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10” VIRTUAL TERMINAL (VT)

The Virtual Terminal (VT) is tested and inspected to ensure the unit is fully operational and meets all measurement specifications. After unpacking, inspect for damage that may have occurred during transit. Save all packing materials until inspection is complete. If damage is found, immediately file a claim with the carrier. Also notify your DICKEY-john Sales Representative.

The 10” Virtual Terminal (VT) is mounted inside the tractor cab and is the main user interface with the IntelliAg system.

The VT consists of:
- A 480 pixel x 480 pixel color graphics display
- Rotary knob
- Eight software-defined keys (using softkey buttons)
- Escape key

VIRTUAL TERMINAL/DISPLAY
- Touch screen navigation and entry
- Large, user-friendly softkeys
- Color icons for easy identification
- Backlit graphics display for nighttime use
- Backlight intensity adjustment
- Large, concise error messages with audible alarm
- English or metric measurements
- Data port (currently used to support VT reprogramming and selected modules, when necessary).

Figure 1

10” Virtual Terminal
VT INSTALLATION

The VT is secured in the tractor cab by a VT bracket that is installed in a location that does not obstruct the view of operating the tractor.

MOUNTING BRACKET FEATURES

- Ball mount at the top and bottom of the bracket allows for the VT to be oriented in many different positions.
- The wing bolt in the middle of the bracket is used to tighten and secure the VT in the desired position.

NOTE: The VT mounting screws included are Metric. The hardware for mounting the bracket to the cab are SAE.

Figure 2
Mounting Bracket Installation

WARNING

The console must not obstruct the view of the operator or interfere with the operation of the tractor.

Once the Virtual Terminal has been mounted, connect the Tractor (Cab) Harness as illustrated in (Figure 3).
CAB HARNESS CONNECTIONS

The following diagram illustrates cab harness layout and connections for the 10" Virtual Terminal.

Figure 3

Cab Harness Layout and Connections
NOTE: The ignition lead must be connected to a switched +12VDC for the system to power properly.

VT CAB HARNESS CONNECTIONS

1. Connect the power leads directly to the battery.
2. Connect the ignition wire to a switched +12VDC.
3. Connect the Chassis Ground lead to a bare point of the cab frame that offers a good chassis ground connection.
4. Connect the Master Switch, CAN Terminator, Radar Speed Sensor, and Tractor ECU to their respective connectors on the cab harness. If the speed sensor is on the tractor, connect to the cab harness. If the sensor is on the implement, connect to the IntelliAg.

Refer to the IntelliAg PDC Operator’s manual for implement harnessing connections.
VT DISPLAY

POWER

The VT does not have an ON/OFF power button. It is connected to the vehicle’s ignition wires and powers ON when the ignition switch is turned on.

The DICKEY-john logo will display. After approximately 40 seconds, the Main Work screen displays. If errors are detected (e.g., failed sensors, incorrect configuration, etc.) an audible alarm and the appropriate alarm code displays.

For a list of alarms, refer to the TROUBLESHOOTING AND ALARMS section of the operator’s manual of the device. Alarms can be silenced by pressing the Escape (ESC) key for approximately two seconds.

NAVIGATION

User information is displayed on the VT by graphical representation and text. Navigation to other screens can be done via the touch screen or the software-defined softkey buttons located on the right side of the display. The function of the item selected on the touch screen and the softkeys are defined by the current display, operational mode, and system configuration.

In the instances that system options exceed the available space on the VT, the Next Page button will display in the last button position. Each time this button is displayed, additional options are available on another set of softkeys. Pressing the Next Page button will display the additional system options.

DATA ENTRY

Data entry can be accomplished by touching the screen, turning the rotary knob, or a combination of all methods.

On screens where data entry is allowed:

- most selectable items will be shown by either a different color background or a border.
- all selectable items will be shown with a yellow outline when the knob is scrolled.
**TOUCH SCREEN DATA ENTRY**

1. Touch the screen to select a data item to edit.
2. A touch pad will appear to enter a desired setting. Refer to (Figure 6) for touch pad definitions.

Using a combination of the touch screen feature and scrolling the rotary knob is also possible.

**NOTE:** When editing a data item using the touch pad, all other screens are inactive. Cancel the touch pad by pressing “X” to return to the previous screen. Pressing “X” will cancel unsaved settings and revert to the previous setting.
Keypad Definitions

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
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</thead>
<tbody>
<tr>
<td>CLR</td>
<td>Clears the active setting</td>
</tr>
<tr>
<td>DEL</td>
<td>Clears the active setting by 1 digit</td>
</tr>
<tr>
<td>+/-</td>
<td>Increases/decreases the active setting</td>
</tr>
<tr>
<td>✔️</td>
<td>Saves the active setting and returns to the previous screen</td>
</tr>
<tr>
<td>X</td>
<td>Returns to the previous screen without saving</td>
</tr>
<tr>
<td>.</td>
<td>Decimal</td>
</tr>
<tr>
<td>☐ ☐</td>
<td>Toggles between available selections</td>
</tr>
<tr>
<td>CAP</td>
<td>Selects upper/lower case letters</td>
</tr>
<tr>
<td>EXT</td>
<td>Selects the extended character set</td>
</tr>
</tbody>
</table>

ROTARY KNOB DATA ENTRY (NUMBERS)

Screen Data Entry Steps:

1. Use the rotary knob to navigate up and down the VT to select the data item for editing. Rotating the knob will cause the outline box to sequence through all editable data items.
2. The outlined box will sequence depending upon the direction the rotary knob is rotated. Clockwise sequences from the bottom to the top. Counter-clockwise sequences from the top to the bottom.
3. If the current data item cannot be edited, no outline box will appear and it is skipped.
4. To select a value for editing, push the rotary knob in.
5. Characters on a touch screen can be increased or decreased by rotating the rotary knob.
6. Press the knob, move selection box to the checkmark to save or the “X” to cancel. Press the knob again to accept the selection.

EDITING INDIVIDUAL TEXT STRING CHARACTERS

Text strings can be customized to user preference using the touchscreen keypad, softkey buttons, the rotary knob, or a combination of all methods to sequence through the character positions.

Using the Touchscreen Keypad:

- Active buttons are bold and outlined in light grey boxes. All other buttons in reverse color are inactive. Press the Ext button to scroll through additional keyboard functions (extended character sets).
- Press the CAP button on the keypad to select upper or lower case characters.
1. Press each key as needed.
2. Press the checkmark to save or “X” to cancel.
Using the Rotary Knob:

Text strings can be customized by selecting the position of the character to be changed, then changing the character.

1. Use the rotary knob to navigate up and down the VT to select the text string for editing. Rotating the knob will cause the outline box to sequence through all available text strings that are editable.
2. Push the knob once to select the text string for editing.
3. Rotate the knob to sequence through all available characters. The available characters are a combination of upper and lower case letters, along with various symbols.
4. Once the desired character has been selected, push the knob to save.
5. Repeat the process until all characters have been selected.
6. Press the checkmark to save, ‘X’ to cancel.

