



*REFERENCE MANUAL &
PROGRAMMING GUIDE*



WACI PAD 6/12/12LRM

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1 Introduction

WACI PAD is a very special and unique button panel. Available in 6 or 12 button configurations, WACI PAD fits most standard sized single or double gang electrical boxes and racks, respectively. All WACI PADS provide a comfortable, tactile and graphical user experience. The buttons use tiny LCD display technology to provide multiple levels of interaction using accompanying software. Each button has the ability to morph into other buttons based on button presses or events taking place in the system. WACI PAD is the most innovative and functional control interface in the industry today.

2 Accessories

The accessories supplied are:

- 1 – 12V / 14.4W DC wall power supply
- 1 – Electrical box mounting kit:
 - 4 – 4/40x3/16 screws
 - 4 – 4/40 lock nuts
 - 8 – 4/40 Spacing nuts
 - 2 – Mounting Plates
 - 2 – Wall Plate Mounting Screws
 - 1 – Wall Plate
- 1 – 2-pin Phoenix Header
- 1 – 4-pin Phoenix Header

All supplied components are shown on the picture below:



12V / 14.4W Supply



**Electrical Box
Mounting Accessories**

3 Connections

- **4-pin Phoenix – RS-232 / IR**
 - Pin 1 (Edge of board) – Ground
 - Pin 2 – Serial RX
 - Pin 3 – Serial TX
 - Pin 4 – IR Transmit/or Serial TX



- **2-pin Phoenix – Power**
 - Pin 1 (Edge of board) - Ground
 - Pin 2 – 12V



- **RJ45 – Network Connection**
 - Power over Ethernet Capable
 - 48VDC (37-57V range)
 - Pins 1 or 2 and 3 or 6 of Ethernet Cable
 - Polarity does not matter



4 Settings

4.1 Boot Menu

To Enter the WACI PAD Boot Menu:

- 1) Connect Serial to PC
- 2) Open HyperTerminal Program
 - a) Connect at 9600-8-n-1
- 3) **PAD 6, 12 or 12LRM:** Hold Buttons 1 & 3 while applying power

Boot Menu will appear

0: Display Current Settings – Will display current settings for:

- Serial Number
- MAC Address
- IP Settings
- Hostname
- WACI Master IP

1: Configure IP Settings – Will Enter Dialog for Configuration of DHCP or Manual IP Setup.

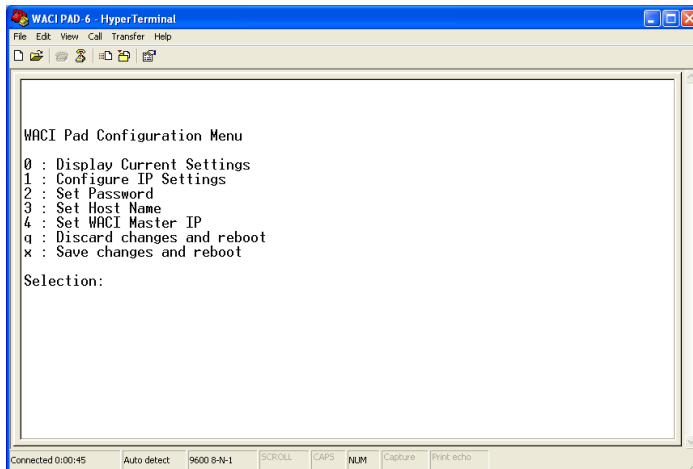
2: Set Password – Will Enter Dialog for changing the admin password for the Web Interface

3: Set Host Name – Will Enter Dialog for changing Host Name

4: Set WACI Master IP – Will Enter Dialog to Set the IP of the Master WACI

q: Discard Changes and reboot – Will Exit Boot Menu and restart WACI PAD without saving settings

x: Save Changes and reboot – Will Exit Boot Menu and restart WACI PAD with saving settings



WACI PAD 12 Button Configuration is similar. This unit has 2 extra rows with buttons numbered vertically from 7-9 and 10-12.

WACI PAD 12LRM Button Configuration is numbered from left to right 1-12.



WACI Pad Configuration

Status:	Serial # 07341059 MAC Address : 00:11:02:30:04:EB Current IP Address : 192.168.1.104 Subnet Mask : 255.255.255.0 Default Gateway : 192.168.1.1 Firmware Version : 01.10 [Update]														
Network Configuration:	DHCP <input checked="" type="radio"/> ON <input type="radio"/> OFF <table style="width: 100%;"> <tr> <td style="border: 1px solid black; width: 150px;">169.254.94.195</td> <td>Static IP Address</td> </tr> <tr> <td style="border: 1px solid black;">255.255.255.0</td> <td>Subnet Mask</td> </tr> <tr> <td style="border: 1px solid black;">169.254.94.1</td> <td>Gateway</td> </tr> <tr> <td style="border: 1px solid black;">WACIPAD1</td> <td>Host Name</td> </tr> <tr> <td style="border: 1px solid black;">192.168.1.102</td> <td>Master WACI IP Address</td> </tr> <tr> <td style="border: 1px solid black;"></td> <td>Serial Port 1 WACI Variable</td> </tr> <tr> <td style="border: 1px solid black;"></td> <td>Button Release Notify WACI Variable</td> </tr> </table> <input type="checkbox"/> Require RPC calls to submit password	169.254.94.195	Static IP Address	255.255.255.0	Subnet Mask	169.254.94.1	Gateway	WACIPAD1	Host Name	192.168.1.102	Master WACI IP Address		Serial Port 1 WACI Variable		Button Release Notify WACI Variable
169.254.94.195	Static IP Address														
255.255.255.0	Subnet Mask														
169.254.94.1	Gateway														
WACIPAD1	Host Name														
192.168.1.102	Master WACI IP Address														
	Serial Port 1 WACI Variable														
	Button Release Notify WACI Variable														
Change admin Password:	<table style="width: 100%;"> <tr> <td style="border: 1px solid black; width: 100px;"></td> <td>Enter New Password</td> </tr> <tr> <td style="border: 1px solid black;"></td> <td>Confirm New Password</td> </tr> </table>		Enter New Password		Confirm New Password										
	Enter New Password														
	Confirm New Password														
Serial Port 1 Configuration:	<input checked="" type="radio"/> 8 Data bits - 1 Stop bit - NO Parity <input type="radio"/> 7 Data bits - 1 Stop bit - EVEN Parity <input type="radio"/> 7 Data bits - 1 Stop bit - ODD Parity Baud Rate: <input type="radio"/> 110 <input type="radio"/> 4800 <input type="radio"/> 38400 <input type="radio"/> 300 <input checked="" type="radio"/> 9600 <input type="radio"/> 57600 <input type="radio"/> 1200 <input type="radio"/> 19200 <input type="radio"/> 115200 <input type="radio"/> 2400														
Second Port Type:	<input checked="" type="radio"/> IR Port <input type="radio"/> Serial Port 2 (0-5V TX only)														
Serial Port 2 Configuration:	<input checked="" type="radio"/> 8 Data bits - 1 Stop bit - NO Parity <input type="radio"/> 7 Data bits - 1 Stop bit - EVEN Parity <input type="radio"/> 7 Data bits - 1 Stop bit - ODD Parity Baud Rate: <input type="radio"/> 110 <input type="radio"/> 4800 <input type="radio"/> 38400 <input type="radio"/> 300 <input checked="" type="radio"/> 9600 <input type="radio"/> 57600 <input type="radio"/> 1200 <input type="radio"/> 19200 <input type="radio"/> 115200 <input type="radio"/> 2400														
Button Settings:	<table style="width: 100%;"> <tr> <td style="border: 1px solid black; width: 50px; text-align: center;">0</td> <td>Seconds Before Display Timeout (0 - No Timeout)</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">30</td> <td>Delay Between Repeated Presses (.01 Second steps)</td> </tr> </table>	0	Seconds Before Display Timeout (0 - No Timeout)	30	Delay Between Repeated Presses (.01 Second steps)										
0	Seconds Before Display Timeout (0 - No Timeout)														
30	Delay Between Repeated Presses (.01 Second steps)														
<input type="button" value="Update and Reboot"/>															

