TITLE: SmartScan Model 9950 Multi Optic Scanner/Scale

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 SPG is the generic version, released by the product authority, Fujitsu Transaction Solutions (FTXS) – Sustaining Engineering.

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

The service descriptions in this document are guidelines, detailing the recommendations of the product authority. The information within this document has been reviewed for accuracy, but as with most documents, errors may be found and corrected in future revisions. Consequently, Fujitsu cannot be held liable for any inaccurate information found in this document.

SPG Authorization: Date:

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MGR Sustaining Engineering

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0.0 DOCUMENT CONTROL

0.1 ISSUE LEVEL

This is the second released issue of this document.

0.2 CHANGES FROM PREVIOUS ISSUE

1. Release two interface versions of the 9950, IBM/USB with RS485 and Retail USB with RS232. The Retail USB with RS232 will replace the current RS232 interface.
2. Add part numbers for the system PCB's and the pre-amp.
3. General updates and corrections from Issue 1.0.
4. Add programming for RS232, Retail USB, IBM USB, and IBM RS485 interfaces.
5. Added Appendix "C" Programming cable pin assignments.

0.3 CHANGES FORECAST

When required, enhancements and changes will be incorporated into this document. Updates to the parts list are anticipated.

0.4 TERMS AND ABBREVIATIONS

CLD	Confidence Level Diagnostic Software
CS	Customer Service
EAN	European Article Number
EMI	Electromagnetic Interference
ESD	Electrostatic Discharge
FDD	Floppy Disk Drive
FPY	Failures Per Year
FTXS	Fujitsu Transaction Solutions Inc.
HDD	Hard Disk Drive
HHS/SCL	Handheld Scanner Port/Scale Port
JAN	Japan Article Number
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
OPC	Open Peripheral Connect unit
ORU	Optimum Replicable Unit
POS	Point Of Sales
PCS	Print Contrast Signal
POST	Point Of Sales Terminal
PSU	Power Supply Unit
SMT	Surface Mount Technology
SPG	Support Planning Guide (this document)
TeamPoS	FTXS TeamPoS Series of Terminals (TP5000 and TP2000)
UPC	Universal Product Code
VLD	Visual Laser Diode

0.5 REFERENCE DOCUMENTS

Document	Description
A6KD02152-B001	Reference Manual
81171-PDP0-0003	Product Development Plan (PDP)
A5KD02152-0001	Product Specification Document
A1KD02152-J401	Firmware Specification Document
A1KD02152-B001	Installation Manual (VCOM-USB)

1.0 OVERVIEW

The FTXS Model 9950 is a high performance multi-optic scanner with multiple interface capabilities. The Scanner is capable of decoding the following barcodes UPC, EAN, JAN, Code 39, Code 128, Codabar, ITF, RSS14. RSS14 Expanded, UPCA plus Code 128 coupon, and EAN13 with UCC/EAN128 coupon. The Model 9950 can also be integrated with an optional scale.

1.1 TARGET MARKET

The Model 9950 scanner is intended as the replacement for the Model 9900 scanner. The Model 9950 scanner is positioned to be in the high performance range for the retail environment. The main competitive products are the NCR7872, NCR7875, Magellan Model 8200 and Magellan 8500 scanner.

1.1.1 RELEASE SCHEDULE

First Release July, 2003
Included: RS232 Interface

Second Release: August 15, 2004
Included: IBM/ USB With RS485 Interface
Included: Retail USB with RS232 Interface

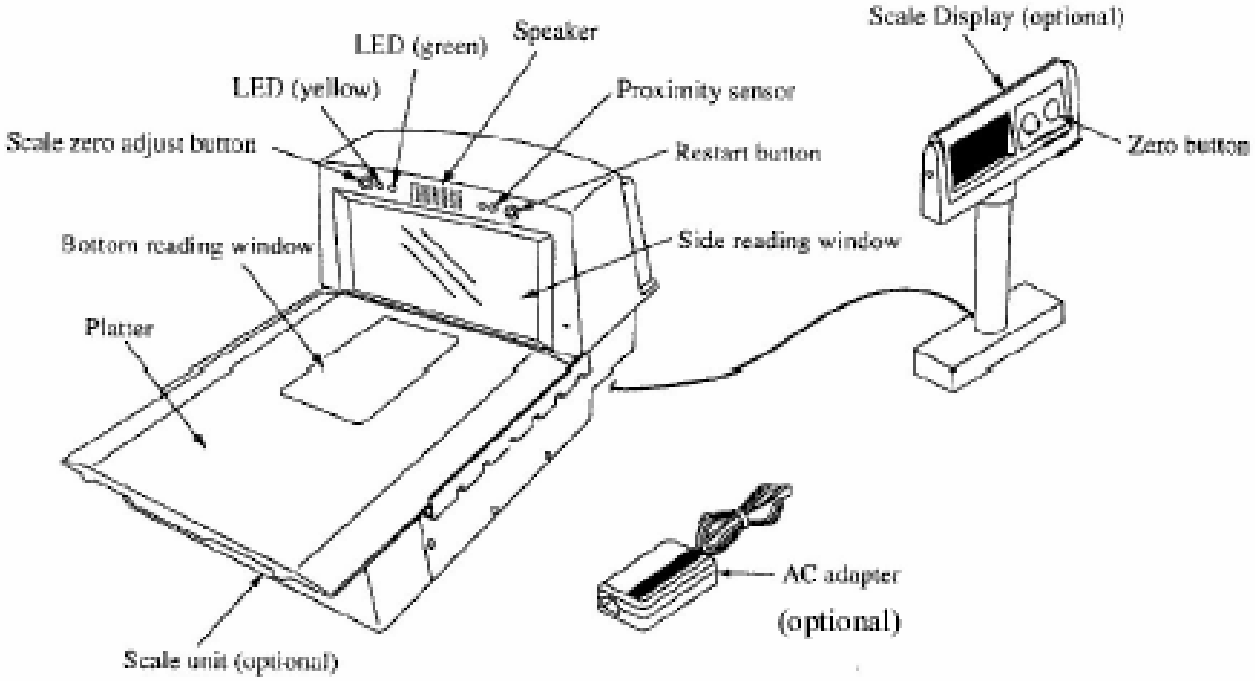
1.1.2 VOLUME FORECAST

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

1.2 PRODUCT DESCRIPTION

The FTXS Model 9950 is a multi-optic scanner using Digital Signal Processing (DSP) technology. The multi line scan pattern is produced with a single laser diode and is projected through two windows for horizontal and vertical reading. Barcode decoding is accomplished with one pre-amp. An optional scale is also available, when installed the scale is contained within the scanner housing.

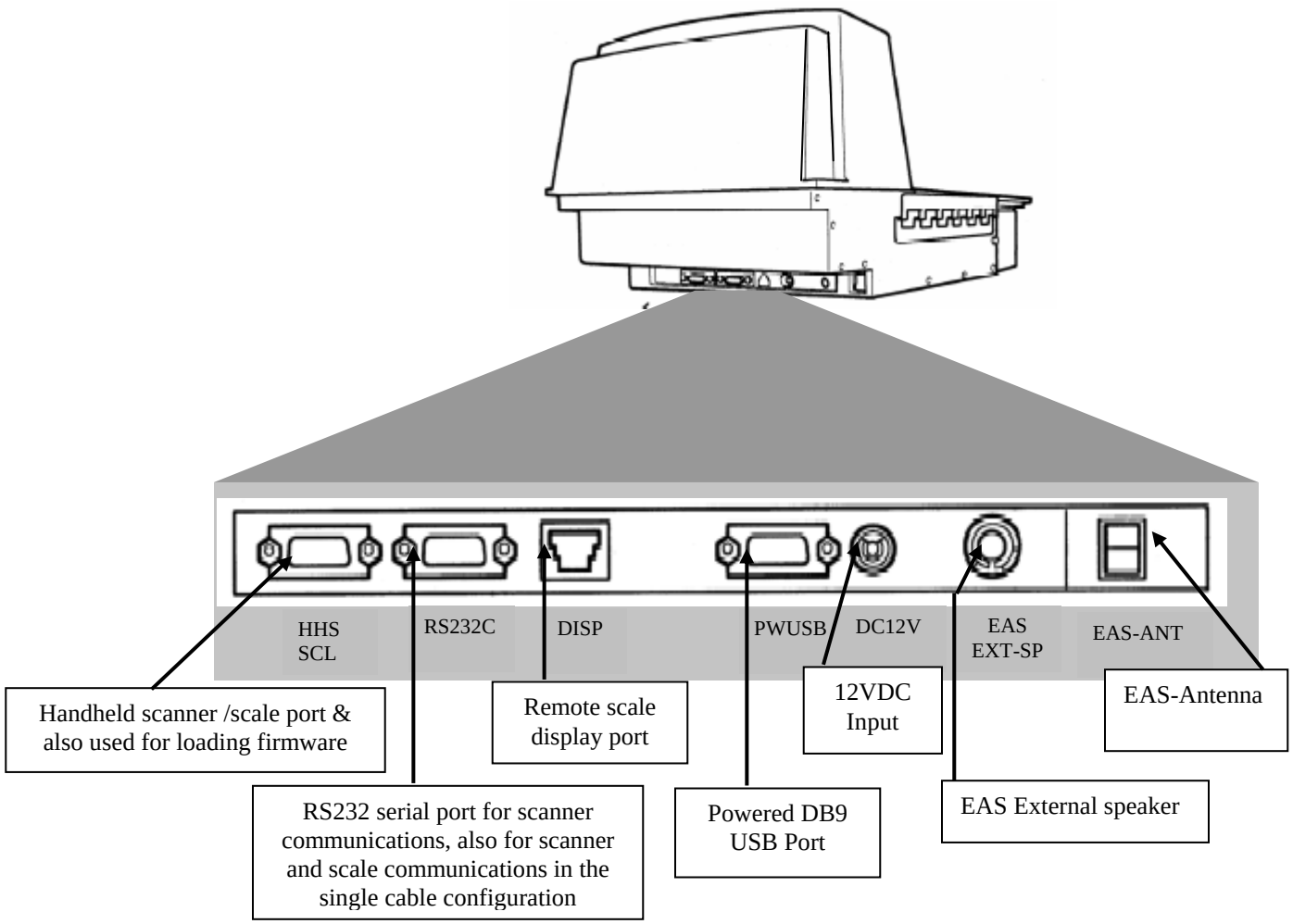
Multiple terminal interface capabilities are available on the Model 9950 scanner, Powered IBM/USB with RS485 interface and Powered Retail USB with RS232 interface. The Powered Retail USB with RS232 interface will replace the RS232 interface when the on hand stock is depleted.



ITEM	FUNCTION
Restart Button	Sleep Mode 1. Pressing the Restart Button brings the scanner out of the Sleep Mode. Volume Adjustment 1. Momentarily pressing the restart button changes the volume 2. Seven volume levels are available Frequency Tone Adjustment 1. Change the frequency tone by pressing and holding the Restart button for approximately one second 2. Eight tone levels are available
LED' (Green and Yellow)	Green Flash 1. Good Read Yellow Solid 1. Sleep Mode Yellow and Green solid 1. (Disabled Mode) The laser is off. To enable the scanner an enable command is required from the host. Green Solid 1. Programming Mode
Proximity Sensor	Recover From Sleep Mode 1. Moving an object or hand approximately four inches from the Proximity Sensor will activate the scanner.
Power Saving Modes Laser/Motor Timeouts are Programmable	50% Laser Timeout 1. A barcode passed through the scan zone will be decoded on the first pass and bring the laser back to the full on condition. Full Laser Timeout 1. Pressing the Restart Button or Moving an object or hand approximately four inches from the Proximity Sensor will activate the scanner. Motor Timeout 1. Pressing the Restart Button or Moving an object or hand approximately four inches from the Proximity Sensor will activate the scanner.

