



TITLE: TeamPad 7510 Handheld Computer
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.

SPG Authorization:

Date:

MGR Sustaining Engineering

Dir Quality/Sustaining Engineering

Product Manager

Document Control

(La Jolla Sustaining Engineering maintains the original signature copies of SPG's)

INQUIRIES TO:

Sustaining Engineering
MS Exchange: Product Quality
Internet: productquality@fjicl.COM
FAX: 7888x5418 (858-458-5418)
Mail: USA04, Sustaining Engineering

AUTHORITY:

R. Granche
Manager
Sustaining Engineering
FTXS, USA04
858-657-5479 (7888-5479)

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0.0 DOCUMENT CONTROL

0.1 ISSUE LEVEL

This is the first released issue of this document, introducing the TeamPad 7510 into the Fujitsu Transaction Solutions Inc. product line.

0.2 CHANGES FROM PREVIOUS ISSUE

This is the first released issue

0.3 CHANGES FORECAST

Changes will be made to this document as required, however, there are none planned at this time.

0.4 TERMS AND ABBREVIATIONS

CS	Customer Service
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
ORU	Optimum Replaceable Unit
RFR	Return For Repair (Sometimes referred to as Depot Repair)
SMT	Surface Mount Technology
SPG	Support Planning Guide (this document)

0.5 REFERENCE DOCUMENTS

PA-MS-1002	TeamPad 7510 Product Announcement
D900000049	TeamPad 7510 Purchase Specification
D900000050	TeamPad 7510 Product Specification

1.0 OVERVIEW

The TeamPad 7510 is a RISC based handheld computer designed for use in a Thin Client system. It is connected to the server (OS: Microsoft® Windows 2000® Server or Microsoft® Windows NT® Server 4.0 Terminal Server Edition) through the Spread Spectrum (SS) radio LAN

1.1 TARGET MARKET

The target markets for the TeamPad 7510 Handheld Systems are Route Accounting, Retail, Healthcare and Transportation.

1.1.1 RELEASE SCHEDULE

Initial Release: August 17, 2001
European Release: TBD

1.1.2 VOLUME FORECAST

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

1.2 PRODUCT DESCRIPTION

The TeamPad 7510 is a RISC based Hand Held Terminal. It is designed for use in a Thin Client system, enabling applications formerly residing on the handheld, to be located on the server. The main unit consists of a 10.4 inch diagonal 800x 600 Pixel touch sensitive LCD SVGA display panel, built-in numeric keypad, Radio Frequency Local Area Network card compatibility and a rechargeable Lithium Ion battery. The hardware peripheral devices for the TeamPad 7510 consist of a scanner, charging stand adapter, dual battery pack, AC adapters and cables.

1.2.1 SOFTWARE PRODUCT DESCRIPTION

To allow for maximum customization, the TeamPad 7510 will come with Windows CE V3.0 English RDP Client software version for English speaking countries. Other language support will be decided according to Windows CE support in each country. These items must be ordered separately to make a complete system that meets the customer needs.

