Series 7 and netBook

Service Manual

Note

⚠

The Psion Series 7 and netBook contains CMOS devices that may be damaged by electrostatic discharge (ESD). The following steps to minimise ESD must be taken before the unit is dismantled. To prevent any damage that could result if the unit or its parts are not handled properly, observe the following precautions during any handling procedures:

■ Minimise all handling of static-sensitive components and assemblies.

■ Transport and store static-sensitive components and assemblies in their original containers or in anti-static bags.

■ Label accordingly any package that contains static-sensitive components or assemblies.

■ Discharge static electricity from the body by wearing a grounded anti-static wrist strap while handling these components. Servicing static-sensitive components or assemblies should be done only at a static-free work station by qualified service technicians. Increasing the humidity in the work area minimises static electricity problems.

■ Do not allow anything that can generate or hold a static charge on the work station surface.

■ Pick up components by their bodies, never by their leads.

■ Do not slide components over any surface.

■ Avoid handling components in areas with a floor or work-surface covering that can generate static charge.

FCC Information for the USA

Radio and Television Interference:
This equipment radiates radio frequency energy and if not used properly - that is, in strict accordance with the instructions in this manual - may cause interference to Radio and Television reception.
It has been tested and found to comply with the limits for a Class B computing device pursuant to part 15 of the FCC Rules. These are designed to provide reasonable protection against harmful interference in a residential installation. This equipment can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

■ Reorient or relocate the receiving antenna.

■ Increase the separation distance between the equipment and the receiver.

■ If you are using the computer with a mains adapter, plug it into an outlet which is on a different circuit from that to which the receiver is connected.

Consult an authorised Psion dealer or an experienced radio/TV technician for help.

This equipment was tested for FCC compliance under conditions that included the use of shielded cables and connectors between it and the peripherals. It is important that you use shielded cable and connectors to reduce the possibility of causing Radio and Television interference. Shielded cables, suitable for the Series 7 and netBook, can be obtained from an authorised Psion dealer. If the user modifies the Series 7 and netBook, and these modifications are not approved by Psion, the FCC may withdraw the user's right to operate the equipment. For customers in the USA, the following booklet prepared by the Federal Communications Commission may be of help: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, DC 20402 - Stock No: 004-000-00345-4.

Table of Contents

<u>Introduction</u>

The purpose of this service manual is to give an overview of the service procedures that may need to be performed on the Series 7 and netBook by either a third party user, or a registered Psion service centre. It has been designed to be used by the service and repair technicians who have the responsibility of maintaining the products.

The Series 7 and netBook use both conventional and high-density surface mounted component technology, which requires specialist servicing techniques. We therefore recommend that repairs are carried out at *circuit board* level, rather than at *component* level. We also encourage service centres to carry a small buffer stock of replaceable parts, to allow immediate exchange, should they need to be replaced.

☞ Note:- *The information in this document is confidential and should therefore only be released under a non-disclosure agreement.*

Part Number Information

The part numbers referred to throughout this manual typically do not show the revision suffix. Consequently, refer to your Psion distributor for information on the latest revision of a specific part.

The format of the part numbers issued by Psion Industrial is as follows:

NNNN-NNNN-NN

Part Category ──────── ──────────── Revision Suffix
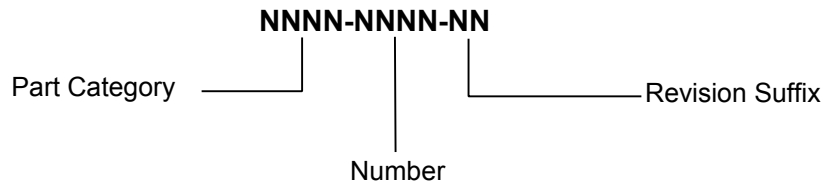
Number

<u>Serial Number Information</u>

Each Series 7 and netBook has a unique serial number that includes codes for the year and week it was manufactured. The serial number can therefore be used to determine whether a Series 7 or netBook is still within its warranty period.

Series 7 and netBook

The serial number bar code is located on the inside of the CF Tray. It has the following format:

J L V V Y W W X X X X

The letter J - **generic code for Series 7 and netBook**.

1 letter - used for manufacturing purposes.

1 letter - **variant type 1** (see table below).

1 letter - **variant type 2** (see table below)

1 number - **year of manufacture**.
1 = 1993
2 = 1994
…
9 = 2001

2 numbers - **week of manufacture**.
01 = first week in January
52 = last week in December

4 numbers - **unique identifier**.
0001 = first product of its type to be
        produced in a week
9999 = 9999th product of the same type
        to be produced in the same week

Please refer to the Psion Teklogix web-site for a full list of Series 7/netBook variants.

Peripherals

For Series 7 and netBook peripherals, the serial number format is:

1st Digit Code	2nd Digit Code	3rd Digit Code	4th Digit Code	Definition
K				Series 7 and netBook peripheral
	A			Manufacturing line identifier
	A	A		Series 7/netBook Docking Station

Troubleshooting Guide

There may be instances where it is not clear whether the Series 7 or netBook is completely dead or the LCD is faulty, giving a blank screen. In these cases it is recommended that you first carry out a soft reset or a hard reset.

☞ Note:- *Please refer to the User Manual as data may be lost when carrying out resets.*

After carrying out the resets, refer to the 'Blank LCD Screen' sections of the Troubleshooting Guide below for likely causes and solutions, depending on the Backlight and reset beep conditions.

⚠

There is a danger of explosion if the backup battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by Psion. Dispose of used batteries according to the manufacturer's instructions.

Fault	Cause	Cure
Blank LCD Screen No Backlight. No 'beep' after re-set	1 Main battery flat. 2 No external power. 3 LCD not properly connected. 4 Auto switch-off enabled. 5 Machine not switched on. 6 Main PCB fault. 7 LCD faulty.	1 Recharge/replace main battery. 2 Plug in external Power Adapter. 3 Re-connect LCD flexi circuit. 4 Slide on/off switch. 5 Slide on/off switch. 6 Replace Main PCB. 7 Replace LCD.
Blank LCD Screen *With* Backlight. *With* 'beep' on re-set	1 LCD not properly connected. 2 DIMM not properly connected. 3 LCD faulty.	1 Re-connect LCD flexi circuit. 2 Re-insert DIMM PCB. 3 Replace LCD.
Machine fails to boot	1 No battery fitted. 2 Discharged/faulty batteries. 3 No external power. 4 Main PCB fault.	1 Insert factory supplied main battery. 2 Recharge/ replace main battery. 3 Plug in external Power Adapter. 4 Replace Main PCB.
Machine fails to load from CF card	1 Faulty CF card. 2 Faulty CF switch (internal). 3 Damaged CF connector (internal).	1 Replace programmed CF card. 2 Replace Main PCB. 3 Replace Main PCB.
Lines on LCD Screen	1 LCD damaged. 2 LCD ZIF connector. 3 Main PCB.	1 Replace LCD. 2 Re-insert LCD flexi circuit. 3 Replace Main PCB.
Dark patches on LCD Screen	1 LCD damaged.	1 Replace LCD.
Touch Screen fails to work	1 LCD not properly connected. 2 Main PCB fault.	1 Re-insert LCD ZIF connector. 2 Replace Main PCB.
Touch point accuracy off line	1 LCD out of calibration.	1 Re-calibrate LCD screen.
'Menu' appears when Screen touched	1 Firmware fault.	1 Carry out soft re-set. Carry out hard re-set.

4

Fault	Cause	Cure
Icon Labels not activating	1 LCD out of calibration. 2 Touch Screen fault. 3 Main PCB fault.	1 Re-calibrate LCD Screen. 2 Replace LCD. 3 Replace Main PCB.
Keyboard keys not operating	1 Keyboard connector. 2 Keyboard fault. 3 Main PCB fault.	1 Re-insert keyboard flexi circuit. 2 Replace keyboard. 3 Replace Main PCB.
No RS232 communication	1 Main PCB fault.	1 Replace Main PCB.
CF Card not recognised	1 Faulty CF Card. 2 Faulty CF Switch. 3 Main PCB fault.	1 Replace CF card. 2 Replace Main PCB. 3 Replace Main PCB.
CF Card Drawer will not open/close	1 CF card labels jamming drawer. 2 CF Drawer off runners.	1 Clear any obstruction. 2 Re-seat CF drawer.
PCMCIA Card slot not recognised	1 Faulty plug-in card. 2 PC Card switch fault. 3 PC Connector fault.	1 Replace PC card. 2 Replace Main PCB. 3 Replace Main PCB.
No infrared communications	1 IR window damaged. 2 Main PCB fault.	1 Replace IR Window. 2 Replace Main PCB.
Pen Mechanism not working	1 Damaged Pen/Stylus. 2 Pen Mechanism fault.	1 Replace Pen/Stylus. 2 Replace Internal Cover Assembly.
On/Off Switch not operating	1 On/Off mechanism faulty. 2 On/Off Switch faulty. 3 Application error.	1 Replace Internal Cover Assembly. 2 Replace Main PCB. 3 Carry out soft reset.
No switch off when lid closed	1 Incorrect 'auto-off' set up. 2 Faulty Door Switch.	1 Set to 'turn off' when closed. 2 Replace Main PCB.
Alarm switch not operating	1 Damaged switch arm. 2 Faulty Alarm Switch.	1 Replace arm and/or case assembly. 2 Replace Main PCB.
No Charging LED with external PS adapter fitted (machine working)	1 Faulty LED.	1 Replace Main PCB.
No Power LED with external PS adapter fitted	1 Faulty LED. 2 Faulty external PS Adapter.	1 Replace Main PCB. 2 Replace PS Adapter.
Battery not holding charge	1 Old battery. 2 Damaged PCB battery connector.	1 Replace battery. 2 Replace Main PCB.
Door fails to latch	1 Door catch fault.	1 Replace Case Assembly.
Damage to outer plastics	1 User damage.	1 Replace Case Assembly.
Damage to leather	1 User damage.	1 Replace Case Assembly.

