Digi-Star 10/60 Series Technical Manual

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Manual Updates and Corrections

Efforts have been made to make this document accurate and useful for Digi-Star service centers. Reader input is important and changes to improve this document are important to keep up with product changes and to correct errors.

Please contact your Digi-Star service representative if you wish to suggest changes or make corrections to this document.

Applicable Products

10 SERIES	EZ2810, EZ3410, ST3410, TMR3610, and TMR4610
60 SERIES	GT560 – NT560

Reference Documents

Setup/ Calibration/ Settings

D3648 – Escape Computer Commands – RS232 serial commands and print formats
D3657 – Long Form Setup – factory settings for indicators
D4019 – 10/60 Series Setup – settings by model number
D4020 – Direct Access Numbers – change settings on keypad based indicators
D4021 – Software Release Information – software version & type used by model
D4177 – Special Customer Setup Requirements
D4185 – 60 Series AutoLog2 – settings to use internal relay as a control device
D4206 – EZ4 Software Update Instructions
D4211 – Scale Tracker Manual
D4216 – EZ4 & SL2 Save Settings Guide
D4222 – Scale Indicator Calibration Guide
F3471 – Setup and Calibration Numbers
F3471 - Appendix A & B – Setup & Calibration guides
10/60/SL2 Application Note – Maintenance and Sign-on Message Files

Mounting/Installation

D3724 RAM Mounts
D3747 Wedge Mounts
D3810 Power Cord Options
D3908 AutoLog Installation and Setup (560 series)
D3972 Swivel/ Magnet Mount
D4044 Rotation Counter Install for EZ/ TMR Indicators
D4194 Universal Indicator Bracket

Other/ Misc

Operation manuals for each product
Options and Accessories referenced at back of this manual
Other documents available at www.Digi-Star.com

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SECTION 0 – PRODUCT OVERVIEW

10/60 Series Specifications

ACCURACY: 0.1% with System Accuracy based on load cells used
OPERATING TEMP: -29°C to 60°C (-20°F to 140°F)
POWER REQUIREMENTS: 10.5 to 16.0 V.D.C. 160 mA nominal with four 350Ω L.C.
CURRENT WITH 4 LOAD CELLS: 160mA (current load increases with additional hardware options)
CURRENT WITH 8 LOAD CELLS: 300mA (current load increases with additional hardware options)
LOAD CELL EXCITATION: 8 volts D.C. Nominal, Capable of driving ten 350 Ohms transducers, Short circuit proof.
LOAD CELL SIGNAL: Compatible with Load Cells with greater than 0.25 mv/v
AUTO TEMPERATURE COMPENSATION: On internal circuitry for high accuracy weighing
ENCLOSURE RATING: IP65, IEC 529 (protected against dust and low pressure water)
CONNECTORS: AMP plastic weather resistant circular connector. Gold plated contacts.
SET UP AND CALIBRATION: Via front panel or USB download
GROSS RANGE: 999,999 max. display
LOW BATTERY WARNING: Enabled at 10.5V nominal
POUND/KILOGRAM: Selectable
DISPLAY: 6 Digit Chip On Glass LCD 1.7" high on 10 series; custom 3 line display on 60 series
DISPLAY RESOLUTION: .01, .02, .05, .1, .2, .5, 1, 2, 5, 10, 20, 50, 100
DISPLAY UPDATE RATE: Selectable: 1, 2, 3, 4 times/sec.
MAX. DISPLAY RESOLUTION: Adjustable to 40,000 counts max.
ZERO TRACKING: Selectable, On/Off
SPAN ACCURACY: (.1% + .005%/ °F) or (.1% + 0.009% °C) full scale ± 1 output count
MOTION DETECTION: Selectable, On/Off
ZERO ACCURACY: (.005%/ °F) or (0.009% °C) full scale ±1 output count for 0.5 mv/v transducer
WEIGH ALGORITHM: 3 selectable filters to optimize performance (General, Slow, Fast)
HOLD MODE: Used in mobile applications to stabilize displayed weight while moving the scale
NON-VOLATILE MEMORY: Standard
2 REMOTE INPUTS (Power/Remote ports):
Tare / Print / Hold / Net Gross / M+ / Zero / TR Hold / Re-enter Preset / Switch
REMOTE Port: SPI bus communication, 12V power limited by total system current of 2.5A
SERIAL Port: Two RS232 port communication with a current loop driver, 12V power limited by total system current of 2.5A
USB Internal/ External Port: USB 2.0 A connector for data transfer, 500mA max
RELAY1: Drives high to 12V power supply level when active, 9A fused
RELAY2: Serves as switch function when active, output level based on wiring, 9A fused
ANALOG Input: Two analog inputs, 0-5V, used on 60 series for moisture sensing and other functions
CAN: Bi-Directional CAN port for proprietary functions such as serial CAN and GPS

Fuses

F1 Main Fuse, internal:	2.5A self-resetting, never needs replacement. Protects combined current of indicator, load cells, remote display(s), serial port, and other indicator powered accessories.

Note: Adding accessories such as radio modules and remote displays will increase total current load. Refer to accessory documentation for additional power details.

F2 Relay1 Fuse, internal: 9A self-resetting, never needs replacement. Protects relay1 as used in alarm relay output and machine control applications.

F3 Relay2 Fuse, internal: 9A self-resetting, never needs replacement. Protects relay2 as used in alarm relay output and machine control applications.

0.2.0 10/60 Series Features

These are features that are new or expanded on over the EZ3 series product line.

Software updateable via USB

10/60 series indicators' software can now be updated via USB drive. All 10/60 models have either an internal or external USB connector.

USB Setting Transfer

The settings transfer utility will allow the user to transfer indicator options, menu settings, and Setup and Calibration numbers via USB. This transfer is bi-directional and can be used to save/restore indicator settings. The transfer utility can be used for the following features:
Setting up multiple indicators at factory; saving custom menu configurations; custom setups can be sent to customers in the field by email or shipping a USB; aid in troubleshooting indicator issues.

120 characters allowed for Sign-On message with USB upload

This feature builds upon the Sign-On feature of previous models. Sign-on message **SIGMSG (D.A.N. 8002)** allows user to change the "DIGI-STAR" sign-on message and enter a custom message up to 120 characters. Also included is the ability upload the Sign-On via a txt file over USB. Sign-on Setting **SIGNON (D.A.N. 8001)** will allow the user to have a message continuously scroll after power up until a key is pressed.

Hour meter

Indicators with a rotation counter track the total accumulated time rotations have been detected. This time is a running total and is displayed during self-test after REVHRS is displayed.

120 characters Maintenance message with USB upload

This feature includes the option to display an editable message that is based off the hour meter. The message can be used to alert the user of maintenance needed on the equipment. User will need to acknowledge message by pressing the "ON" key. Message will be display on each power cycle and every 4 hours of operation until cleared. Maintenance message can be entered via front panel or uploaded via a txt file over USB. Contact an authorized representative to enable or disable this function.

Redesigned DAN system

With the ever-increasing number of options, a 4 digit D.A.N. code has been created. Also, the menu system has been re-organized per indicator model and to allow for future expansion. In addition to the new codes, the primary indicator "options" have been assigned a 5 digit D.A.N. in the service menu. See document D4020 for DAN codes.

Also added are “jump” lists. This feature will allow the user to quickly “jump” to an entire menu or sub menu. To access the jump list, enter the 1 or 2 digit jump list number via the keypad and press and hold the FUNCTION key.

Auto Off Feature

All 10/60 indictors now have the option to have the indicator automatically shut itself OFF after either 15, 30, 45 or 60 minutes. This feature will extend battery life on portable scales operating off isolated batteries. Prior to the scale shutting OFF, the message "GOODBYE" will be scrolled across the display for approximately 15 seconds. Pressing a key on the indicator during this time will prevent the unit from turning off and restart the internal "shut off timer". No jumper required on PCB. DAN 1007.

Key failure will still allow use of scale

On previous models when a held key was detected, the indicator would display an error code to the user specifying which key was held, and not allow the indictor to function until the held key was repaired. This new feature will allow the indicator to function as normal without the use of the held/failed key, after a 50 second delay and scrolling message.

Self-resetting Fuses

All 10/60 units contain resettable fuses that never need replacement. These replace the old tube style fuses used on prior generations, so the fuse will never need to be replaced.

Improved Power Management of Accessories

All 10/60 units now have improved power management of accessories such as remote and serial ports. All plug-in type connections (except relay outputs) are powered by the system’s supply voltage, turned on by an internal relay, and protected by the main fuse. This is so there is no power loss at any accessory. Prior models were fused at 2.0A, and serial port power was limited to 500mA. 10/60 units allows a total capacity of 2.5A at system voltage, which is accessible at Remote, Serial, and ACC ports.

New ACC Port Options

The ACC port is for all other new functions in addition to the existing indicator ports. Models that include this port may only have 1 of these functions active, while other models may have multiple functions enabled.

Options include but are not limited to: CANBUS for proprietary uses such as serial CAN or GPS; 2nd relay control; analog inputs for uses such as grain moisture sensor; connections for other functions

SECTION 1 – CONNECTIONS

1.1.0 POWER

The power connector is also known as J901. This connector brings power into the entire scale system. The Relay1 output control also comes out of this connector. The Remote Input 1 function is also brought into this connector. The remote input hardware is defaulted to active low/ ground triggered, but may be modified to active high/ 12V triggered on specific models.

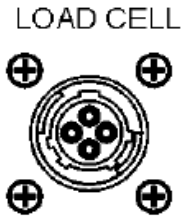
Pin	Wire Color	Board Connection	Description
1	Red	E1	+12 Volts DC
2	Black	E2	Ground
3	Orange	E3	Relay1/ Alarm Output
4	Yellow/ Blue	E4	Remote Input 1

1.2.0 LOAD CELL

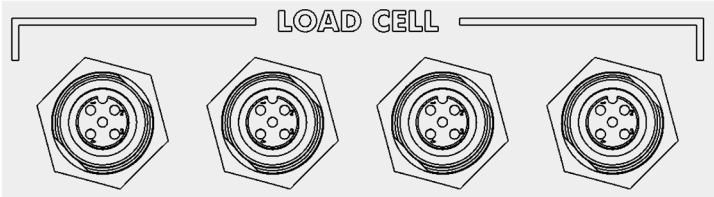
(Standard, EZ Mate, Crown)

There are 3 main types of load cell connectors in use, Standard, EZ Mate, and Crown connections. Standard typically requires a J-box or J-block to connect the load cells, while EZ Mate and Crown are designed for direct connection to the indicator.

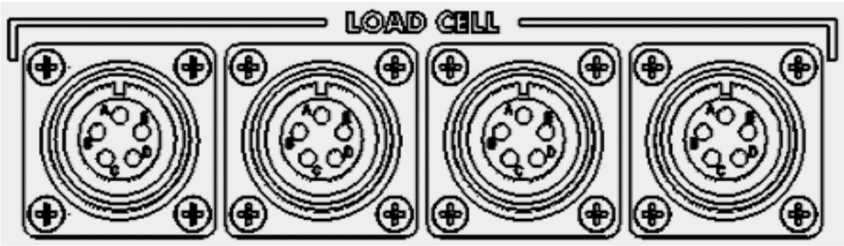
Standard



EZ Mate



Crown



Standard – Single Connector, use with J-Box

Pin	Wire Color	Board Connection	Description
1	Red	RED	+ Excitation
2	Green	GRN	- Signal
3	White	WHI	+ Signal
4	Black	BLK	- Excitation & Shield

EZ Mate – 4 Connectors

Pin	Wire Color	Board Connection	Description
1	Red	RED	+ Excitation
2	Green	GRN	- Signal
3	White	WHI	+ Signal
4	Black	BLK	- Excitation & Shield
5 (mid)		SHD	

Crown – 4 Connectors

Pin	Wire Color	Board Connection	Description
A	Green	RED	- Signal
B	Red	GRN	+ Excitation
C	White	WHI	+ Signal
D	Black	BLK	- Excitation & Shield
E		SHD	

1.3.0 Remote

The Remote connector carries power and data lines out to any EZ Series SPI bus remote indicator. Compatible remote displays include RD2000, RD2400V, RD2500V, RD4000, and RD400/440.

Pin	Wire Color	Connector Pin	Description
1	Red (Thin)	P12-1	+12V Unregulated
2	Red (Thick)	P12-2	+12V Unregulated
3	White	P12-3	Remote Zero Input
4	Green	P12-4	Remote Data Out
5	Yellow	P12-5	Remote Clock Out
6	Blue	P12-6	Pulsed Output/ Key Data
7	Black (Thin)	P12-7	GND
8	Black (Thick)	P12-8	GND

Remote Settings; D.A.N. 2401

There are 3 types of Digi-Star remote display hardware; EZ2, EZ3MUX, and COG. The 10/60 series indicators can now auto-detect which remote type is attached. The setting for each remote type also can be changed within indicator Menu 2 or D.A.N. 2401, "RMDISP".

EZ2 – set to EZ2 for:

RD2000(V), RD2500V, RD400/440, RD4000, and RD2400V serial numbers of 2000 or higher or remotes with 405386 adapter board

All older EZ2 series remotes must use the "EZ2" setting or they may not work.

EZ3MUX – set to EZ3MUX for:

RD2400V, RD2500V

First generation RD2400V series remotes must use the "EZ3MUX" setting, optional on others.

COG – set to COG for:

RD2500V series remotes

Optional setting for 2500 Chip-On-Glass series remotes; RD2500V can use any setting

1.4.0 Serial Ports

The default serial port connector has the capability of communicating using two 2 different RS232 ports and a 20mA Current Loop port. Serial port connections also have the ability to interface with third party wireless controls and systems. A 4-20Ma option is available on some models.

RS232 protocol: 2 ports
Current Loop protocol: 1 port
4-20mA driver: Option for pin 1

Serial Com1-2

The serial port is offered as an option on many indicator models. This port provides two bi-directional ports and a +12 VDC supply. Existing printers and printer cables will work with this port. Serial powered remote displays also work on this port.

The 10/60 series indicators have a communication port mapping feature located in the Menus. This feature allows the user to select different ports for each of the outputs found in Menu 5. (Scoreboard, Printer, Opstat, External radio, etc)

Pin	Wire Color	Board Connection	Description
1	Violet	P9 pin 1	20ma Current Loop (+)
2	Orange	P9 pin 2	Com # 1 Out (Tx)
3	Red	P9 pin 3	Com # 1 In (Rx)
4	Brown	P9 pin 4	Com # 2 Out (Tx)
5	Gray	P9 pin 5	+12 VDC (F1 fuse 2.5A)
6	Blue	P9 pin 6	GND
7	Yellow	P9 pin 7	Com # 2 In (Rx)
8	Black	P9 pin 8	GND

Connecting to a Printer / Scoreboard Com 1

RS-232 Out	Pin 2
Printer Ground	Pin 6

Connecting to a Printer / Scoreboard Com 2

RS-232 Out	Pin 4
Printer Ground	Pin 6

Connecting to a Computer or Wireless Machine Control Com 1

RS-232 In	Pin 3
RS-232 Out	Pin 2
Computer Ground	Pin 6

Connecting to a Computer Com 2

RS-232 In	Pin 7
RS-232 Out	Pin 4
Computer Ground	Pin 6

Connecting to a 20mA Current Loop Device

(See **20MAMR (D.A.N 5011)** to select which port to mirror.

20mA Current Loop(+)	Pin 1
20mA Current Loop(-)	Pin 8

Connecting to a Serial Remote Display COM 1

+12 VDC (fused 2.5A)	Pin 5
GND	Pin 6
RS232 Out	Pin 2

1.5.0 COMMUNICATIONS

Data is transmitted and received in the asynchronous ASCII format. This communication format is compatible with most printers, computers, and terminals. The parity, baud rate, and data bits can be changed to fit a specific application. These settings are stored in MENU 2.2, or can be accessed through the D.A.N. numbers. See “Setup & Direct Access Number” section in this manual for further details and options.

Standard Configuration (7E1)	Optional Configurations (Menu 2.2)
1 Start Bit	1 Start Bit
7 Data Bits	7 or 8 Data Bits
EVEN Parity Bit	EVEN, NONE, or ODD parity bit
1 Stop Bit	1 Stop Bit

Baud Rate

The default Baud rate is 9600 and can be set to 1200 through 115200. The baud rate can be changed to fit a specific application. These settings are stored in MENU 2.2, or can be accessed through the D.A.N. numbers. When changing any of the communication port settings, the indicator will reset to ensure the correct setting are applied.

"Handshake lines" are not used and XON/XOFF is not supported.

NOTE: For more information on data communications, refer to manual D3648 (Escape Computer Commands Set) and D.A.N. number section later in this manual.

1.6.0 Example Printer Setup

This is an example of the steps needed to run a 12 volt in-cab printer on Com 2. This printer example runs at '4800 baud' with parity settings of '8 data bits', 'No parity', and '1 stop bit'. DAN codes pg 37.

1) Attach printer cable to Serial port; connector pin 4 to indicator TX and pin 6 to indicator ground. ('Connecting to a Printer' pg 12)
2) Set indicator Com 2 baud rate to 4800. Type 22 and press and hold 'FUNCTION' if you have a keypad, or enter Menu 2.2 to get to setting "C2 BD". Press 'Select' until "4800" is displayed, then ON to save.
3) Set indicator Com 2 parity to NONE. After pressing ON in the previous step, C2 PAR will be shown. Press 'Select' until "NONE" is displayed, then ON to save.
4) Set indictor Com 2 data bits to 8. After pressing ON in step 3, C2DATA will be shown. Press 'Select' until "8" is displayed, then press ON to save.
5) The next option that will be displayed is C2 DLY. Press ON to accept the default setting. The indicator will not reset. Press 'Print' key a few times to verify data prints correctly.

1.7.0 USB Port

An internal USB port is available on all 10 series models, including EZ2810 and EZ3410. An external IP65 USB port is available on select 10/60 models, including TMR3610, TMR4610, and GT560. This port is a USB 2.0, A style connector, capable of up to 500ma. Functions and applications of the USB vary slightly between models, but the primary purpose of the USB is to store or transfer data. See your model's Operations manual for details on the product specific use of the USB port.

1.8.0 Serial GPS Port

This port is a DB9 connector for use with small puck style 5V RS232 serial GPS modules. This port is used on some 60 series models such as GT560 and NT560. When a more accurate GPS location is needed, the Topcon SGR-1 is connected to the ACC port over CAN.

Pin	Wire Color	Board Connection	Description
2	Yellow	P1 pin 3	Data In
3	Orange	P1 pin 4	Data Out
5	Black	P1 pin 5	Ground
8	Black	P1 pin 2	Ground
9	Red	P1 pin 1	+5 Volts DC (500mA Max)

1.9.0 ACC Port

The ACC connector is used on models with CAN, Relay2, Grain Moisture Sensor, and other functions not on the other ports. Standard pin locations shown, subject to change with further customization.

Pin	Wire Color	Wire Size	Board Connection	Description
1				
2				
3				
4				
5	Green	24 awg	P5 pin 2	CAN0 Low
6	Yellow	24 awg	P5 pin 1	CAN0 High
7				
8				
9				
10	Black	24 awg	P5 pin 3	CAN0 Ground
11	Red	24 awg	P7 pin 3	+12 Volts DC out (F1 main fuse 2.5A)
12	Yellow	24 awg	P7 pin 1	Analog Input B/ Moisture/ 0-5V
13	Green	24 awg	P7 pin 2	Analog Input A/ Temperature/ 0-5V
14	Blue	24 awg	P7 pin 4	Ground
15	Brown	18 awg	E5	Relay2 Out (F3 fuse 9A)
16	Blue	18 awg	E6	Relay2 In

1.10.0 Interfaces and Controls

Several indicator models require controls, interfaces, or special cables in order for the entire system to work as designed. The items below are only a partial list, and only include items required to be installed for the scale system to work correctly.

