Ag Hub

Ag Hub Ultra Sonic Feed Reader

User MANUAL

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This manual is designed for console version 1.3.9 onward, if you console is operating below 1.3.9 please contact Ag Hub for a software upgrade.

Table Of Contents

1.0 Introduction to Feed Reader

The Feed Reader is a product that is bolted to an ATV to measure your pasture. Includes a console and with built in GPS which allows it to locate, measure and store paddock readings, depending on what level of Feed Reader: Gold, Silver or Bronze.

Gold

This level requires a geo referenced map to use the GPS functionality to locate the paddock to be measured. This needs to be configured in P-Plus, and transferred to the console either via FarmNet or a USB memory stick. The measurements are stored in the console memory as it is recorded, which can be uploaded to P-Plus via either method.

The details displayed in map view can be changed using the Page button, which include:

1. **Covers** displays the last recorded covers in each paddock.
2. **Paddock Numbers** displays the number assigned to each paddock in P-Plus.
3. **Paddock Names** displays the name assigned to each paddock in P-Plus

Silver

Paddocks are displayed in a list on the console. The list can be ordered by paddock number, name, or walk order. Pasture measurements are stored against the selected paddock. The paddock list is configured in P-Plus, and can be downloaded to the console via either FarmNet or a USB memory stick.

All recorded paddock measurements are stored in the console memory for uploading to P-Plus via either FarmNet or a USB memory stick.

Bronze

No Paddock data is stored at this level, only displayed on the console screen. The Console must be reset using the F2 key, between each paddock.

1.2 Bronze

The Console
Buttons
ESC is used to cancel actions.
PAGE is not used at the Bronze level.
MENU displays the Main menu.
ENT confirms actions. E.g. confirms selection of user, farm etc.
Arrow Keys allow you to scroll up and down lists.
+ & - are not used at the Bronze level.
F1 to pause and resume paddock readings when in recording mode.
F2 to reset the paddock measurements between paddocks.
Power Key is not used, use the switch on the side.

Display
Paddock Name shows the name of the selected paddock. "Unknown" is displayed when operating at Bronze level.
User Name shows the name of the user profile in use. "Guest" is displayed when operating at Bronze level.
FarmNet Signal Not used.
GPS Status displays the status of the GPS as On or OFF.
Time shows the current time in 12-hour format.
Cover shows the calculated kgDM/ha in the current paddock.
Height The first number in mm is the most recent reading. The second number is an average since entering the paddock.
Prerequisites

The Feed Reader is ready to use without any setup. However when used in conjunction with P-Plus, you are able to display, store and report on your paddock readings and pasture growth over time.

To use P-Plus you will need to:
1. Install P-Plus (v3.31 or later) with at least the Pasture Cover module.
2. Create your farm in P-Plus.
3. Create your paddocks in P-Plus.
4. Create a pasture cover and enter paddock readings in P-Plus

How to use the BRONZE Feed Reader:

Switch On
To start console, turn on switch on the side. Do not use the power button as this button does not power up the head or GPS.
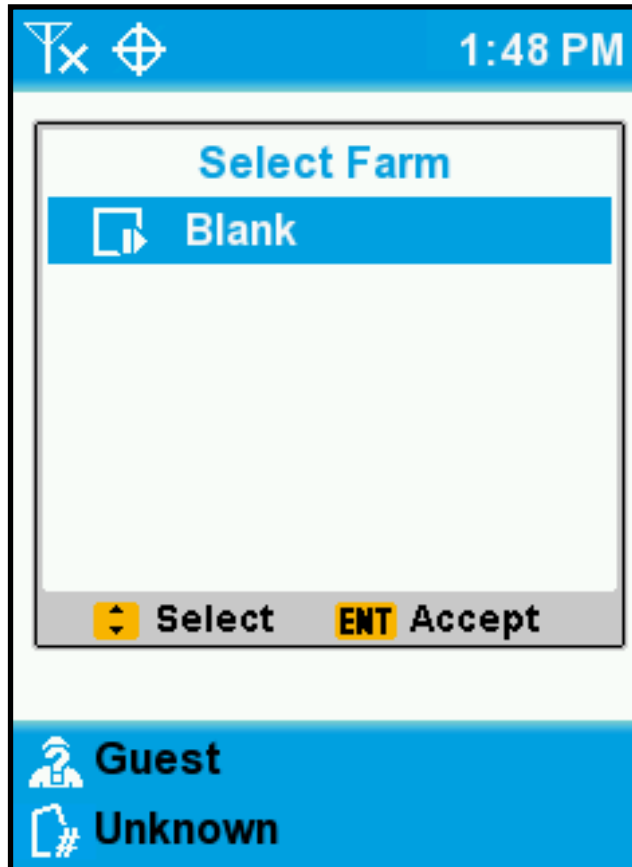
Select User

"Guest" is the only user available for selection at the Bronze level. Press ENT key to select the "Guest" User name. Note that the Feed Reader must be tared for each different user.
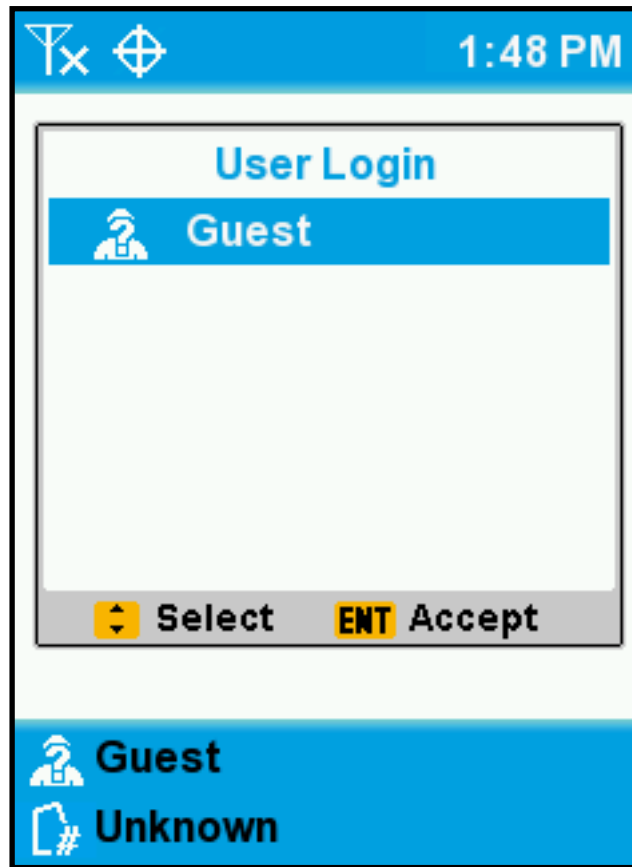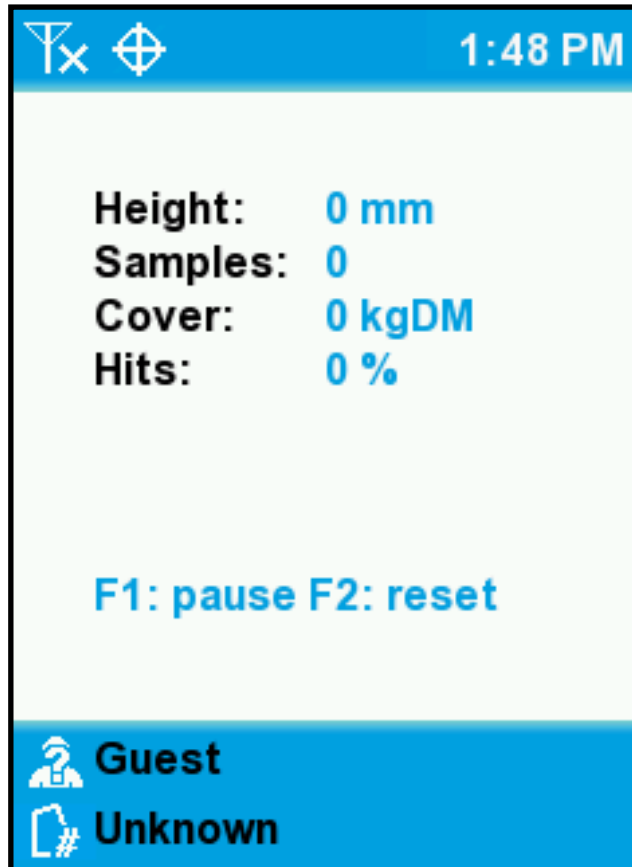
Select Farm

"Blank" farm is the only farm available for selection at the Bronze level. Press the ENT key to select the "Blank" Farm.

