PenMount PM1640 PCI Controller Board Data Sheet

1.0 Product

PenMount 1640 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with USB interface supporting 17.4” to 23” projected capacitive touch screens; complemented by the superbly developed PenMount drivers which can be used directly in Windows 8.

PenMount 1640 Control Board uses Microcontroller, which is a capacitive sensing IC designed for AMT Projected Capacitive Input (PCI) touch panel and other projected capacitive touch panel. It is designed for PCI touch screen size up to 23”. PenMount 1640 Control Board has the programmable filter, gain amplifier; with the functions of single-ten finger touch; and the gestures of one and more fingers. There are five connectors on this board: two 60 Pins & two 50 Pins ZIF connectors for PCI touch screen FPC cable, one USB connector for 4-pin USB cable (optional)

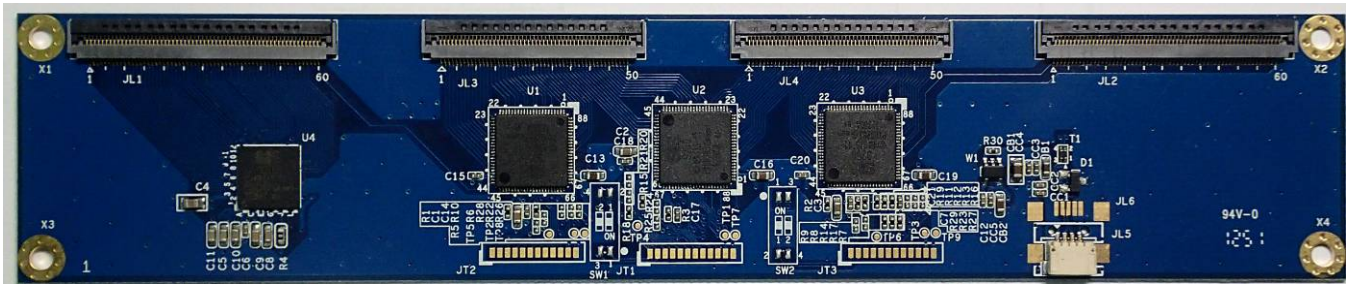
2.0 Specifications

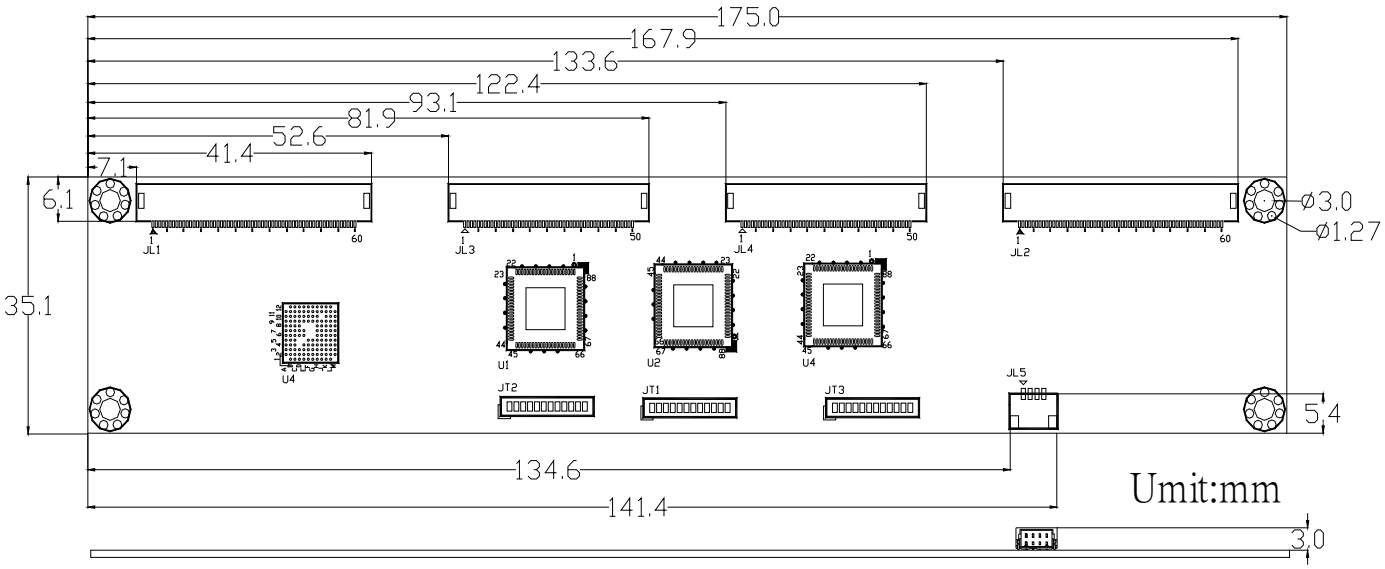
2.1 Controller part no : P3-02x3
Drive IC part no : P3-01x1
2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 17.4” to 23"
2.3 Interface: USB
USB: Full-speed, 12Mbps
2.4 ADC resolution: 12bits
2.5 Max Touch Line : 54 Driving lines, 96 Sensing line
2.6 Sampling rate:>100sps
2.7 Operating Voltage: +5V DC
2.8 Power Consumption : Typical -- Working Mode : 120mA
2.9 Operating temperature: -20°C ~ +70°C
2.10 Storage temperature: -40°C ~ +85°C

