For Maintenance Purposes Only

A6KD02152-B001

REFERENCE MANUAL

FOR

MODEL 9950 SCANNER/SCALE

FUJITSU

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CONTENTS

This manual is for the Service Technician, Project Manager, Customer, Facilities Designer, Contractor, or anyone else involved in site preparation, installation and service of the SmartScan 9950 scanner/scale.

This manual consists of the following chapters:

Chapter 1: Product Overview

Provides an overview and explanation of the classification and features of the 9950 scanner/scale.

Chapter 2: Hardware Specification

Explains the hardware specifications and the functions of the 9950 scanner/scale.

Chapter 3: Interface Specification

Explains the interface specifications of the 9950 scanner/scale when connecting to POS terminal and hand held scanner.

Chapter 4: Installation

Explains the maintenance conditions, scale calibration, dimensions, environments, and power supply installation requirements for the 9950 scanner/scale.

Chapter 5: Operation

Explains how to use and maintain the 9950 scanner/scale.

Chapter 6: Replacement Procedures

Explains how to replace Spare parts.

Chapter 1 Product Overview

The 9950 scanner/scale features a barcode scanner unit and a built-in weigh scale unit.

The scanner unit has reading windows on the side and bottom to ensure 360 degree scanning operations.

The scale unit automatically weighs an article placed on the platter. The scale unit displays the measurement data on the display and sends the data to a POS terminal.

Features

1) Digital Signal Processing (DSP) technology
2) Support for RSS-14 and RSS-Expanded codes
3) Supports reading small size labels (e.g., 0.4 and 0.5 magnification)
4) Real-Time-Clock for date & time tracking
5) Coupon Expiration date and RSS Sell-by date validation
6) Full 360 degree scanning
7) Auto-discrimination of 6 bar code types (i.e., UPC/EAN/JAN, Code-39, Code-128, IL 2of5, Codabar, and RSS-14 / Expanded)
8) Label stitching decode technology
9) Barcode Programmable
10) Firmware download & cloning capability
11) Remote Management capability
12) VLD (i.e., Laser) near end-of-life detection and reporting
13) Auto sleep (2-step laser power down) and wake-up operation
14) Expanded Speaker volume / tone controls
15) Expanded Diagnostic reporting (LED, Remote Weight Display, Remote Host)

1.1 Classification of 9950 Series Products

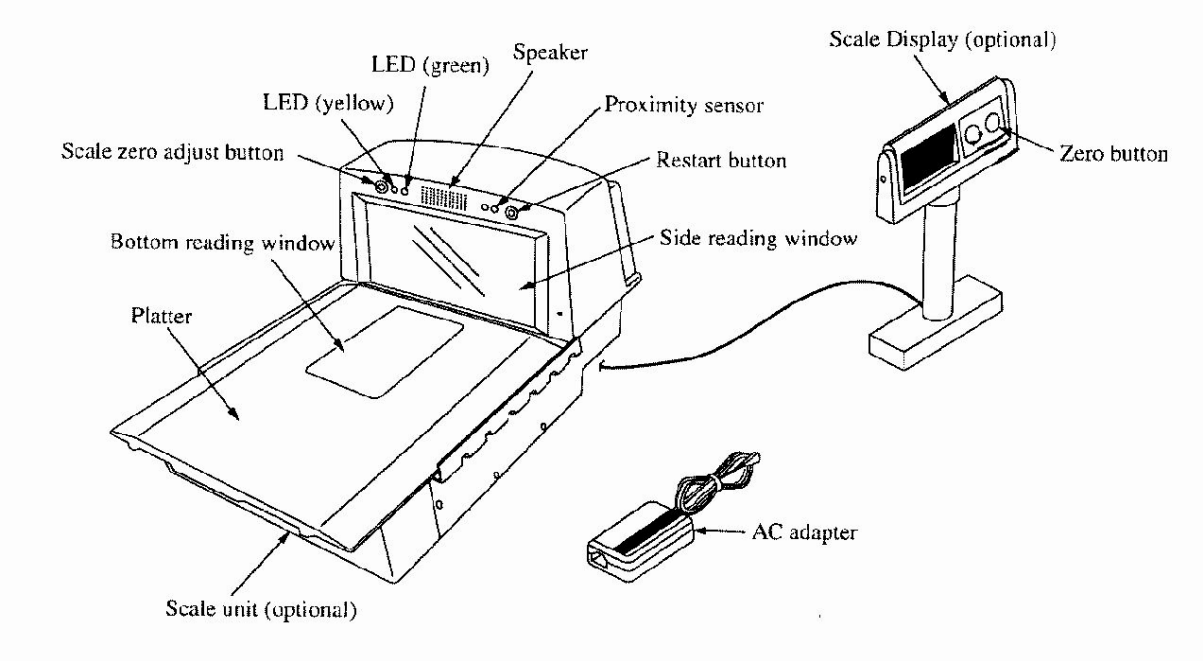
Model name	P/N	HOST-I/F	FTXS PIN	Notes / Comments
Model F7521F61	KD02152-B061	RS232C	90000752	a) PB600593 Platter for scanner only configuration b) PB600592 Platter for scanner / scale configuration
Model F7521F62	KD02152-B062	IBM RS-485	90000768	a) PB600593 Platter for scanner only configuration b) PB600592 Platter for scanner / scale configuration
Model F7521F6x (t.b.d)	KD02152-___ (t.b.d)	IBM USB	T.B.D	a) PB600593 Platter for scanner only configuration b) PB600592 Platter for scanner / scale configuration

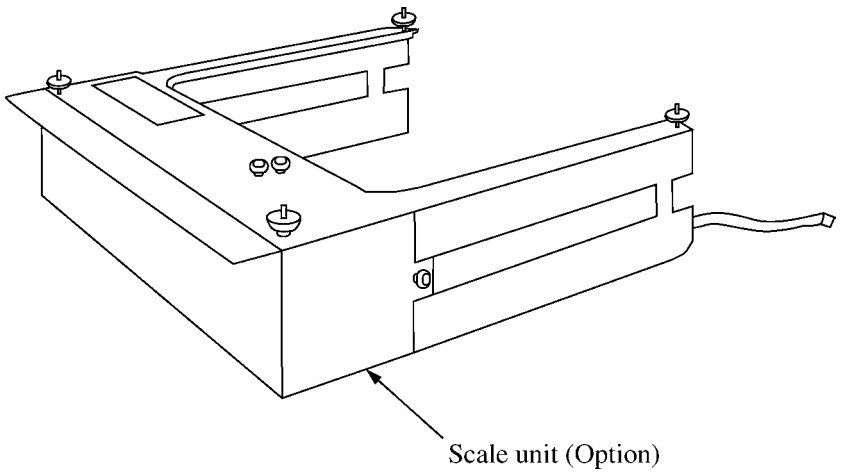
Note:

The following optional equipment may be used with Model 9950 scanner:

1) Scale PB600577
2) Remote Weight Display 52412001 (LB), 52412002 (KG)
3) AC power cable 90000255
4) Program Download cable PB000057

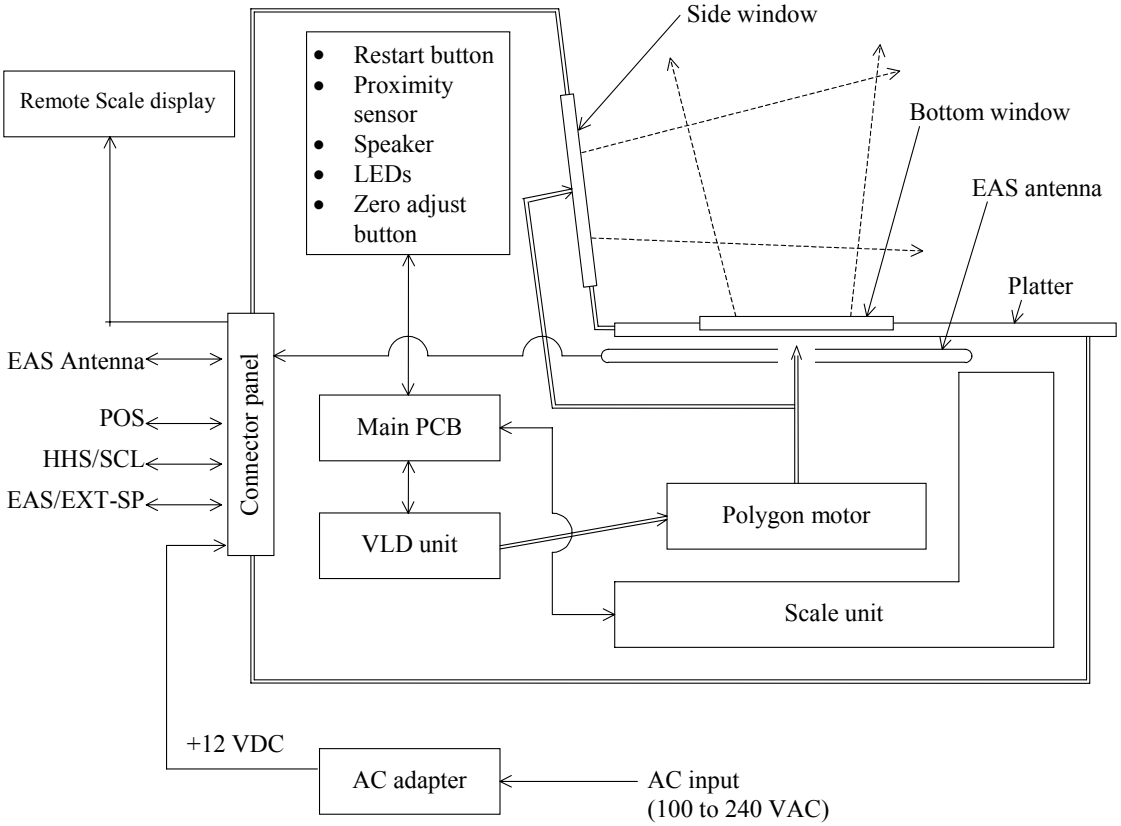
1.2 Scanner System Components





Chapter 2 Hardware Specification

2.1 Configuration Block Diagram



2.2 Hardware/Function Specification

No.	Item	Specifications	Remarks
1	Light source	Visible Laser Diode (VLD) Wavelength: 650 nm	
2	Laser output	Conforming to CDRH Class II a and IEC Class 1	
3	Scan lines	56 (Side: 24, Bottom: 32)	
4	Scan rates	Side : 2,000 lines/sec. Bottom : 2,667 lines/sec.	
5	Motor	Speed : 5000 rpm	+ / - 10%
6	Polygon	4-sided	
7	Label magnification • UPC/EAN/JAN • RSS-14 / Expanded • Other codes	 0.50 (50%) to 2.0 (200%) 0.615 (8 mil) to 1.00 (13 mil) 0.80 (80%) to 2.00 (200%)	
8	PCS (Print Contrast Signal) • UPC/EAN/JAN • RSS-14 / Expanded • Other codes	 0.4 to 1.0 0.8 to 1.0 0.8 to 1.0	
9	Minimum bar width • UPC/EAN/JAN • RSS-14 / RSS Expanded • Other codes	 0.132 mm (= to 0.4 magnification) 0.170 mm (= to 6.7 mil) 0.165 mm (= to 0.5 magnification)	

No.	Item	Specifications	Remarks
10	Depth of Field UPC/EAN/JAN • Mag.: 1.0, PCS : 0.8 • Mag.: 0.8, PCS : 0.8 RSS-14 / RSS Expanded • 6.7mil (= 0.516 mag.) • 8.4mil (= 0.646 mag.) • 10.0mil (= 0.770 mag.)	 Side: 0-240mm, Bottom: 0-125 mm Side: 0-200mm, Bottom: 0-100 mm Side: 0-50 mm, Bottom: 0-12.5 mm Side: 0-75 mm, Bottom: 0-25.0 mm Side: 0-100 mm, Bottom: 0-50 mm	
11	Label truncation • UPC/EAN/JAN • RSS-14 / RSS Expanded • Other codes	Minimum height 5 mm (apx. 0.20 truncation) 14.0 mm (8 & 10 mil size labels) 20.9 mm (13 mil size label) 5 mm w/Max width of 30 mm	
12	Scan speed • UPC/EAN/JAN • RSS	Measurement 2.5 meter p/sec 1.25 meter p/sec	 Mag: 100% PCS : 80% 8 to 13 mil label
13	Label orientation	Roll: 0 to 360 degree Yaw: 0 to 360 degree Pitch: 0 to 90 degree (0: facing bottom; 90 facing side)	Mag: 100% PCS: 80%
14	Readable barcode symbols	UPC-A/E, EAN-8/13, JAN-8/13 Code-39 Code-128 Codabar / NW7 Interleaved 2of5 RSS-14 / RSS Expanded UPC / EAN Coupon codes	1. W/P2 – P5 add-on. 2. GTIN format (i.e., 14-digit) for UPC & EAN codes is programmable
15	Auto-Discrimination	6 types of the above symbols; Default is: UPC/EAN/JAN w/o add-on	

No.	Item	Specifications	Remarks
16	Operation Panel		
	• Restart button	- Wake-up scanner from sleep mode - Speaker volume adjustment - By depressing the restart button momentarily, volume increases. (7 volume levels are available.) - Speaker tone (frequency) adjustment - By depressing the restart button for approx. 1 seconds, then releasing, tone increases. (8 tone levels are available)	
	• LED (Green & Yellow)	- Good read = Green (flash) - Sleep mode = Yellow (on solid) - Program mode = Green (on solid) - Scanner Disabled = G & Y (solid)	Barcode read Data not sent In Program mode Value already set Date error
	• Speaker	- Good read tone - Buffer full tone - Program mode tone - Warble tone (in Program mode) - Invalid date tone	
	• Proximity sensor	- Wake-up from sleep mode Wave item / hand in front of sensor to activate (o – 100 mm from sensor)	Active type sensor
17	Power saving modes • 50% Laser power • Full Laser off • Motor off	Times are programmable Barcode will read on first pass & bring Laser to full power Sensor or Restart button will turn power on Sensor or Reset button will turn power on	

No.	Item	Specifications	Remarks
18	Diagnostic reporting • LED • Remote Weight Display • Remote Management	Reporting methods GY + xxxxxx (x= G or Y flashing) Text message displayed Remote Host can access report - Report "Pass or Fail" status on all major scanner and scale modules and components	See Firmware Specification Doc. A1KD02152-J401 for details
19	Optional hardware • Scale unit • Remote Weight Display • Platter	 Capacity: 15kg / 30 lb Settling time: 0.5 sec (0 – 5 lb) 0.6 sec (5 – 30 lb) LB or KG mode Stainless steel with Sapphire window	 Mettler-Toledo 8219 scale Scanner only and Scanner/scale models
20	Host Interface	RS232C: KD02175-B061 IBM RS485: KD02175 – B062 IBM USB: t.b.d	90000752 90000768 t.b.d.
21	EAS connectivity • Internal Antenna • Antenna (integrated) • Monitor Port	 Included in scanner optics Cable: 90000072 Cable: 90000071	Certified on Checkpoint EAS Systems
22	Auxiliary port	Connectivity - Handheld scanner, or - Scale (in Dual cable configuration) - Firmware download or clone	250mA / 5VDC
23	Laser life monitoring	Detect near end-of-life and report - LED alert - Remote Weight Display	See Appendix 1-3 for details
24	Vender Coupon "Expiration Date" Verification	Detect "Expiration Date" encoded in UCC/EAN128 Coupon Extended Code and report	See Appendix 1-2-1 for details
25	RSS "Sell-by Date" Verification	Detect "Sell-by Date" encoded in RSS Expanded Code and report	See Appendix 1-2-2 for details

