VISHAY PRECISION GROUP

SI Onboard

9100LD
DIGITAL METER
OWNER'S MANUAL

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Rev. C

VISHAY PRECISION GROUP

Unlocking an [ERR 3] error code:

During the course of owning a 9100 series meter, you may see an]ERR 3] code appear. This code is usually generated by:

- **Welding**
- **The 9100 meters internal batteries are weak**
- **Corrosion inside indicator**

When you see this code, all of the stored Tare weights and Calibration information in the 9100 meter has been removed. The 9100 meter, when powered up, will initially look at the internal setting specified by the operator. Since the setting (Tare and Cal info) have been removed, the 9100 meter generates the [ERR 3] code.

The procedure to unlock this error code is:

When the meter is powered up (it will intermittently flash the [ERR 3] code

- **Press and hold the ↑ (up arrow)**
- **While holding the ↑, simply press the [Auto/Can] button (some meters may be labeled [Cyc/Can]**
- **Release both buttons**

In most cases, the meter will display [RESET] and then may come back and flash the [ERR 3] code. This is normal. Simply repeat the above procedure a second time.

If the [ERR 3] code does not clear itself, then this may be indicative of a more serious problem, please contact your local SI service center.

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Overview

The SI-9100LD is a highly versatile digital meter that enhances larger weighing systems made up of load cells, cables and transmitters. The meter can be used with on-board weighing systems mounted onto heavy vehicles or with stationary loading devices, such as tanks or wood-chip bays.

Key benefits of the SI-9100LD include:

- Greater flexibility because the meter reads individual axle weights.
- Greater reliability because the two-wire construction reduces the chance of interference with signal transmission.
- An easy-to-read, extremely bright display panel.
- Versatile programs that allow the meter to be used in trucks that must meet a variety of industrial requirements.
- A post-calibration feature that makes it easy to calibrate loads without having a full load on the vehicle.
- The capability to use a variety of add-ons, including printers, bar-code readers, scoreboards and RF remotes.
- The ability to store up to 1,700 pick-ups (for version 4.5 and earlier; 850 pick-ups for version 6.04 and later) and send the information to a printer or computer at the end of the work day.
- An internal clock and calibration system that keeps track of individual pick-ups or deliveries.
- The ability to measure weights in pounds or kilograms, and in increments of 10, 20, 50 and 100.
- A program that is easily started from the control panel and includes software that can test the working order of the complete weighing system.

Selecting the Desired Program

The SI-9100LD meter has seven separate programs. Each program provides distinct features and benefits depending on the vehicle and job requirements:

Program	Typical vehicle	Description
9100	Logging trucks with two channels	This program is used in a basic dual-channel operation for monitoring gross and net weights.
9101	Refuse trucks using 4 or 6 load cells on a single channel	This program is used for single-channel operations. It can weigh a load in either pounds or kilograms and in four different weight increments. It can provide the gross vehicle weight, the net payload weight, or the weight of an individual load or delivery. The 9101 program is designed to store the weights of all loads and deliveries in its memory and print them out at any time. The memory can also hold customer ID numbers (which can be entered quickly with an optional bar-code reader) and can transfer the information to a portable printer or computer at the end of a work day. For fleet operations, the 9101 program can be set up, calibrated and locked so that a driver can use the system but not accidentally change the setup.
9102	Refuse front loader with two channels	This program has the same basic features as the 9101, but also uses a single transducer on the front axle to give the user separate weights for the front and driver axles.

 WARNING: Do not use sharp or pointed objects to press keys.

Note
The 9101–9107 programs are for more comprehensive payload management requirements, such as net weight load delivery, gross weight or incremental weighing.

Program	Typical vehicle	Description
9103	Remote display only	This program allows the meter to be used as a remote display only. It receives all its display information through the serial port of the 9100 series meter. This program is available only on version 4.5 and earlier.
9104	Multi-purpose system using two channels	This program is used for dual-channel applications that require incremental or load delivery weighing. Its most common use is on a tractor-trailer rig.
9105	Multi-trucks or trailers	This program is designed for trucks that use more than one trailer. Each system in a tractor cab can store the calibration information for up to 250 trailers. The trailer identification number may be entered manually or automatically with an optional Auto ID transmitter box.
9106	Multi-trucks and trailers	This program is designed for multiple trucks and trailers that are intermixed and use meters that are mounted outside the vehicle, such as in a refuse transfer station. The meter can store the calibration information for up to 250 trucks and 250 trailers. The truck and trailer identification numbers may be entered either manually or automatically with an optional Auto ID transmitter box.

Selecting the Desired Program

9107	Trucks with on-board computers, single channel	This program provides a standard interface to on-board computers. It includes continuous transmission of the weight displayed, error messages and x-on/x-off flow control.

When the meter is switched on (the switch is at the back of the unit), the display shows the program that was most recently in use. If the program displayed does not fit the current job requirements, the program setting must be changed.

To change the program

While the current program number is displayed (during a power on from the back switch), press and hold the <**SET**> key until "**SEt Pro**" appears on the display.

Press the <**P/↑**> key to select the desired program.

When the desired program appears on the display, release <**P/↑**> and press <**OFF/ENT**> to enter and store the new program. When the meter powers up, the display will read the selected program.

 WARNING: Do not use sharp or pointed objects to press keys.

Selecting the Desired Program

EXAMPLE Changing the program from 9101 to 9100.

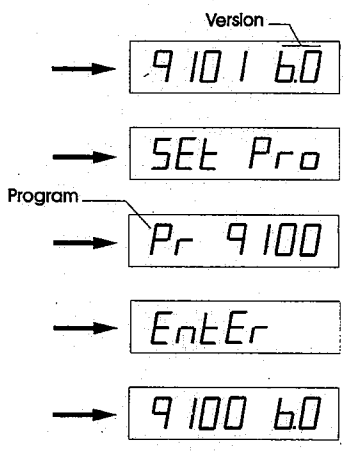
Press and hold SET when "9101 6.0" is displayed

While you hold SET "SEt Pro" should appear

Press P to select "Pr 9100"

Press OFF/ENT to enter and store the new program

The display will show "9100 6.0" for a few seconds



Setting Up the Meter

The SI-9100LD has six setup menus, each with various options.

A major benefit of the SI-9100LD meter is that setup changes can be made quickly and easily whenever the original choices need to be modified. This is helpful when certain setups do not provide as much information as others and need to be changed while using the weighing system.

Setup 1 Covers the calibration and set points.

Setup 2 Establishes the different weight increments.

Setup 3 Establishes the time, date and year.

Setup 4 Covers the printing and data communications procedures (not available in the 9100 program).

Setup 5 Covers the Load/Delivery Mode, Auto-ID and misc. (not available in the 9100 program).

Setup 6 Store Load/Delivery or Net Weight and set number of digits for bar code entry.

Setup 6 not available on 9100, 9105, 9106.

To enter a setup menu

To enter **Setup 1**, press the <**SET**> key once.

To enter **Setup 2**, press and hold the <**SET**> key until "**Setup 2**" appears on the display.

To enter **Setup 3**, press and hold the <**SET**> key until "**Setup 3**" appears on the display.

To enter **Setup 4**, press and hold the <**SET**> key until "**Setup 4**" appears on the display.

To enter **Setup 5**, press and hold the <**SET**> key until "**Setup 5**" appears on the display.

To enter **Setup 6**, press and hold the <**SET**> key until "**Setup 6**" appears on the display.

 WARNING: Do not use sharp or pointed objects to press keys.

The display will continuously cycle through "**Setup 1**," "**Setup 2**," "**Setup 3**," "**Setup 4**," "**Setup 5**," "**Setup 6**," and "**Set Off**" until the <**SET**> key is released at the desired setup program.

When the correct setup menu appears in the display, press the <**P/↑**> key to move through the various setup options. To return to a previous collection of setup options, press the <**X/↓**> key.

Setting up the 9107 program

There are two ways to get to the 9107 setup menus.

1.Turn power off, then on, with the switch on back of the meter. The display will show "**9107 6.0**" for one second then it will blank. Immediately press and hold the <**SET**> key, the display will show "**SETUP**" (If it doesn't, repeat the procedure). The meter will send the message 10011001 (99 hex) to the RS-232 port. The meter is now in SETUP 1.

