

Hardware Documentation

ADP-AStone2MIT1 / aSt-ADP-MIT1

Version 1.10
(2022-08-10)



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Systeme**

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About This Document

This document describes how to use the aStone MIT1 Display adapter with mechanical and electrical information. The latest version of this document can be found at:

<http://www.fs-net.de>.

History

Date	V	Platform	A,M,R	Chapter	Description	Au
21.02.14	0.1	All	A	-	Build the document	MW
03.03.16	1.00	All	M	*	Modified for HW Rev 1.20	MW
05.08.16	1.01	All	M	*1 5.4	Add "development only, not for mass production" Add comment for displays not listed	KW KW
11.08.22	1.10	All	M	*	Add Revision 1.40; Add new Name "ADP-AStone2MIT1"	MW

V Version
A,M,R Added, Modified, Removed
Au Author

Table of Contents

About This Document	2
History	2
Table of Contents	3
1 Introduction	4
2 Mechanical dimension	5
2.1 Adapter	6
3 Connector layout	7
4 Connect the Adapter	8
5 Interface and signal description	9
5.1 J1 Display Connector	9
5.2 J2 aStone-Connector	11
5.3 Jumper-Description	13
5.4 Jumper Examples	14
5.5 Resistive Touchcontroller	15
6 Appendix	16
List of Figures	16
Important Notice	17
Warranty Terms	18

1 Introduction

Display adapters make the connection between F&S-Boards and commonly used LCD – Displays as easy as possible. Usual in trade display connectors could be simply added to complete the connection.

With this Display adapter you can connect an ISI50 Display from Endrich to an F&S-Board for development only. The display adapter is made for several displays without EMI suppression and is not made to use at mass production.

