

Wireless Remote Focus Unit (WRFU)



for Emphasis/Obsession II Control Systems User Manual

Version 4.1.0

ATTENTION:

This manual contains important configuration information for your wireless network. In addition to installing the WRFU software on the Pocket PC, you must configure the Pocket PC and Wireless Access Point(s) to operate on the ETCNet2 network.

Please write your WRFU serial number here. It can be found on the software CD in this kit. You will be asked for this number if you call ETC Technical Services for WRFU support.

S/N: _ _ _ - _ _ _ _ _ - _ _ _ _

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Product information and specifications subject to change.
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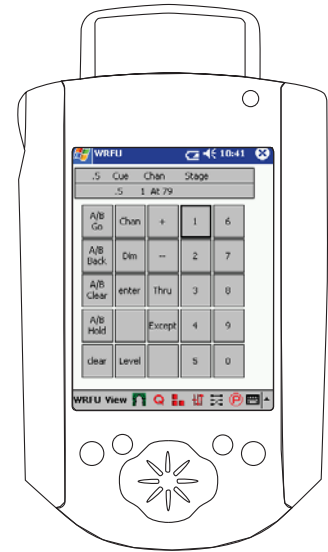
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Introduction

ETC's latest addition to the suite of products using ETCNet2 technology, the WRFU is wireless Ethernet Remote Focus Unit software for Obsession II and Emphasis Control Systems. Suitable for approved handheld devices (Pocket PC), WRFU offers you the comprehensive functionality already available in ETC's wired RFU, with the added flexibility of a small handheld wireless unit, fast reliable wireless connection, a backlit touch screen, increased functionality including a macro selection screen, and the benefit of on-board host Windows® applications for your lighting data.



Features

- Designed for recommended *Pocket PC* platform PDAs
- Offered in a software-only package, or in packages bundling the software with Cisco Systems® wireless Ethernet PC card and Wireless Access Point, and HP® iPAQ™ Pocket PC and expansion sleeve
- Compatible with Obsession II and Emphasis Control Systems
- Wireless control reduces set-up time, focusing time
- Simple drop-down menu system to configure users, timeout, security

Obsession WRFU screens

- Focus screen - channel and dimmer level selection functions
- Cue screen - cue recording functions
- Sub/Group screen - submaster and group recording and playback functions
- Playback screen - cue selection and playback functions
- Softkey screen - access to softkeys
- Macro screen - macro and soft-key functions
- User Macro screen - allows single button touchscreen access to 25 macros at a time with scrolling pages and editable range
- Display screen - access to console display and navigation functions (Touchpad functionality)
- Channel Usage screen - access to sort and display functions (Touchpad functionality)
- Flexichannel screen - access to channel display functions (Touchpad functionality)
- Phantom Screen - access to Phantom mode functions
- Custom Screens - Create screens containing the functions you want to have together
- Icons - for direct access to Live, Blind, Group, Sub, Patch and Park display modes

Emphasis WRFU screens

- Channel screen - channel selection and level setting functions
- Record screen - recording functions

- Playback screen - cue and macro playback functions
- User Macro screen - allows single button touchscreen access to 25 macros at a time with scrolling pages and editable range
- Softkeys screen - access to softkeys and the *flash* function for channel check
- Phantom Screen - access to Phantom mode functions
- Custom Screens - Create screens containing the functions you want to have together
- Icons - for direct access to Stage, Blind, Group, Sub, Patch and Park display modes



Note: *WRFU for Emphasis is enabled with an upgrade code. You will not be able to use the WRFU with an Emphasis system that has not been upgraded. The upgrade code should be supplied when you purchase a WRFU for use with Emphasis. See the System Overview chapter in either of the Emphasis User Manuals for instructions on entering your upgrade code.*

Compatibility

The Wireless Remote Focus Unit software, version 4.1.0 is compatible with Obsession II lighting control systems running software version 5.1.0, Emphasis Control Systems running software version 1.4.0 and above, and ETCNet2 Ethernet networks version 4.0.0 and above. If you have any questions regarding compatibility please contact ETC Technical Services at the number nearest you.

- ETC Americas . +1 608 831 4116
- ETC Asia +852 2799 1220
- ETC Europe . . +44 (0)20 8896 1000

Recommended Hardware

ETC has qualified the following hardware for use with WRFU software version 4.1.0.