2. The meter will also go into the 9107 Setup mode when it receives the message 10101010 (AA hex) over the RS-232 port. Note that this second feature is only available if the meter is initially set in the 9101 program. The meter will begin transmitting fresh data after received the message 01010101 (55 hex) (Resume Transmission). Or turn the meter power off, then back on (with the power switch on the back of the meter.

Operating the 9107 program

On power up the scale is in normal periodic broadcasts.

The meter is in the display off mode after display "**9107 6.0**" for two seconds. All keys will lock except the <**OFF/ENT**> key. This key will allow to turn on or off the display weight. The meter will display scale fault codes even in the display off mode.

The setup programs will lock if the display is stopped at "**Set Off**" and the <**OFF/ENT**> key is pressed. To move out of the "**Set Off**" display, press the <**SET**> key again to return to "**Setup 1**" or press the <**CYC/CAN**> key to leave the Setup Mode.

See Appendix D for the options available from each setup menu.

Calibrating the Meter

Specifying pounds, kilograms and grads

After powering up the meter, it's important to note whether **LBS** (pounds) or **KGS** (kilograms) is displayed. Moreover, the 9100, 9101, 9102, 9104, 9105, 9106 and 9107 programs can weigh loads in one of five graduated increment settings (grads), which must also be set. These increments are 5, 10, 20, 50 and 100.

It's necessary to set both the correct unit of measurement and the desired grad *before* calibrating the meter.

Note

[illegible]

To set the unit of measurement and grad

Press the <**SET**> key to select "**Setup 2**."

Press the <**P/↑**> key to select **LBS**, **KGS**, **Grad 5**, **Grad 10**, **Grad 20**, **Grad 50** or **Grad 100**.

When the desired weight (in the desired increments) is displayed, press the <**OFF/ENT**> key to enter and store the selected value.

EXAMPLE Changing pounds to kilograms in 50 graduated increments before beginning calibration.

Press SET to select SETUP 2 → SEtuP 2

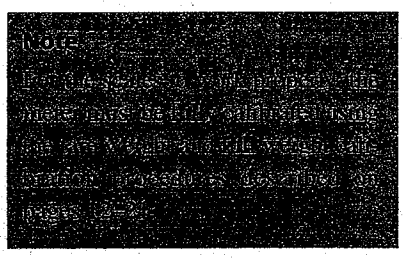
Press P to select KGS → KGS

Press OFF/ENT to store the new display measurement → EntEr

Press SET to select SETUP 2 → SEtuP 2

Press P to select grad size 50 → GrAd 50

Press OFF/ENT to store the new grad size → EntEr



Calibrating the Meter

Calibrating the tare weight

The tare weight refers to the weight of the vehicle when it's empty. Therefore, the truck must be completely empty before beginning this procedure.

Set the tare weight at zero if only the net payload weight—and not also the full vehicle weight—is going to be measured.

To monitor both the full vehicle weight and the net payload weight, weigh the empty truck or trailer on a certified scale. Not all platform scales read the same, so using the same scales whenever possible will enhance accuracy.

Be sure the weight includes a full load of fuel. When using the 9101 program, check channel 1 for total weight.

Record the axle weights:

Ch. 1 tare (front axle) _____

Ch. 2 tare (rear axle) _____

To calibrate tare weight

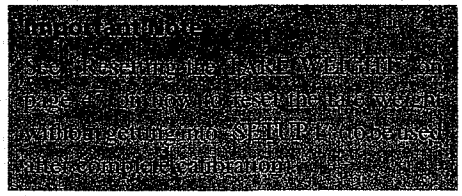
Press the <**SET**> key to select "**Setup 1**."

Press the <**P/↑**> key until "**Tare 1**" or "**Tare 2**" is displayed. (If the meter's software is version 4.3 or earlier, press <**1/M**> or <**2/Z**> to select channel 1 or 2.)

Press the <**OFF/ENT**> key. The display will show a letter "**t**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the tare weight of channel 1 or channel 2.

Press the <**OFF/ENT**> key to enter and store new tare values.



 WARNING: Do not use sharp or pointed objects to press keys.

EXAMPLE Calibrating the tare weight at 19,500 for channel 1.

Press SET to select SETUP 1 → SEtuP 1

Press P to select TARE 1 → tArE 1

Press OFF ENT to set TARE 1 value → EntEr

Tare

Press P or X to set TARE 1 at 19500 → t 19500

Press OFF ENT to enter and store new TARE 1 value → EntEr

Important Note:

[illegible]

Calibrating the Meter

Calibrating the full weight with a load

This procedure works for the 9100, 9101, 9104, 9105, 9106 and 9107 programs. For program 9102, see page 18.

To calibrate the full weight, the truck or trailer needs to be loaded to capacity. Return to the same scale where the tare weight was calibrated. Note the axle weights for both the truck and trailer.

Note

For drivers operating in CT mode, the meter expects 9100 weights to be in proportion to the axle weights when the same truck is loaded.

To calibrate full weight with a load

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> until "**Full 1**" or "**Full 2**" is displayed. If the meter's software is version 4.3 or earlier, press <**1/M**> or <**2/Z**> to select channel 1 or 2.

Press <**OFF/ENT**>. The display will show a letter "**F**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to match the number on the display with the truck or trailer's full weight. Press <**OFF/ENT**> to enter and calibrate the full weight.

EXAMPLE Calibrating the full weight of channel 1 at 45,000.

Press SET to select SETUP 1 → SEtuP 1

Press P to select FULL 1 → FuLL 1

Press OFF ENT to set FULL 1 value → EntEr

Press P or X to set FULL 1 at 45000 → F 45000 (Full)

Press OFF ENT to enter and store new FULL 1 value → EntEr

Calibrating the Meter

Calibrating full weight without a load (post-calibration)

Another way to calibrate the full weight is to use the post-calibration, or lock setup, feature.

This method is useful for operations that involve several trucks because it allows the calibration to be centrally controlled. The driver never needs to enter the setup programs, even for calibration.

After calibrating the tare weight, record two numbers:

- **The displayed weight** (what the meter displayed when the vehicle was fully loaded:

  _____

- **The actual weight** (what the certified platform displayed when the vehicle was fully loaded):

  _____

Once the truck or trailer is loaded and weighed, the driver only needs to give the operations manager the numbers. Then the meter can be calibrated whether or not a load is still on the truck.

To post-calibrate a load

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> until "**PCAL-1**" or "**PCAL-2**" is displayed.

Press <**OFF/ENT**>. The display will show a letter "**d**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the numbers to the **displayed weight**.

Press <**OFF/ENT**> to enter the displayed weight. The display will show a letter "**A**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the numbers to the **actual weight** from the certified scale.

Press <**OFF/ENT**> to enter the actual weight.

EXAMPLE Post-calibrating the full weight of channel 1 when the display weight is 43,500 and the actual weight is 45,000.

Press SET to select SETUP 1 → SEtuP 1

Press P to select PCAL-1 → PCAL-1

Press OFF/ENT to set PCAL-1 value → EntEr

Display

Press P or X to set display weight at 43500 → d 43500

Press OFF/ENT to enter display weight of channel 1 → EntEr

Actual

Press P or X to set actual weight at 45000 → A 45000

Press OFF/ENT to enter actual weight of channel 1 → EntEr

Calibrating the Meter

Calibrating full weight with a load (9102 program)

The 9102 program requires a special calibration procedure, in which *channel 2 must be calibrated before channel 1.*

Load the truck to near capacity and weigh the truck on the same platform scale where the tare weight was measured. Record the axle weights (which will change with every load).

To calibrate channel 2

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> until "**Full 2**" is displayed.

Press <**OFF/ENT**>. The display will show a letter "**F**" at the left, followed by a series of numbers.

Use <**P/↑**> or <**X/↓**> to match the number on the display with the full weight of the rear axles.

Press <**OFF/ENT**> to enter and calibrate the full weight.

Press SET to select SETUP 1 → SEtuP 1

Press P to select FULL 2 → FuLL 2

Press OFF ENT to set FULL 2 value → EntEr

Full

Press P or X to set FULL 2 at 35000 → F 35000

Press OFF ENT to enter and store new FULL 2 value → EntEr

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

Calibrating the Meter

After calibrating channel 2, the full weight for channel 1 must be calibrated. This can be done whether or not a load is in the truck.

