

## FEATURES

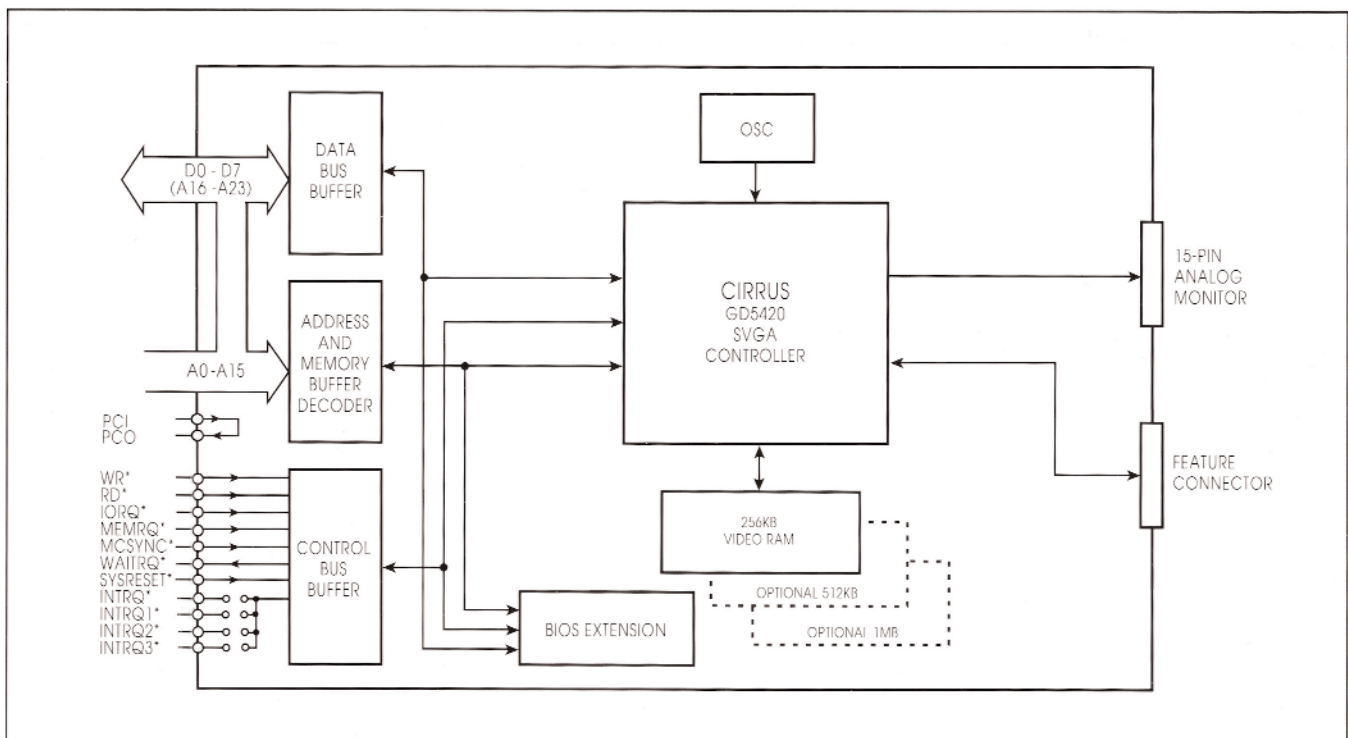
- High resolution, Super VGA video controller
- Hardware and BIOS compatible with VGA standards
- Extended graphics resolution up to 1024 x 768
  - 1024 x 768 x 16 colors interlaced and noninterlaced
  - 1024 x 768 x 256 interlaced
  - 800 x 600 x 16 and 256 colors
- Extended 132 column text mode support
- Available with 256K up to 1M byte of video RAM
- VESA-compliant VGA pass-through feature connector for external device connection
- Optional video select logic for up to 15 boards in the same backplane
- Dot clock up to 75 MHz
- 32 x 32 hardware cursor
- EEPROM supports switchless configuration
- 8-bit STD Bus interface on board
- CMOS STD Bus version: LPM-SVGA
- Low cost



The LPM/MCM-SVGA is a high-resolution, Super VGA STD Bus video display interface module that provides a VGA-standard compatible solution. It also provides improved performance with additional functionality to support super VGA modes of up to 1024 x 768 x 256 colors.

