Mictor Breakout adapter selection guide for use with Logic Analyzer & Oscilloscope probes

ZX100 series products

Zebax offers high quality Mictor breakout adapters covering range of logic analyzer and oscilloscope, scope, probes in market. This document facilitates selection of breakout adapter and provides general guidelines on breakout adapters in areas of debugging and testing of today's highly compacted electronic designs.

This document identifies:

1. Breakout adapters in debugging, emulation and testing environment.
2. Logic Analyzer & scope probes and their functionality.
3. Zebax offered Breakout adapters for use with Logic analyzer & scope probes.

Revision History

Version	Date	Description
v01	Nov 1, 2011	Initial release –

1 Breakout adapters in debugging, emulation and testing environment

Zebax offers generally known breakout adapters covering Mictor Samtec PCIe-mini connectors. The breakout adapters are often called **test boards**, **extended boards** as well. Zebax ZX100 series product lines cover Samtec, Mictor, and PCIe-mini high density SMD connectors. One may utilize breakout adapters for bringup, validation, emulation, characterization and testing purpose by accessing the host (aggressor) or target (victim, DUT- Device under test) signals via the provided headers.

In addition, the breakout adapters are well suited for external excitation of sub-module design located either on host or target. The external devices such as power supply, function generator, signal generators can be interfaced w/ the design by accessing the standard 0.1" (2.54mm) break-out header's.

2 Logic Analyzer & Scope probes and their functionality

Agilent Tektronix Lecroy are the suppliers of most common oscilloscope (scope), and Logic Analyzer in electronic industry in USA and the world. They cover range of scopes and logic analyzers targeting design requirements. Scopes are offered with different probes meeting signal bandwidth, filtering and special functions dedicated to supported scope. Each scope probe supports one channel only, whereas the logic analyzer probes support many channels in one cable assembly, typically 17 (16 data + 1 Clock) channels. Similar to scope probes, logic analyzer probes embed filter circuit for each channel.

Table below is summarized list of probes using direct Mictor connector interface where **the scope / LA probe can directly be connected to Zebax ZX100 series Mictor Breakout adapter, ZX105, ZX110. ZX104** offers breakout benefits where all Mictor connector interface signals are available on accessible headers. **ZX111** and **ZX112** utilize **76 pin Mictor** connector probe tailored for general system debugging / testing or dedicated system integration for purpose of testing/debugging.

Mfr	Attachment method	Probe	Logic Analyzer - Probe	# channels	type
Agilent	Mictor	E5339A	34-channel low voltage Mictor probe	34	single-ended
Agilent	Mictor	E5339A	34 channel Mictor-Probe-Low Voltage, with 40-pin cable connector	34	single-ended
Agilent	Mictor	E5346A	38 Pin Probe - designed for 16557D 16710A 16711A 16712A 16715A 16716A 16718A 16719A 15751A 16752A logic analyzer		single-ended
Agilent	Mictor	E5346A	High-speed Mictor Adapter	34	single-ended
Agilent	Mictor	E5351A	34-channel unterminated Mictor probe	34	single-ended
Agilent	Mictor	E5380A	16753A, 16754A, 16755A, 16756A, 16760A	34	single-ended
Lecroy	Mictor	MS250	250MHz, 1GS/s 18 Ch. Mixed signal Oscilloscope		
Lecroy	Mictor	MS-32-Mictor-L	Mictor Connection Cable	34	single-ended
Lecroy	Mictor	MS-32-Mictor-S	Mictor Connection Cable	34	single-ended
Lecroy	Mictor	MS500	500MHz, 2GS/s 18 Ch. Mixed signal Oscilloscope	18	single-ended
Lecroy	Mictor	MS500-36	250MHz, 1GS/s 36 Ch. Mixed signal Oscilloscope	36	single-ended
Lecroy	Mictor	MSO-Mictor	34 Channel Mictor Connector for MS Series	34	single-ended
tek	Mictor	P6410	17 ch. Mictor Probe for TLA520x mainframe, TLA6xx mainframe or TLA7Lx/Mx/Nx/Px/Qx logic analyzer module	16+Clock	single-ended
tek	Mictor	P6434	TLA5000 / TLA6000	34	single-ended

Table below is summarized list of probes using flying leads interface where the scope / LA probe can directly be connected to **ANY Zebax ZX100** series Mictor Samtec or PCIe-mini Breakout adapter. Typically flying leads are designed to mate with 0.1" (2.54mm) pitch headers. Zebax ZX100 series offer 0.1" (2.54mm) pitch headers, covering Mictor, Samtec, and PCIe-mini connector interface solutions.

Mfr	Attachment method	Probe	Logic Analyzer - Probe	# channels	type
Agilent	flying leads	E5382A	17-channel flying lead probe	17	single-ended
Agilent	flying leads	E5383A	17-channel flying lead probe	17	single-ended
tek	flying leads	P6410	17 ch. Mictor Probe for TLA520x mainframe, TLA6xx mainframe or TLA7Lx/Mx/Nx/Px/Qx logic analyzer module	17	single-ended
tek	flying leads	P6417	TLA700 Series Logic Analyzer	16+Clock	single-ended
tek	flying leads	P6418	TLA700 Series Logic Analyzer	16+Clock	single-ended
Lecroy	flying leads 10	PK400-1	Large gripper probe set for 0.1" (2.54mm) pin pitch	10	single-ended
Lecroy	flying leads 10	PK400-2	Large gripper probe set for 0.01" (1.0mm) pin pitch	10	single-ended
Lecroy	flying leads 10	PK400-3	Large gripper probe set for 0.008" (0.2mm) pin pitch	10	single-ended

3 Zebax Breakout adapters for use with Logic analyzer & scope probes.

Zebax breakout adapters are listed under ZX100 product line, www.Zebax.com. ZX104, ZX105, ZX110 support 38 pins Mictor connectors supporting Logic Analyzer and scope probe interface whereas the ZX111, ZX112 are 76 pins Mictor breakout adapters for any general design bringup, validation, emulation, characterization and testing purpose.

Zebax offers the most extensive line of breakout adapters covering hi-speed Q-Series Samtec , Mictor and PCIe mini connectors.

Zebax related links:

Zebax Breakout adapters	http://www.zebax.com/index_files/Page642.htm
Zebax Mictor breakout selection	http://www.zebax.com/index_files/Page636.htm

See Also – Literature & Web Link:

ZXTN_38MICTOR	An overview of Mictor connector's technology and Mictor breakout adapters
ZEBAX_DOWNLOAD	Zebax technical notes, application notes and test records

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