First record two numbers:

- **The displayed weight** (what the SI-9100LD meter says for channel 1 when the truck is fully loaded):

  _____

- **The actual weight** (what the platform scale says for channel 1 with the same load on the truck):

  _____

To calibrate channel 1

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> until "**PCAL-1**" is displayed.

Press <**OFF/ENT**>. The display will show a letter "**d**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the numbers to the **displayed weight**.

Press <**OFF/ENT**> to enter the displayed weight. The display will show a letter "**A**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the numbers to the **actual weight** from the certified scale.

Press <**OFF/ENT**> to enter the actual weight.

EXAMPLE Post-calibrating the full weight of channel 1 when the display weight is 43,500 and the actual weight is 45,000.

Press SET to select SETUP 1 → SEtuP 1

Press P to select PCAL-1 → PCAL-1

Press OFF/ENT to set PCAL-1 value → EntEr

Display

Press P or X to set display weight at 43500 → d 43500

Press OFF/ENT to enter display weight of channel 1 → EntEr

Actual

Press P or X to set actual weight at 45000 → A 45000

Press OFF/ENT to enter actual weight of channel 1 → EntEr

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

Recording Calibration Numbers

Reading and recording the calibration numbers, or "cal numbers," for each channel will save the time and expense of recalibration if the meter is replaced or if the numbers need to be available in an emergency.

The same calibration numbers can be used on the new meter as long as the same load cells or transducers and transmitters remain in place.

To read cal numbers from the current meter

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> until "**CAL 1**" or "**CAL 2**" is displayed. If the meter's software is version 4.3 or earlier, press <**1/M**> or <**2/Z**> to select channel 1 or 2.

Press <**OFF/ENT**>. The display will show a letter "**C**" at the left, followed by the cal number. Write it in the appropriate space below:

Cal number for channel 1 110,570

Cal number for channel 2 _____

Press the <**CYC/CAN**> key to cancel **SETUP 1** and return to the Normal Display Mode.

EXAMPLE Recording the cal number of channel 1.

Press SET to select SETUP 1 → SEtuP 1

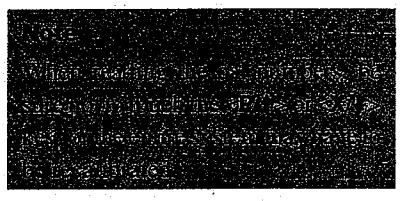
Press P to select CAL 1 → CAL 1

Press OFF ENT to set CAL 1 value → EntEr

Cal

Record Calibration number of channel 1 → C 125000

Press CYC CAN to cancel SETUP 1 → CAnCEL



Recording Calibration Numbers

To enter cal numbers on a new meter

Press <**SET**> to select "**Setup 1**."

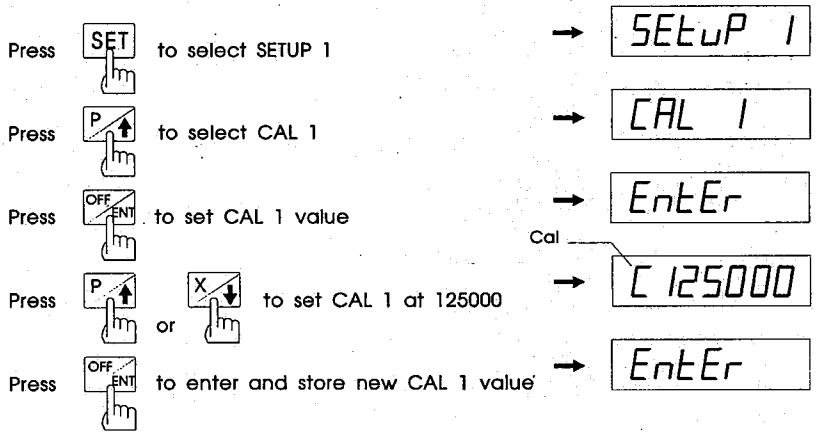
Press <**P/↑**> until "**Cal 1**" or "**Cal 2**" is displayed. If the meter's software is version 4.3 or earlier, press <**1/M**> or <**2/Z**> to select channel 1 or 2.

Press <**OFF/ENT**>. The display will show a letter "**C**" at the left, followed by a series of numbers.

Press <**P/↑**> or <**X/↓**> to set the cal number written on page 22.

Press <**OFF/ENT**> to enter and store the new cal number.

EXAMPLE Setting the cal number of channel 1 to 125,000.



Testing Channel 1 and 2

How to get in and out of test mode

Test channel 1 by holding down the **<1/M>** key and then pressing the **<OFF/ENT>**. The display will show "**test 1**", followed by three numbers: "**0=XXXXX**", "**1=XXXXX**", and "**2=XXXXX**", where XXXXX is a five-digit number. The display will continuously cycle among these four displays.

To get from the channel 1 test to the channel 2 test, simply hold the **<2/Z>** key until "**test 2**" appears in the display. If you are only testing channel 2, hold down the **<2/Z>** key while pressing the **<OFF/ENT>** key. In the channel 2 test, you will see "**test 2**" followed by "**0=XXXXX**", "**1=XXXXX**", and "**2=XXXXX**"

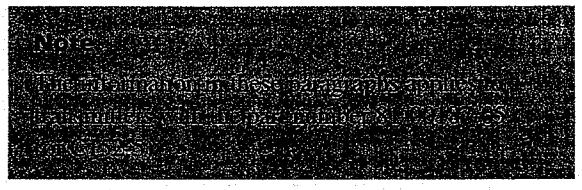
Use this space to record the numbers you are testing:

Ch1 0= _____ 1=_____ 2= _____

Ch2 0= _____ 1=_____ 2= _____

To exit either test mode, press the **<CAN>** key. You will return to normal mode.

What the test numbers mean



The test number "**0**" indicates test results for the transmitters for channels 1 and 2. The number for each of these should lie between **15000±5%** and **15500±5%**. If the displayed value is significantly outside of that range, the problem is likely to be in the transmitter rather than in the load cells.

Testing Channel 1 and 2

The number 1 indicates the test result for the short-cabled load cell.

The number 2 indicates the test result for the long-cabled load cell.

If you are running the test on either channel with an empty truck, the values for 1 or 2 should fall between **15000±5%** and **16000 ±5%**. If any one of the test values is significantly outside of that range while the truck is empty, and the transmitter for that channel is working normally, the corresponding load cell is likely to be malfunctioning.

For additional technical support, call you dealer or SI/ Allegany at 1-800-638-5111.

Setting Load Limits (Set Points)

To create a visible reminder of load limits, establish a separate limit for each channel.

For example, if a truck needs to be emptied when the net payload reaches 40,000 pounds, set limit 1 at or just under 40,000. When the limit is reached, the display will alternate between showing the weight and showing the message "**L1 CH-1**" or "**L2 CH-1**," depending on the limits entered into the meter.

To establish an audible alarm, set limits and connect an optional external alarm or relay board. The alarm will be triggered when the limit is reached.

To set load limits

Press <**SET**> to select "**Setup 1**."

Press <**P/↑**> to select **L1 CH-1**, **L2 CH-1**, **L1 CH-2**, etc.

Press <**OFF/ENT**>. The display will show a letter "**L**" followed by the current limit.

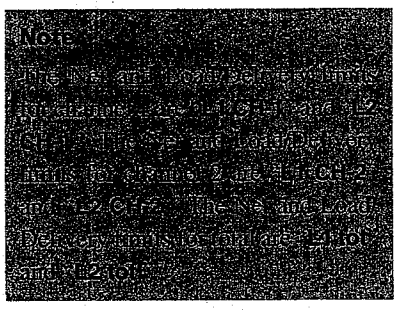
Press <**P/↑**> or <**X/↓**> to select the desired limit.

Press <**OFF/ENT**> to enter and store a new limit. The display will show a letter "**h**" at the left, followed by a series of numbers.

Setting Load Limits (Set Points)

EXAMPLE Setting the limit 1 of channel 1 to 44,500 and the hysteresis (or deadband) to 500.

