TITLE: SlimScan 2002
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, GPG 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:

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0.0 DOCUMENT CONTROL

0.1 ISSUE LEVEL

This is the first released issue of this document, introducing the SlimScan 2002 into the FJ/ICL Retail product line.

0.2 CHANGES FROM PREVIOUS ISSUE

This is the first released issue of this document all comments have been incorporated.

0.3 CHANGES FORECAST

None at this time.

0.4 TERMS AND ABBREVIATIONS

CLD	Confidence Level Diagnostic Software
CS	Customer Service
EAN	European Article Number (scannable product label)
EMI	Electromagnetic Interference
ESD	Electrostatic Discharge
FPY	Failures Per Year
GPG	Fujitsu/ICL, Global Products Group
HHP	Handheld Port
H/H	Handheld
JAN	Japan Article Number (similar to EAN codes)
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
ORU	Optimum Replaceable Unit
POS	Point Of Sales
POST	Point Of Sales Terminal
PSU	Power Supply Unit
SMT	Surface Mount Technology
SPG	Support Planning Guide (this document)
TeamPoS	Fujitsu/ICL TeamPoS Series of Terminals (TeamPoS Select, TeamPoS 5000, TeamPoS OPC8)
UPC	Universal Product Code (subset of EAN codes for North America)

0.5 REFERENCE DOCUMENTS

POSBU/011	GPG Environmental and Regulatory Standard
PRD63051	Product Requirement Document (PRD)
12361-PDPO-0002	Product Development Plan (FJ PDP)
A3CA04141-J001	Specification Document (Functional)

1.0 OVERVIEW

The FJ/ICL SlimScan 2002 is a vertical mount mid range dual optic scanner, with side and top scan windows. The scanner is counter top mountable and the interface capabilities include RS232/IBM (PCB) and OCIA/Keyboard Wedge (PCB).

1.1 TARGET MARKET

The SlimScan 2002 is not intended to replace any of FJ/ICL's current scanner products but is a mid range scanner positioned between the SS1200 and the ORION 9500. With the release of the SlimScan 2002, FJ/ICL will be able to target those segments of the market that require a fixed position scanner that will accommodate standing or seated cashier operation. The SlimScan 2002 is adaptable to a wide range of retail environments which include:

- Pharmacy/Chain Drug (Chemist) stores
- Supermarket/Small Food
- Discount and Mass Merchandise
- Chain toy and Parts Stores

In marketing terminology, the SlimScan is positioned to be in the Mid performance range for that segment of the market that utilizes central or dispersed checkout environments requiring a fixed position scanner. The main competitive products are PSC VS1000, PSC1200, Symbol 5700, Symbol 5800, NCR7880 and the NCR7880-3000.

1.1.1 RELEASE SCHEDULE

World wide release: August, 1998

1.2 PRODUCT DESCRIPTION

The SlimScan 2002 features include a unique dual window optical assembly with Omni-directional scan patterns for side and top down reading of barcode labels. The SlimScan 2002 scanner is counter top mountable, which improves the ease of installation. Standard features include fully integrated multi POS interface logic PCB's, barcode programmability, auto sleep and wake up functionality, firmware download capabilities, and it auto discriminates between all popular barcode symbologies..

1.2.1 SOFTWARE PRODUCT DESCRIPTION

The SlimScan 2002 is software compatible when used with applications that support the SS1200 and ORION 9500 scanners.

1.2.2 HARDWARE PRODUCT DESCRIPTION

The SlimScan 2002 is a mid range dual optic vertical mount scanner. It has multiple interface capabilities that are mounted within the scanner chassis. The interfaces are combined on each of the two PCB's, RS232/IBM and OCIA/Keyboard Wedge. Power is supplied by an external dual range 120VAC/240VAC power supply that supplies 12VDC to the SlimScan 2002. The light source is a Visual Laser Diode.

A handheld port is available for additional scanning capabilities, in addition, this port can be used for cloning. Cloning can be accomplished by programming one scanner using the programmable barcode labels from the Scanner Programming Manual (45809/005). To transfer the profile from the programmed scanner to the target scanner, connect the Cloning Cable between the handheld ports.

