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D4219-EN NT 560 Operators Manual Rev A LAC
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1.0 INTRODUCTION
Thank you for the purchase of a NT560 system. Your NT560 is the culmination of more than 30 years of agricultural weighing engineering and expertise. With proper operation and preventative maintenance, it will last for many years.

The Digi-Star NT560 is designed for use with weighing, tracking, storing, and transferring related data regarding the weight of agricultural nutrient commodities.

The data collected by, and transferred from, the NT560 is designed primarily for use with Topcon Aquiculture Nutrient Tracker PC software. For maximum value from the NT560 indicator, Digi-Star recommends that Nutrient Tracker PC software program be loaded on a computer. This program will allow the full initialization and personalization of the NT560 indicator to the operation. The manual for this software program is found within the program under the help tab.

The NT560 is not for use with applications for which the NT560 is not intended, or as outlined in this manual. Use of the NT560 outside of its intended purposes may result in inaccurate weight measurement or damage to indicator.
2.0 NT 560 FEATURES

Save Records to USB
USB drive has capacity to hold thousands of data records and allows easy data transfer to your office PC.

Nutrient Tracker PC Software
Nutrient Tracker™ software provided with NT 560 indicator allows generation of a variety of reports on your PC. Reports can be read by programs such as Microsoft Excel™, Adobe Acrobat™ and Microsoft Internet Explorer™. Nutrient Tracker uses GPS and weight information collected from the NT 560 to create reports that overlay delivery areas on satellite images. This data is used for nutrient management and record keeping. Nutrient Tracker can also export standard “CSV” and “Shape” files for use in other mapping PC programs.
Note: Mapping requires an internet connection.

GPS Data Records
Differential Correction GPS (DGPS), such as the Wide Area Augmentation System (WAAS), covers the USA and provides accuracy from 1 to 3 meters. Most developed countries have some type of DGPS. Standard GPS is available globally. The accuracy is 15 meters (49.2 feet).

A GPS data record includes data recorded periodically while unloading:
- GPS Coordinates
- Application rate
- Gross Weight
- Speed

The GPS data record also includes the load information calculated and stored once each time a load is concluded by pressing START STOP. This data includes:
- Field name
- ID
- GPS coordinates
- Time
- Date
- Application rate set
- Application width set
- Elapsed time
- Weight unloaded this load
- Acres (Hectares) spread this load
- Calculated application rate for load
- Weight unloaded this field
- Acres (Hectares) spread this field.
3.0 ACCURACY STATEMENT
READ THIS SECTION BEFORE USING THE SCALE SYSTEM

Digi-Star Scale Systems are designed and manufactured to provide the greatest accuracy possible. However, proper installation and use are required to obtain the highest level of accuracy. When using the scale system, the following must be considered to realize the best possible performance and accuracy.

- Load cells must be installed with the proper orientation. Most Digi-Star load cells have a label indicating either the "TOP" or bending direction of the load cell. Inspect load cells to determine if the load cells are installed correctly. Incorrect installation of load cells will result in inaccurate measurement.
- Load cells should not be subjected to any strains or loads other than the weight of the load. Stress or strain caused by misalignment or other factors when accurate weight readings are desired will negatively affect the accuracy.
- The weighing unit should be stationary with minimum movement, and on a level surface, to ensure that weight readings are as accurate as possible.
  - The effect of movement on accuracy depends on the speed and roughness of the ground and application. Rougher terrain and faster and/or greater movement increases the degradation of accuracy.
  - A level surface is defined as being less than a 5” (13cm) change in rise over 10’ (3.0m) of run. As the slope of the terrain increases, degradation of accuracy will also increase.
### 4.0 TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIZE</strong></td>
<td>10.25” long x 8.0” high x 4” wide (260mm x 190mm x 105mm)</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>4.5 lbs. (2.04 Kg)</td>
</tr>
<tr>
<td><strong>HELP MESSAGES</strong></td>
<td>Context sensitive help messages in 10 languages, Long messages are scrolled</td>
</tr>
<tr>
<td><strong>LOAD CELL EXCITATION</strong></td>
<td>8 volts D.C. Nominal, Capable of driving ten 350 Ohms transducers, Short circuit proof</td>
</tr>
<tr>
<td><strong>AUTO TEMP COMPENSATION</strong></td>
<td>Of internal circuitry for high accuracy weighing measurements</td>
</tr>
<tr>
<td><strong>LOAD CELL SIGNAL</strong></td>
<td>Compatible with Load Cells with greater than 0.25 mv/v</td>
</tr>
<tr>
<td><strong>CONNECTORS</strong></td>
<td>AMP plastic weather resistant circular connector. Gold plated contacts.</td>
</tr>
<tr>
<td><strong>POWER REQUIREMENTS</strong></td>
<td>10.5 to 16.0 VDC 160 mA nominals with four 350Ω L.C.</td>
</tr>
<tr>
<td><strong>SETUP &amp; CALIBRATION</strong></td>
<td>Via front panel or saved when downloading the setting files.</td>
</tr>
<tr>
<td><strong>GROSS RANGE</strong></td>
<td>999,999 max-display</td>
</tr>
<tr>
<td><strong>LOW BATTERY WARNING</strong></td>
<td>Enabled at 10.5V nominal</td>
</tr>
<tr>
<td><strong>POUND/KILO</strong></td>
<td>Selectable</td>
</tr>
<tr>
<td><strong>DISPLAY</strong></td>
<td>LCD with 84 Character Display.</td>
</tr>
<tr>
<td><strong>DISPLAY RESOLUTION</strong></td>
<td>.01, .02, .05, .1, .2, .5, 1, 2, 5, 10, 20, 50, 100</td>
</tr>
<tr>
<td><strong>DISPLAY UPDATE RATE</strong></td>
<td>Selectable: 1, 2, 3, 4 times/sec.</td>
</tr>
<tr>
<td><strong>MAX. DISPLAY RESOLUTION</strong></td>
<td>Adjustable to 40,000 counts max.</td>
</tr>
<tr>
<td><strong>ZERO TRACKING</strong></td>
<td>Selectable, On/Off</td>
</tr>
<tr>
<td><strong>SPAN ACCURACY</strong></td>
<td>±(.1% + .005%/°F) or (.1% + 0.009% °C) full scale ± 1 output count</td>
</tr>
<tr>
<td><strong>MOTION DETECTION</strong></td>
<td>Selectable, On/Off</td>
</tr>
<tr>
<td><strong>ZERO ACCURACY</strong></td>
<td>(.005%/°F) or (0.009% °C) full scale ±1 output count for 0.5 mv/v transducer</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL ENCLOSURE</strong></td>
<td>IP65, IEC 529</td>
</tr>
<tr>
<td><strong>WEIGH ALGORITHM</strong></td>
<td>3 internally selectable digital filters to optimize performance (General, Slow, and Fast)</td>
</tr>
<tr>
<td><strong>NON-VOLATILE MEMORY</strong></td>
<td>Standard</td>
</tr>
<tr>
<td><strong>OPERATING TEMP</strong></td>
<td>-29°C to 60°C -20°F to 140°F</td>
</tr>
<tr>
<td><strong>2 REMOTE INPUTS</strong></td>
<td>Tare / Print / Hold / Net Gross / M+ / Zero / TR Hold / Re-enter Preset / Switch</td>
</tr>
</tbody>
</table>
5.0 SAFETY DURING USE

⚠️ Danger: Indicates an imminently hazardous situation that, if not avoided, could result in death or very serious injury.

⚠️ Warning: Indicates a potential hazardous situation that, if not avoided, may result in death or very serious injury.

⚠️ Caution: Indicates a potential hazardous situation that, if not avoided, may result in a minor injury.

IMPORTANT
USB Port Function — The USB port is only to be used to upload or download data from a USB Memory Stick. The USB Port is not to be used as a charging port for any type of electronic device. Use of the USB Port for any purpose other than for which it is designed may void the product’s warranty.