2.3 Electrical and Environmental Conditions

No.	Item		Specifications	Remarks
1	Electrical conditions	Rated input voltage	100 VAC to 240 VAC	(Single phase)
		Input voltage fluctuation range	90 VAC to 264 VAC	
		Input frequency range	47 Hz to 63 Hz	
		Power consumption	During operation: 14 W (at 100 VAC) During sleep: 8 W (at 100 VAC)	
		Leakage current	0.5 mA (at 100 VAC) 0.75 mA (at 240 VAC)	
		Inrush current	30 A maximum (O-P)	@ 100VAC
		Dielectric strength	1,500 VAC, 1 minute	
2	Environmental conditions	Temperature	During operation: 0°C to 40°C During storage (packed): -20°C to 60°C	
		Humidity	During operation: 20% to 80% During storage (packed): 10% to 95%	No condensation
		AC noise resistance	1.2 kV maximum (0.1 to 1.0 us)	IEC61000-4-4
		Lightning surge resistance	2.0 kV maximum	IEC61000-4-5
		Static electricity resistance	Direct contact: No malfunction at up to 4 kV Indirect contact: No malfunction at up to 4 kV Direct air: No malfunction at up to 8 kV	EN55024-1998 IEC61000-4-2 Criteria B

No.	Item		Specifications	Remarks
2	Environmental conditions	Radiated electromagnetic field	Freq. Range: 80 ~ 1000 Mhz Field strength: 6 V/m, 1KHz 80% AM, H/V	EN55024:1998 IEC61000-4-3 Criteria A
		Shock	Operating: 3.0 G × 5 times maximum In package: 15.0 G × 5 times maximum	
		Noise	50 dB maximum	
		External light	5,000 lux maximum	
		Weight	With Scale: 10 kg Without Scale: 7 kg	

2.4 Regulatory and Safety Standards

No.	Item	Specifications	Remarks
1	Electric and structure safety standards	Conforms to UL/cUL - UL 60950 3rd. edition - CSA C22.2 No. 60950	
2	Laser safety standard	CDRH Class IIa, IEC Class 1 EN60825-1 Class 1	
3	Emission / Immunity	FCC Part 15 Class A	
4	Scale Requirement	NIST Handbook 44 Canadian W & M OIML R76 (EN45501) Australian W & M	FTXS FTXS FSL FAL

2.5 Maintenance Conditions, etc.

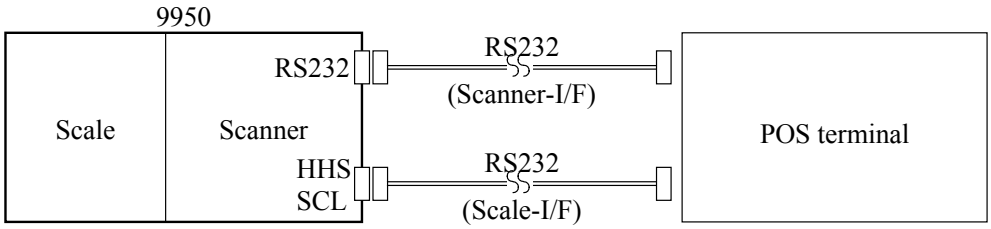
No.	Item	Specification	Remarks
1	Reliability	MTBF: 30,000 hours	
		Product life: 6 years	
		Part life:	@25 degree C
		VLD: 10,000 hours	Cum fail rate: 10%
		Motor: 15,000 hours	Cum fail rate: 10%
2	Spare parts	See Chapter 6	
3	Accessories	AC adapter	Included w/scanner
		Operators Guide	Included w/scanner
		Scale	PB600577
		Remote Weight Display	52412001, 52412002
		Short platter (scanner only)	PB600593
		Long platter (scanner/scale)	PB600592
		Scanner cable (RS232),	52413001
		Scanner/scale (RS232 single cable)	52413001
		Scanner cable (IBM RS485 - Port 9)	52240001
		Scanner cable (IBM RS485 – Port 17)	58483001
		Scale cable (RS232 dual cable mode)	90000070
		EAS Antenna cable	90000072
		EAS Trigger / Monitor cable	90000071
		Firmware download cable	PB000057
		Programming manual	90000788

Chapter 3 Interface Specification

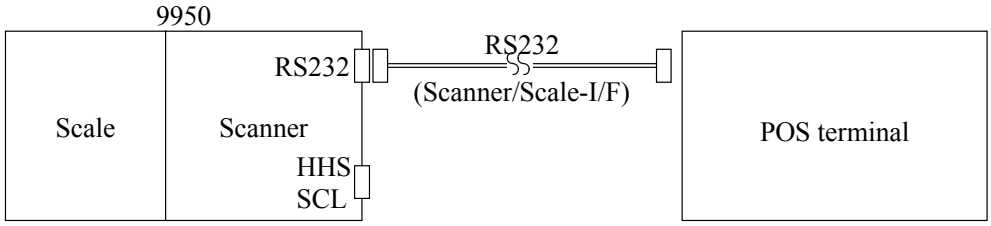
This chapter provides an explanation of the interfaces with a POS terminal connected as a Host device of the 9950 Model scanner/scale and a hand held scanner connectable as a lower device.

3.1 POS Interface

A user can select either a dual cable configuration or a single cable configuration. In the dual cable configuration, the scanner (barcode) interface and the scale (weight) interface use separate RS232-ports. In the single cable configuration, both interfaces use the RS232-port.



Dual Cable Configuration



Single Cable Configuration

Note:

The hand held scanner can be connected to the HHS port only in the single cable configuration.

3.1.1 Dual cable configuration

3.1.1.1 Scanner interface

[1] Transmission parameters

Transmission parameters can be set using the programming bar code.

1) Transmission speed (bps): 1200, 2400, 4800, 9600, 19200
2) Data characters: ASCII code consisting of 7 bits, 8 bits
3) Parity bit: Odd parity, Even parity, No parity
4) Stop bits: 1 bit, 2 bits

[2] Communication protocols

One of the following protocols can be selected using the programming bar code.

Item		Function
RTS/CTS handshake	Disabled	• Data is sent by ignoring the CTS signal from the host.
	Enabled	• The RTS signal from this scanner is always on. Data is sent only when the CTS signal from the host is on.
Software response confirmation handshake	Disabled	• Data is sent without confirming the response.
	ACK/NAK	• The send data ACK/NAK response from the host is checked in block units, and the data is then sent. *1)
	X-ON/OFF	• Data is sent according to an X-ON (code: 11H) or X-OFF (code: 13H) command from the host.

*1) If ACK or NAK is not received within 500 ms, an error alarm sounds. The error alarm can be re-set by depressing the Restart switch.

*2) When X-ON/OFF is selected, the X-ON state occurs when power is turned on.

[3] Data formats

The read bar code data is sent to POS in one of the following formats (default):

(a)EAN-13 (JAN-13)

F	N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12 CK

(b) EAN-8 (JAN-8)

F	***F***	N1 N2 N3 N4 N5 N6 N7 CK

(c) UPC-A

A	SN N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 CK

(d) UPC-E

E	0	N1 N2 N3 N4 N5 N6

(e)Coupon code (UPC-A + EAN128)

A	5	N1 N2 ……N10 CK	FC	X1 X2 …... Xn

(f)Coupon code (EAN-13 + EAN128)

F	9	9	N3 N4 …... N12 CK	FC	X1 X2 …... Xn

Notes:

1. The following setting for the above formats can be made using the programming bar code:
   1) Addition or deletion of symbol identification code (shaded in figure above). (This applies collectively to formats (a) to (f) above.)
   2) Insertion or non-insertion of 0 into position between A and SN in UPC-A (format (c)) above
   3) Addition or deletion of CK code to or from UPC-A (format (c))
   4) Insertion or non-insertion of 0 into position between E and N1 in UPC-E (format (d)) above
   5) Conversion or no conversion of UPC-E into UPC-A (format (c))
   6) Addition or no addition of CK code to position after N6 in UPC-E (format (d))
   7) FC indicates Function Code-1. This code is programmable, the default value is “hex 1C.”

(g)Interleaved 2 of 5

T	X1 X2	Xn

(h) Codabar

S	ST	X1 X2 ..... Xn	SP

(i) Code-39

L	X1 X2	Xn

(j) Code-128 (X1 to Xn does not include ST, CK, or SP)

Q	X1 X2	Xn

(k)RSS-14

R	X1 X2	X14

(l)RSS Expanded

R	***X***	X1 X2	Xn

2. The following setting for the above formats can be made using the programming bar code:
   1) Addition or deletion of a symbol identification code (shaded in figure above). (This applies collectively to formats (g) to (l) above.)
   2) Addition or deletion of ST/SP to or from Codabar (format (h))
   3) Addition or deletion of ST to or from position before X1 in Code-39 (format (i)), and addition or deletion of SP to or from position after Xn in Code-39 (format (i))

3. To read data of format (g) to (i), the following conditions must be preset using the programming bar code. The circled values below are default value:
   1) "Configuration digit count" of Interleaved 2 of 5: *(See "Presetting method for Digit No. of ITF" at Section-5 in Programming Manual [C150-E223-xxEN] in detail.)*
   2) Enable or Disable check digits in Interleaved 2 of 5: (disable)(default value)
   3) Enable or Disable check digits in NW-7 (Coda-bar): (disable)(default value)
   4) Enable or Disable check digits in Code-39: (disable) (default value)
   5) "Standard ASCII/Full ASCII" configuration of Code-39: (Standard ASCII) (default value)

[4]Terminators

A terminator is added to data to be sent to the host. One of the following four methods of adding a terminator can be selected:

a) C/R added at end of data field ⇒⇒⇒⇒⇒

Data	C/R

b) C/R + LF added at end of data field ⇒⇒⇒

Data	C/R	LF

c) STX added in front of data, and ETX added to end of data field ⇒

STX	Data	ETX

d) No addition ⇒⇒⇒⇒⇒⇒

Data

. The default value C/R addition to end of data

[5] Command function

The following are the standard commands in a Dual Cable configuration. When a command code is received from the host, the corresponding function is executed. The host system itself can determine whether the commands will be used.

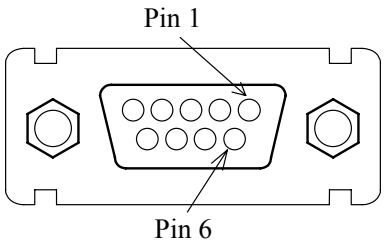
No.	Command name	Command code								Function
		8	7	6	5	4	3	2	1	
1	CLEAR	0	0	0	0	0	0	0	0	• Clears the send buffer. • Stops the alarm.
2	RESET	0	1	1	0	1	0	1	0	• Returns to the POW-ON initial state.
3	DISABLE	1	0	0	0	0	1	1	0	• Inhibits bar code reading and turns off the laser. • Flashes the green LED.
4	ENABLE	1	0	0	0	1	0	0	0	• Cancels the disable state. • Cancels the sleep state and sets the wake-up state.
5	WAIT	1	0	1	1	1	0	0	0	• Turns off the laser and motor. • Turns off the green and yellow LEDs.
6	ACTIVE	1	0	1	1	0	1	1	0	• Cancels the wait state.
7	ACK	0	0	0	0	1	1	1	0	• Reports acknowledgment for data sent.
8	NAK	0	0	0	0	1	1	1	1	• Reports no acknowledgment for data sent.
9	X-ON	0	0	0	1	0	0	0	1	• Permits the sending of data.
10	X-OFF	0	0	0	1	0	0	1	1	• Inhibits the sending of data.

Notes:

1. The above table lists data consisting of eight characters. When the 7-bit data configuration is selected, the eighth bit is deleted from each format.
2. Commands Nos. 1 to 7 are standard functions. Commands Nos. 7 to 10 are effective only when the ACK/NAK or X-ON/X-OFF communication protocol is selected.

[6] Scanner Interface pin-outs

The RS232C connector on the scanner is a female sub-miniature, 9-pin D-type connector. The mating cable connector must be the mating male, sub-miniature 9-pin connector (AMP 205204-1, or equivalent).



The following table contains the pin-outs for the RS232 connector, which support a straight through connection to a PC compatible 9-pin D-type RS232 connector.

RS232 POS terminal interface pin-outs

Pin	Direction	Signal name
1	----	Frame ground
2	Output	TXD – Transmit data to POS
3	Input	RXD – Receive command from POS
4	----	no connection
5	----	GND – Signal ground
6	----	no connection
7	Input	CTS – POS ready for data
8	Output	RTS – Scanner data ready
9	Input	+5 VDC (10 mA max)
Sh	----	Frame ground

Note:

When +5 V power is supplied to pin 9, the power of the scanner can be turned on or off with the power of the POS. This function can be selected using a programming bar code. The default value is “Disabled.”

3.1.1.2 Scale interface

[1] Transmission parameters

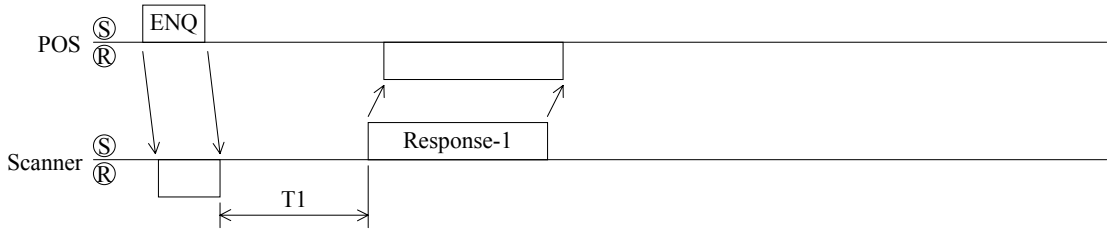
All parameters for the handheld port below are programmable.:

1) Transmission speed: 2,400 bps
2) Data character: 7 bits
3) Parity bit: Even
4) Stop bit: 1 bit

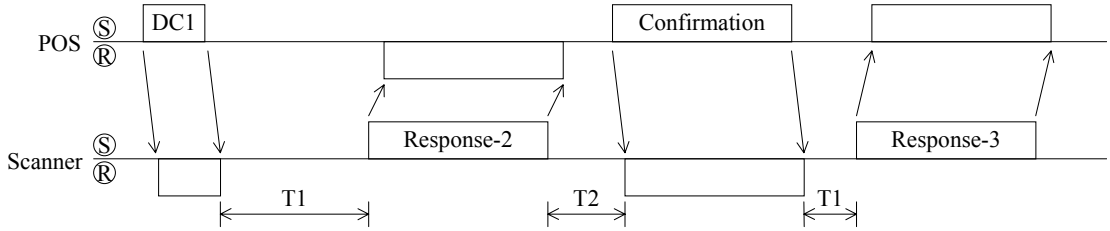
[2] Communication protocols

The communication always starts from two commands originating from the POS terminal and is executed in the following two sequences:

① Checking scale status



② Requesting measurement data



T1: 300 ms or less (response time for the command from the scale)

T2: 700 ms or less (response time from the POS terminal)

Note:

See item [5] for details on Responses-1, -2, and -3 and Confirmation.