1.2.2 HARDWARE PRODUCT DESCRIPTION

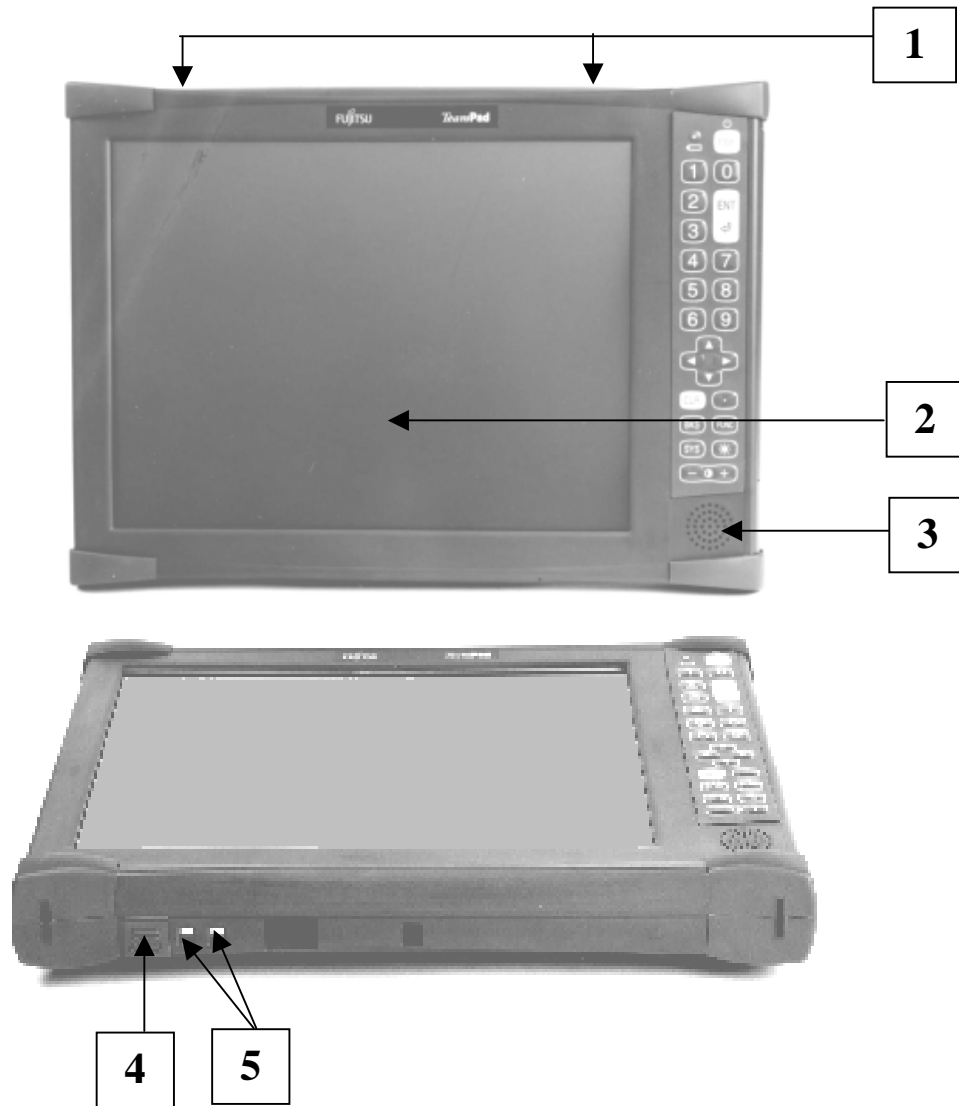
The major components of the TeamPad 7510 are:

Standard Features:

Item		Specification
Controller	CPU	64-bit RISC CPU
	Memory	ROM: 16 megabytes + 2 megabytes (Flash ROM) RAM: 16 megabytes
	OS	Windows CE 3.0 (English) RDP 5.0 Client software
Display	Type	10.4 inch color TFT LCD
	Color	256 colors as RDP client.
	Screen size	800 (H) dots × 600 (V) dots, 0.26mm pitch
	Display lighting	FL tube High-brightness back lighting (up to 120 CD)
Operational Panel	Touch Panel	Resistive
	Key	Back Light key, Contrast key (× 2), Function key, System key, Power key, Reset switch, Ten key numeric keypad, Enter key, Cursor keys, Clear key, Decimal Point key, Backspace key.
PCMCIA Type II x 1 slot		For SS radio card (Not Included)
Radio		2.4GHz, frequency hopping or Direct sequence system, radio LAN, based on IEEE 802.11 (2Mbps) and 802.11b (11Mbps)
RF antenna (Included)		MMCX Connector
External interfaces		Serial: 2 (RS-232C/TTL) Audio: Speaker output (1 built-in Speaker – mono) No Microphone