- On the programmed scanner, Scan the Cloning label (Page 1-15 of the Programming Manual (45809/005). A low tone will occur when the label is scanned.
- Press the reset button on the programmed scanner.
- The target scanner is now cloned.
- Check the target scanner to ensure the program has been transferred.

Firmware upgrades can be accomplished by using the 1200dnld.exe firmware download program, which is outlined in paragraph 2.5.2 of this SPG.

1.3 PHYSICAL & ENVIRONMENTAL CONSIDERATIONS

1.3.1 PHYSICAL

SlimScan 2002 Scanner	
Height	260 mm (10.25 ± .04 inches)
Width	216 mm (8.5 ± .04 inches)
Depth	150 mm (5.91 ± .04 inches)
Weight	3.0 kg (6.1 lbs)

External PSU	
Height	29 mm (1.125 inches)
Width	51 mm (2.0 inches)
Depth	102 mm (4.0 inches)
Weight without Mains cable	.214 kg (.47 lbs)
Length Mains Cable	3.0 m (10 feet)
Length DC cable attached	1.37 m (4.5 feet)

1.3.2 TEMPERATURE & HUMIDITY

Operating:	
Temperature	0° - 40°C (32° - 104°F)
Max rate of change	10° per hour
Humidity	20 - 80% RH, non-condensing
Max rate of change	10% per hour

Storage:	
Temperature	-40° - 70°C (-40° - 140°F)
Max rate of change	15% per hour
Humidity	10 - 95% RH, non-condensing
Max rate of change	20% per hour

1.3.3 POWER

The main AC power supply is a dual voltage PSU that automatically compensates for different input voltages.

Input Voltage	100-240VAC, 50/60Hz
Voltage Function Range	90-264VAC
Frequency Function Range	47-63 Hz
Power Consumption	10W @ 240VAC VLD 100% Motor On 5W @ 240VAC Sleep Mode VLD off motor stopped
Input Current	0.3A to 0.6A @115VAC to 240VAC
Inrush Current	<20A maximum
PSU DC Output Voltage	12VDC
Electrical/Structural	UL, cUL, and IEC Standards
ESD	15KV
EMI	FCC Class A EN55022 Class B
Laser Safety	CDRH Class II and IEC Standards EC
Ambient Light	5000 luxes or less
Laser Scans	Top Window: 1,583 scans per second

Side Window: 1,333 scans per second

1.3 4 ENVIRONMENT

Vibration	Operating: 5 to 18 Hz: (0.3 mm) or less 18 to 100 Hz: (0.3 G's) or less Packed: 5 to 18 Hz: (2 G's) or less 100 to 500 Hz: (6 G's) or less
Shock	Operating: Maximum of (3 G's) X 5 times Packaged: Maximum of (15 G's) X 5 times
Acoustic Noise	50 dB or less

1.4 PRODUCT PERFORMANCE

Scan Lines Per Second	Top Window: 1,583 Side Window: 1,333
Long Depth Of Field	Top Window: 150 mm Side Window: 200 mm
Scan Movement Speed	2.0 m/sec. or lower
VLD Wave Length	670 nm

1.4.1 RELIABILITY

Description	MTBF	FJ P/N.
Scanner w/RS232/IBM/HHP I/F	30,000	CA04141-B061
Scanner w/RS232/OCIA/KBW I/F	30,000	CAO4141-B062
RS232/IBM PCB I/F	22,500	CA04141-E061
OCIA.KBW PCB I/F	22,500	CA04141-E062
LED & Switch PCB	22,500	CA21212-B301
Optical Unit	41,000	CA04141-D301
Laser Diode Unit	90,000	CA04141-E501
Polygon Motor	128,700	CA04141-E400
Speaker Assembly	1,000,000	CA04141-E650
AC Adapter	180,000	CA01007-0540

1.4.2 LIFE EXPECTANCY

The design life expectancy for the SlimScan 2002 is greater than 7 years.