Measuring Paddocks

The details available to be measured in each paddock details will be displayed, with all values reset to zero.

First time users need to tare first, see Tare section for detail on how to do this.

It is best practice to test the tare before measuring the farm. To do this go to a grazed paddock, eg milking cows have eaten the paddock well in the last 2 days. Ensure the Feed Reader shows between 1400-1600kgDm/Ha, if not then fine tune the tare, see **Fine Tuning the Tare.** Once you have this grazed paddock correct then continue and measure the rest of the farm.

To provide accurate measurements the feed reader head must be maintained at approximately 700mm above the ground.   To maintain

a constant feed reader head height the ATV must be driven as smoothly across the paddock in a horse shoe type pattern. You should avoid harsh breaking, sharp cornering and aggressive acceleration.

If you have hilly terrain (undulations are OK) then extra care must be taken to achieve accurate readings due to the change in aspect of the bike when going up or down hill. It is recommended that the flat sections of the paddock are measured and the "F1" pause button used when traversing the hills. If you wish to include measurements from the hills then ride across the hill, press "F1" to pause and turn around. Press "F1" to continue while riding back along the same track to obtain an average of the two readings.

To assist with improving the accuracy of measurements the feed reader is fitted with minimum and maximum speed limit settings. Measurements taken at speeds outside this range will be ignored. These settings can be changed from the default values of 8 and 25 km/h. This can be used to constrain the speeds at which you wish measurements to be taken. A good target speed is 18 km/h.

If the feed reader head has been damaged or suffered impact then it is essential that the feed reader is re-tarred. See Tare section for detail on how to do this.

Use the "F1" pause button to avoid measuring areas that are not representative of the general grass conditions in the paddock. Press "F1" pause to start reading again.

When the paddock measurement is complete, and details have been noted down, press F2 to reset, the F1 to pause until you are ready to measure the next paddock.
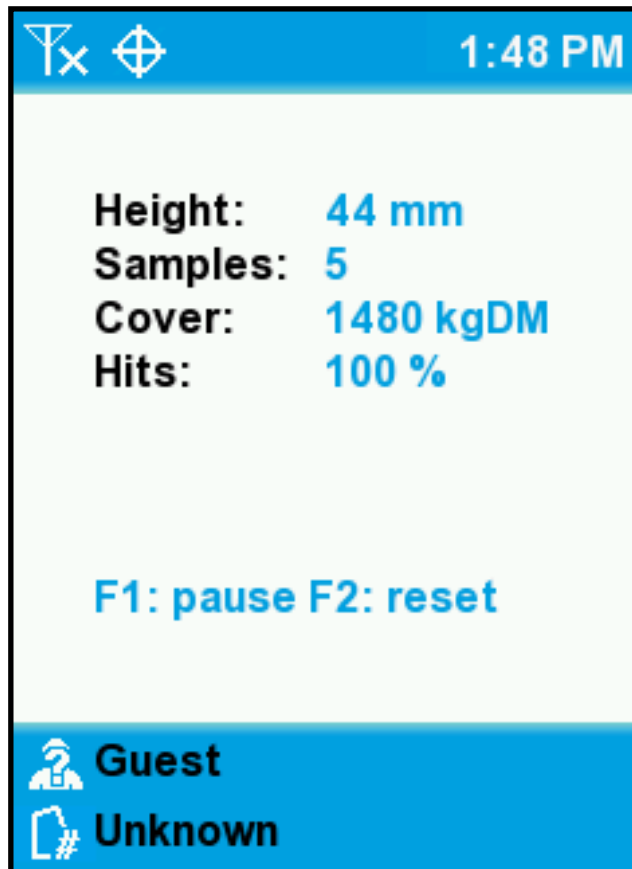
Press F2 to reset, when you are ready to measure the next paddock.

Switch Off

- Turn off the switch on the side and put on the head cover.

1.3 Silver Feed Reader

The Console

Buttons

ESC is used to cancel actions. E.g. the reading session is cancelled and data collected is deleted.

PAGE changes sort order of the paddock list.

MENU displays the Main menu.

ENT confirms actions. E.g. confirms selection of user, farm etc. It also saves Paddock data to the console memory.

Arrow Keys allow you to scroll up and down lists.

+ & - are not used at the Silver level.

F1 to pause and resume paddock readings when in recording mode.

F2 to reset the paddock measurements.

Power Key Not used.

Display

Paddock Name shows the name of the selected paddock.

User Name shows the name of the user profile in use.

FarmNet Signal displays the strength of the signal to FarmNet

GPS Status displays the status of the GPS as On or OFF

Time shows the current time in 12-hour format

Cover shows the calculated kgDM/ha in the current paddock.

Height The first number in mm is the most recent reading. The second number is an average since entering the paddock.

Prerequisites

1. Install P-Plus (v3.31 or later) with at least the Pasture Covers module.
2. Make sure you have PCI installed on your computer.
3. FarmNet needs to be installed and running on your computer.
4. Create your farm in P-Plus
5. Create your paddocks in P-Plus
6. Create additional Equations in P-Plus (optional)
7. Next you will need to send your farm data from P-Plus to the Feed Reader. See section on Sending Farm Data from P-Plus to Feed Reader for details on how to do this.
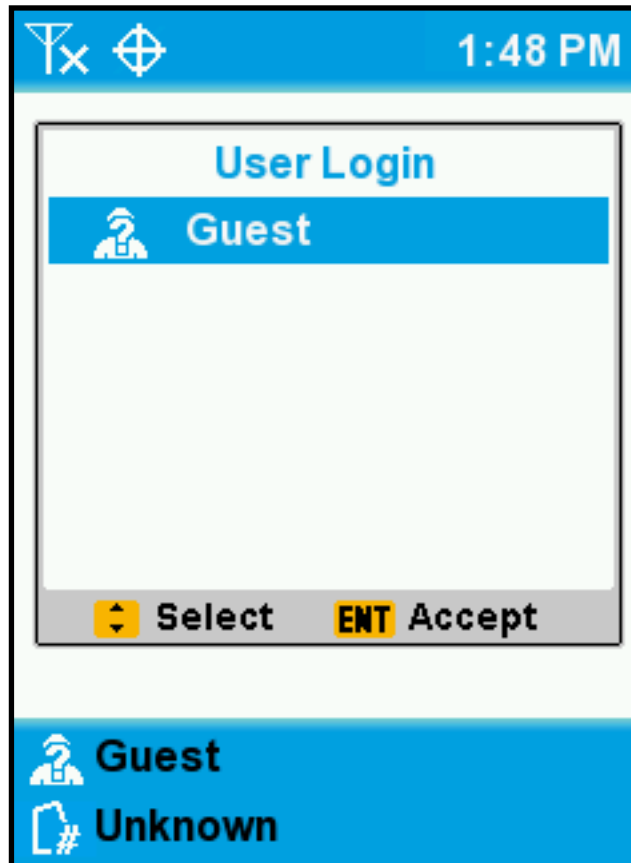
How to use the SILVER Feed Reader

Switch On

To start console, turn on switch on the side. Do not use the power button as this button does not power up the head or GPS.

Select User

A list of users will be displayed if there is more than one user, when the console is switched on. Otherwise the Select User screen is skipped.


Scroll down to highlight your User name. If your name does not appear in the list, choose "Guest". The "Guest" user can also be used if you are operating with an unusual load and do not want to affect your saved profile.

Press ENT key to select the User name.