Powered Retail USB With RS232 Interface

NOTE: OPSERVE WARING BELOW

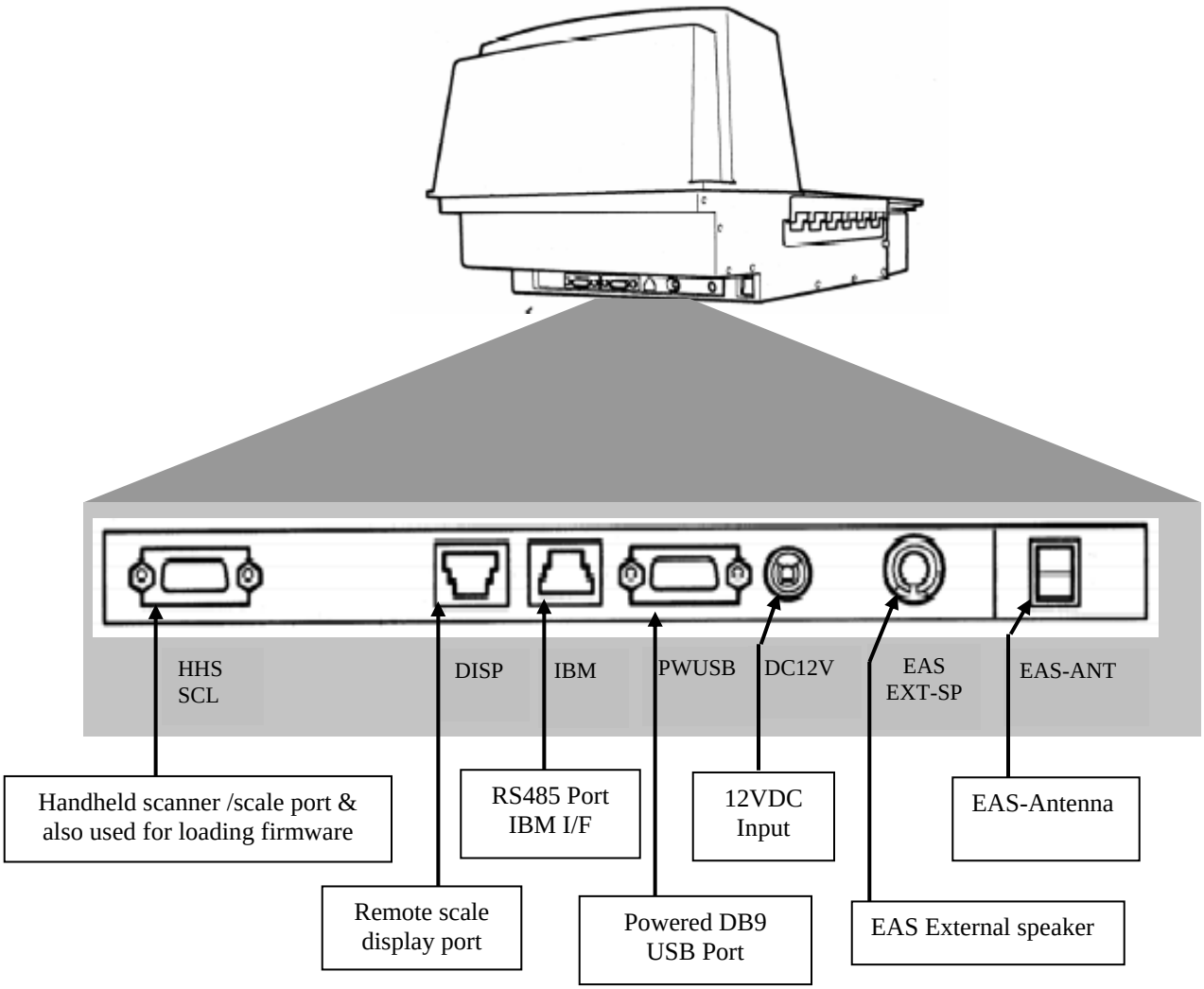


WARNING:

DO NOT PLUG THE POWERED USB DB9 CONNECTOR INTO THE RS232C SCANNER PORT.

If the Powered USB cable connector is plugged into the scanner RS232 port, damage will occur to the terminal I/O PCB.

Powered IBM/USB With RS485 Interface



1.2.1 SOFTWARE PRODUCT DESCRIPTION

The Model 9950 Scanner/Scale with the Powered Retail USB and RS232 interface is compatible with applications using USB and RS232 protocol. The Powered USB/IBM and RS484 interface is compatible with IBM SA applications using the IBM SurePos and 469X terminals.

1.2.2 HARDWARE PRODUCT DESCRIPTION

The Model 9950 is a fixed mount, high performance multi-optic scanner using Digital Signal Processing (DSP) technology. It provides connectivity to POS terminal platforms utilizing Powered USB, RS232 Powered IBM USB, and RS485 interface protocols. In addition, there is a built in antenna for EAS connectivity.

The auxiliary port (HHS/SCL) provides connection for remote peripheral devices (e.g., handheld scanner or a Portable Handheld Terminal). This port will also be utilized for “cloning” program changes from one scanner to another and for downloading firmware from a PC or similar device (e.g., portable handheld terminal).

There is also a scale option. In the scanner/scale configuration the scale is contained within the scanner housing and extends the length of the scanner/scale housing by 2.5 inches (63.5 mm). The scanner/scale housing has a below counter depth of 3.54 inches (90 mm).

A dual or single cable interface configuration is available. The single cable configuration uses the RS232 port to transmit scanner and scale data to the terminal. In the dual cable configuration the scanner transmits data from the RS232 port and the handheld (HHS/SCL) port is used to transmit scale data. In the dual cable configuration the handheld (HHS/SCL) port is not available for a handheld device.

Without the scale, the short version scanner (scanner only) housing is shorter by 2.5 inches (63.5 mm). In the Scanner only configuration the depth below the counter remains the same as the scanner/scale configuration.

The scanner internal electronic hardware consists of the main PCB (with digital signal processing (DSP technology) with a Real Time Clock), one VLD, one pre-amp, and a polygon motor. The main PCB and the VLD can be replaced without opening the optic cavity.

1.3 PHYSICAL & ENVIRONMENTAL CONSIDERATIONS

1.3.1 PHYSICAL

There are two versions of the Model 9950. The long version can accommodate a scale and the short version is the scanner only.

FTXS 9950 Scanner/Scale Version	DIMENSIONS	
Height		
Above checkstand	147.0 mm	5.8 inches
Below checkstand	90.0 mm	3.5 inches
Width	292.0 mm	11.5 inches
Depth	499.3 mm	19.7 inches
Weight	10.0 kg	22.0 pounds
Checkstand cutout (Refer To 4-3 of Reference Manual A6KD02152-B001)		
FTXS 9950 Scanner Only Version		
Height		
Above checkstand	147.0 mm	5.8 inches
Below checkstand	90.0 mm	3.5 inches
Width	292.0 mm	11.5 inches
Depth	435.8 mm	17.2 inches
Weight	7.0 kg	15.4 pounds
Checkstand cutout (Refer To 4-4 of Reference Manual A6KD02152-B001)		
External Power Supply		
Height	25.0 mm	1.0 inches
Width	64.0 mm	2.5 inches
Depth	106.0 mm	4.2 inches
Weight, without mains cable	0.2 kg	0.5 pounds
AC mains cable	3.0 m	10.0 feet
DC cable Length (attached)	1.3 m	4.2 feet
Optional Scale Display		
Height, with pole	272.0 mm	10.70 inches
Display Head		
Hight	70.0 mm	2.75 inches
Width	137.0 mm	5.38 inches
Depth	38.0 mm	1.50 inches
Display Base		
Width	41.0 mm	1.63 inches
Depth	114.0 mm	4.50 inches
Weight, with cable	1.0 kg	2.28 lbs
Cable Length	3.0 m	10.0 feet

1.3.2 ENVIRONMENTAL

Shock	
Scanner/Scale	
Operating	3.0 G's X 5 times maximum
Packaged	15.O G's X 5 times maximum
Acoustic Noise	50 db or less 1 meter (3.3 feet) from scanner
Ambient Light	5000 lux or less
ESD	Direct Contact:4kV Indirect Contact: 4kV Direct air: 8kV
Lighting Surge Resistance	2.0 kV maximum
Radiated electromagnetic field	Freq. Range: 80Mhz-1000 Mhz Field Strength: 6 V/m, 1Khz 80% AM, H/V
AC Noise Resistance	1.2 kV maximum (0.1 to 1.0 µs)

1.3.3 TEMPERATURE & HUMIDITY

Operating		
Temperature		
Max. rate of change	0° to 40° C	32° to 104° F
Humidity		
Max. rate of change	20% to 80%	No Condensation

Storage		
Temperature		
Max. rate of change	-20° to 60° C	-4° to 140° F
Humidity		
Max. rate of change	10% to 95%	No Condensation

1.3.4 POWER USB

Utilizing the terminal 12VDC powered port

Input Voltage		+12VDC ± 10%
Load Current		Peak 1.2A
		Operational 0.8A
		Sleep Mode 0.55A

1.3.5 External POWER

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

Input Voltage	100 VAC to 240 VAC (Single Phase)
Input Voltage Fluctuation Range	90 VAC to 264 VAC
Output Voltage	12VDC 2 amps
Input Frequency Range	47 Hz to 63 Hz
Power Consumption	12W during operation at 100 VAC 8 W during sleep mode at 100 VAC
Leakage current	0.50 mA @ 100 VAC 0.75 mA @ 240 VAC
Dielectric Strength	1,500 VAC
Inrush Current	30 A Maximum (O-P) @ 100 VAC

1.3.6 Scale POWER

Scale Power Requirements	12 VDC at 100 ma (maximum) Supplied by the scanner

1.3.7 Regulatory

EMI	FCC Part 15 Class A EN55022 1998 Class B VCCI Class A
Electrical and Structural Safety Standards	Conforms to the UL/cUL UL 60950 3rd Edition CSA C22.2 No.60950
Laser Safety Standard	CDRH Class IIa IEC 60825-1 Class 1 EN60825-1:1994+A2:2001:A1:2002 Class 1
Scale Requirements **Weights and Measures Certificates are for RS232 Interface only**	NIST Handbook 44 U.S. Certificate #00-037A2 Canada W&M Canada Certificate #AM5373 Rev, 1

1.4 RODUCT PERFORMANCE

Scanner	
Scan Lines	
Horizontal	32 lines 8 directions 4 lines, 2,667 lines/second
Vertical	24 lines 6 directions 4 lines, 2,000 lines/second

Laser		
Light Source	Visible Laser Diode (VLD) Wave length = 650 nm	
Output Energy	Conforms to CDRH Class IIa and IEC Class 1	
Polygon Motor		
Speed	5000 RPM plus/minus 10%	
Mirrors	4 Sided rotating	
Depth Of Field Reading		
UPC/EAN/JAN	Vertical	Horizontal
Mag: 1.0, PCS:0.8	0-240 mm	0-125 mm
Mag: 0.8, PCS:0.8	0-200 mm	0-100 mm
RSS-14/RSS Expanded		
6.7 mil (=0.516 mag.)	0- 50 mm	0-12.5 mm
8.4 mil (=0.646 mag.)	0- 75 mm	0-25.0 mm
10.0mil (=0.770 mag.)	0-100 mm	0-50.0 mm
Scanning Specifications		
Label Magnification UPC/EAN/JAN RSS-14/RSS Expanded Other 2ND Code	 0.50 (50%) to 2.0 (200%) 0.615 (8mil) to 1.00 (13mil) 0.80 (80%) to 2.00 (200%)	
Barcode Print Contrast UPC/EAN/JAN RSS-14/RSS Expanded Other 2ND Code	PCS(Print contrast signal) 0.4 to 1.0 0.8 to 1.0 0.8 to 1.0	
Minimum Bar width UPC/EAN/JAN RSS-14/RSS Expanded Other 2ND Code	 0.132mm (=0.4 magnification) 0.170mm (=6.7 mil) 0.165mm (=0.5 magnification)	
Barcode Truncation UPC/EAN/JAN RSS-14 RSS Expanded Other 2ND Code	Minimum Height 5mm(about 0.20 truncation) 14.0 mm (8mil & 10mil size labels) 20.9 mm (13mil) 5mm, Max width: 30mm	
Scan Speed Per Second		
UPC/EAN/JAN	2.5 meters per second (8.2 feet per second) Mag. 100% PCS 80%	
RSS14	1.25 meters per second (4.1 feet per second 8 to 13 mil label	
Label Orientation Mag 100% PCS 80%	Roll: (0° to 360°)	
	Yaw: (0° to 360°)	
	Pitch: (0° to 90°) 0: facing the horizontal 90 facing the vertical	