Note :
Power consumption and sample rate will vary according to different firmware versions.

3.0 Mechanical Drawing

3.1 Mechanical size





3.2 Touch line pin definition

JL1 60Pin ZIF , PH 0.5mm ; HRS FH52-60S-05SH							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Ground	16	Cap Drive Y42	31	Cap Drive Y27	46	Cap Drive Y12
2	NC	17	Cap Drive Y41	32	Cap Drive Y26	47	Cap Drive Y11
3	Ground	18	Cap Drive Y40	33	Cap Drive Y25	48	Cap Drive Y10
4	Cap Drive Y54	19	Cap Drive Y39	34	Cap Drive Y24	49	Cap Drive Y9
5	Cap Drive Y53	20	Cap Drive Y38	35	Cap Drive Y23	50	Cap Drive Y8
6	Cap Drive Y52	21	Cap Drive Y37	36	Cap Drive Y22	51	Cap Drive Y7
7	Cap Drive Y51	22	Cap Drive Y36	37	Cap Drive Y21	52	Cap Drive Y6
8	Cap Drive Y50	23	Cap Drive Y35	38	Cap Drive Y20	53	Cap Drive Y5
9	Cap Drive Y49	24	Cap Drive Y34	39	Cap Drive Y19	54	Cap Drive Y4
10	Cap Drive Y48	25	Cap Drive Y33	40	Cap Drive Y18	55	Cap Drive Y3
11	Cap Drive Y47	26	Cap Drive Y32	41	Cap Drive Y17	56	Cap Drive Y2
12	Cap Drive Y46	27	Cap Drive Y31	42	Cap Drive Y16	57	Cap Drive Y1
13	Cap Drive Y45	28	Cap Drive Y30	43	Cap Drive Y15	58	DUMMY1
14	Cap Drive Y44	29	Cap Drive Y29	44	Cap Drive Y14	59	NC
15	Cap Drive Y43	30	Cap Drive Y28	45	Cap Drive Y13	60	DUMMY1
JL2 60Pin ZIF , PH 0.5mm ; HRS FH52-60S-05SH							
1	DUMMY2	16	Cap Drive Y13	31	Cap Drive Y28	46	Cap Drive Y43
2	NC	17	Cap Drive Y14	32	Cap Drive Y29	47	Cap Drive Y44
3	DUMMY2	18	Cap Drive Y15	33	Cap Drive Y30	48	Cap Drive Y45
4	Cap Drive Y1	19	Cap Drive Y16	34	Cap Drive Y31	49	Cap Drive Y46
5	Cap Drive Y2	20	Cap Drive Y17	35	Cap Drive Y32	50	Cap Drive Y47
6	Cap Drive Y3	21	Cap Drive Y18	36	Cap Drive Y33	51	Cap Drive Y48
7	Cap Drive Y4	22	Cap Drive Y19	37	Cap Drive Y34	52	Cap Drive Y49
8	Cap Drive Y5	23	Cap Drive Y20	38	Cap Drive Y35	53	Cap Drive Y50
9	Cap Drive Y6	24	Cap Drive Y21	39	Cap Drive Y36	54	Cap Drive Y51
10	Cap Drive Y7	25	Cap Drive Y22	40	Cap Drive Y37	55	Cap Drive Y52
11	Cap Drive Y8	26	Cap Drive Y23	41	Cap Drive Y38	56	Cap Drive Y53
12	Cap Drive Y9	27	Cap Drive Y24	42	Cap Drive Y39	57	Cap Drive Y54
13	Cap Drive Y10	28	Cap Drive Y25	43	Cap Drive Y40	58	Ground
14	Cap Drive Y11	29	Cap Drive Y26	44	Cap Drive Y41	59	NC
15	Cap Drive Y12	30	Cap Drive Y27	45	Cap Drive Y42	60	Ground

