



## Spreader V2 Variable Rate

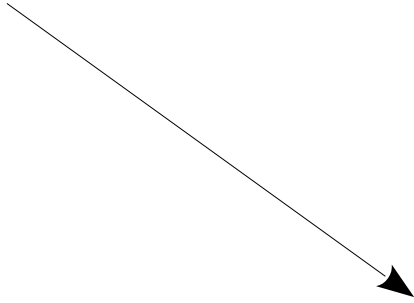


**PRECISION**  
AGRONOMICS AUSTRALIA

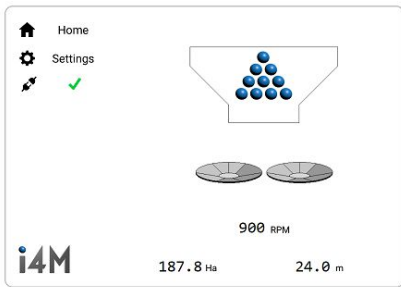
[www.i4m.tech](http://www.i4m.tech)

[admin@precisionag.com.au](mailto:admin@precisionag.com.au)

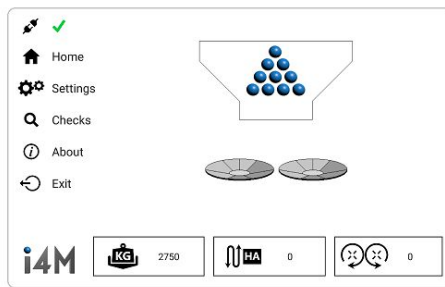
**Operators Guide i4M Controller Variable Rate  
Marshall Multispread Hydraulic Drive  
Tablet Type Android  
Version 214**



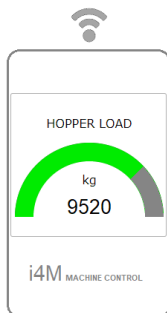
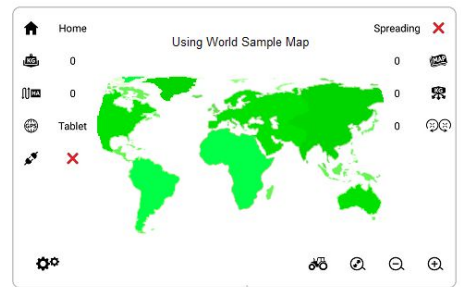
**Tacho**  
Spinner RPM  
Hectare Counter



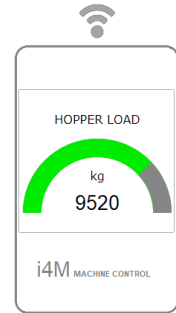
**Monitor**  
Loadcells  
Spinner RPM  
Hectare Counter



**Control**  
Variable Rate and Mapping  
Coverage and Auto Shutoff  
Loadcells and Counters



Show Hopper Kg on Phone



Show Hopper Kg on Phone

## Foreward

This is a basic guide for the i4M Control System only. Important Safety and Operating information is contained in the Spreader Operators Manual, and must be read prior to operating this equipment. This guide provides supplementary information only.

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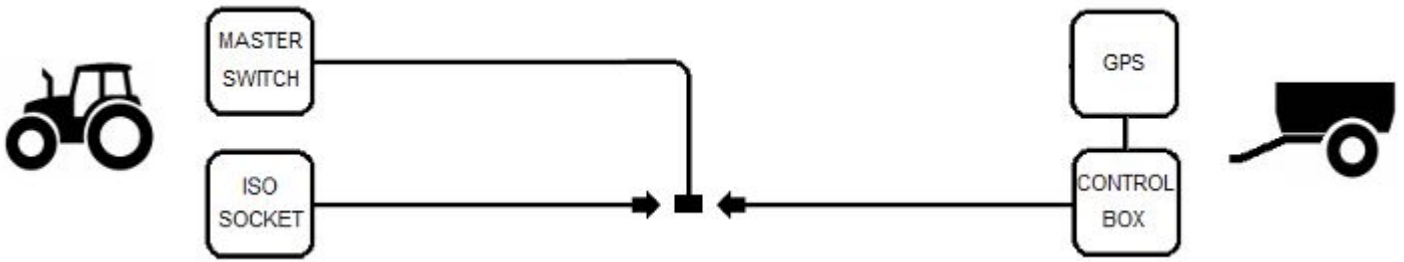


