

Trigger Configurations for 2004 TestBeam

1. **default** with BTI standard acceptance: angle 0,10,20,30,-10,-20,-30 deg

BTI											
Parameter	ST43	RE43	DEAD	XON	RON	SET	LTS	AC1	AC2	ACH	ACL
Bit Setting	41	1	30	0	1 *	111	11	00	11	01	10

* = patterns 0,1,2,3,30,31 not enabled

TRACO												
Parameter	HISM	HTPRF	HTMSK	LTMSK	SLMSK	PRGCOMP	LTF	LTS	REUSEI/O	RAD	DD	BTIC
Bit Setting	0	1	0	0	0	10	0	0	1	0	18	31
Parameter	PRGDEL	IBTIOFF	KPRGCOM	TRGADEL	PVRSIGNMUX							
Bit Setting	0	15 (mb1) 0 (mb3)	255	1	1							

TSS			
Parameter	CARRY	GHOST1	GHOST2
Setting	Enabled	Enabled	Enabled

All other parameters not enabled (0)

TSM		
Parameter	CARRY	GHOST
Setting	Enabled	Enabled

All other parameters not enabled (0)

2. **default** with BTI acceptance + - 1: angle 0,10,20,30 deg

BTI											
Parameter	ST43	RE43	DEAD	XON	RON	SET	LTS	AC1	AC2	ACH	ACL
Bit Setting	41	1	30	0	1 *	111	11	00	00	00	00

* = patterns 0,1,2,3,30,31 not enabled

TRACO, TSS, TSM as configuration 1.

3. **default** with BTI acceptance + - 2: angle 0,10,20,30 deg

BTI											
Parameter	ST43	RE43	DEAD	XON	RON	SET	LTS	AC1	AC2	ACH	ACL
Bit Setting	41	1	30	0	1 *	111	11	11	11	11	11

* = patterns 0,1,2,3,30,31 not enabled

TRACO, TSS, TSM as configuration 1.

4. **synchronization:** all Low Trigger are disabled and the correlation tolerance is tightened

TRACO									
Parameter	HISM	HTPRF	HTMSK	LTMSK	SLMSK	PRGCOMP	LTF	LTS	REUSEI/O
Bit Setting	0	1	1	1	0	01	0	1	1

TSS, TSM as configuration 1.

BTI is configured with three different settings, for three different drift velocity values:

			BTI			TRACO
	Tmax	Vdrift	ST4 3	RE43	DEAD	BTIC
4.1	(ST=30.5) 381.2 ns	55.1 $\mu\text{m}/\text{ns}$	40	2	29	30
4.2 (correct)	(ST=31) 387.5 ns	54.1 $\mu\text{m}/\text{ns}$	41	1	30	31
4.3	(ST=31.5) 393.7 ns	53.1 $\mu\text{m}/\text{ns}$	42	0	30	31

For different BTIC values, TRACO acceptances follows:

BTIC=30	BTI	KMAX	KMIN	
Inner	0	47	4	Inner central
	1	50	7	Inner central
	2	53	10	Inner central
	3	56	13	Inner central
Outer	0	56	40	outer right
	1	53	37	outer right
	2	50	33	outer right
	3	47	30	outer right
	4	43	27	outer central
	5	40	23	outer central
	6	37	20	outer central
	7	33	17	outer central
	8	30	13	outer left
	9	27	10	outer left
	10	23	7	outer left
	11	20	4	outer left

BTIC=31	BTI	KMAX	KMIN	
Inner	0	48	4	Inner central
	1	51	7	Inner central
	2	55	11	Inner central
	3	58	14	Inner central
Outer	0	58	41	outer right
	1	55	38	outer right
	2	51	34	outer right
	3	48	31	outer right
	4	45	28	outer central
	5	41	24	outer central
	6	38	21	outer central
	7	34	17	outer central
	8	31	14	outer left
	9	28	11	outer left
	10	24	7	outer left
	11	21	4	outer left

5. **debug:** all configuration as 1. except for TSM in backup mode (i.e. register values: 00 00 80 80 00 00)

LUT parameters:

MB1					
Parameter	Shift	ST	D	Xc	Xn
Value	18	31 30 (for 4.2)	431.175	-120.2 (traco 0)	-39.12
MB3					
Parameter	Shift	ST	D	Xc	Xn
Value	18	31 30 (for 4.2)	512.475	-165.45	21.43