2.0 RESOURCES

This section estimates the needs for the CS, Logistics, and other resources required to support the SlimScan 2002.

Spare parts can be purchased from Fujitsu, Japan.

2.1 SKILLS REQUIRED

Customer Service Representative:
A general understanding and service experience on installing, programming, and troubleshooting mid range dual optic scanners.

Consultant/Project Manager:
A Good working knowledge of scanner protocol and programming on mid range dual optic scanners. Specific application experience is assumed.

Repair Center Technician:
Experience with repairing and aligning VLD based mid range dual optic scanners. A Good working knowledge and experience in troubleshooting laser optics and preamp PCB's.

2.2 TRAINING

CS training is under the discretion of each specific country business unit. GPG Sustaining Engineering will provide 'train the trainer' operations. The schedule and funding for training will be established on an individual case by case basis. All requests for training by GPG should be forwarded to the Sustaining Mailbox (MS Exchange: GPG Hardware, Internet: GPG@FJICL.COM).

GPG 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 FJ/ICL products. The SlimScan 2002 should be included in any future standard training provided to FJ/ICL CS personnel.

2.3 TECHNICAL PUBLICATIONS

Description	Part Number	PIN
OEM Manual	C150-F012-01EN	N/A
Users Guide	C150-E109-02EN	N/A
Programming Manual	NA	45809/005

2.4 SPARES

- The spares list includes replacement parts for use at the Repair Center level. It is assumed that countries will spare the SlimScan 2002 at the whole unit level.

- Spares will be stocked at the Service Logistics Distribution Centre (STE04) or the North America Logistics Center (Dallas).

  The typical spares lead times from the supplier is 45 days.

2.4.1 SPARES LIST

The following parts list includes both ORU and Major Assembly levels.

Description	ICL P/N.	PIN No.	FJ P/N.
Scanner w/RS232/IBM/HHP I/F	80602103	PB600410	CA04141-B061
Scanner w/RS232/OCIA/KBW I/F	80602104	PB600411	CAO4141-B062
RS232/IBM PCB I/F	80602226	N/A	CA04141-E061
OCIA.KBW PCB I/F	80602227	N/A	CA04141-E062
LED & Switch PCB	80602165	N/A	CA21212-B301
Optical Unit	80602166	N/A	CA04141-D301
Laser Diode Unit	80602228	N/A	CA04141-E501
Polygon Motor	80602229	N/A	CA04141-E400
Speaker Assembly	80602230	N/A	CA04141-E650
Front Cover Assembly	80602231	N/A	CA04141-E211
Side Window Glass	80602232	N/A	CA04141-0800
Inner Cover Assy. w/Top Window Glass	80602237	N/A	CA04141-E310
CT Cover	80602233	N/A	CA04141-0230
AC Adapter	80602234	N/A	CA01007-0540
Keyboard Wedge Y Cable	80602129	PB600477	CA05951-1190

The following cables are the same as the ORION 9500

Description	ICL P/N.	PIN No.	FJ P/N.
9518/200 RS232	80303020	56487/001	N/A
9520/150, 9530 RS232	80203983	52413/001	N/A
Casio OCIA Generic	80303735	58277/001	N/A
NCR 2126 OCIA	80203990	53273/001	N/A
NCR 2127 OCIA	80203987	57048/001	N/A
TEC 2300, L77 OCIA	80303726	52538/001	N/A
Casio 2100 Direct Connect OCIA	80303830	40303/830	N/A
IBM Port 17 IBM	80303038	58483/001	N/A
IBM Port 9B IBM	80303036	52240/001	N/A
Symbol LS2020 RS232 H/H	80061790	19551/001	N/A
Nippon Denso BHS60X0 RS232 H/H	80062561	54369/001	N/A
Programming Cloning Cable	80316790	PB000057	A1CA02804-J334

2.4.2 CONSUMABLE PARTS

There are no consumable parts for the SlimScan 2002.

