

PACKAGE LIST

- VC-640 PC to Video Converter
- Floppy diskette (Expert Maxvision Utility)
- User's Manual
- 15 pin D-TYPE MALE to 15 pin D-TYPE MALE
VGA pass-through cable
- S-Video cable
- Audio cable
- Keyboard Power cable
- PS/2 keyboard Adapter
- Microphone
- Small screw driver

- Please read this manual thoroughly and follow the installation procedures to prevent any damage to the VC-640 and or the connecting devices.

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INTRODUCTION

The Expert Maxvision VC-640 allows you to easily convert a standard VGA signal from your computer to one of two standard signal formats, either S-Video (Y/C signal) or Composite Video (PAL/NTSC). When you use the Expert Maxvision Video Converter you can display your VGA signal from the computer on a Television Set or Video Monitor. You can also use a VCR to record the images from your computer.

When you are using the Expert Maxvision unit the Television or other video equipment receives its signals from the Video output ports, either S-Video or Composite Video. You can also display the images on your regular monitor at the same time from the VGA output of the Expert Maxvision Video Converter.

You no longer need to worry about where you are going to plug in a bulky, external power adapter as the Expert Maxvision draws its power from the computer keyboard connection through the special connector included with the unit.

All the software utilities that you will need to operate the Expert Maxvision Video Converter are included on the diskette. Drivers are available for both Windows and DOS operation.

The Expert Maxvision Video Converter also integrates Microphone In, and Audio Out jacks to add greater functionality to the unit. The uses for this video converter are many. They include: training, education, presentation, and exhibition.

SYSTEM REQUIREMENTS

To use the VC-640 Expert Maxvision your system must meet the following requirements:

- IBM PC/AT, PC Compatible, Notebook, Laptop, or IBM PS/2 with a VGA output.
- Floppy Disk Drive
- Hard Disk Drive (Recommended)
- 640K RAM
- MS DOS 3.3 or Later
- VGA Monitor
- Television, Monitor, or VCR with S-Video or Composite Video (RCA Jack) input
- Television, Monitor, or VCR with Audio input (Required for audio pass-through features)
- (Optional) Sound Card with Audio Out port for Multi-Media applications.

FEATURES

The Expert Maxvision Video Converter has the following features:

- Supports VGA mode:
 1. Supports standard VGA Mode (0-13)
 2. NTSC system supports up to 640 x 480 at 16, 256, 32K, 64K and 16M colors at any refresh rate.
 3. PAL system supports up to 800 x 600 at 16, 256, 32K, and 64K colors at any refresh rate.
- Allows simultaneous VGA monitor and Television viewing.
- Compatible with most VGA cards.
- Simultaneous S-Video and Composite Video outputs.
- DOS TSR software supports screen move, overscan / underscan, color shift adjustment, interlace / non-interlace toggle, text font change and memory function.
- Windows utility supports screen move, overscan / underscan, color shift adjustment, interlace / non-interlace toggle and memory function.
- Switch selectable between NTSC and PAL Television standards.
- Built in MIC IN (for microphone), AUDIO OUT and Volume controls.
- Power for unit operation is supplied via a special Keyboard connector.
- Built in Brightness controls
- Built in Sharpness controls

Usage Note: Generally any 640 x 480 or 800 x 600 (PAL only) mode can be supported by the utility software. However, if there are difficulties with your hardware please adjust the vertical refresh rate to 60Hz in 640 x 480 mode or 56Hz in 800 x 600.

SPECIFICATIONS

Input

- VGA Analog input from the VGA card of your Desktop PC or CRT port of a Notebook.
- MIC IN (Microphone input for audio signal).
- DC 5V input.

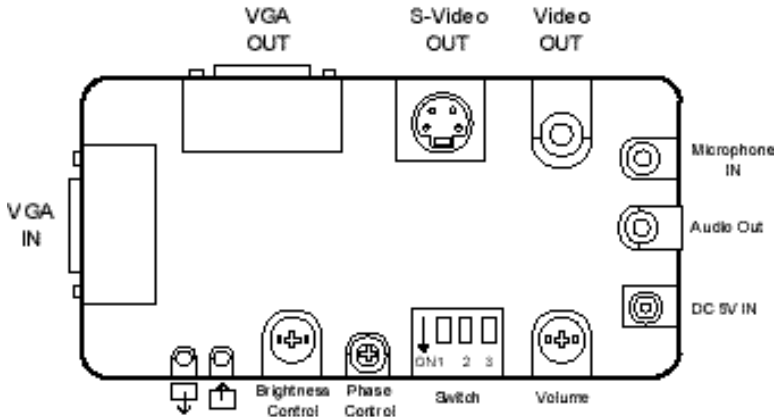
Output

- Composite NTSC (PAL) video signal.
- Separate Y/C NTSC (PAL), also called S-Video, video signal.
- VGA signal pass-through output port.
- AUDIO OUT (for output to you Television, monitor, or VCR audio signal port)

Software

- Expert Maxvision DOS TSR driver.
- WINTOTV Windows utility.