GT560/ NT560 Auto Log requires a rotation counter, sensor, or switch to work correctly

Touch screens Systems using a touch screen need serial and/ or power interface cables

Radio/ Cab Control Radio systems require hardware in at least 2 locations to communicate

ERM WiFi WiFi requires module and a WiFi smart device with App to work

560 series Requires GPS to track location or application rate

All models Require load cells, cabling, and connections to read weight

SECTION 2 – ELECTRONICS/SETUP

The 10/60 series indicators connection points are shown below. Always consult the schematic for the proper part number and revision before changing jumpers or wiring locations. Jumpers must be properly configured for the scale indicator to function. Contact Digi-Star Customer Service for complete documentation or assistance in configuring your scale hardware.

Main Board Connection Points, All 10/60 Series Indicators

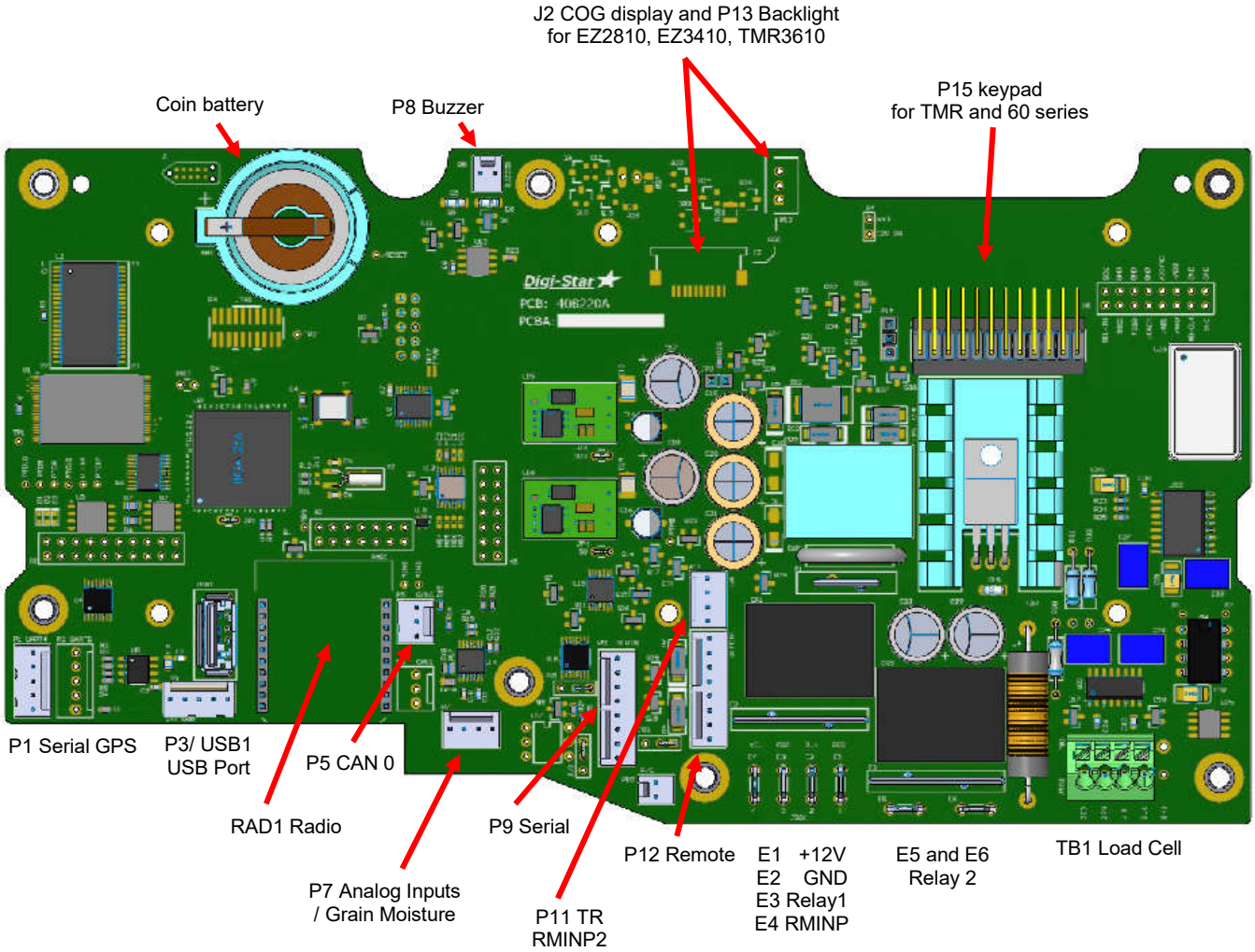
E1	+12VDC	P7	Analog Inputs/ Grain Moisture
E2	Ground	P8	Piezo Buzzer
E3	Alarm Out +12V	P9	Serial J905/ RS232/ Current loop
E4	Remote Input 1	P10	Remote Input 1 secondary access
E5	Relay2 Out	P11	TR Port w/ Remote Input 2
E6	Relay2 In	P12	Remote/ J903
TB1 RED	+ Excitation (Load Cell +8V)	P13	COG Backlight
TB1 GRN	- Signal (From Load Cell)	P14	Keypad LED
TB1 WHI	+ Signal (From Load Cell)	P15	Keypad Keys
TB1 BLK	- Excitation (Load Cell GND)	J1	Bootloader port
TB1 SHD	Shield/ Ground	J2	COG Display
P1	RS232 port 4 (5V SER GPS)	RAD1	Internal radio
P2	RS232 port x (future)	H1	Future/ SPI1
P3	External USB connector	H2	Future/ Analog
P4	JTAG Software development	H3	Future/ SPI0
P5	CAN 0	H4	Switched Power/ GND access
P6	CAN 1 (future)	H5	Future/ SPI2
USB1	Internal USB-A connector		

Main Board Jumpers, All 10/60 Models

Default Position	Jumper on Board	Description
Out	INIT	Resets everything, do not add
In	JP1	Processor power, do not remove
Out	JP2	Auto-On jumper; install to keep indicator on
In	JP3	3.3V power, do not remove
In	JP4	5.0V power, do not remove
In	JU1 pin 1-2	Enables RX2 on J905 pin 7
Out	JU1 pin 2-3	Enables GND for J904 pin 7
In	JU2 pin 1-2	Remote Input 1 Ground level trigger
Out	JU2 pin 2-3	Remote Input 1 +12V level trigger (with U17 in)
In	JU3 pin 1-2	Enables +12V on J905 pin 5
Out	JU3 pin 2-3	Enables GND for J904 pin 5

MAIN PCBA DIAGRAM

The most common connections are shown here. Not all models or PCB part numbers have all options, parts, or connectors installed. Connections are setup for each indicator model.



2.1.0 Software Installation/ Configuration

The 10/60 series indicator software and setting can be transferred via USB. See D4021 for current software release information. Please contact an authorized service center or Digi-Star Customer Service if needing to update software, as indicator setting changes may occur.

Always download or backup any scale data prior to making any software changes!

To update the indicator software and to save current settings:

1) Repeatedly press SELECT until display reads SV SET

EZ2810/3410 – USB connector located on PCB, need to remove cover.
TMR3610/4610/GT560 – connector located on connector panel.

2) Press and hold FUNCTION key. Indicator will prompt to insert USB.
3) Insert USB, indicator will detect drive and save settings. When complete, indicator will prompt to remove drive. Keep drive installed and power off indicator.
4) Press and hold the ON key until BTLDR is displayed and release ON key. Indicator will detect update file and display WAIT followed by a record count. When finished, indicator will boot up to options setup or general weighing mode.
5) If indicator boots into options setup, press and hold TARE and ON (10 series) or press ESC (60 series) to exit the options setup. If indicator boots to general weighing mode, proceed to step 6.
6) Repeatedly press SELECT until display reads LD SET
7) Press and hold FUNCTION key to upload settings from USB
8) When upload is complete indicator will prompt to remove drive.

2.2.0 Calibrating the Scale Indicator

Your Digi-Star scale indicator can be mated to many different types of load cells with varying capacity. There can be as few as 1 and as many as 10 load cells on a system, based on model number and type. The scale indicator has a "setup" number that determines how the scale displays the weight, and a "calibration" number that matches the load cells to the indicator and determines the weight value displayed on the indicator.

Long Form Vs Short Form Calibration Method

Long form calibration requires you to have some known accurate weights to load onto the scale. If done properly, this is the best way to calibrate your scale accurately.

Short form calibration requires you to know the load ratings on the load cell, the number of load cells and other factors. A calibration number can be calculated and entered directly into the scale.

CAUTION:	**The short form calibration method works with Digi-Star load cells only. The short form calibration method for a non-Digi-Star load cell may get close to the correct calibration number, but this method is not reliable and the scale calibration must be checked using known weights.**

CALIBRATING THE SCALE FOR MAXIMUM ACCURACY (LONG FORM)

Write down the current Setup and Calibration numbers of your EZ indicator. These numbers are displayed during the Self Test. Press [On/Off] to "pause" the Self-Test while setup and calibration numbers are displayed. Press [On/Off] again, to "resume"

Setup Number _____ Calibration Number _____

To accurately calibrate the scale, you will need a large amount of weight that has a known value. For best results you should have at least as much weight as the largest load you plan to weigh.

DETERMINING THE NEW SETUP AND CALIBRATION

1. Zero-Balance the scale so the display reads zero.
2. Put the **Known Weight** on the scale platform and write down the **Weight Display**.

Perform the following equation to find the **Accurate Calibration Number**.

$$\frac{\text{Actual Known Weight} \times \text{Existing Calibration Number}}{\text{Displayed Weight}}$$

Example:

Actual Known Weight	2000lbs
Weight Display	2080lbs.
Existing Cal Number	32500.

$$\frac{2000 \times 32500}{2080} = 31250$$

31250 is the **"Accurate Calibration Number".** The setup number does not change.

ENTER A NEW SETUP AND CALIBRATION NUMBER (SHORT FORM)

The Short Form Setup & Calibration procedure allows you to change the "SETUP" and "CAL" numbers of the indicator.

1. Press and hold [Zero], and then press [On/Off] for 3 seconds to enter the short form calibration.
2. The display will flash "SETUP" and then display the 6-digit setup number with the right digit flashing. To modify the setup number:
3. Press [Gross/Net] several times to increment the digit to it proper value.
4. Press [Tare] to advance the blinking digit to the left.
5. Repeat steps 1 and 2 for each digit as required.
6. Press [On/Off] to enter the new setup number and display the calibration number.
7. Repeat steps 1 and 2 to modify the calibration number.
8. Press [On/Off] to enter the new calibration number and the display will go back to normal.
9. Verify the accuracy of the scale.

2.3.0 Self Test

Initiating the Self-Test

After turning the scale on, wait for normal operation to begin then press the ON key. The Self-Test tests all settings, displays information, and performs an internal system check to ensure that the indicator is working and set properly.

Test Sequence *(Order may vary based on model & software version)*

The word TEST flashes:
"SETUP" is displayed.

Display Program ID:	Displays the current version (revision number) of the software.
Display Setup Value:	Short Form Setup Value.
Display Calibration Number:	Short Form Calibration Value.
Display Peak Weight:	“WEIGHT” is displayed followed by the largest peak weight detected along with the date. See menu 8.5 – Peak Weight for more information.
Display Rotation Counter:	“REV” is displayed followed by the total Rotation count.
Display Hour Meter:	“REVHRS” is displayed followed by the total Rotation count hours.
Display Temperature Calibration Count:	
Display LCD Segments:	The system then cycles through all display segments to help the operator identify any faulty areas. ENHANCED TEST: When standard test is shown (all segments 8’s) press the ZERO key. Screen will show several special characters followed by the alphabet. Test can be paused by pressing ON key, press any key excluding the ON key at any time to exit.
System Test:	The indicator displays the message "RUNNING SELF TEST - PLEASE WAIT" while performing internal system testing. Self Test cannot be paused or terminated during this test.

Self-Test System Errors:

If system errors are discovered during internal diagnostics, the operator will see an error message. For example, "ERROR 1 - PRESS NET/GROSS TO CONTINUE" followed by "*** INDICATOR NEEDS SERVICE *** PRESS NET/GROSS TO CONTINUE". See “Software Error Codes” near the end of this manual for error code descriptions.

Sending a command using the Computer Interface causes the system to terminate the error messages and attempt normal system operation.

Pausing the Test:

Press [ON] during the self-test to pause the sequence. Press [ON] again to restart the test.

Terminating the Test:

The self-test terminates and continues normal operation if no errors are detected or if other keys are pressed.

2.4.0 Weighing Errors

OVRCAP (Capacity Limit)

The display shows the message "OVRCAP" if the weight on the scale system exceeds the capacity limit. The capacity value is entered in SETUP to warn of overloading the scale system.

+RANGE (Over Range)

The display shows the message "+RANGE" if the weight on the scale system exceeds the maximum weight measurable by the scale system. The over range value is always the system's maximum A/D counts multiplied by the scaling factor. The actual weight at which over range occurs depends on the calibration, zero, and display count size.

-RANGE (Under Range)

The display shows the message "-RANGE" if the weight on the scale system is less than the minimum weight measurable by the scale system. The under range value is always the system's minimum A/D counts multiplied by the scaling factor. The actual weight at which under range occurs will depend on the calibration, zero, and display count size.

2.5.0 Direct Access Numbers

This method allows direct access to individual Setup & Calibration Settings. Enter the Direct Access Number of the setting you would like to change on the numeric keypad and then press the SELECT key. The display will show the setting name and then allow the value to be changed. Pressing the ON or ENTER key will return the scale to weighing. Jump Lists will start at the beginning of the menu and step through all options by pressing the ON or ENTER key. To access Jump Lists, enter the menu number and then press and hold FUNCTION key.

Menu 1 – General Settings

Menu 1.0 – General Settings 1 (Jump List – 1)

LANGUAGE {LANGAG}	1001	pg. 26
DISPLAY RATE {D RATE}	1002	pg. 27
SCALE ID SETUP {SCALID}	1003	pg. 27
ZERO TRACK {ZTRACK}	1004	pg. 27
WEIGH METHOD {W MTHD}	1005	pg. 27
1 PRESS ZERO {1 ZERO}	1006	pg. 27
AUTO OFF {AUTOFF}	1007	pg. 27
DISPLAY UNIT {LB-KG}	1008	pg. 27

Menu 1-1 – General Settings 2 (Jump List – 11)

SCROLL DELAY {SCROLL}	1101	pg. 28
SAVE TARE {SAVTAR}	1102	pg. 28
PRELOAD TARE {PRETAR}	1103	pg. 28
POWER LOSS MESSAGE {PRWLOS}	1104	pg. 28

Menu 1-2 – Time & Date (jump list 12)

TIME FORMAT {TIME F}	1201	pg 28
TIME {TIME}	1202	pg. 28
DATE FORMAT {DATE F}	1203	pg. 28
DATE {DATE}	1204	pg. 28
DATE CHECK {DT CHK}	1205	pg. 29

Menu 1-4 – remote inputs (jump list 14)

REMOTE INPUT 1 {RMINP1}	1401	pg. 29
REMOTE SWITCH MESSAGE {R1MSG}	1402	pg. 29
REMOTE SWITCH STATE {R1STAT}	1403	pg. 29
REMOTE SWITCH MSG {R1TIME}	1404	pg. 30
REMOTE INPUT 2 {RMINP2}	1411	pg. 30

MENU 2 – COMMUNICATIONS, REMOTE, AND ISOBUS

MENU 3 – WEIGHT, MOTION & ANALOG OUT

MENU 4 – PRESET, ALARM, AND TIMER

MENU 5 – COMMUNICATION PORT MAPPING

MENU 6 – APPLICATION SPECIFIC

MENU 6.0.5 – COMMON BATCHING/SELECTION BASED ON APPLICATION

MENU 6.1 – 3410 BATCHING (JUMP LIST 61)

MENU 6.2 – 3610/4610 BATCHING (JUMP LIST 62)

MENU 6.3 – PRESET ACTIVE SIGNAL (JUMP LIST 63)

MENU 6.4 – AUTOLOG (JUMP LIST 64)

MENU 6.5 – NUTRIENT/YIELD TRACKER (JUMP LIST 65)

MENU 6.6 – SEED TENDER (JUMP LIST 66)

MENU 6.8 – MOISTURE (JUMP LIST 68)

MENU 6.9 – BALER (JUMP LIST 69)

Please note: Scale specific settings can be affected by the same global settings. When global settings are changed, they will affect the currently selected scale.

MENU 7.1 – SCALE SPECIFIC SETTINGS (SCALES A & B – JUMP LIST 71)

SCALE PLATFORM A

SCALE PLATFORM B

MENU 8 – SETUP AND CALIBRATION

MENU 8.4 – RPM RECORDING

MENU 8.5 – PEAK WEIGHT

MENU 8.7 - SETUP NUMBER AND SETTINGS

Please note: Scale specific Setup and Calibration settings can be affected by the same global settings. When global settings are changed they will affect the currently selected scale.

SCALE PLATFORM A

SCALE PLATFORM B

SCALE PLATFORM C

SCALE PLATFORM D

MISCELLANEOUS UTILITIES

MENU 9 – SERVICE/OPTIONS SETTINGS

SERVICE/OPTIONS (JUMP LIST 9)

SECTION 3 – MENU ITEMS

3.1.0 MENU 1 – GENERAL SETTINGS

Note: Settings will only be displayed if the feature is found in the indicator model.

JUMP LISTS

Jump lists will start at the beginning of the menu and step through all options by pressing the ON or ENTER key. To access Jump Lists, enter the corresponding menu number and then press and hold FUNCTION key for most models. (EZ3410 – Press and Hold ENTER to access jump list)
NOTE: To access an entire menu, enter the top-level number. To access a sub menu, enter the appropriate menu number.

Menu 1.0 – General Settings (Jump List 1)

LANGAG (D.A.N. 1001) LANGUAGE

Select the language from the menu.

ENGLSH ..... English
NEDRL..... Dutch
FRANCS ..... French
DEUTSH ..... German
ITAL ..... Italian
PORT ..... Portuguese
ESPAN..... Spanish
VESTA ..... Special Spanish Translation for South America
DANSK..... Danish
MAGYAR..... Hungarian
POLSKI……..Polish

D RATE (D.A.N. 1002) Display Rate

Select the number of times per second to update the weight display. This setting also affects remote indicators. Default = “3”.
Select 1, 2, 3, or 4.

Note: When selecting the Weigh method (General, Slow, or Fast) or when setting the Weigh Method Adjustment Options (see Menu #3 of the Long Form Setup), a change in Display Rate affects how the weight appears on the scale. A selection of ‘1’ update per second helps to stabilize the weight. A selection of ‘4’ updates per second provides more response to weight changes but may cause the weight to appear “jumpy.”

SCALID (D.A.N. 1003) Scale ID Number

This feature allows the operator to identify the scale with a (truck or mixer number). After entering the SCALID menu, the scale’s default name “NEW EZ” will be displayed on the screen.
Press [CLEAR] several times (or hold ‘clear’ for 2 seconds) to clear out the existing number and enter the desired scale identification number or letter on the numeric keypad. Press [ON] to store the ID number and advance to the next menu item. *(SCALID is used by TMR Tracker and other software programs for identification. SCALID is also ‘FIELD’ key function on several models.)*

ZTRACK (D.A.N. 1004) Zero Track

Zero-Track is typically used only for animal weighing applications.
If "ON", the scale will adjust for small weight variances of up to 5lbs in the Lock-On weigh method. This allows the scale to compensate for such things as mud or snow accumulation on the scale platform.

W MTHD (D.A.N. 1005) Weigh Method

Weigh method allows the operator to adjust how much processing or number-crunching the scale processor does to the load cell data before displaying the weight.
1 – General 2 – Slow 3 – Fast 4 – “Lock-on” (animal weighing, available only in StockWeigh models)

1 ZERO (D.A.N. 1006) One Touch Zero

When enabled, allows the user to press and hold the ZERO key for 3 seconds to balance the scale. Normal balance procedure is a 2-button operation, it is performed by pressing the NET/GROSS key and then the ZERO key within 3 seconds.