Exploded View – Lower Case Assembly 1

The following illustration shows the Lower Case Assembly from above, dismantled into replaceable subassemblies and components.

Note that the numbered circles in the illustration correspond to the items in the REF column of Table 1.
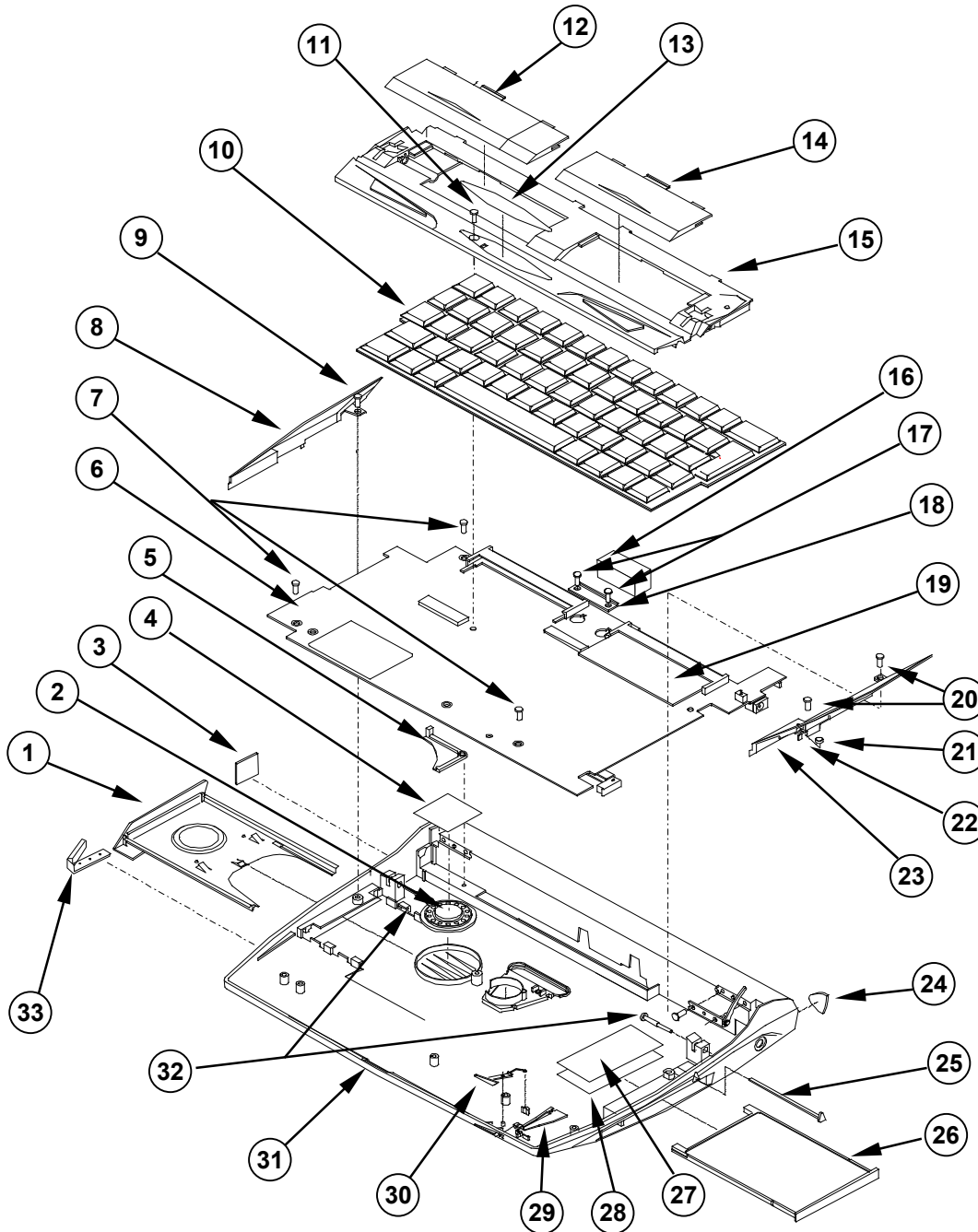
Table 1 – Lower Case Assembly 1

REF.	PART NO.	DESCRIPTION	QTY
1	A8031 0004	CF CARD TRAY	1
2	A2032 0012	SPEAKER	1
3	A8030 0025	RJ11 BLANK	1
4	A8034 0010	SPEAKER FOAM PAD	1
5	A8030 0028	BATTERY NOTIFICATION ARM	1
6	A2031 0035	PCB ASSEMBLY	1
7	A8033 0002	SCREW M2.6X5	3
8	A8030 0017	L/H KEYBOARD TRIM	1
9	A8033 0002	SCREW M2.6X5	1
10	A2032 0001	KEYBOARD ASSEMBLY	1
11	A8033 0007	SCREW M2.6X8	1
12	A8030 0014	LH MEMORY DOOR	1
13	A6030 0029	INTERNAL COVER LABEL (Series 7)	1
	A6030 0030	INTERNAL COVER LABEL (netBook)	1
14	A8030 0032	RH MEMORY DOOR	1
15	A8030 0013	INTERNAL COVER	1
16	A8034 0013	LCD FLEXI FOAM	1
17	A8033 0002	SCREW M2.6X5	2
18	A8030 0037	DISPLAY FLEXI FIXING PLATE	1
19	A2031 0039	DIMM – PCB-12MB FLASH (Series 7)	1
	A2031 0037	DIMM – PCB-2MB FLASH, 16MB RAM (netBook)	1
20	A8033 0002	SCREW M2.6X5	2
21	A4032 0010	MICROPHONE	1
22	A3700 0081	ZEBRA CONNECTOR STRIP	1
23	A8030 0018	R/H KEYBOARD TRIM	1
24	A8030 0008	IR WINDOW	1
25	A2092 0016	STYLUS	1
26	A8030 0030	PC CARD BLANK	1
27	A8035 0001	PC SHIELDING STRIP (TOP)	1
28	A8035 0002	PC SHIELDING STRIP (BOTTOM)	1
29	A8030 0026	LED LIGHT PIPE	1
30	A8030 0028	NOTIFICATION BUTTON	1
31	A8030 0001	BASE UNIT	1
32	A8033 0001	LOWER HINGE PIN	2
33	A8034 0006	RS232 CONNECTOR COVER	1

Exploded View – Lower Case Assembly 2

The following illustration shows the Lower Case Assembly from beneath, dismantled into replaceable subassemblies and components.

Note that the numbered circles in the illustration correspond to the items in the REF column of Table 2.
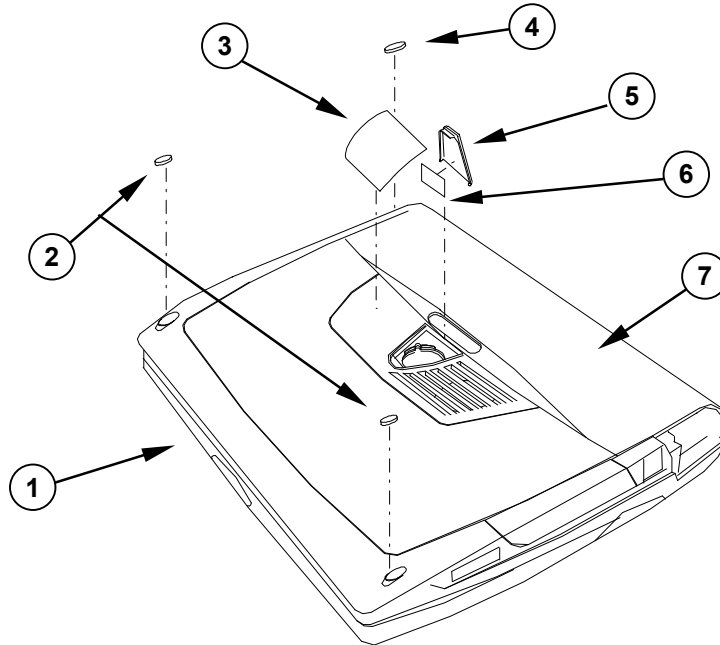
Table 2 – Lower Case Assembly 2

REF.	PART NO.	DESCRIPTION	QTY
1	A8030 0001	BASE UNIT	1
2	A8703 0015	RUBBER FRONT FOOT	2
3	A6030 0001	REAR SAFETY LABEL	1
4	A8034 0002	RUBBER REAR FOOT	1
5	A8030 0010	LITHIUM CELL DOOR	1
6	A6202 0138	BATTERY WARNING LABEL	1
7	A2032 0016	LEATHER – Series 7 (BLUE)	1
	A2032 0005	LEATHER – netBook (BLACK)	1

Exploded View – Display Unit

The following illustration shows the Display Unit, dismantled into subassemblies and components.