FUNCTION AND CONNECTOR DESCRIPTION



Switch	ON	OFF
1	PAL 50/60 NTSC443	NTSC
2	Sharpness	
3		

1. VGA IN Connects to the VGA Output of your computer system with the provided cable
2. VGA OUT Connects to your VGA Monitor to provide simultaneous VGA video
3. S-Video OUT Connects to the S-Video IN of your television or VCR
4. Video OUT Connects to the Composite Video IN of your television or VCR
5. Microphone IN Connects to the provided microphone or the Audio OUT of your sound card
6. Audio Out Connects to the Audio IN of your television or VCR with the provided cable
7. DC 5V IN Power connector for the Expert Maxvision through the provided cable
8. Volume Adjustment for the Microphone input volume

9. Sharpness

Use Switches #2 and #3 to select between 4 levels of sharpness.

SW 2	SW 3	Sharpness Level
OFF	OFF	0:1:0 averaging
OFF	ON	1:2:1 averaging
ON	OFF	1:3:1 averaging
ON	ON	1:4:1 averaging

10. NTSC/PAL

Use Switch #1 to select Television type, OFF: NTSC (North America and Japan) or ON: PAL (Europe and Asia)

11. Phase Control

Adjust the phase of the composite video signal

12. Brightness Control

Used to adjust video signal brightness.

13. 

The display position on the screen will move up one increment each time this button is pressed

14. 

The display position on the screen will move down one increment each time this button is pressed

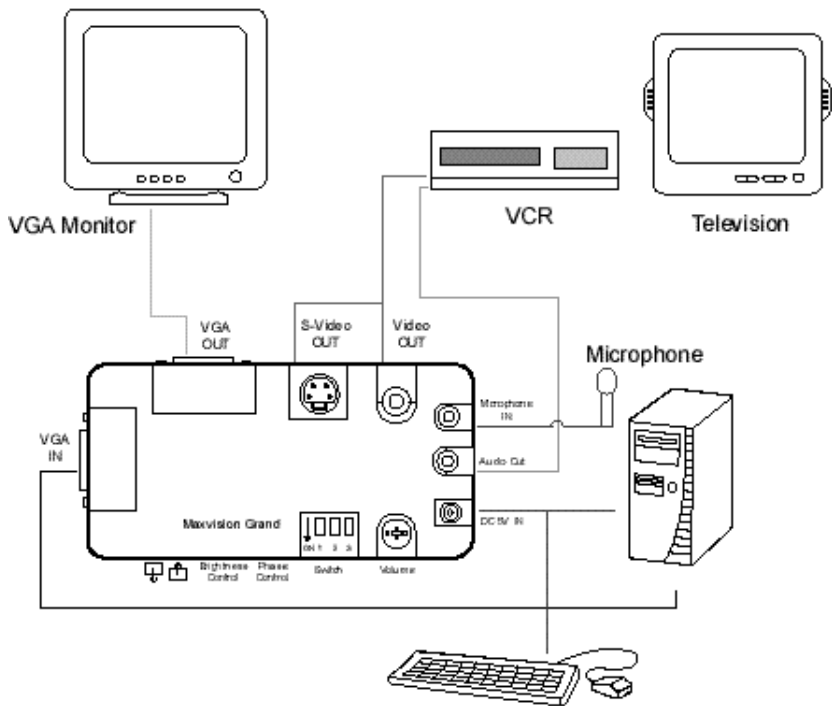
HARDWARE INSTALLATION

To install your Expert Maxvision Video Converter please follow these step-by-step instructions. Failure to follow these instructions could result in damage to you or your equipment. If you have any questions please refer to the diagram below for assistance.

