TCTrak
Plant Tissue Culture
User Manual

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GENERAL INFORMATION

Introduction

Thank you for purchasing TCTrak. TCTrak is an electronic inventory management logging system.

This manual provides information to users about the safe and optimal operation of TCTrak.

For your safety, it is critical that you carefully read and follow all warnings and cautions in this manual. TCTrak must only be used in the manner for which it is intended. Any other use of the TCTrak may cause damage to the device and harm to the user.

The following signs call attention to special warnings and cautions.

	CAUTION: Failure to follow these instructions constitutes a hazard to the operator.
	WARNING: Failure to follow these instructions constitutes a hazard to the device.
	NOTE: Important note.

	CAUTION: Electric shock hazard. This equipment is to be serviced by trained personnel only.	
	CAUTION: Pinch point, keep hands clear.	
	CAUTION: Heavy, team or mechanical lift.	
	CAUTION: Sharp edges, handle with care.	

System Requirements

RHC

- Size: 162 x 80 x 26 mm
- Weight: 330 g
- Power: Replaceable and rechargeable 3.8V 4000 mAh Li-ion battery
- Operating Temperature: -20°C to 50°C / -4°F to 122°F
- Humidity: Operating 10% to 90% / Storage 5% to 95%

Customer Portal Account

Secure website where user manages account information, settings, and data. Web address:
http://portal.2ndsightbio.com

TERMS AND DEFINITIONS

Term	Definition
Charging Cable	*Cables used to provide power to the **Weighing Station**.*
Clock-Out Receipt	*Printout of **Picker's** total weights for the day registered on one **Weighing Station**.*
Configuration Card	*Radio-frequency identification (RFID) card used to program a **Weighing Station** with specific settings such as language, time zone, container tares, and tracking features.*
Container	*Any receptacle used to hold, transport, and carry fruits, vegetables, or produce.*
Container Label or Container Card	*Radio-frequency identification (RFID) sticker that attaches to a **Container** or RFID card for identification and tracking purposes.*
Crew Boss	*A person in supervisory charge of **Picker(s)** who is given the ability to program **Weighing Station** with **Configuration Cards** and upload harvest data.*
Customer ID	*A unique code used to identify a company in the 2nd Sight Customer Portal.*
Customer Portal	*Secure website where users enter harvesting information, manage employees, view uploaded data, and download data and reports. Customer Portal web address:* http://portal.2ndsightbio.com.
Customer Secret	*A unique code used to identify a company in the 2nd Sight Customer Portal.*
Data Bucket Card	*Radio-frequency identification (RFID) card used to initiate wireless data transfer from a Weighing Station to an RHC (Ruggedized Handheld Computer). Data transferred to the RHC uploads through the **2nd Sight Router** to 2nd Sight Servers.*
Employee Badge	*Radio-frequency identification (RFID) card assigned to an employee.*
2nd Sight Icon	*Image shortcut that launches the Registration Station or other 2nd Sight apps.*
Ruggedized Handheld Computer (RHC)	*An Android-based device that runs 2nd Sight apps such as the Data Bucket app for transferring data from the Weighing Station to a location with Wi-Fi connectivity.*
RHC Charging Dock	*A cradle that charges the battery of RHC devices.*
Leveling Mechanism	*A FairPick Pro Rugged feature. Adjustable knob that allows the **Scale Platform** to tilt left or right on uneven surfaces, ensuring accuracy of recorded weights.*
Lid	*Plastic cover used to protect the Electronics Box on the **Weighing Station**.*
Lid Latches	*Locking mechanisms used to secure the **Weighing Station Lid** to protect the electronics.*

Password	*A secret word or phrase that must be used to gain access to administrator functions on the **Customer Portal** and **Registration Station** application*
Picker	*Person who harvests fruits and/or vegetables.*
Power Button	*Button that turns devices on and off.*
Registration Station Application	*2nd Sight software used to program **Employee Badges** and **Container Labels,** as well as create **Upload Cards** and **Data Bucket Cards.***
Registration Station Computer	*A desktop computer that runs the **Registration Station Application***
RFID Reader/Writer	*USB attachment on the **Registration Station Computer** that reads and writes data to radio-frequency identification (RFID) cards, bracelets, and labels.*
Router	*The Access Point (AP) through which harvest data uploads to the secure server and Customer Portal.*
Scale Platform	*The metal cover that sits on top of the scale on the **Weighing Station** on which **Pickers** set harvesting **Containers** to measure the weight of produce.*
Stabilization Foot	*Adjustable, threaded foot used to steady the **Weighing Station** on uneven surfaces.*
Upload Card	*Radio-frequency identification (RFID) card used to initiate wireless data upload from a Weighing Station through the FairPick router, to the 2nd Sight Server.*
Username	*An identification code used to access administrator functions on the **Customer Portal**.*
Weighing Station	*Portable field unit **Picker(s)** use to weigh fruits and/or vegetables.*

INSTALLATION

Unpacking and Inspection

Unpack the boxes and examine their contents. If anything is missing or damaged, contact your 2nd Sight sales representative at 509-381-2112 or at info@2ndsightbio.com.

The standard TCTrak package contains:

Sales Part#	Part Description	Quantity
FT00014	2nd Sight RHC-RS50	1
SW00010	TCTrak App	1

*Quantity depends upon customer order.

Unpacking the Box

Step 1 Carefully open the top of the box by using a box cutter or utility knife.

Step 2 Remove the accessories box and place it in a safe location.

Data Upload to Customer Portal

Upload weigh data directly to the secure server, through Wi-Fi or cellular connection.

NOTE: You are not required to upload the data every day. Data will remain on the RHC's SD card and flash memory, even after an upload. This ensures data security and integrity.

Step 1 Transport the RHC to the designated location within range of wireless internet access.

Step 2 Power on the RHC and start the TCTrak app.

Step 3 Press the "SYNC" button.

Step 4 The app will indicate that data upload has been initiated.

Step 5 When the data finishes uploading, the screen will display a success message.

NOTE: The RHC needs to be in range of Wi-Fi with Internet access. If the message screen says, "Failed" you may need to move the RHC closer to the Wi-Fi. Follow the previous steps to retry the data upload.

TCTRAK APP TRAINING

General

The TCTrak app allows the user to collect Task data using the RHC. It is an Android-based app available on the Google Play Store. A 2nd Sight Customer ID and Customer Secret are required in order to initially download the app on the RHC. 2nd Sight issues a Customer Certificate with the purchase of a TCTrak system with these credentials. Contact 2nd Sight BioScience if you are unable to locate your Customer Certificate. Once the TCTrak app is downloaded onto the RHC from the Google Play Store, the app automatically updates with any new versions posted by 2nd Sight BioScience when the RHC connects to a Wi-Fi network. For more detailed information and instructions about using the RHC, refer to the RHC User Manual.

