

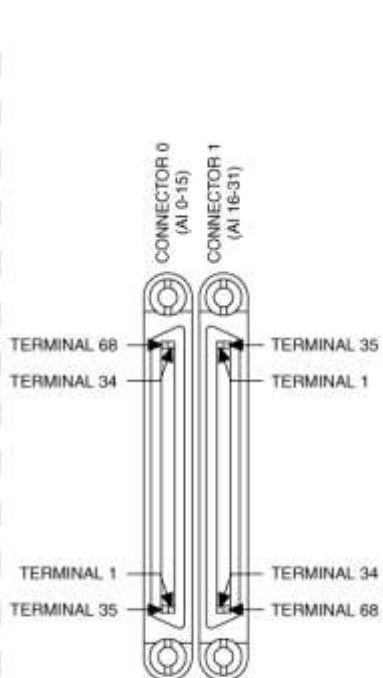
# PCIe DAQ Schematics for Pair Examples





# PCIe-6353 X Series

AI 0 (AI 0+)	68	34	AI 8 (AI 0-)
AI GND	67	33	AI 1 (AI 1+)
AI 9 (AI 1-)	66	32	AI GND
AI 2 (AI 2+)	65	31	AI 10 (AI 2-)
AI GND	64	30	AI 3 (AI 3+)
AI 11 (AI 3-)	63	29	AI GND
AI SENSE	62	28	AI 4 (AI 4+)
AI 12 (AI 4-)	61	27	AI GND
AI 5 (AI 5+)	60	26	AI 13 (AI 5-)
AI GND	59	25	AI 6 (AI 6+)
AI 14 (AI 6-)	58	24	AI GND
AI 7 (AI 7+)	57	23	AI 15 (AI 7-)
AI GND	56	22	AO 0
AO GND	55	21	AO 1
AO GND	54	20	APFI 0
D GND	53	19	P0.4
P0.0	52	18	D GND
P0.5	51	17	P0.1
D GND	50	16	P0.6
P0.2	49	15	D GND
P0.7	48	14	+5 V
P0.3	47	13	D GND
PFI 11/P2.3	46	12	D GND
PFI 10/P2.2	45	11	PFI 0/P1.0
D GND	44	10	PFI 1/P1.1
PFI 2/P1.2	43	9	D GND
PFI 3/P1.3	42	8	+5 V
PFI 4/P1.4	41	7	D GND
PFI 13/P2.5	40	6	PFI 5/P1.5
PFI 15/P2.7	39	5	PFI 6/P1.6
PFI 7/P1.7	38	4	D GND
PFI 8/P2.0	37	3	PFI 9/P2.1
D GND	36	2	PFI 12/P2.4
D GND	35	1	PFI 14/P2.6



P0.30	1	35	D GND
P0.28	2	36	D GND
P0.25	3	37	P0.24
D GND	4	38	P0.23
P0.22	5	39	P0.31
P0.21	6	40	P0.29
D GND	7	41	P0.20
+5 V	8	42	P0.19
D GND	9	43	P0.18
P0.17	10	44	D GND
P0.16	11	45	P0.26
D GND	12	46	P0.27
D GND	13	47	P0.11
+5 V	14	48	P0.15
D GND	15	49	P0.10
P0.14	16	50	D GND
P0.9	17	51	P0.13
D GND	18	52	P0.8
P0.12	19	53	D GND
APFI 1	20	54	AO GND
AO 3	21	55	AO GND
AO 2	22	56	AI GND
AI 31 (AI 23-)	23	57	AI 23 (AI 23+)
AI GND	24	58	AI 30 (AI 22-)
AI 22 (AI 22+)	25	59	AI GND
AI 29 (AI 21-)	26	60	AI 21 (AI 21+)
AI GND	27	61	AI 28 (AI 20-)
AI 20 (AI 20+)	28	62	AI SENSE 2
AI GND	29	63	AI 27 (AI 19-)
AI 19 (AI 19+)	30	64	AI GND
AI 26 (AI 18-)	31	65	AI 18 (AI 18+)
AI GND	32	66	AI 25 (AI 17-)
AI 17 (AI 17+)	33	67	AI GND
AI 24 (AI 16-)	34	68	AI 16 (AI 16+)

