

Accu Response™



Accu Response™

Advanced radio frequency (RF) technology

Frequency Hopping Spread Spectrum

for superior range, security, and speed

Works with existing Standard

Accu Response™ software

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.

Technical Specifications for Wireless Keypad Model CRS5200

Enclosure

- Compact case. Rugged ABS plastic construction accommodates 2 keyboard designs:
 - Elastomeric (rubber buttons), similar to phone. (Stock Item, Order CRS5200-E)
 - ▶ Tactile (membrane keys), similar to Standard Accu Response™. (Special Order Item, Order CRS5200-M)
- Dimensions: 6"L x 2.5"W x 1"H.
- Weight: 5 ounces (with batteries installed).
- Color: Translucent Charcoal. (Other colors available. Cost premium, minimum order quantity, and special terms apply.)

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/abstain).

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 entry 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 Accu Response™ systems.
 - ▶ Permits Accu Response™ 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 and RF propagation characteristics will influence actual range experienced. Elevating the base station often results in a performance advantage.

Capacity

- 250 keypads per Base Station channel identity.
 - ▶ Stock configuration: Default. 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 Accu Response™ (Worldwide) system consists of...

- One Accu Response™ (Worldwide) Wireless Keypad per participant
- One Accu Response™ (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. Controlled by value-added software* (purchased separately).
 - ▶ Also operates with current Accu Response™-compliant polling software*.
- 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 the operator's PC by USB connection. (USB cable included.)
- Power Source: USB. Current draw 50 mA.
- Does not include accessories such as software* and carrycases. These additional items are priced separately.

Modular Car Carrycases cases

Several Models Available

- Ruggedized shipping cases with perimeter clasps.
- Styled as suitcase or wheeled luggage items.
- Keypads and base stations purchased separately.
- Refer to Accessories Price Sheet for additional details.

Application Software

- * Base Station requires application software to manage keypad data collection.
- 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. Quantity and industry partner discounts are available through our preferred resellers.



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All specifications and suggested resale prices are subject to change without notice.