

LFP-F1 Logic Analyzer

First choice for high-speed, comprehensive measurements



Uncompromising breadth: High sample rate, deep memory and large channel number in one single instrument .

Xilinx high-performance FPGA chip and exclusive active probes enhance sampling accuracy and stability.

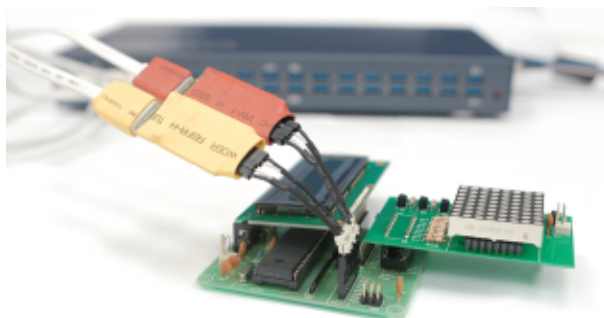
Extensive protocol library and straight-forward software for efficient debugging.

Optimized for complex circuits with high-frequency signals.



- Sample rate (State mode): Up to 200 MHz (Dual-edge)
- Sample rate (Timing mode): Up to 1 GHz
- Acquisition channels: 40 or 64
- Memory per channel: 4Mb or 64Mb
- 6 protocol triggers (hardware): I2C, I2S, SPI, SVID, UART, CAN 2.0B
- More than 110 built-in protocol decoders
- DSO connection
- eMMC 5.1 / SD 3.0 LA mode, protocol decoder and trigger (Optional)
- Long-time records: Transfer via USB 3.0 to hard drive to sample for hours or days (Optional)
- Channel Folding: Disable channels to concentrate memory on the active ones

Active Probe features



- Good impedance matching, reduced crosstalk and noise and reinforced ground enhance the measurement quality, accuracy and stability of high-speed signals
 - Support DUT bandwidths of up to 200 MHz
 - 4 types: *General Purpose, Low voltage, Negative logic and eMMC 5.1/SD 3.0 support
- * 40/ 64 General Purpose probes and 4 eMMC probes are included in base purchase*

Product Specifications

Item		Description
Operating System		Windows 8.1 (Recommended) / Windows 7 32-bit or 64-bit
Transmission		USB 3.0 (2.0 compatible)
Channels		40 or 64
Sample Rate	Internal (Timing) - Max.	1 GHz
	External (State) - Max.	200 MHz (Dual-edge)
Memory	Memory/Channel	See details in table below
Trigger	Trigger Channels	32 (the channels are divided in 2 groups; OR triggering between the 1st group (32 ch.) and the 2nd (8/32 ch.) is possible)
	Trigger Events	Pattern / Edge / Pulse-width / Interval (Time)
	Trigger Delay	YES
	Trigger Sequence Levels	256
	Trigger Pass	1- 65,535
	Trigger Voltage	4 simultaneous levels - 1 for each of the 4 ports
	Auxiliary Cursors	250
	Hardware Triggers	I2C, I2S, SPI, SVID, UART, CAN 2.0B
	eMMC5.1/SD3.0 Trigger	4 ch. can be triggered/sampled/decoded at 2 GHz in the Standard version; see Special Functions below for full support
Software Functions	Languages	English and Chinese (Traditional/Simplified)
	Zooming and panning	2 cursor modes
	Waveform & UI Customization	Modify the appearance of channels, menus, traces, windows etc
	State List & Waveform view	Present the samples as a list of 1s and 0s or as a waveform
	DSO Connection	Connect to and import signals from DSOs
	Files Comparison	Compare 2 files to quickly see where and how they differ
	Navigator	Quickly navigate to distant parts of the waveform
	Memory View	See what the memory looks like; what is read/written to which address
	Packet List	Breakdown of all packets in list form
	Statistic	Table view of number of periods, periods that satisfy conditions etc
	Real-time Signal Activity	Live view of probe activity
	Protocol decoders	More than 110 free built-in protocol decoders-see partial list to the right
	Phase Errors	< 3ns
	Power	AC (IN): 100 - 240V 50/60Hz; DC (OUT): 9V/5.55A
Dimensions		322 x 180 x 38 (mm)
Certifications		CE & FCC
Special Functions	Channel Folding	LAP-F1 offers he ability to concentrate the total memory on a limited number of channels. Example using the 64 ch. model with 4 Mb/ch: Enable only 32 ch. to use 8 Mb/ch, enable only 16 ch. to use 16 Mb/ch., enable only 8 ch. to use 32 Mb/ch. etc. Please inquire for more details on the specific models.
	eMMC5.1/SD3.0 (Option)	Get special eMMC-probes and unlock 32 ch. for 2 GHz sampling to fully trigger and decode all the signals of eMMC5.1/SD3.0. As eMMC only has 11 signals the remaining signals can be used for other high-speed acquisitions.
	Long-Time Record (Option)	This function is used to stream samples directly to disk. Up to 64 channels can be streamed at an average rate of 300 MB/s using USB 3.0. The long-time record function can be used to acquire signals from 7 hrs and up to a month depending on the sampling setup.