Readable Barcode Symbols	1) UPC-A/E, EAN-8/13, JAN-8/13 with and without P2/P5 add-ons 2) Code 39 3) Code 128 4) Codabar/NW7 5) Interleaved 2 of 5 6) RSS-14/RSS Expanded 7) UPC-A with UCC/EAN-128 coupon 8) EAN-13 with UCC/EAN-128 coupon 9) GTIN format for UPC and EAN barcodes
Vendor Coupon Expiration Date Validation	Detects the expiration date and issues an alert for coupons (UPC plus Code128 and UCC/EAN plus code128) Programmable
Auto-Discrimination	6 types of the above symbols from 1 through 6 (Default: UPC/EAN/JAN with out add on)
Scale	
Power Requirements	12 VDC at 100 ma (maximum) Supplied by the scanner
Max. Capacity	30 pounds/15kg capacity
Scale Display	Pound (lb) = 0.01 Kilogram (kg) = 0.005
Settle Time	0.5 sec (0-5 lb) 0.6 sec (05-30 lb)
Zero Scale	A scale zero button is located on the scanner and on the remote display. The scale can also be zeroed by sending a command from the POS application
Non Zero Timeout	Settings of 30, 90, or 300 seconds. Default = Disabled (programmable)
Zero Cursor (Optional Remote Display Only)	This option can be enabled or disabled. Default = enabled (programmable)
Scale Data Beep	When weigh data is processed a beep will occur. Default = Disabled (Programmable)
Data Not Valid	Under zero, over capacity, out of zero capture range, non zero timeout
Power Up Zero Capture	If weight is + or – 10% of center of zero
Remote Weight Display	(Optional) Features a 6 digit display with a zero capture button.
Regulatory Standards	NIST Handbook 44, Canadian W&M. OIML R76 (EN45501) Australian W&M
Warm Up Time	Minimum of 30 minutes
Note: Warm up is required before calibration or Weights & Measures sealing	

1.4.1 RELIABILITY

Top Level Assemblies	
Description:	Failure Rate
Scanner With PSU	30,000 hours
Scale	15,938 hours

Lower Level Assemblies Scanner	
Description:	MTBF
RS232 System PCB	200,000 hours
IBM System PCB	200,000 hours
Power Supply Unit	150,000 hours
Laser Diode Assembly	80,000 hours
Pre-Amp	900,000 hours
Polygon Motor Assembly	150,000 hours
LED Assembly	3,000,000 hours
Speaker Assembly	3,000,000 hours

Lower Level Assemblies Scale	
Description:	MTBF
Main PCB	34,000 hours
Load Cell	30,000 hours

1.4.2 LIFE EXPECTANCY

The design life expectancy for the Model 9950 is 6 years.

2.0 RESOURCES

This section estimates the needs for the CS, Logistics, and other resources required to support the Model 9950 Scanner.

Spares	Fujitsu
Repair Facility US	Frisco Logistic Center

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.

Consultant/Project Manager:
A good working knowledge of scanner protocol, computers, MS-DOS, OS/2, Windows, and specific application experience is assumed.

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. A good working knowledge of RS232 Serial Diagnostics, Confidence Level Diagnostics (CLD) and commercial off-the-shelf PC diagnostics is assumed.

2.2 TRAINING

CS training is under the discretion of each specific business unit. FTXS Sustaining Engineering will provide 'train the trainer' operations. The schedule and funding for the Model 9950 will be established on an individual case-by-case basis. All requests for training by FTXS should be forwarded to the Product Quality Mailbox (reference the cover page).

FTXS 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 products. The Model 9950 should be included in any future standard training provided to FTXS CS personnel.

2.3 TECHNICAL PUBLICATIONS

Description	Fujitsu P/N.	FTXS P/N	PIN Number
Programming Manual	N/A	90000788	90000788
Reference Manual	A6KD02152-B001	D900000083	N/A
Users Guide	C150-E218-01EN	N/A	N/A

2.4 SPARES

It is assumed that Dealers, VARS, and Managed Services will spare the Model 9950 at the ORU level. Some organizations (or customers), however, may choose to spare the Model 9950 at a major assembly level with the ORU repair performed at a central repair center or depot. The spare parts listing take both of these methods into consideration.

Spares will be stocked at the North America Logistics Center (Frisco, Texas).

The typical spares lead times from the supplier is 30 to 90 days.

2.4.1 SPARES LIST

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

DESCRIPTION	FTXS P/N	PIN	North America Logistics P/N	FUJITSU OR OEM P/N.	COMMENTS
Scanner					
Powered USB/IBM With RS485 Interface	90000768	90000768		KD02152-B064	
Powered Retail USB With RS232 Interface	90000978	90000978		KD02152-B063	
Scanner with RS232 I/F & PSU	90000752	90000752	N/A	KD02152-B061	Replaced by 90000978
PSU, 110/240V	80602234	N/A		CA01007-0540	Spared at Supplypoint
RS232 System PCA	N/A	N/A	N/A	KD02152-E061	Spared at Supplypoint
IBM/USB W/RS485 Interface System PCA	N/A	N/A	N/A	KD02152-E064	Spared at Supplypoint
Retail USB W/RS232 Interface System PCA	N/A	N/A	N/A	KD02152-E063	Spared at Supplypoint
Pre-Amp PCA	N/A	N/A	N/A	KD02152-E630	Spared at Supplypoint
USB Pre-Amp PCA	N/A	N/A	N/A	KD02152-E631	Spared at Supplypoint
Polygon/Motor Assembly	N/A	N/A	USA0208756	CA05333-E600	Spared at Supplypoint
VLD Assembly	N/A	N/A	N/A	KD02152-E500	Spared at Supplypoint
LED Assembly	N/A	N/A	USA0208758	CA05333-E642	Spared at Supplypoint
Speaker Assembly	N/A	N/A	USA0208759	CA05951-F685	Spared at Supplypoint
Side Window Bezel	N/A	N/A	USA0208760	CA05333-0221	Spared at Supplypoint
Side Window Glass	N/A	N/A	USA0208761	CA05333-0802	Spared at Supplypoint
Optical Unit	N/A	N/A	N/A	KD02152-D400	Spared at Supplypoint
Panel Film	N/A	N/A	USA0208763	CA05333-0231	Spared at Supplypoint
Panel Film Spacer (scale zero button spacer)	N/A	N/A	N/A	CA05333-0235	Spared at Supplypoint
Panel Film Spacer } Both spacers are used for the Reset button	N/A	N/A	N/A	CA05333-0236	Spared at Supplypoint
Panel Film Spacer } Both spacers are used for the Reset button	N/A	N/A	N/A	CA04141-0216	Spared at Supplypoint
Top Cover Assembly (Includes LED/Speaker assembly, Debris Rail, and Panel Film)	N/A	N/A	N/A	KD02152-E210	Spared at Supplypoint
Top Cover (Includes Debris Rail and Panel Film, No LED/Spk Assy)	N/A	N/A	N/A	KD02152-F211	Spared at Supplypoint
Top Cover Only (No debris rail ,panel film, or LED/Spk Assy)	N/A	N/A	N/A	CA05333-0211	Spared at Supplypoint
Metal Case Assembly	N/A	N/A	N/A	CA05333-E300	Spared at Supplypoint
PCA Cover	N/A	N/A	N/A	CA05333-0310	Spared at Supplypoint
Debris Rail	N/A	N/A	N/A	CA05333-0215	Spared at Supplypoint
Scale					
Scale Module (8219) North America	80602373	PB600577		8219-9900-900	Spared at Supplypoint
PCB 8219	N/A	N/A	N/A	15626600A	
Load cell 45kg 8219	N/A	N/A	N/A	15736100A	
Harness PCB 8219	N/A	N/A	N/A	15668400A	
Scale Firmware (Not Downloadable)	90000208	N/A	N/A	15855600A	Spared at Supplypoint
Platter (Scanner Scale Version)	90000002	PB600592	19460	19460	Spared at Supplypoint
Platter (Scanner Only Version)	90000023	PB600593	19468	19468	Spared at Supplypoint
Scale Mounting Bracket Kit	N/A	N/A	N/A	09010478000	
Scale Display, lb, with pole, NAD	80212340	52412/001	N/A	0264-1001-100	Spared at Supplypoint
Scale Display, kg, with pole, NAD)	80212341	52412/002	N/A	0264-1001-110	Spared at Supplypoint
W&M Label for CRT/Display 29.99lb	80328167	PB600029	N/A		Spared at Supplypoint
W&M Label for CRT/Display 30.00lb	80328103	PB600558	N/A		Spared at Supplypoint
Documentation					
Reference Manual	N/A	N/A	N/A	C150-E222-02EN	
Programming Manual	90000788	90000788	N/A	N/A	
Users Guide	N/A	N/A	N/A	C150-E218-01EN	Supplied W/Scanner

DESCRIPTION	FTXS P/N	PIN	North America Logistics P/N	FUJITSU OR OEM P/N.	COMMENTS
Cables					
Powered USB Cable	90000979	90000979		KD02902-1441	Spared at Supplypoint
RS232 Scanner Cable	80203983	52413/001		N/A	Spared at Supplypoint
RS232 Scale Cable (For Dual Cable Configuration)	90000070	90000070		CA05951-2590;	Spared at Supplypoint
IBM Port 9B (Not currently released for the 9950)	80303036	52240/001		N/A	Spared at Supplypoint
EAS External Speaker Cable (Good Read)	90000071	90000071		CA05950-0223	Spared at Supplypoint
EAS Antenna Cable	90000072	90000072		CA05950-0192	Spared at Supplypoint
Programming (Cloning) Cable	80316790	PB000057			Spared at Supplypoint
Mains Cable, Straight, USA/Canada	90000255	90000255		K0103HB1250WX-U	Spared at Supplypoint
Handheld Port Compatible Scanner					
SS12OO (H/H Scanner RS232 I/F)	80316309	PB600064		CA02792-B001	
Or OEM RS232 Compatible Handheld Scanners	N/A	N/A	N/A	N/A	
Scanner Firmware					
IBM/USB I/F Firmware version	N/A	N/A	N/A	TBD	
RS232 Firmware version	N/A	N/A	N/A	TBD	

NOTE: The scanner firmware can be downloaded into a scanner from a PC or from another scanner using a RS232 program cable (P/N 80316790)(PIN Number PB000057). See Section 2.6.5 for details. The firmware files are available on the FTXS Internet FTP site ftp://ftp.ftxs.fujitsu.com/pos/possustaining/Retail/Scanners/

Scale Consumable Spares Hardware

Description	Qty	Size
Leveling Screws Cap Hex Head (self locking)	4	¼-20 NC 5/8″ Long
Mounting Screws Tri-Lobe	2	M4X6 0.7 SEMS
Mounting Screws Tri-Lobe	4	M4X10 0.7 SEMS

NOTE: The consumable hardware required for installation comes with each new scale. For sparing purposes additional hardware can be purchase from an outside source.