CHECK BOXES

Using the Touch Screen:

1. Touch the input box to activate the selection and press again to deselect.

Using the Rotary Knob:

1. Scroll knob to select.
2. Press knob in to insert checkmark and press again to deselect.
LIST SELECTION

A List Selection box displays when more than one entry is possible.

Using the Touch Screen:
1. Press the right or left arrow to cycle through list.
2. Press the checkmark to save or the ‘X’ to cancel.

Using the Rotary Knob:
1. Rotate knob to select arrow.
2. Press knob to activate and cycle through inputs.
3. Select the checkmark at the desired input and press knob to accept or the ‘X’ to cancel.

Figure 8
List Selection Box
VT SETUP/CONFIGURATION MODE

Virtual Terminal (VT) setup enables customization of the basic operating parameters to the operator’s preferences and configuration of applications enabled with the system.

VT configuration parameters include:

- Information
- Regional and Unit Setting
- Display/Volume Setup
- Auxiliary Input Assignment
- Date and Time Setup
- Application Selection

To Enter Virtual Terminal Setup Mode:

1. Make sure the Master Switch is in the OFF position (SETUP/CONFIGURATION mode).
2. Press the Virtual Terminal button.

The VT Setup/Configuration screen will appear as shown in (Figure 9) and is the main screen that all other VT setup screens can be accessed.

**Figure 9**

10” VT Setup Screen

INFORMATION

The Information screen provides software version details and contact information for troubleshooting assistance, refer to (Figure 9).

REGIONAL AND UNIT SETTINGS

The Regional and Units setup screen allows customization of the display based on user preference. The values are edited by touching the left and right arrows on the display.
REGIONAL SETTINGS:

- **Language**: English (en) is the only language currently supported. Future releases will support other languages.
- **Time Format**: Time is entered in either a 12 hour (02:14:50) or 24 hour (14:14:50) format.
- **Decimal**: The decimal symbol option sets the style of the numerical separator. Numerical values can be set to display with a period (1.23) or with a comma (1,23).
- **Date Format**: The date can be entered as (mmddyyyy), (yyymmddd), (yyyyddmm), (ddmmyyyy), (ddyyymmm), or (mmyyyydd).

UNIT SETTINGS:

All unit settings have selections of either U.S., Imperial, or Metric. Default setting is U.S.

To save the regional and unit settings, press the SD Card button before exiting.

*Figure 10*

**Regional and Unit Screens**
DISPLAY/VOLUME SETUP AND SCREEN CALIBRATION

The Display/Volume Setup and Screen Calibration screen controls:

- Alarm volume
- Display brightness
- Screen calibration

DISPLAY/VOLUME SETUP

The Display and Volume values are edited in bar graph form.

- The **Volume** bar graph indicates the volume level for the audible alarm. An empty bar graph indicates the lowest volume; a full bar graph indicates the loudest volume. The volume level will sound each time the increase/decrease arrows are pressed.
- The **Brightness** bar graph indicates the brightness level of the display. An empty bar graph indicates the lowest level of brightness; a full bar graph indicates the most brightness. The brightness changes each time the increase/decrease arrows are pressed.

*Figure 11*

Display/Volume Setup and Screen Calibration
SCREEN CALIBRATION

A screen calibration can be performed if the touch screen does not seem to activate in the position pressed. Calibration is performed by touching the cross marks on the screen.

To Perform Screen Calibration:

1. Press the Screen Calibration button.
2. On the next screen, touch anywhere on the display to begin calibration. Press Escape key to cancel calibration.
3. Follow the on screen instructions, press and release the cross marks in the upper left, upper right, lower right, lower left, and center mark positions.
4. To save the calibration, push inside the box located in the center of the screen.

AUXILIARY ASSIGNMENT

The Auxiliary Input/Function Assignment screen configures the system’s Master Switch input to the TECU so that it will work with the IntelliAg control function.

IMPORTANT: On initial powerup, a Master Switch Assignment alarm activates requiring a switch assignment. If the Master Switch is not configured, the Master Switch Assignment alarm will activate at each power cycle until an auxiliary assignment is made and will default to the Master Switch button to activate auxiliary inputs.

An installed Master Switch located in the tractor cab is the preferred method for auxiliary input; however, a Master Switch button will be assigned and appear on the Work Screen if no assignment is made.

Figure 12
Aux input/Function Assignment Screen
NOTE: For Virtual Terminals, other than DICKEY-john, refer to the manufacturer's VT operator's manual for auxiliary assignment.

To Assign the Master Switch to the IntelliAg:

1. Press the Auxiliary Assignment button.
2. At the Function box, use the right or left arrows to select the desired function (Control Channel icon).
3. At the Input box, use the right or left arrows to select the desired input (Tractor ECU Master Switch).
4. Press the Enter button to accept.

No Auxiliary Inputs Available appears on the screen if the Tractor ECU is not connected. When assigned, this line will disappear.

No Auxiliary Functions Available appears on the screen if the IntelliAg system is not connected. When assigned, this line will disappear.
DATE AND TIME SETUP

The Date and Time appears at the bottom left corner of the VT.

To change the Date and Time setting press the **Date and Time Setup** button.

The current system date and time displays at the top of the screen. The new date and time is displayed secondary and will change when the left arrow (decreases) or right arrow (increases) are pressed.

Press the **SD Card** button to accept the changes.

**IMPORTANT:** The GPS application must be enabled for date and time stamps to appear in the alarm log. Reference the Additional Applications section for verifying GPS is enabled.

*Figure 13 Date and Time Setup Screen*
ADDITIONAL APPLICATIONS

The Additional Applications screen indicates what applications are enabled within the Virtual Terminal. When enabled, these functions will appear on the left side of the Main Work screen and are accessible in the Operate mode.

An application is enabled (with a checkmark) or disabled (without the checkmark) by pressing the selection box located in front of the application name.

NOTE: The GPS Broadcaster must be enabled for date and time stamps to appear in the alarm log.

APPLICATION DEFINITIONS

TASK CONTROLLER

The Task Controller feature provides task management of data compiled from all active implements. Job data is transferred to an implement for variable rate control and collected from an implement for data logging.

GLOBAL POSITIONING SYSTEM

The GPS feature receives GPS position data from an external GPS receiver and communicates position to the Task Controller and the rest of the system.

IMPORTANT: The GPS function is a required enabled application to communicate with the Task Controller unless a CAN-based GPS receiver is used. If a CAN-based GPS is used, the NMEA2000 GPS Broadcaster option should be disabled to avoid potential communication conflicts.
CAN BUS LOGGER

CAN Bus Logger is a diagnostics tool used for troubleshooting by a service technician and is not used under normal operating conditions.

STORED OBJECT POOLS

Stored Object Pools provides the terminal with display data for each device connected to the system to assist service technicians in troubleshooting and is not used under normal operating conditions. Object pools can be removed by pressing the Delete button.

NOTE: Refer to the operator’s manual of the connected device for application-specific details.
TRACTOR ECU

The Tractor ECU provides a communication interface for exchanging data and controlling commands between the tractor and implement.

