PENNSYLVANIA SCALE COMPANY

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Manual 7300TM2020REV1

Table of Contents

Unpacking and Startup

Unpack the Scale

- DO NOT LIFT SCALE BY THE TOP SPIDER OR SUB PLATFORM!
- Remove the molded foam top from the carton. On 2 lb. and 5 lb. capacity scales the platform is packaged on top of this foam. Gently lift and remove the stainless-steel platform cover only.
- Remove any options which may be packed with the scale.
- Carefully remove scale from the packaging by grasping both sides of the base.

Scale Setup

- Place the scale on a stable, level surface for operation.
- Adjust the corner leveling feet until the level bubble indicates the unit is level.
- Firmly tighten hex jam nuts on the leveling feet. (Any time the scale is relocated, it should be leveled.)
- Remove the protective plastic wrap from the platform and place the platform on the spider.
- Plug the scale in to 110/120 VAC

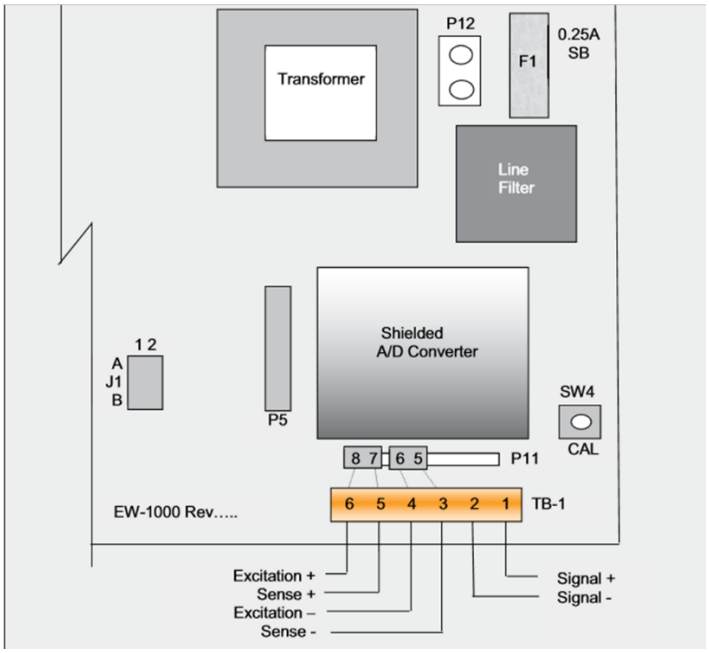
Scale Operation

- Press the ZERO button to zero the scale
- Press the UNITS button to cycle through units of measure
- Press the PRINT button to send scale data to a printer or connected software

SPECIFICATIONS

- **LOAD CELL A/D CONVERTER**
- **TYPE:** 24-bit delta sigma (1:16,777,216)
- **EXCITATION**: 5 VDC, 120 mA max.
- **SIGNAL INPUT**: 16 mv
- **SENSITIVITY**: 0.1 Uv/grad
- **UPDATE RATE**: 30 update/second
- **DISPLAY:** Six (6) Digits, 0.6-inch LED
- **KEYPAD:** Full numeric plus controls
- **POWER INPUT**: 117/217 VAC, 50−60 HZ, 20 watts, fuse 0.50 A Slo-Blow.
- **SERIAL PORTS:** RS232C
- **ENCLOSURE**: Cast Aluminum Chassis and Load Cell Spider, Stainless Steel Platter.
- **NTEP:** Class III/IIIL, 10,000 divisions CoC 91-149A7
- **MEASUREMENT CANADA:** MAL-AM-4869
- **OPTIONS:**
    - **ANALOG OUTPUT:** 0-10v, 4-20ma (16-bit D/A).
    - **ETHERNET TCP/IP**
    - **REMOTE DISPLAY MINI TOWER**
    - **AC/DC OPERATION WITH BUILT IN RECHARGEABLE BATTERY**

Load Cell Connections:



RS-232 PIN ASSIGNMENTS AND IMPLEMENTED FUNCTIONS

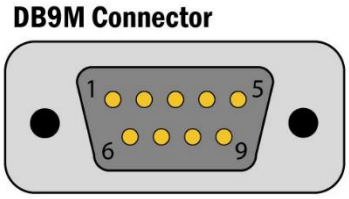
Connection to the Serial Port is made via a DB-9 female connector found in the access area under the scale. Internal Instrument connection is on the main board, TB2-1,2,3.