Press SET to select SETUP 1	→	SEtuP 1
Press P or X to select L1 CH-1	→	L 1 CH-1
Press OFF ENT to set L1 CH-1 value	→	EntEr
Press P or X to set L1 CH-1 at 45500	→	L 45500
Press OFF ENT to enter and store new L1 CH-1	→	EntEr
Press P or X to set Hysteresis at 500	→	h 500
Press OFF ENT to enter and store new Hysteresis	→	EntEr



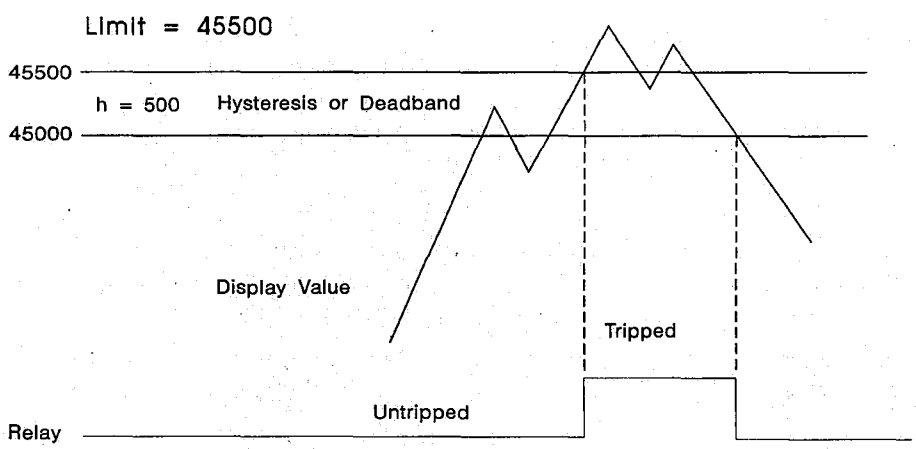
 WARNING: Do not use sharp or pointed objects to press keys.

Setting Load Limits (Set Points)

A limit for the Load/Delivery Mode can be set for each channel by using the above insructions.

A relay trip on a rising input signal is specified by the limit parameters **L1 CH-1**, **L2 CH-1**, **L1 CH-2**, **L2 Ch-2**, **L1 tot** and **L2 tot**.

The following figure illustrates a typical relay operation. A relay trips when the display is equal to or greater than the limit. The relay will be untripped if the display drops to a value that is less than the limit minus the **hysteresis (deadband)** value (**h**).



A typical relay limit operation

Setting the Time, Date and Year

The time, date and year settings are all contained in the Setup 3 menu. These settings are useful to any driver using a printer or computer with the SI-9100LD meter.

To set the time of day

Press <**SET**> until "**Setup 3**" is displayed.

Press <**P/↑**> once. The word "**time**" will display.

Press <**OFF/ENT**>. The display will show the letters "**ti**" at the left.

To set the hour, press the <**1/M**> key, then use <**P/↑**> or <**X/↓**> to enter the correct time. Be sure the **A** (for a.m.) or **P** (for p.m.) is correct at the right of the display.

To set the minutes, press the <**2/Z**> key, then use <**P/↑**> or <**X/↓**> to enter the correct time.

Press <**OFF/ENT**> to enter and store the correct time.

EXAMPLE Changing the time of day from 06:54 p.m. to 07:30 a.m.

Press SET to select SETUP 3	→	SEtuP 3
Press P to select Time	→	tI mI E
Press OFF/ENT to set Time	→	EntEr
Press 1/M to set Hour	→	tI 0654P (Time)
Press P or X to set the correct Hour	→	tI 0754A
Press 2/Z to set Minutes	→	tI 0754A
Press P or X to set the correct Minute	→	tI 0730A
Press OFF/ENT to enter and store the correct Time	→	EntEr

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

Setting the Time, Date and Year

To set the date

Press <**SET**> until "**Setup 3**" is displayed.

Press <**P/↑**> until the word "**date**" is displayed.

Press <**OFF/ENT**>. The display will show the letters "**dA**" at the left.

To set the month, press <**1/M**>, and use the <**P/↑**> or <**X/↓**> key.

To set the day, press <**2/Z**>, and use the <**P/↑**> or <**X/↓** > key.

Press <**OFF/ENT**> to enter and store the correct date.

EXAMPLE Changing the date from September 08 to December 11.

Press SET to select SETUP 3	→	SEtuP 3
Press P to select Date	→	dAtE
Press OFF/ENT to set Date	→	EntEr
Press 1/M to set Month	→	dA0908 (Date)
Press P or X to set the correct Month	→	dA 1208
Press 2/Z to set Day	→	dA 1208
Press P or X to set the correct Day	→	dA 1211
Press OFF/ENT to enter and store the correct Date	→	EntEr

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

Setting the Time, Date and Year

To set the year

Press <**SET**> until "**Setup 3**" is displayed.

Press <**P/↑**> until the word "**year**" is displayed.

Press <**OFF/ENT**>. The display will show the letters "**Yr**" at the left.

Press <**P/↑**> or <**X/↓**> to set the correct year.

Press <**OFF/ENT**> to enter and store the correct year.

Example Setting year for 1993.

Press SET to select SETUP 3 → SEtuP 3

Press P to select Year → YEAr

Press OFF ENT to set Year → EntEr

Press P or X to set the correct Year → Yr 1993 (Year)

Press OFF ENT to enter and store the correct Year → EntEr

Setting Print/Data Transfer Functions

Setup 4 controls the data communications functions listed on the next page. Selections include the communications port, the baud rate and the output format.

The meter protocol *must* match the printer or computer protocol.

To enter Setup 4

Press <**SET**> until "**Setup 4**" is displayed.

Press <**P/↑**> or <**X/↓**> to select the desired function.

Press <**OFF/ENT**> to enter and store that function.

EXAMPLE Set Com 1 at **9600,n,8,1** in Setup 4.

Press SET to select SETUP 4 → SEtuP 4

Com. 1

Press P/↑ to select C1 9600 → C1 9600

Press OFF/ENT to enter and store the new baud rate → EntEr

The meter should return to the Normal Display Mode.

 WARNING: Do not use sharp or pointed objects to press keys.

Setting Print/Data Transfer Functions

Functions available in Setup 4 (not available 9100)

Pn-Fn 1	Printer format: prints in red when limit (overweight) is reached.
Pn-Fn 2	Computer format: does not print in red when limit (overweight) is reached.
Pn-Fn 3	Generates continuous output.
C1 1200	Set Com1 at 1200,n,8,1.
C1 2400	Set Com1 at 2400,n,8,1.
C1 4800	Set Com1 at 4800,n,8,1.
C1 9600	Set Com1 at 9600,n,8,1.
C2 1200	Set Com2 at 1200,n,8,1.
C2 2400	Set Com2 at 2400,n,8,1.
C2 4800	Set Com2 at 4800,n,8,1.
C2 9600	Set Com2 at 9600,n,8,1.
RS422 On	RS422 mode **ON** when used with **SI-9100LD I/O Interface Box** (optional).
RS422 Off	RS422 mode **Off** when used with **SI-9100LD I/O Interface Box** (optional).
L5F On	Converts format output to L5000 scoreboard format.
L5F Off	Does not convert format output to L5000 scoreboard format.

Setting auto ID, I/O, misc...functions

The Setup 5 menu controls special functions and optional external devices.

Note

For Setup 2, Setup 4, Setup 5, and Setup 6, the currently enabled feature will flash.

To enter Setup 5

Press the <**SET**> key until "**Setup 5**" is displayed.

Press <**P/↑**> or <**X/↓**> to select the desired function.

Press <**OFF/ENT**> to enter and store that function.

EXAMPLE Enabling the Load/Delivery Mode.

Press 

to select SETUP 5 → SEtuP 5

Load/Delivery on

Press 

to select Ld On → Ld On

Press 

to enter and store the new function → EntEr

The meter should return to the Normal Display Mode.

 WARNING: Do not use sharp or pointed objects to press keys.

Setting auto ID, I/O, misc...functions

Functions available in Setup 5 (not available 9100)

LD On Enables Load/Delivery Mode.

LD Off Disables Load/Delivery Mode.

An1 On Auto ID transmitter channel 1 is installed. **(Programs 9105, 9106)**

An1 Off Auto ID transmitter channel 1 is not installed. **(Programs 9105, 9106)**

An2 On Auto ID transmitter channel 2 is installed. **(Program 9106)**

Note

If the printer is connected and the Hand-Held Remote Mode is turned on, the resulting output to the RS-232 port may interfere with normal print functions. To turn off the Hand-Held Remote Mode, press and hold the <X> key until HH OFF is displayed.