Step 1   Power on the RHC

Step 2   Unlock the screen by pressing and sliding the circle to the right

Step 3   Locate the Google Play Store icon
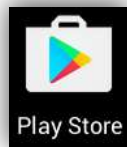
Step 4   Select Search
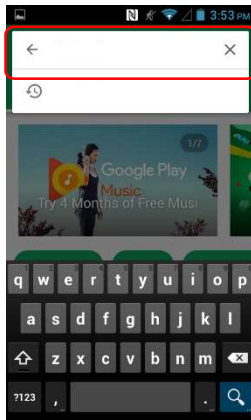
Step 5   Click inside the search box and start typing "TCTrak"

Step 6   Press enter.

Step 7   Verify that the app is the TCTrak app by 2nd Sight BioScience

Step 8   Press install.

NOTE: In order to access the Google Play Store, the user needs to have a Google account. For instructions on how to create a Google account, refer to RHC User Manual

Step 9 Enter your Google account credentials

Step 10 Enter the Customer ID and Customer Secret to finish setting up the TCTrak app

Launch the App

Step 1   Power on the RHC

Step 2   Unlock the screen by pressing and sliding the circle to the right or left.
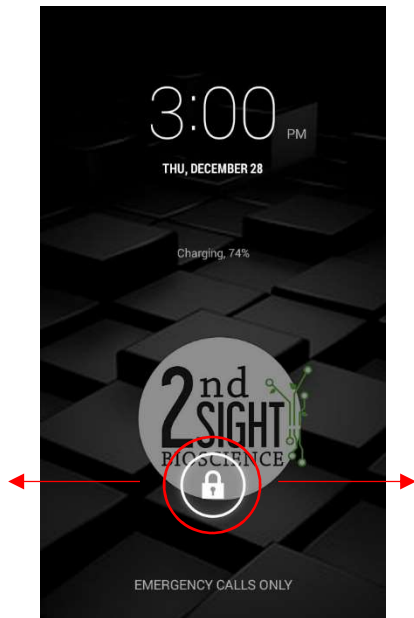
Step 3   Press the app icon to launch the app.

Configuration

The Configuration ("Config") screen shows important account information that indicates to which Customer Portal account the RHC is linked.
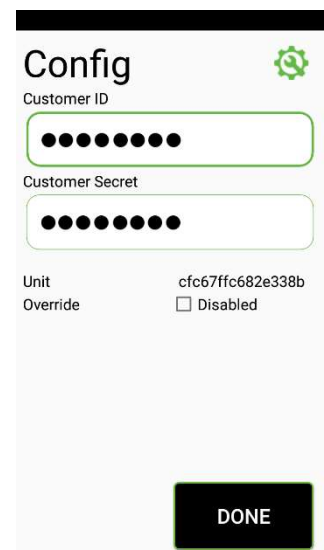
Initial Application Setup

Registering the RHC allows the device to connect and share information with the Customer Portal.

Step 1	The splash screen will appear on successful booting of the application.	
Step 2	Enter your "Customer ID" and "Customer Secret" into the appropriate boxes.	
Step 3	Press the "DONE" button to register and launch the application.	
	NOTE: A Customer ID and Customer Secret are issued by 2nd Sight BioScience. Upon confirmation of purchase of the software application, you receive a Customer Certificate like the one shown here.	

Syncing Data with Customer Portal

By pressing the "Sync" button, the TCTrak app is looking for new Tasks and Lists added to the linked Customer Portal account, as well as pushing any new data collected on the RHC up to the Portal for viewing and data processing. 2nd Sight recommends syncing the RHC before each work day begins as well as at the end of each work day.

	Note: To sync the RHC, the device must be connected to a Wi-Fi network.

Step 1	Press the "SYNC" button	
Step 2	A confirmation screen appears saying, "Success"	
Step 3	If the data sync was not successful, press the "RETRY" button. To return to the home screen, press "Back".	
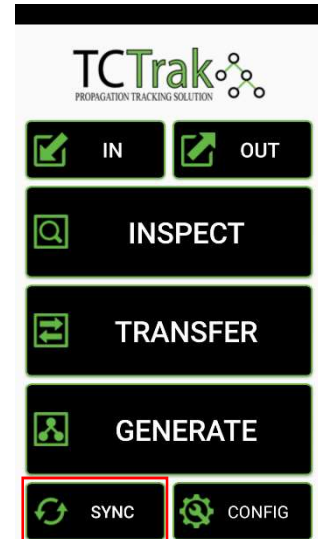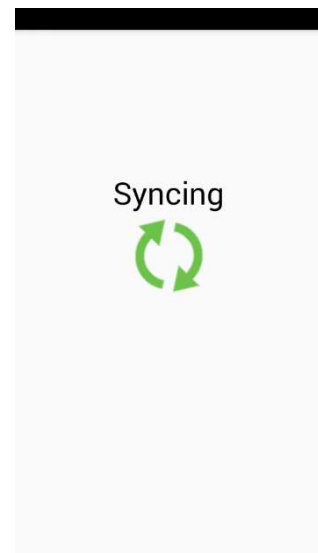
Setting Up Information

Settings and information can be configured for your process including tasks and associated lists.

NOTE: Tasks and Lists are created on the Customer Portal. (*see* Customer Portal User's Manual).

Tasks

Tasks can be configured from within the In, Out, Transfer, and Generate activities.

Step 1 Press the desired activity. **NOTE: "Tasks" can only be update from within "IN", "OUT", GENERATE, or "TRANSFER".**	TCTrak PROPAGATION TRACKING SOLUTION IN OUT INSPECT TRANSFER GENERATE SYNC CONFIG
Step 2 Press the "Task" box. **NOTE: The task box will initially be empty.** **NOTE: Scanning a known node, will auto populate the task box, with the nodes data.**	Inventory In Empty SCAN NODE(S) 0 SCAN DESTINATION LOCATION CANCEL SAVE

Step 3 Select the current task.

Edit Lists

Task
Rooting

Clones
BH5

Lines
12B

Medium
E5

Operator
Anabell

BACK   NEXT

Step 4 Select the new task.

Rooting
Proliferation
Elongation
Overlay
Induction

Edit Lists

Task
Proliferation

Clones
Geneva 214

Lines
1B

Medium
AP!

Operator
Elisa

Step 5 Press "NEXT" to save.

