Appendix I: Manual

Please refer to the following pages.

Preliminary Document

FLEETWOOD

Electronic Interactivity— the Ultimate feedback mechanism.

USER MANUAL

Reply®

- **Keypad, Model WRS7200**
- **Base Station, Model WRS970**

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Printed in the U.S.A.

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Revision History:

Rev	Date	Description
A	**05/01/07**	**Original**

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1.0 Reply® Systems

1.1 Introduction

This product consists of wireless (RF) handheld 15-key numeric keypads and a compact, easily transported Base Station. The system is generally used to record answers to multiple choice questions as part of a classroom presentation, decision-making session, focus group, or videoconference. It offers methods for collecting and immediately reporting group response. Reply® systems have been available for several years and over 400,000 keypads are currently used worldwide.

Reply® is a cordless handheld response system that provides numeric data interaction for meeting or learning environments. Keypad responses are transmitted to the Base Station, which processes and delivers the information to the attached computer.

Application software operates the Base Station and controls its associated Keypads. While the system's hardware may offer powerful features, application software is the essential ingredient in applying the technology to generate useful results.

1.2 Applications/Advantages

Many meeting and learning venues require a mechanism for audience interaction. Moreover, many seek a method of automating surveys and grading activities. Reply® meets the need for such an interactive tool, bringing everyone together and instantly allowing measurement of interest, understanding, and involvement.

- Audience members can participate from their seat and personally indicate their opinions, ideas, and knowledge.
- Results of the interaction are immediately available, and their display offers presenters a valuable insight into the opinion and comprehension level of audience members.
- System setup typically involves handing a Keypad to every participant and the Base Station to a computer. No Keypad wires or cabling need be installed prior to use. This allows fast, reliable, safe, and attractive installation.

1.3 RF Communication

The Keypads communicate with the Base Station using wireless Radio Frequency (RF) technologies. The patented proprietary design has been rigorously tested and optimized for reliability and collection speed.

1.4 Technology Leadership, Patent Protection, and Certification

Fleetwood Group, Inc. maintains a leadership position in wireless development of audience response solutions. United States Patents 5,093,786, Re. 35,449 and other patents reflect the commitment to wireless technology leadership and the unique position that Fleetwood Group, Inc. brings to the market. Additional United States and foreign patents are pending.

Fleetwood Group, Inc. also maintains a commitment to complying with the United States Federal Communications Commission and various foreign regulatory requirements. In addition to satisfying various FCC requirements, such as Part 15, Part 68, and Part 74, many foreign countries have type approved Fleetwood products. Others are continuously being added. Please contact your reseller or Fleetwood Group, Inc. for more information on certification.

1.5 Other Fleetwood Group, Inc. Products

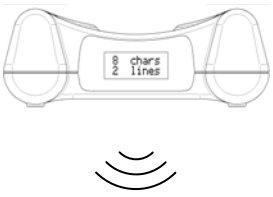
Fleetwood Group, Inc. is a manufacturer of quality electronic products that are sold through a worldwide reseller network. All Reply® products are designed and manufactured in Holland, Michigan.

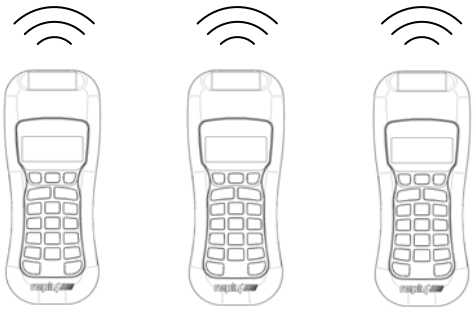
For more information on these products or our customization capability, please visit our website at www.replysystems.com.

2.0 Principles of Operation

This Reply® System uses the latest in 2.4 GHz wireless technology to turn any meeting into a dynamic interactive experience for each participant without having to deal with a nightmare of cables and connectors.