4.2 Web Interface

To Connect to WACI PAD Web Page:

- 1) Connect LAN
- 2) Apply Power
- 3) **PAD 6 and 12:** Holding Buttons 3 & 6 will display:
PAD 12LRM: Holding Buttons 11 & 12 will display:
 - IP Address
 - MAC Address
 - Firmware Version
- 4) Open Web Browser
- 5) Go to: http://IP
 - User: admin
 - Password: admin

4.3 WACI PAD Configuration

Displays current WACI PAD settings and options:

- **Status:**
Displays Serial Number, MAC address, Current Network Settings, and Current Running Firmware
- **Change Network Settings:**
Setting DHCP or Manual IP Address, Subnet Mask, Gateway, Hostname, Master IP Address
- **Change Serial/IR Port Configuration / Baud Rate:**
Possible to use 2 Serial ports (1st with TX and RX, 2nd with only TX) or 1 Serial and 1 IR port
- **Button Settings:**
Setting Display Backlight Timeout (in Seconds), Adding Delay between Repeated press (e.g. 50 will make a half a second delay)

Settings will be applied when the Update and Reboot button is pressed.

To Reboot your WACI PAD 6 or 12 Press & Hold buttons 2&5 for about 5 seconds.

To Default the File System and Reset the Admin Password to ADMIN on your WACI PAD 6 or 12 Press & Hold buttons 1&4&6 while power is being applied (All User Added Files Will Be Lost!).

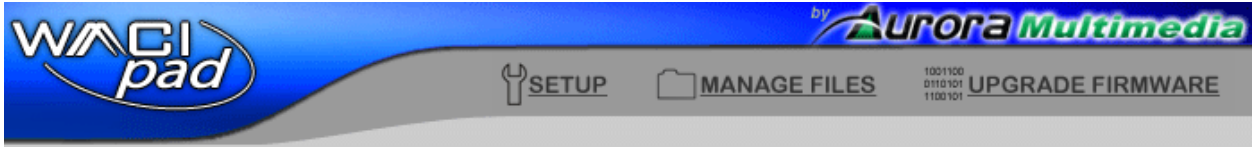
To Show a Script Status on your WACI PAD 6 or 12 Press & Hold buttons 5 & 6.

To Show a Script Status on your WACI PAD 12LRM Press & Hold buttons 6 & 7.

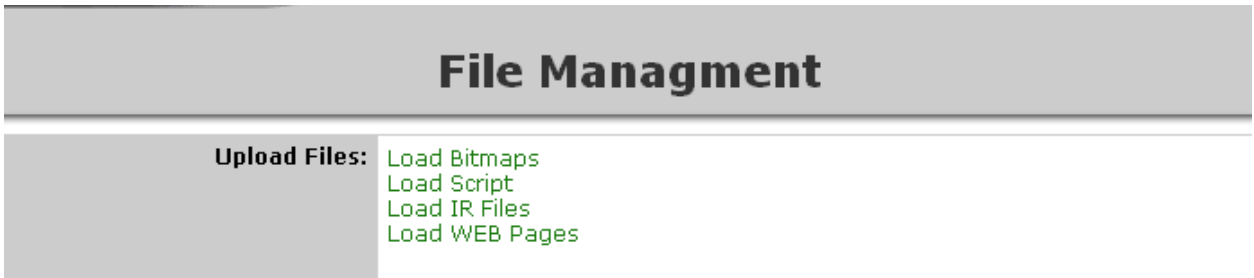
4.4 File Management

To upload files to the WACI PAD:

- 1) Connect to Web Interface
- 2) Select the Manage Files Tab

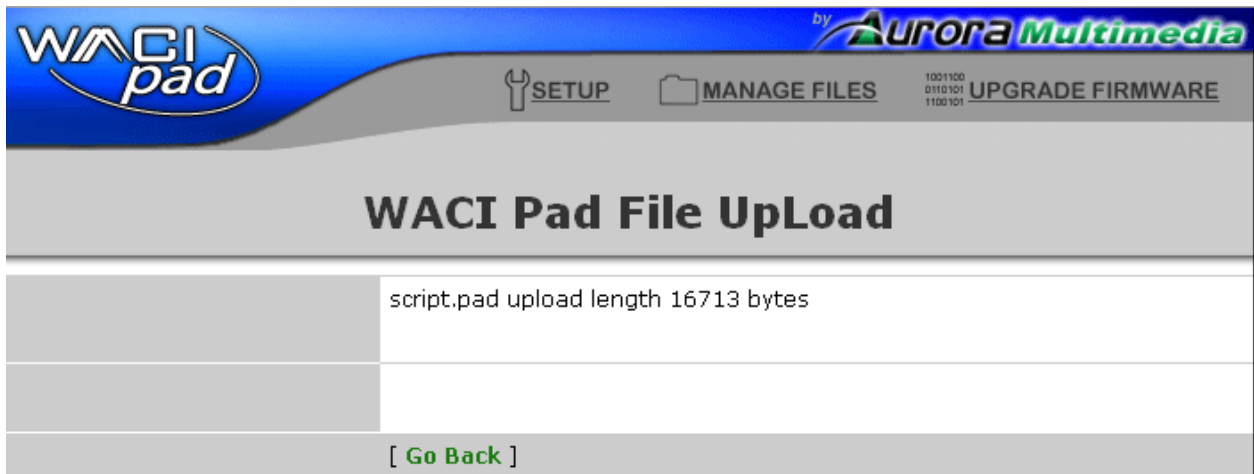


- 3) Select the type of File you wished to upload, i.e.: Bitmap, Script, IR, or Web Page



