The IDS 150A Ticket Printer

Revision S150100X 06/93

Industrial Data Systems, Inc., 590 W. Freedom Ave., Orange, Ca. 92665

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1 INSTALLATION

Installation begins with unpacking the IDS150A. Save packing materials if the printer is to be re-shipped. Next, the IDS150A needs to be made ready to print. Examine the options available in the IDS150A to determine the best setup for your application.
UNPACKING THE IDS150A PRINTER

1. Remove the printer from the shipping container.
2. **REMOVE THE SHIPPING RESTRAINT FROM THE PRINTER MECHANISM.** The shipping restraint is a rectangular piece of black rubber located just above the document plate on the left side of the mechanism.
3. Install printer ribbon as shown on the diagram affixed to the dot head cover.

PACKING LIST CHECKOFF	
IDS 150A Printer	
Printer Ribbon	
Printer Manual	
Power Line Cord	
Mating Connector or Cable	

MAKING THE IDS150A READY TO PRINT
1. **Be sure the print-mechanism shipping restraint has been removed.**

2. Set the serial communications parameters (baud rate, data bits, etc.) See Section 3.1 for directions.

3. Connect the IDS150A to the 'host' device via the 25 pin 'D' connector at the back of the printer. See Appendix I for communication port wiring information.

CAUTION: TO AVOID CONTACT WITH MOVING PARTS WHICH COULD CAUSE INJURY, DO NOT OPEN PRINTER COVER WHILE UNIT IS IN OPERATION.

4. Connect the IDS150A to AC power. Turn power on. The print head should cycle 1 time.

5. Reset IDS 150A configurations to factory defaults (Section 3.5).

6. Activate the TEST mode and print the configuration parameters (Section 5).

7. Reset the printer to normal by turning power off and then back on. Send data from the 'host' device to the IDS150A.

The IDS150A is a BASIC 'Slave' printer but it also has a wide range of features that can be activated as needed. If your application requires something beyond the capabilities of a BASIC printer then read Section 2. Choose the functions that you need and then use Section 3 for directions on activating the functions.

2 IDS 150A FUNCTIONS AND CAPABILITIES

This section is divided into 4 parts:

2.1 THE IDS150A CONNECTORS, SWITCHES AND LEDS. The physical characteristics of the IDS150A.

2.2 PRINT FEATURES. Ticket formatting features.

2.3 TIME AND DATE CLOCK. The (optional) clock.

2.4 CONTINUOUS mode.

The IDS 150A CONNECTORS, SWITCHES, AND LEDS.

The front of the printer has an **PRINT** switch and a light emitting diode (FORM).

The **PRINT** switch activates a Print Request signal that can be sent to the host device.

The **FORM** light indicates that there is no ticket in the printer. It turns OFF when the ticket is properly in place.

On the rear of the printer is the Line connector, the DATA I/O connector, the Power Switch and an access panel. Behind the access panel are a row of 'DIP' switches, a thumbwheel switch, a push button switch (**ENTER SWITCH**), and an LED (**ENTER LIGHT**). The 'DIP' switches are used to set the communication parameters (baud rate, parity, etc.). The thumbwheel switch and ENTER switch are used to select print features.

PRINT FEATURES.
The Print Features are used to customize the print format of the IDS150A and to match the requirements of the 'host' device.

1. AUTOMATIC LINE-FEED AFTER CARRIAGE RETURN (Default = ON) The printer inserts a line feed command whenever it receives a carriage return command. Turn this feature off if your 'host' device sends a linefeed after a carriage return. (see section 3.2.1)

2. AUTOMATIC PAPER RELEASE (Default = ON) In some applications, the sending device can't send a RELEASE paper command. The automatic paper release feature releases the paper after printing the last line received. (see section 3.2.2)

3. AUTOMATIC PRINT WRAP (Default = ON) If more than 40 characters (20 char Enhanced) are sent without a linefeed, the overflow data is automatically printed on the next line. If automatic print wrap is turned off, the overflow data is lost. (see section 3.2.3)

4. MULTI-STRIKE PRINT (Default = OFF) The multi-strike feature prints each line from 2 to 10 times. This increases the legibility of the print in multi-copy tickets. (see section 3.2.4)

> NOTE: The MULTI-STRIKE feature prints in a single direction. If MULTI-STRIKE is selected, it will over-ride the bi-directional select.

