

CHAPTER 1

WELCOME TO GRAND ULTIMATE WIRELESS

1.1 INTRODUCTION

(PC/iMAC DV to TV converter with 2.4Ghz AV Sender)

Thank you for purchasing the Grand ULTIMATE WIRELESS. GRAND ULTIMATE WIRELESS is a VGA to TV converter with an integrated 2.4GHz Wireless Transmitter & separate Receiver. Transmit the computer's video and audio to any remote TV. It is ideal for Internet or DVD/VCD movie viewing, presentations, baby/patient monitoring, burglary detection, theft prevention, or home/company monitoring.

1.2 FEATURES

- Plug and Display: No software required.
- Supports **four selectable channels and multiple receivers (available separately)** Transmits (**Composite Video** and **Stereo Audio**), **ISM Band** from 2414~2468Mhz.
- Supports resolutions up to **1600x1200**.
- Simultaneous display on **TV, Remote TV** and **VGA monitor**.
- Supports **NTSC, NTSC-EIAJ PAL-N, PAL, PAL-M, PAL-combination-N and SECAM (via RGB OUT)** video systems.
- Supports **CVBS, S-VIDEO or RGB** video outputs by switch change (via wired connections).
- Simultaneous RGB and CVBS output signal on RGB out connector.
- True 24 bit, true color digitizer.
- User controls: **MENU, ZOOM, FINE TUNE SAVE VIDEO SOURCE POWER & Position** adjustments.

- Menu key supports **Freeze , Size, Brightness, Contrast, Hue, Saturation, Video Standard, Flicker, OSD color, Reset.**
- DIP Switch controls for: CHANNEL 1~ CHANNEL 4, **RGB enable, YUV enable.**
- LED indicator PAL & POWER.
- Adjustable H-SIZE and V-SIZE.
- 64 stage control of: Brightness, Contrast, Hue, Saturation adjustment.
- 16 stage control of: Sharpness, Flicker adjustment.
- Automatic COLOR BAR test pattern when VGA source is not connected.
- Stereo Audio input from sound card or any audio device.
- RF frequency : **CH1=2414MHz, CH2=2432MHz, CH3=2450MHz, CH4=2468MHz.**
- Demodulation Method : FM.
- Frequency Generating : P.L.L..
- Audio Response : 20Hz ~ 20kHz.
- Video Output : 1Vpp/ 75 ohm composite video.
- Distance : Open area is 100 meters, indoor is 30 meters. (Actual range may vary depending on environment)

1.3 MODE AND RESOLUTION TABLE

This converter supports the following VGA display modes:

Resolution	720 x 400	640 x 480	800 x 600	1024 x 768	1152 x 864	1280 x 960	1280 x 1024	1600 x 1200
Vertical Frequency (Hz)	70	60, 70, 72, 75, 85, 100, 120	56, 60, 70, 72, 75, 85, 100	60, 70, 72, 75	60, 70, 72, 75	60	60	60

This converter supports the following MAC display modes:(for MAC G4, G4 Cube,G3)

Resolution	640 x 480	832 x 624	800 X 600	1024 X 768	1152 X 864
Vertical Frequency(Hz)	60,66,72,75,85,100,120	75	56,60,72,75,85,100	60,70,75	60,70

This converter fully supports APPLE iMac and iMAC DV computer display modes

Resolution	640x480	800x600	1024x768
Vertical frequency (Hz)	117	95	75

1.4 SYSTEM REQUIREMENTS

- Desktop or laptop computer with HD15 VGA standard connection.
- TV or VCR that supports NTSC or PAL video standard with composite video input (required for wireless transmission), (or) S-Video input, (or) RGB video input, (or) SCART input connector.

1.5 PACKAGE CONTENTS

This package contains the following items:

- Grand ULTIMATE WIRELESS Tx [Transmitter]
- User's Manual
- S-Video cable
- Video cable
- PC to TV Audio cable
- Audio pass-through cable
- H cable for VGA Connection
- Grand ULTIMATE WIRELESS Rx [Receiver]
- Power adapter (DC 6V/800mA) x 2
- Audio/Video Cable for Rx [Receiver]
- Battery Pack (Batteries not included)

CHAPTER 2 INSTALLATION

The following section shows the function of installing and controlling the **Grand ULTIMATE WIRELESS**. Refer to **Figure 1** for the Outline of Grand ULTIMATE WIRELESS.