- 4) Click Browse to Search for the file you wish to upload
- 5) Once File is selected, click the "Press to Upload" Button

On Completion of File Upload the Web should display the file size that was uploaded. Example:

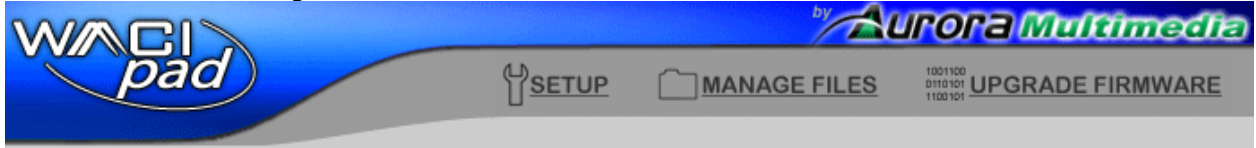


NOTE: Files can only be loaded one at a time. Though files will appear to be uploaded and functional, files will not save permanently for 2 minutes allowing for multiple files to be uploaded before file system updates and reboots WACI PAD.

4.5 Deleting Files

To Delete Files from the WACI PAD:

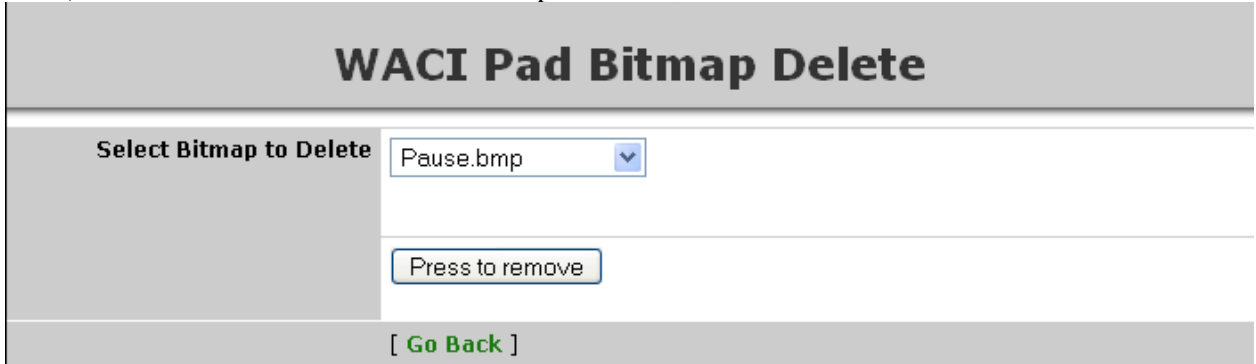
- 1) Connect to Web Interface
- 2) Select the Manage Files Tab



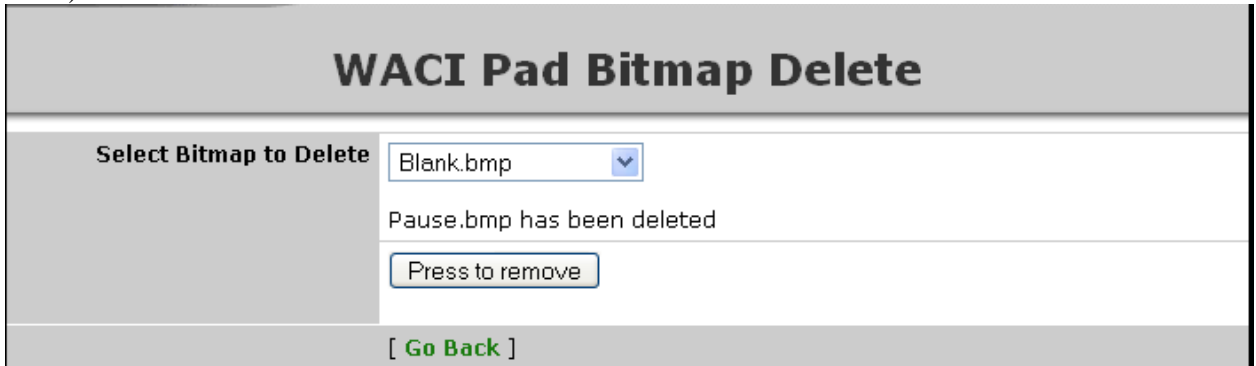
- 3) Select the File type you wish to delete, i.e.: Bitmaps, IR, Web Page



- 4) Select the File to Delete from the drop down box, then click Press to remove



- 5) The Delete will be confirmed

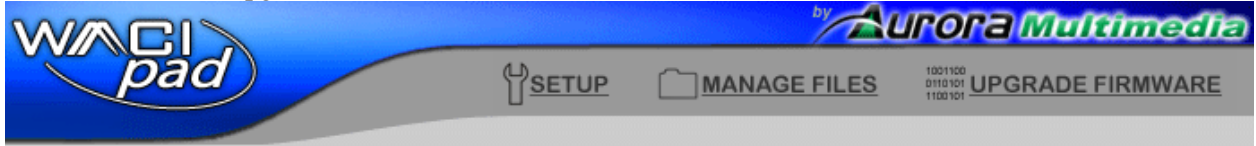


NOTE: Files can only be deleted one at a time. The Files will delete immediately, unlike when uploading files.

4.6 Firmware Upgrade

To upgrade firmware on the WACI PAD:

1. Connect to the Web Interface
2. Select the Upgrade Firmware tab



3. Click on Browse to search for Firmware File

The screenshot shows the 'WACI Pad Firmware Upload' form. It has a title bar with the text 'WACI Pad Firmware Upload'. Below the title bar, there is a label 'Firmware File to Upload:' followed by an empty text input field and a 'Browse...' button. Below the input field is a 'Press to Upload the File' button.The screenshot shows the 'WACI Pad Firmware Upload' form with a file selected. The title bar contains 'WACI Pad Firmware Upload'. The 'Firmware File to Upload:' label is followed by a text input field containing the path 'C:\WACIPad_v01-10.bin' and a 'Browse...' button. Below the input field is a 'Press to Upload the File' button. At the bottom of the form, there is a '[Go Back]' link.

