8582

Technical Manual
and
Parts Catalog

INTRODUCTION

This publication is provided solely as a guide for individuals who have received METTLER TOLEDO Technical Training in servicing the METTLER TOLEDO product.

Information regarding METTLER TOLEDO Technical Training may be obtained by writing to:

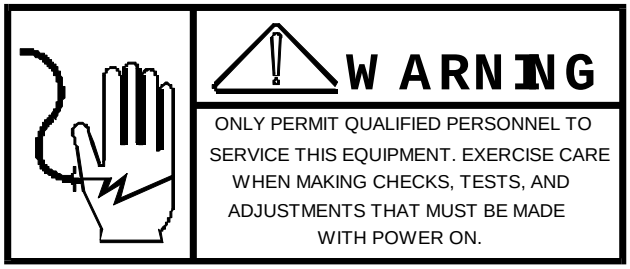
METTLER TOLEDO
Training Center
P.O. Box 1705
Columbus, Ohio 43216
(614) 438-4400

PRECAUTIONS

- **READ** this manual before operating or servicing this equipment.

- **ALWAYS REMOVE POWER** and wait at least 30 seconds **BEFORE** connecting or disconnecting any internal harnesses. Failure to observe these precautions may result in damage to, or destruction of the equipment.

- **ALWAYS** take proper precautions when handling static sensitive devices.



- **DO NOT** connect or disconnect a load cell scale base to the equipment with power connected or damage will result.

- **SAVE** this manual for future reference.

- **DO NOT** allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

- **ALWAYS DISCONNECT** this equipment from the power source before servicing.

- **CALL** METTLER TOLEDO for parts, information, and service.

1. GENERAL DESCRIPTION

The Toledo Model 8582 combines heavy duty construction with high resolution performance for applications that require a broad range of parts counting capability. The 8582 is compatible with one or two remote scales allowing the unit to be configured in a system offering optimum flexibility and consistently accurate piece counts.

The Model 8582 is simple to operate, yet offers unmatched functional versatility. Customized transaction prompts and sequences can be configured in setup, all but eliminating operator uncertainty. For applications that require total operating flexibility, an independent mode can be enabled in setup allowing data to be input in virtually any sequence. Precise average piece weight and count calculations are derived from a Toledo digital load cell coupled with microprocessor based electronics providing one part in 500,000 resolution of scale capacity.

The standard scale memory feature can be configured into 200 individual inventory files for storage of part numbers, descriptions, totals, etc.; or as a buffer intended to capture and store transaction data for upload to a host or other peripheral at the end of a shift or production cycle. All setup parameters and data are battery backed and are retained if power is ever lost.

The unit is available in a NEMA 12 wall mount enclosure for dusty environments. Accessories include a full travel terminal style keyboard or sealed membrane version for extended data input capability (desk version only); a bar code operation for applications that require scanning input, and additional RS232 or RS485 serial communication port; and expanded memory for inventory files or transaction buffer. All options are modular and can be installed during initial installation or added at a later date.

1.1 FEATURES

- Remote Scale Input: Allows one or two additional scale bases to be used with the self contained unit for applications requiring a multiple platform system.

- Keyboard Setup and Calibration: All setup parameters and scale operating features including calibration can be easily configured through the standard keyboard.

- Customized Operating Prompts: System versatility and user friendliness are insured with selectable operating modes. If desired, the highly visible dot matrix display can be used to provide customized operating prompts that are defined by the user and permanently stored in setup.

- Transaction identification: Up to four lines of identification data totaling 32 characters may be input an/or stored per transactions.

- Standard Scale Memory: Can be user formatted into an inventory file for storage of part ID"s, weights, totals etc., or as a buffer for storage of completed transactions.

- Standard Data Communication: Includes an RS232 or 20mA output for Toledo printers and an RS 232 or RS485 bi-directional port for host interface. Ideal for system integration, the 8582 features networking protocol allowing up to 28 individual scales to be linked to a single host port in a multidrop configuration.

- Accessories: Standard hardware is compatible with a wide range of accessories including alpha-numeric keyboard, additional Serial I/O, bar code scanner or printer, memory expansion PCB and remote display.

1.2 STATEMENT OF PERFORMANCE

The performance of any count-by weighing scale is dependent uniformity of weight per piece, number of pieces in the sample, individual piece weight and the percent of rated load placed on the scale. In application, count accuracy is also dependent upon the ability of the operator to read and record the count information accurately.

The high resolution parts counter significantly reduces errors induced by the operator. In most applications, it provides better practical accuracy than either hand counting or using mechanical techniques. Assuming proper capacity selection, count accuracy of +/- one part is attainable in many specific cases. However, the most significant variable is not controllable by the scale system.

1.3 ACCURACY CONSIDERATIONS

Counting accuracy is determined primarily by these factors:

1. Digital resolution of the sample weight.
2. Piece to piece weight variation.

The first factor (1.) is the most frequent cause of parts counting inaccuracy because of the suer's desire to count and handle the minimum number of sample pieces. For example, 0.02% of scale capacity is equal to 100 internal graduations. Therefore your sample is weighed to ± 1 part in 100. This means you can ha a count error of ± 1%. Use of the 0.1% or 0.05% minimum sample weight will significantly reduce sampling error and ultimately improve counting accuracy.

The second factor (2) is not under control of the parts counter, but is a factory that merits serious attention by the user. The overall count accuracy can be no better than the piece to piece variation, and the level of accuracy may be much lower if the sample is not representative of the average piece weight.

2. SYSTEM DESCRIPTION

The 8582 Logic PCB provides a DC supply voltage to the digital load cell which responds with numeric values proportional to the weight applied to the platter. This weight information is then used to determine the average piece weight and corresponding piece count.

Operational parameters and calibration are accessible via the front keyboard so no internal access is required. Calibration values are stored in non-volatile ROM (Read Only Memory) so they will not be lost during a power outage. Operational parameters are stored in battery backed RAM (Random Access Memory).

2.1 INTERNAL FUNCTIONS

The basic 8582 consists of three major blocks. These are:

2.1.1. DIGITAL LOAD CELL
Communicates bidirectionall with the Logic PCB to determine weight applied to the platter.

2.1.2. LOGIC PCB
Contains the power supply and logic circuitry required to operate the scale. This PCB scans the keyboard, communicates bidirectionally with the digital load cell, drives the Display PCD, has two serial ports (printer and I/01), and also contains a bus connection to communicate with optional accessories. A host communications port is also available from this PCB.

2.1.3. DISPLAY PCB
This contains the 19 character dot matrix vacuum fluorescent display that is 0.44 inches high. The drivers for the display are located on the Logic PCB. There is a ribbon harness to connect the Display PCB to the Logic PCB.

2.2 DISPLAY

The 8582 utilizes a 19 character vacuum fluorescent display that is divided into three separate sections. They are - Weight (5 digits), Data (12 digits) and Scale Selection (2 digits). Cursors under the display digits indicate exactly what data is being displayed.

2.3 KEYBOARD

2.3.1 DESK VERSION

The desk unit contains a 4 x 5 matrix keyboard for operator interface. The keyboard is domed with tactile feel and has an embossed polycarbonate overlay with ridges to separate active key areas. The functions available are tare entry, sample or APW entry, ID entry (numeric only) clearing of data printing, rezeroing the scale, setup selection, scale selection, recall and memory access.

An optional qwerty keyboard or a membrane keyboard is available for alpha entry of ID.

2.3.2 WALL VERSION

The wall version has a 4 x 5 matrix keyboard containing all the operations of the desk keyboard except the wall keyboard is not tactile feel - it is a flat keyboard. In addition to the 4 x 5 keyboard, the wall unit has a 3 x 10 keypad that adds alpha characters, a question mark, a slash, a hyphen and a space character.

No optional keyboard are compatible with the 8582 wall unit.

2.4 OPTIONS

2.4.1 REMOTE SCALE INPUT

The basic 8582 is compatible with a broad offering of remote bases for counting applications that require both maximum sensitivity for piece weight sampling and extended weighing capacity for gross loads. The desk unit can accommodate one or two remote inputs. Where added system flexibility is required, a total of two bases may be used with the NEMA 12 wall unit in virtually any combination of capacities.

The analog remote scale PCB can power as many as four 350 ohm load cells. Both 2mV/V and 3mV/V load cells. Both 2mV/V and 3mV/V load cells are compatible with the 8582.

2.4.2 BAR CODE SCANNING

The Model 8582 can be easily adapted to bar code-based inventory systems. Scanning of bar code data can be accomplished with an optional digital wand accessory. The scanning option allows the Model 8582 to process code 3 of 9, Interleaved 2 of 5, or Codebar formats. When coupled with Toledo's Model 8860 thermal printer, up to 6 lines of bar code data may be recorded on an adhesive label along with an extensive range of human readable information in a variety of selectable formats.

2.4.3 ALPHANUMERIC KEYBOARD DATA ENTRY

An optional full travel qwerty keyboard (typewriter type) or sealed membrane style (alphabetical) are available to expand the functional capability of the desk type 8582. They are intended for applications that require alphanumeric data to be input to the scale locally (for example, transaction identification or description). The modular keyboards may be interfaced to the scale at a later date.

NOTE Using the sealed membrane style alphabetical keyboard with a desk mount 8582 having an optional Scale 3 Analog or Digital kit of parts, the keyboard is still functional but cannot be physically mounted to the 8582 because of the Scale 3 kit dimensions.

2.4.4 SERIAL I/O 2

An optional serial port is available to operate a Toledo Model 8622 remote display or host comunications (non-multidrop) if I/O is previously utilized. The remote display will show count (in the count mode) or blank when not in the count mode, in areas located remote from the 8582.

2.4.5 MEMORY EXPANSION

The Model 8582 features 12 KB of standard scale memory that can be configured by the user as an inventory file or as a transaction buffer for applications that require scale data to be transmitted to a host device.

If configured as file memory, up to 200 part ID's can be stored for inventory control or total recall. A 128 KB memory expansion option is available to increase the number of files to 2400 or for additional buffering capability depending on configuration. This option also contains the serial port I/O 2.

2.4.6 NETWORK COMMUNICATION

The Model 8582 offers standard bi-directional RS232 or RS485 communication. An optional interface harness provides required hardware for a local area network application. Based on a polling scheme, the 8582 networking feature utilizes RS485 multidrop communication. The T-LAN (Toledo Local Area Network) feature is intended for use with an IBM compatible Host; up to 28 scales can be linked in the network. A multidrop communication card with onboard program is available for installation in one of the PC's expansion slots.

3. SPECIFICATIONS

3.1 ELECTRICAL

3.1.1 POWER REQUIREMENTS

The 8582 operates at 120, 220 or 240 VAC (+10%, -15%) 50 or 60 HZ (+/- 1.5 Hz) selectable by moving a wire terminal. Power consumption is approximately 35 watts.

The line voltage must be within these specifications. The power line for the 8582 should not be shared with equipment that generates line noise (such as motors, relays, heaters, etc.). If adverse power conditions exist, a power line conditioner may be required.

3.1.2 U.L. & C.S.A. STANDARDS

Materials, components, and electrical design comply with U.L. specification 114, Office Appliances and Equipment and 746 Polymeric Materials and also conforms to C.S.A. standard C22.2 Number 143-1975 Office Machines. This includes grounding of all metal parts, fusing etc.

3.1.3 FCC REGULATIONS

The 8582 meets or exceeds FCC docket 80-284 for conducted and radiated emissions requirements.

3.1.4 RADIO FREQUENCY INTERFERENCE

This unit is not intended for use in environments where a high concentration of RFI is present.

3.2 ENVIRONMENTAL

3.2.1 TEMPERATURE SENSITIVITY

1. Digital Load Cells
The 8582 internal scale (desk version) has a zero temperature coefficient of 60 PPM/ C maximum.

2. Analog Scale PCB
The optional analog scale PCB (standard on the wall version) has a zero temperature coefficient of 0.25uV/ C and a span temperature coefficient of 12 PPM/ C.

3.2.2 OPERATING TEMPERATURE
The Model 8582 is operable from 32 F (0 C) to 104 F (40 C) at 0 to 95% relative humidity, non-condensing. Wet bulb temperature not to exceed 86 F (30 C) during scale operation.

3.2.3 APPLICATION

1. The 8582 desk version is intended for use in a general purpose atmosphere. It is intended for indoor applications where dirt, oil or water is not present.
2. The 8582 wall mount enclosure meets NEMA 12 design test requirements and is intended for indoor use primarily to provide a degree of protection against dust, falling dirt and dripping non-corrosive liquids.
3. The 8582 is not designed for "hose -down" applications. typical examples of misapplication of the scale include, but are not limited to:

3.2.4 HAZARDOUS AREAS
In locations classified as hazardous by the National Electrical Code (NEC) because of combustible or explosive atmospheres or materials, special precautions are required. DO NOT USE THE 8582 IN THESE LOCATIONS.

3.3 PHYSICAL

3.3.1 APPEARANCE AND DIMENSIONS
The Model 8582 desk version is fog white with a black platter assembly and multi-color keyboard. The unit is 5.3 in (134 mm) high, 14.7 in (374 mm) wide and 14.6 in (370 mm) deep. This version of the 8582 also weighs approximately 20 pounds (9.1 kg)

3.3.2 CONSTRUCTION
The base and sub-platter of the desk version are made from die cast aluminum. the unit utilizes a moment insensitive load cell. The cover, bezel, and platter are made of heavy structural plastic. A level bubble is mounted in the subplatter, requiring only removal of the platter for viewing.

The wall mount version of the 8582 is made from type 304L stainless steel that is solution annealed.

3.3.3 PLATFORM SIZE (Desk Version)
The 25, 50, and 100 pound capacity scales use a platter that is 14.5 in wide (371 mm) and 10.8 in deep (273 mm). The 5 and 10 pound units include 8 in X 8 in platform.

3.3.4 SHIPPING INFORMATION
Approximate shipping weigh is 22lb (10kg). Carton dimensions are 9 in (229 mm) X 19 in (483 mm) X 19 in (483 mm) for the desk unit and 11 in (279 mm) X 16 in (406 mm) X 16 in (406 mm) for the wall unit.

3.4 DATA INTERFACE

The standard 8582 contains a printer port to provide 20mA current loop or RS-232-C Communications. The baud rate is selectable from 300 to 9600 baud and parity is selectable as even, odd, nor parity, or always a "0". All data will be in 11 bit frame - 1 start bit, 7 ASCII coded data bits, 1 parity bit and two stop bits.

When the PRINT key is pressed on the keyboard, the 8582 will output a message as formatted by setup selections. Transmission of a checksum character is selectable as is expanded print format. Scale motion, expanded display mode, under zero or over capacity operation will disable a print command.

Also standard on the 8582 is a serial port labeled I/O1. This port can be programmed as an input for either of the keyboard options (desk version only) or it can be used for a remote display
or for host communications (non multidrop). The configuration for this port is done in the normal setup programming.

3.5 CONFIGURATION GUIDE

Factory Number	Avoirdupois Indication	Metric Indication	Load Cell Capacity
8582-0002	5 x 0.0005 lb	2 x 0.0002 kg	3.75 kg
8582-0003	10 x 0.001 lb	5 x 0.0005 kg	7.5 kg
8582-0004	25 x 0.002 lb	10 x 0.001 kg	15 kg
8582-0005	50 x 0.005 lb	20 x 0.002 kg	30 kg
8582-0006	100 x 0.01 lb	50 x 0.005 kg	60 kg
8582-0010	Wall Enclosure w/Analog Scale 2	--	--
8582-0011	Wall Enclosure w/Digital Scale 2	--	--

4. INSTALLATION INSTRUCTIONS

To unpack and setup the 8582, use the following procedure.

4.1 SETUP PROCEDURE (DESK UNITS)

4.1.1 Examine the shipping box for any sings of damage. IF DAMAGE IS FOUND, MAKE A CLAIM WITH THE CARRIER IMMEDIATELY.

4.1.2 Open the box, remove the scale and place the scale on a flat level surface.

CAUTION: Do Not lift the sale by the platter or sub-platter. Grasp the scale by the base to lift. Do not stress or bump the sides of the platter as this will cause a side torque to the platter this will cause a side torque to the platter thus damaging the load cell.

4.1.3 On 5 pound capacity scales (8582-0002 and 8571-0012), steps 3.1 through 3.4 must be followed. On all other 8582's these steps are not required - proceed to step 4.

1. Remove the rubber band securing the 8" square plastic platter to the sub-platter.

2. Grasp the plastic platter by the edges and lift straight up to remove it. The platter is held by loop and hook strips in the corners.

3. Remove the two 8-32 screws and rubber 0-rings from the top the sub-platter. These parts, along with the shims, must be saved as they are required any time the scale is transported. See Figure 1.

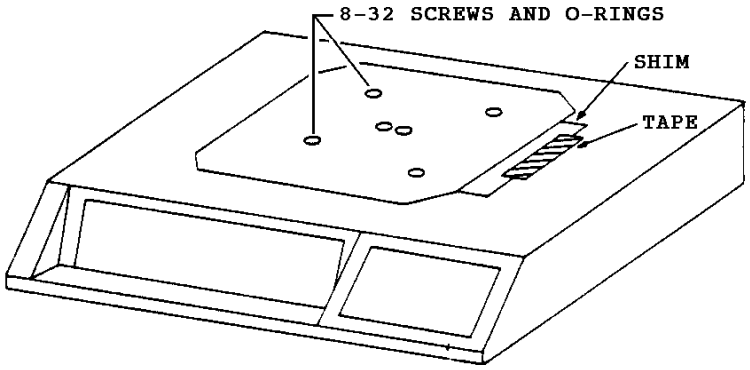
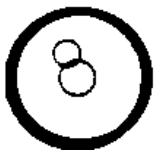


FIGURE 1

4. Remove the tape and shim from the top of the right side of the dead-deck. See Figure 1. Skip the following step 4.

4.1.4 Remove the platter by lifting upward and locate the level bubble.

4.1.5 Level the scale by turning the adjustable feet on the bottom of the scale base in or out. The feet should be adjusted so the scale does not rock. The correct position of the level bubble when the 8571 is level is shown in Figure 2.



INCORRECT
BUBBLE IS NOT CENTERED

CORRECT
BUBBLE IS CENTERED

FIGURE 2

4.1.6 Carefully tighten the lock-nut at each adjustable foot.

4.1.7 Install any optional kits at this time.

4.2 SETUP PROCEDURE (WALL UNITS)

4.2.1 Examine the shipping box for any signs of damage. IF DAMAGE IS FOUND, MAKE A CLAIM WITH THE CARRIER IMMEDIATELY.

4.2.2 Open the box, remove the 8582 and continue to inspect for damage.

4.2.3 If a printer is to be connected to the 8582 wall mount enclosure, the printer output harness must be installed. The wall enclosure is not NEMA 12 rated if a printer harness is installed. Follow these steps:

1. Remove and discard the cover plate from the bottom of the 8582 labeled "Printer".

2. Attach the 25 pin connector end of the printer harness (number 129319 00A) to the connector plate on the bottom of the 8582 where the cover plate was removed in the step 3.1. Use the standoff kit included to secure the harness noting that the connector mounts from the inside of the enclosure.

3. Plug the remaining end of the printer harness into J4 on the Logic PCB.

4. Route the new harness so it does not interfere with the closing of the enclosure door.

4.2.4 If I/O port 1 is to be utilized on the 8582 wall mount enclosure, the I/O 1 output harness must be installed. The wall enclosure is not NEMA 12 if I/O port 1 harness is installed. Follow these steps:

1. Remove and discard the cover plate from the bottom of the 8582 labeled "I/O 1".

2. Attach the 9 pin connector end of the I/O 1 harness (number 120320 00A) to the connector plate on the bottom of the 8582 where the cover plate was removed in the step 4.1. Use the standoff kit included to secure the harness noting that the connector mounts from the inside of the enclosure.

3. Plug the remaining end of the I/O 1 harness into J5 on the Logic PCB.

4. Route the new harness so it does not interfere with the closing of the enclosure door.

4.2.5 Attach the four "L" brackets (number 129773 00A) included with the 8582 to the exterior of the enclosure at the left and right sides. Do this by removing the existing bolts and lockwashers and placing the brackets in pooper position before re-installing the lockwashers and bolts. Tighten the bolts to secure the brackets.

4.2.6 Install the 8582 in the location it will be used. The hole pattern for mounting the enclosure is shown in Figure 3.

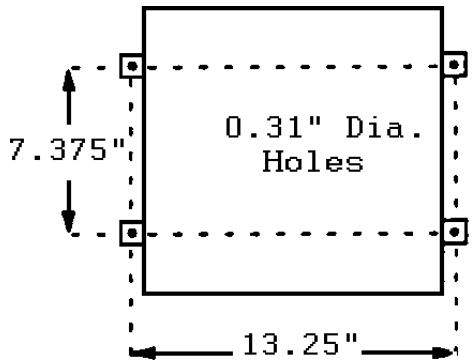


FIGURE 3

4.2.7 Attach the scale base that is to be used with the 8582 to the Scale 2 connection on the bottom plate of the 8582. The wiring for this connection is described in Sections 6.2 and 6.3.

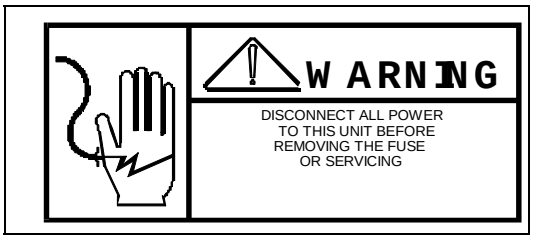
4.2.8 Level the scale base and verify its operation referencing the technical manual for that particular understructure.

4.2.9 Install any optional kits at this time. Refer to the instructions packed with each kit for installation details.

4.3 ALTERNATE VOLTAGE SELECTION

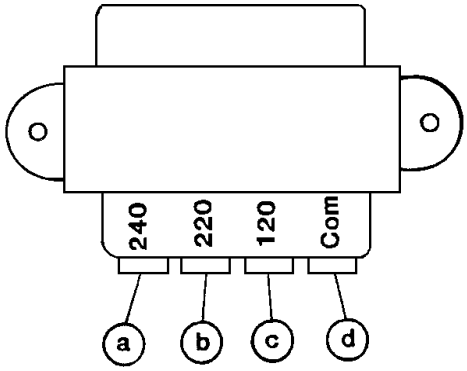
If the 8582 is to be connected to a 220 or 240 volt AC power source, it will be necessary to change the connection to the transformer assembly and replace the fuse. Follow these steps:

4.3.1 Open the 8582 to gain access to the transformer assembly.



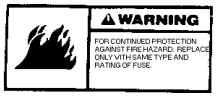
4.3.2 Remove the wire connection from position "c" shown in the next drawing of the transformer and attach to either position "a" or "b" corresponding to the voltage 8582 will be utilizing.

