

# KPM III ELECTRONIC SEED MONITOR

## OPERATOR MANUAL

**M0248**

**Rev. 3/16**

This manual is applicable to: KPM III Electronic Seed Monitor  
Phase 3 Software

Record the serial numbers of your planter control system and the purchase date:

Planter Monitor Serial Number \_\_\_\_\_

Date Purchased \_\_\_\_\_

Measured Pulses Per Mile/km  
(Radar Distance Sensor) \_\_\_\_\_

Measured Pulses Per Mile/km  
(Magnetic Distance Sensor) \_\_\_\_\_



## KPM III ELECTRONIC SEED MONITOR VER. 3.7

### INTRODUCTION



**NOTE: Refer to IS715 for installation instructions for your KPM III.**

The KPM III electronic seed monitor system consists of:

- A tractor mounted KPM III console powered by tractor 12 VDC battery receives and displays information from planter mounted sensors.
- Seed tube and sensor installed in each planter row unit.
- A magnetic distance sensor installed on planter or a radar distance sensor installed on tractor.
- Shaft rotation sensors (if applicable) installed on planter drill shafts.
- Vacuum, pneumatic down pressure, ASD, scales, and hydraulic level/temperature (If applicable), installed on planter.
- Planter harnesses (junction Y-harness and extension harness where applicable), to which the individual seed tube sensors connect. The primary harness, which connects the monitor console to the planter harness, is hard-wired into the safety/warning light harness or control console harness included as standard equipment with the planter.

The KPM III console uses a backlit Liquid Crystal Display (LCD) to show number of monitored rows, relative seed rate for each row (using bargraph displays), and alarm and warning messages. A continuous audible alarm sounds upon system malfunction or underflow conditions for any monitored row. Alarms must be acknowledged. Various warnings also sound an alarm or flash one or more messages. The LCD displays row spacing, units (Metric or English), speed (MPH or KM/H), volume, seed population, seed spacing, field area, and total area.

KPM III software allows simultaneous viewing of seed flow bargraphs for standard and Interplant System rows (up to 36 rows).

The monitor system powers down if there is no new seed flow or operator push key input within one hour.

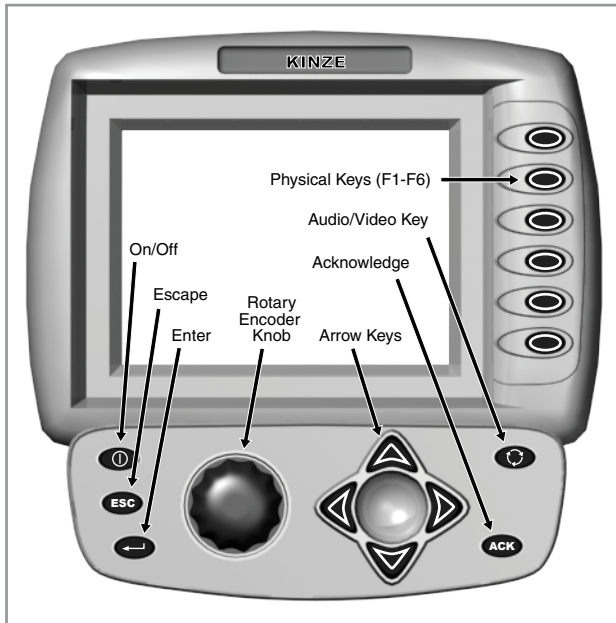
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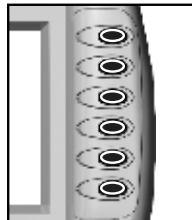
### MONITOR KEY FUNCTIONS

Push keys select or change operating mode, active displays, or the current configuration. Depending on operating mode or current display selected, some keys may not be active. Each valid key press is acknowledged by a short beep and an action is taken. If a key press has no action associated, it is considered invalid, and there is no feedback.



#### PHYSICAL KEYS

- Located on R.H. side of console and referred to as F1, F2, F3, F4, F5 and F6
- Keys are referenced in descending order with F1 at the top and F6 at the bottom.



#### ON/OFF KEY

- Powers the unit on and off.



#### ESC KEY

- Used as the CANCEL (escape) key.



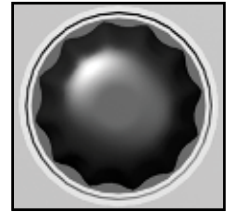
#### ENTER KEY

- Confirms or accepts the highlighted selection.



#### ROTARY ENCODER KNOB

- Turn knob clockwise to increase or counterclockwise to decrease value of item.
- Turn knob clockwise to scroll up or counterclockwise to scroll down.
- Press knob to enter selection.



#### AV (AUDIO/VIDEO) KEY

- Set alarm volume.
- Adjust the contrast.
- Adjust backlighting of the LCD display. Can be used at any time.



#### ACK (ACKNOWLEDGE) KEY

- Used to silence (acknowledge) the warning alarm when various error conditions occur.

**NOTE:** Alarms can be viewed by pressing the STATUS key.

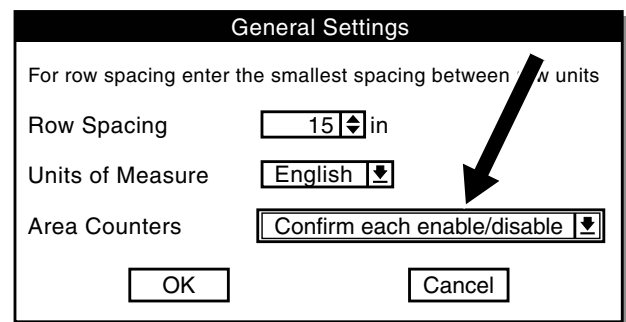


#### ARROW KEYS

- UP arrow key is used to move up.
- DOWN arrow key is used to move down.
- LEFT arrow key is used to move to the left.
- RIGHT arrow key is used to move to the right.



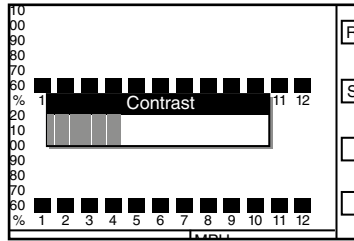
**NOTE:** Within the LCD, the black box around the smaller box as shown below indicates which field is selected/highlighted. Turning the rotary encoder knob or pressing the UP or DOWN arrow keys moves the black box. When the black box is positioned on a programmable item, such as Shaft Sensors, Speed Sensor, Front Row Units or Rear Row Units, pressing the knob or ENTER key will highlight the programmable item. A programmable item may only be changed when it is highlighted.



### CHANGING VOLUME, CONTRAST, AND BACKLIGHTING WITH AV KEY

Alarm, volume, LCD screen contrast, and backlighting may be adjusted at any time, regardless of what is displayed on screen.

**STEP 1** Press AV key. Contrast adjustment dialog box appears in center of display.

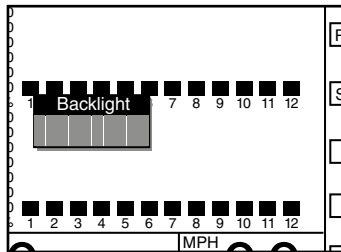


**STEP 2** Use arrow keys or turn rotary encoder knob to adjust contrast. Adjustment will be visible on the screen.

**STEP 3** To adjust speaker or backlight, go to STEP 4. If finished press Enter key to save and exit.

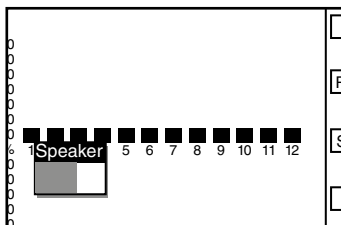
**STEP 4** Press AV button a second time. The Backlight adjustment dialog box will appear in center of the display.

**STEP 5** Use arrow keys or turn knob to adjust backlighting. The effect of the adjustment will be visible on display.



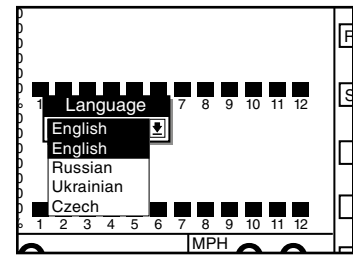
**STEP 6** To adjust speaker go to STEP 7. If finished press Enter key to save and exit.

**STEP 7** Press AV button a third time. Speaker adjustment dialog box will appear in center of display.



**STEP 8** Use arrow keys or turn knob to adjust speaker volume. Volume of sound emitted from speaker changes as adjustment is made.

**STEP 10** Press AV button four times. Language dialog box will appear in the center of display.

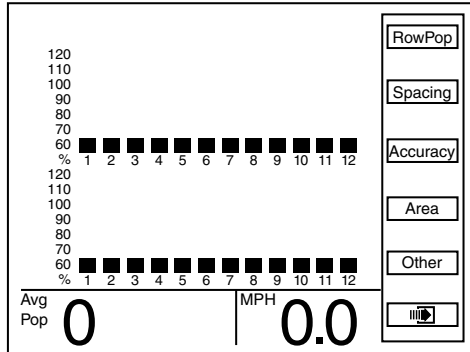


**STEP 11** Use the arrow keys or turn knob to highlight language needed. Press knob or Enter key. Language selected will reflect on the screen.

**STEP 12** Press knob, Enter key or press AV button a fourth time to save volume, contrast, backlight settings, and language.

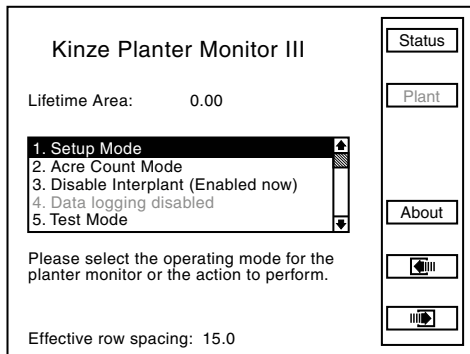
### CONFIGURING PLANTER MONITOR

When the KPM III is powered on for the first time it will go directly into the Planter Configuration screen (STEP 4).



**NOTE:** Planter Configuration screen displays planter rows as programmed into KPM III software. The above screen shows 12 front (Interplant) rows and 12 rear rows. If the KPM III were programmed for 8 front (Interplant) rows and 8 rear rows the screen would display 8 front and 8 rear rows.

**STEP 1** Press the F6 key until Mode Selection screen appears.



**NOTE:** There are 5 choices on the Mode Selection screen;

1. Setup mode
2. Acre count mode
3. Disable Interplant (Enabled now) mode
4. Data logging mode
5. Test mode

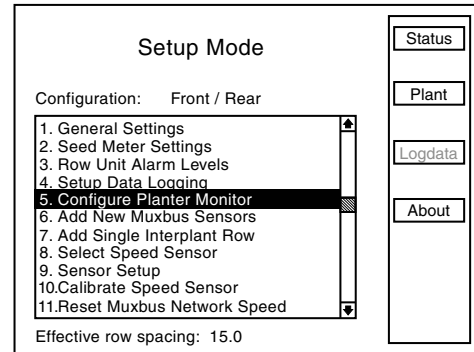
**STEP 2** Select "1. Setup Mode" by turning the rotary encoder knob or using the arrow keys. Press the knob or Enter key to display the highlighted item.

**NOTE:** There are 10 choices on the Setup Mode screen;

1. General Settings
2. Seed Meter Settings
3. Row Unit Alarm Levels
4. Setup Data Logging
5. Configure Planter Monitor
6. Add New Muxbus Sensors
7. Add Single Interplant® Row
8. Select Speed Sensor
9. Sensor Setup
10. Calibrate Speed Sensor

**STEP 3** Select "5. Configure Planter Monitor" by turning the knob or using the arrow keys. Press the knob or the Enter key to display the highlighted item.

**NOTE:** Press F2 key next to Plant any time Plant option is available to return to Planter Configuration screen.



**NOTE:** Planter monitor cannot be reconfigured while planting.

**STEP 4** If there are front rows (Interplant) on planter, press knob or Enter key to highlight "Front Rows" field. A drop down number pad appears. Turn knob or use arrow keys to highlight correct value then press knob to select number. For numbers containing more than one digit select one digit at a time. When desired quantity is displayed above number pad press Enter key to return to "Kinze Planter Configuration" screen. If planter has no front rows turn knob or press arrow keys to advance to "Rear Rows".

Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows: 03	Speed: Radar
Rear Rows: 1 2 3 4 5 6 7 8 9 0 C	Vacuum: 0
Shafts: 1 2 3 4 5 6 7 8 9 0 -	<input type="checkbox"/> Air Seed Delivery
There should be one sensor for each Row and each Shaft.	<input type="checkbox"/> Hydraulic Level/Temp
	<input type="checkbox"/> Downpressure Level
	<input type="checkbox"/> Scales
OK	Cancel

- STEP 5** Press knob or Enter key to select “Rear Rows” field. A drop down number pad appears. Turn knob or use arrow keys to highlight correct value then press knob to select number. For numbers containing more than one digit select one digit at a time. When desired quantity is displayed above number pad, press Enter key to return to “Kinze Planter Configuration” screen.

Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows <input type="text" value="11"/>	Speed <input type="text" value="Radar"/>
Rear Rows <input type="text" value="0"/>	Vacuum <input type="text" value="0"/>
Shafts <input type="text" value="1 2 3 4 5 6 7 8 9 0 C"/> <small>There should be one sensor for each Row and each Shaft.</small>	<input type="checkbox"/> Air Seed Delivery <input type="checkbox"/> Hydraulic Level/Temp <input type="checkbox"/> Downpressure Level <input type="checkbox"/> Scales
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

- STEP 6** Rotate knob or use arrow keys to advance to “Shafts” field. Press knob or Enter key to select “Shaft” field. A drop down menu appears. Turn knob or use arrow keys to highlight number of “Shafts”. When correct value is displayed, press knob or Enter key to return to “Kinze Planter Configuration” screen.

Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows <input type="text" value="11"/>	Speed <input type="text" value="Radar"/>
Rear Rows <input type="text" value="12"/>	Vacuum <input type="text" value="0"/>
Shafts <input type="text" value="2"/> <small>There should be one sensor for each Row and each Shaft.</small>	<input type="checkbox"/> Air Seed Delivery <input type="checkbox"/> Hydraulic Level/Temp <input type="checkbox"/> Downpressure Level <input type="checkbox"/> Scales
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

- STEP 7** Turn knob or use arrow keys to move to “Speed” field. Press knob or Enter key and a drop down menu displays. Select “Radar” or “Coil Pick-Up” (MDS) by turning knob or using arrow keys. When desired selection is highlighted press knob or Enter key.

Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows <input type="text" value="11"/>	Speed <input type="text" value="Radar"/>
Rear Rows <input type="text" value="12"/>	Vacuum <input type="text" value="Coil Pick-Up"/>
Shafts <input type="text" value="2"/> <small>There should be one sensor for each Row and each Shaft.</small>	<input type="checkbox"/> Air Seed Delivery <input type="checkbox"/> Hydraulic Level/Temp <input type="checkbox"/> Downpressure Level <input type="checkbox"/> Scales
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

- STEP 8** If applicable, turn knob or use arrow keys to advance to “Vacuum”. Press knob or Enter key and a drop down menu will appear. Select correct number of vacuum sensors by turning knob or using arrow keys. Confirm selection by pressing knob or Enter key.

- STEP 9** If applicable, turn knob or use arrow keys to advance to “Air Seed Delivery”. Press knob or Enter key to select or deselect. When selected, a check mark will appear in the box.

- STEP 10** If applicable, turn knob or use arrow keys to advance to “Hydraulic Level/Temp”. Press knob or Enter key to select or deselect. When selected, a check mark will appear in the box.

- STEP 11** If applicable, turn knob or use arrow keys to advance to “Downpressure Level”. Press knob or Enter key to select or deselect. When selected, a check mark will appear in the box.

- STEP 12** If applicable, turn knob or use arrow keys to advance to “Scales”. Press knob or Enter key to select or deselect. When selected, a check mark will appear in the box.

- STEP 13** Advance to “OK” by using knob or arrow keys. Press knob or the Enter key to save information.

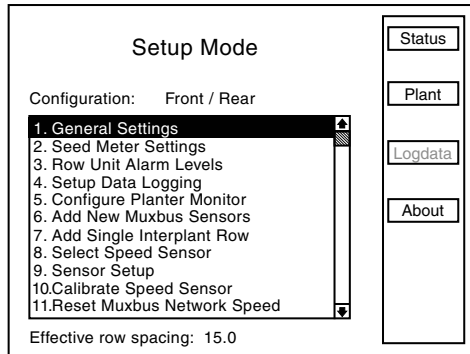
Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows <input type="text" value="11"/>	Speed <input type="text" value="Radar"/>
Rear Rows <input type="text" value="12"/>	Vacuum <input type="text" value="0"/>
Shafts <input type="text" value="2"/> <small>There should be one sensor for each Row and each Shaft.</small>	<input type="checkbox"/> Air Seed Delivery <input type="checkbox"/> Hydraulic Level/Temp <input type="checkbox"/> Downpressure Level <input type="checkbox"/> Scales
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

**NOTE:** To prevent configuration from being saved select “Cancel” and press rotary encoder knob or Enter key. Display will return to “Setup Mode” screen without saving any changes.

**NOTE:** When OK is selected monitor automatically advances to Sensor Setup screen. Sensor Setup can also be selected from Setup Mode screen. Go to page 13 (PROGRAMMING/CONNECTING SEED TUBES, SHAFT ROTATION SENSORS AND/OR RADAR/MAGNETIC DISTANCE SENSORS)

**GENERAL SETTINGS  
(PROGRAMMING INTERPLANT CONDITION, ROW SPACING  
AND UNITS) (METRIC OR ENGLISH)**

- STEP 1** Turn knob or use arrow keys to highlight “1. General Settings”. Press knob or Enter key to display highlighted item.



**NOTE:** When English is selected inches are displayed, if Metric is selected centimeters are displayed.

- STEP 2** Press knob or Enter key to enter correct value for “Row Spacing”. A drop down number pad will appear. Turn knob or use arrow keys to highlight first digit of desired number and press knob. The number will appear in “Row Spacing” line. Turn knob or arrow keys to highlight next digit of number and press knob. Number will appear in “Row Spacing” line. When correct number is displayed in “Row Spacing” line, press Enter key to return to “General Settings” screen.

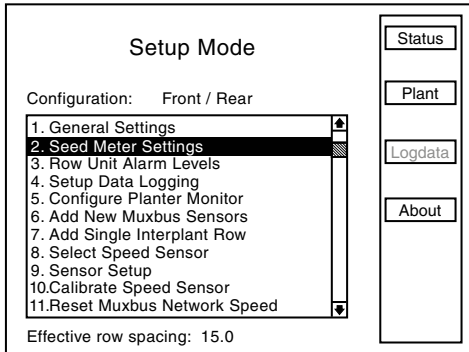
**NOTE:** Enter narrowest row spacing planter is equipped to plant for “Row Spacing”. Example: 12 Row 30 with Interplant, row spacing would be set to 15.

- STEP 3** Turn knob or use arrow keys to highlight “Units of Measure” field. Select “Units of Measure” field by pressing knob or Enter key, a drop down menu will appear. Highlight “English” or “Metric” by turning knob or using arrow keys. When correct entry is highlighted, press knob or Enter key to accept unit of measure entry and return to “General Settings” screen.
- STEP 4** Turn knob or use arrow keys to highlight “Area Counters” field. Select “Area Counters” field by pressing knob or Enter key, a drop down menu will appear. Turn knob or use arrow keys to highlight “Confirm each enable/disable”, “Don’t confirm again today”, or “Don’t confirm enable/disable”. When desired selection is highlighted, press knob or Enter key to accept selection and return to “General Settings” screen.
- STEP 5** Once correct values are inputted into “General Settings” screen “OK” button can be selected to save changes, or “Cancel” button can be selected to discard changes. Turn knob or use arrow keys to highlight either “OK” or “Cancel” and press knob or Enter key to return to “Setup Mode” screen.

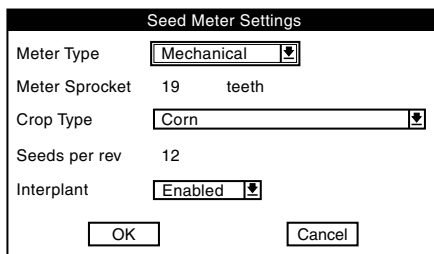
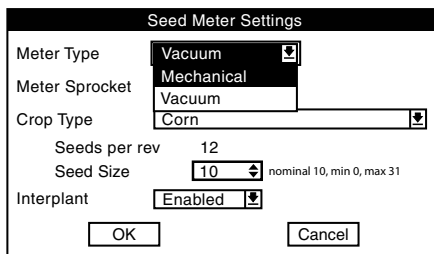


### SEED METER SETTINGS

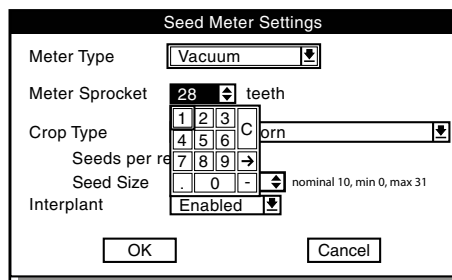
- STEP 1 Scroll to "2. Seed Meter Settings" by turning rotary encoder knob or using arrow keys. Press knob or Enter key to display highlighted item.



- STEP 2 Select meter type by highlighting "Meter Type" and pressing knob or Enter key, then highlight "Mechanical", "Vacuum", or "4000 Vacuum" and press knob or enter key.

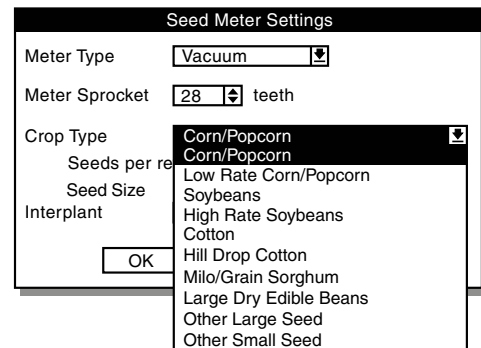


**NOTE:** When Mechanical "Meter Type" is selected "Meter Sprocket" automatically sets.



**NOTE:** When Vacuum "Meter Type" is selected "Meter Sprocket" automatically defaults to 28 teeth. To change "Meter Sprocket" select "Meter Sprocket" by turning knob or using arrow keys. Press knob or enter key, a drop down number pad displays. Turn knob or use arrow keys to highlight first digit of desired number and press knob. When correct number is obtain press knob or enter key.

- STEP 3 Turn knob or use arrow keys to highlight "Crop Type". Press knob or Enter key to display crop drop down menu.



- STEP 4 Turn knob or use arrows keys to highlight a crop for planting then press knob or Enter key. Once crop type is entered, "Seeds per rev" is automatically set .

A sensitivity threshold (Seed Size) ensures dust and other debris are filtered out and only actual seeds are counted. Sensitivity threshold is set to a default for a selected crop which is adequate for most conditions.

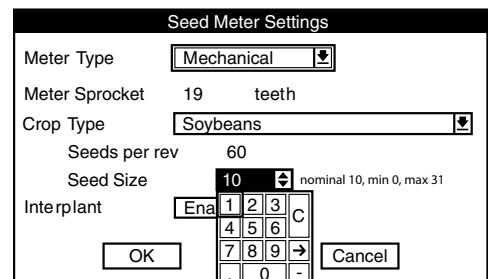
Sensitivity can be set between 0 and 31, 0 being most sensitive (counts smallest particles) and 31 least sensitive (counts large particles). Adjust threshold one value at a time until desired result is achieved. Once value is changed it becomes default for that crop.

**NOTE:** Adjusting threshold too high can cause monitor to miss seeds and provide inaccurate information. Always do a ground check to ensure monitor is reading accurately.

- STEP 5 Select "Seed Size" and press ENTER key. A drop down number pad displays.

- STEP 6 Turn knob or use arrow keys to highlight first digit of desired number. Press knob. When correct number is obtained, press knob or Enter key.

- STEP 7 Turn knob or use arrow keys to highlight "Crop Type". Press knob or Enter key to display the crop drop down menu.



- STEP 8 Turn knob or use arrows keys to highlight a crop for planting then press knob or Enter key. Once crop type is entered, the "Seeds per rev" is set automatically.

STEP 9 (If Applicable) Turn knob or use arrow keys to highlight "Interplant". Press knob or Enter key to display Interplant drop down menu.

Seed Meter Settings

Meter Type: Vacuum

Meter Sprocket: 28 teeth

Crop Type: Corn/Popcorn

Seeds per rev: 39

Seed Size: 10 (nominal 10, min 0, max 31)

Interplant: Enabled

OK Disabled Cancel

STEP 10 Turn knob or use arrow keys to highlight "enable" or "disable" and press the knob or Enter key.

STEP 11 When all changes have been made, highlight "OK" and press knob or Enter key to return to "Setup Mode" screen.

#### PROGRAMMING ROW UNIT ALARM LEVELS

Row Unit Alarm Levels allow thresholds for seed rate alarms to be set. Default is 50% or Average. If average population drops below 50% for a given row a seed rate alarm is generated for that row unit. The alarm threshold can be set to 70%, 50%, 0% or disabled, or any custom percentage for any row.

**NOTE: When alarm threshold is disabled for any row no seed rate alarm will be generated.**

Setup Mode

Configuration: Front / Rear

- 1. General Settings
- 2. Seed Meter Settings
- 3. Row Unit Alarm Levels
- 4. Setup Data Logging
- 5. Configure Planter Monitor
- 6. Add New Muxbus Sensors
- 7. Add Single Interplant Row
- 8. Select Speed Sensor
- 9. Sensor Setup
- 10. Calibrate Speed Sensor
- 11. Reset Muxbus Network Speed

Effective row spacing: 15.0

Status Plant Logdata About

Alarm thresholds can be set for whole planter, any planter section, or individual rows.