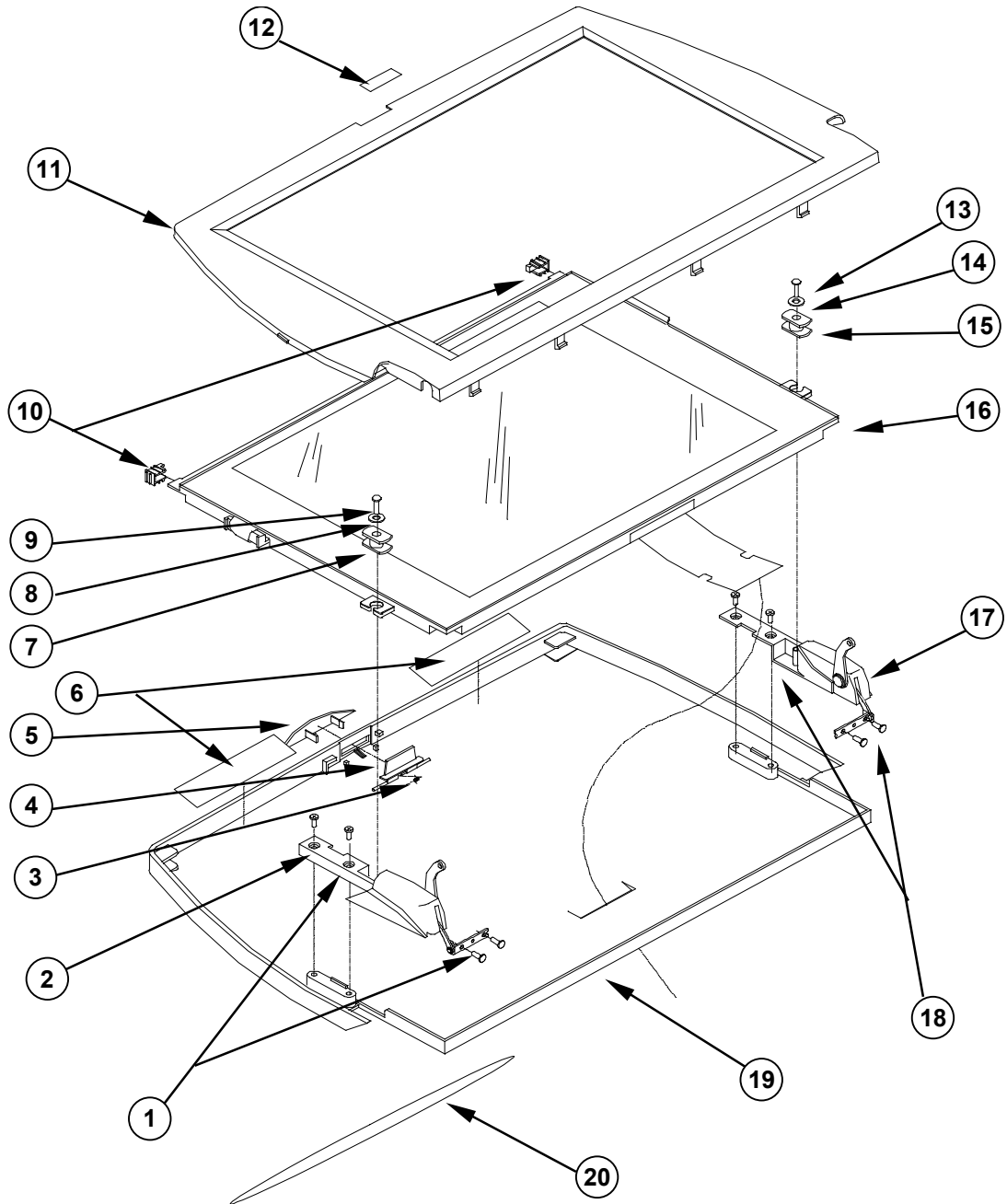Note that the numbered circles in the illustration correspond to the items in the REF column of Table 3.

Table 3 – Display Unit

REF.	PART NO.	DESCRIPTION	QTY
1	A8033 0002	SCREW M2.6X5	4
2	A2032 0010	LEFT HINGE ASSEMBLY	1
3	A8032 0004	CATCH RETENTION SPRING	1
4	A8030 0031	CATCH INNER	1
5	A8030 0002	CATCH OUTER	1
6	A8034 0011	LCD FOAM STRIP	2
7	A8034 0004	LCD LOWER GROMMET	1
8	A8300 0010	WASHER M2 PLAIN	1
9	A8300 0048	SCREW M2X6	1
10	A8034 0003	LCD UPPER GROMMET	2
11	A8030 0003	LCD BEZEL	1
12	A6030 0017	PSION LOGO LABEL	1
13	A8300 0048	SCREW M2X6	1
14	A8300 0010	WASHER M2 PLAIN	1
15	A8034 0004	LCD LOWER GROMMET	1
16	A2032 0003	LCD	1
17	A2032 0011	RIGHT HINGE ASSEMBLY	1
18	A8033 0002	SCREW M2.6X5	4
19	A8030 0002	LCD OUTER	1
20	A6030 0027	TOP METALLIC LABEL (Series 7)	1
	A6030 0028	TOP METALLIC LABEL (netBook)	1

Exploded View – Internal Cover Assembly

The following illustration shows the Internal Cover Assembly, dismantled into subassemblies and components.

☞ Note:- *The Internal Cover Assembly is normally replaced as a complete kit (see Spares Kits on page 12). It is therefore not necessary to dismantle the Internal Cover Assembly. This illustration is included for information purposes only.*

Note that the numbered circles in the illustration correspond to the items in the REF column of Table 4.
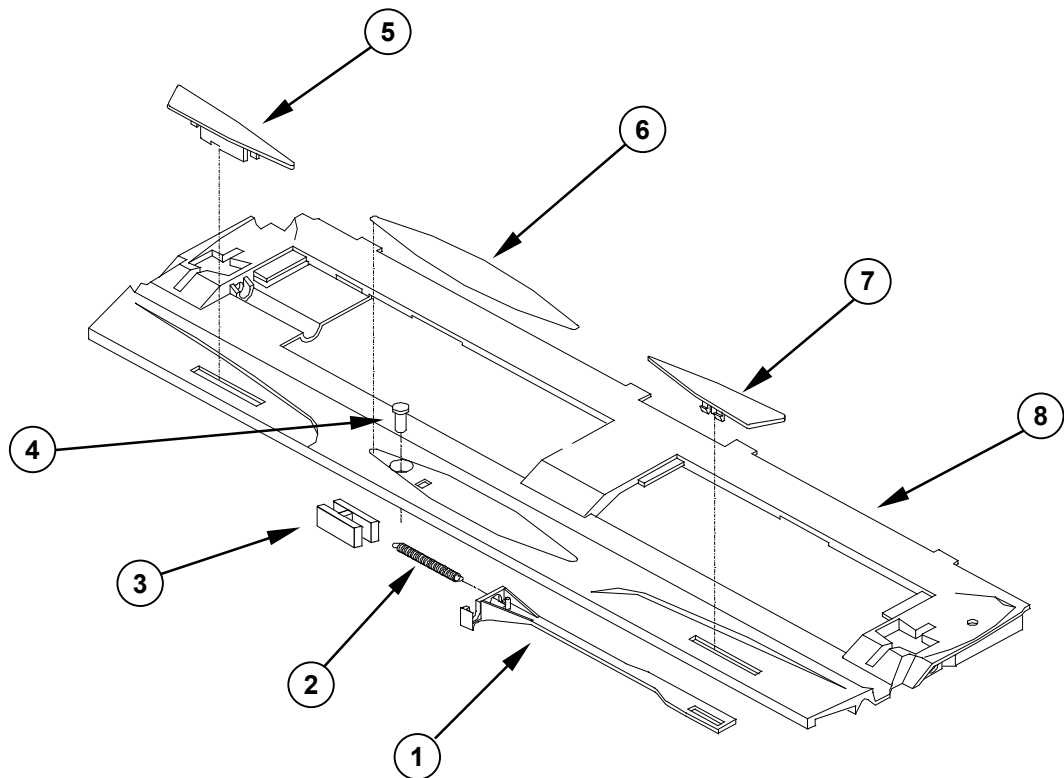
Table 4 – Internal Cover Assembly

REF.	PART NO.	DESCRIPTION	QTY
1	A8030 0023	PEN EJECTOR	1
2	A8030 0002	PEN EJECT SPRING	1
3	A8030 0036	PEN CLIP	1
4	A8033 0007	SCREW M2.6x8	1
5	A8030 0024	ON/OFF BUTTON	1
6	A6030 0029	INTERNAL COVER LABEL (Series 7)	1
	A6030 0030	INTERNAL COVER LABEL (netBook)	1
7	A8030 0029	PEN EJECT BUTTON	1
8	A8030 0013	INTERNAL COVER	1

Spares Kits

Please refer to the latest spares kits on the Psion Teklogix web site.

Dismantling the Series 7 and netBook

The modular design of the Series 7 and netBook is such that the internal workings of the product can be removed from the case by removing a few screws.

When you remove internal components from the case, take care not to damage the LCD Module. Do not bend the LCD, as it is prone to fracturing. Do not touch the LCD glass as it will show finger marks and smudges.

⚠

If the LCD glass is broken, be careful not to get any liquid in your mouth or eyes. In the event of any liquid crystal getting on skin or clothes, wash it off immediately with soap and plenty of water and seek a doctor's advice.