1. 240 volt AC operation
2. 220 volt AC operation
3. 120 volt AC operation
4. Common (Do not change)



4.3.3 Install the fuse with the correct rating from the following chart.

OPERATION	RATING	PART NUMBER
120V	1/2 A Slo-Blo	112145 00A
220V	1/4 A Slo-Blo	095920 00A
240V	1/4 A Slo-Blo	095920 00A



4.3.4 Close the enclosure and test the operation of the 8582 per this technical manual.

4.4 PROGRAMMING PROCEDURE

This section of the technical manual describes the programming of the operating modes and features of the 8582, as well as the calibration.

Sample displays are given to show the programming prompts. Described under each sample display are the possible selections and the effect these selections will have on the unit's operation.

The following front panel pushbuttons perform specified functions when in the programming mode.

ENTER - Pressing this pushbutton will accept the displayed programming parameter and proceed to the next prompt.

YES (1) - Depressing this pushbutton will enable the displayed parameter and proceed to the next prompt unless otherwise stated.

NO (0) - Pressing this key will disable the displayed parameter and proceed to the next prompt unless otherwise stated.

ZERO - Depressing this pushbutton will enable the programmer to back-up tho the previous prompt.

CLEAR - Depressing this pushbutton will cause the unit to bypass any other programming parameters an advance to the [Set OFF] prompt at the end of the programming setup.

The following chart can be used as a quick reference for programming descriptions. Also listed is the recommended selection for each step as a beginning point for initial setup. Verify each selection, such as calibration in pounds to be certain it coincides with actual usage before attempting calibration.

NOTE: The following chart pertains to the E129329 00A revision software. The software revision will be the third prompt displayed after applying power to the unit. [8582 E129329 00A] is an example of the third prompt after applying AC power.

STEP	DESCRIPTION	INITIAL SETUP
F1	**CONFIGURE OPERATIONAL FUNCTIONS**	
F1.1	Enable Operator Setup	N
F1.2	Include Sample	Y
F1.3	Repeat ID	N
F1.4	Tare Autoclear	Y
F1.5	APW Autoclear	Y
F1.6	Variable Sample Enable	Y
Ff.7	Fixed Sample Quantity	10
F1.8	Enable Sample Enhancement	Y
F1.9	Percent Accuracy Recall Enable	Y
F1.10	Select Weight Units	lb
F2	**CONFIGURE UNIT FUNCTIONS**	
F2.1	Sample in Pcs./Wt	N
F2.2	Minimum Sample Select	0.02
F2.3	Auto Sample Acceptance	Y
F2.4	Tare Active	Y
F2.5	Keyboard Tare Active	Y
F2.6	Beeper Active	Y
F2.7	Enhanced APW Repeatability	N
F3	**ENTER TIME AND DATE**	
F3.1	Clock On	Y
F3.2	24 Hour Clock	*
F3.3	Enter Hour	*
F3.4	Enter Minute	*
F3.5	AM or PM	*
F3.6	Date On	Y
F3.7	Enter Year	*
F3.8	Enter Month	*
F3.9	Enter Day	*

* - Program as required.

F4 CONFIGURE PROMPTS

F4.1	ID Active		Y
	Clear File ?		Y
	Sure ?		Y
F4.2	ID Format Selection		1
F4.3	Enter ID Prompts		*
F4.4	Operation Mode	2	
F4.5	Order of Prompts		2
F4.6	ID Mandatory		N
F4.7	Accumulation Mandatory		N
F4.8	Accumulate On Print		N
F4.9	Single Data Register Enable		OFF
F4.10	Clear Accumulator		N

* - Program as required.

F5 ENTER FILE SELECTION

F5.1	Use Inventory File		Y
	Clear File ?		Y
	Sure ?		Y
F5.2	Modify File		Y
F5.3	Enter Part Number		*
F5.4	Delete ?		*
F5.5	Sure ?		*
F5.6	Enter Description		*
F5.7	Enter APW Value		*
F5.8	Enter Tare Value		*
F5.9	Continue File Entry		*
F5.10	Use File Tare		N
F5.11	Use File APW		N
F5.12	Enable APW Tolerance Check		N
F5.13	Store Tare and APW		N
F5.14	Transaction Buffer Enable		N

* - Program as required.

F6 CONFIGURE SCALES

F6.1	Test Mode Enable		N
F6.2	Configure Scale 1		Y
F6.2	Select Scale 1 Capacity	*	
	Actual Calibration		
F6.2	Enable AZM For Scale 1		Y
F6.3	Configure Scale 2		Y
F6.3	Select Scale 2 Capacity		*
F6.3	Select Scale 2 Increment Size		*
	Actual Calibration		
F6.3	Enable AZM For Scale 2		Y
F6.4	Configure Scale 3		Y
F6.4	Select Scale 3 Capacity		*
F6.4	Select Scale 3 Increment Size		*
	Actual Calibration		
F6.4	Enable AZM For Scale 3		Y
F6.5	Filtering Selection		O
F6.6	Analog Verification		N
F6.7	Tare Interlock Enable		N

* - Program as required.

F7	**CONFIGURE I/O PORTS**	
F7.1	Enable Multidrop Interface	N
F7.2	I/O Port 1 Function	OFF
F7.3	I/O Port 2 Function	OFF
F7.4	Bar Code Scanning Active	N
F7.5	Memory I/O PCB present	N
F7.6	Enable Setpoint Output	N

F8	**CONFIGURE HOST COMMUNICATIONS**	
F8.1	Parity Select	EVN
F8.2	Checksum Enable	N
F8.3	Select Number of Stop Bits	2
F8.4	Baud Rate	9600
F8.5	Enter Scale ID Number	*
F8.6	Transmit ID 1	Y
F8.6	Transmit ID 2	Y
F8.6	Transmit ID 3	Y
F8.6	Transmit ID 4	Y
F8.6	Transmit Gross Weight	Y
F8.6	Transmit Tare Weight	Y
F8.6	Transmit Net Weight	Y
F8.6	Transmit APW	Y
F8.6	Transmit Sample Quantity	Y
F8.6	Transmit Percent Accuracy	Y
F8.6	Transmit Count	Y
F8.6	Transmit Time	Y
F8.6	Transmit Date	Y

* - Program as required.

F9	**CONFIGURE PRINTER FUNCTIONS**	
F9.1	Printer Output Active	Y
F9.2	Parity Select	EVN
F9.3	Checksum Enable	N
F9.4	Baud Rate	1200
F9.5	Multiline Printer Format	N
F9.6	Enter New Print Format	*
F9.7	Print All File Records	Y
F9.8	Print ID Expanded	N
F9.9	Print NET Expanded	N
F9.10	Print Piece Count Expanded	N
F9.11	Enable Repeat Print	N
F9.12	Enable Autoprint	N

* - Program as required.

Nine programming steps of the 8582 can be accessed without turning the setup slide switch "ON" if step [F1.1] is programmed as YES. These nine steps are referenced as operator selectable setup parameters. To access these steps, press the decimal point key (.) immediately after turning the power switch at the right side of the unit "ON". After the 8582 has stepped through its power up sequence, it will show [F1.2] and the following steps will be accessed.

F1.2	Include Sample
F1.3	Repeat ID
F1.4	Tare Autoclear
F1.5	APW Autoclear
F1.6	Selectable Sample Enable
F1.7	Fixed Sample Quality
F1.8	Enable Sample Enhancement
F1.9	Enable Percent Accuracy Display
F1.10	Select Weight Units

NOTE: After exiting the operator selectable steps the 8582 will perform an automatic zero capture.

Reference the actual programming descriptions in the next section for a full explanation of each of these steps. Note that these operator entered functions are saved in battery backed RAM. They will be retained in the event of a power failure.

To enter the setup mode on a desk type 8582, remove the platter (on scales with the 11" x 14" platform) or remove the plastic cover plug (on scales with the 8" square platter) and locate the setup switch access hole. See Figure 4. After locating the access hole, slide the setup switch (located in the access hole) toward the rear of the scale using a pointed non-conductive object. Do not use an object that could easily be dropped into the unit.

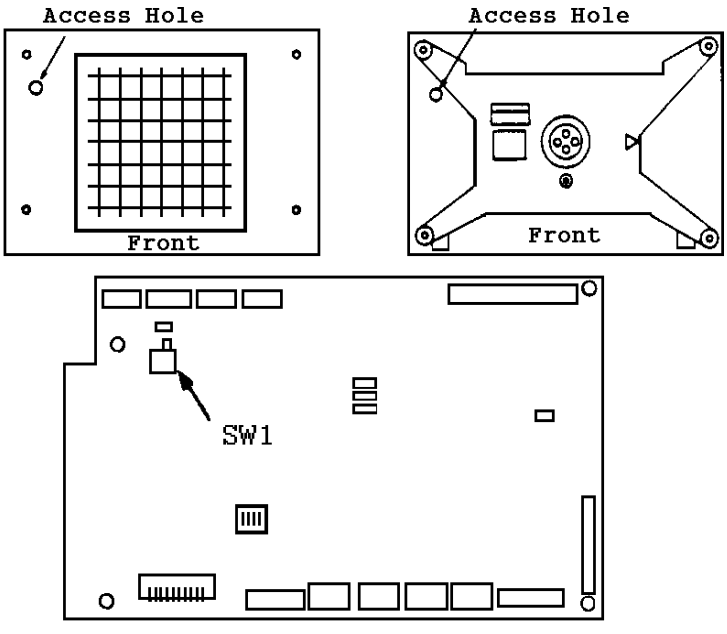


FIGURE 4

The display of the 8582 should now show [SETUPP MODE]. At this time, the ENTER key on the keyboard of the 8582 must be pressed to enter the setup mode. Donot press the ENTER key on the Qwerty keyboard or the membrane keyboard if either of these options is present.

[F1] CONFIGURE OPERATIONAL FUNCTIONS?

YES - To enter into the setup of the operational parameters.

NO - To skip the operational parameter programming and precede to [F2].

[F1.1 N] ENABLE OPERATOR SETUP

YES - To enable operator selection of steps F1.2, through F1.10 without having to turn to the setup switch . This is done by pressing the decimal point key after turning the power switch on.

NO - To disable operator selection of steps F1.2, through F1.10.. The setup must be turned on in order to change these parameters.

[F1.2 Y] INCLUDE SAMPLE ?

YES - The sample weight and sample count will be added to the total weight and count.

NO - The sample weight and sample count will not be added to the total weight and count.

[F1.3 N] ID REPEAT ?

YES - The ID will be repeated from one transaction to the next. The CLEAR key must be pressed to clear the ID.

NO - The ID will clear each time the scale returns to zero.

[F1.4 Y] TARE AUTOCLEAR ?

YES - Tare will automatically clear when the scale returns to within one increment of zero after settling to a no motion condition `0 increments above net zero.

NO - Average piece weight will be retained until the CLEAR pushbutton is depressed.

[F1.6 Y] SELECTABLE SAMPLE ENABLE?

YES - To enable the selection of different sample counts (5, 10, 20, 50, or 100) before placing the sample pieces on the scale. Keyboard entry of sample counts is also allowed.

NO - To disable variable sample sizes and allow only the fixed sample size to be used. (See step [F1.7]).

[F1.7 010] FIXED SAMPLE QUANTITY ?

Select the desired quantity to be used as the fixed sample size. The available quantities are 5,10, 20, 50 or 100. Use the NO key to switch to the next value and the YES key to enter the correct value when displayed.

[F1.8 Y] ENABLE SAMPLE ENHANCEMENT?

YES - To activate the enhanced sample feature. Section 5. 5 or 5.6 explains sample enhancement.

NO - The unit will operate in the normal count mode..

NOTE: This function is only enabled in single scale applications. If two scales are used, one for sample and one for gross, this function is automatically disabled.

[F1.9 Y] PERCENT ACCURACY RECALL ENABLE

YES - To enable the recall of % Accuracy after a count has been made.

NO - To disable the recall of % Accuracy.

[F1.10 lb] SELECT WEIGHT UNITS?

lb - The scale will weigh in the pounds mode and will not be switchable to kilograms.

kg - The scale will weight in the kilogram mode and will not be switchable to pounds.

Use the NO key to switch to the other selection and the YES key to enter the correct units when displayed.

NOTE: With the analog verify switch (F6.6)) set on, truly measured weights will be printed with brackets around ('<' and '>'). Keyboard tare values are printed with a 'TRH' descriptor, and net weight calculated using a keyboard tare have the 'NETC' descriptor when the scale is calibrated in kg a and displays weight in kg [F1.10 kg].

[F2] CONFIGURE UNIT FUNCTIONS?

YES - To enter into the unit function setup routine. The display will step to [F2.1].

NO - To bypass the unit function setup routine, the display will then step to [F3].

[F2.1 N] SAMPLE IN PCS./WT. ?

YES - If the average piece weight is to be entered and calculated in pieces per weight unit (lb or kg).

NO - If the average piece weight is to be entered as a decimal value.

[F2.2 0.02] MINIMUM SAMPLE SELECT

This allows selection of the percent of scale capacity that must be reached before an average piece weight may be calculated and a count sequence initiated. The available percentages are 0.0%, 0.02%, 0.05% and 0.10%.

Use the NO key to switch to the next value and the YES key to enter the correct value when displayed.

[F2.3 Y] AUTO SAMPLE ACCEPTANCE

YES - When additional sample pieces required to reach the selected minimum sample requirement [Add 5] are to be automatically accepted after the pieces are added. The exact number must be added.

NO - When additional sample pieces required are to be entered via the ENTER key after adding the pieces.

[F2.4 Y] TARE ACTIVE

YES - Tare will be enabled.

NO - To disable the tare function.

NOTE: Tare is not available for the sample scale.

[F2.5 Y] KEYBOARD TARE ACTIVE ?

YES - Numeric tares from the keyboard will be accepted as well as an autotare. The tare value must be entered according to increment size of the gross scale.

NO - Only an autotare will be accepted from the keyboard . Numeric entries will be ignored.

[F2.6 Y] BEEPER ACTIVE ?

YES - The beeper will beep when a key is pressed on the keyboard of the 8582. Operation of a remote keyboard will not activate the beeper.

NO - The keyboard beeper will be inactive.

[F2.7 N] ENHANCED APW REPEATABILITY ?

YES - The Enhanced APW Repeatability feature is enabled. Enabling this feature ensures maximum APW accuracy and repeatability . The 8582 will operate noticeably slower with this feature enabled.

NO - Enhanced APW Repeatability is disabled.

[F3] ENTER TIME AND DATE?

YES - To enter into the routine where the time and date are set.

NO - To skip the programming of time and date and proceed to step [F4].

[F3.1 N] CLOCK ON?

YES - To enable the time feature for printing and to access the clock for setting the correct time.

NO - To disable the time function and proceed to [F3.6].

[F3.2 N] 24 HOUR CLOCK?

YES - The clock will update in a 24 hour format (military time.)

NO - The clock will be in 12 hour format with AM or PM identifier.

[F3.3 03] ENTER HOUR?

Enter the correct hour using the numeric keys on the keyboard. If two digits are entered, the setup will automatically proceed to the next prompt. The value entered must be valid with respect to the selection for step [F3.2]. If the hour is already correct, press "ENTER" to continue.

[F3.4 45] ENTER MINUTE?

To enter (using two digits (00 through 59) the correct minute using the numeric keys on the keyboard of the 8582. The display will automatically proceed to the next prompt. If the minute is correct, press ENTER to continue.

[F3.5 PM] AM OR PM?

YES - Press the key to enter the display (AM or PM) as the correct selection.

NO - This changes the display to the other selection, from AM to PM or from PM to AM.

.

[F3.6 Y] DATE ON?

YES - To enable the date feature for printing and to access the date from programming.

NO - To disable the date function and proceed to step [F4].

[F3.7 87] ENTER YEAR?

Enter the last two digits of the year (00 through 99) using the numeric keys on the keypad and the display will automatically proceed to the next step. If the displayed year is correct, press "Enter".

[F3.8 12] ENTER MONTH?

To enter the month numerically by referencing the following chart.. After the two digits have been entered, the 8582 will advance to the next prompt.

MONTH	NUMERIC ENTRY	MONTH	NUMERIC ENTRY	MONTH	NUMERIC ENTRY
January	01	May	05	September	09
February	02	June	06	October	10
March	03	July	07	November	11
April	04	August	08	December	12

[F3.9 31] ENTER DAY?

Enter the day of the month (01 through 31) using the numeric keys on the keyboard. Invalid entries will not be accepted. After the two digits have been entered, the display will advance to [F4].

[F4 Y] CONFIGURE PROMPTS?

YES - To enter into the configuration section for the operator prompts.

NO - To skip the prompt configuration section and proceed to step [F5].

[F4.1 Y] ID ACTIVE

YES - This enables the ID feature of the 8582. When this step is programmed as YES, either the inventory file or transaction buffer mode may be selected in section [F5].

NO - This disables the use of ID and also disables the use of the inventory file memory mode. the transaction buffer mode is still selectable. The setup advances to [F4.4]. Memory will be cleared when ID is disabled.

[F4.1 Y] CLEAR FILE ?

This prompt will only occur when the Inventory file or transaction buffer memory must be cleared due to reprogramming of the use of ID is disabled, all existing files must be cleared. If the transaction buffer is active and ID is added or removed, all existing transactions must be cleared.

YES - This acknowledges that the decision to change the status of the ID feature was correct and it is okay to clear the file.

NO - This prevents accidental clearing of the file by incorrect setup selection. The setup will show the previous prompt [ID ACTIVE] again.

[F4.1 Y] SURE?

This is the last safeguard to inhibit clearing of the memory by accident. It will only appear if the previous prompt [CLEAR FILE] was programmed as YES.

YES - The memory will be cleared and ID will be disabled.
NO - The [ID ACTIVE] prompt will be displayed again and memory will not be cleared.

[F4.2 1] ID FORMAT ?

This step selects the quantity of ID fields (1 through 4) that will be used in the 8582. The possible selections are:

Selection	Description
1	One line of 32 characters
2	Two lines-each 16 characters
3	Three lines-one 16 character, and two 8 character lines.
4	Four lines-one 16 character, one 8 character and two 4 character lines.

YES - This accepts the displayed value as the quantity of ID fields.

NO - This advances the display to the next possible selection each time it is pressed.

[F4.3] ID PROMPT 1?

This display is shown for one second indicating the setup for ID 1 prompt. ID 1 prompt is what will be displayed in operation prior to the operator entering ID number 1. If a prompt has previously been entered, it is displayed, otherwise underscores are displayed under the characters to be entered. Enter up to 12 characters for the display prompt for ID 1. Press ENTER to enter this as the prompt. If format 1 was selected in step [F4.2], the setup will skip the programming for the other prompts and proceed to step [F4.4].

[F4.3] ID PROMPT 2?

This display is shown for one second indicting the setup for ID 2 prompt. If a prompt has previously been entered, it is displayed , otherwise underscores are displayed under the characters to be entered. Enter up to 12 characters for the display prompt for ID 2. Press ENTER to enter this as the prompt. If format 2 was selected in step [F4.2], the setup will skip the programming for the other prompts and proceed to step [F4.4].

[F4.3] ID PROMPT 3?

This display is shown for one second indicating the setup for ID 3 prompt. If a prompt has previously been entered, it is displayed, otherwise underscores are displayed under the characters to be entered. Enter up to 12 characters for the display prompt for ID3. Press ENTER to enter this as the prompt. If format 3 was selected in step [F4.2], the setup will skip the programming for the last prompt and proceed to step [F4.4].

[F4.3] ID PROMPT 4?

This display is shown for one second inditing the setup for ID 4 prompt. If a prompt has previously been entered, it is displayed, otherwise underscores are displayed under the characters to be entered. Enter up to 12 characters for the display prompt for ID 4 . Press ENTER to enter this as the prompt.

[F4.4 2] OPERATION MODE

This step selects the mode of operation for the 8582. Order independent mode requires the pressing of the correct key (ID TARE, SAMPLE or APW) before an entry on the keyboard in order to identify the entry. In order dependent mode operation, the operator simply follow the prompts on the 8582 display which will occur in order selected in step [F4.5]. The two selections for the mode of operation are:

Selection	Description
1	Order independent mode
2	Order dependent mode

YES - Pressing this key accepts the displayed value as the selection for the mode of operation.

NO - Pressing this key toggles the display to the other section.

NOTE: If order independent mode is selected, step [F4.5] will be skipped.

[F4.5 2] ORDER OF PROMPTS?

This step selects the order of prompting when the order dependent mode has been enabled in step [F4.4]. The possible selections are:

CHOICE	DESCRIPTION
1	"Tare?" followed by "APW?" or "PCS/Wt."
2	"Tare?" followed by "Sample = "
3	"APW?" or "PCS/Wt." followed by "Tare?"
4	"Sample: = " followed by "Tare?"

NOTE: This ID prompt will always occur first.

YES - This selects the value on the display for the order of operation.

NO - This advances the display to the next selection each time the key is pressed.

[F4.6 N] ID MANDATORY?

YES - The cursor under the ID legend will flash indicating that a count cannot be obtained until an ID has been entered.

NO - ID entry may be bypassed by pressing the ENTER key.

[F4.7 N] ACCUMULATION MANDATORY?

YES - An accumulation must occur after a total piece count of 50 is reached on the gross scale before the operator can exit the counting mode. This is indicated by the flashing total cursor.

NO - Accumulation is optional and the counting mode may be exited at any time by a double CLEAR depression.

[F4.8 N] ACCUMULATE ON PRINT ?

YES - A piece count accumulation will occur when the PRINT key is pressed when in the count mode.

NO - No accumulation will occur when PRINT is pressed. A manual accumulation must be made in order to accumulate a piece count.

NOTE: Steps F4.9 and F4.10 are only available with E1293929 00A revision software or newer. The software revision will be the third prompt displayed after applying power to the unit [8583 E129329 00A] is an example of the third prompt after applying AC power.

[F4.9 OFF] SINGLE DATA REGISTER ENABLE ?

YES - The displayed selection is accepted as the field to be accumulated in the single data register.

NO - This advances the display to the next selection each time the key is pressed.

CHOICE	DESCRIPTION
OFF	The Single Data Register is disabled.
GRS	Gross weight will be accumulated.
NET	Net weight will be accumulated.
CNT	Piece count will be accumulated.

[F4.10 N] CLEAR ACCUMULATOR ?