**SAVE YOUR MONEY  
LEAVE THE HOPPER EMPTY UNTIL SETUP IS DONE**



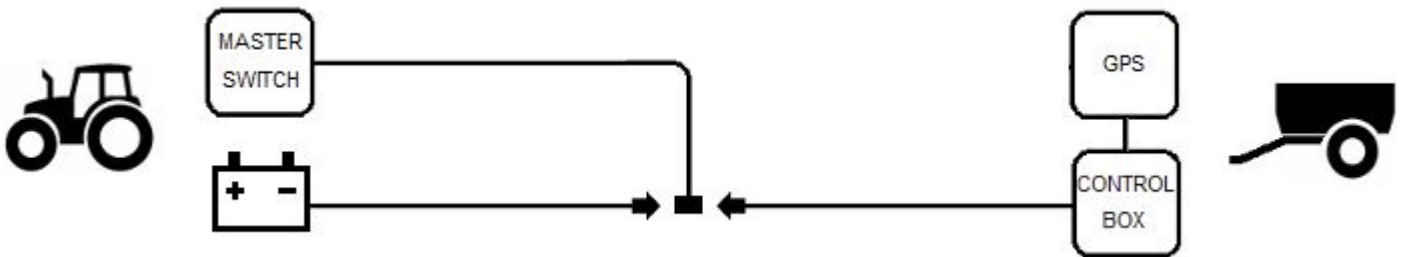
**WANT THE FASTEST SETUP?  
FOLLOW THIS GUIDE FROM START TO FINISH**

## Installation – Tractors with ISO Socket



- Install the master switch in the tractor cab
- Connect the harness to the ISO socket
- The ISO socket is used for power only, it is not connected to the tractor CANBUS
- Connect the GPS box power cable to the control box harness
- The GPS automatically communicates to the control box using WIFI

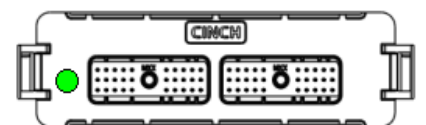
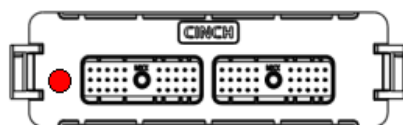
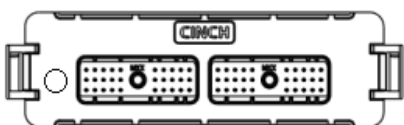
## Installation – Tractors without ISO Socket



- Install the master switch in the tractor cab
- Connect the power harness to 12volts and ground
- If possible use a switched power source (power is off when the tractor key is off)
- Connect to power located after the battery isolator (prevent the tractor battery going flat)
- Power source should be capable of supplying 20amps
- If connecting direct to the battery, unplug the spreader cable when not using the spreader
- Connect the GPS box power cable to the control box harness
- The GPS automatically communicates to the control box using WIFI

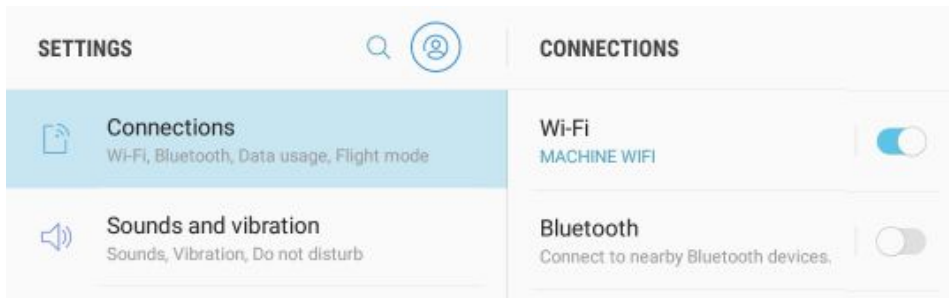
## Power On

- The i4M controller and GPS unit take 5 seconds to boot up
- There is a diagnostic LED on the boxes
- Control Box LED: Red is booting up, Green is on solid when ready to use



## Android App

- Install the i4M Spreader V2 app on your tablet
- After the app is installed, connect the tablet to the controller
- Open the wifi settings and connect to MACHINE WIFI



