

**FEATURES**

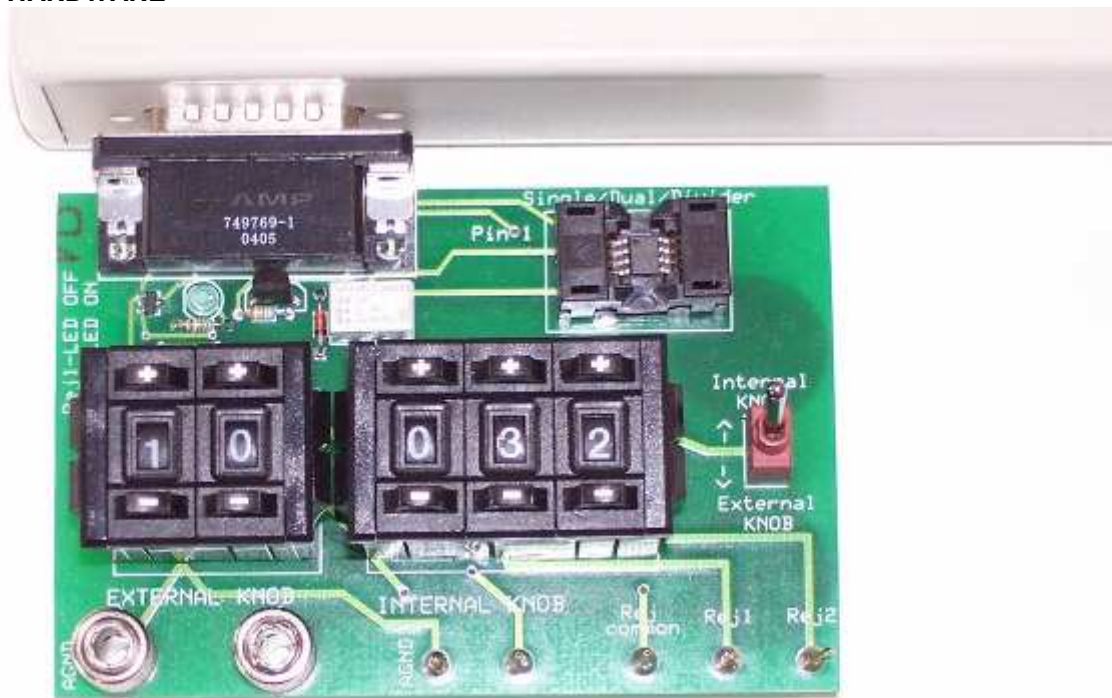
- Fixture to adjust the resistance of a *Rejutor* to match a fixed resistance
- Resistance adjustment for Standard Value *Rejutors* in SOIC8 packages
- Convenient LabVIEW based graphical software interface
- Precision adjustment using Microbridge patented *Rejutor* software algorithm
- Plug-and-Play connection to MBK-408 Calibration Kit
- SOIC8 Socket for easy *Rejutor* installation

**APPLICATIONS**

- Produce high-precision fixed resistors
- Precise adjustment of Microbridge Technologies MBD family of *Rejutors*
- Match a compensation resistor
- Adjust to the resistance of a decade box

**KIT CONTENTS**

- Basic Kit
  - MB-500 Matchbox
    - (without built-in decade box)
  - Matchbox Software
  - User Manuals (on CD)
- Advanced Kit
  - MB-500 Matchbox with built-in decade box (as shown in Figure 1).
  - Matchbox Software
  - User Manuals (on CD)