Supported control functions include:

- Power take-off shaft speed
- Ground Speed status (wheel speed and forward travel)
- 3-point hitch position
- Wheel slip

**Figure 15**

**Tractor ECU Work Screen**

**UPPER WORK SCREEN:**
- Monitors all enabled functions
- Indicates In Work status (green indicator is in Work mode)
- Identifies alarms

**LOWER WORK SCREEN**
- Monitors user selected data items during operation.

**To select a Data Item:**
1. Press the highlighted input box.
2. Use the **Left or Right** arrows to scroll through selections.
3. Press the checkmark to accept data item.
### TRACTOR ECU SYMBOLS

**Figure 16**

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<thead>
<tr>
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<tr>
<td>Σ</td>
<td>Accumulator</td>
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<tr>
<td></td>
<td>Area per hour</td>
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<tr>
<td></td>
<td>Audio indicator</td>
</tr>
<tr>
<td></td>
<td>Auxiliary switch</td>
</tr>
<tr>
<td></td>
<td>Chassis ground</td>
</tr>
<tr>
<td></td>
<td>ECU</td>
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<td></td>
<td>Configuration</td>
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<td>Ground Speed Calibration</td>
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<td>Full screen popup alarm</td>
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<td>Return to TECU main screen</td>
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TECU SETUP

The Tractor ECU (TECU) Setup screen allows selection of the control functions to be monitored and entry of implement width, if desired.

1. Press the TECU Setup button to display the Setup screen.
2. Select the desired sensors to activate “In Work” status on the TECU Work screen by pressing the desired input box.

NOTE: Implement width on the Tractor ECU setup screen is independent from the IntelliAg or other connected applications and is only used for area accumulation.

WORK MODE

When all parameters have been configured and setup, the TECU Work screen will display all enabled functions.

To start accumulating data and activate alarms, the system must meet ALL criteria that is configured in the system to begin operating in the Work mode.

Work status is identified on the TECU Work screen by the work indicator icon (green = In Work) refer to (Figure 15).
I/O SENSOR CONFIGURATION

The I/O Sensor Configuration screen configures the sensors displayed on the TECU Work screen that includes wheel speed, radar speed, PTO and three-point hitch.

Enable or disable the desired items to display on the TECU Work screen by pressing the desired check box (TECU defaults are all items enabled).

- Wheel speed
- Radar ground speed
- PTO speed
- Three-point hitch switch
- Three-point hitch position

NOTE: If unused sensors remain enabled, the icons will appear on the Work screen but will display with 0 values.

1. Press the I/O Sensor Configuration button to display the I/O Sensor Configuration screen (Figure 18).
2. Enable or disable the desired sensors to display by pressing the desired check box.

Figure 18
I/O Sensor Configuration Screen
GROUND SPEED CALIBRATION

The Ground Speed Calibration screen determines:

- Ground speed sensor type for calibration
- Ground speed constant
- Maximum and minimum ground speed alarm limits

IMPORTANT: All ground speed sensors (radar, wheel speed) MUST be calibrated for accurate operations. Each sensor is calibrated independently.

Ground speed is the rate of vehicle travel in MPH (Km/h) and is measured by the ground speed sensor. The calibration value reflects the number of pulses generated by the sensor while traveling a distance of 400 feet (100 meters).

Press the Ground Speed Calibration button to access the Ground Speed Calibration screen.

To perform the initial ground speed calibration:

1. Press the Radar/Wheel Speed button for the desired radar or wheel speed sensor. The Radar/Wheel Speed button only appears if both were enabled on the I/O Configuration screen.
2. Carefully measure a 400 foot (100 meter) course, clearly marking the start and finish points.
3. With the tractor moving between 2 and 5 MPH (3.2 and 8 Km/h), press the Start button when the tractor is exactly even with the designated start point. The display showing the ground speed pulses will zero and begin counting ground speed pulses.
4. When the tractor is even with the designated finish point, press the Stop button. The new calibration number will display on the center of the screen.
5. To ensure accuracy, record the number and repeat this process two additional times. Average the three numbers recorded.
6. The value in yellow is the **current calibration** value that does not change when the stop button is pressed.
7. To accept the last-run value, the **Save** button will transfer the last-run value into the **current calibration** position in yellow and save.
8. To enter an averaged calibration, highlight the calibration number at the **current calibration** position and manually enter the new value.
9. Once the correct data has been entered, it is automatically saved.

**MAXIMUM AND MINIMUM GROUND SPEED LIMITS**

Maximum and Minimum alarms can be set at a user-defined speed that will activate an audible alarm anytime speed has met the maximum or minimum ground speed conditions. Setting to 0.0 will disable the alarms.

**WHEEL SLIP LIMITS**

A %-based, wheel slip alarm can be set to indicate any wheel slippage. A full alarm will display and must be acknowledged by pressing the ESC key or the checkmark softkey.
PTO CONFIGURATION

The PTO Configuration screen determines:

- PTO Working Speed
- PTO High Speed Alarm
- PTO Low Speed Alarm

To configure the PTO:

1. Enter the PPR (pulses per revolution) or number of teeth on the sensor gear in the PPR input box.

PTO SETUP

1. Enter the value at which the PTO is considered operating in Work mode.
2. Enter high and low speed alarm limits. If the PTO speed exceeds the specified maximum, a full alarm screen will display. If the PTO speed is below the specified minimum, an audio indicator will sound and the PTO low speed will display on the TECU Work screen.

NOTE: Any values set at 0 will disable alarms.

Figure 20

PTO Configuration Screen

![PTO Configuration Screen]

CAUTION

All necessary precautions must be taken to ensure user safety around moving parts. Failure to practice all necessary caution may result in serious injury or death. Refer to the manufacturer’s operator manual for safety warnings when operating a PTO.
THREE-POINT HITCH CONFIGURATION

The three-point hitch configuration screen allows hitch position to be set and then monitored from the TECU Work screen. The hitch position can be configured by enabling the hitch switch or the hitch position sensors on the I/O Configuration screen.

The hitch switch can be set for Hi or Lo polarity. A hitch position sensor should be calibrated for range of travel and “In Work” point.

Press the Hitch Configuration button to access the Hitch Configuration screen.

Figure 21
Hitch Configuration Screen

HITCH SWITCH ACTIVE POLARITY

To configure the hitch switch using the Hi/Lo feature:

1. Place the physical hitch in the up or down position.
2. Press the Hitch Configuration button to access the Hitch Configuration screen.
3. Press the Hitch Hi/Lo Button to match the physical position of the hitch. Pressing Hitch Hi/Lo Button will toggle the Hi/Lo option.

When using the hitch switch feature, the hitch position selection can be disabled by unselecting on the I/O Configuration screen so it does not appear on the TECU screen.

NOTE: The hitch switch must be enabled on the I/O Configuration screen to be active on the Hitch Configuration screen.