- Compaq iPAQ H3760, H3850, H3950 and 5455 (and Microsoft Active Sync software).
- HP iPAQ expansion sleeve.
- Cisco Aironet 340 and 350 Wireless Ethernet Access Point.
- Cisco Wireless Ethernet PCMCIA card (340 or 350 series).
- Personal computer with CD-ROM drive for software installation.



Note: *Other hardware may be compatible with the WRFU system, however, ETC has only verified the hardware listed above.*

ETC will make every effort to assist with the installation and support of Cisco and HP (Compaq) equipment but the latest product information and software updates should be obtained directly from the manufacturer.

HP (Compaq): www.hp.com **Cisco:** www.cisco.com

Wireless Network Requirements

You may choose to provide your own hardware for your wireless network and Pocket PC. If so, that hardware must meet the wireless network requirements in this section.

Wireless equipment must meet current 802.11b, 802.11a, or 802.11g standards. A brief functional comparison is available below.

- **802.11b** Recommended. Distance limitation varies on data rate and antenna type : unregulated by FCC (802.11b devices are common at consumer electronic stores. It is, however, susceptible to atmospheric noise and transmission strength can be affected by the construction of your facility.)
- **802.11a** Accepted. Distance limitation varies on data rate and antenna type : partially regulated by FCC. (This is an alternate to 802.11g. It provides a higher noise immunity than 802.11b or 802.11g due to the higher frequency. It is, however, greatly impeded by steel and concrete construction and may be overly limiting in certain venues.)
- **802.11g** Accepted. Distance limitation varies on data rate and antenna type : unregulated by FCC. (This protocol is a faster version of 802.11b. It provides significantly higher bandwidth with the same limitations as 802.11b.)

WRFU requires a network that supports the following protocols over IP: TCP, Unicast UDP, and Multicast UDP.



Note: *Higher frequency signals travel shorter distances when compared to lower frequency signals. Materials such as metals and water reflect RF signals while wood and fabrics absorb RF signals.*



Note: *All of the above wireless standards are compatible with ETC WRFU product. Results may vary from standard to standard. Refer to manufacturers' specifications for further detail about compatibility and use.*

Wireless Access Point (WAP) Addressing

Most WAPs are configured to work on any network in a factory-default state. Please refer to the information supplied with your device. In order to prevent any potential difficulties, ETC recommends that you configure your WAP to the suggested IP Address range.

If your system contains multiple WAPs, ETC strongly recommends you configure all devices on the network with separate IP addresses. This will prevent possible conflicts between the devices in your network.

	ETC Range
IP Address	10.101.120.101 thru 10.101.120.253
Subnet Mask	255.255.0.0
Gateway	Set this to the same address as the IP Address on networks without a router. On routed networks, set this to 10.101.120.1.

Recommended Wireless Security Practices

The following security measures are recommended to help increase data security over a wireless network. See the documentation provided with your WAP and Pocket PC regarding these settings.

- Change the default SSID. Configure to a non-default value (default value depends on manufacturer of WAP).
- Disable broadcast of SSID.
- Enable MAC address filtering
- Enable WEP (preferable 128-bit)



CAUTION: *The MAC address currently shown on the WRFU program may not be correct. Use the software that came with your network card or Pocket PC to determine the correct MAC address. This is only necessary if MAC filtering is enabled on the WAP. See the manufacturer's documentation provided with your WAP for more information.*

Minimum Pocket PC Requirements

- Pocket PC 2002 or later operating system
- MS ActiveSync version 3.5 or greater, or SD (Secure Digital) Media slot (for software loading only)
- 802.11 Wireless Ethernet support
- 250k bytes free RAM

WRFU Installation Procedure

Whether you purchased your WRFU hardware as a package from ETC, or you provided the hardware yourself, you will need to do some initial configuration. Perform all the following procedures in this section to configure your wireless network and install the WRFU software.



Note: *In the event that the battery in your Pocket PC discharges fully it may be necessary to reinstall the WRFU application and reconfigure the Pocket PC for operation. If you have created custom screens, see [Backup your Custom Screens File, page 12](#), to protect those screens from deletion upon reinstalling the software. You can also backup the entire contents of your Pocket PC to a PC, SD or compact flash card - see the manufacturer's instructions for your specific handheld unit.*

Setup the Wireless Network

When you turn the Pocket PC on for the first time you may be asked to follow some initial configuration instructions. Once you have configured your Pocket PC you can continue with the installation instructions.