YES - The Single Data Register will automatically clear to 0 after the total has been printed.

NO - The Single Data Register will not clear to 0 after a total print and must be cleared manually.

[F5] ENTER FILE SECTION ?

YES - To enter into the configuration section for the memory files.

NO - To bypass the file section and the setup will proceed to step [F6].

[F5.1 Y] INVENTORY FILE ?

YES - The memory of the 8582 will be configured as an inventory file for storage of ID, tare, APW, count and count change all referenced by the ID.

NO - The inventory file will be disabled and accumulation of count by ID will not be possible. Steps F5.2 through F5.13 are skipped.

[F5.1 Y] CLEAR FILE ?

This prompt will only occur when the memory configuration is changed from inventory file to transaction buffer or from transaction buffer to inventory file. In order to reformat the memory for the new use, all data must be cleared.

YES - This enables the clearing of all data in memory for reformatting.

NO - This stops the reformatting process and returns the display prompt to [F5.1 INV FILE?].

[F5.1 Y] SURE ?

This is the last safeguard to prevent clearing of memory by accident . It will only appear if the previous prompt had been programmed as YES.

YES - Memory will be cleared.

NO - Disables clearing of memory and the prompt [F5.1 INV FILE?] will be displayed again.

[F5.2 Y] MODIFY FILE ?

YES - This accesses the following four steps for entry of ID's, descriptions, APW's and tare values used in the inventory file.

NO - This skips the file entry steps and advances the setup to step [F5.10].

[F5.3] PART NUMBER ?

This display will be shown for one second then the last 16 digit part number entered into memory will be displayed. The 8582 will show the first 12 characters for one second then return to the first 12 characters and wait for an entry.

Enter a part number (ID) up to 16 characters in length. This part number will be the item that the inventory file references for storage. All data in the inventory file will be stored under this reference part number or ID. The display scrolls during entry. Press ENTER to continue.

[F5.4 N] DELETE ?

If the ID entered in step [F5.3] is already in memory, this step asks if the file record is to be deleted. If no record was found, the setup will not display this prompt but will proceed to step [F5.6].

YES - Press this if the record stored under the part number entered in step [F5.3] is to be cleared from memory. This includes cleaning of the part number. the setup will proceed to step [F5.5].

NO - This advances the setup to step [F5.6] which allows modification of the description, tare or APW values. The existing file will not be cleared.

[F5.5] SURE ?

Before deleting a file record, the programmer is asked to verify that the record is to be cleared.

YES - The file record stored under the part number entered in step [F5.3] will be cleared. The setup will return to display prompt [F5.3].

NO - the deletion will be aborted and the setup will advance to the next prompt.

[F5.6] ENTER DESCRIPTION

If a description exists in memory for the ID entered, it will be shown on the last four will be shown for a second then the display will return to the first 12 and wait for an entry. If no description exists, dashers will be displayed instead of characters.

Enter or modify the description as required. Up to 16 characters may be entered. If less than 16 are entered the ENTER key must be pressed to continue.

[F5.7] ENTER APW VALUE?

Using the numeric keys and the decimal point, enter up to seven digits to be stored as the APW (or pieces per weight depending upon step [F2.1]) under the part number entered in step [F5.3] This value can be recalled from the file record for counting or referenced for a tolerance check after deriving an APW from an actual sample entry. Press ENTER to continue.

[F5.8] ENTER TARE VALUE ?

Using the numeric keys and the decimal point if required, enter up to six digits to be stored as the tare value in the record for the ID (part number) entered in step [F5.3]. Press ENTER to continue.

[F5.9 N] CONTINUE FILE ENTRY ?

YES - This will enable the 8582 to step through setup steps [F5.3] through [F5.8] again to add or modify additional file records.

NO - This will end the entry or modification of file records and advance the 8582 the next prompt.

NOTE: Steps F5.10 and F5.13 are only available with E129329 00A revision software or newer. The software revision will be third prompt displayed after applying power to unit. [8582 E129329 00A] is an example of the third prompt after applying AC power. Units having older software (D129329 00A for example) will follow the sequence listed after F5.14.

[F5.10 N] USE FILE TARE ?

YES - The tare value stored in step [F5.8] for a particular part number will be accessed and used (putting the scale into the NET mode) when that part number is entered as ID1.

NO - The tare value stored in the inventory file will not be accessed for counting purposes.

[F5.11 N] USE FILE APW ?

YES - The value entered for APW in step [F5.7] will be accessed and used for counting when a valid part number has been entered. The setup will advance to setup []F6].

NO - The APW value stored in the inventory file will not be accessed for counting purposes.

[F5.12 N] ENABLE APW TOLERANCE CHECK ?

YES - The 8582 will reference the file APW value from step [F5.7] and check to see if the calculated APW from an actual piece count is within a specified tolerance (F5.12] from it.

NO - There will be no tolerance check on a calculated APW value.

[F5.12 1.0] SELECT APW TOLERANCE VALUE ?

This step selects the acceptable tolerance limit for APW when step [F5.12] is enabled. The four valid selections are 0.2%, 1.0%, 2.0% and 5.0%. The selected percentage is the percent of the stored APW that the calculated APW is allowed to vary. Variations greater than the selected value will imitate an error display of [APW CHECK FAIL] which may be accepted by pressing ENTER or refused by pressing any other key.

YES - This accepts the displayed value as the desired tolerance.

NO - This key updates the display to alternate selections. Multiple depressions will continue to toggle between 0.2%, 1.0%, 2.0%. and 5.0% until YES or ENTER is pressed.

[F5.13 N] STORE TARE AND APW ?

YES - When a new ID is entered and a count completed, the tare and APW values from that count will be stored along with that ID (if it is added) in the inventory file.

NO - This disables the transaction buffer feature of the 8582.

[F5.14 Y] CLEAR FILE ?

This prompt will occur when the memory configuration is changed from inventory file to transaction buffer or from transaction buffer to inventory file. In order to reformat the memory for the new use. all data must be cleared.

YES - This enables the clearing of all data in memory for reformatting.

NO - This stops the reformatting process and returns the display prompt to [F15.14 TRANS BUFF ?].

[F5.14 Y] SURE ?

This is the last safeguard to prevent cleaning of memory by accident. It will only appear if the previous prompt has been programmed as YES.

YES - Memory will be cleared and the setup will advance to step [F6[.

NO - Disables clearing of memory and the prompt [F5.14 TRANS BUFF ?] will be displayed again.

NOTE: 8582's having software D129329 00A and older should use the following F5.10 to F5.13 steps.

[F5.10 N] USE FILE APW ?

YES - The values entered for APW and tare in steps [F5.7] and [F5.8] will be accessed and used for counting when a valid part number has been entered. The setup will advance to step [F6].

NO - The tare and APW values stored in the inventory file will not be accessed for counting purposes.

[F5.11 N] ENABLE APW TOLERANCE CHECK ?

YES - The 8582 will reference the file APW value from step [F5.7] and check to see if the calculated APW from an actual piece count is within a specified tolerance ([F5.12]) from it.

NO - There will be no tolerance check on a calculated APW value.

[F5.12 1.0] SELECT APW TOLERANCE VALUE ?

This step selects the acceptable tolerance limit for APW when step [F5.11] is enabled. The two valid selections are 0.2% and 1.0%. The selected percentage is the percent of the stored APW that the calculated APW is allowed to vary. Variations greater than the selected value will initiate an error display of [APW CHECK FAIL] which may be accepted by pressing ENTER or refused by pressing any other key.

YES - This accepts the displayed value as the desired tolerance.

NO - This key updates the display to the alternate selection. Multiple depressions will continue to toggle between 0.2% and 1.0% until YES or ENTER is pressed.

[F5.13 N] TRANSACTION BUFFER ACTIVE ?

YES - This will format the memory of the 8582 for a transaction buffer and not an inventory file.

NO - This disables the transaction buffer feature of the 8582.

[F5.13 Y] CLEAR FILE ?

this prompt will occur when the memory configuration is changed from inventory file to transaction buffer or from transaction buffer to inventory file. In order to reformat the memory for the new use, all data must be cleared.

YES - This enables the clearing of all data in memory for reformatting.

NO - This stops the reformatting process and returns the display prompt to [F5.13 TRNS BUFF ?].

[F5.13 Y] SURE ?

This is the last safeguard to prevent clearing of memory by accident. It will only appear if the previous prompt has been programmed as YES.

YES - Memory will be cleared and the setup will advance to step [F6].

NO - Disables clearing of memory and the prompt [F5.13 TRANS BUFF?] will be displayed again.

[F6] CONFIGURE SCALES ?

YES - To enter into the calibration group of setup parameters. The setup will proceed to step [F6.1]

NO - This bypasses the calibration group of parameters and the 8582 will proceed to step [F7].

[F6.1 N] EXPAND/TEST MODE ENABLE ?

YES - The weight display will be expanded and a keyboard test will be accessible.

NO - The display will be in the normal mode for counting operations.

NOTE: The 8582 should not be left in the expand/test mode for weighing. This should be used for installation evaluation and troubleshooting only.

[F6.2 N] CONFIGURE SCALE 1 ?

YES - To proceed with the calibration procedure for the internal scale of the 8582.

NO - To skip the calibration of the 8582 internal scale.

NOTE: On wall mount units Scale 1 is not available. The 8582 will jump to the "CONFIGURE SCALE 2" prompt.

Allow a minimum of 15 minutes for warm-up before attempting to calibrate the 8582. This warm-up time is required to stabilize the electronics and allow the digital load cell to "warm-up".

[F6.2 00010] SELECT SCALE 1 CAPACITY

The unit is asking what the total capacity of the scale is to be. If the scale is to be used in pounds (lb), your valid selections will be 5 lb, 10 lb, 25 lb, 50 lb, or 100 lb. If the scale is to be used in kilograms (kg), your valid selections will be 2 kg, 5 kg, 10 kg, 20 kg or 50 kg.

Enter the correct capacity selection for the 8582 (referencing the data plate) by using the numeric keys on the keyboard. Press ENTER to enter the capacity value.

NOTE: The next prompt only occurs for desk mount 78582's with E129329 00A and newer software.

[F6.2 0.01] SELECT SCALE 2 INCREMENT SIZE ?

This step selects the increment size and decimal point location for scale 1. The increment size and decimal point location are selectable only from the values shown in the capacity chart (see step [F6.3 CAPACITY]).

The following chart shows recommended capacity and increment size for 8582 Desk Mount Models..

FACTORY NUMBER GUIDE			
Factory Number	Avoirdupois Indication	Metric Indication	Load Cell Capacity
8582-0002	5 X 0.0005 lb	2 X 0.0002 kg	3.75 kg
8582-0003	10 X 0.001 lb	5 X 0.0005 kg	7.5 kg
8582-0004	25 X 0.002 lb	10 X 0.001 kg	15 kg
8582-0005	50 X 0.005 lb	20 X 0.002 kg	30 kg
8582-0006	100 X 0.01 lb	50 X 0.005 kg	60 kg

YES - This accepts he displayed selection as the choice for scale 1 and the 8582 will proceed to the next step.

NO - This toggles the display to the next selection when one is available.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER.

[CALIB 15] CALIBRATION TIME OUT

The scale will count down from 15 to 0 while an initial reading is taken.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[WAIT] [ADD WAIT] ADD TEST WEIGHT

Place the selected test weight on the scale platform. This should be an amount close to scale capacity. As much weight as is practical should be used. Press ENTER to continue.

[WGT = 00000] TEST WEIGHT ?

Enter the exact value of test weights used for calibration. The digits enter from the right and move to the left as the next digit is entered. After the correct value has been selected, press ENTER to continue.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is determined.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

NOTE: The next two prompts only occur with D129329 00A software or older.

[WEIGHT OKAY] TEST WEIGHT ACCEPTED

This display shows that the 8582 has accepted the test weight and has completed its first part of the calibration procedure. Do not remove the test weights at this time.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is rechecked.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER. This prompt may or may not occur depending on the scale capacity and increment size use.

[CALIB 15] CALIBRATION TIME OUT

The scale will count down from 15 to 0 while initial is verified.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER. This prompt may or may not occur depending on the scale capacity and increment size used.

[CALIB 15] CALIBRATION TIME OUT

The scale will count down from 15 to 0 while initial is verified.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and star the count down sequence again.

[WAIT] [CALIB DONE] CALIBRATION DONE

This display is shown for approximately 1 second before proceeding the next prompt.

[F6.2 Y] ENABLE SCALE 1 AUTOZERO MAINTENANCE ?

YES - To enable the autozero maintenance feature for scale 1. AZM will keep the unit on gross zero in spite of small changes in weight of up to .1 minor increment per second.

NO - To disable the autozero maintenance feature.

[F6.2 Y] CONFIGURE SCALE 2 ?

YES - To proceed with the calibration procedure for scale 2 of the 8582.

NO - To skip the calibration of scale 2 and proceed to the next section.

NOTE: On desk mount units, if a second scale is not present this prompt will not occur.

Allow a minimum of 15 minutes for warm-up before attempting to calibrate the 8582. This warm-up time is required to stabilize the electronics and allow the load cell to "warm-up".

[F6.3 00200] SELECT SCALE 2 CAPACITY

To enter the correct capacity selection for scale 2 (referencing the data plate) by using the numeric keys on the keyboard then press ENTER. The capacity of the scale must appear in the scale capacity chart below to be accepted.

SCALE CAPACITY CHART

Scale Capacity	Selectable Increment Size	Scale Capacity	Selectable Increment Sizes
1	0.0001*,0.0002,0.0005	600	0.1,0.2
2	0.0001*,0.0002,0.001	1000	0.1,0.2,0.5
3	0.0005,0.001	1200	0.2
4	0.0002,0.002	1500	0.5
5	0.0002,0.0005,03.001	2000	0.1,0.2,1
6	0.001,0.002	2500	0.1,0.5
10	0.0005,0.001,0.002,0.005	3000	0.5,1
12	0.002	4000	0.2,2
15	0.005	5000	0.2,0.5,1
20	0.001,0.002,0.01	6000	1,2
25	0.001,0.005	10000	1,2,5
30	0.005,0.01 12000	2	
40	0.002,0.02 15000	5	
50	0.002,0.005,0.01	20000	1,2,10
60	0.01,0.02	25000	1,5
100	0.01,0.02,0.05	30000	5,10
120	0.02	40000	2,20
150	0.05	5000**	2,5,10
200	0.01,0.02,0.01	60000**	10,20
250	0.001,0.05		
300	0.05,0.1		
400	0.02,0.2		
500	0.02,0.05,0.1		

* - If the 8582 is calibrated in pounds, lb/kg switching will be disabled.

** - If the 8582 is calibrated in kilograms, lb/kg switching will be disabled.

[F6.3 0.01] SELECT SCALE 2 INCREMENT SIZE ?

This step selects the increment size and decimal point location for scale 2. The increment size and decimal point location are selectable only from the values shown in the capacity chart (see step [F6.3 CAPACITY]).

YES - This accepts the displayed selection as the choice for scale 2 and the 8582 will proceed to the next step.

NO - This toggles the display to the next selection when one is available.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER.

[CALIB 15] CALIBRATION TIME OUT

The scale will count down from 15 to 0 while an initial reading is taken.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[WAIT] [ADD WEIGHT] ADD TEST WEIGHT

Place the selected test weight on the scale platform. This should be an amount close to scale capacity. As much weight as is practical should be used. Press ENTER to continue.

[WGT = 00000] TEST WEIGHT ?

Enter the exact value of test weights used for calibration. The digits enter from the right and move to the left as the next digit is entered. After the correct value has been selected, press ENTER to continue.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is determined.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

NOTE: The next two prompts will only occur with D129329 00A software or older.

[WEIGHT OKAY] TEST WEIGHT ACCEPTED

This display shows that the 8582 has accepted the test weight and has completed its first part of the calibration procedure. do not remove the test weights at this time.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is rechecked.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER. This prompt may or may not occur depending on the scale capacity and increment size selected.

[CALIB 15] CALIBRATION TIME OUT

The scale will count from 15 to 0 while initial is verified.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[WAIT] [CALIB DONE] CALIBRATION DONE

This display is shown for approximately 1 second before proceeding to the next prompt.

[F6.3 Y] ENABLE SCALE 2 AUTOZERO MAINTENANCE ?

YES - To enable the autozero maintenance feature for scale 2. AZM will keep the unit on gross zero in spite of small changes in weight of up to 3 minor increments per second.

NO - To disable the autozero maintenance feature.

[F6.4 Y] CONFIGURE SCALE 3 ?

YES - To proceed with the calibration procedure for scale 3 of the 8582.

NO - To skip the calibration of scale 3.

NOTE: On desk mount units, if a third scale is not present this prompt will not occur. On wall mount units, if a second scale is not present (Scale 3) this prompt will not occur.

Allow a minimum of 15 minutes for warm-up before attempting to calibrate the 8582. This warm-up time is required to stabilize the electronics and allow the load cell to "warm-up".

[F6.4 05000] SELECT SCALE 3 CAPACITY

Enter the correct capacity selection for scale 3 by using the numeric keys on the keyboard. Press ENTER to enter the capacity value. The capacity entered must be a valid build referenced to the scale capacity chart in setup step [F6.3 CAPACITY].

[F6.4 0.5] SELECT SCALE 3 INCREMENT SIZE ?

This step selects the increment size and decimal point location for scale 3. The increment size and decimal point location are selectable only from the values shown in the capacity chart (see step [F6.3 CAPACITY]).

YES - This accepts the displayed section as the choice for scale 3.

NO - This toggles the display to the next selection when one is available.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER. This prompt may or may not occur depending on the scale capacity and increment size used.

[CALIB 15] CALIBRATION TIME OUT

The scale will count down from 15 to 0 while an initial reading is taken.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[WAIT] [ADD WEIGHT] ADD TEST WEIGHT

Place the selected test weight on the scale platform. This should be an amount close to scale capacity. As much weight as is practical should be used. Press ENTER to continue.

[WGT = 00000] TEST WEIGHT ?

Enter the exact value of test weights used for calibration. The digits enter from the right and move to the left as the next digit is entered. After the correct value has been selected, press ENTER to continue.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is determined.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

NOTE: The next two prompts will only occur with D129329 00A software or older.

[WEIGHT OKAY] TEST WEIGHT ACCEPTED

This display shows that the 8582 has accepted the test weight and has completed its first part of the calibration procedure. Do not remove the test weights at this time.

[CALIB 15] CALIBRATION TIME OUT

The 8582 will count down from 15 to 0 while span is rechecked.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[EMPTY SCL] EMPTY SCALE

Empty the scale platter then press ENTER. This prompt may or may not occur depending upon the scale capacity and increment size selected.

[CALIB 15] CALIBRATION TIME OUT

The scale will count from 15 to 0 while initial is verified.

NOTE: If motion is seen by the unit during the count down sequence, the counting will stop and the unit will automatically reset to 15 and start the count down sequence again.

[WAIT] [CALIB DONE] CALIBRATION DONE

This display is shown for approximately 1 second before proceeding to the next prompt.

[F6.4 Y] ENABLE SCALE3 AUTOZERO MAINTENANCE ?

YES - To enable the autozero maintenance feature for scale 3. AZM will keep the unit on gross zero in spite of small changes in weight of up to 1 minor increment per second.

NO - To dsiable the autozero maintenance feature.

NOTE: Steps F6.5, F6.6, and F6.7 are only available with E129329 00A revision software or newer. The software revsion will the be third prompt displayed after applying power to the unit. [8582 E129329 00A] is in example of the third prompt after A-C power.

[F6.5 0] FILTERING SELECTION ?

Filtering minimizes the effects of vibration or motion in the area that the 8582 is installed in, the ideal result being a stable (non-fluctuating) weight display. Filtering will slow the update fo the weight display. Selections should be sampled at installaition startign with "0 - No filtering" until the required display stablility is achieved. Selections are:

SELECTION	DESCRIPTION
0	No filtering
1	Light filtering
2	Heavy filtering

YES - This accepts the displayed value as the filtering rate.

NO - this advances the display to the next selection.

[F6.6 N] ANALOG VERIFICATION ?

Analog verification, if selected, tests the internal digital load cell and is performed approximately every 4 hours. If verficaiton fails an error message [SCL AV FAIL] is displayed. This error will occur if the scale reading for a simulated weight is not within the tolerance for that specific build. The tolerance is ± 1 displayed increment for builds equal to or less than 2000 increments and ± 2 displayed increments for builds greater than 2000 increments.

If [SCLX AV FAIL] is displayed, the operator must press the "clear" key. The 8582 will dsable that scale.

YES - Analog Verifiction is enabled.

NO - Analog Verification is disabled.

NOTE: Enabling Analog Verification affects how the weight fields are transmitted. Truly measured weights will be enclosed in <brackets>. Hand entered tare values will be followed by "TRH". Calculated net values iwll be followed by "NETC". European time and date format will also be automatically selected.

[F6.7 N] TARE INTERLOCK ENABLE ?

Selecting tare interlock enables the following restrictions:

Tare can only be entered when the scale is in the gross weight mode.

Tare can only be cleared at gross zero.

Keyboard tare can only be entered at gross zero and must be entered in whole increment values including all positions to the right of the decimal point.

The sample/gross scale cursors are not turned off to indicate motion on the scale.

The zero pushbutton range is limited to ±2% of scale capacity.

YES - Enables tare interlock.

NO - Disables tare interlock.

[F7 Y] CONFIGURE I/O PORTS ?

YES - To access the configuration for host interface, I/O Port 1, I/O Port 2 and bar code scanning.

NO - To skip the configuration of the I/O ports and proceed to [F8].

[F7.1 N] ENABLE MULTIDROP INTERFACE ?

YES - This enables I/O Port 3, the 8582 networking feature that utilizes an RS-485 multidrop communication for host communications.

NO - The multidrop mode of host communications will be disabled. the standard interface may still be enabled.

NOTE: Answering yes to this prompt makes Port 3 of the Host port and Ports 1 and 2 cannot be selected as Host port. The 8582 will need the Multidrop Interface (8582) kit added. This adds Port 3. Part Number for this and other options is in section IX-B-1 of this manual. Refer to section VII-I of this manual for more details on multidrop communication.

[F7.2 OFF] I/O PORT 1 FUNCTION ?

The 8582 must be programmed for the desired use of I/O

The selections are:

CHOICE	DESCRIPTION
QKBD	Qwerty keyboard Option
MKBD	Membrane Keyboard Option
HOST	Host Interface (Not Valid if [F7.1] = Y)
REMT	Remote Display Option
OFF	I/O 1 Inactive

YES - This accepts the displayed selection as the desired use for I/O 1 port.