2 Mechanical dimension

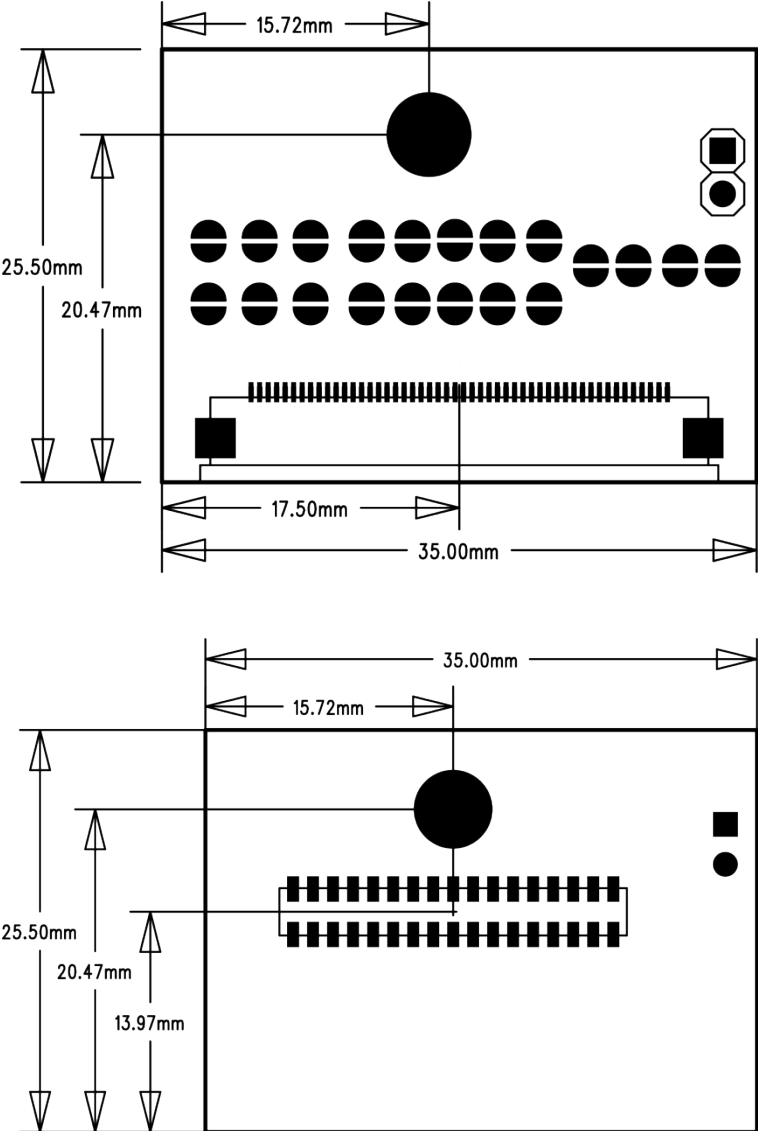


Figure 1: mechanical dimension

2.1 Adapter

PCB size:	25.5mm x 35mm
PCB thickness:	1.6 ± 0.1mm
High of parts on the top side:	2.1mm
High of parts on the bottom side:	3.5mm
Weight:	3 grams