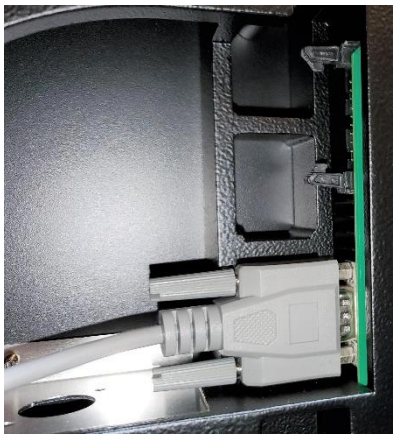
PIN FUNCTION

5 Signal Ground

2 Transmit Data

3 Receive Data





Calibration/Configuration Access, Selecting/Changing Parameters Navigating the Menus

To access instrument configuration, calibration:

Press and Hold the ZERO button for 5 seconds	ZERO - 5 seconds
The Audit Trail counters [P x C x] are displayed first followed by access code request [AC P]. Press the UNITS button 4 times until 0000 is displayed then press the PRINT button	UNITS - 4 times PRINT - 1 times

7300 3-Key access functions:

Increment the number or selection	ZERO
Advance or add a 0 to the right	UNITS
Enter the Selection	PRINT
Decimal Point/Clear	**Cal SW-4**

Example: To enter [150], press the ZERO 2 times, UNITS 1 time, ZERO 5 times, UNITS 1 time, PRINT 1 time to enter. To enter a decimal point, use the internal calibration switch

Menu Layout

CAL 20	Capacity, Resolution, Zero Range, Units, Print, Overrange, Zero Tracking
CAL 30	Secondary Resolution and Setup
CAL 40	Filter Settings, Load Cell Zero/Deadload and Span Calibration
CFG 60	RS232 Configuration: Baud Rate, Word, Stop, Parity, Echo, Address
CFG 70	Battery Operation and Time/Date Configuration
CFG 80	Formatted Data Output
CAL 0	Save and Exit Calibration
CAL 1	Options: Dual / Triple Range, Peak Hold, Remote Inputs, Setpoints, UPS Worldship, Accumulate, Analog Output
CAL 200	Remote Serial Display Set Up

- Configuration/Calibration Main Blocks: 10, 20, 30, etc. can be stepped to directly by incrementing [CAL 10] to [CAL 20] and "**PRINT**(enter)" (Options are CAL 1).
- The sub parameters need to step through to the next "main" before a direct change.
- From any "main" point, exit by changing to [CAL 0] and "**PRINT**(enter)".
    - A [SAVE NO] will need to be changed to [SAVE YES] to save any changes.
- Changing to [CAL 0] from within [CAL 40] allows exit prior to adjusting span.

EXAMPLE: To go directly to Load Cell calibration [CAL 40] from [CAL 20] press the ZERO 5 times, UNITS 1 time, PRINT 1 time to enter.

NOTE: During the setup procedure each step will be printed to any device interfaced to the RS-232 port. If options are not present, steps will not appear.

Configuration Calibration Menus

CAL 20 Calibration setting entry point. Use PRINT to enter this menu and enter selections

STEP	Parameter	Description
CAP 21	Full capacity of the scale	Standard capacities are 2, 5, 10, 20, 50, 100, 150 and 200 lbs.
RES 22	Displayed resolution or count by, rounded up to nearest 1, 2 or 5	Default entry is scale capacity divided by 10,000 (NTEP – Legal for trade configuration). In some applications and environments up to 20,000 divisions of capacity may be possible non legal for trade
-0- 23	1 – 99	Zero Range - Input the Zero Range in % of full scale. The amount of weight the scale can Zero.
UNS 24	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,	Select the primary weighing unit by keying in a number :1 = lb*, 2 = kg, 3 = g, 4 = oz t, 5 = lb t, 6 = g, 7 = dwt, 8 = oz, 9 = c, 10 = oz f, 12 = l, 11 = ml, 13 = tons, 14 = lb – oz
PRT 25	Stable, First, Unstbl, ntEP, Auto, Prn-1	Select whether the scale will respond to a data output/print request when stable, first (positive) stable, any time (unstable), or NTEP. Auto: Data output/print when stable and min 10 grads above zero, prints again with min 25 grad change from last print. Does not need to return to zero data output/print again. Stable: Single stable data output/print, must return to zero to data output/print again.
CNd 26	YES, NO	Measurement Canada legal for trade overrange configuration: Select YES (9d) or NO (105%) *
0-T 27	0.00 – 5.00	Zero tracking value entered as a percent of display resolution. Entering a 0.25* equals 25% of one display graduation. “0” disables the zero tracking feature.
SbL 28	OFF, 1, 3, 5, 10	Stable/Motion configuration in grads/sec.