5. BI-DIRECTIONAL PRINT (Default = ON) The printer normally prints bi-directionally for faster operation. (see section 3.2.5)

6. INVERT PRINT (Default = OFF) The invert print feature inverts the print (upside down). The ticket is inserted upside down for printing. This feature is used to print on the left side of a document. (see section 3.2.6)

7. INHIBIT PRINT IF PAPER EMPTY. (Default = ON) The printer will not print if the paper empty light is on. Turn this feature OFF if the edge of your ticket has holes that do not cover the paper-sensor. (see section 3.2.7)

8. TOP MARGIN. (Default = 0) The top margin is used to skip from 1 to 9 lines down the ticket before printing. (see section 3.2.8)

9. LEFT MARGIN. (Default = 0) The left margin is used to move the printed text to the right. The left margin is 0 to 18 characters long. NOTE: If invert print is used, the text will be moved to the left. (see section 3.2.9)

10. PRINT SIZES. (Normal, Enhanced, Mixed). (Default = Norm) The Normal is 12 char/in (typewriter size). The Enhanced print is 6 char/in (double width). The Mixed size prints text in normal size and numbers in enhanced size. (see section 3.2.10)

11. STATION NUMBER (Default = OFF) The station number is used print a station ID on each ticket. Station numbers range from 1 to 9. (see section 3.2.11)

TIME AND DATE CLOCK.

The IDS150A has an optional time and date clock with battery backup. The clock is on a separate printed circuit board that plugs into the main 150 circuit board.

1. To install your optional time and date board turn the power off on the IDS 150A.
2. Remove the four screws on the sides of the IDS 150A.
3. Tilt the top of the IDS 150A back and disconnect the cable from the printed circuit board.
4. Lift the top of the IDS 150A completely from the unit.
5. Locate the strip connectors for the time and date board near the form light area of the board. The connectors are 7 and 8 pin receptacles labeled J5 and J6 respectively.
6. Orient the time and date board such that the battery side is up and the battery side of the board is pointing at the front of the unit. The words "MADE IN USA" printed on the time and date board should be directly over the J6 8 pin receptacle.
7. Insert the time and date board so that each pin corresponds to a receptacle. There should be very little insertion force required to install the board.
8. Check to insure both the J6 and J5 connectors are correctly seated.

3 CONFIGURATION OF THE IDS150A

Remove the access panel located on the back of the printer. The 8 position 'dip' switch is used to configure the serial communications port. The thumbwheel switch and the push-button switch are used to configure everything else. The ENTER light provides feedback for the entry process. ***If there is paper in the printer, the results of the data entry will be printed after it is entered.***

All data entry functions begin with the ENTER light OFF.

Topics Covered In Section 3:

CONFIGURATION OF SERIAL COMMUNICATIONS PORT.

The baud rate and data format are set by the 8 position 'DIP' switch, located behind the access panel at the back of the printer.

Select the baud rate and data format from the tables below.

Data Format Table		
Dips Switch	ON	OFF
1	Current Loop Input	not selected
2	RS232 Input	not selected
3	Even Parity	Odd Parity
4	Disable Parity	Enable Parity
5	7 Data bits	8 Data bits

Note: Do not set switches 1 and 2 on at the same time.
When using RS232 set dip switch 1 OFF, set dip switch 2 ON.
When using Current Loop set dip switch 1 ON, set dip switch 2 OFF.

Baud Rate Select Table			
Baud Rate	Swtich 6	Switch 7	Switch 8
300 baud	OFF	OFF	ON
600 baud	OFF	ON	OFF
1200 baud	OFF	ON	ON
2400 baud	ON	OFF	OFF
4800 baud	ON	OFF	ON
9600 baud	ON	ON	OFF

NOTE: Some dip switches use the following labels:
CLOSED = ON
OPEN =OFF

CONFIGURE PRINT FEATURES.

The following table shows how the print features are set at the factory.