**NOTE: A section is a set of rows driven by one or more shafts, designated to a single shaft sensor.**

STEP 1 Select "3. Row Unit Alarm Levels" by turning knob or using arrow keys. Press knob or Enter key to display highlighted item.

Row Unit Alarm Levels

[Whole Planter] 50%

Rear Row 1 50%

Rear Row 2 50%

Rear Row 3 50%

Rear Row 4 50%

Rear Row 5 50%

Rear Row 6 50%

Rear Row 7 50%

Rear Row 8 50%

Front Row 1 50%

Front Row 2 50%

Front Row 3 50%

Front Row 4 50%

10% 50% 70% Disable Other Done

STEP 2 To set alarm thresholds for whole planter, turn knob or use arrow keys to highlight "[Whole Planter]" line. Press key next to desired threshold. When desired threshold is specified for all row units, press F6 key next to "Done".

**NOTE: Only configured rows appear on screen.**

To set alarm thresholds for all rows in one section, highlight desired section. Press key next to desired threshold. When desired threshold is specified for all row units, press F6 key next to "Done".

To set alarm thresholds for individual rows, highlight desired row. Press key next to desired threshold. When desired threshold is specified for all row units, press F6 key next to "Done".

To disable row unit alarm, highlight desired section or individual row. Press F4 key next to "Disable". When alarm is desired again highlight disabled section or row. Press key next to desired threshold.

To enter threshold not listed, highlight desired section or individual row. Press F5 key next to "Other". Press knob or Enter key and a drop down key pad appears. Turn knob or use arrow keys to highlight first digit of desired number and press knob. Number displays in "Enter Alarm Threshold" line. Highlight next digit of the number and press knob. Number displays in the line. When correct number is displayed, press Enter key to return to "Set Alarm Threshold" screen. Turn knob or use arrow keys to advance to "OK". Press knob or Enter key to accept threshold levels.

Row Unit Alarm Levels

Set Alarm Threshold

Enter Alarm Threshold: 0

OK Cancel

Rear Row 6 50%

Rear Row 7 50%

Rear Row 8 50%

Front Row 1 50%

Front Row 2 50%

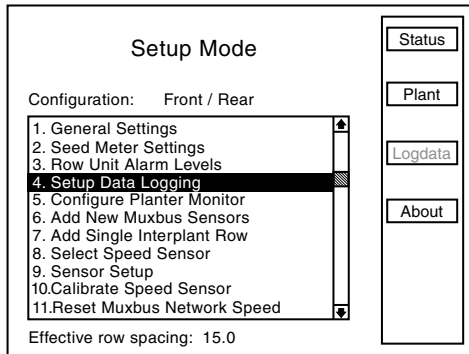
Front Row 3 50%

Front Row 4 50%

10% 50% 70% Disable Other Done

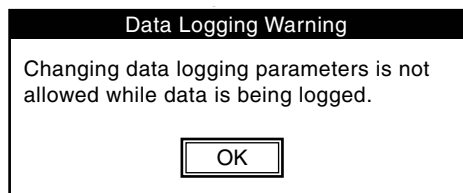
### DATA LOGGING MODE

- STEP 1 Scroll to “4. Setup Data Logging” by turning the rotary encoder knob or using the arrow keys. Press the knob or Enter key to display the highlighted item.

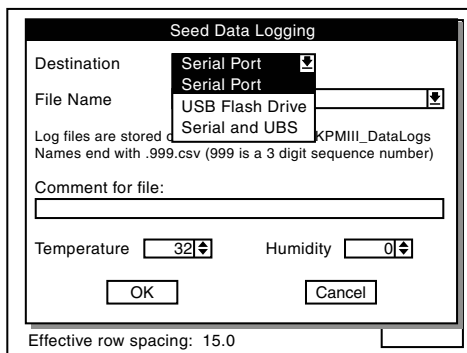


**NOTE: Data logging changes cannot be made while data is being logged. If the monitor is logging data the following warning will appear. To stop data logging and continue.**

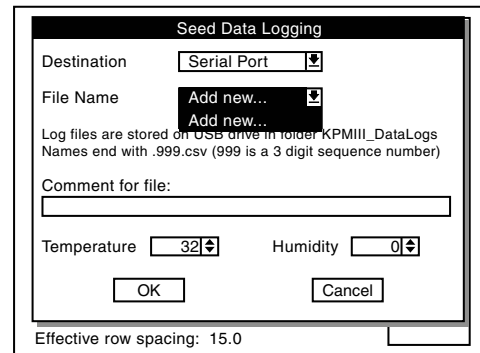
- Press the knob or Enter key to close the warning.
- Then in the “Setup Mode” press the F3 key next to “StopLog”.



- STEP 2 Turn the knob or use the arrow keys to highlight the “Destination” box then press the knob or Enter key. Highlight the desired option either “Serial Port”, “USB Flash Drive”, or “Serial and USB” and press the knob or Enter key.

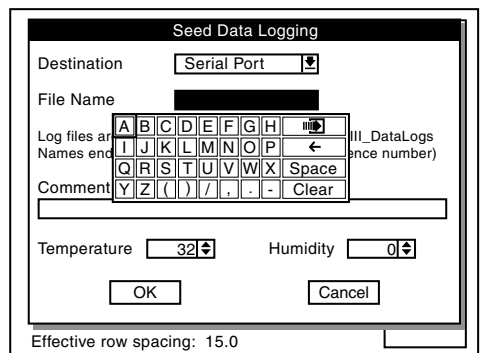


- STEP 3 Use the knob or arrow keys to highlight the “File Name” box. Press the knob or Enter key and a drop down list of the files will be displayed. Select “Add new...” to enter a file name and press the knob or enter key to display a keyboard.

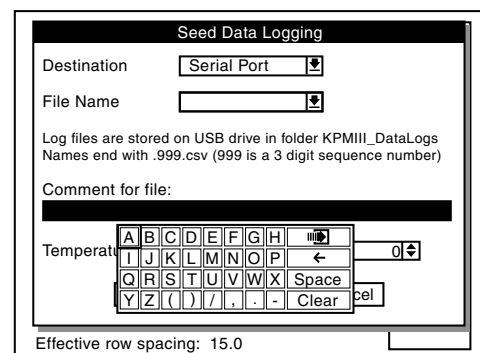


- STEP 4 Select “Add new...” to enter a file name and press the knob or enter key to display a keyboard.

- STEP 5 Add a new file name by using the drop down keyboard. Spell out the file name by highlighting each letter and pressing the knob or Enter key.



- STEP 6 Use knob or arrow keys to scroll to “Comment for file” box. Press knob or Enter key to display drop down keyboard. Use keyboard to enter a Comment for the file then press Enter key.



**STEP 7** Use knob or arrow keys to scroll to Temperature box. Press knob or Enter key to display drop down keyboard. Use keyboard to enter temperature then press Enter key.

**STEP 8** Use knob or arrow keys to scroll to Humidity box. Press knob or Enter key to display drop down keyboard. Use keyboard to enter humidity then press Enter key.

**STEP 9** Use knob or arrow keys to scroll to the "OK" button and press knob or Enter key. Display returns to Setup Mode screen.

**STEP 10** Press F2 key next to Plant to return to Planter configuration screen.

**STEP 11** Press F3 key next to "Logdata" to begin logging.

**STEP 12** Press F3 key next to "Stoplog" to end logging.

#### ADDING INTERPLANT ROWS (REAR ROWS PREVIOUSLY PROGRAMMED ONLY)

**NOTE:** Planter monitor configuration must contain an odd number of front rows before single Interplant® row unit can be added.

**STEP 1** Highlight "6. Add New Muxbus Sensors" by turning knob or using arrow keys. Press knob or Enter key to display highlighted item.

**STEP 2** Note shown below displays. Highlight "OK" by turning knob or using the arrow keys. Press knob or Enter key to make selection.

**NOTE:** To prevent configuration from being changed, select Cancel, then press the knob, Enter key or ESC key.

**STEP 3** Turn knob or use arrow keys to highlight "Front Rows" field and press knob or Enter key. A drop down number pad appears.

**STEP 4** Turn knob or use arrow keys to highlight first digit of desired number and press knob to select the number. For numbers containing more than one digit select one digit at a time. The number will appear in the "Front Rows" line. When correct number is displayed on "Front Rows" line, press Enter key to return to "Kinze Planter Configuration" screen.

**NOTE:** To prevent configuration from being changed select Cancel, then press knob, Enter key or ESC key.

Kinze Planter Configuration	
Planter Type	Sensors Installed
Front Rows <input type="text" value="11"/>	Speed <input type="text" value="Coil Pick-Up"/>
Rear Rows <input type="text" value="12"/>	Vacuum <input type="text" value="0"/>
Shafts <input type="text" value="2"/>	SDS <input type="text" value="0"/>
There should be one sensor for each Row and each Shaft.	<input type="checkbox"/> Hydraulic Level/Temp
	<input type="checkbox"/> Downpressure Level
	SDS = Seed Delivery System
<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

**NOTE: Attempting to add rear rows while adding new Muxbus sensors will cause the following note to appear.**

Note
Rear Rows may not be added via the Add New Muxbus Sensors option.
Sensors may not be removed via the Add New Muxbus Sensors option.
When adding front rows the number of front rows must be equal to or one less than the number of rear rows.
A single front row may not be added via Add New Muxbus Sensors.
<input type="button" value="OK"/>

**STEP 5** Sensor configuration screen displays. With "[Auto Detect]" highlighted press F1 key next to "Install". Install sensors from left to right the same way rear unit sensors were installed.

Auto Learn Mode
Looking for first...
Plug in sensors one at a time, any kind, but do same type in order 1, 2, 3,...
Done press to end Auto Learn Mode

**STEP 6** When all sensors are learned select F1 to end installation. "Auto Learn Mode" box displays. Press F6 key next to "Done".

**STEP 7** Scroll down to verify front rows are learned. Select "OK" by pressing knob or Enter key. Press F6 key next to "Done". Display returns to "Setup Mode Screen".

**NOTE: "OK" displays next to each sensor if no errors are detected.**

**STEP 8** Turn knob or use arrow keys to highlight "1. General Settings". Press knob or use Enter key to make selection.

Setup Mode
Configuration: Front / Rear
<ul style="list-style-type: none"> <li>1. General Settings</li> <li>2. Seed Meter Settings</li> <li>3. Row Unit Alarm Levels</li> <li>4. Setup Data Logging</li> <li>5. Configure Planter Monitor</li> <li>6. Add New Muxbus Sensors</li> <li>7. Add Single Interplant Row</li> <li>8. Select Speed Sensor</li> <li>9. Sensor Setup</li> <li>10. Calibrate Speed Sensor</li> <li>11. Reset Muxbus Network Speed</li> </ul>
Effective row spacing: 15.0
<input type="button" value="Status"/> <input type="button" value="Plant"/> <input type="button" value="Logdata"/> <input type="button" value="About"/>

**STEP 9** Turn the knob or use the arrow keys to highlight the "Row Spacing" field. Press the knob or Enter key to make the selection. A drop down number pad will appear. Adjust the row spacing to Interplant spacing by turning the knob or use the arrow keys to highlight the correct value then press the knob to select the number, for numbers containing more than one digit select one digit at a time.

**NOTE: To prevent configuration from being changed select Cancel, then press knob, Enter key, or ESC key.**

**STEP 10** Turn knob or use arrow keys to advance to "OK" button. Press knob or Enter key to save the row spacing and return to "Setup Mode" screen.

#### ADDING EVEN-ROW PACKAGE (FRONT ROWS PREVIOUSLY PROGRAMMED)

**STEP 1** Turn the knob or use the arrow keys to highlight "7. Add Single Interplant Row". Press the knob or the Enter key to display the highlighted item.

Setup Mode
Configuration: Front / Rear
<ul style="list-style-type: none"> <li>1. General Settings</li> <li>2. Seed Meter Settings</li> <li>3. Row Unit Alarm Levels</li> <li>4. Setup Data Logging</li> <li>5. Configure Planter Monitor</li> <li>6. Add New Muxbus Sensors</li> <li>7. Add Single Interplant Row</li> <li>8. Select Speed Sensor</li> <li>9. Sensor Setup</li> <li>10. Calibrate Speed Sensor</li> <li>11. Reset Muxbus Network Speed</li> </ul>
Effective row spacing: 15.0
<input type="button" value="Status"/> <input type="button" value="Plant"/> <input type="button" value="Logdata"/> <input type="button" value="About"/>

- STEP 2 To confirm note below turn knob or use arrow keys to highlight “OK” button, then press knob or Enter key to confirm. If single Interplant row is not to be added select “Cancel” key and press knob or Enter key to cancel or press ESC key.

**Add Interplant Row**

Facing the tractor from behind the planter add a single interplant row unit to the left of the existing interplant row units.

- STEP 3 To “Add Single Interplant Row” following screen displays.

If single Interplant row is to be added turn knob or use arrow keys to highlight “OK” button and then press knob or Enter key to add Interplant row. If single Interplant row is not to be added select Cancel key and press knob or Enter key to cancel or press ESC key.

**Add Single InterPlant Row**

Add Single Interplant Row?

Select OK to add the interplant row.

Select Cancel to retain the current planter monitor configuration.

