

TITLE: TeamPad 500 Handheld Computers
Support Planning Guide

SYNOPSIS:

This document is intended to supply sufficient information to country level service planners to enable them to plan for the introduction of the above product(s).

This is the generic version, released by the product authority, Sustaining Engineering. Each country releasing the product will use the information contained as the basis for their logistics and CS planning activities, with the intention of producing a localized version of the document detailing the precise strategies they elect to adopt.

This document details only the corporate philosophies, and does not seek to cover such subjects as additional services offered at the country level, low level repairs, which country service centers may be able to effect, or the local sourcing of components and consumable items.

The service descriptions in this document are guidelines, detailing the recommendations of the product authority.

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0.0 DOCUMENT CONTROL

0.1 ISSUE LEVEL

This is the first Draft issue of this document, introducing the TeamPad 500 Series into the FTXS Handheld product line.

0.2 CHANGES FROM PREVIOUS ISSUE

- None

0.3 CHANGES FORECAST

This SPG will be updated as new models are added.

0.4 TERMS AND ABBREVIATIONS

CIU	Communication Interface Unit
CS	Customer Service
EMI	Electromagnetic Interference
ESD	Electrostatic Discharge
FPY	Failures Per Year
FTXS	Fujitsu Transaction Solutions
HCS	Hardware Consulting Services
Main Battery	Rechargeable Lithium-Ion Battery that supplies primary operating power
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
ORU	Optimum Replaceable Unit
RFR	Return For Repairs (Sometimes referred to as Depot Repair)
PSU	Power Supply Unit
SMT	Surface Mount Technology
SPG	Support Planning Guide (this document)
SS	Spread Spectrum
Sub-Battery	Rechargeable Memory Backup Lithium Battery

0.5 REFERENCE DOCUMENTS

90000453	TeamPad 500 Quick Reference Guide
90000454	TeamPad 500 Operations Guide
90000455	TeamPad 500 System User's Guide
90000456	TeamPad 500 Programmer's Ref. Guide
R11C-0249-01EN	TeamPad 500 Service/Maintenance Manual

1.0 OVERVIEW

This chapter provides general information about the TeamPad 500 Series Handheld computers (HHCs), including their exterior views and specifications.

1.1 TARGET MARKET

The target markets for the TeamPad 500 Series Handheld Systems are Retail and Distribution/Route in North America. Retail is a new market for the Handheld Systems but not for Fujitsu. Transportation is yet another new market for our Handheld Systems but a market we will be actively pursuing directly and indirectly in 2001.

1.1.1 RELEASE SCHEDULE

TP500 Release

Initial Release: 3/29/01

Released to Europe: Not Released in the UK

1.1.2 VOLUME FORECAST

For volume forecasts, please contact HCS Product Management or your local sales channel.

1.2 PRODUCT DESCRIPTION

The TeamPad 500 Series is a 64-bit RISC 150MHz-class processor PC. It has 32MB of SDRAM, 32MB ROM (Flash ROM), and 2MB of NV RAM.

In addition to being compatible with the industry-standard Windows-CE machines, the TeamPad 500 Series HHCs will support options such as memory cards (those controlling modems and LANs), and bar code scanners connection. Figure 1 shows a TeamPad 500 with printer option.

The HHCs run Windows-CE as an operating system. In addition, specialized application software is available to meet specific and general needs.

The TeamPad 500 Series HHCs will officially release the following versions/models. (Other models/versions may be released in the future:

- PBT500-10: 24-key, 32MB, monochrome LCD, without a printer, without a SS radio antenna, with PCMCIA slot, and hand strap
- PBT500-11: 24-key, 32MB, monochrome LCD, with a printer, with a SS radio antenna, with PCMCIA slot, and hand strap
- PBT500-13: 24-key, 32MB, monochrome LCD, with a printer, with a SS radio antenna, MCR, with PCMCIA slot, hand strap, scanner, and LAN

The HHCs are connectable to the following units:

- PBT542-01: Communication interface unit
Unit for connecting HHC to a modem or main system. The main battery in HHC can be charged.
(RS-232C I/F:SD/RD/CS/ER/DR/CS)
- PBT542-02: Vehicle Holder
In-vehicle unit for converting data from the HHC optical element into the RS-232C interface (SD, RD only). The main battery in HHC can be charged.

