#### APPENDIX A

#### TEST EQUIPMENT

Paragraph

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# 1. INTRODUCTION

1.1 Appendix A provides the circuit diagrams for the Z88 test equipment. It also provides information on the modification required to a standard 32k RAM pack in order to transform it into the slot 2 test card.

# 2. 32k RAM PACK MODIFICATION

2.1 In order to modify a standard 32k RAM pack to produce a test pack for use in System Test, certain wiring must be connected from the chip to the card connectors as follows:

32k RAM Chip		Card Connector
A12 (pin 2)	wire to	A17 (pin 36)
A13 (pin 26)	wire to	A18 (pin 37)
A14 (pin 1)	wire to	A19 (pin 38)

A.1



7

NOTE: Output is as follows depending on the position of switch A:

Position 1 - 2.8V Position 2 - 3.8V to 4.6V Position 3 - 4.6V to 6.1V

FIGURE A.1 PSU FOR TEST FIXTURE

A.2



- NOTES: 1. The principal aim is to check that every wire is connected to the 9-way socket including the 10M between pin 1 and the socket frame.
  - 2. For the serial port to work, both CTS and DCD must be high.

FIGURE A.2 RS232 LOOPBACK TEST PLUG

Α.3



# NOTES: 1.

- : 1. The 'test head' of both the slot connector tester and the bus extension connector tester use the above circuit.
  - 2. The LED is connected between pins 4 and 5 on the test connector test head.
  - 3. A 0.4 mm thick spacer is installed between the connector side of the pcb and the plastic housing. This builds in a deliberate spacing so that the test pcb will only make contact provided all 38 connector springs are positive.
  - 4. The Z88 mains adaptor is connected for the slot connector tester and the Spectrum adaptor is connected for the bus extension tester.

### FIGURE A.3 CARD TESTER CIRCUIT FOR SLOT CONNECTORS AND BUS EXTENSION CONNECTOR



NOTES: 1. There is no R16 or D16 connected.

2. All resistors are 1 Mohm, all diodes 1N4148.

FIGURE A.4 SLOT TESTER TEST HEAD CIRCUIT DIAGRAM

A.5



NOTES: 1. Slot is in pin 18 position.

- 2. Side A of the connector is the component side.
- 3. All resistors are 1 Mohm, all diodes 1N4148.
- 4. GND goes to connector pin A14.
- 5. Sense connections are made to all except pins A14, B1 and B24.

FIGURE A.5 BUS EXTENSION TESTER TEST HEAD CIRCUIT DIAGRAM