CAUTION

Verify that the hitch position is configured correctly on the TECU screen to ensure proper operation occurs.
HITCH POSITION USING UPPER AND LOWER PARAMETERS

Hitch status based on a hitch position sensor can be configured by setting upper and lower parameter points and setting the “In Work” position.

Calibration:

1. Press the Hitch Configuration button to access the Hitch Configuration screen on the VT.
2. Move hitch to the highest position.
3. Press the Upper Limit Position Save button on the VT.
4. Move hitch to the lowest position.
5. Press the Lower Limit Position Save button on the VT.
6. The percentage (%) value will now reflect the position with the range of movement of the hitch.

Setup:

Setting the “In Work” hitch position:

1. Move the hitch to the point that below the point is considered Work mode and above the specified point is not in Work mode.
2. Select and enter the current value or press the Work Mode Position Save button.

If known, the % value can be manually entered instead of performing the above setup steps.

When using a hitch position sensor to monitor hitch position, the Hi/Lo Hitch position feature can be disabled by unselecting the feature on the I/O Configuration screen.

CAUTION

All necessary precautions must be taken to ensure user safety around moving parts. Failure to practice all necessary caution may result in serious injury or death.
ACCUMULATORS

The Accumulator screen displays accumulative time, distance and area for two independent operation areas (A and B) on the TECU Work screen. Data on this screen is informational only and is not editable, but can be reset.

Accumulators display:
- Time worked since last reset
- Distance worked since last reset
- Worked area since last reset

ACTIVATING ACCUMULATORS

1. Press the Accumulator A and/or Accumulator B check box. A checkmark will display next to the corresponding group to begin recording accumulated data on the TECU Work screen.
2. Select miles or feet for distance accumulation.
3. Press the TECU button to return to the TECU Work screen.

Accumulation data will appear on the TECU Work screen when operating.

CLEARING ACCUMULATORS

1. Press the Reset A and/or Reset B Accumulators button.
2. To confirm the reset to 0, press the green checkmark or press cancel to return to the Accumulator screen.
LIFETIME ACCUMULATOR

The Lifetime Accumulator screen displays the total hours the TECU has been turned on, total working hours, total working distance and total working acres. This screen is informational only and cannot be reset.

Press the **Lifetime Accumulator** button to access the screen.

### Symbol Full Screen Alarms

- **PTO Speed High (91)** - the icon will display on the Main TECU screen once the full screen popup has been acknowledged.
- **ECU Supply Voltage Low (73)**
- **ECU Supply Voltage High (70)**
- **Supply Voltage Low (74)**
- **Supply Voltage High (71)**
- **Wheel Slip High (90)** - the icon will display on the Main TECU screen once the full screen popup has been acknowledged.
- **Solenoid Supply Voltage Low (75)**
- **Solenoid Supply Voltage High (72)**
- **Chassis Ground Low (79)**
- **Chassis Ground High (78)**
ALARMS

Various alarm conditions can be presented during Work mode whenever the system encounters an abnormal condition or detects a specifically set alarm point.

NOTE: Setting any limit to 0.0 will disable the alarm.

AUDIO

An audio indicator alarm will beep 3 times and will appear on the TECU Work screen until the condition is no longer active.

The following is a listing of audio indicators that can be configured:

- PTO speed high
- PTO speed low
- Ground speed high
- Ground speed low
- Wheel slip high

Figure 25
Audio Alarm Indicators

PTO Speed Hi/Lo

Ground Speed Hi/Lo

Wheel Slip High
FULL SCREEN ALARMS

A full-screen alarm will popup and an indicator will appear on the TECU Work screen. To acknowledge the alarm, press the checkmark softkey or the ESC key on the console. The alarm indication will stay on the TECU Work screen until acknowledged by the operator or the condition no longer exists.

The following is a listing of possible full screen popup alarms:

- PTO speed high
- ECU supply voltage low
- ECU supply voltage high
- Supply voltage low
- Supply voltage high
- Wheel slip high
- Solenoid supply voltage low
- Solenoid supply voltage high
- Chassis ground low
- Chassis ground high

Figure 26
Full Screen Alarm
SERVICE

The Service screen provides current system status for all inputs and can be used for troubleshooting during service calls.

Figure 27
TECU Service Screen
TASK CONTROLLER

Task Controller is used to communicate between an office PC and a control system. It can be used to record and transfer information by two methods:

- From the office to control system
- From the control system to the office

VARIABLE OR SINGLE RATE TASK (PC)

Variable and single rate tasks created with mapping and field documentation software on an office PC can be stored to the SD card and transferred to the Virtual Terminal and loads the desired products, rates, and map data for application in the field.

IMPORTANT: Rates created on a PC cannot be adjusted in the field while a task is running.

AS APPLIED TASK

Task Controller can be used to record material rates and area while operating in the field, such as harvesting yield data, planting information, and fertilizer and chemical application rates. The data is stored to the SD card from all active implements for transfer to an office PC.

IMPORTANT: Source data for As Applied rates are stored to the SD card and not the Virtual Terminal, therefore, it is important to backup these files to a computer or another SD card to retain operations data. Operations data includes names that are created for tasks such as operator, farm, field, crop, and variety names. Any lost data will require re-entry.

VT-GENERATED TASK

A single rate task can be created on the Virtual Terminal while operating in the field. The rate is established in Task Controller and product can only be applied at that rate and cannot be adjusted.

IMPORTANT: Source data for VT generated tasks created are stored to the SD card and not the Virtual Terminal, therefore, it is important to backup these files to a computer or another SD card to retain operations data. Operations data includes names that are created for tasks such as operator, farm, field, crop, and variety names. Any lost data will require re-entry.

NOTE: Systems with no file server or task controller functionality will not show all features listed.
MAIN OPERATE SCREEN

The Task Controller main operate screen identifies:

- GPS signal strength
- Data card status
- Task status (Initial, Running, Suspended, None Selected)
- Displays the task name, customer name, farm name, etc.

To access the Task Controller main screen:

1. Insert a data card into the Virtual Terminal (VT).
2. Press the Task Controller button at the VT Setup screen.

Figure 28

Task Controller Main Screen

DATA CARD

A data card is used to transfer information from the PC to the VT. An hourglass will display when a taskdata.xml file is found on the SD card. If no data card or a faulty data card is installed in the card slot, a message will indicate data card issues.

Ensure the data card is formatted before inserting into the VT. Reference the Formatting an SD Card section in this manual for formatting instructions.
NOTE: A 2GB or smaller SD card should only be used.

Figure 29
Data Card Not Writeable

IMPORTANT: It is important to ALWAYS press the SD Card Eject button before removing the card. Removing the SD card without ejecting can potentially lose logged data.

FARM MANAGEMENT SOFTWARE

Operations data and single or variable rate maps created with farm management software through a PC can be saved to an SD card and transferred to the Virtual Terminal. The data will load into the respective Task Controller fields for selection when creating a task.