1.2.1 SOFTWARE PRODUCT DESCRIPTION

The TeamPad 500 Series are pre-loaded with Windows CE VERSION 3.0 and all API's, and OPOS drivers. A Software Developers Kit is included with the Programmers Reference Guide.

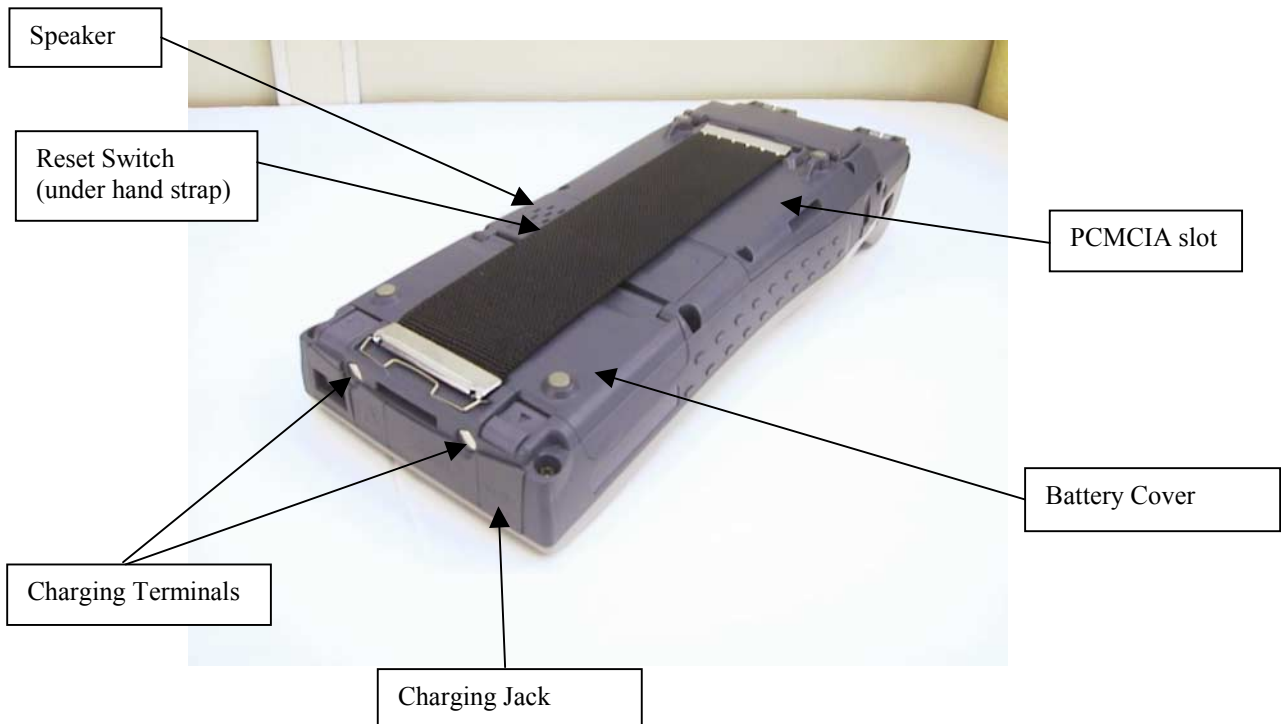
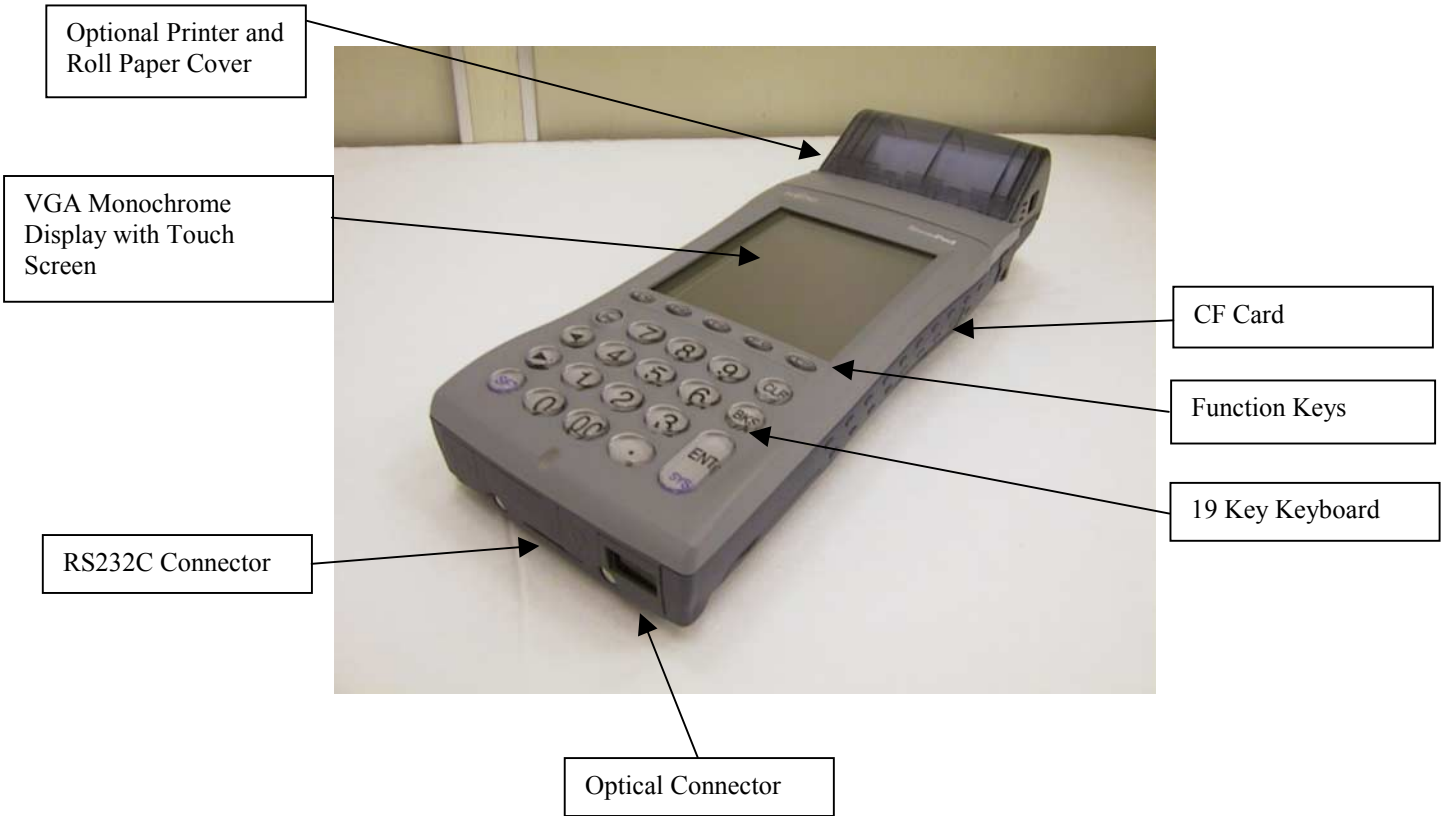
1.2.2 HARDWARE PRODUCT DESCRIPTION