[3] Data format (Dual Cable Configuration)

Weight data is sent to the POS terminal in the following format:

STX	ID	W5	W4	W3	W2	W1	BCC	ETX

Character	Code	Description
STX	02 hex	Prefix
ID	69 hex	W5 to W1 indicates “kg” data.
	6A hex	W5 to W1 indicates “pound” data.
	79 hex	No weight data (kg)
	7A hex	No weight data (lb)
W5 to W1	ASCII	Weight data (If ID is “7X,” W5 to W1 is not assigned.)
BCC	xx	Code obtained by performing exclusive OR operation for ID to W1
ETX	03 hex	Suffix

Example of “20.45 pound” transmission

STX	ID	W5	W4	W3	W2	W1	BCC	ETX
02	6A	30	32	30	34	35	xx	03

[4] Command function

The POS terminal originates the following two types of commands:

Command	Code	Function	Response to command
ENQ	05 hex	Status request of scale	ACK/NAK/NUL/CAN
DC1	11 hex	Weight data request of scale	Measurement data/ACK/NAK/CR
Z	*1	Zero Request	STX, Data, Bcc, ETX

*1 : 02 5A 5A 03 hex

[5] Response to commands

Response	Code	Function
NAK	15 hex	(1) Scale Hardware error. (2) Time over for T2
ACK	06 hex	(1) Indicates “scale ready” to ENQ. (2) Indicates “sent weight data and received weight data do not match” to Confirmation-2 (return of weight data).
NUL	00 hex	Indicates “scale not ready” to ENQ.
CR	0D hex	Indicates “sent weight data and received weight data match” to Confirmation-2 (return of weight data).
CAN	18 hex	Indicates “no change in weight data on the scale platter” to ENQ.

(1) Contents of Response-1 to ENQ

◊ NAK/ACK/NUL/CAN

(2) Contents of Response-2 to DC1

◊ Weight data/NAK

(3) Contents of Confirmation to weight data of Response-2

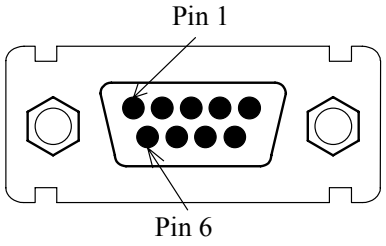
◊ Returns the received weight data without change.

(4) Contents of Response-3 to Confirmation

◊ CR/ACK/NAK

[6] Scale Interface pinouts

The RS232C connector on the scanner is a male, sub-miniature, 9-pin D-type connector. The mating cable connector is a female, sub-miniature, 9-pin connector (AMP 205023-1, or equivalent).



The following contains the pinouts for the RS232C Scale Interface connector. This connector pinout directly supports Scale that connect to a PC compatible D-type RS232C connector.

Scale interface pinouts

Pin	Direction	Signal name
1	----	Frame ground
2	Input	RXD – Receive data
3	Output	TXD – Transmit command
4	----	no connection
5	----	Signal ground
6	----	no connection
7	Output	RTS – Controller ready for data
8	Input	CTS – Scanner data ready
9	Output	+5 VDC (250 mA max)
Sh	----	Frame ground

Note:

To use the connector for the scale interface in the Dual Cable configuration, do not use the No. 9 pin (+5 VDC). (This connection must be removed in the scale cable.)

3.1.2 Single cable configuration

In the single cable configuration, barcode data from the scanner and weight data from the scale are sent to the POS terminal via a single RS232 port. .

The single cable configuration consists of three types depending on the communication protocol as shown in the table below. Each type can be selected using barcodes provided in the programming manual.

Note : Type-1(Magellan SL compatible) shall be selected in the below, when scanner/scale is connected to the OPOS through the OLE driver for scanner/scale.

Type	Communication protocol	Transmission parameter
Type-1	Magellan compatible	9600 bps, 7 data bits, Even parity, 2 stop bit
Type-2	NCR 78XX compatible	9600 bps, 7 data bits, Odd parity, 1 stop bit

Notes:

1. The circled value indicates a default setting.
2. The interface pinouts are the same as those described in item [6] of Section 3.1.1.1.

3.2 HHS Interface

The HHS interface uses the same port as the scale interface described in Section 3.1.1.2. A user must set either scale or HHS operation using the programming barcode in advance.

[1] Transmission parameters

The transmission parameters listed below can be set for this scanner. The circled values below are default values: The parameters for the handheld port are programmable.

1) Transmission speed (bps): 1200 2400 4800 (9600) bps
2) Data characters: 7 bits (8 bits)
3) Parity bit: Odd parity (Even parity) No parity
4) Stop bits: (1 bit) 2 bits

[2] Communication method

(1) The hand scanner can send data only when the RTS signal is on.

(2) The hand scanner must receive power from 9950 and must keep the CTS signal on.

(3) The format of data sent from a hand scanner to 9950 is not recognized. Therefore, the conditions explained in Section 3.1.1.1 (item [3]) should be satisfied to prevent data confusion in the system. However, because a CR code must be used for the end of data to be recognized, a CR code must be added to the end of each data block.

(4) Data must use ASCII code.

(5) 9950 can output the commands listed below to the hand scanner. The corresponding function must be executed when one of these commands is received.

No.	Command name	Command code								Function of hand scanner
		8	7	6	5	4	3	2	1	
1	CLEAR	0	0	0	0	0	0	0	0	• Clears data in the send buffer.
2	RESET	0	1	1	0	1	0	1	0	• Returns the system to the POW-ON initial state.
3	DISABLE	1	0	0	0	0	1	1	0	• Inhibits the bar code read.
4	ENABLE	1	0	0	0	1	0	0	0	• Cancels the disable state.

Note:

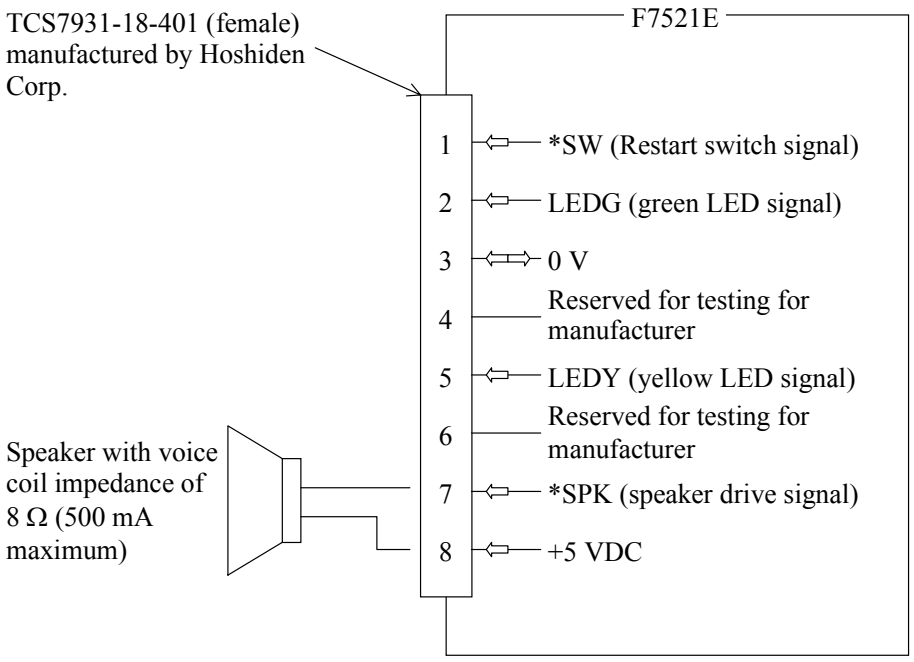
A CR code must be added to each command, and the created 2-byte command must be sent.

[3] HHS Interface pin-outs

Same as those described in item [6] of Section 3.1.1.2.

3.3 EAS/EXT-SP Interface

(To use an external speaker, consult with the manufacturer.)

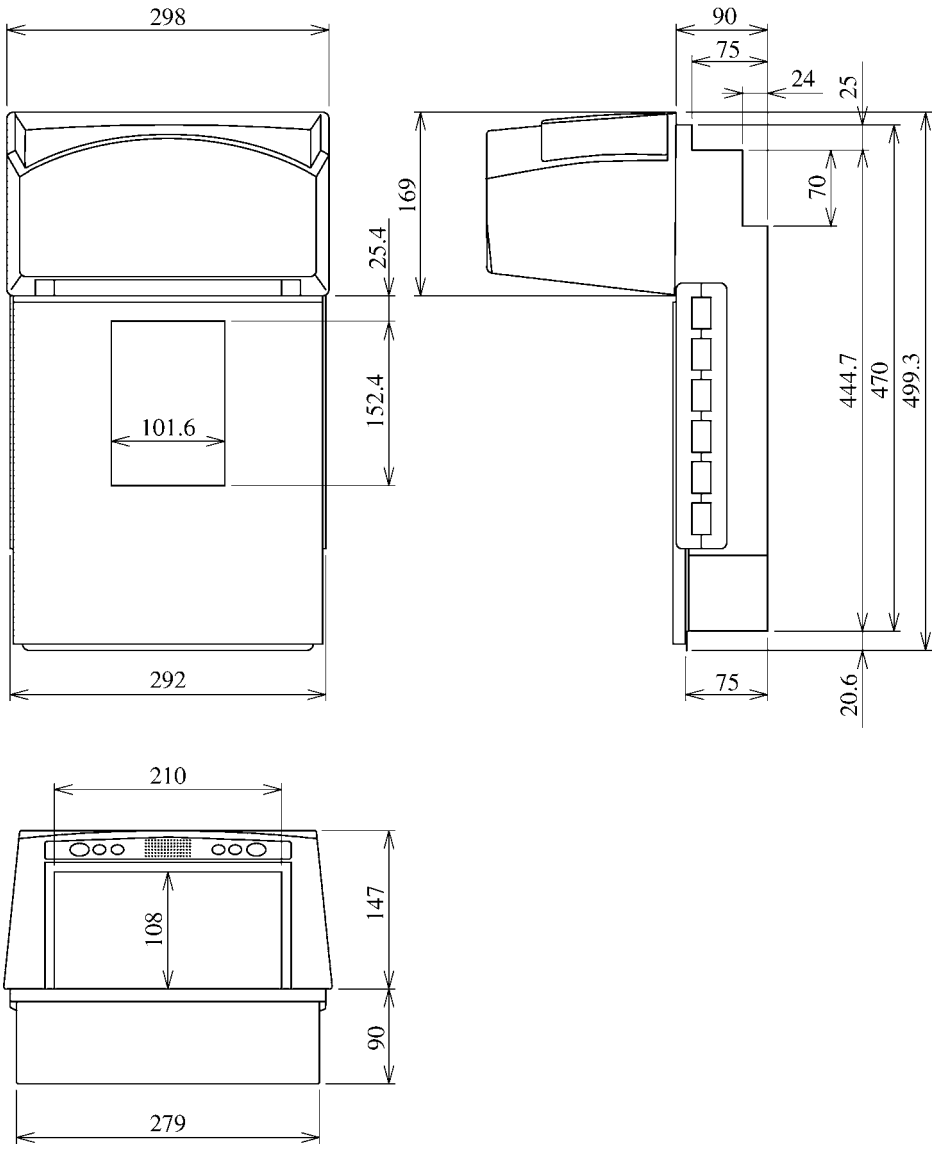


Chapter 4 Installation

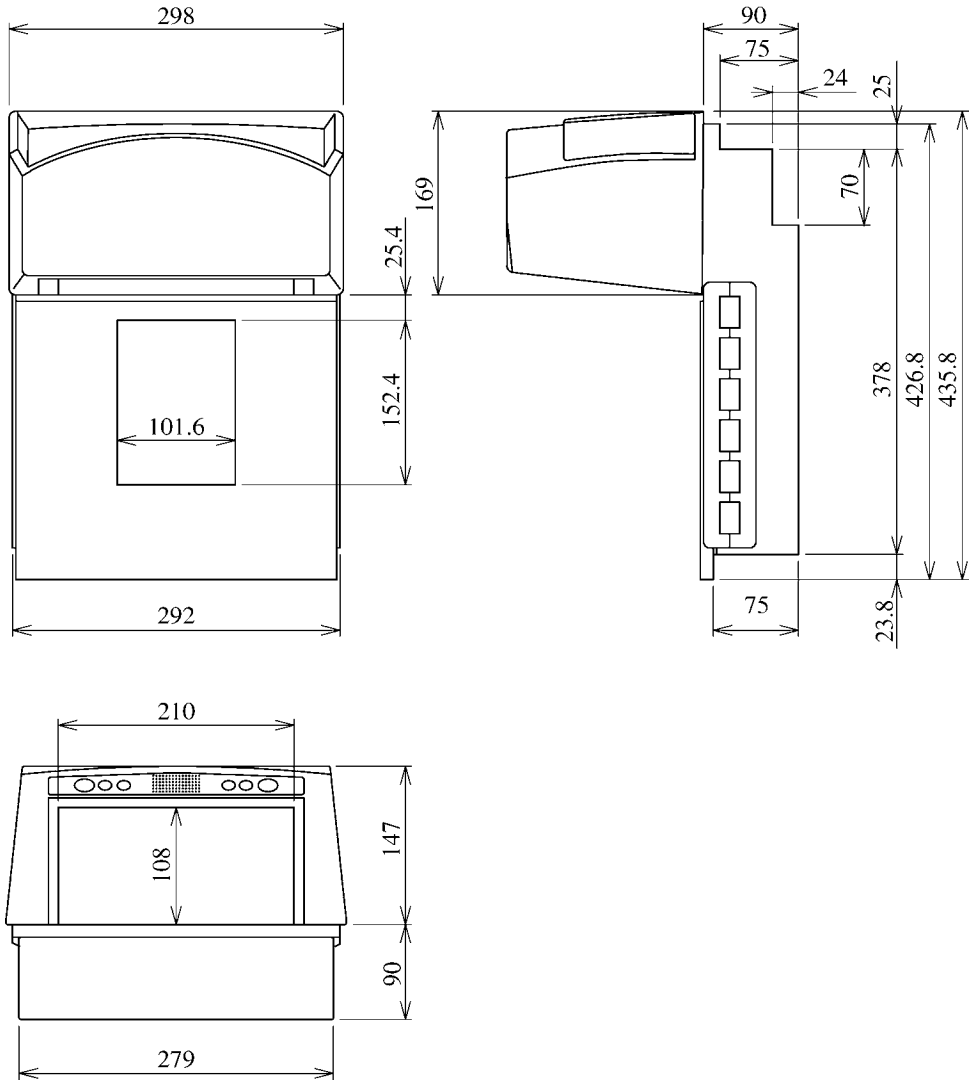
This chapter describes required conditions for installing the 9950 scanner/scale.