Select Farm

A list of farm names will be displayed on first use, or after any major upgrades. The icon next to the farm name indicates the level of functionality available; Gold, Silver or Bronze. The most recently used farm is automatically opened on start-up.
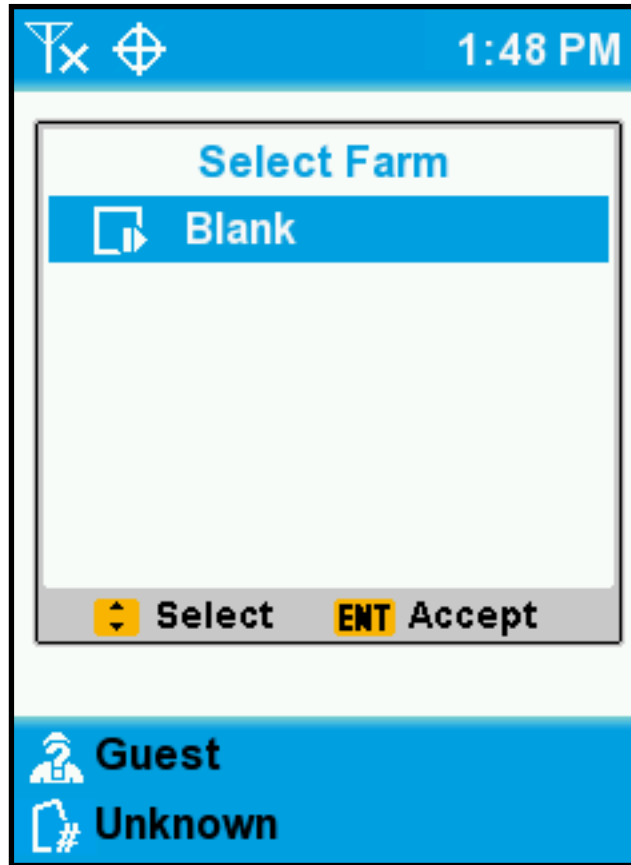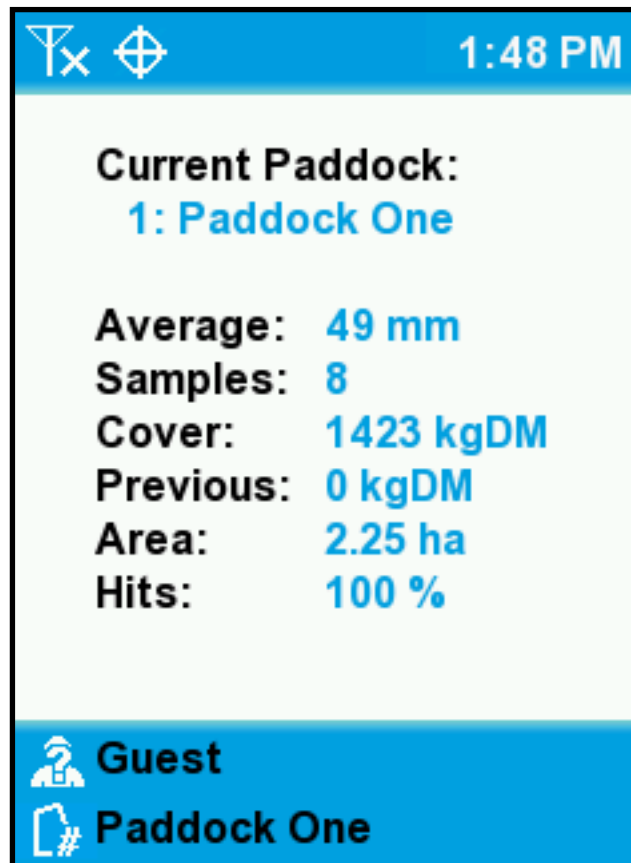

To choose a different farm:
- Press MENU
- Select "Change Farm"
- Select the farm you wish to use
- Press ENT to open the farm

The "Blank" farm allows you to use the Feed Reader with only the Bronze functionality.

Measuring Paddocks

The list of paddocks from the selected farm will be displayed. The order of the list is dependent on the selection made using the page button: number, name or walk order.
Scroll down until you find the paddock you want to measure and press the ENT key to select.

First time users need to tare first, see Tare section for detail on how to do this.

It is best practice to test the tare before measuring the farm. To do this go to a grazed paddock, eg milking cows have eaten the paddock well in the last 2 days. Ensure the Feed Reader shows between 1400-1600kgDm/Ha, if not then fine tune the tare, see **Fine Tuning the Tare.** Once you have this grazed paddock correct then continue and measure the rest of the farm.

To provide accurate measurements the feed reader head must be maintained at approximately 700mm above the ground. To maintain a constant feed reader head height the ATV must be driven as

smoothly across the paddock in a horse shoe type pattern. You should avoid harsh breaking, sharp cornering and aggressive acceleration.

If you have hilly terrain (undulations are OK) then extra care must be taken to achieve accurate readings due to the change in aspect of the bike when going up or down hill. It is recommended that the flat sections of the paddock are measured and the "F1" pause button used when traversing the hills. If you wish to include measurements from the hills then ride across the hill, press "F1" to pause and turn around. Press "F1" to continue while riding back along the same track to obtain an average of the two readings.

To assist with improving the accuracy of measurements the feed reader is fitted with minimum and maximum speed limit settings. Measurements taken at speeds outside this range will be ignored. These settings can be changed from the default values of 8 and 25 km/h. This can be used to constrain the speeds at which you wish measurements to be taken. A good target speed is 18 km/h.

If the feed reader head has been damaged or suffered impact then it is essential that the feed reader is re-tarred. See Tare section for detail on how to do this.

Use the "F1" pause button to avoid measuring areas that are not representative of the general grass conditions in the paddock. Press "F1" pause to start reading again.

To discard readings for the current paddock, while measuring:
- Press ESC
- Press ENT to confirm discarding the data

Note: The Pasture Cover Importer (PCI) will take care of valid/invalid readings and multiple paddock readings per paddock per day.

Switch Off
- Turn off the switch on the side and put on the head cover.

Your data is automatically saved before the console shuts down. See section on Sending Paddock Readings to P-Plus for details on how this is done.

Gold Feed Reader

The Console

Buttons

ESC is used to cancel actions.

PAGE switches between views on the map e.g. previous cover, FarmNet devices, paddock numbers, paddock names, covers, waypoints**.**

MENU displays the main menu .

ENT confirms actions. E.g. confirms selection of user, farm etc.

Arrow Keys allow you to scroll up and down lists, and pan the map.

+ & - allow you to you zoom in and out when the map is displayed.

F1 to pause and resume paddock readings when in recording mode.

F2 to reset the paddock measurements.

Power Key Not used.

Display

Paddock Name shows the name of the selected paddock.

User Name shows the name of the user profile in use.

FarmNet Signal displays the strength of the signal to FarmNet

GPS Status displays the status of the GPS as On or OFF

Time shows the current time in 12-hour format

Cover shows the calculated kgDM/ha in the current paddock.

Height The first number in mm is the most recent reading. The second number is an average since entering the paddock.

Prerequisites

1. Install P-Plus (v3.31 or later) with at least the Map and Pasture Covers modules.
2. Make sure you have PCI installed on your computer.
3. FarmNet needs to be installed and running on your computer.
4. Create your farm in P-Plus.
5. Create your paddocks in P-Plus.
6. Create additional equations in P-Plus. (Optional)
7. Import your georeferenced map and assign paddocks etc. The Feed Reader cannot use a non-georeferenced map.
8. Next you will need to send your farm data from P-Plus to the Feed Reader. See section on Sending Farm Data from P-Plus to Feed Reader for details on how to do this.

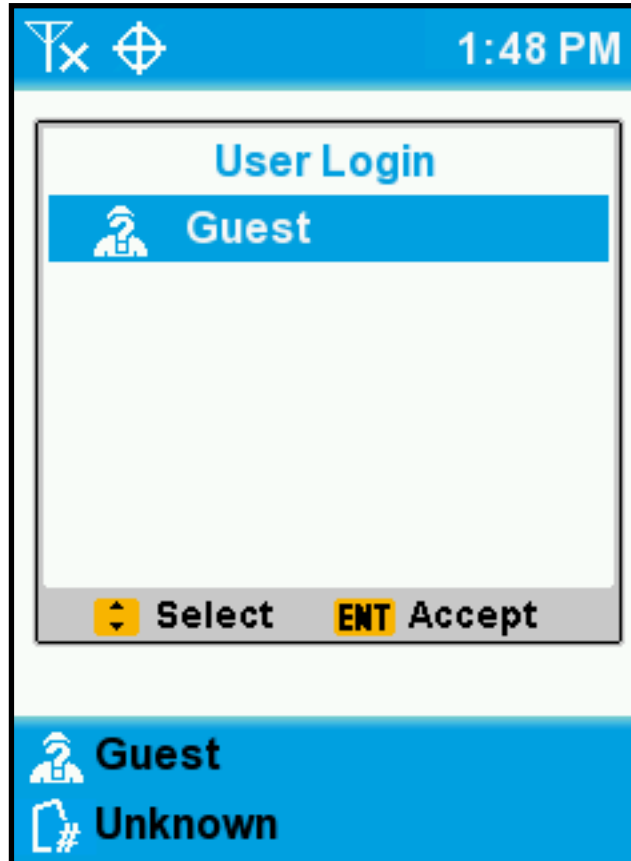## How to use the Gold Feed Reader

Switch On

To start console, turn on switch on the side. Do not use the power button as this button does not power up the head or GPS.