1. Make sure that the power to your computer system is turned OFF.
2. Determine if your television is NTSC (North America and Japan) or PAL (Most of Europe and Asia), then use DIP Switch #1 to select the correct signal type.
3. Using the supplied HDB-15 VGA cable, connect the Video Output of your computer system to the VGA IN port of the Expert Maxvision Video converter.
4. Using the cables provided with the Expert Maxvision connect either the S-Video OUT port **OR** the Video OUT port to the matching port of your television or VCR.
5. (Optional) For simultaneous viewing on your VGA monitor connect the Monitor cable to the VGA OUT port of the Expert Maxvision Video Converter.
6. (Optional) To allow audio pass through by the Expert Maxvision connect either the provided microphone or the audio output from your sound card to the Microphone IN port of your Expert Maxvision.
7. Using the provided cable connect the Audio Out port of the Expert Maxvision to the Audio IN of your television or VCR (This step is not required unless you are connecting the microphone or a sound card)
8. Plug the power connector of the Keyboard Power adapter cable into the Expert Maxvision and connect the keyboard through the connectors provided to the computer.
9. Turn your computer system on.
10. Turn on your television or VCR and change the signal source to AV, Video IN, or S-Video IN depending on available choices and video signal connection .

WARNING: Please fully connect all cables BEFORE turning on your computer system.

NOTE: If an S-Video connection is available on your television or VCR you should use it. S-Video provides the highest quality video image.



SOFTWARE INSTALLATION

Driver installation for DOS:

1. Insert the "Expert Maxvision Utility Diskette" in the floppy disk drive
2. At the DOS Prompt type the following:

For a NTSC Television:

INSTALL /N [ENTER]

For a PAL Television:

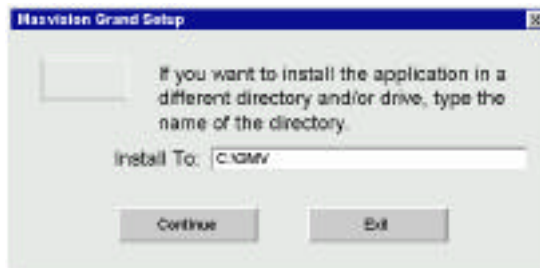
INSTALL /P [ENTER]

3. Follow the instructions that appear on the screen

Using the Installation Utility for Windows 3.1 and Windows 95:

To install the driver and utilities for the Expert Maxvision Video converter in the Windows operating system follow the step-by-step instructions below: (This example is for Windows 95 but both operating systems are similar)

1. Once the Windows operating system has finished loading insert the "Expert Maxvision Utility Diskette" in the floppy disk drive
2. Click the START button then select Run and a new Dialog Box will open
3. Type X:\WIN\SETUPEXE , then click the OK button. (X is the letter of the floppy drive that the disk is in.)
4. The setup program will begin to run and another dialog box will open: Confirm the target directory for the Expert Maxvision setup. The default target directory is C:\GMV. Click the Continue button to start the installation, or click Exit to abort the installation.



5. When the program has finished setting up. The following dialog box will appear. Click **OK** to continue.



6. Once the setup is complete a Expert Maxvision Program group will be created with your control utilities inside.

SOFTWARE OPERATION

Software Description

1. GMV.COM

- "GMV" This command will load the Expert Maxvision driver into memory. This driver converts the VGA images to Television signals.
- "GMV /U" This command will remove the Expert Maxvision driver from memory.
- "GMV ?" This command will show you a list of commands and all operational information.

2. AUTOSAVE.COM

- The AutoSave function will automatically save the parameters of the screen to the GMV.COM file when you adjust the position of the screen.
- "AUTOSAVE /E" This command will turn the AutoSave function on.
- "AUTOSAVE /D" This command will turn the AutoSave function off.

3. SETPATH.COM

- If you move the Expert Maxvision driver to another directory on your hard disk you will need to run this program. It is used to set the path where the driver is stored so that your computer can find the program.

4. SETKEY.COM

- "SETKEY" is used if:
- You want to change the "HotKey" sequence.
 - You are having difficulties with the current "HotKey" sequence.

5. SETNTSC.COM

- Used to set the Expert Maxvision driver to NTSC mode.

6. SETPAL.COM

- Used to set the Expert Maxvision driver to PAL (50 Hz) mode.

7. WINTOTV.EXE

- This utility is used to adjust the screen properties in the Windows environment.

8. WINTOTV.SET

- File containing the current settings for the WINTOTV.EXE file.

