

SODIMM DDRII 533MT/s Bus Analysis Probe and Software

# NEX-SODIMMDDRII533



Rigid/Flex/Rigid interposer design provides mechanical clearance for use in standard DDR2 SDRAM SODIMM targets Acquisition of DDR2-533MT/s Address/Command, Read and Write Data Quick and easy connection between the SODIMM DDR2 bus and Tektronix Logic Analyzers Extender design does not require a dedicated slot Impedance controlled, matched trace length design No active buffering of the DDR signals Accurate 8GHz Timing Analysis Simultaneous State and Timing on every channel of the TLA Correlation with data acquired from other acquisition modules

All DDR signals brought to Tektronix Compression Footprints for monitoring

## **General Description**

NEX-SODIMMDDRII533 allows for the acquisition of Address/Command, Read and Write Data of 200-pin, unbuffered SODIMM DDRII DIMMs at 533MT/s or slower.

**Pre-Defined Symbols** for the following Command Cycles allow for easy Trigger Setup:

Read Col Address Read	Precharge Select Bank
Write Col Address Write	No Operation
Mode Register Set	Ignore Command Data
Row Address Strobe	Burst Stop
Precharge	Refresh

**Selective Clocking** stores data when commands are present and for thirteen clock cycles after Column Address assertion, resulting in more DDR bus cycle activity and fewer idle cycles being stored in acquisition memory.

**Oscilloscope Connectivity** to any channel without having to re-probe via the TLA's Enhanced iView Analog Mux capability.

## LA Support / Configuration

Acquisition Type	333 MHz	400 MHz	533 MHz	TLA7xx4 Module Count
Timing Only	Х	Х	Х	2 merged
Read or Write	X	Х	Х	2 merged
Read and Write	Х	Х	NA	2 merged
Read and Write	X	Х	X	3 merged

A TLA700 equipped with three merged 450MHz state speed acquisition modules (TLA7AA4 or TLA7AB4 cards) with 3 P6860 and 4 P6864 probes is required for 533MT/s or slower Read AND Write Data acquisition.

A TLA700 equipped with two merged 450MHz state speed acquisition modules (TLA7AA4 or TLA7AB4 cards) with 7 P6860 probes is required for 400MT/s Read AND Write Data acquisition.

A TLA700 equipped with two merged 450MHz state speed acquisition modules (TLA7AA4 or TLA7AB4 cards) with 7 P6860 probes is required for 533MT/s or slower Read OR Write Data acquisition.

8 GHz MagniVu Timing and Enhanced iView Analog Mux capabilities are available with either configuration.

## **Mechanical Information**

Approximately 1.5" of horizontal keep-out is required on <u>each side</u> of the DDRII SODIMM for Tektronix probe attachment. Probes connect to both sides of the adapter simultaneously.

Installed P6860 and P6864 probes will look similar to the picture below. All probes will have an opposite probe on the reverse side. All probes must have the gray elastomer holder installed.



Tektronix P68x0 mechanical requirements



Back-to-back probing of SODIMM DDRII



#### NEX-SODIMMDDRII533 Mechanical Outline

# **Timing Display**

🛗 DDR2M-3A MVu			
	📑 🚮 Time/	/Div: 2ns 💌	: ₩,₽ 🔍 ← 🕅 → Search 🔽
C1: -108.8ns 👘	C2: -86.25ns	🗧 🛛 Delta Time: 🛛	22.55ns 🚆 🗖 Lock Delta Time
MagniVu: Sample (	C1:	C2:	Delta:
r	Į		
MagniVu: Sample	-111.875 ns		-81.500 ns
MagniVu: DDRCK0			
MagniVu: Address	18078	X	1B07C 1B070 1B074 04046
MagniVu: S1#			
MagniVu: S0#			
MagniVu: RAS#			
MagniVu: CAS#			
MagniVu: WE#			
MagniVu: RdA_DatHi		55999A6A	
MagniVu: RdA_DatLo		8A9A5A6A	45AA5A55 () () () () () ()
MagniVu: Strobes		00	FF 00 FF FF FF FF FF
MagniVu: RdADatB7		55	AA (AA) (9A) (55 (AA) (65 (AA)
MagniVu: RdADatB6		99	66 99 9A 66 9A 99 66 9A 99 66 66 66
MagniVu: RdADatB5		9A	65 9A 65 6A AA 55 65 95 65
MagniVu: RdADatB4		6A	95 (6A) (A5) (55) (65 (AA) (99) (AA) (95
	• •		