Cleaning: Do not use running water, pressure washer or hoses to clean the indicator or touch screen.

Charging Battery: Disconnect all cables from the indicator and touch screen before charging the battery or welding on the machine. If cables are left connected, the indicator, touch screen and connected load cells could be damaged.
6.0 DATA TRANSFER

The indicator is equipped with a USB drive port. The USB drive used with the indicator holds thousands of data records and allows for easy transfer to PC.

1. Insert USB drive. Indicator will automatically detect the USB drive.

2. Press \( \text{USB} \) to save records to USB drive.

   **Note:** This action appends values already on the USB drive. No data is lost.

   **Note:** It takes about 3 minutes to download data when memory is 25% full. It takes about 12 minutes to download data when memory is 100% full.

3. Press 1 to transfer Field, ID, Total Weight, and Acres Data from indicator to USB.

   **Note:** This is only necessary if Field or ID data has been modified using indicator keypad.

4. Press 9 to transfer Field, ID, Total Weight, and Acres data from USB drive to indicator.

   **Important:** This action will overwrite Field names, ID names and Accumulator values in the indicator.
6.1 Daily Data Collection
Insuring the customer data is secure from theft, fire or equipment failure requires a small effect each day to store your data on a USB drive.

6.2 Indicator Memory

When powering up the NT 560 the memory percent full is shown on the display. The NT 560 has enough memory to store approximately 400 loads while sampling every ten seconds and unloading one load every nine minutes.

It is recommended to download data from the NT 560 to the USB drive before the memory is close to full. It takes just under three minutes to download data when the memory is 25% full and under five minutes when 50% full.

6.3 Mid-Season Name Changes

During the season, you may wish to delete/add field names, also delete/add ID names to your NT 560 indicator memory.

This may be done in one of two ways:

**Front panel**
For a small amount of changes, edit field names and ID names using the keypad on the front panel. See pages 16 and 17 to edit field names or ID names. See page 28 to erase accumulator memory.

**Upload New Field Names, ID Names and Accumulator Using USB Drive:**
For many changes, perform the changes on your PC using Nutrient Tracker™ software and then transfer the new information to the indicator using a USB drive.

**Important:** Before doing this, transfer your existing field accumulator data (acres and weights) from the indicator to the USB drive. Then load the data onto the PC. This keeps the proper accumulator values on partially finished fields.
6.4 Nutrient Tracker Print Format

Use print format NUTRNT for recording data. The below example shows six lines of printed report.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12345678901234567890123456789012345678901234567890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;WIDTH:40.5 RATE SET: 5.0&lt;CR&gt;&lt;LF&gt;</td>
<td>&quot;LA:4038.4551 N&lt;CR&gt;&lt;LF&gt;</td>
<td></td>
</tr>
<tr>
<td>&quot;LO:08848.3669 W&lt;CR&gt;&lt;LF&gt;</td>
<td>&quot; 1626070 TOT 1020.0TAC&lt;CR&gt;&lt;LF&gt;</td>
<td></td>
</tr>
<tr>
<td>&quot; 17080LB 1.99AC 24.3T/A&lt;CR&gt;&lt;LF&gt;</td>
<td>&quot;FIELD 3 &lt;CR&gt;&lt;LF&gt;</td>
<td></td>
</tr>
<tr>
<td>&quot;ID 3,9/23/09,12:10P&lt;CR&gt;&lt;LF&gt;</td>
<td>&quot;T: 2:07&lt;CR&gt;&lt;LF&gt;</td>
<td></td>
</tr>
<tr>
<td>&quot;&lt;CR&gt;&lt;LF&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The middle 3 lines are displayed after key is pressed. The other three lines are displayed by pressing or .

6.5 GPS Records Format

The GPS records stored have the following format:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12345678901234567890123456789012345678901234567890</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ddmm.mmmm,N,dddmm.mmmm,E,rrrr,m,wwwwww,ss.s,kCL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ddmm.mmmm - Latitude, ddmm.mmmm format (leading zeros transmitted)
N - Latitude hemisphere N or S
dddmm.mmmm - Longitude, ddmm.mmmm format (leading zeros transmitted)
E - Longitude hemisphere W or E.
rrrr - Actual Application Rate measured by scale in Tons/Acre (or Tonnes/Hectare).
m - Actual Application Rate Unit E=Tons/Acre, M=Tonnes/Hectare.
wwwwww - Gross weight.
ss.s - Speed in MPH or KPH
k - Check Sum.
c - Carriage Return.
l - Line Feed.
7.0 INDICATOR OVERVIEW

1. Enter and exit Field screen.
2. "Start or stop load/unloading operation."
3. **Pre-Alarm Light** – Starts flashing and alarm sounds when weight is within preset limit.
4. "Press and hold for three seconds to zero balance."
5. "GPS Satellite Display."
6. "Enter and exit ID screen."
7. "Turns indicator on. Pressing while on will run self-test."
8. "Turns scale indicator off."
9. "Upper Display"---Displays current actions or weight—6 characters.
   "Lower Display"---Displays recorded data—26 characters x3 rows.
10 **Directional Arrows**—Moves through list of information. Left arrow (-) and right arrow (+).

11 --Accepts change or proceeds to the next item.

12 "Qwerty Keyboard"

13 "Numbers Keypad"

14 --Performs tasks displayed when using the select button.

15 --Display additional tasks for the user.

16 --Shows additional information for last key pressed.

17 --Press and release. Press key with desired character.

18 --Delete one character in data entry field. Press and hold to delete entire data entry field contents.

19 --Escape or undo last data change.

20 --Press to backspace. Press and hold to backspace faster.
7.1 Bottom Panel Connections

1. **Load Cell**

2. **Remote Display**

3. **Serial/Printer** – Used to communicate with computer, data downloader (DDL) or printer.

4. **Power** – 12VDC

5. **GPS** – Port for GPS connection.

6. **USB** – Port for USB drive.
8.0 INDICATOR DISPLAY SCREENS

Seven display screens can be viewed on the NT560 indicator:

**ACTIVE MAIN SCREEN**
The 3-line display will show the following information. See page 17.

**FIELD SCREEN**
500 field names are available and can be modified using the keypad. See page 18.

**ID SCREEN**
150 ID names are available and can be modified using the keypad. See page 19.

**GPS ACTIVE SCREEN**
This screen is shown before pressing to start spreading. Upper display shows gross weight while lower display includes speed, compass direction, application rate, spread width, total and field name. See page 20.

**GPS SPREADING SCREEN**
Press before unloading to view GPS spreading screen. Upper display shows the current rate tons/acre (tons/hectare) while lower display includes speed, compass direction, target application rate, time since start of unloading, gross weight, NET weight unloaded, acres covered this load, and actual vs. target rate indicator. See page 21.

**LAST LOAD SUMMERY SCREEN (temporary)**
Screen display last load weights for 10 seconds after pressing to complete a load. See page 22.

**GPS SATILLITE SCREEN**
Press to view GPS Satellite Screen. This screen shows latitude, longitude, MPH, status and universal time clock. See page 23.
8.1 Active Main Screen
The 3-line display will show the following information:

1. **Upper Display Window** – Displays the gross weight.
2. **ID** – 6 Character ID description. Example; unloaded into TRUCK1, TRUCK2, TRUCK3.
3. **TOT** - Total Weight for current field.
4. **21980 GR** – Example: 21980 Total Gross weight spread on all fields.
5. **NE** – Net weight unloaded from this load.
6. **Current Time**.
7. **FIELD** – 26-character field description (entered by operator). Example; spread on field JIMS HILL CORN, SOUTH FIELD, EAST FIELD, WEST FIELD.

**Note:** Set print format (D.A.N. 2304) to PRTAC5 to operate in non-GPS mode.
8.2 Field Screen

Field names can be a maximum of 26 characters long. Field name is where the commodity is harvested from; Example Field Names; NORTH FIELD, SOUTH FIELD, EAST FIELD, WEST FIELD.
Field names can be changed using the keypad before loading or unloading.
Note: Field names can be uploaded from a PC using a USB drive.

