

TITLE: ICL 9500 Multi-Optic Scanner/Scale
Service 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:

MGR GPG Sustaining

Dir GPG Quality

GPG Product Manager

(Original signature copies of SPG's are maintained by GPG Sustaining.)

INQUIRIES TO:

GPG Sustaining
MS Exchange: GPG Hardware
Internet: GPG@ICLRetail.COM
FAX: 7888x5418 (619-458-5418)
Mail: USA04, GPG Sustaining

AUTHORITY:

E.Wright
Manager
Sustaining Engineering
ICL Retail, USA04
619-657-5674 (7888-5674)

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0.0 DOCUMENT CONTROL

0.1 ISSUE LEVEL

This is the second issue of this document.

0.2 CHANGES FROM PREVIOUS ISSUE

All changes from revision 1 to revision 2 are in Bold.

1.1.1 page 4 coupon interface withdrawn

1.1.2 Page 5 added forecast for 1999

1.2.2 Page 5 added paragraph regarding 9500 short and long versions.

1.2.2 Page 6 added cloning capabilities from a target scanner to a source scanner

1.2.2 Page 6 added reference to handheld port ID code programming.

2.3. Page 10 changed programming manual part number

2.4.1 Page 10, 11, and 12 made numerous additions and changes to spare parts list.

2.5.2 Pages 14, 15, and 16 added diagnostic aids

2.5.3 Pages 16, 17, and 18 made changes to switch settings

Appendix "A" Pages 20, 21, 22, and 23 added Appendix "A".

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
EAN	European Article Number (scannable product label)
EMI	Electro-Magnetic Interference
ESD	Electro-Static Discharge
GPG	ICL, Global Products Group
JAN	Japan Article Number (similar to EAN codes)
MDL	Multidrop Data Link (sometimes referred to as SDL, Shielded Data Link)
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
OEM	Original Equipment Manufacturer
ORU	Optimum Replaceable Unit
POS	Point Of Sales
PSU	Power Supply Unit
TeamPoS	ICL TeamPoS Series of Terminals (TeamPoS Select, TeamPoS 5000, TeamPoS OPC8)
UPC	Universal Product Code (subset of EAN codes for North America)
VLD	Visible Laser Diode

0.5 REFERENCE DOCUMENTS

POSBU/011	ICL, GLOBAL PRODUCTS GROUP Environmental and Regulatory Standard
PRD/RRV95023	Product Requirement Document
MIP/RRV95023	Marketing Introduction Plan

1.0 OVERVIEW

The ICL 9500 Scanner/Scale is a single housing Multi-Optic Scanner that allows full 360° reading of bar-code labels. The scanner has an integrated controller with multiple POS interfaces for connection to ICL and non-ICL POS terminals.

1.1 TARGET MARKET

The ICL 9500 is intended to enhance ICL's High Performance Scanner offerings. It replaces the Dual Scanner configuration of the S9000 Scanner. With the release of the 9500, ICL will be able to satisfy the customers requirement for high performance multi-directional, multi-optical, multiple code format scanning. The main competitive products are the (NCR) 7870 and the PSC Magellan.

1.1.1 RELEASE SCHEDULE

Initial Release:	April 1996	
Included:	RS232 & OCIA Interface	
	North America Release	
Phase 2 Release:	May 1996	
Included:	IBM & MDL Interface	
	North America Release	
Phase 3 Release:	Q3 1996	→ WITHDRAWN
	Coupon Interface	→ WITHDRAWN
	North America Release	→ WITHDRAWN

The Release to Europe and the Rest of World follow the above releases on an as requested basis and as regulatory certifications were achieved.

1.2 PRODUCT DESCRIPTION

ICL 9500, Shown with Optional Scale and Scale Display:

