# Amendment

DRAM Configuration

The VGA adapter can be configured with two, four or eight pieces of 256Kx4 (80 ns or faster) Fast Page Mode DRAM.

Upgrading from two to four DRAM allows you to display up to 1024x768-16 colors. Upgrading from four to eight DRAM allows you to display up to 1024x768-256 colors. It also speeds up the performance by a bit.

1. 256K DRAM insert DRAM into U4 & U8.

2. 512K DRAM insert DRAM into U3-U4 & U7-U8.

3. 1MB DRAM insert DRAM into U1-U8.
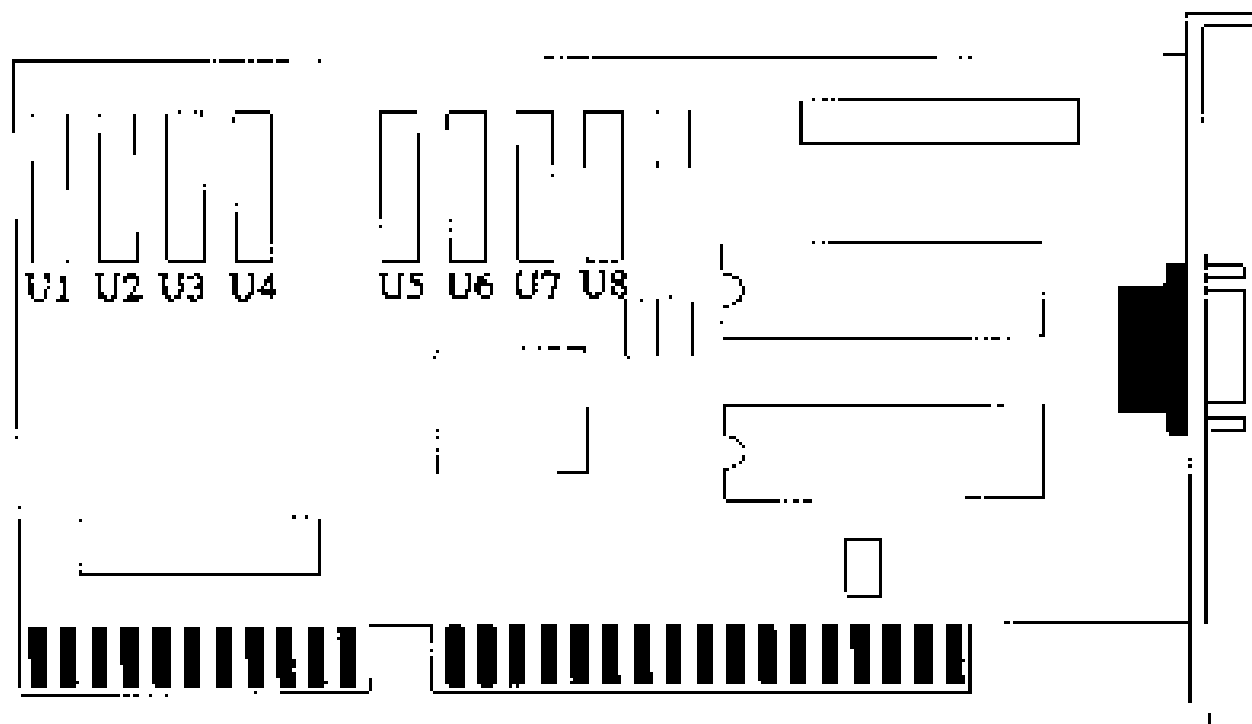
Introduction

1.1 Features

Thank you for purchasing our VGA graphics board. The adapter works with your IBM PC/XT/AT (or compatible) to bring you super-high resolution, 256-color capability, fast screen redraw, and compatibility with most software and hardware.

