

**VALIANT**  
Designs LTD

# VALIANT

## Designs

LTD

**TITLE**

## VALIANT TURTLE TESTING PROCEDURES

TEST T2

[illegible]

## VALIANT TURTLE TESTING PROCEDURES

### TEST T2

#### 1.0 INTRODUCTION

This test is the test to be performed as the Q.A. examination of the Turtle.

#### 2.0 TEST OBJECTIVES

This test is to be performed on the completed and packed Turtle. Its objective is to ascertain that all phases of the production, testing and packaging have been completed satisfactorily. This test should be performed without removing the Turtle shell.

#### 3.0 Q.A. BASIS

- a) The test should be performed to a 1% AQL to BS 6001:1972.
- b) The purpose of the Q.A. is to ensure product confidence and consequentially Valiant may request samples in variation to the rules of BS 6001.
- c) Changes in sample size should be approved by the Valiant Q.A. engineer.

#### 4.0 TEST EQUIPMENT

- a) Power supply as used on T1 (see VDL1/126).
- b) Valiant Turtle Communicator.
- c) Computer and software as T1 (see VDL1/126).
- d) Valiant power adaptors.

#### 5.0 MULTI TURTLE TESTING

It is possible to test several Turtles at once. This is only limited by the range of the communicator (8m).

#### 6.0 VISUAL CHECK

This is an inspection procedure intended to ensure:

- a) All the work has been satisfactorily completed.
- b) The quality of workmanship is good.
- c) The appearance and finish are excellent.

The check list of Appendix A should be completed for each Turtle subjected to T2 testing.

## 7.0 CHARGE THE TURTLE

7.1 The first charge for the Turtle is best done in a slow charge mode over a 14 hour period. If time is restricted for completing the tests then it is permissible to charge in the fast charge mode for a maximum of one hour and then charge in the slow charge mode for 3 hours.

7.2 How to charge the Turtle in slow charge mode:

- a) Plug in the power adaptor to the Turtle charge socket.
- b) Switch the Turtle into charge mode.
- c) The yellow LED light should not illuminate.

7.3 How to charge the Turtle in the fast charge mode:

- a) Switch the Turtle into charge mode.
- b) Plug in the power adaptor to the Turtle charge socket.
- c) The yellow LED charge light should illuminate.

## 8.0 CHARGE CIRCUIT TEST

Repeat the charge circuit test of VDL1/126 and complete the appropriate part of Appendix A.

## 9.0 T2 PEN TEST

- a) Set up the computer, powering up the Communicator and loading the test software (see VDL1/130).
- b) Position the Turtle with the others to be tested.
- c) Switch on the turtles.
- d) Activate T2 Pen Test Program.
- e) Complete Appendix A checklist.

10.0 DRIVE TEST

- a) Set the Turtles in a position to perform the DRIVE UNIT Test of T1.
- b) Activate the Drive Unit Test.
- c) Complete the check list of Appendix A for each Turtle under test.

11.0 SQUARE TEST

- a) Set the Turtles in a position to perform the Square Test (drawing a square).
- b) Activate the Square Test.
- c) This is a continuous test designed to run for the full life of a battery charge (approximately 2 hours).
- d) Checks should be made regarding the operation of the Turtles at frequent intervals and the relevant aspects of Appendix A checked.

Note: It is not necessary to tune the Turtle's accuracy in this test.

12.0 360° TEST

- a) Set turtles in a position to perform the 360° test.
- b) Activate the 360° test.
- c) This test checks the setting of the stabiliser (on MKI only).

APPENDIX A

TURTLE TEST T2 CHECK LIST

TURTLE TEST T2 CHECK LIST

TURTLE SERIAL NO. \_\_\_\_\_

Please indicate in the box whether the check is ✓ satisfactory  
or ✗ not satisfactory.

VISUAL CHECK

Packaging

- (a) Satisfactory condition of Turtle carton
- (b) User Guide packed
- (c) Pen UP packed
- (d) "Turtle Talk" packed
- (e) User Guide in satisfactory condition
- (f) Pen UP in satisfactory condition
- (g) "Turtle Talk" in satisfactory condition
- (h) Polystyrene box in satisfactory condition
- (i) Berol pen packed
- (j) Screwdriver packed
- (k) Turtle packed in polythene bag
- (l) Turtle and shell clean

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DRIVE UNIT

- (a) No backlash in gear unit
- (b) Wheel joint not broken
- (c) No adhesive on tyre
- (d) Traction wheel assembly/base joints  
not broken

Starboard

Port

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<input type="checkbox"/>
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<input type="checkbox"/>

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

TURTLE TEST T2 CHECK LIST contd.

