

# PK280SS

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*Data Terminal with Box Label Program  
for Eltron Printers*

## Operation Manual

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# About this Manual

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This manual contains operating information for the PK280SS with Eltron box label program.

All buttons appear in bold, example: **Enter**. Words and phrases from the screen are shown in all capitals, example: REMOVE WEIGHT.

## 1.0 Introduction

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The PK280SS is a compact data collection terminal designed for use in industrial weighing applications. The PK280SS features the following:

- 8-character numeric display
- 16-character alphanumeric display
- Alphanumeric keyboard with 10 fixed function keys and 10 factory-programmable function keys

The PK280SS reads scale data from a weight indicator, stores information in memory, and sends data to a printer for tickets and reports.

Before using the PK280SS with the Eltron box label program, you must initialize, then configure, the PK280SS/Eltron system.

## 2.0 PK280SS—Eltron Setup

### 2.1 Interface Ports/Wiring Lists

The PK280SS has 2 interface ports:

- Port 1: RS-232 or 20 mA current loop

The port 1 input is normally used for interfacing to an indicator. The port 1 output connects to the Eltron printer.

- Port 2: RS-232 or RS-485.

Port 2 is normally used for interfacing with a computer.

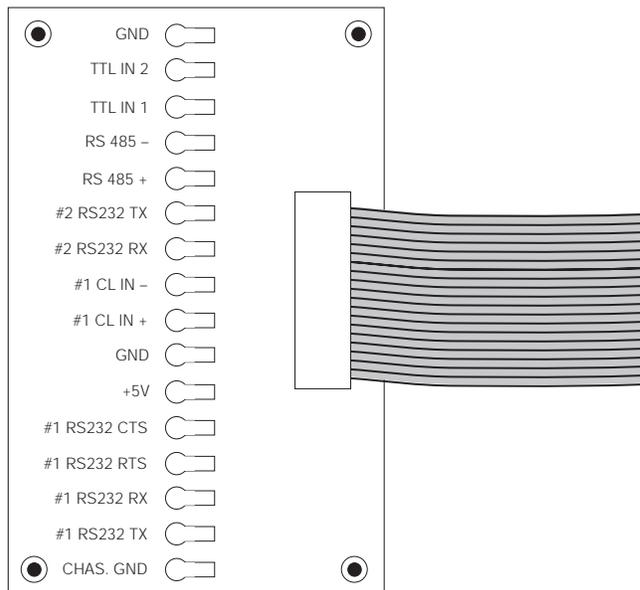
The table below shows the jumper configurations for serial ports 1 and 2.

Port	Interface	Jumper	Setting
Port 1	RS-232 Input	Jumper W2	IN
		Jumper W3	OUT
	20mA Input	Jumper W2	OUT
		Jumper W3	IN
RS-232 Output	No Jumper settings required		
Port 2	RS-232 Input	Jumper W1	IN
	RS-485 Communications	Jumper W2	IN

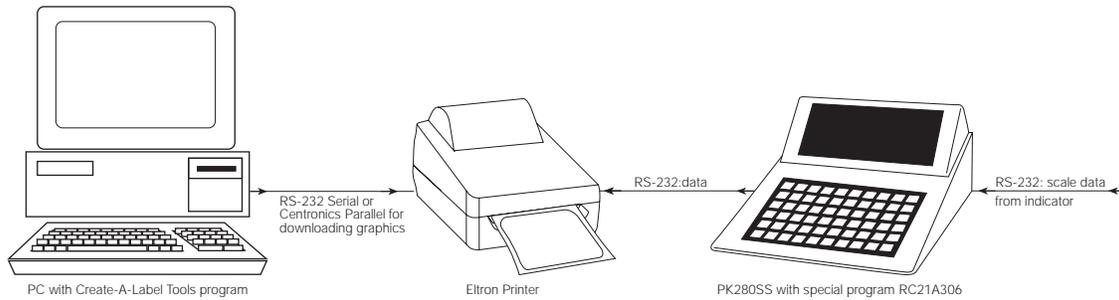
Note: The RS-485 communication option is not enabled for this revision, RP21A306.

All connections to the PK280SS are made through the cord grips on the back of the keyboard and connected to the terminal strip mounted to the bottom plate.

The connections on the terminal strip board are labeled as shown below:



## 2.2 PK280SS/Eltron Setup



The PK280SS, when loaded with special program RC21A306, interfaces directly to Eltron printers.

### 2.2.1 Indicator and Printer Configuration

Configure the indicator used with the scale to send RS-232 serial data to the PK280SS at 9600 baud, 8 bits, no parity. The Eltron printers, by default, are set to 9600 baud, 8 bits, no parity.

### 2.2.2 Keyboard Configuration

Configure the PK280SS for serial communication compatibility with the indicator and printer by assigning the Configure Serial Port setting to 9600 Baud, 8 data bits, 1 stop bit.

### 2.2.3 Label Creation

All label information—except graphics—is created and stored in the PK280SS.

Graphics are created on the attached PC in any graphics program, imported into the CAL Tools program for placement on the label, then downloaded to the printer and stored in the printer's memory under the name FORM7, FORM8, or FORM9. The PC is then disconnected from the system. When the PK280SS sends its label data to the printer, the code calling for the graphic is embedded, alerting the Eltron printer to place the required graphic on the label.

### 2.2.4 Hardware Cabling

1. If used, temporarily connect the PC to the printer with an appropriate parallel cable at one of the PC's printer (LPT) ports, or with a serial cable at one of the PC's serial (COM) ports. A parallel connection is recommended for faster downloading. Disconnect when finished downloading.
2. Connect the PK280SS to the printer and scale indicator with suitable serial cables according to the chart at right. If using a PC for downloading graphics, disconnect it before connecting the PK280SS to the printer.