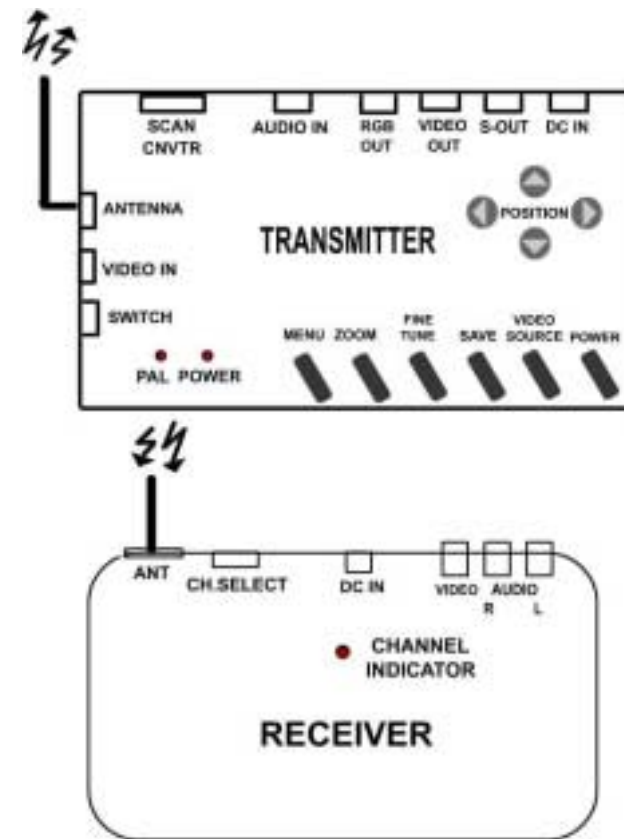


FIG.1 Outline of Grand ULTIMATE WIRELESS

2.1 CONNECTORS OF GRAND ULTIMATE WIRELESS

- **SCAN CNVTR :** Connects H cable to PC, Grand ULTIMATE WIRELESS and monitor.
- **AUDIO IN:** Connects to sound device or audio output of DVD/ VCD /VCR.
- **RGB OUT:** Connects to your display device supporting the European SCART Standard with RGB to SCART cable, or other display device with RGB input.
- **VIDEO OUT:** Connects Grand ULTIMATE WIRELESS to the Video input of the TV. (Optional for wired connections)
- **S-OUT :** Connects Grand ULTIMATE WIRELESS to your TV supporting the S-VIDEO input. (Recommend for wired connections)
- **DC IN :** Connects with supplied AC power adapter.
- **VIDEO IN:** Connects to your video device such DVD/VCR/Camera for video pass-through.

2.2 BUTTONS & SWITCHES OF GRAND ULTIMATE WIRELESS

- **POWER :** Toggle between power on & off.
- **VIDEO SOURCE :** Toggles between displaying the converted computer display and the video pass-through source.
- **SAVE:** Press this button to save current display and position settings.
- **FINE TUNE :** Press this to fine-tune the video image.
- **ZOOM :** Toggle between Zoom and Normal display for converted computer display.
- **MENU :** Press button to cycle through the functions. The functions are: Freeze, HSIZE, VSIZE, Brightness, Contrast, Hue, Saturation, Video Standard, Flicker and OSD color, Reset.

- **POSITION :** Press up, down, left and right button to adjust the position of the converted computer display. These four buttons also are used to make adjustments to the settings in the MENU.

2.3 CHANNEL SETTING

- **DIP SWITCH:**

SW1	SW2	SW3	SW4	SW5	SW6	DESCRIPTION
DOWN (ON)						CHANNEL 1
	DOWN(ON)					CHANNEL 2
		DOWN(ON)				CHANNEL 3
			DOWN(ON)			CHANNEL 4
				DOWN(ON)		YUV OUTPUT
					DOWN(ON)	RGB OUTPUT

NOTE: RGB OUTPUT and YUV OUTPUT can not be enabled at the same time

- **2.4GHz Receiver Channel setting:**

SWITCH 1	CHANNEL 1
SWITCH 2	CHANNEL 2
SWITCH 3	CHANNEL 3
SWITCH 4	CHANNEL 4

2.4 INSTALLATION

The Grand ULTIMATE WIRELESS is a "Plug and Display" video converter. The only requirement to get the output of the computer on the TV is to make the proper connections and ensure that your computer display is set within the supported parameters. Please read the following sections carefully for the installation of the hardware. Please refer to Fig.2 for an overview of the process.