Available Models

Model Name	LAP-F1404M	LAP-F14064M	LAP-F1644M	LAP-F16464M
Channels	40		64	
Memory	4Mb	64Mb	4Mb	64Mb

Probe Specifications

Model Name	P120LV (Low-voltage)	P120NE (Neg. logic)	P200EM (eMMC)	P100TL (General Purpose)
Included in base purchase	Yes	Optional	5 probes incl. in base purchase	Optional
Signal type	Single-ended bus	Single-ended bus	Single-ended bus	Single-ended bus
Channels (Max.)	64	64	32	64
Input Impedance / Capacitance	190 kohm ±10% 4.3pF ±2pF	190 kohm ±10% 4.3pF ±2pF	190 kohm ±10% 4.3pF ±2pF	530 kohm ±10% 8.2pF ±2pF
DUT Bandwidth (Max.)	120 MHz	120 MHz	200 MHz	100 MHz
Transmission rate (Max.)	120 Mbit/s	120 Mbit/s	400 Mbit/s	100 Mbit/s
Trigger Voltage	User-defined	User-defined	User-defined	User-defined
Bus Voltage	V _{IN} : 0.6V to 5V	V _{IN} : 0.3V to 5V or V _{IN} : -0.2V to -1.5V	V _{IN} : 0.6V to 5V	V _{IN} : 2V to 5V
Input signal level	0V to 5V	-5V to 5V	0V to 5V	-5V to 5V
Input DC voltage (Max.)	±10V	±10V	±10V	±5V

Specifications are subject to change without notice.

Built-in protocols
Automotive
CAN 2.0B
DSI Bus
FlexRay 2.1A
LIN 2.1
MVB
WTB
PC System
FWH
GPIB
Low Pin Count
LPC-SERIRQ
LPT
PCI
PECL
PS/2
SVID
USB 1.1
USB 2.0
Memory
Compact Flash 4.1
I2C(EEPROM 24L)
I2C(EEPROM 24LC561/24LC562)
MICROWIRE(EEPROM 93C)
SD2.0/SDIO
SAMSUNG K9(NAND Flash)
SPI Compatible(Atmel Memory)
UNIO
Digital Audio
AC97
DSA Interface
HD Audio
HDMI CEC
I2S
MIDA
PCM
PSB Interface
S/PDIF
STBus
IC Interface
1-WIRE
1-Wire(Advanced)
3-WIRE
BDM
HPI
I2C
JTAG 2.0
MCU-51 DECODE
MICROWIRE
SLE4442
SSI Interface
ST7669
SPI
SPI PLUS
Serial Wire Debug(SWD)
UART(RS-232C/422/485)
Basic Logic Application
ARITHMETICAL LOGIC
DIGITAL LOGIC
JK FLIP-FLOP
UP DOWN COUNTER
Infrared rays
IRDA
NEC PD6122
Philips RC-5
Philips RC-6
PT2262/PT2272
Optoelectronics
7-SEGMENT LED
CCIR656
CMOS IMAGE
DALI Interface
DM114/DM115
DMX512
LCD12864
LCD1602
LG4572
S2Cwire/AS2Cwire
SCCB
Power
BMS
HDQ
PMBus 1.1
SDQ
SMBus 2.0
Wireless
Differential Manchester
DigRF
ISO7816 UART
KEELOQ Code Hopping
MANCHESTER
MII
MILLER
MIL-STD-1553
MODIFIED MILLER
SIGNIA 6210
SWP
WIEGAND
WWW/WWWVH/WWWVB
Other
DS1302
DS18B20
HART
KNX
ModBus
MODIFIED SPI
OPENTHERM 2.2
PROFIBUS
SHT11
YK-5
and more



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