

AMI-120 BUS Introduction

ARM based Module Interface

Introduction

AMI-120 to ARM base platform is just like PC/104 is to an x86 platform in concept, but proprietary for Advantech ARM architecture. Defined by Advantech, the leading RISC base computing platform provider, AMI-120 bus interface is intended to provide a unified interface to expand the functionality of an existing ARM base platform in an easy, low cost, fast way.

Besides offering a full line of off-the-shelf AMI solution modules that connect to the main computing board through an AMI-120 bus interface, it is also possible to create custom versions of AMI modules based on desired features and applied ARM computing platform.

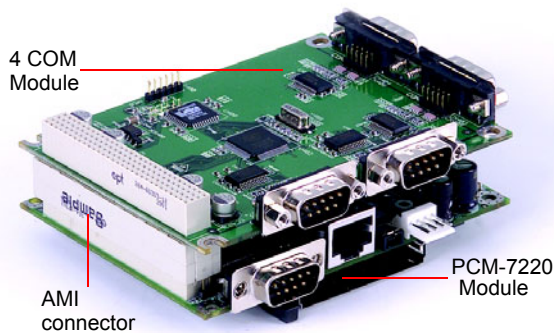
General introduction

-AMI-120 solution modules bundle with specified driver needed to incorporate with Advantech ARM base WinCE / Embedded Linux platforms.

-The standard form factor is 78x104mmx (3"x4") as same as 2.5" Biscuit RISC SBC platforms and the mating height is 15mm (0.6").

-AMI modules equips dual side (Male & Female) connector of 120 pins for multi-stacking

-Some combination of AMI modules and ARM base platforms need customization to have the best performance.



A faster more cost effective way to add features

AMI modules are connected through the ARM system interface which utilizes a well buffer and mapped definition and reservation by Advantech to provide wide range and rich I/O expansion capability.

The AMI solution module includes SW device driver support developed by Advantech to enable the communication between the AMI solution module and target computing ARM platform through a rugged 120-pin bus connector, which is the same as the industrial standard PC/104+ connector.

The AMI modules can be used singularly or stacked together to give the needed functionality. In this case, the user's desired features can simple be added by adding multiple layers. Solution developers can leverage the off-the-shelf AMI module practicality and team up with their solution platform for application development, feasibility evaluation as well as mass deployment.

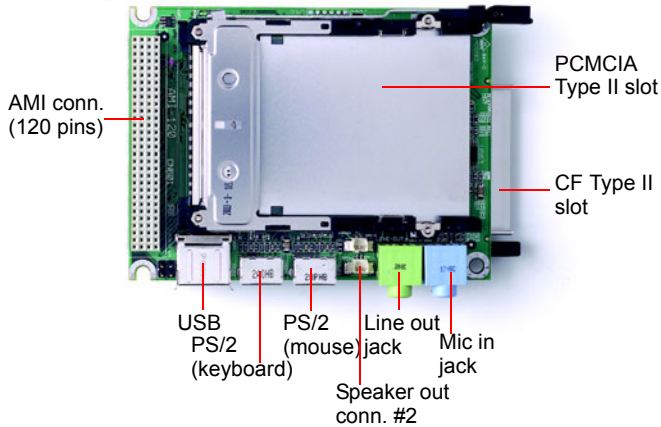
Advantech's off-the-shelf AMI-120 solution module and customization service

To handle tough embedded applications, Advantech's standard AMI module is designed with rugged construction that involves four screw holes for high shock and vibration operating environments.

Advantech has developed a full line of AMI solution modules to support the full line RISC base computing platform to meet the variety Embedded application demand. Specified feature requirement also can be implemented through AMI customization service.