Data stored on an SD card can also be transferred to a PC and utilized to create reports using a farm management software program. DICKEY-john recommends and offers Farm Works® software, a mapping and field documentation application. Technical support issues should be directed to Farm Works® for troubleshooting assistance.
## SYMBOLS

*Figure 30*

<table>
<thead>
<tr>
<th>Icon Buttons</th>
<th>Description</th>
<th>Icon Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Assign Product" /></td>
<td>Assign Product</td>
<td><img src="image" alt="Scroll left" /></td>
<td>Scroll left</td>
</tr>
<tr>
<td><img src="image" alt="Cancel/Reject" /></td>
<td>Cancel/Reject</td>
<td><img src="image" alt="Scroll right" /></td>
<td>Scroll right</td>
</tr>
<tr>
<td><img src="image" alt="Create new data/item" /></td>
<td>Create new data/item</td>
<td><img src="image" alt="Setup/Maintenance" /></td>
<td>Setup/Maintenance</td>
</tr>
<tr>
<td><img src="image" alt="Delete" /></td>
<td>Delete</td>
<td><img src="image" alt="Start/Continue task" /></td>
<td>Start/Continue task</td>
</tr>
<tr>
<td><img src="image" alt="Edit data" /></td>
<td>Edit data</td>
<td><img src="image" alt="Stop/Suspend task" /></td>
<td>Stop/Suspend task</td>
</tr>
<tr>
<td><img src="image" alt="SD Card Eject" /></td>
<td>SD Card Eject</td>
<td><img src="image" alt="Task Controller" /></td>
<td>Task Controller</td>
</tr>
<tr>
<td><img src="image" alt="Home (Main screen)" /></td>
<td>Home (Main screen)</td>
<td><img src="image" alt="Next" /></td>
<td>Next</td>
</tr>
<tr>
<td><img src="image" alt="Notes screen" /></td>
<td>Notes screen</td>
<td><img src="image" alt="Reset current screen" /></td>
<td>Reset current screen</td>
</tr>
<tr>
<td><img src="image" alt="OK/Accept" /></td>
<td>OK/Accept</td>
<td><img src="image" alt="Marker Setup" /></td>
<td>Marker Setup</td>
</tr>
<tr>
<td><img src="image" alt="Add Marker" /></td>
<td>Add Marker</td>
<td><img src="image" alt="Task Operate screen" /></td>
<td>Task Operate screen</td>
</tr>
<tr>
<td><img src="image" alt="Marker Operation" /></td>
<td>Marker Operation</td>
<td><img src="image" alt="IntelliAg" /></td>
<td>IntelliAg</td>
</tr>
<tr>
<td><img src="image" alt="View Next (Accumulators)" /></td>
<td>View Next (Accumulators)</td>
<td><img src="image" alt="GPS" /></td>
<td>GPS</td>
</tr>
</tbody>
</table>
VARIABLE RATE OR SINGLE RATE TASK (PC)

A task created from a PC, whether single or variable rate, transfers data from the SD card to the VT communicating the intended task data to the control system, including products, rates, and field map indicating exact product application in the field.

**To Select a Task:**

1. Ensure the SD card is inserted into the VT.
2. Press the Task Controller button.
3. To select a task loaded from the SD card, press either the Select Task keys or press the Select Task selection box to scroll through and select the desired task to run. All products identified for this task will display under Allocated Products.
4. To select an Operator, optional, press the selection box and use the left or right arrows to scroll through selections.
   - To create an Operator name, press the Maintenance button and select the Operators tab. Refer to the Maintenance section for further instruction.

**IMPORTANT:** Data, including rates, created from the PC cannot be edited or adjusted from the Virtual Terminal.

Task summary totals will automatically display at screen bottom for any task started previously.

**NOTE:** Verify that the SD card is unlocked before trying to save data.

5. Press the Next button to display the Select Bins (channel) screen.
6. A separate screen will appear for each product allocated to a channel. Continue pressing the Next button until the appropriate product displays.
7. Press the input box to select the control channel to apply product. When a checkmark is added to the channel input box, the selected product name will appear.
NOTE: The Reset button will clear the bin and product name selected.

Figure 32
Selecting a Bin

8. Press the **Next** button to display the Confirm Task Setup screen.
9. The task is now ready to operate.
RUNNING MULTIPLE CHANNELS OF VARIABLE RATE

When one product is assigned to multiple control channels, the rate at which the product is dispersed can be divided equally among the bins (channels) or the full rate can be applied to both bins (channels).

The dispensing method is chosen based on the physical configuration of the machine and how the channels are arranged such as:

Divide Equally among Bins (channels):
- A parallel configuration (front to back)

Full Rate to Both Bins (channels):
- A configuration that each channel covers a unique area in the field.

Selecting multiple bins (channels):
1. At the Select Bins screen, select all channels that will be dispersing the product.
2. Press the Next button to proceed to the Bin Chaining Setup screen.
3. At the Bin Chaining Setup screen, select the appropriate multi-channel function:
   - Rate Divided Equally among Bins (channels) equally divides the rate entered between the active channels. 2 bins will run at 1/2 rate each channel, 3 bins will run at 1/3 rate each channel etc). Can be used with either desired rate or VRT applications.
   - Full Rate from Each Bin (channels) applies the full rate to both channels. Designed primarily for planters but can work in certain straight rate application tasks.

IMPORTANT: Selecting Full Rate from each bin is NOT RECOMMENDED for VRT tasks unless the bins dispense from separate booms.
Figure 34

Bin Chaining Setup screen

4. Press the **Next** button to access the Confirm Task Setup screen.
5. All selected channels will appear on the Confirm Task Setup screen and the task is ready to begin operation.
6. Proceed to the Running A Task section.
‘AS APPLIED’ TASK

To record rates of the current product being applied in the field, an ‘As Applied’ task can be created on the Virtual Terminal and saved to the SD card.

A task file name is a required entry. Customer name, farm, and field entries are optional and not required to create and run a task.

A Task created on the Virtual Terminal is editable and rates can be adjusted on the IntelliAg Main Operate screen.

To Create a New Task:

1. From the Task Controller Main screen, press the Add New icon.
2. A new Task file name using the current date as the task name will automatically populate in the Task field. To create a different Task file name, press the Task selection box to enable the keypad and enter a Task name.
3. Press the Checkmark to save the task name without adding additional customer data or proceed to Customizing a Task.

Figure 35
Adding a Task

NOTE: If a Task has not been started, the Edit button can be pressed to edit the task. If a task has been started, the button will be hidden.
CUSTOMIZING AN ‘AS APPLIED’ TASK

An ‘As Applied’ task can be customized with Customer, Farm, and Field names, if desired. All names created can be selected for future tasks.

ADD CUSTOMER

1. At the Add New Task screen, press the New Data icon located next to the Customer selection box.
   - Tabs located at the top of the Add New Customer screen can be pressed to access Name, Address, and Communication fields.
   - Address and Communication entries are optional and allow more specific details to be entered for future reference.
2. To enter a Last Name, press the selection box to enable the keypad.
3. Press the Checkmark to save or press ‘X’ to cancel.
Figure 37
Add Customer Screen

ADD FARM

1. To enter a new farm, press the New Data icon located next to the Farm selection box.
2. Press the Farm selection box to enable the keypad. The Farm name field is a required entry while all other entries are optional.
3. To link a customer with a farm, select the appropriate customer name.
4. Press the Checkmark to save or 'X' to cancel.