CAUTION: *Do not put your Pocket PC in the docking cradle/battery charger before loading Active Sync software.*

Install Active Sync software:

- Step 1: The Active Sync software is provided with your Pocket PC. Follow the instructions provided with your Pocket PC for the installation of Active Sync on your personal computer. You can also find Active Sync available for download at www.pocketpc.com.
- Step 2: At the *Setup a Partnership* screen, it is recommended to setup a "Guest" partnership. The Guest partnership does not attempt to synchronize the Pocket PC with the personal computer on each connection. You will be notified via Active Sync (on your personal computer) when it's properly connected to your Pocket PC.

Configure the wireless LAN adapter card:

- Step 1: Your Pocket PC may have an internal wireless LAN adapter card, or it may have an external card and an expansion sleeve. Use the manufacturer's instructions to configure your wireless LAN adapter card.
- Step 2: Set the IP address for the card to an address within the following range:
- 10.101.125.101 to 10.101.125.253
- Step 3: Set the Subnet Mask to 255.255.0.0.
- Step 4: Set the Gateway address to the IP address of your WAP on networks without a router. On routed networks, set this to 10.101.120.1.



Note: *To work with an ETCNet2 system that has default IP settings, the IP Address for the WRFU must be within the range of 10.101.125.101 to 10.101.125.253. Each Pocket PC on the ETCNet2 network must have a unique IP Address.*

Configure the WAP Network Settings

If you are using a single WAP in your system, it is usually a plug-and-play device that requires little or no user intervention.

If you use more than one WAP, each device requires a unique IP address. Additionally, you must set the Subnet Mask and the Gateway for the devices.

Consult the manufacturer's instructions for configuring the address and security settings for your WAPs. You will need to set the following:

- IP Address - each WAP must have a unique IP Address within the range of 10.101.120.101 to 10.101.120.253.
- Gateway - set the gateway to the same value as the IP address on each WAP on networks without a router. On routed networks, set this to 10.101.120.1.
- Subnet Mask - set the subnet mask to 255.255.0.0 on each WAP.
- SSID - for an added layer of security on your wireless network, set the SSID on the Pocket PC and WAP(s) to something other than the default setting. If you choose to change the SSID from default, set all the WAPs first, then update the Pocket PC. If your Pocket PC does not auto-find the SSID of your WAP, you will need to set it manually. This may occur if you have a wireless LAN adapter card made by a different manufacturer than the WAP. Consult the manufacturer's instructions for setting the SSID on the WAPs and the Pocket PC. The SSID must be the same on all WAPs and Pocket PC units in the system.

Install WRFU Software

To install the WRFU software on your Pocket PC, you can use the SD card if your Pocket PC has an SD card slot, or you can place your Pocket PC in the docking cradle/battery charger and synchronize to your personal computer using the Active Sync software.

Install WRFU Software from CD:

- Step 1: Put the **WRFU Installation** CD-ROM in the CD drive of your personal computer.
- Step 2: Open the CD and browse to the **WRFU Setup 4.1** file.
- Step 3: Right-click the **WRFU Setup 4.1** file and click **Copy**.
- Step 4: Connect your Pocket PC to your personal computer via the docking cradle/battery charger.
- Step 5: When the *Active Sync* application window appears on the Pocket PC, tap the **Explore** button.
- Step 6: Open the *Mobile Device* folder.
- Step 7: Paste the **WRFU Setup 4.1** file into the *Mobile Device* folder.
- Step 8: In the Pocket PC **Start** menu, tap **Programs**.
- Step 9: Tap **File Explorer**.
- Step 10: Tap **My Documents**.
- Step 11: Tap **WRFU Setup 4.1** to complete the installation.
- Step 12: Cycle power on the Pocket PC for changes to take effect.

Install WRFU software from an SD card:

- Step 1: Insert the SD card into the slot in the Pocket PC.
- Step 2: Using File Explorer, open the SD card.
- Step 3: Tap the file **WRFU Setup 4.1**.
- Step 4: Cycle power on the Pocket PC for changes to take effect.

Using the WRFU

WRFU is a software application that runs on your Pocket PC. To use your WRFU, you need to launch the WRFU application and connect to an Obsession II processor or an Emphasis Server on the network. By default, the WRFU will attempt to log in to system ID #0 on startup. If there is no System ID #0 online, the Processor Selection screen will be displayed and you will be able to choose the system to connect to.



