ControlPro: Quick Reference Guide

(v3.4.0)

January 13th, 2026

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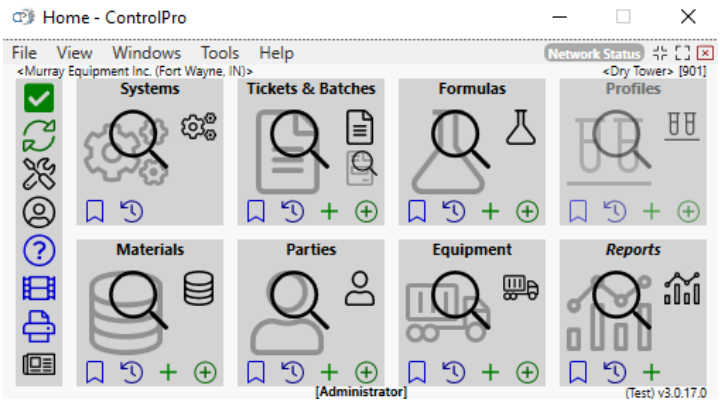
Getting Started

The starting point for the application is the Home screen. From here, you can access most of ControlPro's functionality.



From here, you can see the eight major components that make up ControlPro: Systems, Tickets & Loads, Formulas, Profiles, Materials, Parties, Equipment, and Reports.

Each icon you see on this screen is a button. Individual functionality will be covered in depth later in the document, but in summary: the smaller buttons at the top right-hand side of each section opens a blank details screen corresponding to that component. The magnifying glass opens the appropriate search screen. The plus sign inside of a circle opens the Create Originated [Component] Wizard. The plus sign creates a new local component. The clock reveals a list of Recently Closed tabs within the appropriate box. Hover the mouse outside of the revealed box to return the regular home menu. The ribbon, like the clock, reveals the Currently Open tabs within the open box and closes the same.

Systems also has a button to open the Unattended Systems screen – if this feature is enabled. Tickets & Loads has an additional, smaller magnifying glass which opens the Load Search screen.

Along the left-hand side of the screen, are a few of the commonly used buttons that link to helpful screens. The green checkmark/red exclamation point opens the Exception Log screen. The circling arrows import all the interface files. The screwdriver crossing with a wrench opens the Settings menu. The portrait opens the Change Role screen. The question mark bubble opens the Quick Reference Guide. The blue film opens a browser to ControlPro's train videos on YouTube. And the newspaper opens up the change log and news screen.

Additional Functionality

Murray Engineers will pre-configure ControlPro with all necessary settings to get you up and running. It would still be a good idea to scan through the Settings screen to get an idea of the various functionality that ControlPro offers. No one will likely use all the available functionality, but there are quite a few available tools that could help you if you know about them. The Settings screen can be accessed through the Tools Menu, Administrator sub menu; the wrench and screwdriver button along the left; or by pressing the F11 key. Additionally, it would be a good idea to scan through all the fields on all the tabs on the details screens to get a good idea of the various functionality that each component offers.

Component Overview

ControlPro has eight major components, as well as several secondary components. These components interact with one another in various ways to make things happen.

Some components can have a child association/assignment – or be children of – other components. For example, parties can be assigned to tickets as customers, but not the reverse. As a rule of thumb, when you're seeing a grid of components on a Details screen, you're looking at children associations.

Systems & Batches

System components correlate to physical mixers or loadouts. Each physical mixer/loadout that ControlPro will control must have a corresponding system component inside the application. Any number of physical systems can be controlled simultaneously by a single instance of ControlPro. Additionally, any number of instances of ControlPro can control the same physical system. Both liquid and dry systems can coexist in the same instance of ControlPro.

Batches are in-process jobs on systems. When a batch completes, it becomes a load on a ticket.

Tickets & Loads

Tickets are the components that ControlPro uses to track what materials are being delivered, and for which customers. Tickets can have any number of materials, and any number of customers. Although, each customer must be assigned a role on the ticket: consignee, bill-to, seller, etc. Depending on business requirements, any number of loads can be delivered from a single ticket; or tickets can be setup to be one-and-done.

Tickets can be created locally or by a 3rd party originator via an interface. They can also be created by use of the Create Originated [Ticket] Wizard.

Loads are delivered "truck loads" or equivalent on a ticket. A single ticket can have any number of loads on it.

Formulas

Use formulas to store recipes for quickly creating tickets later. You can easily create formulas from tickets, and tickets from formulas. This functionality is used more often for ControlPros that are not interfaced with a 3rd party originator.

Profiles

This is an advanced concept that will require one-on-one training. Basically, mixers that support this functionality can be controlled much more directly from ControlPro.

Materials, Stores & Transactions

Any product or material being added to a blend will have a material component in ControlPro. If interfaced with agronomy software, new materials will be created automatically in the background as they are sent over through the interface. Materials can be managed as hand-adds, automated, or either, depending on the physical requirements of the mixer.

Stores are a mechanism for managing inventory in ControlPro. They can be associated with tanks or bins, show how much material is available per location, or be used to track global inventory. They can

even be associated with tank-level sensors. They are flexible and allow multiple different workflows to be supported.

Transactions are incoming or outgoing inventory on certain types of stores. They are loosely associated with materials on loads.

Parties

Parties can be configured as either customers or drivers. Customers can be assigned to tickets, while drivers can be assigned to individual loads. Both can have email contacts to send out .pdf versions of delivery tickets if desired.

Equipment

Equipment components can be associated with loads. These can be used to track trucks, trailers, pups, applicators, mini-bulks, or any other type of destination container.

Reports

Reports are used to generate many kinds of data and put all onto one document for easy viewing. For example, a list of tickets that have been completed during a specific date range. They can be distributed as a .CSV or .PDF by way of email, printing, viewing, or saving to desktop. Reports can be setup to be sent out immediately, daily, weekly, or month at a specified time.

Originators

While not a primary component, originators are the “root” components that all other components belong to. You can see this by looking at the ID of any other component: the first three characters in its ID will be the prefix of the originator it belongs to.

Originators are used to define sources of data. These can be the local instance of ControlPro, all other instances of networked ControlPros, all 3rd party agronomy software packages, or any 3rd party resellers that rent tank space. Basically, any entity that can create a component in ControlPro needs an associated originator defined.

Delivery ticket templates are also setup at the originator level. These can be bills of lading, application instructions, or any other documentation that local laws require to be printed at time of delivery. Any number of delivery templates can be setup; to print to any number of printers; to any specific tray. The “Template Documentation” Word document in the C:\Murray\ControlPro\Templates folder contains all the information needed to write custom templates to fit any need. That folder also contains several default templates to server as examples and starting points.

Universal Concepts

There are a few concepts that are shared across multiple components.

Alternate IDs

If components are generated by multiple originators, alternate IDs are used to map single instances of these components back to the specific IDs each originator uses. In other words, if you have only one physical “Material A” that you use and multiple pieces of agronomy software packages generating tickets with different IDs for this material, alternate IDs make it so that you don’t have to have multiple versions of “Material A” in ControlPro.

Attributes

Any piece of information that has no business use in ControlPro – but may still be useful for users, customers, drivers, etc. – is stored in attribute lists. Users can define their own custom attribute types to use on the Settings screen. If interfaced with any 3rd party agronomy software, many of these attributes will be automatically generated as information is imported.

Contacts

Contacts can be anything from email addresses, phone numbers, fax numbers, etc. that you want to track. More specifically, email contacts can be marked as Distributable. Distributable emails are used to compile distribution lists for delivery tickets.

Details Screens (Basic)

Individual components can be manipulated on their details screens. Some screens have custom buttons along the bottom, but all share some common buttons: Purge, View Audit, Comment, Duplicate, Revert, and Save.

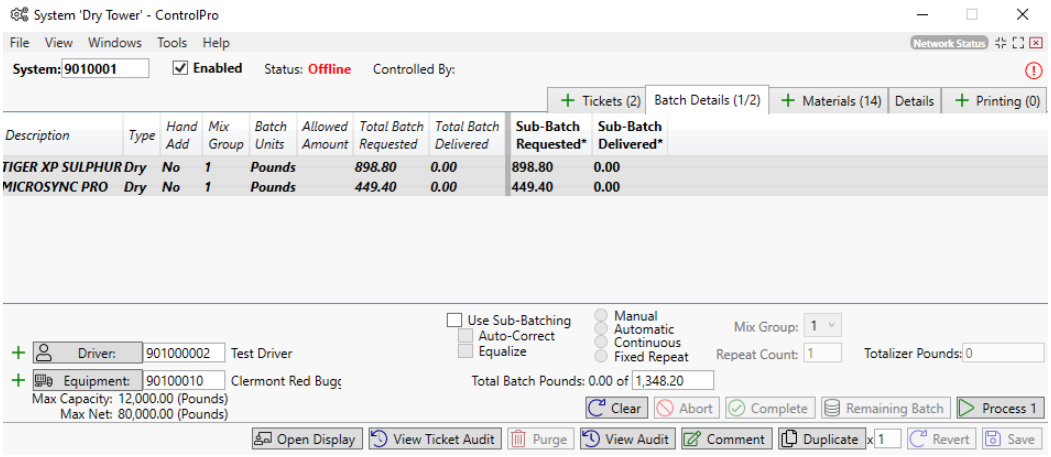
Purge removes the component from the application. This is generally irreversible. So, proceed with caution.

