

# PCA-5640 Industrial VGA card with ATI Rage Mobility™ M10

## Packing List

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

- 1 PCA-5640 Industrial VGA card p/n: 9696564000
- 1 PCA-5640 Startup Manual p/n:2002564001
- 1 CD with driver utility p/n: 2066000E05
- Jumper Package p/n: 9689000068
- 1 D-SUB 15P(F)/9P VGA Cable p/n:1700000259
- 1 2P/2P 20CM WIRE p/n:1700000780
- 1 S-VHS cable (optional) p/n: 1700000136
- 1 AV cable (optional) p/n: 1700000137
- Warranty certificate p/n: 2190000902

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

Note: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [www.adobe.com/products/acrobat/readstep2.html](http://www.adobe.com/products/acrobat/readstep2.html)

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

<http://www.advantech.com>

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

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

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

This manual is for the PCA-5640 series Rev. A1.

Part No. 2002564001  
Printed in Taiwan

2nd Edition  
June 2005

## Specifications

### Industrial VGA card specifications

- **GPU:** ATI Rage Mobility™ M10
- **Bus:** AGP 3.0
- **Memory:** On-Chip 128Bit 400MHz 64MB SDRAM
- **CRT1 output:** 2048x1536, up to 200Hz vertical rate
- **CRT2 output:** 2048x1536, up to 200Hz vertical rate; shared with TV-Out
- **TV-Out Output:** S-Video port and optional Composite port; 1024x768 32bpp, 800x600 and 16:9
- **LVDS Output (Optional):** 230MHz dual channel (115MHz per channel); supports LCD panels up to QXGA (2048x1536) 60Hz resolution
- **DVI:** Support fix resolution displays from VGA (640x480) to wide UXGA (1600x1200) resolution with full ratiometric expansion ability for source modes up to 1280x1024
- **Digital (TTL) Output:** Color TFT panel up to 1280x1024, 24-bit per pixel, single pixel per clock; shared with LVDS
- **Dual Display Mode:** CRT, LCD/LVDS; TV, LCD/LVDS; CRT, TV
- **Triple-DAC Mode:** CRT=TV, LCD/LVDS; LCD/LVDS=TV, CRT; LCD/LVDS=CRT, TV
- OSs Supported: Windows XP, Windows 2000

## Software Installation

- The CD disc contains a driver installer program that will lead you through the installation of your VGA card.

## Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application.





The table below lists the function of each of the jumpers and connectors.

Label	Function
J4	LVDS ID selection jumper
VR1	LCD panel back light adjuster

Label	Function
VCN1	1st VGA connector (DB15)
VCN2	2nd VGA connector
VCN3	TV-Out connector (S-Video; Composite optional)
VCN4	DVI port
VCN8	VGA chip thermal detect connector
VCN9	LCD back light adjuster extension connector
VP3	5-pin LCD panel power connector

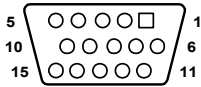
**J4 : LVDS ID selection jumper**

(Please use the jumper caps in the jumper package)

Pins	Result
	Resolution: 800 x 600 18 bit
	Resolution: 1024X768 18 bit
	Resolution: 1024 x 769 24 bit (Default)
	Disable LVDS (LVDS must be disabled when using DVI)

**VR1 : LCD panel back light adjuster****Function**

Adjust the value of LCD panel back light

**VCN1 : 1st VGA connector**

Pin	Signal	Pin	Signal
1	RED	9	VCC
2	GREEN	10	GND
3	BLUE	11	N/C
4	N/C	12	SDT
5	GND	13	H-SYNC
6	GND	14	V-SYNC
7	GND	15	SCK

**VCN2: 2nd VGA connector**

Pin	Signal	Pin	Signal
1	CRT2_R1	2	CRT2_G1
3	CRT2_B1	4	GND
5	D2_HS1OUT	6	D2_VS1OUT
7	DDC3_SDAOUT	8	DDC3_SCLOUT
9	VCC_VGA03		