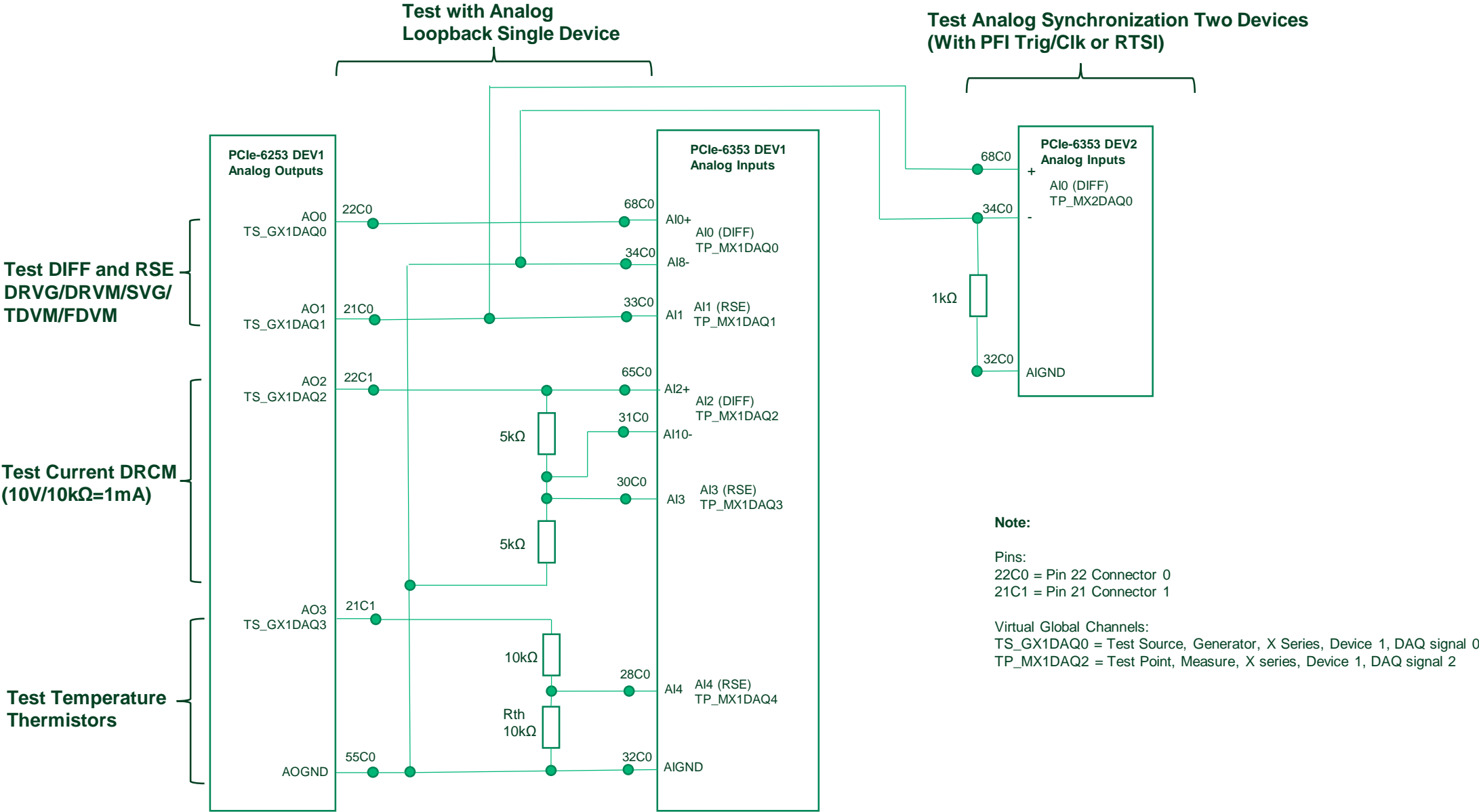
Counter/Timer Signal	Default Connector 0 Pin Number (Name)
CTR 0 SRC	37 (PFI 8)
CTR 0 GATE	3 (PFI 9)
CTR 0 AUX	45 (PFI 10)
CTR 0 OUT	2 (PFI 12)
CTR 0 A	37 (PFI 8)
CTR 0 Z	3 (PFI 9)
CTR 0 B	45 (PFI 10)
CTR 1 SRC	42 (PFI 3)
CTR 1 GATE	41 (PFI 4)
CTR 1 AUX	46 (PFI 11)
CTR 1 OUT	40 (PFI 13)
CTR 1 A	42 (PFI 3)
CTR 1 Z	41 (PFI 4)
CTR 1 B	46 (PFI 11)
CTR 2 SRC	11 (PFI 0)
CTR 2 GATE	10 (PFI 1)
CTR 2 AUX	43 (PFI 2)
CTR 2 OUT	1 (PFI 14)
CTR 2 A	11 (PFI 0)
CTR 2 Z	10 (PFI 1)
CTR 2 B	43 (PFI 2)
CTR 3 SRC	6 (PFI 5)
CTR 3 GATE	5 (PFI 6)
CTR 3 AUX	38 (PFI 7)
CTR 3 OUT	39 (PFI 15)
CTR 3 A	6 (PFI 5)
CTR 3 Z	5 (PFI 6)
CTR 3 B	38 (PFI 7)
FREQ OUT	1 (PFI 14)