Tools Required

Tool	Description	Type
Crosshead Screwdriver	Phillips	Size - 00
Screwdriver	Flat	Size - 2.5mm
Knife/Scalpel	n/a	n/a
Pliers	Snipenose	n/a
Tweezers	n/a	n/a

Dismantling the Lower Case Assembly

1 Remove the PC Card Blank (A8030 0030) and Stylus (A2092 0016) from the right side of the unit.

2 Remove the Battery Assembly from the rear of the unit and the Lithium Dry Cell from beneath the unit.

3 Remove the Left Hand Memory Door (A8030 0014) and Right Hand Memory Door (A8030 0032).

4 Remove the DIMMS.

5 Remove the 2 Lower Hinge Pins (A8033 0001). Gentle tilt the Display Unit back, taking care not to strain the Display Unit Flexi.

⚠

Take care that the Display Unit does not fall back too far and damage the Lower Case.

6 Remove the Internal Cover Assembly label for the Series 7 (A6030 0003) or netBook (A6030 0006).

7 Remove the Internal Cover Assembly screw.

LH Memory Door

Internal Cover

RH Memory Door

Internal Cover
Assembly label

Internal Cover
Assembly screw

Lower Hinge Pin
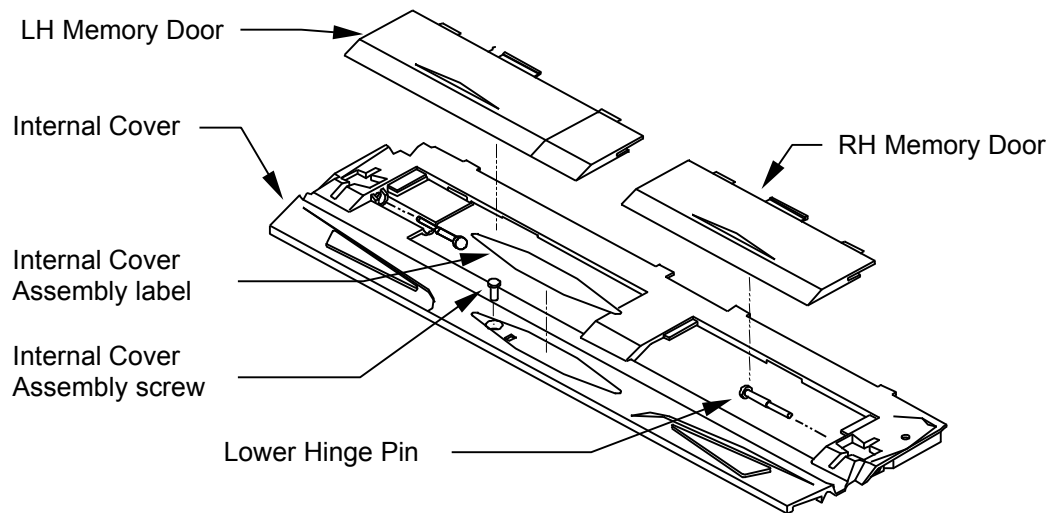
7 Gently prise out the Internal Cover Assembly by using your finger tips on the near side of the Memory Door holes.

8 Lift the Keyboard Assembly, unlock the ZIF connector on the PCB Assembly, remove the flexi and remove the Keyboard Assembly.

9 Remove the 2 screws holding the Display Flexi Fixing Plate (A8030 0037).

10 Unlock the ZIF connector on the PCB Assembly and remove the Display Unit Flexi.

Keyboard Assembly

Display Flexi Fixing
Plate and screws

Keyboard ZIF connector

Display Unit Flexi

PCB Assembly
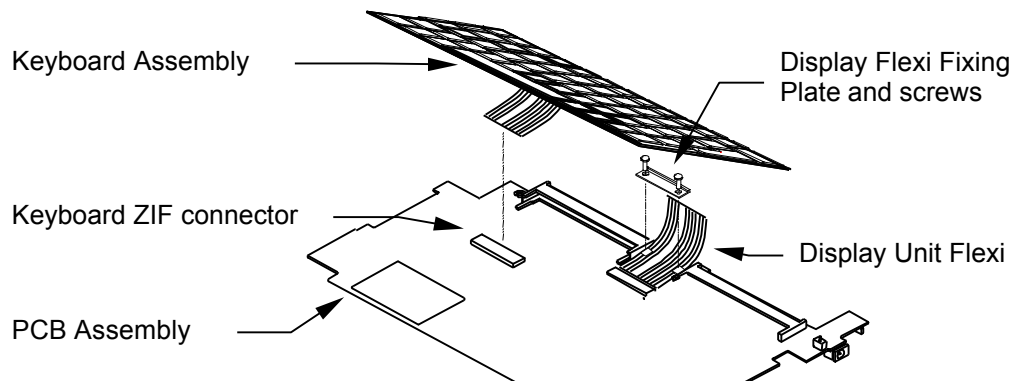
11 Remove the Battery Notification Arm (A8030 0015) from the top left corner of the Base Unit.

Battery
Notification Arm
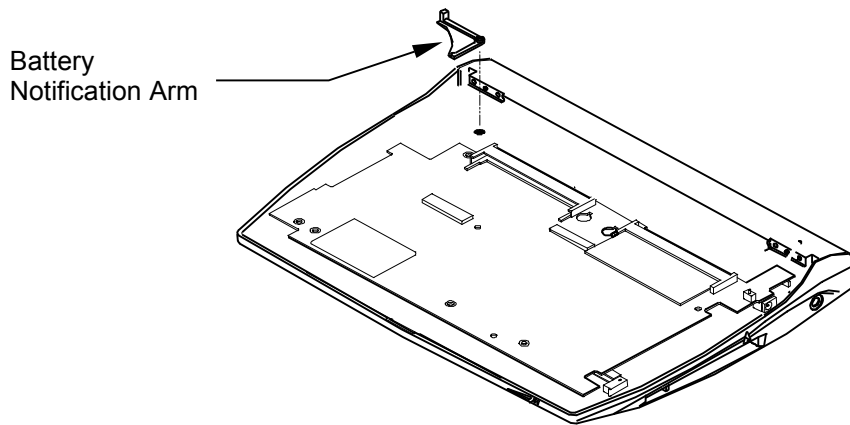
12 Remove the screw holding the Left Hand Keyboard Trim (A8030 0017).

13 Remove the 2 screws holding the Right Hand Keyboard Trim (A8030 0017).

14 Use tweezers to remove the Connector Zebra Strip (A3700 0081) from the Right Hand Keyboard Trim.

15 Remove the Microphone (A4032 0010) from the Right Hand Keyboard Trim.

16 Remove the 3 screws holding the PCB Assembly (A2031 0035).

17 Rotate the PC Card Switch on the right hand side of the Base Unit and then remove the PCB Assembly.

18 Slide the CF Tray out from the left hand side of the Base Unit.

19 Remove the Notification Button (A8030 0028) by pushing it out through the Base Unit.

20 Lift out the LED Light Pipe (A8030 0026).

21 Remove the Lithium Cell Door (A8030 0010) from the Base Unit by gently prising out the hinges.

22 On the underside of the Base Unit, prise out the 2 Rubber Foot Front (A8703 0015) and 1 Rubber Foot Rear (A8034 0002).

Rubber Foot Rear

Lithium Cell Door

Rubber Foot Front
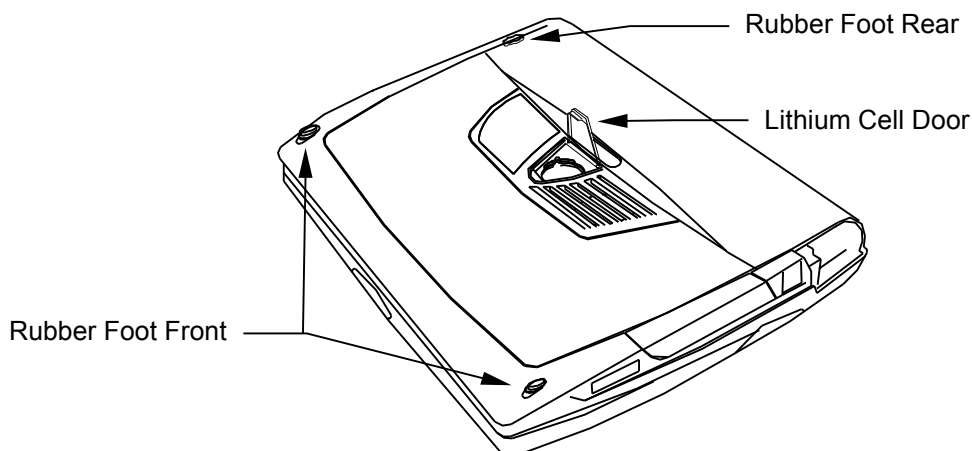
Dismantling the Internal Cover Assembly

☞ Note:- *It is not necessary to dismantle the Internal Cover Assembly. This procedure is included for information purposes only.*