BACK   NEXT

Step 6 The task box will be updated with the appropriate information.

Proliferation ◄————————— Task name.

Clones: Geneva 214
Lines: 1B   Associated
Medium: AP!   list items.
Operator: Elisa

Inventory In ☑

Proliferation
Clones: Geneva 214
Lines: 1B
Medium: AP!
Operator: Elisa

📦 NODE(S)   0

☑ DESTINATION
    LOCATION

CANCEL   SAVE

Lists

List items can be altered during "IN", "OUT", "GENERATE", and "TRANSFER" events.

Step 1 Press "IN", "OUT", "GENERATE, or "TRANSFER" to view "List" items. NOTE: "Tasks" can only be update from within "IN", "OUT", "GENERATE", or "TRANSFER".	
Step 2 Press the "Task" box. NOTE: The task box will initially be empty. NOTE: Scanning a known node, will auto populate the task box, with the nodes data.	
Step 3 Select the "List" to update.	
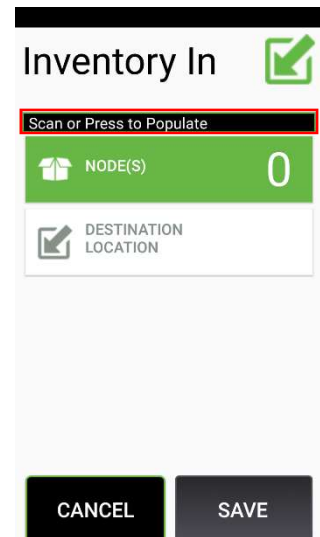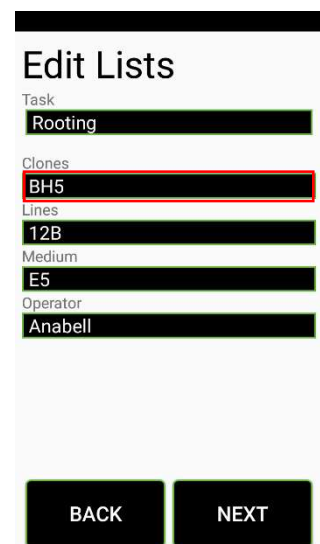
Step 4 Select the desired "List" item. **Optional:** Use the search bar to find List Items. 🔍 Geneva 214	**Select Item** BH5 Colt Geneva 202 Geneva 210 Geneva 214 Geneva 41 Geneva 890 Geneva 935 Geneva 969 CLOSE
Step 5 Press "NEXT" to save.	**Edit Lists** Task Proliferation Clones Geneva 214 Lines 1B Medium AP! Operator Elisa BACK NEXT
Step 6 The task box will be updated with the appropriate information. Proliferation ◄——— Task name. Clones: Geneva 214 Lines: 1B Medium: AP! Operator: Elisa ┘ Associated list items.	**Inventory In** ☑ Proliferation Clones: Geneva 214 Lines: 1B Medium: AP! Operator: Elisa 📦 NODE(S) 0 ☑ DESTINATION LOCATION CANCEL SAVE
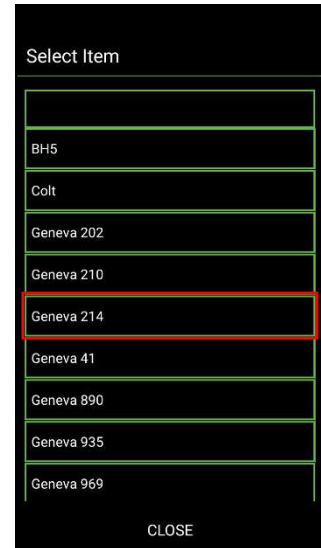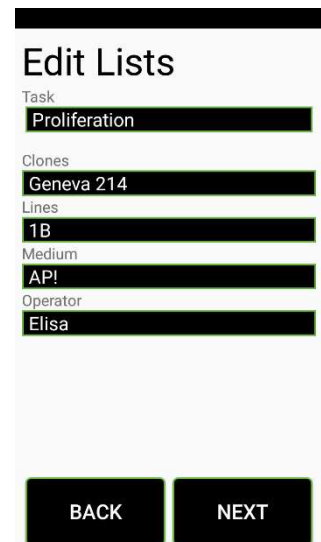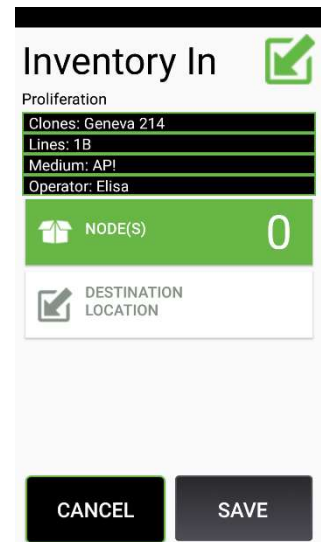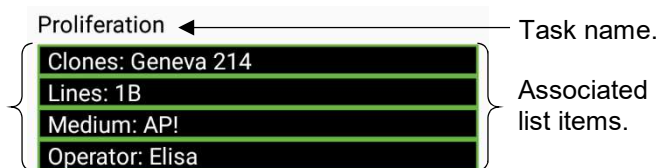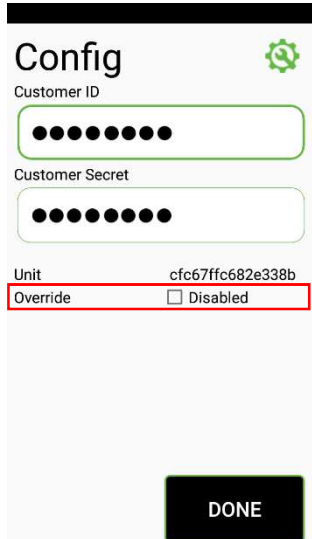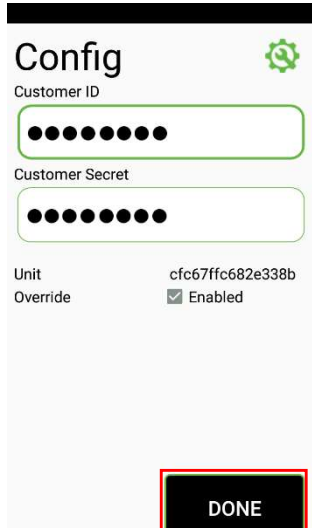
Initial Inventory In

Once your products have been defined, it is time to make your initial inventory in.