Figure 38
Add Farm Screen
ADD FIELD

1. Press the **New Data** icon located next to the Field selection box.
2. To enter a Field name, press the selection box to enable the keypad.
   The Field name is a required entry while all other entries are optional.
   – Customer and Farm data entries can be added and edited from this screen.
   – Crop and Variety data are optional entries.
3. After data has been entered, press the **Checkmark** to accept or 'X' to cancel.
4. To accept the Task, press the **Checkmark** to return to the Main screen.

**NOTE:** Refer to the Maintenance section of this manual to edit or delete a Task that has been saved.

---

**Figure 39**
**Add Field Screen**
VT GENERATED TASK

To run a VT-generated, single-rate task, the product and product type is identified through Task Controller.

When there is more than one channel type configured on the IntelliAg (planter control, granular seeding, liquid flow, or granular fertilizer), the product being applied during a task must be defined.

**IMPORTANT:** If a product is created in the Task Controller that is not assigned to a control channel at the IntelliAg Control Channel Configuration screen, the channel selection boxes at the Task Controller Select Bins screen will not be selectable (Figure 44).

To assign a product:

1. At the Task Controller Main screen, press the **Assign Product** button to view the Add Product to Task screen. If there is only one channel type selected, the **Assign Product** button will not appear on the Task Controller Main screen.
2. Press the Select Product box to cycle through the existing product list. To add a new product, press the **Add New** button.
3. Select a product and press the **Checkmark** to add a product to the task. Pressing the **Cancel** button ‘X’ will not add any new products to the task.
4. When the desired product appears in the Product selection box, the **Next** button will display on the right. Press **Next** to continue.

**Figure 40**

**Add Product to Task Screen**

5. Select an Application Type of how material will be applied - liquid, dry, or count.

**NOTE:** Select Count for population/planter control.
NOTE: Product data is stored on the SD card. Data will need to be re-entered if a new card is inserted.

If application is based on:
- Select Area for area based units (L/Ha) (gal/ac)
- Select Time for time-based units (not currently supported)

Either area or time must be selected for the task to run.

Figure 41
Select an Application Type

Figure 42
Selecting a Bin

6. Press the Checkmark to finish adding product to the task. The product will appear under Allocated Products at the Add Product to Task screen (Figure 40). More than one product can be added to a task.
7. At the Main screen, press the Next button to display the Select Bins screen (Figure 42).
8. When a checkmark is added to the appropriate channel control box, the product name will appear by the bin name.
9. Press the Next button to proceed.
10. Enter the desired application rate of the product by pressing the Rate selection box (Figure 43).

**Figure 43**

**Application Rate Setup**

![Application Rate Setup](image)

11. The task is now ready to operate.

**IMPORTANT:** A rate created in Task Controller cannot be adjusted.

**CAUTION**

A Task can still operate with an incorrect product assignment; however, the rates will not be applied correctly.

**Figure 44**

**Product Not Assigned Correctly**

![Product Not Assigned Correctly](image)
To re-assign a product to a task:

1. Return to the Task Controller Main screen and assign the appropriate product for the channel.

MULTIPLE CHANNEL CONTROL/SINGLE RATE

When one product is assigned to multiple control channels, the rate at which the product is dispersed can be divided equally among the bins (channels) or the full rate can be applied to both bins (channels).

The dispensing method is chosen based on the physical configuration of the machine and how the channels are arranged such as:

Divide Equally among Bins (channels):
- A parallel configuration (front to back)

Full Rate to Both Bins (channels):
- A configuration that each channel covers a unique area in the field.

Selecting multiple bins (channels):

1. At the Select Bins screen, select all channels that will be dispersing the product.
2. Press the Next button to proceed to the Bin Chaining Setup screen.
3. At the Bin Chaining Setup screen, select the appropriate multi-channel function:
   - Rate Divided Equally among Bins (channels) equally divides the rate entered between the active channels. 2 bins will run at 1/2 rate each channel, 3 bins will run at 1/3 rate each channel etc). Can be used with either desired rate or VRT applications.
   - Full Rate from Each Bin (channels) applies the full rate to both channels. Designed primarily for planters but can work in certain straight rate application tasks.
IMPORTANT: Selecting Full Rate from each bin is NOT RECOMMENDED for VRT tasks unless the bins dispense from separate booms.

Figure 46
Bin Chaining Setup screen

4. Press the Next button to access the Confirm Task Setup screen.
5. All selected channels will appear on the Confirm Task Setup screen and the task is ready to begin operation.

NO DEVICES FOUND

If a product is selected that does not have the correct device connected to disperse the product, a No Devices Found screen will appear.

- Return to the previous screen and select the desired product or
- Connect the appropriate implement

Figure 47
No Devices Found
RUNNING A TASK

A Confirm Task Setup screen will display with the selected Customer, Farm, Field, and Crop selection. If there is more than one product, press the Next button to scroll through all products until this screen appears.

- If a Task is created on an office PC, the Application Rate field defaults to AUTO and cannot be changed.
- If a Task is created at the Virtual Terminal, the application rate entered will display.

Task Status

The status of a task is identified on the Main screen as:

- None Selected - A task has not been selected
- Initial - Task is ready
- Running - Task is currently running
- Suspended - A task has been started and stopped but not saved to the SD card

START A TASK

1. Press the Start Task button to begin the task.

Figure 48
Starting a Task (Product)

IMPORTANT: If the GPS signal is lost during a task, the rate will be applied at the default rate created in the VRT application map until the signal is re-established or the task is stopped. There are NO alarms to indicate the GPS signal has been lost or regained.

GPS status is indicated by the color of the GPS button:
Green = good signal
Red = lost signal
Yellow = no differential correction (still functional, less accurate)
To change the rate, create a VT generated task within Task Controller (fixed rate) or establish a rate within IntelliAg (adjustable rate using inc/dec buttons or preset rate table). Refer to the IntelliAg Operator’s manual for adjustable rate configuration.

**TASK CONTROLLER OPERATION FEATURES**

**TASK STATUS**

To view information about a task while it is running, press the **Screen View** button to cycle through details for:

- farm and field data
- product target and actual application rates
- markers assigned
- marker setup

The button appearance will change as it relates to the screen that will appear next.

![Screen View button](image)

**MAP NAVIGATION**

When a task is started, the field map will display on the Task Controller Operate screen.

- The blue diamond indicates position in the field.
- A white line proportional to the width of the implement will indicate the area that has been covered as shown in *(Figure 49).*
MAP CONTROLS

To navigate within the map, the appropriate navigation button must be pressed first before pressing the desired field position on the map.

**Zoom In and Out**

Press the **Zoom** button first and then press on the desired area of the map that will center in the map display and zoom twice the original size. Press a second time to zoom in 4 times the original map size. Zoom Out works the same as zoom in. There is no limit to the number of times zoom out can be used. The map is centered on the screen wherever the map is touched and the map size is reduced by half each time it is zoomed out.