Print Features - Factory Configuration		
Section No.	Print Feature	Status
3.2.1	AUTO LINE-FEED AFTER CR	ON
3.2.2	AUTO PAPER RELEASE	ON
3.2.3	AUTOMATIC PRINT WRAP	ON
3.2.4	MULTI-STRIKE PRINT	OFF
3.2.5	BI-DIRECTIONAL PRINT	ON
3.2.6	INVERT PRINT	OFF
3.2.7	INHIBIT PRINT IF PAPER EMPTY	ON
3.2.8	TOP MARGIN	0 Lines
3.2.9	LEFT MARGIN	0 Spaces
3.2.10	PRINT SIZE	Normal
3.2.11	STATION NUMBER	Disabled

CONFIGURE: Automatic Line Feed After Carriage Return.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 1.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   0 for AUTO LF --- OFF
   1 for AUTO LF --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET AUTO LF AFTER CARRIAGE RETURN				
Status of ENTER light				Thumbwheel Switch Position
Auto Line Feed OFF				
Auto Line Feed ON				

CONFIGURE: Automatic Paper Release.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 2.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   0 for AUTO PAPER RELEASE --- OFF
   1 for AUTO PAPER RELEASE --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET AUTO PAPER RELEASE				
Status of ENTER light				Thumbwheel Switch Position
Auto Release OFF				
Auto Release ON				

CONFIGURE: Print Wrap.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 3.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   0 for PRINT WRAP --- OFF
   1 for PRINT WRAP --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET PRINT WRAP				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Print Wrap OFF	1	3	0	
Print Wrap ON	1	3	1	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Multi-Strike Print.

NOTE: Multi-strike automatically disables bi-directional printing.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 4.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 0 for SINGLE STRIKE.
   - 1 for DOUBLE STRIKE.
   - 2 for TRIPLE STRIKE.
   - 3 for 4 X STRIKE.
   - 4 for 5 X STRIKE.
   - 5 for 6 X STRIKE.
   - 6 for 7 X STRIKE.
   - 7 for 8 X STRIKE.
   - 8 for 9 X STRIKE.
7. Press the ENTER switch. The ENTER light turns off.

SET MULTI-STRIKE COUNT				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Single Strike	1	4	0	
Double Strike	1	4	1	
Triple Strike	1	4	2	
Quad Strike	1	4	3	
Overprint 5 times	1	4	4	
Overprint n times	1	4	n	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Bi-Directional Print.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 5.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   0 for BI-DIRECTIONAL PRINT --- OFF
   1 for BI-DIRECTIONAL PRINT --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET BIDIRECTIONAL PRINT				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Bi-Directional OFF	1	5	0	
Bi-Directional ON	1	5	1	

CONFIGURE: Invert Print.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 6.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   0 for INVERT PRINT --- OFF
   1 for INVERT PRINT --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET INVERT PRINT				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set Normal Print	1	6	0	
Set Invert Print	1	6	1	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Inhibit Print If Paper Empty.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 1.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 7.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 0 for INHIBIT PRINT IF PAPER EMPTY --- OFF
   - 1 for INHIBIT PRINT IF PAPER EMPTY --- ON
7. Press the ENTER switch. The ENTER light turns off.

SET INHIBIT PRINT IF PAPER EMPTY				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Inhibit Print OFF	1	7	0	
Inhibit Print ON	1	7	1	

CONFIGURE: Top Margin.

1. Begin with the ENTER light OFF. 2. Turn the thumbwheel switch to position 2. 3. Press the ENTER switch. The ENTER light begins flashing. 4. Turn the thumbwheel switch to position 1. 5. Press the ENTER switch. The ENTER light turns on. 6. Turn the thumbwheel switch to position:
   - 0 for TOP MARGIN = 0.
   - 1 for TOP MARGIN = 1.
   - 9 for TOP MARGIN =9.
7. Press the ENTER switch. The ENTER light turns off.

NOTE: The margin is 1/6" per position. For a 1 inch margin enter a 6. For a 1 1/2 inch margin enter a 9. The ticket stop on the printer can be adjusted for printing up to 1 1/2" from the top of form for additional top margin space.