Step 1 Press the "CONFIG" button	
Step 2 Select the "Override" check box. Override ☑ Enabled	
Step 3 Press "DONE" to return to the main menu.	

Step 4 Press the "IN" button	

Step 5 Select the Task and List items of the "NODE(S)". **NOTE: See Tasks and Lists section of the manual for more details on creating and selecting.** Task name. Associated list items.	

Step 6 Scan the "NODE(S)".	

Task name.

Associated list items.

Number of items scanned.

RFID / Barcode
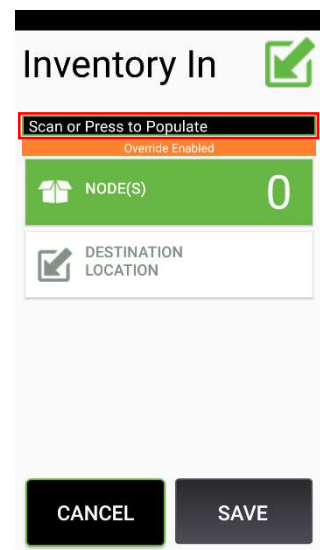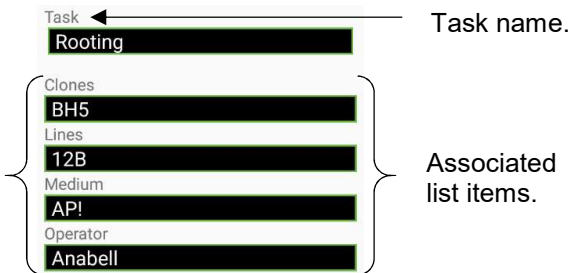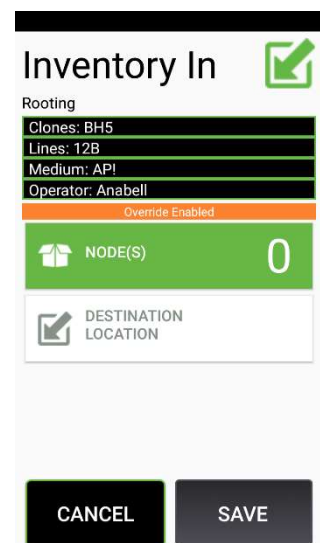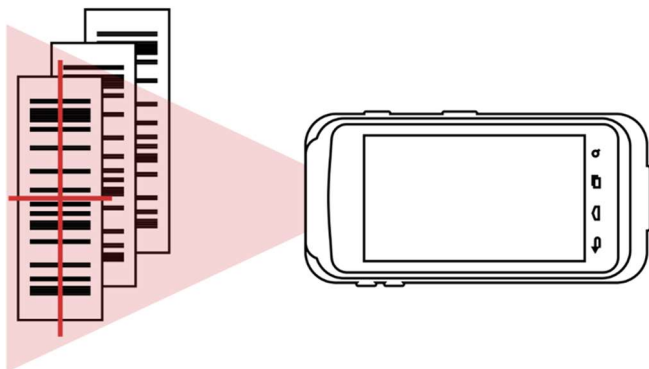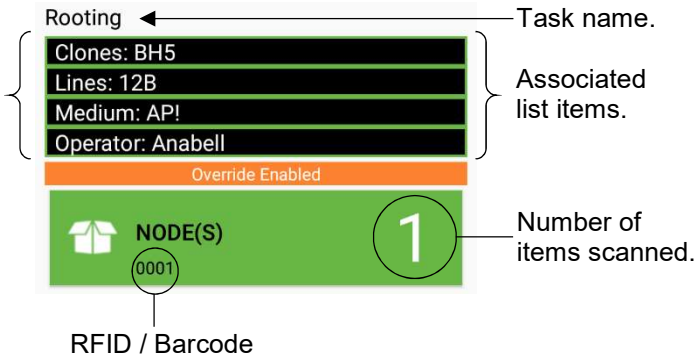
Step 7   Press the "DESTINATION LOCATION" button.
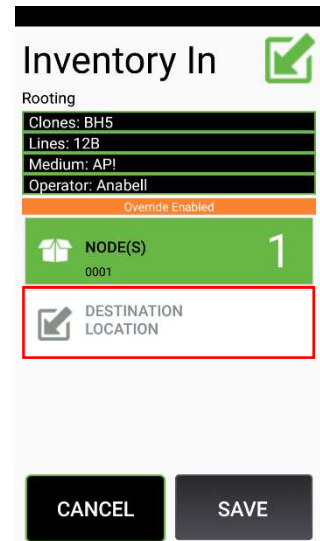
Step 8   Scan the "LOCATION".
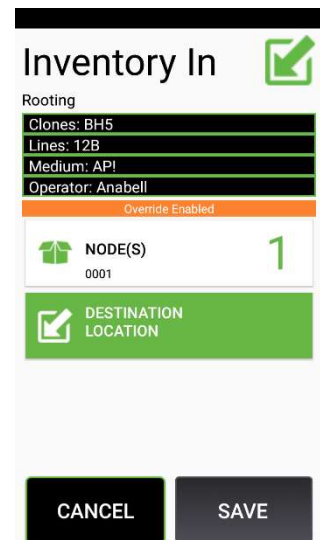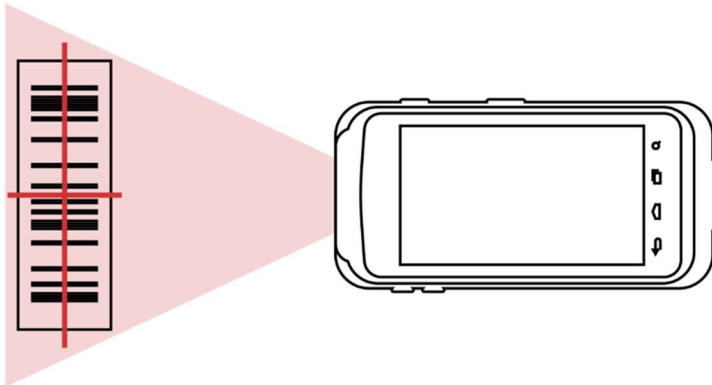
Step 9   Press the "SAVE" to finalize the initial inventory in.

Step 10   When finished, disable the "Override" check box in the CONFIG menu.
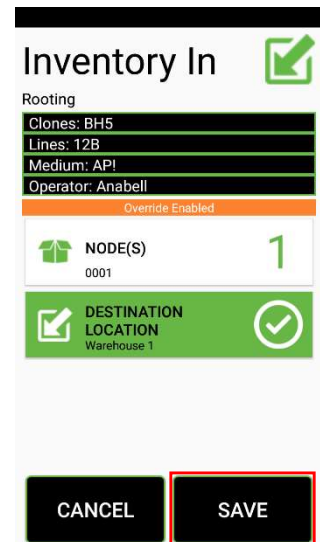
Generate

Using generate, create child nodes from parent nodes. Child nodes will inherit parents' attributes.