View Audit allows you to see everything that has happened to this component since it was created. Similarly, Comment allows you to add a comment to the audit trail.

Duplicate will create *n* number of identical duplicate components. Note that duplicated tickets will have no loads.

Revert and Save enable when the component has unsaved changes. Revert throws away the changes and reloads the state of the component from when it was last modified. Save commits the changes and modifies the audit trail.

System Details



The Tickets tab is designed to function as a work queue. Add tickets to a system as trucks pull up. The bolded ticket(s) are currently being processed.

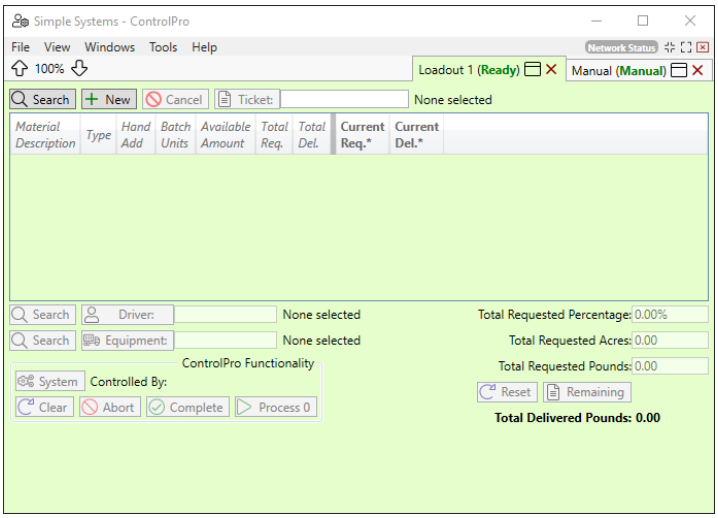
The Batch Details tab allows more precise control over the batch you'll be sending to the physical mixer.

The Materials tab on the System Details screen is where automated materials are assigned and configured. Optionally, available material amounts can be tracked either with tank-level sensors or manually. Materials can be activated or deactivated as needed – say if mini-bulks need to be swapped out.

Most of the configuration options are on the Details tab. You should rarely have to modify this information.

Similarly, the Mix Printing tab allows you to setup a mix ticket to be printed when a batch is processed.

Simple System Details

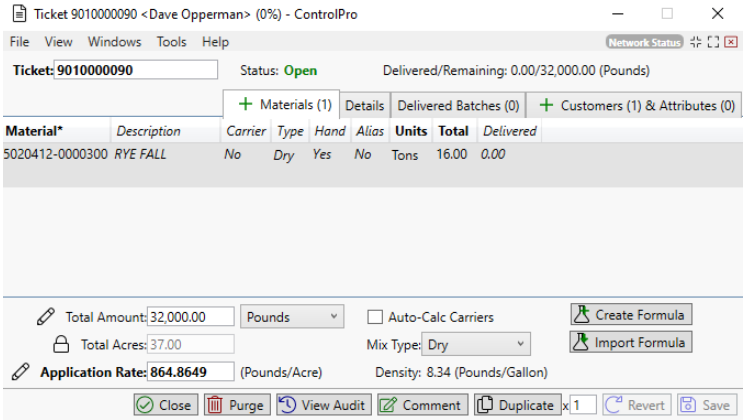


The tabs along the top of the Simple System screen indicates the system you are using by raising it above the rest, while also giving easy access to switch between multiple systems by selecting them on the top tab bar.

Each Simple System screen gives the options to search for tickets through a search screen, create a new ticket, or search for a ticket by the ticket number or partial ticket number.

Once a ticket is added to the system there is the option to add a driver and equipment via search window or through partial search field.

Ticket Details



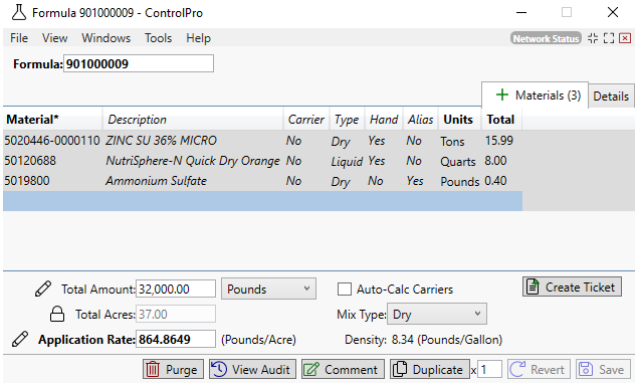
Materials can be added to tickets on the Materials tab. Individual material amounts, total ticket amount, total acres, and the application rate can be tweaked to specification on this tab as well. Everything can have different units of measure. All the math to make the translations will happen in the background. The “Modifying Recipes on Ticket and Formula Details” section of this document provides a more in-depth discussion on how all this works.

A few things to note on the Details tab: guaranteed analysis is generally put in the Description field. Setting more than a single Mix Group will convert the ticket into a VRT ticket. Depending on any

interfaced agronomy software packages, any field images will display here as well. Most of the other fields on this tab control when the ticket will be automatically completed.

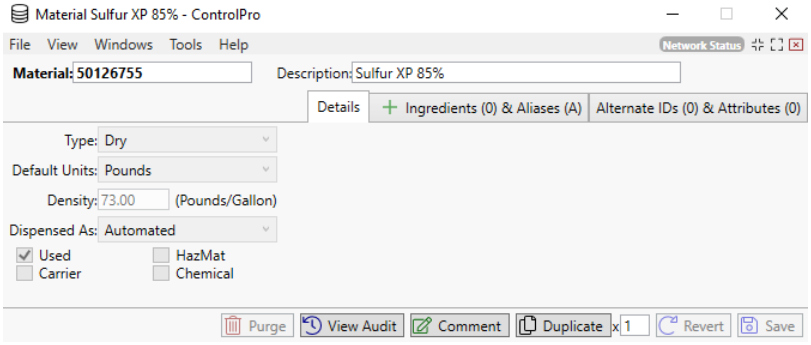
The Loads tab displays all the loads that have been delivered on this ticket. Each load has an associated system, driver, equipment, and delivered materials. Delivery tickets can be emails, printed or views from here.

Formula Details



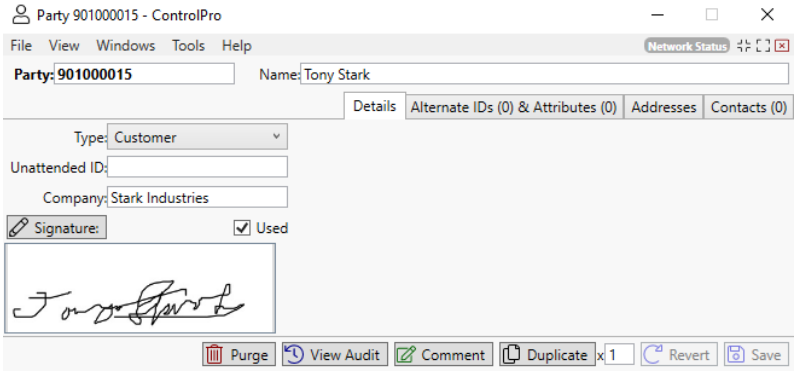
Formulas basically contain just the functionality of the Ticket Detail's Materials tab. See the "Modifying Recipes on Ticket and Formula Details" section below.

Material Details



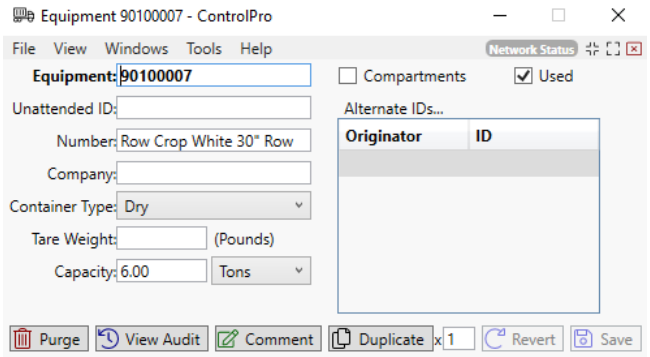
Basic information is displayed on the Details tab. Aliases behave slightly different than alternate IDs. Aliases are a way to have multiple materials inside ControlPro be used interchangeably when they really are just a single deliverable material. For example, "Material A" and "Material A (w/ Delivery Charge)" is really the same material when delivering a batch. One would be an alias for the other.

Party Details



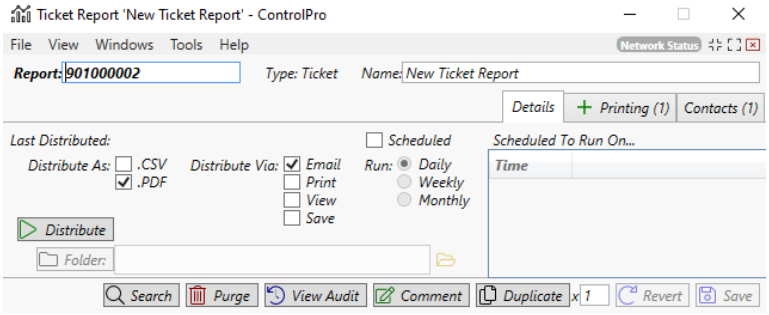
The Details, Alternate IDs & Attributes tab contains basic information. Addresses and contacts have their own tabs. Clicking on the Signature button will bring up a signature capture screen for drivers to sign with either the mouse or a touch screen.