An2 Off Auto ID transmitter channel 2 is not installed. **(Program 9106)**

AZT On Enables Auto Zero Tracking.

AZT Off Disables Auto Zero Tracking.

IOP On Input/Output Port is installed.

IOP Off Input/Output Port is not installed.

Setting store, bar code functions

The Setup 6 menu controls special store functions and bar code.

To enter Setup 6

Press the <**SET**> key until "**Setup 6**" is displayed.

Press <**P/↑**> **or** <**X/↓**> to select the desired function.

Press <**OFF/ENT**> to enter and store that function.

EXAMPLE Enabling the store Load/Delivery Weight

Press SET to select SETUP 6 → SEtuP b

Store Load/Delivery

Press P↑ to select Str Ld → Str Ld

Press OFF/ENT to enter and store the new function → EntEr

The meter should return to the Normal Display Mode.

 WARNING: Do not use sharp or pointed objects to press keys.

Functions available in Setup 6 (Version 4.5 or earlier)

Str Ld Enable Store Load/Delivery Weight

Str Net Enable Store Net Weight

6 id (6 digits Bar-code entry). Store up to 1750 pickups. Key-pad or Bar-code reader entry.

7 id (7 digits Bar-code entry). Store up to 1660 pickups. Bar-code reader entry only.

8 id (8 digits Bar-code entry). Store up to 1660 pickups. Bar-code reader entry only.

9 id (9 digits Bar-code entry). Store up to 1575 pickups. Bar-code reader entry only.

10 id (10 digits Bar-code entry). Store up to 1575 pickups. Bar-code reader entry only.

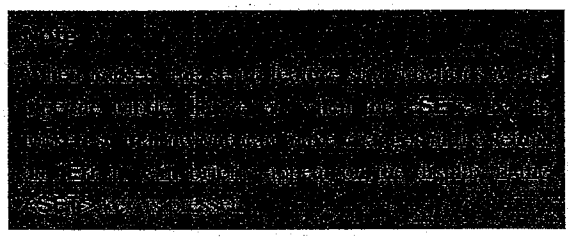
11 id (11 digits Bar-code entry). Store up to 1500 pickups. Bar-code reader entry only.

12 id (12 digits Bar-code entry). Store up to 1500 pickups. Bar-code reader entry only.

Note:
Meters with firmware version 5.42 or higher track pickups regardless of the number of digits in the ID number.

Locking/Unlocking the Setup

The SI-9100LD meter includes a feature that allows the setup to be locked once all five setup programs are in place and the calibration is complete.



To lock the setup

Press <**SET**> until "**SEt OFF**" appears in the display.

Release <**SET**> and press <**OFF/ENT**> to lock the SETUP Mode. The display will flash "**SEt OFF**" three times.

The meter will now function normally for anyone reading weights and switching channels, but no one can affect the setup or calibration without first unlocking the meter.

EXAMPLE Locking the setup.

Press SET to select SET OFF → SEt OFF

Press OFF/ENT to lock the SETUP mode → SET OFF will flash three times

The meter should return to the Normal Display Mode.

 WARNING: Do not use sharp or pointed objects to press keys.

To unlock the setup

Make sure the meter is on.

Press the <**OFF/ENT**> key to turn off the meter.

Press the <**OFF/ENT**> key again, and immediately press the <**SET**> key while the display shows "**9100 x.x.**" (If the <**SET**> key is pressed quickly enough, the display will show "**Set On**"; if it doesn't, repeat the procedure.)

Enter the desired setup menu.

Operating the Meter

After the meter is set up and calibrated, it will continually monitor a vehicle's load. An operator can use the meter to track the various weights and channels, switch modes, and set ID numbers for specific customers or products.

Checking channels and weights (9102, 9104 and 9106)

At any time, select channel 1 (the front axle), channel 2 (the rear axles), total weight (both channels), or auto cycle, which monitors channel 1, channel 2 and the total weight.

All of these choices can be selected by using the **<CYC/CAN>** key, which scrolls through **CH1, CH2, Total** and **Auto.**

The **1** LED is lit when channel 1 is selected. The **2** LED is lit when channel 2 is selected. Both are lit when **Total** is selected. When **AUTO** is selected, the appropriate LEDs will be lit as the meter cycles through channel 1, channel 2 and the total.

Switching modes

If a tare weight other than zero is entered during calibration, the **<1/M>** key allows the operator to switch between the Net Weight, Load/Delivery Weight and Full Vehicle Weight Modes.

The **NET** LED is lit to indicate that the Net Weight Mode is active. The **L/D** LED is lit when the Load/Delivery Mode is active. Neither LED is lit when the Full Vehicle Weight Mode is active.

Setting the ID number

ID numbers can be easily set up for different customer accounts or for different products being transported.

To set an ID number, press the **<TOT/N>** key. The display will show a letter "**n**" at the left, followed by the most recent ID number (six digits); the first digit of the number will flash.

Select the digit you want to change by pressing **<X/↓>**. When the appropriate digit flashes, adjust its value by pressing **<P/↑>** until the correct digit is displayed. When the complete ID number is displayed, press **<OFF/ENT>** to store it.

Bar-Code Reader:

Swipe bar-code one, the meter will display the ID number for two seconds, stores it and zero Load/Deliver weight. If the Bar-code number is more than 6 digits, the display will show the 6 first digits for 1 second then the other digits.

For examples:

Display 6 digits number "123456": "**n123456**"
Display 7 digits number "1234567": "**n123456**" then "**.....7n**"
Display 8 digits number "12345678": "**n123456**" then "**....78n**"
Display 9 digits number "123456789": "**n123456**" then "**...789n**"
Display 10 digits number "1234567890": "**n123456**" then "**..7890n**"
Display 11 digits number "12345678901": "**n123456**" then "**.78901n**"
Display 12 digits number "123456789012": "**n123456**" then "**789012n**"

Exception code:

The exception codes are still six digit numbers starting with "**9**" on the bar-code sheet. Internally the bar-code will actually contain a "/" instead of a "**9**" in the first position (e.g. the exception sheet will show "**990040**" but the bar-code, itself, will actually contain "**/90040**". When the data is downloaded to the computer or handheld mailbox, the "/" will be translated into a "?". The SI-9100LD will display character "**E**" instead of "**9**".

Example: Bar-code reader scan 910010. The meter will display "**E10010**". The print out will be "**?10010**".

Resetting the meter

The SI-9100LD meter has four types of reset options:

Type 1 For use in the Load/Delivery Mode, this requires the driver to reset the displayed weight for each payload.

Types 2, 3 Used as zero-tare resets in the Net Weight and Load/Delivery Modes, respectively, these work to counteract the drifting of the tare weight.

Type 4 This option completely resets all pick-up data.

Type 1: Resetting displayed weight (Load/Delivery Mode)

To reset the displayed weight to zero after a load is added or delivered, press the <**P/↑**> key. The display will show "**store**" then "**ZErO**."

If a printer is connected to the meter, it will provide a printout for that pick-up or delivery. Pressing <**P/↑**> will send and store the data with the printer.

A drifting zero display can be reset between pick-ups or deliveries in much the same way. If the zero has drifted consistently away while the truck was moving, first wait until the truck comes to a complete stop. If the display will not return to zero, press the **<2/Z>** key to reset it. The display will show "**ZErO**," and the weight information in the memory will not be affected.

Types 2, 3: Resetting TARE WEIGHT (Full or Net Mode)

If the tare weight has drifted, it can be reset in the Full Vehicle Weight or Net Weight Mode.

MAKE SURE THE TRUCK IS COMPLETELY EMPTY. Then press and hold the **<2/Z>** key while the bars "------" flash on the display. The display will then show "**tArE**," then release the button, and the tare will be reset.

Type 4: Resetting accumulators (Full or Net Mode)

To completely reset all pick-up data, first make sure the meter is in the Net Weight or Full Vehicle Weight Mode. Press and hold the **<2/Z>** key while the bars "------" flash twice and the word "**tArE**" flashes twice. When the display reads "**rESEt**," release the key. The accumulated memory will be cleared.

