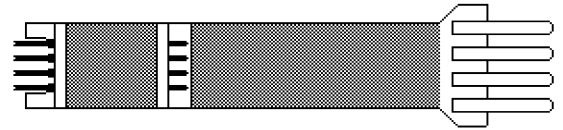


# Using the AccuTouch Probe

The AccuTouch Probe (#ATPB1) is designed to provide a quick connection option for in-circuit reading and programming of 8 pin SOIC surface mount serial eeproms. Each of the eight spring loaded probe pins consist of a four point crown tip design which provides the best opportunity for sealant penetration plus a broad electrical contact area. Using four contact points per pin instead of one also allows for a less restricted alignment area with the underlying part. The probe itself is fabricated using an epoxy glass material with the probe body covered by an insulating material. This allows you to grip the probe without touching the underlying circuit traces. The probe contacts terminate at the top of the probe with .1" pins which connect to a standard Andromeda Research cable provided with the probe. The probe is designed to be used with the Andromeda Research in-circuit serial eeprom adapter (#ASERSM1A).

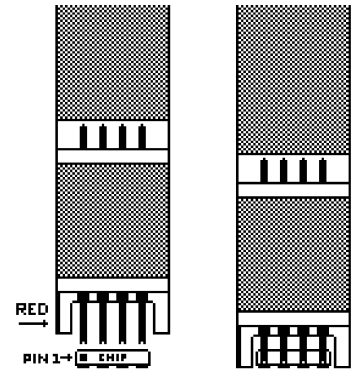


## HOW TO POSITION AND ENGAGE THE PROBE

The AccuTouch probe is fabricated with a center alignment notch between the two pin rows.

To position the probe, follow these steps:

1. Locate PIN#1 on the chip. It will be marked with a dimple in the corner of the chip package or a slanted side. One end of the notched guide has a red mark. This end of the probe will align at the PIN#1 end of the chip. If the chip has a slanted side and the slanted side is on the left the red mark will be at the chip top.
2. Grip the probe between your thumb and forefinger at the long part of the body. Position it such that the alignment notch is over the center of the chip package and each probe pin is gently resting on a corresponding chip pin.
3. With the probe in place push straight down on the probe until the both ends of the alignment notch touch the circuit board assembly. The probe is now correctly positioned and must be held firmly in place during any reading or programming operation. (See illustration) **NOTE: Do not twist the probe once it is in place as this can damage the pins!**



## PENETRATING HUMIDITY SEALANT

The four point crown pin was designed to penetrate a typical layer of sealant used to protect circuit components. Understand that if the sealant applied to an assembly is thicker than the pin points can penetrate, the probe will not make electrical contact with the chip leads. If you are dealing with an assembly with excessive sealant you may carefully press and release the probe over the chip several times in an attempt to drive the pins through the sealant to the underlying chip leads. You may also simply scrape the chip pins with a sharp object such as a small knife blade to expose bare metal. Remember, unlike a clip, the probe only requires a straight down vertical path to make electrical contact.

## SOFTWARE PROCEDURES TO USE WITH THE PROBE

### 1. CONFIRM PROBE CONNECTION

When you are working with a serial eeprom in-circuit the first step is to confirm that there is an actual connection to the part. This step does not confirm that you are reading valid data, only that there is an electrical connection to the device pins. A simple test uses COMMAND 6 - VERIFY DEVICE IS ERASED. The system will indicate that the **device is erased** if there is **no connection** to the part. Press 6 then Y to execute the command. If the system responds with **DEVICE IS ERASED** then you are **NOT** connected. If the response is **DEVICE NOT ERASED** then you **ARE** connected. Try different ASERSM1A voltage settings until you see **DEVICE NOT ERASED** then proceed to STEP 2.

### 2. READING AND CONFIRMING VALID DATA

This step uses the buffer editor plus voltage settings on the ASERSM1A adapter. You may read data from a serial eeprom in-circuit but it is essential that you verify, to the best of the systems capability, that the data is indeed good. This is done by first reading data from the chip into the buffer and then comparing the data in the buffer (data just read) with the same data in the chip. If the data in the buffer and the data in the chip match, then the data can be considered valid. If the data in the buffer and the data in the chip do not match then the data in the buffer is not valid. To perform the procedure, set the ASERSM1A adapter LV:5V switch to LV. Set the LV RANGE switch to 3.0. Select command 5 (BUFFER EDITOR). You will see a screen of all FF. This is an empty buffer. Press 3. You will see READ AT BUFFER START (ADDRESS 0). Press Y to perform the read. Watch the screen. The FFs should be replaced with data from the chip. Now press 8. You will see COMPARE FROM BUFFER START (ADDRESS 0). Press Y to perform the compare. The system will compare the data in the buffer with the data in the chip. If the data is good you will see COMPARISON COMPLETE: 000000 ERROR(S) in **green**. If the data does not match you will see COMPARISON COMPLETE: XXXXXX ERROR(S) in **red**. **Green is good - Red is bad**. If the system indicates comparison errors move the LV RANGE switch up one setting (3.6) and try again. **NOTE: 95 series parts (95040, etc.) may not work at settings below 4.2 on the LV RANGE.**