AMI-SA1111 Module

Intel SA-1111 AMI-120 Companion chip module



Features

- 1 x USB host (v1.1, 1.5 MB/s) interface
- Audio interface: Circuit reserved for Mic-in (Jack), Line-in (2-pin header) Line-out (Jack), Speaker out (2-pin header, 2W),
- CF Type II (Circuit reserved)
- PCMCIA Type II (Circuit reserved)

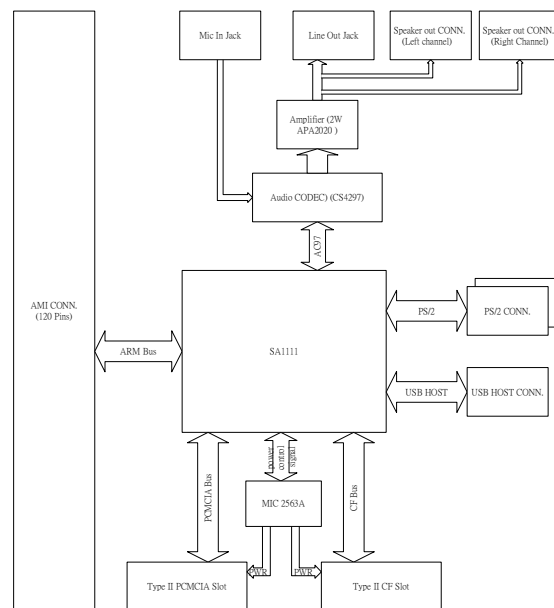
Specifications

AMI connector	1 AMI connector (120 pins)
USB Host	1 USB Host port
PS/2	1 PS/2 for keyboard , 1 PS/2 port for mouse
PCMCIA slot	1 type II PCMCIA slot (optional)
CF slot	1 type II CF slot (optional)
Speaker-out	2 speaker-out connectors (left channel and right channel) , 1 speak-out Jack
Microphone-in	1 Mic-in Jack

Mechanical and Environmental

Dimensions(W x L)	104 mm x 78 mm (4.09" x 3.07")
Operational temperature	0 ° ~ 75° C (32° ~ 167°F) fanless operation
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Block Diagram



Packing List

1	CD-ROM (Manual, Driver)
1	2 x Spk for Speak-out connector

Ordering Information

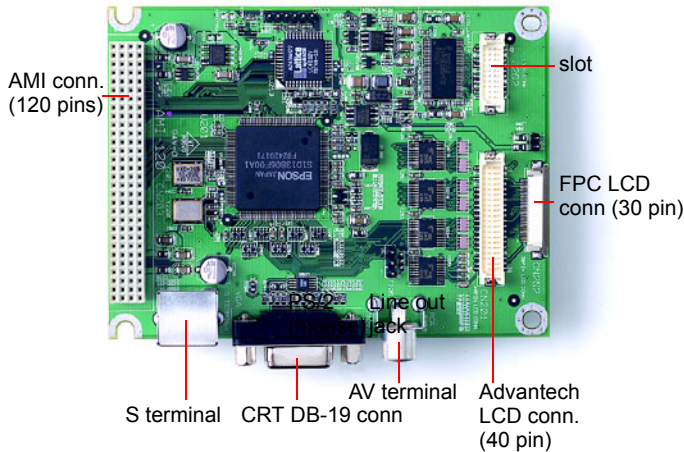
P/N:AMI-SA1111-01

Certified Advantech platforms:

PCM-7220 CE/LX series

AMI-LCD Module

Epson LCD AMI-120 Companion chip module



Features

Based on Epson #13806 LCD controller, this module provides the following functions:

- LCD interface: up to SVGA resolution (16 bits), reserves 30-pin FPC connector and 40-pin cable connector
- LVDS interface: 20-pin connector
- CRT interface: 15-pin DB connector (SVGA, 16 bits)
- TV-out interface: AV / S connectors

Specifications

I/O	
AMI connector	1 AMI connector (120 pins)
CRT output	1 DB-15 CRT output port
TV-out (NTSC and PAL)	1 S terminal port and 1 AV terminal port
LCD output	1 Advantech DF13-40DP 40 pins connector ; 1 30 pins FPC connector ; 1 LVDS 20 pins connector