AUTOFF (D.A.N. 1007) Auto Off

This feature allows the operator to have the indicator automatically shut itself OFF after 15, 30, 45 or 60 minutes of inactivity. This feature will extend battery life on battery powered portable scales and equipment like seed tenders which use their own power supply or battery. Prior to the scale shutting off, the message "GOODBYE" will be scrolled across the display for approximately 15 seconds. Pressing a key on the indicator during this time will prevent the unit from turning off and restart the internal shut-off timer. A jumper on the main board is typically required for this function to operate.

LB-KG (D.A.N. 1008) Display Unit

Select desired weight unit to be displayed. When changing weight unit using the long form, the calibration is adjusted so the scale displays accurately in the new display unit.

Menu 1.1 – General Settings (Jump List 11)

SCROLL (D.A.N. 1101) SCROLL DELAY
This Scroll Rate setting allows the operator to slow down how fast messages scroll across the display when temperatures drop down below 20° F (-7 C). The selection ranges from “0” (fast) to “9” (slowest). The default setting is “4”.

SAVTAR (D.A.N. 1102) SAVE TARE
Saves the Tare weight into Non-Volatile Memory and is remembered even after the unit has been turned off. This allows the Net weight to be restored once the unit has been turned ON again. This feature is available on single and multiple platform (A/B/C/D) scale systems

PRETAR (D.A.N. 1103) PRE TARE
The PRETAR feature allows the tare weight of a container to be entered using the numeric keypad.

PWRLOS (D.A.N. 1104) POWER LOSS MESSAGE
NOTE: ***BLKOUT (D.A.N. 90009)*** indicator option needs to be enabled.
If power is lost when a preset is active, indicator will store the time of power loss. When power is restored, remaining preset will be loaded and power loss message will be displayed approximately every 20 seconds until preset is completed.

Menu 1.2 – Time and Date (Jump List 12)

TIME F (D.A.N. 1201) TIME FORMAT
Select AM/PM or 24 HR time format.

TIME (D.A.N. 1202) TIME
Enter the time. Use the LEFT/RIGHT arrows or FUNCTION key to select hours/minutes/seconds. Use the UP/DOWN arrows or SELECT key to increment value.

DATE F (D.A.N. 1203) DATE FORMAT
Select one of the following date formats:

1 = mm/dd	5 = dd/mm/yy
2 = mm/dd/yy	6 = dd/mm/yyyy
3 = mm/dd/yyyy	7 = dd/MM/yy
4 = dd/mm	8 = dd/MM/yyyy

mm = 2 digit month (ex. January=01)
yy = 2 digit year (ex. Year 2000=00)
MM = 2 character month (ex. January=JA)
dd = 2 digit date (ex. 23)
yyyy = 4 digit year (ex. 2000)

DATE (D.A.N. 1204) DATE
Enter the Date. Use the LEFT/RIGHT arrows or FUNCTION key to select hours/minutes/seconds. Use the UP/DOWN arrows or SELECT key to increment value

DT CHK (D.A.N. 1205) DATE CHECK

When enabled, adds verification of the system date at power up. An error will be displayed if the date is 2011 or before. The operator will be prompted to press ON to set the time and date if an invalid date is found.
Date check functionality differs on SL2 model indicators. Date Check is skipped at startup, REGARDLESS of setting. This is to allow the system to operate normally on ISOBUS, without getting stuck on prompt for the user to set the date. The date is still verified and if invalid, a CANBUS message will be sent. When enabled, user can set date/time. When disabled, SL2 will receive update from ISOBUS/UT broadcasts to set indicators' date/time.

Menu 1.4 – Remote Inputs (Jump List 14)

RMINP1 (D.A.N. 1401) REMOTE INPUT 1 (POWER PORT – PIN 4)

When line is pulled low, the following functions can be performed. Line may also be triggered with a high state; jumper JU2 pins 2-3 and U17 installed.
NOTE: Not all features will be available depending on model.

PRESET	Re-enters the last preset value entered.
SWITCH	Displays an editable message for an 'OPEN' or 'CLOSED' condition on the remote input line. *(See RIMSG1, RISTAT, RITIME for additional options)*
TARE	Performs the TARE function and "zeroes" the display.
PRINT	Performs a PRINT function.
HOLD	Performs a HOLD function, pull line low again to display "held" weight. Press ON to cancel HOLD and display weight change.
NETGRS	Performs a NET/GROSS function.
M+	Performs a M+ function, when line is pulled low the displayed weight will be stored to memory. This will be followed by RM and display the memory total.
ZERO	Performs a zero/balance
MIXCTR	Enables the "Rotation Counter" on equipped indicators.
INGRED	Used with EZ3410/TMR3610/TMR4610. If a recipe is loaded, will perform an ingredient advance. If no recipe is loaded a TARE will be performed.
RECHCK	Rechecks the weight when using the "lock-on" weigh method with StockWeigh indicators.
SEEDTD	Used to advance Seed Tender scale to next seed dispense operation; re-enters preset.
ST STP	Performs a START/STOP function when using Harvest Tracker indicators.
FSWTCH	Used with RPM START/STOP CONTROL (**RSSCTL - D.A.N. 6401**) to perform a START/STOP function with the use switch. See Feedbox Start/Stop Polarity (**FS POL – D.A.N 6411**) for switch polarity.
TR HLD	When enabled will display and remain on the GROSS weight if T/R button is held for three (3) seconds. If not enabled, the GROSS weight will be momentarily displayed if T/R button is held for three (3) seconds.

RI1MSG (D.A.N 1402) REMOTE INPUT 1 SWITCH MESSAGE

Used to edit the remote input 1 message that is displayed for an 'OPEN' or 'CLOSED' condition on the remote input line of the power cord. The default message is 'OPEN

R1STAT (D.A.N 1403) REMOTE INPUT 1 SWITCH STATE

Determines if the Remote Switch Message or Alarm Output lamp is displayed/illuminated for an 'OPEN' or 'CLOSED' condition on the remote input line of the power cord. The default setting is 'CLOSED'.

R1TIME (D.A.N. 1404) REMOTE INPUT 1 SWITCH TIME
Used to set how often the Remote Switch Message 1 is displayed for an 'OPEN' or 'CLOSED' condition on the remote input line of the power cord. For the default value of 2, the message is displayed every 2 seconds. The maximum setting is 9 seconds.

RMINP2 (D.A.N. 1411) REMOTE INPUT 2 (REMOTE PORT – PIN 3/TR)
When line is pulled low the same functions as remote input 1 can be performed.
(See Remote Input 1 (**RMINP1 – D.A.N 1401**) for available settings.

RI2MSG (D.A.N 1412) REMOTE INPUT 2 SWITCH MESSAGE
Used to edit the remote input 2 message that is displayed for an 'OPEN' or 'CLOSED' condition on the remote input line of the power cord. The default message is 'OPEN

R1STAT (D.A.N 1413) REMOTE INPUT 2 SWITCH STATE
Determines if the Remote Switch Message or Alarm Output lamp is displayed/illuminated for an 'OPEN' or 'CLOSED' condition on the remote input line of the remote port. The default setting is 'CLOSED'.

R1TIME (D.A.N. 1414) REMOTE INPUT 2 SWITCH TIME
Used to set how often the Remote Switch Message 2 is displayed for an 'OPEN' or 'CLOSED' condition on the remote input line of the power cord. For the default value of 2, the message is displayed every 2 seconds. The maximum setting is 9 seconds.

Menu 1.9 – Diagnostic 1 (Jump List 19)

LCDIAG (D.A.N. 1997) LOAD CELL DIAGNOSTIC
This feature will display a load cell diagnostic screen when connected to a UT. (ScaleLink models) Information displayed includes the following: Measured Load cell current, number of connected load cells, excitation voltage, IC supply voltage, and input voltage.

PRG ID (D.A.N. 1998) PROGRAM ID
This feature will display the indicator model and the program ID currently loaded. This will be displayed repeatedly until a key is pressed.

EST WT (D.A.N. 1999) ESTIMATED WEIGHT
This feature sets the gross weight to a new value. Use this feature when the scale has been accidentally Zero Balanced or if a scale indicator is replaced and the gross weight on the scale is known.

3.2.0 MENU 2 – COMMUNICATIONS, REMOTE, AND ISOBUS

Menu 2.0 – Communications (Jump List 2)

REMOTE (D.A.N. 2001) REMOTE
When enabled, will send display data to a standard Cab Control Remote. When set to MTLINE, the contents of the 3-line display will also be sent.
*NOTE: This setting will need to be enabled to use Remote Terminal functionality (**RMTERM – D.A.N 2402**)*

SCL NO (D.A.N. 2002) Wireless Scale Number
This number is used to identify this specific indicator to the Cab Control unit and the Datalink software. Up to 48 different numbers can be selected.

EXTRAD (D.A.N. 2003) External Radio
This enables the option for an indicator with a J905 port, to attach an external radio or Wifi module. The external radio or Wifi module will communicate with Cab Control units and Datalink in the same manner as an internal radio. The Wifi modules will also communicate with smartphone and tablet apps.

DDL (D.A.N. 2004) DDL
When enabled, allows connection of a DDL (Data Downloader) to an indicator with a serial port.

EZ2AUD (D.A.N. 2005) EZ2 Audible Commands
When enabled, an audible notification sounds when a serial command is sent or received. This feature is useful when using RF Datalink for feedline transfer, alerting the user of transfer status.

RADIHW (D.A.N. 2098) Radio ID Hardware
When internal or external radios are used with the 10/60 series hardware, they are automatically detected. The indicator, upon power up will display RADIO > EXTNRL or INTRNL > Radio Type respectively.

Radio Types Detected:

WIFI – ERM Wi-fi Module	XSTR24 – XStream 2.4 Ghx
XBEE24 – XBee 2.4Ghz	XSTR90 – XStream 900Mhz
XBEE90 – XBee 900MHz	

Radio ID detection can also be accessed through this menu system setting.

Menu 2.1 – Scoreboard & Operational Status Mess. (Jump List 21)

SCOREM (D.A.N. 2101) Scoreboard Modes
There are multiple scoreboard modes available; this feature causes the indicator to continuously send data. No data is transmitted when SCOREM is set to ‘0'. See pages 11 & 12 for connections.

Refer to D3648 for the most up to date details on scoreboard functions.

0 Disable scoreboard output.

1 Transmit weight displayed once per second.
- Starts with <STX> (Start of Text - Dec. 2).
- Six digit displayed weight value (may include a decimal). Some digits may provide additional information as follows:

<STX>ABBBCD<CR>

A = either a minus sign, SPACE, number, or a dollar($). *The dollar($) appears when the "Lock On" weigh method and has "locked onto" a weight value.*
B = a number or a SPACE.
C = a number, SPACE, *or a '-' minus sign indicating a TR command is active.*
D = a number *or a '-' minus sign indicating that motion is active.*

- Ends with a <CR> (Carriage Return- Dec. 13).

Output examples: (Note: Data sent will start with a <STX> and end with <CR>).

" 1530" - Normal weight value.
"- 1530" - Negative weight value.
"$ 1530" - "Locked On" animal weight value.
" 15-0" - Normal weight value also showing that the TR is being used.
" 153-" - Normal weight value also showing motion is active.
" 142.5" - Normal decimal weight value.
"- 142.5" - Negative decimal weight value.
"$ 142.5" - "Locked On" animal decimal weight value.
" 14-.5" - Normal weight decimal value also showing that the TR is being used.
" 142-5" - Normal weight decimal value also showing motion is active.

2 Transmit weight displayed 2 times per second.
Same data format as setting 1

3 Transmit weight displayed 3 times per second.
Same data format as setting 1

4 Transmit weight displayed 10 times per second.
Same data format as setting 1

5 Transmit weight displayed using the Display Rate setting (D RATE D.A.N. 1002).
Same data format as setting 1

6 Transmit weight display whenever the displayed weight changes to a different value.
Same data format as setting 1

7 Transmit comma delimited data which includes the basic weighing information 1 time per second.

- Includes Gross Weight, display unit, weight tag (GR, M+, etc...), Total Rotation Count, Date & Time with seconds.
- Ends with a <CR>,<LF>. (Carriage Return, Line Feed) PA

Output example:

```
          1         2         3         4
1234567890123456789012345678901234567890
"    280,LB,GR,  187,03JL03, 3:41:21"
```

8 Transmit comma delimited data which includes the basic weighing information once every 5 seconds.

- Same data format as setting 7

9 Selection #9 is reserved.

11 Transmit comma delimited data which includes the "serial gross weight" 2x/second.

The serial gross weight data can be sent at any available baud rate, 1 start bit, 7 or 8 data bits, EVEN, ODD, or NONE parity bit, and 1 stop bit on pin 2 (COM #1 Tx line) or pin 4 (COM #2 TX line) on the Serial / Printer connector.
See Port Settings Menu 2.2 for more information.

- Starts with <STX> (Start of Text)
- Six digit Serial Gross Weight “whole number” value (ie.1000 not 100.0) "LB" or "KG" unit of measure.
- Space character.

LINE STATUS (Five potential messages)

- “EB” – ZEROUT has not been performed.
- “ES” – Indicator currently in a menu
- “ER” – Indicator in an OVERCAP or RANGE message
- “SC” – Internal calibration is taking place
- "SG" – Serial Gross weight.
- The <ETX> (End of Text) control character.
- Checksum Character (C) value that includes all bytes starting after the <STX> up through, but not including the <ETX>.
- Ends with a <CR> (Carriage Return)

Output example:

<STX>999999LB EB<ETX>i<CR>

Value is calculated using a "serial zero/balance point" (ZEROUT D.A.N. 2102) and may not match the weight displayed on the scale. The serial gross weight is not affected when the operator performs a normal zero/balance. The serial gross weight value will always be gross and does not change when the operator performs a normal zero/balance or selects the Net or Load/Unload weight to be displayed.

12 Transmit comma delimited data which includes the "displayed gross weight" 10 times per second. (Format follows SCOREM 11)

Output example:

<STX> 670LB SG<ETX>j<CR>

14 Transmit weight displayed, and tons per acre 1 time per second.

- Starts with <STX> (Start of Text)
- Six digit displayed weight value (may include a decimal).

```
                1         2
  12345678901234567890
"  18490, 3.8"
```

15 Transmit comma delimited data which includes the feeding status 1 time per second.

- Includes Preset, Net Weight, Gross Weight, display unit,(O – Operator, P – PC requested command), M – Motion, weight tag (GR, M+, etc...), ID, Rotation counter, Date & Time.
- Ends with a <CR>,<LF>.

Output example:

```
          1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
  500,   220,  1300,LB,P, ,GR,      ,    0,18MY15,11:20:19<CR><LF>
```

27 Transmit comma delimited data which includes the “timer” or “mix counter” 1 time per second.

- Includes Preset, Net Weight, Gross Weight, Ingred/Pen Name, Recipe, Timer/Counter, Time, Date.
- Ends with a <CR>,<LF>. (Carriage Return, Line Feed).

Output example:

```
          1         2         3         4         5         6
 123456789012345678901234567890123456789012345678901234567890
"    200,    130,    340,Ing   ,RecNam,00:01:15,10:48A,23MY12"
```

37 Transmit comma delimited data 1 time every 5 seconds which includes the basic weighing information for each scale platform, starting "left-to-right" with Scale A, Scale B, Scale C, and Scale D.

- Starts with <STX> (Start of Text).
- Includes Weight displayed, display unit & weight tag (GR, M+, etc...) for each scale.
- The <ETX> (End of Text) control character.
- Checksum Character (C) value that includes all bytes starting after the <STX> up through, but not including the <ETX> .
- Ends with a <CR> (Carriage Return).

Output example:

Scales A, B, C, & D with scale A selected at the indicator

^ = STX @ = ETX C = Checksum ~ = CR

```
          1         2         3         4         5         6
 123456789012345678901234567890123456789012345678901234567890
"^ >   280LB GR,   11300LB NE,    1520LB GR,    2850LB NE@C~"
```

Output example: Scales A & B with scale B selected at the indicator.

```
          1         2         3         4         5
 123456789012345678901234567890123456789012345678901234567890
"^    280LB GR,>  11300LB NE@C~"
```

The weight tag changes from (NE,GR, or LU) to (NC,GC,or LC) when indicator is performing internal temperature calibrations (which can take up to 3 seconds). The weight sent at this time is the same weight prior to internal temperature calibrations. This occurs every 20 minutes but is done several times during the first 20 minutes after power up.

Output example: Scales A & B with scale B selected at the indicator. Both scales are being calibrated.

```
          1         2         3         4         5
 12345678901234567890123456789012345678901234567890
"^     280LB GC,>  11300LB NC@C~"
```

- Weight will appear as "999999ES" when operator is in Short/Long Form Menu's.

Output example: Scales A & B with scale B selected at indicator, B scale is in setup.

```
          1         2         3         4         5
 12345678901234567890123456789012345678901234567890
"^     280LB GR,> 999999LB ES@C~"
```

- Weight will appear as "999999ER" when weighing errors (+/-RANGE, CHK AD, OVERCAP etc..) are detected by the scale.

Output example: Scales A & B with scale B selected at the indicator, B scale has an error.

```
          1         2         3         4         5
 12345678901234567890123456789012345678901234567890
"^    280LB GR,> 999999LB ER@C~"
```

38 Transmit comma delimited data with basic weighing information for each scale platform one time per second.

- Same data format as setting 37.

39 Transmit comma delimited data with basic weighing information for each scale platform ten times per second.

- Same data format as setting 37.

YEILD Transmit comma delimited data which includes the "YEILD" data 1 time per second.

- Gross Weight, Net Weight, current lbs/acre, total acres.
- Ends with a <CR>,<LF>. (Carriage Return, Line Feed).

Output example:

```
          1         2         3         4         5         6
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
"  6527 GR,   2995 NE,  48661.9 LBS/A,   0.05 AC"<CR><LF>
```

ZEROUT (D.A.N. 2102) ZERO OUTPUT

Use this selection to Zero / Balance the weight for the Continuous Serial Gross Weight - Scoreboard Mode setting #11 & 12 (described above).

ZEROFP (D.AN. 2103) FRONT PANEL ZEROUT

When enabled, allows the Serial Gross Weight to be Zero/Balanced using Front Panel [Zero] key rather than the Zero Output selection **ZEROUT (D.A.N 2102)**

SCRM 2 (D.A.N. 2104) Scoreboard Mode Output 2
The same multiple scoreboard modes as ***SCOREM (D.A.N. 2101)*** are available. The modes can be output to the same or separate communication ports. See ***SC2PRT (D.A.N. 5015)***

Refer to D3648 for the most up to date details on scoreboard functions.

OPSTAT (D.A.N. 2111) Operating Status
The Continuous Operating Status setting in Menu 2 will cause one or more data packets to be transmitted from the scale continuously.

Refer to the EZII Escape Computer Command Set document D3648 for more information.

-DVADJ (D.A.N. 2199) Dynamic Variable Adjust
When enabled, causes the negative sign to be left justified and numeric values to be right justified.