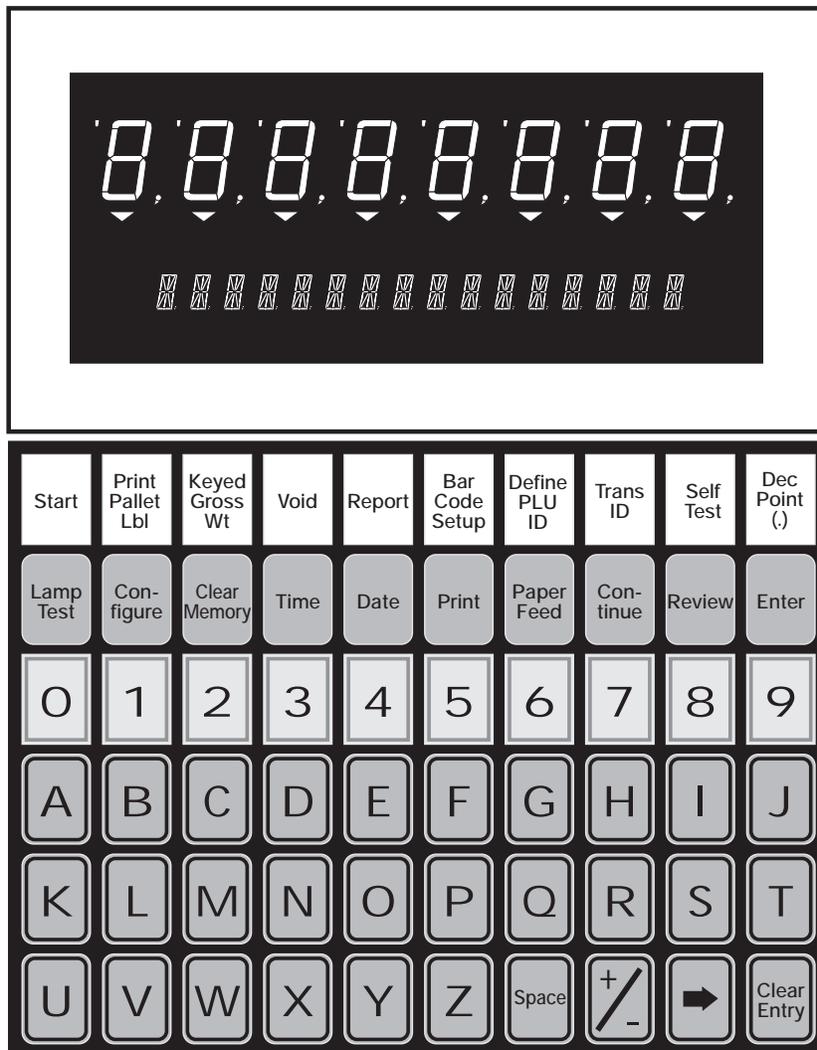
Scale Indicator Function	PK280SS Terminal / Function	Eltron Printer Pin / Function
TxD	#1 RS-232 Rx	
	#1 RS-232 Tx	3 / RxD
GND	GND	5 / GND

## 3.0 PK280SS Scrolling Menus

### 3.1 Keyboard and Displays

The PK280SS (below) features an 8-character numeric display, 16-character alpha display, and a 60-key keyboard. The keyboard is the primary data input device and is divided into 4 sections:

1. The top row of keys are factory programmable function keys that can be changed to fit the application at hand.
2. The second to top row of keys are fixed function keys used for various test and maintenance functions.
3. Four keys control PK280SS operation (see Section 3.2): **Continue**, **Review**, **Enter**, and **Clear Entry**.
4. The remainder of the keys are used for entering alphanumeric data.



The numeric display shows weight information and is an adjunct to the alpha display.

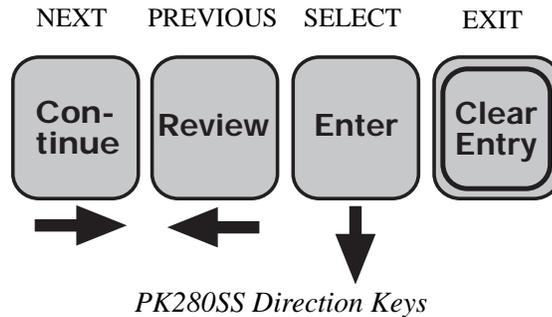
The alpha display prompts the operator for input and displays data.

The scale interface permits the PK280SS to be used in a wide range of weighing applications.

The printer interface prints transaction tickets and summary reports.

## 3.2 Control Keys

PK280SS operations are based on “scrolling menus”, which are lists of operations the operator views and navigates using designated keys on the PK280SS panel. Four keys control PK280SS operation (see below).



The **Continue** key advances the display to the next item in the menu, while the **Review** key rolls back to the previous menu item. Use the **Enter** key to select the displayed item. Use the **Clear Entry** key to exit from a menu. For example, pressing the **Clear Memory** key calls up a menu with the following items:

CLEAR TOTALS

ERASE MEMORY

INITIALIZE SYSTEM

Press the **Continue** key several times to display the above menu selections one after another. Press the **Review** key several times to display the list in reverse order. Press the **Clear Entry** key to exit the CLEAR MEMORY menu.

Note: The numeric display shows the current menu selection number.

## 3.3 Fixed Function Keys

The fixed function keys control various test and maintenance functions. The fixed function keys are on the second row from the top on the PK280SS keyboard. They function as follows:

<b>Lamp Test</b>	Tests fluorescent displays
<b>Configure</b>	Sets programmable options (Section 4)
<b>Clear Memory</b>	Clears totals, ID memory, or initialize the system (Section 3)
<b>Time</b>	Displays the time and date
<b>Date</b>	Displays the time and date
<b>Print</b>	Prints the scale weight and the time/date on the Eltron printer
<b>Paper Feed</b>	Sends label feed command to the printer
<b>Decimal Point</b>	Allows the operator to use a period or a decimal point in data entry

### 3.3.1 Lamp Test

Press the **Lamp Test** key to test the fluorescent displays of the PK280SS. All display segments should light up.

### 3.3.2 Clear Memory

Use the **Clear Memory** key to clear totals, erase ID memory, or initialize the PK280SS system.

1. Press the **Clear Memory** key.
2. If the password is enabled the PK280SS prompts: ENTER PASSWORD. Enter the password if needed.
3. After verifying the password, the system activates the CLEAR MEMORY menu.

CLEAR TOTALS	Erase ID total registers
ERASE MEMORY	Erase all ID information
INITIALIZE SYS	Erase memory and initialize the PK280SS system variables

Press the **Continue** key to scroll through the CLEAR MEMORY menu.

Press the **Enter** key to activate the displayed CLEAR MEMORY function.

### 3.3.3 Configure

See Section 5 for CONFIGURE function descriptions.

### 3.3.4 Time

Press the **Time** key to display the time and date. The PK280SS displays date and time on the alpha and numeric displays in the form:

Numeric Display:	02-35 P	= 2:35 pm
Alpha Display:	05 JAN 99	= January 5, 1999

### 3.3.5 Date

The **Date** key functions the same as the **Time** key (see 3.3.4 above).

### 3.3.6 Print

Press the **Print** function key to print the scale weight and the time/date on the Eltron printer.

### 3.3.7 Paper Feed

Use the **Paper Feed** key to send label feed characters to the Eltron printer.

### 3.3.8 Decimal Point

Use the **Decimal Point** key to enter the decimal point for numeric data.

### 3.4 Scale Interface

The SCALE INTERFACE permits the PK280SS to be used in a wide range of weighing applications. The weigh meter interface is connected to the PK280SS serial port 1 input. Port 1 can accept two types of input: RS-232 or 20mA current loop.

The PK280SS uses the weight from the scale for:

- Displaying the weight on the scale
- Displaying the calculated net weight
- For calculating, printing, and storing weigh transactions

The PK280SS monitors the status of the scale and displays the status in the following form:

<Blank status>	Scale data valid
-M-	Scale in motion
OVR	Scale overload
NEG	Weight below 0
-I-	Scale status = inhibit
-U-	Received units differ from configured units
CBY	Count-by error

### 3.5 Printer / PC Interface

Use the PRINTER / PC INTERFACE to print summary reports, real time transaction data transfer, and PLU file upload and download. The PK280SS Printer / PC interface connection is serial port 2 output.

## 4.0 Initializing the PK280SS/Eltron System

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### 4.1 Initialize the PK280SS

Initialize the PK280SS to erase all memory, write the default page-printer data, and set the configuration parameters to their default values. To initialize the PK280SS:

1. Press the **Clear Memory** key.
2. Press the **Continue** key until the PK280SS displays: INITIALIZE SYS
3. Press the **Enter** key.

