Global AMERICAN

integration with integrity

User's Manual

Mini-AGP Module 3907626

Version 1.0

Packing List

Hardware:

3907626 Mini-AGP Card ..... X 1

Cable Kit:

VGA DB15 Female Cable (Pitch =2.0mm) ..... X 1
DVI + TV-out Cable Module..... X 1
16-pin to 16pin Female Cable (Pitch =2.0mm) (For FS-978 use) ..... X 1
8-pin to 8-pin Female Cable (Pitch =2.54mm) ..... X 1
26-pin to 26-pin Female Cable (Pitch =2.0mm) ..... X 1
Cooler fan (onboard)..... X 1

CD Content:

Driver
Use's Manual

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Chapter 1 < Introduction >

1.1 < Product Overview >

The **3907626** mini-AGP card is made for Global American Inc. for upgrading add-on card. With integrated ATI M10-P graphic controller, the system would be powerful at 3D graphic performance.

The **ATI MOBILITY M10** provides one of the fastest and most powerful 2D, 3D, and multimedia graphic performance for system. ATI's support of DirectX 9→ features, highly optimized OpenGL→ support, and flexible memory configurations allow implementations targeted at the gaming, consumer, business and workstation platforms.

SMARTSHADER® 2.0 – Advanced Shader Technology

- Provides complete hardware-accelerated support for the new DirectX→ 9 programmable shader model, enabling more complex and realistic texture and lightening effects than ever before.
- Significant improvement over first-generation shaders introduced in DirectX→ 8, with a much more powerful and intuitive instruction set.
- Offers full support for this feature in OpenGL→ applications.

SMOOTHVISION®2.0 – Flexible Anti-Aliasing and Anisotropic Filtering

- 2x/4x/6x full-scene anti-aliasing modes.
- Adaptive algorithm with programmable sample patterns
- 2x/4x/8x/16x anisotropic filtering modes
- adaptive algorithm with bi-linear (performance) and tri-linear (quality) options

High Performance Memory Support

- Incorporates support for DDR SDRAM panel interface offers the high 3D performance for LCD-based applications.
- Features key items from ATI's third generation HYPER Z® III technology that conserves memory bandwidth for improved performance.

Dual Display Support

- Leading-edge technology, fully optimized with HYPER VISION®, flexibly supports multiple combinations of traditional CRT, flat panel displays and TV.
- Features Dual Channel DVI support.
- 230MHz LVDS transmitter supports LCD panels up to QXGA (2048 x 1536) resolution.
- Integrated 165MHz TMDS transmitter supports external flat panels up to UXGA (1600 x 1200) resolution.
- High performance DAC speed of 400MHz.

VIDEO Acceleration

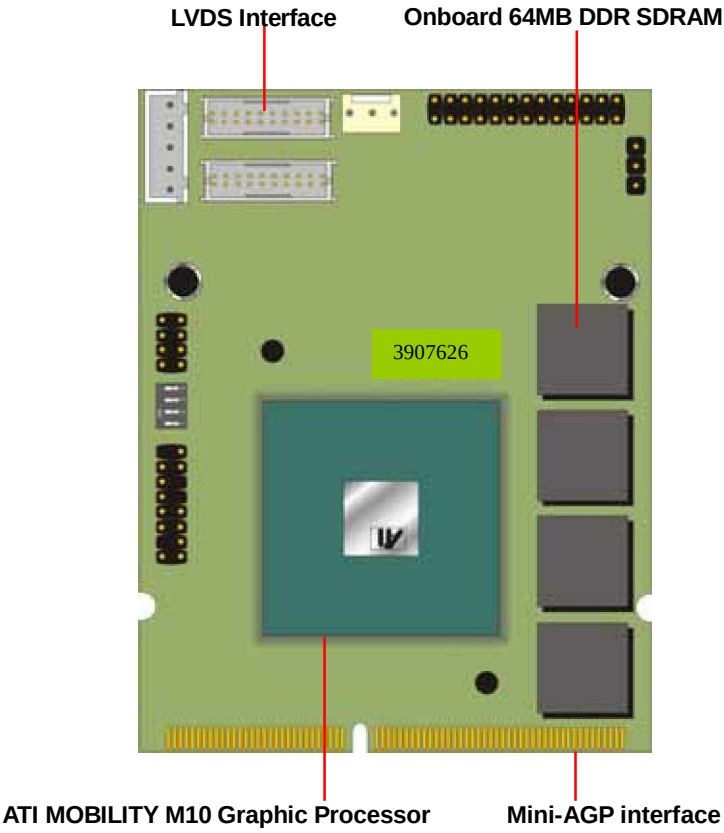
- M10 allows the integration of industry leading digital video features; including advanced de-interlacing algorithms for unprecedented video quality and integrated digital TV decode capacity. Includes programmable, independent gamma control for the video overlay.
- New FULLSTREAM® technology removes blocky artifacts from streaming and Internet video and provides sharper image quality.
- Integrated general purpose xDCT engine (capable of performing both forward and inverse discrete cosine transform) and motion compensation (MC) support for the acceleration of MPEG encoding and decoding as well as DV (digital video) encoding and decoding.