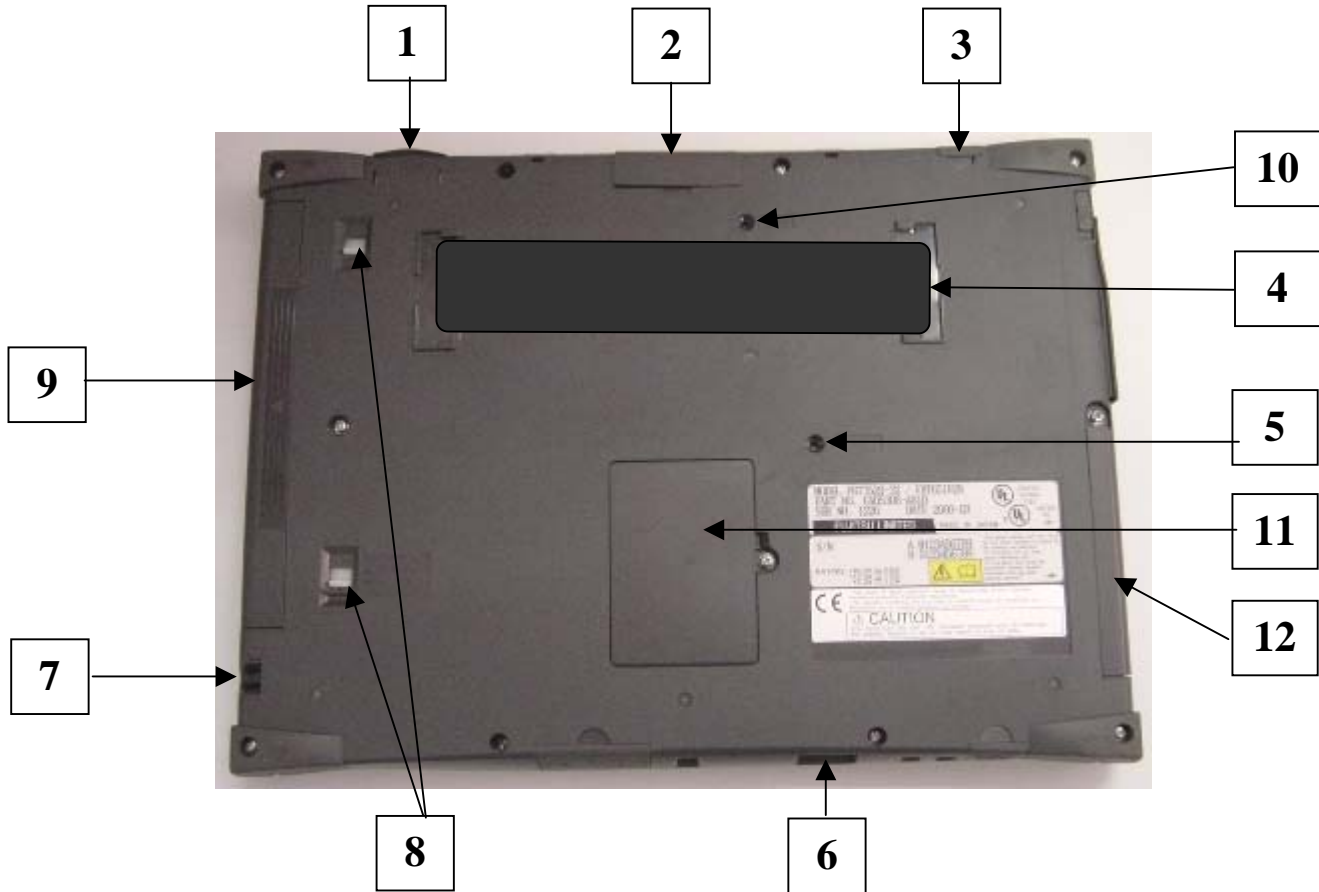
OPTIONAL FEATURES	
1	Charging Adapter Stand
2	AC Adapter For Charging Main Unit 110VAC
3	AC Adapter For Connecting Two Charging Stands,
4	Cable, Daisy Chain, Connects two TeamPad 7500 Charging Stands
5	Dual Battery Pack Charger
6	Neck Strap
7	Scanner