2.4.2 CONSUMABLE PARTS

There are no user consumable parts.

2.5 REPAIRS

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

Prior to shipping failed units to repair center, Logistic and CS organizations should utilize their own services for testing units that are returned from the field. History has shown that not all units being returned from the field are actually faulty.
Logistics organizations may elect to have a lower level of repair service performed by their service center technicians, if parts and resources permit. However, this would be a local decision.

A Torx screwdriver tool is required for the screws that mount the scale to the scanner housing. The Torx screwdriver can be purchased from McMaster Carr, located on the Internet at www.mcmaster.com.

Many manufactures offer the Torx Screwdriver tool and they can be purchased at local hardware stores. Following are some examples of manufactures.

Manufacturer	Description	Size
McMaster Carr	Torx Driver	T20
Craftsman	Torx Driver	T20
Master Mechanic	Torx Driver	T20

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 to the Model 9950, or perform any software reloading to return the unit to full customer functionality.

ORU	TIME
Scanner	10 min
Scanner Main PCB	6 min
VLD	5 min
External Power Supply	2 min
Side Window Bezel	2 min
Side Window Glass	2 min

ORU	TIME
Scale	10 min
Scale PCB	5 min
Ribbon Cable	13 min
Remote Display	2 min

Based upon these times, and adjusted by the probability of a specific component failing, the MTTR for the complete unit is <12 minutes.

2.6 SERVICE AIDS, & DIAGNOSTICS

There are three levels of diagnostics available. In addition, there are several off-the-shelf software packages (Norton Utilities, QAPLUS, Procomm, Comshow, etc.) that are locally available for generic PC and peripheral diagnostics.

2.6.1 DIAGNOSTICS

Power Up Diagnostics	An automatic diagnostic facility executed during the power up process. Tests all critical components or the Model 9950 Scanner.
Confidence Level Diagnostics (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 (90000788). 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 (Both)	Scan zone test. When a barcode 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.
	Proximity Detector	Each time something is passed between the proximity detector and the light source the green LED will come on.
	Laser End Of Life	The life of the laser diode can be monitored by setting the Laser Output Power. Use program label 70005C in section 1 of the program manual (90000788). After the LOP has been set program the scanner for the near end of life and operator alert status using labels in section 1 of the program manual. Note: See error messages for failure indication.

2.6.2 CLONING PARAMETERS AND FIRMWARE

Clone Programmed Parameters		During an installation or unit replacement, the program parameters of a scanner can be cloned from the source scanner to the target scanner. (The Enter The Clone Programming Mode label is in Appendix "A".
	1	The firmware must be at the same revision level in both scanners. Both scanners must be Model 9950.
	2	On the source scanner apply power and program. If the source scanner has been previously programmed disregard this step.
	3	On the target scanner apply power and restore all defaults
	4	Connect the Programming/Cloning cable (P/N 80316790 PIN No PB000057) between the handheld (HHS/SCL) ports on the source and target scanners (a warble tone may occur when the cable is connected). Use one of the following cloning procedures to transfer the programmed functions.
Scanner/Scale Conf.(	5	
Dual Cable Scanner/Scale	5A	Scan the Enter Clone Programming Mode Label (43300C) on the source scanner.
Source Scanner	1	Low tone yellow LED on then off
Target Scanner	2	Yellow LED on, then off, low tone, green LED on solid
Source Scanner	3	Warble tone, green LED flashing
Single Cable Scanner/Scale	5B	Scan the Enter Clone Programming Mode Label (43300C) on the source scanner.
Source Scanner	1	Low tone yellow LED on then off
Target Scanner	2	Yellow LED on, then off, low tone, green LED on solid
Source Scanner	3	Green LED on solid
Scanner Only	5C	Scan the Enter Clone Programming Mode Label (43300C) on the source scanner.
Source Scanner	1	Low tone yellow LED on then off
Target Scanner	2	Yellow LED on, then off, low tone, green LED on solid
Source Scanner	3	Green LED on solid
	6	Test the target scanner to ensure programmed parameters have been transferred.

Clone Firmware (Scanner) Both scanners must be Model 9950.		The firmware can be cloned (downloaded) from a source scanner to a target scanner. In order to transfer firmware from the source scanner to the target scanner the HHS/SCL ports must be configured as a handheld port. For example, the scanner must be programmed for the scanner/scale single cable configuration or for all defaults (Scanner Only). Downloading firmware will not change programmed features in the target scanner. The programmed features are stored in the EEPROM. (The Enter The Firmware Cloning Mode programming label is in Appendix "A".
	1	Connect the Programming/Cloning cable (P/N 80316790 PIN No PB000057) from the handheld (HHS/SCL) port of the source scanner to the handheld (HHS/SCL) port of the target scanner.
	2	Power on the target scanner and wait for a beep, power on the source scanner and after it beeps a warble should occur. This indicates the ports are communicating.
	3	On the source scanner, Scan the Clone Firmware label (70009C). The source scanner will beep a low tone and the yellow and green LED's will come on solid and blink during the download. The target scanner's green LED will come on solid and the yellow LED will blink during the download.
	4	When complete the source scanners green and yellow LED's will come on solid and the target scanner will emit a good beep. The target scanner's LED's will go out.
	5	Reset power on both scanners

2.6.3 REAL TIMECLOCK SETTINGS

The Model 9950 has a clock chip on the Main-PCB. The time is initially set for the Pacific Time Zone at the factory. However, it can be reset with a PC using the number 2 option in firmware download program SY2_DL2x.exe (See Firmware Download paragraph 2.6.5). In addition the time can be changed using the RTC programming labels found in Section 7 of Program Manual 90000788. A remote weight display is required when using program labels to change the RTC.

The Real Time Clock is used to validate coupon expiration dates. Alarms can be enabled that sound when a coupon is scanned that has an expired date. Consequently ensuring an accurate RTC date and time is critical to store operations.

Real Time Clock Programming Sequence

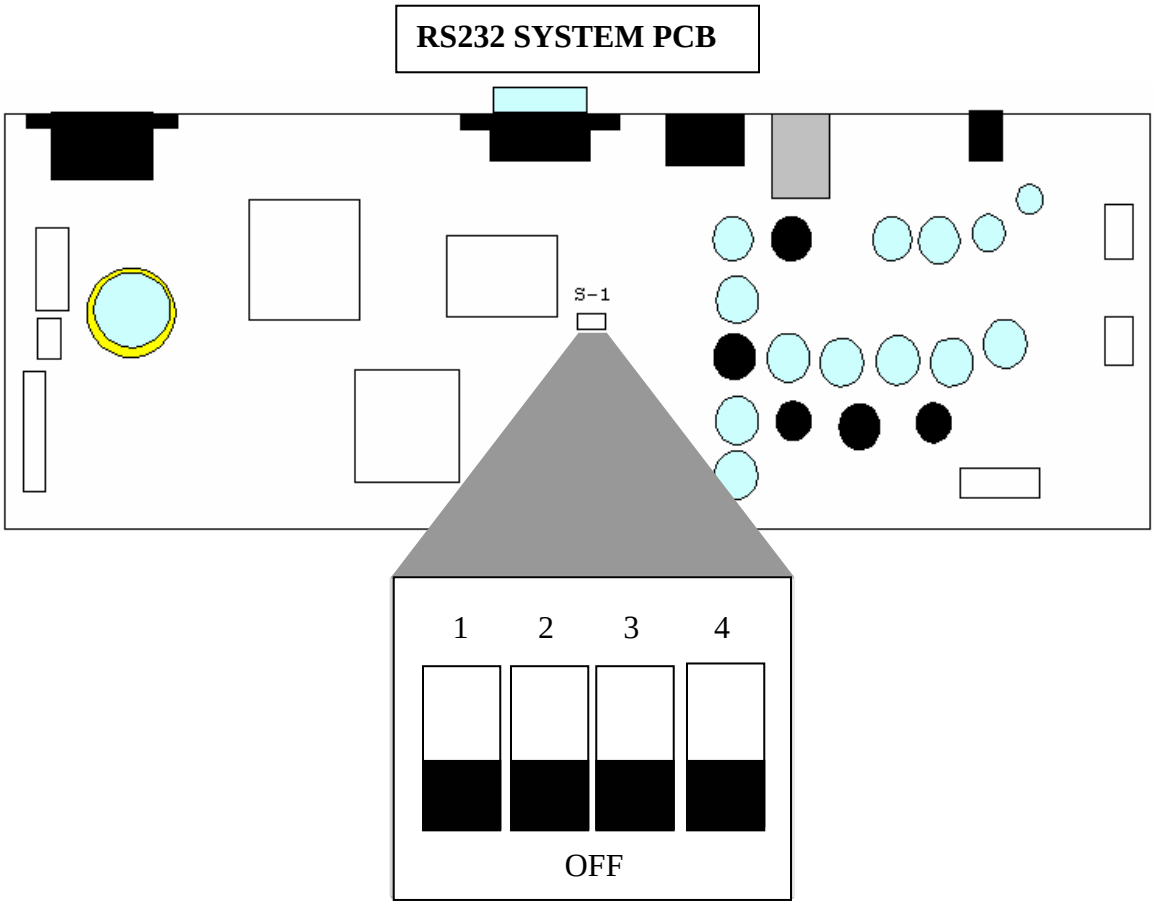
Scan Program Labels		Label	Results
1	Enter The Programming Mode	00045C	Starts programming sequence
2	Display Time On Remote Display	70006C	Date is displayed
3	Program Change MM-DD-YY		Programming Manual 90000788 Section 7
4	Press And Hold The Remote Weight Display zero Button For 5 Seconds		Changes the content of the remote weight displayed to time or date
5	Program Time Days Hours Minutes		Programming Manual 90000788 Section 7
6	Exit Save And Reset	13058C	Stores changes in RTC chip

2.6.4 ERROR CODES

ERROR MESSAGES		
No	DESCRIPTION	LED's
1	Motor Fail	Y&G YYYYYG
2	Laser Fail 1	Y&G YYYGYG
3	ROM Error (Core or main PCB)	Y&G YGYYYY
4	ROM error (POS Interface)	Y&G YGGYYY
5	EEPROM error (Core or Main PCB)	Y&G YGYGYY
6	EXT RAM error (Core or Main PCB)	Y&G YGYYGY
7	INT RAM error (Core or Main PCB)	Y&G YGYYYG
8	Loop back error (POS Interface)	Y&G YGYGGY
9	Loop back error (HHS Interface)	Y&G YGYGGG
10	Loop back Test Success	Y&G GGGGGG
11	Scale ROM error	Y&G YYY
12	Scale RAM error	Y&G YYY
13	Scale Calibration Required	Y&G YGY
14	Date incorrect or Not set	Y&G GYG
15	DSP load alarm	Y&G YGGYYY
16	DSP CLK alarm	Y&G YGGYYG
17	Battery Alarm	Y&G YGGYGY
18	Laser Diode near End alarm 1	Green Flashes Every 5 Sec.
19	Laser Diode near End alarm 2	Green Flashes Every 3 Sec.
The near end of life alarm is a warning that the laser power has diminished. Eventually the laser diode will fault off following near end of life alarm 2. To reset the near end alarm and resume scanning, press the Reset Button or scan an item. The near end alarm will continue to be reissued following a power reset or a motor timeout condition.		