Step 1 Press the "GENERATE" button.	
Step 2 Scan the "PARENT NODE(S)".	
Task — Associated list items. — Number of items scanned. — RFID / Barcode **Step 3** Press the "CHILD NODE(S) button.	
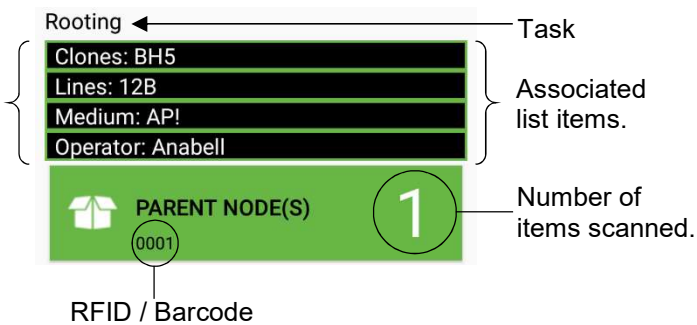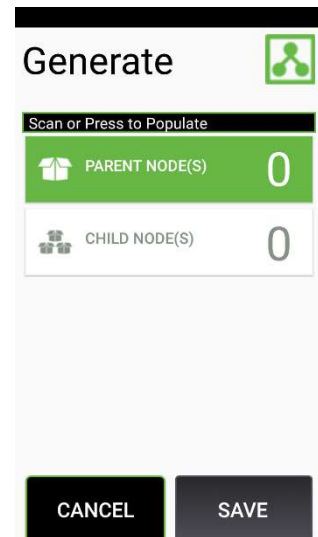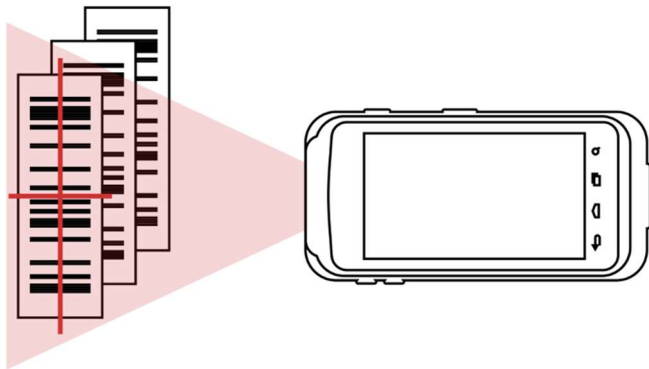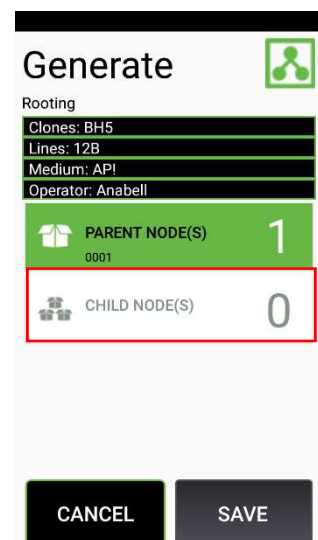
Step 4   Scan the "CHILD NODE(S)".

Generate

Rooting

Clones: BH5
Lines: 12B
Medium: AP!
Operator: Anabell

PARENT NODE(S)   1
0001

CHILD NODE(S)   0

CANCEL   SAVE

Rooting

Clones: BH5
Lines: 12B
Medium: AP!
Operator: Anabell

PARENT NODE(S)   1
0001
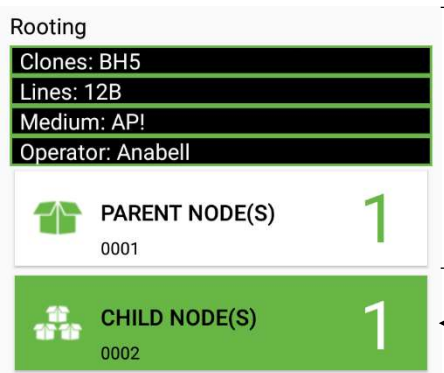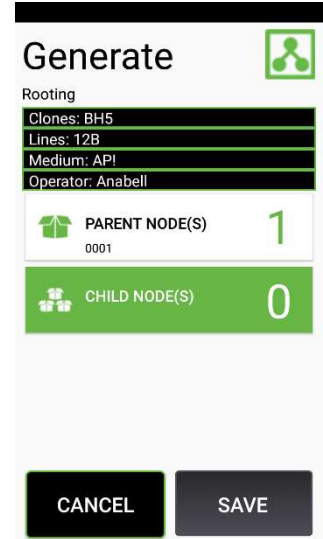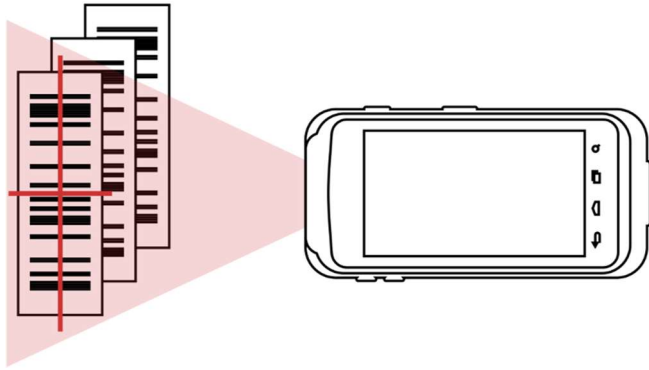
CHILD NODE(S)   1
0002

Child node(s) inherit parent node(s) attributes.

Generate

Rooting

Clones: BH5
Lines: 12B
Medium: AP!
Operator: Anabell

PARENT NODE(S)   1
0001

CHILD NODE(S)   1
0002

CANCEL   SAVE

Step 5   Press the "SAVE" to finalize the generation.
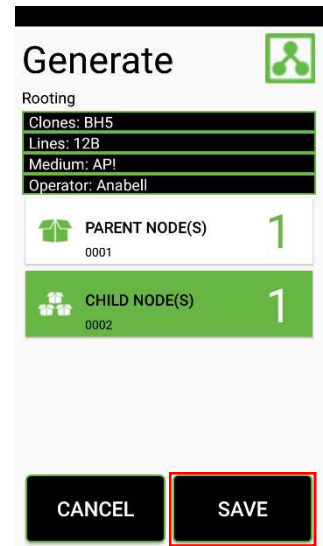
Transfer

Using transfer, you can move inventory items between locations.