## Machine Setup

- Open the i4M Spreader app

Work Screen

Maps

Machine TAP HERE

About

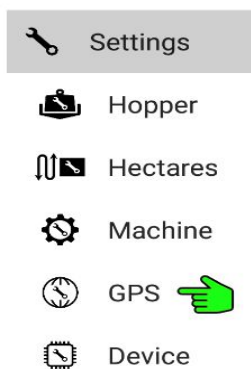
Exit

Home

Product

Settings TAP HERE

Checks



### GPS Settings

Change i4M GPS Receiver is installed  
Distance from GPS to coverage area in metres  
6.0 Adjust to prevent coverage gaps

Check these settings

i4M GPS is Optional Equipment, it may not be installed

i4M GPS Receiver is required for Coverage and Auto Shutoff

Make this number smaller to reduce coverage gaps

Increase this number to prevent coverage overlaps

## Machine Setup

- Settings
- Hopper
- Hectares
- Machine
- GPS
- Device

### Machine Settings

0.231	Diameter of the belt drive roller in metres
0.730	Width of the door opening in metres
560	Belt sensor, pulses for one revolution of the drive roller
0.605	Distance cal, adjust so this matches your tractor speed 0.0 km/h
<input type="button" value="Change"/>	Door actuator is installed

Check these settings

800 Series = 0.181  
900 Series = 0.231  
916T = 0.281

All Models = 0.730

Factory hydraulics = 560  
Ground drive conversion = 784

For machines without GPS  
Drive the machine and adjust  
this until the km/h matches  
your tractor speed

Change if required

## Auto Door Control - Door Actuator

- Electrical actuator that automatically sets the height of the door
- Optional equipment, it may not be installed
- The actuator contains a position sensor that requires calibration

- Checks
- Loadcells
- Belt
- Door

Item	Value	Unit	Description
Open	?	Status	Actuator retract command
Close	?	Status	Actuator extend command
Target Height	?	mm	Desired door height or opening
Actual Height	?	mm	Actual door height or opening
Door Sensor	?	mV	Door position sensor voltage reading

### Door Control

Set

Set door to the target height for spreading

Open

Close

Stop

### Reset Actuator

- 1 Check the door is not jammed or blocked
- 2 Tractor running
- 3 Tap OPEN, wait for it to stop
- 4 Tap CLOSE, wait for it to stop
- 5 Tap SET, door should move to the correct spreading height

### Calibrate Door Sensor

Calibrate

This will improve the door accuracy

Follow these steps  
Reset Actuator will clear faults  
with the sensor and motor

Calibrate the sensor if you  
have replaced the Actuator or  
the i4M Controller

## Products

Product

Settings

Checks

### Current Product

Previous Next

Urea Name

24.00 Spread width (m)

100 Door height (mm)

811.70 Calibration factor

There are 20 products, tap Previous / Next to select one  
Tap any box to edit

Tap to choose a product  
There's 20 stored products

Edit the name if you want  
Enter the width  
Enter your desired door height

### Changing the Spread Width

- After the product is calibrated, you can change the Spread Width anytime, you don't need to calibrate again

### Changing the Door Height

- After the product is calibrated, you can change the Door Height anytime, you don't need to calibrate again

## Hopper Kilograms – Machines with Loadcells

- Electrical weigh scales to show the amount of product in the hopper
- Optional equipment, they may not be installed
- Loadcells do not work until they are calibrated

Settings

Hopper

Hectares

Machine

GPS

Device

### Loadcell Zero / Tare

Zero This will zero the readout, it won't change the calibration

### Advanced Loadcell Settings

Advanced Tap to show / hide Advanced Settings and Calibration

### Calibrate Loadcells

Empty Tap this when the hopper is empty

kg When there is product in the hopper, enter the kilograms

### Loadcell Settings

Input channel 0

Input channel 1

Input channel 2

Input channel 3

Turn off unused channels

Calibrate the loadcells  
Follow both these steps

Machines with 3 loadcells – turn on the first 3 channels

Machines with 4 loadcells – turn on all 4 channels

## Display Hopper Kilograms on your Phone

- You can see the hopper kilograms while you are filling up the spreader
- Connect your phone to MACHINE WIFI
- Open a web browser
- Enter this in the address bar: 192.168.50.50

## Operating the Spreader

- When first using the spreader, do not fill the hopper (save your money, test it empty)
- Go to the app Main Menu

 Work Screen

 Maps 

 Machine

 About

 Exit

Would you like to use a Map or Preset values?