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JL3 50Pin ZIF , PH 0.5mm ; HRS FH52-50S-05SH							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Ground	16	Cap Sense X15	31	Cap Sense X30	46	Cap Sense X45
2	Cap Sense X1	17	Cap Sense X16	32	Cap Sense X31	47	Cap Sense X46
3	Cap Sense X2	18	Cap Sense X17	33	Cap Sense X32	48	Cap Sense X47
4	Cap Sense X3	19	Cap Sense X18	34	Cap Sense X33	49	Cap Sense X48
5	Cap Sense X4	20	Cap Sense X19	35	Cap Sense X34	50	Ground
6	Cap Sense X5	21	Cap Sense X20	36	Cap Sense X35		
7	Cap Sense X6	22	Cap Sense X21	37	Cap Sense X36		
8	Cap Sense X7	23	Cap Sense X22	38	Cap Sense X37		
9	Cap Sense X8	24	Cap Sense X23	39	Cap Sense X38		
10	Cap Sense X9	25	Cap Sense X24	40	Cap Sense X39		
11	Cap Sense X10	26	Cap Sense X25	41	Cap Sense X40		
12	Cap Sense X11	27	Cap Sense X26	42	Cap Sense X41		
13	Cap Sense X12	28	Cap Sense X27	43	Cap Sense X42		
14	Cap Sense X13	29	Cap Sense X28	44	Cap Sense X43		
15	Cap Sense X14	30	Cap Sense X29	45	Cap Sense X44		
JL4 50Pin ZIF , PH 0.5mm ; HRS FH52-50S-05SH							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Ground	16	Cap Sense X63	31	Cap Sense X78	46	Cap Sense X93
2	Cap Sense X49	17	Cap Sense X64	32	Cap Sense X79	47	Cap Sense X94
3	Cap Sense X50	18	Cap Sense X65	33	Cap Sense X80	48	Cap Sense X95
4	Cap Sense X51	19	Cap Sense X66	34	Cap Sense X81	49	Cap Sense X96
5	Cap Sense X52	20	Cap Sense X67	35	Cap Sense X82	50	Ground
6	Cap Sense X53	21	Cap Sense X68	36	Cap Sense X83		
7	Cap Sense X54	22	Cap Sense X69	37	Cap Sense X84		
8	Cap Sense X55	23	Cap Sense X70	38	Cap Sense X85		
9	Cap Sense X56	24	Cap Sense X71	39	Cap Sense X86		
10	Cap Sense X57	25	Cap Sense X72	40	Cap Sense X87		
11	Cap Sense X58	26	Cap Sense X73	41	Cap Sense X88		
12	Cap Sense X59	27	Cap Sense X74	42	Cap Sense X89		
13	Cap Sense X60	28	Cap Sense X75	43	Cap Sense X90		
14	Cap Sense X61	29	Cap Sense X76	44	Cap Sense X91		
15	Cap Sense X62	30	Cap Sense X77	45	Cap Sense X92		