4.1 Appearance Dimensions

The Model 9950 scanner or scanner/scale is inserted horizontally into the cutout in the checkout counter. The following drawings provide dimensional specifications for scanner/scale and scanner only configurations.



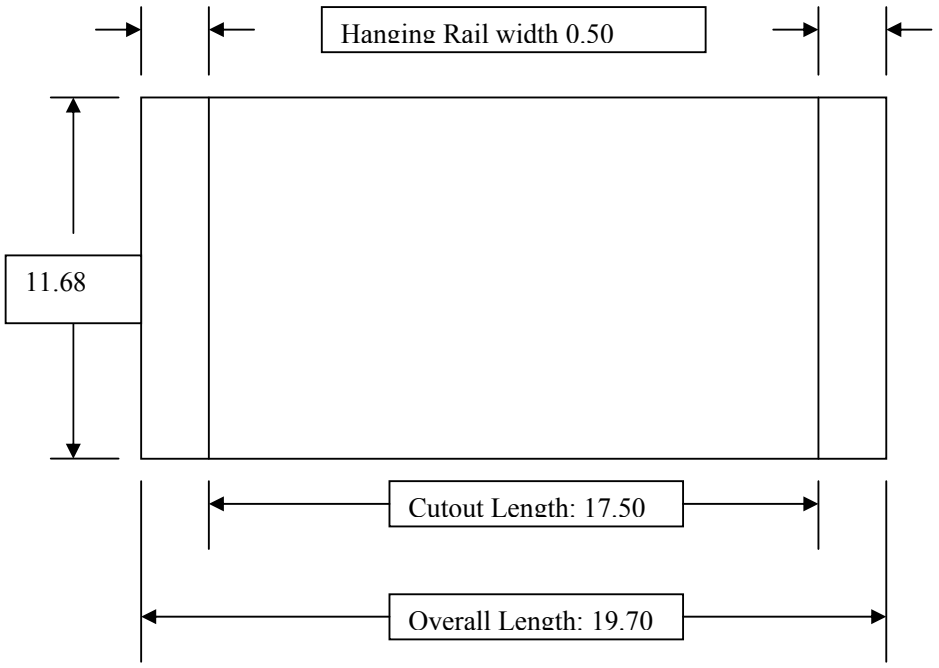
Dimensions of 9950 with built-in scale



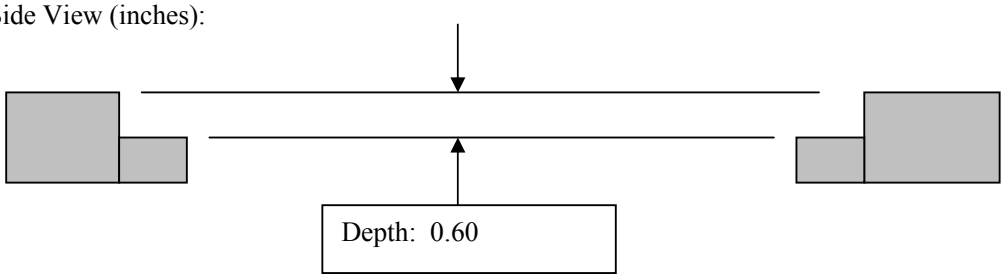
Dimensions of 9950 without scale

9950 Cutout - Scanner / scale:

Top View (inches)

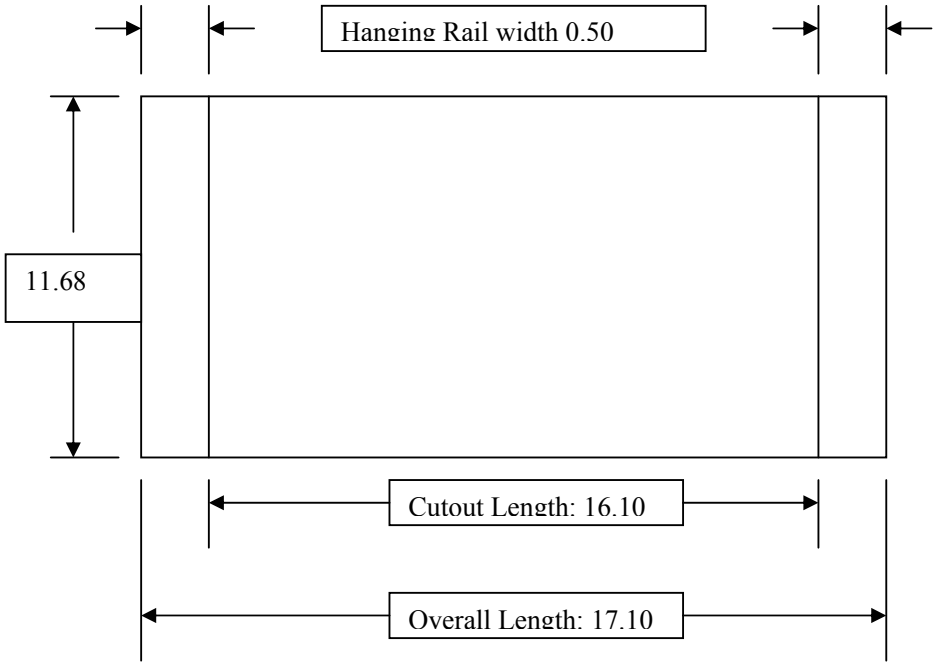


Side View (inches):

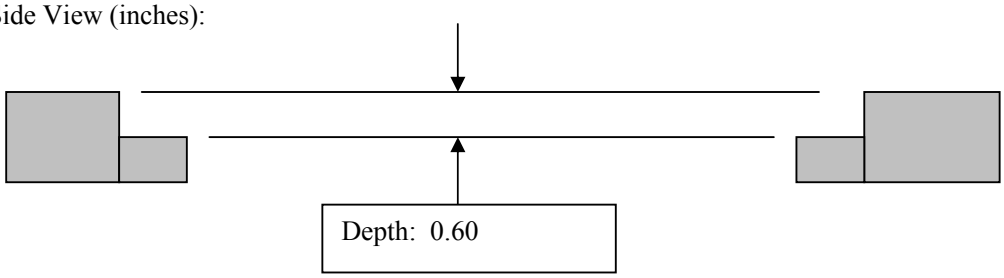


9950 Cutout - Scanner:

Top View:

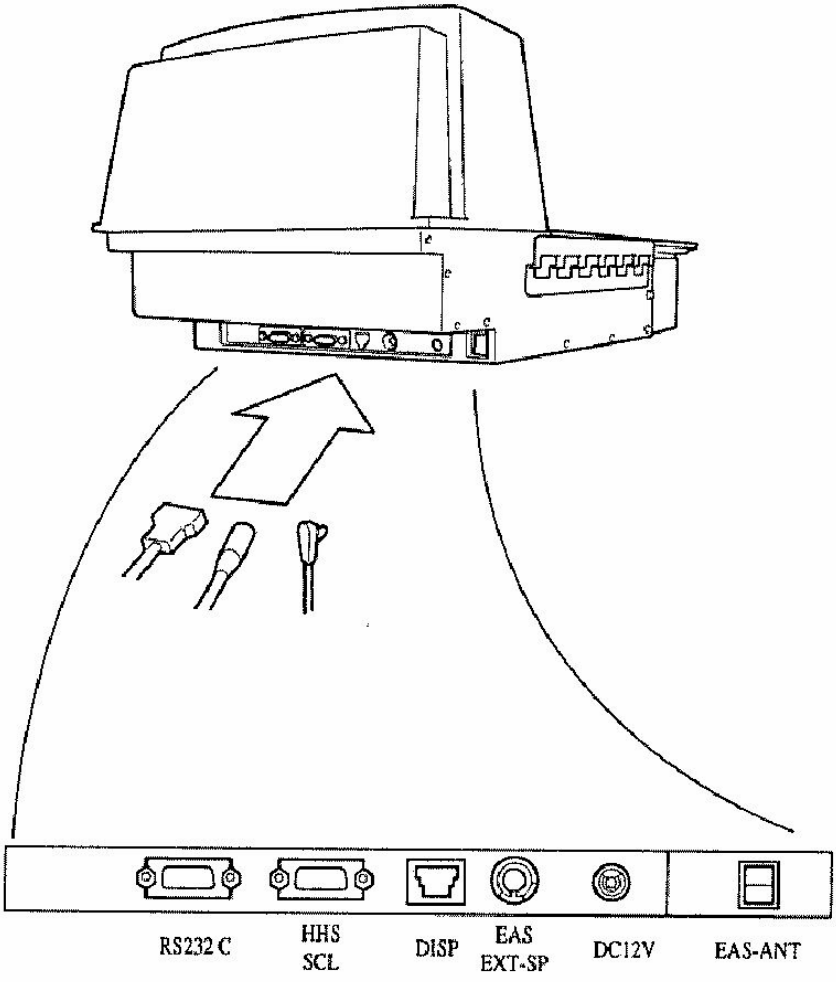


Side View (inches):

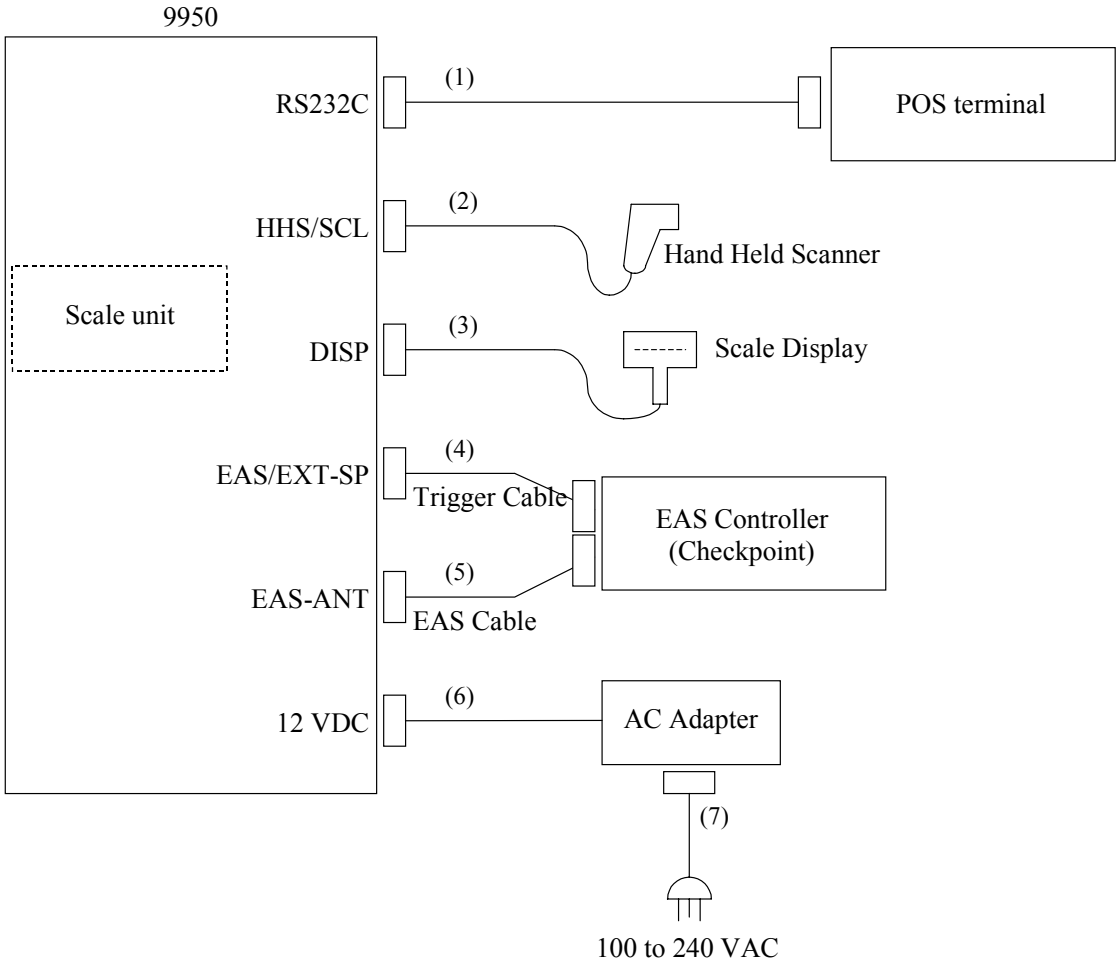


4.2 Cable and Connection

The Model 9950 scanner/scale is connected to a POS terminal, power source, and options through connectors located on the rear connector panel as shown in the figure below.



The following shows the connection system diagram when all items are connected to the 9950 scanner/scale:



Cable (1): Optionally supplied by Fujitsu Limited for TeamPOS terminal equipment. For other POS terminals, this cable shall be provided by the System Integrator.

Cable (2): This cable shall be provided by the System Integrator.

Cable (3): Optionally supplied by Fujitsu Limited, including the Scale Display.

Cables (4) and (5): Optionally supplied by Fujitsu Limited.

Cable (6): Supplied by Fujitsu Limited, including the AC adapter

Cable (7): This cable shall be provided by the System Integrator.

Note:

In the dual cable configuration, the cable between the scale and a POS terminal is optionally supplied by Fujitsu Limited for TeamPOS terminal equipment.

For other POS terminals, this cable shall be provided by the System Integrator.

4.3 Installation Conditions

When installing the 9950 scanner/scale, refer to the conditions defined in Section 2.3, "Electrical and Environmental Conditions." In particular, note the following items:

1) Ambient light

   Do not install the 9950 scanner/scale in a location exposed to direct sunlight because direct sunlight will obstruct the correct scanning of bar codes. Also, take extra precautions when installing the 9950 scanner/scale even in locations not exposed to direct sunlight but close to a window. This is because such locations may be exposed to illumination levels exceeding 5,000 lux.

2) Power requirements

   Since the 9950 scanner/scale does not have a power switch, position the AC adapter close to the 9950 scanner/scale so that the operator can easily plug in and unplug the AC adapter. Place the AC adapter in a location that is not likely to be exposed to liquid spills such as floor cleaning liquids.

3) Peripherals

   If the 9950 scanner/scale is installed near large equipment that consumes large amounts of power or generates vibration, input voltage fluctuations and vibration may cause malfunctions or errors. Therefore, keep the 9950 scanner/scale as far away as possible from such large equipment.

4.4 Turning the Power On

The 9950 can select "remote" or "local" using the programming barcode as the power-on method.

Remote: The power is turned on when the power is supplied from the AC adapter and +5 VDC (10 mA max) is supplied to the No. 9 pin (+5 VDC) in the scanner interface pinouts described in item [6] of Section 3.1.1.1.

Therefore, power-on or power-off operations can be performed concurrently with the POS terminal when +5 VDC is supplied from the POS and a power-on or power-off operation is performed.

Local: The power is turned on when the power is supplied from the AC adapter. +5 VDC supplied from the POS terminal is ignored.

Note:

To set parameters, turn on the power of the 9950 scanner/scale set in remote mode independently (without connecting it to the POS terminal) by proceeding as follows:

① Insert the output connector of the AC adapter into "12 VDC" on the connector panel.