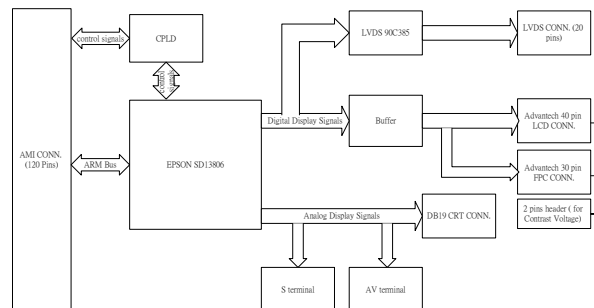
Display Mode

Display mode	Max. resolution	Color depth
LCD	800 x 600	16 bpp
CRT	800 x 600	16 bpp

Mechanical and Environmental

Dimensions(W x L)	104 mm x 78 mm (4.09" x 3.07")	
Operational temperature	0 ° ~ 75° C (32° ~ 167°F) fanless operation	
Operating Humidity	0% ~ 90% relative humidity, non-condensing	

Block Diagram



Packing List

I	CD-ROM (Manual, Driver)
I	LCD cables
	- 40-pin
	- 20-pin (for LVDS interface)
	- 30-pin FPC

Ordering Information

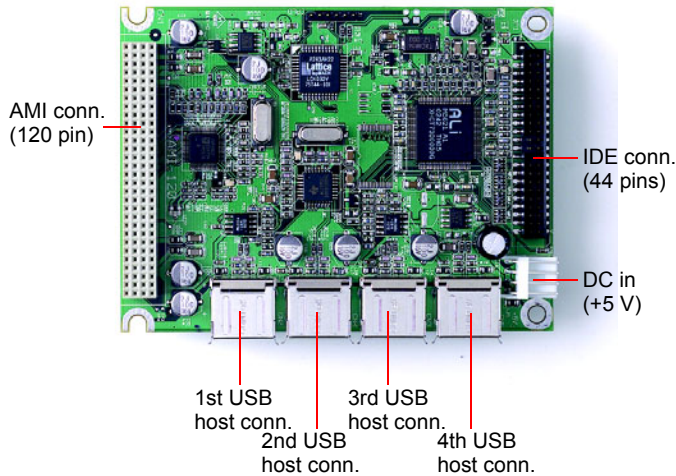
P/N: AMI-LCD-E-01

Certified Advantech platforms:

PCM-7220 CE/LX Series
PCM-7320 CE/LX Series

AMI-USB-IDE Module

USB Hub and IDE AMI-120 Companion chip module



Features

- 4 x USB Host port (V1.1 in1.5 MB/s) with 44-pin IDE connector.

Note: The connection of the target IDE devices will be determined by the device driver availability

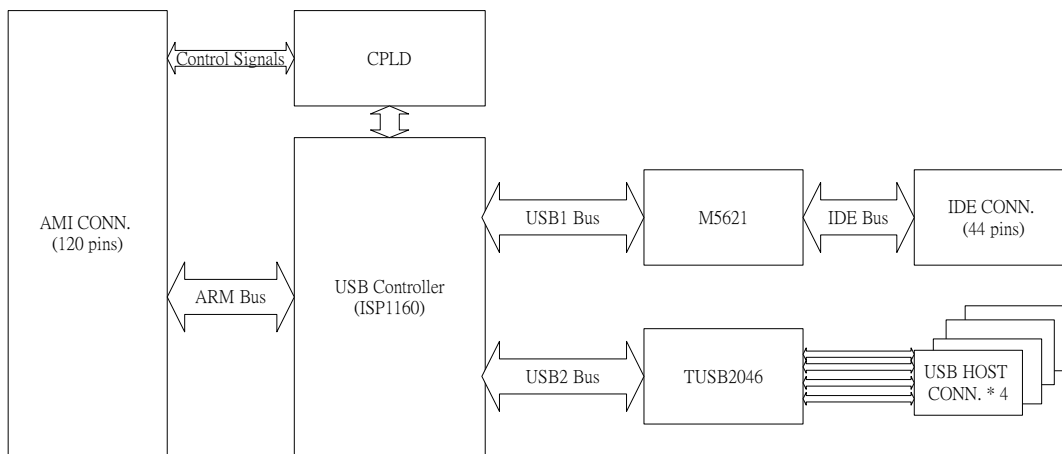
Specifications

I/O	
AMI connector	1 AMI connector (120 pins)
USB host	4 USB host ports
IDE	1 IDE connector (44 pins)