1.2.3 HARDWARE PRODUCT DRAWING



No.	Component name	Remarks
1	Radio antenna	Built-in
2	LCD touch panel	
3	Speaker	Built-in
4	AC adapter connector	Connector for the AC Adapter Power Supply
5	Terminal Charging Connector	Terminal connected for the charging adapter

1.2.3 HARDWARE PRODUCT DRAWING (Continued)



No.	Component name	Remarks
1	Bar code reader interface	.
2	External interface	.
3	Audio interface	.
4	Hand strap	
5	Reset switch	Switch for performing restarts
6	IrDA interface	.
7	Pen	Touch Panel Pen
8	Battery lock switch	Switch for locking the battery
9	Battery	
10	RAS switch	Switch for diagnostics program
11	ROM PCB Cover	
12	PC Card slot cover	PCMCIA slot location for RF Card

1.3 PHYSICAL & ENVIRONMENTAL CONSIDERATIONS

1.3.1 PHYSICAL

TeamPad 7510 10.4 TFT LCD

Height	205 mm (8.0 inches)
Width	285 mm (11.2 inches)
Depth	25 mm (1.0 inches)
Weight	950g (2.0 lbs)

1.3.2 TEMPERATURE & HUMIDITY

Transportation (1 week or less, in packed status for FJ export)
Storage (3 months or less, in packed status for FJ export)

Temperature	Operating	0 ~ 40 (32° to 104°F)
	Non-operating	20 ~ 60 (-4° to 140°F)
	Transportation	- 20 ~ 60 (-4° to 140°F)
	Storage	- 20 ~ 60 (-4° to 140°F)
Temperature Gradient	Operating	0.6 ~ 4.0 degree C/min (Non-condensation)
Humidity	Operating	20 ~ 80%RH (Non-condensation)
Humidity Gradient	Operating	(Non-condensation)
	Transportation	30% / Day (Non-condensation)
	Storage	30% / Day (Non-condensation)

1.3.3 VIBRATION

Vibration	Operating	0.4G, 5~55Hz, 2.54cm 15min sweep 15min., 3deg.
	Non-operating	1.0G, 5~55Hz, 2.54cm 1min sweep 2hours, 3deg.
		1.5G, 5~1000Hz, 2.54cm 1min sweep 15min., 3deg.
	Transportation	3.0G, 5~140Hz 20min., 3deg.

1.3.4 POWER

A DC battery powers the TeamPad 7510 Handheld terminal and there are two types of AC Adapters available.

Power	Battery	Lithium ion battery pack, 7.2V 1750 mAh
	Operational time	Approximately 3 hours (new battery, room temperature, 10% CPU utilization, darkest back lighting state, RF communication) Approximately 1.5 hours at low temperatures (0°C or below) same operating conditions.
	Charging period	Approximately 2.5 hours (This is a value under the conditions of using the charging stand or AC adapter while the power supply of this unit is turned off.)
Power supply	AC Adapter, For Charging Stand	Input 100-240VAC 50-60 Hz Output 16VDC 2.7 amps (Can supply power for up to two charging stands simultaneously)
Power supply	AC Adapter, For One Main Unit or one Charging Stand	Input 100-240VAC 50-60 Hz Output 12.4VDC 1.5 amps (Can supply power for one main unit or one charging stand)

1.4 PRODUCT PERFORMANCE

1.4.1 RELIABILITY

TeamPad 7510 60,000 Hours with Power On
(Excluding the components listed below)

Individual component MTBF

Description	MTBF
Keyboard	3,000,000 Times
LCD Display	50,000 Hours
Electro-Luminescence (Back Light)	10,000 Hours
Touch Panel	1,000,000 Times

The TeamPad 7510 is designed to withstand a three feet eleven inches (120cm) drop to a flat concrete surface.

This product generally comes with a warranty, verify sales contract for specific terms and duration's.