1 Remove the Pen Clip (A8030 0036) from the Internal Cover (A8030 0013).

2 Unclip the ON/OFF button (A8030 0024) and remove it from the left hand slot in the Internal Cover.

3 Unclip the Pen Eject Button (A8030 0029) and remove it through the right hand slot in the Internal Cover.

4 Unhook the Pen Eject Spring (A8030 0002) from the peg on the Internal Cover.

5 Remove the Pen Eject Spring and the Pen Ejector (A8030 0023).
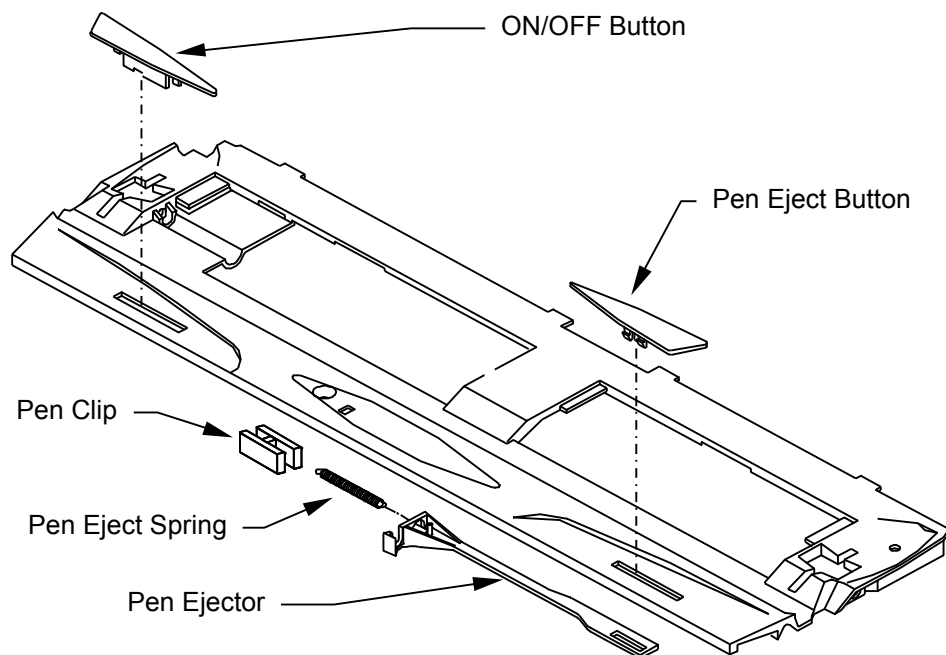
Dismantling the Display Unit

1 Remove the LCD Bezel (A8030 0003) by carefully prising the bezel from its locating lugs in the LCD Outer (A8030 0002). There are 4 lugs along the top and bottom edges and one lug either side.

⚠

The LCD Bezel is also stuck to the LCD (A2032 0003), so take care not to damage the LCD.

2 Remove 2 screws and washers holding the LCD.

3 Remove the LCD, allowing the LCD Flexi to slide through the Base Unit.

4 Remove 2 LCD Lower Grommets (A8034 0004) from the side brackets of the LCD.

5 Remove 2 LCD Upper Grommets (A8034 0003) from the top corners of the Upper Case.

LCD Upper Grommets

LCD screw, washer
and Lower Grommet
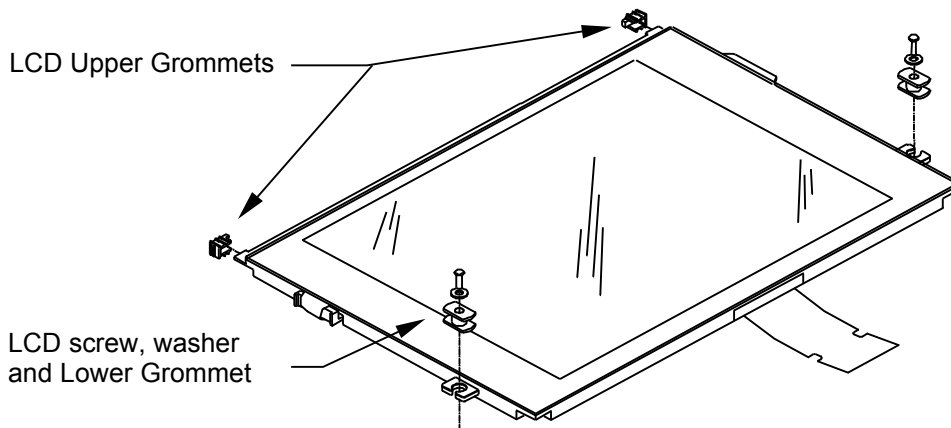
6 Unclip the Catch Outer (A8030 0012) and remove it from the outside of the Upper Case.

7 Unclip the Catch Inner (A8030 0031) and remove the Catch Retention Spring (8032 0004).

Catch Outer   Catch Inner

Catch Retention Spring
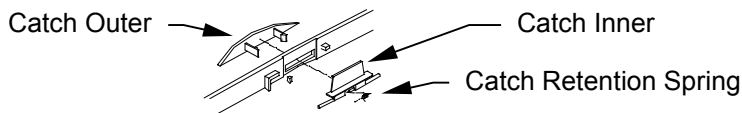
Dismantling the Upper and Lower Case

1 Close the Upper Case and Lower Case.

2 Pull off the Leather Panel.

3 Open the Upper Case and Lower Case.

4 Remove the 2 screws holding the Left Hinge (A2032 0010) to the Lower Case.

5 Remove the 2 screws holding the Right Hinge (A2032 0011) to the Lower Case.

6 Remove the 2 screws holding the Left Hinge to the Upper Case.

7 Remove the 2 screws holding the Right Hinge to the Upper Case.

Hinge/Upper Case screws

Left Hinge

Hinge/Lower Case screws
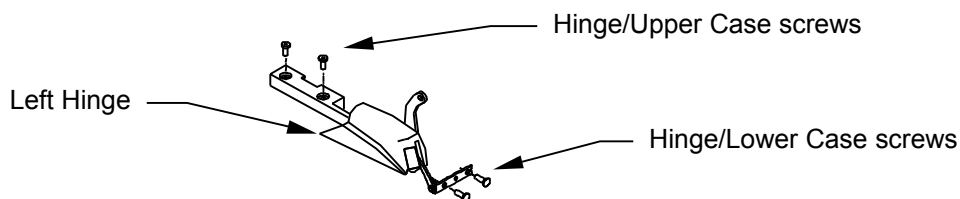
Re-assembling the Series 7 and netBook

The Series 7 and netBook can be re-assembled by following the procedures below.

The procedures show the correct sequence for re-assembling the subassemblies. Also refer to the diagrams in the *Exploded Views* sections beginning on page 6and in *Dismantling the Series 7 and netBook* beginning on page 12.

⚠️

Take care when you reinsert flexis into ZIF Connectors. If you insert flexis into the connectors at an angle, it can cause open or short-circuits.

⚠️

There is a danger of explosion if the backup battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by Psion. Dispose of used batteries according to the manufacturer's instructions.

Re-assembling the Display Unit

1 Ensure the LCD Outer (A8030 0002) has no marks, scratches or discoloration.

2 Slide the Catch Retention Spring (A8032 0004) onto the Catch Inner (A8030 0031) and clip the Catch inner to the LCD Outer.

3 Push the Catch Outer (A8030 0012) through the LCD Outer and clip it to the Catch Inner.

4 Fit the LCD Foam Pads.

5 Secure the Left Hinge (A2032 0010) to the LCD Outer using 2 M2.6 screws.

6 Secure the Right Hinge(A2032 0011) to the LCD Outer using 2 M2.6 screws.

7 Check that the LCD has no marks or scratches.

8 Fit 2 LCD Upper Grommets (A8034 0003) to the top corners of the LCD.

9 Fit 2 LCD Lower Grommets (A8034 0004) to the side brackets of the LCD.

10 Slide the LCD Flexi through the slot in the back of the LCD Outer and position the LCD, ensuring that the grommets locate correctly.

11 Secure the LCD using 2 M2x6 screws (A8300 0048) and 2 M2 washers (A8300 0010).

12 Position 4 Bezel Adhesive Strips (A6030 0026) to the LCD Bezel (A8030 0003).

13 Clip the LCD Bezel onto the LCD Outer.

14 Fit the Psion Logo Label (A6030 0017) to the LCD Bezel.

15 Turn the Display Unit over and fit the Top Metallic Label for the Series 7 (A6030 0027) or netBook (A6030 0028).

17

Re-assembling the Internal Cover Assembly

1 Fit the ON/OFF Button (A8030 0024) through the left hand slot in the Internal Cover (A8030 0013).

2 Fit the Pen Clip (A8030 0036) to the Internal Cover.

☞ Note:- *This is a heat-staking operation and is not normally carried out during servicing.*

3 Clip the Pen Eject Button (A8030 0029) through the right hand slot in the Internal Cover.

4 Locate the Pen Eject Spring (A8030 0002) onto the peg on the Pen Ejector (A8030 0023).

5 Hook the loose end of the Pen Eject Spring onto the peg on the Internal Cover and clip the end of the Pen Ejector onto the Pen Eject button.

6 Check that both switches slide freely and the Pen Ejector returns on its spring.

Re-assembling the Lower Case Assembly

1 Check Base Unit (A8030 0001) for marks, scratches or discoloration.

2 On the underside of the Base Unit, fit 2 Rubber Foot Front (A8703 0015) and 1 Rubber Foot Rear (A8034 0002).

3 Clip the Lithium Cell Door (A8030 0010) into the Base Unit ensuring it hinges and latches correctly.

4 Fit the Battery Warning Label (A6202 0138).

5 Fit the Top and Bottom PC Shielding Strips (A8035 0001 and A8035 0002).

6 Remove the backing from the Speaker (A2032 0012) and place in into the speaker recess in the base. Ensure the speaker contacts are above the recess in the moulding.

7 Fit the RS232 Connector Cover (A8034 0006) through the RS232 hole from the left hand side, locating it on the 3 dowel pins.

8 Fit the LED Light Pipe (A8030 0026).

9 Fit the Notification Button (A8030 0028) by pushing it through from the outside of the case.

10 Slide the CF Tray in from the left hand side.

11 Remove the serial number label from the old machine and fit it inside the CF Tray of the new machine.

12 Fit the Speaker Foam Pad (A8034 0010).

13 Position the PCB Assembly (A2031 0035) in the bottom case. Rotate the PC Card Switch so that it fits inside the right hand side of the lower case. When the PCB Assembly has been positioned, rotate the PC Card Switch through the right hand side of the case.