Note: Perform the INITIALIZE SYS function only when installing the PK280SS. Initializing after setup will erase all memory and set configuration parameters to their default values.

### 4.2 Initialize the Eltron Printer

To initialize the Eltron printer, perform the AutoSense Gap Sensor adjustment procedure as follows:

1. With media loaded, turn the power switch to off.
2. Hold the FEED switch down, then turn the power switch back on.
3. Release the FEED switch when the labels start to feed. The printer will feed several labels, store the label's characteristics, print a status label, and stop in diagnostic dump mode.
4. To switch back to normal operation, tap the FEED switch once. When the power indicator switches to green, the printer is ready.

See your Eltron Printer manual for further information.

## 5.0 Configuring the PK280SS

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Use the configuration process to tailor the PK280SS to your exact requirements. The configuration procedure consists of 3 sections:

### **Configure Standard Parameters**

The standard parameters, including time and date, serial port, scale, and password configurations, are common to all PK280SS applications.

### **Configure Page**

The Configure Page menu is used to configure the label printer variables and to setup the label formats with items such as product, weight, time, and date.

### **Configure Application Parameters**

Application parameters are custom set for individual applications

## 5.1 Standard Configuration Parameters

Table 1 (next page) lists the standard configuration parameters, their descriptions, and their values.

Note: Sections 5.1.1–5.1.5 describe each of the menu selections and their parameters.

Press the **Configure** key to begin the configuration process.

Press the **Continue** key to view the configure menu.

Press the **Enter** key to activate a configure function.

Note: The prompt: PRINT PK280 CFG will send the configuration data to the printer.

Menu Selection	Parameter	Description	Values		
SET CLOCK	TIME HHMM*	Current Time	HHMM* (hours/minutes A or P suffix)		
	DATE MMDDYY	Current Date	MMDDYY (month/day/year)		
	ADJUST S/D-XXXX	Adjust seconds/day	XXXX (range: -9999 to 32768)		
CONFIG SER PORT 1 CONFIG SER PORT 2	BAUD = NNNN	Baud Rate	300	2400	
			600	4800	
			1200	9600	
	N DATA N STOP	Data Format	8 DATA 1 STOP	7 DATA 1 STOP	
			8 DATA 2 STOP	7 DATA 2 STOP	
			8 DAT PAR 1 STOP	7 DAT PAR 1 STOP	
			8 DAT PAR 2 STOP	7 DAT PAR 2 STOP	
	CONFIG SCALE	IQ 810 (default)	Current Indicator	IQ700	TOLEDO 8142
IQ810				WI 110	
IQ310				NCI 5790	
AND/GENERAL				ANALOGIC AN5316	
CARDINAL 738					
UNITS		Indicator-sent Units	UNDEF	TNE	
			LB	GRAM	
			KG	OZ	
			TON		
COUNT BY XX		Indicator Count-by Graduations	.01	1	
			.02	2	
			.05	5	
			0.1	10	
			0.2	20	
		0.5	50		
CONFIG PRINTER	ADD LF TO CR N	Add line feed to CR	Y= Yes	N= No	
	PAGE END PAUSE N	Pause at end of page	Y= Pause	N= Continuous paper	
CONFIG PASSWORD	EN PASSWORD 1 N	Enable Password 1	Y= Enabled	N= Disabled	
	ENTER PASSWORD 1	7-character Password	Any 7 characters		
	EN PASSWORD 2 N	Enable Password 2	Y= Enabled	N= Disabled	
	ENTER PASSWORD 2	7-character Password	Any 7 characters		

*Table 1: Standard Configuration Parameters*

### 5.1.1 Set Clock

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: SET CLOCK. Press the **Enter** key. The PK280SS prompts:

TIME HHMM\*

HH = hours

MM = minutes

\* = A for AM, P for PM, or space for 24-hour time.

Enter the hours and minutes (2 digits each), then **A**, **P**, or space, then press the **Enter** key.

DATE MMDDYY

MM = months

DD = day

YY = year

Enter the month, the day, and the year (2 digits each), then press the **Enter** key.

The PK280SS then displays the entered time and date. Press the **Enter** key again to set the time and date.

ADJUST S/D-XXXX

XXXX = the number of seconds per day to adjust the clock (range: -9999 to 32768).

Enter a zero when installing the PK280SS. If the clock is slow, enter the number of seconds per day that the clock is slow. If the clock is fast, enter the negative number of seconds per day.

Note: The numeric display shows the number of days since the clock was last set.

### 5.1.2 Configure Serial Ports 1 & 2

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG SER PORT 1. Press the **Enter** key. The PK280SS prompts:

BAUD = NNNN

NNNN = the current baud rate selection. The baud rate menu selections are:

300            2400

600            4800

1200          9600

Press the **Continue** key to scroll through the baud rate selections. Press the **Enter** key to select the displayed baud rate.

N DATA N STOP

N DATA = number of data bits per character

N STOP = number of stop bits per character

The character format menu selections are:

8 DATA 1 STOP

7 DATA 1 STOP

8 DATA 2 STOP

7 DATA 2 STOP

8 DAT PAR 1 STOP

7 DAT PAR 1 STOP

8 DAT PAR 2 STOP

7 DAT PAR 2 STOP

Press the **Continue** key to scroll through the character format selections. Press the **Enter** key to select the displayed character format. If you chose a data format that had PAR, the PK280SS responds with the parity menu:

PARITY ODD

PARITY EVEN

Press the **Continue** key to scroll through the parity selections. Press the **Enter** key to select the displayed parity. Note: Configuration for Serial Port 2 follows the same sequence.

### 5.1.3 Configure Scale

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG SCALE. Press the **Enter** key. The PK280SS prompts:

IQ 810 (or currently selected meter )

The meter select menu is:

IQ700

IQ810

IQ310

AND/GENERAL

CARDINAL 738

TOLEDO 8142

WI 110

NCI 5790

ANALOGIC AN5316

Press the **Continue** key to scroll through the meter list. Press the **Enter** key to select the displayed meter type.

Note: To use with the IQ710, IQ510 and IQ350, use either the IQ810 or IQ310 setting.

UNITS = XXXX

XXXX = the scale units being sent by the scale indicator.

Note: If the scale input units do not match the units configured, the PK280SS display shows a -U- error message.

The scale units menu selections are:

UNDEF        units not set

LB            sets units to pounds

KG            sets units to kilograms

TON          sets units to tons

TNE          sets units to metric tons

GRAM        sets units to grams

OZ            sets units to ounces.

Press the **Continue** key to scroll through the scale units selections. Press the **Enter** key to select the displayed scale unit.

**COUNT BY XX**

XX = count-by graduations of the weight indicator.

Note: If the scale input count-by does not match the count-by configured, the PK280SS display shows a —CBY—error message.

Press the **Enter** key to use the displayed count-by or enter a new count-by number. The valid count-by values are: .01 .02 .05 0.1 0.2 0.5 1 2 5 10 20 50.

### 5.1.4 Configure Printer

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG PRINTER. Press the **Enter** key. The PK280SS prompts:

ADD LF TO CR N

Enter a **Y** to add a linefeed to each carriage return character.