1.4.2 LIFE EXPECTANCY

The design life expectancy for the TeamPad 7510 is greater than five years.

2.0 RESOURCES

This section estimates the needs for the CS, Logistics, and other resources required to support the TeamPad 7510. Typical maintenance is anticipated to be Depot or whole unit type repairs.

2.1 SKILLS REQUIRED

Customer Service Representative:

A general understanding of Intel-based PC components and working knowledge of PCMCIA cards, Windows CE, and basic knowledge of RF Communication and Wireless LAN's.

Consultant/Project Manager:

Good working knowledge of PCs, Windows CE, RF Communication and Wireless LAN's.

Repair Center Technicians:

An in-depth understanding of Intel-based PC components, I/O cards, and MS-DOS, OS/2, and Windows operating systems is required. Knowledge of commercial off-the-shelf PC diagnostics is assumed. Experience with troubleshooting multi-layer PWAs, including surface mount technology (SMT) is required.

2.2 TRAINING

CS training is under the discretion of each specific country business unit. Sustaining Engineering will provide 'train the trainer' operations. The schedule and funding for this training will be established on an individual case by case basis. All requests for training by Sustaining Engineering should be forwarded to the Product Quality Mailbox (reference the cover page).

Sustaining Engineering estimates that the Technical Publications listed are adequate for this product and additional training will not be necessary for CS personnel currently trained on similar Fujitsu Transaction Solutions Inc. products. The TeamPad 7510 should be included in any future standard training provided to Fujitsu Transaction Solutions Inc. CS personnel.

2.3 TECHNICAL PUBLICATIONS

A CD-ROM is available that contains the following documentation in both an On-Line viewing format and in a Microsoft Word format. The CD-ROM is available from Fujitsu Transaction Solutions Inc. Foothill Ranch facility. In addition, all units are shipped with a Quick Reference Guide and a Users Guide. These guides can also be found on the FTP Internet Site (<ftp.fjicl.com>) under the following directory: `possustaining/Handheld/TeamPad 7510/Manuals`.

The following documents can be viewed on the CD-ROM. A hard copy manual can be ordered separately using the part numbers provided below.

Utilities included on the CD-ROM are:

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

<u>Description</u>	<u>Pin Number</u>
TeamPad 7500 Series Operations Guide	90000079
TeamPad 7500 Series Quick Ref. Guide	90000047
TeamPad 7500 Series Hardware and Software User's Guide	90000081

NOTE: At this time, the TeamPad 7510-16 Service Maintenance Manual (D900000051) is only available in printed format and can be requested from La Jolla, Document Control.

2.4 SPARES

It is assumed that countries will spare the TeamPad 7510 at the ORU level. Some countries (or customers), however, may choose to spare the TeamPad 7510 at a major assembly level with the ORU repair performed at a central repair center or depot. The spare listing takes both of these methods into consideration.

Spares will be stocked at the North America Logistics Center (USA-24).

The TeamPad 7510 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 part number is the Fujitsu ordering system (PORT) and the Fujitsu Transaction Solutions Inc. Engineering Database.