1. Press \text{to modify or select field. Current field number is shown in upper display.} 
2. Three lines are displayed in Lower Display Window. The top line of the three is current, editable and will be used for next data record. 
3. Use keypad to enter or update field names. Press \text{to delete characters to left and to delete the selected character. Hold} \text{to delete entire line.} 
Pressing \text{will reset line to last saved data.} 
4. To use special characters’ press and release \text{Then press key with desired special character. Repeat for each special character required.} 
5. Press \text{or} \text{to exit.} 
6. Up/Down Arrows – Press \text{or} \text{to scroll through fields (150 maximum).} 
\text{Hold arrow to scroll faster. Use} \text{or} \text{to move cursor within data line.}
8.3 ID Screen

ID names can be a maximum of 6 characters long. ID names could be what machine or person that has harvested the field or what truck the commodity was unloaded into; Example of ID names; MACH1, SCOTT. ID names can be changed by using the keypad before loading or unloading.

Note: ID names can be uploaded from a PC using a USB drive.

1. Press ID to modify or select ID name. Current ID number is shown in upper display.
2. Three lines are displayed in lower Display Window. The top line of the three is current, editable and will be used for next data record.
3. Up/Down Arrows – Press or to scroll through ID names (150 maximum). Hold arrow to scroll faster. Use or arrow to move cursor within data line.
4. Use keypad to enter or update ID names. Press to delete characters to left and " to delete the selected character. Hold ESC to delete entire line. Pressing ESC will reset line to last saved name.
5. To use special characters’ press and release . Then press key with desired special character. Repeat for each special character required.
6. Press Enter or ID to exit.
8.4 GPS Active Screen

The 3-line display will show the following information:

1. **Upper Display Window** – Displays the gross weight.
2. **MPH** (or **KMH**) – Miles per Hour (or Kilometers per Hour) as read from the GPS.
3. **NW** – Compass direction as read from the GPS.
4. **T/A** – Application rate entered by operator in Tons/Acre (or Tones/Hectare).
5. **W** – Spread width of the spreader entered by the operator in feet (or meters).
6. **SPDR** – 1 – 6-character ID description.
7. **TOTAL** - Total amount of manure applied to field.
8. **TAC** – Total Acres/Hectares spread this field.
9. **FIELD** – 26-character field description (entered by operator).

**Note:** Print format PRTFMT must be set to **NUTRNT**.
8.5 GPS Spreading Screen

1. **Upper Display Window** – Displays the current rate lbs./acre (Kg/hectare) weight.
2. **MPH (or KMH)** – Miles per hour (or Kilometers per hour) as read from the GPS.
3. **NW** – Compass direction as read from the GPS.
4. **T/A** – Harvested weight entered by operator in lbs./Acre (or Kg/Hectare).
5. **Elapsed Time**.
6. **GR** – Gross weight left on harvester.
7. **NE** – Net weight harvested this load.
8. **AC** – Acres (Hectares) this load.
9. **Application Rate Indicator** – Actual rate of application, measured by scale in Ton/Acre (Tonnes/Hectare) or lbs./Acre (Kg/hectare). The indicator will be centered when the actual application rate is equal to the target application rate.

**Note**: Print format PRTFMT must be set to **NUTRNT** (D.A.N. 2304).
8.6 Last Load Summary Screen (temporary)

The screen is displayed to 10 seconds after pressing \( \text{Start Stop} \) to complete a load. Press \( \text{ESC} \) to review this screen for 10 seconds.

1. **Upper Display Window** – Displays the current gross weight.
2. **Total Weight** – Weight unloaded this field.
3. **Total Acres** – Acres spread this field.
4. **Net Weight** – Weight unloaded this load.
5. **Acres** – Acres spread this load.
6. **Ton/Acres** – (Tonnes/Hectare) this load.
7. **Field Name**
When the GPS module detects a satellite, the “SAT” tag show either “NO GPS” (No satellites detected), GPS-15 (standard 15-meter accuracy) or DGPS-3 (Differential global positioning system with 3-meter accuracy). Latitude, Longitude, Compass Direction, Miles per hour and universal coordinated time (UTC) are also displayed. UTC always updated when GPS is connected. The previous locations latitude and longitude will display until satellites are found again.

1. **Upper Display Window**—Displays the current gross weight.
2. **LA/LO**—Latitude and Longitude GPS coordinates.
3. **NNW**—GPS Compass Direction.
4. **MPH** (or km/h)—Miles per Hour (or Kilometers per Hour) as read from the GPS.
5. **SAT**—Satellite status from the GPS.
6. **UTC**—Universal time clock from the GPS.
7. **NUMSAT**—Number of satellites found.
9.0 OPERATION

9.1 Turn on Scale

1. Press \textbf{OFF}.

9.2 Zero Balance Indicator

1. Press and hold \textbf{ZERO} for 3 seconds to zero balance indicator.
9.3 Set Application Width

1. Press \( \text{?} \). WIDTH will be displayed.
2. Press \( \text{F} \).

Note: The value is decimal – 40 should be entered as 400. The display will show 40.0.

Note: The GPS Measurement Unit Value AUNIT, in setting options, see page 43, will determine the unit of measure.

9.4 Set Application Rate

1. Press \( \text{?} \). RATE will display.
2. Press \( \text{F} \).

Note: The value is decimal – 40 should be entered as 400. The display will show 40.0.
Note: The GPS Measurement Unit Value AUNIT, in setting options, see page 43, will determine the unit of measure.

Application Rate Tolerance

Activate alarm by changing the Tolerance (Menu 4.2, D. A. N. 4202, TOLER) from OFF (“0” is the same as off) to 1, 2, etc. Tolerance is in Tons/Acres or Tonnes/Hectare. Default is OFF. The front panel light and beeper will periodically sound when the Actual Application Rate varies from the Rate Set by the tolerance selection.

Audio Alarm

Press 4004, then \( \text{SELECT} \) to enter buzzer menu. Select OFF or ON (buzzer always on). Select 1-10 for number of seconds buzzer sounds.
10.0 GPS SPREADING FUNCTIONS
These functions apply only when the optional GPS is connected to the NT 560.

10.1 Start/Stop Display

1. Press \( \text{Start} \) to start unloading.

2. Unit will display the GPS Spreading Screen.

**Application Rate Low** – when unload annunciator (<0.0>) is left of center. Decrease driving speed or increase apron speed.

**Correct Application Rate** – when unload annunciator (<4.0>) is centered.

**Application Rate High** – when unload annunciator (<10.0>) is right of center. Increase speed or decrease apron speed.
3. Press \( \text{START} \) when unloading is complete.

4. For ten seconds the display will show the Last Load Summary Screen (See page 22).

5. The indicator now stores data and sends the weight and field information out the printer port.

6. The indicator will return to GPS Active Screen.

**Note**: If you wish to view the Last Load Summary Screen press \( \text{ESC} \).
10.2 Overview, Load Screen, GPS Data

1. Press \text{ESC} to go to load screen.

2. Use \text{ and } \text{ arrows to scroll through the different loads.}

3. When the load is chosen to view, press \text{ } \text{ arrow. Use arrows to view the ID and total duration of time the load took to apply.}

4. Press \text{ } \text{ arrow to view GPS coordinates data and spreading width from load being viewed.}
11.0 CLEARING DATA

11.1 Clearing the Indicator Memory

⚠️ Important: Before erasing the data records, be sure the data records have been safely stored.

⚠️ Important: This action will erase all data records.

1. Select field name of weight accumulator to be erased. Return to the active screen.

2. Press repeatedly until ACCUM is displayed.

3. Press .

4. Press to delete current field accumulated value, press to erase all accumulated records or press to exit.

Note: This operation only erases the accumulator data. Field names; ID names and data records are not affected.