CAL 30 Secondary units, resolution. Use PRINT to enter this menu and enter selections

STEP	Parameter	Description
2UN 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,	Select the secondary weighing unit by keying in a number :1 = lb*, 2 = kg, 3 = g, 4 = oz t, 5 = lb t, 6 = g, 7 = dwt, 8 = oz, 9 = c, 10 = oz f, 12 = l, 11 = ml, 13 = tons, 14 = lb – oz
2RE 32	Displayed resolution or count by, rounded up to nearest 1, 2 or 5	Default entry is scale capacity divided by 5,000 (NTEP – Legal for trade configuration). In some applications and environments up to 20,000 divisions of capacity may be possible non legal for trade
PUd 39	PrI, SEC, SEC On, COUnt, SELECt	Power up: Primary units, Secondary units, Secondary units only (Locks out Primary Units) and Count, Count.

CAL 40 Load Cell Calibration. Use PRINT to enter this menu and enter selections

STEP	Parameter	Description
FIL 41	1-15	Response time: 0-9 selects conversions to average directly. 11-15 correspond to 25, 30, 35, 40, & 50 conversions for extended filtering.
ADJ CAP	NO, YES Use ZERO button to select	Select yes to enter calibration.
NOL 42	Zero/Dead Weight Calibration	With the platform in place but no weight on the scale, press PRINT. Display will indicate ------ and advance to Span Calibration if successful
NOTE: Dead Load Zero can be updated without changing span by keying in a "0" and **PRINT** to jump back to starting point (CAL 40) and repeating to exit. Note on exit to change [SAVE NO] to [SAVE YES] with **ZERO** key before **PRINT** to save changes.		
HLF 43	Span Calibration	Apply a half capacity weight to the platform and Press **PRINT**. If ½-capacity weight is unavailable, place a substitute weight on the platform and key in the amount of weight being used and press **PRINT**. * Display will indicate ------ and advance to Span Calibration if successful.
FUL 44	Span Calibration	Apply a full capacity weight to the platform and press **PRINT**. If a full-capacity weight is unavailable, place a substitute weight on the platform, key in the amount of weight being used and press **PRINT**. * Weight used in 43 can be keyed in again.
NOL 45		Remove all weight from the platform and enter, or just use **PRINT** to skip this step.

*Example: To enter [150], press the ZERO 2 times, UNITS 1 time, ZERO 5 times, UNITS 1 time, PRINT 1 time to enter a value of 150.

CFG 60 RS-232 Port Configuration. Use PRINT to enter this menu and enter selections

STEP	Parameter	Description
bAU 61	300,600,1200,2400, 4800, 9600, 19200, 38400	Baud Rate Setting. Use **ZERO** button to select.
LEN 62	7, 8	Word Length 7 or 8 bits. Use **ZERO** button to select.
SPb 63	1, 2	Stop Bits 1 or 2. Use **ZERO** button to select.
PAR 64	None, Odd, Even	Parity None, Even, Odd. Use **ZERO** button to select.
ECH 65	No Ech, Ech	No Echo or Echo Use **ZERO** button to select.
CdR 66	0 – 255	Address, Key in a number from 0* to 255, 0 disables this feature.