14 Secure the PCB Assembly using 3 M2.6x5 screws (A8033 0002) – 1 bottom left, 1 top left, 1 bottom right).

15 Fit the Microphone (A4032 0010) to the Right Hand Keyboard Trim (A8030 0018). Ensure the gold contacts can be seen through the Connector Zebra Strip recess.

16 Using tweezers, fit the Connector Zebra Strip (A3700 0081) to the Right Hand Keyboard Trim.

☞ Note:- *Ensure that the stripes are vertical.*

17 Fit the Right Hand Keyboard Trim and Left Hand Keyboard Trim (A8030 0017) to the Lower Case.

18 Secure the trims using 3 M2.6x5 screws (A8033 0002).

19 Insert the flexi on the Keyboard Assembly (A2032 0001) into the ZIF connector on the PCB Assembly. Lock the connector.

20 Locate the front edge of the Keyboard Assembly under the internal pegs on the Base Unit and drop into position.

Fitting the Display Unit

1 Position the Display Unit above the Base Unit.

2 Fit 4 M2.6x5 screws through the display hinges into the Base Unit.

3 Insert the flexi on the Display Unit into the ZIF connector on the PCB Assembly. Lock the connector.

4 Secure the Display Unit Flexi using the Display Flexi Fixing Plate (A8030 0037) and 2 M2.6x5 screws.

5 Fit the LCD Flexi Foam (A8034 0013).

⚠️

Take care not to put too much strain on the Display Unit Flexi.

Final Assembly

1 Fit the RJ11 Blanking Plate (A8030 0025) from inside the top left of the Base Unit and clip into place.

2 Locate the Battery Notification Arm (A8030 0015) pin in the hole in the top left corner of the Base Unit.

3 Locate the Internal Cover Assembly into the Base Unit:

    a) Take care to ensure that the ON/OFF switch on the Internal Cover Assembly fits correctly onto the ON/OFF switch on the PCB.

    b) Ensure that the pegs locate at the back and then clip down on either side, making sure that the ON/OFF switch (top right hand corner of the PCB Assembly) is not damaged.

19

c) Ensure that the Internal Cover Assembly is seated correctly and is clipped on both sides.

4 Fit an M2.6x8 (A8033 0007) screw to secure the Internal Cover Assembly.

5 Fit the 2 Lower Hinge Pins (A8033 0001) through the Internal Cover Assembly, locating the Display Unit Hinges in between. Make sure that the pins are pushed completely through.

6 Fit the appropriate DIMM.

7 Fit the Internal Cover label for the Series 7 (A6030 0003) or netBook (A6030 0006).

8 Fit the Left Hand Memory Door (A8030 0014) and Right Hand Memory Door (A8030 0032). Make sure that they click shut.

9 Close the Display Unit, listening for a click as the unit shuts.

10 Fit the Rear Safety Label (A A6030 0001) to the recess on the bottom of the unit.

11 Fit the Corner Cap to the (A8030 0007) to the rear corner.

12 Push the PC Card Blank (A8030 0030) into the right side of the unit. Close the PC Card release button.

13 Push the Stylus (A2092 0016) into the right side of the unit.

14 Insert the battery pack. This helps when you fit the leather.

15 Remove the largest piece of backing paper from the Leather Panel for the Series 7 (A2032 0016) or netBook (A2032 0005).

16 Fit the leather to the top of the Display Unit. Take care to position the leather correctly.

17 Remove the middle piece of backing paper and smooth the leather around the unit.

18 Remove the last piece of backing paper and position the bottom edge of the leather .Then smooth the leather back towards the middle.

19 Clip the IR Window (A8030 0008) into the rear right corner of the unit, making sure that the leather is tucked in.

Final Test

This section describes how to set up the Final Test and perform the test sequence on a Series 7 & netBook.

☞ Note:- *These instructions do not describe how to perform tests on the Series 7 & netBook Peripheral product range.*
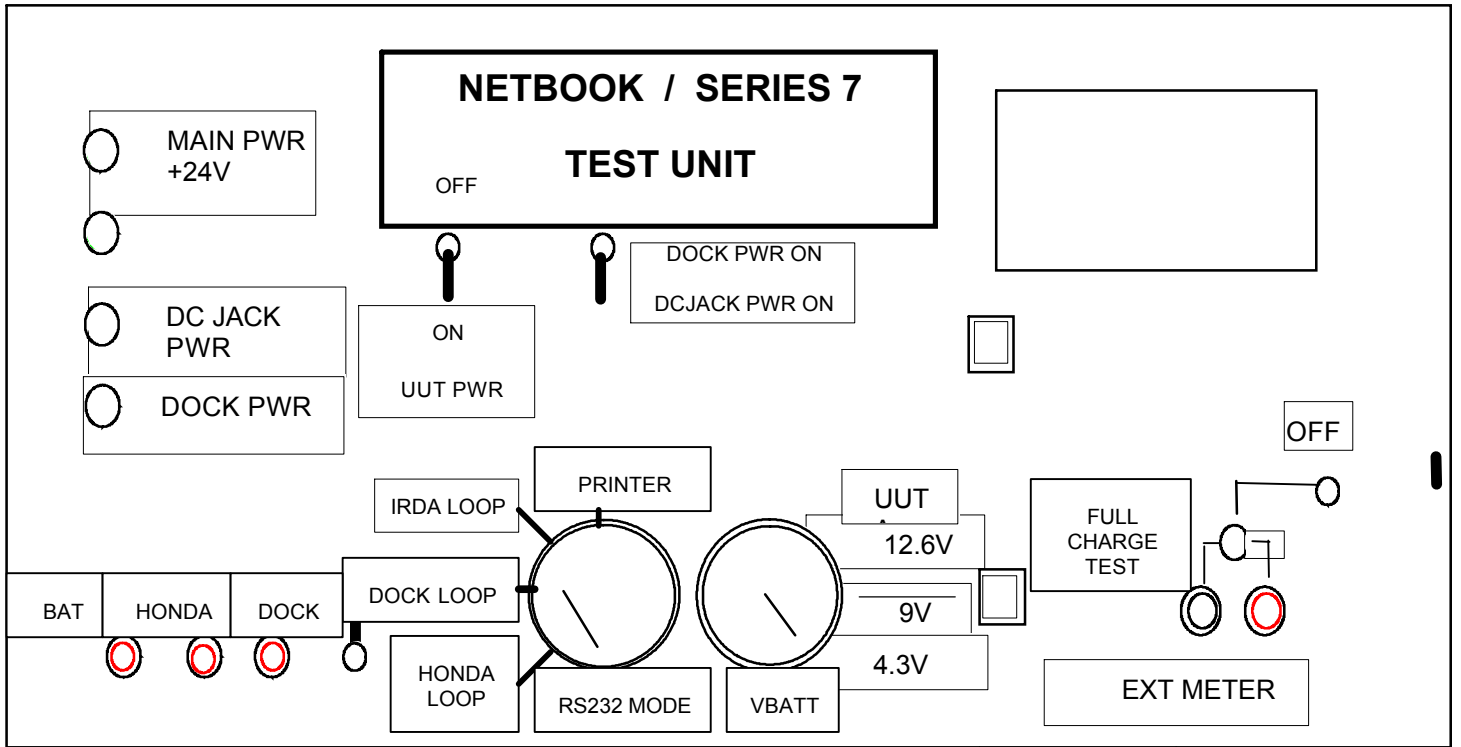
Equipment

You need the following equipment to perform the Final Test:

Qty	Description	Psion p/no.
1	Full system package (Final Test unit + all accessories)	1038-0016-01
1	Series 7 & netBook Final Test Unit	2038-0001-01
1	Mains Lead	A2032-0037-01
1	DC power supply	2038-0007-01
1	Test PC card	2038-0002-01
1	Test Compact Flash (CF) Card	2038-0003-01
1	RAM DIMM (32Mb) (upgrade)	1032-0002-01
1	Series 7 DIMM	1038-0012-01
1	IrDa Jeteye	A2032-0039-01
1	Test Docking station	2038-0004-01
1	Series 7 & netBook Test Battery Cartridge	2038-0005-01
1	Digitiser Calibration jig	2038-0006-01
1	Stylus pen	1038-0001-01
1	Docking RS232 Cable	A2013-0002-01
1	Honda RS232 Cable	2038-0010-01
1	Parallel printer Cable ***	2038-0009-01
1	Parallel ticket printer ***	2038-0008-01
1	Lithium Battery	A4900-0053
1	Jack Power	2038-0011-01
1	Dock Power	2038-0012-01
1	LCD Power	2038-0013-01

☞ Note:- *The Final Test Unit is suitable for working with mains supplies in the range100-260VAC @ 47-63Hz, without adjustment.*