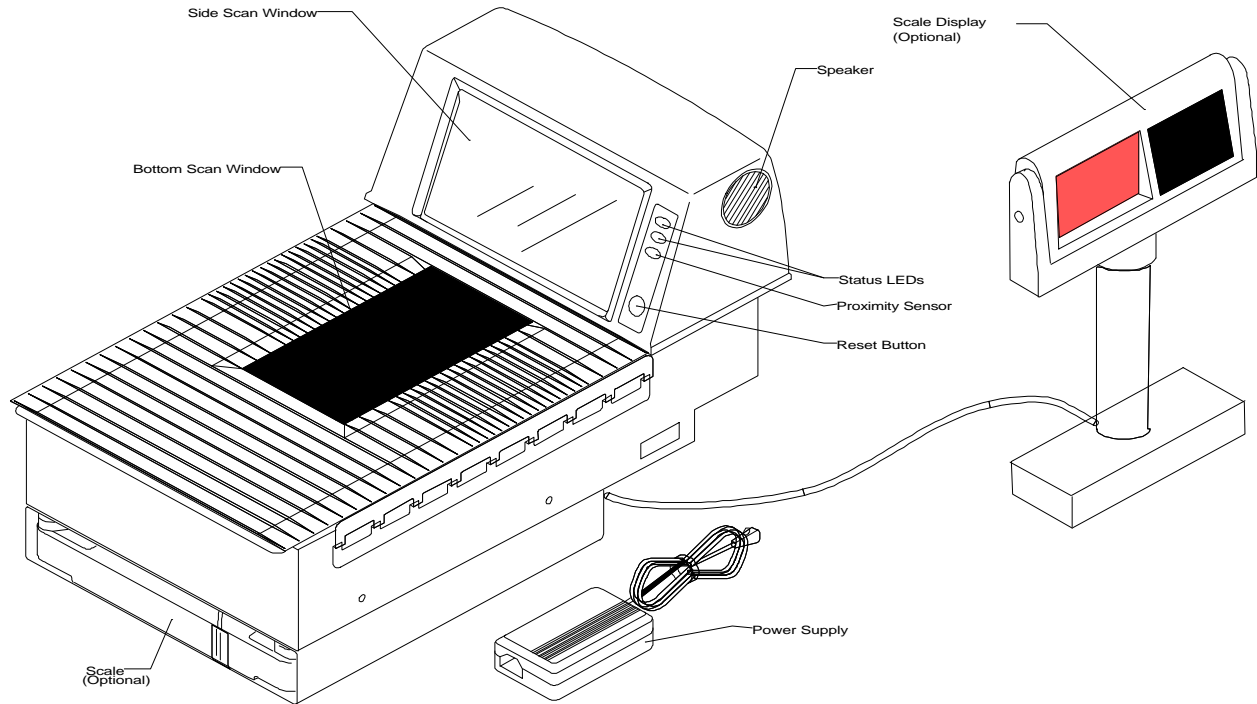


FIGURE 1

1.2.1 SOFTWARE PRODUCT DESCRIPTION

The ICL 9500 Scanner/Scale is Application Software compatible with the S9000 Scanner/Scale.

1.2.2 HARDWARE PRODUCT DESCRIPTION

The ICL 9500 is a new technology scanner with multiple integrated scanning windows. This allows bar-coded items to be scanned in a full 360° viewing area. The scanner is available in 2 basic configurations depending upon the POS interface selected, RS232/OCIA or MDL/IBM. All scanner and interface settings are programmable via scannable labels. A single label is used to configure the scanner for all ICL and common POS terminal connections (also reference section 2.5.3).

There are two versions of the 9500 scanner. The long versions (PIN Numbers PB000051 and PB00052) can accommodate a weigh scale device. The short versions (PIN Numbers PB600103 and PB600104) are for scanning operation only and will not accommodate a weigh scale device.

A special Cloning cable is available for transferring a programmed configuration. By scanning the Enter Program Cloning label, all of the parameter settings are copied from the source scanner into the target scanner. **In order to use the Cloning function both scanners must have the same level of firmware.**

There is an additional port that allows connection of a RS232 handheld scanner. This port is programmable with 2 sets of default parameters (for the LS2020 and BHS6060). **In addition, the barcode ID codes are**

programmable on the handheld port. The procedure for programming the ID codes is in Appendix "A".

An optional weigh scale is attached to the underside of the scanner. The scale draws DC power directly from the scanner via a DC power cable. The base scale itself is similar to that used with the S9000 Scanner, the differences are the remote mounting of the calibration switch, a different platter, and the platter support standoffs.

A separate scale interface adapter is needed for each POS interface type (RS232, OCIA, MDL, IBM, and Character Serial). An optional remote scale display with zero and tare buttons, is also available. This display is the same as the one used on the S9000 series scanner/scale. This external display may be required with some POS terminals if the terminal does not have an active scale display built in.

The ICL 9500 uses the same POS interface cables (scanner and scale) as the S9000.

Scanner/Scale Interfaces

SCANNER	SCALE
RS232	RW232
OCIA	OCIA
IBM	IBM
MDL	MDL
RS232 Handheld Scanner	Character Serial

Decode Capability: (not all are supported by all interface types)
UPC-A, UPC-E, EAN8/JAN8, EAN13/JAN13 (with label stitching)
UPC D1-D5
UPC+2 Add On, UPC+5 Add On, UPC+2/5 Add On
Code 128 (≤ 64 characters)
Code 39 (≤ 64 characters)
Codabar (≤ 64 characters)
Interleaved 2 of 5 (≤ 64 characters) **Maximum of 2 lengths**

The ICL 9500 auto-discriminates between up to 3 different code types. If three types are selected, UPC must be one of the selected code types.

The ICL 9500 has the ability to generate a good read from a bad or torn label. This feature is called 'label stitching'. This feature only applies to UPC and EAN/JAN label types. This feature is enabled by default when these label types are enabled. It can be disabled via a program label.

1.3 PHYSICAL & ENVIRONMENTAL CONSIDERATIONS

1.3.1 PHYSICAL

The following dimensions are approximate, refer to the Technical Publications in section 2.3.