Operating the Meter

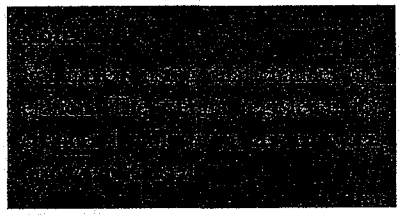
Sample operation: Load/Delivery Mode

This example uses a 9102 or 9104 on a refuse truck picking up commercial waste. For the 9101, ignore all references to switching channels; all operations occur in channel 1.

Step 1 Set the channel selection to **TOTAL** by pressing the **<CYC/CAN>** key until both the **1** LED and **2** LED are lit.

Step 2 Put the meter in Load/Delivery Mode by pressing the **<1/M>** key until the **L/D** LED is lit.

Step 3 Set the customer or product **ID number** for the load about to be picked up. Press the **<TOT/N>** key. The display will show a letter "**n**" followed by a six-digit number. Adjust that number to the desired ID number by using the **<P/↑>** or **<X/↓>** key as explained on page 41. When the correct ID number is displayed, press the **<OFF/ENT>** key to enter and store it.



Step 4 Pick up the load and put it into the truck. Put down the dumpster.

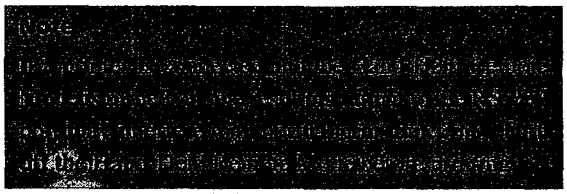
Step 5 Press the **<P/↑>** key. The display will show "**store**" then "**ZErO**."

Repeat this procedure for the next load. To print the accumulated weights of recent loads, press and hold the **<P/↑>** key until the display shows "**Print 2**." Release the key.

 WARNING: Do not use sharp or pointed objects to press keys.

Using Hand-Held Remotes

To turn on the Hand-Held Remote Mode, press and hold the <**X/↓**> key until "**HHr On**" is displayed. To turn the mode off, press and hold the <**X/↓**> key until "**HHr OFF**" is displayed.



Printing Load/Weight Information

An external printer is required for printing information from the SI-9100LD meter.

Printing the current weight (store)

To print the current weight from the Full Vehicle Weight or Net Weight Mode, press the <**P/↑**> key and release it when the display reads "**store**".

```
=================================
ID:                        1234
Net/Deliver Weight:              5600 lb.
Date:     12/11/92 11:29 am
=================================
```

Sample printout of net weight.

Sending all data to a computer (Sendata) (9600,n,8,1)

To transfer all weight and load information to a computer, press and hold the <**P/↑**> key until the display reads "**Sendata**." Then release the key.

Data format when uploaded from SI-9100LD.

<STX><Data><Data>....<Data><ETX>

```
=====================================
0000 00000000 000004 00000000000
0001 23456700 005000 1211921129a
0002 ?90040>> 000010 1211921135a
0003 32456800 000890 1211920134p
0004 23189906 000700 1211920215p
=====================================
```

Sample printout of the accumulated weights.

Format for printout of accumulated weight to a computer

First line only:

0000 00000000	000004	00000000000
always zero	# of entries stored in memory	always zero

Second and subsequent lines:

0001	23456700	005000	1211921129A*
0002	23456700	005000	1211921130a*
entry number	bar-code ID (user defined)	weight	month, date year, time

0003	?90040>>	0000000	1211921135A*
entry number	exception code (user defined)	weight	month, date year, time

* An upper case A or P indicates that the entry was generated by bar-code entry of the customer ID number. A lower case a or p indicates that the entry was generated by pressing the <**P/↑**> key.

For the format used when down loading to a Route Authority mailbox, please refer to the Route Authority manual.

Printing accumulated weights (Print 2)

The accumulated weights of recent loads or deliveries can be printed from the Load/Delivery Mode (but not from the Net Weight Mode).

To print all weight and load information stored in the meter, press and hold <**P/↑**> key until the display shows "**Print 2**" then release the key.

```
================================
Route:                      1
ID:                 1234
Load/Deliver Weight:        5600 lb.
Date:    12/11/92 11:29 am
--------------------------------
Route:                      2
ID:                 1345
Load/Deliver Weight:        4550 lb.
Date:    12/11/92 11:35 am
--------------------------------
Route:                      3
ID:                 3174
Load/Deliver Weight:        6550 lb.
Date:    12/11/92 11:45 am
--------------------------------
Total Weight:              16700 lb.
================================
```

Sample printout of the accumulated weight information.

Printing Load/Weight Information

Printing channel weights (Print 3)

The total Load/Delivery weights for each channel can be printed from the 9101, 9102 and 9104 programs.

To print the Load/Delivery weights for channels 1 and 2, as well as their total, press and hold the **<P/↑>** key until the meter displays "**Print 3**." Then release the key.

```
================================
ID:                        1234
Total Load/Delivery Weight
    CH1:                1230 lb.
    CH1:               12340 lb.
    TOT:               13570 lb.
Date:    12/11/92 11:35 am
================================
```

Sample printout of the channel and total weights.

Glossary and Appendices

Glossary

Actual weight The weight measured by a legal and certified in-ground or platform scale.

Auto ID An optional piece of equipment that automatically provides calibration information on multiple trailers and trucks.

AZT Automatic Zero Tracking. Available in certain operating modes, AZT detects small, slow changes in the electronic signals from the load cells. These changes are usually caused by the weather or other factors, and do not reflect weight changes. The AZT compensates for these changes to keep the tare weight at zero and ensure weight accuracy.

Calibration Calibration is the process of accurately setting the scale system.

Calibration (cal) numbers Measurements of the tare weight, full weight and payload weight. Establishing the cal numbers is an essential first step to properly operating the meter.

Displayed weight The number on the display panel at any given time.

Full weight The gross or entire weight of the vehicle (or of each axle set) with its payload; one of the two weights used during calibration.

Grad Short for "graduation size"; an increment of weight, such as 5 kilograms.

Hysteresis (dead band) The allowable variance on a load's limit so that the load-limit alarm is not unnecessarily activated.

LED Light-emitting diode.

Limits (set points) The weights programmed into the system which set an upper limit for the truck or trailer's payload.

Load/Delivery The weight of an individual pick-up or drop-off, respectively.

Net weight The weight of the payload only, not of the vehicle plus its payload.

Post-calibration A process of calibrating the weight once the weight has been removed from the truck. (This can be conducted only by authorized individuals.)

Tare weight The weight of an empty truck before the payload is added.

Transducer A mechanical device that's bolted to the suspension of the truck and that measures the bending of the suspension and converts that information into a weight reading.

Transmitter A device that sends a signal from the load cell and converts it to digital pulses that the meter can read and display.

Appendix A Error Messages

Err 0 Low input voltage. Check the battery; voltage must be more than 11.25VDC. Check all transmitter cables.

Err 1 Setup mode locked. See page 43 to unlock it.

Err 2 Insufficient RAM (random-access memory). Return the meter to the dealer or manufacturer for service.

2ND **Err 3** Meter recalibration required. If this error occurs every time the power is removed from the meter, servicing is required. Return the meter to the dealer or manufacturer.

Err 4 Defective ROM (read-only memory). Return the meter to the dealer or manufacturer.

Err 5 The bar-code scanned ID number has less or more than six digits, check bar code config. (4800,n,8,1)

Err 8 Reset all pickup data before selecting this function.

Err 10 Defective channel 1 transmitter. Disconnect cables at load cells; if **Err 10** still displays, replace transmitter.

Err 11 Faulty signal on the right side of channel 1 transmitter. Check the right pig-tail or right load cell.

Err 12 Faulty signal on the left side of channel 1 transmitter. Check the left pig-tail or the left load cell.

Err 13 Cable between the meter and the transmitter of channel 1 may be disconnected. Check for a secure connection.

Err 14 Cable of channel 1 has a short. Check cable.

Err 16 Channel 1 has a transmitter overload or load-cell short. Check cables, transmitter pig-tails and load cells.

Err 17 The channel 1 transmitter is not an Auto-ID model. Non-Auto ID transmitter is installed while **An1** is on. Install an Auto ID transmitter, or disable **An1** if the meter does not require an Auto ID transmitter. See page 38.

Err 20 Defective channel 2 transmitter. Disconnect cables at load cells; if **Err 20** still displays, replace the transmitter.