Compatibility

- 486, 386, 286 and PC compatibles
- Register compatible with Hercules, MDA, CGA, EGA and VGA
- Non-interlaced or interlaced monitor support
- Compatible with Multi-Sync and PS/2 monitors
- 72Hz VESA standard (800x600 resolution)
- 1024x768 70Hz refresh

Resolution And Color Selection

(All modes non-interlaced except where indicated by an "I")

Memory	256K DRAM	512K DRAM	1MB DRAM
640x400	—	256	256
640x480	16	16, 256	16, 256, 32K*, 16M
768x1024	—	16-I	16-I
800x600	16	16, 256-I	16, 256, 32K*
1024x768	--	16-I/NI	16-I/NI, 256-I/NI

*Same DRAM requirement for 64K colors

Extended Text Display

- 80-column text modes in 30, 43, and 60 rows
- 132-column text modes in 25, 30, 43 and 60 rows

Configuring Your VGA Adapter

This section explains how to configure the adapter for use with your computer system.

WARNING: Incorrect setting or use of the adapter may result in damage to the computer system, monitor, or the graphics adapter itself. Carefully read through this manual before installing the adapter in your system. Step-by-step instructions in the "Installation" section will guide you through the installation process.

2.1 Hardware Configuration

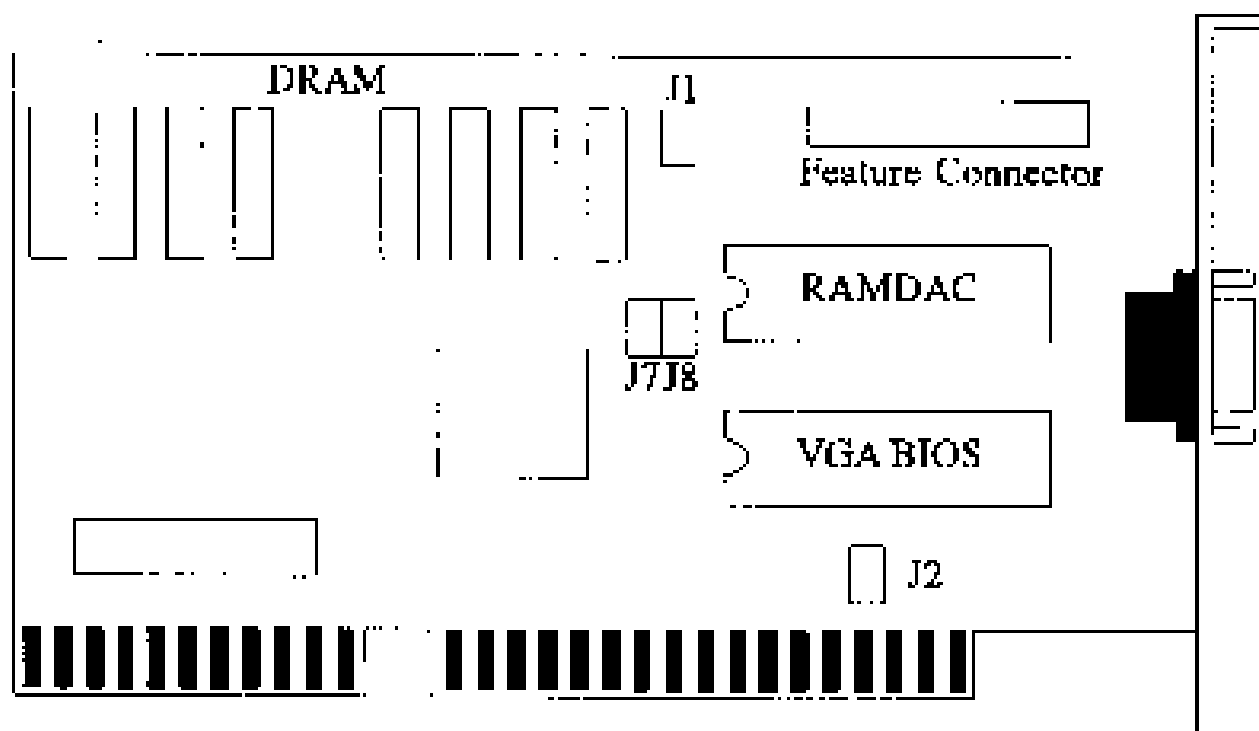Figure 1 is a diagram of the VGA graphics adapters. Board features are listed.