- STEP 4 “Sensor Setup” screen displays. Plug in new sensor then scroll down to highlight “Front Row 1” by turning knob or using arrow keys. Press F1 key next to Install to learn new sensor.

**Setup Mode**  
**Sensor Setup**

Rear Row 11	OK
Rear Row 12	OK
Rear Row 13	OK
Rear Row 14	OK
Rear Row 15	OK
Rear Row 16	OK
Front Row 1	none
Front Row 2	OK
Front Row 3	OK
Front Row 4	OK
Front Row 5	OK
Front Row 6	OK
Front Row 7	OK

### REPROGRAMMING SPEED SENSOR

This setting must be specified when monitor is first configured. It must be reprogrammed to use an alternate speed sensor.

**NOTE: Speed sensors may not be changed while planting.**

### RADAR TO MAGNETIC DISTANCE SENSOR

- STEP 1 Turn knob or use arrow keys to highlight “8. Select Speed Sensor”. Press knob or Enter key to display highlighted item.

**Setup Mode**

Configuration: Front / Rear

- 1. General Settings
- 2. Seed Meter Settings
- 3. Row Unit Alarm Levels
- 4. Setup Data Logging
- 5. Configure Planter Monitor
- 6. Add New Muxbus Sensors
- 7. Add Single Interplant Row
- 8. Select Speed Sensor**
- 9. Sensor Setup
- 10. Calibrate Speed Sensor
- 11. Reset Muxbus Network Speed

Effective row spacing: 15.0

- STEP 2 Press knob or Enter key, a drop down menu appears. Highlight “Coil Pick-Up” and press knob or Enter key.

**Setup Mode**

Configuration: Front / Rear

**Select Speed Sensor**

Speed Sensor: Radar

- STEP 3 Turn knob or use arrow keys to highlight “OK” button and press knob or Enter key to return to “Setup Mode” screen.

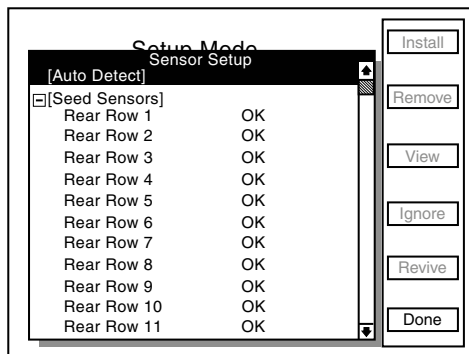
- STEP 4 Turn knob or use arrow keys to highlight “9. Sensor Setup” and press knob or Enter key.

- STEP 5 Unplug radar from tractor.

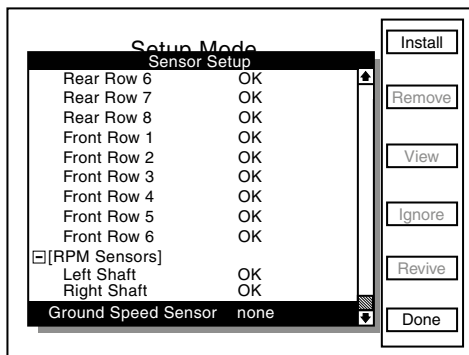
**NOTE: To prevent configuration from being changed select Cancel, then press rotary encoder knob, Enter key, or ESC key.**



- STEP 6 Plug in Magnetic Distance Sensor (MDS) and press F1 key next to Install. Press knob or Enter key to save information. Sensor Setup screen will appear.



- STEP 7 Turn knob or use arrow keys to scroll down to "Ground Speed Sensor".



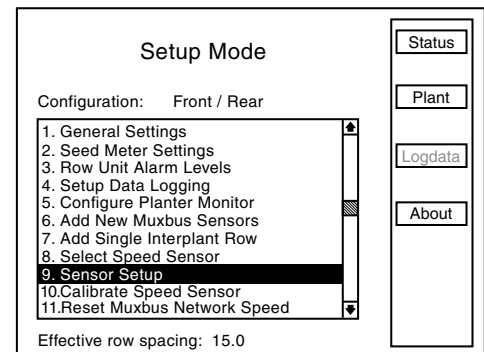
- STEP 8 Press F1 key next to Install. Monitor beeps twice to confirm selection.
- STEP 9 Press F6 key next to Done. Display will return to Setup Mode screen.
- STEP 10 Press F2 key by "Plant" to return to Planter Configuration screen.

**NOTE:** , verify distance pulse count is correct for chosen sensor. There will be significant distance pulse count variation between radar and coil pickup sensors.

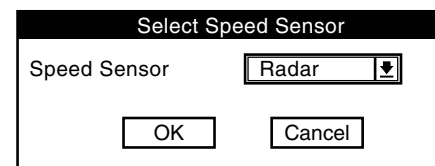
#### MAGNETIC DISTANCE SENSOR (MDS) TO RADAR

- STEP 1 Turn knob or use arrow keys to choose "9. Sensor Setup". Turn knob or use arrow keys to highlight "Ground Speed Sensor". Press F2 key next to Remove to remove Ground speed Sensor.

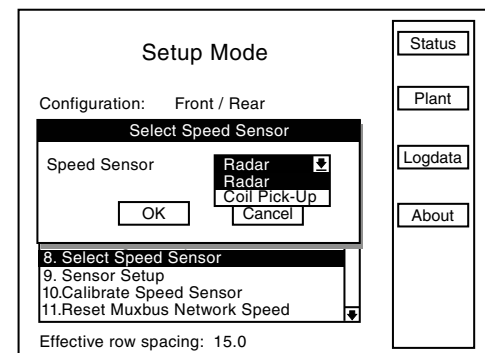
- STEP 2 Press F6 key next to Done. Display will return to Setup Mode screen.



- STEP 3 Turn knob or use arrow keys to highlight "8. Select Speed Sensor" and press knob or Enter key.



- STEP 4 Press knob or Enter key to select "Speed Sensor" field. A drop down menu appears.



**NOTE:** To prevent configuration from being changed select Cancel, then press rotary encoder knob, Enter key or ESC key.

- STEP 5 Turn knob or use arrow keys to highlight "Radar" and press knob or Enter key.
- STEP 6 Turn knob or use arrow keys to highlight "OK" button and press knob or Enter key.
- STEP 7 Plug in Radar, turn knob, or use arrow keys to advance to "OK". Press knob or Enter key to save the information. Display will return to Setup Mode screen.
- STEP 8 Press F2 key next to Plant to return to Planter Configuration screen.

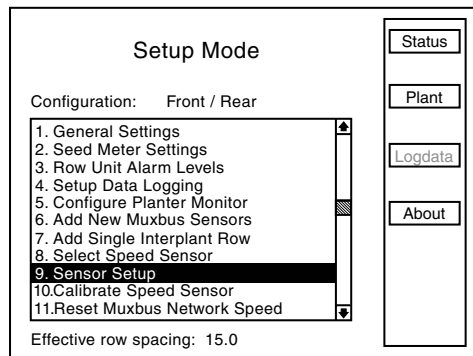
**NOTE:** Verify distance pulse count is correct for chosen sensor when switching between speed sensors. There is a significant distance pulse count variation between radar and magnetic distance sensors.

### PROGRAMMING/CONNECTING SEED TUBES, SHAFT ROTATION SENSORS, AND/OR RADAR/MAGNETIC DISTANCE SENSORS

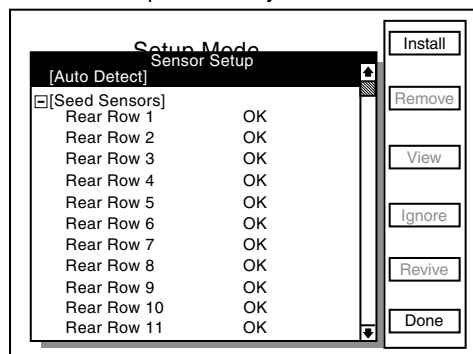
**NOTE:** Sensor Setup screen automatically displays after Planter Monitor is configured in Configure Planter Monitor selection in Setup Mode screen.

**IMPORTANT:** All sensors **MUST** be unplugged before programming begins.

- STEP 1** To access Mode Selection, press F6 key until Mode Selection screen appears.
- STEP 2** Select "1. Setup Mode" by turning rotary encoder knob or press arrow keys. Press knob or Enter key to display highlighted item.
- STEP 3** Select "9. Sensor Setup" by turning knob or using arrow keys. Press knob or Enter key to display highlighted item.



- STEP 4** Attach planter harness to KPM III. Do NOT connect any sensors to planter harness. With [Auto Detect] selected press F1 key next to Install.



- STEP 5** Plug in first pull row unit seed sensor (row 1), working from left to right across planter. Connect interplant unit sensors after all pull row unit sensors have been connected following the same pattern. When a sensor is connected to planter harness wait for monitor to acknowledge sensor with two beeps.

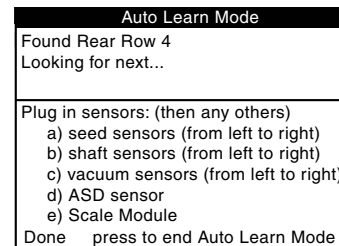
**NOTE:** If monitor fails to acknowledge a sensor disconnect sensor temporarily then reconnect sensor and wait for monitor to acknowledge sensor with two beeps. If monitor still fails to acknowledge sensor try connecting a different sensor in this location.

Connect shaft rotation sensors or speed sensors the same way seed sensors were connected, making sure to work from left to right across planter.

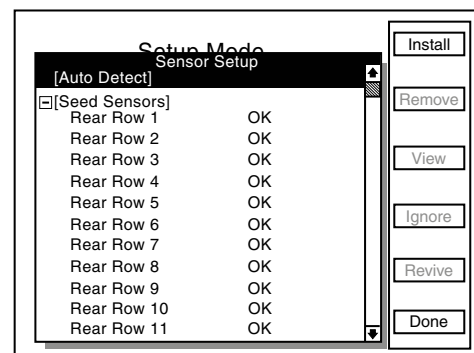
(If applicable) plug in ASD, vacuum, scale, or PDP (pneumatic down pressure) sensors the same way seed sensors were connected.

Progress is displayed on LCD screen as sensors are connected. Example below indicates last seed sensor found was Rear Row 4 and monitor is looking for next sensor.

When all sensors are installed press F6 key to end installation and return to "Setup Mode" screen.

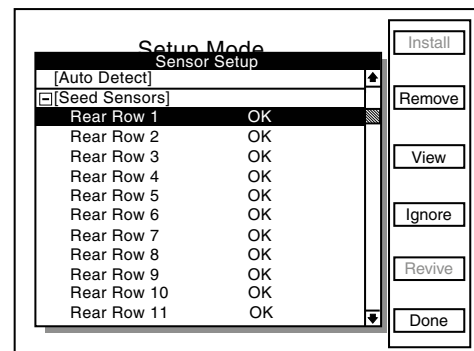


**NOTE:** After each sensor has been installed "OK" appears after sensor name on LCD screen.



- STEP 6** When "OK" appears behind ALL sensors, press F6 key next to Done. 'Setup Mode' menu displays.

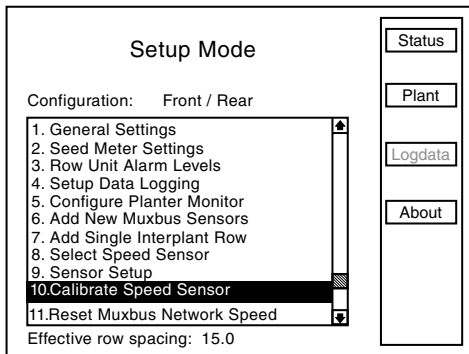
**NOTE:** If "OK slow" appears after a sensor, sensor is able to communicate but at a slower speed. For system to run at top speed of 9600 baud slow sensor must be replaced.





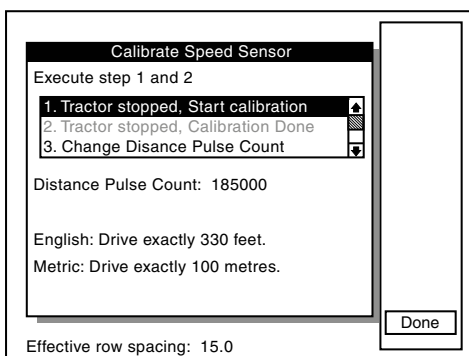
### SPEED SENSOR CALIBRATION/PROGRAMMING

- STEP 1 Turn knob or use arrow keys to highlight "10. Calibrate Speed Sensor" and press knob or Enter key.

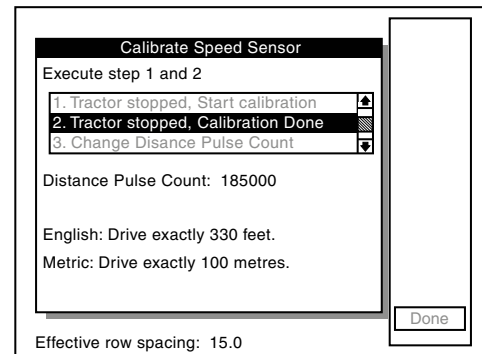


Distance Pulse Count records how many pulses are generated per mile/kilometer from the ground speed sensor.