Select User

A list of users will be displayed if there is more than one user, when the console is switched on. Otherwise the Select User screen is skipped.


Scroll down to highlight your User name. If your name does not appear in the list, choose "Guest". The "Guest" user can also be used if you are operating with an unusual load and do not want to affect your saved profile.

Press ENT to select the User name.

Select Farm

A list of farm names will be displayed on first use, or after any major upgrades. The icon next to the farm name indicates the level of functionality available; Gold, Silver or Bronze. The most recently used farm is automatically opened on start-up.
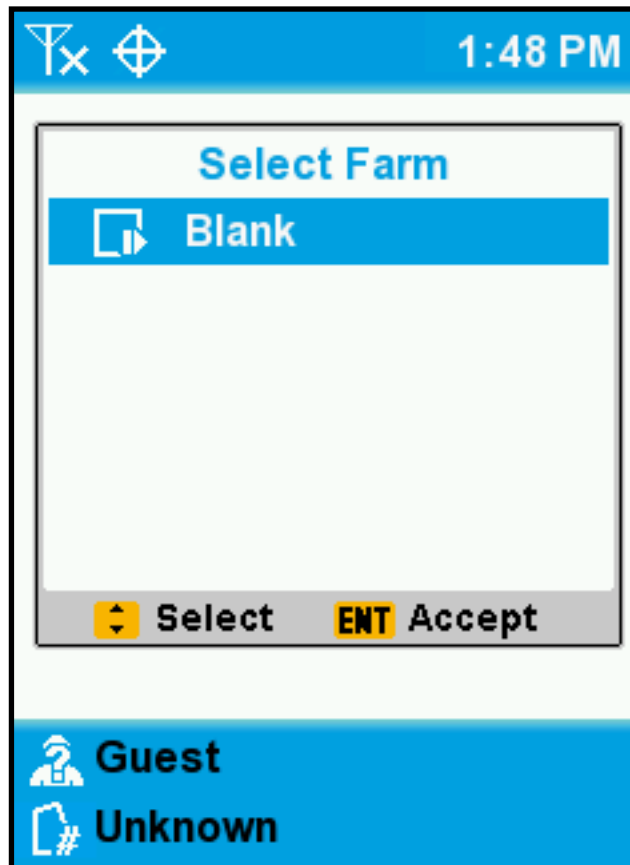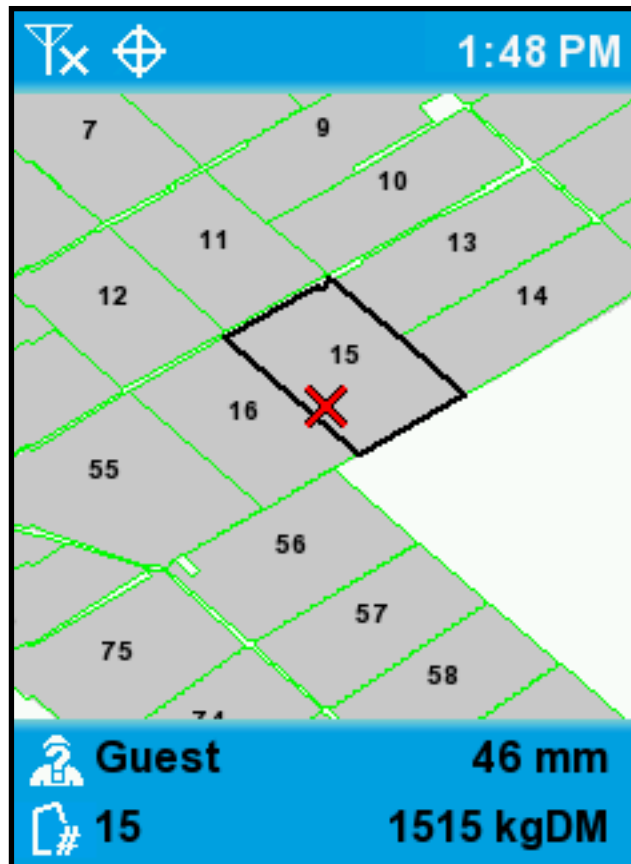

To choose a different farm:
- Press MENU
- Select "Change Farm"
- Select the farm you wish to use
- Press ENT to open the farm

The "Blank" farm allows you to use the Feed Reader with only the Bronze functionality.

Measuring Paddocks

The map of the selected farm will be displayed.

First time users need to tare first, see Tare section for detail on how to do this.

It is best practice to test the tare before measuring the farm. To do this go to a grazed paddock, eg milking cows have eaten the paddock well in the last 2 days. Ensure the Feed Reader shows between 1400-1600kgDm/Ha, if not then fine tune the tare, see **Fine Tuning the Tare.** Once you have this grazed paddock correct then continue and measure the rest of the farm.

To provide accurate measurements the feed reader head must be maintained at approximately 700mm above the ground.   To maintain a constant feed reader head height the ATV must be driven as smoothly across the paddock in a horse shoe type pattern. You

should avoid harsh breaking, sharp cornering and aggressive acceleration.

If you have hilly terrain (undulations are OK) then extra care must be taken to achieve accurate readings due to the change in aspect of the bike when going up or down hill. It is recommended that the flat sections of the paddock are measured and the "F1" pause button used when traversing the hills. If you wish to include measurements from the hills then ride across the hill, press "F1" to pause and turn around. Press "F1" to continue while riding back along the same track to obtain an average of the two readings.

To assist with improving the accuracy of measurements the feed reader is fitted with minimum and maximum speed limit settings. Measurements taken at speeds outside this range will be ignored. These settings can be changed from the default values of 8 and 25 km/h. This can be used to constrain the speeds at which you wish measurements to be taken. A good target speed is 18 km/h.

If the feed reader head has been damaged or suffered impact then it is essential that the feed reader is re-tarred. See Tare section for detail on how to do this.

Use the "F1" pause button to avoid measuring areas that are not representative of the general grass conditions in the paddock. Press "F1" pause to start reading again.

To discard readings for the current paddock, while measuring:
- Press F2
- Press ENT to confirm discarding the data

Note: The Pasture Cover Importer (PCI) will take care of valid/invalid readings and multiple paddock readings per paddock per day.

Switch Off
- Turn off the switch on the side and put on the head cover.

Your data is automatically saved before the console shuts down. See section on Sending Paddock Readings to P-Plus for details on how this is done.

Sending Farm Data to Feed Reader (Gold & Silver)

The options to do this are:
- FarmNet (recommended)
- USB memory stick.