Mechanical and Environmental

Dimensions(W x L)	104 mm x 78 mm (4.09" x 3.07")
Operational temperature	0° ~ 75°C (32° ~ 167°) fanless operation
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Block Diagram



Packing List

I	CD-ROM (Manual, Driver)
I	44 pin IDE cable

Ordering Information

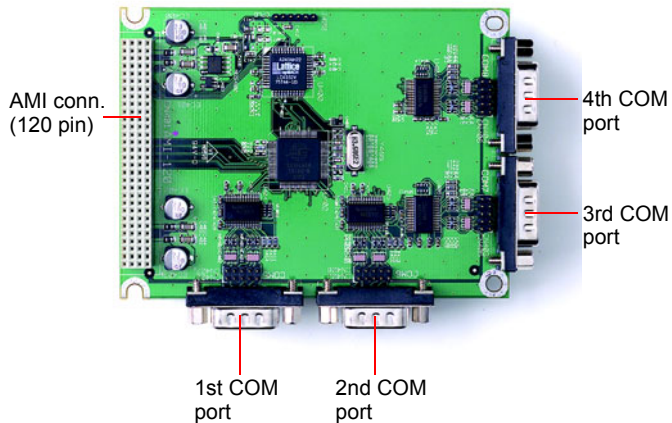
P/N:AMI-USB-IDE-01

Certified Advantech platforms:

PCM-7220 CE/LX series
PCM-7320 CE/LX series

AMI-COM Module

4 COM Port AMI-120 Companion chip module



Features

- 4 x full function 9-pin RS232 interface (2 x DB9 connectors and 2 x 9-pin headers)

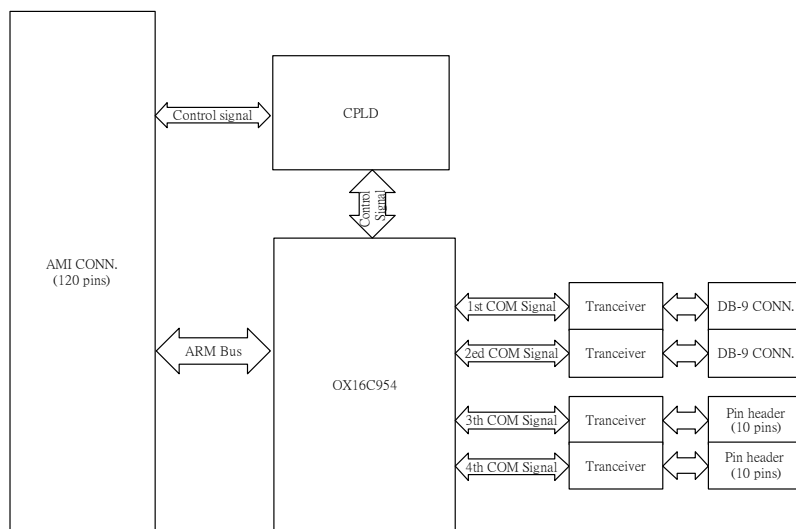
Specifications

I/O	
AMI connector	1 AMI connector (120 pins)
COM	4 full RS-232 ports(2 DB-9 connectors and 2 10-pins pin headers)

Mechanical and Environmental

Dimensions(W x L)	104 mm x 78 mm (4.09" x 3.07")
Operational temperature	0° ~ 75°C (32° ~ 167°F) fanless operation
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Block Diagram



Packing List

1	CD-ROM (Manual, Driver)
1	2 x Pin header to DB-9 cable

Ordering Information

P/N:AMI-COM-01

Certified Advantech platforms:

PCM-7220 CE/LX series
PCM-7320 CE/LX series