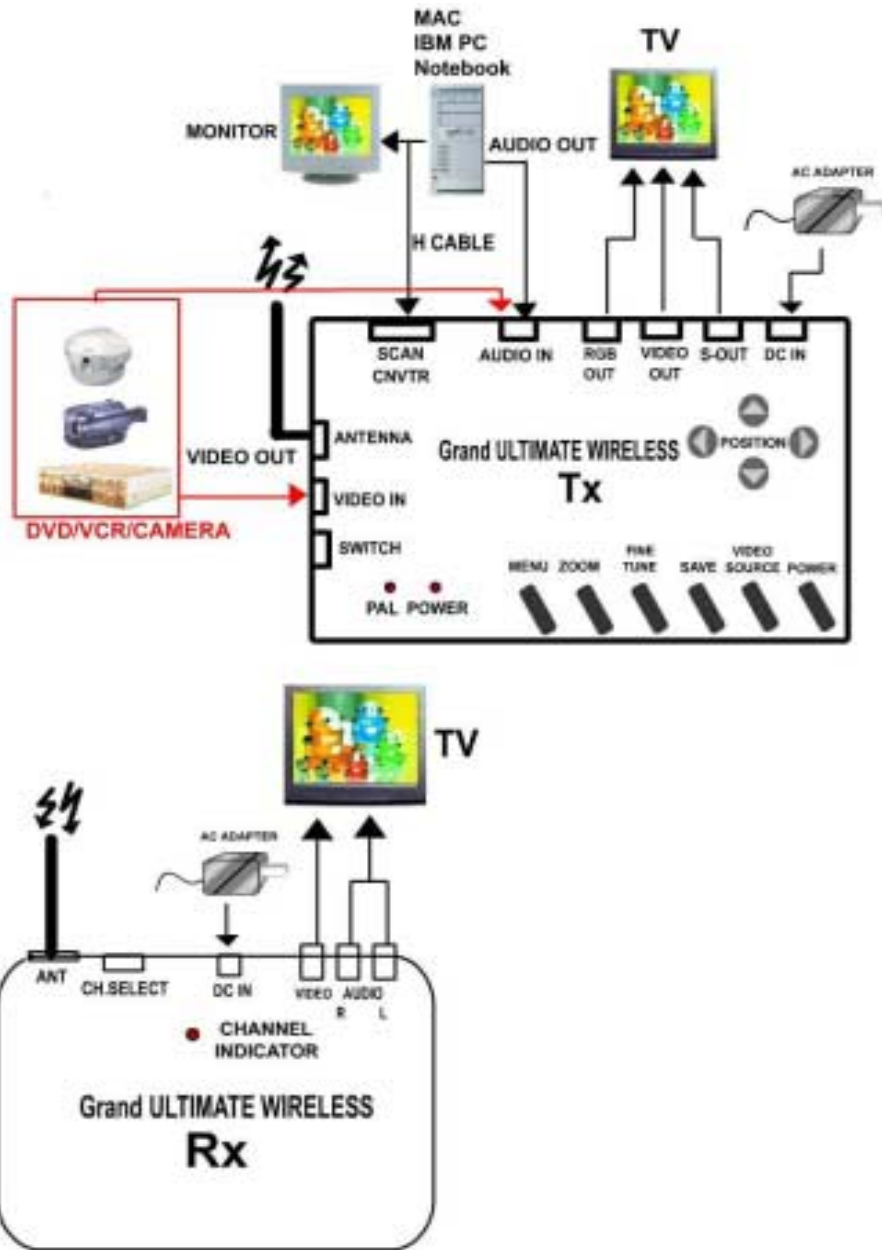


Fig.2 Grand ULTIMATE WIRELESS Installation

2.5 STEP BY STEP CONNECTIONS

IMPORTANT! Turn your computer OFF before connecting the Ultimate Wireless!