CAL 70 OPTIONAL when the unit has the built in rechargeable battery or clock. Use PRINT to enter this menu and enter selections

STEP	Parameter	Description
StF 71	0, 1, 2, 3	Select type of clock: 0 = Time and date OK, skip to SLP 74, 1 = 24-hour clock, 2 = 12-hour clock, currently AM, 3 = 12 hour clock, currently PM.
Td1 72	7, 8	Enter the current time as HHMMSS. Based on the type of clock selected in step 71. Clock will begin with the pressing of the **PRINT** button
Td2 73	1, 2	Enter the current date as MMDDYY.
SLP 74	0, .5 - 12	NOTE: is dependent on the battery being enabled by parameter "bat 1.". For AC/DC versions of the scale, enter the amount of time the display is to remain on before going into the battery saver sleep mode. The time is entered in number of minutes, from .5 to 12. Entering a zero will disable the sleep mode for AC only scales.

CAL 80 Programmable data output. Use PRINT to enter this menu and enter selections

Building a programable data output.

The user programmable data output feature is the string of information sent from the RS-232 port (Or optional Ethernet, Wi-Fi and USB) when the PRINT button is pressed, scale is setup to auto output or the scale receives an SRP command from a computer or terminal. Select the format of this string by entering two-digit print codes into the 30 available data output slots, PSL 81 through PSL 119. When finished entering data to construct the programable data output, “99” is entered to mark the end of print formatting.

Example: To build a programable data output to send to a printer the following print codes could be entered

PSL	Data Output Code	Description
PSL81	30	Gross Weight with Prefix, Data and Suffix
PSL82	65	Carriage Return Line Feed
PSL83	03	Date (Optional on 7300, & 7500)
PSL84	65	Carriage Return Line Feed
PSL85	99	End

Would print the following:

Gross 100.55 lb
04/13/2020

Or send a data string to a program to a program:
Gross(sp)(sp)100.55(sp)lb(cr)(lf)04/12/2020(cr)(lf)

Special Data Output Codes

Code	Description				
50	Continuous output. Data output will be sent continuously while the scale is turned on.				
51	Toggled continuous output. The data output will be sent continuously after the PRINT button is pressed or an SRP command is received by the scale. Pressing the PRINT or sending SRP a second time will turn off the continuous output.				
52	Status Character. May be used by a computer to determine the condition of the scale at any given moment.				
53	ABO Checksum. May be used in building a continuous output compatible with other Pennsylvania Scales.				
54	Select Leading Zeros for weight and count data. Example, “7.00 lbs” on scale data outputted is “007.00”				
55	1 Second delay	56	2 Second delay	57	3 Second delay

Data Output Codes

Data Output Code	Description	Data Output Code	Description
02	OPTIONAL time	03	OPTIONAL date
04	Unit of measure suffix label	05	“Gross” prefix
06	“Tare” prefix	07	“Net” prefix
14	FR”F1” for use with Barcode Printer programming	15	“?" Symbol used with Barcode Printer Programming
16	P1 for use with Barcode Printer programming		
20	Gross weight data	21	Tare Weight data
22	Net or Peak weight data	30	Gross weight, prefix, data and suffix
31	Tare weight, prefix, data and suffix	32	Net weight, prefix, data and suffix
39	UPS Worldship Format	40	User defined data string 1
41	User defined data string 2	42	User defined data string 3
43	User defined data string 4	44	User defined data string 5
45	User defined data string 6	46	User defined data string 7
47	User defined data string 8	48	User defined data string 9
49	User defined data string 10	59	Print Display
ASCII Characters			
60	ASCII space (SP)	61	ASCII horizontal tab (HT)
62	ASCII line-feed (LF)	63	ASCII start of header (SOH)
64	ASCII carriage return (CR)	65	ASCII carriage return and line feed (CR LF)
66	ASCII form-feed (FF)	67	Turn on large print (PA Scale printer)(SO, HEX 0EH)
68	Turn off large print (PA Scale printer)(SI, HEX 0FH)	69	ASCII null (NUL)
72	STX – Start of text code	73	ETX – End of text code
74	TAB code all lines	75	RP-DIO cut command
78	Invert print (PA Scale printer)(DC3, HEX 13H)	79	End inverted print (PA Scale printer)(DC4, HEX 14H)
99	End of programmable data output		

NOTE: After PSL 119 or after data output code 99 the display will show SET.RSd. Use the ZERO button to select YES and PRINT button to go to CAL 200 Remote Serial Display. Instructions for these configuration steps are found on page 21

CAL 1 Option Configuration. Key in 1 and Use PRINT to enter this menu and enter selections.

