

PCA-6743 PCA Half-size SBC: DM&P Vortex86DX-800MHz SOC/TTL/10_100 Ethernet/CFC/SATA/On board memory Startup Manual

Packing List

Before you begin installing your system, please make sure that the following materials have been shipped:

- 1 PCA-6743 ISA Half-size DM&P Vortex86DX-800MHz SOC processor-based single board computer
- 1 PCA-6743 Startup Manual
- 1 CD with driver utility and manual (in PDF format)
- 1 COM2 and LPT cable p/n: 1701260305
- 1 SATA HDD data cable (F SKU) p/n: 1700003194
- 1 SATA HDD power cable (F SKU) p/n: 1703150102
- Dual-COM port cable kit for COM 3-4 (For F SKU) p/n: 1700008762
- 1 Y cable for PS/2 keyboard and PS/2 mouse p/n: 1700060202
- 1 USB cable with 4 ports p/n: 1700014398
- 1 Jumper pack p/n: 9689000002
- Warranty card

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note 1: For detailed contents of the PCA-6743 Series, please refer to the enclosed CD-ROM or disk (in PDF format).

Standard SBC Functions

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://www.advantech.com/support>

This manual is for the PCA-6743 Series Rev.A2.

Part No. 2002674312

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Specifications

- CPU: DM&P Vortex86DX 800MHz
- BIOS: Award integrated 256KB ROM in DM&P Vortex86DX
- System memory: Onboard 256MB (VE SKU) /512MB (F SKU) DDR2
- Enhanced IDE interface: 1 EIDE channel for 2 devices. Up to UDMA 100
- USB interface: Support 4 USB 2.0 ports and USB 1.1 under DOS
- SATA interface: Supports 1 SATA1 HDD (150 MB/s) (F SKU)
- Serial ports:
 - COMD1 (Rear I/O):
 - COM1: RS-232(VE SKU)
 - COM1: RS-232/422/485(F SKU)
 - COM2 (one 2.54mm pitch wafer box):
 - COM2: RS-232 (VE SKU)
 - COM2: RS-232/422/485(F SKU)
 - COM34 (one 2.0mm pitch wafer box):
 - COM3: RS-232(F SKU)
 - COM4: RS-232(F SKU)
- Parallel port: One parallel port, supports SPP/ECP/EPP mode
- Infrared port: One support IrDA version 1.0 SIR protocol with maximum baud rate up to 115K bps, support SHARP ASK-IR protocol with maximum baud rate up to 57600 bps.
- Keyboard/mouse connector: Mini-Din connector supports keyboard and PS/2 mouse
- Watchdog timer: 255 level timer interval. System reset or IRQ11

Local-bus Flat Panel/VGA Interface

- Chipset: SM712 graphic chip
- Display memory: 4 MB display memory
- Display type: Supports VGA+TTL or VGA+LVDS (Optional). Able to display both VGA and flat panel simultaneously
- VGA mode: up to 1024 x768 @24 bit true color
- LCD mode: up to 1024 x768 @ 18/24 bit TTL panel
- LVDS mode: up to 1024 x768 18/24 bit LVDS panel

Ethernet Interface (PCA-6743)

- Chipset: Integrated Vortex86DX SOC
- Ethernet interface: 10/100 Mbps Ethernet. IEEE 802.3 U protocol compatible
- Connection: On-board RJ-45 connector

Solid State Disk

- Supports CompactFlash™ Type I/II, shared with primary IDE

Mechanical and Environmental

- Dimensions (L x W): 185 mm x 122 mm
- Power supply voltage: +5 V (4.75 V ~ 5.25 V), 12 V
- Power requirements: 1.6 A @ 5 V
- Operating temperature: 0 ~ 60° C (32 ~ 140° F)
- Weight: 0.185 kg (0.4 lbs.)