Equipment Details



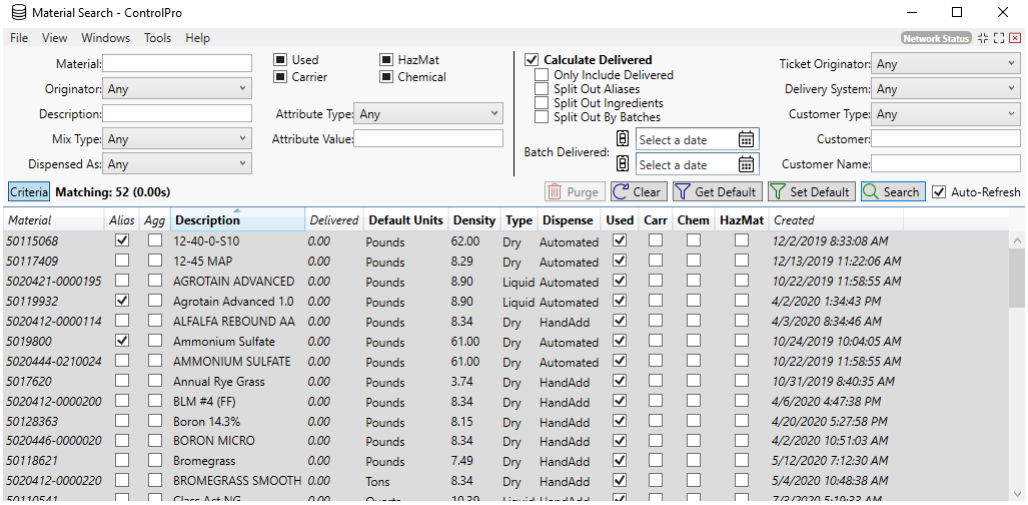
The Equipment Details screen is relatively straight forward, with basic information and alternate IDs.

Reporting & Printing



In ControlPro V3.0, all reporting & printing tabs have been moved away from the search screens unlike prior versions. On the home screen, there is a component named Reports, where you can create custom reports for printing. Reports will save specific criteria to be recalled later.

Search Screens



Tickets & Loads, Formulas, Materials, Parties and Equipment all have unique search screens. Tickets have an additional search screen for loads. As there will generally be very few Systems and Reports, these components only have a basic list screen. Originators can be found on the Originators tab of the Settings screen.

Each search screen has unique criteria on the top half that is specific to the components they search. Take some time to review each screen to get familiarized with the available options for searching. All text boxes use case-insensitive, partial-matching to filter results. Select “Any” in a dropdown as a wildcard. Pressing the Enter key or clicking the Search button will search. Pressing the F5 key or clicking the Clear button will reset the criteria to default.

Navigation and Interaction

All screens in ControlPro are interacted with in similar ways.

Miscellaneous

In the upper right-hand corner of all ControlPro screen are three buttons. These buttons: minimize all non-Home screens, activate all screens, and close all non-Home screens. Hovering over these buttons will display a tooltip with their keyboard shortcuts.

Double pressing the Escape key will close the active window. If a row is selected in a grid, single pressing the Escape key will de-select the active row.

All screens can be navigated to via the Home screen's icons, the windows' menus, or keyboard shortcuts.

Modal Screens

When a modal screen is open, all non-modal ControlPro screens will be grayed out and ignore mouse clicks. Exit the modal screen to return the application to normal operation.

Finding Specific Components

Finding the specific component you're looking for in ControlPro is straight forward. If you know the ID – or even the partial ID – of the component, you can bring up a blank details screen of that type, enter in the ID in the ID field – the upper left-hand text box with the bold header – and press the Enter key. ControlPro will search internally for the best match and load that component into the screen. If using partial matching, ControlPro will select the most recently modified component that matches the partial ID entered.

This same technique will also work with an open details screen; provided the displayed component does not have unsaved changes.

You can also use a Quick Search ID as well. What this is specifically, is dependent on the component:

- Systems: name
- Tickets: all consignee customer names; AgSync order number
- Formulas: description
- Materials: description
- Parties: name; unattended ID
- Equipment: number; unattended ID

If you don't know the ID – or the partial ID or Quick Search ID you're using isn't bringing up the correct component – you'll have to use the appropriate search screen.

The Home screen is also a good source for finding what you're looking for. Underneath each component is a tag list of Currently Open Components. Clicking on one of these tags will bring that screen to the front. Hovering over a tag will display a summary. Clicking a tag's red circle with a backslash icon will close that screen.

Clicking on the small clock icon in the component's bottom left-hand corner will toggle the tag list to Recently Closed Components. Clicking on one of these tags will reopen the details screen. Clicking on the red circle with a backslash icon will remove that tag from the list.

Grids

All grids behave in a similar manner. Columns with italic headers are read-only. Columns with bold headers are editable. If a column header is bold and has an asterisk, it is conditionally editable. What condition that is, is dependent on the screen in question. Examples: 1) the Batch Amt. column in the grid on the Batches tab of the System Details screen is only editable when not processing a batch. Once processing has started, the grid is considered to be read-only. 2) the Material* column in the grid on the Materials tab of the Ticket Details is editable only when adding a new material. This column cannot be edited for existing rows.

Double-clicking a grid row in a read-only cell will open up the appropriate details screen. Double-clicking a row in an editable cell will start editing that cell. As normal, pressing the F2 key will also start grid editing in the selected cell. In-grid edits are saved when another row is selected or the Enter key is pressed.

Multiple grid rows can be selected by using the Control and Shift keys in coordination with right-mouse clicks in the normal Windows manner. With rows selected, right-mouse-clicking and holding will initiate a drag operation – see Assigning Children below.

All grids that display a list of child components will have a blank row at the bottom. This is used for assigning children – see below.

Adding Children

You can add children to a parent in many different ways. Give them all a try and pick the ones you're most comfortable with. The following techniques are mostly interchangeable and work. Note that some potential parent components may not allow child additions in some situations – notably completed or in-process tickets.

There is a blank row at the bottom of every grid on a details screen. Typing an ID or Quick Search ID in the far-left ID cell and pressing the Enter key will search for the requested component in the same way as opening the desired details screen discussed above. If a match is found, that component will be added to the parent. Some grids – like alternate ID grids – have an originator dropdown to select from in its far-left column. Double clicking this cell works as well.

There is a green plus icon in the tab header of the tab panel containing the child grid. Clicking this icon will open a modal search screen. Use the criteria normally to filter the results, select the child or children components you want and press the Enter key. Alternatively, double-click the grid row you want. The selected components will be added to the parent.

Components can be dragged and dropped onto the parent to add them. Either select as many rows in a search screen grid – or rows on a child grid on another parent – and drag and drop them on the target parent component to add them. Alternatively, click and hold on the background of any details screen to start dragging that component. Both methods are identical in their interaction with a dropped-on parent. Dragging a tag item from the Home screen also works.

For example, the following will all result in “Material A” being added to “Ticket 123”:

- Dragging from the background of “Material A”’s Material Details screen
- Dragging from “Material A”’s selected row from a [non-modal] Material Search screen
- Dragging from “Material A”’s selected row in “North System”’s System Details’ Materials tab
- Dragging from “Material A”’s selected row in “Ticket 456”’s Ticket Details’ Materials tab
- Dragging from “Material A”’s Recently Closed tag on the Home screen

The below lists the drag and drop interactions ControlPro supports:

- Ticket(s) -> System: add ticket(s)
- Ticket -> Ticket: adds ticket’s material(s)
- Ticket -> Formula: adds ticket’s material(s)
- Formula -> Ticket: adds formula’s material(s)
- Formula -> Formula: adds formula’s material(s)
- Material(s) -> System: add material(s)
- Material(s) -> Ticket: adds material(s)
- Material(s) -> Formula: adds material(s)
- Party -> System: adds party as batch driver [assuming driver type]
- Party(s) -> Ticket: adds party(s) as consignee(s) [assuming customer type]
- Equipment -> System: adds equipment as batch equipment

Removing Children

To remove children, simply select the child or children in a grid and press the Delete key.

Keyboard Shortcuts

Almost all screens in ControlPro are mapped to keyboard shortcuts. Hovering over any icon on the Home screen will bring up a tooltip that displays the corresponding shortcut. You can also see the shortcuts in the menus.

The following are a list of basic shortcuts. There are others:

- Ctrl + S: System Details
- Ctrl + T: Ticket Details
- Ctrl + F: Formula Details
- Ctrl + M: Material Details
- Ctrl + P: Party Details
- Ctrl + Q: Equipment Details

Add an Alt key press to the shortcut to bring up search screens. Add a shift key press to the shortcut to bring up a new details screen.