1. Connect the end of the H Cable that is RED to the port on the Ultimate Wireless labeled SCAN CNVTR (which is also red).
2. Connect the end of the H cable that is BLUE to the CRT port on the back of your laptop or desktop PC. On a desktop, you may need to first unplug the monitor.



Fig. 3 – Laptop Connection



Fig. 4 – Desktop with Monitor

3. Connect one end of the audio pass-through cable to the AUDIO IN port on the Grand Ultimate Wireless. Connect the other end to the LINE OUT or SPEAKER OUT of your sound card. On a desktop you may first have to disconnect your existing computer speakers.



Fig. 5 – Audio Pass-Through Cable

4. Connect one of the supplied power supplies to the DC IN port on the Grand Ultimate Wireless and then connect the supply to a wall outlet.

-OR-

Connect the supplied battery pack to the DC IN port on the Grand Ultimate Wireless. Four AA batteries will typically run the transmitter for four hours. Please note that the battery pack may be used on either the transmitter or the receiver.

NOTE: Connecting anything other than a 6V DC power supply with a center positive connector to the Grand Ultimate Wireless will cause damage to the product and will void the warranty. GrandTec recommends using only the supplied power supplies or the battery pack when using the Grand Ultimate Wireless.

5. [OPTIONAL] Connect the video output of a VCR/DVD/etc. to the VIDEO IN of the Grand Ultimate Wireless. Connect the PC to TV audio cable between the audio outputs (normally indicated by red and white connections) of your VCR/DVD/etc. and the LINE IN connector on your sound card. This connection will allow you to transmit the audio as well as the video from your VCR/DVD/etc.

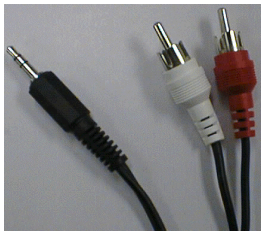


Fig. 6 – PC to TV Audio Cable

6. A. [OPTIONAL FOR WIRED CONNECTIONS] Connect either the yellow-ended composite video or the solid black S-video cable between the VIDEO OUT of the Grand Ultimate Wireless and the VIDEO IN of your television.

B. [OPTIONAL FOR WIRELESS CONNECTIONS] Connect the Grand Ultimate Wireless Receiver to your TV using the AV Cable. Plug the power supply to the DC IN of the Receiver and then connect the supply to a wall outlet.

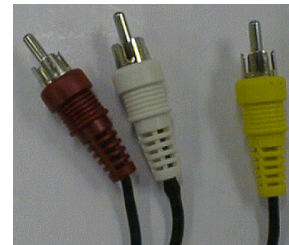


Fig. 7 – AV Cable

Note: Grand Ultimate Wireless also supports high quality S-VIDEO via the S-video cable. If your TV or VCR supports S-VIDEO IN, we highly recommend you use it to get the best TV picture. This option is not available when transmitting the video wirelessly.

7. Toggle the display input to correspond with the video input you are using. For instance, a TV defaults to the antenna or cable input when it is turned on. You will see either a TV channel or snow. Using the remote control toggle the input to display the VIDEO rather than the

antenna/cable. Each TV varies slightly, so you may need to refer to your TV's user's manual for further assistance.

8. If you are experiencing any distortion or interference in the wireless transmission, change the transmission channels. Using a paperclip, change the switches on both the transmitter and the receiver so that they are on the same channel. Only one switch should be DOWN on each and the switch that is DOWN indicates which channel is in use.

9. If your TV does not have a VIDEO input, you may connect through a VCR's VIDEO IN. Note: Since virtually every VCR is different, please refer to your VCR User's Manual for exact instructions for recording an external video source.

To connect the Grand Ultimate Wireless to a VCR for recording, follow these steps:

1. Using either the RCA or the S-video (recommended) cable, connect from the video out on the Grand Ultimate Wireless to the Video IN on the VCR
2. Using either an RCA or a 75 Ohm coaxial cable connect from the Video OUT on the VCR to the Video IN on the TV
3. Set the TV/VCR switch on the VCR to "VCR"
4. Set the TV to display the video input signal (Refer to TV's User's manual for instruction on displaying an external video source)
5. You should be able to see the converted computer display on the TV
6. Insert a blank tape into the VCR and press "RECORD". Stop the

tape after a few moments to test that it is recording.

