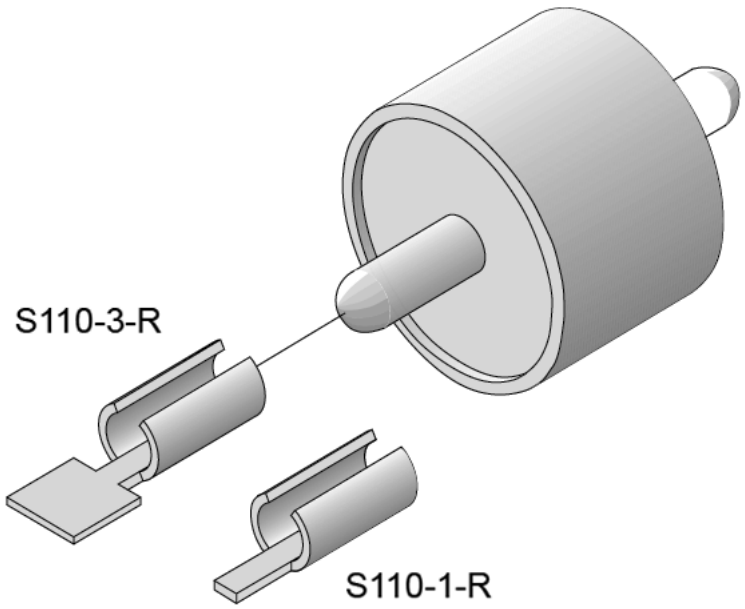
Instruction Sheet

Sliding Contacts

Model S110-1-R, S110-3-R



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1. Introduction

This Instruction Sheet provides the tools list and procedure for installing S110-1-R and S110-3-R sliding contacts on the pin of the glass bead and mating them with the microcircuit.

2. Tools and materials

The installation tools and materials are listed in Table 1.

Table 1. Tools and Materials

Name	Vendor and Model/Part Number
Stereo Microscope	Bausch & Lomb 30 power
Parallel-Gap Welder and Pulse Bonder	Hughes Model WCW550 with VTA-90 Head
Solder, Indium #2	Indium Corp. of America
Jewelers Screwdriver	Any
Tweezers	Any

3. Procedure

The following is the recommended procedure for installing the sliding contacts and mating them with the microcircuit.

1. Install the microcircuit and glass bead as directed by the connector manufacturer.
2. Check that the glass bead center pin is level with the top of the microcircuit (± 0.051 mm). If necessary, bend the pin to achieve this degree of levelness.
3. Use the tweezers to remove one of the S110 sliding contacts from the package.
   With the sleeve-end facing the pin on the glass bead, lay the S110 on the microcircuit.
4. Refer to Figure 1. Use the tip of the jewelers screwdriver to gently press the S110 tab down onto the microcircuit and in toward the glass bead. If necessary re-form the S110 using the tweezers as necessary. However, ensure that it still makes firm contact with the bead pin.
5. Position the sliding contacts on the center pin.
6. Ensure that the tab makes good electrical contact with the microcircuit.
7. Measure the SWR (return loss) of the connection.
8. Slide the sleeve back and forth in small increments until the RF performance is optimized.
9. Attach the tab on the S110 to the microcircuit by any of the following three methods:

Caution Use a minimum amount of solder to prevent the sleeve from becoming soldered to the pin.

   a. **Soldering:** For thin-film microcircuits, use Indium solder to prevent the leaching of gold from the microcircuit. For other types, use any acceptable solder.
   b. **TC Bonding:** Use ultrasonic or pulse bonding. Ensure that the tab firmly contacts the microcircuit for best RF performance.

c. **Parallel-Gap Welding:** Optimize the voltage, duration, and weight for a strong weld. Use a tip that is approximately the same width as the tab.

- For the S110-1-R, the tab width is (.152 mm).
- For the S110-3-R, the tab width is (.408 mm).

Note	Due to the method used to form the sliding contacts, there may be inconsistencies in the surface finish and the break-away area at the cylindrical end, which may have a jagged edge. These occurrences will not harm the performance of the sliding contact.

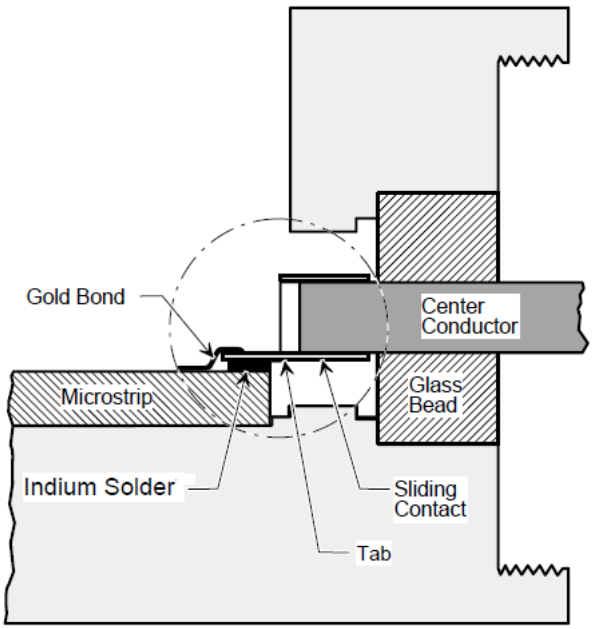

Figure 1 Sliding Contacts Installation

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