Fleetwood is unique in the marketplace with its patented technology to provide a two-way link with the keypads. This design ensures that no responses are missed by requiring a keypad to retransmit the user's response until it is properly received by the Base Station. The design also allows the system to refuse to acknowledge any invalid entries. This is clearly superior to other technologies using one-way radio or infrared, which do not provide acknowledgment to the keypad when its entry is received and do not have any way of rejecting invalid entries.



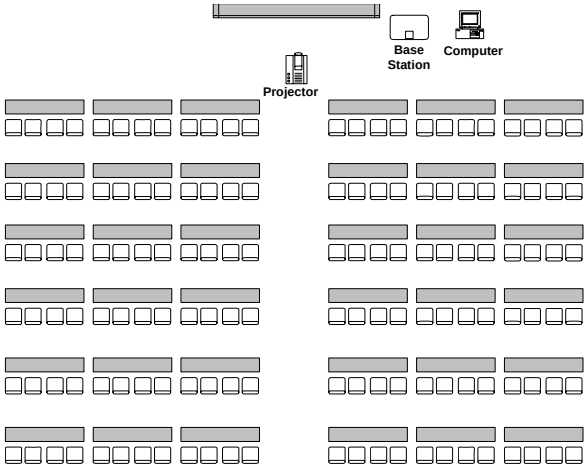


The WRS970 Base Station is the control center for the system and operates according to commands issued by the application software. The Base Station can be set to any of the 31 available channels through the WRS970 OCX module. Each Base Station can process responses from up to 500 keypads.

A radio frequency packet is continuously sent out by the base station when the unit is powered on. Each base station's packet can only be heard by keypads that have been set to the same channel.

3.0 System Description and Setup

3.1 Room Layout



3.2 Placement of the Reply® System

The Base Station can be located anywhere in the area where the keypads are to be used. WRS7200 keypads can operate in a room up to 300' x 300' in size. Despite a robust communication system, walls and some other 2.4 GHz devices can moderately to severely limit the WRS970 system's performance. If coverage of a larger area is necessary, elevation of the Base Station or centering in room can usually improve the reception of the keypad signals.

NOTE: Due to the properties of signals operating at 2.4 GHz, Fleetwood does not recommend placing any walls between the base station and the keypads. The material in a wall tends to absorb the RF signal and slightly reduced performance might be observed.

3.3 Configure Base for Connection Type

Both types of connections can be connected to the Base unit simultaneously. However, the Base can only communicate through one of the two. No buttons exist as the Base determines the connection method based how power is first applied to the unit. If power is first connected using USB, USB is selected. If power is first applied using the external DC jack or the built-in PoE, Ethernet is selected. The base will present on the LCD at power up which connection is activated.

3.4 Connecting to PC

The WRS970 provides two options for connecting to a PC: USB and Ethernet.

3.4.1 USB

For the first USB connection, internet access is recommended for obtaining drivers. If internet is not available, insert the Hardware Manual CD that came with the WRS970 Base Station.

The USB connection is capable of powering the base unit along with the data connection. Connect the included USB cable to the base and the other end to an open USB port on the PC or hub. The drivers will install automatically and the PC alerts when the hardware is installed and ready to use.

3.4.2 Ethernet

An Ethernet connection is provided for installations where the Base Station may not be within a USB cable length of the PC. To connect directly to the PC, an Ethernet cross-over cable must be used. For connection through a hub or similar device, a standard Ethernet cable can be used. To use Ethernet, the optional accessory kit for Ethernet connectivity is available which includes the AC-DC adaptor and standard Ethernet cable.

As an alternate to the DC supply, the WRS970 Base unit can also be powered using Power-over-Ethernet (PoE) MIDSPAN. An optional PoE accessory kit is also available which includes a power injector and Ethernet cable. PoE is a technology that supplies power and data through the one Ethernet cable. For single base installations, a product called a PoE Injector connects between the PC and the Base stations near a power source (Figure 1). For multiple base installations, a PoE Midspan hub, router or switch can be used.

