

LUCID SERIES

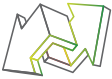
THINK RF THINK LUCID

Tabor is proud to introduce its new line of RF analog signal generators. The all-new Lucid Series offers the most advanced features and industry leading performance in the most compact form factor. The series feature 3, 6 and 12 GHz single channel versions, all sharing the very same industry leading highlighted features, in a compact, small footprint module. Featuring extremely fast switching speed, superior signal integrity and purity, all the necessary modulated signals for analog communication systems, with built in SPI and micro-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 RF analog
signal generator

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

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


Extremely Fast
Switching speed
of <100us

→ 
SPI and micro-USB
integrated interfaces

→ Multi instrument
synchronization
capability

↑ Flexible modular
platform for OEM and
custom requirements
and applications, to
satisfy specific customer
demands.

↓ 
Extra small, compact
module platform

→ 
AM, FM, PM Sweep &
Pulse Modulation



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 100µs, 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.



Specifications

FREQUENCY	
Range:	
LS3081D:	100 kHz to 3GHz
LS6081D:	100 kHz to 6GHz
LS1291D:	100 kHz to 12GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	
Standard:	500us
Fast (Option):	100 µs
List Mode (WB):	100 us Full bandwidth
List Mode (NB):	<6us Narrow bandwidth (<10% BW)
Digital Sweep Mode (Frequency and amplitude):	
Range:	
LS3081D:	100 kHz to 3GHz
LS6081D:	100 kHz to 6GHz
LS1291D:	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:	
standard:	-20dBm
Low power (option)	-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	
AM, FM MODULATION INPUTS	
Connector Type:	MMCX
Input Impedance:	50Ω
Max. input voltage:	1V
Input damage level:	±3.5V
PULSE MODULATION INPUT (Option)	
Connector type	MMCX
Input Impedance	50Ω
Input voltage	TTL, CMOS compatible
Low threshold	0V
High threshold	1V
Damage level	-0.42V +5.42V
TRIGGER INPUT	
Connector type	MMCX
Input Impedance	50Ω or 10kΩ
Input voltage	TTL, CMOS compatible
Damage level	±5V
EXTERNAL REFERENCE INPUT	
Connector type	SMA
Input Impedance	50Ω
Waveform	Sine or Square
Frequency	10/100MHz

Specifications

OUTPUTS	
RF OUT	
Impedance	50Ω
Connector type	SMA
REFERENCE OUT	
Impedance	50Ω
Connector type	SMA

GENERAL	
Voltage:	+12.0 to +12.6 VDC
Absolute Max	-20 dBm (option)
Supply Voltage	+15 V DC
Power Consumption	24W max.
Normal Operation	18W nom.
Interface:	MICRO-USB, SPI
Dimensions:	12 x 16 x 2.5 cm (W x H x D)
Weight:	
Without Package	1 Kg
Shipping Weight	1.5 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
Warranty:	1 / 3 year warranty plan

ORDERING INFORMATION	
MODEL	DESCRIPTION
LS3081D	3GHz RF Analog Signal Generator Desktop Module
LS6081D	6GHz RF Analog Signal Generator Desktop Module
LS1291D	12GHz RF Analog Signal Generator Desktop Module
OPTIONS	
Pulse	Pulse Modulation
LP	Low Power option to -90 dBm
FS	Fast Switching option 100us
Emulator pack	Emulator for Keysight, R&S, Anapico & Holzworth