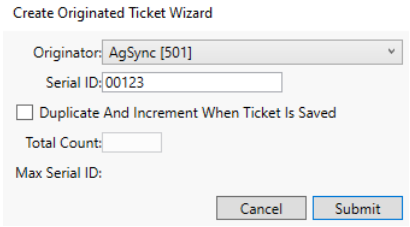
Creating New Components

Any component can be created locally by clicking the green plus inside of a circle icon on the Home screen. The new component will have an ID consisting of this ControlPro instance's originator prefix followed by an internally maintained serial ID. Some components – notably tickets – prepend the last digit of the current year onto this serial and reset the serial back to 1 at the turn of the year. For example, the 107th ticket created locally in 2018 by a ControlPro with an originator prefix of "901" would have an ID of "9018000107".

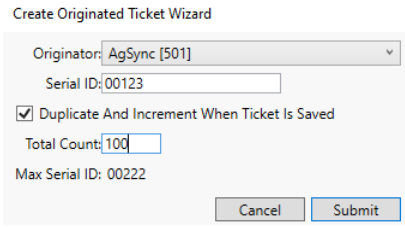
Any originator setup as a 3rd party originator with an interface type other than "None" can communicate with a supported agronomy software package to create components automatically in the background. The IDs of the created components will consist of the originator's 3-digit prefix followed by the serial ID that is associated with that agronomy software package. For example, if an agronomy interface with an originator prefix of "201" created a ticket with an ID of "00123-A", the ticket in ControlPro would have an ID of "201000123-A".

A 3rd option is to use the Create Originated [Component] Wizard. This allows the creation of one or more components using the specified serial ID. All created components will have their ID's prefixed with the originator's prefix.

For example, clicking the Submit button will open up a New Ticket Details screen with ID "40100123". Users can modify the ticket as much as desired. Tickets created in this manner will ignore any ticket exception validation until after the first save.



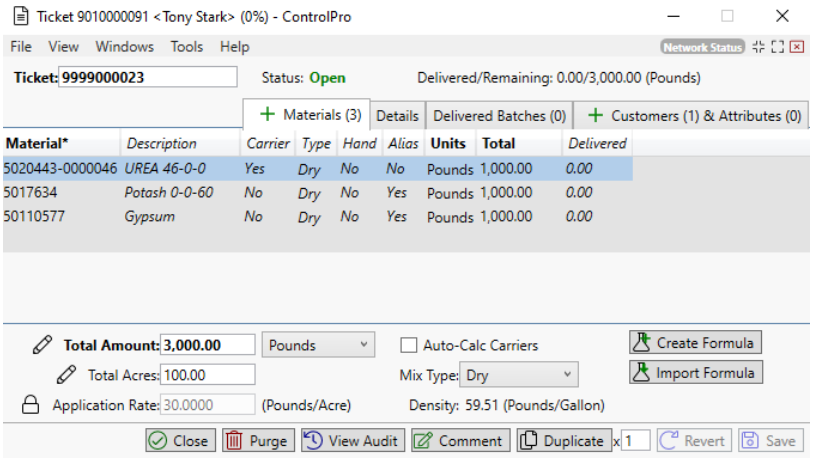
In this example, ControlPro will open a New Ticket Details screen with ID "40100123" identically as above. However, when the ticket is saved, 99 other identical tickets will be created as well. The last ticket will have an ID of "40100222".



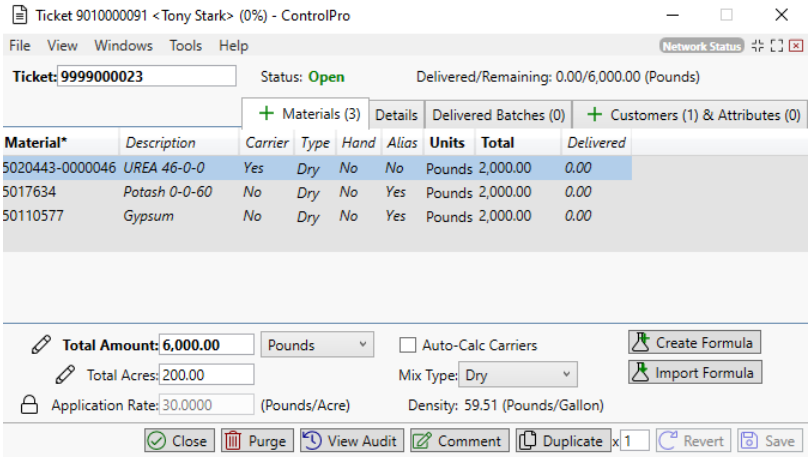
Modifying Recipes on Ticket and Formula Details

For most users interfacing with agronomy software packages, all formulation will occur outside of ControlPro. For use-cases where tickets are created in ControlPro for one reason or another, the application provides useful tools to assist in creating the desired recipe.

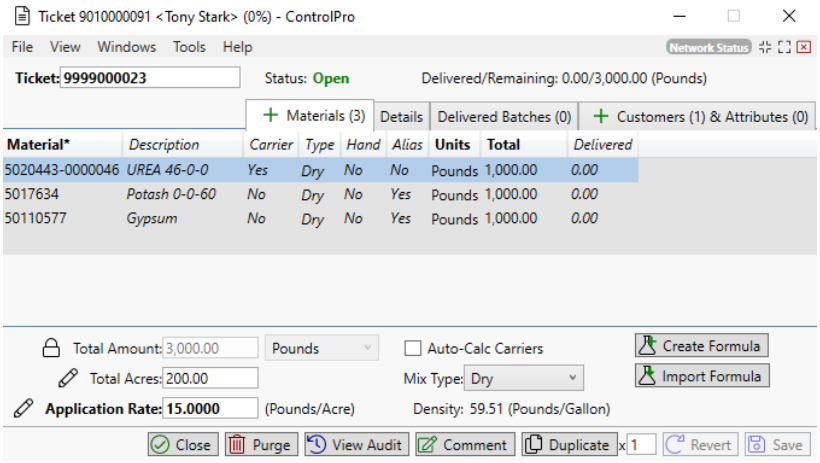
The recipe panel on the Ticket Details' Materials' tab is identical to the one on the Formula Details screen.



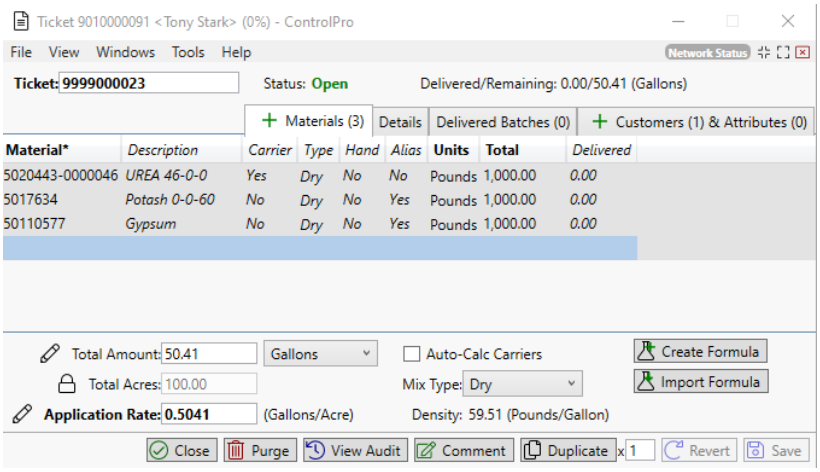
The first column is used to control recipe total amounts. Two of these fields can be editable and one is locked down. Modifying one of the editable fields with auto-calculate the other editable field. The field you are editing is in normal font, the field that is auto-calculating is bolded, and the locked down field is grayed out. For example, in the above screenshot, Application Rate is locked down. If we change the Total Acres to 200.00 acres, the Total Amount will auto-calculate to 6,000.00 pounds. Individual material amounts will be auto-calculated accordingly.



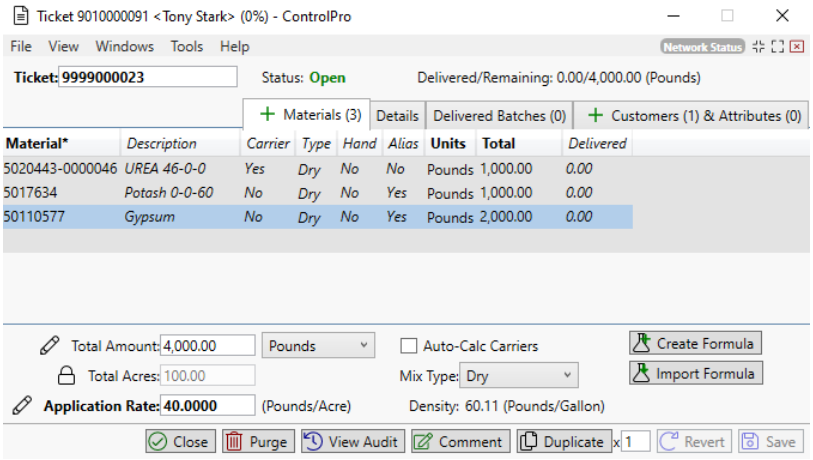
As a second example, if the Total Amount were locked down and the Total Acres changed to 200.00 acres as before, the Total Amount wouldn't change – nor would the individual material amounts. The Application Rate would however be halved to 15.0000 pounds/acre.