FarmNet TRANSFER

1. From the P-Plus Tools menu, select "Export to Feed Reader".

2. Any equations assigned to individual paddocks under Land Area setup in P-Plus, will be displayed to send to the Feed Reader. Additional Equations can be selected at this time also to send.
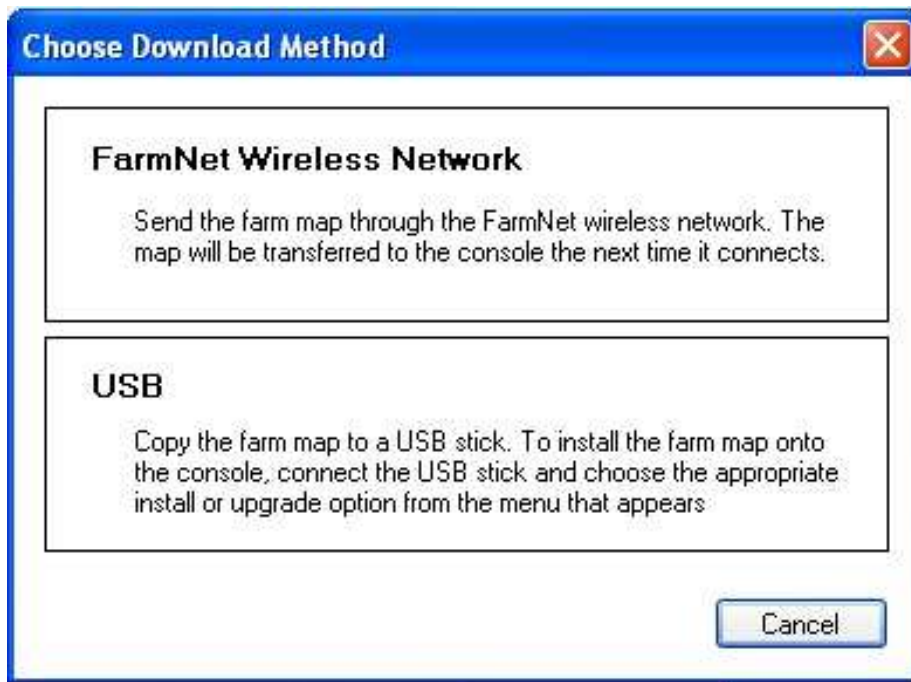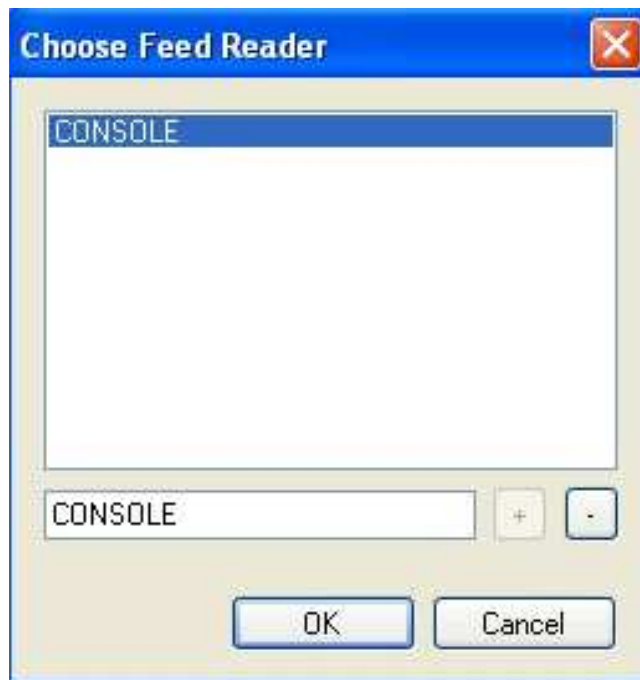
3. Select the default equation from your equation subset.

4. Select the FarmNet Wireless Network option

5. Select the console to send to.

6. When connected to FarmNet, a message showing "FarmNet Transfer" will be displayed.

7. When bike ignition is switched On, the Feed Reader console will show "receiving update" if the FarmNet signal has at least one bar.

8. The Console will restart on completion of the transfer from FarmNet.

9. The Feed Reader is now ready to use.

USB TRANSFER

1. Connect the USB memory stick into the USB socket on your computer. Ensure the USB memory stick is the one provided by Ag Hub Limited for use with the Feed Reader.

2. From the P-Plus Tools menu, select "Export to Feed Reader".

3. Any equations assigned to individual paddocks under Land Area setup in P-Plus, will be displayed to send to the Feed Reader. Additional Equations can be selected at this time also to send.
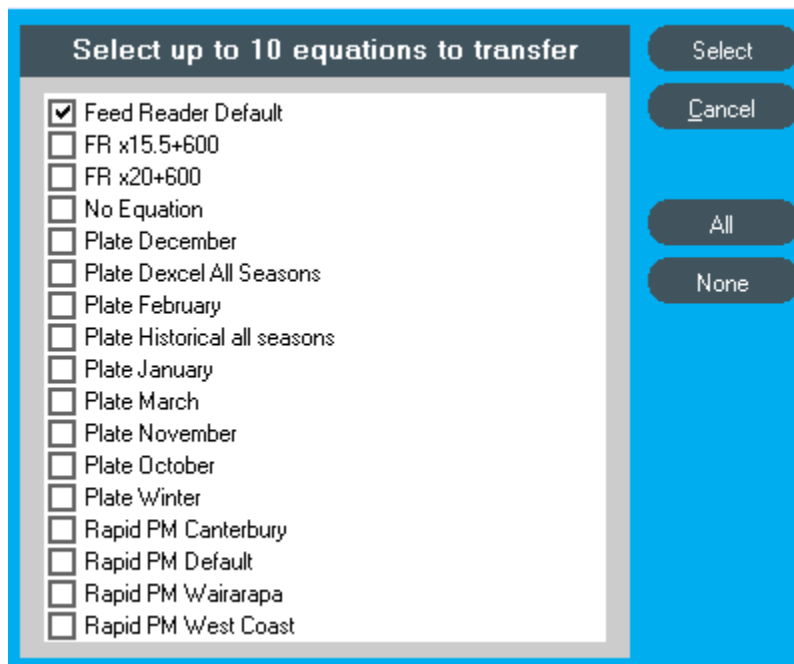
4. Select the default equation from your equation subset.

5. Data files are now ready to be transferred to your Feed Reader.

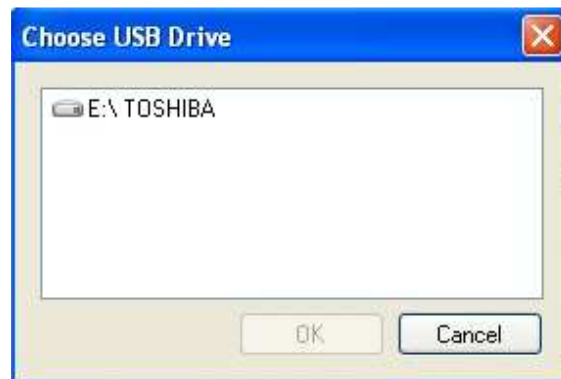6. Select the USB option to transfer the data to your Feed Reader.
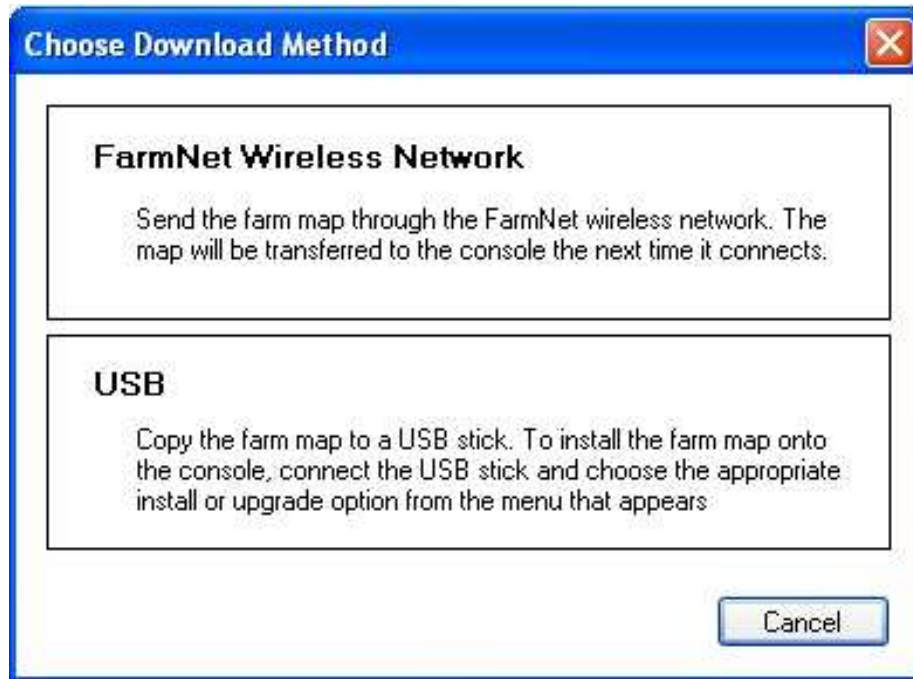
7. Choose the USB Drive to send the data to, from the list of available drives.

8. Your data will be transferred from your computer to the selected USB memory stick.

9. The USB memory stick needs to be **safely removed** to avoid data loss or corruption. To do this, simply Left mouse click on the "Safely Remove Hardware" icon displayed in the notification area.

Safely Remove Hardware

10. Then select the appropriate device from the menu shown.

11. Plug the USB memory stick into the USB socket on the bottom of the console. The Zigbee cable normally occupies this socket, so you have to unplug it.