1. Select field name of accumulator to be erased. See page 18. Return to the active screen.

2. Press repeatedly until ACRES is displayed.

3. Press .

4. Press to delete current field acres value, press to erase all accumulated field records or press to exit.

Note: This operation only erases the acres data, field Names; ID names and data records are not affected.
12.0 OTHER FUNCTION

12.1 Using Dimmer Option

1. Press \[ \text{DIMMER} \] until DIMMER is displayed.
2. Press \[ \text{DIMMER} \] (within 2 seconds) once to dim backlight on the LCD. Repeat steps 1 and 2 to brighten LCD back light.

12.2 Change Time

1. Enter 1202
2. Press \[ \text{SELECT} \].
3. Press \[ \text{arrow} \] or \[ \text{arrow} \] to move cursor, and choose digit to edit.

**Note:** Press and hold \[ \text{ESC} \] to clear all digits. HH/MM/SS, example; 00:00:00. Then enter new time using number keypad.

4. Press \[ \text{arrow} \] or \[ \text{arrow} \] arrow to change number. Press \[ \text{ESC} \] to store.
12.3 Change Date

1. Enter 1204
2. Press
3. Press or arrow to move cursor, and choose digit to edit.

Note: Press and hold to clear time.

Date format DDMMYY. Then enter new date using number keypad.

4. Press or arrow to change number. Press to store.

Note: change date format with D.A.N. 1203.

12.4 Change Unit of Measure for Spreader Application

1. Enter D.A.N. 6514
2. Press
3. Press again.

LBS / A—pounds per Acre
TONS / A—Tons per Acre
4. Press to store.
12.5 Application Units

1. Enter D.A.N. 6501
2. Press
3. Press again to select; ENGLISH METRIC
4. Press to store.
13.0 RE-CALIBRATING YOUR SCALE

To change set-up and calibration numbers see page 33.
To re-calibrate the scale and make it even more accurate, document at least 3 to 6 loads of varying sizes and measure the actual weight of all loads on a certified scale.
- It must be assured that each truck is not losing nutrient during transit to a certified scale.
- Weigh the truck immediately before unloading and immediately after unloading to minimize errors due to changes in fuel etc.

In this example, six carts of nutrient are unloaded on to four semi-trucks.

Example:

<table>
<thead>
<tr>
<th>Cart Load A</th>
<th>Cart Load B</th>
<th>Cart Load C</th>
<th>Cart Load D</th>
<th>Cart Load E</th>
<th>Cart Load F</th>
</tr>
</thead>
<tbody>
<tr>
<td>51560</td>
<td>33240</td>
<td>17620</td>
<td>50520</td>
<td>38200</td>
<td>12360</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Truckload</th>
<th>Truckload</th>
<th>Truckload</th>
<th>Truckload</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>#2</td>
<td>#3</td>
<td>#4</td>
</tr>
<tr>
<td>51920</td>
<td>51320</td>
<td>50720</td>
<td>51070</td>
</tr>
</tbody>
</table>

Total Indicator Weight 203400
Total Certified Weight 205030

Reading Too High

If the NT560 indicator is reading higher than the certified scale weight, then the calibration number is high and should be decreased proportionally.

Reading Too Low

If the NT560 indicator is reading higher than the certified scale weight, then the calibration number is high and should be decreased proportionally.
13.1 Get your Calibration Number

TOTAL certified weight
-------------------------------------------- X Current Cal Number=New Cal Number
TOTAL indicator weight

Using the previous example your results would be:

| 102920 | ---------X 24280 = 24475 |
| 102100 |

1. Enter 8712
2. Press .
3. Press or arrow to move cursor, and choose digit to edit.
   Press to store.
4. Press or arrow to change number. Press to store.

Note: Press and hold to clear calibration number. Then using number keypad enter new calibration number.

13.2 Setup Number

1. Enter 8711
2. Press .
3. Press or arrow to move cursor, and choose digit to edit.
4. Press or arrow to change number. Press to store.

Note: Press and hold to clear setup number. Then using number keypad enter new setup number. Press to store.
14.0 DIRECT ACCESS NUMBERS (D.A.N.)

14.1 Options Changed by User.

1. Use key pad to enter D.A.N. (direct access number) listed below.

2. Press \[SELECT\] to select options for each setting/display.

3. Press \[ENTER\] to store setting.

<table>
<thead>
<tr>
<th>SETTING</th>
<th>D.A.N NO.</th>
<th>OPTIONS [displayed] BOLD=DEFAULT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE (LANGAG)</td>
<td>1001</td>
<td>English (ENGLISH) Portuguese (PORT) Spanish (ESPAÑOL) Danish (DUENISH) Hungarian (MAGYAR) Spanish (CASTILLA) Dutch (NEDERLAND) French (FRANCES) German (DEUTSCH) Italian (ITALIAN)</td>
<td>Select language to be displayed.</td>
</tr>
<tr>
<td>DISPLAY RATE (DRATE)</td>
<td>1002</td>
<td>1,2,3,4,6,7,8,9,10</td>
<td>Update display times per second.</td>
</tr>
<tr>
<td>SCALE ID SETUP (SCALID)</td>
<td>1003</td>
<td>560WFI</td>
<td>Identity of scale location (truck id or Mixer number).</td>
</tr>
<tr>
<td>ZERO TRACK (ZTRACK)</td>
<td>1004</td>
<td>ON/OFF</td>
<td>If ON - zero track adjust balance for buildup of snow &amp; mud.</td>
</tr>
<tr>
<td>WEIGH METHOD (WMTHD)</td>
<td>1005</td>
<td>1=General 2=Fast 3=Slow</td>
<td>Select weigh method. The speed the weight changes as shown on the LCD.</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed] BOLD=DEFAULT</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------</td>
<td>----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>1 PRESS ZERO (^{(1 \text{ ZERO})})</td>
<td>1006</td>
<td><strong>ON/OFF</strong></td>
<td>If ON -press and hold Zero key to Zero/Balance scale.</td>
</tr>
<tr>
<td>AUTO OFF (^{(\text{AUTOFF})})</td>
<td>1007</td>
<td><strong>OFF, 15, 30, 45, 60</strong></td>
<td>Indicator turns off after selected minutes of stable weight.</td>
</tr>
<tr>
<td>DISPLAY UNIT (^{(\text{LB-KG})})</td>
<td>1008</td>
<td><strong>LB/KG</strong></td>
<td>Display pounds – LB or Kilograms - KG</td>
</tr>
<tr>
<td>SCROLL DELAY (^{(\text{SCROLL})})</td>
<td>1101</td>
<td>0,1,2,3,4, 5, 6, 7, 8, 9</td>
<td>Scroll rate for cold temperatures 0=normal 9=slowest</td>
</tr>
<tr>
<td>SAVE TARE (^{(\text{SAVTAR})})</td>
<td>1102</td>
<td><strong>ON/OFF</strong></td>
<td>Saves tare weight to non-volatile memory.</td>
</tr>
<tr>
<td>PRELOAD TARE (^{(\text{PRETAR})})</td>
<td>1103</td>
<td><strong>ON/OFF</strong></td>
<td>Tare weights can be entered using the numeric keypad.</td>
</tr>
<tr>
<td>TIME FORMAT (^{(\text{TIME F})})</td>
<td>1201</td>
<td><strong>24 HR</strong> <strong>AM/PM</strong></td>
<td>Select time format -AM/PM or 24 hours</td>
</tr>
<tr>
<td>TIME (^{(\text{TIME})})</td>
<td>1202</td>
<td><strong>HH:MM: SS, AM/PM</strong></td>
<td>Enter changes HH:MM: SS (use numeric keypad) use function key to change between HH:MM: SS then choose AM/PM.</td>
</tr>
<tr>
<td>REMOTE INPUT 2 (^{(\text{RMINP_2})})</td>
<td>1411</td>
<td><strong>TARE, PRINT, HOLD, NETGRS, M+, ZERO, TR HLD, OFF, PRESET, SWITCH</strong></td>
<td>Sets function of remote input line on the remote port.</td>
</tr>
<tr>
<td>REMOTE 2 SWITCH MESSAGE (^{(\text{R2MSG})})</td>
<td>1412</td>
<td>*<em>OPEN, --,+,<em>0, 1,2,3, 4,5,6,7,8,9, A, B, C,D,E,F,G,H,I,J,K,L, M, N, O,P,Q,R,S,T,U,-V,-W,-X,-Y,-Z</em></em></td>
<td>Message that is displayed for remote input condition. D.A.N. 1411 set to “switch”</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>REMOTE 2 SWITCH STATE (R2STAT)</td>
<td>1413</td>
<td>OPEN/CLOSED</td>
<td>Set remote input line state that displays message and/or illuminates alarm lamp. D.A.N. 1411 set to “switch”.</td>
</tr>
<tr>
<td>REMOTE 2 SWITCH MESSAGE TIME (R2TIME)</td>
<td>1414</td>
<td>0...2-9</td>
<td>Set how often the remote switch message is displayed. Once every 1-9 seconds. D.A.N. 1411 set to “switch”</td>
</tr>
<tr>
<td>PROGRAM ID (PRG ID)</td>
<td>1998</td>
<td>Example: 15FE16</td>
<td>Displays current software version</td>
</tr>
<tr>
<td>ESTIMATED WEIGHT (EST WT)</td>
<td>1999</td>
<td>Enter weight value using key pad. Then press enter, then “ON” to continue. Manually adjust Gross weight of scale by changing zero/balance. Press “on” to continue.</td>
<td></td>
</tr>
</tbody>
</table>