 Maps

 Preset 

- Enter some rates

 Home

 Coverage

Enter kg/ha to use on the Work Screen

500

1000

2000

Enter a Rate ( in kg/ha )

You can enter more rates if you want to change them on the run

- Open the work screen

 Home 

 Coverage

 Work Screen 

 Maps

 Machine

 About

 Exit



## Operating the Spreader

The screenshot shows the main control interface for the spreader. On the left, there are several status indicators: a Home icon, a Hopper Kilograms indicator showing 0, a Hectare Counter showing 0, a GPS icon labeled 'Tablet', a green checkmark indicating WiFi connection, a red warning triangle, and a gear icon for settings. On the right, there are control buttons for 'Spreading' (with a red X), '500' (rate), '0' (rate), '0' (rate), 'Unblock' (with a warning icon), and 'View Controls'. At the bottom, there are icons for a tractor, a map, and zoom in/out buttons.

**Home**

**Hopper Kilograms**  
0

**Hectare Counter**  
0  
Maximum 2147Ha

**Tablet**  
GPS in use  
Coverage is disabled when using Tablet GPS

Wifi Connected to Controller

Tap to see Alerts

Map and coverage settings

Tap to turn Spreading ON/OFF  
Or press the Master Switch

WARNING: The door will move!  
WARNING: The belt will move!

**Spreading**

500

0

0

**Unblock**

Clear Door Blockage  
Hold down to raise door  
Release to set door again

View Controls

- The controller is ready to use
- If the hydraulics are already setup, you can start spreading
- If hydraulics need to be setup, see the Hydraulics Section

## Calibrating Products

 Work Screen

 Maps

 Machine 

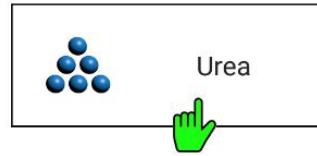
 About

 Exit

 Product

 Settings

 Checks



## Current Product

Previous

Next

Urea Name

24.00 Spread width (m)

100 Door height (mm)

811.70 Calibration factor

There are 20 products, tap Previous / Next to select one

Tap any box to edit

Increasing the cal factor will put out less product

Use default cal for existing products  
Enter bulk density for new products

You can manually adjust this to fine  
tune the output

## Calibration Sample

New

Start a new sample

512.4 Amount dispensed kg

1 Start a new sample

2 Go spreading, or manually run out some product

3 Come back to this page, enter the actual kg that went out

Follow these steps to calibrate  
More kilograms will be more accurate

Useful Tip:  
If you have loadcells, read the kg  
before and after, to get the amount  
dispensed

## Hydraulics

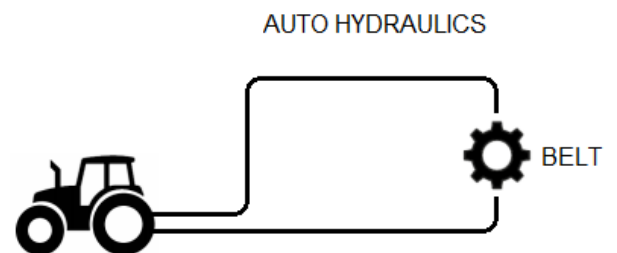
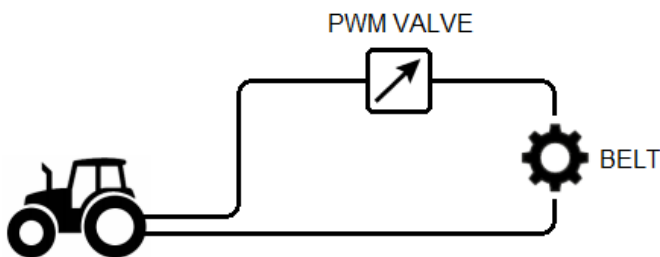
- **IMPORTANT:** Low engine RPM will cause Spinner and Belt issues
- Tractor hydraulic pumps are coupled to the engine (low engine revs = low hydraulic flow)
- Tractor hydraulic specs are taken at high engine RPM (2000RPM or more)
- Auto transmissions that throttle back the engine can cause low flow issues
- Disable engine throttling, set to 1600RPM or more, as required