**Reset Map**

Press the **Reset Map** button to return to the original (default) map.

**Pan Map**

Press the **Pan Map** button first and then press on the desired area of the map to display a specific part of the field (north, south, east, west) in the center of the map. There is no limit to the number of times Pan can be used. Press the **Reset** map to return to the original position and size in the map display.

**Reset Reference (PC generated task only)**

If the coordinates of a known location have drifted, the **Reset Reference** button allows entry of new coordinates to re-establish correct field position and will apply to all points in the field.

1. Press the **Reset Reference** button.
2. Arrows located to the right of the map will allow adjustment in increments of 3.28 ft. in all directions when pressed.
3. Press the **Checkmark** to accept the new position or ‘X’ to cancel entered data.

**USING MAPS WITH NO BOUNDARIES**

On a task that has no field boundary and displays a green map, the **Reset Reference** button is not available.

Map controls for tasks with no field boundaries are used to move or adjust the size of the display to keep the cursor and white machine trail on the screen.

**IMPORTANT:** It is important to **ALWAYS** press the SD Card Eject button before removing the SD card. Removing the SD card without ejecting can potentially lose logged data.

**NEXT CHANNEL TOTALS**

After performing a task, a task summary that includes total material and area accumulation for all active channels can be viewed on the Task Controller Main screen at screen bottom.

Press the **View Next** button to cycle through total accumulations by control channels.
IMPORTANT: Task Controller accumulation values may be one update behind when a job stops. Accumulation should be recorded from the IntelliAg accumulators for the respective channels and materials for a more accurate reading.

TASK NOTES

Task Notes provides an additional area to input specific details regarding a task, marker, field, or operation that can be saved to the SD card and transferred to the office PC.

1. From the Task Controller Main screen, press the Task Notes button.
2. Press the Task Notes input box to enable the virtual keyboard.
3. Press the checkmark to save or press ‘X’ to cancel.

IMPORTANT: Notes created on the VT are saved to the SD card and can only be viewed with farm management software. To view notes: select the job file, right click to open properties, select Notes.

Notes cannot be edited on the VT. Multiple notes can be entered and all viewed together in the farm management software for that task.

STOP A TASK

1. Press the Stop Task button.
   – A Task Summary screen will display (Figure 51) for PC created tasks.
   – As Applied tasks will return to the Main screen.
2. To restart a task, press the Start Task button.
3. To finalize a task and save, press the SD Card Eject button.
IMPORTANT: When saving a task, do not power the terminal off. Wait until the Save Complete message appears before ejecting the SD card or data corruption may occur.

Figure 51
Task Summary screen

4. Once the task has been saved (Figure 52)
   – the SD card can be removed or
   – Press the Home button to return to the Task Controller main screen.

Figure 52
Saving A Task
VIEW INTELLIAG DATA WHILE RUNNING A TASK

While a task is running, a user can return to the IntelliAg Main Work screen to monitor normal operating conditions. A task icon displays on the IntelliAg Main Work screen indicating that a task is running and the target rate symbol indicates that the application at which the task controller is communicating.

To stop a task, return to Task Controller.

Figure 53
IntelliAg Work Screen

RELOAD APPLICATION RATES

Reload resets a system that has been running a task under VRT Application map control. An SD Card graphic icon on the IntelliAg Work screen indicates this condition. The Reload button appears on the IntelliAg Work screen to select current rates or to reload IntelliAg rates.

The Reload button only appears if a task is stopped in Task Controller and:

- ground speed is greater than 0
- the master switch is ON
- the implement lift switch is down (operate mode)

An alarm will occur within a 5-second period:

- Press the Current button to continue to run a task under VRT Application map control
- Press the Reload button to reset the system to IntelliAg rates
MAINTENANCE (EDIT/DELETE)

The Task Controller Maintenance screen is a central location providing direct access to all Task Controller screens to create, edit, or delete data.

- Operators, Tasks, Products, Customers, Farms, Fields, Crop Types, Crop Varieties, Markers can be accessed.

NOTE: All data options, except Markers, have been covered in previous sections. Refer to the Markers section for additional information.

To access a Task Controller Setup screen:

1. Press the Maintenance button.

2. Press the white selection box to open the desired Setup screen.

NOTE: Edit and Delete buttons only appear when an entry has been saved.
MARKERS

Markers are used to record the GPS location of a particular condition that has occurred in the field. A marker can only be enabled when a Task is operating. When a marker is enabled, GPS coordinates are saved to the SD Card with a date stamp and geological point.

To create a marker:

1. From the Task Controller Main screen, press the Maintenance button.
2. At the Maintenance screen, press the Markers selection box (Figure 54).
3. At the Marker Setup screen, press the Marker Name selection box to enable the keypad and enter a Name. A Marker Name and Marker Scope are required entries.
4. Select a Marker Scope as either Point, Continuous, or Global.
5. To enter an optional Marker Category or Subtype, press the selection box to enable the keypad and enter data.
6. Press the Maintenance button to accept and return to the Maintenance screen.

**Figure 56**
Add New Marker screen

**MARKER NAME**

Marker Name is a required entry that will appear on the Marker Setup screen or Task screen during operation to allow selection when creating a marker. A name should be selected that provides specific detail of what condition is occurring when the marker is enabled.
MARKER SCOPE

The Marker Scope is a required field when a Marker Name is created that determines how a geological point will be recorded.

**Point** - Defines a specific event in the field with a single button press, such as a fence down, washout area, large rock.

**Continuous** - Defines a specific area in the field between two coordinates when the Marker button is pressed to start and stop recording, such as a wet area. The Marker button will continue to flash when a continuous event is recording and stops after the Marker button is pressed again.

**Global** - Indicates a particular condition that affects an entire field, such as frost, too wet.

MARKER CATEGORY

The Marker Category is an optional entry that allows a Marker name to be placed into general categories for sorting at a later time.

MARKER SUBTYPE

Subtype is an optional entry that narrows the marker type to a very specific entry.

ASSIGNING MARKERS

The Marker Setup screen allows marker tabs to be created that will display a maximum of 6 marker tabs at one time. However, more than 6 marker names can be stored on an SD card. After a Marker has been created, it must be assigned at the Marker Setup screen so it can be selected while operating a task.

To assign a marker to a button:

1. At the Maintenance screen, press the **Marker Setup** button.
2. Press a Marker Selection box titled "Not assigned" to open the Assign Marker screen.
3. Press the Marker Button to scroll through available markers.
4. Press the **Checkmark** to accept and 'X' to Cancel.
5. The marker is assigned to a button on the Marker Setup screen (**Figure 57**).
6. Press the **Checkmark** to accept and return to the Maintenance screen.
7. Press the **Home** button to return to the Main screen.
MARKER OPERATION

Starting, stopping, and dropping markers can only occur while a Task is running. Markers can be dropped or started at the Marker Operate screen.