The major components of the TeamPad 500 series are:

Standard Features:

- (1) CPU : 64bit RISC CPU (VR4122)
- (2) OS : Windows-CE (V3.0)
- (3) ROM : 32MB Flash ROM
- (4) RAM : 32MB SDRAM
- (5) Display : Semi transparent STN monochrome LCD with backlight
 Size: 240 X 320 Pixels
 Character and Line: Alphanumeric: 21ch X 15 line (std font: 9 X16 dot)
- (6) Keyboard : 19 keyboard keys and 5 Function keys with LED back light
- (7) Pen I/F : Pressure sensitive touch screen
- (8) PC card I/F : Compact flash card slot x 1, PCMCIA type 2 x 1
- (9) Infrared I/F : IrDA 1.1 (Max 4Mbps)
- (10) RS-232C I/F : SD/RD/RS/CS/ER/DR/VDD/SG/CD (Max 115.2kbps)
- (11) Printer : 70mm paper width Line thermal printer - Clamshell type (512 dot, 0.125mm pitch)
 Speed: 24L/s (1p, 8 X 16 pixels "H" – 12 char/line)
 Character/line: ANK: 32 char (12 X 24), Kanji: 16 char (16 X 16)
- (12) Battery :Main Battery - Rechargeable Li-ion battery pack (7.2V / 1200 mAh)
 Sub Battery - Rechargeable Lithium battery (3.0V / 90mAh)
- (13) Dimensions : 94mm (w) X 210mm(D) X 44mm(H) – Without Printer
 (taking max. dim) 94mm (w) X 290mm(D) X 61mm(H) – With Printer
- (14) Weight : 450g (1.00 lbs.) : Standard type (w/o printer)
 536g (1.18 lbs.) : Standard type (with printer, no paper)

Figure 1. TeamPad 500 w/Printer Option



1.3 PHYSICAL & ENVIRONMENTAL CONSIDERATIONS

1.3.1 PHYSICAL

TeamPad 500

Height	44 mm (1.7 inches)
Width	94 mm (3.7 inches)
Depth	210 mm (8.3 inches)
Weight	454g (1.0 lbs)

TeamPad 500 w/Printer

Height	61 mm (2.4 inches)
Width	94 mm (3.7 inches)
Depth	290 mm (11.4 inches)
Weight	535g (1.18 lbs)- no paper

1.3.2 TEMPERATURE & HUMIDITY

TeamPad 500

Operating:

Temperature	-20° to 50°C (-4° to 122°F)
Humidity	85% RH, non-condensing

Storage:

Temperature	-20° to 60°C (-40° to 140°F)
Humidity	95% RH, non-condensing

1.3.3 POWER

Li-ion batteries power the TeamPad 500 Series Handheld.

Battery Charger

Input AC Voltage	100V-240V, 50-60HZ, 0.2A @ 110VAC 0.1A @ 220VAC
Rating (AMPS)	0.1A - 0.6A

TeamPad 500

Main Battery

DC Voltage	7.2V, 1200mAh
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Backup Battery

DC Voltage	3.0V, 90mAh
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1.4 PRODUCT PERFORMANCE

The TeamPad 500 Series Hardware with the pre-loaded Operating System has been validated as year 2000 compliant. The overall system compliance is dependent upon the Application used.

1.4.1 BATTERY LIFE EXPECTANCY

Depending on the Application and Use, the battery can supply up to 8 hours of operation. However, this is also dependent on the ambient temperature as lower temperatures will result in less than 8 hours of normal usage

TeamPad 500 BATTERY LIFE EXPECTANCY

Temperature		Battery Life
20°C	68°F	> 8 Hours

1.4.2 RELIABILITY

Description	MTBF
TeamPad 500 Series	80,000 Hours Power On

The TeamPad 500 Series is designed to withstand a four-foot drop to concrete without permanent damage or loss of data. This does not include continuous drops at this height, as continuous drops may result in damage to the unit.

1.4.4 LIFE EXPECTANCY

The design life expectancy for the TeamPad 500 Series is greater than 5 years.

2.0 RESOURCES

This section estimates the needs for the CS, Logistics, and other resources required to support the TeamPad 500 Series. Typical maintenance is anticipated to be Depot or whole unit type repairs.

2.1 SKILLS REQUIRED

Customer Service Representative:

A general understanding of Handheld PC components and working knowledge of I/O cards installation and MS-DOS and Windows operating systems is required.

Consultant/Project Manager:

Good working knowledge of Handheld PCs, MS-DOS, Windows, and specific application experience is assumed.

Repair Center Technicians:

An in-depth understanding of Handheld PC components, I/O cards, and MS-DOS, Windows operating systems is required. Experience with troubleshooting multi-layer PWAs, including surface mount technology (SMT) is required.