4. Once File is selected, Click on the “Press to Upload the File” button

Upon upload completion the WACI PAD web page will go to <http://IP/fup> indicating that the file upload was successful. The WACI PAD may appear to be off, however it is rewriting the file system to apply the Firmware update.

IMPORTANT: THIS PROCESS WILL TAKE 1-3 MINUTES, BUT IT COULD ALSO TAKE AS LONG AS 10 MINUTES!

5 Programming the WACI PAD

5.1 WACI PAD CREATOR

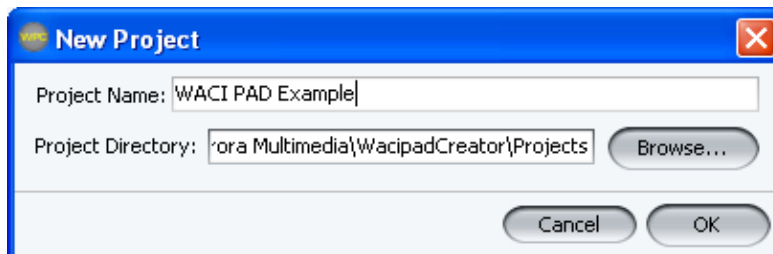
WPC can be used to create script files for the WACI PAD.
Available in WPC Version 2.1.1:

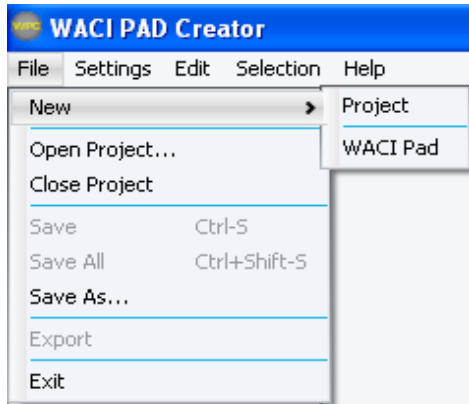


5.1.1 Getting Started

To Create a Button interface using WPC 2.1.1:

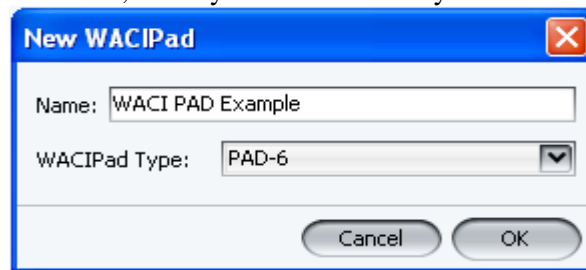
- 1) Open WPC 2.1.1
- 2) Create a New Project, Name the Project and Click OK



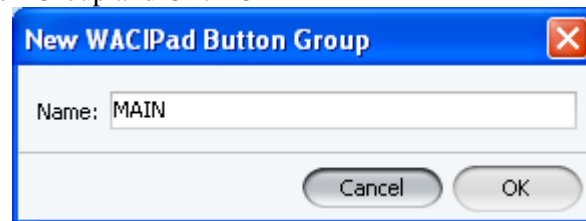


3) Click File → New → WACI Pad

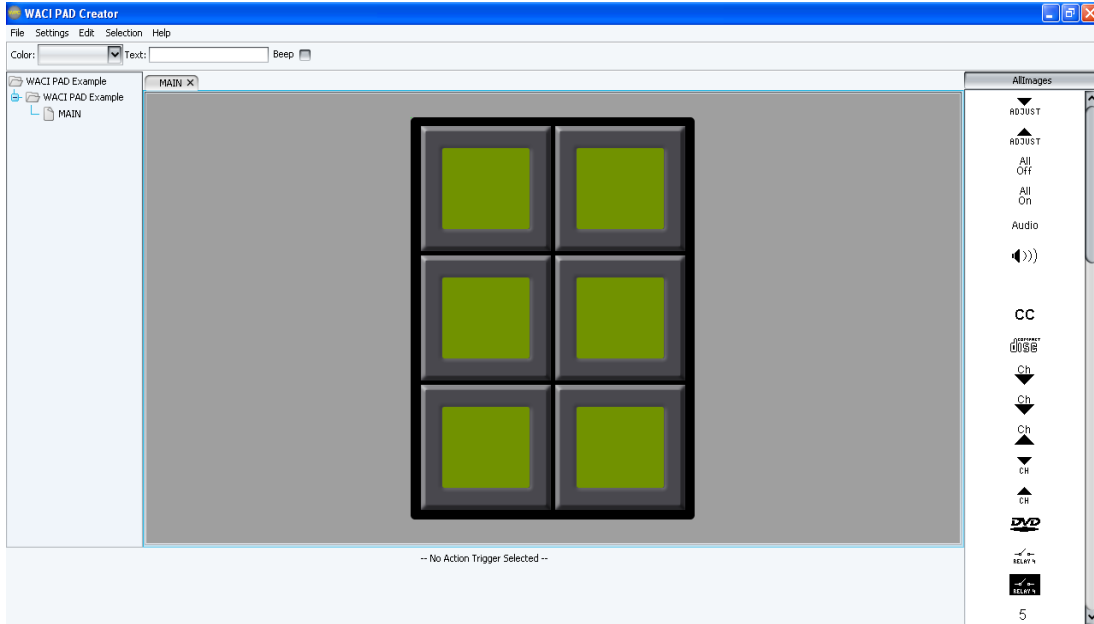
4) Name the WACI Pad file, select your WACI PAD system and Click OK.