### MENU 2 – COMMUNICATIONS FEATURES

<table>
<thead>
<tr>
<th>SETTING</th>
<th>D.A.N NO.</th>
<th>OPTIONS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>REMOTE (REMOTE)</td>
<td>2001</td>
<td>MLTLNE, OFF, ON</td>
<td>If ON indicator communicates with Cab Control Display</td>
</tr>
<tr>
<td>SCALE NUMBER (SCL NO)</td>
<td>2002</td>
<td>1,2,3,4,5,6,7,8,9,10,11 ,12, 13,14,15,16,17,18,19, 20, 21,22,23,24</td>
<td>Select scale number for cab control communication</td>
</tr>
<tr>
<td>EXTERNAL RADIO (EXTRAD)</td>
<td>2003</td>
<td>ON/OFF</td>
<td>Enables external radio to be connected to the J905 port.</td>
</tr>
<tr>
<td>DDL ATTACHED (DDL)</td>
<td>2004</td>
<td>YES/NO</td>
<td>Enables connection of a DDL (Data Down-Loader)</td>
</tr>
<tr>
<td>SCORE BOARD MODE (SCOREM)</td>
<td>2101</td>
<td>0,1,2,3,4,5,6,7,8,11,12 ,15,27,37,38,39</td>
<td>Select scoreboard output</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A. N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ZERO OUTPUT</td>
<td>202</td>
<td>Weight displayed=Then press ZERO key and hold for three seconds.</td>
<td>Allows zero/balance for SCOREM #11 serial gross weight.</td>
</tr>
<tr>
<td>FRONT PANEL ZEROUT</td>
<td>203</td>
<td>OFF/ON</td>
<td>Allows use of the zero key to zero/balance the serial gross weight.</td>
</tr>
<tr>
<td>OPERATION STATUS</td>
<td>211</td>
<td>0, 2</td>
<td>Select operating data to be sent to a Remote Terminal</td>
</tr>
<tr>
<td>COM 1 BAUD RATE</td>
<td>2201</td>
<td>1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200</td>
<td>Sets baud rate for com port #1</td>
</tr>
<tr>
<td>COM 1 PARITY</td>
<td>2202</td>
<td>NONE, ODD, EVEN</td>
<td>Sets parity for com port #1</td>
</tr>
<tr>
<td>COM 1 DATA BITS</td>
<td>2203</td>
<td>7, 8</td>
<td>Sets data bits for com port #1</td>
</tr>
<tr>
<td>COM 1 DELAY</td>
<td>2204</td>
<td>0, .10, .25, .50, .75, 1-5</td>
<td>Selects seconds to delay before advancing to next line.</td>
</tr>
<tr>
<td>COM 2 BAUD RATE</td>
<td>2211</td>
<td>1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200</td>
<td>Sets baud rate for com port #2</td>
</tr>
<tr>
<td>COM 2 PARITY</td>
<td>2212</td>
<td>NONE, ODD, EVEN</td>
<td>Sets parity for com port #2</td>
</tr>
<tr>
<td>COM 2 DATA BITS</td>
<td>2213</td>
<td>7, 8</td>
<td>Sets data bits for com port #2</td>
</tr>
<tr>
<td>COM 2 DELAY</td>
<td>2214</td>
<td>0, .10, .25, .50, .75, 1-5</td>
<td>Selects seconds to delay before advancing to next line.</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed] BOLD=DEFAULT</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>---------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>TARE AUTO PRINT (TAREAP)</td>
<td>2301</td>
<td>ON/OFF</td>
<td>If ON -tare auto-prints displayed weight.</td>
</tr>
<tr>
<td>ONE LINE PRINT (1L PRT)</td>
<td>2302</td>
<td>ON/OFF</td>
<td>If ON -indicator data prints on one line.</td>
</tr>
<tr>
<td>AUTO PRINT (APRINT)</td>
<td>2303</td>
<td>ON/OFF</td>
<td>If ON -pressing keys auto-prints weight values.</td>
</tr>
<tr>
<td>PRINT FORMAT (PRTFMT)</td>
<td>2304</td>
<td>PRTAC1, PRTAC2, PRTAC3, PRTAC4, PRTAC5, PRTAC6, 10K TA, GT560A, RECINF, AUTO, WTONLY, DOWLD, DT + TM, ID + TM, IDWTMM, BATCH1, PRWTRC, WTRCTM, 3200-A, 3200-B, SCL ABC</td>
<td>Select alternate &amp; comma (CSV) formats.</td>
</tr>
<tr>
<td>PRINT ACCUMULATION (PRTACC)</td>
<td>2305</td>
<td>0</td>
<td>Shows a running total of weights printed.</td>
</tr>
<tr>
<td>REMOTE DISPLAY (RMDISP)</td>
<td>2401</td>
<td>EZ2, EZ3MUX, COG, NONE</td>
<td>Select type of remote display</td>
</tr>
<tr>
<td>REMOTE TERMINAL (RMTERM)</td>
<td>2402</td>
<td>ON/OFF</td>
<td>Sends display data to serial remote terminal interface</td>
</tr>
<tr>
<td>BAR GRAPH MODE (BARGRP)</td>
<td>2411</td>
<td>OFF, RIGHT, LEFT, MIDOUT, MID IN</td>
<td>Selects output for a bar graph display when used with an RD4000 Remote Display</td>
</tr>
<tr>
<td>WEIGHT GRAPH (WTGRPH)</td>
<td>2412</td>
<td>ON/OFF</td>
<td>Enables graph to be used with weight when used with a RD4000 Remote Display.</td>
</tr>
<tr>
<td>BAR WEIGHT (BAR WT)</td>
<td>2413</td>
<td>12000</td>
<td>Enter the full scale gross weight for the bar graph display.</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PRESET GRAPH (PRGRPH)</td>
<td>2414</td>
<td>ON/OFF</td>
<td>Enables graph use with presets when used with an RD4000 Remote Display.</td>
</tr>
<tr>
<td>TIMER GRAPH (TMGRPH)</td>
<td>2415</td>
<td>ON/OFF</td>
<td>Enables graph use with timers when used with an RD4000 remote display.</td>
</tr>
</tbody>
</table>