2.2 TRAINING

Training for installations, configurations, use, assembly, disassembly are not felt to be required. The manuals listed below should be adequate. If needed, HCS Sustaining can provide this training. Scheduling and funding will be on a case-by-case basis.

Repair down to the component level is not currently authorized for this unit. Training for repair to this level must be provided and authorized by Fujitsu. These requests should be forwarded to Fujitsu-Sustaining Engineering in La Jolla, California. Scheduling and funding will be on a case-by-case basis.

Sustaining Engineering can hold a training session for business partners if requested. These requests should be directed through the account manager to schedule or inquire about a personalized training session. There is usually a fee for requested training sessions.

2.3 TECHNICAL PUBLICATIONS

Manuals are available on the FJ FTP site (FTP.FJICL.COM) under the Possustaining/Handheld/TeamPad500 directory. The following chart shows the manuals found on the FTP site.

Path File Name	Description
TeamPad 500 User's Guide-PDF.ZIP	TP500 User's Guide
TeamPad 500 OperationsGuide-PDF.ZIP	TP500 Operations Guide
TeamPad Programmer's Ref-PDF.ZIP	TP500 Programmer's Reference Guide
TeamPad 500 SPG.DOC	TP500 SPG (This Document)
TeamPad 500 Quick Ref. Guide.DOC	TP500 Quick Reference Guide

The CD-ROM is available from Fujitsu at Foothill Ranch, California. All units are shipped with a Quick Reference Guide.

The following documents can be viewed in both an On Line viewing format and in a Microsoft Word 6.0 format on the CD-ROM. A hard copy of the manuals and CD ROM can be ordered separately using the part numbers provided below:

- ◆ Acrobat Reader is required for viewing the on-line documents

Description	Part Number
TeamPad 500 Service Maintenance Manual	N/A
TeamPad 500 Quick Reference Guide	90000453
TeamPad 500 Operations Guide	90000454
TeamPad 500 System User's Guide	90000455
TeamPad 500 Programmer's Reference Guide	90000456

TeamPad 500 CD ROM Product Documentation & S/W Util	90000457 or PBT500-01

NOTE: At this time, the Service Maintenance Manual is only available in printed format.

2.4 SPARES

It is assumed that countries will spare the TeamPad 500 Series for depot maintenance.

Spares will be stocked at the North America Logistics Center (Dallas).

The TeamPad 500 Series is a Fujitsu product and will follow standard spares lead times.

2.4.1 SPARES LIST

The following parts list includes both ORU and Major Assembly levels. This parts list is for planning purposes and may not be always up-to-date. The final authority on Fujitsu part numbers and spare parts costs is the Fujitsu ordering system (PORT) and the FTXS Engineering Database (Agile).