DOS driver Operation

Once the DOS driver loads the following message box will be displayed:

Maxvision GrandTSR Driver Version X.XX (NTSC/ PAL)	
HOT KEY FUNCTION :	
Alt_Shift_UP-Arrow	▶ Move the Screen UP
Alt_Shift_DOWN-Arrow	▶ Move the Screen DOWN
Alt_Shift_LEFT-Arrow	▶ Move the Screen LEFT
Alt_Shift_RIGHT-Arrow	▶ Move the Screen RIGHT
Alt_Shift_Page-Up	▶ Move the Screen to the TOP
Alt_Shift_Page-Down	▶ Move the Screen to the BOTTOM
Alt_Shift_F	▶ Toggle the Text Font (For Text Mode)
Alt_Shift_D	▶ Change Screen Size (Toggle 50Hz/60Hz)
Alt_Shift_R	▶ Reset Screen Position
Alt_Shift_T	▶ Flicker Free Switch
Alt_Shift_S	▶ Toggle Overscan / Underscan
Alt_Shift_C	▶ Color Shift Adjustment

HOT KEY function under the DOS Driver:

Alt_Shift_Arrow / Page_Up / Page_Down: Adjust position of the image on the television screen

Alt_Shift_F: Change the size of the font (Only used in text mode)

Alt_Shift_D: Change the size of the image on the television screen (only works on PAL and Multi-System televisions)

Alt_Shift_R: Reset the image on the Television screen to its default position

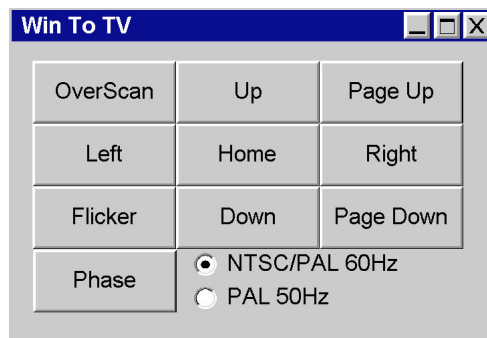
Alt_Shift_T: Switches between interlaced and non-interlaced mode

Alt_Shift_R:	Switches Television image between overscan and underscan modes
Alt_Shift_C:	Color Shift Adjustment (PAL system only), Some VGA video outputs can not produce the exact horizontal sync for operation on a PAL television. This lack can produce anomalies in color reproduction. You can adjust for these discrepancies by using the Alt_Shift_C "Hot Key"

Windows Utility Operation:

Double click on the WINTOTV icon in the Expert Maxvision program group to run this utility.

The following control panel will open:



The function of each button on this control panel is described below:

- OverScan: Click here to toggle horizontal Overscan and Underscan.
- Flicker: Click here to switch between Interlaced and Non-Interlaced mode.
- Page Up: Click here to move the screen to the TOP.
- Page Down: Click here to move the screen to the BOTTOM.

- Left: Click here to move the screen LEFT.
- Right: Click here to move the screen RIGHT.
- Up: Click here to move the screen UP.
- Down: Click here to move the screen DOWN.
- Home: Click here to reset the screen to its DEFAULT position.
- Phase: Click here to adjust the PHASE. Some VGA video outputs can not produce the exact horizontal sync for operation on a PAL television. This lack can produce anomalies in color reproduction. You can adjust for these discrepancies by using the Phase button.
- NTSC / PAL 60Hz** Click here to select NTSC, PAL 60Hz, or NTSC443 mode.
- PAL 50Hz** Click here to select PAL 50Hz mode.

Windows "Hot Keys" and their functions:

- ↑ Move the screen UP.
- ↓ Move the screen DOWN.
- ← Move the screen LEFT.
- Move the screen RIGHT.
- Page Up Move the screen to the TOP.
- Page Down Move the screen to the BOTTOM.
- S Toggle the horizontal Overscan or Underscan mode.
- F Switch between Interlaced and Non-interlaced operation.
- P Adjust the signal phase.
- Home Reset the screen to its default position.

SIGNAL ADJUSTMENT

Phase:

When you see faint color or a rainbow pattern on your television when you are using the Composite Video connection, you can use the small screwdriver that was included with your Expert Maxvision Video Converter to adjust the Phase of the burst signal, (this adjustment is located on the side of the Expert Maxvision unit), to get the correct colors on your display.

Brightness:

Brightness is set by your television set manufacturer at the factory. If you feel the image on your television screen is too bright or too dark, or if you have a vertical stripe or some horizontal noise interference, you can use the supplied screwdriver to adjust the signal brightness. (This adjustment is located on the side of the Expert Maxvision unit.) By using this adjustment you should be able to eliminate the interference.

Volume:

The Volume control located on the side of the Expert Maxvision Video converter will adjust the volume of the attached microphone. Using the supplied screwdriver you can turn the adjustment clockwise to increase the volume or counter clockwise to reduce the volume.

WARNING: *You must insert the screwdriver and turn it gently. The use of excessive pressure to make these adjustments can result in damage to the Video Converter unit.*

TECHNICAL TIPS

The following questions and answers cover some of the most common difficulties that may arise when you are using the PC to TV Converter and some possible solutions to them.