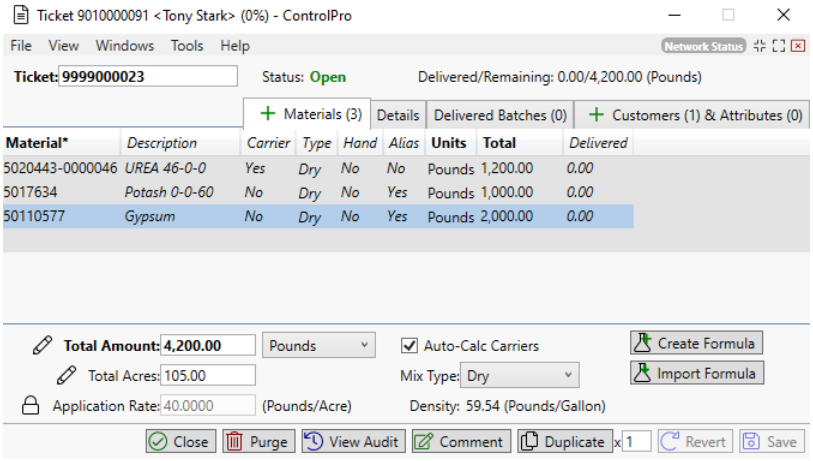
Changing the Total Amount's units will not affect the individual material amounts. It will just affect the unit that the recipe is totaled in. When the unit is changed to "Gallons", notice that the Total Amount is now calculated in "Gallons", the Application Rate is now displayed in "Gallons/Acre", the Delivered/Remaining fields are displayed in "Gallons", all while not changing any actual material amounts.



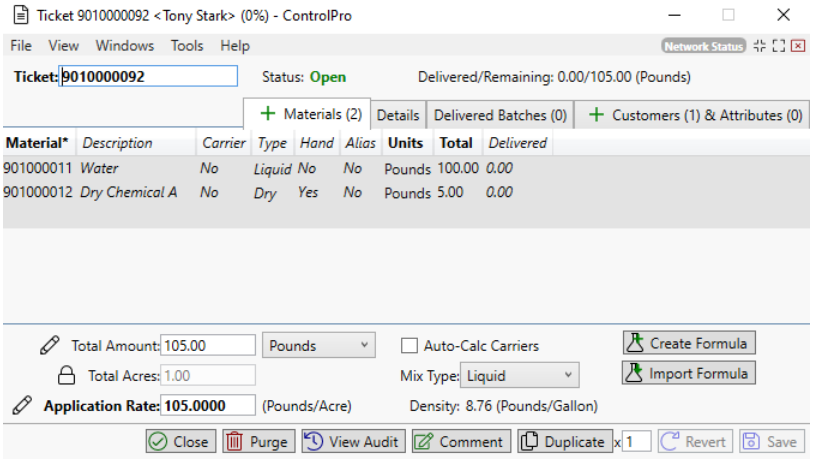
Similar behavior is observed when individual material amounts are modified. By editing a material amount, the Total Acres are locked down and both the Total Amount and Application Rate fields are bolded; as they are being auto-calculated. If we change the amount of "Gypsum" from 1,000.00 pounds to 2,000.00, we get this result.



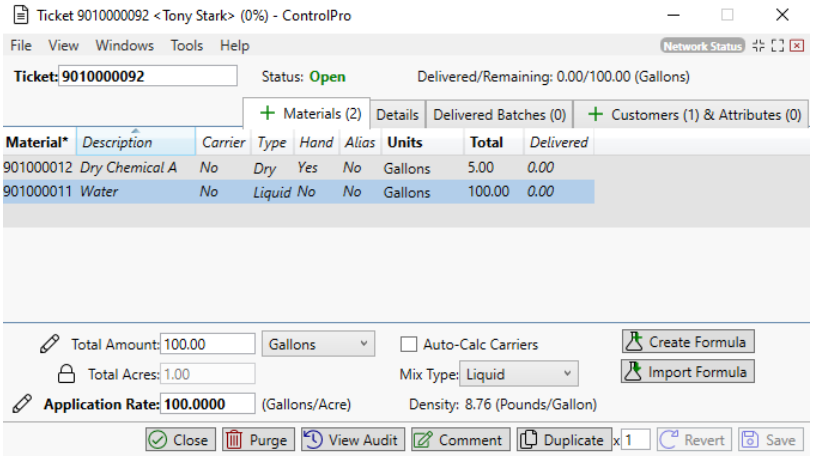
Auto-Calc Carriers is used to modify carrier-only materials. Use this feature to strengthen or weaken the recipe without actually changing the amount of chemicals the customer is paying for. This feature is used more in liquid applications where water is free; but the math works the same for dry. For example, if we lock down the Application Rate, set the Auto-Calc Carriers option, and change the Total Acres to 105.00 acres, ControlPro will auto-calculate the amount of extra carrier needed; which in this case in 200.00 more pounds of "UREA 46-0-0". The other two non-carrier materials are unaffected.



The last field is the Mix Type. This specifies Dry or Liquid. The main use of this is to calculate Total Amounts and Application Rates when the Total Amount unit is volumetric. While mass is mass and is immutable, volumes changes of mixtures are dependent on the chemical interactions of the materials involved. For example, if you dissolve 5 pounds of "Dry Chemical A" into 100 pounds of water, the resulting mixture will weigh 105 pounds.



However, if you dissolve 5 gallons of “Dry Chemical A” into 100 gallons of water, the resulting mixture could be 100 gallons; it could also be 101 gallons; or 99 gallons; or 105 gallons. There’s no way of knowing without prior knowledge of the chemical reaction taking place when mixing two or more materials together. To skirt around this issue, ControlPro ignores the volumes of all materials that are of a different physical state type of the recipe as a whole. This logic is used for dissolving dry materials into a liquid mix or impregnating liquid materials into a dry mix.

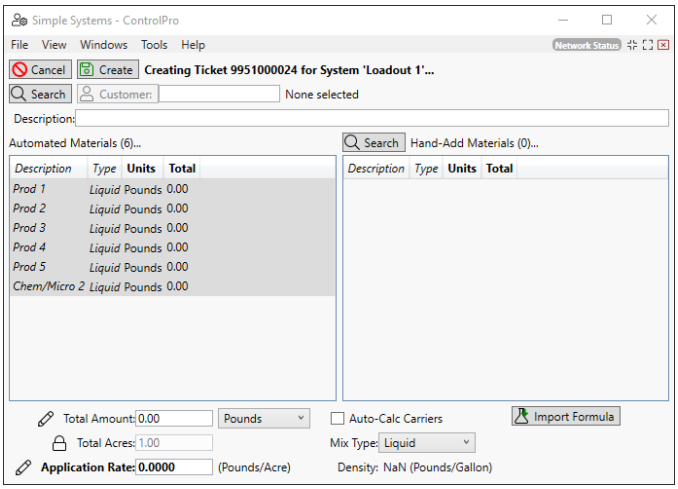


Note that in the previous two screenshots, the density is the same; regardless of the Total Amount unit.

Processing Batches on the Simple System

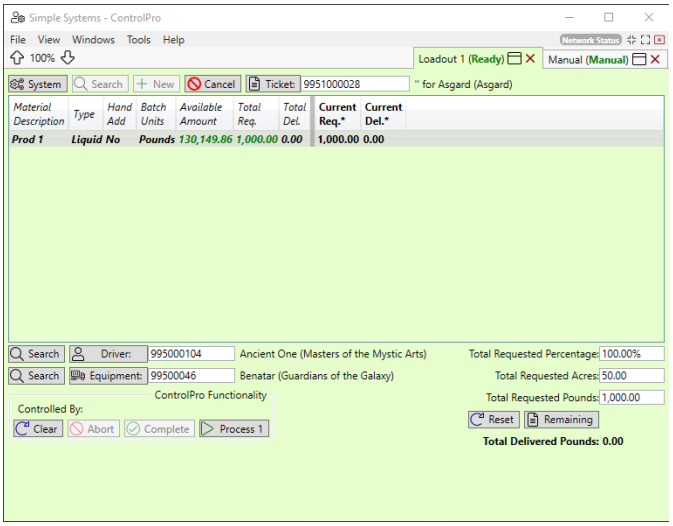
The Simple System is a one stop shop for a manual operation of any system, giving the opportunity to process existing tickets, create new ticket, adjust requested amounts, and even view progress of tickets as they are being processed.

A ticket can be added to the Simple System by searching through partial ticket search, the search window, or by creating a new ticket. By selecting the “New” button will prompt with a screen to create a basic ticket. Here you can change the amounts for automated materials on the left grid and change the amounts for hand adds on the right grid. Note the Hand add grid on the right will display the most used while the automated materials on the left grid will display all automated materials assigned to that system.

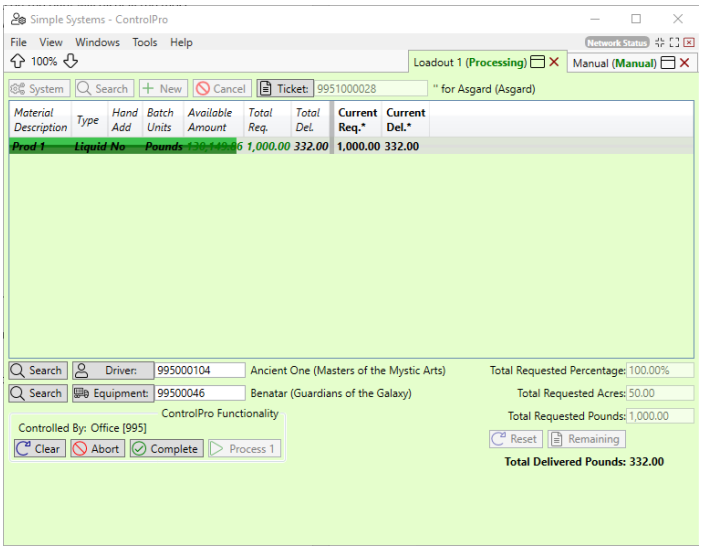


Once a ticket is added to a system, the batch amount can be further modified by changing the Batch %, Acres, or Pounds on the bottom right of the screen. These values are based on the recipe specifics and the ticket’s Estimated Batches field. Note that the unit of measure column is dependent on the unit of measure the system is using, not the individual tickets.