## Setup Hydraulic Spinners

- Spinners are operated manually
- Connect hoses to tractor remote number 1 (or priority remote)
- Connect to standard remotes, Do not use high flow return, Incorrect return will damage the tractor
- If the tractor has hydraulic flow controls
  - Set flow to 50% (adjust this later to set the spinner speed)
  - Set time to continuous
  - On the spreader, set the manual flow control to full open
- If tractor does not have hydraulic flow controls
  - Use the manual flow control valve on the spreader to set your spinner speed

## Setup Hydraulic Belt

- Two types of Hydraulic Belt Drives
- PWM Valve has a solenoid valve on the Spreader
- AUTO Hydraulics controls the tractor hydraulic flow (Deere CNH only)



## PWM Valve Setup

- Connect hoses to any tractor remote
- Connect to standard remotes, Do not use high flow return, Incorrect return will damage the tractor
- Set the tractor hydraulic flow to 50% (**IMPORTANT:** Too much oil will starve the Spinners)
- Set time to continuous
- Engage the remote before you start spreading

## Quick Manual Test

- Engage the remote
- On the tablet go to MACHINE > CHECKS > BELT and send a Manual Command of 50
- Tap Cancel when done

## AUTO Hydraulics Setup – DEERE Tractors

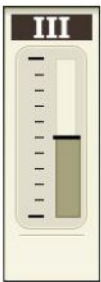
- Connect the AUTO Hydraulics cable (WARNING: key and battery isolator must be off)
- Connect the hoses to tractor remote number 3
- Set the hydraulic flow to 70%
- Push remote 3 forward slowly, belt must turn correctly (swap hoses if it turns backwards)



AUTO  
CONNECTOR

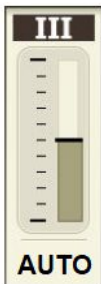
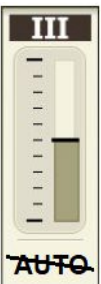


- Check the tractor hydraulic display shows AUTO below remote number 3



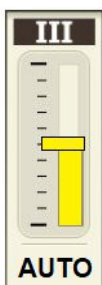
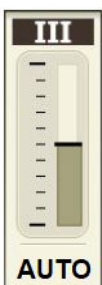
If AUTO is missing

- Turn tractor off, kill battery isolator
- Unplug the auto hydraulics connector at the front of the spreader
- Start the tractor
- Move remote lever 3 forward for 5 seconds
- Turn tractor off, kill battery isolator
- Plug in the auto hydraulics connector
- Start the tractor, check the display shows AUTO



If AUTO is crossed out

- Quickly click the lever forward and release it
- The line should disappear
- Don't click too far forward, that will engage float



If AUTO is showing

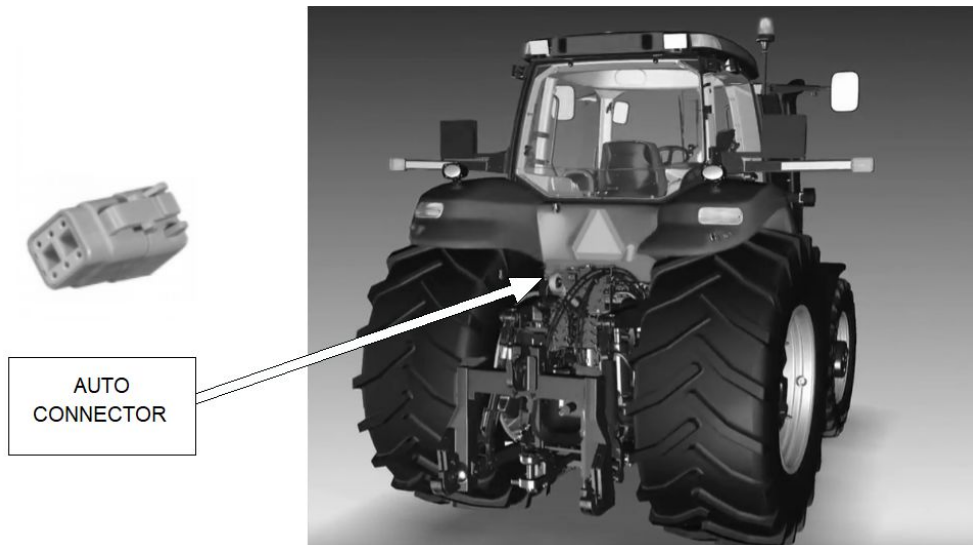
- The hydraulics will run automatically when you start spreading
- Display will turn yellow when oil is flowing
- The tractor must be moving (this is a tractor safety feature, cannot be changed)