STEP	Parameter	Description
bAt 1	Off, On	AC/DC board select charger "on" when battery is included, circuit may be used to drive status light in "off" state. See Battery Charger Output (BCO).
dtR 2	0 – 15	Dual/Triple Auto Range (0 = off), range is per dtr 1-15 table below if 2.1 and 2.2 are set to 0 (See chart below)
PNt 2.1	0 – 99%	Sets low range of dtr. (See chart below)
PNt 2.2	0 – 99%	Sets mid-range of dtr, if 11-15 selected. (See chart below)

Dual and Triple Ranging Setup – Based upon the displayed resolution setting in res 22

DTR Setting	High Resolution up to % of capacity	Resolution Increase Factor	Medium Resolution	Resolution Increase Factor
0				
1	50%	2		
2	50%	5		
3	25%	2		
4	25%	5		
5	20%	2		
6	20%	5		
7	20%	10		
8	10%	2		
9	10%	5		
10	10%	10		
11	25%	5	50%	2
12	10%	5	50%	2
13	25%	10	50%	2
14	10%	10	50%	2
15	1%	100	10%	10

Dual and Triple Ranging Example

Scale Capacity 100		RES 22 (Displayed resolution 0.01)		
DTR Setting	**High Resolution Up To lbs:**	**High Resolution at This Setting:**	**Medium Resolution Up To lbs:**	**Medium Resolution at This Setting:**
0				
1	50	0.005		
2	50	0.002		
3	25	0.005		
4	25	0.002		
5	20	0.005		
6	20	0.002		
7	20	0.001		
8	10	0.005		
9	10	0.002		
10	10	0.001		
11	25	0.002	50	0.005
12	10	0.002	50	0.005
13	25	0.001	50	0.005
14	10	0.001	50	0.005
15	1	0.0001	10	0.001

CAL 1 Option Configuration Continued

PHd 3	OFF, Peak-H, Hold, Hold.Ur	Peak/Hold function, zero key clears current peak, tare function is disabled, print code 22 and 32 are modified to value and value with labels (xx.xxx / Peak xx.xxx lb) Only Peak displayed, “Sample” recalls prior reading (5 sec) unless new weight is on scale for new peak, Zero zeros scale only and AZ functions. Use **ZERO** button to select.
RIN 4	No, Yes	Remote inputs, (with DIO option) Input 1: Gross/net, Input 2: Tare, Input 3: Zero, Input 4: Print
HdS 3.1	0 – 240	Hold after “samples”: Weight must be stable for 0 – 240 samples to “hold”.
RLN 4	No, Yes	Remote inputs, (with DIO option) Input 1: Gross/net, Input 2: Tare, Input 3: Zero, Input 4: Print. Use **ZERO** button to select.

SER 5	Nor, UPS, Fed 12, Fed 96, PurOL, Toledo	**Nor – Output as configured in CFG 80** **UPS** - UPS WorldShip **Fed 12** - Federal Express 1200 baud rate **Fed 96** – Federal Express 9600 baud rate **PurOL** - Purolator **Toledo** – Toledo Emulation **NCI** – NCI Protocol ***See below for more detailed information***
SPT 8	Setpoint Configuration N/A on Model 7300	
OUT 8.1	Setpoint Configuration N/A on Model 7300	

UPS Worldship Emulation

Data 18 bytes, six data with decimal and leading zero blanking

Command	Description	Response Format
(cr) Carriage Return	Request weight on scale	(sp)(sp)0.00(sp)lb(sp)GR(sp)(sp)(cr)(lf)(etx) Example, with 10.55 lbs. on scale: (sp)10.55(sp)lb(sp)GR(sp)(sp)(cr)(lf)(etx)
(cr) Carriage Return	When in Overload/Underload condition	(cr)(etx)
(cr) Carriage Return	When scale in motion	(sp)(sp)0.00(sp)lb(sp)gr(sp)(sp)(cr)(lf)(etx) "GR" becomes "gr"
Minus sign: included in data as "-0.10", in place closest blank position. Default settings: 9600 - 7 - odd - 2		

FedEx Emulation (FED12 & FED96)

Data 14 bytes, including start (LF), space, six data (five plus decimal), LB/KG (upper case), <CR>, two status characters, and stop (ETX).