SET TOP MARGIN				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set Top Margin OFF	2	1	0	
Set Top Margin 1 in.	2	1	6	
Set Top Margin 1.5 in.	2	1	9	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Left Margin.

Note: The left margin is set to 2 spaces per count. For a margin of 10 spaces, enter a 5 for the left margin.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 2.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 2.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 0 for LEFT MARGIN = 0 spaces.
   - 1 for LEFT MARGIN = 2 spaces.
   - 9 for LEFT MARGIN = 18 spaces.
7. Press the ENTER switch. The ENTER light turns off.

SET LEFT MARGIN				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set Left Margin OFF	2	2	0	
Set Left Margin 10 spaces	2	2	5	
Set Left Margin 18 spaces	2	2	9	

CONFIGURE: Print Size.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 2.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 3.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 0 for Host Control of Print Size.
   - 1 for NORMAL SIZE PRINT.
   - 2 for ENHANCED SIZE PRINT (double width).
   - 3 for MIXED SIZE PRINT (numbers large, letters small).
7. Press the ENTER switch. The ENTER light turns off.

PRINT SIZE				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Normal Size Print	2	3	1	
Enhanced Size Print	2	3	2	
Mixed Size Print	2	3	3	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Station Number.

The station number is enabled when it is set. Setting the station number to 0 disables it.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 2.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 4.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 0 for STATION NUMBER = DISABLED.
   - 1 for STATION NUMBER = 1
   - 2 for STATION NUMBER = 2
   - *
   - *
   - 9 for STATION NUMBER = 9.
7. Press the ENTER switch. The ENTER light turns off.

SET STATION NUMBER				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Disable Station No.	2	4	0	
Set Station No. = 1	2	4	1	
Set Station No. = 2	2	4	2	
Set Station No. = 9	2	4	9	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURATION OF TIME AND DATE

The topics covered in Section 3.3 are:

3.3.1 SET TIME.

3.3.2 SET DATE.

3.3.3 SET TIME AND DATE PRINT FORMAT.

CONFIGURE: Set Time

1. Begin with the ENTER light OFF.

2. Turn the thumbwheel switch to position 3.

3. Press the ENTER switch. The ENTER light begins flashing.

4. Turn the thumbwheel switch to the first digit of time.

5. Press the ENTER switch. The ENTER light turns on.

6. Turn the thumbwheel switch to the second digit of time.

7. Press the ENTER switch.

8. Turn the thumbwheel switch to the third digit of time.

9. Press the ENTER switch.

10. Turn the thumbwheel switch to the fourth digit of time.

11. Press the ENTER switch.

12. Turn the thumbwheel switch to position: 0 for AM 1 for PM 2 for 24hr time

13. Press the ENTER switch. The ENTER light turns off.

SET TIME						
Led Status	Flash	On	On	On	On	Off
Thumb wheel	3	hr	hr	min	min	am/pm/ 24hr

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Set Date

1. Begin with the ENTER light OFF.

2. Turn the thumbwheel switch to position 4.

3. Press the ENTER switch. The ENTER light begins flashing.

4. Turn the thumbwheel to the first digit of the month.

5. Press the ENTER switch. The ENTER light turns on.

6. Turn the thumbwheel to the second digit of the month.

7. Press the ENTER switch.

8. Turn the thumbwheel to the first digit of the day of month.

9. Press the ENTER switch.

10. Turn the thumbwheel to the second digit of the day of month.

11. Press the ENTER switch.

12. Turn the thumbwheel to the first digit of the year.

13. Press the ENTER switch.

14. Turn the thumbwheel to the second digit of the year.

15. Press the ENTER switch.

16. Press the ENTER switch. The ENTER light turns off.

SET DATE							
Led Status	Flash	On	On	On	On	On	Off
Thumb wheel	4	Month	Month	day	day	year	year

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Set Time And Date Print Format.
The clock data can be printed in 6 different formats and at 3 different positions. Use the following lists to configure the time/date print to fit your application.