ICL 9500 Scanner/Scale

Height	248 mm (9.76 inches)
above checkstand	128 mm (5.03 inches)
below checkstand	120 mm (4.72 inches)
Height with Scale	305 mm (12.00 inches)
below checkstand, with Scale	177 mm (6.97 inches)
Width (scan direction)	306 mm (12.01 inches)
Depth	518 mm (20.39 inches)
checkstand cutout	473 mm (18.62 inches)
Weight	9.5 kg (20.9 lbs)
with Scale	13.4 kg (29.5 lbs)

External PSU

Height	25 mm (1.00 inches)
Width	64 mm (2.52 inches)
Depth	106 mm (4.17 inches)
Weight, without Mains Cable	0.2 kg (0.5 lbs)
AC Mains Cable Length	3.0 M (10.0 feet)
DC Cable Length (attached)	1.3 M (4.2 feet)

Optional Scale Display

Height, with Pole	272 mm (10.70 inches)
Display Head:	
Width	38 mm (1.50 inches)
Depth	137 mm (5.38 inches)
Display Base:	
Width	41 mm (1.63 inches)
Depth	114 mm (4.50 inches)
Weight, with Cable	1.0 kg (2.28 lbs)
Cable Length	3.0 M (10.0 feet)

1.3.2 TEMPERATURE & HUMIDITY

Operating:

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

Storage:

Temperature	-40 to 70°C (-40 to 158°F)
Max. rate of change	15° per hour
Humidity	10 to 90% RH, non-condensing
Max. rate of change	20% per hour

1.3.3 MAINS POWER

The AC power supply is an auto-ranging PSU that automatically compensates for different input voltages.

Input Voltage	90-257VAC, 47/63hz
Power Consumption	15W Max.
with Scale	24W Max.
Input Current	0.40A @115VAC (typical)
	0.25A @240VAC (typical)
Inrush Current	<30A Max.

1.3.4 ENVIRONMENTAL

ESD	10KV
EMI	FCC Class A, EU Compliant
Ambient Light	460 Foot Candles (5,000 Lux)
Impact	Operating: 3.0G x 5 times, Max.
	Storage: 15.0G x 5 times, Max.

1.4 PRODUCT PERFORMANCE

Scanner:

Scan Lines	56 (Side = 24, Bottom = 32)
Polygon Motor Speed	5,000 RPM
Scan Lines per Second	4,667
Depth of Field	330 mm (13 inches)

Scale:

Max. Capacity	15 kg (30 lbs)
Increment	0.005 kg (0.1 lbs)
Settle Time (.01-30 lbs)	0.6 Seconds Max.
Max. Static Weight	68 kg (150 lbs)
Warm Up Time	15 Minutes
(required before calibration or Weights & Measures sealing)	

1.4.1 RELIABILITY

Top Level Assemblies:

<u>Description</u>	<u>Failure Rate</u>
Scanner with PSU	30,000 Hours (power on)
Scale (with Interface)	30,000 Hours (power on)

Lower Level Assemblies:

<u>Description</u>	<u>Failure Rate</u>
PSU	180,000 Hours (power on)
VLD Assembly	90,000 Hours (power on)
Pre-Amp with Laser Circuit	520,000 Hours (power on)
Pre-Amp without Laser Circuit	750,000 Hours (power on)
System Board (either)	225,000 Hours (power on)
Polygon Motor Assembly	128,600 Hours (power on)

1.4.2 LIFE EXPECTANCY

The design life expectancy is greater than 5 years.

2.0 RESOURCES

This section estimates the needs for the CS, Logistics, and other resources.

All scanner spare parts can be purchased from Fujitsu, Japan.
All scale spare parts can be purchased from Mettler-Toledo, USA.

2.1 SKILLS REQUIRED

Customer Service Representative:

A general understanding and experience with scanners and scales is required. Depending upon local Weights & Measures requirements, installing, repairing, or placing scales into service may require certification.

Repair Center Technician:

Experience with repairing and aligning VLD based high performance scanners is required. Experience with troubleshooting multi-layer PWA's, including surface mount technology (SMT) is also required.

2.2 TRAINING

CS training is under the discretion of each specific country business unit. ICL, GLOBAL PRODUCTS GROUP 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 (reference the cover page).

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 ICL products. The ICL 9500 should be included in any future standard training provided to ICL CS personnel.

2.3 TECHNICAL PUBLICATIONS

Description	Part Number	PIN
ICL 9500 Service Reference	80316239	45809/002
Programming Manual	80328001	45809/005

2.4 SPARES

It is assumed that countries will spare the ICL 9500 at the ORU level. Some countries (or customers), may choose to spare it at a major assembly level with the ORU repair performed at a central repair center or depot. The spares listing includes both methods.

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

The scanner will be available in 2 basic configurations depending upon the POS interface selected. The RS232 and OCIA interfaces are supported on one System Board, the MDL and IBM interfaces are supported by a different System Board. The scanner is normally configured and shipped in the desired configuration. For sparing purposes, the System Board and supporting bracket can be moved between scanners to change the configuration.

2.4.1 SPARES LIST

The following parts list includes ORU, Major Assembly, and Repair Center levels.