### MENU 3 - MOTION & WEIGHT

<table>
<thead>
<tr>
<th>SETTING</th>
<th>D.A.N NO.</th>
<th>OPTIONS [displayed]</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISPLAY COUNT (COUNT)</td>
<td>3001</td>
<td>.01,.02,.05,.1,.2,.5,1, 2,5,10,20, 50,100</td>
<td>Select display count size of weigh values.</td>
</tr>
<tr>
<td>CAPACITY (CAP)</td>
<td>3002</td>
<td>120,000</td>
<td>Enter MAXIMUM weight measurable on scale.</td>
</tr>
<tr>
<td>WM1 ADJUST 1 (WMA1-1)</td>
<td>3003</td>
<td>10</td>
<td>Increase this number to smoothing weighing</td>
</tr>
<tr>
<td>WM1 ADJUST 2 (WMA1-2)</td>
<td>3004</td>
<td>4</td>
<td>0=off. Use value less than WMA1-1 for quick response weight.</td>
</tr>
<tr>
<td>WM1 ADJUST 3 (WMA1-3)</td>
<td>3005</td>
<td>4000</td>
<td>Enter the weight to active quick response weight Default-10% of scale capacity</td>
</tr>
<tr>
<td>WM2 ADJUST 1 (WMA2-1)</td>
<td>3006</td>
<td>30, value must be less than 100 and more than 2.</td>
<td>Increase this number to smooth out weighing</td>
</tr>
<tr>
<td>WM2 ADJUST 2 (WMA2-2)</td>
<td>3007</td>
<td>10, value must be less than 100 and more than 0.</td>
<td>10=off. Use value less than WMA2-1 for quick response weight.</td>
</tr>
<tr>
<td>WM2 ADJUST 3 (WMA2-3)</td>
<td>3008</td>
<td>4000</td>
<td>Enter the weight to active quick response weight Default-10% of scale capacity</td>
</tr>
<tr>
<td>MOTION (MOTION)</td>
<td>3101</td>
<td>ON/OFF</td>
<td>ON = Motion arrow flashes with unstable weight. Prevents: Print, Zero, Tare, Advance</td>
</tr>
<tr>
<td>MOTION WEIGHT (MOT WT)</td>
<td>3102</td>
<td>0</td>
<td>Enter weight used to detect motion. 0=Standard detection</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PRE-ALARM METHOD (P MTHD)</td>
<td>4001</td>
<td>WEIGHT, PERCENT</td>
<td>Select weight or percentage method for pre-alarm</td>
</tr>
<tr>
<td>PRE-ALARM (P-ALM)</td>
<td>4002</td>
<td>100</td>
<td>Enter a value to activate an early warning that indicator is reaching the preset.</td>
</tr>
<tr>
<td>ALARM OUTPUT (AL OUT)</td>
<td>4003</td>
<td>OFF, PRESET, TR</td>
<td>Select preset or TR to control relay, horn &amp; lamp.</td>
</tr>
<tr>
<td>BUZZER (BUZZER)</td>
<td>4004</td>
<td>OFF, ON, 1-10</td>
<td>ALARM BUZZER - allows user to turn off alarm horn when loading/unloading</td>
</tr>
<tr>
<td>RELAY (RELAY)</td>
<td>4005</td>
<td>OFF, PRESET, SETPNT, SSPRAS T</td>
<td>Selects the behavior of the +12VDC alarm output</td>
</tr>
<tr>
<td>PRESET DELAY (PRTDLY)</td>
<td>4006</td>
<td>0, MANUAL</td>
<td>Set time to automatically advance/print entered preset</td>
</tr>
<tr>
<td>GROSS SET PNT OUTPUT (SETOUT)</td>
<td>4101</td>
<td>OVER/UNDER</td>
<td>Select when the +12VDC Alarm Output becomes active.</td>
</tr>
<tr>
<td>GROSS SET POINT CHNG (SETCHG)</td>
<td>4102</td>
<td>500</td>
<td>Set required weight change to turn off +12VDC Alarm Output.</td>
</tr>
<tr>
<td>GROSS SET POINT DELAY (SETDEL)</td>
<td>4103</td>
<td>0</td>
<td>Set time delay before the +12VDC Alarm Output Can Turn On/Off.</td>
</tr>
<tr>
<td>GROSS SET POINT (SETPNT)</td>
<td>4104</td>
<td>5000</td>
<td>Set a gross weight in long form that will activate +12VDC Alarm Output on Power cord.</td>
</tr>
<tr>
<td>SET POINT COUNT (SETCTR)</td>
<td>4105</td>
<td>0</td>
<td>Counts how many times set point is activated.</td>
</tr>
<tr>
<td>SET POINT WEIGHT SOURCE (S TWTSC)</td>
<td>4106</td>
<td>SERIAL/NORMAL</td>
<td>Sets weight source for use with set point feature.</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>TOLERANCE METHOD [T.MTHD]</td>
<td>4201</td>
<td>WEIGHT, PERCENT</td>
<td>Select weight or percentage method for preset tolerance</td>
</tr>
<tr>
<td>TOLERANCE [TOLER]</td>
<td>4202</td>
<td>0</td>
<td>Select tolerance weight percentage to accept preset.</td>
</tr>
<tr>
<td>TOLERANCE OVERLOCK [OVERLK]</td>
<td>4203</td>
<td>OFF/ON</td>
<td>Prevents auto-advancing if preset exceeds tolerance</td>
</tr>
<tr>
<td>DRIVE RATIO [DRATIO]</td>
<td>4302</td>
<td>1.00</td>
<td>Enter the number of input pulses that equal 1 mixer revolution. REVCTR needs to be enabled in the setup options. D.A.N. 4301 set to COUNTER.</td>
</tr>
</tbody>
</table>