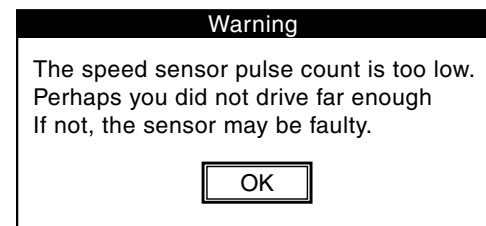
**NOTE: A field calibration must be performed to establish Distance Pulse Count number. Several factors can affect this value, such as wheel slip on the magnetic distance sensor. IT IS NOT UNCOMMON FOR MONITOR SPEED TO VARY SLIGHTLY FROM TRACTOR SPEEDOMETER. *Adjusting Distance Pulse Count in the monitor to make speed agree with tractor can cause serious errors in acre/hectare and population/spacing readings.* Do field checks to verify populations and seed spacing.**



- In field conditions, measure 330 feet or 100 meters, depending on the unit of measurement selected. Place a marker at the start point and end point.
- Pull tractor up to starting point.
- Turn knob or use arrow keys to highlight "1. Tractor stopped, Start calibration" and press knob or Enter key.
- Drive tractor for 330 feet or 100 meters.
- Monitor will count number of pulses and display them.
- Stop tractor at end point.
- Turn knob or use arrow keys to highlight "2. Tractor stopped, Calibration Done" and press knob or Enter key.



**NOTE: If warning box below appears, click OK and repeat procedure.**

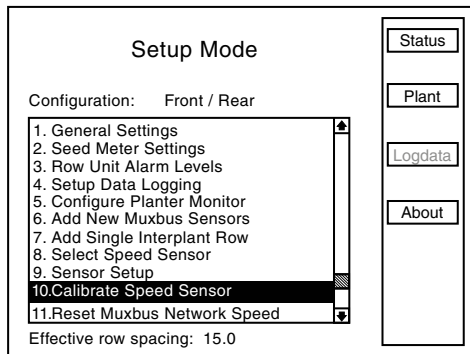


**NOTE: Repeat above steps multiple times. Record and average values. Use average for Distance Pulse Count number constant.**

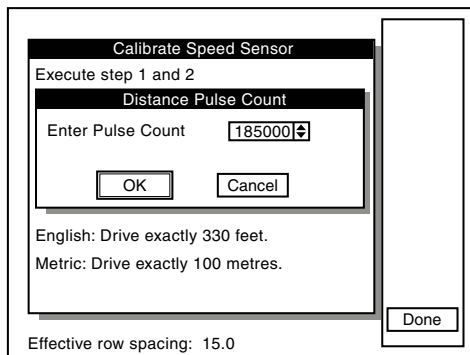
**NOTE: Distance Pulse Count will vary from above example.**

When correct distance pulse count is known, calibration is not needed and the following steps may be used.

- STEP 1** Turn knob or use arrow keys to highlight "10. Calibrate Speed Sensor" and press knob or Enter key



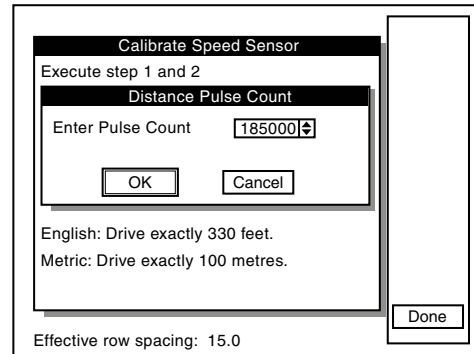
- STEP 2** Turn knob or use arrow keys to highlight "3. Change Distance Pulse Count" and press knob or Enter key. Highlight "Enter Pulse Count" line and press knob or Enter key and a drop down key pad will appear.



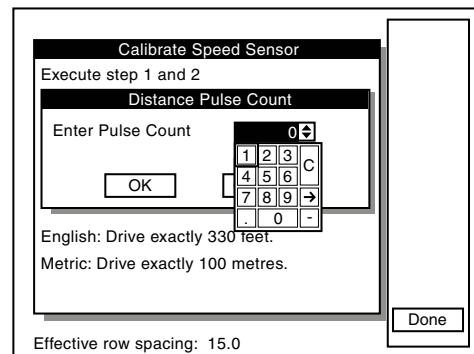
**NOTE: Distance Pulse Count will vary from above example.**

- STEP 3** Turn knob or use arrow keys to highlight the first digit of the average pulse count and press the knob. The number will appear in the "Enter Pulse Count" line. Highlight the next digit of the number and press the knob. Repeat this procedure until the entire number is entered then press Enter key.
- STEP 4** Turn knob or use arrow keys to highlight "OK" then press knob or Enter key to return to the "Calibrate Speed Sensor" screen.
- STEP 5** Press F6 key next to "Done" to return to "Setup Mode" screen.

Monitor will display current pulses per mile/kilometer using a 6 digit, no decimal place format labeled "Distance Pulse Count". Turn knob or use arrow keys to highlight "Change Pulse Count" then press knob or Enter key. The "Distance Pulse Count" box will appear.



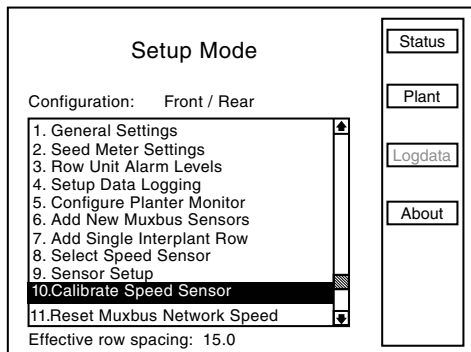
- When "Enter Pulse Count" value is highlighted press knob or Enter key and a drop down key pad will appear. Turn knob or use arrow keys to highlight "0", zero, and press knob or Enter key. Turn knob or use arrow keys to highlight "OK" and press knob or Enter key to return to the "Calibrate Speed Sensor" screen.



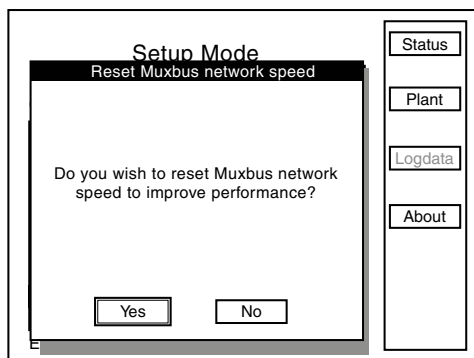
**NOTE: If Distance Pulse Count number starts to count pulses with the tractor not moving, check radar distance sensor for vibration or other interference.**

### RESET MUXBUS NETWORK SPEED

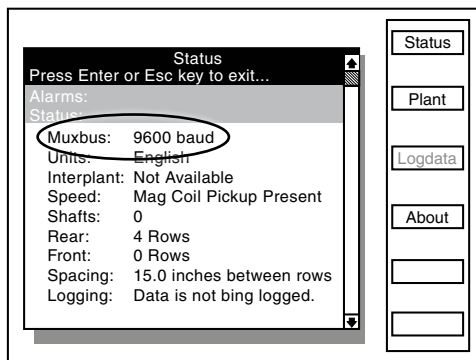
- STEP 1 Turn knob or use arrow keys to highlight "11. Reset Muxbus Network Speed" and press knob or Enter key.



The following message will appear. Turn knob or use arrow keys to highlight "Yes" or "No", press knob or Enter key to select.



**NOTE:** If communication speed is low (under 9600 baud) or slow resetting muxbus network speed should be performed. Check muxbus speed located under status.





### ACRE COUNT MODE

**NOTE: When a tractor is equipped with a radar distance sensor, accumulating area without a planter attached is possible.**

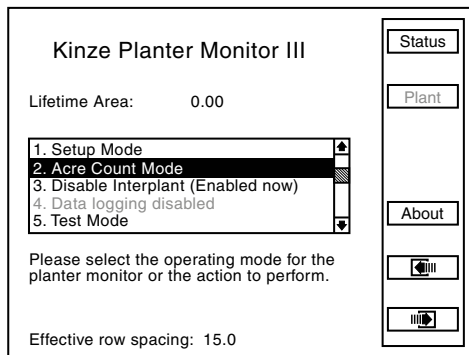
STEP 1 Install an "Acre Count Switch Kit".

STEP 2 Enter into "Acre Count Mode".

#### Acre Count Switch Kit

STEP 1 With monitor OFF, attach an Acre Count Switch Kit to Muxbus connector, then turn monitor "ON".

STEP 2 Press F6 key until Mode Selection screen appears. Turn rotary encoder knob or use arrow keys to highlight "2. Acre Count Mode". Press knob or Enter key.

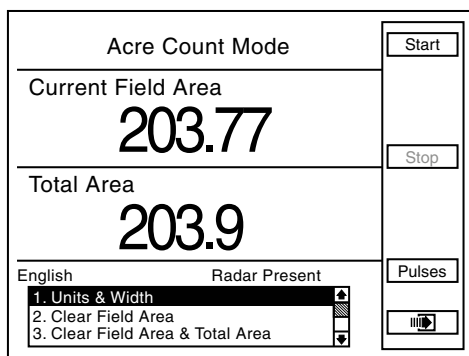


**NOTE: If radar unit is not detected a warning displays.**

**NOTE: When using the acre count mode option, area (acres or hectares) is accumulated in "Lifetime Area Counter".**

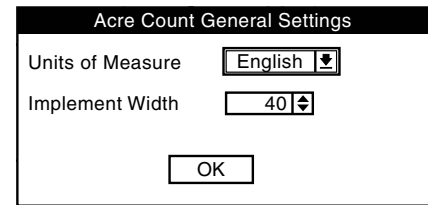
**NOTE: DO NOT BEGIN ACCUMULATING AREA IF RADAR UNIT HAS NOT BEEN CALIBRATED. Always check distance pulse count value immediately after entering acre count mode and before pressing start.**

STEP 3 Turn knob or use arrow keys to highlight "Units & Width" and press knob or Enter key.



STEP 4 A box named "Acre Count General Settings" will appear. Highlight "English" or "Metric" by turning knob or using arrow keys. Press knob or Enter key to make selection.

STEP 5 Turn knob or use arrow keys to highlight "Implement Width" box and press knob or Enter key and a drop down number pad displays.



STEP 6 Turn knob or use arrow keys to highlight correct value then press knob to select number. For numbers containing more than one digit select one digit at a time. When desired quantity is displayed above number pad, press Enter key.

STEP 7 Turn knob or use arrow keys to highlight "OK" button. Press knob or Enter key to save changes.

**NOTE: Implement width entered in acre count mode has no effect on planting mode settings.**

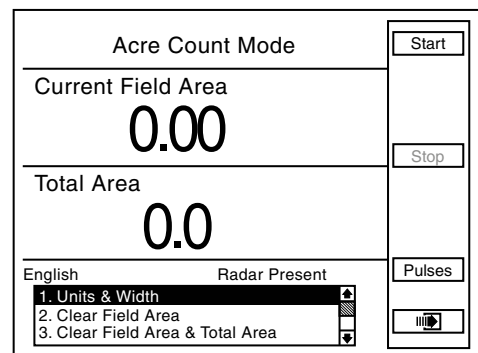
**NOTE: Tractor should be at a complete stop before starting.**

STEP 8 To begin accumulating area press F1 key next to Start.

STEP 9 To stop accumulating area or to move to a different location, press F3 key next to Stop.

There are two counters in the Acre Count Mode (Field Area Counter and Total Area Counter). The "Field Area" counter can be cleared independent of the "Total Area" counter, however clearing "Total Area" counter also clears "Field Area" counter.

• To Clear Field Area. Highlight "Clear Field Area" and press knob or Enter key. A note will appear verifying decision to reset field area to zero. Highlight "OK" and press knob or Enter key to clear field. Highlight "Cancel" and press knob or Enter key to retain current field value.

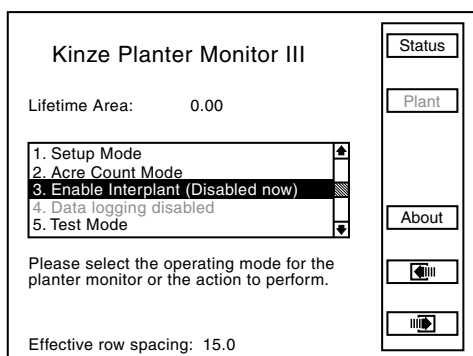
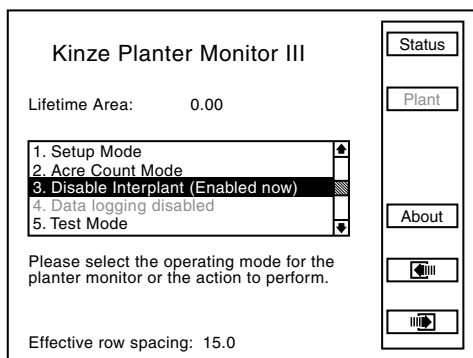


• To Clear Field Area And Total Area. highlight "Clear Field Area & Total Area" and press knob or Enter key. A note will appear to verify decision to reset field area and total area to zero. Highlight "OK" and press knob or Enter key to clear field. Highlight "Cancel" and press knob or Enter key to retain current field values.