Note: *The first time you start up the WRFU, you will see a selection screen requesting you to select either Obsession or Emphasis as your system type for use with custom screens. On systems with both Obsession II and Emphasis online, choose the system you will be using first. Custom screens may be created for either system on the same WRFU.*

Start the WRFU application:

- Step 1: On your Pocket PC, in the **Start** menu tap **WRFU**. If the WRFU is configured to force a login, the first screen that appears is the *User Login* screen.
- Step 2: Select the *Admin* user and enter the default password of **0**. Once you login as the Administrator you can configure your own user names and passwords. See [Configuration Settings, page 9](#), for additional information.
- Step 3: Tap **OK**. You may be prompted to select a processor on the network by its IP address.
- Step 4: Tap the IP address of the processor and tap **Connect**.



Note: *A red "X" next to a device indicates that the device has been online in the past but is currently offline. A green check next to a device indicates that the device is online. You can only connect to a device if it is online.*

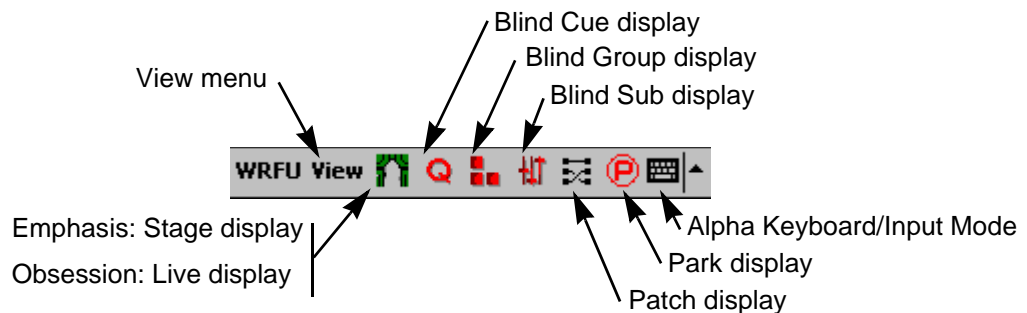
In Obsession II DPS systems, only the Primary Processor Unit or the PU acting as master will be displayed in the Processor Selection screen.

User Screens

The WRFU can display the following screens:

Obsession II		Emphasis
Focus	Softkeys	Channel
Cue	Display	Record
Sub/Group	Channel Usage	Playback
Playback	Flexichannel	User Macro
Macro	Phantom	Softkeys
User Macro	Custom	Phantom
		Custom

Each screen has a two line display which shows *Cue Status* and a *Command Line*. Each screen also has function keys (up to 25 keys) related to the tasks of the individual screen and a series of icons that allow you to quickly change the current console display.



Navigate between screens:

- In the **View** menu, tap the screen you wish to see. To view custom screens, tap **Custom** and use the navigation buttons described below to select from the available custom screens. If there are no custom screens recorded, the **Custom** menu option will be unavailable. To exit the custom screens, tap the **View** menu and select any default screen.
- or -
- Use the navigation buttons on your Pocket PC; use the **Down** or **Right** button to scroll through the screens in order and the **Up** or **Left** button to scroll through the screens in reverse order.

For a full description of the commands available on the WRFU screens, please refer to the *Obsession II User Manual* and/or the *Emphasis Console User Manual*.

Using the Pocket PC navigation buttons in the User Macro screen

When you are in the User Macro screen, the navigation buttons on the Pocket PC behave slightly differently. The **Left** and **Right** buttons scroll backward and forward through the WRFU screens, and the **Up** and **Down** buttons scroll forward and backward through the pages of available macros.

Using the WRFU with the Emphasis *Flash* Function

The Emphasis WRFU provides a *Flash* button that performs as if you were pressing and holding the Flash softkey on the Facepanel. This enables you to use the **[+]** and **[-]** buttons to perform a channel check. Select a channel to start with, tap the **[Flash]** button once to turn Flash "on" and tap **[Clear]** to turn Flash "off".

Phantom Mode Operation

Phantom mode allows you to park and unpark channels and dimmers to perform channel and dimmer checks without effecting what the console programmer is seeing. This is used primarily as a troubleshooting and focus tool. Nothing turned on or off in Phantom mode will be recorded into console show memory. No other functions are available at the WRFU when it is in Phantom mode. Phantom mode is available to both Obsession II and Emphasis WRFUs. When Phantom mode is enabled, the display icons at the bottom of the screen become unavailable and WRFU operation is limited to the Phantom screen.