NO - This toggles the selection to the next choice each time it is pressed.

NOTE Selecting [REMT] will set Port 1 to 9699 Baud continuous output.

[F7.3 OFF] I/O PORT 2 FUNCTION ?

NOTE: The Serial I/O 2 option or Serial I/O 2 - Memory option is reburied for this feature to be usable.

I/O 2 cannot be selected for the same use as i/O 1. For example, you cannot use both I/O 1 and I/O 2 as remote display outputs. The three valid selections for I/O 2 use are:

CHOICE	DESCRIPTION
HOST	Host Interface (Not valid if [F7.1] = Y
REMT	Remote Display Option
OFF	I/O 2 Inactive

NOTE: Selecting [REMT] will set Port 1 to 9600 Baud continuous output.

YES - This accepts the displayed selection as the desired use for I/O 2 port.

NO - This toggles the selection to the next choice each time it is pressed.

[F7.4 N] BAR CODE SCANNING ACTIVE ?

NOTE: This Bar Code option must be installed in order to use bar code input.

YES - This enables bar code scanning.

NO - This disables bar code scanning.

NOTE: Steps F7.5 and F7.6 are only available with E129329 00A revision software or newer. The software revision will be the third prompt displayed after applying power to the unit. [8582 E129329 00A] is an example of the third prompt after applying AC power.

[F7.5 N] MEMORY I/O PCB PRESENT ?

YES - The optional Memory I/O PCB has been installed in the 8582 and the memory on this PCB will be continuously tested.

NO - The optional memory I/O PCB has not been installed.

[F7.6 N] ENABLE SETPOINT OUTPUT ?

NOTE: This setup will be skipped if neither port I/O 1 or I/O 2 are selected as "REMT" (remote display) option.

YES - The I/O port selected "REMT" (remote display option) will output data per the continuous setpoint data format. The baud rate is 4800 for the setpoint output.

NO - The continuous setpoint data output is disabled.

Refer to Section VII-D of this manual for details on the setpoint output.

[F8 Y] CONFIGURE HOST COMMUNICATIONS ?

NOTE: If host communications has not been enabled in Section [F7], Section [F8] will be skipped. The output format selected in this section will become the file format for the transaction buffer.

YES - To access the programming for host communications. The setup will advance to step [F8.5] if step [F7.1] has been programmed as YES.

NO - To skip the programming for host communications and proceed to step [F9].

[F8.1 EVN] PARITY SELECT

Select the type of parity bit to be use din host communications. Selections are

CHOICE	DESCRIPTION
ODD	Odd Parity Bit
EVN	Even Parity Bit
NO	No Parity Bit
SPC	Parity Bit is always a "0"

YES - This accepts the displayed value as the parity selection.

NO - This key advances the display to the next selection each time it is pressed.

[F8.2 N] CHECKSUM ENABLE ?

YES - A checksum character will be transmitted as part of the host communication.

NO - No checksum character will be included in host communications.

Checksum is defined as the 2's complement of the 7 low order bits of the binary sum of the 7 low order bits of the binary sum of the 7 low order bits of all characters preceding the checksum including STX and CR.

[F8.3 2] SELECT NUMBER OF STOP BITS ?

YES - This key accepts the displayed value as the number of stop bits required.

NO - This key toggles the selection between 1 or 2 stop bits. Press YES when the correct selection is displayed.

[F8.4 9600] BAUD RATE ?

YES - This accepts the displayed value as the host communications baud rate.

NO - This key advances the display to the next selection each time it is pressed. The valid selections are 300, 1200, 2400, 4800, or 9600.

[F8.5 069] SCALE ID NUMBER ?

NOTE: This step will only occur if the multidrop host interface has been selected ([F7.1] = YES).

Select a numeric address from 001 to 250 to assign to this particular 8582 as its identifier. If less than three digits are entered, press ENTER to continue.

[F8.6 Y] TRANSMIT ID 1 ?

YES - ID 1 will be sent from the host port.

NO - ID 1 will not be transmitted.

[F8.6 Y] TRANSMIT ID2 ?

YES - ID 2 will be sent from the host port.

NO - ID 2 will not be transmitted.

[F8.6 Y] TRANSMIT ID 4 ?

YES - ID 4 will be sent from the host port.

NO - ID 4 will not be transmitted.

[F8.6 Y] TRANSMIT GROSS WEIGHT ?

YES - Gross weight will be sent from the host port.

NO - Gross weight will not be transmitted.

[F8.6 Y] TRANSMIT TARE WEIGHT ?

YES - Tare weight will be sent from the host port.

NO - Tare weight will not be transmitted.

[F8.6 Y] TRANSMIT NET WEIGHT ?

YES - Tare weight will be sent from the host port.

NO - Tare weight will not be transmitted.

[F8.6 Y] TRANSMIT APW ?

YES - APW will be sent from the host port.

NO - APW will not be transmitted.

[F8.6 Y] TRANSMIT SAMPLE QUANTITY ?

YES - The sample quantity used for a count will be sent from the host port.

NO - The sample count will not be transmitted.

[F8.6 Y] TRANSMIT PERCENT ACCURACY ?

YES - Percent accuracy will be sent from the host port.

NO- Percent accuracy will not be transmitted.

[F8.6 Y] TRANSMIT PIECE COUNT ?

YES - Piece count will be sent from the host port.

NO - Piece count will not be transmitted.

[F8.6 Y] TRANSMIT TIME ?

YES - The time will be sent from the host port.

NO - The time will not be transmitted.

[F8.6 Y] TRANSMIT DATE

YES - The date will be sent from the host port.

NO - The date will not be sent from the port.

[F9] CONFIGURE PRINTER FUNCTIONS ?

YES - To access the printer program setup when data output is required.

NO - To bypass the Printer I/O setup. The program will proceed to the end of the setup routine.

NOTE: When using the 307 printer, checksum must be enabled and multiline print must be off with only weight and count fields selected.

[F9.1 Y] PRINTER OUTPUT ACTIVE ?

YES - Data will be output from the printer port whenever the PRINT key is pressed.

NO - The printer output function will be disabled and the rest of the setup will be skipped.

[F9.2 EVN] PARITY SELECT ?

Select the type of parity bit to
be used in the printer output. Selections are:

CHOICE	DESCRIPTION
ODD	Odd Parity Bit
EVN	Even Parity Bit
NO	No Parity Bit
SPC	Parity Bit is always a "0"

YES - This accepts the displayed value as the parity selection.

NO - This key advances the display to the next selection each time it is pressed.

[F9.3 N] CHECKSUM ENABLE ?

YES - Checksum characters will be transmitted.

NO - This key advances the display to the next selection each time it is pressed.

[F9.3 N] CHECKSUM ENABLE ?

YES - Checksum characters will be transmitted.

NO - NO checksum are transmitted.

Checksum is defined as the 2's complement of the 7 low order bits of binary sum of the 7 low order bits of characters preceding the checksum including STX and CR.

NOTE: For D129329 00A software or older the "STX" character is not sent at the beginning of each line if checksum is disabled.

[F9.4 0300] BAUD RATE ?

YES - If the value displayed is the correct baud rate.

NO - The unit will update to another baud rate selection. The choices are 300, 1200, 2400, 4800, and 9600.

NOTE: the following F9.5 through F9.12 applies to 8582's with E129329 00A revision software or newer. The software revision will be the third prompt displayed after applying power to the unit. [8582 E129329 00A] is an example of the third prompt after applying AC power. Units having older software (D129329 00A for example) will follow the sequence at the end of the F9 section.

[F9.5 N] MULTILINE PRINTER FORMAT ?

YES - The 8582 will output the data fields selected in step [F9.6] each on a separate line.

NO - The 8582 will output all the data fields selected in step [F9.6] on one single line.

NOTE: When using the 307 printer, checksum must be enabled and multiline print must be off [F9.5 N].

[F9.6 PRINT FIELDS] ENTER NEW PRINT FIELDS ?

YES - The 8582 will display the code numbers of the fields selected to be printed.

NO - The 8582 will proceed to step [F9.7].

[F9.6 FLD = 712345] PRINT FIELDS ?

This step selects the data fields may be selected in any combination.

0 through 9 - The 8582 will display the code numbers of the fields selected to be printed . The code for each fields is shown in the following chart.

ENTER - To accept the fields displayed.

CODE	FIELD
0	Displayed weight
1	Gross weight
2	Tare weight
3	Net weight
4	APW or PCS/WGT
5	Piece count
6	Sample pieces
7	ID (1-4 lines according to the ID format selected in step [F4.2]
8	Time and Date (If selected in step [F3])
9	Blank line for multiline print {F9.5 Y] or spaces between fields for single line print {F9.5 N].

[F9.7 Y] PRINT ALL FILE RECORDS ?

YES - All inventory records will print when the inventory file is printed.

NO - Print only files that have added to or changed the accumulator contents since the last total print.

[F9.8 N] PRINT ID EXPANDED ?

YES - The ID field will print expanded if the printer is capable of doing so when an ASCII "SO" character is received.

NO - The output will not have the ASCII character "SO" to initiate an expanded print of ID.

[F9.9 N] PRINT NET EXPANDED ?

YES - The net weight will print expanded if the printer is capable of doing so when an ASCII "SO" character is received.

NO - The output will not have the ASCII character "SO" to initiate an expanded print of net weight.

[F9.10 Y] PRINT COUNT EXPANDED ?

YES - The count field will print expanded if the print is capable of doing so when an ASCII "SO" character is received.

NO - The output will not have the ASCII character "SO" to initiate an expanded print of count.

[F9.11 N] ENABLE REPEAT PRINT ?

YES - To enable the repeat print feature.

NO - To disable the repeat print feature.

[F9.12 N] ENABLE AUTOPRINT ?

YES - The 8582 will automatically transmit the chosen fields to the printer when a piece count is completed (a new piece count is displayed with no motion present on the scale).

NO - The autoprint feature will be disabled.

NOTE: 8582's having software D129329 00A and older should use the following F9.5 through F9.14 sequence.

[F9.5 1] PRINT FORMAT ?

This step selects the format of the data when it is transmitted from the printer port. There are six formats available each of which may be inverted by [F9.8] The formats are:

CHOICE	FORMAT
1	ID Time & Date Weight APW Count
2	ID Time & Date Weight Count
3	ID Time & Date Weight Sample Quantity APW Count
4	ID APW Count
5	ID Count
6	ID, Time & Date Displayed Weight, Count

YES - This accepts the displayed value as the selection for the data format.

NO - This advances the selection to the next choice each time it is pressed. After 6 is displayed, the choice will return to 1.

[F9.6 N] DISPLAYED WEIGHT ONLY ?

YES - Only the gross weight will be sent to the printer port. If a tare is taken, the gross weight will be replaced with the net weight.

NO - The weight field will always contain all of the weight information - gross, tare and net.

[F9.7 1] WEIGHT FORMAT ?

NOTE: If F9.6 is yes [F9.6 Y] the 8582 will skip this step.

This step selects the format of the weight field for the printer output. The two possible selections are:

1 - Single Line Format

2 - Multiple line Format (3 lines)

YES - If the number on the display is the correct number corresponding to the desired format.

NO - If the number on the display is not the correct selection and the display will switch to the other selection.

[F9.9 Y] PRINT ALL FILE RECORDS ?

YES - All inventory records will print when the inventory file is printed - not just the ones with an accumulator change.

NO - Only file records with a count change in the accumulator will print when an accumulator print is requested.

[F9.10 N] PRINT ID EXPANDED ?

YES - The ID field will print expanded if the printer is capable of doing so when an ASCII character "SO" to initiate an expanded print of ID.

[F9.11 N] PRINT NET EXPANDED

YES - The net weight will print expanded if the printer is capable of doing so when an ASCII "SO" character is received.

NO - The output will not have the ASCII character "SO" to initiate an expanded print of net weight.

[F9.12 N] PRINT COUNT EXPANDED ?

YES - The piece count will print expanded if the printer is capable of doing so when an ASCII "SO' character is received.

NO - The output will not have the ASCII character "SO" to initiate an expanded print of pieces.

[F9.13 Y] ENABLE REPEAT PRINT ?

YES - To enable the repeat print feature.

NO - To disable the repeat print feature.

[F9.14 N] ENABLE AUTOPRINT ?

YES - The 8582 will automatically send data when a piece count is reached and no motion is present on the scale.

NO - The autoprint feature will be disabled.

[TURN SWITCH ON] TURN SETUP SWITCH ON

If the setup switch SW1 is off, this prompt will be displayed to indicate it must be turned on at this time to retain the setup.

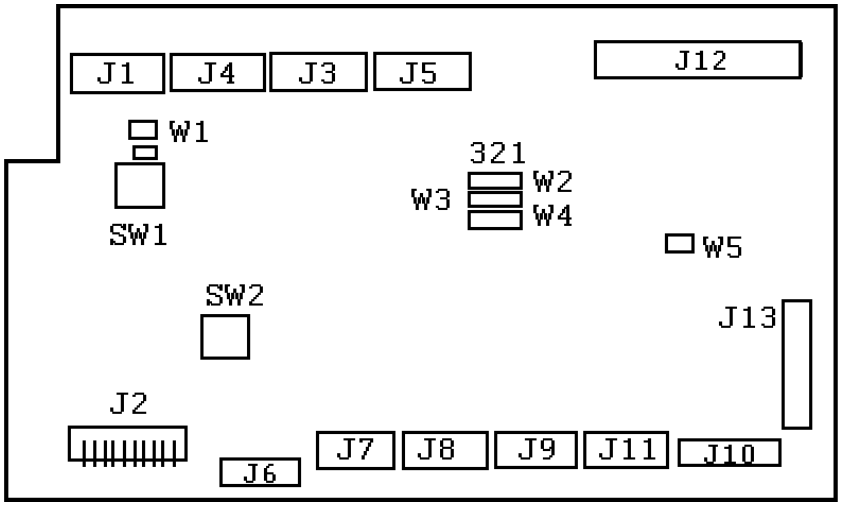
[TURN SWITCH OFF] TURN SETUP SWITCH OFF

Turn the setup switch SWI off and reinstall the platter (on desk scales with the 11" X 14" platform or reinstall the plastic cover plug into the access hole (on desk scales with the 8" square platter) or close and latch the enclosure door on wall type 8582's . See Figure 4 at the beginning of this section for location of SW1.

4.5 JUMPER AND SWITCH DESCRIPTIONS

Only three printed circuit boards used in the 8582 contain program jumpers or switches. These three PCB's are shown next with appropriate descriptions.

4.5.1 Logic PCB



WI - RS-485 LOADING RESISTOR
This jumper should not be shorting the two pins.

W2 - EPROM SELECT
This jumper must be shorting pin 1 and pin 2 together.

W3 - EPO
This jumper must be shorting pin 2 and pin 3 together.

W4 - PGM
This jumper must be shorting pin 1 and pin 2 together.

W5 - CS (Chip Select)
This jumper must be shorting pin 1 and pin 2 together.

SW1 - SETUP SWITCH
This switch permits entry into the setup mode of the 8582.

SW2 - NOT USED

4.5.2 Analog Scale PCB

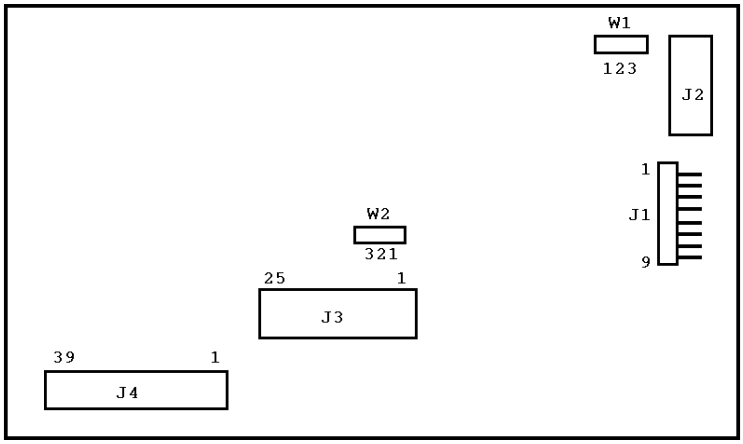
W1 - LOAD CELL OUTPUT SELECT
With this jumper between pins 1 and 2, the scale PCB will be addressed as Scale 3. With this jumper between pins 2 and 3, the scale will be addressed as Scale 2.

4.5.3 Digital Scale PCB

W1 - NOT USED

W2 - SCALE SELECT
With this jumper between pins 1 and 2, the scale PCB will be addressed as Scale 3. with this jumper between pins 2 and 3, the scale will be addressed as Scale 2.

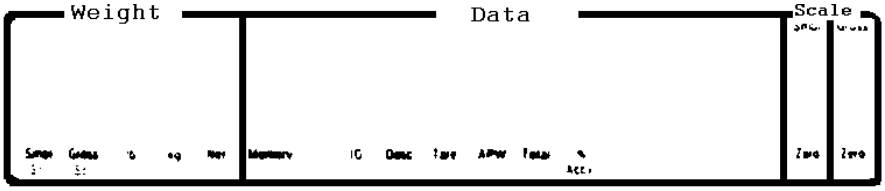
ANALOG SCALE PCB / DIGITAL SCALE PCB



5. OPERATING INSTRUCTIONS

5.1 DISPLAY FORMAT AND LEGENDS

The 8582 utilizes a 19 character vacuum fluorescent dot matrix display that is divided into three separate sections. They are: Weight (5 digits), Data (12 digits) and Scale Selection (2 digits). . Each character consists of a 5 X 7 dot matrix with a decimal point and a cursor. The cursors under the display digits indicate exactly what data is being displayed or what data is to be entered.



TOLEDO

An explanation for each of the legends below the cursors is given next.

5.1.1 SMPL SCL - SAMPLE SCALE
This cursor will be illuminated when the weight display of the 8582 is displaying the weight on the sample scale and there is no motion.

5.1.2 GROSS SCL - GROSS SCALE
This cursor will be illuminated when the weight section of the 8582 display is showing the weight on the gross scale and there is no motion.

5.1.3 LB - POUNDS
This indicates the 8582 is in the pounds mode when illuminated.

5.1.4 KG - KILOGRAMS
This indicates the kilogram mode has been enabled and the weight shown is in kilograms.

5.1.5 NET
This cursor is illuminated when the weight displayed in the weight field is a net weight. A net weight is the result of sub-tracing a tare value from a gross weight.

5.1.6 MEMORY
This cursor will be illuminated during a count sequence, after a file record is pulled from the inventory file. This indicates that a count accumulation may be added to that particular file record.

5.1.7 ID - IDENTIFICATION
This cursor will flash when ID is mandatory to indicate an ID must be entered. This cursor will also be illuminated while an ID is displayed during a recall sequence or during the recall of an inventory file record while the ID is displayed.

5.1.8 DESC - DESCRIPTION
This cursor will illuminate only during the recall of an inventory file record while the stored description for that record is displayed.

5.1.9 TARE
This cursor will be illuminated during a recall sequence while the tare value is recalled. It will also illuminate during the recall of an inventory file record while the stored tare value is displayed.

5.1.10 APW - Average Piece Weight
This indicates the APW from a count or from an inventory file record is being displayed during a recall sequence.

5.1.11 TOTAL
This cursor will flash when a piece count above 50 pieces is reached and accumulation is mandatory. This indicates the count is accumulated, this cursor will flash once to acknowledge the accumulation. The total cursor will also be illuminated when an accumulated total is recalled from an inventory file record.

5.1.12 % ACCY - PERCENT ACCURACY
When this cursor is illuminated, it indicates that the calculated percent accuracy is displayed during a recall sequence.

5.1.13 SMPL ZERO - SAMPLE SCALE ZERO
This cursor will illuminate when the sample scale is at gross zero.

5.1.14 GROSS ZERO - GROSS SCALE ZERO
This cursor will be illuminated while the gross scale is at gross zero.

5.2 KEYBOARD OPERATION

The desk unit contains a 4 X 5 matrix keyboard for operation interface. The keyboard is domed with tactile feel and has an embossed polycarbonate overlay with ridges to separate active key areas.

The wall version has a 4 X 5 matrix keyboard containing all the operations of the desk keyboard except the wall keyboard is not tactile feel - it is a flat keyboard. In addition to the 4 X 5 keyboard, the wall unit has a 3 X 10 keypad that adds alpha characters, a question mark, a slash, a hyphen and a space character.

5.2.1 DIGITS 0 - 9: These keys are used for entry of ID, APW, sample quantities and tare values.

5.2.2 FUNCTION: This key allows access to certain operations when followed by the actuation of one of five other keys. They are:

1. (+): This adds the piece count shown on the display to the accumulator when in the inventory file mode. When in the transaction buffer mode, this adds the programmed transaction fields to the transaction buffer.

2. (-): This subtracts the piece count shown on the display from the accumulator when in the inventory file mode. This key will not operate in the transaction buffer mode.

3. Memory: This accesses the recall mode of the inventory file. The PRINT key may be pressed immediately to print the entire inventory file or an individual record may be pressed immediately to print entire inventory file or an individual record may be recalled for viewing by entering the desired record ID when prompted.

4. Recall: This enters the recall mode to examine current transaction data. Sequential depressions of the ENTER key after entering the recall mode will advance the display through ID, Tare, APW and percent accuracy. The CLEAR key exits the recall mode. This feature operates only during a count (displaying a piece count) in order dependent mode.

5. Scl Sel: The scale select key will toggle the available selections of gross and sample scales as viewed at the right end of the display. Repeated actuations of the SCL SEL key will advance the 8582 to all possible selections. Only active scales may be selected. Pressing the ENTER key accepts the displayed scale numbers as the selection for the displayed scale numbers as the selection for the gross and sample scales.

5.2.3 (**.**): The decimal point is used for tare or APW entry. It is not active for entry of ID. Depressing this key after applying power via the ON/OFF switch will allow the operator to gain access to the operator selectable parameters F1.2 through F1.10.

5.2.4 YES: This key is used to answer programming prompts during the setup procedure. It normally enables the displayed selection shown in setup.

5.2.5 NO: This key is also used to answer programming prompts during the setup procedure. The NO answer normally disables the selection shown in setup.

5.2.6 ZERO: Provides the ability to rezero a gross weight on the scale over a range of +/-2% of the programmed full scale capacity.

5.2.7 SAMPLE: This key is pressed before a sample entry when the 8582 is used in the order independent mode. It tells the 8582 that the operator is ready to enter the sample quantity. When in the order dependent mode, this key toggles the sample reference to the other selections when the display shows [SAMPLE = X] (variable sample only).