② Insert the plug of the AC adapter into the input outlet while depressing the Restart button to turn on the power of the 9950.

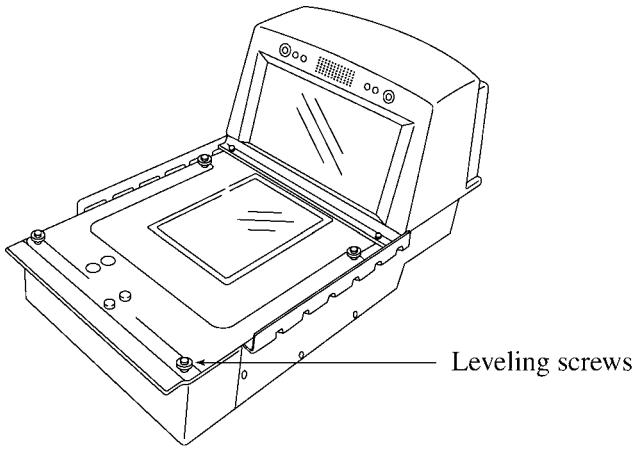
Note : The above feature is not applicable for North America.

4.5 Scale

The scale calibration and scale accuracy test must be performed by a serviceman before placing the scale into sales use.

In some locations, government inspection is also required and a security seal may be placed on the unit by a representative of the local Weights and Measures office.

During installation the 9950 must be leveled in the check-out counter. The Scale platter height can be adjusted relative to the top surface of the check-out counter by using the four (4) leveling screws which are attached to the scale arms.



4.6 Scale Diagnostics

If an error occurs in the scale unit when the power is turned on the 9950 scanner/scale displays the following table on the scale display:

No.	Error condition	Code displayed	LED Pattern
1	Under zero	|---------|	
2	Over capacity	¦¯¯¯¯¯¯¯¯¯¦	
3	Out of zero capture range	— — —	
4	Non-zero time out	- - - - - -	
5	EPROM/ROM check sum error	SCL r0	Y&G - Y Y Y
6	RAM error	SCL rA	Y&G - Y Y Y
7	EEPROM check sum err	SCL EP	Y&G - Y Y Y
8	Calibration required error	CAL lb	Y&G - Y G Y

1) Under zero: Correct the cause of the Under zero condition, then depress the Zero Adjust button to release the error status.

2) Over capacity: The item is heavier than the capacity of the scale. Remove the item from the platter and depress the Zero Adjust button to release the error status.

3) Out of zero capture range: Zero adjust cannot be captured. Calibrate the scale unit.

4) Non-zero time out: A specified time has expired. Remove the item and depress the Zero Adjust button to release the error status.

5) Errors 5 to 8: Scale hardware errors. Replace the scale unit.

4.7 Calibration

The scale calibration must be carried out with a calibrated set of test weights and in accordance with the local weights and measures requirements.

The scale is calibrated using a 20 lb or 10 kg test weight appropriate to the avoir/metric build capacity selected.

9950 scanner/scale should be powered on for at least 30 minutes prior to calibration.

To calibrate the scale, perform the following:

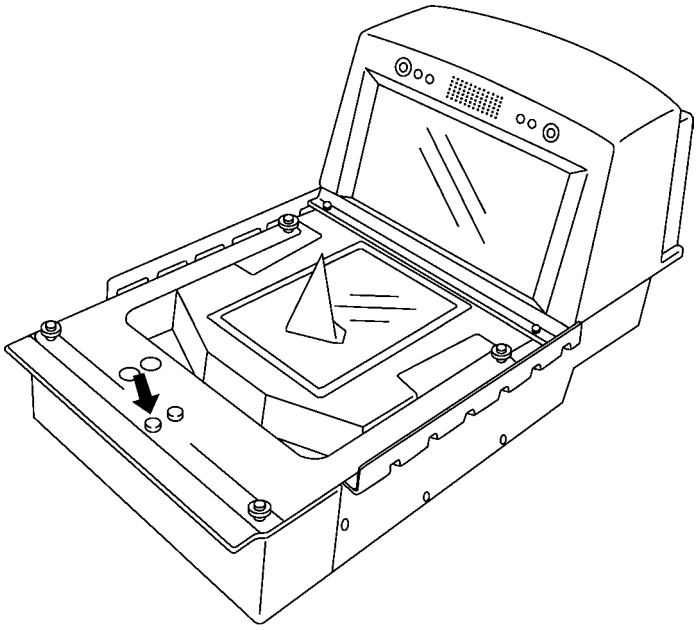
1) Remove the scale platter.

2) Remove the bolt covering the calibration button (Arrow in the right figure)

3) Allow the 9950 to warm up for at least 30 minutes.

4) While depressing the calibration button (through bolt screw hole), scan the "Enter Calibration Mode" label from the Programming Manual.

   - Speaker will beep and Yellow LED will light, if the remote Scale display is connected, "Start" shown in it.



Location of bolt for cover the calibration button

5) Replace the scale platter on the 9950.

6) Depress the Zero adjust button on the 9950 (not Zero button on the scale display).
   - Speaker will “beep” and Green LED will light.
   - If the Remote Scale Display is connected, “Empty” will be displayed.
7) Depress the Zero adjust button again on the 9950 or Scale display.
   - Speaker will “beep” and “Yellow and Green” or “Yellow” or “Green” LED will blink.
   - If the Remote Scale Display is connected, “ADD 20” or “ADD 10” or “ADD 4” will be displayed.
8) Place the test weights on the scale platter according to the LED or Scale display instructions.

   See the following table:

Test weight value	LED condition	Scale display
20 lbs	Yellow & Green LED blink	ADD 20
10 kg	Yellow LED blink	ADD 10
4 kg	Green LED blink	ADD 4

9) Depress the Zero adjust button after scale has settled (apx. 10 seconds).
   - Speaker will “beep” and Yellow & Green LED will light.
   - If the Remote Scale Display is connected, “DONE” will be displayed.
   - Remove the test weights from the scale platter within 10 seconds after Yellow & Green LED are lit or when the Remote Scale Display shows “DONE”
10) Remove the scale platter again.

    Re-Install the bolt into the calibration button hole and seal according to the local weight and measure requirements.
11) Replace the scale platter on the 9950, the Calibration has been completed successfully.

    Note:

    If the speaker beeps and Yellow & Green LED’s blink at step 10 (above) and “ABORT” is displayed in the remote scale display the scale calibration has failed. The scale unit should be replaced if Calibration cannot be completed as required.

    Even if the scale unit is not replaced after calibration failed, depressing the zero adjust button will return the 9950 to normal operation mode for use as a scanner unit.

4.8 Scale setup

The scale setup settings may be changed prior to the Calibration procedure which is required for customer order processing. The scale setup functions include: Cursor indication, Scale capacity, Expand indication, Vibration immunity and Non-zero time-out activation.

The default settings are shown in the following table:

Setup Function	Default setting
Cursor Indication	Yes
Scale Capacity	30 Lb
Expand / Normal	Normal
Vibration	Light
Non zero timer	Disable

1) Remove the scale platter.

2) Remove the bolt covering the calibration button through bolt screw hole.

3) Scan “Set-up label (0012345 68221X)” while depressing Calibration button.

→ Speaker will “beep” (long tone) and Green LED will light (on solid).

→ “Setup” will be displayed on Remote Scale Display.

4) Scan Function Item label(s) Eg., “Scale Capacity = 30 lb”

→ Speaker will “beep” (short tone).

→ Yellow LED will flash then Green LED will light (on solid).

→ If “Warble” tone from speaker, it means Program label value is already set in scale.

5) Scan “Complete (0012345 68237X)” label.

→ Speaker will “beep” (long tone).

→ “Done” will be displayed in Remote Scale Display.

→ Green LED will go off, and then Yellow LED will come on for 5 seconds.

→ Remote Scale Display will return to “0” weight indication.

6) Re-install the bolt into calibration button hole and replace the scale platter.

Note: If function change fails.,

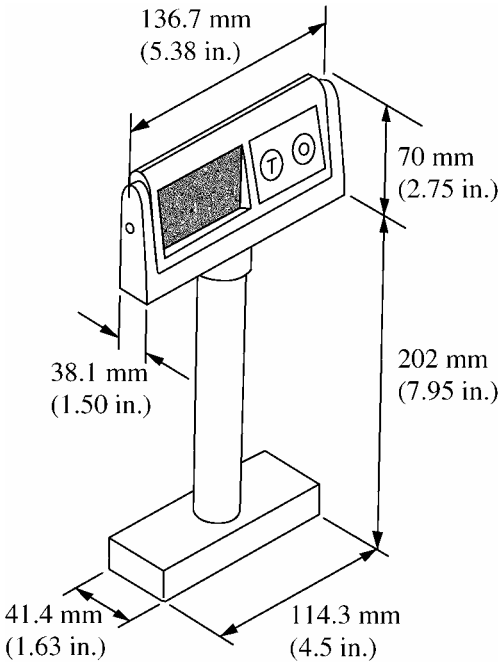
→ Speaker will” beep” and Yellow & Green LEDs will blink.

→ “Abort” will be displayed on remote scale display.

→ Power-up restart required to resume.

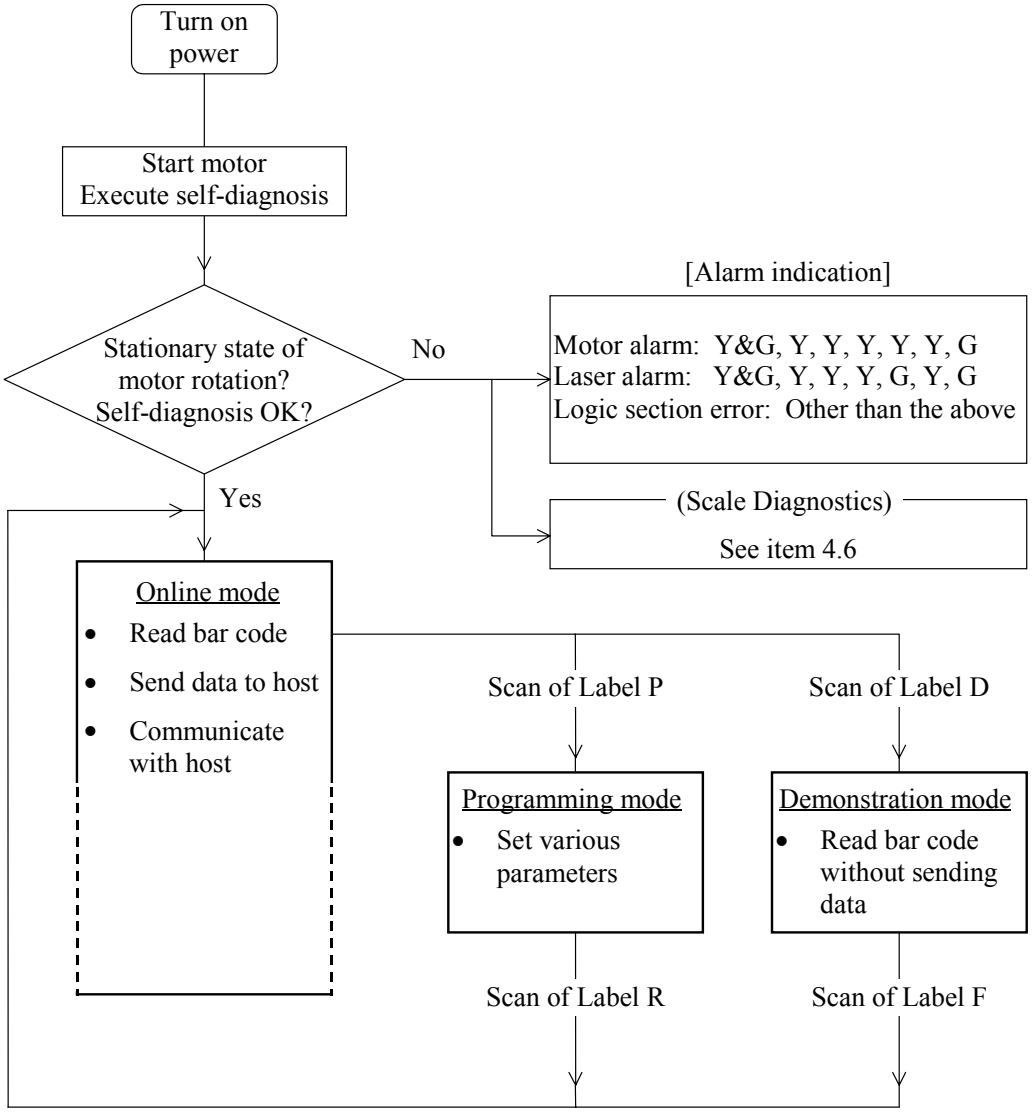
4.9 Scale Display

Following figure shows the scale display dimensions. The display interface cable is shipped with the display. The digital height in the display is 12.0 mm (0.47 in). The factory installed cable is 3.0 meters (10 feet).



Chapter 5 Operation

5.1 Flow of Basic Operation



Label D: Bar code for transition to demonstration mode (0012345 00033X, “Demo mode”)

Label P: Bar code for transition to preset mode (0012345 00045X, “Enter The Programming mode”)

Label R: Bar code for return to online mode (0012345 13058X, “Exit Save and Reset”)

Label F: Bar code for forcible reset and return to online mode (0012345 00037X, “Reset Scanner”)

5.2 Scanning

The daily use of the 9950 involves only scanning bar codes and cleaning the reading window. The following sections explain these procedures.

⚠CAUTION

 Laser light	Avoid viewing direct laser light.
 Caution	If the reading window breaks, be careful when handling the broken glass and the internal revolving mirror.

Check that the LED is green.

The bar code on the product must be held close to the middle of the reading window.

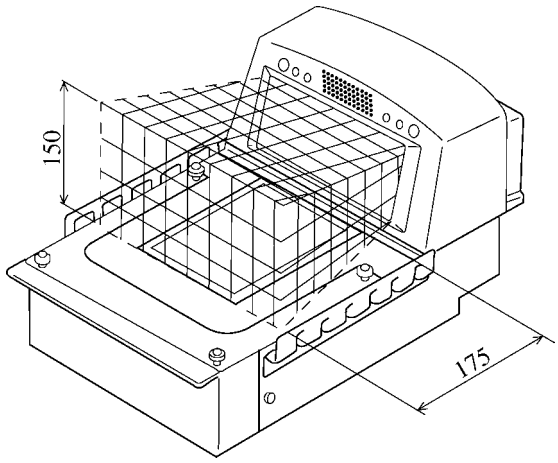
The grid lines in the figure below shows the readable area.

If the read is successful, the LED blinks green and the speaker beeps. If the read is unsuccessful, the LED does not change and the speaker does not sound.