1.2 <Specifications >

General Specification

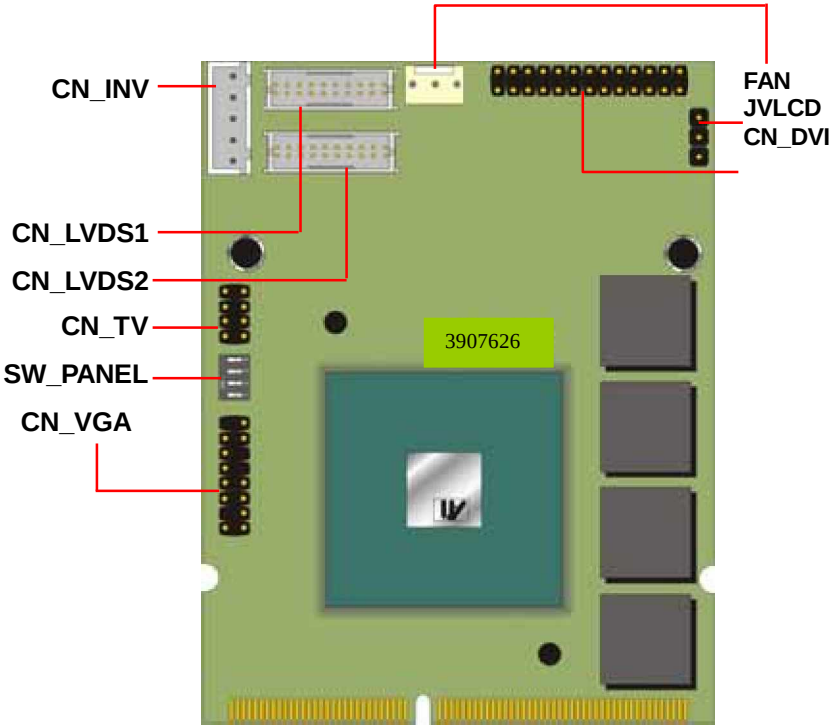
Form Factor	Mini-AGP form factor with 930mm x 675mm (H x W)
GPU	**ATI MOBILITY® M10**
DRAM	Onboard 64MB DDR400 SDRAM
AGP bus	Support AGP 4X/8X
Microsoft→ DirectX supported	Support up to DirectX→9
Display mode	CRT & TV & LVDS for up to 2048 x 1536 resolution TMDS for up to 1600 x 1200 resolution
Display output	One 16-pin (8 x 2) CRT connector One 26-pin (13 x 2) TMDS connector Two 20-pin (10 x 2) LVDS connector One 5-pin Inverter connector