Enter an **N** to disable the additional line feed character.

PAGE END PAUSE N

Enter a **Y** to pause at the end of each page when printing reports.

Enter an **N** if the printer has continuous paper.

### 5.1.5 Configure Password

There are two password levels in the PK280SS. Password level 1 protects access to the ID functions and the clear memory functions. Password 2 protects access to the configuration and system initialization functions.

The PASSWORD function inserts an additional step when accessing protected functions.

The PK280SS prompts:

ENTER PASSWORD

The operator must enter the correct password before proceeding.

Level 1 Protected Functions: ID1 & Clear Memory and Initialize System

Level 2 Protected Functions: Configure

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG PASSWORD. Press the **Enter** key. The PK280SS prompts:

EN PASSWORD 1 N

Enter a **Y** to enable the password or an **N** to disable the password. If the password is enabled, the PK280SS prompts:

ENTER PASSWORD 1

Enter up to 7 characters for the new password. Press the **Enter** key to complete the password entry.

Repeat the above steps for password 2.

Note: Memorize or record the passwords before entering them into the system.

Once a password is entered, there is no way to access the protected functions without that password!

### 5.1.6 Print PK280SS Configuration

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: PRINT PK280 CFG.

Press the **Enter** key. The PK280SS sends the configuration data to the printer or PC attached to port 2.

Activate this function after installation and keep the printout with the PK280SS manual.

## 5.2 Configure Page

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG PAGE. Press the **Enter** key. The PK280SS prompts in the following messages in sequence:

CONFIG ELTRON

Configure Eltron variables

CFG USER FLDS

Configure user fields

CONFIG PAGE 1

Default Label 1

CONFIG PAGE 2

Default Label 2

CONFIG PAGE 3

Label printed for pallet total

CONFIG PAGE 4

Label printed for pallet subtotal

CONFIG PAGE 5

Print Key gross, time, & date

## EXIT CFG PAGE

Exits page configuration

Press the **Continue** key to scroll through the page menu.

Press the **Enter** key to begin a page data entry.

Note: See the following sections for configuration descriptions.

### 5.2.1 Configure Eltron Printer Variables.

Eltron printers have several parameters that modify their operation. The PK280SS SYSTEM INITIALIZE function clears the parameter list to zeroes.

Note: Parameter values of zero are not sent to the printer.

- Reprint count                Sets the quantity of labels to be printed
- Print speed                 Sets the print speed (0-6)
- Heat setting                Sets the print head dot temperature (0-15)
- X Margin                    Sets horizontal margin size (mm/8)
- Y Margin                    Sets vertical margin size (mm/8)
- Label width                Sets the width of the label roll (mm/8)

Press the **Continue** key to scroll through the parameter list. Enter a new value, then press the **Enter** key to change the parameter.

Note: Enter all Eltron size configuration parameters in eighths of millimeters. For example, if your label length is 5 inches:  $5 \times 25.4 = 127$  mm,  $127 \times 8 = 1016$ ; therefore, enter 1016 for the label length.

### 5.2.2 Configure User Definable Fields

The Eltron printer is capable of printing boxes and lines. The PK280SS provides a means of configuring 3 boxes, 3 lines, and 3 user definable fields. These can all be printed on labels by using the appropriate label item numbers in the label page format (see Section 5.2.3.3).

Press the **Continue** key to scroll through the parameter list. Enter a new value, then press the **Enter** key to change the parameter.

#### 5.2.2.1 Entering user definable fields:

The PK280SS alpha display prompts:

USER FIELD1

Enter up to 26 characters, then press the **Enter** key. Repeat this process for the other 2 user fields.

### 5.2.3 Configure Pages 1–5

- |               |   |
|---------------|---|
| CONFIG PAGE 1 | Label printed for 3 digit date code                   |
| CONFIG PAGE 2 | Default format is the same as Page 1                  |
| CONFIG PAGE 3 | Label printed for pallet total                        |
| CONFIG PAGE 4 | Label printed for pallet subtotal                     |
| CONFIG PAGE 5 | Label printed when the operator presses the Print key |

Each page may have up to 25 items printed on it. The page setup is shown in the table on the next page.

Rotation	Font ID	Horiz Mult	Vert Mult	Bar Code HT	Row	Column	Item#
xxx		xxx					
xxx	xx	xxx	xxx	xxx	xxx	xxx	xxx

Rotation 0 = 0°, 1 = 90°, 2 = 180°, 3 = 270°

Font ID *Text:* 1-5 are fixed fonts. A-Z are downloaded soft fonts. Append an “R” to the Font ID for reverse image or an “N” for normal image. With no “R” or “N” the image prints normally.  
*Barcode:* 3-character barcode type (see your Eltron manual). Append a “B” to the Font ID for a barcode with interpreted information underneath (human readable) or an “N” for the barcode only. With no “B” or “N” the bar code prints with no human readable data.

Horiz Mult *Text:* Horizontal multiplier  
*Barcode:* Narrow barcode line width in dots (8 dots/mm)  
*Line/Box:* Horizontal end position (mm)

Vert Mult *Text:* Vertical multiplier  
*Barcode:* Wide barcode line width in dots (8 dots/mm)  
*Line/Box:* Vertical end position (mm)

Bar Code HT Barcode height (mm)

Row Row to start (mm)

Column Column to start (mm)

Item # Item number to be printed (see Section 5.2.3.3 Configuration Page Item List)

### Page Configuration Procedure

1. Use the Page Worksheet provided in Section 5.2.3.2. Enter your ticket format into the worksheet below using the item list in Section 5.2.3.3.
2. Activate page configuration as described above.
3. Enter the data from the Page Worksheet into the PK280SS.
4. Enter a zero for the line number after the last data item.



## Configure Page Item List

1	User field 1	53	PLU description line 1
2	User field 2	54	PLU description line 2
3	User field 3	55	Labeled PLU tare weight (TARE nn.nn)
		56	Labeled PLU upper tolerance
7	Form 7	57	Labeled PLU lower tolerance
8	Form 8	58	Labeled PLU # boxes per pallet
9	Form 9	59	PLU fixed weight
10	Box	60	PLU address line
		61	PLU total number of boxes
15	Line	62	PLU total actual net weight
		63	PLU total printed net weight
20	Labeled Transaction number (TRANS n)	80	Pallet box counter
21	Labeled weight on scale (WEIGHT n.n LB)	81	Pallet weighed net weight
22	Labeled gross weight (GROSS n.n LB)	82	Pallet printed net weight
23	Labeled tare weight (TARE n.n LB)	83	Pallet total bar-code
24	Labeled net weight (NET n.n LB)		1-5 PLU UPC Code
25	Labeled time and date		6-9 Pallet Box Count
26	Time (hh:mm xM)		10-17 Pallet Net Weight
27	Date (dd mm yy)	85	UPC shipping symbology
30	Transaction number		1 ASSORT IND
31	Net weight without label		2-3 NMBR SYS CH
32	Fixed data (from BARCODE SETUP)		4-8 UPC MANUF ID
33	"SCALE" or "KEYED" tare label		9-13 PLU UPC Code
34	Units label		86
35	"NET WT." label	92	Net weight or fixed weight
36	"BOX COUNT" label	93	Time & Date or Date Code
37	"PRODUCT ACCUM." label	94	"PALLET TOTAL" label
50	PLU ID without label	95	"PALLET SUBTOTAL" label
51	PLU ID with label	96	"UPC ID" label
52	PLU UPC product code		

Note: To use Item 7-9, you must store a form in the Eltron printer with the proper name. For Item 7, the form must be named **FORM7**. For Item 8, the form must be named **FORM8**. For Item 9, the form must be named **FORM9**. Use the Create-A-Label Tools program included with most Eltron printers to download your forms to the printer's memory. The system limits you to one form per page and requires that the form be the first item on the page.