12. The USB options will be displayed automatically on the console screen.

13. Scroll down using the arrow keys until you see "Install farmname". If your console has old farm data for your farm, the option of "Upgrade farmname" will need to be selected to update the console with your latest farm data.

14. Press the ENT key to select this option.

15. The Console will restart on completion of transfer from the USB memory stick.

16. The Feed Reader is now ready to use.

1.6 Sending Paddock Readings to P-Plus (Gold & Silver)

When you have completed your measurements, you can send your readings from the Feed Reader to P-Plus.

FarmNet

1. Check the FarmNet signal is active. E.g. displays at least one bar.
2. Press the Menu button on the console, then select FarmNet to connect and send paddock readings to P-Plus.
3. When this is complete, the PCI will start up automatically.

USB

1. Plug the USB memory stick into the USB socket on the bottom of the console. The Zigbee cable normally occupies this socket, so you have to unplug it.
2. The USB options will be displayed automatically on the console screen.
3. Scroll down using the arrow keys until you see the option to "move data to USB". *Note: This will remove your data from your Feed Reader and place it on your USB memory stick.*
4. Press the ENT key to select this option.
5. When transfer is complete, remove memory stick from the console USB cable, and plug it into your computer USB port.
6. Select "Import Feed Reader Data in P-Plus" when displayed. If it is not, then using windows explorer, locate the memory stick and click on the file called "Import Feed Reader Data in P-Plus" to run it manually.
7. Your data will then be imported onto your computer.
8. When this is complete, the PCI will start up automatically.

1.7 Main Menu

Change User
This option allows you to select another user. These are created and configured in P-Plus as Contacts with the Employee status. (Gold and Silver only).

When using the Feed Reader on multiple farms, users will only appear once, regardless of how many farms they exist in. They are not farm dependant. The "Guest" user can be used by those not in the list of users, or if you do not want to alter your own profile in any way.

Change Farm
This option allows you to select another farm. The icon displayed next to the farm name indicates the level of the Farm - Gold, Silver, or Bronze.

The farm is created in P-Plus, along with the paddocks. Currently up to 10 farms can be stored in the console. The last farm used is displayed when the console is switched on.

FarmNet
Connects to FarmNet (if Signal is found) and displays a list of "FarmNet Options" e.g. Upload "farmname" to upload the paddock readings for the selected farm.

Other FarmNet Options will include:
- Messaging.
- Status & control for the FarmNet Effluent Monitoring System.
- Electric fence controls, if installed.

Tare

See section for more information.

Settings
See section for more information.

System Information
See section for more information.

1.8 Tare

Head Alignment (Check this first).
The instructions below relate to a Feed Reader that has already been installed i.e. the head is already fixed to the bracket.

1. Ensure all tyre pressures are equal and at the correct pressure (eg 4.5 - 5.2 psi)
2. Park the bike on a level surface.
3. Align the Feed Reader Head bracket so that the front face is vertical. Use a spirit level to check this. Ensure bracket is tightened and fixed in this position.
4. Measure, at right angles, from the bottom face to the Feed Reader Head to the ground. Note that this face is at an angle of approximately 15 degrees to the horizontal.
5. Record this measurement in mm. (typically 700mm)
6. Add 70mm to the above measurement to obtain the "sensor height" setting.

7. Turn on the console and select the "settings" menu. Arrow down until you highlight the "sensor height" value. Use the <> arrows to adjust the value to that determined in step 5.

8. Arrow down to highlight the "Max Read Height" value. This should be 300mm. Use <> arrows to adjust as necessary.

9. Press Enter
10. Press Esc to exit.
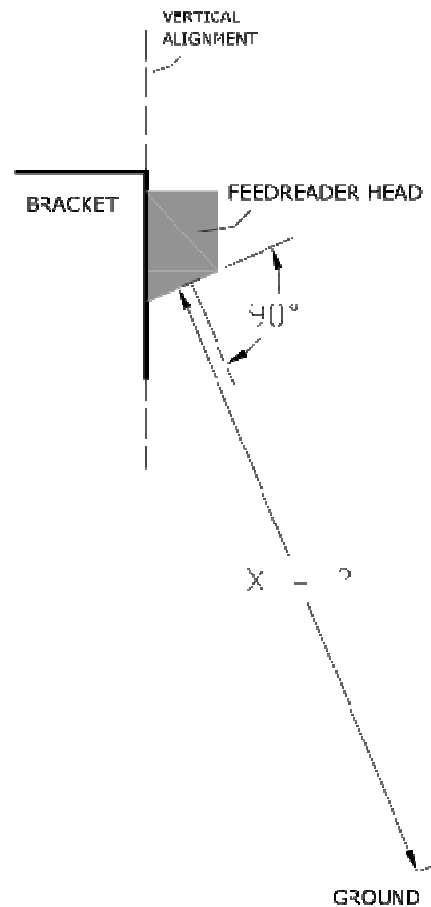
Check Echo Strength

See 3.13 Checking the sensor head performance.

Performing an Enhanced Tare

New users and also a times for existing users (readings are incorrect) will need to re tare (calibrate) the Feed Reader head. This can occur when a few feed reader head is installed, if the head is knocked out of alignment, or if addition equipment is bolted to the bike.

Once Tared, the Tare setting, for each user, should be recorded so that it can be manually re-entered if required.

Note that these calibration procedures relate to calibration of the grass height as measured by the Feed Reader.

1. Go to an evenly grazed out paddock preferably 1400 to 1500kg/DM/ha. Should be a paddocks that the cows have eaten out in the last few days

2. On Console Select Menu

3. Select Farm

4. Select Blank farm

5. Exit the Blank farm and then open the tare screen

6. Follow the on screen instructions, keep the speed within the lines, typically 18 km/h

7. If no instructions appear this generally means the simple tare system is enabled or you have a console version 1.2.6 or less

When you perform the Tare, the screen will show a speedometer. This shows a green bar where the optimum speed is. (Note: The optimum speed is 18km/h). When performing a tare ensure you ride in a very stable minor, as all feature readings will be based off this ride. If the Tare takes longer than the tare time (1min 30secs) check the head alignment.

To adjust the Advanced Tare Time

1. Select "Settings" from the menu.

2. Press Enter.

3. Press F2 to show Advanced settings, and the up arrow until "Tare Time" is highlighted.

4. Use the <> keys to adjust the Tare Time to the desired value, approximately one minute and 30 seconds.

5. Press Enter

6. Then Escape to return to the Main Menu.

Switching between Advance tare and Simple

You may choose to tare the Feed Reader using the simple taring system. This is a configurable setting, suggest you always you advanced tare.

1. Select "Settings" from the menu.

2. Press Enter.

3. Press F2 to show Advanced settings, and the up arrow until "Tare Method" is highlighted.

4. Use the <> keys to change to simple or back to advanced.

5. This allows you to use tare in the old method if you prefer.

Performing a Simple Tare

Before performing any taring operation, temperature stabilise the Feed reader head for a minimum of 15 minutes. This is done by turning on the console 15 minutes prior and opening the blank farm. Console must be in measurement mode, e.g. blank farm selected before the Feed reader head will turn on.

1. Go to an evenly grazed out paddock preferably 1400 to 1500kg/DM/ha.

2. On Console Select Menu

3. Select Farm

4. Select Blank farm

5. Drive around the paddock for the set Tare Time 1minute 30 seconds, within the normal operating speed of between 8 & 25 km per hour

6. When you have completed the Tare Time you configured in the settings, stop and view the "mm" readings

7. Reading in mm should show 40mm + or - 2mm if the cover is 1400kg and 50mm +or-2mm if 1500kg.

8. If this is not the case

9. Then Settings

10. Select Tare, this is the top line in the settings page. Adjust the tare value using the < and > buttons. < will reduce the tare

value and therefore reduce the reading in "mm" of height. **>** will increase the tare value and therefore increase the reading in "mm" of height. E.g. reading is 42mm when it should be 35mm, adjust the tare value down by 7mm using the **<** button. E.g. Feed reader is reading 30mm instead of 40mm, increase the tare value by 10. If feed reader is reading 55mm instead of 40mm decrease the tare value by 15.

11. Once the tare value is changed then press Esc button.

12. Then Esc button again

13. Repeat steps 5-8 and re-adjust if necessary

14. When happy press the Menu button

15. Then Change farm to your farm

16. Press Esc, then Enter

17. Press Esc to complete.

Fine Tuning the Tare

This is used to adjust the tare when the cover is only 100-200kgDm/Ha out on the grazed paddock.