5) Name the Button Group and Click OK



6) Interface will be showing a WACI PAD project

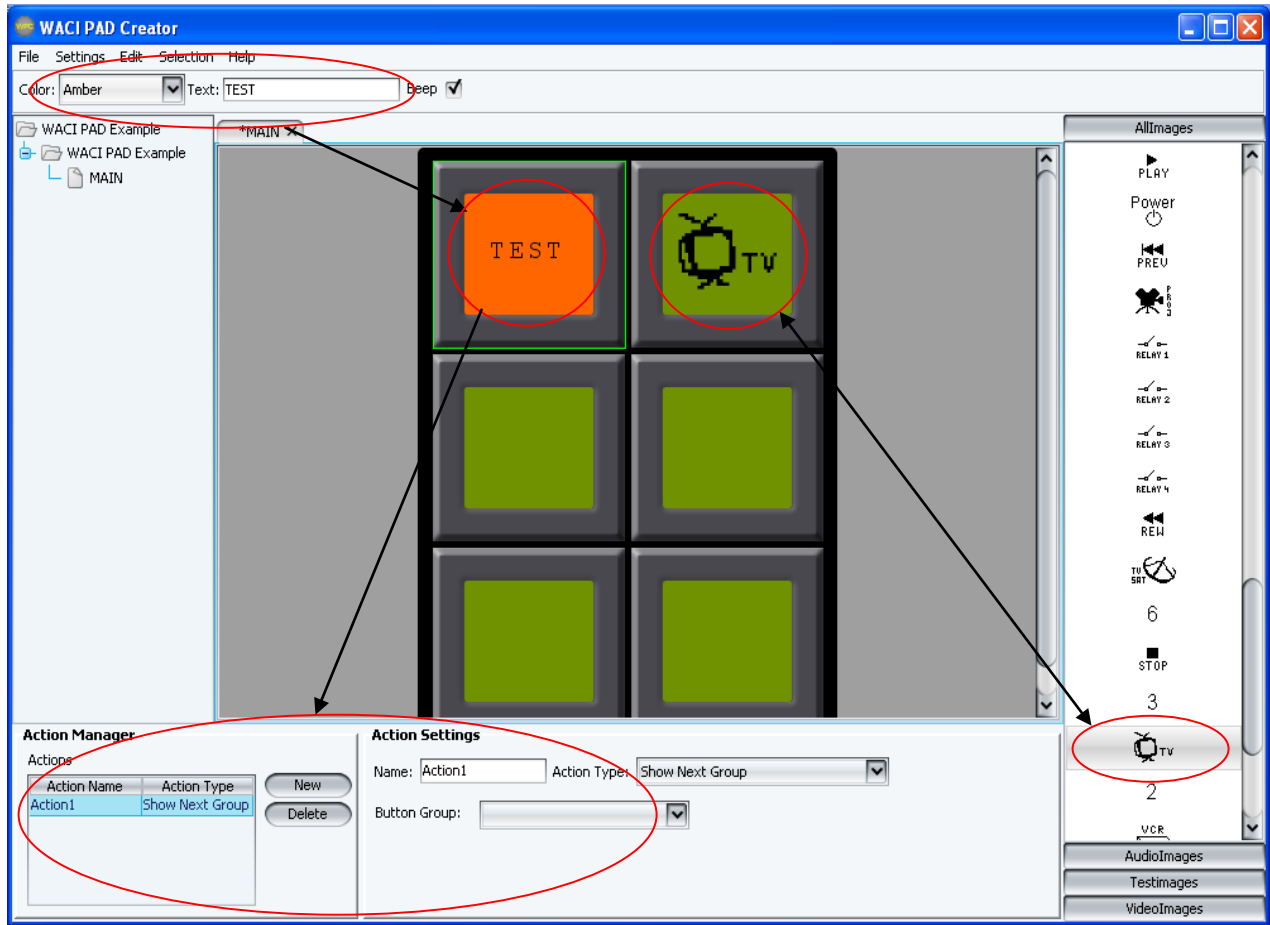


5.1.2 Editing a Button

Each button can have the following attributes changed:

- Images: Images can be dragged and dropped into each button
- Text: Enter text to display on Button
- Beep: On/Off
- Color: Off, Red, Green, Amber
- Actions:
 - IR Send – Send IR string out of an IR port (only if Port 2 switched to IR mode – check WACI PAD Configuration page if you are not sure)
 - RPC Send – Send RPC command to Master WACI
 - Serial Send – Send Serial string out of a Serial port
 - Show Next Group – Display selected group of buttons
 - Delay – Add delay between commands in Action Manager (in milliseconds)
 - Go Back Group – Goes back to the previous Button Group
 - Serial IR – Send Serial string out of an IR port (only if Port 2 switched to Serial mode – check WACI PAD Configuration page if you are not sure)
 - WACI Event Trigger – Trigger Event on Master WACI
 - WACI Set Variable – Set Variable on Master WACI

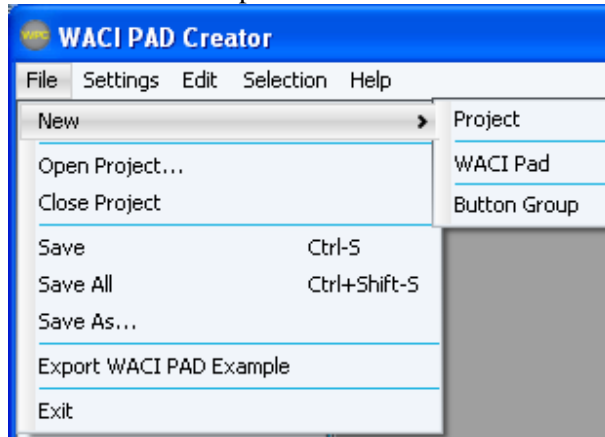
WACI PAD 6/12/12LRM Manual



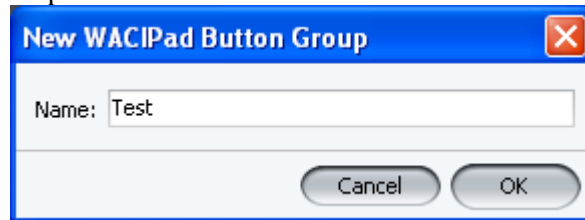
5.1.3 Adding Button Groups

To add new Button Groups:

- 1) Click File → New → Button Group



- 2) Name Button Group and click OK

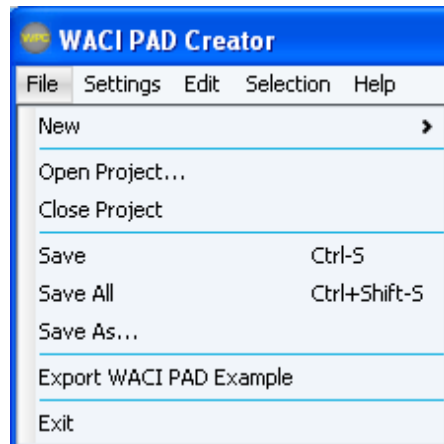


NOTE: Edit Button Group as needed. The Show Next Button Group List will include any Button Groups created.