Menu 2.2 – Port Settings (Jump List 22)

Computer/Printer Port 1 – Pin 2

C1 BD (D.A.N. 2201) COM 1 Baud Rate
Sets Com 1 baud rate for 1200 – 115200

C1 PAR (D.A.N 2202) COM 1 Parity
Sets Com 1 parity to EVEN, ODD, or NONE

C1DATA (D.A.N 2203) COM 1 Data Bits
Sets Com 1 data bits or 7 or 8

C1 DLY (D.A.N 2204) COM 1 Delay
Com 1 Delay chooses the number of seconds the printer will delay before advancing to the next print line. Select one of the following:

OFF	No delay
.10	1/10 of a second
.25	1/4 of a second
.50	1/2 of a second
.75	3/4 of a second

1	1 Second
2	2 Seconds
3	3 Seconds
4	4 Seconds
5	5 seconds

Computer/Printer Port 2 – Pin 4

C2 BD (D.A.N. 2211) COM 2 Baud Rate
Sets Com 1 baud rate for 1200 – 115200

C2 PAR (D.A.N 2212) COM 2 Parity
Sets Com 1 parity to EVEN, ODD, or NONE

C2DATA (D.A.N 2213) COM 2 DATA BITS
Sets Com 1 data bits or 7 or 8

C2 DLY (D.A.N 2214) COM 2 DELAY
Com 2 Delay chooses the number of seconds the printer connected to the 2nd serial port will delay before advancing to the next print line. Selections are same as for C1 DLY

Menu 2.3 – Print (Jump List 23)

TAREAP (D.A.N. 2301) TARE AUTO PRINT
When enabled, print data will be sent to serial port when the indicator "TARE" function is used.

1L PRT (D.A.N. 2302) 1 LINE PRINT
ON - Formats printer output data on one line.
OFF - Formats printer output data in up to two lines.

APRINT (D.A.N. 2303) AUTO PRINT
When enabled, pressing the following keys will automatically print weight values.
ZERO, HOLD, TARE, TR, ID, NET/GROSS, TIMER, M+, RM, CM, and MS. APRINT also works with remote input settings for both RMINP1 and RMINP2.
TARE, HOLD, NETGRS, M+, and ZERO

Auto Print prints all transactions. This feature also works with wireless transmitters.

PRTFMT (D.A.N. 2304) PRINT FORMAT
Many data output formats are available. See the end of this manual for more details.

PRTACC (D.A.N. 2305) PRINT ACCUMULATION
This feature is designed to automatically keep a running total of the weights printed. It is similar to a Memory Plus (M+) feature, but it is done automatically each time the weight is printed. Another difference from the M+ feature is that the weight value is always recorded as a positive weight. For example, if the Print Accumulation contained a value of 5000 and -1500 was printed, the new Print Accumulation value would be 6500 (change the -1500 to +1500 and then add it to 5000 = 6500). The Print Accumulation can be viewed by entering Menu 2 of the Long Form Setup. Select either the “PRTAC1” or “PRTAC2” print formats to have the Print Accumulation sent to a printer. To clear the Print Accumulation value, press the Zero key while the PRTACC value is displayed in the Long Form. The Print Accumulation value is stored in non-volatile memory and will be retained even after the scale is turned off. Also accessible to view or clear on seed tender indicators after saving FIELD information.

BUFFER (D.A.N. 2306) PRINT BUFFER
ON - Data sent to the printer port is also stored in the scale’s non-volatile “record” memory. When this setting is accessed in the Long Form, the percentage of the available record memory is displayed.

Menu 2.4 – Remote Display (Jump List 24)

RMDISP (D.A.N. 2401) SELECT REMOTE DISPLAY TYPE
EZ2 Most Remote Displays, including RD1000 or RD2000

EZ3MUX First Generation RD2400 Remote Display
COG RD2500V Remote Display

RMTERM (D.A.N. 2402) Remote Terminal
ON - Allows external devices to use the Cab Control Communication on a serial “wired” interface.

AUTDRD (D.A.N. 2403) Auto Detect Remote Display – SL2 only
When enabled, indicator will auto-detect connected remote display (EZ2, EZ3MUX, or COG).

BARGRP (D.A.N. 2411) Bar Graph Mode
Select how the bar graph works on the RD4000. The bar graph can be set to work for gross weight, presets, timers/counters, or ingredients.

OFF = No display
RIGHT = Bar graph begins with no display and fills from “left to right”
LEFT = Bar graph begins with a full display and is removed from “right to left”
MIDOUT = Bar graph begins with no display and fills from middle to full display
MIDIN = Bar graph begins with a full display and is removed from full display to middle

NOTE: These settings will also affect the TMR4610 bar graph display.

WTGRPH (D.A.N. 2412) Bar Graph enable
Enables the bar graph for gross weighing mode.

BAR WT (D.A.N. 2413) Bar Graph Weight
Enter the Gross Full-Scale Weight to activate all LED’s of the bar graph on the RD4000 remote. This is used with all Bar Graph Modes. If set to a weight value of 12,000, approximately half of the bar graph will be lit when the gross weight displayed is 6,000

PRGRPH (D.A.N. 2414) Preset Graph Enable
Enables the bar graph for preset weights.

TMGRPH (D.A.N. 2415) Timer Graph Enable
Enables the bar graph for timers/counters.

INGRPH (D.A.N. 2416) Ingredient Graph Enable
Enables the bar graph for ingredient preset weights.

NONDSR (D.A.N. 2417) Non Digi-Star Display
This feature adds support for Non-Digi-Star displays. Some remote displays cannot accept the speed at which the data is transmitted. The feature will slow down the timing to be more compatible with competitors’ remote displays.

NOTE: For feature to work correctly Bootloader needs to be version 160725 or newer.

Menu 2.7 – ISOBUS (Jump List 27)

ISO WT (D.A.N. 2701) Isobus Weight
Set to periodically output the most current Gross, Net & Load/Unload weights to external devices connected to the Serial Port. Settings start at "OFF" (no transmissions) and increase in 0.1 second increments up to 2.0 seconds.

ISOADR (D.A.N. 2702) Isobus Base Address
Allow the ISOBUS Scale Link to claim a specific address. Upon being commanded to change addresses, the ISOBUS Scale Link stores the new address, ends the use of the current address, and performs a new address claim starting at the new address. The default address is typically 144 (0x90).

ISOINT (D.A.N. 2704) ISOBUS VT INSTANCE NUMBER
Preferred virtual terminal instance to display mask on.

CANMSG (D.A.N 2711) CAN MESSAGE TYPE
Allows for entry of a proprietary can message type.

CANINT (D.A.N 2712) CAN MESSAGE INTERVAL
Allows editing of the interval time for the CANMSG output.

3.3.0 Menu 3 – MOTION & Weight

Menu 3.0 – WEIGHT (Jump List 3)

COUNT (D.A.N. 3001) Display Count
Indicator displays count in increments of 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, and 100. If the count is set too small, the readings will be unstable and the indicator will not be accurate. Display count should be equal to or greater than 1/4000 of the capacity. This command changes the Setup number. See also **(D.A.N. 8711)**

CAP (D.A.N. 3002) Scale Capacity
Enter MAXIMUM weight measurable on scale. This will change the last 3 digits in the setup number. See also **(D.A.N. 8711).**

WMA1-1 (D.A.N. 3003) Weigh Method 1 Adjust 1
Choose a value from 2 – 100 (factory setting = 10). This setting is the main “filter” setting for the weigh method. A small filter number such as 2 or 4, causes the scale to respond quickly to weight changes, but may cause the display to appear “jumpy.” A large filter number, such as 32 or 64, causes the scale to be more stable, but the scale is “slow” to respond to weight changes.

WMA1-2 (D.A.N. 3004) Weigh Method 1 Adjust 2
Choose a value from 0 – 100 (factory setting = 4). When this adjustment is set to a value other than 0, it activates a “Quick Response” feature. This allows the scale to quickly respond to large weight changes.

WMA1-3 (D.A.N. 3005) Weigh Method 1 Adjust 3
Set the “Quick Response Weight” for Weigh Method #1 (General). If weight added to the scale is greater than the amount set here, the “Quick Response Average Number” setting of

WM1-A2 is used as the filter number. The default is 10% of the scale's capacity. For example, if this value is set to 3000, the weight must change more than 3000 lbs before Weigh Method #1 will use the "Quick Response Average Number" set in WM1-A2. Once close to the actual weight, Weigh Method #1 uses the filter number set in WM1-A1.

WMA2-1 (D.A.N. 3006) Weigh Method 2 Adjust 1

Choose a value from 2 – 100 (factory setting = 30). This adjustment is the "Maximum Average Number" setting for Weigh Method #2 (Slow). This number determines how many of the previous weight samples to average. A small average number such as 2 or 4 causes the scale to respond quickly to weight but may cause the display to appear "jumpy." A large filter number, such as 32 or 64, causes the scale to be more stable, but the scale is "slow" to respond to weight changes.

WMA2-3 (D.A.N. 3007) Weigh Method 2 Adjust 2

Choose a value from 0 – 100 (factory setting = 10). This adjustment is the "Quick Response Average Number" setting for Weigh Method #2 (Slow). If adjustment 2 is set to a value other than 0, it activates the "Quick Response" feature. This allows the scale to quickly respond to large weight changes.

WMA2-3 (D.A.N. 3008) Weigh Method 2 Adjust 3

Adjustment 3 sets the "Quick Response Weight" for Weigh Method #2 (Slow). If weight added to the scale is greater than this amount, the "Quick Response Average Number" setting of WM2-A2 is used as the filter number. The default is 10% of the scale's capacity. For example, if this value is set to 3000, the weight must change more than 3000 lbs before Weigh Method #2 will use the "Quick Response Average Number" set in WM2- A2. Once close to the actual weight, Weigh Method #2 increases the "Quick Response Average Number" on each conversion until the number of averages equals the Maximum Average Number set in WM2-A1.

ABCDSP (D.A.N. 3091) A,B,C,D Display Format

Allows the weight for the ABCD scales to be displayed individually as four "SINGLE" scales (as on previous ABC scale systems), or always together showing the "TOTAL" (A+B+C+D) or "COMBIN"ed which also displays the A+B+C+D weight. The "COMBIN"ed setting also causes the Balance, Tare, Net and Gross function to be performed to ALL 4 scales at the same time. Please note: Each input (A,B,C,D) have their own Setup and Calibration and also scale specific settings.

Menu 3.1 – MOTION (Jump List 31)

MOTION (D.A.N. 3101) Motion

When enabled, an annunciator flashes under the word Motion on the display to indicate unstable weight.

The MOTION parameter limits operation if the scale is unstable. It does not correct for the instability. It is up to the operator to correct the unstable environment. The following items are disabled until the weight is stable:

- Printer output
- Zero/Balance function
- Tare function
- Ingredient Auto-advance

Note: Motion is temporarily turned on during all system weight calibrations to insure a stable measurement. It is turned off after calibration if Off was selected in Motion setup.

MOT WT (D.A.N. 3102) MOTION WEIGHT

Standard motion detection will activate when the weight displayed has moved more than “2 display counts” in less than “2 seconds”. The standard motion detection is selected whenever the indicator is first turned ON or the “Motion Weight” value is set to “0”. The “Motion Weight Value” has a range from 0 (OFF) – 999999. The weight value is either lb or kg depending on settings for Display Units in Long Form Setup.

NOTE: To use Motion Weight, the motion detection feature ***MOTION (D.A.N. 3101)*** *in Menu 3 must be On*

Menu 3.2 – ANALOG OUT (Jump List 32)

LOW WT (D.A.N. 3201) Analog Low Weight

For Units with Analog Output

The "LOW WT" setting allows the user to enter the weight value that equals low output limit (4mA or 0V) for the analog output. The “LOW WT” value must be smaller than the “HIGH WT” value.

HIGHWT (D.A.N. 3202) Analog High Weight

For Units with Analog Output

The "HIGHWT "setting allows the user to enter the weight value that equals the high output limit (20mA or 5V) for the analog output. The “HIGH WT” value must be larger than the “LOW WT” value.

ANAOUT (D.A.N. 3203) Analog Output Option

Analog Output is an optional feature installed on the option board. Jumpers on the option board must match the setting in this menu.

0-5VDC	Analog Output from 0 to 5 Volts DC.
4-20MA	Analog Output from 4 to 20mA without error detection
0-20MA	Analog Output from 0 to 20mA (error indicated with output below 4mA)

Note: Internal jumpers must also be moved when this selection is changed. Please refer to the Analog Output Manual (D3708) for further details.

-ANALG (D.A.N 3204) Negative Analog Output

Allows the analog output 4-20mA setting to represent weight values less than the Analog Low Weight selection (LOW WT) in Menu 2. This setting allows the signal to represent weights as low as 3mA. This is useful to show weight values below the Zero/Balance point when the Analog Low Weight selection (LOW WT) is set to 0.

ANTEST (D.A.N 3209) Analog Output Test

Allows testing of the analog output. Each of the following outputs can be tested: Normal, Minimum, Maximum, and Saw.

Press SELECT to cycle through available tests.

NOTE: Tests will run continuously until menu item is exited.

3.4.0 MENU 4 – PRESET, ALARM, AND TIMER

Menu 4.0 – PRESET, ALARM, AND TIMER (Jump List 4)

P MTHD (D.A.N 4001) PRE-ALARM METHOD

Select WEIGHT OR PERCNT to activate Pre-Alarm

P-ALM (D.A.N. 4002) PRE-ALARM

Enter a value to activate an early warning to alert user the scale is reaching the preset weight.

AL OUT (D.A.N. 4003) ALARM OUT

TR — The Alarm Output allows the alarm capabilities of the preset alarm to be controlled by the TR keys. The Front Panel Alarm light and the relay output is ON (+12V) when a TR command has been accepted by the scale.

PRESET — Causes the alarm capabilities to be controlled by the preset alarm.

SWITCH — Select Alarm Output setting 'SWITCH' to illuminate the lamp for an 'OPEN' or 'CLOSED' condition on the remote input line or the power cord.

*NOTE: SWITCH option will not be present unless **RMINP1 (D.A.N 1401)** or **RMINP2 (D.A.N. 1411)** are set to SWITCH*

BUZZER (D.A.N. 4004) ALARM BUZZER

How long the buzzer sounds can now be modified. It can be set to stay on continuously when alarm is active, selectable from 1-10 seconds, or OFF.

RELAY (D.A.N. 4005) +12VDC ALARM OUTPUT

All 10/60 Series Models

OFF — No 12V signal will be activated

PRESET — Standard preset relay, lamp, and alarm functionality. Uses the preset to determine the pulses of the light, buzzer, and 12V signal.

SETPNT — Uses the weight threshold to activate and deactivate the 12V signal

ST3410 Models

SEEDTD — During unloading the 12V signal is activated and once the preset is reached the light, buzzer, and the signal deactivates. The light and buzzer also pulse when the pre-alarm is active.

GT/NT560 Models

PRNOPA — Preset No Pre-Alarm. Uses the preset and pre-alarm for the light and buzzer, but the 12V signal is only activated by the preset being reached.

PREACT — Preset Active Signal. During unloading the 12V signal is active before the preset weight is reached and the signal deactivates when the preset is reached. The light and buzzer are linked to the pre-alarm and active until unloading is complete.

SSPRST — Start/Stop Preset. Same functionality as PRESET with the addition of PAST setting (See ***PAST (D.A.N. 6303)*** page 45)

PRTDLY (D.A.N. 4006) Preset Advance Delay
PRTDLY controls the number of seconds to wait before auto-advancing to the next to print the preset, clear the preset, and clear the "Preset ID" once the target weight has been reached. Enter value in seconds, a value of 0 sets manual advance.

RLYOUT (D.A.N. 4008) Relay Out
Selects the state of the relay when a preset is reached. SIG 12V or SIG 0V

PRCLPT (D.A.N. 4009) Preset Clear on Print
When enabled, the preset and preset ID will be cleared when a print occurs. Default setting is ON

WEITOG (D.A.N. 4012) Ingredient/Pen Weight Toggle
A new feature was added to the 10 series batching indicators. When batching and no motion is present for approximately 6 seconds, the ingredient/pen name will begin to toggle with the call weight again. When 10% of the remaining preset has been loaded/unloaded the display will remain on weight. Setting is enabled by default.
When disabled – Legacy operation (toggle disabled after 10% of original preset it reached).

Menu 4.1 – SETPOINT (Jump List 41)

SETOUT (D.A.N. 4101) Gross Set Point Output
Gross Set Point determines when the +12VDC Alarm Output becomes active.
SIG 12V Relay will turn on when the weight is equal to or exceeds the Gross Set Point weight.
SIG 0V Relay will turn off when the weight is equal to or below the Gross Set Point weight.

SETCHG (D.A.N. 4102) Set Point Weight Change
This is the "weight change" required to turn off the +12VDC Alarm Output after it has been activated. This weight must be lower than the weight entered for SETPNT (from 0-999999). Once the weight on the scale is below the Gross Set Point by the "weight change" amount, the +12V Alarm Output will change back to the original output (prior to reaching the gross set point). This setting prevents the +12VDC Alarm Output from repeatedly turning on and off when mixing around the actual ***SETPNT*** weight.

SETDEL (D.A.N. 4103) Set Point Delay Time
This setting is used with Gross Set Point. This "delay time" must expire before the +12VDC Alarm Output can turn on or off. The selection ranges from 0 to 10 seconds. This setting prevents the 12VDC Alarm Output from repeatedly turning on and off when mixing around the actual ***SETPNT*** weight.

SETPNT (D.A.N. 4104) +12VDC Alarm Output
This feature allows the operator to set a Gross weight in the Long Form that will activate the +12VDC Alarm Output on the power cord. The Set Point weight can range from 0-999999 and uses the Gross weight shown for the Zero Output feature **ZEROUT (D.A.N. 2102).**

SETCTR (D.A.N. 4105) Set Point Counter
This setting is used with Gross Set Point feature and counts the number of times the gross weight on the scale activates the Gross Set Point. Access the value through the Long Form to display the counter value. Reset the counter to 0 in the Long Form by pressing 0 on the keypad while the SETCTR value is displayed.

STWTSC (D.A.N. 4106) Set Point Weight Source
This feature allows the operator to select the weight source to trigger the SETPNT.
NORMAL – Displayed weight.
SERIAL – Uses the Gross weight shown for the Zero Output feature ***ZEROUT (D.A.N. 2102).***

Menu 4.2 – PRESET TOLERANCE (Jump List 42)

T MTHD (D.A.N. 4201) Tolerance Method
Select WEIGHT OR PERCENT to activate Tolerance.

TOLER (D.A.N. 4202) Tolerance
The Tolerance feature is a "tolerance window" for the entered preset. For example, if the tolerance is set to 5% and the preset is 1000 lbs., the "tolerance window" is 50lbs. The scale is in the "tolerance window" when the display is between 50 and -50 lbs. The auto-advance function activates the Preset Advance Delay Time while the weight is in the tolerance window. The auto-advance Delay Timer resets every time the weight moves out of the tolerance window.
NOTE: Tolerance can be used in any RELAY mode. Refer to **RELAY (D.A.N. 4005)**

OVERLK (D.A.N. 4203) Tolerance Over Lock
When enabled, prevents the scale from auto-advancing if the amount being loaded or unloaded has exceeded the preset tolerance amount and has caused the scale to display “OVER”.

Menu 4.3 – MIXER REVOLUTIONS (Jump List 43)

TMRCTR (D.A.N. 4301) Timer Counter
Selects if the mix timer or the rotation counter feature will be displayed when the TIMER/COUNTER key is pressed.

DRATIO (D.A.N. 4302) Drive Ratio
The Drive Ratio is a number that tells the indicator how many pulses equal 1 mixer revolution. The drive ratio can be any number between 0.01 and 999.99.

3.5.0 Menu 5 – communication port mapping

Menu 5.0 – Port Outputs (Jump List 5)

Each of the following outputs can be set to any communication port for added flexibility.