*** *The parallel ticket printer and cable are optional and must be ordered separately.*

Final Test unit Front Panel illustration

TOP VIEW OF FINAL TEST UNIT
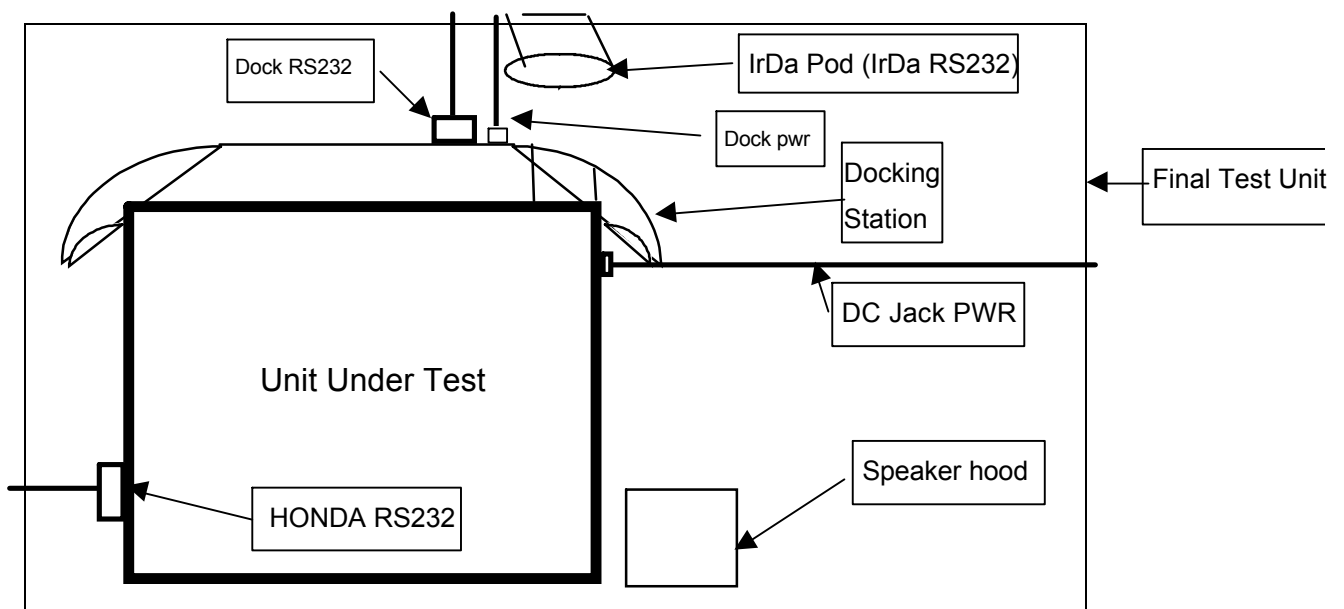
Final Test unit Back Panel Illustration

	HONDA RS232	Dummy Battery ○	DOCK_PWR ○	UUT FUSE ○	
	IRDA RS232		DCJACK_PWR ○	CHARGER FUSE ○	
	DOCK RS232				ON/OFF
	PRINTER RS232		MAIN PWR +24V ○	MAIN_PWR FUSE ○	

REV A

○   ○   ○

DCJACK   DOCK   BATT PWR

DOCK COMMS   HONDA COMMS   IRDA COMMS   PRINTER COMMS

○   ○

MAIN   FUSE

LCD   ON/OFF

REV B
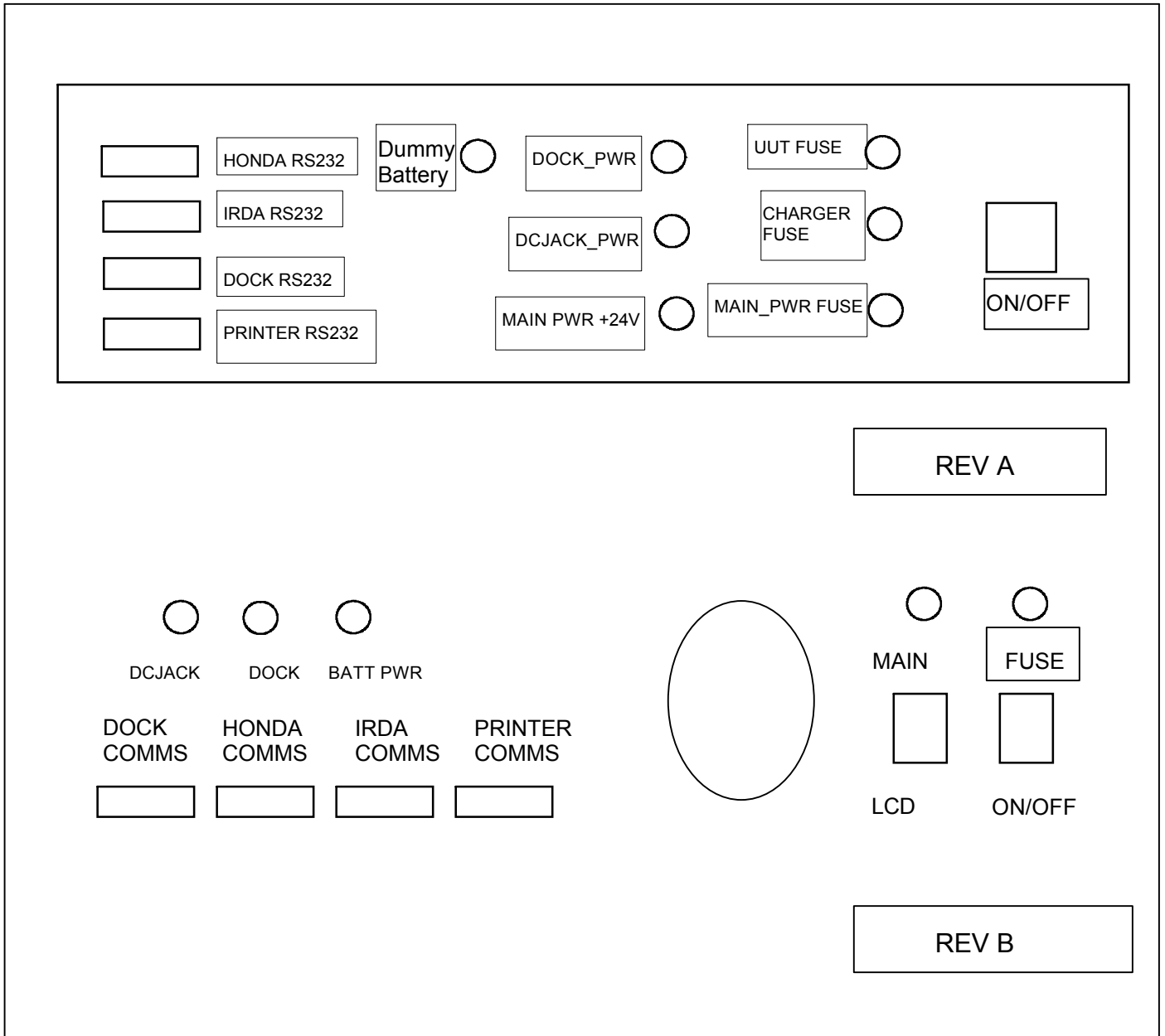
TEST SET UP

1.   Follow the steps below to set up a Series 7 & netBook for testing.

2.   Connect all the cables from the FTU to the Series 7 & netBook.

   a) The DC jack from the mains adapter is plugged into the main pwr +24V

   b) The dummy battery is plugged into the 'dummy battery' socket.

   c) The dock power lead is plugged in the back of the Docking station.

   d) The DC jack power lead is plugged into the DC jack PWR' for plugging into the UUT.

   e) The IrDa pod is plugged into the IrDa RS232 socket and placed on the FTU rubber mat.

   f) The docking station RS232 cable is plugged into the docking station honda connector

   g) The Honda RS232 cable is plugged into the FTU ready to plug into the UUT Honda connector.

   h) The printer is plugged into the label printer.

3. On the Final Test Unit the default settings are :-

   a) Plug in the mains lead and switch the mains to OFF. (Mains power led will be off)

   b) Set the ON/OFF UUT switch to OFF (switch in the upright position).

   c) Set the DOCK/DC JACK switch to DOCK (switch in the upright position).

   Insert the following items in the Series 7 & netBook:

   ❑ 1 x Boot DIMM into right slot

   ❑ 1 x RAM DIMM into left slot

   ❑ 1 x test PCMCIA card

   ❑ 1 x Test software CF card

   ❑ 1 x lithium battery

   ❑ 1 x Series 7 & netBook Test Battery Cartridge

   ❑ 1 x RS232 Honda Cable

   ❑ 1 x DC jack

   Place the UUT onto the docking station.

   The Series 7 & netBook is now ready for testing..

Test Sequence

The initial state of the testbox should be:

Ground Detect ON

RS232 Mode set to Honda Loop

V BATT selector set to 9.0V

DOCK/DC JACK power set to DC Jack

UUT PWR set to OFF

1. Switch ON the Final Test Unit (the power led should come on).

2. Switch on the GND detect switch and check that all the Ground LEDS are ON. If a ground led is not on check if the connections are O.K. (Do not continue testing unless all leds are on) On rev. B switch GND detect off after the GND LEDS have been checked

3. Set the UUT battery switch to ON. (The UUT should beep as it boots up)

On BOOTUP the following menu is displayed on the Series 7 & netBook:

```
               FINAL TEST  V1.00F

FINAL TEST V1.00F Copyright © Psion Enterprise Computers PLC
            ( PLEASE SELECT FINAL TEST SEQUENCE )


           RUN SELECTED TESTS
           BA_10300000301.SEQ
           DA_10300000601.SEQ
           NETBOOKEURO.SEQ
           NETBOOKUK.SEQ



  USE UP/DOWN ARROWS TO CHOOSE AND ENTER TO SELECT
```

Check the following:

a) The Final Test Program Version Number corresponds to the latest release.

b) Check that the part number required is listed.

☞ Note:- *You can perform each test individually by selecting* **RUN SELECTED TESTS** *from the test menu. This procedure uses the* **RUN SELECTED TESTS** *option as an example. If you choose a variant, you will be prompted for the E^2 serial number at the end of a test (Not available on* **RUN SELECTED TESTS***, also, the tests will be run through automatically without a* **PASSED** *being displayed on the screen, however if a test fails, then that failure will be displayed.*

Highlight the appropriate variant you want to test using the arrows keys and then pressing **enter** (The selected test will be highlighted).