FORMAT LIST
0 = Disable Time & Date
1 = Print Time & Date With Labels
2 = Print Time With Label
3 = Print Date With Label
4 = Print Time & Date
5 = Print Time
6 = Print Date
7 = Print Time & Date in condensed format. (HH:MMX DDMMMYY)

POSITION LIST
1 = Print Clock Data as Last Line
2 = Print Clock Data at Beginning of the 1st Line
3 = Print Clock Data at End of the 1st Line
4 = Print Clock Data as Before first line.

Procedure to Set Time and Date Format:

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 5.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to one of the above format numbers.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to one of the above position numbers.
7. Press the ENTER switch. The ENTER light turns off.

SET TIME/DATE FORMAT				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
SET TIME FORMAT	5	Format no.	Position no.	

Some Examples:

```
G+ 10.00LB    23 APR 92
T-    5.00LB
N-    5.00LB
```

Date after first line.

```
G+  10.00LB
T-     5.00LB
N-    5.00LB
TIME 12:22 PM   DATE 23 APR 92
```

Time and date with labels after last line.

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

3.4. CONFIGURE CONTINUOUS MODE

The **CONTINUOUS MODE** should be used when the indicator does not have a demand output. The difference between continuous output and demand output is the continuous mode sends the weight data from the indicator to the printer constantly. This is opposed to demand mode where the data is sent from the indicator only when the print key is pressed on the indicator. Typically the continuous mode is rarely required.

When the **CONTINUOUS MODE** of operation is used the following must be configured:

- Section 3.4.1 **SELECT SCALE METER TYPE.**
- Section 3.4.2 **CONFIGURE SCALE UNITS.**

If pulse input is being used then also configure:

- Section 3.4.3 **DECIMAL POSITION.**
- Section 3.4.4 **COUNT/PULSE FACTOR.**

The **CONTINUOUS MODE** of operation is selected by the **IDS150A** by reading a non-zero thumbwheel switch on power up.

If the thumbwheel is **set to 0 (BASIC MODE)** then ignore section 3.4. The configurations of section 3.4 do not affect the **BASIC MODE**.

> **Note: The thumbwheel must be set to 1 for continuous mode and the print switch on printer must be pressed to initiate a print in the continuous mode.**

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REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Select Scale Meter Type.

1. Begin with the ENTER light OFF.

2. Turn the thumbwheel switch to position 7.

3. Press the ENTER switch. The ENTER light begins flashing.

4. Turn the thumbwheel switch to position 1.

5. Press the ENTER switch. The ENTER light turns on.

6. Turn the thumbwheel to select a meter from the list below:

    0 - NCI 5790.
    1 - Analogic AN5316, in continuous output mode.
    2 - Condec, Accuweigh, Applied Forces, MSI Transweigh, Streeter Q9000, Flexweigh DWM-IV.
    3 - A&D 4316, 4321, GENERAL 521.
    4 - Cardinal 738.
    5- Toledo 8132, 8142 high speed output mode.
    6 - Weightronics WI 110, 120.
    7 - International Computing Scale DR10K.
    8 - Howe Richardson SSD800.
    9 - Pulse Input. (Note: current loop must be enabled for pulse input.)

7. Press the ENTER switch. The ENTER light turns off.

SET SCALE METER TYPE				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set NCI5790	7	1	0	
Set AN5316	7	1	1	
Set Condec	7	1	2	
Set A&D/General	7	1	3	
Set Cardinal 738	7	1	4	
Set Toledo 8342	7	1	5	
Set WI110	7	1	6	
Set DR10K	7	1	7	
Set SSD800	7	1	8	
Set Pulse Input	7	1	9	

REMEMBER: Return the thumbwheel switch to the correct mode position after configuration.

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Scale Units.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 7.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 2.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel to select the scale units from the list below:
   - 0 for undefined.
   - 1 for LB.
   - 2 for kg.
   - 3 for TON.
   - 4 for TNE.
   - 5 for GRAM.
   - 6 for OZ.
   - 7 for t. (tonne)
7. Press the ENTER switch. The ENTER light turns off.

SET SCALE UNITS				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set LB	7	2	1	
Set KG	7	2	2	
Set TON	7	2	3	
Set TNE	7	2	4	
Set GRAM	7	2	5	
Set OZ	7	2	6	
Set t	7	2	7	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Multiplier.

