SEL-4388 Mirrored Bits® Tester

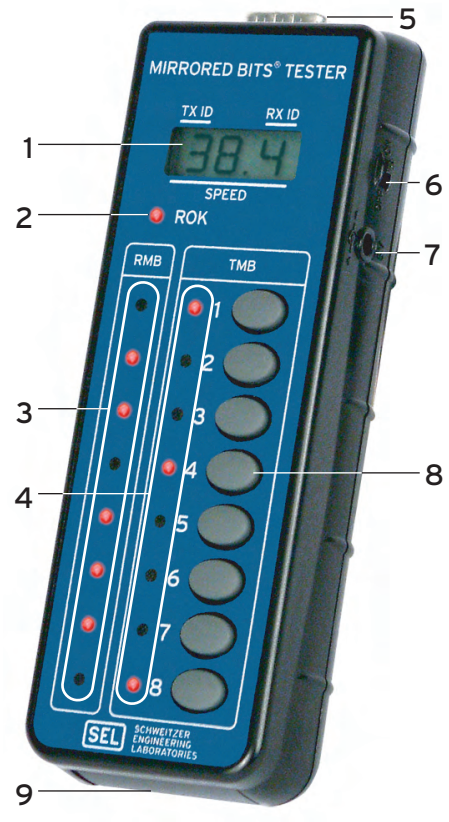


Figure 1 SEL-4388 Mirrored Bits Tester

1 **Display**: Three-segment LCD shows RX_ID (right) and TX_ID (left), alternating with detected data rate (SPEED).

2 **ROK LED**: Illuminates when receiving valid Mirrored Bits data (after synchronization)—see *Synchronization on page 2*.

3 **RMB LEDs**: Always display the active receive state of the eight Receive Mirrored Bits (RMBs).

4 **TMB LEDs**: Always display the active transmit state of the eight Transmit Mirrored Bits (TMBs).

5 **Port**: Connects to a Mirrored Bits communications channel: male, subminiature, 9-pin D connector. Supplied cables: C602 (straight through), C603 (null modem or cross-over cable).
Pin 1 = +5 Vdc*;
Pin 2 = Data Out;
Pin 3 = Data In;
Pin 5 = Ground;
Pin 8 = +6 Vdc
* requires external ac power adapter 230-0601

6 **ON/OFF Switch (for battery power only)**: OFF conserves batteries when not in use or when using the External Power Input.

7 **External Power Input**: Accepts 4–18 Vdc, center pin is positive (+) on the 0.7 mm coaxial dc jack. Optional ac power adaptor is 230-0601.

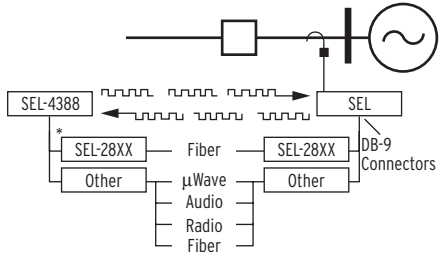
8 **TMB Pushbuttons**: Directly assert and deassert eight Transmit Mirrored Bits (TMBs). If connection is interrupted, TMBs remain latched until a new synchronization process occurs (aids in testing intermittent or marginal channels).

9 **Battery Compartment**: Provides internal power option. Uses two alkaline AAA batteries (Ray-O-Vac® 824 or equivalent).

Major Features and Benefits

- Save time by confirming Mirrored Bits addresses and data rate.
- Quickly and easily troubleshoot communications links.
- Use as a training aid for new-to-Mirrored Bits personnel.
- Use portable, battery-powered tester anywhere.

Applications



* Use a null-modem cable (C603, included), and appropriate gender changer (240-1551-M/M, DB-9, accessory) as needed.

Figure 2 Functional Diagram

Operation

Power-On Sequence

- ➤ Connect MIRRORED BITS communications network (see *Figure 2*).
- ➤ Move ON/OFF Switch to ON, or apply external power.
- ➤ Observe synchronization process
  - ➢ Sequential LED test
  - ➢ Sequential LCD-segment test
  - ➢ "S E L" appears on the LCD
  - ➢ LEDs blink while detecting data rate
  - ➢ ROK LED illuminates

Normal Operation

Read parameters and operate TMB pushbuttons. The display shows the RX_ID and TX_ID needed to communicate with the device to which the SEL-4388 is connected, not the actual ID settings of the connected device.

Synchronization

Synchronization occurs when the tester detects a change in RX_ID, TX_ID, or data rate (SPEED).

Troubleshooting

Alarm State—SEL-4388 illuminates all LEDs for 10 seconds, then extinguishes LEDs (except latched TMB LEDs).

Sleep State—"S E L" remains on the front-panel LCD.

Power-on with no MIRRORED BITS communications:	Alarm State, then Sleep State
Lost connection:	Alarm State, then Sleep State
Connected to non-MIRRORED BITS protocol:	Alarm State, then Sleep State
Data rate (SPEED) outside range:	Alarm State, then Sleep State

Specifications

MIRRORED BITS Protocol
MB (MBA and MBB), MB8

Port Data Rate (SPEED)
2400 to 38400 bps

Power Supply

Internal
Two AAA batteries
(Ray-O-Vac 824 or equivalent)

External
Range: 4–18 Vdc
Burden: <120 mW

Battery Operating Life
30 hours with all LEDs illuminated

Operating Temperature Range
0 to +45°C (+32° to +113°F)

Humidity
0% to 95% without condensation

Unit Weight (with batteries)
0.2 kg (0 lb, 7 oz)

Dimensions (H x W x D)
146 mm x 53 mm x 32 mm
(5.75 in. x 2.10 in. x 1.25 in.)

Factory Assistance

We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

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