At the bottom left of the Simple System there is the option to add a driver or equipment via the search window or by the partial fill text box the same as the ticket text box works above.



Clicking the Remaining Ticket button at the bottom right of the screen will similarly auto-calculate the size of the necessary batch by the total amount of material left to be delivered on all selected tickets. Note this is by ticket totals, not individual materials. Clicking the Reset All button will revert all batch sizes back to defaults. This is the same as how it operates within the System Details screen.

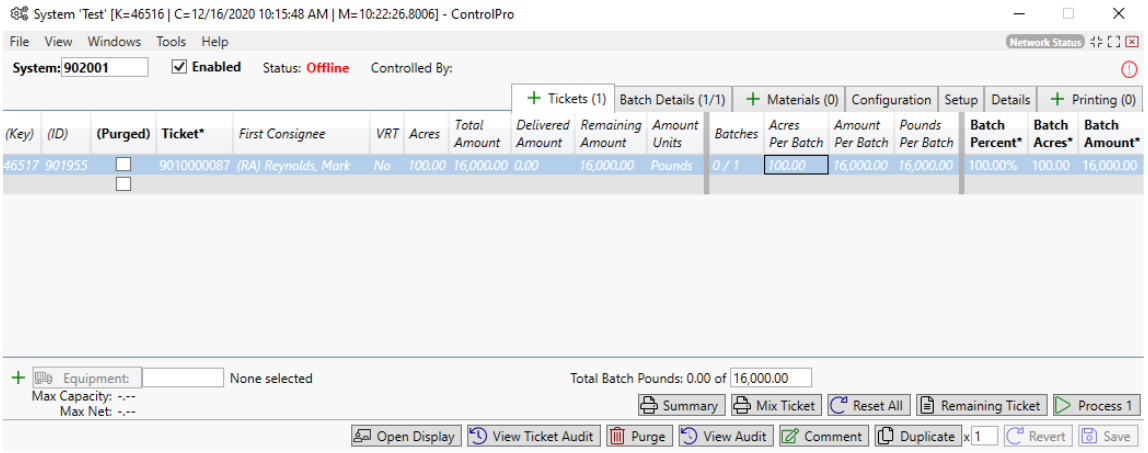


Once ready to proceed with the ticket, the process button will send the ticket to the panel for processing. Just as on the System Details screen, progress bars will walk across the grid as material actuals are reported. The ticket will then also auto complete when either all batches are loaded, the total materials delivered reaches 99%, or if the manual complete button is pressed.

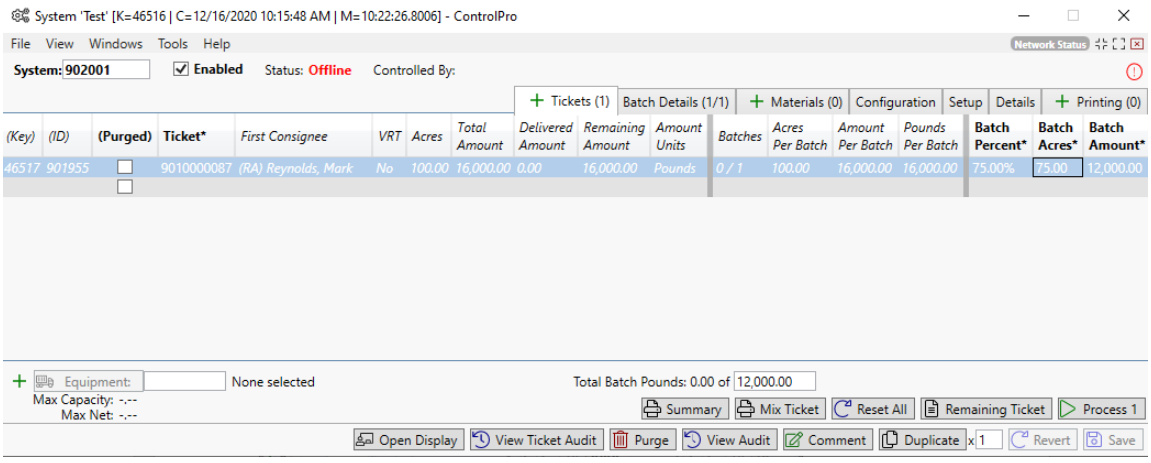
Processing Batches on the System Details

The System Details gives more detailed adjustments to the system, tickets, and batches that would be seen in the Simple System screen.

Once tickets are added to a system, their batch amount can be further modified by changing the Batch %, Pounds, or Acres columns. These values are based on the recipe specifics and the ticket's Estimated Batches field. Note that the unit of measure column is dependent on the unit of measure the system is using, not the individual tickets.

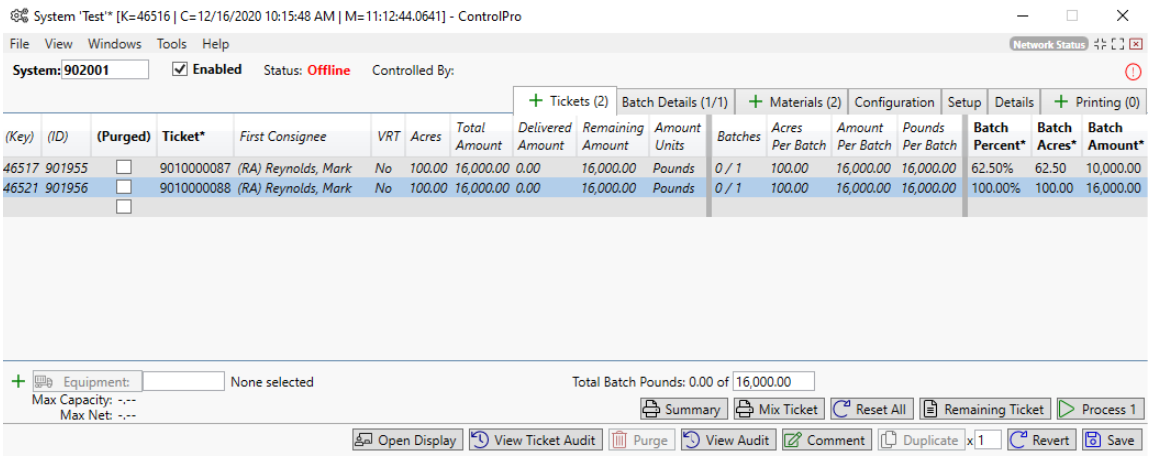


For example, changing the Acres cell to 75.00 acres recalculates the Batch % to 75.00% and the Pounds to be 12,000.00 pounds from 100% and 16,000.00, respectively. Editing the Total Batch Pounds field below the tickets grid and above the buttons will also have the same affect. You can see the number of tickets and materials to be delivered in this batch in the Batch Details tab's header – (1/4) in this example.

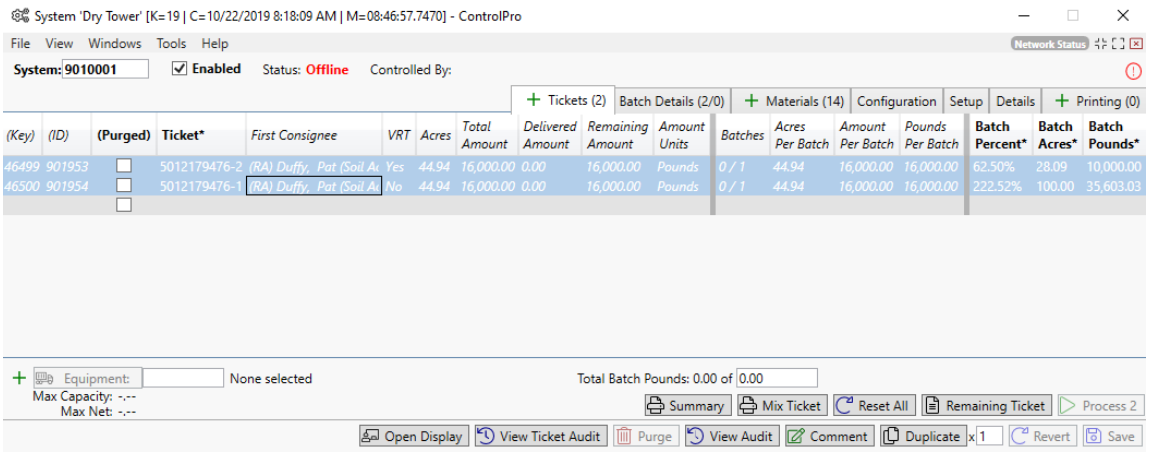


Clicking the Remaining Ticket button at the bottom right of the screen will similarly auto-calculate the size of the necessary batch by the total amount of material left to be delivered on all selected tickets. Note this is by ticket totals, not individual materials. Clicking the Reset All button will revert all batch sizes back to defaults.