FIGURE 1. 256k-512k-1.0MB Jumpers & Component Locations

2.2 Jumper Settings

You can adapt the VGA adapter for special hardware configurations using the given jumpers on the card.
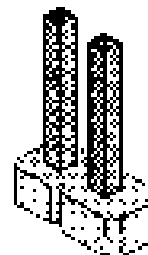
2.2.1 Enable/Disable Zero-Wait State

J1 and J2 allows you to enable/disable the adapter's ISA bus zero-wait state feature. When enabled (default), the CPU can transfer data to the VGA adapter at the zero-wait state rate through ISA bus. There are two zero-wait state stages that can be enabled or disabled. If your display exhibits pixel drop outs or the system hangs, use Jumper J2 to disable the first zero-wait state stage. If you still encounter problems, use Jumper J1 to disable the second zero-wait state stage. Figures 2-A and 2-B show how to enable/disable the zero-wait state stages.

FIGURE 2-A. J2 Enable/Disable First Stage Zero-Walt State

J2: Enable First Stage Zero-Wait State
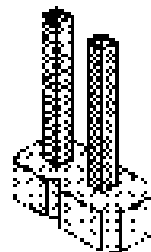(Default: Pin 1 and 2 connected)

J2: Disable First Stage Zero-Wait State
(Pin 1 and 2 open)

FIGURE 2-B. J1 Enable/Disable Second Stage Zero-Wait State

J1: Enable Second Stage Zero-Wait State
(Default: Pin 1 and 2 open)

J1: Disable Second Stage Zero-Wait State
(Pin 1 and 2 conneted)

## 2.2.2 Select Scan Rate: J7

J7 allows you to configure the scan rates of extended VGA modes to be compatible with your multi-scanning monitor. **J7 is operational for 4 DRAM (512K) and 8 DRAM (1 MB) configurations only.** If your monitor can scan at 48.7 KHz, remove the Jumper pin across J7 . J7 in the open position will allow non-interlaced display for 1024x768 modes and higher horizontal and vertical scan rates for 800x600-16 color (4 DRAM and 8 DRAM) and 800x600-256 (8 DRAM only). If your monitor cannot scan at 48.7KHz, leave the Jumper pin for J7 in the default position. This will give interlaced display for 1024x768 modes and reduced horizontal and vertical scan rates for the 800x600-16 color (4 DRAM and 8 DRAM) and 800x600-256 (8 DRAM). Reference Table 1 (page 3-4) , Table 4 (Appendix A-4), and your monitor specifications for more detail on scan rates. Figure 3 illustrates the two settings for Jumper J7.

FIGURE 3. J7 Setting for Selecting Scan Rate

J7: Default Scan Rate   J7: 48.7 KHz Scan Rate
    (Pin 1 and 2 connected)   (Pin 1 and 2 open)
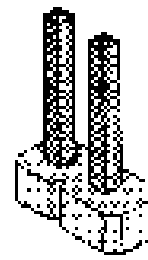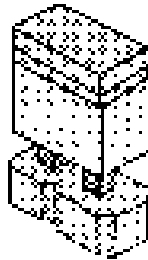
2.2.3 Enable/Disable Autodetect: J8

J8 allows you to enable/disable the BIOS Autodetect feature. When enabled (default) the BIOS will determine whether the Graphics Adapter can operate with an 8-bit or 16-bit BIOS interface, and will configure the BIOS interface accordingly. When disabled, the board will boot up in its default BIOS interface setting (generally 8-bit).

NOTE: If you have problems booting your system, set Jumper J8 to disable autodetect, or place the card in an 8-bit slot and set J6, J9 and J10 jumpers according to Figure 5-B.

FIGURE 4. J8 Settings to Enable/Disalbe Autodetect

J8: Enable Autodetect   J8: Disable Autodetect
    (Default)