5.2.8 APW: This key is pressed before an APW entry when the 8582 is programmed for order independent operation. It tells the 8582 that the operator is ready to enter the APW value.

5.2.9 ENTER: This key terminates all numeric and ID entry to the 8582. The ENTER key is also used to auto tare a weight on the scale when the display shows [TARE ?]. This key advances the 8582 through the recall mode and can also be used to skip ID entry if ID is not mandatory.

5.2.10 CLEAR: When entering any data a single depression of the CLEAR key will erase the data entered; a double depression will exit the data entry mode. When not in a counting sequence (no sample has been entered) a single depression of the CLEAR key clears any tare weight that has been entered, returning the weight display to gross mode. During a counting sequence a double depression of the CLEAR key exits the counting mode and clears key exist the counting mode and clears the tare weight and APW.

5.2.11 ID: This key is pressed before an ID entry when the 8582 is programmed for the order independent mode. This indicates the operator is ready to enter a tare value.

5.2.12 TARE: This key should be pressed before a tare entry when the 8582 is programmed for the order independent mode. This indicates the operator is ready to enter a tare value.

5.2.13 PRINT: When this key is pressed with no motion on the scale, data will be transmitted from the printer I/O connector according to programming in section [F9]. If motion is present, this command will be retained and acted upon when motion ceases. this output can be disabled in setup.

5.3 INITIAL POWER-UP SEQUENCE

When power is first applied to the scale (via the power switch on the right side of the base near the front) the following sequence will occur.

5.3.1 Every other dot of all the characters on the display will be illuminated and all cursors with a legend under them will also be illuminated for approximately 2 seconds then blank.

5.3.2 All the dots not illuminated in step 1 will now be illuminated and all cursors with a legend under them will turn on again for approximately 2 seconds then blank. This competes the display verification routine.

5.3.3 The next display will indicate model [8582] in the Weight section while the program part number [*129329 00A] will be displayed in the Data section. This will be on for approximately 2 seconds then blank.

5.3.4 The display will then show [TESTING] while the internal hardware tests are initiated by the 8582. RAM and ROM checks are done as well as communications between PCB's. Errors that may be displayed are described in the troubleshooting section of this manual.

5.3.5 The next display of the 8582 will show [CHECKING MEM] if memory (either the inventory file or transaction buffer has been enabled. A checksum value is calculated and stored fore each file record then verified at power up. If the stored checksum does not agree with the value the 8582 recalculates at power up, the display will show [XXXX RECORDS BAD] indicating the number of bad records. These defective records will automatically be cleared by the 8582.

5.3.6 The 8582 will then show the number of total records in memory by showing [XXXX RECORD TO TOTAL]. This total will include any bad records noted in the previous step.

5.3.7 If enabled in setup, the time then the date will be displayed for approximately two seconds each.

5.3.8 If error messages [NOVRAM CHECK ERR] or [EXTERNAL RAM CHK ERR] occur, setup must be entered and stored to calculate a new setup checksum value. If an error re-occurs refer to section 8.4 of this manual.

5.3.9 The last step of the power up sequence is the capturing of zero on the gross scale then the sample scale. If the weight indication is within +/-2% of scale capacity, zero will automatically be captured by the 8582 and the scale will be ready for use. If outside of the zero capture range, an error display of [SCLX UNDER] or [SCL X OVER] will be shown until zero can be captured.

5.4 OPERATING SEQUENCES

The Model 8582 provides a great deal of operating flexibility to the scale user. The unit can be configured in setup to perform a very specific user defined sequence of operation, or if preferred, be programmed to operate in a different (independent) sequence from one transaction to the next. The Model 8582 offers a variety of selectable operating schemes to the user. Depending on the preferred scheme, the scale can be configured to operate in a dependent sequence or an independent sequence. The different schemes are described next.

5.4.1 PUSHBUTTON ZEROING

1. To zero the Model 8582 in a single scale configuration, press the ZERO key after the following conditions have been met:

a). The scale must be in the gross weight mode.
b). There must be no-motion on the scale.
c). The scale weight must be within ±2% of scale capacity from the actual calibrated zero.

2. To zero the gross scale in a multiple scale configuration, follow the same procedure as 1 for a single scale.

3. To zero the sample scale in a multiple scale configuration, follow these steps.

a). Order Independent Mode [F4.4 = 1]
1). Press either the APW key or SAMPLE key.
2). Press the ZERO key when the weight field is showing a stable sample weight. If the three conditions listed prior in Step 1 (a, b, and c) have been met, the sample scale will be zeroed. Press the CLEAR key to return to the home position.

b). Order Dependent Mode [F4.4 = 2]
1). Enter an ID or just press ENTER when prompted for ID. If ID is disabled, disregard this step.
2). If step [F4.5] has been programmed as a "1" or "2", follow step b). 3) next. If step [F4.5] has been programmed as a "3" or "4", skip step b). 3) and follow step b). 4).
3). If [Tare?] prompt is next, enter a 0.0 tare. If any other tare value is entered, the sample scale cannot be zeroed. When the display shows [SAMPLE = XXX] or [APW?] press the ZERO key. if the three conditions listed prior to step 1 (a, b, and c) have been met, the sample scale will be zeroed. Press the CLEAR key twice to return to the home position.
4). When [SAMPLE = XXX] or [APW?] is displayed, press the ZERO key. If the three conditions listed prior in step 1 (a, b, and c) have been met, the sample scale will be zeroed. Press the CLEAR key twice to return to the home position.

5.4.2 DEPENDENT OPERATION

The Model 8582's programming flexibility allows the unit to be configured in many different dependent sequences. The Model 8582 Operator's Reference Guide should be referenced for a detailed description of the various dependent operating sequences.

1. If the Model 8582's programmed to operate in the dependent mode, all keyboard data entries are terminated with the ENTER key. A typical sequence of operation might be:

a). 000.00 TARE ?
The operator is being prompted to input the weight of the empty box, bin, or skid that will be used to contain the items being counted or weighed. Place the container on the gross scale and press the ENTER key. If desired,, the weight container may be digitally entered via the keyboard. The ENTER key is used to complete the entry.

b). 00.000 SAMPLE = 010

NOTE: The operator may switch between the "SAMPLE = 010" display and the "APW" (or PCS/WGT") display by pressing the APW or SAMPLE key is appropriately in order to use the alternate method of APW entry.

Place a sample of the pieces that are to be counted on the sample scale. If a fixed sample is preferred, place the displayed sample quantity on the scale and press the ENTER key is pressed. The scale will calculated an average piece weight and is now ready to count. Place pieces in the gross scale until the desired quantity is achieved.

2. Another typical sequence of operation might be:

a). 000.00 TARE?
Place the empty container on the gross scale (or digitally input the tare value). Input the tare weight of the box, bin, or skid using the ENTER key.

b). 00.000 APW?
Input the weight of the piece that is to be counted via the keyboard and press the ENTER key. The system is now ready to count. Load the sale until the desired quantity is counted.

3. If a printer or peripheral computing device is used with the scale, a typical sequence of operation might be:

a). 000.00 PART NUMBER?
Input the part number of identification via the standard digital (or optional alphacharacter) keyboard, then press the ENTER key.

b). 000.00 JOB LOT?
Input the next field of desired identification data via the keyboard, then press the ENTER key (for a more detailed description of the Transaction Identification feature, see the Operator's Reference Guide).

c). 000.69 TARE?
Place the empty container on the gross scale and press the ENTER key. If desired, the weight of the container can be digitally entered via the keyboard.

d). 00.048 SAMPLE = 010
Place the sample reference quantity on the sample scale and press the ENTER key. If preferred, a variable reference can be used to calculate average piece weight. Place the sample on the scale, digitally enter the quantity then press the ENTER key. The system is now ready to count.

4. As an alternative to counting pieces that are placed in or on a container, the Model 8582 can be used to count pieces that are removed from a container. A typical sequence might be:

a). 000.00 PART ID?
Input the identification data (if required) via the keyboard, then press the ENTER key.

b). 070.00 TARE?
Place the loaded or full box, bin, or skid on the gross scale, then press the ENTER key.

c). 000.13 SAMPLE = 010
Remove a sample reference from the container (place the sample on the sample scale if operating a two scale system). Press the ENTER key if the stored sample reference quantity is used or input the variable quantity via the keyboard before the ENTER key is pressed. The scale is now ready to count additional pieces that are removed from the container.

5. If the contents of a full container are to be counted on a single scale, a typical sequence might be:

a). 001.37 TARE?
Enter the weight of the box, bin, or skid via the digital keyboard, then press the ENTER key.

b). 13.96 SAMPLE = 010
Remove a sample reference from the container; if a quantity different from the stored reference is removed, digitally enter the value via the keyboard. Press the ENTER key. The total count in/on the container will be displayed.

The typical dependent operating sequences are example of the many different options that are selectable when configuring (setting up) the scale. Consult the Model 8582 Operator's Reference Guide for a more detailed description of dependent operation. Regardless of the specific operation that is selected, the sequence will be repeated from one transaction to the next. Prompts will all but eliminate any operator uncertainty. Even the most sophisticated transactions are simplified since the dependent mode relies solely on the use of the ENTER KEY.

5.4.3 INDEPENDENT OPERATION

If the use does not prefer the Model 8582's self-prompting dependent mode of operation, an independent mode can be enabled during setup. The independent mode of operation allows the user to input data or process transactions in sequences independent from others. The independent mode of operation is ideal for applications where consecutive count or weight transactions are not completed in a like manner. Transaction data can be input randomly in any order enhancing the operating flexibility of the system.

If the independent mode of operation is selected, all data input is preceded by a designated key. The four keys that are most frequently used in the independent mode of operation are ID, TARE, APW, and or SAMPLE. One of these keys must be pressed prior to any data entry. As with the dependent mode of operation, all keyboard data eateries are completed using the ENTER key.

1. A typical transaction operating in the independent mode might be:

a). 25.778
Place a box, bin, or skid of parts on the gross scale. Press the APW key if a known average piece weight is to be entered via the digital keyboard. After the APW has been input, press the ENTER key. The total weight on the scale will be displayed as a count.

b). 25.778 1256 PCS
Press the TARE key if the weight of the container is known. Digitally enter the value via the keyboard, then press the ENTER key. The tare weight is subtracted from he gross and the net weight is displayed as a piece count.

2. The next transaction may require an empty container to be filled with a predetermined quantity. A typical sequence might be:

a). 01.240 TARE?
Place the empty container on the gross scale, then press TARE, followed by ENTER.

b). 00.024 SAMPLE = 005
Press the SAMPLE key, then place the desired sample size (stored reference or any variable quantity) on the sample scale. Enter the quantity via the keyboard (if different than the reference quantity) # then press ENTER. The system is now ready to count. Fill the container to the desired quantity.

c). If the transaction requires identification data to be input (single or multiple lines), press the ID key prior to inputting the identification data. The ENTER key is used to complete the entry.

The independent mode of operation offers maximum flexibility from one transaction to the next. The same Model 8582 can be used to complete very sophisticated transactions; or if required, calculate a simple count or weight avoiding a series of extraneous keyboard entries.

The procedure to configure the Model 8582 in the dependent or independent modes of operation is described in the setup section of this manual in step [F4.4].

5.5 OPERATING ZONES

Four distinct zones of counting exist in relation to the weight on the platter. These zones are shown in the following table and discussed more fully in the following four sections. Note that if sample enhancement is disabled zone 3 does not exist. Note also that if the minimum sample weight is chosen as 0.0% then zeros 1 and 2 essentially do not exist and the APW computation may have a large error. A non-zero tare should be taken before using small sample weights when 0.0% is chosen to disable AZM.

ZONE	WEIGHT	CONDITION
1	Below Minimum APW Computation (Below 2 display increments).	No sampling. Display show “LOW SAMPLE”
2	2 Display Increments to Minimum Sample Wt.	Sampling allowed. Display shows “Add-x”
3	Minimum Sample Weight to 4%. Print allowed.	Count mode. APW Enhancement allowed. display shows selected data field.
4	4% to Scale Capacity. Print allowed.	Normal Counting Mode. NO Enhancement. Display shows selected data field.

ZONE 1

Average piece weight (APW) cannot be accurately computed below 2 increment counts. Any attempt to enter a sample piece count by pressing the SAMPLE key will result in the message "LOW SAMPLE" in the data display. The operator should add samples and enter the new sample count until the "LOW SAMPLE" message does not result.

ZONE 2

In setup the 8582 can be set to permit the operator to continuously update the average piece weight based on larger and larger samples (Setup step [F1.8]) A minimum APW weight, as defined in Zone 1 previously, is required for the initial calculation of APW. As additional pieces are placed on the scale, each time the scale sees a motion/ no-motion sequence, a new APW is calculated, based upon the new total sample weight with the sample count calculated using the APW previously established. See Section 5, part 6 for further discussion of APW enhancement.

Minimum sample weight is selected during Setup as 0.0%, 0.02%, 0.05%, 0.1% of scale capacity. The display shows "Add(x)", when the sample weight is below the minimum selected. (x) is the value of additional pieces required to reach the minimum sample requirement. It is calculated by using the original sample to calculate an APW, and using this APW to calculate the maximum number of pieces allowed maximum is exceeded, "OVER" will be displayed and the operator should remove parts until a motion/ no-motion sequence does not result in the "OVER" display. Adding pieces to the scale when "OVER" is displayed will enter the counting mode with enhancement disabled.

A manual sample acceptance mode is also selectable in the setup mode which requires an exact number of samples (x) be added and the ENTER key is pressed. This results in the most accurate APW.

ZONE 3

From the minimum sample weight to 4% of scale capacity the scale is in full counting mode. Printing may be done as desired. The APW will be enhanced if selected by setup step [F1.8] throughout this range, unless too many pieces are added to the platter. If the count of pieces added exceeds the number which can be reliably counted using the previous APW, the display shows "OVER ENH RNG" (over enhancement range) for 2 seconds, after which the count is again displayed. If the operator wishes to continue APW enhancement pieces must be removed until each motion/no-motion sequence no longer results in an "OVER ENH RNG" display. APW enhancement then occurs.

If the operator ignores the "OVER" display and adds more pieces or prints, no further APW enhancement is possible for the current transaction. Once the counting weight reaches 4% of scale capacity, APW enhancement is discontinued.

ZONE 4

From 4% to 100% of scale capacity is the normal counting zone, during which the displayed APW will not change and no APW enhancement is done.

5.6 AVERAGE PIECE WEIGHT ENHANCEMENT

NOTE: This function is only enabled in single scale applications. If tow scales are used, one for sample and one for gross, this function is automatically disabled.

The initial computed value of average piece weight (APW) may not have the accuracy needed to reliably count large numbers of small pieces. This problem is inherent in a single scale parts counter, since it must have the weighing range to count large quantities of parts. To compensate for this, the APW is allowed to be enhanced constantly up to 4% of scale capacity. In order to ensure a minimum APW initial accuracy, a minimum sample weight of 100 counts is required. APW's below this value should be accurately determined on a more sensitive APW enhancement is based on the fact that an inaccurate APW , while not able to count large numbers of parts, will very reliable count a small number of pieces. This count will then allow a new determination of APW based on a larger weight. Given enough enhancements the APW will become very accurate.

Enhancement occurs on a motion/ no-motion sequence with the following two conditions satisfied:

5.6.1 Pieces must have been added that is, the weight must have increased (or decreased in count out mode).

5.6.2 The pieces added (or removed) must not exceed the amount which can be counted accurately with the current APW. A display of "OVER ENH RNG" (over enhancement range) results when this amount is exceeded.

6. LOAD CELL CONNECTIONS

6.1 CHOOSING THE PROPER SCALE AND SCALE BUILD

To ensure a successful scale installation and calibration:

6.1.1 The calibrated scale capacity MUST equal at least 35% of the total load cell capacity for a successful scale calibration. If less than 35% is used, the 8582 may respond by allowing the scale to complete the calibration procedure then display a [SCALE X OVER ZERO] prompt. The 8582 may also display [SPAN ERROR] during calibration.

$$\%\ \text{of scale used for span} = \frac{\text{Calibrated scale capacity}}{\text{Total load cell capacity}^*} \times 100$$

6.1.2 The total initial weight experienced at the load cell (s) should not be greater than 25% the total load cell capacity of the scale. If the initial exceeds the 25% the 8582 may respond by allowing the scale to complete the calibration procedure then display a [SCALE X OVER ZERO] prompt.

$$\%\ \text{of scale used for initial} = \frac{\text{Total scale initial}}{\text{Total load cell capacity}^*} \times 100$$

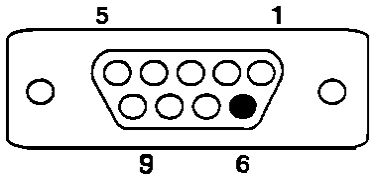
* If more than 1 cell is used multiply the capacity of one cell times the total load cells. If the scale uses a lever ration multiply the load cell capacity times the lever ration.

6.2 ANALOG LOAD CELL CONNECTIONS

CAUTION:	Do not attach an analog scale base to a digital scale input or a digital scale base to an analog scale input of the 8582 or damage will result.

6.2.1 8582 PIN CONFIGURATION (9 Pins)

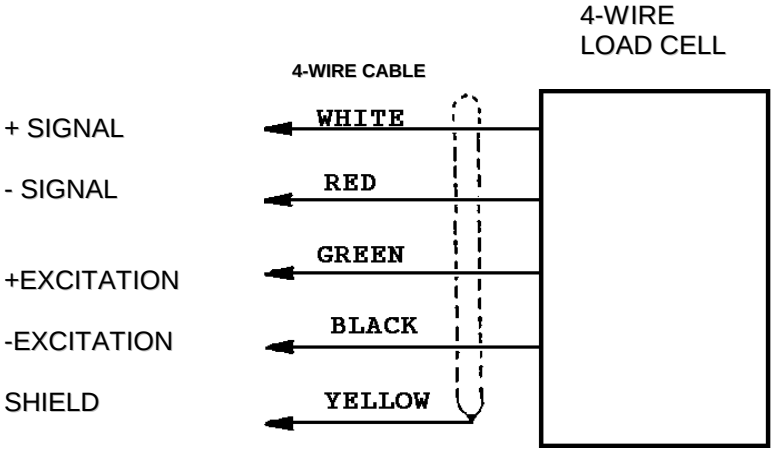
* As viewed from the back of the 8582 Desk Mount or the bottom of the 8582 Wall Mount.



PIN	DESCRIPTION
1	+ Excitation
2	+ Sense
3	+ Shield
4	- Sense
5	- Excitation
7	+ Signal
8	- Signal

6.2.2 STANDARD LOAD CELL INPUT / OUTPUT

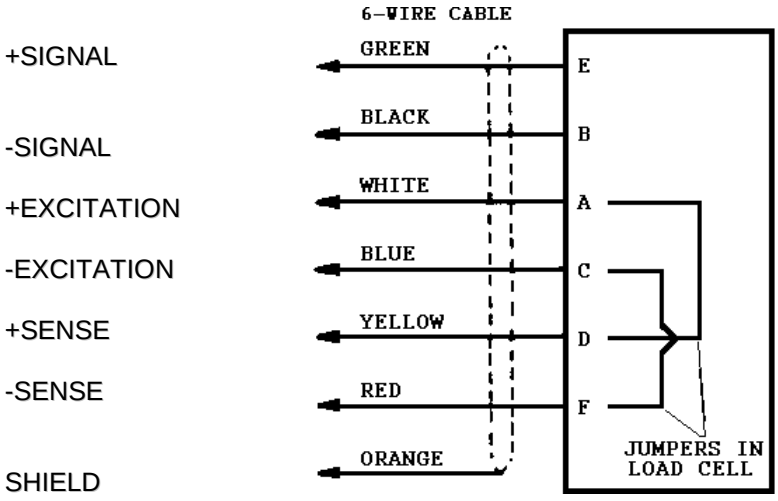
1. Four wire load cells.



* When using a Model 951 load cell in tension, reverse the signal wires from that which is shown above, i.e. + Signal is Read and - Signal is White.

NOTE: When connecting a four wire load cell to the 8582, always jumper + excitation to + sense and - excitation to - sense at the junction to - sense at the junction closest to the load cell.

2. Six wire load cells

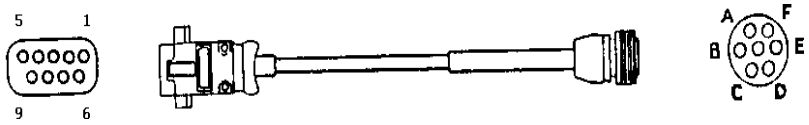


6.2.3. ADAPTER CABLE

This adapter cable part number B117611 00A provides a way to connect 16 gauge load cell cable to the 8582. It requires the use of a 7 pin MS type mating connector.

PIN	DESCRIPTION
1	+ Excitation
2	+ Sense
3	Shield
4	- Sense
5	- Excitation
7	+ Signal
8	- Signal

PIN	DESCRIPTION
A	+Signal
B	-Signal
C	+ Excitation
D	-Excitation
E	+ Sense
F	-Sense
G	Shield

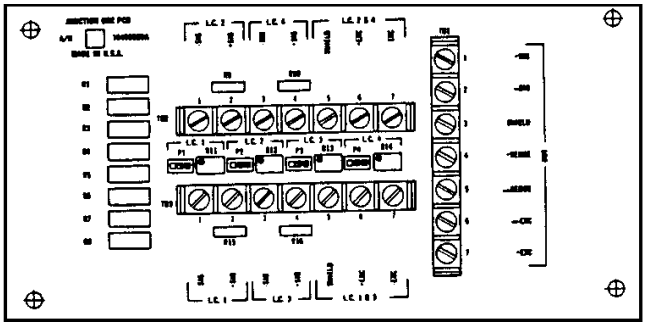


6.2.4. JUNCTION BOX CONNECTIONS

1. Low Profile Style

Terminal strip TB1 is the output terminal strip to the 8582. It should be wired as shown.

TB1 TERMINAL	SIGNAL DESCRIPTION
1	+ Signal
2	- Signal
3	Shield
4	+ Sense
5	- Sense
7	+ Excitation
8	- Excitation



Terminal strips TB2 and TB3 are the connections for the load cells. Wire the load cells as described below. See part 2 of this section for load cell color code. Note that load cell will be appreciated as L/C in this chart.