Two or more tickets can be combined into a multi-ticket batch; so long as their recipes are identical. (The level of precision that defines “identical” can be set on the Settings screen.) The logic dictating this is independent of field size, material amounts, or application rate. It is solely dependent on material ratios in the recipes. If multiple selected tickets are permitted to be batched together, the Batch Details tab header will show the number of tickets in the batch, and the number of materials to be delivered – (2/4) in this example. Also, the Process button will be enabled and display the number of tickets to be processed.



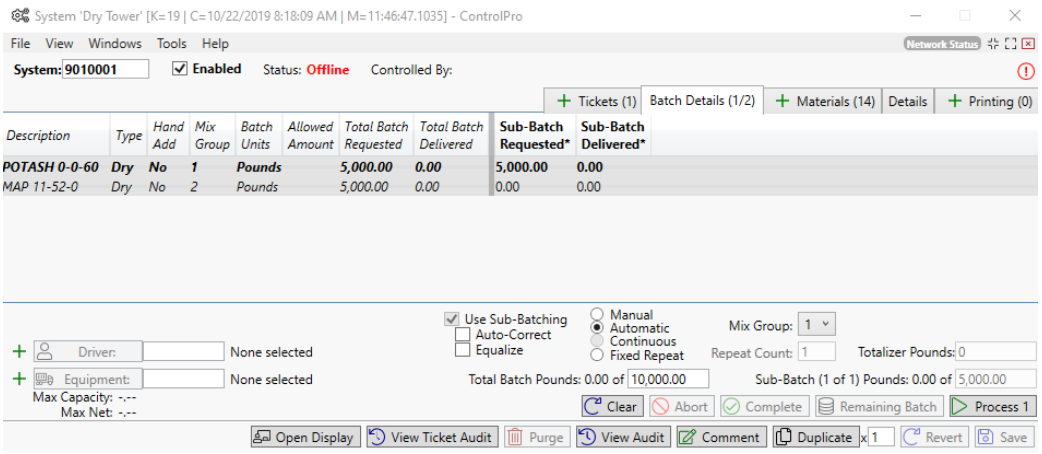
If the tickets’ recipes are not identical, the Batch Details tab’s header will show zero materials will be delivered – (2/0) in this example) – and the Process button will be grayed out.



Once the ticket(s) you want to process are selected, you can click the Process button at the bottom of the screen and deliver the batch. If you want more control over the batch specifics, move over to the Batch Details tab. From here, you can assign a driver or equipment to the batch. These use the same partial ID matching logic as elsewhere in the application. Tab out of the fields to add the driver or equipment.

At the bottom of the tab are some buttons. Summary prints a summary of all assigned tickets. Mix Ticket reprints the mix ticket of the processing ticket. Reset All resets all batch amounts to their default values. Remaining Ticket calculates the batch amount of all selected tickets to the size needed to being those tickets to 100% delivered.

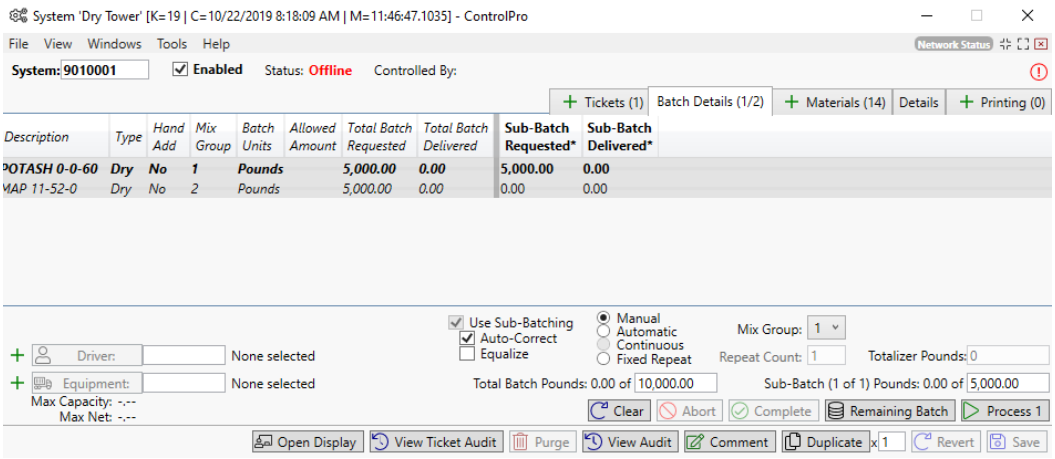
The materials that will be sent over to the mixer in this sub-batch will be bolded. For non-VRT tickets, this will be all materials.



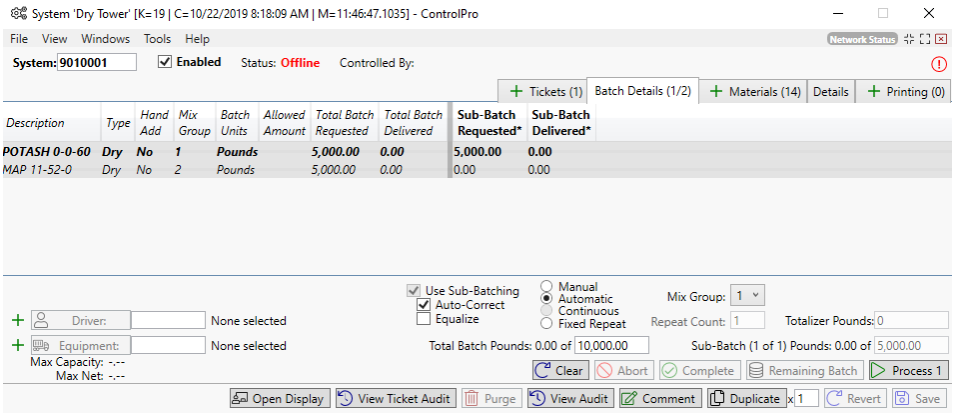
Select the Use Sub-Batch option if the equipment has multiple containers or the size of the batch exceeds the size of the mixer. When only processing a single batch or when sub-batching Automatically or Fixed Repeat, batches will automatically complete. Also, if a driver is assigned to the batch and signature capture is enabled, the Complete button will need to be clicked to complete the batch and prompt for the driver's signature.

If the Auto-Correct option is selected, the amount of material requested will be adjusted by the amount delivered in the previous sub-batches. If not, the amount of material requested will always equal the amount in the Batch Requested column.

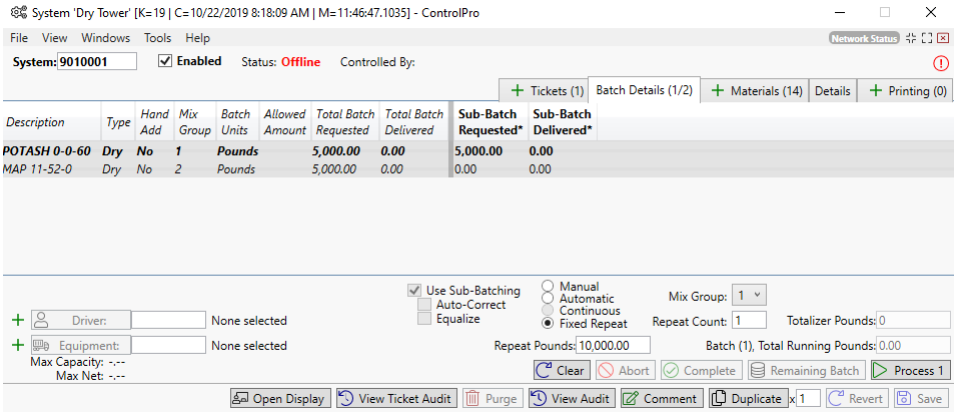
Manual sub-batching allows the user to specify the size of the sub-batch and/or modify the amount of material request on each sub-batch. If sub-batching manually, the Complete button will need to be clicked to complete the batch. Clicking the Remaining Batch button will calculate the amount of material needed to complete the batch.



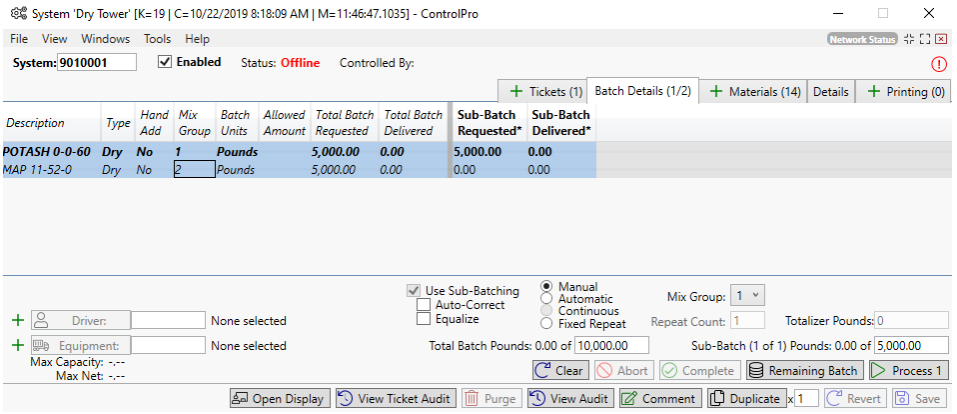
Automatic sub-batching will calculate the necessary materials and restart each sub-batch automatically.