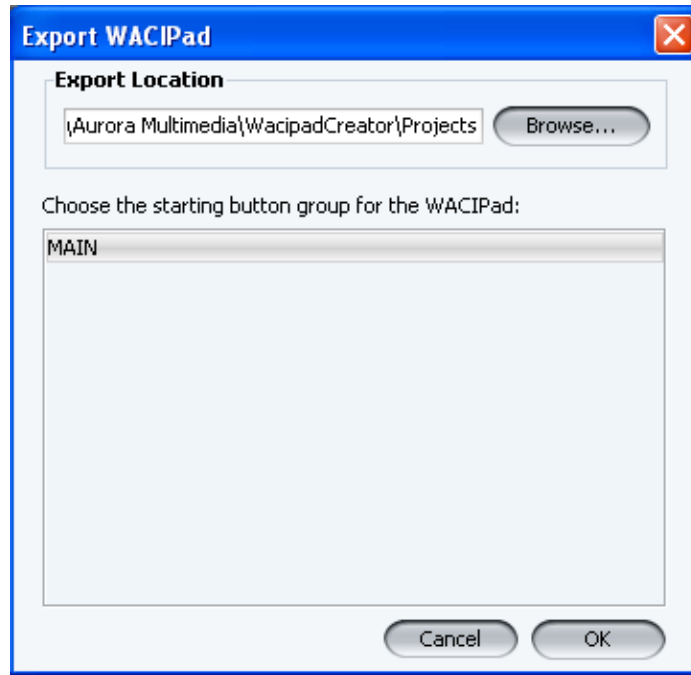
5.1.4 Exporting a Script

To Export a Script file:

- 1) Click File → Export WACI PAD EXAMPLE

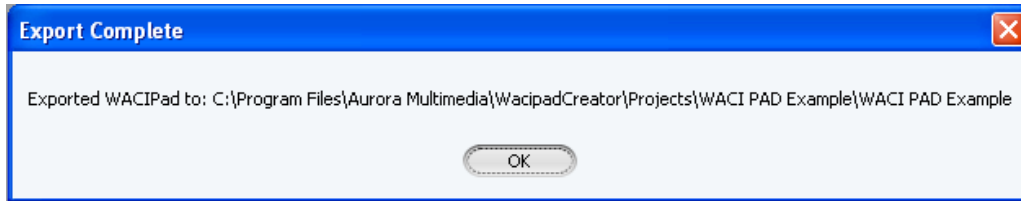


- 2) Select Location to save *.PAD file to, along with the starting button group. Then click



OK.

- 3) A confirmation dialog will confirm export



- 4) The Script file created can now be uploaded to the WACI PAD along with any bmp images or IR files needed for the script to function

5.2 Advanced Programming

WACI PAD is a control system that contains a panel of dynamic push buttons. The panels come in six and twelve button configurations. Each button has a dedicated LCD display that enables the user to change the button image and associated control actions at any time. With this dynamic implementation a single WACI PAD can be used to issue a near limitless number of control commands through a user defined interface that is customized to an installation.

The WACI PAD can operate in a standalone mode, as a slave to a WACI control system or some combination of these modes. While functioning as a slave the master WACI will determine the images shown on the button displays and/or the actions performed upon a press. This master WACI override control can be done on a button by button basis allowing some of the panel buttons to continue in standalone mode.

Exactly how the WACI PAD functions in standalone mode is determined by a script contained in a simple ASCII text file that is uploaded to the device. This script defines the display images and actions associated with each button of the panel. A script is organized in groups of six or twelve button definitions that establish the current state of the entire panel. When a button group becomes active each button is changed to take on the characteristics indicated by the button definitions in the group. The first button group defined in the script will become active when the WACI PAD first starts up. Only one button group can be active at any time. Other button groups become active through actions defined in the currently active group.

5.2.1 Writing Scripts

The following is an example of a button group for a six button WACI PAD. The semicolon (;) character is used to indicate comments in the script file. No further processing will be done on a script line after the semicolon character is encountered outside of a quote embedded string definition.

NOTE: Script files MUST be saved with a .PAD extension.

```

ButtonGroup="Main Menu"
;
Color=Green Picture="tv.bmp" Action=[ SerialSend="TV Button Pressed%0d%0a"
                                     + IRSend="AuroraXTune.wir" "Power"
                                     + ShowNextGroup="TV" ]
Color=Green Text="DVD" Action=[ SerialSend="DVD Button Pressed%0d%0a"
                                 + ShowNextGroup="DVD" ]
Color=GreenNoBeep Picture="blank.bmp" Action=[ ]
;
Color=Green Picture="vcr.bmp" Action=[ SerialSend="VCR Button Pressed%0d%0a"
                                       +Delay=1000
                                       +SerialIR="Out Port 2%0d%0a"
                                       + ShowNextGroup="VCR" ]
Color=Green Picture="light.bmp" Action=[ SerialSend="Lights Button Pressed%0d%0a"
                                          + RPCSend="method=AssignVariable&Param1=button&Param2=0&Param3=1"
                                          + ShowNextGroup="Lights" ]
Color=Green Picture="next.bmp" Action=[ SerialSend="Next Menu Button Pressed%0d%0a"
                                          + ShowNextGroup="Next Menu" ]
ButtonEndGroup
;

```

5.2.2 Script Function Definitions

ButtonGroup="group name"

defines the beginning of a button group and assigns a name that can be used elsewhere in the script to reference this button group. In the example the group is called *Main Menu*. Both the name and quotation marks are required.

Color=color

indicates the backlight color for the button. The color can be **Off, Red, Green or Amber**. By default the WACI Pad will make a beeping sound when a key is pressed. This sound may be individually muted by adding the **NoBeep** suffix to the color definition (**OffNoBeep, RedNoBeep, GreenNoBeep or AmberNoBeep**). The color assignment is required. There should be no quotation marks.

Picture="filename"

indicates the name of a previously uploaded file that contains the bitmap image to be shown on the button. Filenames can be up to 18 characters long but may not contain spaces or begin with wp~ which is reserved for system files. WACI Pad bitmap files are 36x24 black & white bitmap images. There are some images already available to use in the WPC, but if needed you could create one in Microsoft Paint. The files should be 254 or 256 bytes in length. If the WACI Pad cannot find the file a default image of a diamond shape surrounded by two box frames will be displayed. Both the filename and quotation marks are required. The Picture= and Text= commands are mutually exclusive. Only one can be associated with any single button definition

Text="text string"

indicates a literal text string that is to be shown on the button. ASCII characters '!' through '_' are valid for display which is a range that includes digits and upper case alphas. The total text display area of a single button is three lines of six characters each. The WACI Pad will center smaller strings on the display but spaces may need to be added at the beginning or end of the string to achieve the desired display format. The quotation marks are required. The Text= and Picture= commands are mutually exclusive. Only one can be associated with any single button definition

Action=[

indicates the start of an action block to be triggered by a press of the button. The button actions are contained within square brackets ([]). The action block is required although it may be empty. There is no limit on the number of actions in an action block. The 2nd through nth actions need to be preceded by a plus sign (+) to indicate

additional actions. The closing square bracket (**]**) indicates the end of the action block.