<u>Description</u>	<u>Supplier P/N</u>	<u>FTXS P/N</u>	<u>FTXS PIN</u>
<u>Main Units</u>			
TeamPad 7510, VR4121/168MHz CPU,16MB RAM, 10.4 inch color TFT LCD (MMCX RF connector)	FHT612B2R CA05306-A615	N/A	PBT7510
<u>Marketing Bundle</u> – Consisting of one each Team Pad 7510 (MMCX RF connector) Charger Stand and AC Adapter	N/A	90000487	PBT7599-03
<u>Marketing Bundle</u> – Consisting of two each TeamPad 7510's (MMCX RF connector) Charger Stands, Spare Batteries, one each charger adapter cable, AC Adapter, and Dual Battery Charger	N/A	90000488	PBT7599-04
<u>Chargers, Mounts, & Holders</u>			
AC Adapter For Charging Main Unit 110VAC	CA01007-0511	80328804	PBT7631-01
Charging Stand w/AC Adapter, w/US AC Cord (USA Version)	FHTLC601	90000013	PBT7531-01
AC Adapter For Connecting Two Charging Stands, W/US AC Cord	FHTAC601W	90000014	PBT7531-02
Charger, Dual Battery Pack, w/AC Cord (US Version) TeamPad 7500	FHTMC601W	90000015	PBT7531-03
Battery Pack, 1750mAh	CA54200-5033	90000140	PBT7531-05
Cable, Daisy Chain, Connects two TeamPad 7500 Charging Stands	FHTLC601CB	90000017	PBT7532-01
Charging Stand w/Daisy Chain Cable	N/A	90000193	PBT7531-11
<u>Main Unit Parts (TeamPad 7510-xx)</u>			
Upper Cover Assy, With 10 Key	CA32150-D901	N/A	N/A
Lower Cover Assy	CA32150-D912	N/A	N/A
LCD Assy	CA05306-D021	N/A	N/A
Inverter Assy	CA46010-1641	N/A	N/A
Main PCB Assy	CA05306-D003	N/A	N/A
ROM Board (JRM98Bx)	CA05306-J018	N/A	N/A
Antenna PCB (JCN98BA)	CA21237-B91x	N/A	N/A
FPC Cable (Connect To LCD)	CA77199-0251	N/A	N/A
FPC Cable (Connect To Battery)	CA21233-B421	N/A	N/A
FPC Cable (Connect To AC Adapter)	CA21233-B431	N/A	N/A
FFC Cable (Connect To PCB JCN98xx)	CA77121-0650	N/A	N/A
FFC Cable (Connect To Inverter)	CA77116-2000	N/A	N/A
Coaxial Cable (For Open Antenna)	CA77156-1300	N/A	N/A
Speaker	CA05950-0112	N/A	N/A
Regulatory Label	CA92001-0740	N/A	N/A
<u>Scanners</u>			
PSC QS6000 Plus Handheld Scanner RS232 I/F, w32 inch coiled cable and Hirose Connector	661315-101002-0278	N/A	PBT7X51-03
PSC QS6000 Plus Handheld Scanner RS232 I/F, w32 inch coiled cable, Hirose Connector, and AutoSense Stand	661315-101002-0178	N/A	PBT7X51-04
<u>CONSUMABLE & REPLACEMENT PARTS</u>			
Pen, Stylus, FJ (ea)	CA02957-D001	80328813	PBT7633-05
Tether, Stylus, TeamPad 7500 Series	04891ICL	N/A	04891ICL
Neck Strap	FHTNS701	90000076	FHTNS701
Hand Strap	CA91002-3810	80328810	PBT7633-01
Handstrap, Side, TeamPad 7500 Series	P5108ICL	N/A	P5108ICL
<u>MANUALS</u>			
Purchase Specification PBT7510	N/A	D900000049	N/A
Main Unit Product Specification PBT7510-16	N/A	D900000050	N/A
Service Maintenance Manual TeamPad 7510	N/A	D900000051	N/A