Step 1 Press the "TRANSFER" button	
Optional: Update the list item(s). **Step 2** Scan the node(s) for transfer. 	
NOTE: Scanning the item(s) will populate the task and list information. **Step 3** Press "SOURCE LOCATION".	
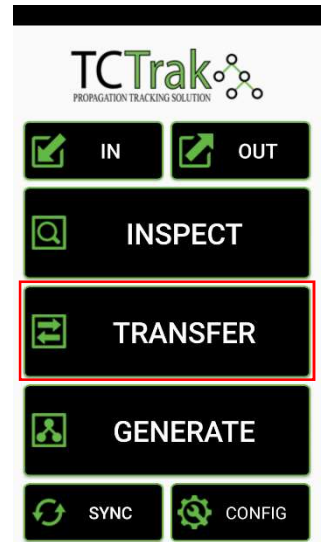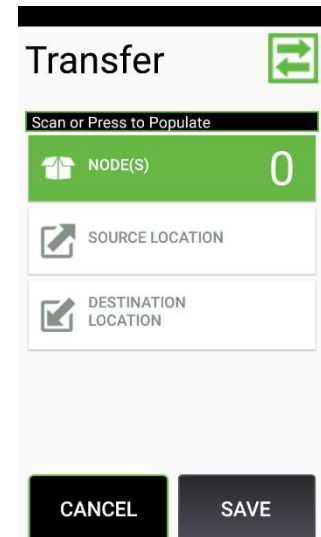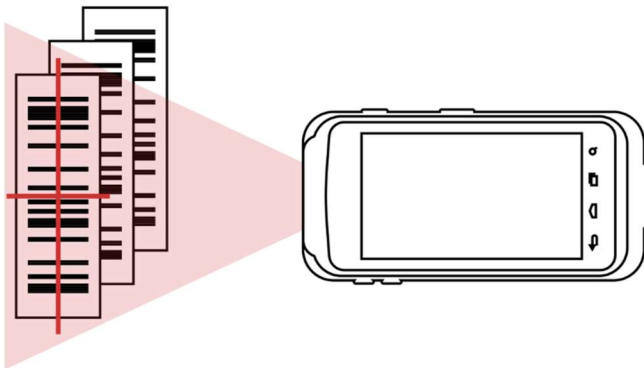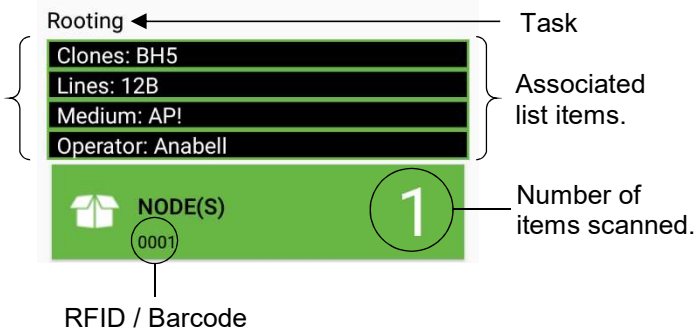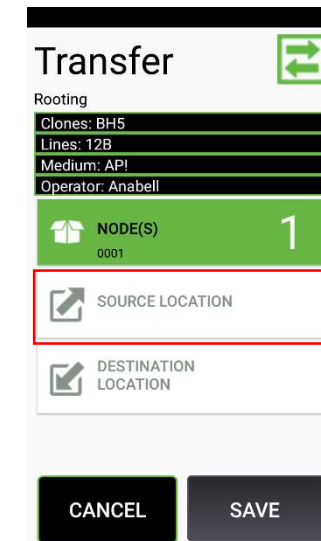
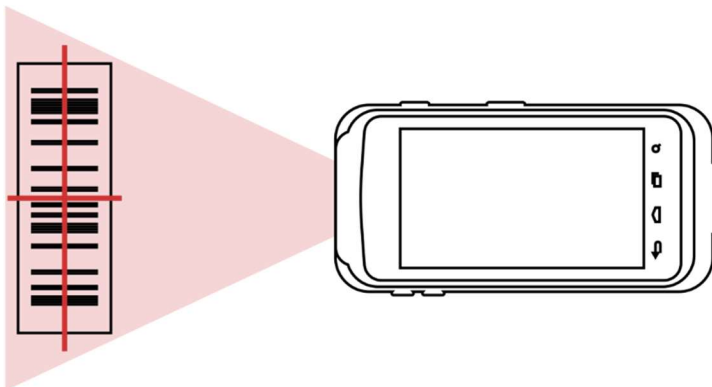|	
Step 4 Scan the source location.	**Transfer** ⇄ Rooting Clones: BH5 Lines: 12B Medium: AP! Operator: Anabell 📦 NODE(S) **1** 0001 ↗ SOURCE LOCATION ✎ DESTINATION LOCATION CANCEL SAVE
↗ SOURCE LOCATION ✓ Warehouse 1 RFID / Barcode **Step 5** Press "DESTINATION LOCATION".	**Transfer** ⇄ Rooting Clones: BH5 Lines: 12B Medium: AP! Operator: Anabell 📦 NODE(S) **1** 0001 ↗ SOURCE LOCATION ✓ Warehouse 1 ✎ DESTINATION LOCATION CANCEL SAVE
Step 6 Scan the destination location.	**Transfer** ⇄ Rooting Clones: BH5 Lines: 12B Medium: AP! Operator: Anabell 📦 NODE(S) **1** 0001 ↗ SOURCE LOCATION ✓ Warehouse 1 ✎ DESTINATION LOCATION CANCEL SAVE
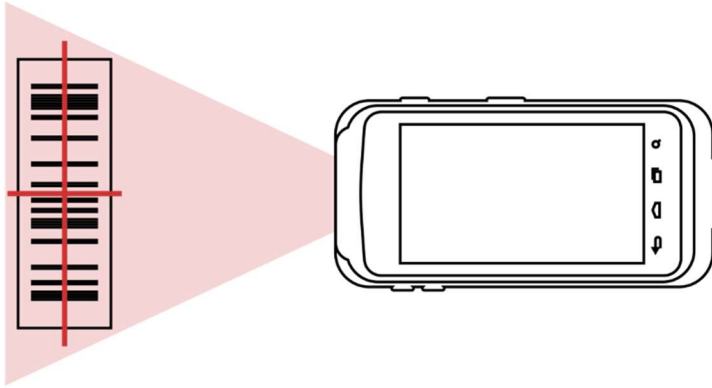
23