Available actions are:

ShowNextGroup= "name"

makes the button group that is named within the ShowNextGroup command the active button group. All actions defined within the action block will be executed prior to this transition. Both the name and quotation marks are required. The name must be the name of a valid button group defined elsewhere in the script. . The ShowNextGroup and GoBackGroup commands are mutually exclusive. Only one can be associated with any single button definition

GoBackGroup

makes the previously displayed button group the active button group. All actions defined within the action block will be executed prior to this transition. There is no parameter associated with this command. The ShowNextGroup and GoBackGroup commands are mutually exclusive. Only one can be associated with any single button definition

Delay="xxxx"

pauses the execution of actions for the number of milliseconds indicated by "xxxx". Both the xxxx delay parameter and quotation marks are required.

SerialSend="string"

transmits the indicated data out the serial port. The string is a modified URL encoded string that permits ASCII spaces along with printable ASCII and hex. Non-printable ASCII must be encoded as hex values. Hex values are the ASCII representation of two hex digits preceded by a percent sign (%). This means that the percent sign itself is not a valid character and must be encoded as a hex value (%25) to be transmitted. So to transmit the string "100%" followed by the carriage return and linefeed characters the encoded string would be "100%25%0d%0a". The %25, %0d, and %0a are the hex values for the ASCII percent sign, carriage return and linefeed respectively.

SerialIR="string"

transmits the indicated data out the IR port which is assumed to be configured as second serial port in the WACI Pad setup. The string is a modified URL encoded string that permits ASCII spaces along with printable ASCII and hex. Non-printable ASCII must be encoded as hex values. Hex values are the ASCII representation of two hex digits preceded by a percent sign (%). This means that the percent sign itself is not a valid character and must be encoded as a hex value (%25) to be transmitted. So to transmit the string "100%" followed by the carriage return and linefeed characters the encoded string would be "100%25%0d%0a".

The %25, %0d, and %0a are the hex values for the ASCII percent sign, carriage return and linefeed respectively.

IRSend="filename" "keyname"

transmits the indicated key out the infrared port which is assumed to be configured for IR in the WACI Pad setup. The filename indicates the name of a previously uploaded file that contains IR data. Filenames can be up to 18 characters long but may not contain spaces or begin with wp~ which is reserved for system files. The key name indicated the key press within the file to transmit. The filename, key name and enclosing quotation marks are all required.

RPCSend="method=AssignVariable&Param1=button&Param2=0&Param3=5"

makes the RPC call defined within quotes to the WACI at the Master WACI IP indicated in the WACI Pad configuration. The text can include any method/parameter combination supported by the WACI. The method string shown here is used as an example. Enclosing quotation marks are required.

ButtonEndGroup

defines the end of a button group.

6 RPC Commands

Remote procedure calls (RPCs) are used to control your WACI PAD using another WACI, or using a client computer. You can send Serial, Serial IR, or IR commands from the WACI PAD or even change the image and color of selected buttons.

Anything the WACI PAD can do can be configured or controlled through the RPC interface.

General Information Methods

GetMachineType ()

Returns the type of WACI PAD, either 6, 12, or 12LRM

e.g. **method=GetMachineType**

GetWebFileNames ()

Returns the names of WEB Pages loaded on the WACI PAD

e.g. **method=GetWebFileNames**

GetIRFileNames ()

Returns the names of IR files loaded on the WACI PAD

e.g. **method=GetIRFileNames**

SetWACIMasterIP (IP)

Sets the main WACI IP Address

e.g. **method=SetWACIMasterIP¶m1=192.168.1.101**

Parameters

Param 1: IP address

SetBacklight (buttonNum, color, survive)

Sets a Backlight color to the selected button

e.g. **method=SetBacklight¶m1=2¶m2=amber¶m3=1**

Parameters

Param 1: Valid values are 1 to 12

Param 2: Valid values are: Amber, Red, Green, and Off

Param 3: Valid values are: 0 and 1

SetBitmap (buttonNum, backLight, survive, fileName.ext)

Sets a Bitmap to a selected button

e.g. **method=SetBitmap¶m1=1¶m2=red¶m3=1¶m4=dvd.bmp**

Parameters

Param 1: Valid values are 1 to 12

Param 2: Valid values are: Amber, Red, Green, and Off

Param 3: Valid values are 0 and 1

Param 4: Correct name of a bitmap file loaded on the WACI PAD

ClrBitmap (buttonNum)

Clears a Bitmat from a selected button

e.g. **method=ClrBitmap¶m1=1**

Parameters

Param 1: Valid values are 1 - 12

ClrAllBitmaps ()

Clears All Bitmaps

e.g. **method=ClrAllBitmaps**

SetButtonText (buttonNum, color, survive, text)

Sets a String text for a selected button

e.g. **method=SetButtonText¶m1=1¶m2=green¶m3=1¶m4=text**

Parameters

Param 1: Valid values are 1 – 12

Param 2: Valid values are: Amber, Red, Green, Off

Param 3: Valid values are 0 and 1

Param 4: Text to be displayed

GetSerialNumber ()

Returns the Serial Number of your WACI PAD

e.g. **method=GetSerialNumber**

GetFirmwareVersion ()

Returns the Firmware Version of your WACI PAD

e.g. **method=GetFirmwareVersion**

BackButtonGroup ()

Makes the WACI PAD go to a Previous Button Group

e.g. **method=BackButtonGroup**

SetButtonGroup (buttonGroup)

Makes the WACI PAD go to a specified Button Group

e.g. **method=SetButtonGroup¶m1=0**

Go to page zero / Go Home

Parameters

Param 1: Valid values are the numbers of Button Groups

SetAllBacklights (color)

Sets a specified color on all buttons

e.g. **method=SetAllBacklights¶m1=RED**

Parameters

Param 1: Valid values are: Amber, Red, Green, Off

Network Methods

Net_GetIPAddress ()

Returns the current IP address of the device.

e.g. **method=GetIPAddress**

Net_GetSubnetMask ()

Returns the current subnet mask of the device.

e.g. **method=GetSubnetMask**

Serial Methods

Serial_GetSettings (Port)

Returns the port settings for the specified serial port.

e.g. **method=Serial_GetSettings¶m1=1**

Parameters

Port [in] Port number for the serial port. Valid values are 1 and 2.