3 Connector layout

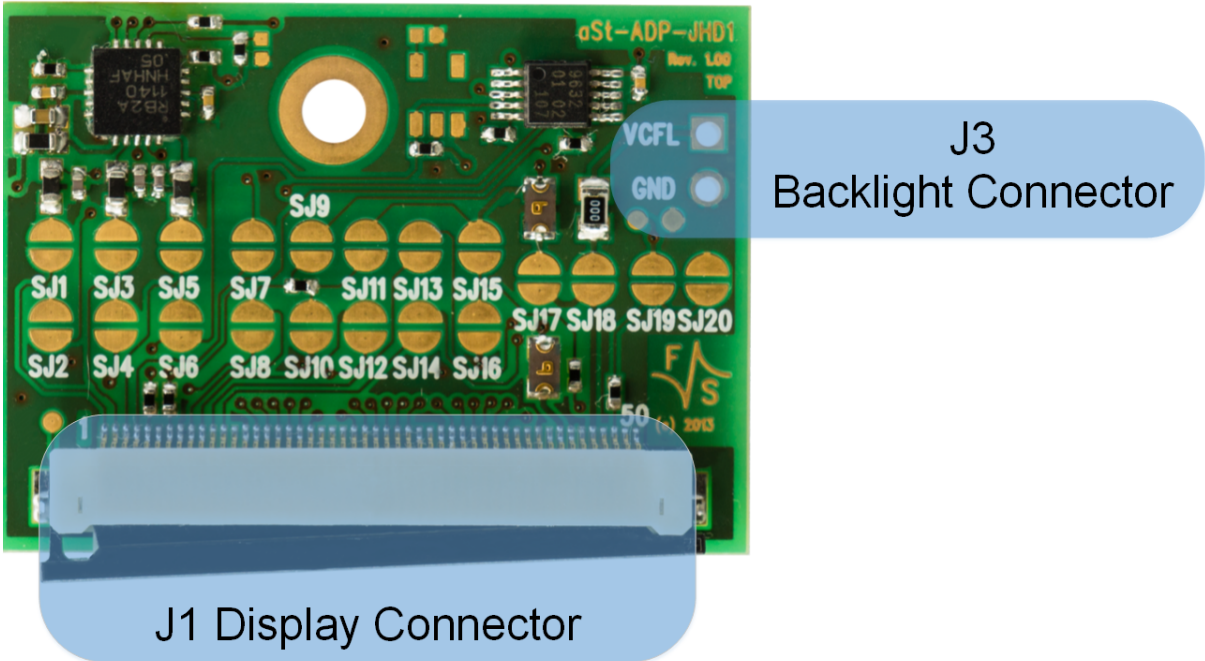


Figure 2: Connector Layout Top

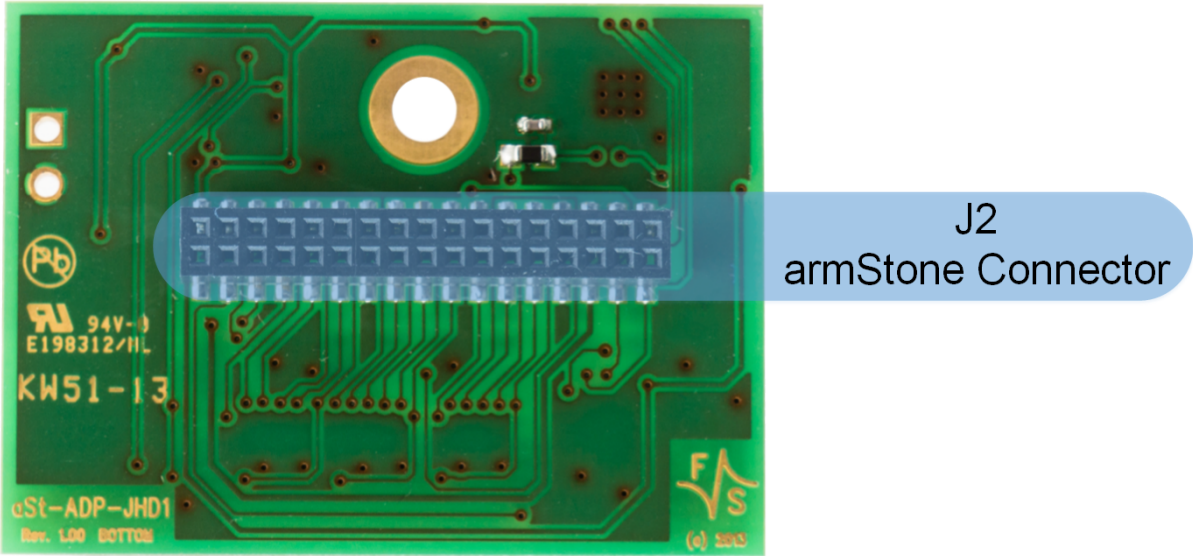


Figure 3: Connector Layout Bottom

4 Connect the Adapter

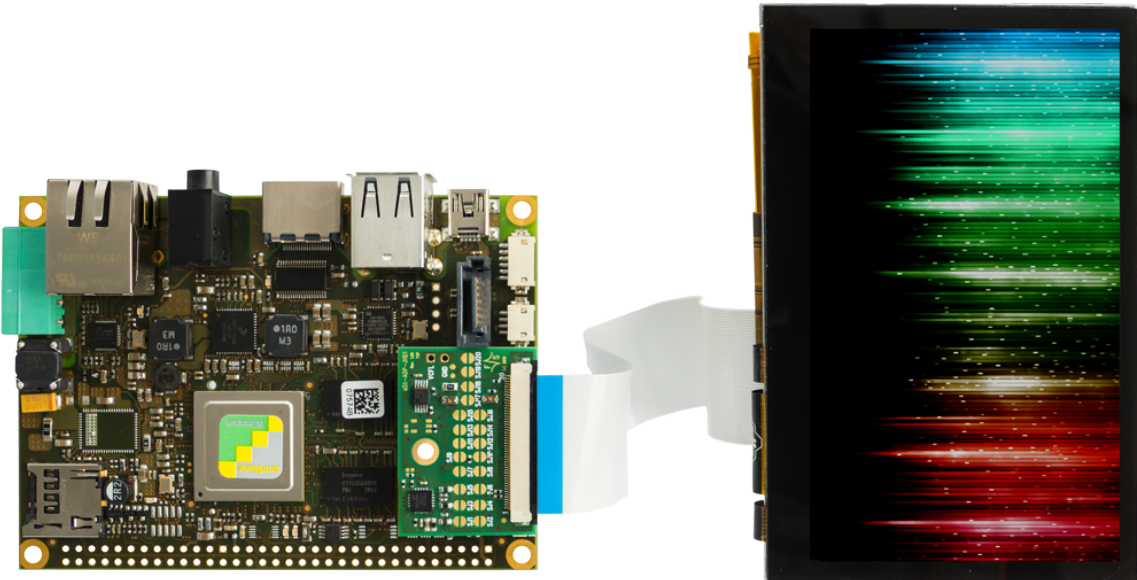
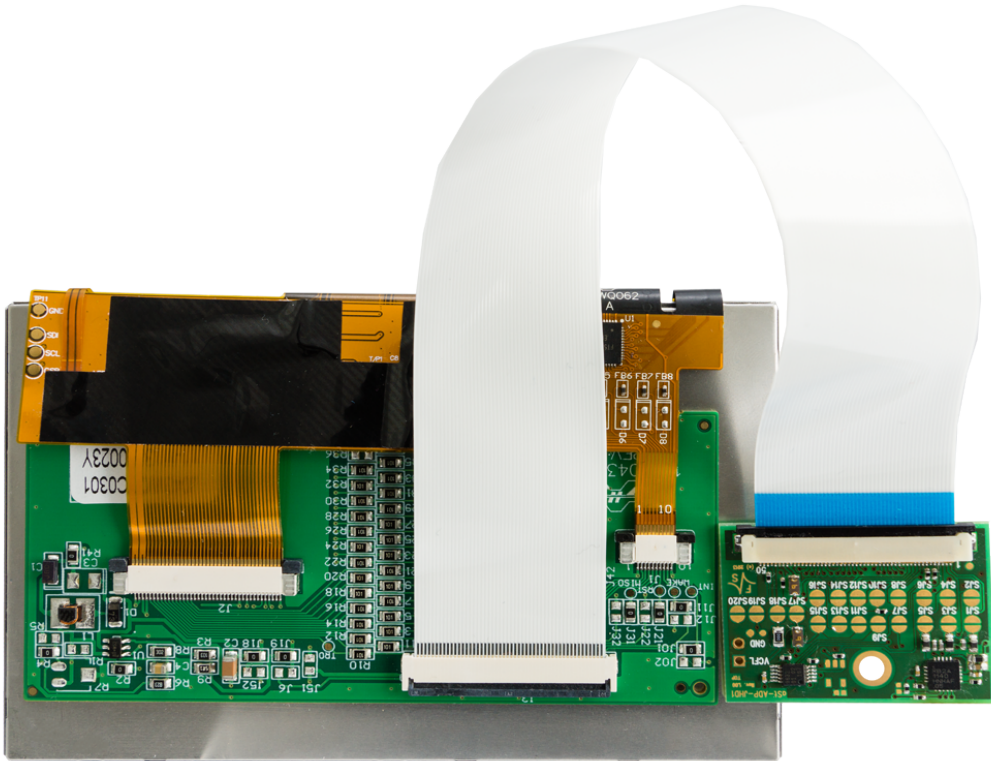


Figure 4: How the connect the Display

5 Interface and signal description

5.1 J1 Display Connector

J1	
Pin	Function
1	Touch-Y+ / !I2C-Interrupt
2	Touch-X+ / !Wake
3	Touch-Y- / !I2C-Reset
4	Touch-X- / I2C-Data
5	I2C-Clock2
6	Ground
7	Not connected / Display-Standby / Display-Reset / Display-Enable
8	LCD DE
9	LCD-VSYNC
10	LCD-HSYNC
11	LCD-CLK
12	Ground
13	LCD-B7
14	LCD-B6
15	LCD-B5
16	LCD-B4
17	LCD-B3
18	LCD-B2
19	LCD-B7
20	LCD-B6
21	Ground
22	LCD-G7
23	LCD-G6
24	LCD-G5
25	LCD-G4