CHAPTER 3

Technical Tips

The following are problems that might arise when using the PC to TV converter, and possible solutions to them.

Things to Check :

1. The input on the display (TV, projector, etc.) is not properly set. If your display has multiple video inputs, then you have to toggle the inputs to display the one you need. Typically this is done via the remote.
2. The TV looks fine during boot-up but once the PC enters Windows all I see is black and white horizontal wavy lines: The display adapter (video card) is set to a refresh rate not supported by the converter. Refer to the MODE and RESOLUTION Table in the beginning of this user's manual.

The following procedure is required on most typical systems (Note: your PC may require a different procedure. Please refer to your PC's documentation for how to adjust the refresh rate for further information):

Start Menu -> Settings -> Control Panel

Click on the icon "DISPLAY".

Click on SETTINGS tab.

Click on the button "ADVANCED".

Click on ADAPTER tab.

Change the Refresh Rate from Optimal to ADAPTER DEFAULT or 60Hz and click apply.

If you do not see REFRESH RATE under the ADAPTER tab, click on the MONITOR tab and be sure that the monitor type is set to:

Desktop users: Super VGA 1024x768 (or desired maximum resolution)

Laptop users: Laptop Display Panel 1024x768 (or equivalent for your system)

Q & A

Q: How can I enhance the display quality?

A: You can usually decrease the contrast and increase brightness control to get the better picture.

Q: I connect using a NOTEBOOK PC, but no output is displayed on TV.

A: To get a converted image on the TV, you must configure the laptop computer to display an external VGA signal.

Typically, this is done by toggling the "Fn" key + "F1", "F2", etc. The actual function key varies with each computer.

Please refer to your computer's User's Manual for specific instructions for displaying an external VGA signal.

The "Fn" + "Fx" toggles between three settings. By default, the LCS panel is on. The first toggle attempts to power both the LCD panel and the external signal. Sometimes, laptops do not have enough power to show both the LCD and the Ultimate Wireless, so only a scrambled signal is viewable on the TV. The third toggle turn off the LCD panel and shows only the external display (the TV, in this case).

Q: I have an older model of a television. Would I be able to use my video converter with a television as old as this one?

A: Yes, you may need a special adapter called an RF modulator. This device converts the composite video signal from your video converter to an Antenna signal, which can be viewed on your TV using Channel 3 or 4 or 13. You may also use a VCR in some cases. Refer to section D3 for more information.

Q: Can I use multiple televisions to view the same image from my computer?

A: Yes, Grand Ultimate Wireless provides 1 CVBS OUT, 1 S-VHS OUT and 1 RGB OUT. You may connect one television to the next using a composite video cable or an S-Video between the "VIDEO IN" and "VIDEO OUT" ports. We recommend using no more than five or six televisions.

-OR-

Yes, you may purchase additional receivers and transmit to as many TVs as are in range. For information on purchasing additional

receivers, please call 214-366-3496.

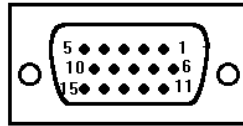
CHAPTER 4 TECHNICAL SPECIFICATIONS

4.1 Transmitter

4.1.1 SCAN CNVTR CONNECTOR

Analog RGB and SYNC signal from 15 pin VGA output port of PC or Notebook PC, and output SYNC signal to monitor.

Pin No.	Signal Description
1	RED IN, 0.7Vpp \pm 0.1Vpp, 75 ohms, from PC
2	GREEN IN, 0.7Vpp \pm 0.1Vpp, 75 ohms, from PC
3	BLUE IN, 0.7Vpp \pm 0.1Vpp, 75 ohms, from PC
4	No connection
5	Monitor Sense, TTL level, active low
6	Ground
7	Ground
8	Ground
9	No connection
10	Ground
11	HSYNC OUT, TTL level, buffered HSYNC IN, to monitor
12	VSYNC OUT, TTL level, buffered VSYNC IN, to monitor
13	HSYNC IN, TTL level
14	VSYNC IN, TTL level
15	No connection

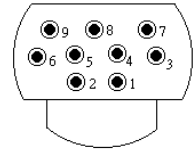


Remark: Case is connected to ground

4.1.2 RGB OUT CONNECTOR

RGB OUT is a 9-pin mini-DIN type female connector. It can output RGB and Composite VIDEO signals. Detailed description is below: This connector cannot work with **S-OUT** and **VIDEO OUT** simultaneous. This connector is very useful for European TVs with SCART connectors.