Settings [out, retval] Comma separated string representing the current port settings. On error, this parameter is returned as NULL or "". The format of the string is: baud-rate, parity, stop-bits, RS422-flag, flow-control, e.g. "9600,8,NONE,1,0,HARDWARE".

Remarks

Valid values for the different settings are:

Baud: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

Parity: ODD, EVEN, NONE

Stop Bits: 1, 2

Flow Control: HARDWARE, SOFTWARE, NONE

Serial_Send (Port, Msg, MaxWaitMS)

Sends a string to the specified port.

e.g. **method=Serial_Send¶m1=1¶m2=yourcommandhere¶m3=0**

Parameters

Port [in] Port number for the serial port. Valid values are 1 and 2.

Msg [in] URL encoded string to be sent to the port.

MaxWaitMS [in] The number of milliseconds allowed to complete the sending of the serial data before timing out.

NotSent [out, retval] If an error occurred or the timeout expired, then this is the number of bytes not

sent; otherwise, this value is set to 0.

Remarks

The Msg parameter text should be passed in as a URL encoded string. To have a Nul character sent out the serial port, pass a "%00" as part of the Msg string.

Serial_Read (Port)

Returns the contents of the serial read buffer for the specified serial port.

e.g. **method=Serial_Read¶m1=1**

Parameters

Port [in] Port number for the serial port. Valid values are 1 and 2.

Read [out, retval] URL encoded string read from the specified port.

Remarks

The string returned by this method is in URL encoded format. Once the data is read from the buffer, the contents of the serial read buffer are cleared.

Serial_ClearReadBuffer (Port)

Clears the contents of the read buffer for the specified port.

e.g. **method=Serial_ClearReadBuffer¶m1=1**

Parameters

Port [in] Port number for the serial port. Valid values are 1 and 2.

Success [out, retval] TRUE if the buffer was cleared, FALSE if buffer failed to clear.

Remarks

If you wish to read a specific response to a sent command, then make a call to this function just prior to calling

Serial_ReadBufferCount (Port)

Returns the number of characters in the read buffer for the specified port. The maximum number of characters stored by the circular buffer is 4K.

e.g. **method=Serial_ReadBufferCount¶m1=1**

Parameters

Port [in] Port number for the serial port. Valid values are 1 and 2.

Count [out, retval] Number of characters currently in the receive buffer.

Serial_ConfigSettings (Port, BaudRate)

Sets selected port to specified baud rate settings

e.g. **method=Serial_ConfigSettings¶m1=1¶m2=9600,8,NONE,1,0,NONE**

Parameters

Valid values for the different settings are:

Baud: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

Parity: ODD, EVEN, NONE

Stop Bits: 1, 2

RS422 flag: 0, 1

Flow Control: HARDWARE, SOFTWARE, NONE

Buzzer Methods

Buzzer_On ()

Emits a beeping noise from inside the WACI PAD.

e.g. **method=Buzzer_On**

Parameters

Success [out, retval] Returns TRUE if the buzzer was turned on.

Buzzer_Off ()

Emits a beeping noise from inside the WACI.

e.g. **method=Buzzer_Off**

Parameters

Success [out, retval] Returns TRUE if the buzzer was turned off.

IR Methods

IR_SendCommand (Port, Group, Command)

Sends an IR command out the specified IR port.

e.g. **method=IR_SendCommand¶m1=1¶m2=dvd¶m3=power**

Parameters

Port [in] Port number of the IR Port of interest. Valid values are 1 and 2.

Group [in] Name of the file that contains the command.

Command [in] Name of the command to send.

Success [out, retval] TRUE if command was successfully sent, and FALSE if the WACI failed to send the command.

Remarks

Commands are typically grouped together by device.

7 Specifications

7.1 Processor

- 250MHz 32bit processor

7.2 Connections

- RJ45
 - 10/100 Base-TX RJ45 single port
 - LEDs
 - Integrated magnetics
- 2 pin Phoenix
 - Positions: 2
 - Pitch: 3.81 mm
 - Pin dimensions: 0.8 x 0.8 mm
 - Hole diameter: 1.2 mm
- 4 pin Phoenix
 - Positions: 4
 - Pitch: 3.81 mm
 - Pin dimensions: 0.8 x 0.8 mm
 - Hole diameter: 1.2 mm

7.3 Dimensions

- Unit
 - Length
 - 3.125 in
 - Width
 - 1.8 in
 - Height
 - 2 in
- Shipping
 - Length
 - 7.75 in
 - Width
 - 5.25 in
 - Height
 - 3.5 in

7.4 Weight

- Unit
 - 0.2 lbs
- Shipping
 - 0.5 lbs

Limited Lifetime Warranty

Aurora Multimedia Corp. (“Manufacturer”) warrants that this product is free of defects in both materials and workmanship for the product lifetime as defined herein for parts and labor from date of purchase. This

Limited Lifetime warranty covers products purchased in the year of 2003 and after. Product lifetime is defined as 7 years from discontinuance of product. Motorized mechanical parts (Hard Drives, DVD, etc) and cables are covered for a period of 1 year. Supplied batteries are not covered by this warranty. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with same or similar model) at our option without charge for parts or labor for the specified product lifetime warranty period.

This warranty shall not apply if any of the following:

- A. The product has been damaged by negligence, accident, lightning, water, act-of-God or mishandling; or,
- B. The product has not been operated in accordance with procedures specified in operating instructions; or,
- C. The product has been repaired and or altered by other than manufacturer or authorized service center; or,
- D. The product's original serial number has been modified or removed; or,
- E. External equipment other than supplied by manufacturer, in determination of manufacturer, shall have affected the performance, safety or reliability of the product.
- F. Part(s) are no longer available for product.

In the event that the product needs repair or replacement during the specified warranty period, product should be shipped back to Manufacturer at Purchaser's expense. Repaired or replaced product shall be returned to Purchaser by standard shipping methods at Manufacturer's discretion. Express shipping will be at the expense of the Purchaser. If Purchaser resides outside the contiguous US, return shipping shall be at Purchaser's expense.

No other warranty, express or implied other than Manufacturer's shall apply.

Manufacturer does not assume any responsibility for consequential damages, expenses or loss of revenue or property, inconvenience or interruption in operation experienced by the customer due to a malfunction of the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period.

This warranty does not cover damage to the equipment during shipping and Manufacturer assumes no responsibility for such damage.

This product warranty extends to the original purchaser only and will be null and void upon any assignment or transfer.

FCC Part 15 Statement

RADIO AND TELEVISION INTERFERENCE

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 by 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 connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment.

Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.