1. Go to a grazed paddock

2. Drive the paddock in Blank

3. If the cover is only 100-200kgDm/Ha out then you can fine tune, otherwise if it is more than 200 then retare,

To fine tune the Tare

1. If the Feed Reader is 100kgDm/Ha too high for example

2. Select "Settings" from the menu.

3. Press Enter.

4. "Tare" is highlighted as it is the first in the list of settings.

5. Use the <> keys to adjust the Tare down 5 mm (assuming your equation is x20+600), as 5mmx20 is 100kgDM/ha

6. Then Escape to return to the Main Menu.

7. Then go to Blank farm, press F2 to wipe the old readings and retry

8. Adjust as required, if too low by 100kgDm/Ha then increase tare by 5mm.

1.9 Settings

Formula A, These are farm specific, and are created and imported from P-Plus. You can edit the A equation of the feed reader here.

Formula B These are farm specific, and are created and imported from P-Plus. You can edit the B equation of the feed reader here.
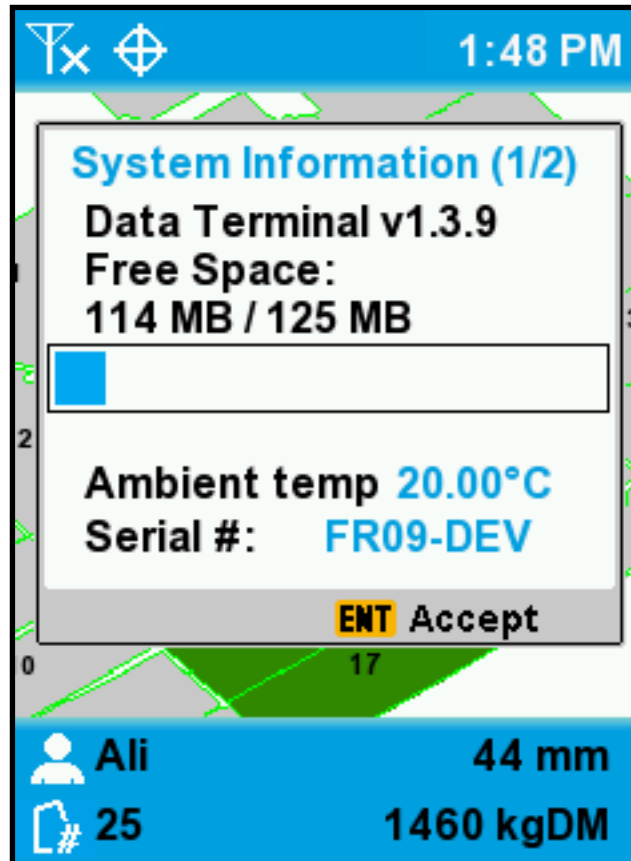
Tare This setting allows you to adjust the Tare taken by the current User.

Brightness This setting allows you to adjust the brightness of the console, for better viewing.

DST Allows Daylight Saving Time to be used.

3.10 System Information

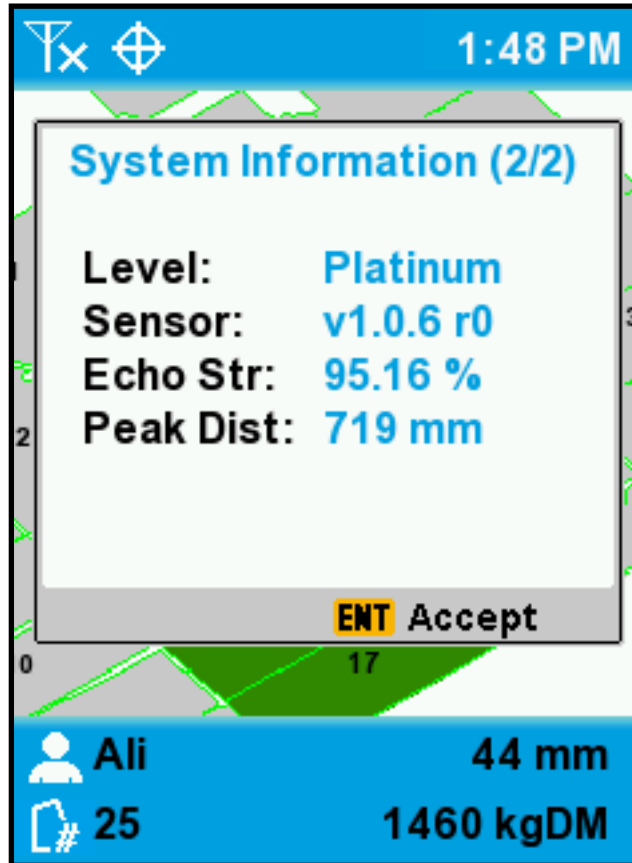Use the up and down arrow keys to scroll between page 1 and 2.

Page 1/2
Data Terminal - displays software version e.g. v1.2.7
Free Space - displays how much memory is currently available.
Sensor Temp - displays the temperature of the Feed Reader Head e.g. 34.51
Serial # - displays the serial number of the Feed Reader e.g. FRYY-number

Page 2/2
Level - Gold, Silver or Bronze
Sensor - displays the version of sensor connected e.g. v1.0.6 r0
Echo Str - displays the strength of the echo, the higher the better. If it goes below 30% on pasture or 60% on concrete,
please contact Ag Hub Limited for assistance.
Peak Dist - displays the distance being measured. The distance is should be the sensor height plus approximately 70mm eg. 767mm.

3.11 Warning Messages

The Feed Reader can detect when the ATV is being operated outside of conditions that allow for accurate pasture reading.

If any of these conditions are detected, the Feed Reader automatically stops recording until the problem is corrected.
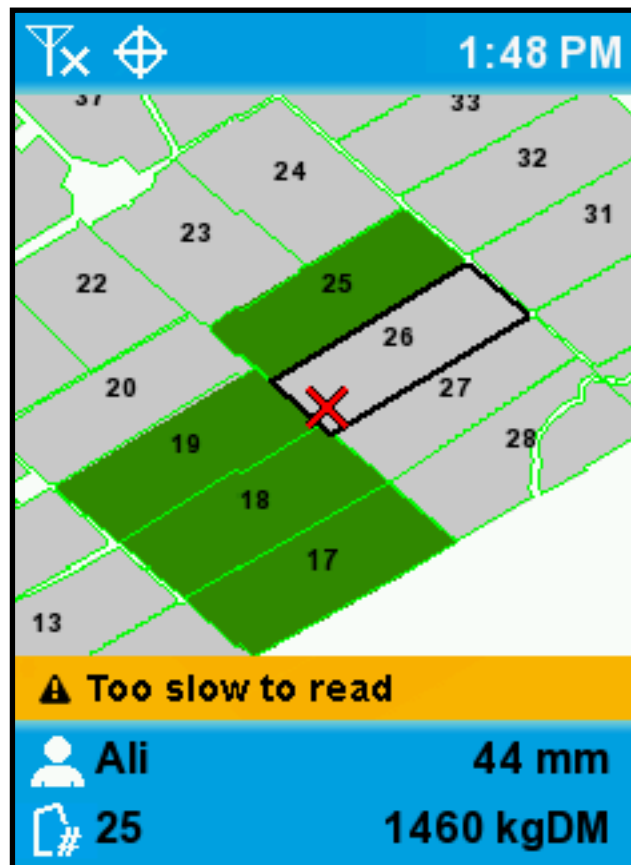
Problems:

These are displayed in a yellow bar at the bottom of the screen.