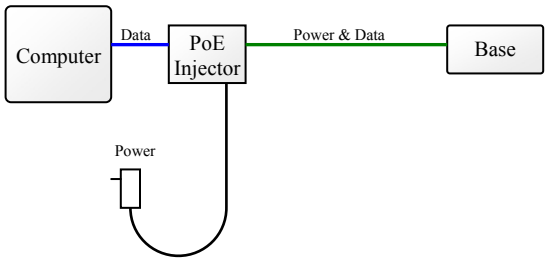


Figure 1 PoE Midspan Connection

Each base unit ships from the Fleetwood factory with a default IP address of 200.0.0.111, subnet mask of 255.255.255.0 and port 2101. If Ethernet is the desired connection type, these settings can be changed. See appendix x for instructions.

Important! After connecting power to the base unit for use with Ethernet, the base unit requires a 30 second wait period before the software application can connect via Ethernet.

3.5 Software

Activate the Reply® WRS970 compliant software application. Connect to the Base Station (see your software manual for further instructions) and start a polling session. The system is now ready to process responses from assigned keypads. Two-way radio communication is now operational between the Base Station and keypads.

4.0 How to Use the Keypad

The keypad independent of a base unit does not provide much functionality.

Any of the keys listed below can be disabled via the software to further limit invalid key presses.

4.1 Power Key

The power key will turn on and off the keypad. The base unit can control whether the key is disabled to turn off the keypad.

4.2 Base Key

The base key when pressed will change the three digits in the upper left corner of the LCD to display the current Base ID (channel). If the keypad is configured as Dynamic Addressed, the key will prompt the user to search for bases units.

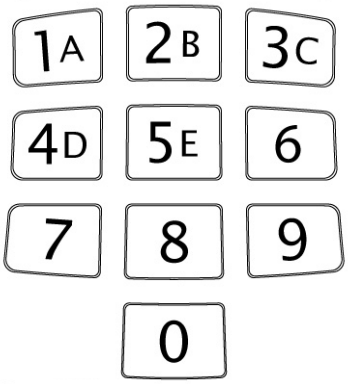
4.3 Alert Key

The Alert key sends a special packet to the base unit to alert the presenter. It is not treated as a vote during questions.

4.4 Symbol Key

The symbol key behaves differently depending on the question type being asked. If multi-digit answers are being entered, there is available a list of special characters that are obtained by pressing the key again within a small time period. When the timer runs out, the next key press will appear in the next position.

4.5 Number Keys



The number keys are used for voting and changing settings. Some question types will require these keys to be used for voting. If the question type is alpha, then the display will show the letter printed on the button on the display.

4.6 Soft Keys

The soft keys are for special occasions. Some question types require the use of these keys. They are also used for menu navigation and Base selection.

4.7 Send Key

The send key has multiple functions depending upon the question type being asked and the prompts on the keypad display. This button is not always needed to send a vote. Most question types will send when the vote is entered. The send key is used for sending multi-digit answer types after the numbers have been entered. It is also used as an enter key or yes key when prompted or saving data.

4.8 Delete Key

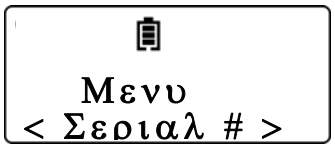
The delete key is used to clear the display, delete a multi-digit character, and stop sending a key press. It also functions as a cancel key for prompts and an exit key for menu navigation.

4.9 LCD

The LCD presents the user with the keypad behavior. There are several icons across the top of the screen and a region for presenting and entering text.

4.10 Accessing the Menu

Each keypad has a menu system for local configuration. These settings are not able to be set globally from the base unit. To enter into the menu list at the keypad, press the DEL key and the BASE key simultaneously. The base (through software) can also force each keypad on the system to display the menu. The screen will change to the following:



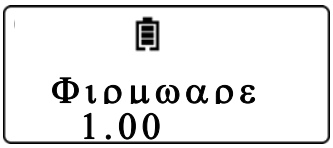
Pressing the soft key right and left button will cycle through the pages. The center soft key button will open the sub menu showing the current settings. The DEL key will back out of the submenu entered. Each of the pages are described below.