Q: Why does the TV screen only show a gray image?

A: The chrominance value of your PC to TV converter has run out of the accepted range. This difficulty can be fixed by adjusting the signal Phase.

Q: Why are the top and bottom of the screen image missing from the television?

A: You may be suffering from Overscan with a NTSC video signal. This will occur because the VGA display has more scan lines (horizontal lines that make up the image) than the television display. In general a television will display 420 scan lines where a VGA display has 480 scan lines when operating in 640 x 480 mode. When this occurs images may be truncated or out of range. You should use the "Hot Key" commands (instructions located in the Software Operation section of this manual), to adjust the screen position to see the top or bottom portions of the image. This phenomenon can also occur on a PAL system when you are operating in 800 x 600 mode.

Q: Why does the display shrink in PAL system?

A: A PAL System has 625 scan lines. If you are operating in 640 x 480 mode there will be no problem with the display. However, if your display is 200 lines (e.g. 320 x 200) the image on the display will shrink.

Q: How can I enhance the quality of the display?

A: You can adjust the television's "Contrast" and "Sharpness" to get the best picture. In order to achieve the best effect you should lower the "Brightness" control to help eliminate flicker.

Q: Why does the Television display have some interference (noise) lines on the screen and how do I eliminate them?

A: The interference is generated by the translation and you can remove it by adjusting the Brightness control located on the side of the Expert Maxvision Video Converter.



Q: My notebook PC supports simu-scan function. Why doesn't the "Hot Key" commands work?

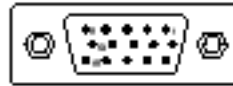
A: Most notebooks LCD video controllers lock the CRTIC parameter to 60 Hz. Please adjust the notebook display to CRT output ONLY. After this adjustment is made the Expert Maxvision utility program should function correctly.

TECHNICAL SPECIFICATIONS

VGA IN connector:

Analog RGB signal from the VGA output of the Video card in your computer.

Pin Number	Signal Description
1	Red Signal, 0.7Vpp, 75Ω
2	Green Signal, 0.7Vpp, 75Ω
3	Blue Signal, 0.7Vpp, 75Ω
4	Monitor ID2, TTL Level
5	Ground
6	Ground (Red Return)
7	Ground (Green Return)
8	Ground (Blue Return)
9	No Connection
10	Ground
11	Monitor ID0, TTL Level
12	Monitor ID1, TTL Level
13	HSYNC, TTL Level
14	VSYNC, TTL Level
15	No Connection



VGA OUT Connector:

The VGA OUT connector is a HDB-15 female connector with pin assignments identical to those of the VGA IN connector. This connector is used to connect the VGA Monitor.

VIDEO OUT Connector:

Composite video output, 1.0Vpp \pm 0.2Vpp, 75Ω, negative Sync Lock.

S-Video OUT Connector:

The S-Video OUT connector is a 4-pin mini-DIN connector

Pin Number	Signal Description
1	Ground
2	Ground
3	Y (luminance) 0.7Vpp \pm 0.2Vpp, 75Ω, negative Sync.
4	C (Chrominance) 0.3Vpp \pm 0.1Vpp



Microphone input:

Uses a capacitance type microphone.

Audio Output:

52dB Amplifier with Microphone input, maximum output is 3Vpp, connect to television or VCR Audio input OR Sound card Line In.

DC Power Input:

Standard DC power connector, Center is +5V DC, exterior is ground (See diagram below)



TROUBLESHOOTING

Below is a list of symptoms for different problems that you may encounter. After each symptom are some suggestions of causes for the problem and possible steps that you should take to remedy the problem.

Symptom	Possible Cause(s)	Corrective Action
Neither the Television nor the VGA Monitor has a picture.	Power adapter may not be plugged in. VGA pass-through cable may not be properly connected.	Ensure that the power adapter is plugged in and properly connected. Ensure that the pass-through cable is properly connected.
Rainbow pattern appears on television display.	Poor phase lock.	Use the supplied screwdriver to adjust the Phase control located on the side of the Motion Grand Video Converter.
Television has no picture but the VGA monitor display is normal.	The Video Out cable or S-Video out cable may not be connected properly. The Television/VCR Signal input source selection may be incorrect.	Ensure that the Video signal cable (Video Out or S-Video) is fully connected to the Video In port of your Television/VCR. Ensure that your Television/VCR is set to Video In, S-Video In, or AV1 as the video signal source.
Television picture is distorted or abnormal.	Your Video converter may be set to the incorrect Television Signal System.	Change the position of the Television System type switch (DIP Switch # 3) to the correct Television signal type.