TERMINAL	TB2 DESCRIPTION	TB3 DESCRIPTION
1	- Signal L/C2	- Signal L/C1
2	+Signal L/C2	+Signal L/C1
3	- Signal L/C4	- Signal L/C3
4	+Signal L/C4	+Signal L/C3
5*	Shields	Shields
6**	+Excit. L/C 2 & 4	+Excit. L/C 1 & 3
7**	- Excit L/C 2 & 4	- Excit. L/C 1 & 3

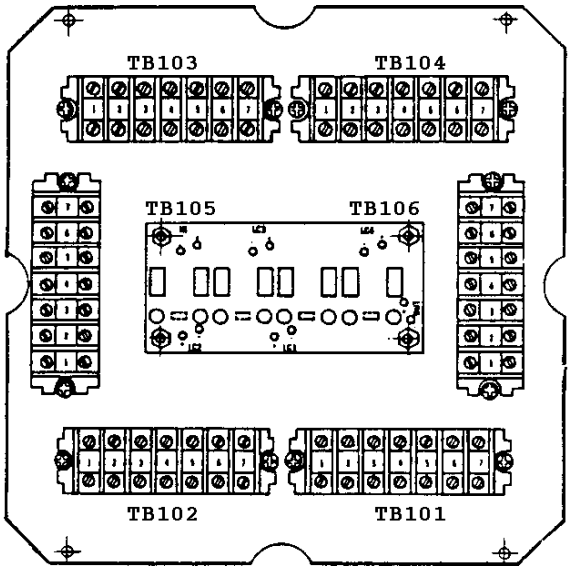
Note that no sense leads are connected from the load cells.

* A load cell shield connection is not required when all load cells are contained within one steel understructure.

** Terminals 6 & 7 will each have two wires connected to them. One wire will go to each load cell supplied.

NOTE: Toledo Scale now uses a dual shield cable. The ground shield (green with yellow stripe) connects to structure (chassis) ground in junction box, and to the metal shell of the cable clamp at the 8582.

2. Vehicle Style



On terminal strips TB101*, TB102, TB103 and TB104 a load cell is connected using the following guide. See part 2 of this section for load cell color code.

TERMINAL	SIGNAL DESCRIPTION
1	+Signal
2	- Signal
3	Shield
4	- Excitation
5	+Excitation
6*	+Sense
7*	- Sense

TB105 is the input terminal strip that another junction box output would connect to if multiple junction boxes were required. The wiring is the same as TB101 - TB104.

TB106 is the output terminal strip to the digital indicator. The wiring for this is the same as TB101-TB104.

* If four wire load cells (no sense leads) are used, there must be two jumpers installed on TB 101. The two jumpers should be placed from terminal 4 to terminal 7 and from terminal 5 to 6. These jumpers are not required with 6 wire cells. If four wire load cells are used, no wires will be connected to terminal 6 and 7 on TB 102, TB 103, and TB 104.

6.3 DIGITAL LOAD CELL CONNECTIONS

CAUTION:	A digital scale MUST be wired as discussed following. If wired as analog cell, damage WILL occur to the load cell.

6.3.1 DIGITAL SCALE LOAD CELL CABLE WIRING

The following table shows the pin to pin connections for wiring the 8582 to a digital scale base.

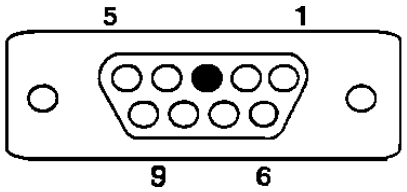
Digital Scales

8582 Desk/ Wall	wire colors	6113 1992	1996/1997 2096/2097 2196/2197	Signal Description
1	red	1	1	RxD A
3	-	-	-	KEY
4	white	4	n.c.*	RxD B
5	green	5	5	+20 VDC
6	yellow	6	6	TxD B
7	blue	7	7	GND
8	black	8	8	TxD A

* This wire MUST NOT BE connected with the 1996 thru 2197 bases.

6.3.2 PIN NUMBER ASSIGNMENTS

The following pictorial displays the pinout of the mating load cell connector that plugs the 8582 desk or wall mount units. It is displayed as it would be viewed for soldering at installation.



REAR VIEW - Digital Load Cell Mating Connector

6.3.3 KEYING THE MATING CONNECTOR

Notice that the digital load cell connector mounted on the 8582 has a key in pin 3. The key is installed to insure that an analog scale base cannot be plugged into this connector.

Because of this key, pin 3 of the mating connector must be removed. To accomplish this grab as much of the pin as possible with a pair of needle breaks. Make sure that all adjacent pins remain straight.

7. INPUT/OUTPUT DESCRIPTIONS

7.1 PRINTER PORT

The printer port provides both active 20mA current loop and RS-2323-C communications. The baud rate is selectable as 300, 1200, 2400, 4800 or 9600 baud. Parity may be even, odd or always a "0". All data will be in an 11 bit frame.

1 - Start bit
7 - ASCII coded data bits
1 - Parity bit
2 - Stop bits

A checksum character is selectable in setup to provide data verification. Also selectable is expanded printing of ID, net weight and piece count using the ASCII characters "SO" and "SI".

7.1.1. PIN CONFIGURATION (25 Pin Connector)

PIN	DESCRIPTION
2	TxD (RS-232)
3	RxD (RS-232)
7	Logic Ground
8	+Receive (20mA)
9	+Transmit (Active 20 mA)
10	-Receive (20 mA)
13	+10 Volts DC
22	-Transmit (Active 20 mA)

All pins not shown are not connected at the 8582.

7.1.2. DATA OUTPUT NOTES

1. If a tare is not taken and tare and net fields have been programmed to print he tare and net lines will remain blank.

2. If ID is programmed to print but not entered, that line will be blank.

3. The ID field will print in the format that it is entered in from setup selection [F4.2}.

4. If the inverse format is selected, time and date will still follow ID.

5. If an APW fails a tolerance check (step [F5.11] enabled) there will be an asterisk printed after the APW value to indicate the failure.

6. Using *D129329 00A or older software and printing with pieces displayed after completing a count sequence - disabling a particular field from printing (in setup) will cause the field from printing (in setup) will cause the 8582 to shift all enabled print fields up accordingly in the printout.

7. Pushing the Print key when not displaying pieces:

* E129329 00A or newer software will print the selected fields that have been entered prior to pressing the Print key and leave blanks for the fields not entered.

* D129329 00A or older software will print only the weight field. The weight field will print out as selected in setup.

NOTE: The software revision in an 8582 can be determined by observing the third prompt after cycling power to the unit.

7.1.3. REPEAT PRINT

The operation of the repeat print function is the same in both the weigh and count modes.

1. Repeat Print Disabled

When repeat print is turned OFF, only one print is permitted after weight is applied to the scale. Additional print requests are ignored until the scale returns to gross zero or until the CLEAR key is pressed twice. The recall function remains active throughout the sequence.

2. Repeat Print Enabled

When repeat print is turned ON, the weight or count display will lock after a print request. Repeated prints of this information are available using the PRINT key. The recall sequence is inhibited. If pieces are added to the scale (or removed in the count down mode) in an amount greater than one display increment, the 8582 will unlock the display when motion ceases. The RECALL key will then become active and a print of the new values is possible. After a print, the display will lock and multiple prints of these values are possible.

7.1.4. AUTOPRINT

This feature enables the 8582 to automatically output data when a no-motion count of 50 pieces above the sample count is reached. This feature is not functional until a count is made. The repeat print feature may also have an effect on autoprint.

7.1.5. INVENTORY FILE REPORT FORMAT

All inventory file records or only those records with a net change to the accumulator (step [F9.9]) can be printed in a report. To initiate this printout, press the FUNCTION key, the MEMORY key then the PRINT key. The Toledo Model 8840 (or comparable printer capable of printing 67 characters on a line) must be used. Each file record will print on a single line in the following format.

<STX> (16 digit part ID) <SP> (16 character description) <SP> (8 digit count total) <SP> (8 digits net change to accumulator) <SP> (6 digit APW with decimal point and field descriptor) <SP> (5 digit tare with decimal point and field descriptor) <CR> <LF>

NOTE: Angle brackets denote an ASCII character and parenthesis contain field descriptions.

Pressing the CLEAR key while the print out is in progress will stop the file print.

To print a single inventory file record, press FUNCTION then the MEMORY key. When prompted for the ID, enter the part number for the record you wish to print. When the record is accessed, Press wish to print. When the record is accessed, press the PRINT key. Press the CLEAR to exit this mode.

7.1.6. 8582 TO 3907 POINTER SETUP

When a Model 307 Printer is connected to the Model 8582 Counting Scale, checksum must be enabled for the 307 to print. Be certain the following setup choices have been selected during programming steps not shown are user selectable. Reference the technical manual TM000307R01 for a full description of all 307 programming selections.

MODEL 307

SWITCH	SWITCH POSITION 1	2	3	4	5	6	7	8	9
SW1	0	0	0	0	0	0	0	0	0
SW2	0	0	0	0	0	1	*	0	0

NOTE: 0 represents the OFF position
1 represents the ON position
*is selectable for the label size

MODEL 8582

F3.1 NO
F3.6 NO
F4.1 NO
F9.1 YES
F9.2 EVN
F9.3 YES
F9.4 300
F9.5 6
F9.7 YES
F9.10 NO
F9.11 NO

7.2 SERIAL PORT I/O 1

7.2.1. DESCRIPTION

Either RS-485 or RS-232-C (with hand shaking) is available at I/O 1. This port can be programmed as an input for either of the keyboard options (desk version only) or it can be used for a remote display or for host communications (non multi drop). The configuration for this port is done in the normal setup programming section [F7].

When programmed for a remote display, continuous count data will be transmitted when in the count mode. The protocol for host interface is described in detail in Section 7.5.

7.2.2. PIN CONFIGURATION (9 Pin Connector)

I/O 1 PIN	DESCRIPTION
2	RxD (RS-232)
3	TxD (RS-232)
4	+ 10 VDC (DTR)
5	Logic Ground
6	A (RS-232)
7	RTS (RS-232)
8	CTS (RS-232)
9	B (RS -485)

7.3 SERIAL PORT I/0 2 (OPTIONAL)

7.3.1. DESCRIPTION

1. Serial Port I/O 2 without Memory

This optional kit adds another serial port for a remote display or for host communications if I/O is already utilized. Only RS-232-C (with handshaking) is available as the type of data communication. If the port is programmed for use with the Toledo Model 8622 remote display, the count will be continuously transmitted when in the count mode. The protocol for use in host interface is described in Section 7.5.

2. Serial Port I/O with Memory

This option has all the capability of the Serial Port I/O 2 without memory as just discussed in step 1. The additional battery backed-up memory adds extra capability for storage for inventory files (up to 2310 files) or transactions when in the transmission buffer mode [F5.14 Y] for E revision * or newer software or older.

When the Serial Port I/O 2 with memory is added to an 8582 with the D revision * or older software, any files previously stored in the scale's memory must be cleared. If the memory is not cleared, the added RAM cannot be accessed. To clear the existing memory, follow these steps.

Procedure:

i Apply AC power to the Model 8582.,

ii. Turn the setup switch (SW1) ON to gain access the programming.

iii. Press the ENTER key to enter the setup mode and advance to step [F5.1] for inventory file mode or step [F5.13] for transaction buffer mode.

iv. Press the NO key at either and/or both of these prompts and the Model 8582 will display [CLEAR FILE?].

v. Press the YES key again and the display will show [SURE?]

vi. Press the YES key again and the memory will be cleared.

vii. Exit the setup routine and turn the setup switch (SW1) OFF.

viii. Now the setup mode can be re-entered and the memory programmed as desired. Data that exceeds the RAM capacity of the standard 8582 will automatically be stored on the Expanded Memory PCB.

When the Serial Port I/O 2 with memory is added to an 8582 with the E revision * or newer software, the memory does not need to be cleared.

* To determine the software revision cycle power to the 8582. The third prompt after cycling power iwll show the existing software revision. [8582 E129329 00A] is an example of the third prompt revealing E revision software.

7.3.2 PIN CONFIGUARTION (9 Pin Connector)

I/O 2 PIN	DESCRIPTION
2	RxD (RS-232)
3	TxD (RS-232)
4	+ 10 VDC (DTR)
5	Logic Ground
7	RTS (RS0-232)
8	CTS (RS-232)

7.4 CONTINUOUS SETPOINT OUTPUT

WARNING
WHEN THIS EQUIPMENT IS INCLUDED AS A COMPONENT PART OF A SYSTEM. THE RESULTING DESIGN MUST BE REVIEWED BY QULIFIED PERSONNEL WHO ARE FAMILIAR WITHT HE CONSTRUCTION AND OPERATION OF ALL COMPONENTS IN THE SYSTEM AND THE POTENTIAL HAZARDS INCOLVED. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN BODILTY INJURY.

WARNING
IF THIS DEVICE IS USED IN AN AUTOMATIC OR MANUAL FILLING CYCLE, ALL USERS MUST PROVIDE A HARD-WIRED EMEMRGENCY STOP CIRCUIT OUTSIDE THE MODEL 8582 CIRCUITRY. FAILURE TO OBSERVE THE PRECAUTION COULD RESULT IN BODILY INJURY.

The continuous output is available in all 8582's with the "E" revision or newer software (see NOTE 1). The data is transmitted at 4800 baud in 7 bit ASCII with an even party bit and tow stop bits. The character format for this output is shown in the following table.

NOTE: The software revision can be determined by observing the third prompt displayed after applying AC power to the 8582. [8582 E129329 00A] is the third prompt displayed if the 8582 has "E" revision software.

Setpoint data is entered in the following manner. Press the FUNCTION key and the decimal point (.) key. The 8582 will display [SETPOINT 1?]. To enter a new value. To display the current value, press the ENTER key. The 8582 will display [step 1 = XXXXXX]. Press the ENTER key to accept the displayed value. The 8582 will display [setpoint 2?]. To enter a new value, use the numeric keys to enter targeted count value, press the ENTER key. The 8582 will display [STEP 2 = XXXXXX]. Press the ENTER key to accept the displayed value.

CONTINUOUS SETPOINT DATA FORMAT

Sequence of Characters Transmitted

1	2	3	4	5-6-7-8-9-1	11-12-13-14-15-16	17	18
STX	Status Word A	Status Word B	Status Word C	Six Digits of count	Six Zeroes (30H)	CR	CKSM

Start of Text (02H)

Carriage Return (0DH)

Checksum Character

Bit No.	Status Word A	Status Word B	Status Word C
0	Always a 0	Always a 0	Always a 0
1	Always a 1	NegativeOut of Range = 1	Always a 0
2	Always a 0	Out of Range =1	Always a 0
3	Setpoint 1 Feeding = 0	Motion = 1	Always a 0
4	Setpoint 2 Feeding = 0	Always a 0	Always a 1
5	Always a 1	Always a 1	Always a 1
6	Always a 1	Always a 1	Always a 1

The continuous setpoint output can be selected to be output from serial Port I/O 1 or the Optional Serial Port I/O 2 by selecting yes prompt for programming step F7.6 [F7.6 Y] and selecting the desired port for remote output (REMT) in programming steps F7.2 or F7.3. Refer to section 4.4 for programming details and Sections 7.2 and C for details on Ports 1 and 2. Toledo Scale offers modules that will read this continuous output and supply separate setpoint TTL outputs or contact closures. Contact your Toledo Scale Representative for more details.

7.5 BAR CODE SCANNING (OPTIONAL)

Bar code scanning is provide through 1 of 2 bar code options which require the use of the Serial I/O 2 - Memory option. Industrial formats Code 3 of 9 and Interleaved 2 of 5 are supported without changing any switches or setup in the 8582 (Interleaved 2 of 5 only supports numeric digits 0-9). The 8582 is capable of reading labels of up to 16 digits for ID, 6 digits of tare data, and 7 digits for APW data . Before reading a label for a value, the proper prompt must currently be displayed. For example, the [TARE?] prompt must be displayed before a tare can be scanned.

NOTE: Interleaved 2 of 5 will only scan a minimum of 3 digits. When the 8860 receives an odd number of digits in Interleaved 2 of 5 from 8582 the 8860 inserts a leading "0". The 8860 will print this "0" in bar code but not in human readable.

Numeric data must come first on the label and trailing descriptors are stripped off. For example, a label containing the data:

1 LB TR

will be read as 1 pound for a tare or APW.

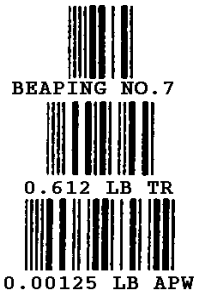
Data for a tare value will be rounded to the nearest whole increment whcih gives the 8582 the capability of reading the bar code labels it generates on a Toledo Model 8860 printer. Keyboard tare must be enabled in order to scan a label for tare entry. ID labels cannot contain decimal points.

Two types of scanners are available for use with the 8582, either a wand or an infrared gun. The wand is held like a pencil and must contact the bar code as it is rubbed across the bar code to read it properly. The gun actually "shoots" a beam making physical contact with the ticket containing the bar code unnecessary. It will scan at a maximum distance of approximately 4 inches.

The Toledo Scale part numbers used to order these two options are in section 4-2-1

Scannable test labels are shown next. These are labels generated by an 8860 Thermal Printer and contain fields that would commonly be used in parts counting applications. Label 1 is 3 of 9 format and Label 2 is 2 of 5 interleaved.

LABEL 1



LABEL 2

NOTE: That the human readable data under the bar code in Label 2 shows alpha characters but only numeric data is bar coded.

7.6 REMOTE DISPLAY

7.6.1 DESCRIPTION

The remote display output from the 8582 is designed to operate with the Toledo Model 8622 remote display. The 8622 can be attached to either I/0 1 or I/0 2. The maximum cable length to the 8622 is 50 feet.

The display of the 8622 will remain blank until the 8582 enters the count mode at which time the 8622 will shown the piece count but it will not display the PCS legend. The legends illuminated will be lb and gross.

NOTE: The printer output of the 8622 is not usable when configured with the 8582.

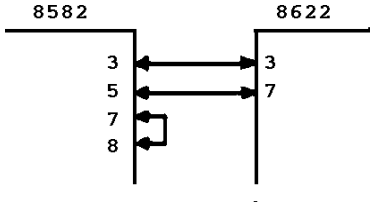
7.6.2 8622 PROGRAMMING

The 8622 remote display must be programmed with the following setup selections.

STEP	SELECTION	DESCRIPTION
F1.1	0	RS-232 Interface
F1.2	0	Continuous Mode
F1.4	9600	Baud Rate
F1.5	1	Checksum Enabled
F1.6	0	Timeout Disabled

7.6.3 INTERCONNECT CABLE

The cable between the 8582 and 8622 is configured as shown.



7.7 INVENTORY FILE/TRANSACTION BUFFER/ SINGLE DATA REGISTER

NOTE: The contents of the inventory file or transaciton buffer are cleared when one of the following five functions are performed. Refer to section 4-4 of thim manual for details on performing any of the five steps.

* Turning off the transaction buffer during programming and pressing the "Yes" key in response to the "Clear File?" prompt.

* Turning on the inventory file during programming then pressing the "Yes" key in response to the "Clear File?" prompt.

* Changing the transaction record size by changing the fields selected as a field to be transmitted from the Host section of programming.

* Disabling the I.D. during programming and I.D. is selected as a field to be transmitted from the Host Port.

* Disabling or enabling time or date during programming with time and date selected as one of the fields to be transmitted from the Host Port.

7.7.1. INVENTORY FILE

The Inventory file consists of:

A 16 alpha-numeric character I.D. or part number that distinguishes that record from others. Only an optional keyboard or Host Computer input can enter alpha characters.

A 16 alpha-numeric character description of the part.

The average piece weight of the part.

The tare weight used with this part.

The total accumulated piece count of this part.

Accumulated piece count may be maintained for a total of 200 inventory file records (or 2,310 inventory file records with optional Serial I/O 2 - Memory Kit, P/N 131319 00A). Each record can accumulate up to 8 digits of accumulated piece count and is identified by its own I.D. entered when the record is first established. The accumulated piece count may be added to or subtracted from for any record.

To add to or subtract from a specific records accumulated piece count, press the "Function" key followed by the "+" key or the "-" key while a nonzero count is displayed. The non-zero count will be added or subtracted from the accumulated piece count. Accumulation on print can also be selected during programming (explained in step F4.8 of section 4.4 of this manual), which indirectly provides for an auto accumulate function when the auto print feature is enabled.

After an accumulation, the display is frozen until one of the following conditions are met: the scale weight increases by at least one display increment the count transaction is reset by a double depression of the "Clear" key, a new tare is entered, a new APW (or pieces per weight) is entered, or a new I.D. is entered.

If repeat print is enabled [F9.11 Y] the display will also be frozen until the scale weight increases by at least one display increment then settles to a no-motion condition.

Piece count accumulation may be made mandatory during programming (explained in step F4.7 of section 4.4 of this manual), After reaching 50 pieces above the sample count, if include sample ([F1.2 Y]) is enabled in a two scale system, or reaching 50 pieces in a single scale system or two scale system with include sample disabled, accumulate mandatory is triggered. The total cursor will flash and the operator cannot successfully exit the counting mode until an accumulation is done.

a). Displaying Inventory contents for Specific I.D.s.
The contents of any specific record can be displayed for review while the scale is a home position. Press the "Function" key followed by the"Memory" key. The display will prompt for an I.D. (the actual prompt is whatever is entered for I.D. PROMPT 1, explained in step F4.3 of section 4.4 of this manual). Input the I.D. number for that specific record and press the "Enter" key. The first actuation of the "Enter" key displays the description. subsequent actuations of the "Enter:" key display the stored Tare, APW (or pieces per weight), and finally the accumulated total. Pressing the "Print" key while displaying a specific record will print out the contents of that record. Pressing the "Clear" key returns the scale to the home position and the 8582 is ready to begin a count sequence.

b). Printing Inventory Files
The entire contents of the Inventory File may be printed by pressing the "Function" key, then the "Memory" key, then the "Print" key. If step F9.7 is enabled [F9.7 Y], the Inventory File printout will contain only records that saw increases (or decreases) in the accumulated piece count. Pressing the "Print" key while displaying a specific record will record will print out the contents of that record. Pressing the "Clear" key returns the scale to the home position and the 8582 is ready to begin a count sequence

c). Clearing the Piece Count Accumulators
The piece count accumulators can be cleared while displaying the inventory contents for a specific I.D.. Press the '"0" key while displaying the piece count accumulator contents. The 8582 will display "CLR ACCUM?". Pressing the "Yes" key will clear this records piece count accumulator and return to displaying the piece count accumulator contents which will not be 0. Pressing the "No" key will present the display [CLR ALL ACC?], to allow clearing of all of the accumulators.