It is important to note that the base unit can limit the menu access of each keypad on the system. Therefore, the menu or some screens may not be available.

4.10.1 Page 1: Serial Number

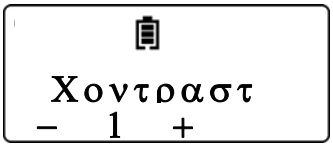
The factory set serial number is displayed. It will match the number printed on the label on the bottom of the keypad and cannot be changed.

4.10.2 Page 2: Firmware Revision



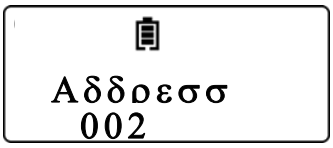
Selecting the firmware menu displays the current firmware revision loaded in the keypad. Since the product is field updatable, this is a useful tool for knowing whether the keypad is up-to-date.

4.10.3 Page 3: LCD Contrast



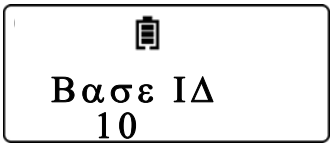
The contrast is a setting that can be changed and may need to be as the batteries begin to die. Pressing the right and left soft keys will increase and decrease respectively the contrast level.

4.10.4 Page 4: Static Keypad Address



The current address of the keypad is displayed on the second line. This menu option is only for Static mode keypads. Enter the three digits, up to 500, that the keypad will become. As each key is entered, the previous will shift left a position on the display. Once the desired address is shown, press the SEND key to save or the DEL key to exit and not save. If an invalid address is entered and SEND is pressed, the keypad will report Invalid and the address will not save.

4.10.5 Page 5: Static Keypad Base ID(CH)

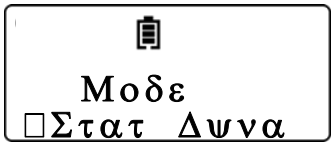


This option works similarly to the Keypad address page. Enter two digits of the Base ID, up to 31, for the base unit the keypad is to communicate with. Press the SEND key to save or the DEL key to cancel. This option, like the keypad address, is only for static mode keypads.

4.10.6 Page 6: Key Press Feedback

Each keypad contains a buzzer internally which has the option of being configured to provide feedback with each key that is pressed. Using the left and right soft keys, the option can be turned on or off. Press the SEND key to accept or the DEL key to cancel.

4.10.7 Page 7: Keypad Addressing Mode



The keypad can be configured to Static mode or Dynamic mode. Use the left and right soft key for selecting and the SEND key to save. Press the DEL key to cancel and exit. Once the mode has been changed, the keypad must be powered down and back on to operate in the new mode. See section 5.1 for more information about the two modes.

4.11 Changing the Batteries

Each keypad is powered from 2 x "AA" batteries. Fleetwood recommends using alkaline batteries, but rechargeable NiMH batteries work giving a shorter life. In order to use rechargeable batteries, a third party charger must be used since the keypads are not rechargeable. One fresh set of alkaline batteries can last for up to 150 hours of use.

To change the batteries, remove the security screw. Press the side tabs of the battery lid shown below.

NEW IMAGE

5.0 System Operation

5.1 Operating Modes

The system has two operating modes available: Static Addressing and Dynamic Addressing. For security purposes, both the base and the keypads must be configured to the same addressing mode as they are not interoperable. This means that a Dynamic Addressed system will not operate with a Static Addressed system basically making two products in one. Keypads must be configured locally and the base is configured through the API.