Description	Supplier P/N	FTXS P/N	FTXS PIN
Kit TeamPad 7510 RF/QRG Documentation	N/A	N/A	90000493
Quick Reference Guide TeamPad 7500 Series	N/A	N/A	90000047
RF Information Card, TeamPad 7510	N/A	90000489	N/A
Label, Handheld FCC ID (CISCO 11Mbps Radio P/N AIR-LMC352)	N/A	90000483	N/A
Operations Guide TeamPad 7500 Series	N/A	N/A	90000079
TeamPad 7510 Theory Of Operation	PICA05306-A002	N/A	N/A
Hardware/Software User's Guide TeamPad 7500 Series	N/A	N/A	90000081
CD ROM TeamPad 7500 Series Documentation and S/W Utilities	N/A	90000486	PBT7500-01
Ordering Information	C166-C014-04EN	N/A	N/A
Spare Parts List	C166-G002-06EN	N/A	N/A
Parts Catalog	C166-G003-05EN	N/A	N/A
Maintenance Drawings	C166-F011-04EN	N/A	N/A
Harmonic Current Emissions and Voltage Fluctuations and Flickers Measurements Test Report	AKL-199445	N/A	N/A
Conducted and Radiated Emission Test Report FCC Part 15B Class B Canada ICES-003 Class B	ANKK-501160	N/A	N/A
Conducted and Radiated Emission Test Report EN 55022 1994 Class A CISPR Pub 22 1993 Class A	AKL-599327	N/A	N/A
Electromagnetic Compatibility Generic Standard Test Report	AKL-199444	N/A	N/A
UL Approval Report (TeamPad 7500 Series)	UL File No. EL133157	N/A	N/A
Jordan Sub-CPU Hardware/Software Int. Specification	A4CA05306-A002	N/A	N/A
Battery Specification, 1750mAh	KU9168	N/A	N/A
Charging Stand Product Specification	FHTLC601/PBT7531-01	N/A	N/A
Dual Battery Charger Product Specification.	FHTMC601W / PBT7531-02	N/A	N/A

2.4.2 CONSUMABLE PARTS

User consumable parts and spares are available via normal ordering channels and are replaceable by customers.

2.5 REPAIRS

North America Logistics Center (USA-24) 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 following are time estimates for removing and replacing major assemblies. These time estimates do not include the time to diagnose the problem, gain access to the TeamPad 7510, or perform any software reloading to return the unit to full customer functionality.

ORU	Time
Upper Cover (Front)	10 Min.
Lower Cover (Bottom)	10 Min.
Main PCB	20 Min.
IRDA PCB	15 Min.

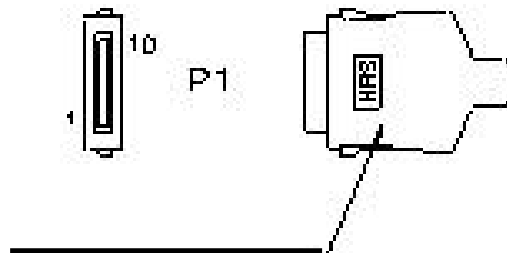
ORU	Time
Inverter PCB	15 Min.
LCD Display	15 Min.
RF Antenna	15 Min.
Main Battery	1 Min.

Based upon these times and adjusted by the probability of a specific component failing, the MTTR for the complete unit is estimated at:
MTTR = 12.5 Minutes

2.5.2 SERVICE AIDS & DIAGNOSTICS

The TeamPad 7510 comes with an on board RAS Tool Diagnostic initialized on boot up by pressing the RAS switch on the back of the TeamPad 7510. This will be illustrated in the TeamPad 7510 User's Guide, which will ship with each unit.

A loop back plug can be made with the following pin assignments using a Hirose RS232 connector or a Fujitsu approved equivalent.



Hirose Connector
P/N 3530-10P-CV or
Fujitsu Approved Equivalent

LOOPBACK CONN. WIRE LIST			
Signal	Form	To	Signal
RXD	P1-2	P1-3	TXD
DSR	P1-6	P1-4	DTR
CTS	P1-8	P1-7	RTS
RTS	P1-7	P1-1	DCD

3.0 SERVICE PROFILES

3.1 PREVENTATIVE MAINTENANCE

Beyond general cleaning of the TeamPad 7510 there is no scheduled preventative maintenance required.

The Lithium Ion battery Life depends on the conditions such as ambient temperatures and the status in which the unit is used. The TeamPad 7510 battery is warranted at 60% capacity on the 500th cycle.

3.2 CORRECTIVE MAINTENANCE

In the event of a failure the customers should be 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.

CS/Support should affect on-site repairs to the ORU level recommended by their CS/Logistics management.

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
Sustaining Engineering	Fourth Line Support Service

Product reports raised on Fujitsu Transaction Solutions Inc. products or general inquiries should be sent to the Product Quality mailbox (reference the cover page).