DESCRIPTION	PART	PIN	LOGISTICS P/N	FUJITSU OR OEM P/N.	COMMENTS
RS232/OCIA Scanner w NA Scale & PSU	80316787	PB000/053			WITHDRAWN
IBM/MDL Scanner w NA Scale & PSU	80316788	PB000054			WITHDRAWN
Scanner with RS232/OCIA & PSU	80316785	PB000051		CA02804-B001	
Scanner with IBM/MDL & PSU	80316786	PB000052		CA02804-B501	
Short Scanner RS232/OCIA & PSU	80328216	PB600103		CA02804-B002	
Short Scanner IBM/MDL & PSU	80328217	PB600104		CA02804-B502	
Symbol Scanner with RS232/OCIA & PSU	80328241	PB600137		CA02804-B003	WITHDRAWN
Symbol Scanner with IBM/MDL & PSU	80328242	PB600138		CA02804-B503	WITHDRAWN
Symbol Short Scanner RS232/OCIA & PSU	80328243	PB600139		CA02804-B004	WITHDRAWN
Symbol Short Scanner IBM/MDL & PSU	80328244	PB600140		CA02804-B504	WITHDRAWN
Coupon Kit	80316789	PB000055			Not Released
Programming (Cloning) Cable	80316790	PB000057		A1CA02804-J334	
Platter Support Kit (without scale), Adjustable	80316865	PB600075			
Platter Support Bracket	80316864	N/A			
Platter Support Bracket (w/o Scale), Non-Adjustable	80316307	PB600076			
Platter for Short Scanner	80328218	PB600106		17125	

DESCRIPTION	PART	PIN	LOGISTICS P/N	FUJITSU OR OEM P/N.	COMMENTS
EAS Comp Platter, SS for Short Scanner	80328235	PB600134		17351	
EAS Comp Platter, Plastic, for Scanner/Scale	80328262	PB600133	USA020703		
Support for 9000 Cutout	80328222	PB600049			
Bracket for Short Scanner into Standard Cutout	80328169	PB600143			
PSU, 110/240V (Replaced with CA01007-0540)	80316792	N/A	USA0205780	CA01007-0240	Withdrawn
PSU, 110/240V	80316792	N/A	USA0205780	CA01007-0540	
Polygon/Motor Assembly	80316806	N/A	USA0205766	CA02804-E501	Repair Center
VLD Assembly	80316818	N/A	USA0205767	CA02804-E551	Repair Center
Pre-Amp PWA with Laser Circuit (D539)	88836539	N/A	USA0205768	CA02804-E640	Repair Center
Pre-Amp PWA without Laser Circuit (D541)	88836541	N/A	USA0205769	CA02804-F641	Repair Center
IBM/MDL System PWA	80316819	N/A	USA0205765	CA02804-J501	
IBM/MDL CORE Firmware, version	80602322	N/A		1010576H	
IBM/MDL I/F Firmware, version	80602087	N/A		1010577D	
Bracket system PWA IBM/MDL	80316815	N/A		CA02804-0342	
RS232/OCIA System PWA	80316820	N/A		CA02804-J001	
RS232/OCIA Firmware, version	80602321	N/A		1010575K	
Bracket system PWA RS232/OCIA	80316814	N/A		CA02804-0341	
System Board Cover	80316310	N/A		CA02804-1340	
Top Cover, Assembly	80316810	N/A	USA0205771	CA02804-E220	
Analog I/F PWA	80316821	N/A		CA02804-E680	
Membrane	80328272	N/A	USA0207093	CA02804-1250	
Spacer	80328273	N/A	USA0207094	CA02804-0253	
Speaker/Cable Assembly	80316807	N/A	USA0205770	CA02804-E260	
Window w Gasket (Top Cover)	80316811	N/A	USA0205772	CA02804-E800	
Window Bracket (Top Cover)	80316812	N/A	USA0205773	CA02804-0255	See Note 2 Below
Window Bracket (Top Cover) (FJ Qty of 10 P/N)		N/A		CA02804-G255	See Note 2 Below
Scanner Mounting Frame (Bottom Case Long)	80316813	N/A		CA02804-E315	See Note 1&2 Below
Scanner Mounting Frame (Bottom Case Short)	80328227	N/A		CA02804-E331	
Cable, Pre-Amp PWA w VLD Circuit	80316816	N/A	USA0205775	CA02804-G651	RC - See Note 2 Below
Cable, Pre-Amp PWA w/o VLD Circuit	80316808	N/A	USA0205776	CA02804-G652	RC - See Note 2 Below
Cable, Analog I/F PWA	80316817	N/A	USA0205777	CA02804-G653	See Note 2 Below
Rubber Switch Cover	N/A			CA02804-0361	WITHDRAWN
Scale & Mounting Kit	80316784	PB000056			
Scale Support Bracket (Toledo)	80316710	N/A		14775300A	
Scale Calibration Switch Bracket (Toledo)	80316754	N/A		14775500A	
Scale Calibration Switch Cover (Toledo)	80316755	N/A		14775400A	
Scale Platter Support Standoff (Toledo)	80316711	N/A		14775600A	
Scale Platter Leveling Stud (Toledo)	80316695	N/A		14775700A	
Scale Power Cable (Toledo)	80316863	N/A		14807200A	
NAD Base Scale, w/o I/F (Toledo)	80316852	N/A		14832100A	
Scale Sealing Screw (Toledo)	80214076	N/A		R0514600A	
Platter Assembly w Sapphire Window (Saphikon)	80316781	PB000058		16440	
Sapphire Window (Saphikon)	80316694	N/A		16134	
Plastic Platter (Saphikon)	80316692	N/A		16441	
Scale Platter Frame (Saphikon)	80316693	N/A		16442	
Scale OCIA I/F (Toledo)	80212344	58726/001		0901-0344-000	Same as 9000
Scale Char Serial I/F (Toledo)	80212346	50872/001		0901-0345-000	Same as 9000
Scale IBM I/F (Toledo)	80212345	55282/001		0901-0346-000	Same as 9000
Scale RS232 I/F (Toledo)	80212342	59841/001		0901-0342-000	Same as 9000
Scale RS422/MDL I/F (Toledo)	80212343	53444/001		0901-0343-000	Same as 9000
Scale Display, lb, with pole, NAD (Toledo)	80212340	52412/001		0264-1001-100	Same as 9000
Scale Display, kg, with pole, NAD (Toledo)	80212341	52412/002		0264-1001-110	Same as 9000
Symbol Scale Display, lb, with pole (Toledo)	80328245	PB600141		0264-5001-500	WITHDRAWN
Symbol Scale Display, kg, with pole (Toledo)	80328246	PB600142		0264-5001-510	WITHDRAWN
W&M Label for CRT/Display 29.99lb	80328167	PB600029			
W&M Label for CRT/Display 30.00lb	80328103	PB600558			