SODIMM DDRII 533 Timing Display

# **State Display**

Imm	×									Lst	DDR2M-3A
C1:         O         C2:         1         C2:         1         C2:         1         C3:         C         Lock Delta Time           DDR2M-3A         DESA         DDR2M-3A         DDR2M-3A         DESA         DESA							·	🔺 🗚 💏 🛉 🕅 뢎 Search	t 😭		<b>H 🗣</b> 🐰
Ch. P         Ch. P         Point P         Po						Time	Lock Delta	🔺 Delta Time: 3 75ns 🔺 🗖	1	Ξ C2	<b>1</b> .0
DURLMT-3A         DURLMT-3A <thdurlmt-3a< th=""> <thdurlmt-3a< th=""> <thd< td=""><td></td><th></th><td></td><td></td><td></td><td>Time .</td><td>EOCK DOKA</td><td></td><td>nou o</td><td> 02</td><td></td></thd<></thdurlmt-3a<></thdurlmt-3a<>						Time .	EOCK DOKA		nou o	02	
Sample         DDR2M-3A Address         DDR2M-3A Mmemonics         DDR2M-3A Mmemonics         DDR2M-3A Datability         DDR2M-								۱.	IRZM-3	DL	JURZM-3A
Sample         Address         Cmnd         Mnemonics         DataHi         DataLo         ChekBits         DataMasks         Timestamp           42         04047         1A3         ACTV - ROW ADDRESS STROBE (SOP)				DDR.2M-3A	DDR 2M-3A	DDR2M-3A	DDR 2M-3A	DDR2M-3A		DDR2M-3A	
42         04047         1A3         ACTV         ROW ADDRESS STROBE (SO#)			Timestamp 3	DataMasks	ChekBits	DataLo	DataHi	Mnemonics	Cmnd	Address	Sample
44       1A2       DESL = IGNORE COMMAND       1720 ns       1720 ns         44       1AC       DESL = IGNORE COMMAND       1720 ns       1720 ns         44       1AC       DESL = IGNORE COMMAND       1720 ns       1720 ns         44       1AC       DESL = IGNORE COMMAND       1720 ns       1720 ns         46       04412       1A4       WRITE - COL ALON WRITE (SO#)       1720 ns       1720 ns         47       1A4       WRITE DATA       9495366A       84658355 40       00       3.750 ns         49       1A4       WRITE DATA       949536AS       84658355 40       00       3.750 ns         50       1A4       WRITE DATA       655995AA       8A65A555 80       00       3.750 ns         50       1A4       WRITE DATA       94953665 454 64A5455 80       00       3.750 ns         51       1A4       WRITE DATA       9496665 454A5455 80       00       3.750 ns         51       1A4       WRITE DATA       9496665 454A5455 80       00       3.750 ns         52       1A4       DESL - IGNORE COMMAND       1000 3.750 ns       3.750 ns       3.750 ns         52       1A4       DESL - IGNORE COMMAND       1000 3.750 ns       3.750 ns		1	2 750 pc					ACTV( - ROW ADDRESS STROPE (SO#)	147	04047	42
44			3 750 ns					DESL - TGNORE COMMAND	140		43
46			3.750 ns					DESL - TGNORE COMMAND	140		44
46         04A18         1A4         WRITE - COL ADDE WRITE (SOW)			3.750 ns					DESL - IGNORE COMMAND	1 AC		45
47			3.750 ns					WRITE - COL ADDR WRITE (SO#)	1A4	04A18	46
48         04ALC         1A4         WRITE - COL ADDR WRITE (SO#)			3.750 ns					DESL - IGNORE COMMAND	1AC		47
WRITE DATA         94395AGA         8465A395         40         00           49			3.750 ns					WRITE - COL ADDR WRITE (SO#)	1A4	04A1C	48
NUMPTIE         DATA         94395AGR         8465A395         40         000         3.750 ns           49		1		00	40	8A65A595	9A995A6A	WRITE DATA			
49				00	40	8A65A595	9A995A6A	WRITE DATA			
NUMPTIE DATA         659995A8         8AAA5A55         40         00         3.750 ns           50			3.750 ns	00	40	8AAA5A55	659995AA	WRITE DATA	1AA		49
50				00	40	8AAA5A55	659995AA	WRITE DATA			