RMDPRT (D.A.N. 5001) Remote Display Port
Selects serial remote display output. Off, COM1, COM2, or COM3

RADPRT (D.A.N. 5002) Radio Port
Sets internal radio port. Off, COM1, COM2, or COM3

EXRPRT (D.A.N. 5003) External Radio Port
Sets external radio port. Off, COM1, COM2, or COM3

PRPORT (D.A.N. 5005) Printer Port
Sets printer port. Off, COM1, COM2, or COM3

SCPORT (D.A.N. 5006) Scoreboard Port
Sets scoreboard port. Off, COM1, COM2, or COM3

OPSTAT (D.A.N. 5007) Opstat Port
Sets opstat port. Off, COM1, COM2, or COM3

DDLPRT (D.A.N. 5009) DDL Port
Sets DDL port. Off, COM1, COM2, or COM3

20MAMR (D.A.N. 5011) 20ma Mirror Port
Sets port for 20MA signal to mirror. Off, COM1, COM2, or COM3

RECPRT (D.A.N. 5012) Recipe Port
Sets recipe output port. Off, COM1, COM2, or COM3

GPSPRT (D.A.N. 5013) GPS Port
Sets GPS port. Off, COM1, COM2, or COM3

SC2PRT (D.A.N. 5015) Scoreboard Port 2
Sets scoreboard 2 port. Off, COM1, COM2, or COM3

CANPRT (D.A.N. 5111) CAN Port
Used to send a specific message via the CAN bus

DBGPRT (D.A.N. 5999) Debug Port
Sets internal debug port. Off, COM1, COM2, or COM3

3.6.0 Menu 6 – application specific settings

Menu 6.0 – Common Batching (Jump List 6)

BPMTHD (D.A.N 6001) Batch Pre-Alarm Method
Select WEIGHT OR PERCENT to activate Batch Pre-Alarm

BP-ALM (D.A.N. 6002) Batch Pre-Alarm
Enter a value to activate an early warning that scale is reaching the preset weight when in a batch.

ITMTHD (D.A.N. 6003) Ingredient Tolerance Method
Select WEIGHT OR PERCENT method for ingredient tolerance.

ITOLER (D.A.N. 6004) Ingredient Tolerance
Enter the value to accept ingredient for auto-advance.
Refer to **TOLERANCE (D.A.N. 4202)** for more information.

PTMTHD (D.A.N. 6005) Pen Tolerance Method
Select WEIGHT OR PERCENT method for Pen tolerance.

PTOLER (D.A.N. 6006) Pen Tolerance
Enter the value to accept pen for auto-advance.
Refer to **TOLERANCE (D.A.N. 4202)** for more information.

BOVRLK (D.A.N. 6007) Batch Tolerance Overlock
When enabled, prevents the scale from auto-advancing if the amount being loaded or unloaded has exceeded the preset tolerance amount and has caused the scale to display “OVER”.
See **OVERLK (D.A.N 4203)**

BDELAY (D.A.N. 6008) Batch Advance Delay
Selects seconds before advancing to the next feedline. Enter value in seconds, a value of 0 sets manual advance.

MANPEN (D.A.N. 6009) Manual Pen Advance
Indicator will automatically advance when loading ingredients, but manually advance when making deliveries to pens.

ISTART (D.A.N. 6011) Ingredient Started Weight
The weight amount loaded that determines if an ingredient has been started.

PENWT (D.A.N. 6012) Pen Weight
Allows operator to select how the pen preset weight will be displayed while feeding - Net, Load/Unload (counting down), or Gross modes.

RESIZE (D.A.N. 6013) Resize Recipe
Allows the user to change the recipe size by changing the amount to feed or the number of animals for each pen. The following options are available:
OFF – No resize options
SELECT – Prompts user when recipe is started. User can toggle between Headcount change and load weight change by pressing the SELECT key.
LOAD – When prompted, only LOAD size is available for resizing.
ANIMAL – When prompted, only AMIMAL is available for resizing

Menu 6.0.5 – Common Batching/Selection Based on Application

RECFMT (D.A.N. 6051) Recipe Print Format
Allows user to select how the indicator will print when in a recipe. When in weighing mode, print format will follow PRTFMT selection.

EZ3410 Operation
Three selections are available:
SYSTEM – User selected print format listed in **PRTFMT (D.A.N 2304)**
AUTO – Standard recipe format
32-TMR – Feedline format

TMR36/4610 Operation
Six selections are available:
SYSTEM – User selected print format listed in **PRTFMT (D.A.N 2304)**

AUTO – Standard recipe format
32-TMR – Feedline format
FDINFO – Batching feedline status information
FEED-1 – 3-line format including batching information
SERMED – TMR Tracker feedline format

See end of this manual for more details.

RECTOT (D.A.N. 6052) Recipe Total

EZ3410 Operation:
Provides 4 methods of correcting the batch size based on previous batch size errors. (Corrects the load amount by the amount overloaded or under loaded last time). This is accomplished by changing the weight "Total" displayed at the beginning of the recipe. This feature assists the operator by making the average amount of several feedings equal to the amount programmed for the recipe.

Programmed { PROG }: This setting always displays the total weight of the recipe as "programmed". The value is shown for recipes programmed in Entry Methods #1 (Amount per Animal) and #2 (Percentage of Load), but shows an actual weight amount if programmed in Entry Method #3 (Amount per Load).

Last {LAST}: This setting always displays the total that was "last" used for this recipe.

NOTE: The next two settings work with ingredient only recipes.

Programmed Correction {PRGCOR}: This setting only works for recipes programmed in Entry Method #3 (Amount per Load). It "corrects" the total amount displayed for any under or over feeding that occurred the last time the recipe was used. This helps insure that the amount loaded will average the recipes programmed weight.

Last Correction {LSTCOR}:
This setting only works for recipes programmed in Entry Method #2 (Percent per Load) and Entry Method #3 (Amount per Load). This setting "corrects" the total amount displayed for the recipe to the "last amount entered on the indicator by the operator", rather than the programmed amount.

TMR36/4610 Operation:
List Mode: When recipe is started, indicator will display a full load of the recipe, followed by what is needed for the current feeding.
Loads Mode: When recipe is started, indicator will display what is needed for current feeding.

INGSIZ (D.A.N. 6053) Ingredient Re-sizing

EZ3410 Operation:
1 ING – First Ingredient Resize
This feature will resize the entire recipe if the first ingredient's loaded weight is outside of the Ingredient tolerance **ISTART (D.A.N. 6014)** window of the preset. Resizing changes the preset of each ingredient to mimic the ratio loaded in the first ingredient and keep the nutritional value of the recipe the same.

1 ING+P – First Ingredient Resize + Pens
This feature will resize the entire recipe, *including pens*, if the first ingredient's loaded weight is outside of the Ingredient tolerance **ISTART (D.A.N. 6014)** window of the preset. Resizing changes the preset

of each ingredient to mimic the ratio loaded in the first ingredient and keep the nutritional value of the recipe the same.

TMR36/4610 Operation:
1 ING – First Ingredient Resize
This feature will resize the entire recipe if the first ingredient's loaded weight is outside of the Ingredient tolerance **ISTART (D.A.N. 6014)** window of the preset. Resizing changes the preset of each ingredient to mimic the ratio loaded in the first ingredient and keep the nutritional value of the recipe the same.

1+2ING - First Plus Next Ingredient Resize
This feature will resize the second or next ingredient if the first ingredient loaded weight is outside of the Tolerance **ISTART (D.A.N. 6014)** window of the preset. Resizing adds (under-loading the first ingredient) or subtracts (over-loading first ingredient) the weight error to the weight amount of the second ingredient. This insures that the programmed total of ingredient 1 plus ingredient 2 remains the same. Essentially, this technique uses ingredient 2 to correct for any loading variances of ingredient 1.

PROGRAM (D.A.N. 6054) PROGRAM RECIPE
When set to "SCALE", recipes can be programmed at the indicator, similar to the EZ3410. When set to "PC", all recipes are programmed on a PC and transferred to the indicator using either USB or Datalink.
Please refer to the Operator Manual's for further details about this option.

Menu 6.1 – 3410 Batching (Jump List 61)

E MTHD (D.A.N. 6101) ENTRY METHOD
Select the entry method to use when programming recipes. Select one of the following:
1 – Amount per animal
2 – Percent per load
3 – Amount per load

SCOOP% (D.A.N. 6102) SCOOP PERCENTAGE
Allows the operator to see how much to fill the loader bucket, or how big of a "silage cut" to make by displaying a "scoop percentage" on the LCD. 100% equals 1 bucket load or silage cut (scoop). The "scoop weight" is entered in the ingredient table (one time) for each ingredient.

INGRNM (D.A.N. 6103) INGREDIENT NAMES
When enabled ingredient/pen names are shown when batching. When disabled, the indicator will user a numeric list. (ING-01…ING-02…)

ACCUM (D.A.N. 6104) ACCUMULATOR
When enabled, ingredient and pen totals are accumulated during batching.

Menu 6.2 – 3610/4610 Batching (Jump List 62)

USERID (D.A.N. 6201) FORCE USER ID
When enabled, operator MUST enter User ID before using the scale.

RECKEY (D.A.N. 6202) RECIPE KEYS

Keys on the indicator will be disabled while using a recipe to prevent errors by the operator pressing the wrong key.

Disabled Keys:
Left Cursor, Right Cursor, Zero, On, Tare, Net/Gross, Recipe, Pens, 1,2, 3, 4, 5, 6, 7, 8, 9, 0, ID, Select and Function.

Active Keys: Hold, Timer, Print, Enter, Up Cursor, Down Cursor, Clear, Help

BATNUM (D.A.N. 6203) BATCH NUMBER CONTROL

(Note: This feature only applies to "List Mode" feedlines)

EZCTRL – The indicator creates the batch number during feeding, batch number ranges from 300-999.

PCCTRL – Batch number is determined by PC feeding program.

DBLKEY (D.A.N. 6204) DOUBLE KEY PRESS PREVENTION

This feature ignores keys that are accidentally double pressed when advancing to the next ingredient. This includes the *Print, Enter, Ingredient-Advance* & *TR* keys.

RE-USE (D.A.N. 6205) RECIPE'S REMAIN ACTIVE

When set to ON, "Loads Mode" recipes will remain active in the indicator so they can be "re-used" for additional loads. The information for each load is also stored with a new, individual batch number that is different from the original batch number sent to the indicator. This allows each "re-used" load to be identified by TMR Tracker or 3rd party software programs.

RENTRY (D.A.N. 6206) RECIPE ENTRY

Allows the operator to start a recipe using the batch number. To use this feature, select the setting BATCH# to start recipe's using the batch number. Select the setting RECIPE to start recipe's using the recipe name. This feature is only useable with "Loads Mode" recipe formats.

SPLOAD (D.A.N. 6207) SPLIT LOAD

Automatically re-calculates undone pen presets to completely unload the mixer. This allows for a batch to feed all pens without underfeeding the last pen or having leftover feed in the mixer. No change to the base recipe is required to use this feature. With SPLOAD =OFF, the indicator will function as it has in the past and not automatically re-size any pen.

STPRST (D.A.N 6208) STARTING PRESET WEIGHT

Used for split load weighing along with **SPLOAD (D.A.N 6207)**

Used to determine whether to populate the timer/bunk read field (E6) with the starting preset of the feedline at the time of feeding. The starting preset value is returned as part of the completed feedline when the feed records are transferred off the indicator.

SMINGR (D.A.N 6209) SMALL INGREDIENT DISPLAY

Enter value to trigger the small ingredient message. If call weight is less than entered value, indicator will display "Small Ingredient – Manual Advance". The indicator will then toggle between the ingredient and call weight, user must manually advance ingredient. Logged weight will be call weight regardless of weight added.

UNDN I (D.A.N. 6211) Display Un-done Recipes

When enabled, the indicator will display any recipe that has “undone” feedlines, including recipes that have completed unloading the Pen feedlines, but did not load all of the ingredients. This selection is required to allow the operator to start “Single Ingredient Recipes” using the front panel.
When disabled, recipes that may have skipped an ingredient, but has unloaded all of the Pen feedlines, will be considered complete and will not be visible to the operator.
(For use with Batch-box operation)

RECPEN (D.A.N. 6212) Display Recipe Pens

When enabled, the indicator will display all of the pens to be fed for that recipe. When disabled, only the feeding number and recipe name are displayed to the operator when reviewing and selecting recipes.

ERASFD (D.A.N. 6214) Erase Done Feed-lines

Prevents the internal memory from filling up when **RE-USE (D.A.N. 6205)** is used. Causes the indicator to automatically erase the "Done" recipes from internal memory after they have been transferred to a USB drive or retrieved with Datalink.

MSTORE (D.A.N. 6215) Media Storage

QSTART – Data is automatically uploaded/downloaded when media is installed.
MANUAL – Media does not need to stay installed into indicator. Transfer is done manually by use of the USB > EZ and EZ > USB options found in the SELECT and FUNCTION keys.
SELECT – When media is inserted, indicator will prompt user to complete one of the following: Upload/Download, Log In, or Log Out.
(TMR4610 feature only)

R TEST (D.A.N. 6216) Range Testing

For units utilizing RF Datalink. The indicator will automatically mark all feedlines sent from DataLink as "Done" to simplify the process of using the indicator to identify the radio communication range of the DataLink system. For normal operation, "R TEST" must be set to OFF.

AUTPEN (D.A.N. 6217) Auto Start Pens

When enabled, indicator will automatically activate the pen list for that feeding once a recipe has been loaded.
For use with LIST mode feeding.

FDZONE (D.A.N. 6218) Feed Zone

Only recipes for the selected feed zone will be visible to the operator. Possible values for the “FDZONE” setting are ALL,1,2,3,4,5,6,7,8, and 9. Selecting “ALL” will enable every recipe in the indicator’s memory to be available for the operator. Selecting any other “FDZONE” setting will allow only recipes for the selected feed zone number to be available to the operator.

PARTFD (D.A.N 6219) Partial Feeding

Allows a portion of a pen’s PRESET weight to be delivered and saved as a separate feedline. The original feedline’s PRESET is updated to remove what was delivered.
For use with LIST mode feeding.

TC1300 (D.A.N. 6221) Mimic Tyrel TCX 1300

This feature causes the indicator to weigh differently while batching. The ingredient or pen preset weight display includes all weight changes that have occurred since the last ingredient or pen weight

was logged. The TARE key can be used to clear any weight displayed prior to loading or unloading. When set to OFF, the ingredient or pen preset weight displayed only shows the weight-change from when the preset was started.
Other features added to the 10 series are as follows:

- Enter or Print will perform a partial drop. (Standard partial drop function is performed by the down arrow)
- When a partial drop is performed, the indicator will load the next pen.
- Partial drops are printed. (Standard operation will print the completed pen and create a separate feedline for each partial drop.
- Ingredient/Pen toggle (New feature added to 10 series)

If an ingredient/pen is idle for 8 seconds, the ingredient/pen name will be displayed again. This feature is disabled with the TC1300 setting.

PCMTHD (D.A.N. 6222) Pen Check Method

Select WEIGHT OR PERCENT method for pen check option.

PENCHK (D.A.N. 6223) Pen Check

This feature forces an operator to press the PRINT key to confirm that they are intentionally underfeeding a pen and that they want to remove that pen from the pen list. The ON key will need to be pressed to have the pen remain on the pen list to be fed later. The pen check can be a percentage (ex. 10%) of the total amount to be fed to that pen or a single weight can be entered (ex. 100 lbs) that will be used for all pens. Set the **PCMTHD (D.A.N. 6222)** to PERCNT for "percentage of preset weight" or WEIGHT for a "single weight value", then enter either a percentage (ex. 1-99) or an actual weight value (ex. 100). Set Pen Check to 0 to disable this feature.

PSTART (D.A.N. 6224) Pen Started Weight

A threshold weight for delivering to pens. Weight must surpass this threshold to count as feeding a pen. Similar to **ISTART (D.A.N 6011).**

DDOCLR (D.A.N. 6225) Data Dump On Clear

This setting will alert the user if a preset has been “cleared”. If a weight change is detected on ingredients/pens and the user press the CLEAR key to exit the load, the following messages will be displayed:

1(x)

Press on for present Ingredient/pen – press enter for next Ingredient/pen – clear to exit recipe

2(x)

Removing changes to loaded weight of preset – clear to remove – ON to return

If CLEAR is pressed again to exit, the following output stream will be sent out the serial port.

Print example:

```
         1         2         3         4
1234567890123456789012345678901234567890
PRESET CLEARED<CR><LF>
WEIGHT REMOVED:    150<CR><LF>
ID:     1    ZN:3  REC:20      PEN: 20    <CR><LF>
```

Menu 6.3 – PRESET ACTIVE SIGNAL (Jump List 63)

UNWEDI (D.AN. 6301) Unload Weight Display

Used to change the normal view of the weight during the unloading process. There are three modes, NET, GROSS, and LOAD. The NET is the normal grain cart unloading method where the indicator counts down from zero and displays negative weight throughout the unloading. The GROSS mode allows the display of the actual or gross weight of the indicator and counts down from the total loaded weight. The LOAD mode will display the active preset weight and count down from that loaded value. If the unloading process unloads more than the prescribed preset the display will begin to count down from zero and show a negative number. The default mode is NET.

ALP (D.AN. 6302) Auto Load Preset

Determines if the preset is loaded when unloading begins. PRESET, SEEDTD, PRNOPA, PREACT, and SSPRST relay settings (see **RELAY D.A.N. 4005**) allow presets to be manually entered and then stored automatically. This stored preset is then loaded, when ALP is ON, when the unloading process starts. Every unloading cycle will use the loaded preset.
4 settings available:

- OFF – No output control will be activated and the preset will not be used.
- STORED – The operator manually enters a preset in the main weight screen and when unloading begins, by manually pushing the START/STOP or Autolog2 activates, the preset will be displayed and used for the control of the output signal
- TRUCK – The current ID truck capacity will automatically be used when unloading begins. This operation is similar to loading a stored preset, but the operator will see the actual capacity from the ID screen when the unloading process begins instead of a previously entered preset.
- PARTCP – This selection allows the operator to edit the preset to be used for unloading. When unloading begins the operator will see the truck capacity on the six-character display. This amount can be edited using the front panel keys or it can be accepted by the operator by pressing ENTER. The PARTCP prompt is intended to represent PARTIAL CAPACITY

Turn this setting to OFF to inhibit loading of the stored preset and the indicator will behave as a normal grain cart that is not utilizing the preset output signal. Default is OFF.

PAST (D.AN. 6303) Preset Active Signal Timeout

Determines the behavior of the 12V signal when **RELAY (D.A.N 4005)** is set to PRESET, SEEDTD, PRNOPA, PREACT, or SSPRST. This setting allows a time in seconds to be selected with resolution of 100ms.
Example: PAST set to 5 seconds, RELAY set to PRESET
Indicator will activate the 12V signal when the preset is reached, delay for PAST setting, and set the signal 0V. When PAST is set to zero, 12V signal will activate when the preset is reached and stay active until the preset is cleared. *See D4185 GT560 Autolog2 for more information.*

U ALRM (D.A.N 6304) Unload Alarm

Adjust the horn that is activated while unloading. The alarm sounds each time UNLOAD is displayed. Set to 1 for the shortest alarm. Set to 2 and 3 for longer alarms, and 4 for the longest alarm. The alarm BUZZER setting ***(D.A.N. 4004)*** has priority and should be set to ON in order for the Unload Alarm feature to operate correctly.

OTMTHD (D.A.N 6305) Output Tolerance Method

Select WEIGHT OR PERCENT to activate Output Tolerance.

OTOLER (D.A.N 6306) OUTPUT TOLERANCE

The output tolerance feature allows the operator to tune in the preset signal based on the intended equipment. This setting creates a window, based around the preset weight, and will activate the preset signal, according to the selected RELAY configuration, when the measured weight is within that window. This setting allows the signal to activate before the preset is reached.

NOTE: Output Tolerance is used with the following RELAY modes: SEEDTD, PRNOPA, PREACT, and SSPRST

Refer to **RELAY (D.A.N. 4005)** for more information.

UDELAY (D.A.N 6308) UNLOAD DELAY

Enter value in seconds to delay printing of record when loading/unloading is completed (ST3410 ONLY)

Menu 6.4 – AUTOLOG (Jump List 64)

RSSCTL (D.A.N. 6401) RPM START/STOP CONTROL

Enables AUTOLOG feature, three setting available:

MANUAL	The Start/Stop key is used to trigger the start of the unloading process and the end of the unloading process.
RPM	Uses a RPM sensor on the PTO shaft to trigger the start of the unloading process and the end of the unloading process.
SWITCH	Uses a switch to trigger the start of the unloading process and the end of the unloading process. See ***FS POL (D.A.N 6411)*** for switch polarity.