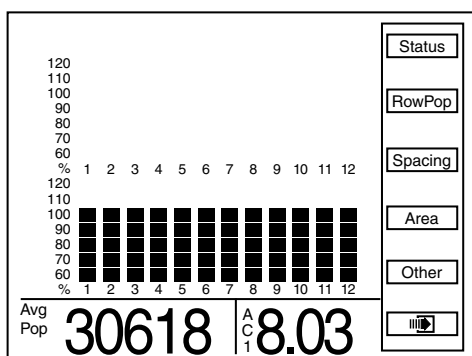
### ENABLING/DISABLING INTERPLANT ROWS

To Enable or Disable Interplant

- STEP 1** Return to “Planter Configuration” screen by pressing F2 key next to “Plant”.
- STEP 2** Press F6 key until “Kinze Planter Monitor III” screen appears.
- STEP 3** Turn rotary encoder knob or use arrow keys to highlight “3. Disable Interplant (Enabled now)” or Enable Interplant (Disabled now).
- STEP 4** Press knob or Enter key to “Disable” or “Enable” Interplant. Row spacing is displayed on bottom of screen to verify selection.

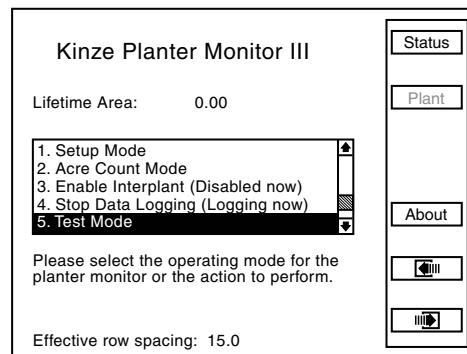


Press F6 to return to Plant screen.

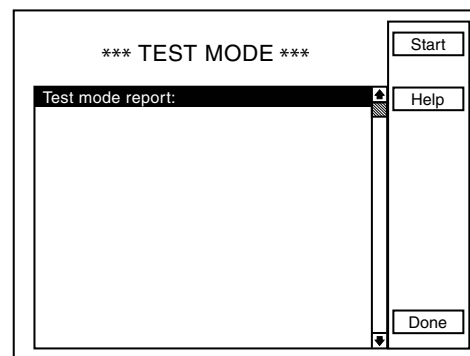


### TEST MODE

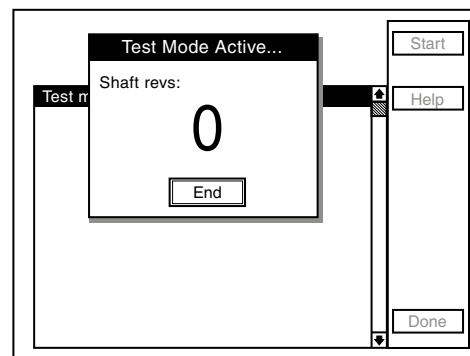
- STEP 1** Press F6 key until Mode Selection screen appears.
- STEP 2** Select “5. Test Mode” by turning rotary encoder knob or using arrow keys. Press knob or Enter key to display highlighted item.



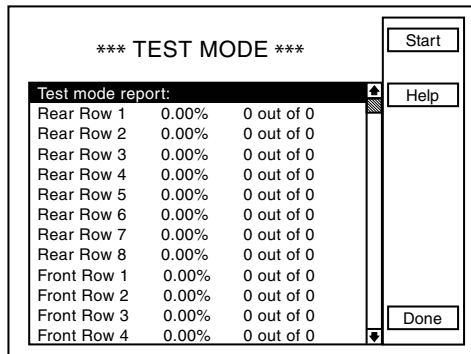
- STEP 3** Press F1 key next to Start.



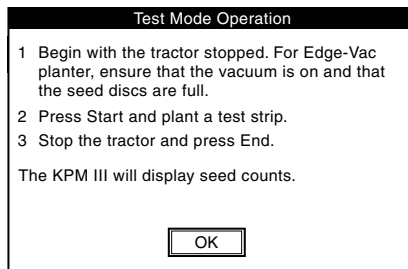
- STEP 4** “Test Mode Active” box displays showing number of shaft revolutions. “End” box is highlighted. Press knob or Enter key. “Test Mode Active” box displays showing drill shaft revolutions.



- STEP 5 TEST MODE screen displays test run data (seed count) for each row.



- STEP 6 Begin test with tractor stopped. For Vacuum planters, ensure vacuum is on and seed discs are full.
- STEP 7 Press F1 key next to Start and plant a test strip.
- STEP 8 Stop tractor and press "End". KPM III displays seed counts by row and percentage.

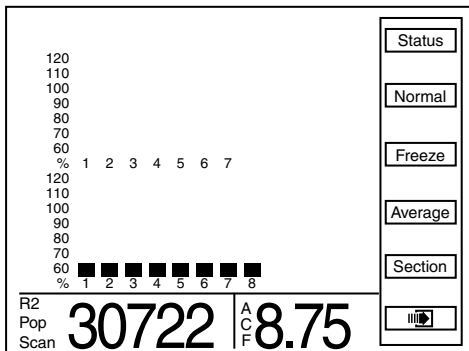


**NOTE:** Above instructions display on screen when F2 key next to "Help" is pressed.

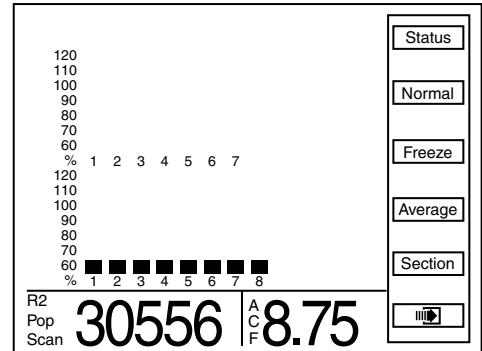
- STEP 9 Press F6 key next to Done. Display returns to Mode Selection screen.

### ROW POPULATION

Press F1 key next to "RowPop" to display row population. Average planter population is shown in lower L.H. corner of display.

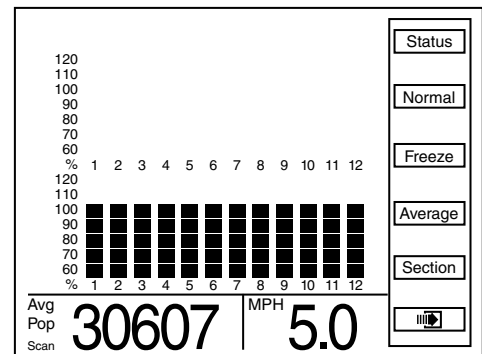


- Press F3 key next to Scan. Monitor scans through each row in ascending order displaying average seed population for each row. After all rows have been scanned, average population displays and scan function continues with first rear row.



- Press F3 key next to Freeze to stop scanning. Left display item will be frozen on a particular row. "Frzn" appears in lower L.H. corner to indicate display is frozen. To resume scan press F3 key next to Scan.

**EXAMPLE:** When average individual row population is shown, R3 indicates rear row 3, F2 indicates front row 2, etc.



- When "Scan" or "Frzn" is displayed in L.H. corner, Section and arrow keys function as follows:

- Section, Right arrow key, or Left arrow key advances to the first rear row.

- Up arrow key moves forward to the next row of the planter, wrapping around to the first row when moving past the last row.

- Down arrow key moves backward to the previous row of the planter, wrapping around to the last row of the planter when moving past the first row.

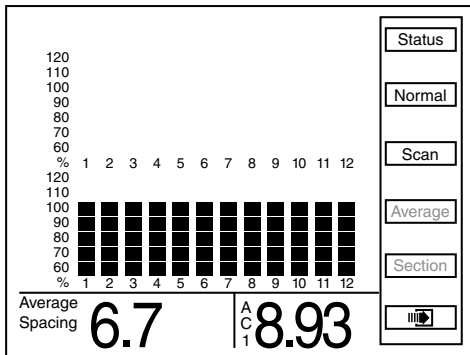
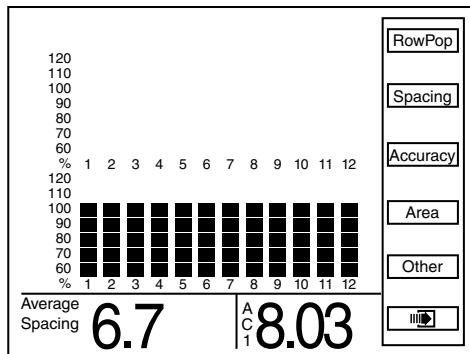
- Press F4 key next to Average to display average population in bottom L.H. corner.

- Press F2 key next to Normal to display normal screen for Planter Configuration screen.

**NOTE:** If rows are being scanned and F4 key next to Average is pressed, scan function stops.

**ROW SPACING**

- Press F2 key next to Spacing to display seed spacing keys. "Average Spacing" will appear in bottom L.H. corner of display.



- Press F3 key next to Scan and monitor scans through each row in ascending order displaying average seed spacing for each row. Scan appears in L.H. corner to indicate display is scanning. After all rows are scanned average population is displayed and scanning continues with first rear row.

- Press F3 key next to Freeze to stop scanning, left display item will be frozen on a particular row. "Frzn" appears in lower L.H. corner to indicate display is frozen. To resume scan press F3 key next to Scan.

- When "Scan" or "Frzn" is displayed in left display item, Section and arrow keys function as follows:

- Section, Right arrow key, or Left arrow key advance to first rear row.

- Up arrow key moves forward to next row of planter, wrapping around to first row when moving past last row.

- Down arrow key moves backward to previous row of planter, wrapping around to last row of the planter when moving past the first row.

- Press F4 key next to Average to display average seed spacing in bottom L.H. corner.

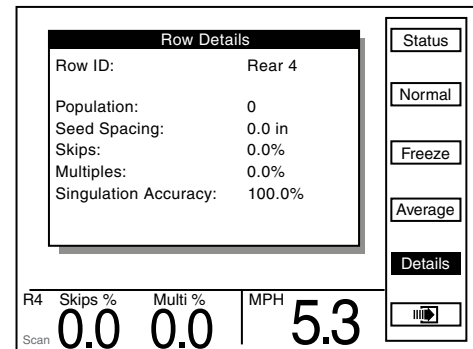
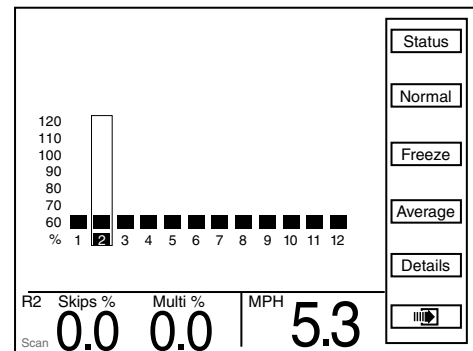
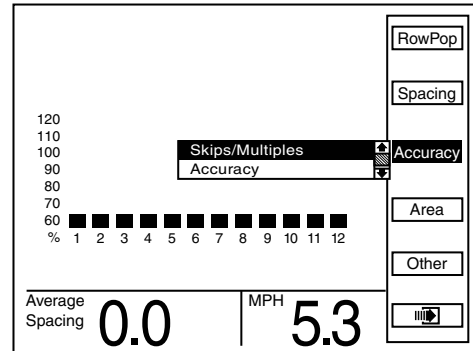
- Press F2 key next to Normal to display Planter Configuration screen.

**NOTE: If rows are being scanned and F4 key next to Average is selected, scan function stops.**

**ACCURACY**

**NOTE: Soybeans will not show Skips/Multiples.**

- Press F3 key next to Accuracy to display drop down menu. Select either "Skips/Multiples" or "Accuracy"



- When "Skips/Multiples" is selected average "Skips" and "Multiples" appears in the bottom L.H. corner.

- When "Accuracy" is selected average "Average Accuracy %" appears in the bottom L.H. corner.

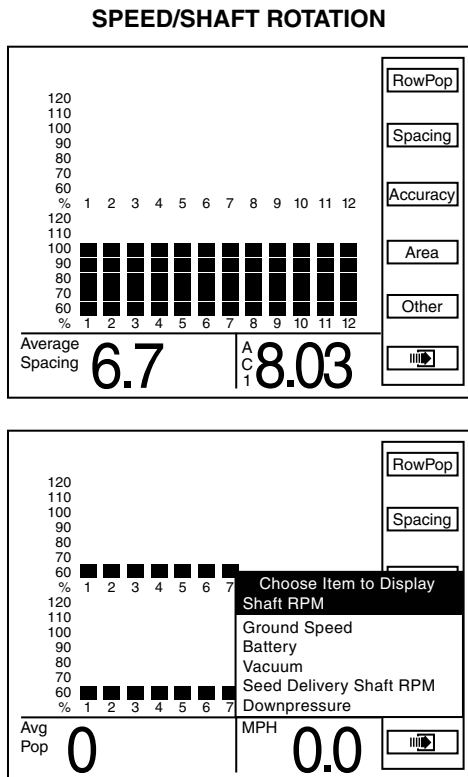
**Example: When average individual row accuracy is shown, R3 indicates rear row 3, F2 indicates front row 2, etc.**

- Press F3 key next to Scan. Monitor scans through each row in ascending order displaying average Skips and Multiples for each row. "Scan" appears in lower L.H. corner to indicate display is scanning.