See next page for examples of the time and date items.

## Time & Date Item Examples

There are several different items containing time and date formats. Below are examples of the time and date item formats.

Item 25    TIME 10:49 AM            07 AUG 97

Item 26    10:49 AM

Item 27    07 AUG 97

Item 86    10:49 AM            07 AUG 97

Item 93 (with no date code entered)            TIME 10:49 AM            07 AUG 97

Item 93 (with date code entered)    FIRST SHIFT    08.07.97

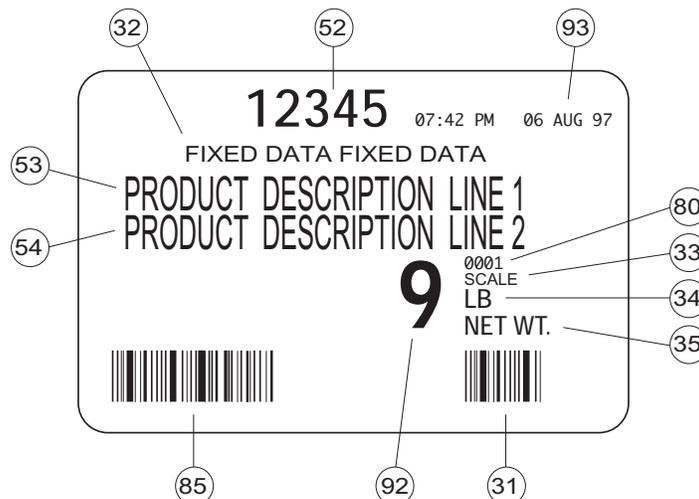
Note: The Date Code is entered in Bar Code Setup (see Section 7.5) and can be any alphanumeric string up to 26 characters.

### 5.2.3.4 Default Label Formats

The following pages show examples of the default label formats and their associated example labels. The example labels show the placement of specific item numbers.

Page 1: Box label

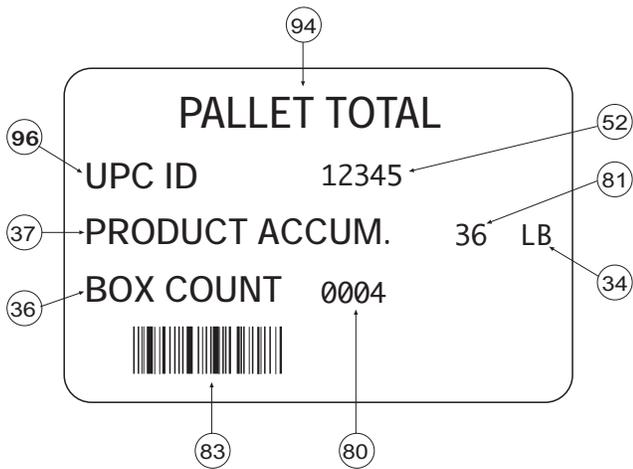
Rotation	Font ID	Horiz Mult	Vert Mult	Bar Code HT	Row	Column	Item#
2	5	1	1		66	60	52
2	2	1	1		32	56	93
2	2	2	2		81	51	32
2	2	2	3		94	45	53
2	2	2	3		94	39	54
2	5	2	2		88	32	92
2	2	1	1		30	32	80
2	2	1	1		30	29	33
2	2	2	2		30	27	34
2	2	2	2		30	23	35
2	2D	2	5	10	30	16	31
2	2D	2	5	10	94	16	85
0	0	0	0	0	0	0	0



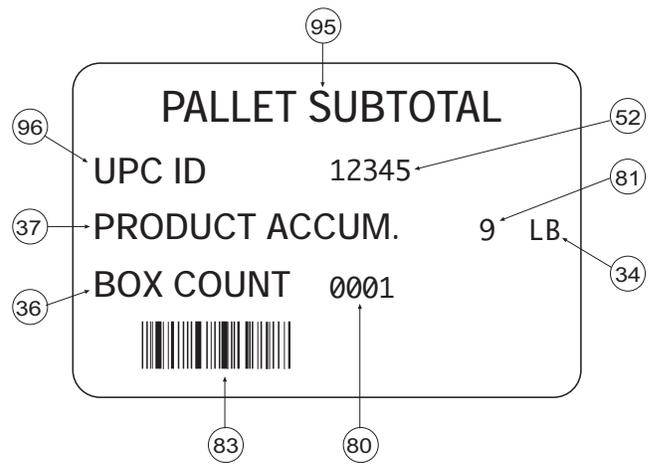
Page 2: Default Format is the same as Page 1 (previous page) and may be changed to suit the user's requirements, as can any of the other pages.

Page 3: Pallet Total Label

Rotation	Font ID	Horiz Mult	Vert Mult	Bar Code HT	Row	Column	Item#
2	5	1	1		78	60	94
2	4	2	2		98	50	96
2	2	2	2		55	49	52
2	4	2	2		98	38	37
2	2	2	2		40	37	81
2	2	2	2		10	37	34
2	4	2	2		98	26	36
2	2	2	2		55	25	80
2	2D	2	5	10	90	12	83
0	0	0	0	0	0	0	0



Page 3 Example Label

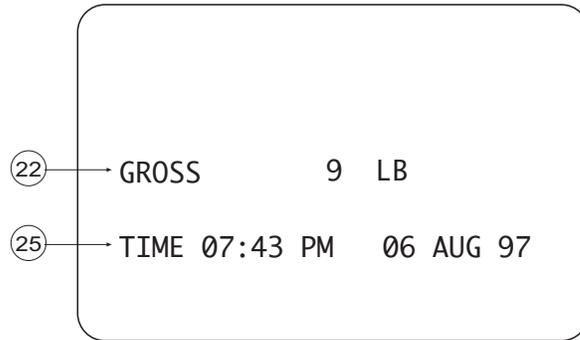


Page 4 Example Label

Page 4: Pallet Subtotal Label

Rotation	Font ID	Horiz Mult	Vert Mult	Bar Code HT	Row	Column	Item#
2	5	1	1		87	60	95
2	4	2	2		98	50	96
2	2	2	2		55	49	52
2	4	2	2		98	38	37
2	2	2	2		40	37	81
2	2	2	2		10	37	34
2	4	2	2		98	26	36
2	2	2	2		55	25	80
2	2D	2	5	10	90	15	83
0	0	0	0	0	0	0	0

Rotation	Font ID	Horiz Mult	Vert Mult	Bar Code HT	Row	Column	Item#
	2	2	2		10	30	22
	2	2	2		10	45	25
0	0	0	0	0	0	0	0



*Page 5 Example Label*

### 5.3 Configure Application Parameters

The application parameters for the Box Label Program are as follows:

- CONFIG IDS                      Configure ID 1 name
- CFG APPLIC VAR              Configure application variables

Press the **Configure** key to begin the configuration process.