NI 6251/6255/6259/6281/6289 (M Series) and NI 635x/636x/6375/6376/6378 (X Series) Devices  
Connector 0 (AI 0-15)

ANALOG	ANALOG/DIGITAL	DIGITAL
68 AI 0 (AI 0+)	12 D GND	1 PFI 14/P2.6
34 AI 8 (AI 0-)	46 PFI 11/P2.3	36 D GND
67 AI GND	13 D GND	2 PFI 12/P2.4
66 AI 1 (AI 1+)	47 P0.3	36 D GND
65 AI 9 (AI 1-)	14 +5V	3 PFI 9/P2.1
64 AI GND	48 P0.7	37 PFI 8/P2.0
31 AI 10 (AI 2-)	15 D GND	4 D GND
63 AI GND	49 P0.2	38 PFI 7/P1.7
62 AI 2 (AI 2+)	16 P0.8	5 PFI 6/P1.6
61 AI 11 (AI 3-)	50 D GND	39 PFI 15/P2.7
29 AI GND	17 P0.1	6 PFI 5/P1.5
60 AI 3 (AI 3+)	51 P0.5	40 PFI 13/P2.5
59 AI SENSE	18 D GND	7 D GND
58 AI 4 (AI 4+)	52 P0.0	41 PFI 4/P1.4
61 AI 12 (AI 4-)	19 P0.4	8 +5V
27 AI GND	53 D GND	42 PFI 3/P2.3
60 AI 5 (AI 5+)	20 APFI 0	9 D GND
59 AI 14 (AI 6-)	54 AO GND	43 PFI 2/P1.2
57 AI 7 (AI 7+)	21 AO 1	10 PFI 1/P1.1
56 AI GND	55 AO GND	44 D GND
55 AO GND	22 AO 0	11 PFI 0/P1.0
54 AO GND	56 AI GND	45 PFI 10/P2.2