**MATCHBOX HARDWARE**

**Figure 1: Matchbox mated with MBK-408  
(Advanced Kit Shown)**

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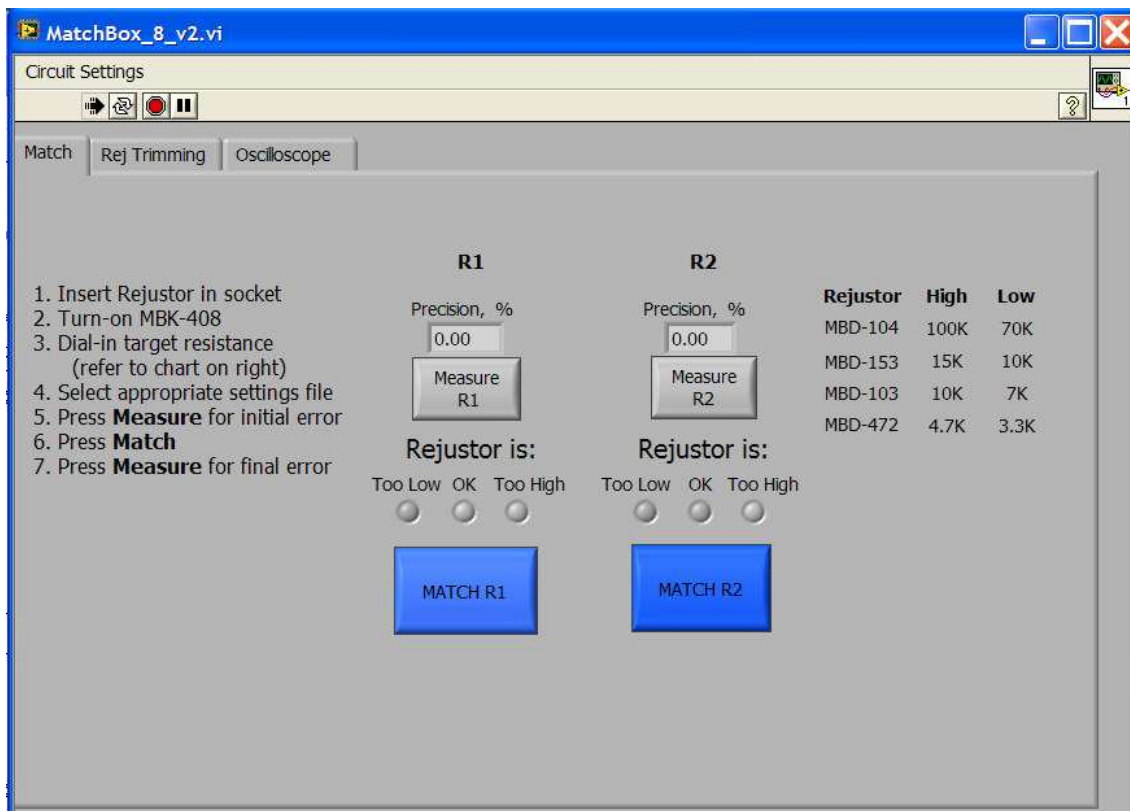
**GENERAL OVERVIEW**

Matchbox is a simple tool for adjusting the resistance of a *Rejutor*. A reference resistor is connected to the banana binding posts, or configured with the on-board decade box (for advance kits). The *Rejutor* be can adjusted to match the reference resistor. Advanced features allow resistance adjustment to resistance values relative to the fixed reference resistor.

Matchbox can also be used in a production environment. Many sensors and optical components are hand-calibrated. The hand-calibration process matches an external decade-box resistance to the calibration requirements of the device. Then a fixed resistor or multiple fixed resistors equal to the required resistance are then attached to the device. With Matchbox, the user simply connects the decade box to the banana binding posts and adjusts a *Rejutor* to meet the calibrated value. This ensures a single *Rejutor* can be used in place of fixed resistors without compromising precision and stability while improving manufacturing efficiency.

**GRAPHICAL USER INTERFACE, MATCH MODE**

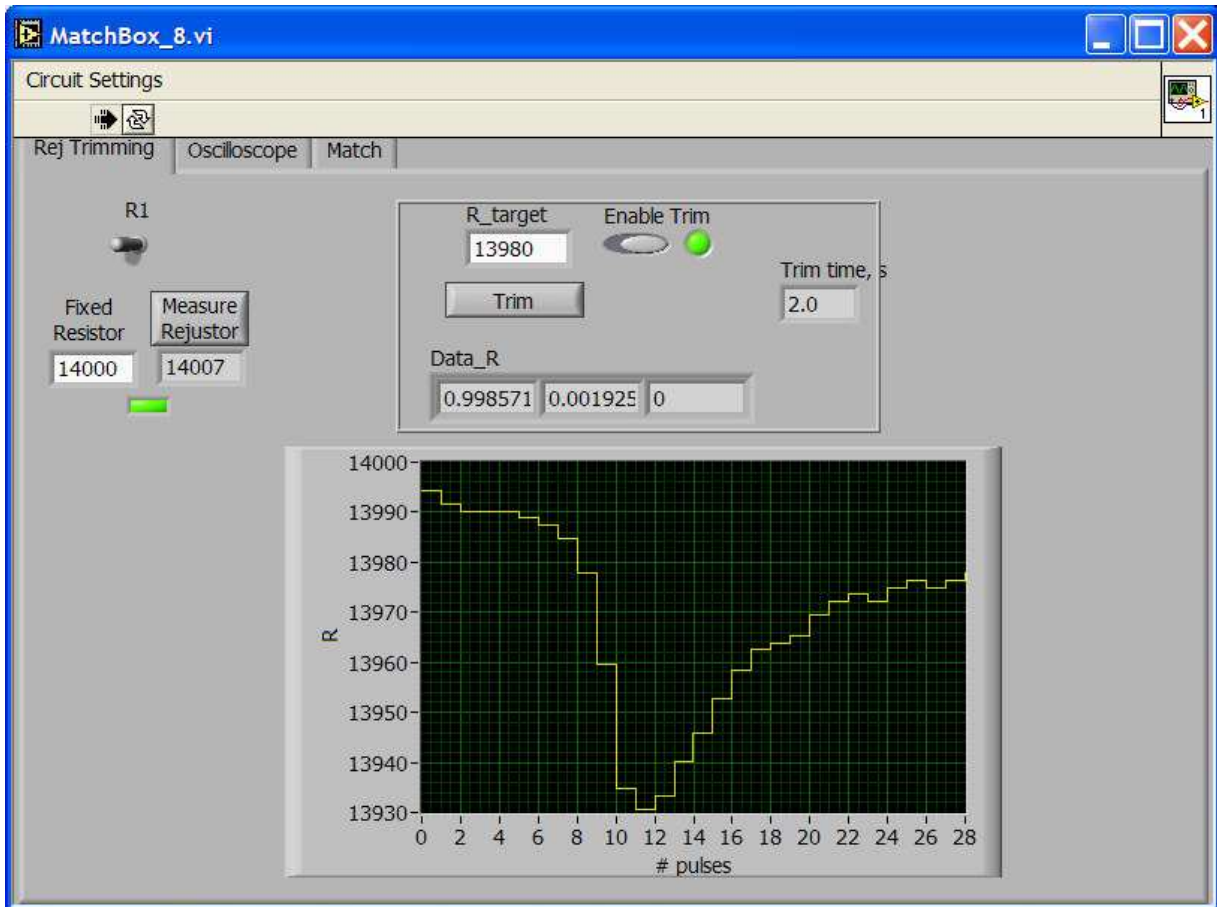
The intuitive graphical user interface (GUI) provides the capability to match either *Rejutor* R1 or R2 in a dual or divider SOIC-8 package. The **Match** window (Figure 2) matches the resistance of the *Rejutor* to the fixed resistor on the *Matchbox* (either the on-board decade box, or the banana binding posts). The operator selects the *Rejutor* part-type from a convenient pull-down menu.