Press the **Continue** key to scroll through the configure menu.

Press the **Enter** key to activate a configure function.

The table below contains the Configure Application Parameters Worksheet.

Menu Selection	Parameter	Description	Values	Default
CONFIG ID1	NAME - PLU NO.	Name for ID 1	User-defined	PLU number
CFG TRANSACTION	NAME - TRANS	Name for transaction	User-defined	TRANS
	EN TRANS (Y/N)	Enable transaction storage	Y/N	Y
	TRANS NO. 1	Transaction number	User defined	Current transaction
CFG APPLIC VAR.	ENAB REMOTE Y/N	Enable remote transmission	Y/N	N
	AUTOCHKWEI Y/N	Enable automatic checkweigh	Y/N	Y
	ENAB REALTX Y/N	Enable real time transmission	Y/N	N

### 5.3.1 Configure IDs

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CONFIG ID'S. Press the **Enter** key. The PK280SS prompts:

CONFIG ID1

1. Press **Enter**. The PK280SS prompts: NAME - PLU NO.
2. Press the **Enter** key to accept the displayed ID name or enter a new name followed by the **Enter** key.

CFG TRANSACTION

1. Press **Enter**. The PK280SS prompts: NAME - TRANS
2. Press the **Enter** key to accept the displayed ID name or enter a new name followed by the **Enter** key.
3. The PK280SS prompts: EN TRANS (Y/N)
4. Press **N** to prevent storage of transactions, or **Y** to enable transaction storage.
5. The PK280SS prompts: TRANS NO. 1
6. Enter the desired number for the current transaction number.

### 5.3.2 Configure Application Variables

Press the **Configure** key, then press the **Continue** key until the PK280SS displays: CFG APPLIC VAR. Press the **Enter** key.

1. The PK280SS prompts: ENAB REMOTE Y/N  
Enabling remote transmission allows you to send the PLUs and attributes to the PK280SS via a PC. Enter a **Y** if you want port 2 to be a bidirectional hook up to a host PC for remote transmission of PLU data to and from the PK280SS. Press **N**, then **Enter** if you do not want to hook up the PC.
2. The PK280SS prompts: AUTOCHKWEI Y/N  
In the **AUTOMATIC** mode, the system generates a label only if the weight is within the acceptable tolerance range for the particular PLU. If the product is either under or above tolerance, the system does not print a label.  
  
In the **SEMIAUTOMATIC** mode, the system automatically prints a label if the product has an acceptable weight. If the product is either under or above tolerance, the operator can print a label by pressing the **Enter** key.  
  
Press **Y**, then **Enter** if you want automatic checkweighing.  
Press **N**, then **Enter** if you want semiautomatic checkweighing.
3. The PK280SS prompts: ENAB REALTX Y/N  
Enter a **Y**, then press the **Enter** key to choose real time transmission. In real time transmission, every time a box label prints the same information is sent to port 2. This may be used for an audit detail to another printer or sent to a PC for further processing.

## 6.0 Testing & Troubleshooting

---

### 6.1 Self Test

The available self test diagnostics are:

TEST SCALE PORT	Test the scale input port 1
TEST SERIAL2 IN	Test the input of port 2
TEST SERIAL2 OUT	Test serial output (printer) port 2
UNUSED ID'S	Display the number of unused ID memory locations
TEST MEMORY	Test the PK280SS RAM
REBUILD DATA	Attempts to repair corrupted PLU data
TEST ELTRON	Tests the Eltron printer

Press the **Self Test** key to access the self test diagnostics.

Press the **Clear Entry** key to exit any of the tests.

#### 6.1.1 Test Scale Port

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: TEST SCALE PORT. Press the **Enter** key. The PK280SS prompts:

DISPLAY DATA	Displays serial data as it is received
DISPLAY ERRORS	Displays framing errors, parity errors and over run errors

Use the scale test functions if the scale data does not appear on the PK280SS display. The table below lists some typical display problems and their probable causes.

Test	Symptom	Probable Cause
Display Data	No data appears	Wiring between the PK280SS and the scale indicator is incorrect. The PK280SS RS232/Current loop jumper W2/W3 is in the wrong position.
Display Data	Data is unintelligible	The configured baud rate is incorrect.
Display Errors	Parity errors (PE) Framing errors (FE)	The configured data format is incorrect if the display shows a value other than zero.

#### 6.1.2 Test Serial2 In

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: TEST SERIAL2 IN. Press the **Enter** key. The PK280SS prompts:

R x 2 IN

Use the scale test functions if the scale data does not appear on the PK280SS display. The table on the next page lists some typical display problems and their probable causes.

Test	Symptom	Probable Cause
Display Data	No data appears	Wiring between the PK280SS and the scale indicator is incorrect. The PK280SS RS232/Current loop jumper W2/W3 is in the wrong position.
Display Data	Data is unintelligible	The configured baud rate is incorrect.
Display Errors	Parity errors (PE) Framing errors (FE)	The configured data format is incorrect if the display shows a value other than zero.

### 6.1.3 Test Serial2 Out

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: TEST SERIAL2 OUT. Press the **Enter** key. The PK280SS prompts:

ENTER TEST DATA

Enter up to 16 characters of data via the PK280SS keyboard. Press the **Enter** key. The PK280SS transmits the test data out its serial channel #2.

Note: If the error message NOT CLR TO SEND appears the data can not be transmitted because the handshake signal (CTS Terminal #5 ) is low. Connect to the printer handshake signal or connect to RTS Terminal #4 on the PK280SS.

Press the **Enter** key to retransmit the test data or press the **Continue** key to enter new test data.

### 6.1.4 Unused IDs

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: UNUSED ID'S. Press the **Enter** key. The PK280SS prompts:

On the numeric display: USE NNN

On the alpha display: UNUSED ID'S NNN

Note: NNN is the number of used and unused IDs.

### 6.1.5 Test Memory

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: TEST MEMORY. Press the **Enter** key. The PK280SS prompts:

TESTING MEMORY while the memory test is in progress.

32K MEMORY OK (1 memory chip installed)

64K MEMORY OK (2 memory chips installed)

96K MEMORY OK (3 memory chips installed)

If the PK280SS detects a memory error, the display will show the number of good blocks (for example: 72K MEMORY OK).

### 6.1.6 Rebuild Data

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: REBUILD DATA. Press the **Enter** key. The PK280SS prompts:

DATA RECOVERY

N is the default setting (will not rebuild data). Press the **Y** key, then the **Enter** key to view the next prompt. The PK280SS then prompts:

ARE YOU SURE

N is the default setting (will not rebuild data). Press the **Y** key, then the **Enter** key to rebuild the PLU data.

### 6.1.7 Test Eltron

Press the **Self Test** key, then press the **Continue** key until the PK280SS displays: TEST ELTRON. Press the **Enter** key. The PK280SS prompts:

ENTER TEST DATA

Enter up to 16 characters of data, then press the **Enter** key. The Eltron printer will print out the data just entered. Press the **Enter** key to retransmit the test data or press the **Continue** key to enter new test data.