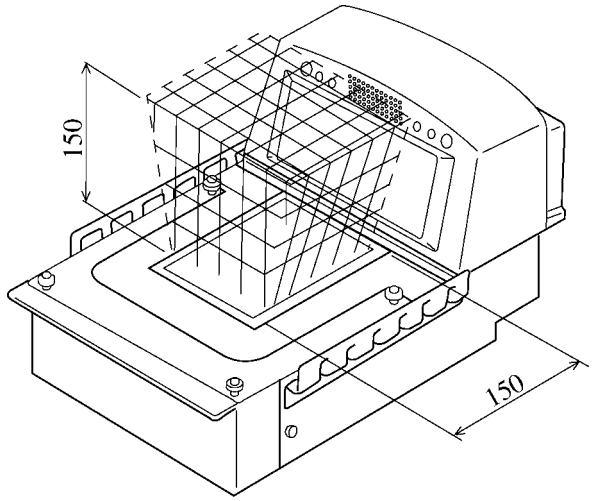
If there are no scans for a definite time, the automatic power-save function (Sleep state) operates.

The sleep state returns to normal operation mode by depressing the Restart button or if the proximity sensor detects an item.

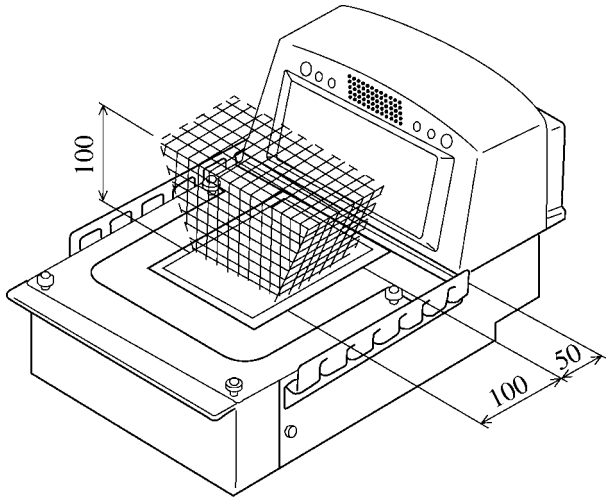
Side window reading range



Bottom window reading range



Sweet spot area



Cleaning and window replacement

⚠CAUTION

Caution	Avoid viewing direct laser light.
Laser light	If the reading window breaks, be careful when handling the broken glass and do not touch the internal revolving mirror.

Cleaning

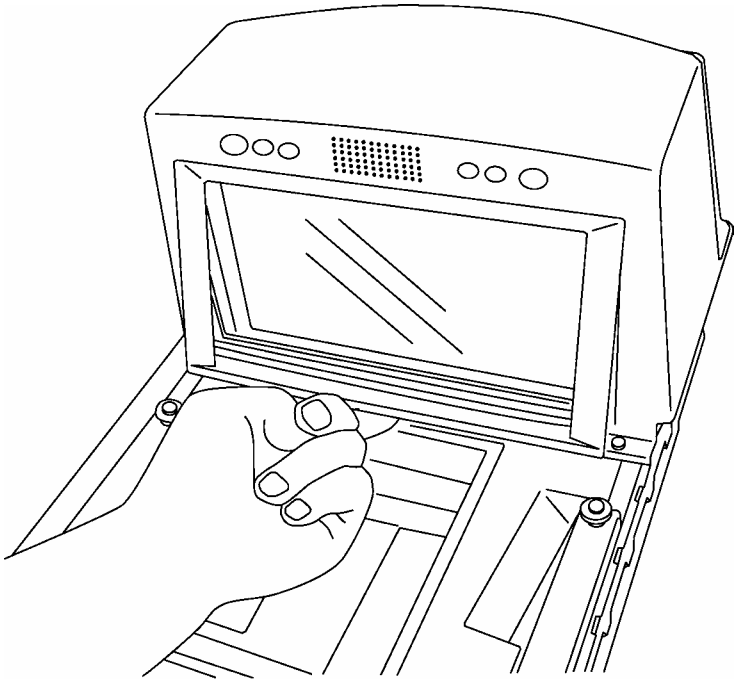
A dirty or stained reading window can result in poor performance.

Clean the reading window regularly for best results in bar code readings.

Use a soft cloth or tissue paper to wipe dirt or stains off of the reading window.

Window replacement

A scratched window on the side reading window is replaceable. Replace the window after removing a bezel from side reading window portion.



Chapter 6 Replacement Procedures

This chapter describes the replacement of parts 1 through 3 listed below.

Spare Parts List for 9950 scanner

	Unit name	Parts number
1	Main PCB	KD02152-E061 (RS232) KD02152-E062 (IBM RS485) KD02152-TBD (IBM USB)
2	Pre-amp PCB	KD02152-E630
3	LED assembly	KD02152-E642
4	Laser Unit	KD02152-E500
5	Speaker assembly	CA05333-F685
6	Motor / Polygon	CA05333-E600
7	Side window bezel	CA05333-0221
8	Side window glass	CA05333-0802
9	Optical assembly	KD02152-D400
10	Panel film	CA05333-0231
11	Debris rail	CA05333-0215
12	Top cover assembly	KD02152-E210
13	Top cover only	KD02152-F211
14	Panel film spacer	CA05333-0235
15	Panel film spacer	CA05333-0236
16	Panel film spacer	CA04141-0216
17	Metal case / housing	CA05333-E300
18	PCA cover	CA05333-0310
19	AC adapter	CA01007-0540

6.1 Replacing the Main PCB

(1) Turn over the 9950 scanner/scale and disconnect external cables.

(2) Remove the two screws that secure the PCB cover plate. (See Figure 6.1-1.)

(3) Remove the PCB cover plate.

(4) Remove the four screws that secure the main PCB. (See Figure 6.1-2.)

(5) Remove the cables connected to the main PCB and replace the main PCB with a new one.

(6) After completing the replacement of the main PCB, scan a programming label “Clear Laser Diode Power Monitor in the EEPROM (0012345 70005X)” once after applying power to the scanner.

(7) (Optionally) Conduct setup of RTC in accordance with procedure in Appendix 1-1.

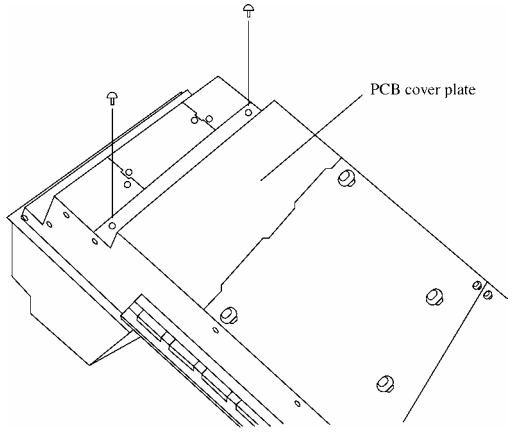


Figure 6.1-1

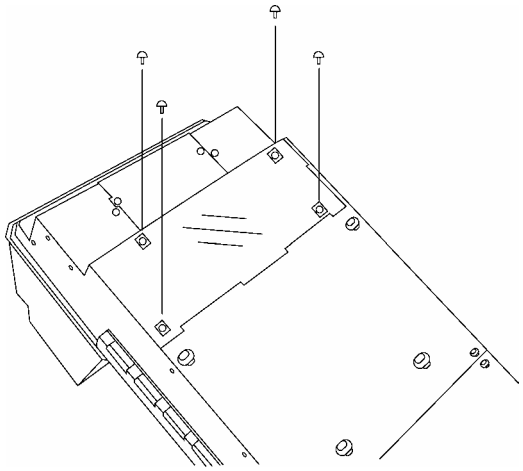


Figure 6.1-2

6.2 Replacing the Laser Unit

(1) Turn over the 9950 scanner/scale and disconnect external cables.

(2) Remove the two screws that secure the laser unit cover plate. (See Figure 6.2-1.)

(3) Remove the laser unit cover plate by sliding it in the direction of the arrow in Figure 6.2-2.

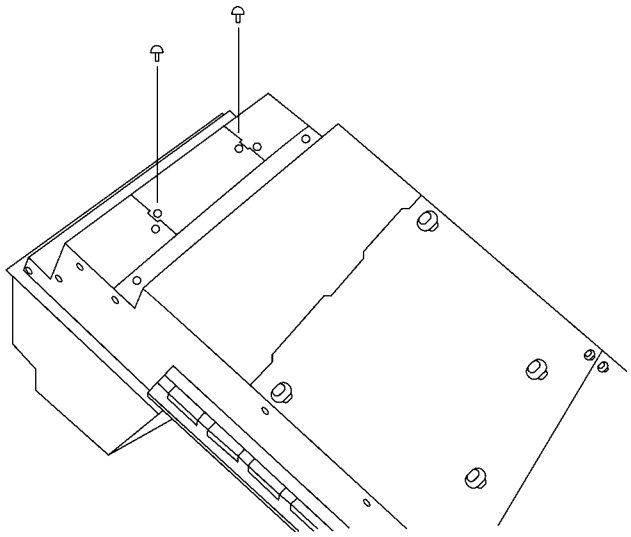


Figure 6.2-1

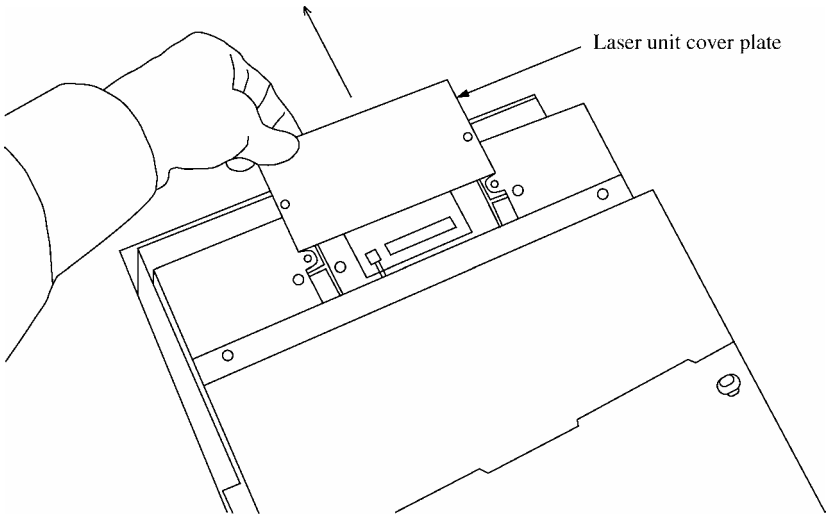


Figure 6.2-2

(4) Remove the two screws that secure the laser unit. (See Figure 6.2-3.)

(8) Remove the cable that connects the laser unit and the main PCB, and then replace the laser unit with a new one. (See Figure 6.2-4.)

(9) After completing the replacement of the laser unit, scan a programming label "Clear Laser Diode Power Monitor in the EEPROM (0012345 70005X)" once after applying power to the scanner.

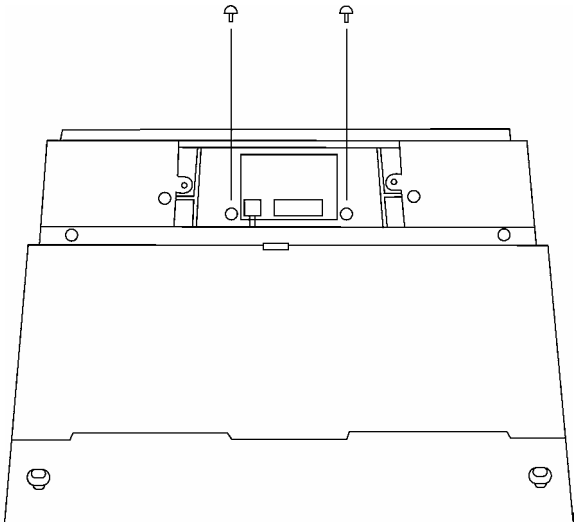


Figure 6.2-3

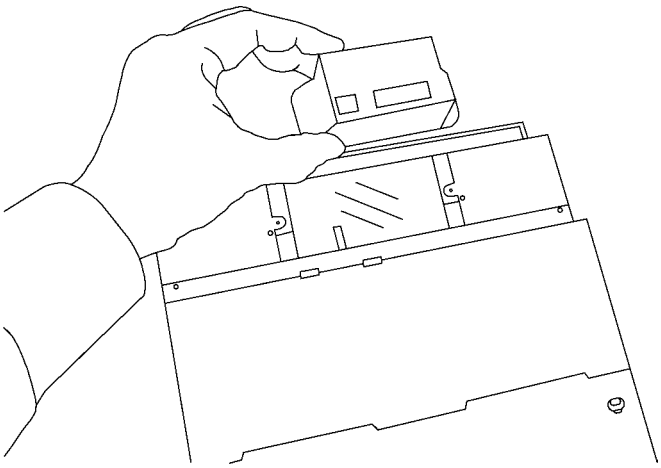


Figure 6.2-4

6.3 Mounting the Scale Unit

(1) Figure 6.3-1 shows the scale unit.

(2) Remove and save left screw ① and right screw ②. (See Figure 6.3-2.)

(3) Remove and save screws ③ to ⑥. (See Figure 6.3-2.)

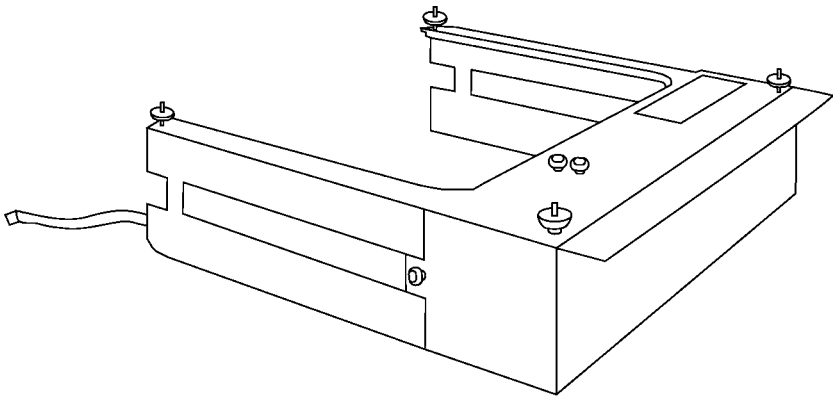


Figure 6.3-1

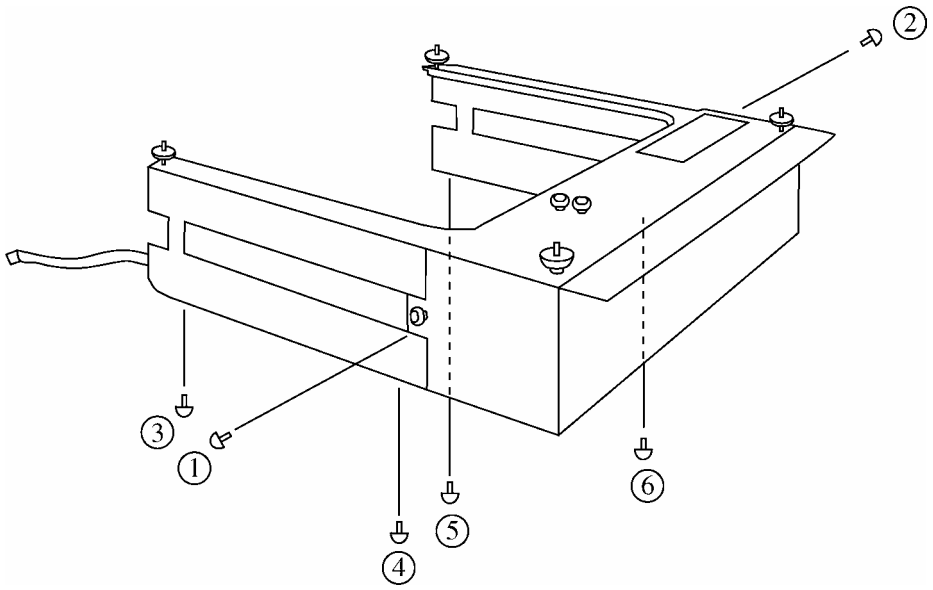


Figure 6.3-2

(4) Remove screws ① to ④ then remove the front cover. (See Figure 6.3-3.)