2.5 REPAIRS

Service Logistics Distribution Center (STE04) and 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 SlimScan 2002 can not be repaired on site but should be replaced as a whole unit assembly. The power supply unit is field replaceable.

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

Total MTTR 10 Minutes

2.5.2 SERVICE AIDS & DIAGNOSTICS

Loopback connectors are available to test multiple interface ports on the SlimScan 2002. The use of these Loopback connectors is described in the CS Initiated section below.

Power Up Diagnostics — An automatic diagnostic facility executed during the power up process, tests all critical components or the SlimScan 2002.

Failure Description	LED STATUS
Motor Fail	Y&G – YYYYYG
Laser Fail	Y&G – YYYGYG
ROM Error (Core or Main PCB)	Y&G – YGYYYY
EEPROM Error (Core or Main PCB)	Y&G – YGYGYY
EXT RAM Error (Core or Main PCB)	Y&G – YGYYGY
INT RAM Error (Core or Main PCB)	Y&G – YGYYYG
ASIC Error (Core or Main PCB)	Y&G – YGYYGG
Loopback Error (POS Interface)	Y&G – YGYGGY
Loopback Error (HHS Interface)	Y&G – YGYGGG
Loopback Test Success	Y&G – GGGGGG

CS Initiated — A CS engineer oriented set of test and diagnostic tools. Requires RS232, OCIA, and Handheld Port loopback connectors.

To Perform Loopback test, perform the following:

- Install the Loopback Connector
- Scan the appropriate program label (Pages 18 and 19 of the Programming manual 45809/005)
- When the test is completed power the scanner down to exit the program.

The following loopback connectors are the same as the ORION 9500.

Description	Part Number	PIN NO.
RS232 Loopback Connector	80212630	NA
OCIA Loopback Connector	80212631	NA
Handheld Loopback Connector	80212634	NA

Confidence Level (CLD) A user oriented, menu driven, privileged set of test and diagnostic functions which test the following: Controller, Keyboard, Display, Printer, Battery, Configuration Data, Cash Drawer, Scanner, Scale, MSR, Serial Ports, and other peripherals.

Firmware Download

The SlimScan 2002 uses the SS1200 Scanner Firmware Download Software.
(c) 1997 Fujitsu-ICL Retail Systems, Inc.
March 3, 1997

Firmware download capabilities are available for the SlimScan 2002. The software required to perform the download and the firmware files can be down loaded from the Global Products Group FTP site (FTP.FJICL.COM).

The purpose of this software is to upgrade FJ/ICL SlimScan 2002 scanner firmware by downloading through the interface cable rather than replacing FLASH PROMS. The download takes 3 to 4 minutes.

This information is for download program 1200DNLD.EXE Revision 3.

Please follow these steps:
(1) Load the file 1200DNLD.EXE onto either the hard drive or the floppy drive on a PC (This is the download program). Into the same directory, load the appropriate download firmware file(s). The file(s) will have a ".HEX" extension.

(2) Connect a SlimScan 2002 scanner to the COM 1 port of a powered-off PC. Power on the PC and type: 1200DNLD [Enter]. If it is necessary to use port COM 2, you must type: 1200DNLD 2 [Enter]. Note: the download program defaults to COM 1. If your PC is equipped with 25-pin COM port connectors, use a 9-to-25 pin adapter cable to connect to the scanner. The following screen will appear on the P.C.

```
ICL SS1200 Scanner Firmware Download
--1200DNLD.EXE --rev 3 comport = 1

>>>Hit “q” to exit program.
 Step (1): Connect the SS1200 scanner to comm1 port of a PC.
           Power on SS1200 scanner and wait for a scanner beep. Confirm that
           the “CTS” signal is active (inverse video) at bottom of CRT.
```

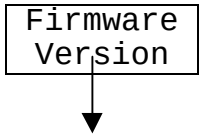
```
Step (2): Hit [SPACE BAR] to ENABLE download at 38400 bps.

                    DTR RTS CTS Drs RI dad 9600 E81
```

(3) Connect the AC Adapter to a power outlet and connect the DC power connector to the SlimScan 2002 scanner. This will Power up the FJ/ICL SlimScan 2002 scanner. The scanner should beep and should also set the 'CTS' signal at the bottom of the CRT active (inverse video). If these two conditions are not met, there is a problem with the equipment.