1.3 <Component Placement >



Chapter 2 < Hardware Setup >

2.1 < Jumpers & Connectors Location >



2.1.1 < Jumpers Reference >

Jumper	Function
JVLCD	Panel Voltage Setting
SW_PANEL	Watchdog Timer Setting

2.1.2 < Connectors Reference >

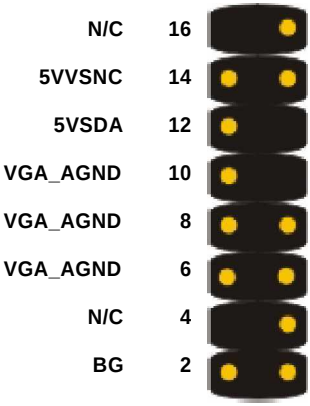
Connector	Function	Remark
CN_VGA	16-pin CRT VGA Connector	Standard
CN_TV	8-pin S-Video & RCA Video Connector	Standard
CN_LVDS1	20-pin LVDS Connector	Standard
CN_LVDS2	20-pin LVDS Connector	Standard
CN_DVI	26-pin TMDS Connector	Standard
CN_INV	5-pin Inverter Connector	Standard
FAN	3-pin processor fan connector	Standard

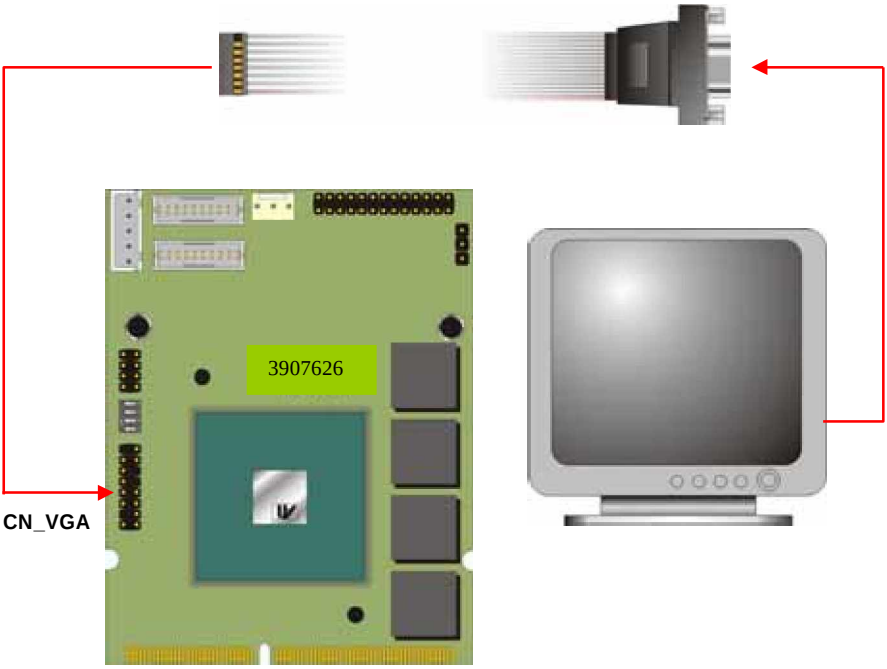
2.2 < Connecting to CRT >

To use traditional DB15 CRT monitor, please use attached cable to connect the card.