**VCN3 : TV-Out connector**

Pin	Signal	Pin	Signal
1	GND	2	GND
3	Y	4	C
5	N/C	6	N/C
7	COMP	8	GND
9	GND	10	GND

**VCN4 : DVI port**

Pin	Signal	Pin	Signal
1	TMDS2-	2	TMDS2+
3	TMDSSD	4	N/C
5	N/C	6	DDC2_SCLOUT
7	DDC2_SDAOUT	8	D2_VS1OUT
9	TMDS1-	10	TMDS1+
11	TMDSSD	12	N/C
13	N/C	14	AGP_5V
15	GND	16	HP0_DETECT
17	TMDS0-	18	TMDS0+
19	TMDSSD	20	N/C
21	N/C	22	TMDSSD
23	TMDSCCLK+	24	TMDSCCLK-
C1	CRT2_R1	C2	CRT2_G1
C3	CRT2_B1	C4	D2_HS1OUT
C5	TMDSSD	C6	TMDSSD

**VCN9 : LCD panel back light setting**

1 Max back light value



1 Min back light value



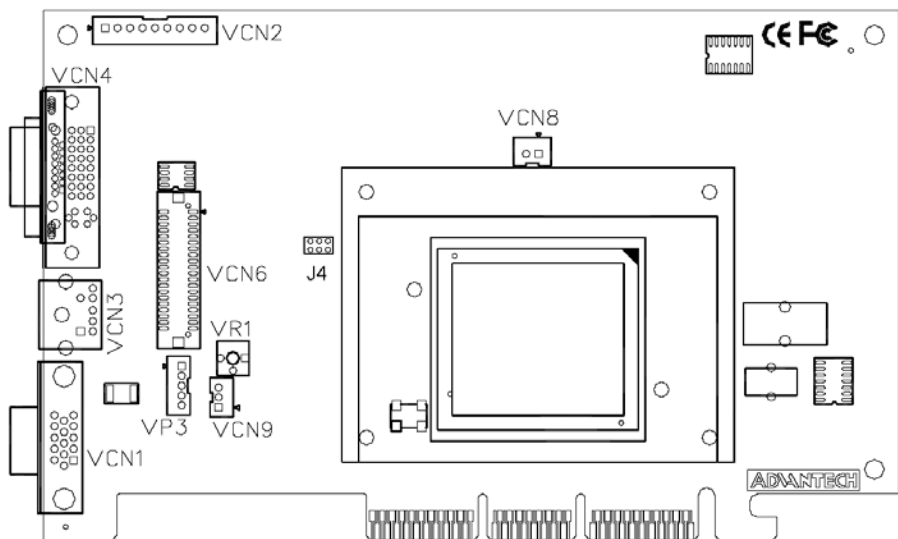
Pin	Signal	Pin	Signal
1	VCC	2	VBR
3	GND		

**VP3 : LCD panel power connector**

Pin	Signal	Pin	Signal
1	AGP_12V	2	AGP_5V
3	LVDS_BLON	4	VBR
5	AGP_5V		

**VCN11 : LVDS/TTL LCD panel connector**

Pin	Signal	Pin	Signal
1	VDDSAFE5	2	VDDSAFE5
3	GND	4	GND
5	VDDSAFE3	6	VDDSAFE3
7	VCON	8	GND
9	B0	10	B1
11	B2	12	B3
13	B4	14	B5
15	B6	16	B7
17	G0	18	G1
19	G2	20	G3
21	G4	22	G5
23	G6	24	G7
25	R0	26	R1
27	R2	28	R3
29	R4	30	R5
31	R6	32	R7
33	GND	34	GND
35	SFCLK	36	FLM
37	M	38	LP
39	ENBKL	40	ENVEE



***Board Layout: Jumper and Connector Locations***