- Press F3 key next to Freeze to stop scanning. Left display item will be frozen on a particular row. "Frzn" appear in lower L.H. corner to indicate display is frozen. To resume scan press F3 key next to Scan.

- Press F5 key next to Details to display "Row Details".





- Press F5 key next to Other for items available to display in bottom R.H. corner. Turn knob or use arrow keys to highlight "Shaft RPM". Value appears in bottom R.H. corner of display as "RPM".

**NOTE: Applies to planters with shaft rotation sensors installed.**

- Press F5 key next to "Other" for items available to display in bottom R.H. corner. Turn knob or use arrow keys to select "Ground Speed". Value appears in bottom R.H. corner of display as "MPH" or "Km Per Hr".

**NOTE: Selected units of measure display as (English or Metric).**

- Press F5 key next to "Other" for items available to display in bottom R.H. corner. Turn knob or use arrows keys to advance to "Battery" to view battery condition. Value appears in bottom R.H. corner of display as "Bat V".
- Press F5 key next to "Other" for items available to display in bottom R.H. corner. Turn knob or use arrows keys to advance to "Vacuum" to view vacuum. Inches of vacuum appears in bottom R.H. corner of display as "VAC".
- Press F5 key next to "Other" for items available to display in the bottom R.H. corner. Turn knob or use arrows keys to advance to "Seed Delivery Shaft RPM" to view shaft RPM. Shaft RPM appears in bottom R.H. corner of display as "RPM ASD".
- Press F5 key next to "Other" for items available to display in bottom R.H. corner. Turn knob or use arrows keys to advance to "Downpressure" to view lbs. of down pressure. Lbs. of down pressure appears in bottom R.H. corner of the display as "LBS".

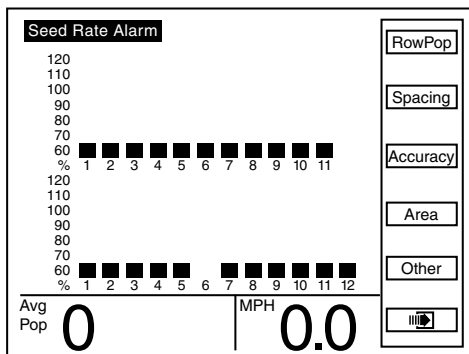
### WARNINGS AND ALARMS

**STEP 1** Seed Rate Alarm - A seed rate alarm is activated whenever row average seed population drops below threshold set for that row.

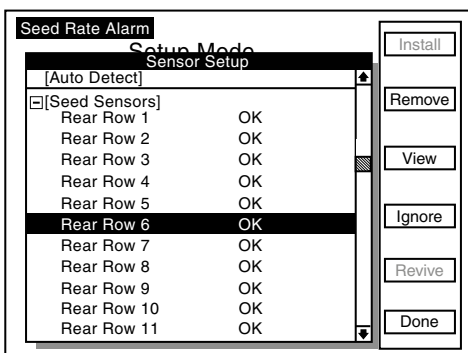
Corresponding row on bargraph starts flashing and monitor emits a series of beeps that persist until alarm is cleared or ACK button is pressed. "Seed Rate Alarm" appears in upper left corner of screen. Bargraph for row drops down based on threshold set for alarm.

**EXAMPLE:** If threshold is 70%, lower two bargraph segments are shown. If threshold is 50% or 10%, lowest bargraph segment is shown.

Status message associated with an alarm contains more information about the alarm. To view "Status Message" for a seed rate alarm, press F1 key next to Status.



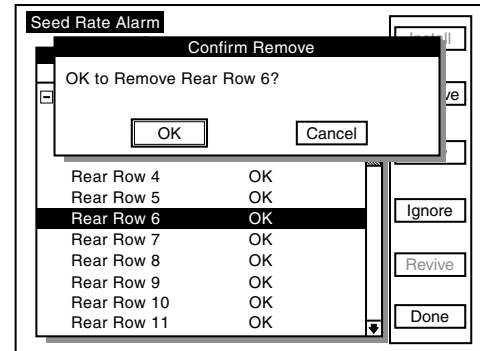
If sensor detects no seed flow it displays which row is not functioning. Alarm may be caused by a mechanical problem reducing seed flow or an electrical problem causing an incorrect seed count.



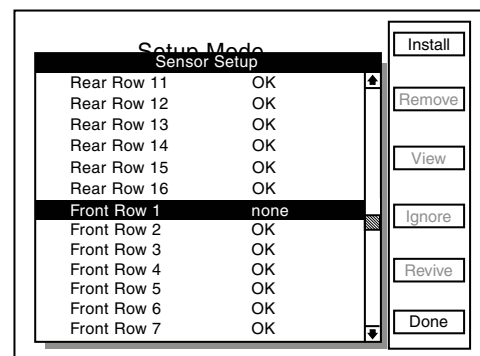
**NOTE:** Only way to remove an alarm is to find problem and correct it. Alarms are not reported for rows with seed rate alarm thresholds disabled.

**NOTE:** Percentage shown in alarm message is percentage at time alarm occurred.

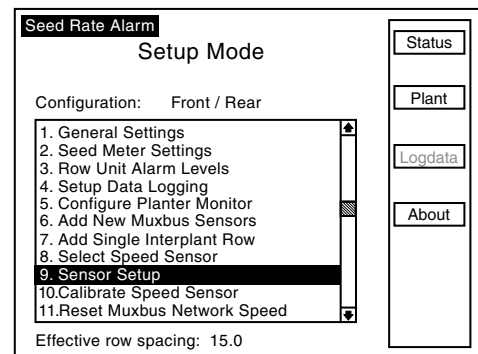
Row can be removed by pressing F2 key next to Remove. A box appears asking for confirmation to remove row. "OK" box is highlighted in box.



Press knob or Enter key to confirm removal. Sensor Setup screen displays "none" next to the row that was removed. Press F6 key next to "Done". The setup mode screen will appear.



Press F2 key next to Plant to return to Planter Configuration screen.



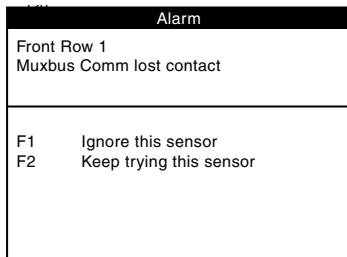
**STEP 2**

Section Not Planting - If monitor detects an entire section not planting, three beeps sound. Affected section bargraph flashes and is reduced to lowest segment. An alarm message is added to list of "Status Messages". Press F1 key next to Status to view alarm message.

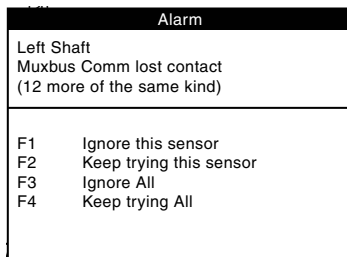
**STEP 3** Counting Sensors Not Communicating With Monitor - If monitor detects a communication error between sensor and monitor, monitor beeps twice.

- Try to reestablish communication with sensor(s) by pressing F2.

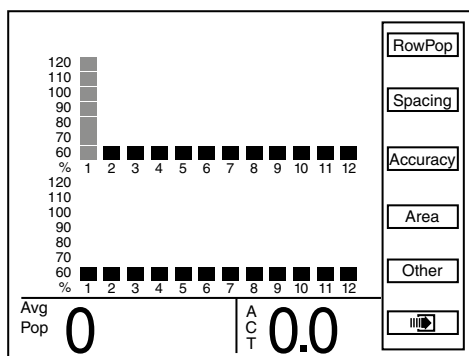
- If monitor is unable to establish communication there may be a faulty sensor, poor electrical connection, or a cut or pinched wire harness.



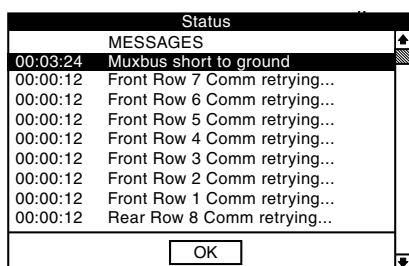
Message below shows multiple sensors with lost contact.



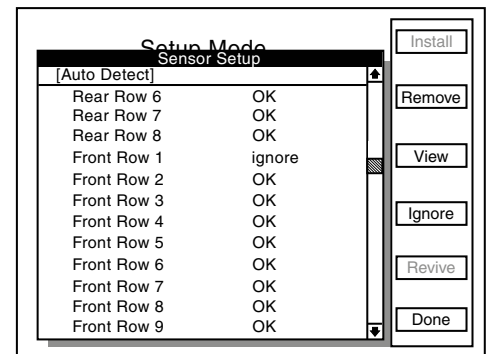
**NOTE:** When a known sensor or group of sensors are faulty, press F1 or F3. Monitor stops communication with affected sensors and corresponding bargraphs are grayed out on main "Planter Configuration" screen.



**NOTE:** Press F2 or F4 if sensors are not faulty. After pressing F2 or F4 a message similar to the one below appears when "Status" button F1 is pressed.



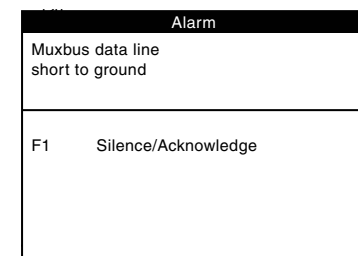
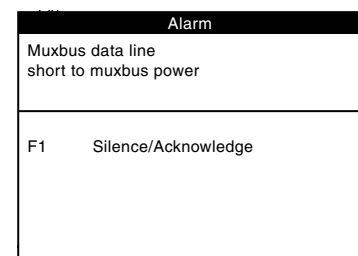
**NOTE:** If a sensor has been ignored, sensor configuration screen displays as shown below.



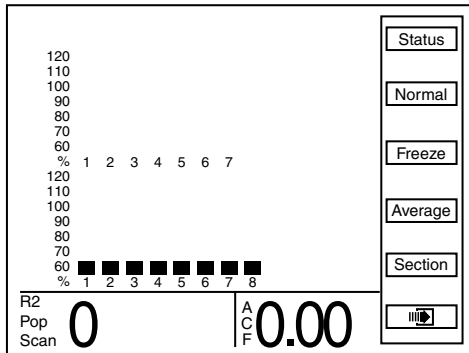
**STEP 4** Seed Counting Sensors Too Dirty Warning - When powering on KPM III, seed sensor performs a self check. If a seed tube is too dirty, the message "Clean or Replace Sensor as Necessary" displays and bargraph for that row will flash.. Sensor will not function until problem is corrected.

**NOTE:** LCD screen continues to display alarm condition after alarms are acknowledged if alarm condition is still present.

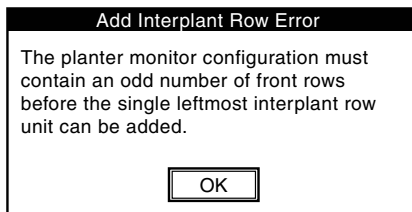
**STEP 5** Wire Shorts - When a wire is shorted, one of the messages below displays, indicating which wires are shorted. Short must be located and repaired to continue planting. Turn off and restart monitor to clear alarm.



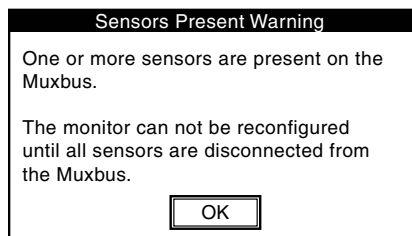
- STEP 6** Add Interplant Row Error – Planter monitor configuration must contain an odd number of front rows before single Interplant row unit can be added.



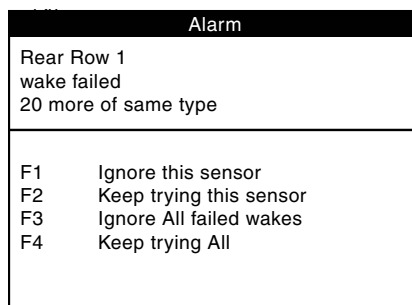
**NOTE:** Planter monitor configuration above has an even number of front (Interplant) rows (8).



- STEP 7** Sensor Present Warning – One or more sensors are present on Muxbus.



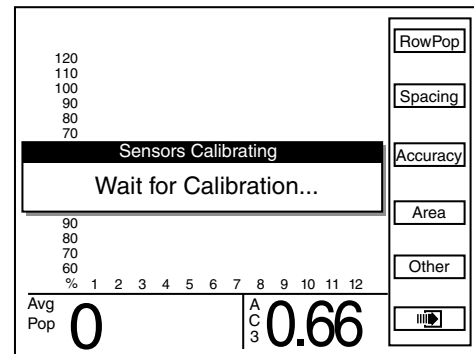
- STEP 8** Alarm: Rear Row 1 wake failed – Select an option from warning box and press key next to selection.



### FIELD OPERATION

Press ON/OFF key to turn monitor ON.

