

E13 SET - UP PROCEDURE

1) Set EA Series unit to 2716 E13. Repeatedly read an empty socket and check the following:

1.1) That both TTL low and TTL high levels can be seen at the following pins during read:

Pins 1 - 8	= Address lines A7 - A0
Pins 9 - 11)	= data lines D0 - d7
Pins 13 - 17)	= (The high going pulse is short, but quite visible)
Pin 18	= Chip select (active low)
Pin 20	= Address line 10
Pin 22 - 23	= Address lines A9 and A8;

1.2) That approximately +12 Volts is present on ZIF pin 19 during read;

1.3) That approximately -5 Volts is present on ZIF pin 21 during read;

1.4) That approximately 5 Volts is present on ZIF pin 24 during read;

2) Next, program the empty socket and check that:

2.1) Pin 18 is pulsed between ground and +25 Volts during programming;

2.2) That approximately +12 Volts is present on ZIF pin 24 during programming;

3) Next, set the EA Series unit for 2708 E13. Then press read, followed by reset. Now program the empty socket and check that:

3.1) Approximately +12 Volts is present on ZIF pin 20 during programming;

4) Next, leave the EA Series unit set for 2708 E13, and plug in the test load. Now program the empty socket, and during programming:

4.1) Check the rise and fall times (10% - 90% and 90% - 10%) of the 25 Volt programming pulse on pin 18. This can easily be done with a Tektronix 2236 oscilloscope using the delayed timebase as follows:

4.1.1) Start programming the test load in the ZIF socket, and monitor the voltage on pin 18 using 5V/cm.

4.1.2) Set the main time base to 0.1 ms/cm and adjust the triggering for a rock - steady display.

4.1.3) Switch the timebase to ALT = alternate between the main timebase and the delayed timebase, and set the delayed timebase to 1us/cm.

- 4.1.4) Check that the rise and fall times lie within the range: 0.5 - 2.0 us.
- 4.2) Set the voltage at ZIF pin 24 to +5.0 Volts, as closely as possible, by adjusting RV3.
- 5) Next change the main EA Series back to 2716 E13, then plug in the test load into the ZIF socket on the E13, and read in the 'device' and then programme the test load in the ZIF socket. During this programming:
 - 5.1) Set the voltage at ZIF pin 19 to +12.0 Volts, as closely as possible, by adjusting RV1;
 - 5.2) Set the voltage at ZIF pin 21 to -5.0 Volts, as closely as possible, by adjusting RV2.
- 6) Next change the main EA Series back to 2708 E13, then use the E13 adaptor to read a 2708 containing special test data, and confirm that the check-sum is correct.
- 7) Next, plug in an erased 2708, and confirm that the main EA Series unit verifies this device is blank using the BLK button. Now programme the blank 2708 with the special test data, and confirm that the check-sum is again correct. Also, confirm that the VFY button on the main EA Series unit verifies the data in the programmed 2708 against the ram data just programmed into it.
- 8) Next change the main EA Series back to 2716 E13, then use the E13 adaptor to read a 2716 containing special test data, and confirm that the check-sum is correct.
- 9) Next, plug in an erased 2716, and confirm that the main EA Series unit verifies this device is blank using the BLK button. Now programme the blank 2716 with the special test data, and confirm that the check-sum is again correct. Also, confirm that the VFY button on the main EA Series unit verifies the data in the programmed 2716 against the ram data just programmed into it.

NRF.

13-DEC-84