Pressing the "YES" key with [CLR ALL ACC?] displayed will change the display to [SURE ?]. Pressing the "Yes" key with [SURE ?] on the display will prompt the message [CLEARING] while all piece count accumulators are being cleared. After clearing all accumulators, the scale will return to the home position. Pressing the "No" key with [SURE?] displayed will return the scale to displaying the piece count accumulator contents.

Pressing the "No" key with [CLR ALL ACC?] displayed will return the scale to displaying the piece count accumulator contents.

NOTE: In order for the transaction buffer to function one of the ports MUST be selected as the Host Port during programming. Refer to section 4.4, group F7, in this manual for programming details.

7.7.2. TRANSACTION BUFFER
The storage of each count transaction instead of storing data per I.D. in an inventory file is selectable during programming (explained in section 4.4, of this manual). In this mode data from individual transactions are stored in sequential order as the transactions occur. The transaction data format is the same as the format for the host "P" command explained in section 7.8 of this manual. Data stored in the Transaction Buffer can be retrieved by the Host computer by use of the upload commands explained in section 7.8 and the transaction buffer is NOT cleared when it's content is transmitted to the host. The transaction buffer must be cleared by the Host computer using the "E" command.

7.7.3. SINGLE DATA REGISTER

NOTE: The single Data Register is only available with E129329 00A revision software or newer. The software revision will be the third prompt displayed after applying power to the unit. [8582 E29329 00A is an example of the third prompt after applying A-C power.

A single data register is provided for accumulating gyros weight, net weight or piece count, selectable in programming step [F4.9]. Accumulation is done by pressing the "Function" key followed by the "+" key, use of the host "M <CR>" command, or indirectly by the accumulate on print function, similar to accumulating a piece count into the inventory file mode. When an accumulation is done, the data display blanks and the TOTAL cursor will blink. If the inventory file is enabled and an ID has been entered, accumulation is done into the inventory file record as well, causing the TOTAL cursor to blink a second time.

Accumulation may only be done once while upscale in the parts counting mode. The 8582 must go back to gross zero and settle to a no-motion condition before another accumulation can take place. Accumulation is also done in the same fashion while not in the parts counting mode, though the display does not lock when the accumulation is done. This applies only when the accumulator is selected for net or gross weight.

The single data Register used as a weight accumulator is nine digits and as a count accumulator is eight digits. If the register overflows, the message [TRANS AC OVR] is displayed. Press any key to continue operation. The register is marked as having overflowed and rolls over to a zero value.

RECALLING
If the single data register is selected, the current value may be displayed by pressing the "function:" key followed by the "Print" key. The TOTAL cursor will be lit to indicate this is the single data register. A "*" will be displayed with the value if an overflow condition has occurred. The host "R<CR>" command may be used to access the register also. Press the "Enter" key to return to the count mode.

PRINTING
The single data register may be printed with the currently entered ID field(s) . The register must be recalled as described previously and the "Print" key must be pressed a second time. the register value will be followed by a "*" if overflow has occurred.

CLEARING
The single data register may be cleared in three ways, by pressing the number "0" key while the register is being recalled on the display, or by using the host "H<CR>" command, or by enabling the register clear programming step [F4.10] to clear the register after printing the total.

NOTE: When a scale select function is actuated, the register will be cleared.

7.8 HOST COMMUNICATIONS (NON-MULTIDROP)

This communication is used when a host computer is to interface to a single 8582 in order to:

- Input values for ID, tare, APW or sample quantities to the 8582.

- Zero the displayed scale.
- Clear the 8582 display to the home position.

- Obtain access to the data in the transaction buffer.

- Add or subtract count quantities from an inventory file record.

- Select different scales for gross and sample use.

- Upload and download complete file records in the inventory file mode.

This interface does not support communication to multiple 8582's . Reference the next section for multidrop applications.

NOTE: 8582 E129392 revision software or newer has an additional mode of polled operation. An ASCII <ENQ> character will be transmitted from the host port, either I/O port 1 or I/O port 2, to the host computer when an iD is entered. If a blank ID is entered, no transmission will take place. This is only for single 8581 systems, this mode does not operate in a multidrop application.

7.8.1 DESCRIPTION

Either I/O 1 or I/O 2 may be used for this interface. Port I/O 1 offers both RS-232-C and RS-485 communication while I/O 2 offers only RS-232-C. The baud rate is selectable as 300, 1200, 3400, 4800 or 9600 baud. Parity may be selected as even, odd, always a "0" or no parity bit. The number of stop bits is selectable as either one or two.

The CTS handshaking line is used by the 8582 and must be tied to RTS if not utilized by the host. CTS must respond within 500 ms of a communication or the command will be aborted.

Input data is free format with a maximum number of digits as noted. A decimal point is needed only if data interpretation requires it. Leading zeroes are not required ("0.12" may be entered as ".12". The Carriage Return (CR) character is used to terminate a command.

NOTE: All alpha characters MUST be upper case.

7.8.2 HANDSHAKING

RTS - This output will go to + 10 VDC when the 8582 is ready to receive data from the host.

CTS - This input is monitored by the 8582 before transmitting any data. If this line is at -10 VDC, no data will be sent until the line changes to + 10 VDC. After receiving a command from the host, this line will be checked for a true condition for up to 500 ms before aborting.

7.8.3 CHECKSUM

Checksum is selectable for the file handling commands (Section 7.8.5 in this manual) and print command only. Checksum characters are not used for any of the other commands. The checksum characters are a two ASCII digit representation of the binary XOR of all characters in the record before carriage return; for example, a 3AH checksum will be sent as the ASCII characters "3" followed by "A".

7.8.4 OPERATING COMMANDS

The external commands that will be recognized by the 8582 are described next with descriptions when required. The brackets <> are for clarity only and must not be transmitted. All letters sent must be capital letters. CR represents the ASCII Carriage Return character.

Command Format	**Description**
Z> <CR>	Zero the scale if within +2% capacity from zero.
<T> <CR>	Tare the scale to net zero.
<T> <X.XXXX> <CR>	Enter the digital value transmitted as the tare value. From 1 to 5 digits (plus decimal point) may be transmitted.
<C> <CR>	Clear the scale to home position.
<S> <CR>	Enter the number of pieces (XXXX) as the sample count. Four digits maximum. Sample pieces must be on the scale.
<S> <XXX> <CR>	Enter the number of pieces (XXXX) as the sample count. Four digits maximum. Sample pieces must be on the scale.
<A> <X.XXXXX> <CR>	Enter the value transmitted (up to 6 digits plus decimal point) as either the APW or PCS/wt depending upon setup step [F2.1].

7.8.5 FILE COMMANDS

The following commands may only be executed while the scale is at the home position. With exception of the clear single accumulator and deception of the clear single accumulator and delete single record commands, the scale will display [BUSY] while file access is in process and the scale may not be used during this time.

The host will determine the number of retires in case of error. The 8582 will retransmit a record when a <B> is received until n <N> is received or time out for no data occurs (30 seconds). If the 8582 responds with a <B>, the host must try to receive the record until an <N> is received or time out for no data occurs.

The file commands that will be recognized by the 8582 are described next with descriptions when required. The brackets <> are for clarity only and must not be transmitted. All letters sent must be capital letters except for the field identifiers in the file records (<P> command). CR represents the ASCII character Carriage Return.

<D> <CR>	Request from the host to download an inventory file record to the 8582.
<U> <CR>	Request from the host for the 8582 to upload its transaction buffer or its first inventory file record to the host.
<W> <CR>	This is transmitted by the 8582 when it is busy or not in the home position and cannot respond to a host request. The host must wait and retry later.
<G> <CR>	This command serves two purposes. When transmitted by the 8582 after a <D> or <U> request, it signifies the 8582 is ready to receive or transmit data. Secondly, the <G> indicates that a file was received successfully and the next record may be sent. It may be sent by either the host or the 8582 when used the second way. The data format for the inventory file mode is described under the <U> <X> <CR> command while the transaction buffer's format is described under the <P> <CR> command.
<N> <CR>	When transmitted by either the host or the 8582, this indicates that the file access is done and to abort the access mode.
<B> <CR>	Requests the last inventory file record or the last transaction sent from the transaction buffer be repeated.
<C> <X> <CR>	This downloads an inventory file record from the host to the 8582's memory. <X> represents the inventory file record data received from the host. This data consists of: 16 characters of a part number (ID), 16 characters of description, 6 digits of tare, 7 digits of APW, 8 digits of net change to the accumulator. This command does not function in the transaction buffer mode.
<U> <X> <CR>	This requests that the 8582 send a file record requested by the host. <X> represents the 16 digit part number (ID), of the record. The 8582 responds with <U> <X> <CR> where X is the record data. this data will be in the format: 16 character part number *ID), 16 character of description, 6 digits of tare, 7 digits of APW, 8 digits of total count, 1 character for accumulator overflow flag (space if no overflow, <*> if accumulator overflow) and digits for net change to the accumulator. this command does not function in the transaction buffer mode.
<L> <CR>	Message from the 8582 during a download indicting that no more record space exists, only records which are to be modified may be accessed.
<I> <XXX> <CR>	Enter an ID where X represents the alphanumeric ID (up to 16 digits) received from the host.
<M> <+> <CR>	Add the current piece count to the selected accumulator.
<M> <-> <CR>	Subtract the current piece count from the selected accumulator.

<F> <XX> <CR>	Select the sample and gross scales where XX is the scale selection. The first X is the sample scale selection (1,2, or 3) and the second X represents the gross scale selection (1,3, or 3).
<P> <CR>	Print command. The response to this command will be the transmission of data fields (selected in step [F8.6] from the current transaction data on a single line. The field lengths and identifiers are described next in the order they will be transmitted. The maximum number of characters that could be sent is 99.
<i>	<16 to 32 characters of ID depending upon setup>
<g>	<6 digits of gross weight including decimal point>
<n>	<7 digits of net weight including decimal point and minus sign or space>
<a>	<8 digits of APW including a space or * to indicate APW tolerance failure>
<s>	<4 digits of sample quantity>
<y>	<5 digits of percent accuracy>
<c>	<6 digits of count>
<m>	<5 digits of time including colon for 24 hour format or 7 digits including colon and AM or PM for 12 hour format>
<d>	<8 characters of date including two slashes - month/day/year>
<O> >X> <CR>	Clear the piece count accumulator for a single inventory file record, where X is the part number (ID).
<O> <CR>	Clear all accumulators for all files.
<E> <X> <CR>	Command from the host to delete a single inventory file record, where "X:" is the part number of the record.
<E> <CR>	Command from the host to delete the entire file.

NOTE: This will delete all records from the memory of the 8582.

7.8.6 COMMUNICATION EXAMPLE

1. Upload Request

Host sends:

<U> <CR> - The host request the start of an unload, or just a single record if a part number follows the <U> (inventory file only).

Scale Sends:

<G> <CR> - The scale acknowledges it is at its home position and is ready to send the first record. If not at home the scale would have sent <W> <CR>, and the host would try again later.

Host sends:

<G> <CR> - The host indicates readiness for the upload. The host would send <N> to abort.

Scale sends:

<U> <X> <CR> - The scale sends the first record to the host where <X> is the data.
<G> <CR> - The host acknowledges record received correctly. If the host had not received the record correctly, the host would have sent <B> <CR> and the 8582 would try sending again. when the maximum number of retries by the host is done, the host aborts by sending and <N> <CR> to the 8582.

Scale sends:

<U> <X> <CR> - The scale sends the next record, starting the sequence over again.

After sending all records, the scale will send <N> <CR> to tell the host all the records have been sent. If the host sends <N> <CR> instead of <B> <CR> or <G> <CR> at any time the 8582 aborts and goes back to its home position.

2. Download Request

Host sends:

<D> <CR> - The host requests the start of a download sequence.

Scale sends:

<G><CR> - The scale acknowledges it is at home positiona dn isready to receive the first record. If not at home position, thesclae would have sent <W><CR>, and host would try again later.

Host sends:

<D> <X> < CR> - The host sends the first record to the 8582 where <X> is the data.

Scale sends:

<G> <CR> - The scale acknowledges that the record was received correctly. If the 8582 had not received the record correctly, it would have sent <B> <CR> to request a resend. After the maximum number of unsuccessful resend attempts, the host sends <N> <CR> and the 8582 will abort. If the 8582 file space is full, it will send <L> <CR> and wait for the next record in case the host chooses to update an existing record.

Host sends:

<D> <X> <CR> - The host sends the next record, starting the process over again. After sending all records, the host will send <N> <CR> to tell the scale that all records have been sent. If the host sends <N> <CR> instead of data at any time, the 8582 aborts goes back to its home position.

7.9 HOST COMMUNICATIONS (MULTIDROP OPTION)

7.9.1 DESCRIPTION

This option allows up to 28 8582's (satellites) to be connected to an IBM PC (or IMB compatible PC) for host communication. Each 8582 must have a unique a address (selected in step [F8.5]) to distinguish it from the other 8582's in the network. The communication is via RS-485 using T-LAN (Toledo Local Area Network) format. Transmission speed is 375K baud at distances up to 300 meters in the D revision * or older software and 62.5 K baud at distances up to 1200 meters with the E revision * or newer software.

* To determine the software revision, cycle power to the 8582. The third prompt after cycling power will show the existing software revision. [8582 E129329 00A] is an example of the third prompt revealing E revision software.

The host device (master) must have an optional PCB to communicate properly with the 8582's.

The part number to order this optional PCB is 133779 00A. Included with this PCB are detailed instructions on the installation and application using multidrop.

Each 8582 to be sued in the multi-drop mode must have the multi-drop port harness assembly. The part number for this harness assembly is 131317 00A.

7.9.2 FORMAT

The commands and message fields are the same as those listed in the previous section for nonmultidrop host interface. The command character should be set to OH if not a command for Task 0. Task 0 and Task 1 are the only tasks. There is only one command for task 0, this being MOD-NAME (OFFH) which requests the model number and revision level for the scale, no information field is to be sent, the command does go into the command byte. The 8582 will send back the characters "8582" and the revision level, "B" for the second revision and so on. With the exception of the print command, the 8582 sends back a positive response for all operating and file commands with no information field to indicate the command was received correctly. If the response to the print command contains no data in the information field, the scale was either displaying negative gross weight or accumulate mandatory was in process. file commands will always have the described responses (<B>, <G>.... etc.) in the information field with a OH in the response field.

The <CR> character is still used after the message. The response code is a 0 for a successful reception of a command and any other value for a failure. Failure responses only result from control characters in the information field before the <CR> or a bad command sent to Task 0. The 8582 always sends the application responses (i.e. data for the response to a file handling command) in the information field. The 8582 will attempt to start transmission for 2.5 seconds and to transmit subsequent packets for .25 seconds before timing out and announcing [TLAN ERROR].

The packet size in the host polling table should be modified to be 32 bytes, the maximum packet size the 8582 may receive. The 8582 will not respond during keyboard entry, timeout values on the host should be set accordingly. The 8582 has a timeout value of 30 seconds, at which time an <N> is sent to the host.

NOTE: All alpha characters MUST be upper case.

THE MESSAGE FORMAT IS:

BYTE (.BIT)	FUNCTION
0 and 1	Local Link Word (for local O/S use, never transmitted across T-LAN, but is included in message length)
2	Message Length (including link word) 7-255 bytes
3	Flag Bits
.0-3	Reserved for future use.
.4	Track (TR) (for Intel use only)
.5	Destination Extension (DE)
.6	Source Extension (DE)
.7	Message Type (MT) : (0 = Order, 1 = Reply)
4	Slave Node Address (1-250) (0 and 251-255 are reserved)
5	Source and Destination Task ID's
.0-.3	Destination task ID (0-15)
.4-.7	Source task ID (0-15)
6	Command/Response code
7-254	Message Field

8. PREVENTIVE MAINTENANCE

The Model 8582 is designed to require a minimum of maintenance and service. This section provides instructions and procedures for maintenance of the indicator, as well as a troubleshooting guide to problem analysis.

8.1 REQUIRED TOOLS AND SUPPLIES

The following items are recommended for proper maintenance and repairs. Common hand tools are also required:

--Volt - Ohm Meter
--Load Cell simulator (P/N 100865 00A)
--Cleaning Cloth
--Static Bag
--Static Wrist Strap

8.2 MAINTENANCE SCHEDULE

The frequency at which normal maintenance (cleaning and inspection) should be performed, when installed in a clean office environment, should be twice a year. However, if the unit is subjected to a dusty or a dirty environment the frequency should be increased as required.

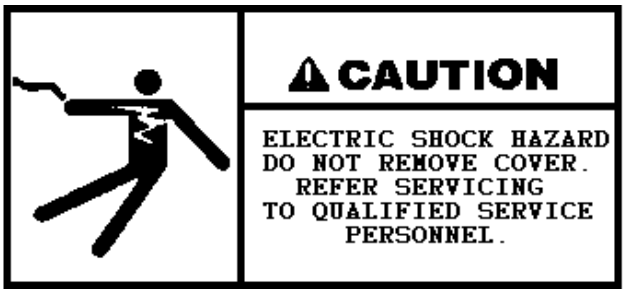
8.3 CLEANING

Clean the keyboard and cover with a soft, clean cloth that has been dampened with a mild window type cleaner. (DO NOT USE ANY TYPE OF INDUSTRIAL SOLVENT. DO NOT SPRAY CLEANER DIRECTLY ONTO THE UNIT).

8.4 TROUBLESHOOTING

8.4.1 PROCEDURE

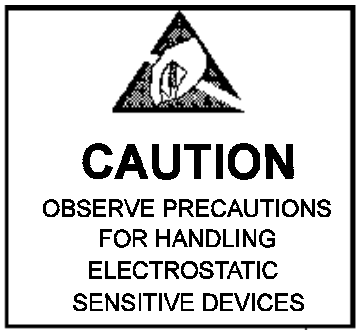
1. If operational difficulties are encountered, obtain as much information as possible regarding the particular trouble, as this may eliminate a lengthy, detailed checkout procedure.



2. Check fuses, primary power lines, external circuit elements and related wiring for possible defects. Failures and malfunctions often may be traced to simple causes such as loose or improper circuits, power supply connections or fuse failure.

3. Use the electrical interconnecting diagram as an aid in locating trouble causes. Part 5 of this section contains various voltage measurements that are average for normal operation. Use instrument probes carefully to avoid causing short circuits and damaging circuit components.

4. Malfunctions in the 8582 are best located by substitution. A printed circuit board believed to be defective may be checked by replacing it with a known good PCB and observing whether the problem is corrected. WHEN HANDLING A PCB, USE A "VELOSTAT" STATIC BAG FOR BOTH THE NEW AND DEFECTIVE PCB.



5. To verify the problem, as being in the removed PCB, removed the defective PCB and retest. This simple test will eliminate the possibility of having replaced a good PCB because of a loose or poor connection.

Be sure to consult the technical manual for proper programming. Do not automatically program the replacement PCB like the suspected faulty PCB as the problem may be a programming error.

Exchange PCB's or sub-assemblies are available from your authorized Toledo Scale representative. These assemblies are repaired and tested at various Toledo Scale factories.

8.4.2 ERROR MESSAGES

Before following the suggested corrective measures in the Error Message Chart, two steps should be taken:

- Power down/wait 15 seconds/power up.
- Verify all voltages and harness connections.

The suggested corrective measures assume these two steps have not resolved the error. If more than one suggestion per error is given, they are listed in the order of probability of resolving the problem.

ERROR	DESCRIPTION	CORRECTIVE MEASURES
I/O ERROR	I/O 1 Communication Error	Replace Logic PCB
PRINT ERROR	Printer Communication Error	Replace Logic PCB
I/0 2 ERROR	I/O 2 Communication Error	1. If no Serial I/O 2 PCB is present, disable I/O 2 in setup 2. If no Bar Code PCB is present, disable Bar Code in setup 3. Check cable to Serial I/O 2 PCB 4. Replace Serial I/O 2 PCB.
BAR CODE ERROR	Bar Code Communication Error	1. If no Serial I/O 2 PCB is present, disable those selections in setup 2. Check cable to Serial I/O 2 PCB 3. Replace Serial I/O 2 PCB.
PROM CHECKSUM ERROR	PROM Failure	Replace Logic PCB.
PROCESSOR ERROR	Internal RAM Error	Replace Logic PCB.
RAM FATAL ERROR	External RAM Error	Replace Logic PCB.
NOV RAM FATAL ERROR	Shadow RAM Error	1. Replace Logic PCB
NO SCALE RESP	No response from any scale.	1. Check internal harnesses to all scales and scale PCB's. 2. Replace internal load cell or Logic PCB.
NOV RAM CHECK ERROR	Novram Checksum Error	Enter setup/ Reprogram/ Exit Setup.
EXTERN RAM CHK ERR	External RAM Checksum Error	1. Confirm battery voltage (see Section 8.4- 5.3). 2. Re-enter setup information.
RAM COLD START	RAM Checksum Error	Enter setup/ Reprogram/Exit Setup.
SCL X FORMAT ERROR	Data Format Error	1. Power down/ wait 15 sec./ power up 2. Recalibrate Scale.
SCL X COMMUN ERR	No Data Received to the Scale PCB from the Analog or Digital Load Cell.	1. Power down/wait 15 sec./ power up. 2. Check cables to scale base X. 3. Replace load cell or Scale PCB.
SCL X POS OUT ERR	Scale Overcapacity, Scale and logic PCB 2 are communicating.	1. Remove weight from scale platform. 2. Check load cell connections. 3. Recalibrate scale X. 4. replace load cell or Scale PCB
SCL X NEG OUT ERR	Scale Under Zero	
SCL X DOWNLOAD ERR	No Scale Response Digital Load Cell	1. Check load cell connections. 2. Recalibrate scale X. 3. Replace load cell or Scale PCB.
SCL X MEMORY ERROR	Memory Failure	
SCL X OVER ZERO	Scale is over zero and out of zero capture range.	1. Recalibrate scale X. 2. Replace load cell or Scale PCB.
SCL X AV FAIL	Scale has failed the analog verify test three consecutive times.	1. Power down/wait 15 sec./ power up. 2. Recalibrate scale X. 3. Replace load cell. If an error occurs just after calibration refer to section 8.4-5.4. If this occurs during operation recalibrate the scale. 1. Cycle the 8582 AC power. 2. If the error re-occurs, enter set-up and recalibrate the scale. 3. Cycle power again. 4. If it fails AV test again check scale for linearity problems.

ERROR MESSAGE CHART (Cont.)