Note: The Multiplier is used with pulse input only. Each pulse is multiplied by the multiplier factor.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 7.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn THE thumbwheel switch to position 3.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to select the decimal position from the list below:
   - 0 for 1
   - 1 for .1
   - 2 for .01
   - 3 for .001
   - 4 for .0001
   - 5 for 10
   - 6 for 100
7. Press the ENTER switch. The ENTER light turns off.

DECIMAL POINT				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set 1	7	3	0	
Set .1	7	3	1	
Set .01	7	3	2	
Set .001	7	3	3	
Set .0001	7	3	4	
Set 10	7	3	5	
Set 100	7	3	6	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

CONFIGURE: Count/Pulse.

Note: The count per pulse factor is used with pulse input only. Each pulse is multiplied by the count/pulse factor.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 7.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 4.
5. Press the ENTER switch. The ENTER light turns on.
6. Turn the thumbwheel switch to position:
   - 1 for 1
   - 2 for 2
   - 5 for 5
7. Press the ENTER switch. The ENTER light turns off.

COUNT per PULSE Multiplier				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Set 1x	7	4	1	
Set 2x	7	4	2	
Set 5x	7	4	5	

INITIALIZE SYSTEM TO ORIGINAL FACTORY SETTINGS

The printer can be reset to its original settings by the INITIALIZE function.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 8.
3. Press the ENTER switch. The ENTER light flashes.
4. Press the ENTER switch. The ENTER light turns on.
5. Press the ENTER switch 1 more time.
6. The ENTER light turns off.

INITIALIZE SYSTEM				
Status of ENTER light	Flash	On	Off	Thumbwheel Switch Position
Initialize System	8	8	8	

REMEMBER: Return the thumbwheel switch to position 1 if the continuous mode is desired after configuration.

4 MAINTENANCE

The maintenance requirements are minimal on the IDS150A.

- PRINT RIBBON REPLACEMENT. Replace the print ribbon when the print image becomes unacceptably light. Use the diagram that appears on the dot head cover for threading directions.
- CLEANING. Remove dirt and stains using alcohol or benzine. Do NOT use thinner or trichloroethylene or keton based solvents, which may damage plastic parts.

5 TESTING AND TROUBLESHOOTING.

IDS 150A TEST FUNCTIONS.

There are 3 test functions that can be activated using the thumbwheel and ENTER switches located at the back of the IDS150A.

1. Printer Configuration Report - prints user configurations.
2. Power On Test Report - prints results of self diagnostics.
3. Hex-Ascii Printing - prints hexadecimal representation of serial input received.

The IDS150A performs a self test on power up. If a fault is detected the an audible alarm will sound (50 beeps). Press the **ENTER** switch or the **PRINT** switch (if you have one) while the alarm is on to print the results of the test.

Remove the access panel located on the back of the printer. The thumbwheel switch and the push-button switch are used to activate the test functions.

Print Configuration Report.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 9.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn thumbwheel to 7.
5. Press the ENTER switch. The IDS150A prints the configuration report.

Print Configuration Report			
Status of ENTER light	Flash	Off	Thumbwheel Switch Position
Print Configuration	9	7	

Note: The Print Configuration report can be obtained alternatively by depressing the PRINT switch while at the same time turning the power switch on. Be sure there is a clean sheet of paper in the unit first.

Print Power On Test Report.

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 9.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 8.
5. Press the ENTER switch. The IDS150A prints the power on test report.

Print Power On Test Report			
Status of ENTER light	Flash	Off	Thumbwheel Switch Position
Print Test Report	9	8	

Interpreting the power on self test report.
Error message / description

**** RAM MEMORY ERROR LOC: XXXXH**
where XXXXH is the hexadecimal memory location of the error. This error indicates that the memory used to store incoming data and to allow the microprocessor to execute properly is faulty. The memory chip located at U9 should replaced.

****EAROM CHECK SUM ERROR**
This error indicates that the storage of user configurations maybe corrupted. This error can occur if the unit is new and has never been initialized and configured. To correct this problem the system should be initialized and configured. If the error continues to occur then the EAROM chip needs to be changed. The EAROM is located U10.

