

# USING AND CONNECTING CHIP CLIPS AND PROBES

Andromeda Research provides a variety of options which allow in-circuit connection to memory parts and microcontrollers. Connection options consist of chip clips and individual probes with standard cables and termination plugs. The termination plug connects directly to Andromeda Research in-circuit adapters and can also be used with third part programmers using the standard terminator. The standard terminator converts the clip/probe plug to a standard 8 pin DIP base. **NOTE:** The probe set and chip clip allow you to attach the EPROM+ programming system directly to parts installed in an existing circuit. Reading and programming devices “in circuit” (not removed from a circuit board) is normally successful using the EPROM+ system with the ASERSM1A or ACOM2 adapter although there is no guarantee. (See ASERSM1A addendum for in-circuit procedure.) The reason is that the circuitry in the EPROM+ and the circuitry which is connected to the part while it is on the board will conflict. Although the EPROM+ is designed to drive the connections to the part without damage, there is no way to guarantee that the signals sent to or received from the part will meet specified logic levels. This is due to the variable nature of the electronic components in the circuit with which you are working. Our experience and that of our customers is that in most circumstances, using the EPROM+ system, you will be successful.

## PRECAUTIONS AND NOTES

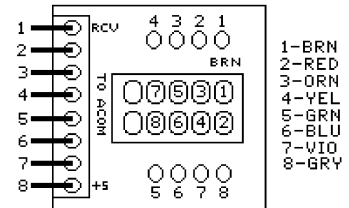
1. **Never** connect the EPROM+ to a powered circuit. Attaching the EPROM+ to an active circuit may damage the programming unit. Be sure power is removed from the circuit before you connect the EPROM+ to the chip.
2. If you are not having success with a direct connection to the part, try disconnecting the power (Vcc) pin (see bottom illustrations) from the circuit. All other pins may remain connected. Now connect the EPROM+ to the device including the power pin. This allows the EPROM+ to power only the part and not the entire circuit which may happen if power from the chip is fed throughout the board.
3. If you are unsuccessful in reading or programming the chip “in circuit”, you will have to remove the part from the circuit board before attaching the probes or clip.
4. Before you attach to a part be sure the pins are clean. Any contamination will prevent electrical contact. Open the clip jaws fully when attaching to the chip. DO NOT force the clip over the chip body as this will damage the brass fingers and ruin the clip. When using the probe set verify that no adjacent connections are shorted when the probes are attached.

## COLOR CODED PROBES AND LEADS

The leads and probes which comprise the probe set are color coded. The colors conform to the EIA standard. The colors and their corresponding pin numbers are: #1 - BROWN, #2 - RED, #3 - ORANGE, #4 - YELLOW, #5 - GREEN, #6 - BLUE, #7 - VIOLET, #8 - GRAY. Use these color codes to attach the probes to the corresponding pins on the chip with which you are working.

## ATTACHING THE CLIP OR PROBES TO THE STANDARD TERMINATOR

The probe set or chip clip attaches to the standard terminator (#PBCP1) with a 10 pin female header. The female header mates with 10 pins on the top of the terminator board. PIN 1 of the 10 pin set is marked with the letters **BRN** (BROWN wire). Orient the female header such that the brown wire corresponds to this position when the header is pressed into place.



## STANDARD PIN CONNECTIONS

The illustrations below show a top view of the pin connections for the most common industry standard serial eeprom families plus the M35080. Each pin is marked as it would appear in the manufacturers data book. Note that there are other serial eeprom devices, which vary slightly in their operation and connections, however most will conform to one of the standard packages below. (**NOTE:** The M35080 is a non-standard SPI package. A remapped connection diagram is provided with corresponding cable/probe colors.)