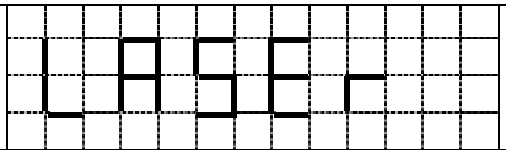
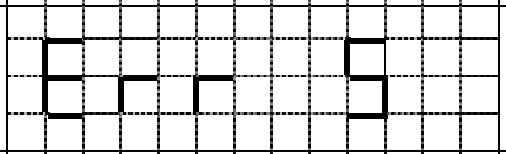
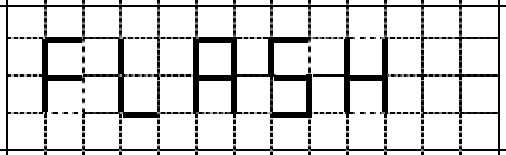
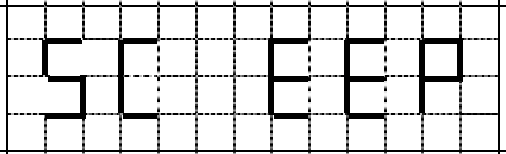
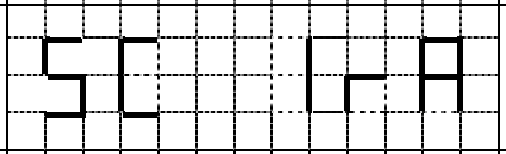
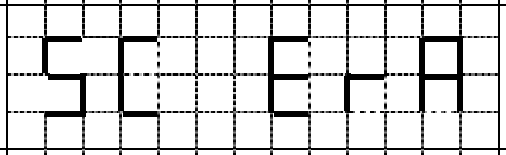
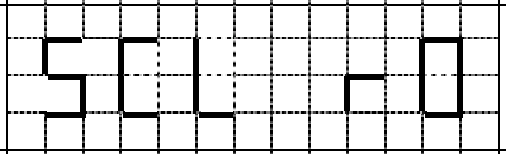
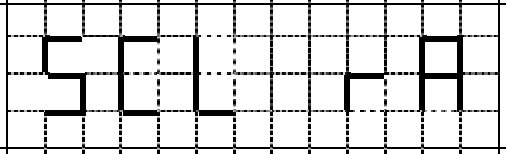
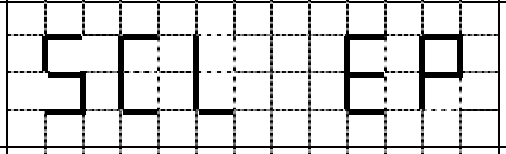
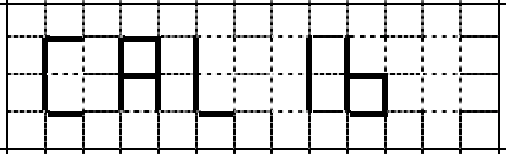
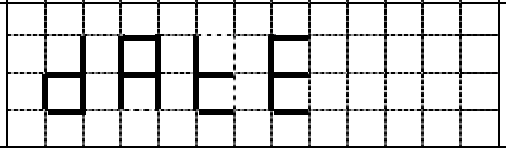
NOTE 1: If an EEPROM error occurs perform the following procedure.

Switch pack 1 is located near the center of the System PCB. It is a small 4-bank switch. (See illustration below for location of S-1)					
1.	With the power off Set Switch 1 on	1	2	3	4
		ON	OFF	OFF	OFF
2.	Apply power to the scanner the green LED will come on				
3.	Remove power from the scanner				
4.	Set Switch 1 to Off. (Ensure that switches 1 through 4 are off)				
5.	Power up the scanner the laser will come on the scanner will beep.				

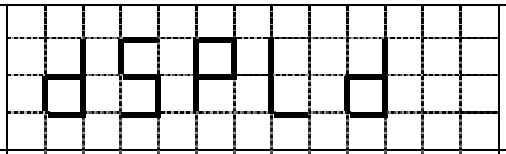
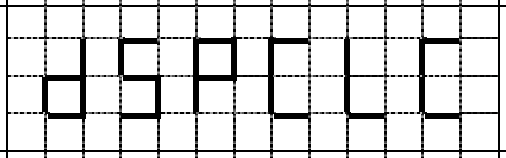
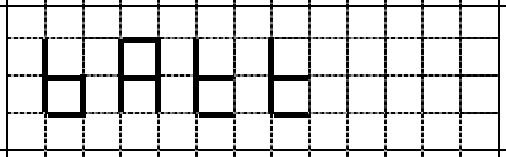
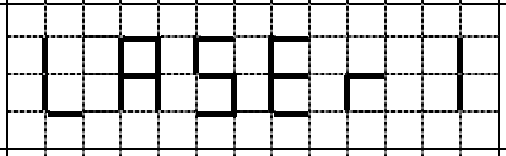
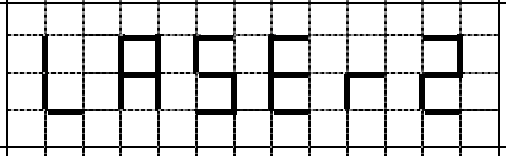


SWITCH 1

ERROR CONDITIONS DISPLAYED ON THE REMOTE SCALE DISPLAY

1	Laser Alarm		
2	Motor Alarm		
3	Scanner ROM Alarm		
4	Scanner EEPROM Alarm		
5	Scanner Internal RAM Alarm		
6	Scanner External RAM Alarm		
7	Scale ROM Alarm		
8	Scale RAM Alarm		
9	Scale EEPROM Alarm		
10	Scale Calibration Required		
11	Data Incorrect Not set		

ERROR CONDITIONS DISPLAYED ON THE REMOTE SCALE DISPLAY (Continued)

12	DSP Load Alarm		
13	DSP Clock Alarm		
14	Battery Alarm		
15	LD Near End 1 Alarm		
16	LD Near End 2 Alarm		
17			

2.6.5 SCANNER FIRMWARE DOWNLOAD

Firmware can be downloaded from a PC using firmware download software SY2_D12x.exe Version 6.0 (May 1, 2003) Copyright © 2003 Fujitsu Ltd. Note: Firmware Download (SY2_D12x.exe) requires a RS232 program cable (P/N 80316790) (PIN Number PB000057). If a programming cable is not available a null modem cable can be used. The pin assignments for the programming cable are listed in Appendix “B”

Firmware files and download software are available on the FTXS FTP site (ftp://ftp.ftxs.fujitsu.com/pos/possustaining/Retail/Scanners/). The firmware download takes about 2 to 3 minutes.

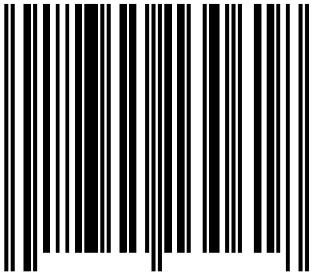
Prerequisites for performing the firmware download:

1. The 9950 must be programmed for one of the following configurations prior to loading firmware, Powered USB, Single Cable, or Scanner only
2. Restoring All Defaults configures the 9950 for the Scanner Only Configuration.
3. NCR 78XX emulation using programming label 68302C configures the scanner scale for the single cable configuration.
4. Powered USB programming is in paragraphs 4.2 and 4.3
5. If the scanner scale has previously been programmed for the single cable or Powered USB configuration there is no need to reprogram the scanner.

Programming For All Defaults (Scanner Only Configuration):

1. Enter The Programming Mode
2. Restore All Defaults
3. Exit Save and Reset

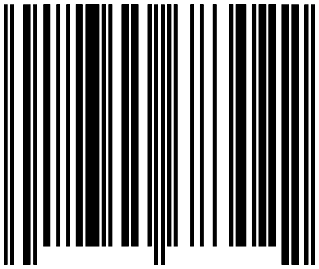
Restore All Defaults
13061C



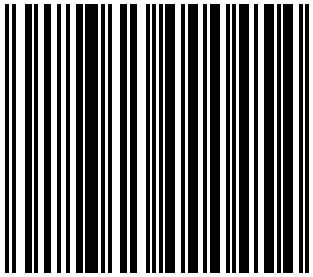
Programming For The Single Cable Configuration:

4. Enter The Programming Mode
5. Restore All Defaults
6. 78XX Emulation RS232 Scanner Scale Single Cable Configuration
7. Exit Save and Reset

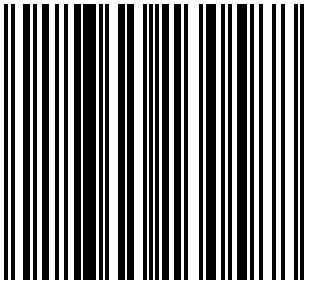
78XX Emulation RS232 Scanner Scale
Single Cable Configuration
68302C



Enter The Programming Mode
00045C



Exit, Save And Reset
13058C



Download Firmware:

1. Connect the Programming cable or null modem cable to P/C COM port 1 and to the (HHS/SCL) port of the 9950 scanner.
2. Power on the 9950 scanner.
3. Execute the download program (SY2_D12x.exe) from one of the following operating systems Windows 95, Windows 98, or Windows 2000. Below is the first menu screen.
4. Enter the firmware download pressing "1" enter or make another menu selection.

```
DOWNLOAD FIRMWARE:
       1. For Menu Selection Download Firmware, Press"1"-Enter
       2. The scanner will warble 2 times
       3. Enter the firmware file name (use lower case)
       4. The firmware download starts
       5. When the firmware download completes a good beep will occur
          followed by a warble.
NOTE:
Symphony 1=9900 Scanner (The 9900 cannot be downloaded with this program)
Symphony 2=9950 scanner
 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]

    Menu    1:  Program Download    2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision   5:   Serial Number  6:   End
    Input Menu Number ==>1

Please input the File Name  (Example)  =>a:\nir02_10.bin

                              |0%    |        |50%    |        |100%
Start DownLoad.  Please wait ->->->->->->->->->->->->->->->->->->->->->->
```

```
SET THE REAL TIME CLOCK
       1. For Menu Selection Setup RTC, Press "2"-Enter
       2. The scanner will warble 3 times
       3. To auto set the RTC to PC date and time press "Y"
       4. The scanner will warble 2 times and the RTC is set
 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]

    Menu    1:  Program Download    2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision   5:   Serial Number  6:   End
    Input Menu Number ==>2

Scanner Set Date or Time  (YY/MM/DD hh:mm) : 03/08/01 05:34:36.
PC      Set Date or Time  (YY/MM/DD hh:mm) : 03/08/01 05:35
Auto-Setting For PC set Date or Time ( Y or N ) ==> Y
```

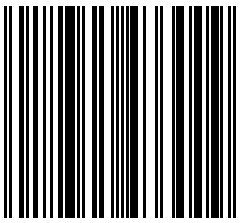
```
READ EEPROM DATA:
```

```
This selection is required only if the programmed contents of the EEPROM
need to be viewed.
       1. For Menu Selection EEPROM Read, Press “3”-Enter
       2. The scanner will warble 4 times
       3. Scan program barcode 43300C (a low tone will occur)
       4. Select “Y” to view EEPROM menu (“N” to exit EEPROM Read)
       5. Make menu selection to view programmed contents of EEPROM
       6. Enter “E” to exit EEPROM viewing.
       7. At completion of EEPROM viewing perform a scanner power reset
       8. Close the download file and execute again to continue.

 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]

    Menu    1:  Program Download   2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision  5:   Serial Number  6:   End
    Input Menu Number ==>3
Please Scan EEPROM Clone Setting Label (012345 43300C).
```