**** Serial input error ****
This error condition indicates that an error was detected on the serial input. Generally, this message indicates that the hardware is correct but that the IDS 150A baud rate or data format configurations are not matched with the sending device. This message is followed by:

"Received ZZZ characters" - where ZZZ is the number of received characters.

"PARITY ERRORS ZZZ" - where ZZZ is the number of parity errors detected. Check the parity configuration of the IDS 150A and the sending device. The two devices should match.

"FRAMING ERRORS ZZZ" - where ZZZ is the number of framing errors. Check the data format on the IDS 150A and the sending device. The two should match. A common problem is the current loop is selected via the dipswitches and no connection is made to the current loop inputs on the 25 pin connector.

"OVER-RUN ERRORS ZZZ" - where ZZZ is the number of data over run errors. This occurs if the sending device sends at a high baud rate. Check the baud rate of the IDS 150A and the sending devices.

**** Remote Print Switch 1 Error****
This error indicates that the remote print switch is closed or active. Check the connections on the DB25 pin connector J1 for incorrect wiring.

HEX-ASCII Printing

1. Begin with the ENTER light OFF.
2. Turn the thumbwheel switch to position 9.
3. Press the ENTER switch. The ENTER light begins flashing.
4. Turn the thumbwheel switch to position 9.
5. Press the ENTER switch. The ENTER light turns ON.

Information received by the IDS150A will be printed in the hexidecimal form of the characters received. Press the (optional) PRINT switch to activate the print request signal. Press the **ENTER** switch to print the IDS150A's buffer and exit the hex-ascii printing mode.
See Appendix IV for ASCII to HEX translation.

Hex ASCII Printing			
Status of ENTER light	Flashing	On	Thumbwheel Switch Position
Hex ASCII mode	9	9	

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TROUBLESHOOTING.
THE PRINTER IS NOT PRINTING DATA FROM HOST.

Step 1. Check the FORM light. It is OFF when a ticket is properly inserted in the printer. Print the Configuration report and the Power On Test reports described above.

Step 2. Check the Received Characters Count. If the count is 0, check the following:

The RS232/Current Loop Dip Switches in the IDS150A (see section 3.1).

The cable connections between the IDS150A and HOST (see Appendix 1).

Step 3. Check the FRAMING ERRORS and PARITY ERRORS count. If they are NOT 0 then the baud rate or data format is incorrect. Verify that the Serial Port Configuration printed in the Configuration report is the same as the HOST's configuration.

Step 4. Check the configuration report for the correct selection of mode and scale interface if applicable.
PRINTER BEEPS FOR 5 SECONDS ON POWER UP

Step 1. Insert a clean sheet of paper into the printer.

Step 2. Press the print switch.

Step 3. The self test report and configuration report will be printed.

Step 4. Refer to the report interpretation section (5.1.3) to determine the cause of the beep.

MISSING DOT TROUBLESHOOTING.

Missing dots are caused by 1 or more of the following:

- Broken needle.
- Blown transistor.
- Blown drive diode.
- Blown fuse.

The table below lists the dot driver components in order of dot position . Dot position 7 is towards the top of the printed page, dot position 1 is towards the bottom of the printed page. If a dot is missing, check ALL of the dot driver components of the missing dot.

IDS 150A Dot Driver Components

Dot Position	Fuse No.	Transistor No.	Drive Diode	Snubber Diode
7	F7	Q7	CR17	CR28
6	F6	Q6	CR16	CR27
5	F5	Q5	CR15	CR26
4	F4	Q4	CR14	CR25
3	F3	Q3	CR13	CR24
2	F2	Q2	CR12	CR23
1	F1	Q1	CR11	CR22

6 APPENDIX I. Serial Communications Port

Signal list for Serial Communications Port (25 PIN 'D' CONNECTOR)

LIST BY PIN NUMBER		LIST BY SIGNAL NAME	
	SIGNAL	SIGNAL	

- When using RS232 set dip switch 2 on, 1 off.
- When using current loop set switch 2 off, 1 on.
- Use pin 4 (RTS) for RS232 print request signal.
- Use pin 18 for TTL positive true print request.
- Use pin 25 for TTL negative true print request.
- XON/XOFF flow control is supported.

