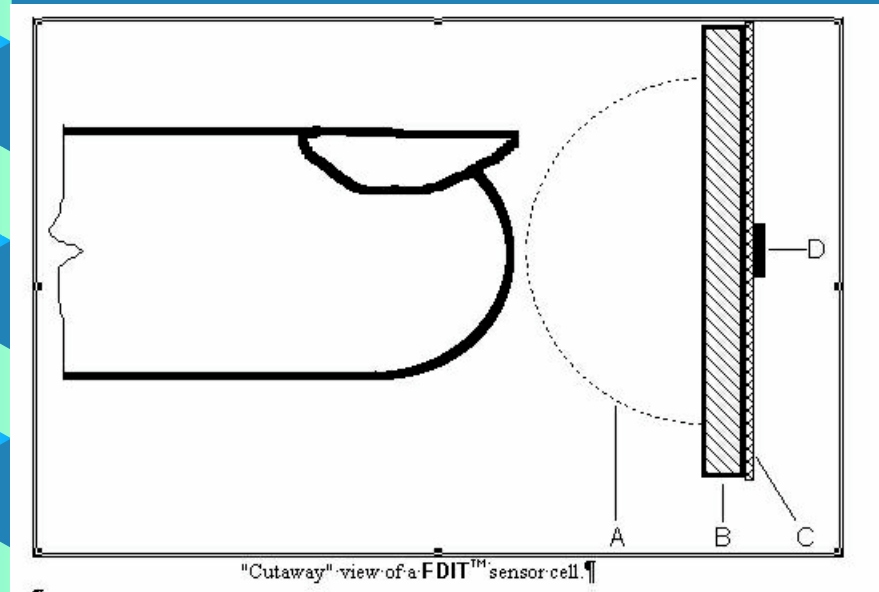


Field Disturbance Input Technology

- **Solid State Keypads - no moving parts**
- **Very high sensitivity - operation through 2.0" (50mm) of glass or plastic is possible**
- **Not affected by changes in temperature, humidity, pressure, or aging**
- **Supports large number of keys per controller**

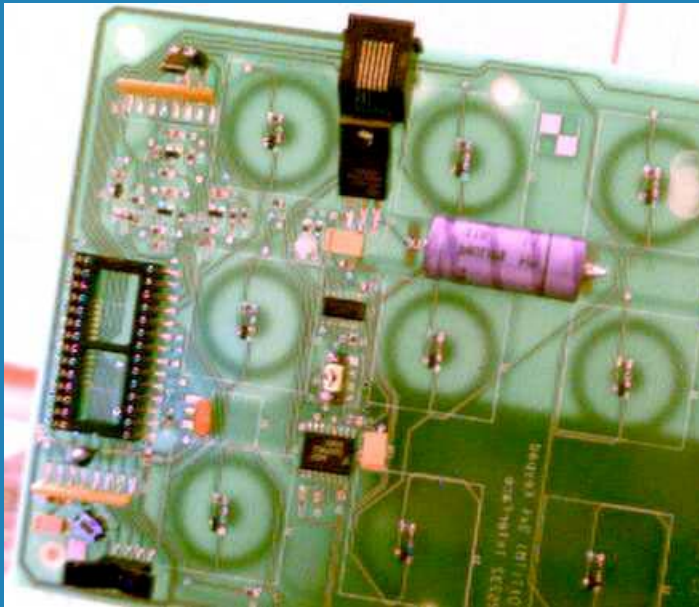
Operation



- A - Field area, where finger intrusion is detectable
- B - protective material: glass, acrylic, lexan
- C - PCB with FDIT(TM) electronics

- ☀ **Close your finger to the sensor**
- ☀ **No touching required**
- ☀ **Gloves are OK**
- ☀ **Sensor may be behind a shopping window two inches thick**

Construction



4x3 keypad with RS232 interface
110V external power brick
1.0" keys with 1.5" spacing

- **Sensors are made of Copper traces**
- **Interfaces directly with a PC or controller**
- **One controller per keypad - very low price per key**
- **Common assembly technology**

How does it look like



3x4 FDIT keypad
mounted on 1/2" plastic



3x4 FDIT keypad
4.8"x6.9"x0.7"