Example Walkthrough Using BA_1030000301

This example walkthrough shows a BA_1030000301 passing. If a unit fails, the UUT will prompt you to turn the RS232 mode dial to printer and press a key – the ticket printer will then print out details of the failure.

1. The UUT will prompt you to turn VBATT to standby and turn RS232 mode to "Dock Loop".

2. You will now be asked to switch UUT power switch to off and to put the UUT into standby by pressing **FN-Esc.** Turn RS232 mode to "HONDA" and verify that the reading displayed on the ammeter is within the limits – in this case MIN = 650uA and MAX being 1200uA. Once the you have read the reading from the ammeter, switch UUT power to on , then press the **Esc** key . Press SPACE to pass the UUT or any other key to fail it.

3. You will now be prompted to switch the UUT PWR switch to ON, and turn the VBATT dial to 12.6V and then press a key

4. Now, you will be prompted to turn the RS232 mode selector to DOCK loop, VBATT to standby and GND detect to OFF and then to press a key

5. Now, you will be prompted to turn the DOCK DC JACK PWR switch to DCJACK PWR ON and to then press a key

6. Now you will be prompted to turn the DOCK DC JACK PWR switch to DOCK PWR ON and then press a key

7. Now, you will be prompted to turn the DOCK DC JACK PWR switch to DCJACK PWR ON and then press a key

8. You will now be asked to turn the UUT PWR SWITCH to ON and then to press a key

9. You will now be asked to turn the VBATT selector to 12.6V and then to press a key

10. Now, you will be prompted to turn the DOCK DC JACK PWR switch to DOCK PWR ON and then to press a key

11. You will bow be asked to check that the battery current displayed on the ammeter is within the specified range – in this case 0 – 50mA – Press space to pass and any other key to fail.

12. You will now be prompted to turn VBATT SELECTOR to 9V and to then press the FULL CHARGER TEST BUTTON – verify that the ammeter reading is within the limits – 700 – 1000mA in this case – press SPACE to pass and any other key to fail

13. Now turn the VBATT selector to 4.3V and check that the ammeter reading is within the limits – 100-200mA in this case. Press SPACE to pass or any other key to fail.

14. You will now be asked if the UUT has generated a TONE – if it did, press SPACE otherwise press any other key

15. You will now be asked to close then reopen the case

16. Next, you will be prompted to switch GND detect off, to turn the RS232 MODE SELECTOR to DOCK LOOP then to press a key

17. Now, you will be prompted to turn GND detect off, to turn the RS232 MODE SELECTOR switch to IrDA Loop and then to press a key

18. You will now be prompted to press the microphone test button – a tone will generate and the UUT will pass or fail itself.

19. You will now be presented with a mock keyboard – press each key on the keyboard until the mock keyboard has been filled in – Press the ON/OFF slide switch last

20. You will now be prompted to check the display for faults – a white cross with blue borders and a red/brown background will be displayed, broken lines will appear as black stripes on the display if it is faulty – Press SPACE to pass or any other key to fail

21. You will now be presented with a plasma colour screen, check that the colours look correct – Black-red down to blue- mauve gradient pattern. Press SPACE to pass, any other key to fail.

22. You will now be presented with the screen you saw in step 20, but with a contrast cycle – the screen will fade to white then black, If you see this transition, then press SPACE to pass, otherwise press any other key to fail.

23. You will now be asked if the UUT generated a 1KHz tone, if you heard a tone press SPACE otherwise press any other key to fail.

24. You will now be asked if the buzzer sounded, again, press SPACE to pass if you heard the buzzer, otherwise press any other key to fail

25. You will now be asked to fit the calibration jig to the display – then press a key

26. Press the top left button on the jig while the resizing square is visible on the top left of the screen, and then press the bottom right button repeatable while the bottom right resizing square is shown. The UUT will pass/fail its self. If all is okay, a cross will be shown in the center of the screen for a few seconds.

27. You will now be prompted to turn the DOCK DC JACK PWR switch to DCJACK PWR ON and then to press a key

28. You will now be prompted to turn the DOCK DC JACK PWR switch to DOCK PWR ON and then to press a key

29. You will now be prompted to turn the DOCK DC JACK PWR switch to DCJACK PWR ON and then to press a key

30. You will now be prompted to switch GND DETECT OFF, to turn the RS232 MODE SELECTOR to HONDA Loop and then to press a key

31. Vbatt should be set to 12.6V. You will now be asked to turn DC JACK PWR SWITCH TO DOCK PWR ON and then to press a key

32. Next, you are asked to check that the status LEDS on the bottom right front of the case are Red/Green – Press SPACE to pass if they ore, or any other key to fail.

33. Now you will be prompted to turn the VBATT SELECTOR to 4.3V

34. Now your are prompted to check the LEDS for RED/YELLOW, again, press SPACE to pass or any other key to fail

35. Now you are asked to press the snooze button – the UUT will PASS/FAIL itself

36. Now turn the DOCK DC JACK PWR SWITCH to DCJACK PWR ON

37. Now you are prompted to remove the battery then insert it again, the UUT may be taken out of the docking holster at this stage

38. You will now be prompted to remove the CF and PC Cards – Do so by ejecting the CF tray and the PCCCARD and then press a key to continue

39. You are now prompted to insert the lithium battery, do so, then you will be prompted to remove it – do so

40. You will now be prompted – IF you are running a sequence other than default, to enter the new serial number for the UUT

41. You will now see a green background with the word PASSED on the screen, along with an instruction to turn the RS232 MODE to PRINTER – do so then press a key – a Pass ticket will now be printed out

42. Now switch the uut pwr SWITCH TO off – TEST IS COMPLETE

Individual Tests Performed

This section outlines the process of running through the "run selected tests" sequence

1. RAM TEST

2. ROM CHECKSUM

> ☞ *Note:- This test is currently not supported and is therefore not present in the variant sequences*

3. VERSION CHECK

> ☞ *Note:- This test is currently not supported and is therefore not present in the variant sequences*

4. EEPROM CHECK

This will display a **PASSED** or **FAILED** for this test

5. IDLE CURRENT

> ☞ *Note:- This test currently fails and is therefore not present in the variant sequences*

6. STANDBY CURRENT

The *UUT* will display instructions on the screen, and ask you to check the limits displayed with the LCD display

Press the **ON/ESC** key to switch the *UUT* back on once you have verified the measurement

7. BATTERY VOLTAGE

The UUT will display instructions on screen and will measure the battery voltage itself

8. EXTERNAL POWER (DOCK)

The *UUT* will display instructions on the screen

9. CHARGER TEST

The *UUT* will display instructions on the screen, and ask you to check the limits displayed with the LCD display

10. CF/PC CARD INSERTED

11. PCMCIA TYPE II

12. PCMCIA READ/WRITE/VERIFY

This test is for development only and will not appear in a variants sequence

13. CASE SWITCH OPEN/CLOSE

The UUT will ask you to close the case and then re-open it

14. RS232 DOCK LOOPBACK

The *UUT* will display instructions on the screen

15. IRDA RX/TX

   The *UUT* will display instructions on the screen

16. MICROPHONE TEST

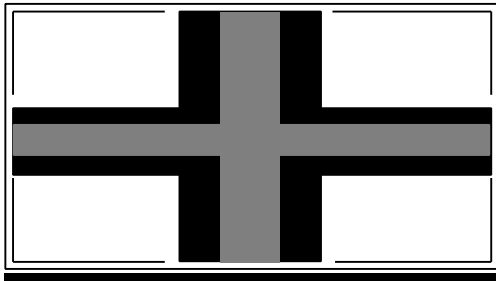   The *UUT* will display instructions on the screen

17. KEYBOARD TEST

   The *UUT* will display a keyboard map on screen, you will have to press every key on the keyboard

   ☞ **Note:- It is imperative that the On/Off key is NOT the first key pressed**

18. LCD PATTERN

   The UUT displays a pattern similar to the one below

   Press **SPACE** to pass the unit any other key to fail it.

19. LCD CONTRAST

The UUT will use the pattern from the LCD PATTERN test and cycle through light and dark contrast ranges. Press **SPACE** to pass the unit, any other key to fail.

PASSED or **FAILED** will then be displayed as appropriate.

20. LCD COLOUR

The UUT will display a colour pattern, PRESS **SPACE** to pass the unit, any other key to fail it. The colour pattern should look like a RGD plasma effect.

   PASSED or **FAILED** will then be displayed as appropriate

21. SPEAKER TONE

   The *UUT* will display instructions on screen

22. DIGITISER CALIBRATION

   The UUT will display instructions on its screen

23. EXTERNAL POWER (DC JACK)

The *UUT* will display instructions on screen

24. RS232 HONDA LOOPBACK

The *UUT* will display instructions on screen

25. STATUS LEDS AND SNOOZE

The *UUT* will display instructions on screen

26. BATTERY SWITCH TEST

The *UUT* will display instructions on screen

27. Remove CF/PC CARDS

The *UUT* will display instructions on screen

28. LITHIUM BATTERY

The *UUT* will display instructions on screen

29. EEPROM CONFIGURE

The *UUT* will display instructions on screen – you will be prompted for a valid serial number

☞ *Note:-* If the test failed, set up the Series 7 & netBook again, but when the test menu is displayed, select each test in turn from the test menu until you find the test that fails. Perform this test to confirm the failure✻