To activate markers:

1. At the Task Controller Operate screen, press the Next Task button until the marker setup screen appears.
2. Enable marker by pressing the appropriate Marker button or by pressing the corresponding Marker Activation button. A yellow highlight box around the corresponding Marker button indicates the marker is enabled.
   - Press the Assign Markers button to change or add markers.
   - When enabled, a status bar at screen bottom will indicate marker status based on Marker Type:

<table>
<thead>
<tr>
<th>Marker Type</th>
<th>Activation</th>
<th>Status Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point</td>
<td>Single button press</td>
<td>Marker Dropped</td>
</tr>
<tr>
<td>Continuous</td>
<td>Press to Start, Press to Stop</td>
<td>Marker Started, Marker Stopped</td>
</tr>
<tr>
<td>Global</td>
<td>Single button press</td>
<td>Marker Dropped</td>
</tr>
</tbody>
</table>

3. Press the Task Controller Operate button to return to the Operate screen.
OTHER MARKER VIEWS

Markers can also be started, stopped, and dropped from another task operation screen that combines marker and map data views.

1. Press the Marker tab once to drop a marker for Point and Global marker types. The tab will highlight in yellow.
2. Press the Marker tab once to start a Continuous marker type and press again to stop. The tab will turn black while the marker is running.
GLOBAL POSITIONING SYSTEM (GPS)

Before a task is started, GPS must be enabled to communicate with the receiver connected to the RS232 cable on the tractor harness. If NEMA messages are broadcast over the CAN Bus, the RS232 connection is not required. GPS data must be entered into the VT to specify:

- Antenna offset in relation to the center of the tractor rear axle (GPS button)
- Antenna offset in relation to the implement rear hitch connection (setup required in IntelliAg functionality)

To enable GPS:

1. Press the Virtual Terminal Setup button.
2. Press the Applications button to show the Additional Applications screen (refer to Additional Applications section of this manual for further information).
3. Enable GPS by pressing the GPS Bridge selection box, if not already selected.
4. Press the GPS button to display the Main GPS screen. The GPS screen identifies:
   - GPS coordinates
   - Altitude
   - GPS signal type
   - Type of correction service
   - Speed and direction

Data entry is not required on this screen.

IMPORTANT: The background of the GPS button will appear in RED when the GPS signal is lost or less than 4 satellites are viewed. The background will appear in YELLOW if there is no differential correction. THERE ARE NO ALARMS INDICATING A SIGNAL HAS BEEN LOST OR REGAINED.

**Figure 60**

*GPS Main Screen*
5. Press the **GPS Setup** button to display the GPS Setup screen (Figure 61).
6. Baud Rate, Data Mode and COM port settings should be selected to match the output settings of the GPS receiver.

**NOTE:** Typical Baud Rate is 4800 with a data mode of 8N1. Always use Com 2 as the comport for GPS.

**Figure 61**

**GPS Setup Screen**
ANTENNA LOCATION

The GPS antenna’s mounting location must be entered into the VT in relation to the tractor and the implement to establish an accurate reference point in the field.

TRACTOR OFFSET

Antenna location is based on the distance of the center rear implement axle to the location the antenna is mounted on the tractor. GPS coordinates can then be precisely calculated for all devices connected to the Virtual Terminal.

Three offset positions are required:
- Antenna to the rear axle center position
- Left or right position the antenna is from the rear axle
- Forward or backward position the antenna is from the rear axle

NOTE: Reference the GPS operator’s manual for preferred mounting locations.

Figure 62

Antenna Location screen

To setup Antenna Location:

1. Press the GPS button to display the GPS Main Screen.
2. Press the GPS Setup button to display the GPS Setup screen.
3. At the GPS Setup screen, press the Antenna Location button.
4. For each offset position, press the appropriate offset arrow and enter the distance (feet) from the antenna location.
5. After all 3 entries are entered, press the checkmark to save or the ‘X’ to cancel.

IMPORTANT: Implement Offset coordinates for proper GPS readings must be entered in the IntelliAg system. Refer to the Implement Offset section of the IntelliAg manual.
## Troubleshooting

<table>
<thead>
<tr>
<th>Issue</th>
<th>Probable Cause</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No positioning available</td>
<td>1) Machine not in an open area or near a large obstruction.</td>
<td>1) Move machine.</td>
</tr>
<tr>
<td>GPS Main Screen State: Nothing on RS232</td>
<td>1) Antenna or cable disconnected or damaged.  2) Damaged wires on receiver connector.  3) Wrong communication settings.</td>
<td>1) Check antenna and cable.  2) Check receiver connector for broken or separated wires from plug or socket.  3) Check GPS settings</td>
</tr>
<tr>
<td>Sending RS232 - Data</td>
<td>1) Machine transported a long distance.  2) GPS settings incorrect.</td>
<td>1) First position may take up to 30 minutes.  2) Check GPS settings.</td>
</tr>
<tr>
<td>Terminal displays No Task</td>
<td>1) Data card not inserted.</td>
<td>1) Data card to be used when mapping only.  2) State task or create task.  3) Format data card - FAT 32.</td>
</tr>
<tr>
<td>Terminal does not light up when the machine is started.</td>
<td>1) Blown fuse.  2) No ignition signal.</td>
<td>1) Check fuse and replace.  2) Check machine operator’s manual for more information.</td>
</tr>
<tr>
<td>Job running</td>
<td>1) More than one job is active.</td>
<td>1) Stop job that is running before starting a new one.</td>
</tr>
<tr>
<td>Data card full</td>
<td></td>
<td>1) Stop current job. Remove card and replace with an empty one.</td>
</tr>
<tr>
<td>Task stays off</td>
<td>1) Job has not been started.</td>
<td>1) Start job.  2) Status field displays No GPS position.  3) Must have ground speed.</td>
</tr>
<tr>
<td>Task Controller icon disappears</td>
<td>1) Data card not formatted correctly.  2) Task Controller program stopped.</td>
<td>1) Format data card using Windows Explorer. File format should be FAT 32.  2) Go to VT Setup screen and press Additional Applications button. Remove checkmark from Task Controller, wait a few minutes, then put checkmark back in.</td>
</tr>
<tr>
<td>GPS icon disappeared</td>
<td>1) GPS program has stopped.</td>
<td>1) Go to terminal information screen and press Additional Application button. Verify GPS Bridge has a checkmark. Remove checkmark, wait a few minutes, then put checkmark back in.</td>
</tr>
<tr>
<td>No GPS input from serial port</td>
<td></td>
<td>1) Check cable connections at terminal and receiver.  2) Verify GPS Bridge is turned on in the terminal.  3) Verify setting match in terminal and receiver (Baud, etc) and receiver is working.</td>
</tr>
</tbody>
</table>
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DICKEY-john warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from date of original installation, and is returned to DICKEY-john within 30 days after such defect is discovered, DICKEY-john will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident, or improper installation or maintenance; any expenses or liability for repairs made by outside parties without DICKEY-john’s written consent; damage to any associated equipment; or lost profits or special damages. Said part will not be considered defective if it substantially fulfills the performance expectations. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE, AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. DICKEY-john neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.

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