(5) Insert the scale unit into the scanner and thread scale cable to rear of scanner housing. (See Figure 6.3-4.)

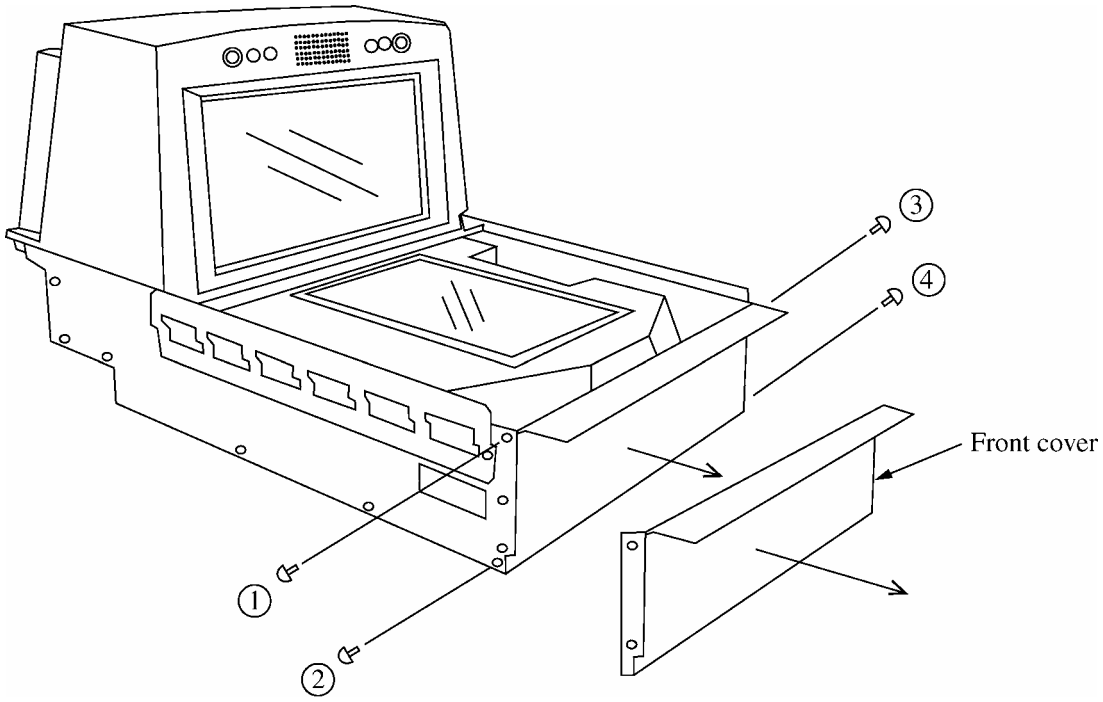


Figure 6.3-3

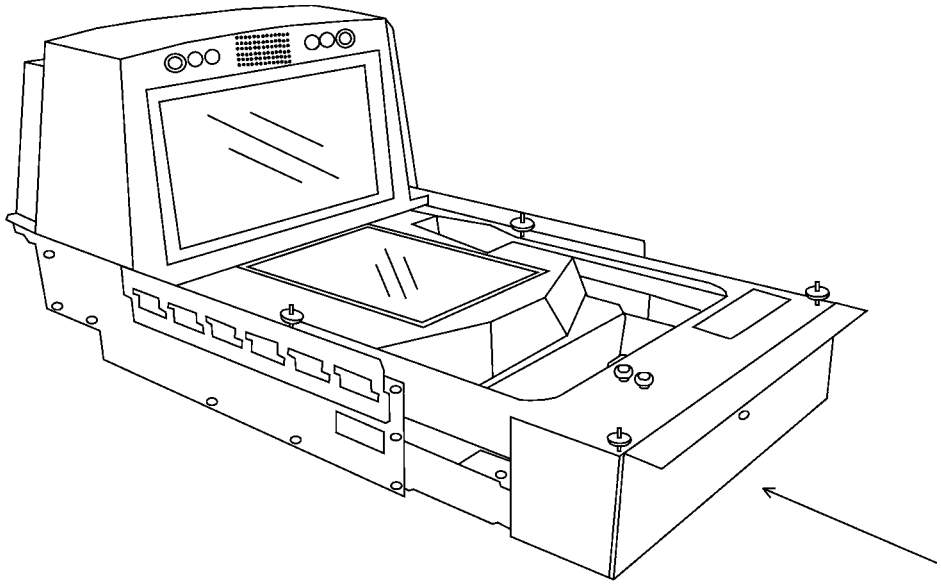


Figure 6.3-4

(6) Use the six screws that have been removed in steps (2) and (3) as shown in Figure 6.3-2 to secure the scale unit. (See Figure 6.3-5.)

(7) Turn the 9950 scanner/scale over and remove the PCB cover plate. (See Figure 6.1-1.)

(8) Pull the scale cable into area near scanner main PCB, insert cable into "slot" in plastic housing and connect to scale connector on main PCB . (See Figure 6.3-6.)

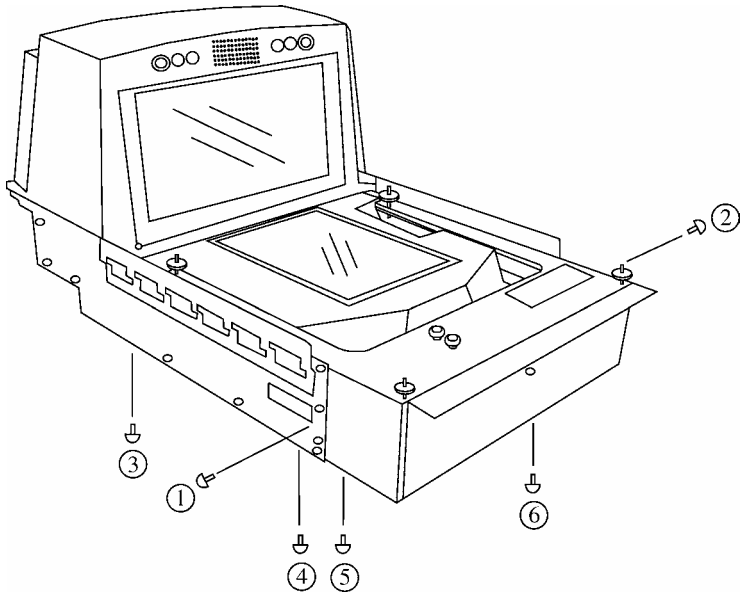


Figure 6.3-5

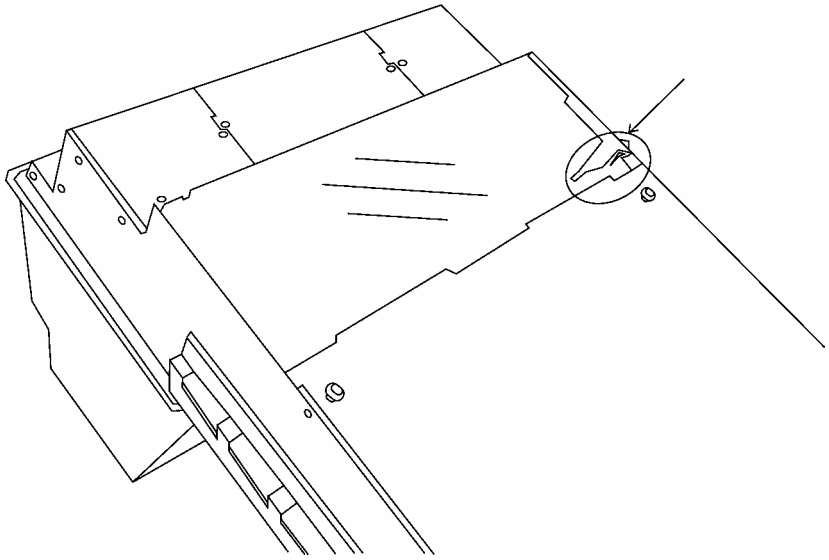


Figure 6.3-6

Appendix 1-1 RTC(Real Time Clock) setup [Option]

1-1 RTC (Real-Time-Clock) setup

1. Outline

The 9950 scanner/scale provides a RTC (real time clock) chip on its main PCB in order to provide data & time tracking capability described in section Appendix 1.2. The RTC on the scanner is initially set at factory to California, USA time (minus 17 hours from Japan time) and optionally can be changed for use at different time zone or use in summer time period by using some programming labels or PC as follows.

2.Initial setup of the RTC :

RTC on main PCB assembled in scanner product :

The RTC on the scanner is initially set at factory to California, USA time (minus 17 hours from Japan time). Therefore, the RTC shall be re-set or changed at local site to a local time, in using the scanner in different time zone from California, USA by the following methods.

RTC on main PCB provided as one of spare parts for scanner :

The RTC on the main PCB is initially set at factory to a tentative date/time. Therefore, the RTC shall be re-set at local site to a local date/time after assembling the main PCB on the scanner by the following methods.

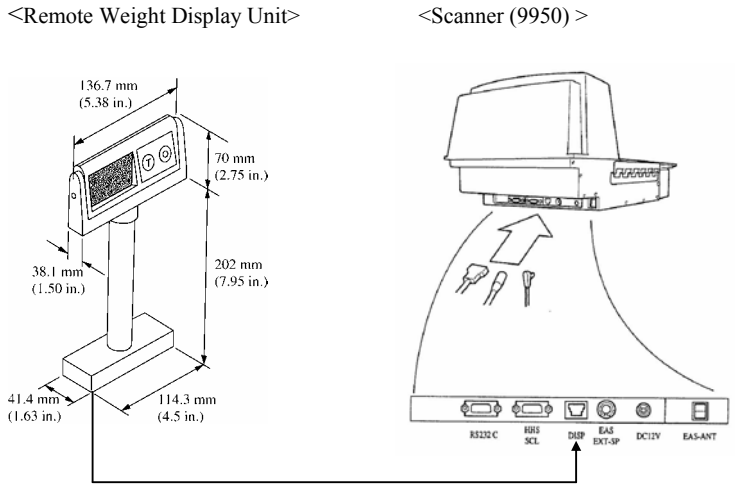
3.How to confirm and change the date/time of RTC :

Following two methods are available in order to confirm and change the date/time of RTC.

(a) Using a Remote Weight Display unit

(need to provide a Remote Weight Display unit 52412001 [LB] or 52412002 [KG])

(1) Connect the Remote Weight Display unit to DISP port for the scanner as follows.



(2) Apply power to scanner

(3) Scan a programming label “Enter Programming mode (0012345 00045X)”

(4) Scan a programming label “Display Real Time Clock On Remote Weight Display (0012345 70006X)”

(5) Scanner enters into off-line mode and the date is displayed on the Remote Weight Display unit as “MM.DD.YY (MM : Month, DD : Day, YY : Year)”,

i.e., “09.25.03” for Aug. 25, 2003.

(6) The indication on the Remote Weight Display unit can be changed from MM.DD.YY to HH.MM.SS (HH : Hour, MM : Minute, SS : Second), or reversely by depressing Zero-button on the Remote Weight Display unit for 5 seconds.

(7) Scan either of below programming labels to change the date/time information.

No	Title of Programming Label	Barcode
1	Real Time Clock (Increment Year)	0012345 20850X
2	Real Time Clock (Decrement Year)	0012345 20851X
3	Real Time Clock (Increment Month)	0012345 20852X
4	Real Time Clock (Decrement Month)	0012345 20853X
5	Real Time Clock (Increment Day)	0012345 20854X
6	Real Time Clock (Decrement Day)	0012345 20855X
7	Real Time Clock (Increment Hour)	0012345 20856X
8	Real Time Clock (Decrement Hour)	0012345 20857X
9	Real Time Clock (Increment Minute)	0012345 20858X
10	Real Time Clock (Decrement Minute)	0012345 20859X

Note : Scanner doesn’t allow the RTC to be set as incorrect date by scanning the above programming labels. In this case, change of either of Month or Date is required to be set prior to change of Day or Month as follows.

For example,

Current Date : Jan. 30, 2003, Expected Date : Feb. 27, 2003

Below procedure is required to change the Date information.

- Scan a label “Decrement Day” three times and 012703 (Jan. 27, 2003) will be displayed on the Remote Weight Display unit.

- Scan a label “Increment Month” and 022703 (Feb.27, 2003) will be displayed.

On the other hand, scanner doesn’t change the Date information and issue a “beeping” sound with warble tone by below incorrect procedure.

- Scan a label “Increment Month” at first instead of scanning a label “Decrement Day” because to be set as Feb. 30, 2003 is incorrect.

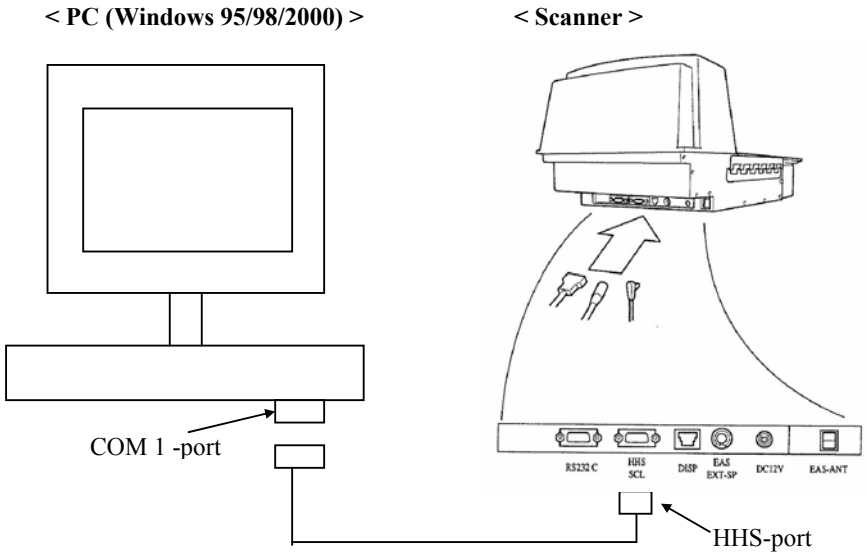
(8) After completing the change of RTC, scan a programming label “Exit with Saving (0012345 13058C)”. The scanner will be returned to on-line mode.

(b) Using a PC (Windows 95/98/2000) and an interface (cross) cable :

(need to provide below cable at local site, “Program/clone cable : P/N PB000057”)

(1) Correct date/time information provided in “Property of Date/Time” on PC.