Quick Manual Test

- Drive the tractor slowly
- On the iPad go to MACHINE > CHECKS > BELT and send a Manual Command of 50
- Tap Cancel when done

## AUTO Hydraulics Setup – CNH Tractors

- Connect the AUTO Hydraulics cable (WARNING: key and battery isolator must be off)
- Connect the hoses to tractor remote number 3
- Set the hydraulic flow to 70%
- Push remote 3 forward slowly, belt must turn correctly (swap hoses if it turns backwards)



- Check the tractor cornerpost display shows AUTO 1 3
- If not, you need to activate AUTO mode
- Steps may be different for some tractors, please contact your tractor dealer

Key off

Press the PROG button, do not release it

Key on

Wait 5 seconds

Release PROG button

Cornerpost shows CONFIG MENU

Select AUX/HITCH/PTO option from the list

Select EHR from the list (Electronic Hyd Controller)

Select AUX SETUP from the list

Set the SCRPR option to: 2 LASER

Select EXIT

- Press button 3 to put the remote in auto mode



### Quick Manual Test

- Drive the tractor slowly
- On the tablet go to MACHINE > CHECKS > BELT and send a Manual Command of 50
- Tap Cancel when done

## Fine Tune Hydraulic Belt

- All tractors require fine tuning
- Changing products may also require fine tuning
- On the tablet go to MACHINE > SETUP

Adjust these settings  
See helpful tips below

**Settings**

Hopper

Hectares

**Machine**

GPS

Device

**Hydraulic Drive**

80 Valve jump start 1 to 100

30 Valve speed 1 to 100

60 Valve damping 1 to 100

20 Green zone 1 to 100

Valve Jump Start - Increase this to make the belt start up quicker  
Valve Speed - How fast the valve reacts to rate/speed changes  
Valve Damping - Increase this to dampen the valve when it's close the target rate  
Green Zone - The area close to the target where the valve stops adjusting

## Helpful Tips

- Valve Jump Start
  - Used when you tap Spreading ON
  - Increase this if it takes too long for the belt to start turning
  - Decrease this if it jumps to a high rate, then slows down to the correct rate
- Valve Speed
  - The valve adjusts to match your speed and rate
  - A large number will make large adjustments to the valve, too big will make the rate jump up and down
  - A small number will make small adjustments to the valve, too small will take a long time to reach the rate
  - Increase this if it is very slow to reach the desired rate
  - Decrease this if the rate is hunting up and down, also increase the Valve Damping
- Valve Damping
  - When it's close to the desired rate, the adjustments are dampened (they are very gentle)
  - A large number will dampen more, if it's too large the valve won't adjust
  - Increase this if the rate is hunting up and down, also decrease the Valve Speed
- Green Zone
  - When the rate is in the green zone, the valve will stop adjusting
  - If the number is too large, it will stop before it reaches the target
  - If it's too small, it will never stop adjusting
  - Increase this if the rate adjust ok but overshoots the desired rate
  - Decrease this if the rate stops adjusting before it reaches the desired rate

## Using Multiple Machines

- When using multiple machines nearby, set different network names for each machine
- If an external GPS is installed, confirm it is connected, go to CHECKS > GPS
- Then follow steps below

**Settings**

Hopper

Hectares

Machine

GPS

**Device**

**Device Settings**

Factory Setup Load the setup that was installed at the factory

Reset All Reset all settings, products and calibrations

**WI-FI Network**

MACHINE WIFI 1 Current WI-FI network name

MACHINE WIFI 1 Select new WI-FI network name

Save

Change network name and save

Each machine must use a different network  
Select a name from the dropdown list then tap SAVE, device will reboot  
If GPS installed, check it is connected before changing networks

## Prescription Maps

- Go to the app Main Menu
- Go to Maps page, and login with your i4M username and password

 Work Screen

 Maps 

 Machine


 About

 Exit

 Maps 


 Preset


 Home


 User 

 Download


- Download your maps
- Select the map you want to use

 Home      Select a Map below



 User      World Sample Map



 Download      Burns Ltd Harvey Block Lime Spreading



Burns Ltd Nuclear Lime Spreading


Springfield Inc Tavern Urea 

- Go to Work Screen, your map will be loaded

 Home      Spreading 

 0      0 

 0      0 

 Tablet      0 