RFID / Barcode

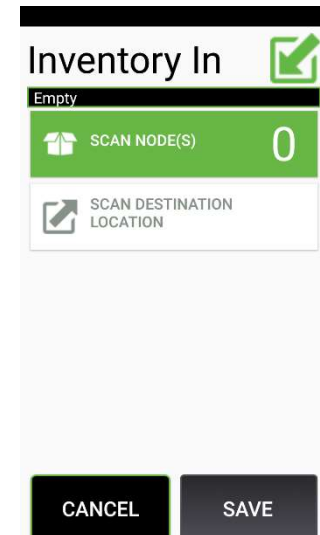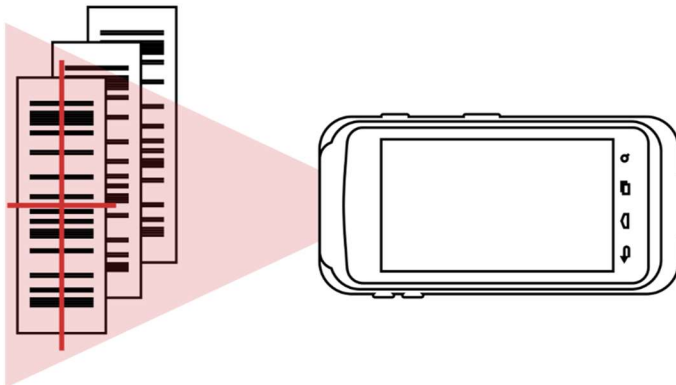**Step 7** Press the "SAVE" button to finalize the transfer.
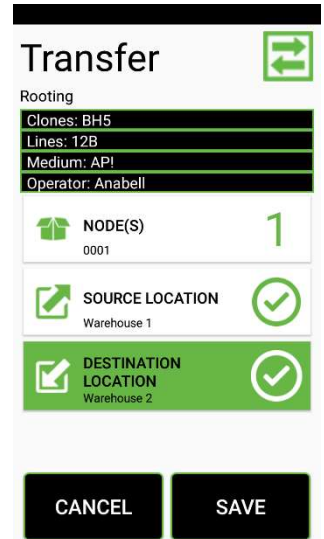
In

Using In, you can check items into inventory.

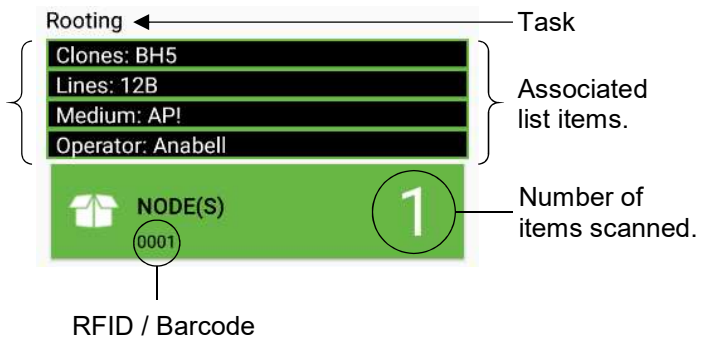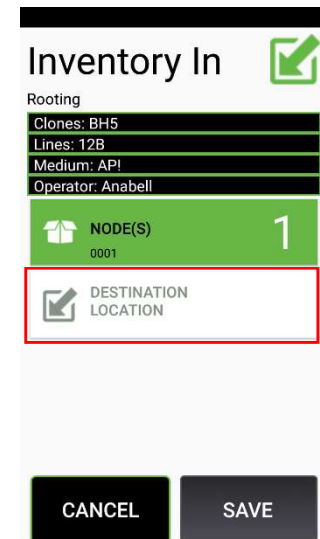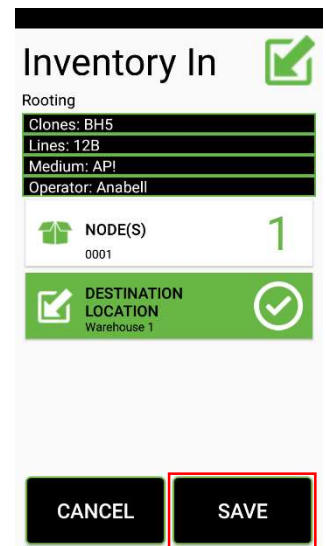|	
Step 1 Press the "IN" button	
Optional: Update the list item(s). **Step 2** Scan the item(s) to move into inventory. 	
Step 3 Scanning the item(s) will populate the task and list information. **Step 4** Press "DESTINATION LOCATION".	

Step 7 Scan the destination location.	
  RFID / Barcode **Step 8** Press the "SAVE" button to finalize the transfer.	
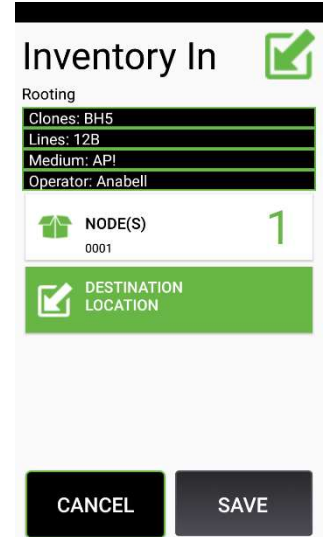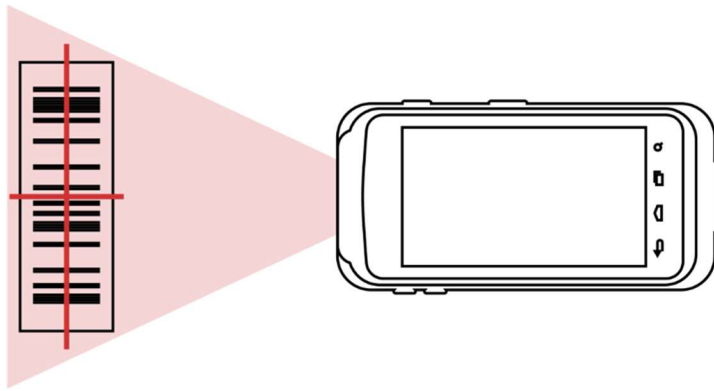
Out