Jumpers and Connectors

Connectors on the board link it to external devices such as hard disk drives, a keyboard or expansion bus connectors. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

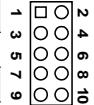
The tables below list the functions of each of the board's jumpers and connectors:



Jumpers	
Label	Function
CMOS1	CMOS Clear
JSETCOM1	COM1 function selection
JSETCOM2	COM2 function selection
JWDT1	Watchdog timer output selection
JOBS1	HW Monitor Alarm
SW1	LCD settings
JLVDS	LVDS voltage selection
JBK1	Backlight control selection

Connectors	
Label	Function
JFP1(1-2)	HDD LED
JFP1(3-4)	Power LED
JFP1(5-6)	N/C
JFP1(7-8)	Reset switch
JFP1(9-10)	N/C
JIR1	IR connector
IDE1	IDE connector (Secondary channel)
CF1	CF connector (Primary channel)
LPT1	Parallel port
USB12	USB port 1,2
USB34	USB port 3,4
COMD1	Serial Port: COM1 (RS232 (VE SKU) RS232/422/485 (F SKU))
COM2	Serial Port: COM2 (RS232 (VE SKU) RS232/422/485 (F SKU))
COM34 (F SKU only)	Serial Port COM3/COM4 (RS232)
KBMS1	PS/2 keyboard and mouse connector

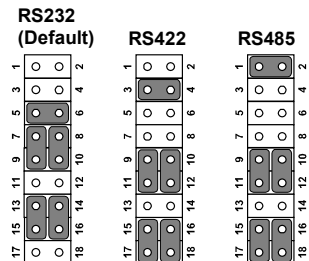
KBMS2	External keyboard and mouse connector
LANLED1	Front Panel LAN Indicator connector
JCASE1	Case Open
SYSFAN1 (F SKU only)	FAN connector (3-pin)
GPIO1	GPIO pin header
LCD1	LCD connector
INV1	Inverter connector
LPC1	LPC connector
SATA1 (F SKU only)	Serial ATA1

Front Panel Connectors (JFP1)	
Pin	Signal
1	HDD LED+
2	HDD LED-
3	Power LED+
4	Power LED-
5	N/C
6	N/C
7	Reset Switch
8	GND
9	5 VSB (Reserved)
10	Power Switch (Reserved)




CMOS1 CMOS Clear	
Setting	Function
1-2 (Default)	Normal operation 
2-3	CMOS clear 

JSETCOM1 COM1 function selection JSETCOM2 COM2 function selection



JWDT1 Watchdog timer output selection

Setting	Function
1-3 closed	IRQ11
3-5 closed (Default)	System reset



JOBS1: HW Minitor Alarm


Setting	Function
7-9 closed (Default)	Eable OBS alarm
7-9 open	Diable OBS alarm

JIR1: IR connector

Setting	Function
Connecting 2-10	Connecting to external IR module


JLVDS: LVDS/TFT-LCD voltage selection

Setting	Function
1-2 closed (Default)	3.3V panel
2-3 closed	5V panel



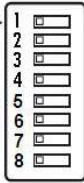
JBK1: Backlight control selection

Setting	Function
1-2 closed (Default)	Linear
2-3 closed	PWM mode

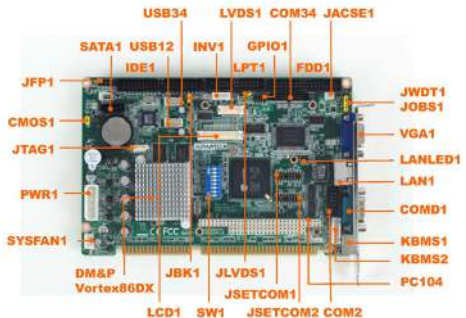


SW1

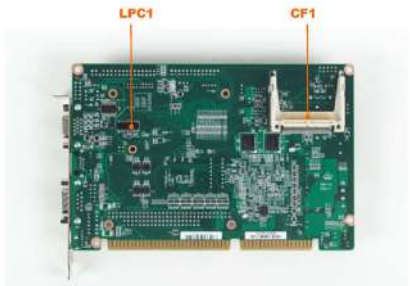
Switch	State	Setting
SW1-1	0	TFT
	1	DSTN
SW1-2	0	FPCLK Normal
	1	FPCLK Inverted
SW1 4:3	0 0	640 x 480
	0 1	800 x 600
	1 0	1024 x 768
SW1 7:6:5	0 0 0	9-bit TFT
	001	12-bit TFT
	010	18-bit TFT
	011	24-bit TFT
	100	12X2 - bit TFT
	101	ANALOGTFT
	110	18X2 - bit TFT
SW1-8	0	16-bit DSTN
	1	24-bit DSTN



Locating Connectors and Jumpers



Jumper and Connector Locations (component side)




Jumper and Connector Locations (solder side)

Software Installation

The CD disc contains a driver installer program that will lead you through the installation of various device drivers needed to take full advantage of your CPU card.

Caution

Caution! The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by Advantech. Discard used batteries according to manufacturer's instructions.



Safety Information

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions.

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.