

LUCID SERIES

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LUCID Series



LUCID Models & Options Selection Guide

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Options		
Mod	Modulation Package (AM, FM, PM)	
Pulse	Pulse Gen.	
PAT	Pattern Modulation Option	
ELP	Extended Low Power (-150dBc)	
EPR	Extended Power Range (-130dBc to +27dB)	
FS	Fast Switching	
LP	Low Power (-90dBc)	
Emulator Pack	Includes emulators for Keysight, R&S, Anapico & Holzworth	
Battery ⁽⁵⁾	Battery for the Portable Platform	
W-Rack	Rack Mount Kit	

Notes

⁽¹⁾ EPR & ELP Options are not available on this platform.

⁽²⁾ Built-in Modulation Package & Low Power option.

⁽³⁾ FS & W-Rack Options are not available on this platform.

⁽⁴⁾ Built-in Modulation Package.

⁽⁵⁾ Available only for the Portable Platform.

Modulation Schemes

Signal bursts and chirps have become a common need in most aerospace or defense applications. With Tabor's All-New Lucid Series, any signal modulation is possible, no matter if "narrow" or "standard" signals are required. 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, Pulse, Pattern and Sweep.

Extremely Fast Switching

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

Multiple Ways to Control the Unit and Write Your Code

Tabor's Lucid Series have a dedicated software to control the instrument functions, modes and features via a graphical user interface (GUI). It also includes 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 APIs or use low-level SCPI commands to program the instrument, regardless of whether your application is written for Windows, Linux or Macintosh operating systems.

Signal Integrity and Purity

One of the most important requirements in today's testing and measurement applications is a high signal quality. With a typical SSB phase noise of -145 dBc at 100 MHz, and -136 dBc at 1 GHz, at 10 kHz carrier offset Tabor's Lucid Series platform delivers one of the best quality signals available on the market today.

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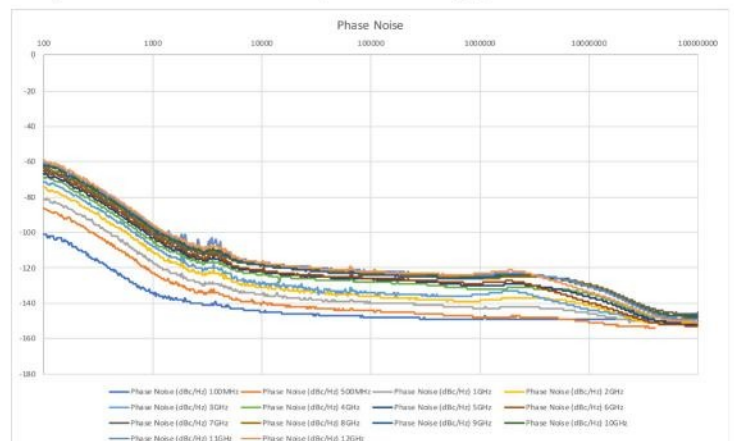
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Quick and Smooth Replacement for Current and Obsolete Products

The Lucid Series implements command emulators for both new and discontinued Signal Generators sold on the market. In so providing smooth transition either to upgrade current solutions or replace aging automatic test systems that face obsolescence and maintenance problems. This unique feature allows clients to easily "drop-in" the Lucid Series in slots vacated by obsolescence Keysight, R&S, Anritsu, NI/Phase Matrix QuickSyn, Holzworth or AnaPico models, solving TPS (Test Program Sets) replacement issues.

Multi-channel, Phase Coherent, Generator

Many test systems and experimental setups require multiple RF channels, either separate or synchronized. The Lucid series offers up to 16, separate or phase coherent, RF outputs in a single, 19" box, saving up to 16 times the space compared to available solutions on the market. Tabor's all-new Lucid series saves both valuable bench or rack space and investment capital without compromising performance.



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PORTABLE MODELS

Tabor's latest addition to its line of RF analog signal generators is by far the most advanced portable, handheld signal generator on the market. The all-new Lucid Series portable platform offers a modern design capable of operating either as a benchtop or a portable signal generator. The series feature 3, 6 and 12 GHz single channel versions, all sharing the very same industry leading highlighted features. Featuring superior signal integrity and purity, all the necessary modulated signals for analog communication systems, built in USB, optional LAN interfaces and removable micro-SD card, the Lucid Series is designed to meet today's most demanding applications, whether in the lab or out in the field.

3, 6 & 12GHz
RF analog signal
generator



Field ready, with 10" touch
screen suited for day
and night use and 2 hour
battery operation



Exceptionally Low Phase
Noise of -145dBc/Hz
@100MHz and 10@kHz
offset

Remotely
programmable via
MATLAB, Python,
LabVIEW and other
software programming
environments.



