

Technical Specifications for Wireless Keypad Model OptionFinder IQ 1100K

Enclosure

- Sleek, shapely, compact, and rugged moulded plastic case.
- Dimensions: 5.7" L x 2.8" W x 0.9" H. (The cubic volume is 50% smaller than OptionFinder SR or EZ keypads!)
- Weight: 5.3 ounces. (This is 20% lighter than OptionFinder SR or EZ keypads!)

User Input

- A total of 21 keys are placed in common use zones that don't intimidate or confuse the user.
- Natural focus is on the practical-sized numeric keys for entering multi-value, multiple digit information.
- Soft keys across the top are well-separated from the numeric keys to clearly stand out as alternative inputs for items displayed on the LCD directly above.
- Special function keys (alert/raised hand, backspace, clear, send) are shaped and coloured differently than the other input keys.
- Input can be "speed scored" to a 0.05 second (50 millisecond) resolution to accurately distinguish user response sequence for gaming and other time-sensitive applications.
- A "moment-to-moment" function with a variable resolution setting as fine as 0.25 second (250 millisecond) facilitates continuous polling for advertising testing and other real-time perception measurement/analysis applications.

Display

- Large back lighted graphics LCD. Size: 128 x 64.
- Displays multiple lines of easily readable alphanumeric text and symbols for dynamic messaging. Up to 5 lines of 20 characters message length per line can be viewed. This messaging function is commonly used to show a question with its associated response choices, deliver feedback to user entries, and report interactive session results.
- A reserved user entry line displays/echoes user inputs up to 16 characters in length. These characters are larger than the message lines to optimize viewing and user validation.
- (Custom designs only) Supports logos, special character sets and/or reformatting of the graphics display. Minimum quantities, engineering costs, and extended delivery terms apply.

Power

- Powered by 3 x AAA replaceable cells.
- Power management and "sleep" functions under software control extend battery life.
- (Optional; Select Markets; Late Availability) Powered by 3 x AAA rechargeable cells. Requires separately purchased charging rack/shipping case combo. LED on keypad illuminates to indicate charging state.

User Identification

- Each keypad has a unique address between 1 and 1500 and a radio frequency (RF) channel number.
- Keypad addresses are programmable.
- Using the numeric keyboard, and with the assistance of text instructions/feedback displayed on the keypad's LCD, users can swiftly request authorization to enter a polling session "on-the-fly" and receive confirmation of successful registration. Default configuration supports identification codes of up to 16 characters in length.
- Software controls the registration/login process by monitoring keypad activity, interrogating user entries, and positively acknowledging those entries with appropriate acceptance/rejection/assistance messages to the keypad LCD.
- (Optional) An innovative miniature module can plug into the keypad's expansion port to serve multiple advanced functions including user identity confirmation, individual/proxy voting authority, and vote storage.

RF Technology

- Proprietary radio design provides reliable, barrier-free operation between keypads and their associated Base Station.
- Integrated error checking ensures data accuracy.
- Keypad uses license-free/license-exempt frequencies for communicating key presses to the Base Station and receiving Base Station control and message information.
- Employs Fleetwood-engineered UHF radio transceiver modules.
- There are 2 module styles: spread spectrum (frequency-hopping), and synthesized single frequency (multi-channel).
- International radio regulatory agency rules dictate the type module offered with each keypad. (For example, FCC rules allow both modules for US operation in the 900 MHz spectrum, whereas EC rules permit use of synthesized modules on both 868 and 433 MHz.
- Innovative narrowband radio circuitry is more immune to both in-band and out-of-band interference than competitive RF technologies.
- Proprietary RF protocol optimizes polling speed and range to expand user capacity without performance degradation.
- Multiple channels provide installation flexibility.
- Internal antennas are integral to the circuit boards and protected by the keypad housing.

Range

- (Spread Spectrum models) Designed for reliable operation in an indoor area 500 x 500 feet, with multiple barriers present.
- (Synthesized single frequency models) Designed for reliable operation in an indoor area 300 x 300 feet.
- Elevating the base station to improve line-of-sight operation results in a range advantage. Range also increases outdoors.
- Various base station configurations are available for both types of systems to expand coverage area.

Control

- Utilises high performance microprocessors with memory for storage of setup parameters and keypad addresses.

Communications Security

- A proprietary response verification protocol integral to the patented/patent pending radio design provides a high degree of signal security.
- (Spread Spectrum models) Frequency hopping communications and a proprietary data communications structure are additional deterrents to clandestine aerial data interception.

Scalability

- Firmware is resident in flash-structured microprocessor chips, which can be reprogrammed to facilitate easy upgrade during the life of the product.
- Adding keypads to an existing Base Station requires them to be set to unused addresses. Up to its purchased permanent capacity (see OptionFinder IQ 500B Design Capacity spec*), no change is required on the Base Station when keypads of the same radio channel are added.

Patents

- Covered by U.S. and European patents and patents pending.

Base Station

- Dimensions: 11.5" W x 4.5" D x 1.9" H. Unit Weight: Approx. 2 pounds (3.5 pounds with cables and power supply).
- Design Capacity: Up to 1,500 keypads per base station. Each base station ships with default permanent capacity of 300 keypads that can be expanded (for a fee, before or after purchase) in groups of 300 up to the design capacity.
- Polling Rate: Within 1-2 seconds, a synthesized receiver processes and acknowledges responses from up to 200 keypads transmitting on a single radio channel.
- When a single base station is servicing a full complement of 1500 keypads, the polling cycle is approximately 9 seconds.
- When multiple base stations are operating on different channels, they can communicate with associated keypads concurrently. (For example, this allows US spread spectrum systems to poll up to 22,500 keypads in a stadium application in under 10 seconds.)
- RF: A special (and patent pending) dual diversity transceiver design delivers superior coverage while providing redundancy in the event one transceiver becomes inoperative. Antennas provided.
- Connections: Attaches to the operator's personal computer by Ethernet (RJ45) or serial cable (DB9). IP-addressable controller and cables provided.
- Power: Universal rated low voltage power supply. Input: 110-220 VAC. Output: 12 VDC. Current draw: less than 0.5 A.