RS232 INPUT CONNECTIONS

Signal Name	Direction	Pin No.
RXD	INPUT to IDS150A	3
RTS	Output from IDS 150A	4
GND		7

NOTE: When using RS232 set dip switch 2 ON, dip switch 1 OFF.

CURRENT LOOP INTERFACE

Signal Name	Pin No.
Current Loop Input +	8
Current Loop Input -	22

NOTE: When using current loop set dip switch 2 OFF, dip switch 1 ON.

PULSE INPUT INTERFACE

To enable pulse input the current loop dipswitch selection must be enabled.

Signal Name	Pin No.
Pulse Input (+24V)	15
Return (gnd)	22

NOTE: The pulse signal voltage should be 24V. Consult the factory for other voltage ranges.

SECOND RS232 INPUT CONNECTIONS

The second serial input allows two host devices to share the IDS 150A printer. The only restriction is that the hosts cannot send data simultaneously. To use the second serial port jumper W2 must be installed and the integrated circuit in socket U2 must be removed.

Signal Name	Direction	Pin No.
RXD	INPUT to IDS150A	9
TXD	OUTPUT to HOST	10
GND		7

7 APPENDIX II. Configuration Options Reference List

Section	Function	Led Flash	Led On	Led Off	Notes
3.2.1	Auto LF Off	1	1	0	
	Auto LF On	1	1	1	
3.2.2	Auto Release Off	1	2	0	
	Auto Release On	1	2	1	
3.2.3	Print Wrap Off	1	3	0	
	Print Wrap On	1	3	1	
3.2.4	Single Strike	1	4	0	Multi-strike disables bi-direction al printing.
	Double Strike	1	4	1	
	Triple Strike	1	4	2	
3.2.5	Bi-directional Print Off	1	5	0	
	Bi-directional Print On	1	5	1	
3.2.6	Invert Print Off	1	6	0	
	Invert Print On	1	6	1	
3.2.7	No Paper No Print	1	7	1	
	OK Print if No Paper	1	7	0	
3.2.8	Set Top Margin	2	1	X	X = 0 - 9 lines
3.2.9	Set Left Margin	2	2	X	X = 0 - 9 (x2 spaces)
3.2.10	Print Normal Size	2	3	1	
	Print Enhanced Size	2	3	2	
	Print Mixed Sizes	2	3	3	
3.2.11	Set Station Number	2	4	X	X = 0-9 0 disables
3.3.1	Set Time	3	hhmmX		x=0-AM 1-PM 2-24H
3.3.2	Set Date	3	mmddyy		mo,day,yr
3.3.3	Time & Date Format	5	F	P	F= format P=position

3.4.1	Select Scale Meter Type	7	1	X	X= 0 - 9
3.4.2	Set Scale Units	7	2	x	x = 1 - 7
3.4.3	Set Decimal Point	7	3	x	x= 0 - 6
3.4.4	Set count per Multiplier	7	4	x	x = 1 2 or 5
3.4.5	Initialize System to Defaults	8	8	8	
5.1.1	Print Configuration Report	9	7		
5.1.2	Print Power On Test Report	9	8		
5.1.3	Print Hex ASCII mode	9	9		

8 APPENDIX III. ASCII CONTROL CODES

ASCII codes can be sent to the IDS150A that will control some of the print features. The following table summarizes the control codes that the IDS150A responds to.

Description	Code(HEX)	Code (DEC)
PRINT BUFFER AND LINE FEED	0A	10
PRINT BUFFER AND RELEASE PAPER	0C	12
PRINT BUFFER AND RELEASE PAPER	03	03
PRINT BUFFER IF AUTO LF THEN LINE FEED ALSO	0D	13
START ENHANCE PRINT	0E	14
START NORMAL SIZE PRINT	0F	15
MIXED MODE PRINT	10	16
PRINT TIME	1A	26
PRINT DATE	1B	27
PRINT TIME AND DATE	1E	30

ASCII CHART

