touch screen with user friendly GUI to quickly and easily generate the required signal, while displaying all the necessary critical information to the user. For remote control, the series is equipped with Ethernet and USB interface enabling remote programming from PC.

LS3081/2/4B, LS6081/2/4B,LS1291/2/4B
3, 6 or 12 GHz RF Analog Signal Generator

PRELIMINARY

Specifications

FREQUENCY	
Range:	
LS3081/2/4B:	100 kHz to 3GHz
LS6081/2/4B:	100 kHz to 6GHz
LS1291/2/4B:	100 kHz to 12GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	
Standard:	500us
Fast (Option):	100 µs
List Mode (WB):	100us Full bandwidth
List Mode (NB):	<6us Narrow bandwidth (<10% BW)
Digital Sweep Mode (Frequency and amplitude):	
Range:	
LS3081/2/4B:	100 kHz to 3GHz
LS6081/2/4B:	100 kHz to 6GHz
LS1291/2/4B:	100 kHz to 12GHz
Dwell time:	10us to 1000s 1us resolution
Number of points:	
List:	2 to 4096
Step:	2 to 65535
Step change:	Linear or logarithmic
Trigger:	Free run, External, Bus, Timer

FREQUENCY REFERENCE	
Temp. Stability:	±100 ppb, ±20 ppb (option)
Aging:	± 1.25 ppm for 10 years
Warm up time:	30 min
Internal:	
Output Frequency:	10/100 MHz
Output Wave shape:	Sine
Output Power:	+5 ±2 dBm
Reference Mute:	-60 dBm
Locking Range:	± 2.0 ppm
Output Impedance:	50Ω
External:	
Input Frequency:	10 / 100 MHz
Input Power:	-5 to +10 dBm
Absolute Max.	
Input Level:	+15 dBm
Input Impedance:	50Ω
Locking Range:	20Hz
Wave shape:	Sine or Square

AMPLITUDE	
Max output power:	+15 dBm
Min output power:	-90 dBm
Resolution:	0.01 dB
Power Mute:	-65dBm
Output Return Loss:	-10dBm
Switching speed:	100 us
Accuracy (dB):	±0.5 (up to 10dBm)

PHASE NOISE (dBc/Hz)	
up to 1.5 GHz:	-136 typ (-132 max)
1.5 to 3 GHz:	-130 typ (-125 max)
3 to 6 GHz:	-124 typ (-120 max)
6 to 12 GHz:	-118 typ (-114 max)

HARMONICS (dBc)	
up to 12 GHz:	-40dBc

NON HARMONICS (dBc)	
up to 12 GHz:	-60dBc

MODULATION	
FREQUENCY MODULATION	
Maximum Deviation:	
0.05*f:	(<1.5GHz)
25MHz:	(1.25 to 2.5 GHz)
50MHz:	(2.5 to 5GHz)
100MHz:	(5 to 10GHz)
200MHz:	(>10GHz)
Resolution:	0.1% or 1 Hz (the greater)
Modulation Rate:	1 MHz
PHASE MODULATION	
Peak Deviation:	300 rad
AMPLITUDE MODULATION	
AM Depth Linear:	+15 dBm
Maximum settable:	90%
Resolution:	0.1% of depth
Accuracy (1 kHz rate):	< ± 4% of setting
AM Depth Exponential:	
Maximum settable:	40 dB
Resolution:	0.01 dB
Accuracy (1kHz rate):	< ± 4% of setting
Modulation rate:	DC to 100 kHz

PULSE MODULATION (Option)	
On/off ratio:	80 dB
Rise/fall time (10%-90%):	25ns
Resolution:	6.4ns
Minimum Width:	30ns
Pulse Repetition frequency:	DC to 10 MHz

INPUTS	
MODULATION INPUT	
Connector Type:	BNC
Input Impedance:	50Ω
AM, FM modulation	
Max. input voltage:	1V
Input damage level:	±3.5V
Pulse modulation (Option)	
Input voltage	TTL,CMOS compatible
Low threshold	0V
High threshold	1V
Damage level	-0.42V
	+5.42V
TRIGGER INPUT	
Connector type	BNC
Input Impedance	50Ω or 10kΩ
Input voltage	TTL, CMOS compatible
Damage level	±5V
EXTERNAL REFERENCE INPUT	
Connector type	BNC
Input Impedance	50Ω
Waveform	Sine or Square
Frequency	10/100MHz

LS3081/2/4B, LS6081/2/4B,LS1291/2/4B
3, 6 or 12 GHz RF Analog Signal Generator

PRELIMINARY

Specifications

OUTPUTS	
RF OUT	
Impedance	50Ω
Connector type	SMA
Number of outputs	
LS3081/6081/1291B	1
LS3082/6082/1292B	2
LS3084/6084/1294B	4
Inter channel	
Isolation	TBD
Phase stability	TBD
REFERENCE OUT	
Impedance	50Ω
Connector type	BNC

GENERAL	
Voltage Range:	90VAC to 264VAC
Frequency Range	47Hz to 63Hz
Power Consumption	100W
Display Type	5", TFT capacitive touch screen
Interface:	
USB	2 x front, USB host, (type A) 1 x rear USB host, (type A) 1 x rear USB device, (type B)
LAN	1000/100/10 BASE-T
Storage	32GB removable SD card
Dimensions:	
With feet	315 X 102 x 425 mm(W x H x D)
Without feet	315 X 88 x 425 mm(W x H x D)
Weight:	
Without Package	6 Kg
Shipping Weight	6.5 Kg
Temperature:	
Operating	0°C to +40°C
Storage	-40°C to +70°C
Warm up time:	15 minutes
Humidity:	85% RH, non-condensing
Safety:	CE Marked, IEC61010-1-1:2008
EMC:	IEC 61326-1:2006
Calibration:	2 years

ORDERING INFORMATION	
MODEL	**DESCRIPTION**
LS3081B	3GHz Single channel RF Analog Signal Generator
LS3082B	3GHz Dual channel RF Analog Signal Generator
LS3084B	3GHz Four channel RF Analog Signal Generator
LS6081B:	6GHz Single channel RF Analog Signal Generator
LS6082B	6GHz Dual channel RF Analog Signal Generator
LS6084B	6GHz Four channel RF Analog Signal Generator
LS1291B	12GHz Single channel RF Analog Signal Generator
LS1292B	12GHz Dual channel RF Analog Signal Generator
LS1294B	12GHz Four channel RF Analog Signal Generator
OPTIONS	
Pulse	Pulse Modulation
FS	Fast Switching option 100us
SD	Removable SD memory card
W-Rack	Rack mount kit
Emulator pack	Emulator for Keysight, R&S, Anapico & Holzworth