



Solutions for Demanding Applications

VarTech Systems Inc.

Industrial CRT and Flat Panel Displays



VT12A-C1

Console Mount
Auto Sync Color Monitor

User's Guide

Read these instructions completely before attempting to operate your new Color Display.

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SAFETY WARNINGS

The following warnings and cautions are for your safety, for the prevention of injury from electric shock and for the safe operation of the monitor. Please read them carefully.

- ◆ Do not block the ventilation slots or insert any objects into the monitor through them.
- ◆ Do not spill water onto the monitor or spray aerosol cleaners directly onto its surfaces when cleaning.
- ◆ Always position and operate the monitor on a stable and safe surface.
- ◆ Do not install the monitor in a damp area, or where it may be exposed to rain or other sources of water.
- ◆ Ensure that all accessible cables cannot be walked on, tripped over or damaged by furniture or other transportable objects.
- ◆ If the monitor is damaged or fails to function correctly, disconnect it from the AC source. Do not attempt to repair it yourself. Consult a qualified service technician.
- ◆ Serious electrical shock hazards exist within the covers of the monitor. Under no circumstances should these covers be removed.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE

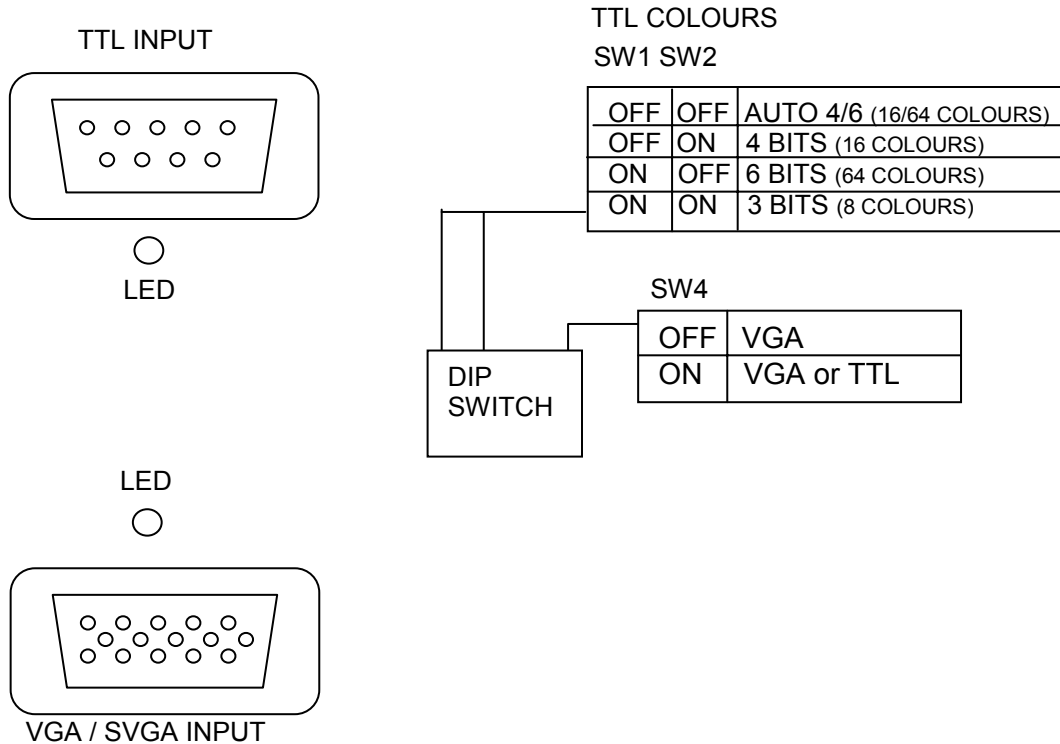
This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference using one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and the receiver;
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed;
- Consult the dealer or an experienced radio/TV technician for help.

VIDEO CONNECTIONS

Video Signal Correction

The monitor is supplied with a 15pin HD connector (HD15F) and DB9(F) input connectors arranged as shown below:



15 Pin D CONNECTOR: This is an industry standard connector providing easy connection to VGA type video sources.

PIN	FUNCTION	PIN	FUNCTION
1	Red Video	8	Blue Return
2	Green Video	9	NC (grounded in monitor)
3	Blue Video	10	Digital ground
4	NC	11	Digital ground
5	NC	12	NC
6	Red Return	13	Horizontal sync
7	Green Return	14	Vertical sync
		15	NC

VIDEO CONNECTIONS CONT.

9 Pin D CONNECTOR: This connector allows the monitor to work with TTL video signals. It is compatible with industry standard EGA and CGA signals. In addition it can be configured for 3, 4 or 6 bit TTL video from other types of video source.

Pin Number	Function		
	3 bit video	4 bit video	6 bit video
1	GND (ov)	GND (ov)	GND (ov)
2	NC	NC	Red Intensity
3	Red	Red	Red
4	Green	Green	Green
5	Blue	Blue	Blue
6	NC	Intensity	Green Intensity
7	NC	NC	Blue Intensity
8	Horiz sync	Horiz sync	Horiz sync
9	Vert sync	Vert sync	Vert sync

DIP SWITCH SETTINGS

SW1, SW2	These select the number of colors that the monitor can display using TTL video For EGA or CGA graphics cards select AUTO 4/6 bit video For other graphics sources select the required number of bits
SW3	Not used
SW4	INPUT SELECT. This switch is normally switched to ON. If SW4 is OFF then the monitor uses the HD15 as it's signal input If SW4 is ON the monitor can be switched between the DB9 and the HD15 by pressing the VT switch on the user controls. The active input is indicated by illumination of it's adjacent LED.

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DIGITAL CONTROLS

The digital controls are located on the rear side of the monitor.

Normal Mode Controls

Operates the functions when the LED power is on continuously.

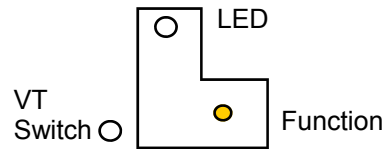
Function Mode Controls

Operates the functions when the LED is flashing.



Function Key

Press to switch between *normal mode* (LED will stop flashing) and *function mode* (LED will start flashing).

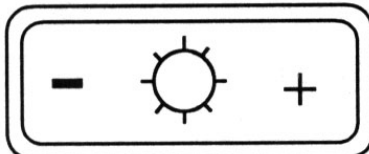


Contrast

Press “-” to decrease
Press “+” to increase

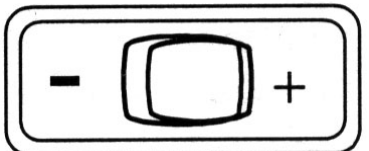
Program Store*

Press to save picture alignment.
(Also returns monitor to *normal mode*)



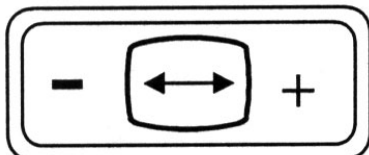
Brightness

Press “-” to decrease
Press “+” to increase



Horizontal Position

Press “-” to move picture left
Press “+” to move picture right



Horizontal Size

Press “-” to decrease size
Press “+” to increase size

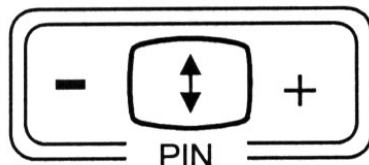


Vertical Position

Press “-” to move picture down
Press “+” to move picture up

Keystone*

Press “-” or “+” to make sides of picture parallel



Vertical Size

Press “-” to decrease size
Press “+” to increase size

Pincushion*

Press to adjust curvature of picture sides

* Press Function button. LED will blink allowing for keystone, store program and pincushion adjustments.

MODE OPERATIONS

In the normal mode of operation, the LED is not flashing.

Disable Keypad

1. Press and release the **FUNCTION** (upper right) switch. The LED will now be flashing.
2. Simultaneously press the **FUNCTION** and the **VT** (upper left) switches. Note that the **VT** switch is not labeled. The LED will momentarily be off and then resume flashing.
3. Press and release the **FUNCTION** (upper right) switch. The LED will not be flashing.
4. To enable the keypad, repeat the above steps.

Factory Default Settings

1. Press and release the **FUNCTION** (upper right) switch. The LED will now be flashing.
2. Simultaneously press the **VT** switch and the **VERTICAL SIZE +** (bottom right) switches. The LED will momentarily be off and then resume flashing. All stored setups will be deleted except original factory setups.
3. Press and release the **FUNCTION** (upper right) switch. The LED will not be flashing.

Display Storage

1. Adjust the display for Brightness, Contrast, Horizontal Position, Horizontal Size, Vertical Position, Vertical Size. This is done while the LED is not flashing.
2. Press and release the **FUNCTION** (upper right) switch. The LED will now be flashing.
3. Adjust the display for Keystone and Pincushion.
4. Press the **CONTRAST +** switch. This will store the display and return the keypad to normal operation. The LED will not be flashing.

Horizontal frequency bands			
Band	Frequency Range	Band	Frequency Range
1	<14.96kHz	9	33.42 - 36.28kHz
2	14.96 - 16.87kHz	10	36.82kHz—40.74kHz
3	16.87 - 19.10kHz	11	40.74 - 46.79kHz
4	19.10 - 22.60kHz	12	46.79 - 49.02kHz
5	22.60 - 24.83kHz	13	49.02 - 52.52kHz
6	24.83 - 27.69kHz	14	52.52 - 57.29kHz
7	27.69 - 29.28kHz	15	57.29 - 60.16kHz
8	29.28 - 33.42kHz	16	>60.16kHz

Vertical frequency bands	
Band	Frequency Range
1	<56Hz
2	56 - 65Hz
3	65 - 78Hz
4	>78hz

ENGINEERING SPECIFICATIONS	
Size	12"
Pitch	.28mm
Resolution Capabilities	CGA to SVGA
Active Display Area	9.69" x 7.17" / 246.13mm x 182.12mm
Power Source	90 - 265 volts AC autoranging 50/60 Hz, 1.5 amps ac
Power Consumption	90 Watts
Horizontal Frequency	15kHz to 40kHz
Vertical Frequency	45Hz to 100Hz
Bandwidth	65MHz
Video Input Connector	HD15(F) and D9(F)
Video Input Signal	Analog 0.7 p-p or TTL
Sync	Separate Horizontal and Vertical TTL Sync
Temperature	Operating: 0 to 50°C Storage: -20 to 70°C
Humidity	Operating: 0 to 90% NC Storage: 0 to 95% NC
Degaussing	Automatic at power ON
Note: For continued compliance with Electromagnetic Compatibility limits, this monitor must be used with the signal lead supplied.	

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