### MENU 5 - COM PORT SETU MENU

<table>
<thead>
<tr>
<th>REMOTE DISPLAY PORT [RMDPRT]</th>
<th>5001</th>
<th>OFF, COM1, COM2, COM3, COM4</th>
<th>Sets serial remote display output</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADIO PORT [RADPRT]</td>
<td>5002</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets internal radio port</td>
</tr>
<tr>
<td>EXTERNAL RADIO PORT [EXRPRT]</td>
<td>5003</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets external radio port</td>
</tr>
<tr>
<td>PRINTER PORT [PRPORT]</td>
<td>5005</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets printer port</td>
</tr>
<tr>
<td>SCORE BOARD PORT [SCPRT]</td>
<td>5006</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets scoreboard port</td>
</tr>
<tr>
<td>OPSTAT PORT [OPSTAT]</td>
<td>5007</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets op-stat port</td>
</tr>
<tr>
<td>DDL PORT [DDLPRRT]</td>
<td>5009</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets DDL port</td>
</tr>
<tr>
<td>20MA MIRROR PORT [20MAMR]</td>
<td>5011</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets port for 20MA signal to mirror</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>DEBUG PORT</strong> <em>(DBGPRT)</em></td>
<td>5999</td>
<td>OFF, COM1, COM2, COM3, COM4</td>
<td>Sets debugger port</td>
</tr>
<tr>
<td><strong>APPLICATION UNITS</strong> <em>(A UNIT)</em></td>
<td>6501</td>
<td>English or Metric</td>
<td>Enter application units in English or Metric</td>
</tr>
<tr>
<td><strong>APPLICATION RATE</strong> <em>(RATE)</em></td>
<td>6502</td>
<td>ENTER VALUE</td>
<td>Enter the desired rate in Tons per Acre (or Tonnes / Hectare)</td>
</tr>
<tr>
<td><strong>APPLICATION WIDTH</strong> <em>(WIDTH)</em></td>
<td>6503</td>
<td>40.0</td>
<td>Enter the spread width in feet (or meters)</td>
</tr>
<tr>
<td><strong>TOTAL ACRES</strong> <em>(ACRES)</em></td>
<td>6504</td>
<td></td>
<td>Shows a running total of acres spread or harvested on the selected field.</td>
</tr>
<tr>
<td><strong>APP RATE ESTIMATE</strong> <em>(ARATE)</em></td>
<td>6505</td>
<td>8</td>
<td>The number of weight samples used for the application rate estimate. Increase value to smoothen (2to10).</td>
</tr>
<tr>
<td><strong>APP RATE AVERAGE</strong> <em>(ARATE-2)</em></td>
<td>6506</td>
<td>5</td>
<td>The number of rate samples averaged. Increase value to smoothen (1to5).</td>
</tr>
<tr>
<td><strong>APP RATE WINDOW</strong> <em>(ARATE-3)</em></td>
<td>6507</td>
<td>0=OFF, increase value</td>
<td>Determines range for minimum or maximum samples. Uses minimum samples when outside of window. 0= OFF, 1=RATE +/- RATE, 9 = RATE +/- 1/9 RATE</td>
</tr>
<tr>
<td><strong>APP MINIMUM SAMPLES</strong> <em>(ARATE-4)</em></td>
<td>6508</td>
<td>6</td>
<td>Minimum samples used in APP RATE WINDOW. Decrease for faster response</td>
</tr>
<tr>
<td><strong>APP RATE EQUAL WEIGHTS</strong> <em>(AWEQUL)</em></td>
<td>6509</td>
<td>3</td>
<td>Increase value for low application rates</td>
</tr>
<tr>
<td><strong>APP RATE LOAD / UNLOAD</strong> <em>(A L/UL)</em></td>
<td>6511</td>
<td>UNLOAD, LOAD, AUTO</td>
<td>Select Load, Unload, or Auto detect for displaying T/A while loading or unloading</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GPS STORAGE INTERVAL {GPSSTR}</td>
<td>6512</td>
<td>10</td>
<td>Time interval used to store GPS data</td>
</tr>
<tr>
<td>APP RATE MINIMUM SPEED {APMNSP}</td>
<td>6513</td>
<td>10</td>
<td>Minimum speed to use when calculating application rate</td>
</tr>
<tr>
<td>LOAD/UNLOAD MEASURE {MUNIT}</td>
<td>6514</td>
<td>TONS, LBS, KG</td>
<td>Select units to be measured. TONS, LB, or KG.</td>
</tr>
<tr>
<td>GPS STORAGE LOCATION {GPSTLC}</td>
<td>6515</td>
<td>INTRNL, USB, OFF</td>
<td>Select location to store USB records</td>
</tr>
<tr>
<td>GPS SERIAL STREAMING {GPSSSR}</td>
<td>6516</td>
<td>OFF, ON</td>
<td>When enabled, GPS application rate data is streamed out the serial port</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SETUP FEATURES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNON SETTING {SIGNON}</td>
<td>8001</td>
<td>OFF, ON</td>
<td>Enables continuous display of sign-on message</td>
</tr>
<tr>
<td>SIGNON MESSAGE {SIGMSG}</td>
<td>8002</td>
<td>SIGMSG 1,2,3</td>
<td>Enables editing of the sign-on message</td>
</tr>
<tr>
<td>MAINTEN MESSAGE {MANTMG}</td>
<td>8011</td>
<td>MANTMG 1, 2, 3, 4, 5, 6, 7, 8, 9, 10</td>
<td>Enables editing of the maintenance message</td>
</tr>
<tr>
<td>MAINTEN MESS. TIME {MANTTM}</td>
<td>8012</td>
<td>200</td>
<td>Time for maintenance message to be triggered.</td>
</tr>
<tr>
<td>DEAD WEIGHT CAL {WT CAL}</td>
<td>8121</td>
<td>Follow instructions shown on LCD</td>
<td>Calibration method using weights</td>
</tr>
<tr>
<td>TEMP CALIB {T CALB}</td>
<td>8123</td>
<td>OFF/ON</td>
<td>On=Scale adjusts for temperature changes</td>
</tr>
<tr>
<td>INDICATOR SETUP INFO {DS&gt;SER}</td>
<td>8299</td>
<td>DS&gt;SER</td>
<td>Downloads all setup information to the serial port</td>
</tr>
<tr>
<td>KEYTEST</td>
<td>8888</td>
<td></td>
<td>Enables front panel key test</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed]</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SETUP NUMBER</td>
<td>8711</td>
<td>146040</td>
<td>Quick entry method selects weigh method 1-4lbs, 5-8 kg, gain 1-9, display counts 1-9 and capacity *1000</td>
</tr>
<tr>
<td>Calibration Number</td>
<td>8712</td>
<td>32640</td>
<td>Weight displayed at 0.4mV/V</td>
</tr>
</tbody>
</table>

BOLD = DEFAULT
15.0 TROUBLESHOOTING FLOW CHART

START

Does the indicator come on?

YES

Is the reading on the Indicator stable?

YES

Put your weight on each load cell. Does the indicator respond to your weight?

YES

Check all J-Box and Load Cell cables for cuts or pinched/flat spots.

YES

Are the readings all positive? If not Load Cell is upside down.

NO

Remove the cover from your J-Box

YES

Is there moisture inside the box?

YES

Dry out your J-Box (use a hairdryer). Check cable strain reliefs for tightness. Cables have drip loops. Is lid gasket damaged?

NO

Look for loose connections. Watch your Indicator display while moving the wires and pressing on the circuit board inside the J-Box. You will see if there is a loose connection or bad solder joint.

NO

Did the J-Box have a bad connection or loose wire?

YES

Fix or replace the J-Box

NO

See next Page

NO

If your display is unstable, or flashes “±RANGE” disconnect the j-box cord from Indicator. Is display still unstable?

YES

Your Indicator is probably defective. Try another Indicator to verify. Note: Be aware of electrical interference that might affect Indicator, such as mobile phones, CB radios, radio towers, electrical motors, etc. Make sure Load Cell cables are not attached to hydraulic lines or reservoir.

NO

Are the readings all positive? If not Load Cell is upside down.

NO

Does the scale weigh you approx. the same over all Load Cells? (Weight will not be accurate)

NO

Your Indicator is probably not set-up and calibrated correctly. Check the decal on the bottom of Indicator. It shows what type of Load Cells the Indicator was calibrated to. By pressing the on key while the Indicator is already on, you will get the Indicator’s “Set-up” and “Cal” numbers. See if they compare to the set-up and calibration numbers on the Indicator. Contact Dealer for further information.

NO

POOR CONNECTION: Take them apart and clean connections. (Rust or paint should be wire brushed.) Then reconnect and tighten securely.

BAD BATTERY: Replace battery (weak battery may test good if tested with no load on battery)

BAD POWER CORD: Make sure red-wire is connected to (+) positive side and black wire is connected to (-) negative side. When using a multi-meter to check for voltage, measure between pin 1 (POS) and pin 2 (NEG). Meter should read between 10.5 and 14.5 volts DC if using a tractor power cord, black wire is positive and white wire is negative.

BAD INDICATOR: Try another Indicator. (Even a different model or set-up should come on.)
15.1 Troubleshooting flow chart continued

1. Disconnect all the Load Cell wires from the terminal blocks inside the J-Box (leave the Indicator on while connecting and disconnecting the wires, it will not damage Load Cells or Indicator if wires are shorted during this step). Is reading on Indicator stable?

   NO
   
   Replace J-Box (be aware of electrical interference that might affect your scale such as: mobile phones, CB radios, radio towers, electric motors, etc.).

   YES
   
   2. Zero balance the Indicator. (Press “NET/GROSS” then “ZERO”). Indicator should display “0”.

      Note: Hook up the Load Cells to the J-Box one at a time (only one Load Cell connected at a time). This will get a reading for each Load Cell. While performing this test, watch for any other symptoms such as erratic/unstable display, Indicator flashing “±RANGE”, negative reading, etc. If the Indicator reading should ever appear abnormal with any Load Cell connected, then it is probably bad.

3. Connect one Load Cell back into one of the terminals in the J-Box. (The reading you get for each Load Cell is dependent on the size and type of each Load Cell and how much weight is over each Load Cell. In general, the number should be positive and stable.)