Enter Clone Programming Mode
43300C



```
00-8001. 01-0012. 02-901E. 03-8112. 04-0306. 05-B015. 06-8212. 07-010D.
 08-0000. 09-0000. 0A-0000. 0B-0000. 0C-0000. 0D-0000. 0E-0065. 0F-0000.
 10-FFFF. 11-FFFF. 12-FFFF. 13-FFFF. 14-FFFF. 15-8010. 16-8800. 17-111E.
 18-8400. 19-0102. 1A-8100. 1B-0000. 1C-8004. 1D-C381. 1E-D56E. 1F-0000.
 20-0000. 21-0000. 22-0000. 23-0000. 24-0000. 25-0000. 26-0000. 27-0000.
 28-0000. 29-0000. 2A-0000. 2B-0000. 2C-0000. 2D-0000. 2E-0000. 2F-0000.
 30-0000. 31-0000. 32-0000. 33-0000. 34-0000. 35-0000. 36-0000. 37-0000.
 38-0000. 39-0000. 3A-0000. 3B-004E. 3C-FFB2. 3D-8080. 3E-7F80. 3F-0000.
Lock EEPROM Detail (Y or N).. ==> Y

  ********************  Menu ************************
     1. Reading Barcode   2. RS232C Protocol      3. HHS Protocol
     4. Duty Control      5. Reading Timer        6. Speaker Control
     7. Scale Control     8. WPC Send Format      9. 2nd Code Send Format
    10. Expired Check    11. IBM Port            12. Unit Control
    13. ID Code          14. HHS Receive ID Code 15. Prefix/Suffix Code
    16. Ope-Amp Gain     17. Iop Value
    E. End Menu
Menu No Input.. ==>
```

```
VIEW FIRMWARE REVISION
       1. For Menu Selection Firmware Revision, press “4”-Enter
       2. The scanner will warble 3 times
       3. The firmware revision level in this example is NIR02_10
       4. The Digital Signal Processor DSP0 version is 3.0
       5. The Digital Signal Processor DSP1 version is 7.6


 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]


    Menu    1:  Program Download    2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision   5:   Serial Number  6:   End
    Input Menu Number ==>4

  Firmware Revision: NIR02-10 DSP0-03.0 DSP1-07.6
```

```
SETTING SERIAL NUMBER:
       1. For Menu Selection Serial Number, Press “5”-Enter
       2. The scanner will warble 3 times
       6. If the serial number has not been set or needs changing, enter
          “Y”. If the serial number is set and correct enter “N”
       3. Enter the serial number (enter the numeric digits only, leading
          zeros do not need to be entered, do not enter alpha characters)
          press enter.
       4. The scanner will warble 2 times and the serial number is set.

 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]

    Menu    1:  Program Download    2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision   5:   Serial Number  6:   End
    Input Menu Number ==>5

Setting Serial Number :000000000
Serial Number Re-Input ( Y or N ) ==> y

Please Input Serial Number ==> 8410

Setting Serial Number: 000008410.
```

```
EXIT DOWNLOAD PROGRAM
       1. For Menu Selection End, Press“6”-Enter
       2. Press “Y” or Ctrl-C accept exit
       3. Download program will close

 ***Symphony-1 or 2 Scanner   Sy2_Dl2x.exe Version [6.0 / 2003.05.01]***
    Program Auto DownLoad, RTC Auto Setup, EEPROM Data Read etc Function
    Copyright (C) 2003 FUJITSU FRONTECH Ltd.          [Design M,Watanabe]


    Menu    1:  Program Download    2:   RTC Setup      3:   EEPROM Read
            4:  Firmware Revision   5:   Serial Number  6:   End
    Input Menu Number ==>6

Finished  (Y or Ctrl-C).
“Y”
```

3.0 SERVICE PROFILES

3.1 PREVENTATIVE MAINTENANCE

Beyond general cleaning of the Model 9950, there is no scheduled preventative maintenance required.

General cleaning of the scanner and windows are required on a regular basis and are the responsibility of the end user. The frequency of this cleaning will depend upon the environment. Lack of this cleaning can reduce scanner performance and reliability.

To achieve the FTTR estimates for the Model 9950, clean the scan glass with a non-abrasive solution and a soft cloth. Do not use abrasive solutions.

3.2 CORRECTIVE MAINTENANCE

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

Service/Support organizations should provide support whereby customers can telephone for advice before logging a service request. If telephone assistance is unable to resolve the problem, the local Service/Support organization may send a representative to assist, depending upon the customer’s maintenance agreement.

Service/Support may make on-site repairs to the ORU level recommended by their Service/Logistics management.

3.3 ESCALATION PROCEDURES

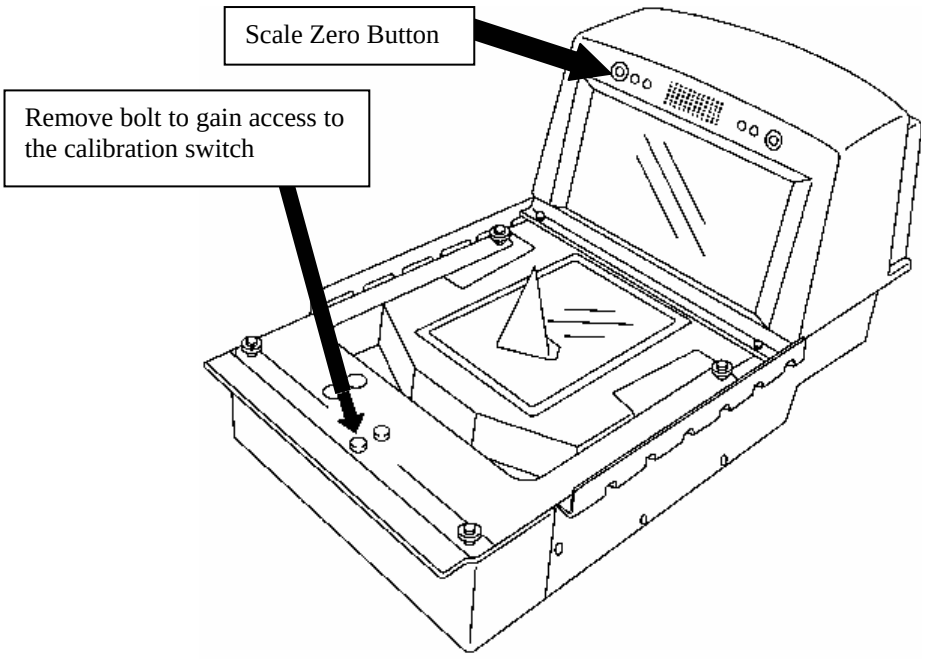
The escalation of product error reports or requests for assistance should take place in the following order:

Customer's Internal Service	First Line Support
Service Organization	First/Second Line Support
Technical Support Organization	Second/Third Line Support
FTXS, Sustaining Engineering	Fourth Line Support

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

4.0 SCANNER/SCALE SETUP AND CALIBRATION

Prior to entering the Setup or calibration mode the scanner/scale must be programmed for the scanner scale configuration. Program the scanner/scale using one of the interface configurations listed in paragraphs 4.1, 4.2, and 4.3.



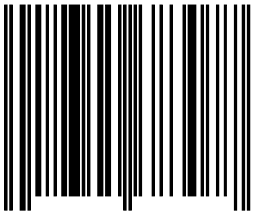
4.1 Scanner/SCALE RS232 INTERFACE PROGRAMMING

Additional single cable programming barcodes are in Appendix “A”.

Programming Sequence For The Dual Cable Configuration:

1. Enter The Programming Mode
2. Restore All Defaults
3. Dual Cable Configuration (RS232 Scanner and Scale)
4. Exit Save and Reset

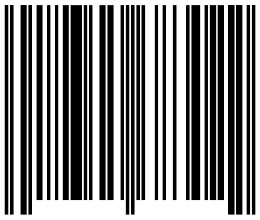
Dual Cable Configuration
(RS232 Scanner and Scale)



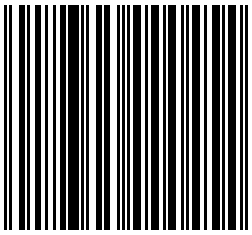
Programming Sequence For The Single Cable Configuration:

5. Enter The Programming Mode
6. Restore All Defaults
7. 78XX Emulation RS232 Scanner Scale Single Cable Configuration
8. Exit Save and Reset

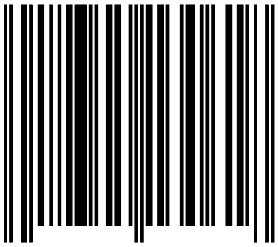
78XX Emulation RS232 Scanner Scale
Single Cable Configuration
68302C



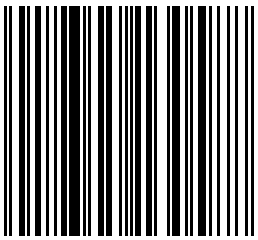
Enter The Programming Mode
00045C



Restore All Defaults
13061C



Exit, Save And Reset
13058C

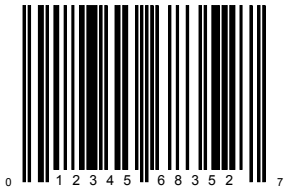


4.2 Scanner/SCALE RETAIL USB INTERFACE PROGRAMMING

Programming Sequence For The Retail USB Configuration:

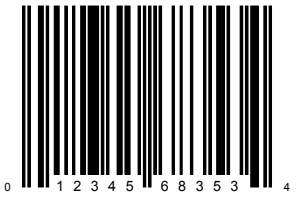
1. Enter The Programming Mode
2. Restore All Defaults
3. Scan The Appropriate Retail USB Interface Programming Label
4. Exit Save and Reset

Retail USB NCR78XX Scanner/Scale Emulation VCOM



Baud Rate	9600
Data Bits	7
Stop Bits	1
Parity	Odd
Enabled	CTS

Retail USB ISS45 Scanner/Scale Emulation VCOM

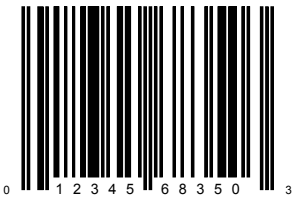


Baud Rate	9600
Data Bits	7
Stop Bits	1
Parity	Even
Enabled	CTS

Retail USB Magellan Scanner/Scale Emulation VCOM

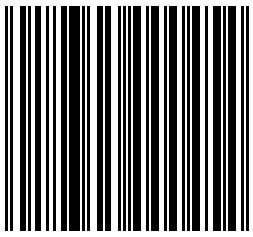
Baud Rate	9600
Data Bits	7
Stop Bits	2
Parity	Even
Enabled	CTS

Retail USB Scanner Only VCOM

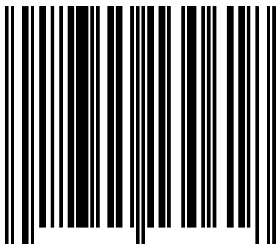


Baud Rate	9600
Data Bits	7
Stop Bits	1
Parity	Even
Enabled	CTS

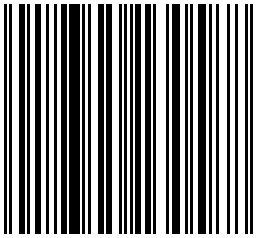
Enter The Programming Mode
00045C



Restore All Defaults
13061C



Exit, Save And Reset
13058C

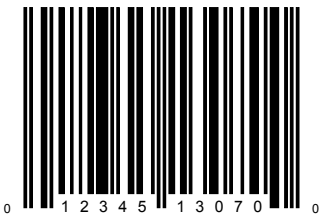


4.3 Scanner/SCALE IBM/USB AND 469X/RS485 INTERFACE PROGRAMMING

Programming For The IBM/USB Interface:

1. Enter The Programming Mode
2. Restore All Defaults
3. Scan Interface Programming Label (Scanner Only or Scanner/Scale)
4. Exit Save and Reset

IBM/USB Interface
Scanner Only

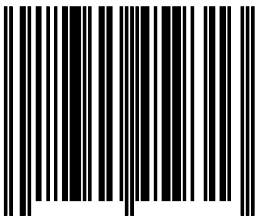


IBM/USB Scanner Scale

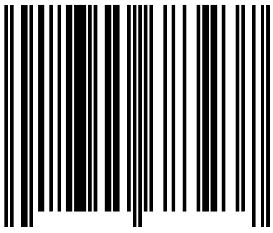
Programming For The IBM/RS485 Interface:

5. Enter The Programming Mode
6. Restore All Defaults
7. Scan IBM Port 9 (469X) Scanner/Scale Single Cable Configuration
8. Scan IBM Scanner/Scale Single Cable Configuration
9. Exit Save and Reset

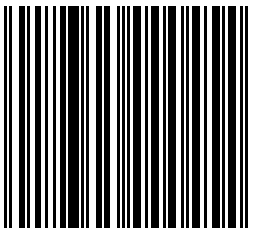
IBM Port 9 (469X) Scanner/Scale
Single Cable Configuration
45931C



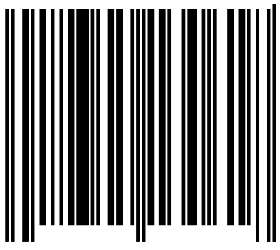
IBM Scanner/Scale
Single Cable Configuration
68323C



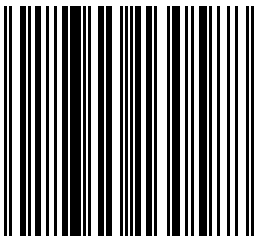
Enter The Programming Mode
00045C



Restore All Defaults
13061C



Exit, Save And Reset
13058C



4.4 SCALE SETUP PROGRAMMING OPTIONS

Scale calibration is required after programming any of these options	
Setup Options	
1. Zero Cursor	The zero cursor can be turned on or off (ON Is The Default)
2. Expanded Mode	Diagnostic mode
3. Normal Mode	Normal operating mode (Default)
4. 30 LB (Default	Weight Options for scale capacity (See paragraph 4.2 for weight setup procedures)
5. 15 KG	
Programming sequence	1. Press and hold the calibration button using a nonconductive tool.
	2. Scan the Setup programming barcode (A low tone will occur)
	3. Release the calibration button
	4. Scan a feature barcode (A good beep will occur). While scanning a feature barcode if a warble tone occurs the feature is currently active.
	5. Scan the Complete barcode (A low tone will occur accepting the sequence). If a warble tone occurs when scanning the Complete barcode the sequence has failed and is aborted.

Scale calibration is not required after programming any of these Options		
Filter Settings		For vibration immunity
	Normal (Default)	
	Medium	
	Heavy	
Non Zero Timeouts		When weight or build up is on the scale that cannot be captured as part of zero, non-zero timeout will occur. Remote Scale Display Indication (- - - - - -)Flashing Pressing the scale zero button returns the scale to zero.
	Disabled (Default)	
	30 Seconds	
	90 Seconds	
	300 Seconds	
Do not press and hold the calibration button in this sequence.		
Programming sequence	1	Scan the Setup programming label (Low Tone)
	2	Scan the setup option (Good Beep)
	3	Scan the Complete programming label (Low Tone)

NOTE: If the Setup fails the speaker will beep, the yellow and green LED's will blink, and "ABORT" will be displayed on the remote Scale display.

4.5 SCALE POUND/KILOGRAM SETUP PROCEDURES

Prior to entering the Set Up mode the scanner must be programmed for the scanner scale configuration using one of the following configurations. RS232 Dual Cable Scanner/Scale, the Single Cable Scanner/Scale, USB/IBM Scanner/Scale, IBM469x Scanner/Scale, or Retail USB Scanner/Scale.

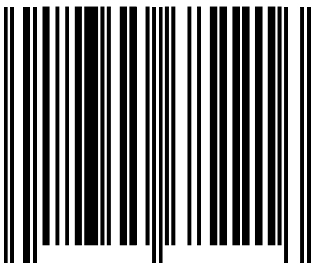
Weights and Measures Standards require the scale to be calibrated following any weight capacity changes or if the Weights and Measures seal has been broken.

4.5.1 SCALE POUND SETUP PROCEDURE

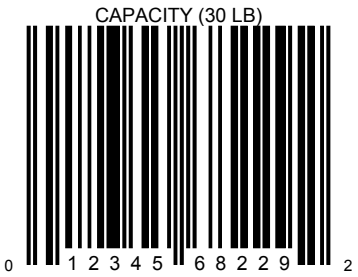
The factory default setting is 30lb.

1. Remove the platter.
2. Remove the bolt covering the calibration button
3. Using a nonconductive tool press and hold the calibration button
4. Scan the Enter Setup Mode Label (A low tone will occur)
5. Release the calibration button

Enter Setup Mode
68221C

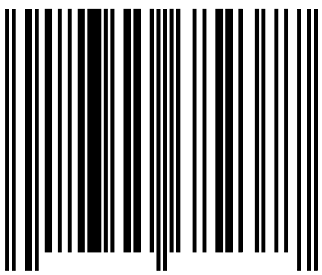


6. Scan the Pounds Setup Label (A good beep will occur)



7. Scan The Complete Label

Complete
68237C



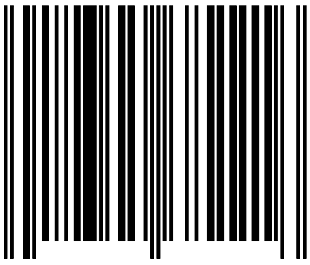
8. The scale must be calibrated following the pounds setup procedure.

4.5.2 SCALE KILOGRAM SETUP PROCEDURE

SET UP THE KG MODE:

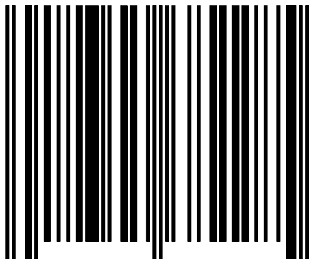
1. Remove the platter
2. Remove the bolt covering the calibration button
3. Using a nonconductive tool press and hold the calibration button
4. Scan the Enter Setup Mode Label (A low tone will occur)
5. Release the calibration bolt

Enter Setup Mode
68221C



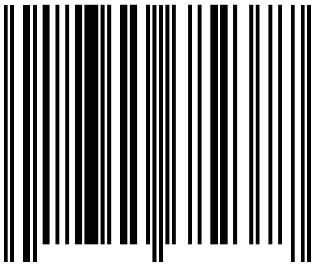
6. Scan the Kilograms Setup Label (A good beep will occur)

Kilograms Setup)



7. Scan The Complete Label (A low tone will occur)

Complete
68237C



8. The scale must be calibrated following the kg setup procedure.

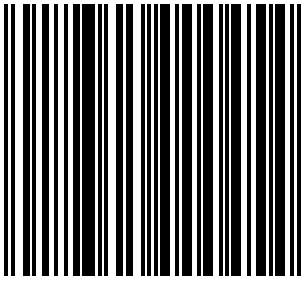
4.5.3 SET THE MAXIMUM WEIGHT FOR 15 KILIGRAMS

The default setting for the NCR78XX Emulation Single Cable Configuration is 10 kilograms.

The default setting for the RS232 Dual Cable Configuration is 15 kilograms.

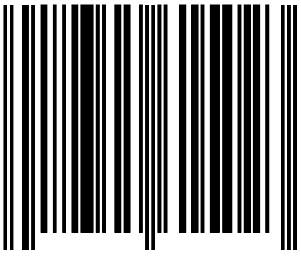
1. Scan Enter The Programming Mode Label

Enter The Programming Mode
00045C



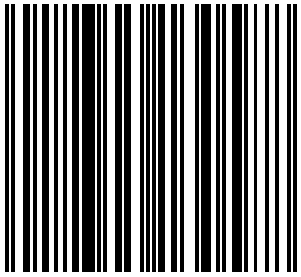
Scan The 15kg Mode Single Cable Configuration (ISS45) Label

15kg Mode Single Cable Configuration (ISS45)
61502C



2. Scan The Exit Save And Reset Label

Exit, Save And Reset
13058C

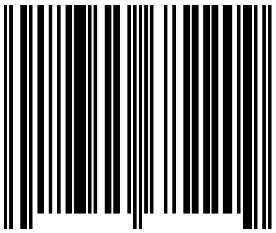


4.6 SCALE CALIBRATION PROCEDURE

Prior to entering the Calibrate Mode the scanner must be programmed for the scanner scale configuration using one of the following configurations. Dual Cable Configuration RS232 Scanner/Scale or the Single Cable Configuration. See paragraph 4.1 for programming sequence and programming barcodes.

1. Remove the platter.
2. Remove the bolt covering the calibration button
3. Using a nonconductive tool press and hold the calibration button

Enter The Calibrate Mode
68220C



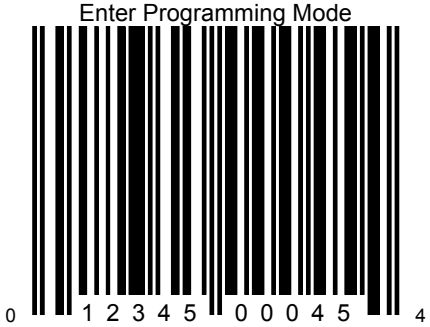
4. Scan the Enter The Calibrate Mode Label, a low tone will occur and the yellow LED will come on (The Remote Display will show START)
5. Release the calibration button
6. Replace the scale platter

7	Depress the “0” button on the scanner (Do not press the “0” button on the remote scale display)	The speaker will “Beep”, the green LED will come on (Empty will be displayed on the remote scale display
8	Depress the “0” button on the scanner	The speaker will “Beep” and the LED’s will blink indicating one of the following 1. Yellow & Green for 20 lb, 2. Yellow for 10 kg,
9	The Remote scale display will show: 1. ADD 20 (lb) 2. ADD 10 (kg)	Place the appropriate test weights on scale platter
10	Depress the “0” button on scanner	The speaker will “Beep”, The yellow & green LEDs will light and “Done” will be displayed in the remote scale display
11	Remove the weights from scale platter	The weights must be removed within 10 seconds following the completion of Step 12.
12	Depress the “0” button on the scanner	Calibration is completed
13	Remove the platter and replace the bolt that covers the calibration button.	Follow local Weights and Measures sealing requirements.

NOTE: If calibration fails the speaker will beep, the yellow and green LED’s will blink, and ABORT will be displayed in the remote weight display.

