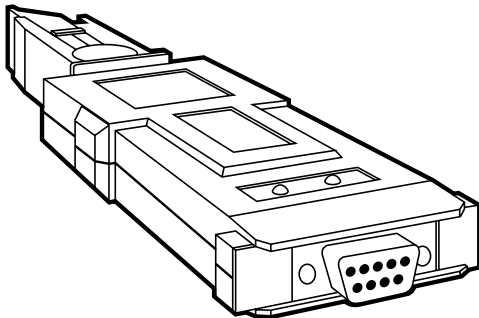




## Relay Tool



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### CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**  
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**  
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**TRADEMARKS USED IN THIS MANUAL**

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# 1. Specifications

<b>Connectors</b> —	(1) DB9 female, (1) IBM® data connector
<b>Indicators</b> —	(2) Red indicators for port reset indication (ON when current is supplied by the Relay Tool)
<b>Diagnostics</b> —	Via LEDs
<b>Operating Temperature</b> —	32 to 122°F (0 to 50°C)
<b>Humidity</b> —	10 to 95%, noncondensing
<b>Output Voltage</b> —	Minimum 5V @ 1 mA at pins O and B of data connector and pins 5 and 9 of DB9 connector, relative to pins G and R of data connector and pins 1 and 6 of DB9 connector
<b>Power</b> —	Powered by 9V internal battery
<b>Size</b> —	0.9"H x 2.1"W x 6.1"D (2.3 x 5.3 x 15.5 cm)
<b>Weight</b> —	3.6 oz. (102 g)

## 2. Introduction

### 2.1 Description

The Relay Tool is a miniature device used for set-up of IBM MAUs and for diagnostics when failure of the ring occurs.

MAUs contain relays which can be in one of two states: INSERTED (when a workstation is inserted) or BYPASS (when the workstation is disconnected). Jolts or vibrations (for example, during shipping) can sometimes make the relays switch to the INSERTED state accidentally, and it is then impossible to connect a new workstation.

The Relay Tool supplies a 1-mA DC current which forces switching of the relay to the BYPASS state, thus enabling connection of the workstation. The Relay Tool has two LEDs which monitor correct performance.

The Relay Tool is equipped with a DB9 connector and an IBM data connector.

### 2.2 Features

- Set-up and diagnostic tool for the IBM MAU.
- Checks both main and backup wiring.
- Equipped with both IBM and DB9 connectors.

## 3. Operation

1. Set-up procedure for MAU:
  - a) Plug the Relay Tool into the lobe #1 connector.
  - b) The left LED should light up brightly and then fade out within 3 to 5 seconds.
  - c) Continue to hold the Relay Tool, which is plugged in the lobe connector, for 5 more seconds. A click can be heard shortly after the LED's light fades completely.
  - d) Remove the Relay Tool from the lobe. A click should be heard, confirming that the lobe insertion control circuitry is functioning properly.
  - e) Repeat this procedure for all other lobes.
  - f) Plug the Relay Tool into the RI connector, observing that both LEDs are lit up brightly. This test checks the main-path and backup-path continuity, as well as the self-shorting operation of both RI and RO. In order to save battery life, do not leave the Relay Tool plugged in for more than a few seconds.
  - g) Repeat step f for the RO connector.

2. In addition, the Relay Tool can be used for locating faults in the wiring as follows:
  - a) To check a trunk segment, disconnect the data connectors at both ends of the trunk segment and connect the Relay Tool to one of the data connectors. Both LEDs should light up continuously, checking both cable continuity and self-shorting operation of the connector.
  - b) To check the lobe segment, disconnect the DB9 connector from the PC workstation and connect the Relay Tool to the DB9 connector. If the other side of the lobe cable is connected to a MAU, one of the LEDs should light up and fade. If the other side of the lobe cable is terminated by an unplugged data connector, both LEDs should light up continuously.

### NOTE

**The tests above check only DC continuity of the ring and do not indicate that the wiring transfers the AC signals properly.**

**In order to save battery life, do not leave the Relay Tool's LEDs on for long periods of time.**







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