(2) Connect between COM1-port for the PC and HHS-port for the scanner by using below interface (cross) cable.



< Interface (cross) cable >

2 (RXD)	**2 (RXD)**
3 (TXD)	**3 (TXD)**
5 (GND)	**5 (GND)**
7 (RTS)	**7 (RTS)**
8 (CTS)	**8 (CTS)**

(3) Load a program “RTC_set.exe” on a folder of the PC

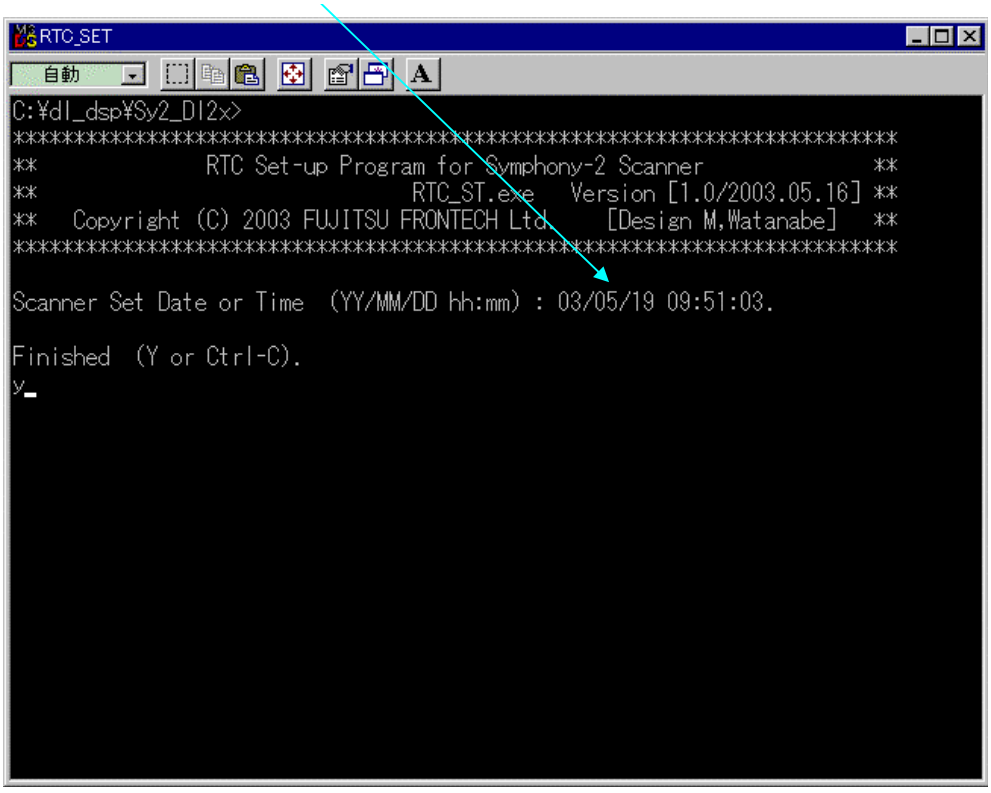
(Ask your technical person about the program)

(4) Apply power to the scanner and PC

(5) Run the program “RTC_set.exe”

(6) Scanner will issue a “beeping” sound and below window frame will be displayed on the PC. And then, the date/time on the window frame will be set for the RTC on main PCB.

The Date/Time information will be set for the RTC .



(7) Type “Y” or “Ctrl-C” on the window frame and scanner will return to on-line mode.

Appendix 1-2 Date & Time Tracking Function [Option]

1-2-1 Coupon Expiration Date Verification :

1. Outline :

The 9950 scanner/scale provides a Date & Time tracking capability because a RTC (real time clock) chip is mounted on main PCB of the scanner as described in section Appendix 1.1.

The adaptation of the UCC/EAN128 Coupon code provided the retailer with the possibility of validating "expiration dates" on manufacture's coupons as part of the Point of Sales order transaction process. However, most of current generation PoS application softwares don't support validation of the expiration date encoded in Vendor Coupon barcodes. Therefore, retailers must continue to rely on store personnel to manually inspect the expiration dates on coupon products

Below procedure provides the scanner with a function to validate the expiration date on the coupon products as part of the label decode process. This function can significantly change the checkout process and provide cost savings to the retailers.

2. Detectable Barcode labels :

Format 2 and 4 of UCC/EAN128 Coupon Extended Code only can be validated about expiration date (4-digit, Month/Year, i.e. 07/99)

Other labels (format 1, 3, 5) are not supported on this function because the expiration date information is not contained in their labels

See below URL in detail of the UCC/EAN128 Coupon Extended Code

http://www.uc-council.org/reflib/00908/11/1104.html

http://www.uc-council.org/reflib/00908/11/110404.html

3. Related programming labels for this function :

<Coupon code reading>

A	Enable Coupon Code (UPC-A + EAN128)	012345 68326 X	
B	Enable Coupon Code (UPC-A + EAN128) Automatically Distinction	012345 68341 X	
C	Enable Coupon Code (EAN13 + EAN128)	012345 68330 X	
D	Enable Coupon Code (EAN13 + EAN128) Automatically Distinction	012345 68342 X	

<What data will be sent>

A	Send UPC-A (SN=5) and EAN13 (Fc=99) only data to Host	012345 61812 X	
B	Send UPC-A/EAN13 + EAN128 data to Host	012345 61512 X	

<Vendor Coupon Validation (VCV) >

A	Enable Date Validation When Coupon Scanned	012345 61811 X	
B	Disable Date Validation When Coupon Scanned	012345 61511 X	

<Operator Alert if Date Expired>

A	If Date Expired, Send No Data to Host & Issue Alert	012345 20803 X	
B	If Date Expired, Send Coupon Data to Host & Issue Alert	012345 20804 X	
C	If Date Expired, Send Coupon Data to Host & Alert Not Issued	012345 20805 X	

4. How to program scanner for this function

(1) Scan a label "Enter Programming Mode (0012345 00045X)"

(2) Scan a label described in above table in below order

(a) scan either (A) or (B) and (C) or (D) labels for <Coupon code reading>

(b) scan either of labels for <What data will be sent>

(c) scan either of labels for <Vendor Coupon Validation (VCV) >

(d) scan either of labels for <Operator Alert if Date Expired>

(3) Scan a label "Exit with Saving (0012345 13058X)"

Note : Scanner issues below alert (two beeps) when irregular setting is programmed in the above (2).

Two Beeps :

"Beep" : 250 ms duration with 100 ms between "beeps"

Frequency : 400 Hz

5. Operator Alert :

(when either "A" or "B" labels in the above <Operator Alert if Date Expired> is programmed.)

Speaker issues "beep" and Yellow LED is flashed as follows and then scanner resume normal scanning operation 100ms after issuing the Operator Alert, when scanner reads a coupon label with out of expiration date.

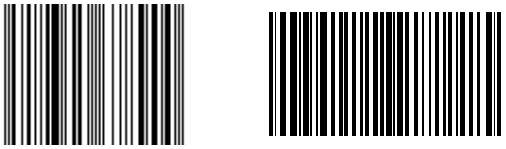
Operator Alert : 3 "beep" and 3 flashes of LED

- "Beep" : 100 ms duration with 100 ms between "beeps"
- Frequency : 350 Hz
- LED flash : 100 ms (on/off)

6. Sample barcode of UCC/EAN128 Coupon Extended Code :

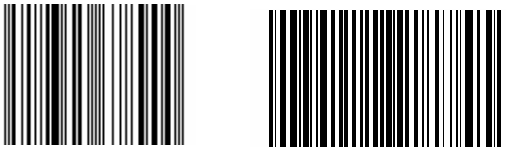
<Format-2>

(a) Out of Expiration date (Oct., 2001)



Coupon UPC/A : 512345678900
c128(Format 2) :81010123451001 (YY:01 MM:10)

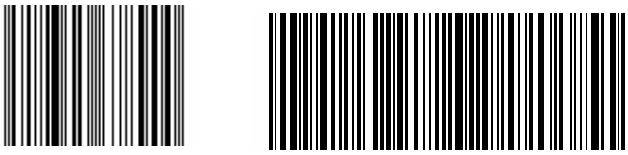
(b) Within Expiration date (Sep., 2010)



Coupon UPC/A : 512345678900
c128(Format 2):81010123450910 (YY:10 MM:09)

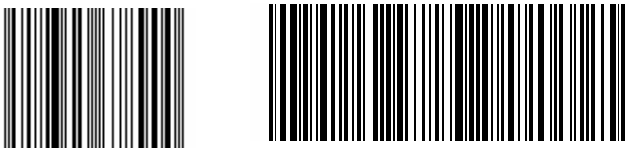
<Format-4>

(a) Out of Expiration date (Nov., 2001)



Coupon UPC/A : 512345678900
c128(Format 4):81017123451101#2112345678 (YY:01 MM:11)

(b) Within Expiration date (Aug., 2010)



Coupon UPC/A : 512345678900
c128(Format 4):81017123450810#2112345678 (YY:10 MM:08)

1-2-2 RSS “Sell-by” Date Verification :

1. Outline :

The 9950 scanner/scale provides a Date & Time tracking capability because a RTC (real time clock) chip is mounted on main PCB of the scanner as described in section Appendix 1.1.

The recently released RSS Expanded Symbology contains date encoding that is used to validate the “Sell-by” date on fresh meat and packaged deli products. However, most of current generation PoS application softwares don’t support validation of the “Sell-by” date encoded in the RSS Expanded barcodes. Therefore, retailers must continue to rely on store personnel to manually inspect the “Sell-by” dates on the products with the RSS Expanded labels.

Below procedure provides the scanner with a function to validate the “Sell-by” date on the products with the RSS Expanded labels as part of the label decode process. This function can significantly change the checkout process and provide cost savings to the retailers.

2. Detectable Barcode labels :

RSS Expanded code with information on AI (Application Identifier) = 15 can be validated about “sell-by” date (6-digit, YYMMDD, i.e. 99/01/30).

Other labels are not supported on this function because the “sell-by” date information is not contained in their labels

See below specification : UCC AG0003-2001, 12 Aug, 2001

http://www.uc-council.org/rss14/documents/pdf/Valiable_Measure_Application_Guideline.pdf

3. Related programming labels for this function :

<RSS Symbol Reading>

A	RSS14 & RSS Expanded Enabled	012345 61744 X	
B	RSS14 & RSS Expanded Disabled	012345 61488 X	
C	RSS14 & RSS Expanded Check Digit Enabled	012345 61817 8	
D	RSS14 & RSS Expanded Check Digit Disabled	012345 61517 7	

<Sell-by date (RSS-Expanded) Validation Check>

A	Enable Validation of Date When Scanned (RSS Expanded)	012345 61814 X	
B	Disable Validation of Date When Scanned (RSS Expanded)	012345 61514 X	

<Sell-by Date (RSS-Expanded) : - Extension data, - Validation error>

A	Operator Alert and Validation of Expiration Date Transmitted to Host Enabled (RSS Expanded)	012345 61815 X	
B	Operator Alert Disabled But Validation of Expiration Date Transmitted to Host Enabled (RSS Expanded)	012345 61515 X	
C	Operator Alert Enable But Validation of Expiration Date Transmitted to Host Disable (RSS Expanded)	012345 61816 X	

4. How to program scanner for this function

(1) Scan a label “Enter Programming Mode (0012345 00045X)”

(2) Scan a label described in above table in below order

(a) scan “A” and either “C”or “D” labels for < RSS Symbol Reading >

(b) scan either of labels for < Sell-by date (RSS-Expanded) Validation Check >

(c) scan either of labels for < Sell-by Date (RSS-Expanded) : - Extension data, - Validation error >

(3) Scan a label “Exit with Saving (0012345 13058X)”

5. Operator Alert :

(when Operator Alert is programmed as enabled, in the above procedure (2)-(C).)

Speaker issues “beep” and Yellow LED is flashed as follows and then scanner resume normal scanning operation 100ms after issuing the Operator Alert, when scanner reads a RSS Expanded label with out of “sell-by” date.

Operator Alert : 3 “beep” and 3 flashes of LED

- “Beep” : 100 ms duration with 100 ms between “beeps”
- Frequency : 350 Hz
- LED flash : 100 ms (on/off)

6. Sample RSS Expanded barcode :

(a) Out of “Sell-by date” (May 10, 2002)

RSS-exp : 12345(15)020510 (AI:15, YY:02, MM:05, DD:10)

(b) Within “Sell-by date” (Jul. 15, 2009)

RSS-exp 12345(15)0907157 (AI:15, YY:09, MM:07, DD:15)

Appendix 1-3 VLD Near End of Life Detection Function [Option]

1-3 : VLD(Visual Laser Diode) Near End of Life Detection Function

1. Outline :

The 9950 scanner/scale frequently checks a signal (Iop & Im) provided by the VLD and provides a function to issue operator alert at a status of VLD near end of life as well as actual end of life. Retailers can prevent the scanner/scale from stopping suddenly due to dead of the VLD while the checkout lane is open, by applying this function on the scanner/scale because retailers is possible to know if the VLD is near end of life.

2. Related programming labels for this function :

<VLD near end of life detection function>

A	Enable VLD near end of life detection	012345 20810 X	
B	Disable VLD near end of life detection	012345 20811 X	

<Operator alert at near end 1>

A	Enable operator alert for near end of life 1 detection	012345 20812 X	
B	Disable operator alert for near end of life 1 detection	012345 20813 X	

< Operator alert at near end 2>

A	Enable operator alert for near end of life 2 detection	012345 20814 X	
B	Disable operator alert for near end of life 2 detection	012345 20815 X	

< Initial Iop>

A	Clear Laser Diode Power Monitor In The EEPROM	012345 70005 X	

3. How to program scanner for this function

(1) Scan a label “Enter Programming Mode (0012345 00045X)”

(2) Scan a label described in above table in below order

(a) scan “A” labels for < VLD near end of life detection function >

(b) scan either of labels for < Operator alert at near end 1>

(c) scan either of labels for < Operator alert at near end 2 >

(3) Scan a label “Exit with Saving (0012345 13058X)”

Note : When either of VLD-module or main-PCB on the scanner is replaced, below programming shall be conducted so that this function can be available.

***Scan a label “Clear Laser Diode Power Monitor In The EEPROM” described in the above table, only once after replacing* either of VLD-module or main-PCB.**

After that, plug off the scanner/scale once, before conducting normal operation.

4. Operator Alert :

(when Operator Alert is programmed as enabled, in the above procedure (2)-(B) & (C).)

	Status of VLD (Visual Laser Diode)			
	Normal condition	Near end 1	Near end 2	End of life
Old Scanner	No operator alerts			Laser alarm
9950 Scanner	No operator alerts	operator alert 1	operator alert 2	Laser alarm

Operator alert at near end of life 1 :

Green LED is flashed in long duration until restart-button is depressed or normal barcode is scanned. The operator alert is re-issued in applying power to scanner or in resuming from motor-timeout.

Operator alert at near end of life 2 ::

Green LED is flashed in short duration until restart-button is depressed or normal barcode is scanned. The operator alert is re-issued in applying power to scanner or in resuming from motor-timeout.