Obsession II Phantom mode on the WRFU is similar to the Phantom mode operation on the wired Remote Focus Unit (RFU). When connected to an Obsession II, the WRFU will operate as set in the I/O configuration.

Phantom mode on the WRFU is new to Emphasis users. It offers the same functionality on Emphasis as it does on Obsession II - the ability to park channels and dimmers at a level for channel and dimmer check without affecting the console programmer. Set the first channel or dimmer to a level and then tap the **[+]** and **[-]** keys to move to the next channel or dimmer. The first channel or dimmer will be unparked, and the next channel or dimmer will be parked at the same level. When you finish, tap **[At] [Enter]** to unpark the selected channel(s) or dimmer(s). See below to enable Phantom mode on your Emphasis WRFU.

Configuration Settings

If you are logged in as the Admin user, you can configure WRFU settings, edit users and create custom screens. Changes to configuration settings require a restart of the WRFU application to take affect unless otherwise noted.

Edit Configuration Settings:

Step 1: In the **WRFU** menu, tap **Config**.

Step 2: Tap in each field to edit:

- *Name* - choose a descriptive name for the WRFU. This setting takes affect without a restart of the WRFU application.
- *ID* - enter the ID# used to identify the WRFU to the Obsession II or Emphasis Control System.

The screenshot shows the WRFU configuration interface. At the top, it says 'WRFU' with a Windows logo and a clock showing 12:43. Below that, there's a section for 'RFU' with fields for Name (Wireless RFU), ID (7), Timeout (0 min), and checkboxes for Emphasis Phantom Mode and Auto Connect to Sys Id (0). There's also a section for 'User Macros' with 'Begin' (1) and 'End' (100) fields. Below that is 'User Login' with a 'Users' dropdown set to 'Admin', a checked 'Force Login' checkbox, and 'Edit', 'Add', and 'Delete' buttons. At the bottom are 'Custom Screens', 'Cancel', and 'OK' buttons.

Note: Each RFU and WRFU in a system requires a unique ID.

- *Timeout* - the *Timeout* setting determines the amount of time (in minutes) the unit sits idle before you are disconnected from the network. A value of **0** disables this feature.
- *Emphasis Phantom Mode* - Select this setting to place the WRFU into Emphasis Phantom Mode. The WRFU will restart upon changing this setting. Obsession Phantom Mode is determined in the system's I/O settings.
- *Auto Connect to Sys ID* - Use this setting to cause the WRFU to automatically connect to the system ID you indicate.
- *User Macros* - These settings determine the macros displayed on the User Macro screen. These settings take affect without a restart of the WRFU application.

- *User Login-* WRFU allows different users to have unique names and access codes. Select the Force Login box to force users to enter their password to access WRFU.

Step 3: Tap **OK**.

Add a new user:

Step 1: Tap **Add**.

Step 2: Tap in the User field and enter the user name.

Step 3: Tap in the Access Code field and enter a numerical access code.

Step 4: Tap **OK**.

Edit an existing user:

Step 1: Choose the user from the menu and tap **Edit**. The screen displays the current name and their Access Code.

Step 2: Make any required changed and tap **OK**.

Delete an existing user:

Step 1: Choose the user from the menu and tap **Delete**.

Step 2: Tap **OK** to confirm and delete the selected user.



Note: *Changes to Users take affect immediately.*

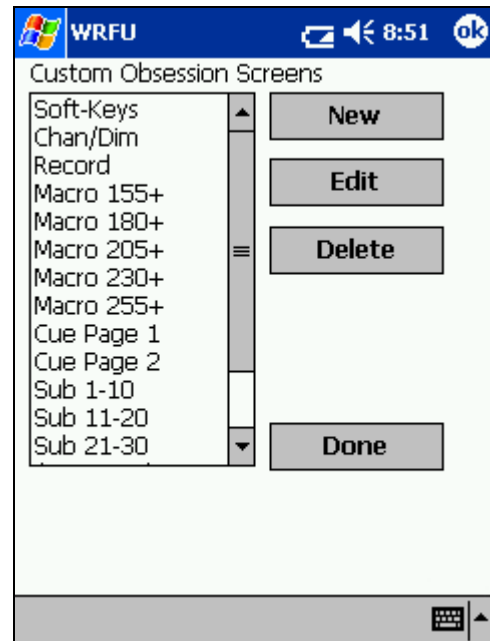
Custom Screens

Custom screens are available for WRFU in both Obsession and Emphasis systems. You can create a maximum of 16 custom screens containing any combination of valid assignments on the 25 available buttons per screen.