(4) Follow the instructions on the screen to complete the download.

(5) In Step (2), on the first screen, after the SPACE BAR is pressed, 7 lines of data should appear after **"Waiting for Scanner data..."**

Note: The data format on each line may not be as shown below, however, the content should be the same




```
[9 0 1 - 0 0 X X 0 0 0 0 0]  .  .  .
O K .   C h a n g e   Y o u r   C o n
f i g r a t i o n              B o u d r
a t e = 38 . 4 K B ,   D A T A = 8 b i
t s          S t o p = 1 b i t s , P a
r i t y = N O N    a n d    s n e d t
a r g e t   f i l e .
```

This indicates that the scanner is responding properly. Hit the SPACE BAR again to continue. The following screen will be shown.

```
ICL SS1200 Scanner Firmware Download
--1200DNLD.EXE --rev 3 comport = 1

>>>Hit “q” to exit program.
 Step (3): Select firmware download file.
 Hit [ENTER] to select firmware download file.
 Hit [F1] to download the same file again.
 Hit [F2] to view the firmware.HEX files in this directory (8 max).

                    DTR RTS CTS DSR RI dad 9600 E81
```

(6) In Step (3) of this screen, you are given 3 choices for downloading a file.

The 1st choice **[ENTER]** allows you to type a file name for downloading. A file extension is not needed because the program will automatically append the "firmware.HEX" file extension. If you do type in a file extension, it will be ignored.

The 2nd choice **[F1]** allows you to program another scanner with the same filename without re-typing the file name. This assumes that a valid download file was already opened by the program and that the program was not exited.

The 3rd choice **[F2]** produces a list of up to 8 firmware.HEX files on the current PC directory. Use the UP/DN arrow keys to select a file for downloading. Press [Enter] to initiate the downloading of this file.

(7) Once the download is started, a rotating flag character will be visible near the top of the menu screen. Also, characters in HEX format will be scrolling on the screen. Periodically, the scanner will drop its 'CTS' signal, but this should only last for 3 to 30 seconds. When the download process is complete, the scanner will beep and the CRT will display ASCII characters below the "Waiting for Scanner data..." message. The top line of the CRT text is the scanner revision. The following data will be shown.

```
R O M  V e r =   1 0 1 1 0 8 0 X 0 2
S u m = 8 1 0 0   C o m p l e t e d
D o w n    L o a d    P r o g r a m
[ 9 0 0 1 - 0 0 5 E 0 0 0 0 0 ]
```

NOTE: On the first line of this screen the **X** position indicates the unique ROM Version (will be an alpha character) which is the firmware revision level.

(8) Once the download is complete, hit the SPACE BAR to return to the original menu. **Important:** power off the scanner when the download is complete. You can connect another scanner to be programmed, if desired. The download program does not have to be exited in order to program another scanner.

3.0 SERVICE PROFILES

3.1 PREVENTATIVE MAINTENANCE

Beyond general cleaning of the SlimScan 2002, there is no scheduled preventative maintenance required.

General cleaning of the SlimScan 2002 is required on a regular basis. These procedures are described in the User Reference Manual and are the responsibility of the customer. Lack of this cleaning can reduce equipment reliability.
To achieve maximum performance, the two scan windows must be kept free of dust and contamination.

3.2 CORRECTIVE MAINTENANCE

In the event of a failure the customer 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 effect on-site evaluation of the failure. If the SlimScan 2002 is determined to be inoperable the scanner should be replaced as recommended in paragraph 2.5.

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
Fujitsu/ICL, GPG Sustaining	Fourth Line Support Service

Product reports raised on GPG products or general inquiries, should be sent to the GPG Sustaining mailbox (MS Exchange: GPG Hardware, Internet: GPG@FJICL.COM).