(d) Eyes

☐

(e) DIL switch

☐

(f) Main loom

☐

Loose wires

(a) General appearance of no loose wires  
is satisfactory

☐

Loose screws

(a) There are no loose screws

☐

MISCELLANEOUS

(a) Switch operation

☐

(b) Fuse in place

☐

(c) General workmanship

☐

PEN TEST

(a) Is pen raised and lowered 50 times

☐

(b) No evidence of pen mechanism sticking

☐

DRIVE UNIT TEST

(a) No significant difference between the  
two lines of driving i.e. no more than 2 mm

☐

SQUARE TEST

(a) All motions are smooth

☐

(b) Duration of continuous running in  
excess of  $1\frac{1}{2}$  hours

☐

(c) Eye lights flickering or gone out  
prior to battery charge expiring

☐

TURTLE TEST T2 CHECK LIST contd.

INSPECTOR'S COMMENTS

PASS

DATE

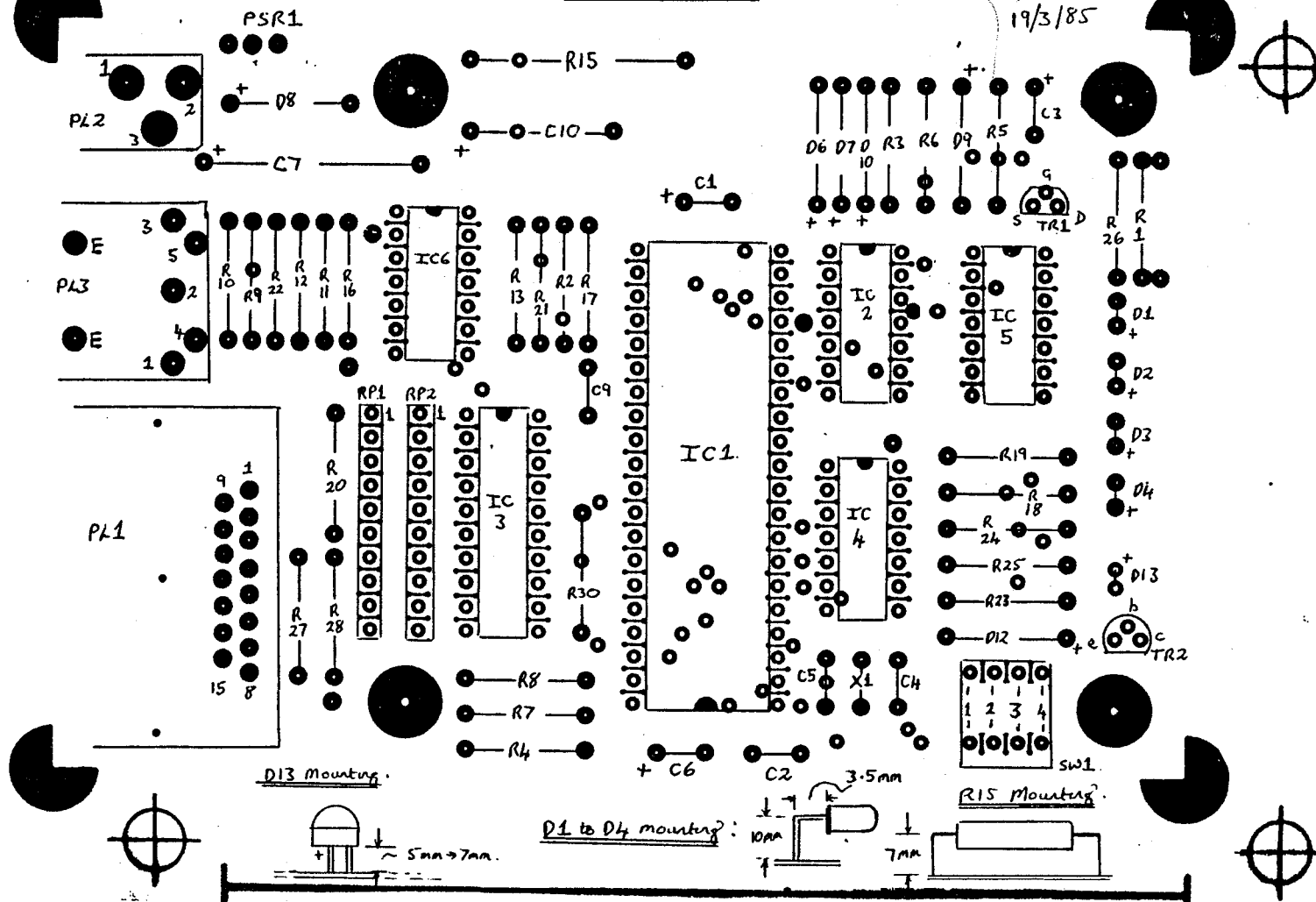
INSPECTOR'S SIGNATURE

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LAYOUT PLAN FOR COMMUNICATOR BOARD MKIV  
PCB TYPE 23205

19/3/85

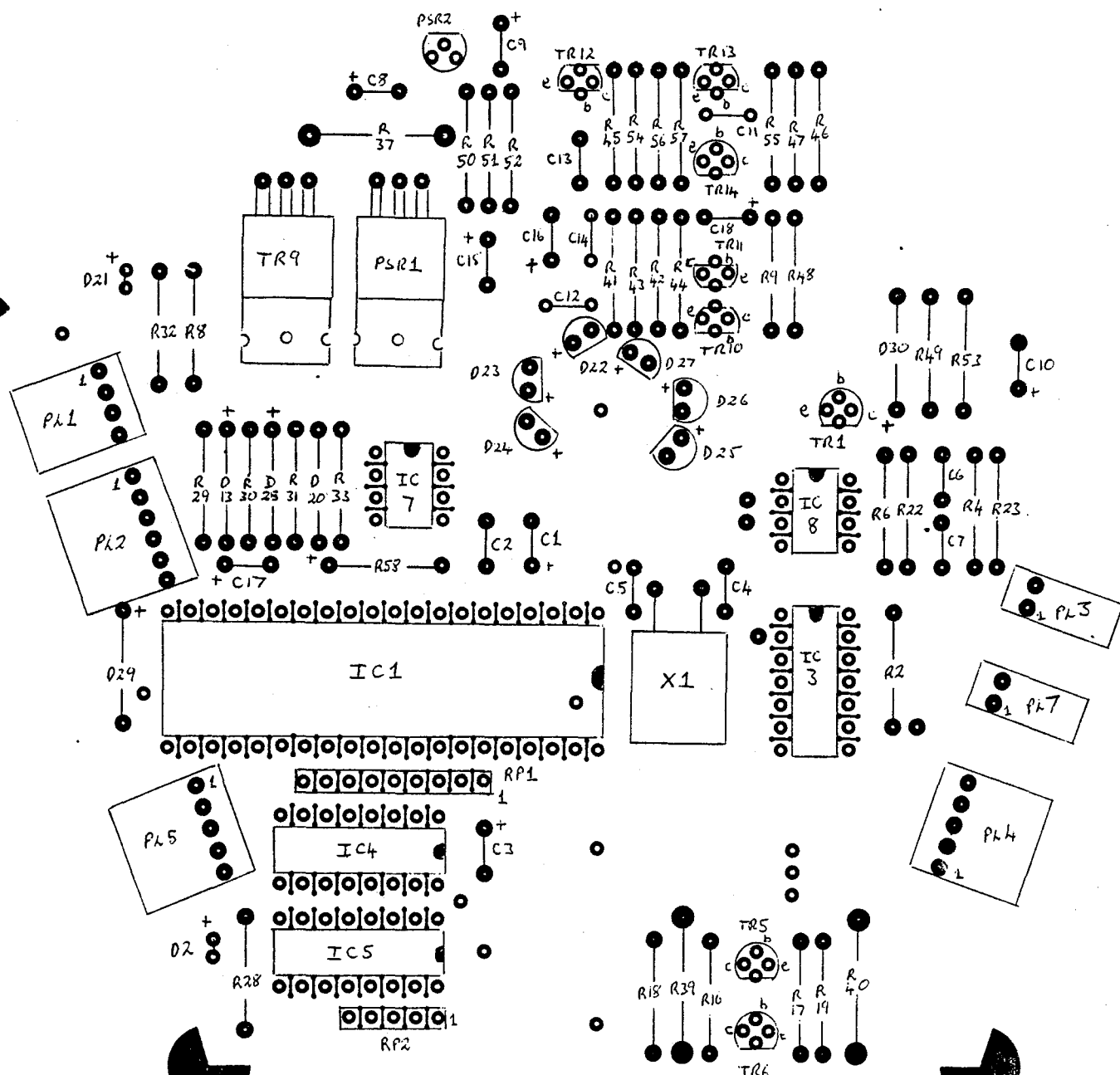




26/9/84

LAYOUT PLAN FOR CONTRA-STAR BOARD MKIV

PCB TYPE 23206



D22 & D27 mounting

D21, D2 mounting