ERROR	DESCRIPTION	CORRECTIVE MEASURES
SCL X BOARD ERROR	The memory content has on the Scale PCB has failed it's checksum test.	1. Cycle power to the 8582. 2. If the error re-occurs replace the Scale PCB.
SCALE X OUT	No Scale Response from Scale PCB to Logic PCB.	1. Check load cell connection/ Refer to Section 7.4-6. 2. Power down/wait 15 sec./ power up.
XXXX RECORDS BAD	Defective Files	3. Replace load cell or Scale PCB
FILE FULL	Memory Full	This indicates file checksum failure. Bad records are automatically cleared by 8582.
ACCUM FULL	Accumulator Overflow	Indicates maximum number of records have been entered.
ACCUM UNDER	Accumulator Under flow	Indicates the accumulator has exceeded its capacity negatively.
NOT SAVED	Transaction Not Saved	Indicates the transaction buffer is full.
NOT FOUND	Record Not Found	Inventory file with entered ID not found.
APW CHK FAIL	APW Tolerance Failure	Indicates APW tolerance check has failed. Press ENTER to accept or any other key to restart count.
TRANS ACC OVR	Single Accumulator Overflow	Clear Accumulator.
CHECKING MEM	Memory Check	Displayed while memory checksums are checked at power up.
LOW SAMPLE	Insufficient Sample Weight	Add additional samples.
COUNT OVER	Piece Count Over	Indicates APW cannot be enhanced unless pieces are removed.
OVER ENH RING	Over Enhancement Range	Multidrop host interface has a transmission error.
T-LAN ERROR	Communication Error	1. Cycle power to the 8582. If error reoccurs replace Logic PCB.
RAM CHK ERROR	RAM memory on the Logic PCB is defective.	1. Cycle power to the 8582. 2. If no Optional Memory I/O PCB is present, disable Optional Memory I/O PCB in setup. 3. If the error re-occurs replace the memory-I/O PCB.
OPT FILE MEM ERR	The memory content on the Memory - I/O PCB has failed it's checksum test.	
XXXX MATH OVERFLOW	Typically a problem with calibration.	1. Enter Setup/ Reprogram/Recalibrate/ Exit Setup 2. If error reoccurs, record the XXXX number and call an authorized Toledo Scale Service Representative.
LC TEST MODE	Power to the 8582 has cycled with the setup switch on.	Remove power to the 8582. Turn off setup switch, reapply power.

8.4.3 KEYBOARD TEST

There is a short verification test accessible in the test mode of the 8582. This test verifies all the keys of both the desk and wall 8582's and also the qwerty and membrane keyboard options. To access the test:

Step 1 - Enter the setup mode and program step [F6.1] as "Y".

Step 2 - Exit the setup.

Step 3 - When the 8582 weight display shows the expanded weight from the gross scale, press the key "6".

Do not press any key other than the "6" key. If another key is pressed by accident, press the CLEAR key twice and restart the test.

Step 4 - The display should now show [KEY PRESSED] and the keyboard test has been accessed.

Step 5 - The description of any key pressed (except CLEAR) will now be shown at the left of the display.

Step 6 - After verifying the keyboard, press CLEAR to exit the test mode.

Step 7 - Enter the setup and reprogram step [F6.1] as "N".

Step 8 - Exit the setup routine.

8.4.4 SHIFT TEST (DESK UNITS ONLY)

To verify if the 8582 is within specifications for shift variance, use the following test procedure.

1. Enter setup and program step [F6.1] as a "Y" for expanded weight.

2. Place test weights equal to one-half scale capacity on the platter at the points (A,B, C,D and E) indicated in figure 5. Note that points A, B, D and E are one-half the distance from the center of the platter to the edge of the platter.

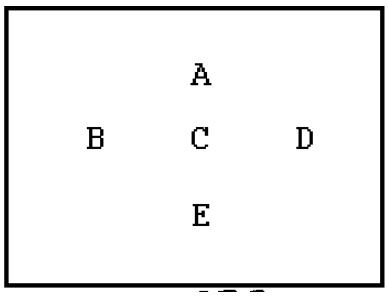


FIGURE 5

3. If the weight does not differ by more than 100 counts between any of the points, the 8582 is operating within specification.

4. If the error is greater than 100 counts, two possible causes are: 1) a mechanical bind or defect, or 2) a defective load cell.

5. Reprogram step [F6.1] to "N" for normal operation.

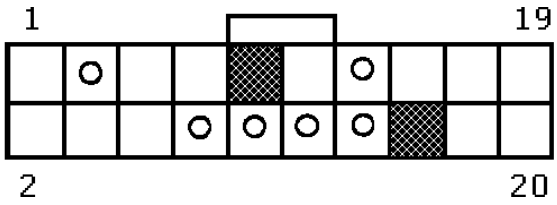
NOTE: The 100 internal counts is equivalent to tow display increments.

8.4.5 TESTING POWER SUPPLY VOLTAGES

1. Transformer Voltages

These voltages may be checked at the plug P2 that connects to the Logic PCB at J2. Remove the harness from the PCB and measure the plug at pins shown for verification of the transformer voltages. Note the positioning of the connector for correct pin location.

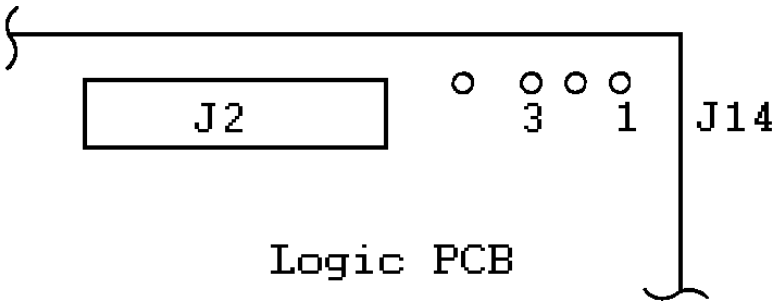
J2 Pins	Minimum Voltage	Maximum Voltage
3 to 8	8.0 VAC	10.1 VAC
8 to 13	8.0 VAC	10.1 VAC
10 to 12	43 VAC	55 VAC
12 to 14	17.5 VAC	22.7 VAC



2. +5 Volt Logic Supply

This voltage can be checked at the solder pads on J14 on the Logic PCB. If the voltage is out of tolerance by the AC voltage at J2 between pins 3 and 8 (from the previous check 5.1) is within tolerance, replace the Logic PCB. The second voltage listed is the raw supply to the 5 volt regulator. Chassis ground may be referenced for these measurements.

J14 Pin Number	Minimum Voltage	Maximum Voltage	Ripple Voltage
1	4.85 VDC	5.2 VDC	<50 Mv
3	9.5 VDC	11 VDC	<300 mV



LOGIC PCB

3. Checking the Battery Voltage

The 8582 Counting Scale's programming is stored in battery backed RAM when AC power is removed. If this data in memory is lost or changed (without going into setup to change if) an "EXTERNAL RAM CHECK ERROR" will be displayed. At this point the setup routine must be entered and the programming checked.

This error could be caused by the NICAD battery (that powers the RAM devices) if it does not hold a charge when AC power is removed from the 8582. It can also be caused by static discharge, noise on AC ground, or RFI. The following is a procedure to check the NICAD battery for correct voltage levels.

The proper test points on the Logic PCB are shown in Figure 1. The plus arrow (top of R33) represents the positive (red) meter lead and the minus arrow (bottom of C40) represents the negative (black) meter lead. The voltage at this point should be between + 2.4 VDC and +2.65 VDC with AC power to the 8582 either off or on. A defective NICAD battery will usually measure 0 VDC when AC power to the 8582 is turned off. If the NICAD battery is defective, the Logic PCB (part number *129789 00A) must be replaced.

* Part number may be preceded by a letter revision.

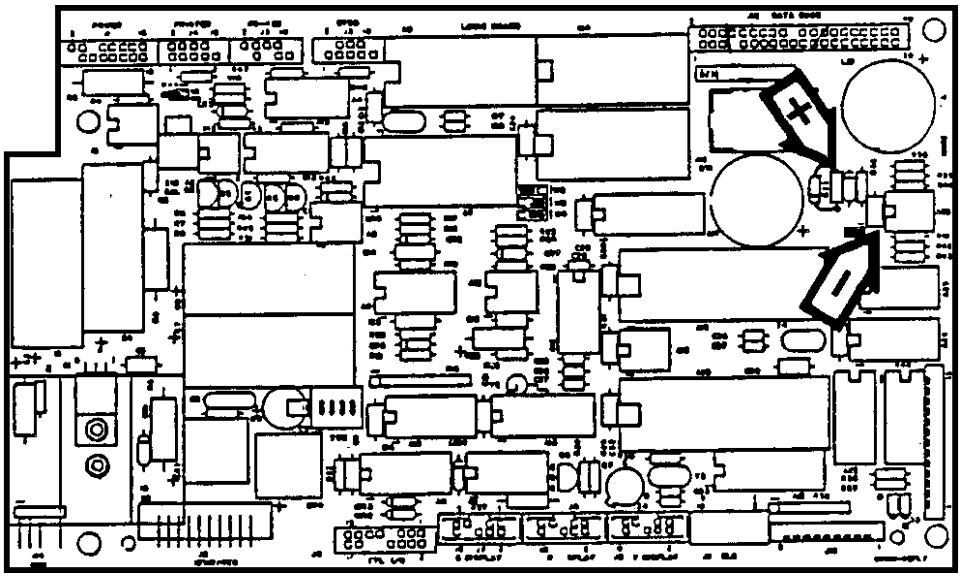


FIGURE 1

4. Analog load cell test points

Load cell excitation from the 8582 for an analog load cell is 12.5 volts DC. The best place to measure this voltage is left to the technician due to the numerous scale combinations that are compatible with the 8582. Since minus excitation is referenced to the 8582 logic ground, this voltage should be checked with the volunteer connected plus lead to excitation plus, and the minus lead to excitation plus, and the minus lead to excitation minus. The voltage should read between 12.35 to 12.65 volts DC with no AC ripple. Check this voltage with the scale or a load cell simulator plugged into the 8582.

CAUTION: The scale or simulator MUST NEVER be plugged in or unplugged with power applied to the 8582.

The signal coming from the scale to the 8582 should equal:

$$\text{DC millivolts} = \frac{\text{Total initial and test weight on the scale}}{\text{Total load cell capacity}} \times 25\text{mV}^*$$

* 37.5 mV for 3mV/volt load cells.

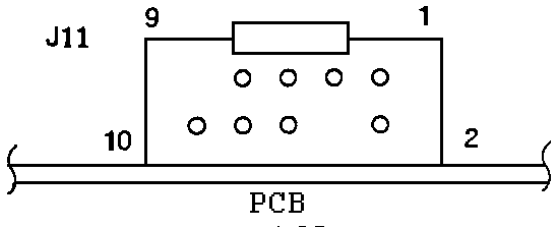
NOTE 1: The calibrated scale capacity MUST equal at least 35 % of the total load cell capacity for a successful scale calibration. If less than 35% is used, the 8582 may respond by allowing the scale to complete the calibration procedure then display a [SCALE X OVER ZERO] prompt.

NOTE 2 The total initial weight experienced at the load cell (s) should be greater than 35% of the total load cell capacity of the scale. If the initial exceeds 25% the 8582 may respond by allowing the scale to complete the calibration procedure then display a [SCALE X OVER XERO] prompt.

5. Digital load cell supply

This voltage is required for the digital load cell to operate. When checking this voltage, you must allow at least 30 seconds to elapse after removing AC power before removing the load cell harness from the Logic PCB. Check this voltage at J11 with respect to logic ground. If this voltage is out of specification but the AC voltages measured at J2 between pins 12 and 14 (in step 5) is satisfactory, replace the Logic PCB.

J11 Pin Number	Normal Voltage	Voltage Variance
2	24.9 VDC	+/0- 1.5 VDC

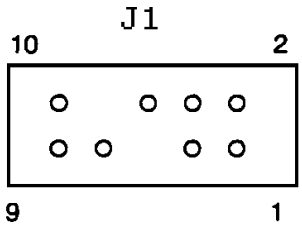


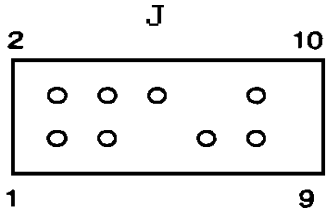
6. Display Voltage Check

The display operates from a 60 volt supply on the Logic PCB. The AC supply for the display voltage can be checked at J2 between pins 10 and 12 as described in 8.4.5 of this section. If the AC supply is satisfactory but he display voltage is out of specification, replace the Logic PCB. Chassis ground may be referenced for this check. Two check points are given - use the one that is more accessible.

Pin	Minimum Voltage	Maximum Voltage
10	58 VDC	63 VDC

BACK OF DISPLAY PCB AT J1 **LOGIC PCB AT 19**





7. Printer Current Loop Check

The 20mA current loop from the printer port is supplied by the raw 10 volt supply. Measure between pins 9 and 22 at the 25 pin printer output connector for this voltage. The voltage should be between 9.5 VDC and 10.5 VDC. there should also be between 18 mA and 22 mA DC between these same two pins. When the PRINT key is pressed, the current should fluctuate during the data transmission then return to its original reading.

8.4.6 NOT RECOGNIZING SCALE 2

If Scale 2 cannot be accessed for calibration or use after it has been installed, the problem may be the short ribbon harness that connects the Logic PCB to the Scale PCB.

Before replacing the Scale PCB (trying to resolve this problem), remove the short ribbon harness (*#129804 00A) and lay it on a firm flat surface. Press each connector (at the end of the harness) together with the handle of a screwdriver or nut driver. Reinstall the harness making sure that it is pressed down completely onto the pins on the PCB's. Apply AC power and check to see if the problem is resolved.

If this does not eliminate the problem, verify each of the items connected to the Scale 2 PCB in the following order.

1.. Internal load cell harness - Check for poor connections or reversed wires.

2. External load cell connections - Check for reversed wires or open sense leads.

3. Scale PCB - If Scale 2 still cannot be accessed, replace the Scale PCB.

8.5 REPLACEMENT OF LOAD CELL

CAUTION: When replacing the load cell or any of the PCB's remove power from the scale and wait a minimum of 30 seconds before disconnecting anything or damage may result.

8.5.1 Remove power from the scale.

8.5.2 Remove the platter, sub-platter, dead deck, (on lower capacity scales), and cover assemblies.

CAUTION: On 8582-0002 and 8571-0012 utilizing the 3.75 kg load cell, reinstall the two 8-32 shipping screws through the sub-platter into the two hex standoffs. See Figure 1. Do not tighten these screws down. They are used to keep the sub-platter from twisting while tightening or loosening the two load cell screws. DAMAGE MAY RESULT IF THIS PROCEDURE IS NOT FOLLOWED. After loosening or tightening the load cell screws, the two 8-32 screws may be removed.

8.5.3 Loosen the metal cover with the foil bellows the covers the load cell. Do this by removing the four screws that secure it to the base.

8.5.4 Disconnect the load cell harness from the load cell and set the cover assembly with the foil bellows aside.

8.5.5 Remove the spacer block on top of the load cell and turn the scale on its side.

8.5.6 Remove the two hex head screws from the bottom of the scale that secure the load cell. The load cell can mow be removed. Be sure to retrieve the spacer under the load cell .

8.5.7 With the scale still on its side, reinsert the two hex head screws through the base and slide the bottom spacer over the screws.

8.5.8 Carefully install the new load cell by re-screwing he screws into the bottom of the load cell, tightening them to 75-85 inch/pounds.

8.5.9 Stand the scale base upright and re-install the top load cell spacer.

8.5.10 Reattach the load cell harness (that is attached to the metal cover with the foil bellows) to the load cell.

8.5.11 Secure the metal cover to its original position above the load cell. Tighten the front screws that hold the cover in place.

8.5.12 Reinstall the cover and dead deck (on low capacity units).

8.5.13 Reattach the sub-platter and platter to the 8582. Reference the procedure described in the note after step 2 of this procedure.

8.5.14 Reapply AC power and verify operation of the new load cell referencing this technical manual

9. GENERAL INFORMATION

9.1 RECOMMENDED SPARE PARTS

It is recommended that these spare parts be kept in stock in order to keep downtime to a minimum. The items are available through your local Authorized Toledo Scale Service Representative.

PART NUMBER	DESCRIPTION	QTY.
(*) 112145 00A	Fuse 1/2A Slo-Blo	5
(*) 129789 00A	Logic PCB	1
(*) 131912 00A	Keyboard Assembly (Desk)	1
(*) 131913 00A	Keyboard Assembly (Wall)	1
(*) 129764 00A	Analog Scale PCB	?
(*)129788 00A	Digital Scale PCB	?
(*) 129766 00A	Serial I/O 2 PCB	?
(*) 129778 00A	Serial I/O 2-Memory PCB	?
(*) 127304 00A	Bar Code PCB	?
(*) - May have letter prefix. (?) - Quantity of 1 recommended only when using the optional kits in which these PCB's are used.		

9.2 ACCESSORIES

The following accessories are available for use with the Model 8582.

9.2.1 MATING CONNECTIONS

USE	DESCRIPTION	PART NO.	FACTORY NO.
Load cell, I/O 1 or I/O 2.	Connector Kit	125819 00A	0917-0117
Printer	Connector Kit	128881 00A	0917-0144

9.2.2 OPTIONAL KITS OF PARTS

OPTION DESCRIPTION	PART NUMBER	FACTORY NUMBER
Scale 2 (Desk) - Analog	131311 00A	0901-0227
Scale 2 (Desk) - Digital	131313 00A	0901-0229
Scale 3 (Wall) - Analog	131312 00A	0901-0228
Scale 3 (Wall) - Digital	131314 00A	0901-0230
Scale 3 (Desk)- Analog	131321 00A	0901-0237
Scale 3 (Desk) - Digital	131322 00A	0901-0238
Qwerty Keyboard	131315 00A	0901-0231
Membrane Keyboard	131316 00A	0901-0232
Multidrop Interface (8582)	131317 00A	0901-0233
TLAN Kit of Parts (Computer)	133779 00A	0901-0254
Serial I/O 2	131318 00A	0901-0234
Serial I/O 2 - Memory	131319 00A	0901-0235
Bar Code Scanning, Wand	131320 00A	0901-0236

9.2.3 Printer Interconnecting Cables

PRINTER	LENGTH	PART NUMBER	FACTORY NUMBER
307	6' 20'	A119714 00A A119715 00A	0900-0191 0900-0199
8804* 8806 8860*	6' 20'	A115544 00A A115545 00A	0900-0136 0900-0137
8840	6'	B128220 00A	0900-0214
8855	20' 20'	B119722 00A B119723 00A	0900-0197 0900-0198
* Adapter plug included with printer must be used.			

PART NUMBER	FACTORY NUMBER	DESCRIPTION
131911 00A	0900-0255	20' cable from I/O 1 or I/O 2 to 8622 Remote Display.
125974 00A	0900-6002	15' cable to load cell with 8582 connector but no load cell connector.
125985 00A	0900-6502	15' cable to load cell with 8582 connector and 6-pin load cell connector.

ASCII CHAR.	DECIMAL	HEX	76543210	ASCII CHAR.	DECIMAL	HEX	76543210
NULL	0	00	00000000	@	64	40	01000000
SOH	1	01	00000001	A	65	41	01000001
STX	2	02	00000010	B	66	42	01000010
ETX	3	03	00000011	C	67	43	01000011
EOT	4	04	00000100	D	68	44	01000100
ENQ	5	05	00000101	E	69	45	01000101
ACK	6	06	00000110	F	70	46	01000110
BELL	7	07	00000111	G	71	47	01000111
BACKSPACE	8	08	00001000	H	72	48	01001000
TAB	9	09	00001001	I	73	49	01001001
LineFeed	10	0A	00001010	J	74	4A	01001010
Vert. Tab	11	0B	00001011	K	75	4B	01001011
Form Feed	12	0C	00001100	L	76	4C	01001100
Carr.Return	13	0D	00001101	M	77	4D	01001101
Shift Out	14	0E	00001110	N	78	4E	01001110
Shift In	15	0F	00001111	O	79	4F	01001111
Data Link Esc	16	10	00010000	P	80	50	01010000
DC1	17	11	000010001	Q	81	51	01010001
DC2	18	12	00010010	R	82	52	01010010
DC3	19	13	00010011	S	83	53	01010011
DC4	20	14	00010100	T	84	54	01010100
NAK	21	15	00010101	U	85	55	01010101
SYNCH IDLE	22	16	00010110	V	86	56	01010110
End Trans. Block	23	17	00010111	W	87	57	01010111
CANCEL	24	18	00011000	X	88	58	01011000
End Of Medium	25	19	00011001	Y	89	59	01011001
SUBSTITUTE	26	1A	00011010	Z	90	5A	01011010
ESCAPE	27	1B	00011011	[	91	5B	01011011
FS (Cursor Right)	28	1C	00011100	\	92	5C	01011100
GS (Cursor Left)	29	1D	00011101	]	93	5D	01011101
RS (Cursor Up)	30	1E	00011110	^	94	5E	01011110
US (Cursor Down)	31	1F	00011111	_	95	5F	01011111
SPACE	32	20	00100000	`	96	60	01100000
!	33	21	00100001	a	97	61	01100001
"	34	22	00100010	b	98	62	01100010
#	35	23	00100011	c	99	63	01100011
$	36	24	00100100	d	100	64	01100100
%	37	25	00100101	e	101	65	01100101
&	38	26	00100110	f	102	66	01100110
'	39	27	00100111	g	103	67	01100111
(	40	28	00101000	h	104	68	01101000
)	41	29	00101001	i	105	69	01101001
*	42	2A	00101010	j	106	6A	01101010
+	43	2B	00101011	k	107	6B	01101011
,	44	2C	00101100	l	108	6C	01101100
-	45	2D	00101101	m	109	6D	01101101
.	46	2E	00101110	n	110	6E	01101110
/	47	2F	00101111	o	111	6F	01101111
0	48	30	00110000	p	112	70	01110000
1	49	31	00110001	q	113	71	01110001
2	50	32	00110010	r	114	72	01110010
3	51	33	00110011	s	115	73	01110011
4	52	34	00110100	t	116	74	01110100
5	53	35	00110101	u	117	75	01110101
6	54	36	00110110	v	118	76	01110110
7	55	37	00110111	w	119	77	01110111
8	56	38	00111000	x	120	78	01111000
9	57	39	00111001	y	121	79	01111001
:	58	3A	00111010	z	122	7A	01111010
;	59	3B	00111011	{	123	7B	01111011
<	60	3C	00111100	|	124	7C	01111100
=	61	3D	00111101	}	125	7D	01111101
>	62	3E	00111110	~	126	7E	01111110
?	63	3F	00111111		127	7F	01111111

10. INTERCONNECTING DIAGRAM