## 6.2 Troubleshooting Guide

The table below lists descriptions and possible solutions for errors occurring during operation.

Problem	Suggested Solution
Scale input error on power up	The PK280SS is jumped for current loop input and no idle current is detected.
	The signal wires may be reversed or connected to the wrong pins.
	The meter may not be sending any signal.
No display, no audio on power up	Check the power cable.
	Check the fuse on the back of the PK280SS.
No weight display (-READING SCALE-)	Check the meter interface cable. Use Section 6.5.1 to test the scale port. If there are no errors in TEST SCALE PORT, the meter may be sending the wrong data format or the PK280SS may be programmed for the wrong meter.
Eltron printer does not print	Check the printer cable.
	Check serial port 1 in the PK280SS (BAUD = 9600, 8 DATA 1 STOP).
	Perform TEST ELTRON (see Section 6.1.7).
	Verify that the page is configured properly (see Section 5.2).
Data prints in the wrong location on the label	The Eltron printer may not have the correct settings for the label being used. Initialize the printer per Section 4.2.

## 7.0 Application Description - Box Label Program

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The PK280SS is a data collection and control terminal designed for use in weighing applications. The PK280SS is programmable, with several standard application programs available. The top row of keys (the function keys) are customized for each application. The Box Label Program has the following function keys:



### 7.1 Start

#### 7.1.1 Automatic Mode

Press the **Start** key. The PK280SS prompts: ENTER PLU NO.

Enter a pre-stored PLU number using the keyboard, then press the **Enter** key.

Note: The PLU number stands for “Product Look Up” and designates a specific product by number.

The PK280SS displays the PLU, UPC product code, and an R for ready (example: 001 ID 12345 R). This built-in safety feature allows the operator to verify the PLU and UPC product code before printing. If the system does not find the PLU, the PK280SS displays PLU NOT FOUND. In that case, press the **Clear Entry** key and begin the process again. If the PK280SS still does find the PLU, go to the **Define PLU ID** function key and check your PLU.

If the lower setpoint has been defined, and if the weight is less than or equal to the defined lower setpoint, the display reads UN. If the weight is greater than or equal to the upper setpoint defined, the display reads OV. Adjust the load or amount of product until the weight is in tolerance. The system then automatically prints a label when the scale settles out of motion.

Note: If you have not set the tolerances, press the **Enter** key to print a label. Pressing the **R** key at the PLU prompt reprints the last box or total label.

The PK280SS prompts: REMOVE WEIGHT.

Remove the weight and add a new load or press the **Clear Entry** key to exit the OPERATION mode.

Note: The operator can key in a new PLU number, then press **Enter** at any point in the weighing process to switch the keyboard to that PLU and begin printing with that PLUs related information.

#### 7.1.2 Start—Semi-Automatic Mode

The Semi-Automatic mode operates the same as Automatic mode (see 7.1 above), except that the operator can choose to let the system automatically print the label with the current weight on the display or choose to print the label by pressing the **Enter** key.

### 7.2 Print Pallet Label

Use the **Print Pallet Label** key to print either a pallet subtotal or pallet total label.

If the PK280SS is in the IDLE mode and the operator presses the **Print Pallet Label** key, the PK280SS prompts: ENTER PLU NO.

Enter a pre-stored PLU number, then press **Enter**. The PK280SS prompts: TOTAL/SUB T/S.

Press **S** to print a subtotal label or press **T** to print a pallet total label. The pallet total label clears the pallet

box count, the pallet actual net weight, and the pallet printed net weight. Report totals, however, will include all data.

If the PK280SS is in the OPERATION mode and the operator presses the **Print Pallet Label** key, the PK280SS prints the subtotal label of the current active PLU.

The system automatically prints a pallet total label while in the OPERATION mode when the number of boxes actually weighed equals the boxes-per-pallet number entered into memory for that PLU.

### 7.3 Void

Pressing the **Void** key cancels the last BOX LABEL printed, unless the last label was a pallet total label. The **Void** key updates the PLU totals, pallet totals, and the transaction report totals by deleting the last box label transaction. This key can be used whether or not transaction storage is enabled. The **Void** key will affect the reports if the last label generated was a pallet total or subtotal label.

Press the **Void** key to cancel the last printed BOX LABEL. The PK280SS displays: VOID Y/N. The default is N. Press **Y** then the **Enter** key to void. The system returns to the last display before the **Void** key was pressed.

### 7.4 Report

Pressing the **Report** key activates a print menu. This menu selection allows the operator to print the PLU totals report (all PLUs in memory), print the PLU file description (attributes), or print the bar code setup.

Press the **Report** key, then press the **Continue** key to scroll to the desired report. Press the **Enter** key to select the displayed report.

If you choose the PRINT PLU TOTALS report, the PK280SS prompts: TOTAL/SUB T/S. **S** is a subtotal report, which is the default. Press the **Enter** key to print the subtotal report. Press **T** then the **Enter** key to print the total report. The totals printed value resets to zero after the system prints the total report.

### 7.5 Bar Code Setup

The **Bar Code Setup** key allows you to enter the UPC manufacturer ID and other information to print with each bar code label.

Press the **Bar Code Setup** key. The PK280SS prompts for the following in sequence:

#### DATE CODE

Enter up to 25 characters for a date code. This date code will override the existing internal date for label printing. If no date code is entered, the PK280SS prints the internal date (in the standard format) on the label.

#### FIXED DATA

Enter up to 30 characters for the fixed data field on the label. This is typically used for the company name that appears the same on every label.

#### ASSORT IND

Enter 1 digit for the assortment indicator, then press the **Enter** key. This field is factory preset to 2 for random weight case labels.

#### NMBR SYS CH

Enter 2 digits for the number system characters, then press the **Enter** key. This number is typically 00 for random weight case labels.

## UPC MANUF ID

Enter 5 digits for the UPC manufacturer ID, then press the **Enter** key. The manufacturer ID is assigned by the Universal Code Council (UCC) and specifies the manufacturer for the product.

## 7.6 Define PLU ID

Pressing the **Define PLU ID** key calls up the following menu:

- 1 MAKE NEW PLU
- 2 SCAN PLUs
- 3 DISPLAY PLU
- 4 CHANGE PLU
- 5 PRINT PLU
- 6 PRINT PLU REPORT
- 7 PRINT ALL PLUs
- 8 ERASE 1 PLU
- 9 ERASE ALL PLUs
- 10 UPLOAD PLUs

Use the **Continue** and **Review** keys to scroll through the menu. Use the **Enter** key to select the displayed menu item.

### 7.6.1 Make New PLU

The PK280SS prompts:

ENTER PLU NO.	Enter 3 digits for the new PLU number.
UPC ID	Enter 5 digits for the UPC product code.
DESC1	Enter up to 26 characters for description line 1.
DESC2	Enter up to 26 characters for description line 2.
TARE	Enter the tare weight for the PLU.
LOWER TOL	Enter the lower tolerance weight for the PLU.
UPPER TOL	Enter the upper tolerance weight for the PLU.
BOX/PLT	Enter 4 digits for the number of boxes per pallet.
FIXED WT	Enter up to 6 digits for fixed weight value to be printed.
ADDRESS	Enter up to 26 characters for the address.
PAGE NO. 1/2	Enter 1 or 2 for the label you wish to print.