NUME         NUME         DATA         S566AASS         45AASSS         80         00         3.750 ns           51          1AA         DESL - TANORE COMMAND         9A9A6ASS         45AASSS         80         00         3.750 ns           52          1AA         DESL - TANORE COMMAND          3.750 ns         3.750 ns           53          1AA         DESL - TANORE COMMAND			3.750 ns	00	80	45AA5A55	5566AA55	WRITE DATA	1AA		50
S1				00	80	45AA5A55	5566AA55	WRITE DATA			
VRLTE DATA         949A6A685         45AAA555         80         00           52			3.750 ns	00	80	45AAA555	9A9A6A65	WRITE DATA	1AA		51
52				00	80	45AAA555	9A9A6A65	WRITE DATA			
53          1AA         DESL - IGNORE COMMAND           3.750 ns           54          1AA         DESL - IGNORE COMMAND           3.750 ns           55          1AA         DESL - IGNORE COMMAND           3.750 ns           56          1AA         DESL - IGNORE COMMAND           3.750 ns           57         04247         1A2         PRE - PRECHARGE SELECT BANK (S0#)           3.750 ns           58          1AB         DESL - IGNORE COMMAND           3.750 ns           59          1AB         DESL - IGNORE COMMAND          3.750 ns           60          1AB         DESL - IGNORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)			3.750 ns					DESL - IGNORE COMMAND	1AA		52
54			3.750 ns					DESL - IGNORE COMMAND	1AA		53
55          1AA         DESL - IGNORE COMMAND           3.750 ns           56          1AA         DESL - IGNORE COMMAND           3.750 ns           57         04247         1A2         PRE - PRECHARGE SELECT BANK (SO#)           3.750 ns           58          1AB         DESL - IGNORE COMMAND           3.750 ns           59          1AB         DESL - IGNORE COMMAND           3.750 ns           60          1AB         DESL - IGNORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)           3.750 ns           62          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND          3.750 ns           64          1AD         DESL - GOMARD			3.750 ns					DESL - IGNORE COMMAND	1AA		54
56          1AA         DESL - IGNORE COMMAND           3.750 ns           57         04247         1A2         PRE - PRECHARGE SELECT BANK (SO#)           3.750 ns           58          1AB         DESL - IGNORE COMMAND           3.750 ns           59          1AB         DESL - IGNORE COMMAND           3.750 ns           60          1AB         DESL - IGNORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)           3.750 ns           62          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND			3.750 ns					DESL - IGNORE COMMAND	1AA		55
57         04247         1A2         PRE - PRECHARGE SELECT BANK (S0#)           3.750 ns           58          1AB         DESL - TONORE COMMAND           3.750 ns           59          1AB         DESL - TONORE COMMAND           3.750 ns           59          1AB         DESL - TONORE COMMAND           3.750 ns           60          1AB         DESL - TONORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)           3.750 ns           62          1AD         DESL - TONORE COMMAND          3.750 ns           63          1AD         DESL - TONORE COMMAND           3.750 ns           64         1AD         DESL - TONORE COMMAND			3.750 ns					DESL - IGNORE COMMAND	1AA		56