Err 21 Faulty signal on the right side of channel 2 transmitter. Check the right pig-tail or the right load cell.

Err 22 Faulty signal on the left side of channel 2 transmitter. Check the left pig-tail or the left load cell.

1st **Err 23** Cable between meter and transmitter of channel 2 may be disconnected. Check cable for a secure connection.

Err 24 Cable of 2 channel has a short. Check cable.

Err 26 Channel 2 has a transmitter overload or load-cell short. Check cables, transmitter pig-tails and load cells.

Err 27 The channel 2 transmitter is not an Auto-ID model. Non-Auto ID transmitter is installed while **An2** is on. Install an Auto ID transmitter, or disable **An2** if the meter does not require an Auto ID transmitter. See page 38.

Err 30 The full weight calibration is smaller than the tare weight.

Err 31 Meter has been calibrated with no load or with too light of a load. Requires more load to calibrate full weight.

Err 32 Display must be less than 2,000 from original tare.

Err 33 The display weight or the actual weight is smaller than the tare weight.

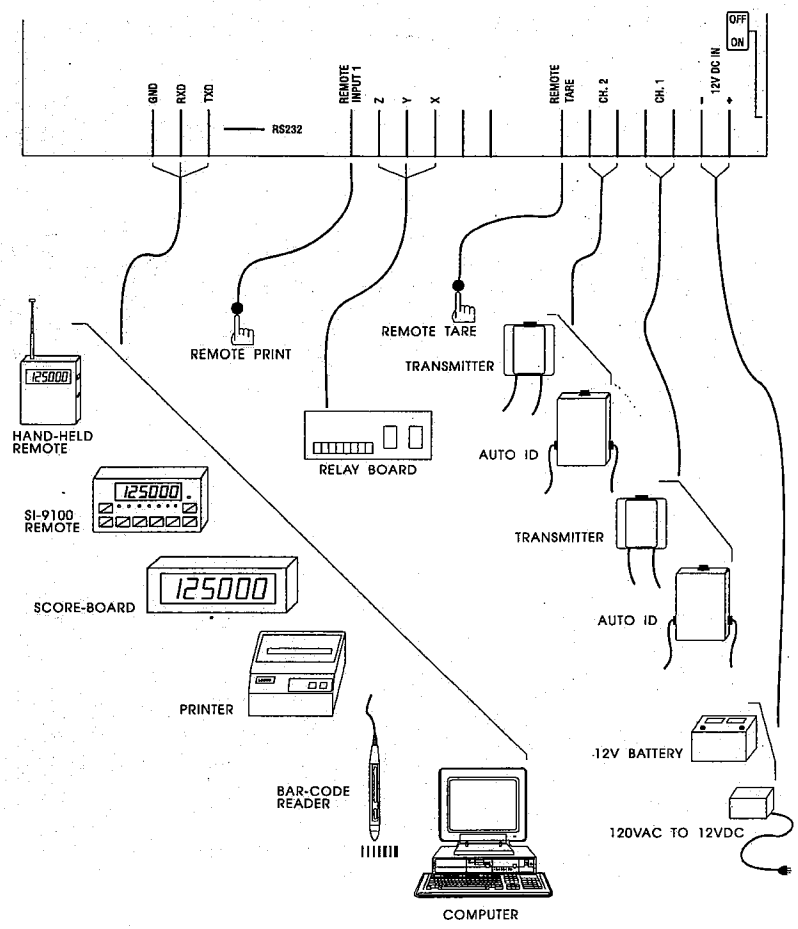
Err 60 Memory is almost full. Only 10 pick-ups remaining.

Err 70 Transmitter ID number being input is greater than 254 (models 9105 and 9106 only). Check the ID number inside Auto ID transmitter.

Err 71 Operator is trying to input a channel transmitter ID number while both channels are active (models 9105 and 9106 only). Select channel 1 or channel 2 from the meter.

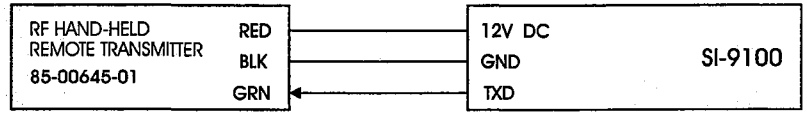
Err 72 The truck/trailer ID number is not calibrated (models 9105 and 9106 only).

Appendix B Wiring Systems

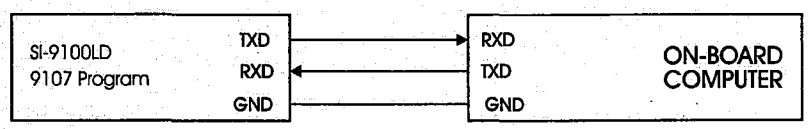


Typical SI-9100LD system wiring diagram.

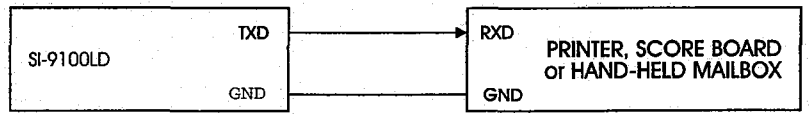
WARNING: Do not use sharp or pointed objects to press keys.



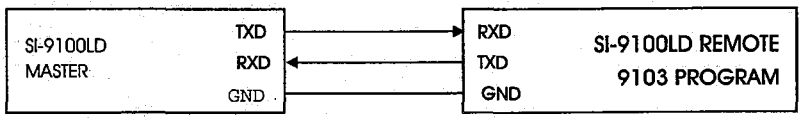
Cable wiring for direct connection between the SI-9100LD and Hand-held remote RF transmitter



Cable wiring for direct connection between the SI-9100LD and On-board computer



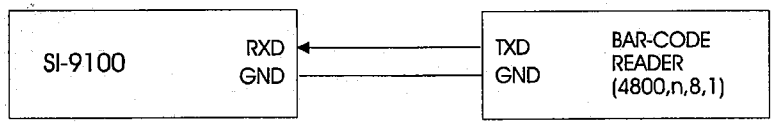
Cable wiring for direct connection between the SI-9100LD and Printer, Score-board or Hand-held mailbox



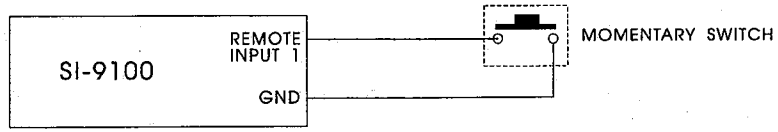
Cable wiring for direct connection between the SI-9100LD and SI-9100LD Remote Display

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

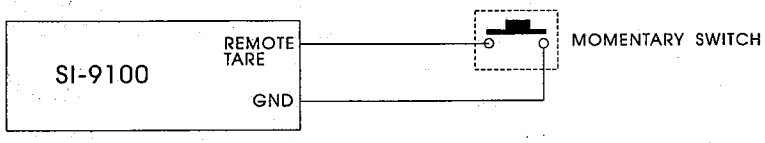
Appendix B Wiring Systems



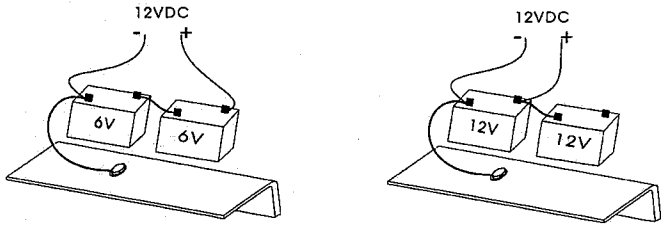
Cable wiring for direct connection between the SI-9100LD and a bar-code reader.



Wiring diagram for remote print button.



Wiring diagram for remote tare button.



Battery connections.

WARNING: Do not use sharp or pointed objects to press keys.