Create custom screens:

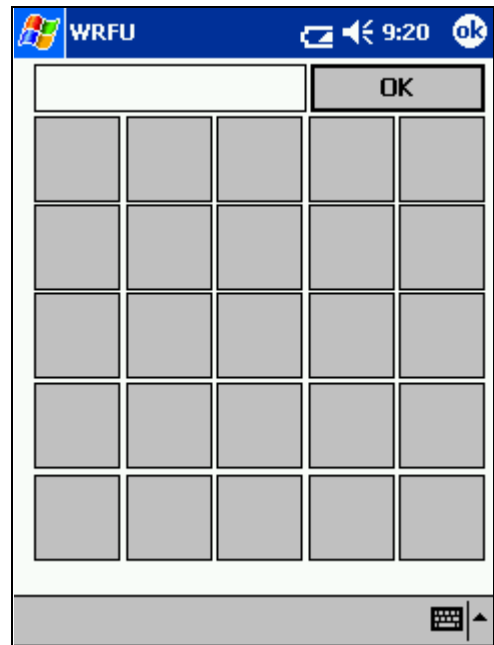
Step 1: In the WRFU Configuration screen, tap **Custom Screens**. The Custom Screens list will appear.

Step 2: Tap **New** to add a new custom screen. A blank custom screen will appear.



Step 3: Tap to select the name field to the left of the **OK** button. Tap the keyboard icon at the right end of the menu bar to access the built-in keyboard. Enter a name for your custom page. This name will appear in the Custom Screens list.

Step 4: Tap to select the button you want to customize. The appropriate list of available commands (Obsession or Emphasis) will appear.



Step 5: Select the command you want to assign to the selected WRFU button and tap **OK**. Commands are listed alphabetically. For macros, you will also need to enter the appropriate macro number.

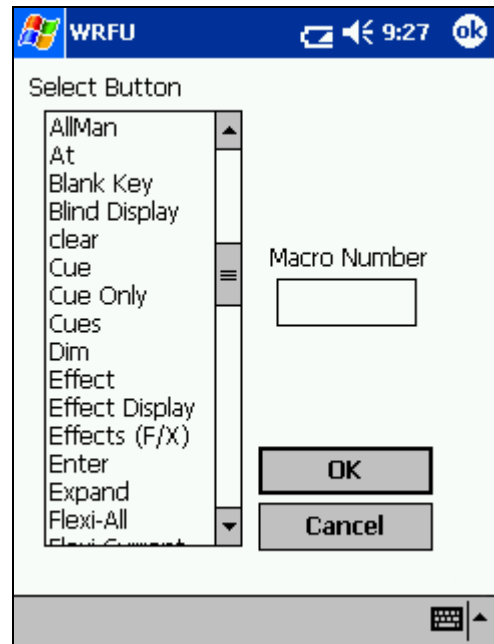
Step 6: Repeat steps 4-5 to assign commands to remaining buttons on the custom screen.

Step 7: Tap **OK**. If you haven't entered a name for this custom screen yet, you will be prompted to do so at this time. See step 3 for instructions.

Delete a custom screen:

Step 1: In the WRFU Configuration screen, tap **Custom Screens**. The Custom Screens list will appear.

Step 2: Tap to select the custom screen name and tap **Delete**. The selected custom screen is deleted.



Edit a custom screen:

- Step 1: In the WRFU Configuration screen, tap **Custom Screens**. The Custom Screens list will appear.
- Step 2: Tap to select the custom screen name and tap **Edit**. The custom screen is displayed.
- Step 3: Tap to select the button you want to edit. The appropriate list of available commands (Obsession or Emphasis) will appear.
- Step 4: Select the command you want to assign to the selected WRFU button and tap **OK**. Commands are listed alphabetically. For macros, you will also need to enter the appropriate macro number.
- Step 5: Repeat steps 4-5 to edit other buttons on the custom screen.
- Step 6: Tap **OK**.

Backup your Custom Screens File

The settings for your custom screens are saved in a file on your Pocket PC. Copy the "Custom" file to move custom screen configurations to another WRFU or to create a backup copy of your settings. The file is found in the following directory:

My Device/Program Files/Electronic Theatre Controls/Wireless RFU/Custom

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