Using Out, you can remove items from inventory.
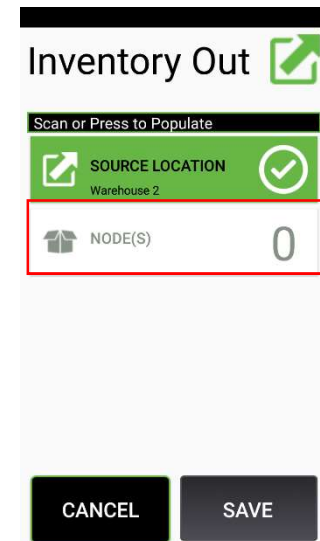
Step 1 Press the "OUT" button	TCTrak PROPAGATION TRACKING SOLUTION IN OUT INSPECT TRANSFER GENERATE SYNC CONFIG
Optional: Update the list item(s). **Step 2** Scan the source location.	Inventory Out Scan or Press to Populate SOURCE LOCATION NODE(S) 0 CANCEL SAVE
SOURCE LOCATION ✓ Warehouse 2 RFID / Barcode **Step 3** Press the "NODE(S)" button.	Inventory Out Scan or Press to Populate SOURCE LOCATION ✓ Warehouse 2 NODE(S) 0 CANCEL SAVE
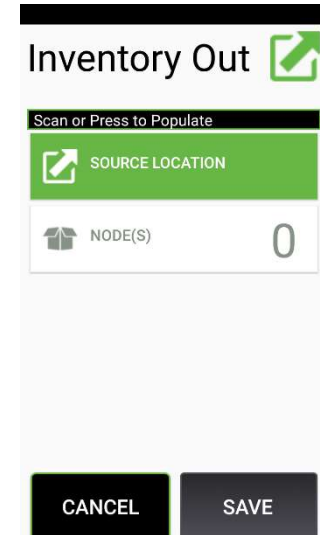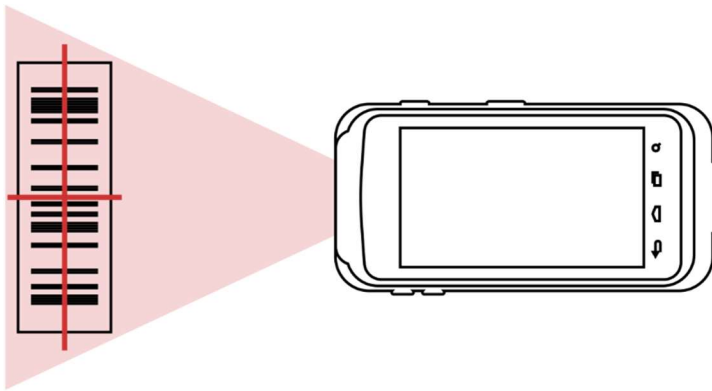
Step 4 Scan the nodes(s) to be transferred out of inventory.	**Inventory Out**
Step 5 Scanning the item(s) will populate the task and list information. Rooting ← Task Clones: BH5 Lines: 12B Associated Medium: AP! list items. Operator: Anabell SOURCE LOCATION ✓ Warehouse 2 NODE(S) 1 Number of 0001 items scanned. RFID / Barcode **Step 6** Press the "SAVE" button to finalize the transfer out of inventory.	**Inventory Out**

Inspect

Using Inspect, you review details about items and locations.

Step 1 Press the "INSPECT" button	 **TCTrak** PROPAGATION TRACKING SOLUTION ☑ IN ☑ OUT 🔍 INSPECT ⇄ TRANSFER ⚇ GENERATE ↻ SYNC ⚙ CONFIG
Step 2 Scan the item or location.	**Inspect** 🔍 BACK DONE
Example: RFID / Barcode **0001** Type Node ←———— Item type Location *Warehouse 1* ←———— Location Batch 20180122100429.284 ←—— Batch # Parent Batch ORIGINAL STOCK ←—— Parent Batch # Task Rooting ←———— Task Clones BH5 ←———— List item 1 Lines 12B ←———— List item 2 Medium AP! ←———— List item 3 Operator Anabell ←———— List item 4	
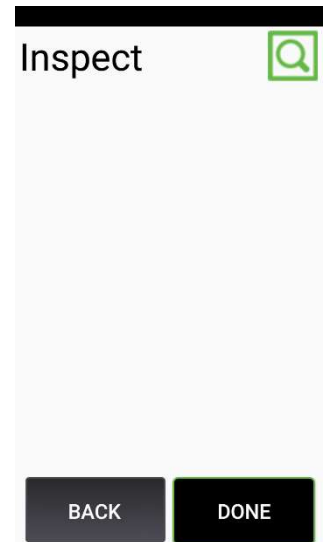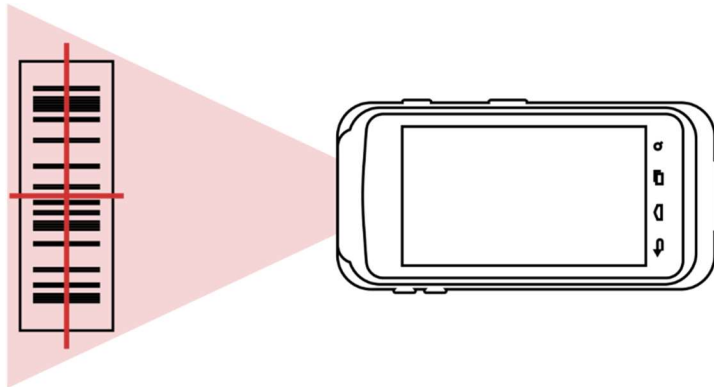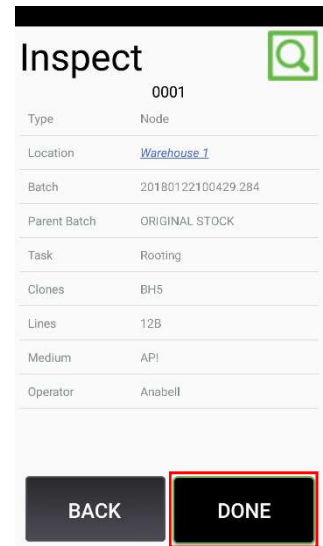
Step 3   Press the "DONE" button to exit.

ERRORS & TROUBLESHOOTING

Error Messages

The following error messages explained.

Unknown Parent Node(s)

The parent node RFID/barcode has not been registered.

Unknown Node(s)

The node RFID/barcode has not been registered.

Unknown Destination Location

The destination location RFID/barcode has not been registered.

Unknown Source Location

The source location has RFID/barcode not been registered.

Multiple Parent Group

The parent node(s) do not share the same batch number.

Multiple Node Groups

The node(s) do not share the same batch number.

No WiFi

No wireless connected and/or internet access.