Connector: **CN_VGA**

Connector Type: 16-pin (2 x 8) pitch 2.0mm



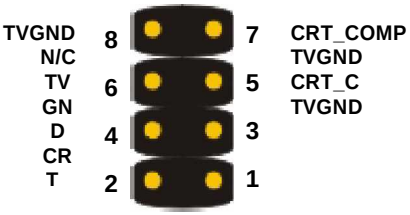


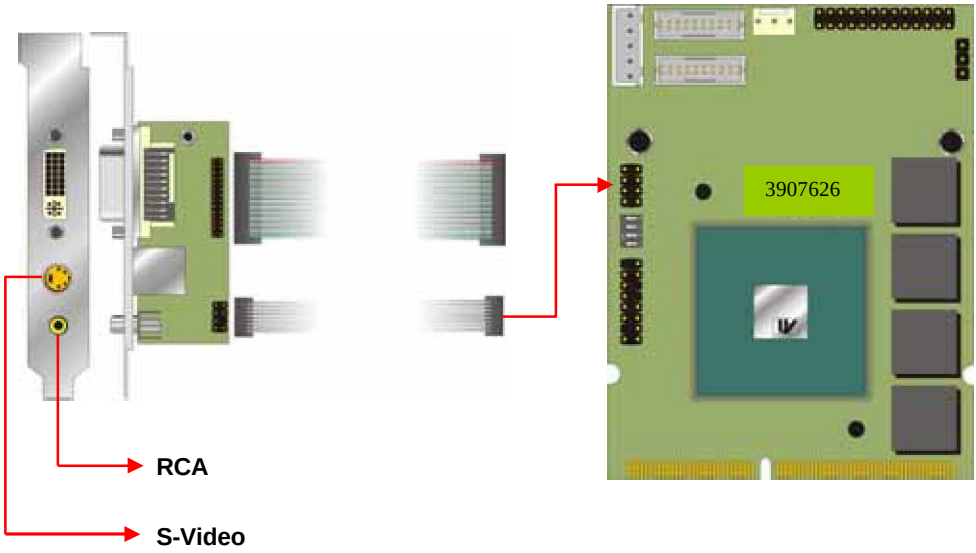
2.3 < Connecting to TV >

This Card support S-Video and RCA video output on CN_TV.

Connector: **CN_TV**

Connector Type: 8-pin (4x 2) pitch 2.5mm





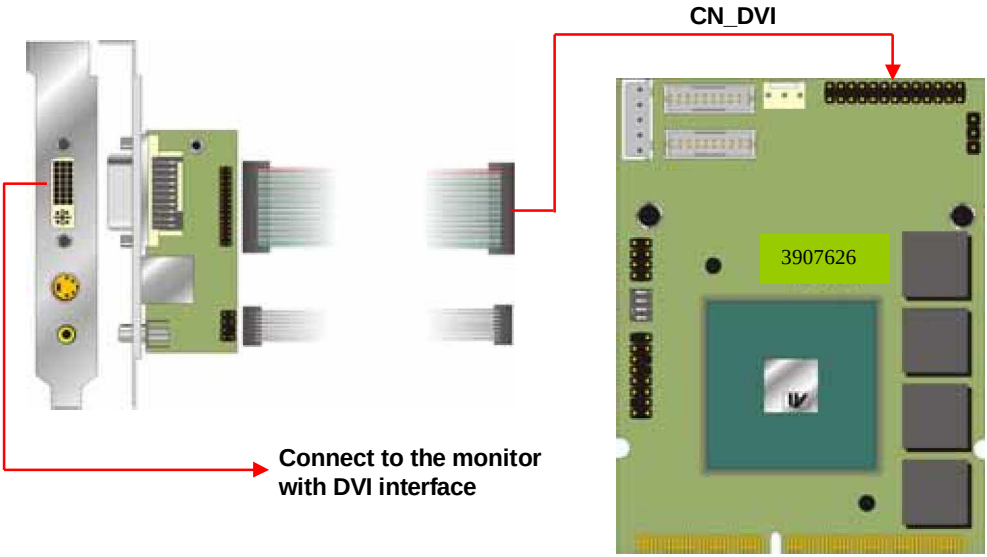
2.4 < Connecting to DVI >

The Card supports DVI (Digital Video Interface) for high quality display.

Connector: **CN_DVI**

Connector type: 26-pin (13 x 2) pitch 2.0mm

Pin NO.	Assignment	Pin NO.	Assignment	Pin NO.	Assignment
1	TMDS_TX1+	9	N/C	18	HPD1
2	TMDS_TX1-	10	N/C-	19	TMDS_SDA
3	GND	11	TMDS_TX2+	20	TMDS_SCL
4	GND	12	TMDS_TX2-	21	GND
5	TMDS_TXC+	13	GND	22	DVI_R
6	TMDS_TXC-	14	GND	23	DVI_G
7	GND	15	TMDS_TX0+	24	DVI_B
8	PVDD	16	TMDS_TX0-	25	DVI_HSYNC
		17	N/C	26	DVI_VSYNC



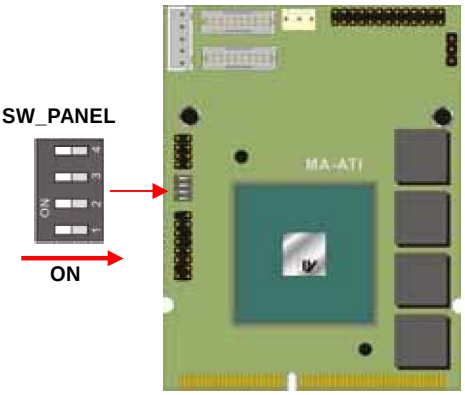
2.5 < Connecting to LVDS LCD Panel >

The Card support 18-bit/24-bit single/dual channel LVDS interface, the last version supports