J1	
Pin	Function
26	LCD-G3
27	LCD-G2
28	LCD-G7
29	LCD-G6
30	Ground
31	LCD-R7
32	LCD-R6
33	LCD-R5
34	LCD-R4
35	LCD-R3
36	LCD-R2
37	LCD-R7
38	LCD-R6
39	Ground
40	VLCD
41	Not connected / Ground via SJ22
42	Not connected / Ground via SJ22
43	LEDCTRL
44	PWCTRL / Backlight-Enable
45	Ground
46	Ground
47	Ground
48	V-Backlight
49	V-Backlight
50	V-Backlight

5.2 J2 aStone-Connector

J1	
Pin	Function
1	3,3 Volt
2	Not connected
3	Ground
4	LCD-CLK
5	LCD-HSYNC
6	LCD-VSYNC
7	Ground
8	LCD-R2
9	LCD-R3
10	LCD-R4
11	LCD-R5
12	LCD-R6
13	LCD-R7
14	Ground
15	LCD-G2
16	LCD-G3
17	LCD-G4
18	LCD-G5
19	LCD-G6
20	LCD-G7
21	Ground
22	LCD-B2
23	LCD-B3
24	LCD-B4
25	LCD-B5
26	LCD-B6

J1	
Pin	Function
27	LCD-B7
28	Ground
29	LCD-DE
30	VLCD
31	VLCD
32	I2C-Data
33	I2C-IRQ
34	I2C-CLK

5.3 Jumper-Description

Jumper-Description		
Jumper	Pin at J1	Function
JP1	1	Resistive Touch Y+
JP2	1	!I2C Interrupt
JP3	2	Resistive Touch X+
JP4	2	VCC for !I2C-Wake via V33
JP5	3	Resistive Touch Y-
JP6	3	!I2C-Reset
JP7	4	Resistive Touch X-
JP8	4	I2C-Data
JP9	7	Display/Reset from PCA9632
JP10	7	!I2C-Reset
JP11	7	Pull-Up for Pin 7 at J1*
JP12	7	Pull-Down for Pin 7 at J1*
JP13	8	LCD-DE
JP14	9	LCD-VSYNC
JP15	43	Pull-Up for Pin 43 at J1*
JP16	10	LCD-HSYNC
JP17	43	Pull-Down for Pin 43 at J1*
JP18	44	Pull-Down for Pin 44 at J1*
JP19	44	Pull-Up for Pin 44 at J1*
JP20	48	VCC for Backlight via J3 (Backlight-Connector)
JP21	48	VCC for Backlight via V33
JP22	41/42	Connect pin 41 and 42 to Ground for better EMI

*Never close Solderjumper for Pull-Up and Pull-Down at the same pin!

5.4 Jumper Examples

Jumper Examples		
Display	Jumper	Notes
MI0430PT-50	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ21	
MI0430PT-50	SJ14,SJ16,SJ21	
MI0500PT-50	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ21	
MI0500PT-51	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ21	
MI0500PT-52	SJ14,SJ16,SJ21	
MI0570ET-53	SJ14,SJ16,SJ20	Connect V-Backlight via J3
MI0700AJT-51	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ20	Connect V-Backlight via J3
MI0700S4T-50	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ20	Connect V-Backlight via J3
MI0700S4T-51	SJ2,SJ4,SJ6,SJ8,SJ14,SJ16,SJ20	Connect V-Backlight via J3
MI0700S4T-52	SJ14,SJ16,SJ20	Connect V-Backlight via J3

The Jumpers above are tested with display samples from display manufacturer. F&S is not responsible for any change on the displays and can't give any guarantee. If a display is not listed, please contact the display manufacturer for the right jumper settings.

5.5 Resistive Touchcontroller

Revision 1.00 – 1.30:

On older PCBs for resistive Touch the Controller SX8655 or compatible was used.

Revision 1.40:

Since PCB Revision 1.40 the TSC2004 is used as Touchcontroller.

6 Appendix

List of Figures

Figure 1: mechanical dimension5
Figure 2: Connector Layout Top7
Figure 3: Connector Layout Bottom7
Figure 4: How the connect the Display8



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