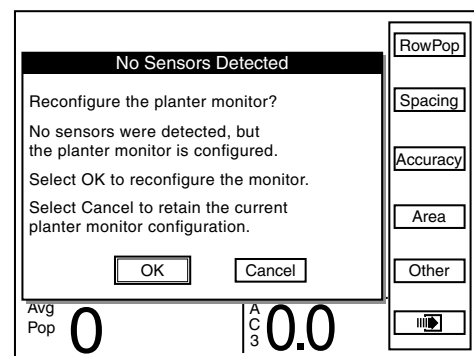
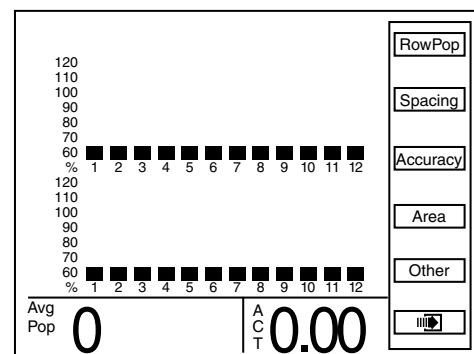
If monitor has been configured, it will show Planter Configuration screen and attempt to communicate with seed sensors.



**NOTE:** Do not attempt planting before “Wait For Calibration” message disappears. If planter is moving while sensors are calibrating alarms will be generated.

**NOTE:** If monitor can communicate with sensors Planter Configuration screen displays.

If monitor does not detect sensors message below displays.



**NOTE:** Selecting OK reconfigures monitor requiring all sensors to be re-learned. Selecting Cancel keeps current configuration and monitor continues trying to communicate with sensors.

### AREA MANAGEMENT

There are 42 area counters: Total Area, Field Area and Area Counters 1 through 40. Total Area is always active but may be cleared. If cleared, Field Area is also cleared. Field Area and Area Counters 1 through 40 may be cleared, started or stopped separate from each other.

In addition, there is a Lifetime Area Counter (located on Mode Selection Screen) which can not be disabled or cleared by user.

Press F6 key until "Area Management" screen displays.

Area Counter	Value 1	Value 2	Value 3
<input checked="" type="checkbox"/> Total Area	31.3 K	488.37	
<input checked="" type="checkbox"/> Field Area	31.3 K	488.37	
<input checked="" type="checkbox"/> Area Counter 1	31.3 K	486.02	
<input type="checkbox"/> Area Counter 2	0.0 K	0.0	
<input type="checkbox"/> Area Counter 3	0.0 K	0.0	
<input type="checkbox"/> Area Counter 4	0.0 K	0.0	
<input type="checkbox"/> Area Counter 5	0.0 K	0.0	
<input type="checkbox"/> Area Counter 6	0.0 K	0.0	
<input type="checkbox"/> Area Counter 7	0.0 K	0.0	
<input type="checkbox"/> Area Counter 8	0.0 K	0.0	

**NOTE: Total Area counter can never be disabled, but can be reset to zero (cleared).**

- Check mark (✓) in box next to name of area counter indicates area counter is enabled and accumulating area.

**EXAMPLE: In above illustration, 31.3K indicates average seed population per unit area (either acre or hectare). This number has been rounded off. Actual seed population ranges anywhere from 30,500 to 31,499 per unit area. Last column of numbers is area accumulated (acre or hectare).**

- Turn knob or use arrow keys to highlight desired area counter.
- Press F2 key next to Rename to name area. A drop down keyboard displays. Use keyboard to enter area name. Press knob or enter key to save information.

Area Counter	Value 1	Value 2	Value 3
<input checked="" type="checkbox"/> Total Area	0.0 K	0.0	
<input type="checkbox"/> Field Area	0.0 K	0.0	
<input type="checkbox"/> 1 Area Counter 1	0.0 K	0.0	
<input type="checkbox"/> 2 Area Counter 2	0.0 K	0.0	
<input type="checkbox"/> 2 Area Counter 2	0.0 K	0.0	
<input type="checkbox"/> 2 Area Counter 2	0.0 K	0.0	

**NOTE: When a key is dimmed it does not perform any operation on highlighted area counter. • Use knob or arrow keys to highlight the "OK" button, press knob or Enter key.**

### Enable Area Counter

- Highlight desired "Area Counter" by turning rotary encoder knob or using arrow keys.
- Press knob or Enter key. A "Confirm Area Counter Enable" box displays.

Area Management

Confirm Area Counter Enable

Enable this area counter?

OK Cancel

- Use knob or arrow keys to highlight "OK" button and press knob or Enter key. Enabled "Area Counter" starts accumulating area.

### Disable Area Counter

All area counters may be disabled, except Total Area Counter.

- Highlight desired "Area Counter" by turning rotary encoder knob or using arrow keys.
- Press knob or Enter key. A "Confirm Area Counter Disable" box displays. • Use knob or arrow keys to highlight "OK" button and press knob or Enter key. Disabled "Area Counter" no longer accumulates area.

Area Management

Confirm Area Counter Disable

Disable this area counter?

OK Cancel

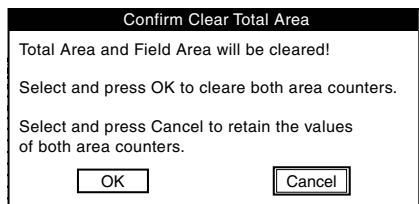
**NOTE: Attempts to disable an Area Counter that is planting will cause the following alarm.**

Note

This counter may not be disabled as it is currently being displayed and seeds are being planted.

OK

**NOTE:** If “Total area” is highlighted and F3 key next to Clear is pressed the following request for confirmation displays.



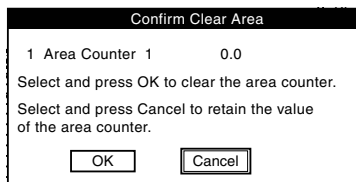
### Clear Area Counter

Total Area, Field Area, and Area Counters 1 through 40 can be cleared, whether enabled or disabled. Clearing “Total Area” counter forces “Field Area” counter to be cleared. However, clearing an “Area Counter” including “Field Area” clears only that individual counter.

**NOTE:** Lifetime Area Counter can never be cleared or disabled.

### Clearing an Area Counter

- STEP 1 Turn knob or use arrow keys to highlight desired area counter.
- STEP 2 Press F3 key next to “Clear”. Request for confirmation shown below displays

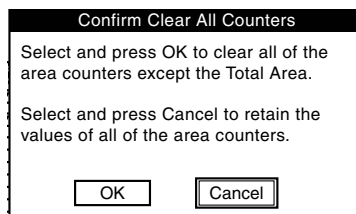


- STEP 3 Turn knob or use arrow keys to highlight “OK” or “Cancel” and press knob or Enter key to confirm selection.

### Clearing All Area Counters

**NOTE:** This clears all area counters except the “Total Area Counter”

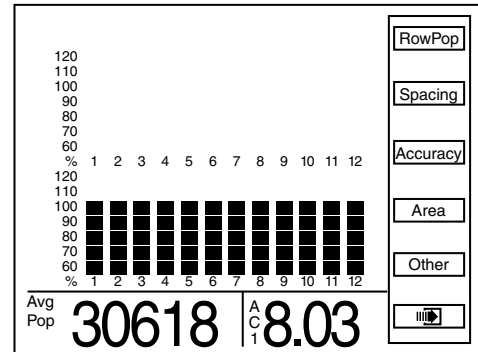
- STEP 1 Press F4 key next to “CLR All”. A request for confirmation displays.



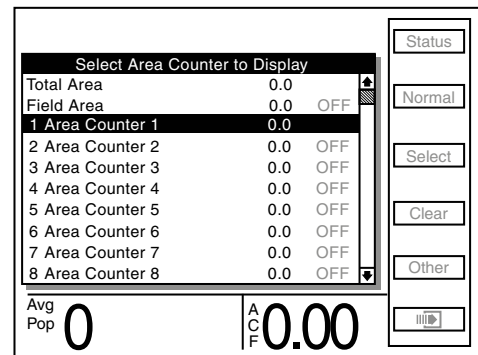
- STEP 2 Turn knob or use arrow keys to select “OK” or “Cancel” and press knob or Enter key to confirm selection.

### AREA COUNTERS

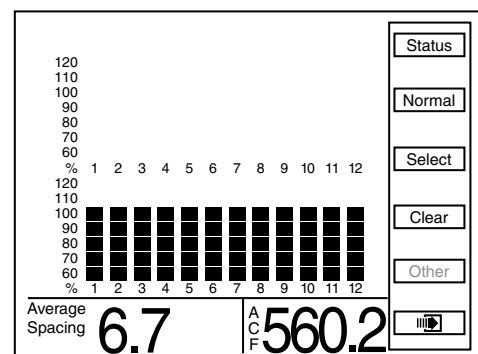
- STEP 1 On Planter Configuration screen press F4 key next to “Area”.



- STEP 2 Press F3 key next to “Select” to display list of area counters.



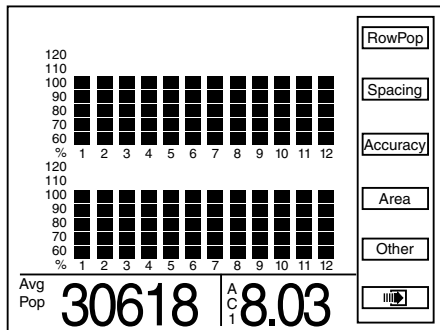
- STEP 3 Use arrow keys to highlight desired area counter to be displayed.
- STEP 4 Press knob or Enter key and “Planter Configuration” screen displays.



**NOTE:** Abbreviation for selected area counter appears in bottom R.H. corner of the screen. In above illustration “ACF” stands for Area Counter Field.

**CLEARING FIELD AREA**

STEP 1 Display Plant screen to reset counter.



**NOTE:** If “Area” is not displayed next to F4, press F2 next to “Normal”.

STEP 2 Press F4 key next to Area then press F4 key next to Clear. A dialog box displays requesting confirmation to clear.

STEP 3 Highlight “OK” or “Cancel” by turning knob or using arrow keys. Press knob or Enter key to verify selection.

**NOTE:** Only displayed area counter can be cleared.

**REPLACING FAULTY SENSOR(S)**

**NOTE:** Monitor beeps twice when new sensors are learned.

STEP 1 Press F6 key until Mode Selection screen appears.

STEP 2 Highlight “1. Setup Mode” by turning knob or using arrow keys. Press knob or Enter key to display highlighted item.

STEP 3 Highlight “9. Sensor Setup” by turning knob or using arrow keys. Press knob or Enter key to display highlighted item.

STEP 4 Turn knob or use arrow keys to highlight faulty sensor and press F2 key next to Remove.

STEP 5 The following message displays. Select OK to confirm by pressing knob or Enter key. Select Cancel to exit.

STEP 6 Unplug sensor and plug in new sensor. Press F1 key next to Install.

**NOTE:** Monitor beeps twice when new sensors are learned.

Repeat STEPS 1 through 6 for each faulty sensor being replaced.

**NOTE:** Highlighting a sensor and pressing F4 key next to View displays additional information for troubleshooting a problem. If a faulty sensor has been ignored it may be highlighted in list of sensors. Press F3 key next to Revive. Monitor will try to communicate with sensor. If successful, “OK” displays next to sensor.

**KPM III ELECTRONIC SEED MONITOR TROUBLESHOOTING**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Single sensor communication alarm comes on.	Faulty seed tube sensor.	Replace sensor.
	Break in harness just before seed tube sensor.	Inspect for break in harness and repair. If break can't be found, replace harness section.
	Dirty or corroded connector.	Clean connector.
Sensor communication alarms come on for all sensors.	Faulty monitor.	Repair/replace monitor.
	Break in harness just after monitor.	Inspect for break in harness and repair. If break can't be found, replace harness section.
	Dirty or corroded connector.	Clean connector.
Sensor communication alarms come on for some sensors.	Break in harness.	Inspect for break in harness and repair. If break can't be found, replace harness section with alarming sensors.
	Dirty or corroded connector.	Clean connector.
Faulty monitor values (such as speed, area, etc.) displayed.	Incorrect monitor settings.	Change settings to properly correspond to the system.
	Faulty radar/magnetic distance sensor.	Replace sensor.
	Improperly mounted radar sensor.	Properly mount sensor.
Underplanting or no planting alarm on a single sensor when planting (alarm on with a single bargraph segment on and a flashing row number on a single row.	Seed tube sensor is blocked.	Clean sensor.
	Faulty seed tube sensor.	Replace sensor.
	Meter not planting or underplanting.	Repair/replace meter.
	Chain broken or off sprocket.	Repair as necessary.
Seed tube sensor dirty or blocked warning comes on.	Seed tube sensor is dirty.	Clean sensor.
	Faulty seed tube sensor.	Replace sensor.
LED on seed tube sensor will not come on.	Faulty seed tube sensor.	Replace sensor.
	Dirty or corroded connector.	Clean connector.
	Break in harness just before sensor.	Repair harness.
Erroneous MPH readings at idle. (Radar Distance Sensor Only)	Radar sensor not located in a stable location.	Relocate to a more stable location.