4 modes as below with **SW_PANEL** to select.
Jumper: **SW_PANEL**

Jumper type: 4-bit switch

Bit MAP	Mode
0100	800 x 600 18-bit single
0010	1024 x 768 24-bit single
0110	1024 x 768 24-bit single
0001	1280 x 1024 24-bit dual

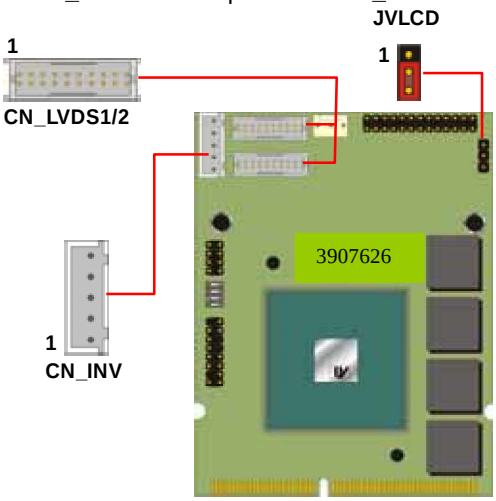


To setup the LCD panel, you have to connect **CN_LVDS1/2** with panel and **CN_INV** with inverter.

Connector: **CN_INV**

Connector Type: 5-pin header

Pin NO.	Assignment
1	+12V
2	Ground
3	Ground
4	Ground
5	ENA_BKL



Jumper: **JVLCD**

Type: onboard 3-pin header

JVLCD	Panel Voltage
1-2	VCC (+5V)
2-3	VCC3 (+3.3V)

Default setting

Connector: **CN_LVDS1**

Type: **HIROSE DF13-20S** onboard 20-pin LVDS connector

Pin	Signal	Pin	Signal
1	LCDVCC	2	LCDVCC
3	GND	4	GND
5	LVDS_TXL0-	6	LVDS_TXL0+
7	GND	8	LVDS_TXL1-
9	LVDS_TXL1+	10	GND
11	LVDS_TXL2-	12	LVDS_TXL2+
13	GND	14	LVDS_TXLCK-
15	LVDS_TXLCK+	16	GND
17	LVDS_TXL3-	18	LVDS_TXL3+
19	GND	20	GND

Connector: **CN_LVDS2**

Type: **HIROSE DF13-20S** onboard 20-pin LVDS connector

Pin	Signal	Pin	Signal
1	LCDVCC	2	LCDVCC
3	GND	4	GND
5	LVDS_TXU0-	6	LVDS_TXU0+
7	GND	8	LVDS_TXU1-
9	LVDS_TXU1+	10	GND
11	LVDS_TXU2-	12	LVDS_TXU2+
13	GND	14	LVDS_TXUCK-
15	LVDS_TXUCK+	16	GND
17	LVDS_TXU3-	18	LVDS_TXU3+
19	GND	20	GND

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Chapter 3 < Display Setup >

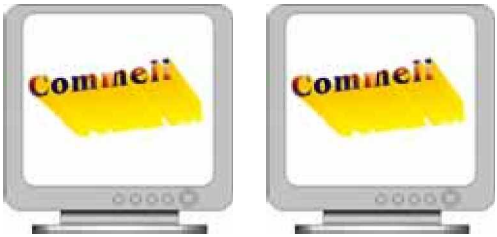
This Card supports Dual Display Function. In order to setup the monitor correctly,

Please follow the description below.

3.1 < Dual Display Function >

This Card supports dual display with two types:

1. Two monitor with the same screen.



2. Two monitor with the extension screen.

3.2 < Display Mode >

This Card supports the combination mode below:

1. **When connecting without LVDS panel**:
There are two combinations setup you can use:

   a. CRT1 + TV +DVI

   b. CRT1+CRT2

(You can get a one DVI to DVI+CRT cable to connect CRT2)

2. **When connecting with LVDS**:

There are two combination modes can be used.

   a. CRT1 +LVDS+TV

   b. CRT1+LVDS+DVI

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support your products, projects and business.

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