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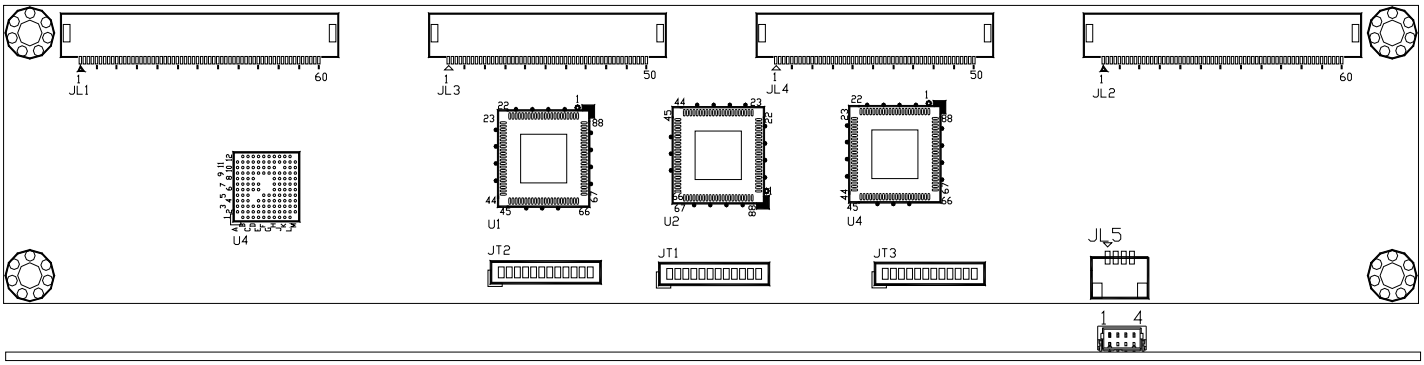
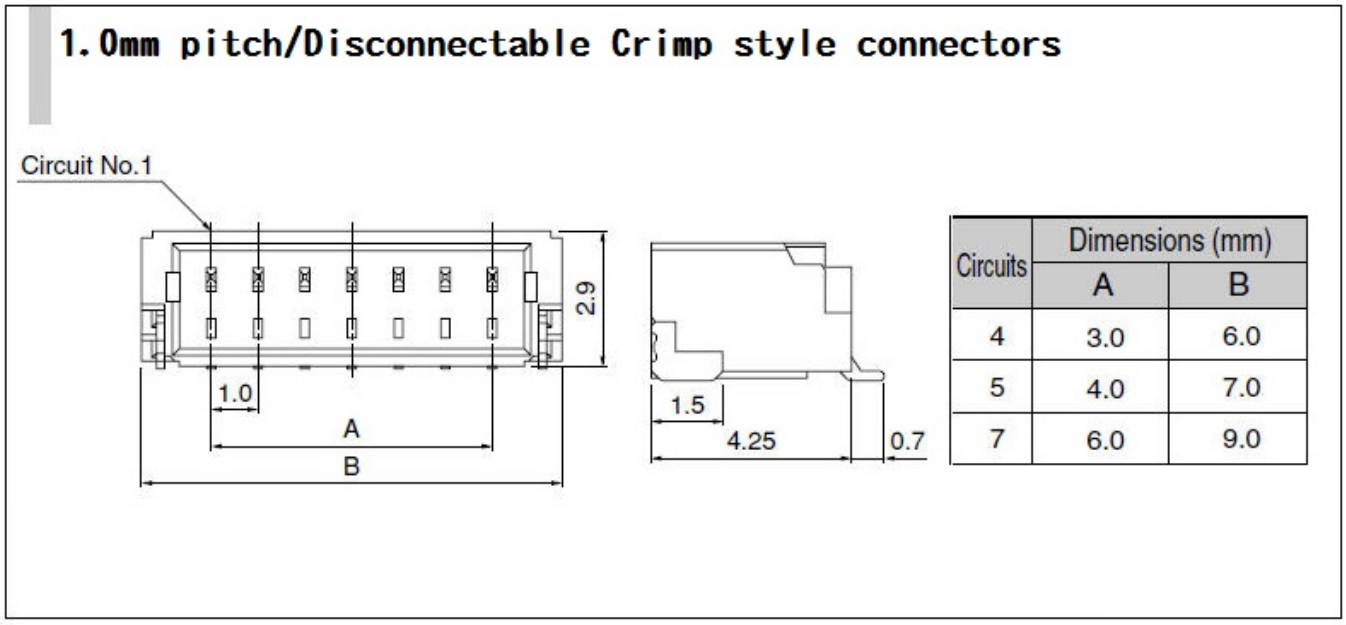
3.3 Interface pin definition



JL5 / 4PIN / USB	
PIN NO.	DESIGNATION
1	5VIN
2	D-
3	D+
4	Ground

3.4 Connector specification



Circuits	Dimensions (mm)	
	A	B
4	3.0	6.0
5	4.0	7.0
7	6.0	9.0

4.0 Drivers, Utilities

4.1 Drivers:

For USB

Windows 7,8: dual touch, Inbox driver.

4.2 Utility:

Firmware adjustment utility is ready for user to fine tune the touch panel sensitivity.

Note :

Drivers, Utilities : all the drivers are available in AMT and PenMount website. The PenMount utilities is also available, contact us

5.0 Others

5.1 ROHS compliance: This control board is met ROHS compliance

Remark: Specification is subject to change without notice