DESCRIPTION	PART	PIN	LOGISTICS P/N	FUJITSU OR OEM P/N.	COMMENTS
Mains Cable, Straight, UK	80316727	PB503/001			Same as 9000
Mains Cable, Straight, Europe	80316729	PB503/002			Same as 9000
Mains Cable, Straight, South Africa	80316731	PB503/003			Same as 9000
Mains Cable, Straight, Australia	80316733	PB503/004			Same as 9000
Mains Cable, Straight, USA/Canada	80316735	PB503/005			Same as 9000
Mains Cable, Straight, Unterminated	80316737	PB503/006			Same as 9000
Documentation					
Service Reference	80316239	45809/002			
Programming Manual	80328001	45809/005			
Cables					
9505/9507 Scanner OCIA	80303727	57443/001			
9518/21/61/71 Scale RS232	80303042	58146/001			Same as 9000
9518/200 Scanner RS232	80303020	56487/001			Same as 9000
9518/200 Scale RS232	80303043	51382/001			Same as 9000
9518/XX Scanner OCIA	80203991	56119/001			
9520/150, TeamPoS Scanner RS232	80203983	52413/001			Same as 9000
9520/150, TeamPoS Scale RS232	80303044	51765/001			Same as 9000
9520/100 Scanner RS232	80303035	52251/001			
9520/100 Scale RS232	80303046	52964/001			
9520A Scanner, DB09 RS232	80303033	51443/001			
9520A Scanner, IDC28 RS232	80303034	56729/001			
9520A Scale RS232	80303045	58826/001			
545/m6000 Scanner OCIA	80303724	50075/001			
545/m6000 Scale Character Serial	80303723	58540/001			See Note 3 Below
NCR 2126 Scanner OCIA	80203990	53273/001			Same as 9000
NCR 2126 Scale OCIA	80203989	57252/001			Same as 9000
NCR 2127 Scanner OCIA	80203987	57048/001			Same as 9000
NCR 2127 Scale OCIA	80203988	55226/001			Same as 9000
NCR 7052/53 Scanner OCIA	80203981	55848/001			
NCR 7052/53 Scale OCIA	80203982	57641/001			
TEC 2300, L77 Scanner OCIA	80303726	52538/001			Same as 9000
TEC 2300, L77 Scale Character Serial	80303725	58163/001			Same as 9000
Casio 2100 DC Scanner OCIA	80303830	40303/830			Same as 9000
Casio 2100 DC Scale Character Serial	80303931	40303/931			Same as 9000
IBM Port 17	80303038	58483/001			Same as 9000
IBM Port 9B	80303036	52240/001			Same as 9000
9520 Rel3, D9-SDL, .5M	80203214	54597/001			Same as 9000
9520 Rel3, D9-SDL, 3M	80203215	54597/002			Same as 9000
9520 Rel3, D9-SDL, 5M	80203216	54597/003			Same as 9000
2001/2200/545/m6000/9520	003-022924	47428/001			Same as 9000
SDL/MDL	003-022932	N/A			Same as 9000
SDL TEE	003-019417	47058/001			WITHDRAWN
D9-SDL "Y" Cable, 3 Meters	80328282	PB600374			Same as 9000
Symbol LS2020	80061790	19551/001			Same as 9000
Nippon Denso BHS60X0	80062561	54369/001			Same as 9000
Loopback Connector RS232	80212630	N/A			Same as 9000
Loopback Connector OCIA	80212631	N/A			Same as 9000
Loopback Connector MDL	80212632	N/A			Same as 9000
Loopback Connector Handheld Port	80212634	N/A			Same as 9000

NOTE 1: The first 200-300 units shipped will have the system board internal to the scanner base frame. In units shipped after that, the System Board Cover will be added, to allow external access to the system board without removal of the scanner housing.