Pin No.	Signal Description
1	Blue output, 0.7Vpp, 75 ohms
2	RGB enable, +12V output to enable Europe TV RGB input.
3	Green output, 0.7Vpp, 75 ohms s
4	Composite VIDEO, negative sync, 1Vpp
5	No connection
6	No connection
7	Red output, 0.7Vpp, 75 ohms
8	Audio output, left channel, 1 Vrms
9	Audio output, Right channel, 1 Vrms



Remark: Case is connected to ground

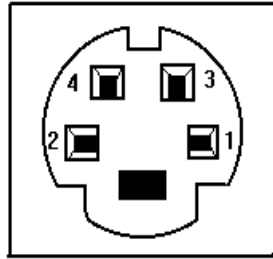
4.1.3 VIDEO OUT CONNECTOR

Composite video out, 1.0Vpp \pm 0.2Vpp 75 ohms, negative sync.

4.1.4 S-VIDEO OUT CONNECTOR

S-OUT connector is a 4-pin mini-DIN connector.

Pin No.	Signal Description
1	GND
2	GND
3	Y (Luminance), 0.7 Vpp ± 0.2 Vpp, 75 Ω, negative sync
4	C (Chrominance), 0.3 Vpp ± 0.1 Vpp



4.1.5 AUDIO IN CONNECTOR

Connect to computer audio output (line out) or DVD/VCR/VCD audio output. Input with 1Vrms(max)

4.1.6 VIDEO IN CONNECTOR

Composite video input from DVD/VCR/VCD or security camera, Input level: 1 Vpp

4.1.7 DC IN CONNECTOR

DC 6V power supply or DC 6V battery pack. Power Consumption at working status is 480mA, at standby status is 130mA.

4.2 Receiver

4.2.1 DC IN CONNECTOR

DC 6V power supply or DC 6V battery pack. Power Consumption at working status is 480mA, at standby status is 130mA.

4.2.2 VIDEO OUT CONNECTOR

Composite video out, 1.0Vpp ± 0.2Vpp 75 ohms, negative sync.

4.2.3 AUDIO OUT CONNECTOR

Input with computer Audio output (line out) or DVD/VCR/VCD output , Input with 1Vrms(max)

For additional technical support:

On-Line – www.Grandtec.com

Email – grand@grandteccusa.com

Fax – 214-351-3862

Call – 214-956-0447

Telephone support is available M-F, 9:00 – 5:00 CST. Voice-mail is available during off hours or during busy peak times. Your call will be returned as soon as possible (usually within 24 hours).

A Return Authorization Number (RA#) is required before returning any products to the manufacturer for repair. No credits will be given at any time by the manufacturer. If you desire a credit for the return of your product, please contact the retailer from whom you originally purchased the product. Credits are subject to the policies of the individual retailer.

To Purchase Additional Accessories:

Additional receivers, battery packs, cables, etc. may be purchased by calling 214-366-3496 M-F, 9:00 – 5:00 CST.

Warranty

We warrant the Grand Ultimate Wireless shall, for a period of one year from the date of purchase, be free of any defect in material and workmanship and that it will perform in accordance with specifications. The sole obligation of this warranty shall be to either repair or replace at our expense the product, at manufacturer's option. The original sales receipt must be supplied for warranty repair.

There are no warranties except as stated. There are no warranties expressed or implied, including, but not limited to, the implied warranties of merchantability and of fitness for a particular purpose. In no event shall we be liable for consequential, incidental, or special damages, including, but not limited to, damages or loss of data, profits or goodwill.

Products that have been subject to abuse, misuse, vandalism, accident, alteration, neglect, unauthorized repair or improper installation will not be covered by warranty.