DESCRIPTION	Model Number	FJ PART	Comments
<u>TeamPad 500</u>			
TeamPad 500, Monochrome, w/o Printer	PBT500-10	CA05952-7946	
TeamPad 500, Monochrome, with Printer	PBT500-11	CA05952-7947	
TeamPad 500, Monochrome, w Ptr, Scan, MCR, LAN capable	PBT500-13	CA05952-7944	Future Release
<u>TeamPad 500 Peripherals</u>			
TeamPad CIU, HHC to Controller	PBT542-01	CA05952-7953	
TeamPad Vehicle Holder	PBT542-02	CA05952-7949	
Charger, TP500/TP7200 Main Unit, 110-240VAC	PBT7231-01	CA02951-6710	Same as 7200
Charger, TP500/TP7200 Battery Pack, 110-240V	PBT7231-02	CA02951-6711	Same as 7200
Charger, TP500/TP7200 Main Unit, Cigarette Lighter Adapter	PBT7231-03	CA02951-6712	Same as 7200
<u>TeamPad 500 Cables</u>			
Cable, CIU-B to PC, Interlink/Interserve, DB9, 5M	PBT7232-01		Same as 7200
Cable, CIU-B to CIU-B, Interlink/Interserve, DB9, 2M	PBT7232-02		Same as 7200
Cable, CIU to Modem, DB25, 2M	PBT7232-03		Same as 7200
Cable, CIU-B to Host, ATHHCOM, DB9, 5M	PBT7232-04		Same as 7200
Cable, Hirose (RS232) to DEX, 2M	PBT7232-05		Same as 7200
Cable, Hirose to Host, DB9, 2M	PBT7232-06		Same as 7200
Cable, Hirose to Host (ATHHCOM) DB25, 2M	PBT7232-07		Same as 7200
Cable, Hirose to Modem, DB25, 2M	PBT7232-08		Same as 7200
Cable, CIU to Serial Printer, DB9 to DB25, 2M	PBT7232-09		Same as 7200
Cable, Hirose to Serial Printer, DB25, 2M	PBT7232-10		Same as 7200
Cable, Vehicle CIU to MIT (DB15 to DB9)	PBT7232-11		Same as 7200
<u>TeamPad 500 Consumable Parts</u>			
Battery, Main Battery (Li ION) TP500/72XX	PBT7231-04	CA54200-0090	Same as 7200
Battery, Sub Battery (Li ION) TP500/71XX		KD54003-0010	Same as 7100
Hand Strap, Spare	PBT7633-01		Same as 7600
Paper, Thermal, 70mm, 10 Roll Pack	PBT500-3303		
Pen, Stylus	PBT7233-10		Same as 7200
<u>Software</u>			
CEHHCCom, Object Code License	PBT500-01E		
CEHHCCom, Runtime Fee	PBT500-01R		
CEHHCCom, Maintenance Fee	PBT500-01M		
CEDEX, Object Code License	PBT500-02E		
CEDEX, Comm Module Runtime Fee	PBT500-02R		
CEDEX, Maintenance Fee	PBT500-02M		

DESCRIPTION	Model Number	FJ PART	Comments
<u>TeamPad 500 Replacement Parts</u>			
<u>FHT532A1/ PBT500-10 (CA05952-7946)</u>			
BATTERY COVER ASSEMBLY		KD32101-C510	
SUB BATTERY COVER With label kit		KD32001C-511	
CF CARD COVER		KD32001-Y514	
PCMCIA ASSEMBLY With UL label		KD15101-B123	
LCD UNIT		KD51001-B107	
SPEAKER UNIT		KD15001-C107	
MAIN PCB ASSEMBLY 32MB		KD20009-B89X	
I/F PCB		KD20008-B98X	
ROM PCB		KD20009-B92X	
PCMCIA PCB Same as PCMCIA TYPE		KD20008-B97X	
FPC KIT KD64001-L012 & L013 CABLE (MAIN-SUB)		KD15101-B124	
UPPER COVER ASSEMBLY		KD32101-C505	
Mono LCD (with Touch panel & Key unit & label)			
LOWER COVER ASSEMBLY		KD32101-C509	
PCMCIA COVER ASSEMBLY With UL label (KD91302-0208)		KD32101-C513	
PCMCIA TOP COVER ASSEMBLY		KD32001-D526	
INNER FRAME		KD32001-Y507	
SP HOLDER ASSEMBLY		KD32001-D508	
HAND STRAP		CA05952-7957	
TOP COVER		KD32001-Y510	

DESCRIPTION	Model Number	FJ PART	Comments
<u>TeamPad 500 Replacement Parts</u>			
<u>FHT542A1/ PBT500-11 (CA05952-7947)</u>			
BATTERY COVER ASSEMBLY		KD32101-C510	
SUB BATTERY COVER With label kit		KD32001C-511	
COVER OF ROLL ASSEMBLY		KD32001-D510	
CF CARD COVER		KD32001-Y514	
PCMCIA ASSEMBLY With UL label		KD15101-B123	
LCD UNIT		KD51001-B107	
SPEAKER UNIT		KD15001-C107	
MAIN PCB ASSEMBLY 32MB		KD20009-B90X	
I/F PCB		KD20008-B98X	
ROM PCB		KD20009-B92X	
PCMCIA PCB Same as PCMCIA TYPE		KD20008-B97X	
FPC KIT KD64001-L012 & L013 CABLE (MAIN-SUB)		KD15101-B124	
UPPER COVER ASSEMBLY		KD32101-C505	
Mono LCD (with Touch panel & Key unit & label)			
LOWER COVER ASSEMBLY		KD32101-C508	
PRINTER COVER ASSEMBLY		KD32101-D523	
PCMCIA COVER ASSEMBLY With UL label (KD91302-0208)		KD32101-C513	
PCMCIA TOP COVER ASSEMBLY		KD32001-D526	
INNER FRAME		KD32001-Y507	
SP HOLDER ASSEMBLY		KD32001-D508	
HAND STRAP		CA05952-7957	
PLATEN		KD15051-0142	