NOTE 2: For Logistics Spares ordering, Fujitsu has the following spare part kits available instead of individual items (ICL part numbers have not been assigned to these kits:

RS232/OCIA Scanner Housing	FJ #	CA02804-E301
Includes 1 each of: 80316813, 80316310, 80316814		
IBM/MDL Scanner Housing	FJ #	CA02804-E305
Includes 1 each of: 80316813, 80316310, 80316815		
Window Bracket Set	FJ #	CA02804-G255
Includes: Qty 10 of 80316812		
Pre-Amp w VLD Cable Set	FJ #	CA02804-G651
Includes: Qty 10 of 80316816		
Pre-Amp w/o VLD Cable Set	FJ #	CA02804-G652
Includes: Qty 10 of 80316808		
Analog Cable Set	FJ #	CA02804-G653
Includes: Qty 10 of 80316817		

NOTE 3: The 545/m6000 Character Serial Scale configuration requires a separate scale power supply.

Description	Part No.	PIN NO.
Power Supply NAD 110V	80212347	59525/001
Power Supply UK 240V	80212348	59525/002
Power Supply Eur 220V	80212349	59525/003
Power Supply Aus 240V	80213215	59525/004

2.4.2 CONSUMABLE PARTS

There are no user consumable parts.

2.5 REPAIRS

Service Logistics Distribution Centre (STE04) and the Dallas Repair Center for North America 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 clear access, or to return the unit to full customer functionality (i.e. programming). Assemblies below this level are not recommended to be replaced in the field.

<u>ORU</u>	<u>TIME</u>	<u>ORU</u>	<u>Time</u>
Scale POS Interface	2 Min	System Board	10 Min
Base Scale	10 Min	Top Cover	5 Min
Scale Display	2 Min	Speaker/Cable Assy	5 Min
External PSU	2 Min		

Based upon these times, and adjusted by the probability of a specific component failing, the MTTR for the complete unit is <10 minutes.

2.5.2 SERVICE AIDS & DIAGNOSTICS

Terminal initiated scan diagnostic capabilities, for example CLD on the 9520/150 and the TeamPoS Series terminals, can be used to verify communications capabilities from the scanner to the terminal. In addition, the scanner also has programmable and loopback connector diagnostic capabilities.

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.**

**Programmable Scanner
 Diagnostics**

The scanner has programmable diagnostics that can be entered by scanning program labels that are in Section One of the Programming Manual 45809/005. Diagnostics can be entered by scanning just the programmable diagnostic labels, there is no need to use the Enter The Programming Mode label. To exit the diagnostics test the scanner must be powered down. Following is a list of programmable diagnostics.

Autobreak Bottom, Side, or Both	Scan zone test. While a scan label is in the scan field a continuous beep will occur.
Demo Mode	Each time a label is passed through the scan zone a good beep will occur.
POS IF Loopback	Connect the appropriate Interface loopback connector and Scan the POS IF Loopback label the scanner Yellow and Green LED will flash (See Error Messages 11, 12,13 and 14
Proximity Detector	Each time something is passed between the proximity detector and the light source the green LED will come on.

ERROR MESSAGES		
No	DESCRIPTION	LED's
1	Motor Fail	Y&G YYYYYG
2	Laser Fail 1	Y&G YYYGYG
3	Laser Fail 2 (initial laser circuit has not been set) (Paragraph 2.5.3)	Y&G YYYYYY
4	ROM Error (Core or main PCB)	Y&G YGYYYY
5	ROM Error (POS interface)	Y&G YGGYYY
6	EEProm Error (Core or Main PCB)	Y&G YGYGY
7	EXT RAM Error (Core or Main PCB)	Y&G YGYGY
8	INT RAM Error (Core or Main PCB)	Y&G YGYGY
9	CPU Error (IBM interface only)	Y&G YGYGY
10	ASCII Error (Core or Main PCB)	Y&G YGYGY
11	Loopback Error (Interface)	Y&G YGYGY
12	Loopback Error (HHS Interface)	Y&G GGYGY
13	Loopback Error (Coupon Interface)	Y&G GGYGY
14	Loopback Success	Y&G GGGGG

The following loopback testers are available to test the interface ports. These loopback tests are initiated by scanning a test label. The IBM interface does not require a loopback connector. There is a good description of the loopback test in the Service Reference Manual. The 9500 uses the same loopback testers as the S9000 Scanner.

Description	Part Number
POS Loopback Connector - RS232	80212630
POS Loopback Connector - OCIA	80212631
POS Loopback Connector - MDL	80212632
HandHeld Loopback Connector	80212634

LOOPBACK CONNECTOR WIRE LISTS 80202630 (RS232)

Signal Name	From	To	Signal Name
TXD	P1-2	P1-3	RXD
CTS	P1-7	P1-8	RTS

LOOPBACK CONNECTOR WIRE LISTS 80202631 (OCIA)

Signal Name	From	To	Signal Name
RDATA-	P1-1	P1-7	SDATA-
RDATA RTN	P1-2	P1-8	SDATA RTN
RCLOCK-	P1-3	P1-10	TCKIN
RCLOCK RTN	P1-4	P1-12	TCKIN RTN
SCLOCK-	P1-5	P1-9	TCKOUT
SCLOCK RTN	P1-6	P1-11	TCKOUT RTN