24 key FDIT keypad
Sensor board only



3x4 FDIT keypad
disassembled

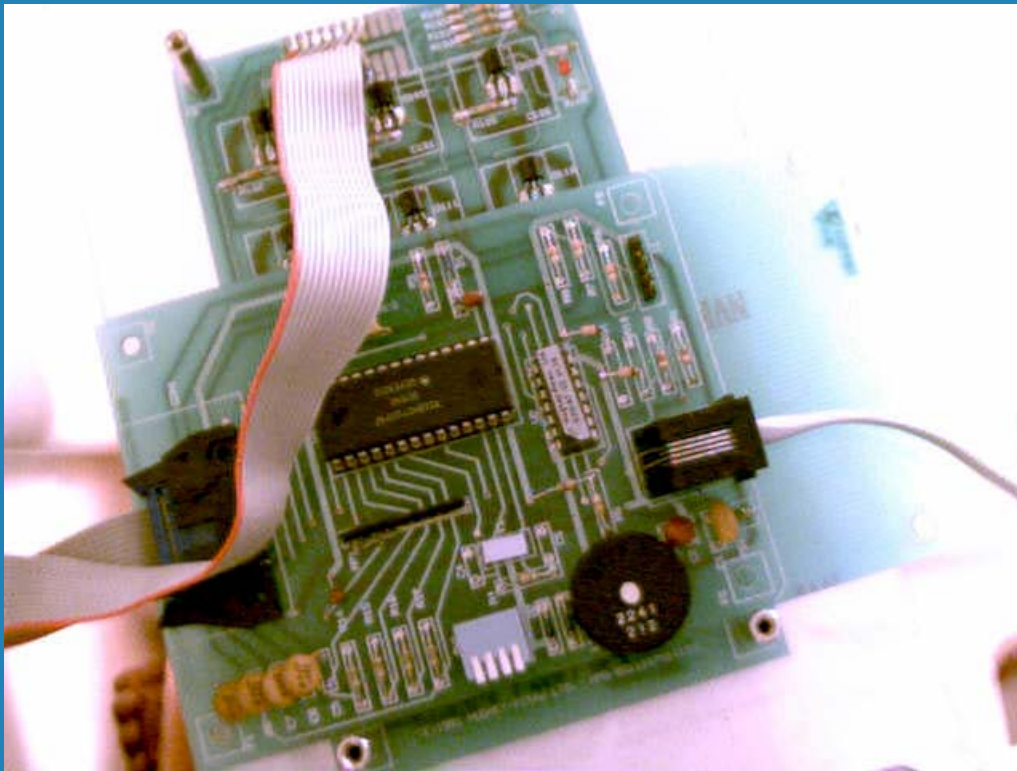
Protective Cover suggestions



1/2" Plexiglas
Concavities for each key
eliminate parallax errors

- **Concave indentations for each key eliminate parallax errors**
- **Sensitivity may be adjusted such that open palm on the surface does not trigger false keys**
- **Finger must be inserted in the concavity for activation**

First FDIT(TM) keypad (1991)



US Patents
5,469,364 and
5,586,042
include full electric
diagram and
operation details

3x5 AT Keyboard Interface, 1.0" spacing, 3/4" keys
1991 design using through hole components

www.8w.com

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What is unique

- **Patented, Software based, environmental adjustment methods and algorithms**
- **Single chip controller for tens of keys**
- **Very low cost per key for larger keypads**
- **Patented capacitance variation detection method allows for very low cost**
- **Stable operation through very thick layers of glass or plastic (50 mm or 2.0" possible)**

What is unique (cont.)

- **Sensitivity may be adjusted by the end user via specific key sequences or by the host computer via software commands**
- **Sensitivity is user adjustable at installation**
- **I/O pins available for local data acquisition or power output control - a door may be open when a key sequence is entered with no additional computing resources**

Limitations

- ❁ **Double windows limit sensitivity**
- ❁ **Operation is not possible through metalized layers or sheets of metal**
- ❁ **Not cost effective for low number of keys**
- ❁ **No tactile feedback without rubber domes**
- ❁ **Key size range is limited to 1/2" to 2.0"**

Applications

- **Information booth or through window information display**
- **Machine tool control panels**
- **Vandal-resistant vending machines**
- **Health care areas, where ease of cleaning and sterilization are paramount**
- **Car wash and gas pump keypads**
- **Access control**