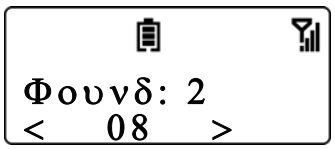
5.2 Static Mode Keypad Power-Up

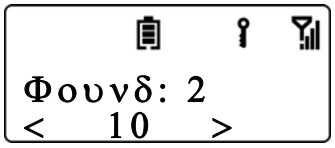
When a Static mode keypad is first powered up, it begins communication with a base matching the set Base ID (CH). If the keypad is within range of the proper base, voting is immediately available to the user. If the system is configured with login enabled, the keypad prompts the user to enter the login value before allowing a vote. See Section 5.4 for login description.

5.3 Dynamic Mode Keypad Power-Up

When the keypad is first powered up, the following message is shown on the display while the keypad looks for available bases. Pressing any key will stop the search prematurely.

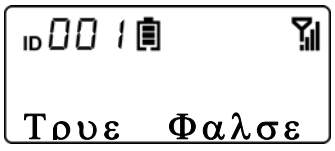
Once the search has timed out or stopped, the display presents how many bases it found and the Base ID (CH) of each base. Use the left and right soft keys to scroll through the list.





For bases with login enabled, the key icon flashes on the display when the associated base ID is shown. Press the center soft key to select the Base ID.

While the keypad is negotiating itself onto the system, the display presents authorizing and shows the Base ID (CH) selected in the left corner. This display will not show if the system selected is configured with login enabled (See Section 5.4 for completing the login sequence.) After a delay, the keypad will connect to the system. A sample image is below.



The number in the upper left of the display changes to the keypads assigned address (ID) and the current system question settings are applied. The RF indicator is actively showing signal strength. To view the Base ID at any time in the future, press the BASE key.

Three other possible messages are possible instead of a successful connection.

The above message appears when system Authorization is enabled and the keypad serial number is not amongst those in the list of keypads allowed on the system. Either press the BASE key to locate another system or see system administrator.

The message above indicates the system is not ready. Once the system administrator has configured the setup, press the BASE key and select the Base ID again.

The message above indicates the system has assigned the maximum allowed keypads. Press the BASE key to select another base or see the system administrator.

5.4 Login and Authorization

No matter which addressing mode the system is set to, the ability to have the user login to the system is available. When login is enabled the key icon and text prompt will show on the display.

The option, set via software, is available to enable private login by showing dots instead of the actual numbers on the keypad display.

Press the SEND key to submit the entry. Once the application has process the value, the results are sent to the keypad. If the login is accepted, the keypad updates the settings to the current polling question type and configuration. If the keypad entry is not accepted, a message for retry is presented.

Login combined with Authorization creates a more secure system. With Authorization enabled, select keypads from a predefined list are allowed on the system. While authorization can be used with either addressing mode, Static mode will not present other feedback other than 'Login Retry'.

When a system is configured as Dynamic mode, additional login information may be reported.

If the keypad has trouble communicating with the base unit, a message of failure is reported. Press the BASE key to repeat the login process if this occurs.

The above message appears when system Authorization is enabled and the keypad serial number is not amongst those in the list of keypads allowed on the system. Either press the BASE key to locate another system or see system administrator.

5.5 Answer Types

All answer types are determined by the PC software. The system has 9 built-in answer types which are described below:

5.5.1 Single Alpha

This answer type uses the keys marked A – E on the keypad. The SYM key for an asterisk and the ALERT key are functional. When the vote is entered, it transmits immediately so the SEND key is not functional in this mode.

5.5.2 Single Number

This answer type uses the keys marked 0 – 9 on the keypad. The SYM key for an asterisk and the ALERT key are functional. When the vote is entered, it transmits immediately so the SEND key is not functional in this mode.

5.5.3 Yes/No

This answer type and many of the others uses only the soft keys at the top of the keypad. Choices are displayed above the soft key it relates to. Simply press the key to select that option and the vote is sent without any further action.

5.5.4 Yes/Abstain/No

This answer type and many of the others uses only the soft keys at the top of the keypad. Choices are displayed above the soft key it relates to. Simply press the key to select that option and the vote is sent without any further action.