Command	Description	Response Format
W(cr) Capital "W"	Request weight on scale	(lf)(sp)000.00(Unit of Measure) (cr)(Status Character)(etx) Example, with 10.55 lbs. on scale: (lf)(sp)10.55LB(cr)00(etx)
ASCII Status Characters		**Description**
00		Normal weight - <30><30>
1X		Motion - <31><30>
2X		Center of Zero - <32><30>
3X		Not Center of Zero - <33><30>
X1		Under load - <30><31>
X2		Over load - <30><32>
X3		Motion/Over load - <31><32>
Data sent during any error		<000.00>
Default settings FED12: 1200 - 8 - N – 1, Default settings FED96: 9600 - 7 - E - 1		

Purolator Emulation

Data 16 bytes, including start (LF), space, six data (five plus decimal), LB/KG (upper case), <CR>, <LF>two status characters, <CR>, and stop (ETX).

Command	Description	Response Format
W(cr) Capital "W"	Request weight on scale	(lf)(sp)000.00(Unit of Measure)(cr)(lf)(Status Character)(cr)(etx) Example, with 10.55 lbs. on scale: (lf)(sp)10.55LB(cr)(lf)00(etx)
ASCII Status Characters		**Description**
00		Normal weight - <30><30>
1X		Motion - <31><30>
2X		Center of Zero - <32><30>
3X		Not Center of Zero - <33><30>
X1		Under load - <30><31>
X2		Over load - <30><32>
X3		Motion/Over load - <31><32>
Data sent during any error		<000.00>
Default settings 1200 - 8 - N – 1		

Toledo Emulation:

Toledo Protocol Host Commands Following is a listing of host commands and scale responses. ASCII Start of Text character:(stx)<HEX 02>. ASCII Carriage Return: (cr)<HEX 0D>.

Command	Description	Response Format
W*	Send normal resolution weight data	(stx)XXXX.X(cr) for 300 X 0.1 lbs. capacity (stx)XXX.XX(cr) for 150 X 0.05 kg. capacity (stx)?(statusbyte)(cr) if current weight not valid
H	Send high resolution weight data	(stx)XXXX.XX(cr) for 300 X 0.1 lbs. capacity (stx)XXX.XXX(cr) for 150 X 0.05 kg. capacity (stx)?(statusbyte)(cr) if current weight not valid
Z	Zero the scale unless in motion or out of range under or over capacity	(stx)?(statusbyte)(cr)

Note:* A status byte message (STX)?(status byte)(CR) is sent in place of the requested weight data field if the scale is in motion, under zero, or over capacity when the weight data request is sent. The question mark "?" indicates that the following data is a non-ASCII status byte ather than weight data. See below for status:

Bit No:	Description	Bit No:	Description
6	Always 1	5	Always 1
4	1 = Center of Zero 0 = Not at center of Zero	3	1 = Outside Zero capture range 0 = Within range
2	1 = Under Zero 0 = Within weighing range	1	1 = Over capacity 0 = Within weighing range
0	1 = Scale in motion 0 = Stable weight data		

NCI Emulation:

Command	Description	Response Format
W	Sends weight and three-character status information. Note: lb-oz is transmitted as oz only.	(lf)XXXXXXX(Unit of Measure)(cr)(lf)(Status Character)(cr)(etx). Example: 10.135 lbs on scale transmits: (lf)(sp)10.135lb(cr)(lf)0p0(cr)(etx) If count is displayed, it is transmitted as: (lf)xxxxxxxct(cr)(lf)hhh(cr)(etx)
Z	Zero the scale unless in motion or out of range under or over capacity and sends two-character status	(lf)(status character)(cr)(etx) Example if successful scale transmits: (lf)00(cr)(etx)
T	Tares the scale unless in motion or out of range under or over capacity and sends two-character status	(lf)(status character)(cr)(etx) Example if successful scale transmits: (lf)00(cr)(etx)