**Figure 2: Match Mode Graphical Interface**

**ADVANCED ADJUSTMENT OPTIONS**

Matchbox software also provides advanced adjustment options using the **Rej\_Trimming** window. Advanced options use the external resistor (on banana binding posts or the on-board decade box) as a reference and can adjust the *Rejistor* relative to the external resistor. For example, a *Rejistor* could be adjusted to 85% of the value of the external resistor.



**Figure 3: Advanced Graphical Interface**

Advanced adjustment is configurable in either absolute or relative mode. In absolute mode the *Rejistor* is adjusted to a target resistance against a known external resistor. In relative mode the *Rejistor* is adjusted as a percentage of the external resistor.

Advanced mode provides measurement capability using an oscilloscope to observe system performance and feedback from the calibration process.

**MINIMUM CONFIGURATION**

Matchbox requires the Microbridge MBK-408 *Rejutor* Calibration Kit. Matchbox executable software runs on Windows XP. A self-configuring USB port is required to communicate between the host computer and the MB-408. All necessary software drivers are provided with the kit.

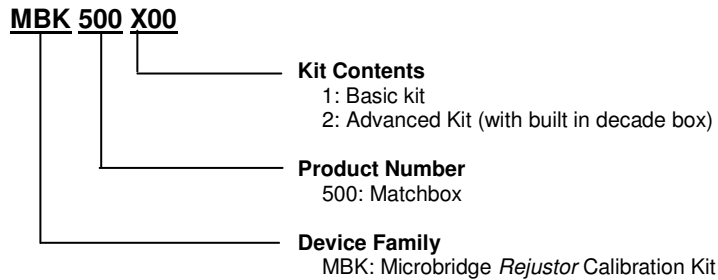
**REJUSTOR ADJUSTMENT CAPABILITY**

Matchbox adjusts the resistance of the *Rejutor* within a 30% range with a typical accuracy less than 0.1%. The adjustment range capability in **Match** mode is described in Table 1. The decade box, or the resistor installed on the banana binding posts must be within the range defined by the **High Target Value** and the **Low Target Value**.

**Table 1: Active Adjustment Range**

<i>Rejutor</i> Type	High Target Value	Low Target Value
MBD-472-AS Dual 4.7KΩ	4.7KΩ	3.8KΩ
MBD-103-AS Dual 10KΩ	10KΩ	8KΩ
MBD-153-AS Dual 15KΩ	15KΩ	12KΩ
MBD-903-AS Dual 90KΩ	90KΩ	70KΩ
MBD-103-BS R1= 10KΩ, R2 =20KΩ	10KΩ, 20KΩ	8KΩ, 16KΩ
MBD-103-CS R1= 10KΩ, R2 =50KΩ	10KΩ, 50KΩ	8KΩ, 40KΩ
MBD-103-ES R1= 10KΩ, R2 =90KΩ	10KΩ, 90KΩ	8KΩ, 70KΩ

**PRODUCT DESIGNATION**



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