## FUNCTIONAL CAPABILITY

**Bus Interface** - The MCM-SVGA is the STD Bus and the LPM-SVGA is the CMOS STD Bus version of the board. Programming cable pin-outs, bus pin assignments, and jumper configurations are identical for



both cards. The LPM/MCM prefix indicates the card has the same features and functionality but a different bus interface logic and power requirements.

**Video Controller** - This board is based upon the Cirrus Logic GD 5420 Super VGA controller. Operating at dot clock rates programmable up to 75 MHz, it will support standard, VESA high resolution and extended modes.

### Video Modes and RAM Required

IBM Standard VGA Video Modes				
Mode No. (Hex)	Screen Format	Display Modes	No. of Colors	L/M-SVGA DRAM Required
0,1	360 x 400	T	16/256K	256KB
2,3	720 x 400	T	16/256K	256KB
4,5	320 x 200	G	4/256K	256KB
6	640 x 200	G	2/256K	256KB
7	720 x 400	T	Mono	256KB
D	320 x 200	G	16/256K	256KB
E	640 x 200	G	16/256K	256KB
F	640 x 350	G	Mono	256KB
10	640 x 350	G	16/256K	256KB
11	640 x 480	G	2/256K	256KB
12	640 x 480	G	16/256K	256KB
12+	640 x 480	G	16/256K	256KB
13	320 x 200	G	256/256K	256KB
Super VGA Extended Video Modes				
14	1056 x 400	T	16/256K	256KB
54,55	1056 x 350	T	16/256K	256KB
58,6A	800 x 600	G	16/256K	256KB
5C	800 x 600	G	256/256K	512KB
5D	1024 x 768	G	16/256K	512KB
5F	640 x 480	G	256/256K	512KB
60	1024 x 768	G	256/256K	1024KB
T = Text		G = Graphics		

**Memory** - A 32Kbyte BIOS EPROM is installed standard on the card. It is 100% IBM VGA BIOS compatible and provides full support for all extended high-resolution video modes via the interrupt 10H function calls. It is designed to provide a well-defined interface between MS-DOS, application software, and special OEM utility programs.

The board is configured for and can be ordered with 256KB, 512KB or 1MB of video memory. The amount of memory is a function of the desired screen resolution and maximum number of colors displayed. All standard VGA modes are supported with 256KB. Most of the extended resolutions require added memory. Table details the video modes and required amount of RAM for the LPM/MCM-SVGA board.

**Flat Panel Display Support** - The board will drive monochrome EL panels (such as Planar) that interface directly to the VESA-compliant VGA pass-through feature connector as well as other types of unique video input and output interfaces.

**CRT Video Interface** - The analog video output signals are wired through a standard female 15-pin "D" type connector at the top of the board.

**Software** - Software driver/utility diskettes are included with high-resolution drivers for various software packages. Also a program is included that allows the EEPROM setup on the LPM/MCM-SVGA board for switchless operation.

**Multiple Boards** - Up to 15 LPM/MCM-SVGA boards can be installed in a backplane for multi-video support. Contact the factory for the part number and pricing for this option.

**Upgrade Path** - WinSystems offers an option to support even more of the Super VGA enhanced modes. Contact the factory for the extended video modes supported, part numbers, pricing and availability.

### SPECIFICATIONS

#### Electrical

STD Bus Interface

Modes and Resolutions: see Table

Memory Required vs. Resolution: see Table

LPM-SVGA +5V  $\pm$  5% @ 300 mA typ.  
(with 256KB RAM)

MCM-SVGA +5V  $\pm$  5% @ 450 mA typ.  
(with 256KB RAM)

#### Mechanical

Dimensions: 4.5" x 6.5"

#### Connectors

Analog Video: 15-pin female "D" shell Analog VGA

Feature Connector: 26-pin dual 0.100" grid

#### Environmental

Operating Temperature: 0° to +65°Celsius

### ORDERING INFORMATION

MCM-SVGA-256	Super VGA with 256KB RAM
MCM-SVGA-512	Super VGA with 512KB RAM
MCM-SVGA-1M	Super VGA with 1MB RAM
LPM-SVGA-256	Super VGA with 256KB RAM
LPM-SVGA-512	Super VGA with 512KB RAM
LPM-SVGA-1M	Super VGA with 1MB RAM

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