58          1AB         DESL - IGNORE COMMAND           3.750 ns           59          1AB         DESL - IGNORE COMMAND           3.750 ns           60          1AB         DESL - IGNORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)           3.750 ns           62          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND           3.750 ns           64          1AD         DESL - IGNORE COMMAND			3.750 ns					PRE - PRECHARGE SELECT BANK (SO#)	1A2	04247	57
59			3.750 ns					DESL - IGNORE COMMAND	1AB		58
60          1AB         DESL - IGNORE COMMAND           3.750 ns           61         04247         1A3         ACTV - ROW ADDRESS STROBE (SO#)           3.750 ns           62          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND           3.750 ns           63          1AD         DESL - IGNORE COMMAND           3.750 ns           64          1AD         DESL - IGNORE COMMAND           3.750 ns           64          1AD         DESL - IGNORE COMMAND           3.750 ns			3.750 ns					DESL - IGNORE COMMAND	1AB		59
61         04/247         1A3         ACTV = RUW ADDRESS STRUET (SW)            3.750 ns           62          1AD         DESL = TANORE COMMAND           3.750 ns           63          1AD         DESL = TANORE COMMAND           3.750 ns           64          1AD         DESL = TANORE COMMAND          3.750 ns			3.750 ns					DESL - IGNORE COMMAND	1AB		60
62 1AU DESL - IGNORE COMMAND 3.750 ns 63 1AD DESL - IGNORE COMMAND 3.750 ns 64 1AD DESL - IGNORE COMMAND 3.750 ns			3.750 ns					ACTV - ROW ADDRESS STROBE (SO#)	1A3	04247	61
63 1AU DESL - IGNORE COMMAND 3.750 ns 64 1AD DESL - IGNORE COMMAND			3.750 ns					DESL - IGNORE COMMAND	1 AU		62
64 1AD DESL - IGNURE COMMAND 3.750 ns		1	3.750 ns					DESL - IGNURE COMMAND	1AU		63
			3.750 ns					DESL - IGNORE COMMAND	LAD	44055	64
65 1495F 1A5 READ - CUL ADDR READ (SU#) 3.750 ns			3.750 ns					READ - CUL ADDR READ (SU#)	1A5	14951	65
66 1AD DESL - IGNORE COMMAND 3.750 hs			3.750 ns					DESL - IGNORE COMMAND	LAD	44050	66
67 142305 142 KEAD - CUL AUDK KEAD (SU#) 3.750 hs			3.750 ns		00	00000000	00000100	READ - COL ADDK KEAD (SU#)	140	14958	N 12
			3.750 ns		00	00000002	00000180		니까		68
			7 750		00	00000022	00000180	$\frac{1}{2} \frac{1}{2} \frac{1}$	145	14050	
67 14930 1A5 READ COL ADUK KEND (SUM)			3.750 ns		00	AFAAAFFF	CEOOOEAA	READ P COL ADDK KEAD (SU#)	1742	14950	69
659995AA 45AA555 30					20	45404555	657395AA				
20 1AD DALA 632723AA 42040535 20 3 250 3 250 3 250			2 750 mm		30	45000555	EFOODACA		1 40		70
2022/2020 ACC DATA 2022/2020 ACC 400/02/20 3./50 hs			3.750 ris		90	45654595	EEGGGGACA	READ DATA	1,00		/0
55555A6X (4565A555 ) 20 (		e	<u>'</u> 15ľ		1.50	140008000	1 JJJJJABA		1	1	

SODIMM DDRII 533 State Display – Software Mode, Address, Data and Command Cycles Only

# **Ordering / Contact Information**

Part Number	r NEX-SODIMMDDRII533
Includes:	NEX-SODIMM DDRII533 Bus Adapter & Analysis Software
	Back-to-Back Probing Hardware
	Manual Contains all nardware necessary to easily connect to Textronix Compression Adapters.
	Manual
Postal:	Nexus Technology, Inc.
	78 Northeastern Blvd. #2
	Nashua, NH 03062
<b>Telephone:</b>	877-595-8116
Fov.	877-505-8118
Гал.	077-575-0110
Email:	support@nexustechnology.com
	quotes@nexustechnology.com
	techsupport@nexustechnology.com
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Website:	www.nexustechnology.com

#### **Placing an Order**

Credit Card orders can be placed directly at 877-595-8116. Purchase orders can be faxed to 877-595-8118.

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