### 7.6.2 Scan PLUs

This function shows the operator to view all the PLUs in memory at the time. Press the **Continue** key to scroll through all the PLU numbers.

### 7.6.3 Display PLU

This function displays the attributes associated with a PLU. Press the **Enter** key, the PK280SS prompts: ENTER PLU NO. Enter a PLU number then press **Enter**. Press the **Enter** key to scroll through all the attributes related to that PLU.

#### 7.6.4 Change PLU

This function allows you to change one or more of the attributes related to that PLU. Press the **Enter** key. The PK280SS prompts: ENTER PLU NO. Enter a PLU number then press the **Enter** key. Press the **Continue** key to find the field you want to change. Enter the new information, then press the **Enter** key.

#### 7.6.5 Print PLU

This function allows you to print the attributes and totals associated with a PLU.

Press the **Enter** key. The PK280SS prompts: ENTER PLU NO. Enter a PLU number then press the **Enter** key. The PK280SS sends the PLU information to serial port 2.

#### 7.6.6 Print PLU Report

This function prints a subtotal or total report associated with a PLU. Press the **Enter** key. The PK280SS prompts: TOTAL/SUB T/S. Press **T** then the **Enter** key to print a total report (erases totals), or press **S** then the **Enter** key to print a subtotal report (will not erase totals).

#### 7.6.7 Print All PLUs

This function prints all the PLUs in memory along with their associated attributes and totals. Press the **Enter** key. The PK280SS prompts: CONT-PRINT ALL. Press the **Continue** key to print all the PLUs in memory.

#### 7.6.8 Erase 1 PLU

This function erases a PLU from memory. Press the **Enter** key. The PK280SS prompts: ENTER PLU NO. Enter the PLU number you want erased then press the **Enter** key.

Note: Once a PLU has been erased from memory it cannot be retrieved!

#### 7.6.9 Erase All PLUs

This function erases all PLUs from memory. Press the **Enter** key. The PK280SS prompts: ERASE ALL (Y/N). Press **Y**, then the **Enter** key to erase all the PLUs in memory.

Note: Once a PLU has been erased from memory it cannot be retrieved!

#### 7.6.10 Upload PLUs

This function transmits all PLUs and their associated attributes to serial port 2. While the data is being sent the display prompts: REMOTE TX ID 1 and the upper display counts the number of PLUs sent.

## 8.0 Remote Transmission

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Remote transmission allows for bidirectional communication between a remote computer and the PK280SS. With remote transmission you can download PLUs, upload PLUs, and clear PLU totals.

Note: Download means the PK280SS *receives* data (in this case, PLUs) *from* the PC. Upload means the PK280SS *sends* data (in this case the PLU records) *to* the PC.

### 8.1 Download PLUs

This function downloads PLUs from the PC file to the PK280SS database via the bidirectional serial communications port 2. The PK280SS must be in the IDLE mode to receive data from a remote PC.

Before transmission you must ENABLE REMOTE transmission on the PK280SS. Press the **Configure** key, then use the **Continue** key to scroll to CFG APPLIC VAR, then press **Enter**. When the PK280SS prompts: ENAB REMOTE Y/N, press the **Y** key, then the **Enter** key, followed by the **Clear Entry** key.

All data is sent in ASCII character format. Send a "D" to the PK280SS to begin the transmission followed by the PLU information terminated by LF (line feed) characters. The transmission ends with a Ctrl-C (ETX).

Note: The delimiters ( < > ) are not sent with the transmission. If you do not want to send data for a particular field, insert a space followed by a comma for that field.

Send the data in the format below from the remote computer:

<D> - Download PLUs, must be upper case.

<PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,  
<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Page>,<LF>

<PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,  
<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Page>,<LF>

<PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,  
<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Page>,<LF>

<CTRL C>

where:

<PLU no>	PLU number (3 chars)	<Upper Tol>	Upper tolerance ( up to 6 digits)
<UPC Prod Code>	UPC Product code (5 chars)	<Box/Palt>	Boxes per pallet (up to 4 digits)
<Desc 1>	Description 1 (up to 26 chars)	<Fixed Wt>	Fixed weight (up to 6 digits)
<Desc 2>	Description 2 (up to 26 chars)	<Address>	Address (up to 26 chars)
<Tare Wt>	Tare weight (up to 6 digits)	<Page>	Page number 1/2
<Lower Tol>	Lower tolerance (up to 6 digits)		

Note: If the number of characters is either greater or less than the above field parameters, an error condition occurs, and the PK280SS displays: FIELD SIZE ERROR. No records after the error will be loaded into the keyboard including the record with the error condition. Press the **Enter** key on the PK280SS to return to the IDLE mode.

The PK280SS displays: —DOWNLOAD— on the lower display after receiving the initial “D”.

While receiving the records, RECEIVING INFO appears on the lower display and a count of the number of records received appears on the upper display.

After receiving the Ctrl C (ETX), the message END OF FILE appears.

Press the **Enter** key on the PK280SS. The display reads: DOWNLOAD COMPLETE.

Press the **Enter** key again to return the keyboard to the IDLE mode.

## 8.2 Upload PLUs

This function is located under the **Define PLU ID** key and sends all PLU records to the PC. This function can also be started by sending “RT1” to the PK280SS from the PC. Upon receiving the “RT1” command, the PK280SS sends the PLU file as described below. This command must be sent while the keyboard is in IDLE mode.

All data is sent in ASCII format. A start of text (STX) character is sent first to begin the transmission, followed by the PLU information. The transmission terminates with a carriage return and line feed (CR, LF). The transmission ends with a end of transmission (ETX) followed by the record count.

Note: The delimiters ( < > ) are not sent with the transmission.

Below is a sample PLU file:

```
<STX><PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Total Box>,<Total Net>,<Total PNet>,<CR><LF>
```

```
<PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Total Box>,<Total Net>,<Total PNet>,<CR><LF>
```

```
<PLU no>,<UPC Prod Code>,<Desc 1>,<Desc 2>,<Tare Wt>,<Lower Tol>,<Upper Tol>,<Box/Palt>,<Fixed Wt>,<Address>,<Total Box>,<Total Net>,<Total PNet>,<CR><LF>
```

.

etc.

.

```
<ETX>ZZZ
```

where:

<Total Box> Total Number of Boxes Weighed

<Total Net> Total Net Weight

<Total PNet> Total Fixed Net Weight

## 8.3 Clear PLU Totals

This function clears the PLU totals. To start this command, send “RE1” to the PK280SS from the PC. This command must be sent while the keyboard is in IDLE mode.

## 9.0 Eltron Box Label Software Limited Warranty

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Rice Lake Weighing Systems warrants that (a) the SOFTWARE will perform substantially in accordance with the accompanying printed materials for a period of ninety (90) days from the date of receipt, and (b) any hardware accompanying the SOFTWARE will be free from defects in materials and workmanship under normal use and service for a period of one (1) year from the date of receipt. Any implied warranties on the SOFTWARE and hardware are limited to ninety (90) days and one (1) year, respectively. Some states/jurisdictions do not allow limitations on duration of an implied warranty, so the above limitation may not apply to you.

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