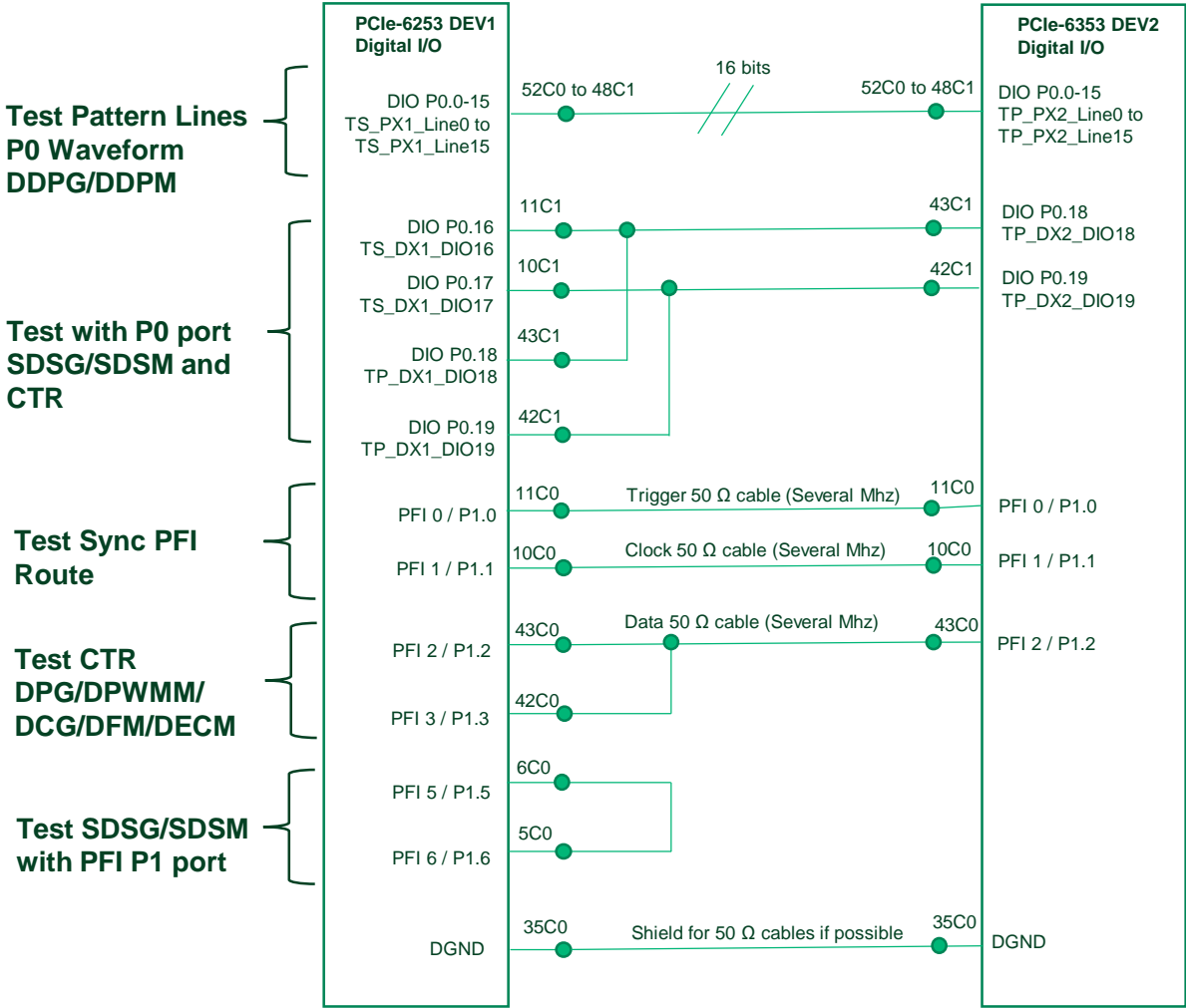
NI 6259/6289 (M Series) and NI 6353/6358/6363/6368/6378 (X Series) Devices  
Connector 1 (AI 16-30)

ANALOG	ANALOG/DIGITAL	DIGITAL
68 AI 16 (AI 16+)	12 D GND	1 P0.30
34 AI 24 (AI 16-)	46 P0.27	26 D GND
67 AI GND	13 D GND	2 P0.38
66 AI 17 (AI 17+)	47 P0.11	36 D GND
65 AI 35 (AI 17-)	14 +5V	3 P0.26
64 AI GND	48 P0.15	37 P0.24
31 AI 18 (AI 18+)	15 D GND	4 D GND
63 AI 26 (AI 18-)	49 P0.10	38 P0.23
62 AI GND	16 P0.14	5 P0.22
30 AI 19 (AI 19+)	50 D GND	39 P0.31
61 AI 27 (AI 19-)	17 P0.9	6 P0.21
29 AI GND	51 P0.13	40 P0.29
60 AI 20 (AI 20+)	18 D GND	7 D GND
59 AI 28 (AI 20-)	52 P0.8	41 P0.20
57 AI GND	19 P0.12	8 +5V
60 AI 21 (AI 21+)	53 D GND	42 P0.19
56 AI 29 (AI 21-)	20 APFI 1	9 D GND
55 AI GND	54 AO GND	43 P0.18
25 AI 22 (AI 22+)	21 AO 3	10 P0.17
58 AI 30 (AI 22-)	55 AO GND	44 D GND
24 AI GND	22 AO 2	11 P0.16
57 AI 23 (AI 23+)	56 AI GND	45 P0.28
23 AI 31 (AI 23-)		





Test Digital Synchronization two devices  
(With PFI Trig/clock or RTSI)



DIO P0.0-15

0 - 52C0	8 - 52C1
1 - 17C0	9 - 17C1
2 - 49C0	10 - 49C1
3 - 47C0	11 - 47C1
4 - 19C0	12 - 19C1
5 - 51C0	13 - 51C1
6 - 16C0	14 - 16C1
7 - 48C0	15 - 48C1

**Note:**  
Virtual Global Channels:  
TS\_PX1\_Line0 = Test Source, Pattern, X Series, Device 1, Line 0  
TP\_DX2\_DIO19 = Test Point, Digital, X series, Device 2, DIO 19