CAL 200 Remote Serial Display. Key in 200 and Use PRINT to enter this menu and enter selections. This may also be accessed after PSL 119

STEP	Parameter	Description
SET.RSd	Yes, No	Changes to Remote Serial Display Mode. Use **ZERO** button to select.
RSd200	OFF, En, Ser rt	En = RSD mode, Ser rt = Main unit setting for Tx/Rx with RSD.
EN 201	No, Yes	Enable remote keypad Use **ZERO** button to select.
ZRO 202	No, Yes	Enable zero button Use **ZERO** button to select.
TAR 203	Off, Autotr, Key-tr, On	Auto tare, keypad tare, both Use **ZERO** button to select.
UNT 204	No, Yes	Enable unit button Use **ZERO** button to select.
PRN 205	No, Yes	Enable print button Use **ZERO** button to select.
FNC 206	No, Yes	Enable function button Use **ZERO** button to select.

Scale Remote Command Formats

Pennsylvania Scale Bench Weighing and Counting Scales or Indicators can be controlled from an external device (such as a computer, terminal or barcode scanning) by various commands, each three letters long sending with a Carriage Return or Enter (cr)

Examples:

- ZERO the scale: ZRO(cr)
- Send programmed data: SRP(cr)
- Acquire a TARE WEIGHT: ATW(cr)

Remote Scale Commands <XXX>(cr) XXX = Command

Command	Description	Command	Description
ATW	Acquire Tare Weight	**CHK**	Initiate self-diagnostics Check
LCK	Lock Out Keypad	**RES**	Reset, clears tare weight and count information
SCM	Selects Count Mode (7500 & 7600)	**SCI**	Output Configuration
SSS	Selects Sample Size (7500 & 7600)	**SWM**	Selects Weigh Mode
UCK	Unlocks Keypad	**UNP**	Select Primary Weighing Unit
UNS	Select Secondary Weighing Unit	**ZRO**	Zero the Scale

Remote Scale Commands to Enter Data into Scale

Command	Description	Format
IBA	Input Base Number 1 or 2. With installed remote base option on 7600 Only	**IBA(sp)X(cr) X= 1 or 2**
IPW	Input Piece Weight and Enter Count Mode. 7600 Only	**IPW(sp)XXXXX(cr) XXXXX = Piece Weight Value, Example: .00015**
ITW	Input Tare Weight and Enter Net Weight Mode. 7600 Only	**ITW(sp)XXXX(cr) XXXX = Tare Weight Value, Example: 10.5**
IID	Input Product ID, up to 15 Alphanumeric Characters and Hyphen (-). 7600 Only	**IID(sp)XXXXXXXXXX(cr) XXXXXXXXXX = Product ID, Example: 123456-ABC**
IUS(X)	Input User Defined Data String, 1-9 these correspond to data output codes 40 – 49 up to 22 alphanumeric characters. **X = 1-9**	**IUS1(sp)XXXXXXXXXX(cr) = XXXXXXXXXX = User defined Data String, Example: 456-DEF-12**

Remote Scale Commands Which Request Information

Command	Description	Response Format
SBA	Send Base in use with second base option, 7600 ONLY	**Base(sp)1(cr)(lf)** **Base(sp)1(cr)(lf)**
SCO	Send Count, 7500 and 7600 only	**Count(sp)XXXXXXX Pieces(cr)(lf)**
SDT	Send Date, 7600 Only	**XX/XX/XX(cr)(lf)**
SGW	Send Gross Weight, 7600 only	**Gross(sp)XXXXXXX(cr)(lf)**
SID	Send Product ID, 7600 only	**ID(sp)XXXXXXXXXXXXXXX(Cr)(lf)**
SMI	Send Metrological or Load Cell Calibration Information	
SNW	Send Net Weight	**Net(sp)XXXXXXX(cr)(lf)**
SPC	Send Data Output Codes	
SPR	Send Percentage of Error or Accuracy, 7600 only	**Error(sp)XXXXXXX(cr)(lf)** **Accuracy(sp)XXXXXXX(cr)(lf)**
SPW	Send Piece Weight, 7600 only	**Piece Weight(sp)XXXXXXX(cr)(lf)**
SRP	Send Formatted Data Output	
SSZ	Send Sample Size, 7600 only	**Sample Size(sp)XXXXXXX(cr)(lf)**
STM	Send Time, 7600 only	**XX:XX:XX(cr)(lf)**
STW	Send Tare Weight, 7600 only	**Tare(sp)XXXXXXX(cr)(lf)**
SVN	Send Firmware Version	**V(sp)X.XX.X(cr)(lf)**