Appendix C LED Display Symbols

SEtuP 1	Setup 1
tArE 1	Tare weight of channel 1
tArE 2	Tare weight of channel 2
FuLL 1	Full weight of channel 1
FuLL 2	Full weight of channel 2
CAL 1	Calibration number of channel 1
CAL 2	Calibration number of channel 2
PCAL-1	Post-Calibrate channel 1
PCAL-2	Post-Calibrate channel 2
L1 CH-1	Limit 1 of channel 1
L2 CH-1	Limit 2 of channel 1
L1 CH-2	Limit 1 of channel 2
L2 CH-2	Limit 2 of channel 2
L1 tot	Limit 1 of total
L2 tot	Limit 2 of total
SEtuP 2	Setup 2
LbS	Pounds
tGS	Kilograms
GrAd 5	Grad 5
GrAd 10	Grad 10

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

GrAd 20	Grad 20
GrAd 50	Grad 50
GrAd 100	Grad 100
SEtuP 3	Setup 3
tIME	Time
dAtE	Date
YEAr	Year
SEtuP 4	Setup 4
Pr-Fn 1	Print Function 1
Pr-Fn 2	Print Function 2
Pr-Fn 3	Print Function 3
C1 1200	Com. 1 at 1200 bps
C1 2400	Com. 1 at 2400 bps
C1 4800	Com. 1 at 4800 bps
C1 9600	Com. 1 at 9600 bps
C2 1200	Com. 2 at 1200 bps
C2 2400	Com. 2 at 2400 bps
C2 4800	Com. 2 at 4800 bps
C2 9600	Com. 2 at 9600 bps
422 On	RS-422 on (Enables RS-422)
422 OFF	RS-422 off (Disables RS-422)

Appendix C LED Display Symbols

L5F On	L5F on (Convert RS-232 output data to L5000 Score-Board format)
L5F OFF	L5F off (Do not convert RS-232 output data to L5000 Score-Board format)
SEtuP 5	Setup 5
Ld On	LD on (Enables Load/Delivery mode)
Ld OFF	LD off (Disables Load/Delivery mode)
An1 On	An1 on (Auto ID transmitter channel 1 is installed)
An1 OFF	An1 off (Auto ID transmitter channel 1 is not installed)
An2 On	An2 on (Auto ID transmitter channel 2 is installed)
An2 OFF	An2 off (Auto ID transmitter channel 2 is not installed)
AZt On	AZT on (Enables Auto Zero Tracking)
AZt OFF	AZT off (Disables Auto Zero Tracking)
ioP On	IOP on (Input/Output Port is installed)
ioP OFF	IOP off (Input/Output Port is not installed)
SEtuP 6	Setup 6
Str Ld	Store Load/Deliver Weight
Str nEt	Store Net Weight
6 id	6 digits Bar-code entry
7 id	7 digits Bar-code entry
8 id	8 digits Bar-code entry
9 id	9 digits Bar-code entry
10 id	10 digits Bar-code entry
11 id	11 digits Bar-code entry
12 id	12 digits Bar-code entry

REMEMBER: Turn off the meter before charging the truck's battery or using jumper cables.

Appendix C LED Display Symbols

SEt On	Set on
SEt OFF	Set off
EntEr	Enter
CAnCEL	Cancel
Pri nt	Print
Pri nt 2	Print 2
Pri nt 3	Print 3
SE-dP-1	SE-DP-1 (Send display data to Com-1)
StorE	Print, store
SEndAtA	Send data
SE-AA-1	SE-AA-1 (Send all Accumulated to Com-1 at 9600,n,8,1)
HHr On	HHr on (Enables Hand-held remote)
HHr OFF	HHr off (Disables Hand-held remote)
GroSS	Gross (Gross weight)
nEt	NET mode
Ld	Load / Delivery mode
-------	Bars
ΞErO	Zero
rESEt	Reset
CH-1	Channel 1
CH-2	Channel 2
totAL	Total
Auto	Auto-Cycle
tESti nG	Testing

WARNING: Do not use sharp or pointed objects to press keys.

Appendix D Setup Menu Options

Setup 1 for single channel (programs 9101, 9105, 9107)

TARE 1	Set tare weight of channel 1
FULL 1	Set full weight of channel 1
CAL 1	Set calibration number of channel 1
PCAL-1	Post-calibration of channel 1
L1 CH-1	Set limit 1 of channel 1
L2 CH-1	Set limit 2 of channel 1

Setup 1 for dual channels (programs 9100, 9102, 9104, 9106)

TARE 1	Set tare weight of channel 1
FULL 1	Set full weight of channel 1
CAL 1	Set calibration number of channel 1
TARE 2	Set tare weight of channel 2
FULL 2	Set full weight of channel 2
CAL 2	Set calibration number of channel 2
PCAL-1	Post-calibration of channel 1
PCAL-2	Post-calibration of channel 2
L1 CH-1	Set limit 1 of channel 1
L2 CH-1	Set limit 2 of channel 1
L1 CH-2	Set limit 1 of channel 2
L2 CH-2	Set limit 2 of channel 2
L1 TOT	Set limit 1 of total
L2 TOT	Set limit 2 of total

Appendix D Setup Menu Options

Setup 2

LBS	Display measurement in pounds
KGS	Display measurement in kilograms
Grad 5	Graduated increment of 5, with a maximum weight of 12,000 lbs or kgs (not available in the 9100 program)
Grad 10	Graduated increments of 10 (not available in the 9100 program)
Grad 20	Graduated increments of 20
Grad 50	Graduated increments of 50
Grad 100	Graduated increments of 100

Note
For Setup 2, Setup 4 and Setup 5, the currently enabled feature will flash.

Setup 3

Time	Set time
Date	Set date
Year	Set year

Setup 4 (programs 9101, 9102, 9104, 9105, 9106)

Pr-Fn 1	RS-232 to printer (L5500 printer, etc.)
Pr-Fn 2	RS-232 to computer or terminal
Pr-Fn 3	RS-232 continuously output to computer or terminal
C1 1200	Set port 1: 1200 bps, 8 data bits (ASCII), no parity, 1 stop bit
C1 2400	Set port 1: 2400 bps, 8 data bits (ASCII), no parity, 1 stop bit
C1 4800	Set port 1: 4800 bps, 8 data bits (ASCII), no parity, 1 stop bit

C1 9600	Set port 1: 9600 bps, 8 data bits (ASCII), no parity, 1 stop bit
C2 1200	Set port 2: 1200 bps, 8 data bits (ASCII), no parity, 1 stop bit
C2 2400	Set port 2: 2400 bps, 8 data bits (ASCII), no parity, 1 stop bit
C2 4800	Set port 2: 4800 bps, 8 data bits (ASCII), no parity, 1 stop bit
C2 9600	Set port 2: 9600 bps, 8 data bits (ASCII), no parity, 1 stop bit
RS422 On	Enable RS-422 port (requires SI-9100LD I/O Interface box)
RS422 Off	Disable RS-422 port (requires SI-9100LD I/O Interface box)
L5F On	Convert RS-232 output data to L5000 scoreboard format
L5F Off	Do not convert RS-232 output data to L5000 scoreboard format

Setup 5
(programs 9101, 9102, 9104, 9105, 9106)

LD On	Enable Load/Delivery Mode
LD Off	Disable Load/Delivery Mode
An1 On	Auto ID transmitter channel 1 is installed (program 9105, 9106)
An1 Off	Auto ID transmitter channel 1 is not installed (program 9105, 9106)
An2 On	Auto ID transmitter channel 2 is installed (program 9106)
An2 Off	Auto ID transmitter channel 2 is not installed (program 9106)
AZT On	Enable Auto Zero Tracking (not recommended for on-board applications)
AZT Off	Disable Auto Zero Tracking (recommended for on-board applications)
IOP On	Input/output port is installed
IOP Off	Input/output port is not installed

Appendix D Setup Menu Options

Setup 6
(programs 9101, 9102, 9104, 9105, 9106)

Str Ld	Enable store Load/Delivery Weight
Str Net	Enable store Net Weight
6 id	(6 digits Bar-code entry). Store up to 1750 pickups. Key-pad or Bar-code reader entry.
7 id	(7 digits Bar-code entry). Store up to 1660 pickups. Bar-code reader entry only.
8 id	(8 digits Bar-code entry). Store up to 1660 pickups. Bar-code reader entry only.
9 id	(9 digits Bar-code entry). Store up to 1575 pickups. Bar-code reader entry only.
10 id	(10 digits Bar-code entry). Store up to 1575 pickups. Bar-code reader entry only.
11id	(11 digits Bar-code entry). Store up to 1500 pickups. Bar-code reader entry only.
12 id	(12 digits Bar-code entry). Store up to 1500 pickups. Bar-code reader entry only.

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