RSSMIN (D.A.N. 6402) RPM STOP SPEED

RPM STOP threshold – stop triggered when RPM falls below this value for ***RSSDPY (D.A.N. 6405)*** amount of time. Set to 20-50% of PTO operating RPMS. Stop is activated using this value

RSSTOL (D.A.N. 6403) RPM START TOL

RPM START threshold – start is triggered when RPM exceeds ***RSSTOL (D.A.N. 6403)*** + ***RSSMIN (D.A.N. 6402)*** for ***RSSTDY (D.A.N. 6404)*** amount of time. Set to 10% of PTO operating RPMS. Start is activated using this value + ***RSSMIN (D.A.N. 6402).***

RSSTDY (D.A.N. 6404) RPM DELAY

START delay – start triggered when RPM rises above ***RSSMIN (D.A.N. 6402)*** + ***RSSTOL (D.A.N. 6403)*** for this time in seconds.

RSSDPY (D.A.N. 6405) RPM STOP DELAY

Stop activated when RPM below ***RSSMIN (D.A.N. 6402)*** for this time in seconds

RMC EN (D.A.N 6406) RMT CC START STOP ENABLE

ON – Enables Cab Control start/stop control.

GPSTOL (D.A.N. 6408) GPS TRIGGER TOLERANCE

Enter weight change to trigger GPS recording. This setting affects both loading and unloading.

GPSHOW (D.A.N. 6409) GPS STARTUP ENABLE

Enables the GPS Satellite screen upon startup.

NOTE: The following settings work in conjunction with ***RSSCTL (D.A.N. 6401)***

FS POL (D.A.N 6411) FEEBOX START/STOP POLARITY
Select OPEN or CLOSE to activate automatic Start/Stop.

SWSTDY (D.A.N. 6412) SWITCH START DELAY
Number of seconds to delay start after switch is enabled.

SWSPDY (D.A.N. 6413) SWITCH STOP DELAY
Number of seconds to delay stop after switch is disabled.

Menu 6.5 – NUTRIENT/YIELD TRACKER (Jump List 65)

A UNIT (D.A.N. 6501) Application Units – NT560/YM560 application
Set measurement units to "ENGLSH" (Tons/Acre, Feet and Miles/Hour), or "METRIC" (Tonnes/Hectare, Meter and Kilometers/Hour).

RATE (D.A.N. 6502) Application Rate – NT560 application
To quickly enter the desired application rate in Tons per Acre (or Tonnes / Hectare), press the [Select] key until "RATE" is displayed, then press the [Function] key. The value is displayed with a decimal point, so 5 Tons/Acre is entered as "50" which is displayed as "5.0". Application Rate can also be accessed in Menu 6 of the Long Form Menu.

Note: The Application Measurement Unit (A UNIT) in Menu 6 will determine if the value is entered in either English (Short Tons/Acre & Spread width in Feet) or Metric (Tonnes/Hectare & Spread width in Meters).

WIDTH (D.A.N. 6503) Application Spread Width – NT560/YM560 application
To quickly enter the Application Spread Width, press the [Select] key until "WIDTH" is displayed, then press the [Function] key. The value is displayed with a decimal point, so 40 feet is entered as "400" which is displayed as "40.0". Application Spread Width can also be accessed in Menu 6 of the Long Form Menu.

Note: The Application Measurement Unit (A UNIT) in Menu 6 will determine if the value is entered in either English (Short Tons/Acre & Spread width in Feet) or Metric (Tonnes/Hectare & Spread width in Meters).

ACRES (D.A.N. 6504) Total Acres – NT560/YM560 application
Shows a running total of the acres spread for a particular field. Press ZERO to erase the accumulated value for the current field, or FIELD to erase the values for all the fields.

ARATE1 (D.A.N. 6505) Application Rate Estimate – NT560 only application
Set for number of weight samples to be used for the application rate estimate. A small number like 2 or 4 causes the estimate to respond more quickly, but may cause the T/A display to appear “jumpy”. A large value, such as 8 will smooth out the T/A display, but with a slower response. The value can be set between 2 and 10 samples.

ARATE2 (D.A.N. 6506) Application Rate Average – NT560/YM560 application
Set for number of application rate samples to be averaged to calculate the final application rate estimate. A smaller number decreases the response time, but may cause the display to appear “jumpy”. The value can be set between 1 and 5 samples.

ARATE3 (D.A.N. 6507) Application Rate Window – NT560 only application
Set for a range or window around the desired application rate value **RATE (D.A.N. 6502**). 0 = "OFF", 1 = RATE +/- RATE, 2 = RATE +/- ½ RATE, up to 9 = RATE +/- 1/9 RATE. When the actual application rate estimate is outside the window, the number of weight samples used for the estimate is determined from the minimum samples setting (ARATE4 - D.A.N. 6509). When the actual application rate is within the window, the number of weight samples used for the estimate is determined from the Application Rate Estimate value ***ARATE1 (D.A.N. 6505)***

ARATE4 (D.A.N. 6508) Application Minimum Samples – NT560/YM560 application
Set for the minimum number of weight samples used to calculate the application rate estimate, when the estimate is outside of the window determined from ***ARATE3 (D.A.N. 6507).*** If the Application Rate Window ***ARATE3 (D.A.N. 6507)*** is set to 0=”OFF”, the minimum samples value is not used for the estimate. The value can be set between 2 and 10. NOTE – Se*t Value to 0 for YM560 application*

AWEQUL (D.A.N. 6509) Application Rate Equal Weights – NT560 only application
Set the number of equal weight samples used to determine if the displayed application rate estimate should be zeroed. If the last AWEQUL weight samples are determined to be within 1 display count of the latest weight sample, the application rate estimate is zeroed. 0=”OFF”, 1 = previous sample, 2 = previous 2 samples, up to 8 = previous 8 samples. This setting should be increased for low application rates. The Display Count ***COUNT (D.A.N. 3001)*** should be set to 10.

ARATE5 (D.A.N. 6510) Application Rate Speed Adjust – NT560 only application
Set the response of the application rate estimate calculation when spreader unloading ‘starts’. When set to ‘SLOW’ the settings for ARATE1 - ARATE4 will always be used to determine the application rate estimate. When set to ‘FAST’, a quicker response will be observed when the GPS spreader speed increases above 1kmh, or the number of equal weight samples satisfies the Application Rate Equal Weights value (AWEQUL) condition over the last 3 seconds. When in ‘fast’ mode, the number of samples used for the application rate estimate, and application rate average, are set equal to minimum values of 2 and 1, and increase towards the values set by ARATE1 - ARATE4.

A L/UL (D.A.N. 6511) APP RATE LOAD / UNLOAD – NT560/YM560 application
This feature supports calculating either the “crop yield” (LOAD) or “application rate” (UNLOAD) in Tons per Acre (or Tonnes / Hectare) depending upon whether weight is being added or removed from the vehicle.

GPSSTR (D.A.N. 6512) GPS Storage Rate – NT560/YM560 application
Set for how often the GPS coordinates are stored while unloading. 0 = "OFF" (no storage), 1 = every second, 2 = every 2 seconds, 3 = every 3 seconds, up to once every 20 seconds.

Note: The NT/YM560 has enough memory to store approximately 195 loads (32.5 hours) of GPS application rate information when GPSSTR = 5 seconds.

APMNSP (D.A.N. 6513) App Rate Minimum Speed – YM560 only application
Minimum speed to use when calculating application rate.

MUNITS (D.A.N. 6514) Load/Unload Measure
Select units to be measured. TONS or LB

GPSTLC (D.A.N. 6515) GPS Storage Location
Select location to store GPS records (off, internal, or USB)

GPSSSR (D.A.N. 6516) GPS Serial Streaming

When enabled, GPS application rate data is streamed out the serial port when in an active load/unload cycle. Used with GPS Storage Rate setting ***GPSSTR (D.A.N. 6512)***

Data stream includes the following:

- Current Latitude
- Current Longitude
- Fix Quality
  0 = Invalid
  1 = GPS fix
  2 = DGPS fix
  6 = estimated
- Current Altitude (feet/meters based on A UNIT setting)
- Unique Load Number
- Current GPS time
- Field (up to 26 characters)
- Unique ID
- ID
- Speed (Mph/Kph based on A UNIT setting)
- Travel Distance (feet/meters based on A UNIT setting)
- Gross Weight
- Delta weight change (lbs/kgs based on LB – KG setting)

Output example:

```
         1         2         3         4         5         6
 123456789012345678901234567890123456789012345678901234567890
"  6527 GR,   2995 NE,  48661.9 LBS/A,   0.05 AC"<CR><LF>
 42.934678,88.806602,2,205.957443,20,20:05:21,TEST FIELD 1              ,
0026021AD74606328454E2201530,13D525,9.999122,0.000000,6741,427<CR><LF>
```

CLRARU (D.A.N. 6599) Reset USB Storage

Used if issue occurs when GPS Storage Location ***GPSTLC (D.A.N. 6515)*** is set to USB. All records will be cleared from USB and re-loaded from indicator memory.

Menu 6.6 – Seed Tender (Jump List 66)

BINNUM (D.A.N. 6601) NUMBER OF BINS

Used to set number of bins on Seed Tender indicator. 1-16 are supported.

ROWNUM (D.A.N. 6602) NUMBER OF ROWS

Number of rows 0-100 used in CALC function, 0 = manual entry. Used to calculate preset weight for hoppers.

ROWMAX (D.A.N. 6603) ROW MAX CAPACITY

Maximum capacity to limit preset in CALC function; 0 = no limit or row capacity warning.

STTHRO (D.A.N. 6604) VARIABLE THROTTLE

This feature allows a user to throttle down their variable throttle seed tender when the preset or tolerance is reached. When enabling this setting, the indicator will set RELAY (D.A.N. 4005) to

PRNOPA. The Preset Active Signal Timeout PAST (D.A.N. 6303) can be used to account for the time it takes the engine to throttle down and stop the see delivery process.

Contact the Service Department for more information.

Menu 6.8 – Moisture (Jump List 68)

MWTHRD (D.A.N. 6801) **MOISTURE WEIGHT TOLERANCE**
Enter an unloaded weight value to indicate flow over moisture sensor.

SHOWMT (D.A.N. 6802) SHOW CURRENT MOISTURE
Displays current moisture value.

SHOTMP (D.A.N. 6803) SHOW CURRENT MOISTURE TEMPERATURE
Displays current temperature in Fahrenheit.

BUSHOW (D.A.N. 6804) SHOW BUSHEL WEIGHT
When enabled, current bushel weight is displayed on active screen.

CLRDMV (D.A.N. 6894) CLEAR MOISTURE MEMORY
Clears all moisture voltage.

MVNREC (D.A.N. 6896) MOISTURE VOLTAGE RECORDS
Displays the number of voltage records in memory.

SAVMDV (D.A.N. 6897) SAVE MOISTURE VOLTAGE RECORDS
Saves moisture voltage records to USB

MDDUMP (D.A.N. 6898) SAVE ALL MOISTURE DATA
Saves all moisture data to USB

MDEBUG (D.A.N. 6899) MOISTURE DEBUG
When enabled, output debug messages are sent through the serial port.

Menu 6.9 – Baler (Jump List 69)

MAXRNG (D.A.N. 6901) BALER MAX RANGE
Sample Range to average when finding MAX value. Default setting = 10

MAXOFF (D.A.N. 6902) BALER MAX RANGE OFFSET
Offset weight used from last peak before drop for end point of max. range averaging. Default setting = 0

MINRNG (D.A.N. 6903) BALER MIMINUM RANGE
Sample Range to average when finding MIN value (empty chute weight). Default setting = 10

SLOPAG (D.A.N. 6904) BALER SLOPE AVERAGE TRIP POINT
Magnitude of negative slope-average threshold that triggers bale drop detection. Default setting = 294

MIN WT (D.A.N. 6905) BALE MINIMUM WEIGHT
Minimum weight to be considered a bale. This number should be set to the empty chute weight.

TRGBWT (D.A.N. 6906) TARGET BALE WEIGHT
Enter target bale weight. Default setting = 1500

3.7.0 Menu 7 – Scale Specific Settings

Menu 7.1 – Scale Specific Settings (Scales A & B – Jump List 71)

NOTE: Scale specific settings can be affected by the same global settings shown. When changed, they will affect the currently selected scale.

Global Setting	**SCALE PLATFORM A**	**SCALE PLATFORM B**
Scale ID Number See SCALID (D.A.N. 1003)	**SCALID** (D.A.N. 7101)	**SCALID** (D.A.N. 7151)
Weigh Method See W MTHD (D.A.N. 1002)	**W MTHD** (D.A.N. 7102)	***W MTHD*** (D.A.N. 7152)
Display Unit See ***LB-KG*** (D.A.N. 1008)	***LB-KG*** (D.A.N. 7103)	***LB-KG*** (D.A.N. 7153)
Capacity See CAP (D.A.N. 3002)	***CAP*** (D.A.N. 7104)	***CAP*** (D.A.N. 7154)
WM1 Adjust 1 See WMA1-1 (D.A.N. 3003)	***WMA1-1*** (D.A.N. 7107)	***WMA1-1*** (D.A.N. 7157)
WM1 Adjust 2 See WMA1-2 (D.A.N. 3004)	***WMA1-2*** (D.A.N. 7108)	***WMA1-2*** (D.A.N. 7158)
WM1 Adjust 3 See WMA1-3 (D.A.N. 3005)	***WMA1-3*** (D.A.N. 7109)	***WMA1-3*** (D.A.N. 7159)
WM2 Adjust 1 See WMA2-1 (D.A.N. 3006)	***WMA2-1*** (D.A.N. 7111)	***WMA2-1*** (D.A.N. 7161)
WM2 Adjust 2 See WMA2-2 (D.A.N. 3007)	***WMA2-2*** (D.A.N. 7112)	***WMA2-2*** (D.A.N. 7162)
WM2 Adjust 3 See WMA2-3 (D.A.N. 3008)	***WMA2-3*** (D.A.N. 7113)	***WMA2-3*** (D.A.N. 7163)
Motion See MOTION (D.A.N. 3101)	***MOTION*** (D.A.N. 7114)	***MOTION*** (D.A.N. 7164)
Motion Weight See MOT WT (D.A.N. 3102)	***MOT WT*** (D.A.N. 7115)	***MOT WT*** (D.A.N. 7165)
Tare Auto Print See TAREAP (D.A.N. 2301)	***TAREAP*** (D.A.N. 7116)	***TAREAP*** (D.A.N. 7166)
Save Tare See SAVTAR (D.A.N. 1102)	***SAVTAR*** (D.A.N. 7117)	***SAVTAR*** (D.A.N. 7167)

Menu 7.2 – Scale Specific Settings (Scales C & D – Jump List 72)

Scale Specific Setting	**SCALE PLATFORM C**	**SCALE PLATFORM D**
Scale ID Number See SCALID (D.A.N. 1003)	**SCALID** (D.A.N. 7201)	**SCALID** (D.A.N. 7251)
Weigh Method See W MTHD (D.A.N. 1002)	**W MTHD** (D.A.N. 7202)	***W MTHD*** (D.A.N. 7252)
Display Unit See ***LB-KG*** (D.A.N. 1008)	***LB-KG*** (D.A.N. 7203)	***LB-KG*** (D.A.N. 7253)
Capacity See CAP (D.A.N. 3002)	***CAP*** (D.A.N. 7204)	***CAP*** (D.A.N. 7254)
WM1 Adjust 1 See WMA1-1 (D.A.N. 3003)	***WMA1-1*** (D.A.N. 7207)	***WMA1-1*** (D.A.N. 7257)
WM1 Adjust 2 See WMA1-2 (D.A.N. 3004)	***WMA1-2*** (D.A.N. 7208)	***WMA1-2*** (D.A.N. 7258)

WM1 Adjust 3 See WMA1-3 (D.A.N. 3005)	***WMA1-3*** (D.A.N. 7209)	***WMA1-3*** (D.A.N. 7259)
WM2 Adjust 1 See WMA2-1 (D.A.N. 3006)	***WMA2-1*** (D.A.N. 7211)	***WMA2-1*** (D.A.N. 7261)
WM2 Adjust 2 See WMA2-2 (D.A.N. 3007)	***WMA2-2*** (D.A.N. 7212)	***WMA2-2*** (D.A.N. 7262)
WM2 Adjust 3 See WMA2-3 (D.A.N. 3008)	***WMA2-3*** (D.A.N. 7213)	***WMA2-3*** (D.A.N. 7263)
Motion See MOTION (D.A.N. 3101)	***MOTION*** (D.A.N. 7214)	***MOTION*** (D.A.N. 7264)
Motion Weight See MOT WT (D.A.N. 3102)	***MOT WT*** (D.A.N. 7215)	***MOT WT*** (D.A.N. 7265)
Tare Auto Print See TAREAP (D.A.N. 2301)	***TAREAP*** (D.A.N. 7216)	***TAREAP*** (D.A.N. 7266)
Save Tare See SAVTAR (D.A.N. 1102)	***SAVTAR*** (D.A.N. 7217)	***SAVTAR*** (D.A.N. 7267)

3.8.0 Menu 8 – Setup and Calibration

Menu 8.0 – SIGN-ON & MAINTENANCE MESSAGES

SIGNON (D.A.N. 8001) SIGNON MESSAGE
When enabled, entered SIGNON message will scroll continuously until a key is pressed.

SIGMSG (D.A.N. 8002) SIGNON MESSAGE
Allows the entry of custom message up to 120 characters. The SIGNON message will be displayed after the model number upon power up. *Refer to 10/60/SL2 Application Note #3 for more information.*

MANTMG (D.A.N. 8011) MAINTENANCE MESSAGE
Allows entry of a custom message up to 120 characters that is based off the hour meter. The message can be used to alert the user of maintenance needed on the equipment. User will need to acknowledge message by pressing the “ON” key. Message will be displayed on each power cycle and every 4 hours of operation until cleared by ***MANCLR (D.A.N. 8013).*** Refer to 10/60/SL2 Application Note #3 for more information.

MANTTM (D.A.N. 8012) MAINTENANCE MESSAGE TIME
Entry of time for the maintenance message to be triggered.

MANCLR (D.A.N. 8013) MAINTENANCE MESSAGE CLEAR
Clearing of maintenance message time or entry of new time.

Menu 8.1 – CALIBRATION

CAL (D.A.N. 8121) Dead Weight Calibration
Procedure to calibration with known weight:

1. Enter ***(D.A.N. 8121)*** and press SELECT, the indicator will display WT CAL and prompt to zero the scale. Press and hold the ZERO key to zero the system.

2. Scale will now prompt “ADD WT”. Place a known weight on system (ex. 5000 lb. test weight) on the scale platform and press the ON key. If calibration weight is at least 5% of the scale capacity, the message “CAL” will be displayed.

3. If the scale capacity is not at least 5%, the system will not accept the calibration value and display the message “ADD WT”. Add more weight to the scale until the 5% capacity weight has been exceeded.

4. After the 5% capacity weight has been reached, the indicator displays the message “CAL”. The weight value estimated to be on the scale at that time is displayed. The weight on the scale is estimated based on the previous calibration value.

5. Correct the weight value by pressing the NET/GROSS or SELECT key to increment the flashing digit and the TARE or FUNCTION key to select the digit to change.
NOTE: The scale will not accept the weight entered if motion is detected (weight is not stable) and will display the error message “MOTION.”

6. When the display reads the correct weight, press the ON key to automatically determine and store the full scale calibration value. The message “GOOD” is displayed for a successful calibration.

T CALB (D.A.N. 8123) TEMPERATURE CALIBRATION
The scale compensates for changes in temperature that affect the circuitry in the indicator. The scale does not process load cell signals during TCALB. The CAL annunciator is on momentarily during TCALB based on model. If set to ON, the indicator recalibrates often when first turned on. Recalibration decreases as the indicator warms up.