DESCRIPTION	Model Number	FJ PART	Comments
TeamPad 500 Replacement Parts			
FHT542RML/ PBT500-13 (CA05952-7944)			
BATTERY COVER ASSEMBLY		KD32101-C510	
SUB BATTERY COVER With label kit		KD32001C-511	
COVER OF ROLL ASSEMBLY		KD32001-D510	
CF CARD COVER		KD32001-Y514	
LCD UNIT		KD51001-B107	
SPEAKER UNIT		KD15001-C107	
MAIN PCB ASSEMBLY 32MB		KD20009-B90X	
I/F PCB		KD20008-B98X	
ROM PCB		KD20011-B57X	
PCMCIA PCB Same as PCMCIA TYPE		KD20008-B97X	
FPC KIT KD64001-L012 & L013 CABLE (MAIN-SUB)		KD15101-B124	
UPPER COVER ASSEMBLY		KD32101-C505	
Mono LCD (with Touch panel & Key unit & label)		KD32101-C508	
LOWER COVER ASSEMBLY		KD32101-C508	
PRINTER COVER ASSEMBLY		KD32101-D523	
INNER FRAME		KD32001-Y507	
SP HOLDER ASSEMBLY		KD32001-D508	
HAND STRAP		CA05952-7957	
SS RADIO UNIT		KD15101-B126	
SS RADIO COVER ASSEMBLY		KD32101-C521	
P.C.A. (SS RADIO)		KD20009-B86X	
PLATEN		KD15051-0142	
SCAN ASSEMBLY		KD15101-B127	

2.5 REPAIRS

The North America Logistics Center (Dallas) offer repair services for the items they consider to be repairable.

Logistic and CS organizations at the country level should utilize their own services to provide a test of units being returned from the Field before shipment to repair centers as history has shown that not all units being returned from the field are actually faulty.

If faulty, country level logistics organizations may elect to have a lower level of service performed by their service center or technician if parts and resources permit. However, this would be a local decision.

2.5.1 REPAIR TIME

The TP500 is designed for MTTR of less than 20 minutes for field replaceable units. Future Support Planning Guides may include individual component times when this information becomes available.

2.5.2 SERVICE AIDS & DIAGNOSTICS

The **TeamPad 500 Series** includes a self-diagnostic utility that can be entered by depressing "SFT", "ENT", and depressing the "RESET" at the same time. These utilities are embedded in the unit and can be accessed when necessary. The diagnostics are discussed in detail in the Service Maintenance Manual.

3.0 SERVICE PROFILES

3.1 PREVENTATIVE MAINTENANCE

Beyond general cleaning of the **TeamPad 500 Series** there is no scheduled preventative maintenance required.

The Main and Sub battery require replacement at 5 Year intervals.

3.2 CORRECTIVE MAINTENANCE

In the event of a failure the customer is expected to confirm the malfunction by carrying out their own internal problem resolution procedures. If their procedures are unable to resolve the problem, they should contact their local CS/Support organization.

Country level CS/Support organizations should provide a support desk facility whereby customers can telephone for advice before logging a service request. If telephone assistance is unable to resolve the problem, the local CS/Support organization should send a representative to assist, unless the RFR option/maintenance agreement was selected.

3.3 ESCALATION PROCEDURES

The escalation of product error reports or requests for assistance should take place in the following order:

Customer's Internal Service	First Line Support Service
Country CS Organization	First Line Support Service
Country Support Organization	Second/Third Line Support Service
HCS, Hardware Consulting Services	Fourth Line Support Service

Product reports raised on HCS products or general inquiries, should be sent to the Sustaining mailbox (reference the cover page).