Removable uSD
card for instrument
security



AM, FM, PM,
Sweep &
Modulation



Specifications

FREQUENCY	
Range:	
LS3081P:	9 kHz to 3GHz
LS6081P:	9 kHz to 6GHz
LS1291P:	9 kHz to 12GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	500 μ s

FREQUENCY REFERENCE	
Temp. Stability:	± 25 ppb max.
Aging:	± 3 ppm for 20 years
Warm up time:	30 min

AMPLITUDE		
Max output power:		
Settable:	+20 dBm	
Calibrated:	+15 dBm ⁽¹⁾	
Min output power:	Base	LP Opt.
Settable:	-30 dBm	-100 dBm
Calibrated:	-20 dBm	-80 dBm
Resolution:	0.01 dB	
Power Mute:	-95 dBm	
Output Return Loss:	-10 dBm	
Accuracy (dB):	-50dBm to +15dBm	-90dBm to -50dBm ⁽²⁾
Up to 100MHz:	± 0.3 (typ.)	± 0.5 (typ.)
100MHz to 3GHz:	± 0.4 (typ.)	± 0.6 (typ.)
3GHz to 9GHz:	± 0.7 (typ.)	± 0.9 (typ.)
Above 9GHz:	± 1 (typ.)	± 1.5 (typ.)

PHASE NOISE (dBc/Hz)	
Measured @ 10kHz offset	
1 GHz:	-138 (typ.)
2 GHz:	-133 (typ.)
3 GHz:	-130 (typ.)
6 GHz:	-124 (typ.)
12 GHz:	-118 (typ.)

HARMONICS (dBc)	
Up to 100 MHz:	-30 dBc
100 MHz to 12 GHz:	-50 dBc ⁽³⁾

SUB-HARMONICS (dBc)	
6 to 12 GHz:	-55 dBm

NON-HARMONICS (dBc)	
Up to 12 GHz:	-90dBc (typ.) ^(4,5) -60dBc max. ⁽⁶⁾

MODULATION	
FREQUENCY MODULATION	
Maximum Deviation:	10 MHz
Resolution:	0.1% or 1 Hz (the greater)
Modulation Rate:	1 MHz
Resolution:	1 Hz

AMPLITUDE MODULATION	
AM Depth:	
Type:	Linear
Maximum settable:	90%
Resolution:	0.1% of depth
Accuracy (1 kHz)	$\pm 4\%$ of setting
Modulation rate:	DC to 100 kHz

PHASE MODULATION	
Peak Deviation:	360 deg
Modulation Rate:	DC to 100 kHz

PULSE MODULATION (PLS OPTION)	
On/off ratio:	80 dB
Rise/fall time)10%-90%:	15ns (typ.)
Resolution:	6.4ns
Minimum Width:	32ns
Repetition frequency:	DC to 10 MHz

PATTERN MODULATION (PAT OPTION)	
Number of steps:	1 to 2048
Step Repetition:	1 to 65535
On/off time:	32 ns to 20 days

SWEEP	
Range:	Same as freq. range
Modes:	Frequency and amplitude
Dwell time:	10 μ s to 1000 s
Resolution:	1 μ s
Number of points:	2 to 65535
Step change:	Linear
Trigger:	Free run, External, Bus, Timer

INPUTS	
MODULATION INPUT	
Connector Type:	SMA
Input Impedance:	50 Ω
Max. input voltage:	± 1 V
Input damage level:	± 3.5 V
PULSE / TRIGGER INPUT	
Connector type:	SMA
Input Impedance:	50 Ω
Input voltage:	TTL, CMOS compatible
Threshold:	1.5V
Damage level:	-0.42V or 5.42V
EXTERNAL REFERENCE INPUT	
Connector type:	SMA
Input Impedance:	50 Ω
Waveform:	Sine or Square
Frequency:	10/100MHz
Power:	-3 dBm to +10 dBm
Absolute Max. Level:	+15 dBm
Locking Range:	± 2 ppm

OUTPUTS	
RF OUT	
Impedance:	50 Ω
Connector type:	SMA
Number of channels:	1

⁽¹⁾ Above 25kHz; ⁽²⁾ With LP Option; ⁽³⁾ 750MHz to 900MHz -35dBc (typ.); ⁽⁴⁾ -60dBm max. @ 1GHz, 1.5GHz, 2.5GHz and 3GHz; ⁽⁵⁾ -75dBm max. @ -15dBm to +15dBm and f>6GHz
⁽⁶⁾ Boundary spurs which may appear @ -100MHz to +100MHz offset from CW

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Specifications

GENERAL	
Voltage:	+12.0 to +12.6 VDC
Supply Voltage:	+15 V DC
Power Consumption:	60W max. (45W typ)
Display Type	10", TFT capacitive touch screen
Battery:	
Type:	4-cell, replaceable
Standby:	Up to 2 hours
Max. load:	Up to 1 hours
Interface:	
Host:	2 x USB type A
Device:	1 x USB type B 1 x micro USB for LAN adapter
Storage:	Removable SD card
Dimensions:	280 x 225 x 65 mm (W x H x D)
Weight:	
Without Package:	3 kg
Shipping Weight:	4.5 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, IEC61010-1:2010
EMC:	IEC 61326-1:2013
Calibration	2 years
Warranty:	1/3 year warranty plan

ORDERING INFORMATION	
MODEL	DESCRIPTION
LS3081P	3GHz Portable RF Analog Signal Generator
LS6081P	6GHz Portable RF Analog Signal Generator
LS1291P	12GHz Portable RF Analog Signal Generator
OPTION	
BAT	4-cell, replaceable battery
PLS	Pulse Modulation
PAT	Pattern Modulation
LP	Low Power

