

"Standard" CUSTOM KEYBOARDS



If it sounds mutually exclusive, it is only because our keyboard line encompasses two separate, but complementary technologies which share the same attractive desktop enclosure, to cover the total range of keyboard user requirements.

Most of our customers do their prototyping with our patented Series 52, because its universal logic design is unaffected by the number or location of keys. It also lends itself to easy addition, removal or exchange of keys or codes (even in the field) using stock parts, without electronic modifications or NRE. It's perfect for custom, low volume applications and/or rapid delivery.

The Series 52 isn't only for prototyping, however. It is always the most sensible choice for adverse environments because its operation is unaffected by dirt, contamination, moisture or humidity... *and because you can't wear out a light beam.* In addition, there is no RFI to break communications security. And the Series 52 is always the most cost-effective choice in any low quantity application, because there is never any NRE.

For most large quantity (100 or more) applications, we recommend the Series 55. If you've done your prototyping with the Series 52, we'll produce a functionally equivalent Series 55 for you at very low cost and with no NRE. We'll even replace the standard logic with logic tailored to your specific requirements, to provide different (or multiple) code structures or to further reduce the cost for large volume requirements.

With ADI's orderly approach to keyboard design, you can define a keyboard that meets your precise functional and physical requirements and confidently go into low or high volume production without ever making a costly error.

ADI

APPLIED DYNAMICS INTERNATIONAL
COMMUNICATIONS PRODUCTS

3800 STONE SCHOOL ROAD • ANN ARBOR, MICHIGAN 48104 • TEL: (313) 971-7840
TELEX: 23-0238

Optical switching... Series 52

- All keys user-defineable
- Choice of standard or special codes in every key
- One or one thousand, from stock parts
- Many available interfaces
- Up to ten rows of keys (233 keys maximum)
- Fast delivery
- No NRE in any quantity

IDEAL FOR:

- Low cost prototyping
- Rugged applications
- Adverse environments
- Information security
- Small quantity custom applications

In the Series 52, an array of LEDs provides beams of light which are distributed across the end of the keyboard. The resulting beams of light are directed towards the photodetectors at the other end, constrained by the holes in the plastic spacers that house the keyswitches. The keyswitch is a notched steel mask which, when depressed, selectively interrupts these light beams. The parallel output of the photodetectors thus provides a fully encoded signal.

Up to fourteen data bits, plus a strobe signal, are available from the photodetectors. This is sufficient to provide a final output code of up to ten data bits and still allow each key to be so uniquely encoded that full or partial depression of any combination of code generating keys will not duplicate the code of a single key. This allows straightforward implementation of n-key lockout, 2-key rollover, and any necessary code conversion by either software or hardwired logic.

Proven in TEMPEST applications

Contact switching... Series 55

- All keys user defineable
- Choice of standard or special codes in every key
- Many available interfaces
- Up to seven rows of keys
- Fast delivery in large quantities
- No NRE in quantities over 500

IDEAL FOR:

- Large quantity applications
- Low cost

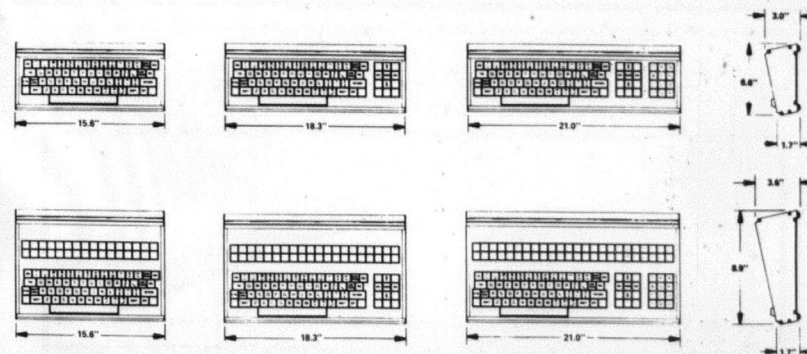
A product of ADI's on-going advanced digital circuit engineering and development, Series 55 keyboards embody the latest in keyboard circuit technology. Although the versatile Series 55 PC board can duplicate the functions and operations of any Series 52 prototype for high volume, low cost applications, we'll be happy to lay out a completely new board from "scratch" for large volume users with special needs. . .all with no NRE.

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A few "Standard" configurations



SPECIFICATIONS

| | | | |
|------------------------------|--|----------------------------|---|
| Switching method: | LED/Photo-optical detector, or multi-bifurcated contacts | Parity selection: | Odd, even, 1, 0 |
| Code generation: | 4-mode ASCII, 3-mode ASCII, buffered photodetector outputs or matrix scanner | Repeat: | Automatic, selective automatic or rate limited. Rate limited. |
| Number of codes: | 2 ¹⁰ (16384 maximum at photodetector output) | Key error control: | 2-key rollover; n-key lockout |
| Parallel data output: | Gated or ungated TTL, 7 or 8 bits. Neg true; pos true; neg or pos true. Direct or handshake. Open or grounded collector. | Power requirements: | +5V; ±12V |
| Serial data output: | TTL/EIA, 55-9600 baud, 10 or 11 bit word length. | Key row offset: | 3/16"-3/8"-3/16" |
| Strobe: | Four latched (pos/neg true); two pulse (neg true); one aux (bit 8) | Key spacing: | 3/4" centers |
| Character output: | ASCII, EBCDIC, BCD, etc. (not code dependent) | Key pressure: | 2 oz., ±0.5 oz. |
| | | Space bar pressure: | 4 oz., ±1.0 oz. |
| | | Key travel: | 0.195 inch |
| | | Switch point: | 0.150 inch nominal |
| | | Release point: | 0.060 inch nominal |
| | | Switch feedback: | Audible |
| | | Contact life: | Over 30 million operations |
| | | Size: | Per customer specification |

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