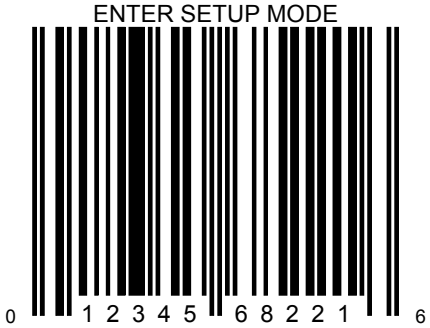
APPENDIX “A” PROGRAMMING LABELS

Enter Programming Mode

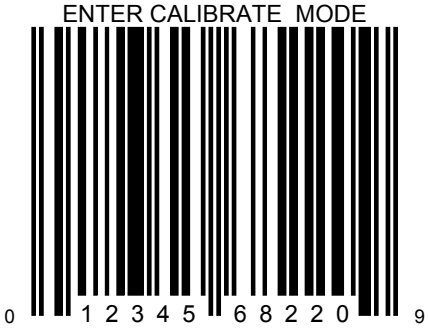


EXIT SAVE AND RESET

ENTER SETUP MODE



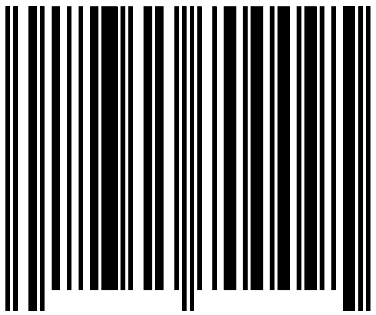
ENTER CALIBRATE MODE



COMPLETE

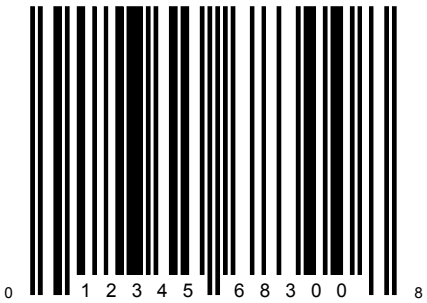
RESTORE ALL DEFAULTS

Enter The Firmware Cloning Mode
70009C



Enter Clone Programming Mode

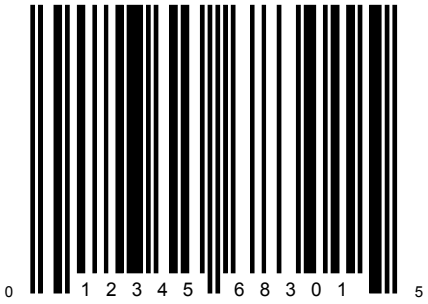
RS232 SINGLE CABLE
CONFIGURATION



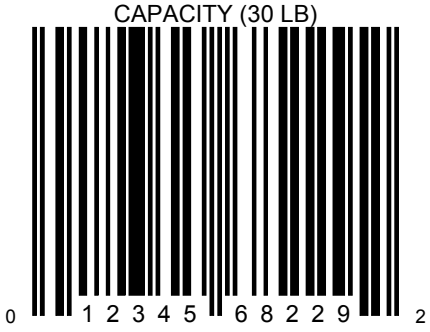
DUAL CABLE CONFIGRUATION
RS232 SCANNER/SCALE

78XX EMULATION RS232
SCANNER SCALE SINGLE
CABLE CONFIGURATION

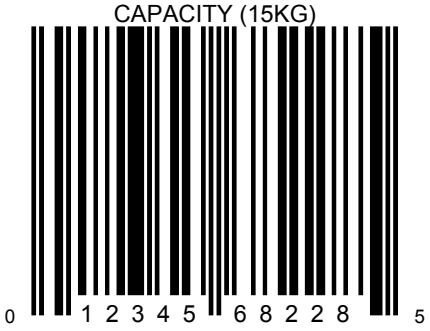
8200/8500 RS232 SINGLE
CABLE CONFIGURATION



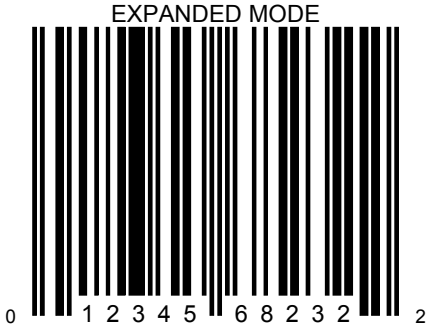
CAPACITY (30 LB)



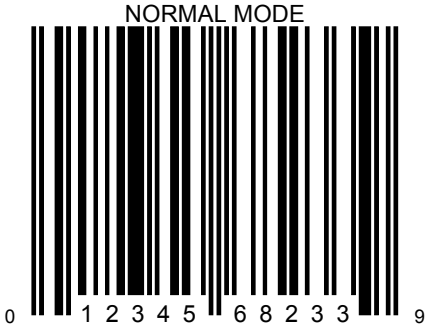
CAPACITY (15KG)



EXPANDED MODE

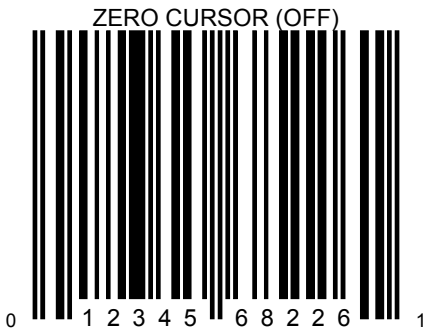


NORMAL MODE



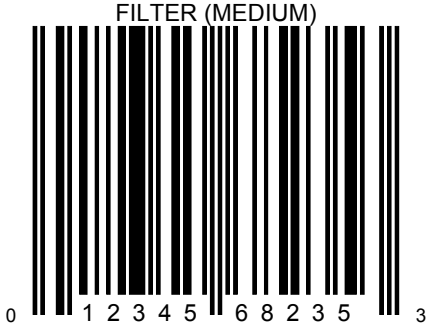
ZERO CURSOR (ON)

ZERO CURSOR (OFF)



FILTER (LIGHT)

FILTER (MEDIUM)

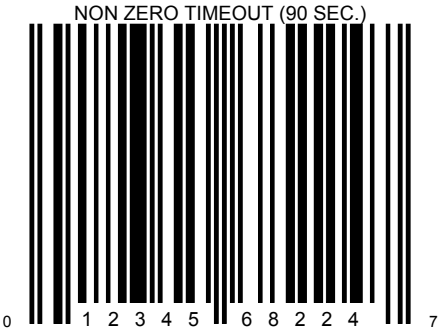


FILTER (HEAVY)

NON ZERO TIMEOUT (DISABLED)

NON ZERO TIMEOUT (30 SEC.)

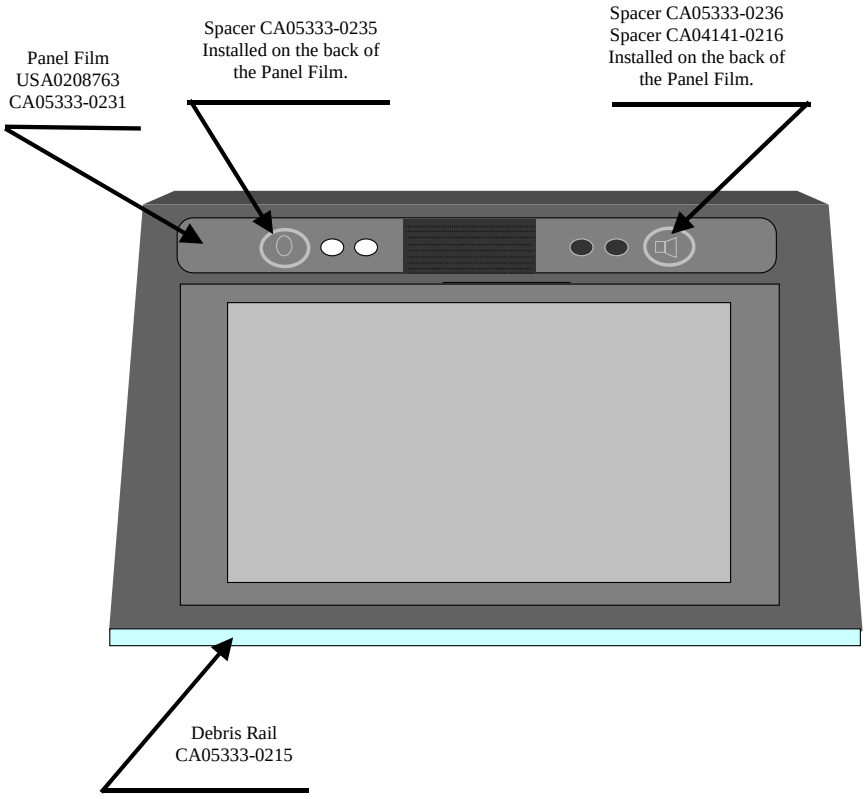
NON ZERO TIMEOUT (90 SEC.)



NON ZERO TIMEOUT (300 SEC.)

APPENDIX “B”

TOP COVER SPACER AND DEBRIS RAIL INSTALLATION



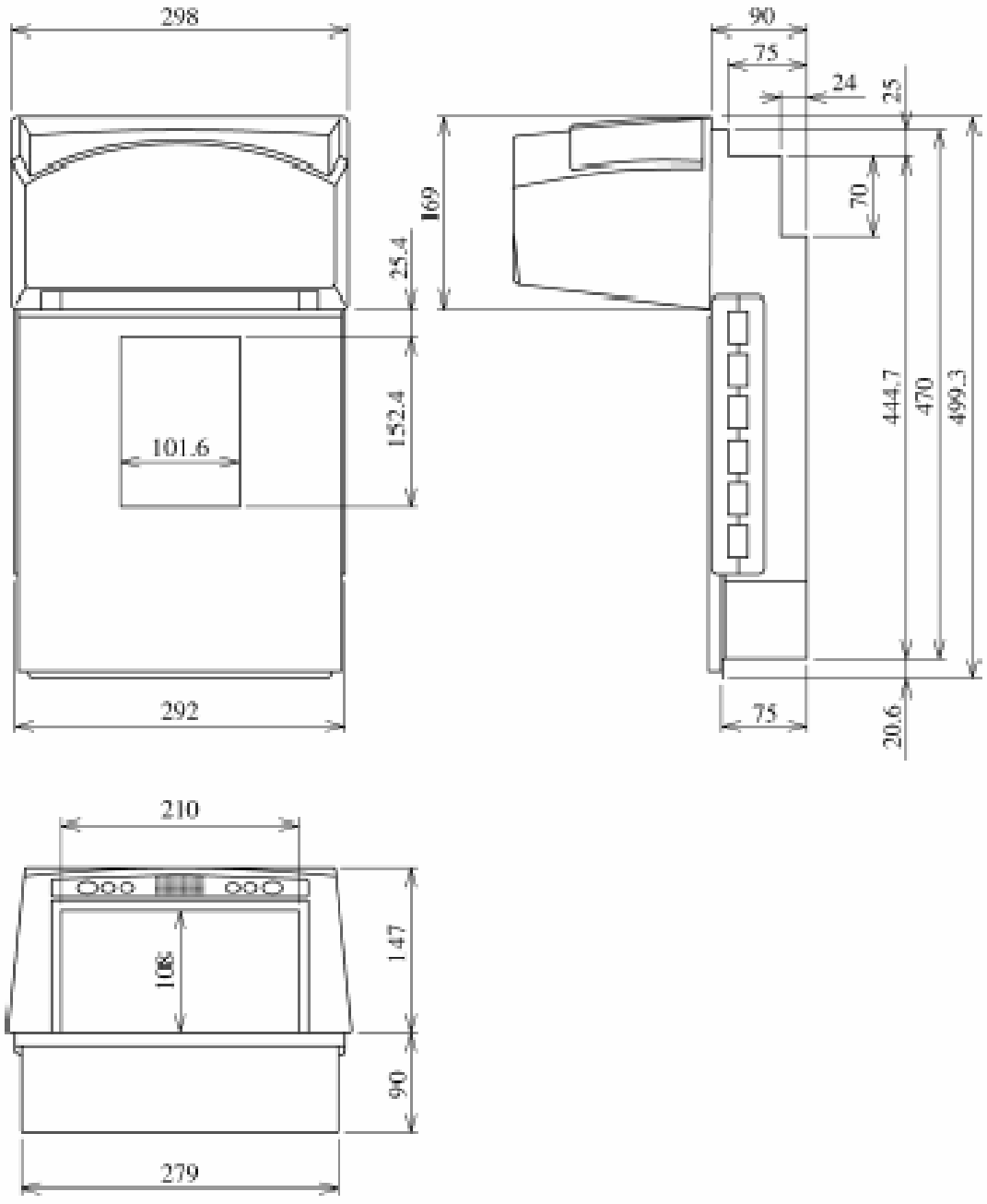
9900/9950 PROGRAMMING/CLONING CABLE

PIN Number PB000057
Part Number 80316790

DB9 FEMALE HANDHELD PORT			DB9FEMALE P/C COMM PORT	
FROM	SIGNAL		TO	SIGNAL
P1-2	RXD	→	P2-3	TXD
P1-3	TXD	→	P2-2	RXD
P1-5	SIG. GRND	→	P2-5	SIG GRND.
P1-7	RTS	→	P2-8	CTS
P1-8	CTS	→	P2-7	RTS
	Shield Grnd.	→		Shield Grnd.

APPENDIX “C”

SCANNER SCALE DIMENSION



SCANNER DIMENSIONS