LOOPBACK CONNECTOR WIRE LISTS 80202632 (MDL)

Signal Name	From	To	Signal Name
MASTER	P1-1	P1-3	SLAVE
MASTER-	P1-2	P1-4	SLAVE-

LOOPBACK CONNECTOR WIRE LISTS 80202634 (HANDHELD PORT)

Signal Name	From	To	Signal Name
RXD	P1-2	P1-3	TXD
DTR	P1-4	P1-6	DSR
RST	P1-7	P1-8	CTS

Scanner Cloning

During installation or unit replacement, a special Cloning cable can be connected between two scanners. By scanning a programming label, all the parameter settings will be copied from the source scanner into the target. During installations, only 1 scanner will have to be programmed with the program labels, the remainder can be cloned from it. During unit replacement, this same method can be used to retain any customer specific settings.

IMPORTANT:

In order to successfully clone a scanner the firmware in the source and target scanner must be at the same revision level.

Description	Part Number	PIN Number
Program Cloning Cable	80316790	PB000057

2.5.3 DIP SWITCH SETTINGS

There are DIP switches located on the side of the scanner (below the vertical scan housing, see figure 2). The switches can be used for diagnostics, interface selection, and initial laser setting.

The initial laser setting is often required when one or more of assemblies listed below are replaced. After an assembly has been replaced if the scanner is not functional, for example the laser does not come on, perform the initial laser switch setting.

VLD Assembly	80316818
Pre-Amp PWA with Laser Circuit (D539)	88836539
Pre-Amp PWA without Laser Circuit (D541)	88836541
IBM/MDL System PWA (or firmware)	80316819
RS232/OCIA System PWA (or firmware)	80316820

After performing the initial laser setting if the scanner is still not functional perform the appropriate interface switch setting.

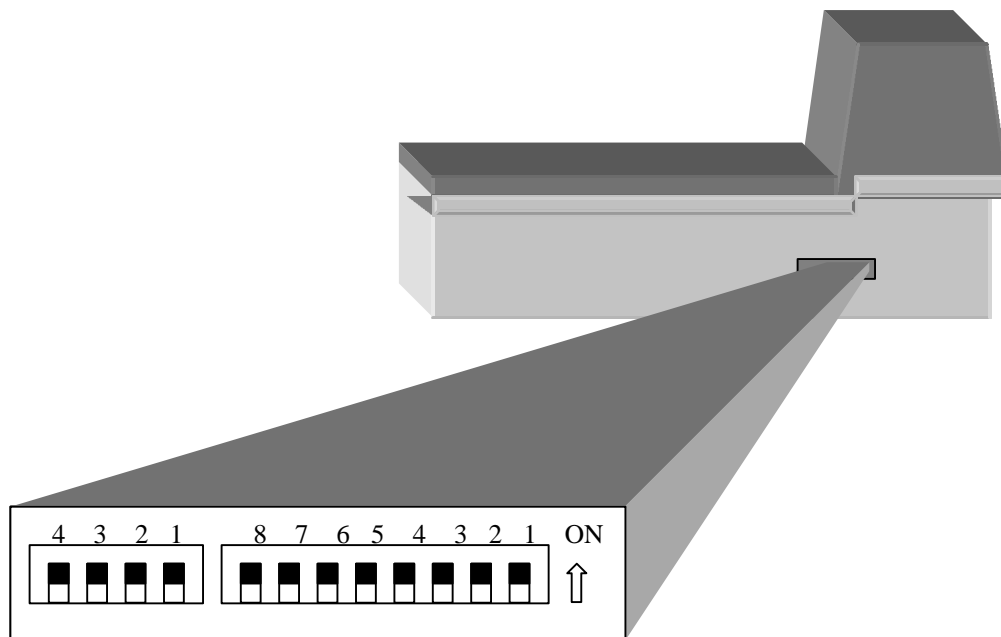


FIGURE 2

SWITCH 2				SWITCH 1								DESCRIPTION	
4	3	2	1	8	7	6	5	4	3	2	1		
F	F	F	F	F	F	F	F	F	F	F	F	F	On Line (Connected to POS)
N	N	N	N	N	F	F	F	F	F	F	F	F	Demo Mode
N	N	N	N	N	N	N	F	N	F	F	F	F	Initial Laser Setting
N	N	N	N	N	F	N	F	F	F	F	F	N	RS232/OCIA Interface Setting
N	N	N	N	N	F	N	F	F	F	F	F	F	IBM/MDL Interface Setting

N = ON

F = OFF

Setting The Demo Mode

1. Power Scanner Off
2. Set the DIP Switches For The Demo Mode
3. Power the Scanner On
4. Procedure Complete (The scanner is in the DEMO Mode)

The on Line mode is the default setting. Power the scanner off set SW1 and SW2 to the off position and power the scanner on. The scanner is now in the on line mode.