CALMAT (D.A.N. 8124) CALIBRATION MATCH
"Scale Matching" functionality allows the user to adjust the calibration number by inputting two weight values. The first weight value is the "display" weight (current indicator weight). The second weight value is the "actual" (or real) weight value. The calibration value will scale all weight values (including balance points). Calibration = "actual weight" / "display weight"

Menu 8.2 – MEMORY MANAGEMENT

TMR Models
CLEAR MEMORY/REUSE (D.A.N. 8201)
ON – will clear feedline memory. CLEAR – Reuses feedlines. NET/GROSS – Exits back to weighing mode.

CLEAR NVRAM (D.A.N. 8202)
Resets all of the internal data storage values stored in the non-volatile memory.

GT/NT Models
CLEARR (D.A.N. 8211) CLEAR RECORDS
Erases all data records stored in memory.

CLEAR NVRAM (D.A.N. 8212)
Resets all internal data storage values stored in the non-volatile memory.

FILL RECORD MEMORY (D.A.N. 8298)
Feature created to test internal memory of GT/NT/TMR models.

Menu 8.4 – RPM RECORDING

RPMINT (D.A.N. 8402) RPM RECORDING INTERVAL
User entered recording interval in seconds between each record.

RPMUSB (D.A.N. 8403) SAVE RPM/WEIGHT/DATA/DATE/TIME
Saves RPM, Weight, Date, and Time records in memory to USB.

RPMDSP (D.A.N. 8404) DISPLAY CURRENT RPM
Displays the current RPM measured by the indicator.

MXLGSW (D.A.N. 8405) MIX LOG START WEIGHT POINT
Change the minimum weight to consider a load has started or stopped.

RPNMLD (D.A.N. 8496) RPM LOAD RECORDS
Display the total number of RPM loads recorded on the indicator.

RPNMRC (D.A.N. 8497) RPM NUMBER OF RECORDS
Display the total number of RPM records recorded on the indicator.

RPMCLR (D.A.N. 8498) CLEAR RPM DATA MEMORY
Deletes all records from memory

RPMDMP (D.A.N. 8499) SAVE ALL RPM DATA TO USB
Advanced diagnostics tool to dump all binary data in the record database to the USB.

Menu 8.5 – PEAK WEIGHT

DESPEK (D.A.N. 8501) DISPLAY PEAK WEIGHTS
Display each peak weight recorded showing the date and gross weight.

The Peak Weight Detector feature constantly monitors the gross weight and stores the largest value ever measured by the indicator (ie. the "Peak Weight Detected"). This feature also discards weights caused by momentary shocks seen by the scale. The “Peak Weight” is displayed in the Self -Test right after the "CAL" value. The text "WEIGHT" is displayed, followed by the largest Peak Weight Detected (ex. 30950), then the date when the Peak Weight was detected will be displayed (ex. 15MA16). Pressing the ON key while the weights or dates are displayed will freeze the displayed value until the ON key is pressed again. All indicator models will store the top five Peak Weight values. To view the top five peak weights, enter DAN 8501, the indicator will display DSPPEK followed by the same format as displayed in the self-test.

SAVPEK (D.A.N. 8502) SAVE ALL RECORDED PEAK WEIGHTS TO USB
Save the A/D number, Weight, and Date records to the USB

PEKDMP (D.A.N. 8599) SAVE ALL PEAK WEIGHT MEMORY TO USB
This is an advanced diagnostics tool to dump all binary data in the peak weight memory.

Menu 8.7 – SETUP NUMBER & SETTINGS

SETUP (D.A.N. 8711) SETUP NUMBER

Quick entry value to select weigh method (1-4 lb) (5-8 kg), gain (1-9), display counts (0-9), and capacity (*1000)

Capacity X 1000

Weigh Method			
1	2	3	4 = lbs
5	6	7	8 = kg.
General	Slow	Fast	Lock-on

Gain			
Gain Setting	Max Signal (mV/V)		
	EZ 150 EZ 210 EZ 320	EZ II Rev. 0A, 0B, 0C Software	**EZ II Rev. 1.0 and Later Software**
1	**2.00**	3.0	**3.0**
2	**1.50**	1.5	**1.5**
3	**1.14**	.75	**1.5**
4	**.84**	.75	**.75**
5	**.47**	.38	**.75**
6	**1.90 (50Hz)**	3.0	**3.0**
7	**1.30 (50Hz)**	1.5	**1.5**
8	**.97 (50Hz)**	.75	**1.5**
9	**.66 (50Hz)**	.38	**.75**

Gain Setting Requirement

Gain must be set above the maximum mV/V output expected on a system.

Example: Four cell 50K-CT system. 2.5 mV/V @ 200,000 lb.
Expected maximum load is 100,000 lb (1.25mV/V).
Setting should be "2" (1.5mV/V).

Display Counts (0-9)									
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
.01 .02 .05 .1	**.2**	**.5**	**1**	**2**	**5**	**10**	**20**	**50**	**100**
8 **Select in long form only**									

Display Count Setting Recommendation

Recommended display count setting equals capacity divided by 4,000. Example: System has capacity of 40,000 lb. Display count code should be "6" or more (10 lb/count or greater).

Capacity Setting Recommendation

Capacity should be set as low as possible, but must be set higher than the maximum safe gross load expected on the system.

CAL (D.A.N. 8712) CALIBRATION NUMBER
Weight displayed at 0.4mV/V for the load cells used in the system.

SAVMEN (D.A.N. 8713) SAVE CURRENT RESTORE IMAGE
Saves the current and restore settings to XML files on the USB

LD MEN (D.A.N. 8714) LOAD CURRENT RESTORE IMAGE
Loads any of the restore images from USB and saves those settings in memory

ST SET (D.A.N. 8715) SAVE SETTINGS TO RESTORE IMAGE
Stores current settings into 1 of restore point images. (USER, OEM, FACTORY)

SW SET (D.A.N. 8716) RESTORE SETTINGS TO RESTORE POINT
Restores a restore point to current settings. (USER, OEM, FACTORY)

SYSDTF (D.A.N. 8719) SYSTEM DATE FORMAT
This option will use the system date format when printing stored records (via serial). When this option is disabled, all stored records printed serially will use a (Date format 7 – DD/MO/YY). If this option is enabled, all stored records will use the system date format as set in (DATE F – D.A.N 1203). By default, this will be disabled

CAL P (D.A.N. 8729) CALCULATOR AND UNLOAD TOGGLE
Enable/disables “Calculate Preset” and “Manual Unload Toggle” functionality (for Seed Tracker).

L POOL (D.A.N. 8732) LOAD DISPLAY POOL
Load a display pool from the USB device into internal memory

D POOL (D.A.N. 8733) DISPLAY POOL STATUS
Show/Display pool status in internal memory

S FACT (D.A.N. 8734) SAVE RAW FACTOR TO USB
Saves a raw ISOBUS 4kb factor from internal memory (serial flash) onto a USB device

L FACT (D.A.N. 8735) LOAD RAW FACTOR FROM USB
Load a raw ISOBUS 4kb factor from the USB device into internal memory

ISOLOG (D.A.N. 8741) ENABLE ISOBUS RX LOGGING
Enable CAN RX messages logging (saved in serial flash)

ISOPLY (D.A.N. 8742) ENABLE ISOBUS RX PLAYBACK
Enable CAN RX messages playback to “simulate” CAN rx messages

ISOUSE (D.A.N. 8743) VIEW ISOBUS UTILIZATION
View ISOBUS CAN traffic usage as a percent (between 0-100%)

ISO VT (D.A.N. 8745) ISOBUS VT ENABLE
Allows the scales user interface to display on a Virtual Terminal.
Default value for Scale Link ISOBUS scales is ON.

*Note: Disabling the Virtual Terminal communications does not affect the settings for ISO WT (**D.A.N. 2701**) when broadcasting weight values to ISOBUS.*

ISONAM (D.A.N 8746) ISOBUS NAME

Allows entry of name for use in ISOBUS applications. Selections available SL1, SL2. SL2BAL.

SL1 Details:		SL2 Details:	
Industry Group = 2	(Agricultural & Forestry Eq)	Industry Group = 0	(Global)
Device Class = 17	(Sensor Systems)	Device Class = 0	(Non-Specific)
Function Type = 0	(Non-Specific)	Function Type = 149	BIN Weighing
Manufacturer Code = 365	Digi-Star	Manufacturer Code = 365	Digi-Star

SL2BAL Details:	
Industry Group = 2	Agricultural & Forestry Eq)
Device Class = 17	(Sensor Systems)
Function Type = 135	Product Mass
Manufacturer Code = 365	Digi-Star

For more information on ISOBUS, reference https://www.isobus.net/isobus/

SCALE SPECIFIC SETUP AND CALIBRATION

NOTE: Scale specific Setup /Calibration can be affected by the same global settings shown. When changed they will affect the currently selected scale.

Global Setting	SCALE PLATFORM A	SCALE PLATFORM B	SCALE PLATFORM C	SCALE PLATFORM D
SETUP NUMBER {SETUP} See SETUP (D.A.N. 8711)	*8771*	*8772*	*8773*	*8774*
CALIBRATION NUM. {CAL} See CAL (D.A.N. 8712)	*8781*	*8782*	*8783*	*8784*

RESDMP (8799) ALL RESTORE POINTS MEMORY TO USB

Advanced diagnostics tool, dumps all binary data in restore images memory to USB.

KEYTEST (D.A.N. 8888)

Enables the front panel key test. Press ON key to exit.

KEYDMP (D.A.N. 8899) KEY LOG DUMP

Downloads the last 680 keys pressed on the indicator. (For use in troubleshooting)

CLOCK (D.A.N. 8997)

Enables the time to be displayed on the 6-character display. Press any key to exit.

3.9.0 MENU 9 – SERVICE/OPTIONS SETTINGS

Menu 9.0 – SERVICE/OPTIONS

NOTE: Service menu is password protected, contact customer service for assistance.

NUM AD (D.A.N. 90001) NUMBER OF A/D

Defines the number of A/D converters in the indicator.

PRESET (D.A.N. 90002) PRESET OPTION ENABLE
Allows for entering a target NET weight.

RS232 (D.A.N. 90003) RS-232 OPTION ENABLE
Enable/disables serial port.

AD DSP (D.A.N. 90005) A/D DISPLAY ENABLE
Enables A/D counts in place of weight display.

ID NO (D.A.N. 90006) ID NUMBER OPTION ENABLE
Enables/disables the ID key on numeric keypad.

HOLD (D.A.N. 90007) HOLD OPTION ENABLE
Enables the HOLD key functionality.

MEMORY (D.A.N. 90008) MEMORY OPTION ENABLE
Enables/disables the M+, RM, CM options in the SELECT/FUNCTION key menu.

BLKOUT (D.A.N. 90009) BLACKOUT ENABLE
Enables/disables the blackout preset feature. (Reloads remainder of preset after a power cycle)

TIMER (D.A.N. 90011) TIMER OPTION ENABLE
Allows countdown timer to be set using the TIMER key.

RADIO (D.A.N. 90012) INTERNAL RADIO ENABLE
Enables/disables radio – requires radio hardware.

ANALOG (D.A.N. 90013) ANALOG OPTION ENABLE
Enables/disables analog output.

LFT (D.A.N. 90014) LFT OPTION ENABLE
Enables/disables legal for trade features.

REVCTR (D.A.N. 90016) ROTATION COUNTER
Enables/disables rotation counter.

GPS (D.A.N. 90017) GPS ENABLE
Enables/disables GPS.

MOISTR (D.A.N. 90018) MOISTURE SENSOR ENABLE
Enables/disables moisture functionality.

PRACTV (D.A.N. 90019) PRESET ACTIVE SIGNAL
Enables/disables preset active signal functionality.

NUMKEY (D.A.N. 90051) NUMBER KEYPAD ENABLE
If ON – Enables front panel number pad

QWERTY (D.A.N. 90061) QWERY KEYPAD ENABLE
If ON – Enables QWERTY style keyboard

MODELID (D.A.N. 90201) MODEL IDENTIFICATION
If ON – Allow entry of specific model ID to be display at power up.

MODELTM (D.A.N. 90202) MODEL ID TIME
If ON – Entry amount of time for MODEL ID to be display at power up.

CLRPKW (D.A.N. 90302) CLEAR PEAK WEIGHT
YES/NO – Allows clearing of stored Peak weights.

CLRREV (D.A.N. 90303) CLEAR ROTATION COUNTER
YES/NO – Allow clearing of stored rotation counts.

CLRHRS (D.A.N. 90304) CLEAR HOUR METER
YES/NO – Allows clearing of hour meter.

STFCTY (D.AN. 90715) STORE FACTORY IMAGE
Allows storage of the Factory image. Used if Factory image becomes corrupt or was not created.

REINIT (D.A.N. 99999) REINITIAZE
YES/NO – Reset indicator to factory default settings.

GN CAL (D.A.N. 100001) GAIN CALIBRATION
Enters gain calibration for single platform indicators.

GN CAL (D.A.N. 100002) GAIN CALIBRATION
Enters series gain calibration for multi-platform indicators. Each platform will be calibrated separately.

GN CAL (D.A.N. 100003) GAIN CALIBRATION
Enters parallel gain calibration for multi-platform indicators. Each platform will be calibrated simultaneously.

4.0.0 Remote Options

There are several remote options available to work with your indicator. Available options include models that work with the default Digi-Star remote configuration as well as serial remote options.

Default Remote Connection (J903)

These standard and large display remotes connect to the Digi-Star 10/60 series J903 style remote port.

RD2400V – 404691, 404696, 405980, 406901, 406900, 404697

RD400/ RD440 (compact) – 403510, 403513, 406376, 404986

RD2500V (slim profile) – 407227, 407231, 407228, 407229

RD4000 (large LED display) – 405144, 405199

Serial Remotes (Connect to J904/J905)

In addition to the standard remote configurations, there are also a few serial port driven displays. These have separate power connections and RS232 connections. With correct cabling and setup, these can be connected to most RS232 serial connections running 9600 baud, 8 bit no parity.

RD2400V RS232 – 405667 – Has internal adapter pcb with cable, and connects to DB9 style connection. DB9 pin 3 = Scale TX; DB9 pin 5 = Signal Ground; J1 of adapter pcb in for 9600 baud, and removed for 1200 baud

RD2500V RS232 – 407230 – Has jumper setting, cable, and connects to DB9 style connection. DB9 pin 3 = Scale TX; DB9 pin 5 = Signal Ground; JP4 removed; JP5 added

RD4000 RS232 – 405666 – Has internal adapter pcb and 8 pin AMP style connector. Connector pin 2 = Scale TX; pin 6 = Signal Ground; J1 of adapter pcb in for 9600 baud, and removed for 1200 baud

ERM/ Cab Control – 409665 WiFi, 409004 2.4, 409310 2.4x, & 409287 900 ERM radios work with various Cab Control Displays by connecting to J905 port. WiFi connects to Cab Control App or Harvest Tracker App (GT560 only). Other radios connect to cab control remotes to view information from loader or other equipment.

Other Brands – Some other serial remote brands will work with Digi-Star indicator serial ports when correctly connected and configured. See “Serial Ports” section near the beginning of this manual, or contact Customer Service for assistance.

4.1.0 Cable Repair & Adaptor Kits

403455 Power Cable Repair Kit – Repair broken power cable connector

403456 Load Cell Cable Repair Kit – Repair broken load cell cable connector

403457 Remote Cable Repair Kit – Repair broken remote cable connector

403458 Serial Cable Repair Kit – Repair broken serial cable connector

409834 EZ4 Power Harness – Replace broken power harness/ port

403682 Load Cell Harness – Replace broken load cell harness/ port

404805 Plug-In Remote Harness – Replace broken remote harness/ port; cover 141568

407091 Plug-In Serial Harness – Replace broken serial harness/ port; cover 141568

410331 GPS Harness – Replace broken serial GPS harness/ port (GT560, NT560); cover 410297

410329 ACC Harness – Replace broken ACC harness/ port (GT560, YM560); cover 410304

405963 USB Harness (large) – Replace USB harness/ port (TMR3610, ST3410); cover 405479

410330 USB Harness (compact) – Replace USB harness (560’s, TMR4610); cover 410313

405082 EZ Mate Splice Kit – Convert standard load cell to EZ Mate; repair EZMate load cell

148155 J902 Load Cell Y Cable – Connect 2 Load Cells to 1 J902 port

408099/ 409248 Load Cell 20’ Ext Cable – Extends load cell or J-box cable on large machinery

400190 J903 Remote Y Cable – Connect 2 Remotes to 1 J903 port

403670/ 408747 Remote Ext Cable – Extend J903 remote 25’ or 40’, other lengths available

406834 Serial Ext Cable – Extends J904/ J905 serial 25', all pins

409156 ERM Ext Cable – Extends J905 serial 5.5' for use with ERM, pins 2-8

410885 ERM & DDL Y Cable – DDL on COM1, ERM on COM2

409272 COM1-2 Splitter Cable – COM1 w/ TX1, RX1, GND; COM2 w/ TX2, RX2, GND, +12V

410063 EZ4 Shift-tronic Cable – Pins 2-3-6 to 2-3-6 COM1, Pins 4-7-8 to 2-3-6 COM2

408440 J905 Adapter Cable – Convert J905 pin-out to TX=2/ RX=4/ 12V=8/ GND=6
(Enables 3rd party serial devices to adapt to Digi-Star J905 Com 1)

Other Accessories – ICP300 Printer, GPS, Power cubes, Moisture Sensor (GT560), ERM-WiFi, ERM-2.4, ERM-900, Cab Control, Cab Control App (w/ WiFi), RAM mounts, Wedge Mounts, etc

4.2.0 Keypad Error Codes

If the keypad fails or shorts out, an error is detected when the system is first turned on. The message "KEY DETECTED" appears followed by an error code. The message "PLEASE DO NOT PRESS KEYS UNTIL A WEIGHT IS DISPLAYED" will be displayed followed by the error code again. This will repeat 3 times and the indicator will power up as normal, but the held key will not function. The first chart applies to 10/60 series devices, while the second chart on the next page includes changes and additions for newer models including the GT560 series. Not all keys are available on all indicator models. See D3648 for the most up to date version of the keypad codes.

Locate the error code in the following tables to see which key is being held "on".