   Note: If the scale responded to your weight, that’s verification on the J-Box is OK. If the scale did not respond, either that Load Cell is bad or the J-Box is bad. Try the other Load Cells. If the Indicator still shows no response, the J-Box is bad. (Replace J-Box)

4. Record the Indicator reading with the Load Cell connected.

5. Stand or hang your weight over the connected Load Cell. Record how much the weight increased with your weight over the Load Cell. (A scale with only one Load Cell will weigh heavy.)

   Note: If the scale responded to your weight, that’s verification on the J-Box is OK. If the scale did not respond, either that Load Cell is bad or the J-Box is bad. Try the other Load Cells. If the Indicator still shows no response, the J-Box is bad. (Replace J-Box)

6. Disconnect the first Load Cell and reconnect a second one. Record the Indicator reading. Stand or hang your weight over the connected Load Cell. Record how much the weight increased.

7. Repeat step 6 for the remaining Load Cells. Remember to record your readings.

   Do not expect the Load Cells to give the same reading. It is common for Load Cells to have readings that vary by hundreds, even thousands. Especially when one is carrying more weight.

8. Bad Load Cells will have a reading that is either unstable, makes the indicator flash “±RANGE” or is more than three times greater or less than the average of the others. Also, the readings of your weight over each Load Cell should be similar. (Probably 4 times your actual weight). Any differences could be an indication of a bad Load Cell or a structural problem.
15.2 Weighing Error Messages

**Over-Capacity Limit (OVRCAP)**
Weight on scale system exceeds capacity limit.

**Over Range (+RANGE)**
Weight on scale system exceeds maximum weight.
Check loadcell cabling.

**Under Range (-RANGE)**
Weight on scale system less than minimum weight.
Check loadcell cabling.
16.0 INSTALLATION

16.1 Indicator Mounting

For most applications, the equipment manufacturer provides the necessary mounting system and hardware, and mounts the indicator for the end user.

Digi-Star provides several mounting options that allow the end user to customize the location and placement of the Indicator. The following section provides a list of the optional mounts.

In all cases the Digi-Star Indicator must be securely mounted to the equipment. Loose, or unsupported, indicators can be damaged.

<table>
<thead>
<tr>
<th>KEY</th>
<th>PART NUMEBR</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>404353</td>
<td>Bracket-EZ3 Plastic Rail *</td>
</tr>
<tr>
<td>B</td>
<td>403780</td>
<td>SCR-#10 X 5/8 FHSTS Black ZP</td>
</tr>
<tr>
<td>C</td>
<td>840459</td>
<td>Support-Hat Bracket</td>
</tr>
<tr>
<td>D</td>
<td>405069</td>
<td>U-Bolt 1/4-20 X 3.25 ZP</td>
</tr>
<tr>
<td>E</td>
<td>405084</td>
<td>Nut-1/4-20 Top Locking Flange</td>
</tr>
<tr>
<td>F</td>
<td>403770</td>
<td>Bracket- Wing Mount *</td>
</tr>
<tr>
<td>G</td>
<td>405124</td>
<td>Pack-Wedge Mount Bracket With U-Bolts &amp; Flange Nuts</td>
</tr>
<tr>
<td>H</td>
<td>405244</td>
<td>EZ3 Wedge Mount</td>
</tr>
</tbody>
</table>
### RAM MOUNT

<table>
<thead>
<tr>
<th>KEY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>404799</td>
<td>Kit-1.5” Ram Mount with Bolt-On Base with Hardware</td>
</tr>
<tr>
<td>J</td>
<td>407544</td>
<td>Kit-1.5” Ram Mount with Dual U-Bolts (Fits 0.5”-1.5” Round)</td>
</tr>
<tr>
<td>K</td>
<td>407434</td>
<td>Kit-1.5” Ram Mount with Triple Suction Cup Base</td>
</tr>
</tbody>
</table>

### SIDE & UNIVERSAL MOUNTS

<table>
<thead>
<tr>
<th>KEY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>408880</td>
<td>Mount for Large Indicators with Hardware and Magnet</td>
</tr>
<tr>
<td>L</td>
<td>408828</td>
<td>Mount for Large Indicators with Hardware Without Magnet</td>
</tr>
<tr>
<td>M</td>
<td>408199</td>
<td>Universal Mount Short</td>
</tr>
</tbody>
</table>
16.2 Connecting Load Cells to Junction Box

Connect load cell wires to terminal blocks. See wire color chart.

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 White</td>
<td>Signal +</td>
</tr>
<tr>
<td>2 Green</td>
<td>Signal -</td>
</tr>
<tr>
<td>3 Red</td>
<td>Excitation +</td>
</tr>
<tr>
<td>4 Black</td>
<td>Excitation -</td>
</tr>
<tr>
<td>5 Shield</td>
<td>Shield</td>
</tr>
</tbody>
</table>

Tighten Nuts

Junction Box Illustrated for 4 Load Cell Installation

16.3 Load Cell Direction

Observe direction of arrow when installing load cell.
17.0 DECLARATION OF CONFORMITY

EMC
DECLARATION OF CONFORMITY


Manufacturer's Name: Topcon Agriculture Americas

Manufacturer's Address: W5527 State Hwy 105
Fort Atkinson, WI 53538

European Representative Name: Digi-Star International

European Representative Address: J.F. Kennedylaan 235
5981 WX Pannngen
The Netherlands

Model Name: GT560, TMR4610, YM560, EZ4 Series with multiline display

Conformance to:
- EN 61326-1 electrical equipment for measurement, control, and laboratory use
  (See Report Number 316064.) ICES-003
- EN 55011, for Class B ISM equipment for industrial, scientific, and medical
  equipment. (See Report Number 316064.)

Equipment Type/Environment:
Electronic weighing scale systems, not legal for trade. For agricultural, commercial
and industrial use.

Beginning Serial No.: 00001001

Year of Manufacture: 2016

I, the undersigned, hereby declare that the equipment specified above conforms to the above
Directive(s).

Manufacturer

[Signature]

Full Name: Daniel J. Hegeman
Position: Electrical Engineering Manager
Place: Fort Atkinson, WI U.S.A.
Date: June 30, 2017
18.0 QUICK START UP SHEET

FIELD SCREEN

1. Press 📚 to modify or select field. Current field number is shown in upper display.
2. Three lines are displayed in Lower Display Window. The top line of the three is current, editable and will be used for next data record.
3. Up/Down Arrows – Press ↕ or ↓ to scroll through fields (150 maximum). Hold arrow to scroll faster. Use ← or → to move cursor within data line.
4. Use keypad to enter or update field names. Press BACK SPACE to delete characters to left and CLEAR to delete the selected character. Hold CLEAR to delete entire line. Pressing ESC will reset line to last saved data.
5. To use special characters, press and release 🎉. Then press key with desired special character. Repeat for each special character required.
6. Press ENTER or 🔄 to exit.

ID SCREEN

1. Press 🌐 to modify or select ID name. Current ID number is shown in upper display.
2. Three lines are displayed in Lower Display Window. The top line of the three is current, editable and will be used for next data record.
3. Up/Down Arrows – Press ↕ or ↓ to scroll through ID names (150 max.). Hold arrow to scroll faster. Use ← or → to move cursor within data line.
4. Use keypad to enter or update ID names. Press BACK SPACE to delete characters to left and CLEAR to delete the selected character. Hold CLEAR to delete entire line. Pressing ESC will reset line to last saved name.
5. To use special characters, press and release 🎉. Then press key with desired special character. Repeat for each special character required.
6. The operator will see ID XXX while editing the ID and CAP XXX while editing the capacity. After editing the ID press ENTER to move the cursor to capacity field to enter capacity data. The display will scroll to the next ID when pressing ↕ or ↓.
7. Press ENTER or 🔄 to exit.
19.0 OPTIONS

GPS Antenna
Optional GPS “Puck” antenna with magnetic base and 17 feet of cord

IPC Thermal Printer
Optional printer a RS232 serial port is required which is labeled as SERIAL, J904 or J905 depending on model of indicator
20.0 NOTES

SETUP NUMBER _________________________

CALIBRATION NUMBER ____________________