5.5.5 Agree/Disagree

This answer type and many of the others uses only the soft keys at the top of the keypad. Choices are displayed above the soft key it relates to. Simply press the key to select that option and the vote is sent without any further action.

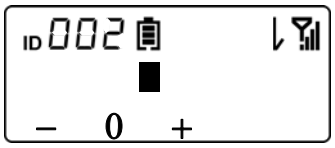
5.5.6 Low/Med/High

This answer type and many of the others uses only the soft keys at the top of the keypad. Choices are displayed above the soft key it relates to. Simply press the key to select that option and the vote is sent without any further action.

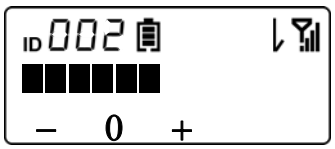
5.5.7 True/False

This answer type and many of the others uses only the soft keys at the top of the keypad. Choices are displayed above the soft key it relates to. Simply press the key to select that option and the vote is sent without any further action.

5.5.8 Moment to Moment



When the moment to moment question type is selected, the keypad will begin with the screen above. No data is transmitted until the first key is pressed to either move up or down. As the presentation is running, the keypad will continuously transmit the current screen value to the software through the base. As the plus and minus are selected the bar on the top line of the display will move back and forth indicating the moment as depicted below.

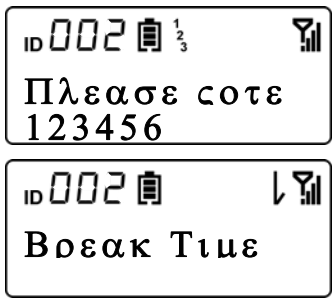


5.5.9 Multi-Digit Numeric

The answer type is depicted on the keypad with the number 1-2-3. The bottom line will present a cursor at the end of the characters entered so far. This mode has many special characters or symbols that are available as user entry. Press the SYM key multiple times to cycle through the list. After a small period of time, the next key can be entered.

5.6 Keypad User Prompts

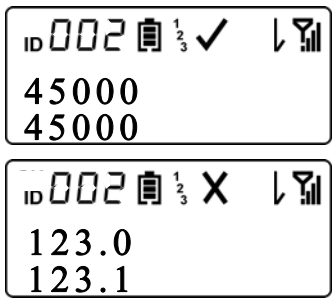
The system supports global messages being sent out to all keypads from the base unit. The messages are selectable through software from a list of built-in prompts or a custom message of up to 12 characters. The message is displayed on the top line of the keypad display and is available in all answer types except the moment to moment. After the keypad has sent the vote selection, the prompt is cleared from the screen as a feedback mechanism. Below are two examples of available messages.



Important! Using a custom message does slightly impact the response time of the keypads. The built-in message options will not.

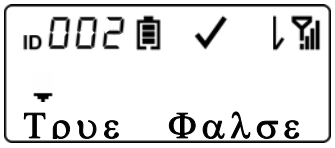
5.7 Correct Answers

The system supports keypad specific notification of a correct or incorrect response. Via software, the administrator determines when the answer is displayed and is sent globally to all keypads. The last response the keypad sent to the base successfully is compared against the correct answer. The keypad remains locked while answers are displayed and a new question releases the lock. Sample screens are shown below for a few of the question types.



For the two multi-digit examples above, the user answer is shown on the bottom line while the correct answer is shown on the top line. The X or check is display simultaneously of the answer. An answer can be up to twelve characters.

For single digit modes, the top line will display the text "Answer:" along with the correct answer. The bottom line will display the user entry as with the multi-digit answer type.



For the soft key answer types, the user answer selected is not displayed on the display. An arrow shows above the correct answer and the x or check is lit for feedback.

Important! The system does not allow multiple right answers. Using the answer functionality slightly impacts the polling speed of the system.

5.8 Backlight

Each keypad features an EL backlight for viewing the LCD in low light conditions. The backlight, controlled via software, has four operational modes: Off, Normal, Keypress and Acknowledgment.

The backlight feature is optional and not using it will offer the most battery life. The Normal option leaves the backlight on while connected to the base unit. Using the backlight in this mode dramatically impacts expected keypad battery life.

When the Keypress option is selected, any user entry forces the backlight on. The backlight remains on for the time period selected between 2 to 5 seconds and then turns off. Using the backlight in this mode has minimal impact on the battery life of the keypad and still provides keypad readability in low lighting conditions.

The final option is Acknowledgement. Though not much different than Keypress mode, the backlight will remain on until the vote has been successfully accepted by the base unit. The timer applies here too. Once the acknowledgment is received, the timer begins and the backlight will shut down after the 2 to 5 seconds has lapsed. This operation is most useful when using the system for large groups (>400 keypads) where the backlight in Keypress mode may turn off before the keypad vote is acknowledged.

6.0 How To Return Components

If you encounter a problem that requires sending keypad(s) or base(s) to Fleetwood for service, please enclose a cover letter with an itemized list of product being returned with a description detailing the problem with each component. Be as accurate as you can **and be sure to include your Name, Return/Billing address and phone number.**
Before shipping the product back to Fleetwood, the owner should contact our Product Service Coordinator at

1-888-GO REPLY (467-3759)

to obtain a Return Material Authorization (RMA) number prior to shipping the product back to the factory.
NOTE: An RMA number MUST be obtained before shipping product back to Fleetwood. Fleetwood will not accept any product without a RMA Number
For product under Warranty, see section 10.0 "Limited Product Warranty".

Unless otherwise specified, all parts should be sent to:

Fleetwood Group, Inc.

Electronics Division

Product Service Coordinator

11832 James Street

Holland, MI 49424

Phone Support

To reach **Fleetwood's Technical Support**, call **1-888-467-3759**.
Fleetwood's standard hours are Monday through Thursday 7:00 AM to 3:30 PM and Friday 6:00 AM to 12:00 PM Eastern Standard Time.

7.0 WRS970 Data Format and Command Lists

The Base Station data format, command lists, and associated microcode are proprietary to Fleetwood. People who wish to develop their own applications may purchase Reply® WRS970 API. This is a software developer's toolkit that includes the necessary communication drivers for the base station.

8.0 Software

Off-the-shelf software packages are available for Reply®. These packages are available through Fleetwood's network of qualified dealer-developers. Most Reply®. compliant software applications require the Windows operating system (trademark Microsoft Corporation).
Contact Fleetwood for details on the software applications that are certified for use with Reply® products.

9.0 Accessories

Call Fleetwood or an authorized dealer for information on available storage/shipping cases, extra cables or power supply kits.

10.0 Limited Product Warranty

Fleetwood Group, Inc. warrants its Reply® Cordless Response System components for a period of 24 months from the date of manufacture for any material or workmanship defect in the product. This warranty does not extend to batteries or any product component, which has been subjected to misuse, neglect, accidental breakage, improper installation, use outside of present guidelines, or alteration outside of our factory.

This product uses internal antennas built directly on the printed circuit board. Modifying this antenna in any way will result in reduced range and will void the warranty. There are no user serviceable parts inside the base or keypad.

Fleetwood Group, Inc. agrees to remedy, at the factory, any product defect, or at its discretion, replace any component or part of the product provided the owner complies with the following procedures:

1) The owner is to determine that the problem is not the battery or a faulty or improper connection with the personal computer or power source.

The owner will contact our Product Service Coordinator at

1-888-GO REPLY (467-3759)

to obtain a Return Material Authorization (RMA) number prior to shipping the product back to the factory.

The owner will send the defective component via prepaid freight to:

Fleetwood Group, Inc.

Electronics Division

Product Service Coordinator

11832 James Street

Holland, MI 49424

2) If the factory determines the defect is due to negligence or oversight on the part of the owner, the owner will be invoiced for the cost of the repair.

11.0 FCC, IC, and EU Compliance Information

WRS970 Reply® Base Station and WRS7200 Reply® Keypad
Responsible Party Pertaining to the Declaration of Conformity

Fleetwood Group, Inc.

11832 James Street

Holland, MI 49424

Attn: Product Service Coordinator

Phone: 888-467-3759

11.1 Standards and Guidelines

This device complies with the following European Directives and USA/Canada Regulations:

- Directive 1999/5/EC on radio equipment and telecommunication terminal equipment and the mutual recognition of their conformity
- Directive 2006/95/EC on the harmonization of laws of member states related to electrical equipment designed for use within certain voltage limits
- The USA Federal Communications Commission (FCC) Rules and Regulations
- Industry Canada Rules and Regulations

This device complies with the following national and international standards:

- EN 301 489-1 V1.6.1: 2005: EMR; EMC standard for radio equipment and services. Part 1: Common technical requirements.
- EN 301 489-17 V1.2.1: 2002: EMR; EMC standard for radio equipment and services. Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.
- EN 60950-1: 2006: Information technology equipment – Safety. Part 1: General requirements
- FCC Part 15B, 15.247: 10-01-2006: Radio Frequency devices: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
- IC RSS-210 Issue 6: 2005: Low power license-except radio-communications devices (all frequency bands): Category 1 equipment.

11.2 FCC/IC Compliance

This device complies with Part 15 of the FCC Rules and RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) this device may not cause interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device. The user is cautioned that changes or modifications to the device that are not approved by the manufacturer could void the user's authority to operate the device.

11.3 EU Compliance

This device is a 2.4 GHz low power response system controller intended for residential and commercial use in all EU and EFTA member states except in Bulgaria, France, Italy, Luxembourg, Norway and Romania where restrictive use applies. See table below for explanation of restrictions.

11.4 Explanation of EU Restrictions

Country:	Restriction:	Reason/remark
Bulgaria		General authorization required for outdoor use and public service.
France	Outdoor use limited to 10 mW E.I.R.P. within the band 2454-2483.5 MHz. Derogation in French overseas departments of Guyane and La Réunion: outdoor use not allowed in band 2400-2420 MHz	Military Radiolocation and Fixed Service use
Italy		If used outside of own premises, general authorization is required.
Luxembourg	None	General authorization required for public service
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Alesund
Romania	On a secondary basis. Individual license required. T/R 22-06 not implemented	

Notice

The base and keypad units may be susceptible to Electrostatic Discharge (ESD) and other similar fast transient events causing system interruption. Should system interruption occur, reboot computer, reset base unit by disconnecting and reconnecting USB cable and push any key on keypads which have powered down.

This equipment shall only be installed and operated with the antenna types shown in this application with gains not more than those shown for each of the antennas, respectively, and installed with a minimum of 20 cm of separation distance between the antenna and all persons during normal operation.

12.0 Technical Specifications

TBD

13.0 Troubleshooting Procedures

DO's

- Position the Base Station in a clear, open location such as the top of a desk. This will provide optimal performance.
- Elevate the Base Station to at least keypad height, or higher if possible for best reception.
- Check out the keypads before use. Use a test utility to assure that data is properly flowing to the PC.
- Verify the channel number of each keypad. Make sure it matches the Base Station channel (i.e. Channel #1 pads can only "talk" to a Base Station when it is set to Channel #1).

DON'Ts

- Avoid placing the Base Station on large, metal areas such as a TV cart. The metal could cause some RF performance deterioration.
- Never position the Base Station inside or near a metal enclosure.
- Avoid positioning the keypad on a metal surface during operation as this may cause the RF performance to deteriorate.
- Never have two Base Stations with the same channel turned "on" at the same time.
- Never have two keypads with the same ID number assigned to avoid overwriting keypad responses.
- Never use a keypad that has a rapidly flashing display. This indicates the battery is low and must be replaced.

Caution: Use of the system in an outdoor location or different indoor environments can significantly alter the range of the keypads.

14.0 Index