Code	Key
08	ON
10	Net/Gross
11	Pens – TMR3610
12	ID
13	Help
14	6
15	5
16	0
17	Clear
20	Hold
21	[Not Used]
22	Right Arrow
23	Print
24	Down Arrow
25	4
26	9
27	Select
30	[Not Used]

Code	Key
31	Recipe
32	[Not Used]
33	Enter
34	1
35	3
36	8
37	Function
40	Tare
41	[Not Used]
42	Left Arrow
43	Zero
44	Up Arrow
45	2
46	7
47	Timer
53	Remote Zero
54	INIT
56	Opto 2 signal
67	Remote Input

Digi-Star Indicator Key Code Table

Code values are shown in Hexadecimal (base-16)

Code	General	Code	Numeric	Code	Extra Features	Code	Letters	Code	Symbols
21	Bunk Read +/-	16	0 - Zero	37	Function	C1		A6	& Ampersand
13	Help	34	1 - One	27	Select	C2		AA	* Asterisk
20	Hold	45	2 - Two			C3		C0	@ AT Sign
12	ID	35	3 - Three	32	Memory Plus (M+)	C4		DC	/ Back Slash
41	Ingr / Advance	25	4 - Four	22	Recall Memory	C5		74	Backspace
30	Load Unload	15	5 - Five	66	Memory Average	C6		DE	Caret
77	Menu	14	6 - Six	52	Clear Memory (Cm)	C7		BA	: Colon
10	Net / Gross	46	7 - Seven			C8		AC	, Comma
62	Select Gross	36	8 - Eight	5A	Backlight Dimmer	C9		A2	“ Double Qt
63	Select Net	26	9 - Nine	79	Combine	CA		A4	$ Dollar
08	On	17	Clear	5E	Dump Print Buffer	CB		BD	#NAME?
11	Pens	57	Clear All	7C	GPS Rate	CC		75	Escape
23	Print	6E	Clear All Entries	7D	GPS Spread Width	CD		A1	! Exclamation
5D	Recheck			5C	Print Accum Setup	CE		AF	/ Forward
31	Recipe			60	Program	CF		BE	> Great Than
67	Re-enter Preset	**Code**	**Cursor Pad**	5B	Quick Notes	D0		DB	[Left Bracket
53	Remote Zero	44	Up Arrow	72	Record	D1		A8	(Left Paren
78	Setup	24	Down Arrow	71	Screen	D2		BC	< Less Than
76	Stop	42	Left Arrow	73	Stats	D3		AD	#NAME?
40	Tare (Start)	22	Right Arrow			D4		A3	# Number
47	Timer	33	Enter			D5		A5	% Percent
43	Zero / Balance					D6		AE	. Period
05	1 Press Balance					D7		AB	#NAME?
		Code	**Data Transfer**	**Code**	**Combination Keys**	D8		BF	? Question
		7A	EZ to USB	4B	Zero/Balance + On	D9		A7	' Single Qt
		7B	USB to EZ	48	Tare + On	DA		DD	] Right Bracket
		01	DK to EZ	18	Net Gross + On			A9	) Right Paren
		02	EZ to DK	49	Ingr + On			BB	; Semi Colon
		50	DL to EZ	39	Recipe + On			A0	' ' Space
		51	EZ to DL	1B	Help + On			DF	Underscore
		06	EZ to PC	19	Pens + On			70	Shift Lock

5.0.0 PRINT FORMATS

Output Examples: *Date & Time formats selected in the Long Form may change these examples. If print format is not supported by indicator model, it will not be shown.*

No	Name	Description
01	" AUTO "	*Multiple formats available depending on indicator model.*

Standard Format – Used by all models when in general weighing method.

- First line includes, date and time, followed by <CR>, <LF>.
- Second line includes, ID, weight, display unit, weight tag (GR, M+, etc...), entered preset, preset tag.
- Ends with a <CR>, <LF>.

Print example:

```
                10        20        30        40
 1234567890123456789012345678901234567890
"27MY15 11:09A"
"   CORNID    1300LB NE   1375LB PR"
```

Batching Format – Used by EZ3410 and TMR3610/4610 when in FPP mode.

- Begins with a <CR>, <LF>.
- Includes recipe, batch number, date and time, recipe type, batch size.
- Listing of ingredient/pen loaded and call weights, followed by a total.
- Ends with a <CR>, <LF>.
- Asterisk signifies that ingredient/pen was manually advanced outside of tolerance.

Print example:

```
                10        20        30        40
 1234567890123456789012345678901234567890
"  RECIPE#   1                BATCH#    2"
"  27MY15 11:10A"
" AMOUNT/ANIMAL    =    275"
"  INGRED       LOADED         PRESET"
"-------------------------------------"
"  CORN         1400LB NE     1375LB PR"
"* HAY          2650LB NE     2750LB PR"
"  CSILAG       4130LB NE     4125LB PR"
"  HAYLAG       5510LB NE     5500LB PR"
"  PEN-01      -6250LB NE     6250LB PR"
"  PEN-02      -7510LB NE     7500LB PR"
"            ------------  ------------"
"  TOTAL      -13760LB NE    13750LB PR"
```

Batching Format – Used by TMR3610/4610 when processing data from TMR Tracker.

- Begins with a <CR>, <LF>.
- Includes SCALE ID, Line Statues, Batch #, Ing/Pen name, and recipe name.
- Call weight, loaded/unloaded weight and user ID
- Time and TMR Style Date, Total Head Count (Unless Pen feedline, then Head count is pen head count), and original call weight.
- Ends with a <CR>, <LF>.

Print example:

```
           10        20        30        40
 1234567890123456789012345678901234567890
"  3610,D,I,T,4004,HLG5  ,MCHigh,
"  6898,  7070,    1 ,
"16:21,0, 7-11-14,  238  6898"
```

02 "WTONLY" *Simple weight value. Must be selected for AGCO (Hesston, Hay & Forage).*

- Includes weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...).
- Ends with a <CR>, <LF>

Print example:

```
10
 123456789012
"      0LB GR"
```

03 "DOWNLD" *This format is compatible with the original Downloader (EZI and EZII series).*

- Includes preset ID, weight, display unit, weight tag (GR, M+, etc...) date and time.
- Ends with a <CR>, <LF>.

Print example:

```
           10        20        30        40
 1234567890123456789012345678901234567890
"SCALE ID  16090LB GR 27JA00  10:37P"
```

04 "DT+TM" *This is a simple comma delimited format.*

- Includes weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...) and date.
- Ends with a <CR>, <LF>.

Print example:

```
           10        20        30
 123456789012345678901234567890
"      0,LB, ,GR,13MR02,11:08"
```

05 "ID+TM" *This comma delimited format includes ID, time but not date.*

- Includes ID, weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...) and time.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30
 123456789012345678901234567890
"      ,      0,LB, ,GR,11:08"
```

06 "IDWTTM" *This comma delimited format includes ID, time and date.*

- Includes ID, weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...), date and time.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40
 123456789012345678901234567890123456789 0
"FARM-1,  16090,LB, ,GR,27JA00,10:37P"
```

08 "3200-A" *This comma delimited format includes information for batching weighing.*

- Includes Preset, Weight, Gross Weight, ID, Ingred/Pen Name, Recipe#, Batch#, Total Rotation Count, time and date.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40        50        60        70

 123456789012345678901234567890123456789012345678901234567890123456789 0
"   1000,      0,  16100,      ,CORN-1, 2,   2,     , 9:35P,27JA00"
```

09 "3200-B" *This comma delimited format includes more information for batching weighing.*

- Includes Manual Advance indicator, Scale ID, Preset, Weight, weight tag (GR, M+, etc...), Gross Weight, display unit, $' if unit is "locked-on", ID, Ingred/Pen Name, Recipe#, Batch#, Total Rotation Count, Time, Date and User ID.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40        50        60        70        80        90
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123
"*,NEW EZ,   1000,      0,NE,  16090,LB, ,      ,CORN-1, 2,   3,     , 9:36P,27JA00,        "
```

10 "32-TMR" *This print format is similar to the record format of the TMR3610. (See* **"Feedline with Control codes & Check Sum:"** *for more details)*

- Starts with specific control codes for TMR Tracker.
- Includes Scale ID, Line Status, Line Type, Batch#, ID# or Ing/Pen name, Recipe#, Preset, Weight, User ID, Time and TMR Style Date.
- Ends with specific control codes for TMR Tracker.

Print example:

```
          10        20        30        40        50        60        70
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567
"NEW EZ,D,I, ,1003,MIN1  ,0,  428,  550,    1 ,9:36P,  7-08-14,   ,   "
```

11 "BATCH1" *This comma delimited format includes more information for batching weighing.*

- Includes Preset, Net Weight, Gross Weight, Ingred/Pen Name, Recipe, Batch#, Total Rotation Count, Time & Date.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4         5         6         7
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
"   1500,      0,    280,ING001,REC626,2222,  187, 3:54P,03JL03"
```

12 "FDINFO" *This comma delimited format includes batching feedline status information.*

- Includes Feedlines Done, Feedlines Undone, Total Feedlines Loaded, Number of Additional Feedlines that can be loaded, and the Maximum Number of Feedlines that can be loaded into an TMR3610 or TMR4610.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4
 1234567890123456789012345678901234567890
"     0,     5,     5,   763,   768"
```

13 "WTRCTM" *This comma delimited format includes basic weighing information.*

- Includes Gross Weight, display unit, weight tag (GR, M+, etc...), Total Rotation Count, Date & Time.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4
 1234567890123456789012345678901234567890
"    280,LB,GR,  187,03JL03,12:41:03"
```

17 “PRTAC1" *This comma delimited format includes Print Accumulation information.*

- Includes Scale ID, weight, weight tag (GR, M+, etc...), Print Accumulated weight, Print Accumulator tag (PA), date and time.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40
 1234567890123456789012345678901234567890 12
"FIELD1, 4856,GR, 274575,PA,05FE08, 1:44P"
```

18 “PRTAC2" *This comma delimited format includes Print Accumulation information, but prints two lines.*

- Includes Scale ID, date and time on line 1.
- Includes weight, weight tag (GR, M+, etc...), Print Accumulated weight and Print Accumulator tag (PA).
- Each line ends with a <CR>, <LF>.

Print example:

```
          10        20
 123456789012345678901 2
"FIELD2,05FE08, 1:44P”
“4856,GR, 274575,PA"
```

19 “PRTAC3" *This comma delimited format includes Print Accumulation information.*

- Includes Scale ID, weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...), Print Accumulated weight, Print Accumulator tag (PA), date and time.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40
 12345678901234567890123456789012345678901234567890123456789012345678
"FIELD3, 5977,LB, ,GR, 309719,PA,05FE08, 4:42P"
```

20 "FEED-1" *This three-line format prints on a 40 column printer and includes batching information.*

- Includes User ID, Time, Date, Feeding Number, Feed Zone, Recipe, Mix Counter / Timer, Ingredient / Pen, Preset Amount, Actual Loaded/Fed Amount (Absolute value) & weight tag. The Time & Date formats can be selected in Menu 2 of the Long Form.
- Each line ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40
 1234567890123456789012345678901234567890
“ID:     1    4:59P  3/10/2008        “
“FD:1  ZN:0  REC:COWS    CTR:006      “
“ING:CORNSL  PRE:  1600  ACT:  1610 NE”
```

21 “PRTAC4" *This comma delimited format includes Print Accumulation information.*

- Includes ID, weight, weight tag (GR, M+, etc...), Print Accumulated weight, Print Accumulator tag (PA), date, time Field.
- Ends with a <CR>, <LF>.

Print example:

```
         10        20        30        40        50        60        70
 12345678901234567890123456789012345678901234567890123456789012345678901
"TRUCK1, 4856,GR, 274575,PA,05FE08, 1:44P,NOTE FIELD                 "
```

22 “PRTAC5" *This comma delimited format includes Print Accumulation information in a three-line format.*

- Includes ID, date and time on line 1.
- Includes weight, weight tag (GR, M+, etc...), Print Accumulated weight and Print Accumulator tag (PA).
- Field information.
- Each line ends with a <CR>, <LF>.

Print example:

```
         10        20        30
 123456789012345678901234567890 1
"TRUCK1,05FE08, 1:44P”
“4856,GR, 274575,PA"
“NOTE FIELD                 "
```

23 “PRTAC6" *This comma delimited format includes Print Accumulation information.*

- Includes ID, weight, display unit, $' if unit is "locked-on", weight tag (GR, M+, etc...), Print Accumulated weight, Print Accumulator tag (PA), date and time.
- Field information.
- Ends with a <CR>, <LF>.

Print example:

```
          10        20        30        40        50        60        70
 1234567890123456789012345678901234567890123456789012345678901234567890123 45
"FIELD3,   5977,LB, ,GR,   309719,PA,05FE08, 4:42P,NOTE FIELD                 "
```

24 “NUTRNT" *This comma delimited format includes Nutrient and GPS information in an eight-line format.*

- Includes Spread Width, Set Spread Rate
- Latitude, Latitude Hemisphere, Longitude, Longitude Hemisphere
- Field Total and Total Acres
- Weight, acres of current load, tons/acre
- Field, ID, date and time.
- Load TimeField information.
- Ends with a <CR>, <LF>.

Example of the NT560 indicator:

```
          1         2         3         4
 1234567890123456789012345678901234567890
"WIDTH:40.5  RATE SET: 1.0<CR><LF>
"LA:4256.0796 N<CR><LF>
"LO:08848.5061 W<CR><LF>
"    2270TOT        0.2TAC<CR><LF>
"     0LB   8.45AC  0.0T/A<CR><LF>
" FIELD 1 ON HOME FARM      <CR><LF>
" SPDR-1,29SE09, 6:43A<CR><LF>
"T:  0:00<CR><LF>
```

26 "SCLABC" *This comma delimited format provides weight information for indicators with multiple scale (A, B, or C) platforms.*

- Includes Selected Scale ('>'), weight displayed, display unit & weight tag (GR, M+, etc...) for each scale.
- Ends with a <CR>, <LF>.

Print example:
Scales A, B & C with scale A selected at the indicator.

```
          1         2         3         4         5         6
 1234567890123456789012345678901234567890123456789012345678901234567890
">    280LB GR,   11300LB NE,    3240LB LU"
```

Print example:
Scales A & B with scale B selected at the indicator.

```
          1         2         3         4         5         6
 1234567890123456789012345678901234567890123456789012345678901234567890
"     280LB GR,>  11300LB NE"
```

The weight tag changes from (NE, GR, or LU) to (NC, GC, or LC) when the indicator is performing internal temperature calibrations (which can take up to three seconds). The weight sent at this time is the same weight prior to internal temperature calibrations. This occurs every 20 minutes but is done several times during the first 20 minutes after power up.

Print example: Scales A & B with scale B selected at the indicator. Both scales are being calibrated.

```
          1         2         3
 123456789012345678901234567890
"     280LB GC,>  11300LB NC"
```

The weight will appear as "999999" with the “ES” weight tag when the operator is in the Short or Long Form Menu’s.

Print example: Scales A & B with scale B selected at the indicator. The B scale is in setup.

```
          1         2         3
 123456789012345678901234567890
"     280LB GR,> 999999LB ES"
```

The weight will appear as "999999" with the “ER” weight tag when weighing errors (+/- RANGE,CHK AD,OVERCAP etc..) are detected by the scale.

Print example: Scales A & B with scale A selected at the indicator. The B scale has an error.

```
          1         2         3
 123456789012345678901234567890
">    280LB GR,  999999LB ER"
```

27 "PRWTRC" *This comma delimited format includes more information for batching weighing including “timer” or “mix counter”.*

- Includes Preset, Net Weight, Gross Weight, display unit, Command Originator, ‘M' if unit detects motion, weight tag (GR, M+, etc...), ID, Total Rotation Count, Date, Time.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4         5         6         7
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
"    400,    180,    540,LB,O,M,GR,TRUCK1,   35,05JN12,00:01:15,10:48A, "
```

28 "BATCH2" *This comma delimited format includes more information for batching weighing including “timer” or “mix counter”.*

- Includes Preset, Net Weight, Gross Weight, Ingred/Pen Name, Recipe, Timer/Counter, Time, Date.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4         5         6         7
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
"    200,    130,    340,Ing   ,RecNam,00:01:15,10:48A,23MY12"
```

29 "RECINF" *This comma delimited format includes Print Buffer record status information.*

- Includes number of Records Stored, number of Available Records, Total Record capacity and the last Record sent.
- Ends with a <CR>, <LF>

Print example of a GT560 indicator:

```
          1         2         3         4
 1234567890123456789012345678901234567890
"     8106,     4926,    13032,      200"
```

31 "PRTST1" *This comma delimited format includes information specific for the ST3410.*

- Includes Field ID, Bin, Mode (Auto/manual), Weight Dispensed, weight tag, (GR, M+, etc...), Preset, Print Accumulated Weight, Print Accumulator Tag (PA), Date, Time.
- Ends with a <CR>, <LF>.

Print example:

```
          1         2         3         4         5         6         7
 1234567890123456789012345678901234567890123456789012345678901234567890
"BACK40,  BIN1,  AUTO,-   252,GR,    250LB PR,     2652,PA,10AP13, 8:15A"
```

32 "PRTST3" *This comma delimited format includes information specific for the ST3410.*

- Includes Field ID, Bin, Mode (Auto/manual), Weight Dispensed, weight tag, (GR, M+, etc...), Preset, Print Accumulated Weight, Print Accumulator Tag (PA), Date, Time.
- Each line ends with a <CR>,<LF>.

Print example:

```
          1         2         3         4
 1234567890123456789012345678901234567890
"BACK40,  BIN1,  AUTO,"
"-  252,GR,    250LB PR,     2562,PA,"
"10AP13, 8:16A"
```

33 "SERMED" *This comma delimited format includes information specific for the TMR Series scales when used with TMR Tracker.*

- Starts with specific control codes for TMR Tracker.
- Scale ID, Line Status, Batch #, Ing/Pen name, recipe name, call weight, loaded/unloaded weight.
- User ID, Time and TMR Style Date, Headcount, Feed zone, total rotation count, gross weight, motion weight, and tolerance weight.
- Ends with specific control codes for TMR Tracker.

Print example:

```
         1         2         3         4         5         6         7         8         9         10
123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
NEW EZ,D,I,T,1001,CAN   ,MFRESH,   515,   830,     1  , 9:39,0, 7-08-15,000212,     0,0,     0,  2610,000,000
```

34 "GT560A" *This comma delimited format includes information specific for the GT560.*

- Includes Dry weight and average moisture
- Dry Bushels and Scale ID
- Crop and Software version
- Load Latitude & Load Longitude
- Unload Latitude & Unload Longitude
- ID, date and time
- Includes weight, weight tag, (GR, M+, etc...), Field Accumulated Weight, and Print Accumulator Tag (PA)
- Each line ends with a <CR>, <LF>

Print example:

```
         1         2         3         4
1234567890123456789012345678901234567890
DRY WEIGHT: 22450, MS:15.5<CR><LF>
DRY BUSHELS:   474,SCALID<CR><LF>
CROP:  CORN,161108<CR><LF>
LOAD LA:4256.0796 N<CR><LF>
LOAD LO:08848.5061 W<CR><LF>
UNLOAD LA: 4256.0796 N<CR><LF>
UNLOAD LO: 08848.5061 W<CR><LF>
TEST 1,12AU15, 1:34P<CR><LF>
0,GR,        0,PA<CR><LF>
BACK 40                  <CR><LF>
```

34 "YM560A" *This comma delimited format includes information specific for the YM560.*

- Crop
- Load Latitude & Load Longitude
- Dry Bushels and Scale ID
- Unload Latitude & Unload Longitude
- ID, date and time
- Includes weight, weight tag, (GR, M+, etc...), Field Accumulated Weight, and Print Accumulator Tag (PA)
- Each line ends with a <CR>, <LF>

Print example:

```
         1         2         3         4
1234567890123456789012345678901234567890
CROP:  CORN<CR><LF>
LOAD LA:4256.0796 N<CR><LF>
LOAD LO:08848.5061 W<CR><LF>
UNLOAD LA: 4256.0796 N<CR><LF>
UNLOAD LO: 08848.5061 W<CR><LF>
13D525,12AU16, 1:34P<CR><LF>
2075,GR,     5250,PA<CR><LF>
CORN FIELD 1              <CR><LF>
```

35 "GT560B" *This comma delimited format includes information specific for the GT560.*

- Includes Dry weight and average moisture
- Dry Bushels and Scale ID
- Includes weight, weight tag, (GR, M+, etc...), Field Accumulated Weight, and Print Accumulator Tag (PA)
- Each line ends with a <CR>,<LF>.

Print example:

```
         1         2         3         4
1234567890123456789012345678901234567890
DRY WEIGHT:     0, MS: 0.0<CR><LF>
DRY BUSHELS:     0,NEW EZ<CR><LF>
20660,GR,    48260,PA<CR><LF
```

37 "PRTST5" *This comma delimited format includes information specific for the ST3410.*

- Includes Bin, Seed, and Preset
- Planter, Date, Time.
- Weight Dispensed, weight tag, (GR, M+, etc...), Print Accumulated Weight, Print Accumulator Tag (PA)
- Field
- Each line ends with a <CR>,<LF>.

Print example:

```
         1         2         3         4
1234567890123456789012345678901234567890
BIN 1<CR><LF>
SEED 1,     50LB PR<CR><LF>
PLT 1, 16MR17,4:55P<CR><LF>
230,GR,      200,PA<CR><LF>
PLT 1,                    <CR>,LF>
```

Notes: