Editware
GRASS VALLEY, CALIFORNIA

TECH NOTE
EW2 - CGA to VGA Converter

INTRODUCTION

The **EW2** scan doubler enables a VPE editor with CGA (TTL) video display to be connected to a standard VGA / XGA monitor. This applies to VPE-131 through VPE-251 editors. VPE-300 and DPE-500 series editors are already VGA compatible.

CGA requires a monitor that will lock to a lower frequency horizontal scan than is supported by standard VGA monitors. The **EW2** scan doubler reads the original video signals into memory at the original frequency and sends a signal out at twice the original rate. Due to the technology involved, occasionally pixels are misplaced. The output signal is compatible with standard, low-cost and easily available VGA monitors.

The **EW2** module (3.9 in. x 2.3 in. x 1.1 in.) accepts CGA video input signals. It connects directly to the VPE editor via a 9-pin D male to 9-pin D female lead supplied by Editware.

Video is output via a 15-pin high density D female socket.

Power is supplied by a 9v to 12v external Power Supply on a DC coaxial connector with the center pin positive.

The standard **EW2** unit is programmed with default parameters suitable for a CGA input with a typical VGA monitor output. It also has a range of manual adjustments to modify the signal capture and picture position. These adjustments are made with the PS/2 style keyboard supplied by Editware. Adjustments made are stored in non-volatile memory and retained when power is off (default settings can be restored if required).

For non-Editware editor applications, see **EXTENDED EW-2 ADJUSTMENTS FOR NON-EDITWARE EQUIPMENT** at the end of this document.

MAKING THE CONNECTION
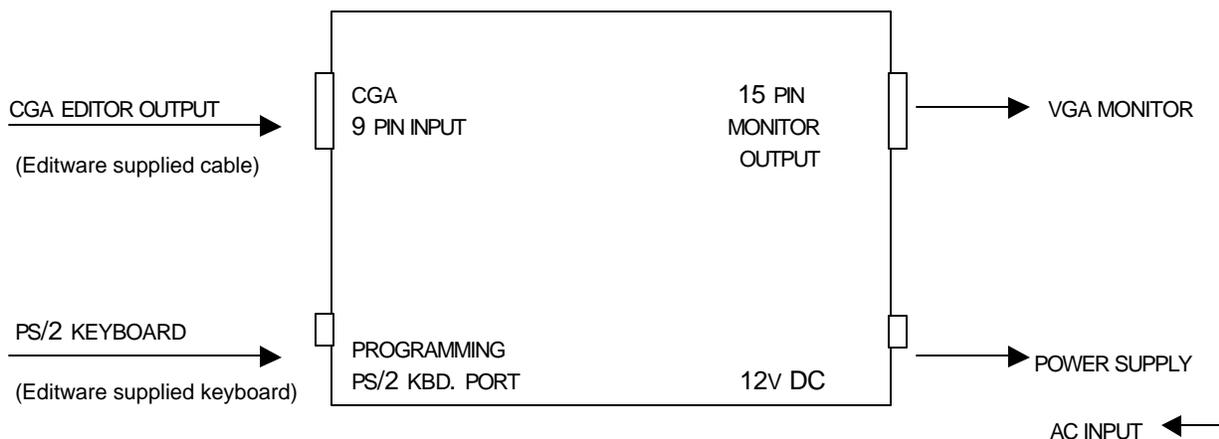
MAKING ADJUSTMENTS

After you have made your connections and you have connected to a VGA monitor, you may find that adjustments need to be made to improve the appearance of the on-screen image. To enter the programming mode, first plug in the PS/2 keyboard, remove power and wait 3 seconds, re-apply power, and if necessary begin adjustments.

PS/2 KEYBOARD FUNCTIONS

1. Press **[A]** to enter the Programming Mode.
2. Press **[Q]** to Quit the current mode.
3. Press **[S]** to Save the current settings.
4. Press **[P]** to adjust the Picture quality.
5. Press **[H]** to adjust the Horizontal position.
6. Press **[↑]** to adjust up.
7. Press **[↓]** to adjust down.

KEYBOARD LED'S (LED'S ARE LOCATED ON THE UPPER RIGHT OF KEYBOARD)

When you press **[A]**, you will notice all three LED's on the top right of the PS/2 keyboard flashing. This notifies you that you are in the Programming Mode.

When you press **[H]** or **[P]** to adjust picture quality or the horizontal picture:

- The left LED (Num Lock) ON means that you have reached the **minimum** adjustment limit.

- The right LED (Scroll Lock) ON means that you have reached the **maximum** adjustment limit.

- The middle LED (Caps Lock) ON means that you have reached the **default** adjustment limit.

TO ADJUST PICTURE QUALITY

8. Press the **[A]** key. All three LED's will flash.
9. Press the **[P]** key. Press **[↑]** and **[↓]** keys until the best picture is obtained.
10. Press the **[Q]** key. All three LED's will flash.
11. Press the **[S]** key. This will save your current settings.
12. Press the **[Q]** key. All three LED's will go out.

TO ADJUST HORIZONTAL POSITION

1. Press the **[A]** key. All three LED's will flash.
2. Press the **[H]** key. Press **[↑]** and **[↓]** keys until the desired position is obtained.
3. Press the **[Q]** key. All three LED's will flash.
4. Press the **[S]** key. This will save your current settings.
5. Press the **[Q]** key. All three LED's will go out.

NOTE: TO QUIT ANY MODE WITHOUT SAVING, PRESS THE [Q] KEY THREE TIMES, POWER DOWN, THEN POWER UP.

SPECIFICATIONS

INPUT	Description:	6-bit TTL video	
		Separate TTL H & V syncs - Horizontal ~ 15.75KHz	
			Vertical ~ 50-60Hz
	Connector:	9-pin 'D' male	

1. Connect to Ground
2. Leave open
3. RED input signal
4. GREEN input signal
5. BLUE input signal
6. Leave open
7. Leave open
8. Horizontal Sync input signal
9. Vertical Sync input signal

OUTPUT	Description:	Analog RGB video
		Separate TTL H & V syncs
	Connector:	15-pin HDD female
SIGNAL LEVELS	Description:	All signals are 5 Volt TTL level signals.
		Sync signals are positive polarity.
		Color signals are positive polarity.
PROGRAMMING		
INTERFACE	Description:	PS/2 type PC keyboard
	Connector:	6-pin mini-DIN socket
POWER SUPPLY	Description:	+9v to 12v regulated
	Connector:	2.1mm DC coaxial connector
		Center pin positive
PHYSICAL UNIT	Description:	ABS case, flame retardant to UL94-V0
	Size:	3.9 in. high x 2.3 in. wide x 1.1 in. deep
		100mm high x 60mm wide x 28mm deep

EXTENDED EW-2 ADJUSTMENTS FOR NON EDITWARE EQUIPMENT

These adjustments are to be used only by NON-editor applications. Use these adjustment modes like the others but substitute the appropriate letter.

USE THE UP / DOWN ARROW KEYS TO ADJUST SETTINGS.   USE THE [I] AND [O] KEYS ON THE INVERT HSYNC MODE.

1.	Press the **[M]** key.	Sets display Mode (CGA, EGA, MDA).
2.	Press the **[C]** key.	Change dotclock division ratio.
3.	Press the **[P]** key.	Adjust DPA delay.
4.	Press the **[H]** key.	Horizontal sync pulse start point.
5.	Press the **[W]** key.	Horizontal sync pulse width.
6.	Press the **[E]** key.	Blanking period end point.
7.	Press the **[B]** key.	Blanking period start point.
8.	Press the **[D]** key.	Data capture start point.
9.	Press the **[V]** key.	Invert Hsync pulse polarity.
		The **[I]** key Inverts Input, the **[O]** key Inverts Output.
10.	Press the **[S]** key.	Save new settings.
11.	Press the **[Q]** key.	Quit.