Conditions include:

Too slow/fast to read (All levels)

The Feed Reader can only accurately read pasture height between 10km/h and 25km/h. These limits can be adjusted in the console settings.
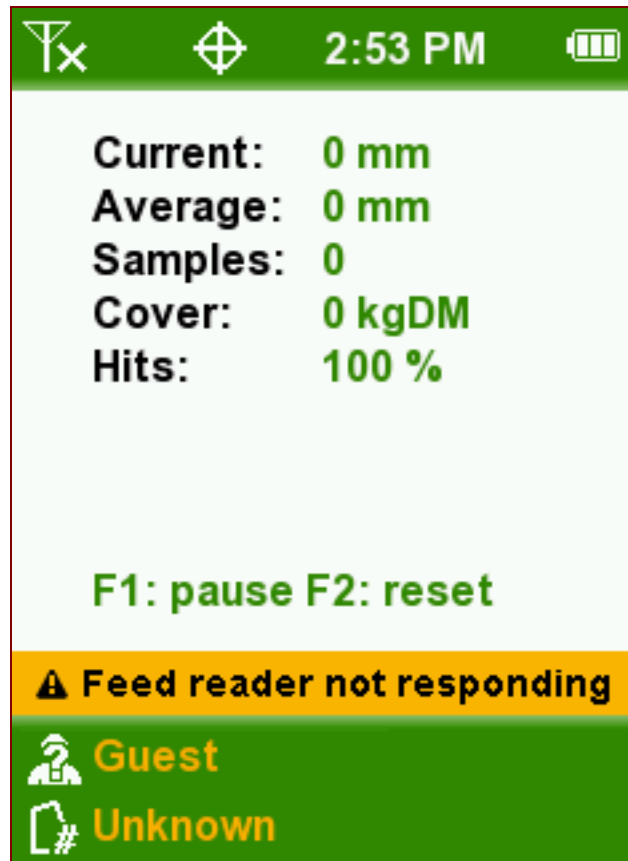
Too close to fence (Gold level only)

Since the feed reader's GPS is only accurate to a few meters, it will not record pasture readings when it is not certain to be inside a paddock. This avoids collecting erroneous pasture readings while driving down the race or between paddocks.
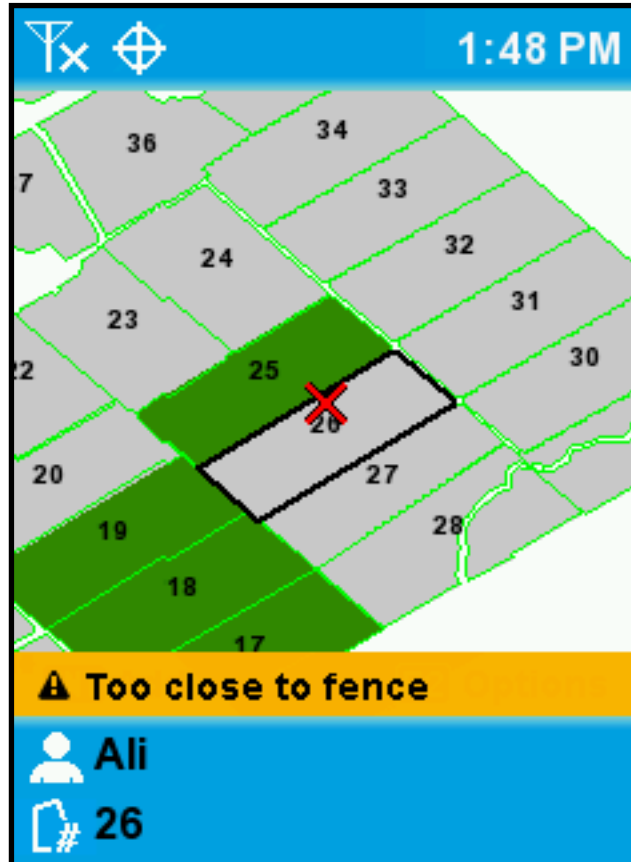
Feed reader not responding (All levels)

The console detects that the sensor is not operating properly. If this persists, check the cable from the head is correctly connected to the console.

Current:	0 mm
Average:	0 mm
Samples:	0
Cover:	0 kgDM
Hits:	100 %

F1: pause F2: reset

⚠ Feed reader not responding

Guest

Unknown

Reader paused (All levels)

Paddocks are currently not being measured, because the reader has been paused. To continue measuring paddocks, press the F1 key
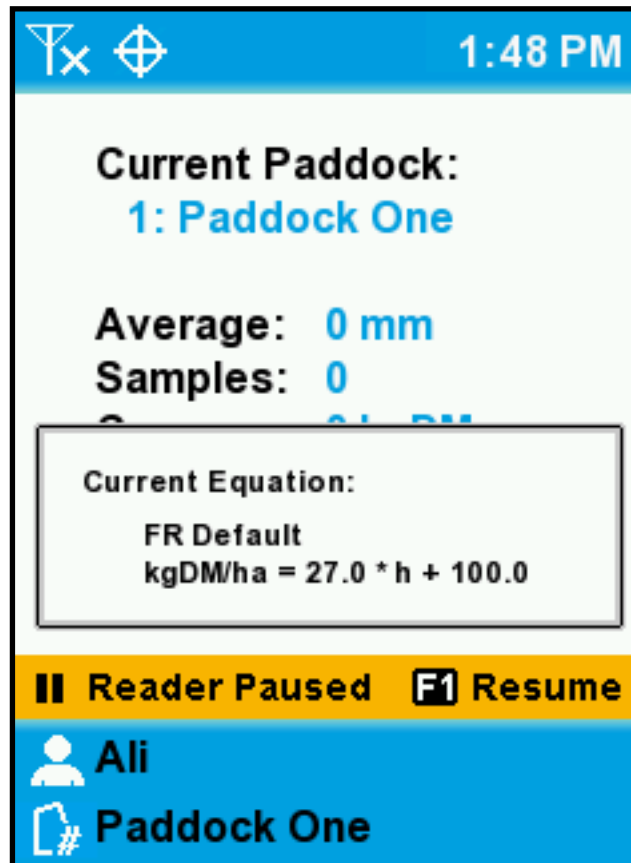
Manual View (Gold Only)

By default, the farm map is automatically centred on your current location.

To show a different part of the map:
- Press or hold any of the arrow keys. The feed reader will continue recording

To re-centre the view on the bike:
- Press ESC

3.12 Feed Reader Care & Attention

Care and attention of the feed reader head is essential to maintaining consistent performance.

The Feed Reader head is supplied with a PVC cover that should be applied to the head when ever it is not in use.

The Feed Reader head electronics are encapsulated within aluminium casting to ensure that it can withstand the rigours of everyday use. The sensors on the underside are however, exposed to the environment. Care needs to be taken to prevent damage to the sensors. If the sensors become soiled they should be cleaned to maintain accurate measurements.

To clean the feed reader head and sensors, soapy water and a soft bristled brush (car cleaning brush softness) should be used. Do not use a water blaster, high-pressure hose, hard object or hard bristled brush to clean the sensors otherwise the sensors will be damaged and the feed reader will stop working.

We recommend regular (weekly) inspections of the Feed Reader Head Sensors and if they are becoming soiled that the sensors should be cleaned.

1.13 Problem Solving a Feed Reader

- Check the Sensors Are Clean

- Look to see that the Head is still mounted square with the bike and ground, e.g. that it hasn't taken a knock or that the U-bolts are loose.

- Park the bike on concrete and check the Peak Distance & Echo Strength. See Checking the sensor head performance below.

- Check all Cables are connected securely.

Confirm the Sensor Height in Settings is 70mm higher than the Actual Physical Head height. Eg Bottom of head is at 700mm. then ensure sensor height is set to 770mm

Checking the sensor head performance.

If you have a concern that the Feed Reader is not reading the pasture correctly you should check the sensor head is working. It is recommended that you do this first before setting out to do the farm ride.

1. Park the sensor head on a flat concrete surface
2. From the main menu select System Information
3. The console version number will be displayed, press the down arrow.
4. The peak distance and echo strength readings are showing
5. The peak distance should change and be between 680mm-880mm. The echo strength should be between 70%-120%
6. If the head is outside the range it may be dirty or faulty or damaged
7. Check the head is align vertical to the ground
8. Check the head is clean, if dirty clean head with water and a brush.
9. If the head is aligned and clean and the readings are not within the requirements then the head needs to be replaced.

1.14 Upgrading the Feed Reader

To upgrade the Feed Reader:
- Obtain a USB memory stick containing the upgrade from Ag Hub Limited
- Ensure the Feed Reader is switched on
- Plug the USB memory stick into the Feed Reader's USB cable or socket
- Select Upgrade Software from the USB Options menu
- Wait for the console to restart
- Remove the USB memory stick

1. To upgrade the software on the Feed Reader console, connect the memory stick with new software into the console's USB cable or socket.
2. The USB options will be displayed automatically.
3. Scroll down using the arrow keys until you see the option specified in the upgrade instructions that came with the new software.
4. Press the ENT key to select the option.