Scale Displayed Status and Error Messages

Error Message	Description
dAC	D/A card detected - Displayed under the check function.
IIC.ERR	IIC short - Power-up hardware failure indication.
ON	Displayed on power-up when the DC power push-button is pressed.
AUTO	EEPROM is reset - Power-up message
ERR6.x	A Key-pad button is stuck.
-232-	Serial calibration/setup is active
UPdATE	Enhancement calculation in progress
LO.bATT	Low battery
d bATT	Dead battery
ULULUL	Under-load (-400 graduations under dead-zero)
OLOLOL	Over-load (+9 graduations or 105% from dead-zero reference)
-------	A/D acquisition is in progress.
7x00	Instrument mode selection.
ERR 10	Number > 999999
ERR 13	Number < -99999
AdC.ERR	A/D hardware failure (channel one only)
CHECK	Check mode accessed.
RC.xxxx	Lower four-digits of the ROM checksum
ERR.80	Serial command data error
ERR.81	Unknown serial command.
-CAL-	Remote Calibration
ERR.OFF	Hardware failure of the D.C. power on/off circuitry
RTC.RST	The clock is reset to 01:01:04 12:00:00am
RST Id	The ID EEPROM has been reset since it was detected as corrupt.
AC OK	Access code entered has been accepted.
E-1234	EEPROM set 1,2,3, and/or 4 have been fixed.
ERR 40	Positive or negative signal overload (check sense connections).
ERR 31	Incorrect tare entry
ERR 30	Push to Zero out of range
PC ERR	Piece Weight Entry is out of range

Replacement Parts List

Part No:	Description	Notes
57817	Universal replacement Main Board for 7X00 AC applications. Includes time/ date and nylon standoffs (for pre-PLUS+ series applications)	Retrofits old-style board (with certain exceptions, contact factory)
57812	AC/DC versions Main Board only 7X00 applications using integrated 12 VDC battery pack	Plus+ Series only.
57422-4	Display Board 7300 Scale – all models Note: RED only	(R) = RED high intensity LED's.
57408-7	7300 Series, buttons ZERO, UNITS, PRINT	For older units (pushbutton through housing) revisions, add p/n 46090-8 strip post connector n/c – for upgrade to current design
47451-1	Compression fitting for power cord #3214 Heyco w/nut	Back panel – indicators
48673-1	Compression fitting #3210 Heyco w/nut	Back panel – indicators
44766	2-Pin Power connector, nylon	Included n/c with 57434 10' HD AC line cord
10402-20	Leveling Foot, 7X00 series	All Bench Scales includes jam nut, thread: ¼-20 UNF x 1" high
48230	Fisheye Level	Replacement, all series
10657	Carton + Foam Inserts, 7500, 7600, 7300 and 7000 12" x 14"	Complete shipping carton kit
48105-11	8 x 8" Platform, 7X00	2 + 5 lbs. applications, Aluminum alloy
49892-1	8" Sub Platform	2 + 5 lbs. applications, Aluminum alloy
57583	Platform, SS, 7X00, 12 x 14"	10 – 200 lbs. applications, SS
57563	12 x 14" Sub Platform, 7X00	All 12 x 14" bench scales, Cast aluminum
57827	1/2A Slow Blow	Standard 7X00 applications
57434	10' AC Heavy Duty Line Cord	All 7X00 – requires (1) 44766* n/c
57403-5A	2 and 5 lbs. capacity models replacement cell	2.5 kg
57403-10A	10 lbs. capacity replacement	10 kg
57403-20A	20 lbs. capacity models replacement cell	15 kg
57403-50A	50 lbs. capacity	30 kg
57403-100A	100 lbs. capacity	50 kg
57403-150A **57403-200A**	150 and 200 lbs. capacity models replacement cell	100 kg
49667	Load Cell Spacer	Fits all models