

# Reply® Worldwide



## *Advanced radio frequency (RF) technology*

*Frequency Hopping Spread Spectrum for superior range, security, and speed*

*Works with Standard Reply® software applications and PowerPoint\* add-ins*

*A workhorse product that is quick to set up, simple to use, and affordable*

## Technical Specifications for Wireless Keypad Model CRS5200

### Enclosure

- Compact case. Rugged ABS plastic construction accommodates 2 keyboard designs:
  - Elastomeric (rubber buttons), Stocked Item, Order CRS-200-E.
  - Tactile (membrane keys), Special Order item, Order CRS5200-M.
- Dimensions: 6"L x 2.5"W x 1"H.
- Weight: Approx. 3.2 oz (91 grams) without batteries installed. Add 1.6 oz (45 grams) for 2 alkaline AA cells.
- Color: Black. (Other colors available. Cost premium, minimum order quantity, and special terms apply.)

### User Identification

- Each keypad has a RF device identity ("address") between 1-250 plus a channel identity between either 1-15 (standard version; stocked item) or 1-72 (custom arena version; special order; special terms and pricing apply).
  - Addresses are user programmable.
- Each keypad also has a unique device serial number.
  - Serial numbers are permanent and set during manufacturing.
- Both the address and serial number may be transmitted with each keypad's response.

### User Input

- 15 keys. Ten numeric keys for entering multiple choice responses. Three 'soft' keys available for special use. "Asterisk" and "Clear" keys provide extra functions.
- Entries can be "speed scored" to 0.05 second (50 millisecond) resolution to identify group response sequence ('fastest finger') during competitive events.
- Soft key functions vary according to keypad design:
  - CRS5200-E: Low/medium/high values are indicated in the display.
  - CRS5200-M: Same as CRS5200-E but can also support custom key designs (i.e., yes/no/abs).

### Display

- Seven segment LED is easy to read in all lighting conditions.
- Display shows numbers (1-9, 0) and soft key symbols (1-3 bars in stock configuration).
- Display shows user keypress plus confirms when the Base Station accepts the keypad's input.

### RF Technology

- Two-way RF keypad uses eligible *license-free/license-exempt* frequencies to communicate key presses to the Base Station and receive from the Base Station control information and acknowledgments of successful entries.
- Employs Fleetwood-engineered 2.4 GHz *frequency hopping* spread spectrum (FHSS) transceivers.
  - FHSS offers excellent range, immunity to interference, and security.
- *Patented* and *proprietary* radio protocol.
  - Creates a secure communications network between keypads and their associated Base Station.
  - User entries are acknowledged when received by the Base Station. *This message acknowledgment is just one of the many patented features of Reply® systems.*
  - Permits Reply® systems to operate reliably in the presence of other RF devices (WLANs, PDAs, phones, etc.).
  - Integrated error checking discriminates system signals from all other RF traffic to ensure data accuracy and enhance security.
- Depending on version, 15-72 channel identities are available to provide installation flexibility and support up to 3,750-18,000 keypads per room.
- Internal antenna is protected by the keypad enclosure.

### Range

- Spread spectrum technology is designed to operate in an indoor area 450 x 450 feet (150 x 150 meters).
- A room's geometry, radio propagation characteristics, and proximity to RF interferers will influence actual range experienced. Elevating the base station often results in a performance advantage.

### Capacity

- 250 keypads per Base Station channel identity.
  - Standard configuration: Stock. 15 identities available for 3,750 keypads per room/site.
  - Arena configuration: Non-stock, special terms and pricing apply. Up to 72 identities for 18,000 users per venue.

### Speed

- Adjusted by Base Station.
  - Default setting is 100 keypads per second. Polling rates are adjustable and can achieve ½ second speed in smaller groups (<50).
  - Time stamping identifies each keypad's input sequence in group's response.

### Power and Power Management

- Powered by two standard AA batteries (not included).
- Keypad powers down after each response to conserve battery life.
- Battery life is ~100,000 responses or battery shelf life, whichever comes first.
- Low battery indicated on display. Also, keypad can transmit a low battery warning to Base Station.

### Communications Security

- A proprietary response verification protocol integral to the radio design provides a high degree of signal security.
- Frequency hopping and proprietary data communications are additional deterrents to clandestine interception.

### Scalability

- Firmware resides in high performance microprocessor chips that can be reprogrammed to facilitate easy upgrade during the life of the product.
- Adding keypads to an existing system requires them to be set to unused addresses. No change is required on the Base Station when adding keypads of the same channel identity.

### Compliance and Patents

- FCC, IC, CE certified. Call for details regarding these and other regulatory certifications.
- U.S. Patent Nos. Re. 35,449; 5,724,357; 6,021,119; 6,665,000. European Patent No. EP 0 697 773. Other U.S. and foreign patents and patents pending.

### Warranty

- 2 YEAR (limited warranty, factory parts and labor). Call for details.

## System Configuration

A basic Reply® (Worldwide) system consists of...

- One Reply® (Worldwide) Wireless Keypad per participant
- One Reply® (Worldwide) Base Station per 250 keypads of the same radio channel in a room, and
- One copy of value-added application software.

Optional accessories (purchased separately) include base station carrycases and keypad carrycases. Training, on-site technical support, and similar 'for fee' services are also extra.

## Additional System Components and Accessories

### Base Station Model CRS940

- A compact and programmable interface to your PC.
  - Operated by value-added software\*\* (priced separately).
- Dimensions: 6.5" W x 2.25" H x 5" D.
- Unit Weight: 8 ounces. (Add 5 oz. for cable.)
- Capacity: 250 keypads per channel identity.
  - Stock version: 15 identities allows 3,750 pads per room.
  - Arena version: *Special terms and pricing apply.* Up to 72 identities allows up to 18,000 pads per room.
- Speed: Base Station polling cycles are adjustable to optimize speed to group size. For example, a group of 50 keypads can be polled every one-half second, whereas a group of 3,750 can be polled in parallel every 2.5 seconds.
- Connections: Attaches to operator's PC by USB connection. (cable included). Creates a virtual com port on the PC.
- Power Source: USB. Current draw 50 mA.
- Does not include accessories such as software\* and carry-cases. These additional items are priced separately.

### Handheld Base Station Model WRS960X

- A completely portable base station that communicates with CRS5200 keypads *without* a PC or software.
  - Poll *anywhere* power, PCs, or displays are not available.
- Dimensions: 6"L x 2.5"W x 1"D.
- Unit Weight: 5 ounces (with batteries installed).
- Capacity: 50 keypads per channel identity.
- Speed: 0.5 second collection time for a group of 50 keypads.
- Connections: USB for flash drives that load questionnaires and store polling session results.
- Power Source: 3 x AAA cell alkaline batteries (not included).
- See Reply® *Solo specifications for more details.*

### Modular Carrycases

- Wide variety available, ranging from compact ballistic nylon bags to ruggedized shipping cases with perimeter clasps..
- Keypads and base stations purchased separately.
- Refer to Accessories Price Sheet for additional details.

### Application Software

- \*\* CRS940 Base Station requires application software to manage keypad data collection and analyze responses.
- Multiple titles are available to conduct surveys, delegate voting, group decision making, market research, classroom learning, and other advanced applications.
- Contact your reseller for specifications and pricing of this value added software.

## Pricing

Suggested resale prices are available at [www.replysystems.com](http://www.replysystems.com). Quantity and industry partner discounts are available through our preferred resellers.



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