Initial Laser Setting

1. Power Scanner Off
2. Set DIP Switches for the initial laser setting
3. Power Scanner On
4. Yellow LED Flashes,
5. Then Green LED Comes On Solid and The Laser Turns Off
6. Power Scanner Off
7. Set SW1 and SW2 To The Off Position
8. Power Scanner On (The Scanner Is Now In The On Line Mode)

Setting The RS232/OCIA Interface

1. Power The Scanner Off
2. Set The DIP Switches For The RS232/OCIA Interface
3. Power The Scanner On
4. The Yellow LED Flashes,
5. Then The Green LED Will Flash
6. Press The Reset Button Until The Scanner Beeps
7. Power Off The Scanner
8. The RS2332/OCIA Interface Is Set

Setting The IBM/MDL Interface

1. Power The Scanner Off
2. Set The DIP Switches For The IBM/MDL Interface
3. Power The Scanner On
4. The Yellow LED Flashes,
5. Then The Green LED Will Flash
6. Press The Reset Button Until The Scanner Beeps
7. Power Off The Scanner
8. The IBM/MDL Interface Is Set

3.0 SERVICE PROFILES

A unique model number should be assigned in each country/unit for dispatch and reliability data gathering. In North America model '9500 Scanner' and '9500 Scale' are being used. Other organizations are encouraged to use the same or similar method to distinguish between the 9500 Scanner/Scale and other equipment installed.

3.1 PREVENTATIVE MAINTENANCE

Beyond general cleaning of the scanner windows and scale platter surface, there is no scheduled preventative maintenance required. Cleaning procedures are described in the released Technical Publication (refer to section 2.3).

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 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
ICL, GPG Sustaining	Fourth Line Support Service

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

APPENDIX “A” PROCEDURE FOR CREATING PROGRAM LABELS FOR CHANGING ID CODES

The ID code on barcode labels can be changed on the 9500 scanner and the handheld port by using Code 128 programming labels. When changing the ID code the handheld port and the 9500 must be programmed for the identical ID code for each UPC label. In addition, if the ID code is removed it must be removed from both the handheld port and the 9500 scanner.

This feature can be used effectively when there is a need to match different ID codes that are sent from the handheld scanner to the handheld port or when the host ID codes do not match the 9500 scanner.

A Generic Barcode label program can produce code 128 labels for programming changes to the ID codes on the 9500 scanner and the handheld port. Appendix “A” contains the procedure for generating the code 128 programming labels and also how to program the 9500 and the handheld port

If there is a need for specific ID code programming labels contact GPG Hardware with the specific details on your requirements.

CREATING PROGRAM LABELS FOR THE 9500 SCANNER

USING CODE 128 SYMBOLOGY FOR PROGRAMMING

Format for code 128 Label

Start Code	Applicable Code Set UPC or EAN	ID-1	ID-2	Check Digit	Stop Code
------------	-----------------------------------	------	------	-------------	-----------

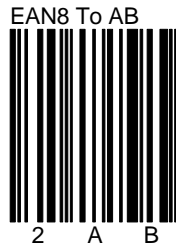
Code set for Code 128 program labels

EAN-13/JAN13	=	1
EAN-8/JAN8	=	2
UPC-A	=	3
UPC-E	=	4
Code 128	=	5
Code 39	=	6
Codabar	=	7
Interleaved 2 of 5	=	8
Code 93	=	9

CREATE CODE 128 PROGRAMMING LABEL:

Change ID code for EAN-8 to "A" "B".

Code set is (2)	ID-1	ID-2
	A	B

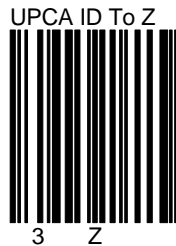


CREATE CODE 128 PROGRAMMING LABEL:

Change ID code for UPCA to Z

Code set is (3)	ID-1	ID-2
	Z	SP

Note: SP = Space



CREATING PROGRAM LABELS FOR THE 9500 SCANNER HANDHELD PORT

USING CODE 128 SYMBOLOGY FOR PROGRAMMING

Format for code 128 Label

Start Code	Value "H"	Value "P"	Select Code	ID-1	ID-2	Check Digit	Stop Code
------------	-----------	-----------	-------------	------	------	-------------	-----------

Code set for Code 128 program labels

EAN-13/JAN13	=	1
EAN-8/JAN8	=	2
UPC-A	=	3
UPC-E	=	4
Code 128	=	5
Code 39	=	6
Codabar	=	7
Interleaved 2 of 5	=	8
Code 93	=	9

CREATE CODE 128 PROGRAMMING LABEL:

Change ID code for EAN-8 to "A" "B".

"H"	"P"	ID-1	ID-2
		A	B

EAN8 CODE ID "AB" (HHP)



CREATE CODE 128 PROGRAMMING LABEL:

Change ID code for UPCA to Z

"H"	"P"	ID-1	ID-2
		Z	SP

Note: SP = Space

UPC A CODE ID "Z" (HHP)



PROGRAMMING SEQUENCE FOR CHANGING ID CODES

- 1) Enter The Programming Mode
- 2) Header & Terminator Presetting for Prefix/Suffix & ID change (01234543205)
- 3) Code 128 label for presetting the ID code
- 4) Save Header & Terminator Settings for Prefix/Suffix & ID change (01234543910)
- 5) Exit Save and Reset

The label for Step 4 is not in the new programming manual (Manual 45809\005).