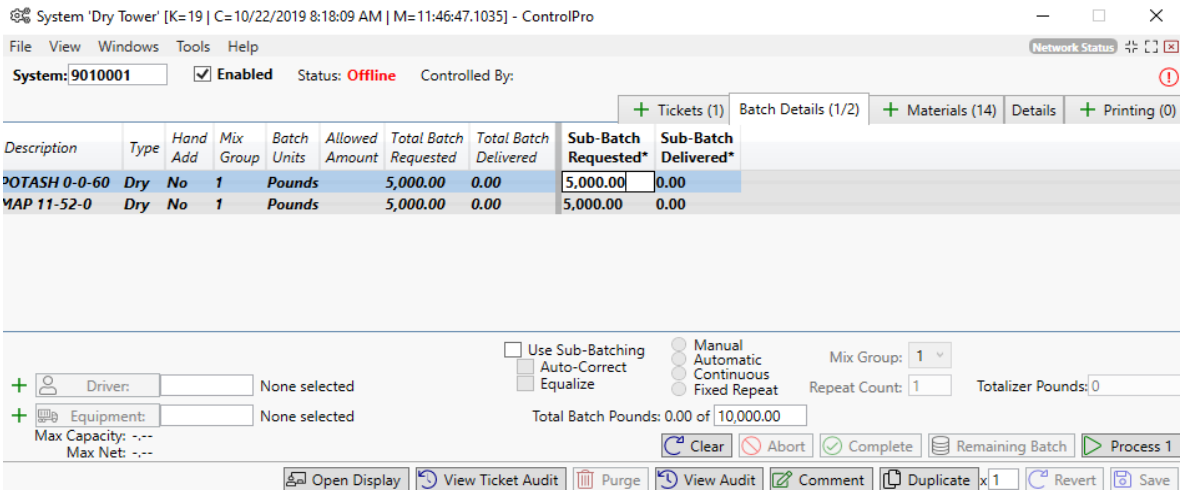
Using the Fixed Repeat option to send one batch after another and then complete automatically. This could be used in liquid scenarios to fill a tank with 28% by mixing 32% and water together. Specify the number sub-batches to send in the Repeat Count field.



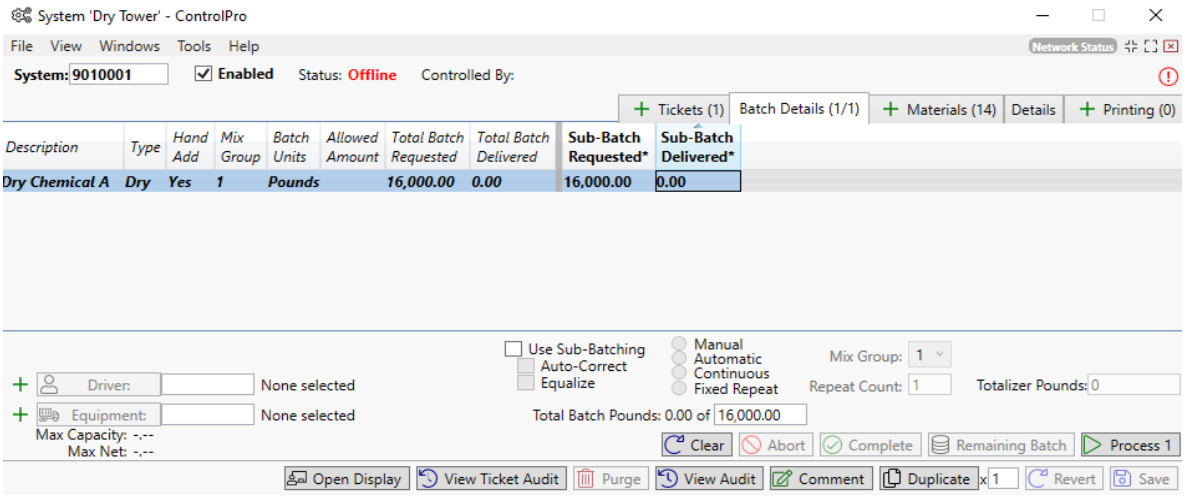
VRT tickets will select the Use Sub-Batch option as a requirement. Use the Mix Group checkbox to select the mix group to deliver. Clicking the process button will send just the materials in that mix group to the system for delivery. Materials in the selected mix group will be bolded in the grid. When the sub-batch completes, select the next mix group and process the batch. When all mix groups have been delivered, complete the batch, click the Complete button to complete the batch.



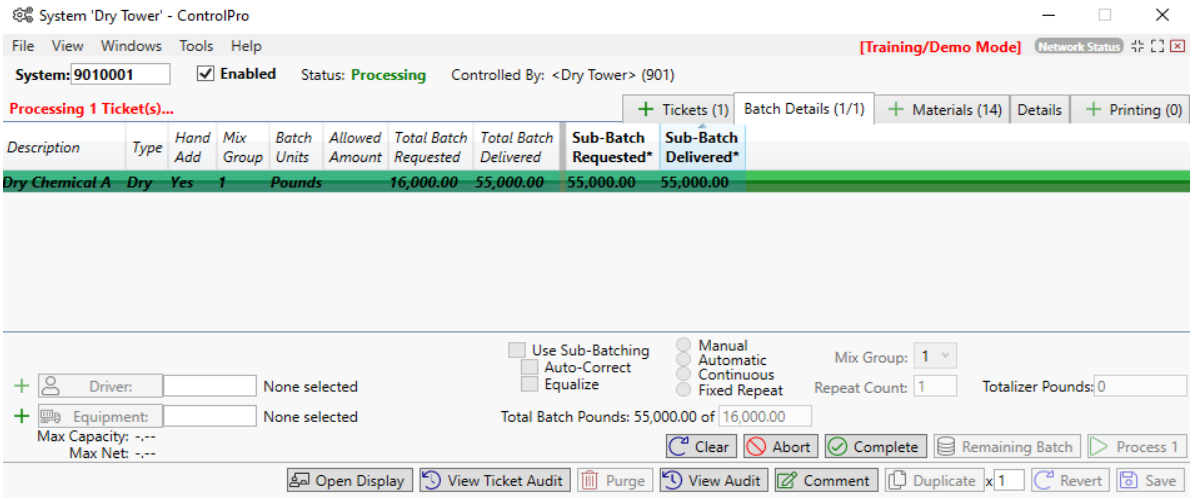
Material amounts can be further modified by editing the Sub-Batch Requested column. This column is read-only while a batch is being delivered.



Hand-add actuals are automatically moved over to the Sub-Batch Delivered column when the batch is sent to the system. This amount can be edited at any time before the batch completes. This column is only editable while a batch is being delivered.



Two green bars will walk across the screen as materials are delivered. The top, light green bar is the sub-batch progress. The bottom darker green bar is the total batch progress. When not sub-batching, these bars will be the same length. When sub-batching, they will be different lengths.



Across the bottom of the tab are some buttons. If no materials have been delivered, or if the system got itself into an odd state, clicking the Clear button will reset both the physical system and the system in ControlPro and everything will be like nothing happened. Although, this action is audited. If materials have been delivered, the Clear option is not available.

The Stop/Go button will pause and start the system's mixing. If something has gone wrong and the batch needs to be disposed of, click the Abort button. All delivered materials will be added to a new Abort Ticket. This maintains accountability of the aborted materials for inventory purposes, but the original ticket is unaffected. The Complete button will complete a batch as-is. And we've already discussed the Process button.

Batches vs. Sub-Batches

A batch consists of the total amount of material to be loaded onto a truck, trailer, etc. The total batch amount is limited by several factors. A batch size is limited to the smallest factor listed below:

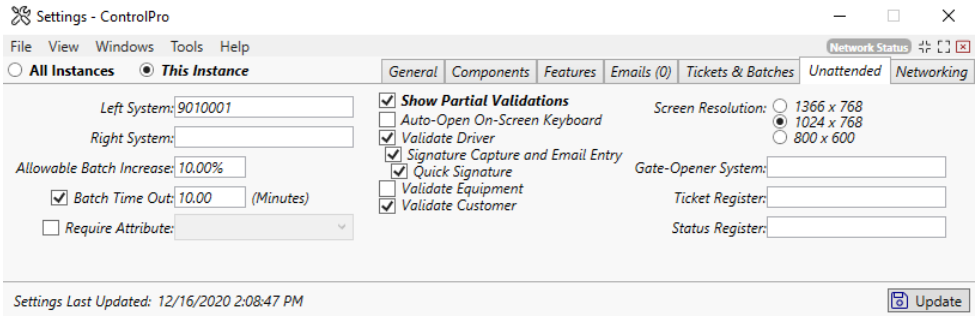
- Max Gross Weight (Settings screen) – assigned equipment's Tare Weight (Equipment screen)
- Equipment Capacity (Equipment screen)
- Max Batch Size (System screen)

Regardless of the number of sub-batches ran, only a single bill of lading will be generated for the entire batch.

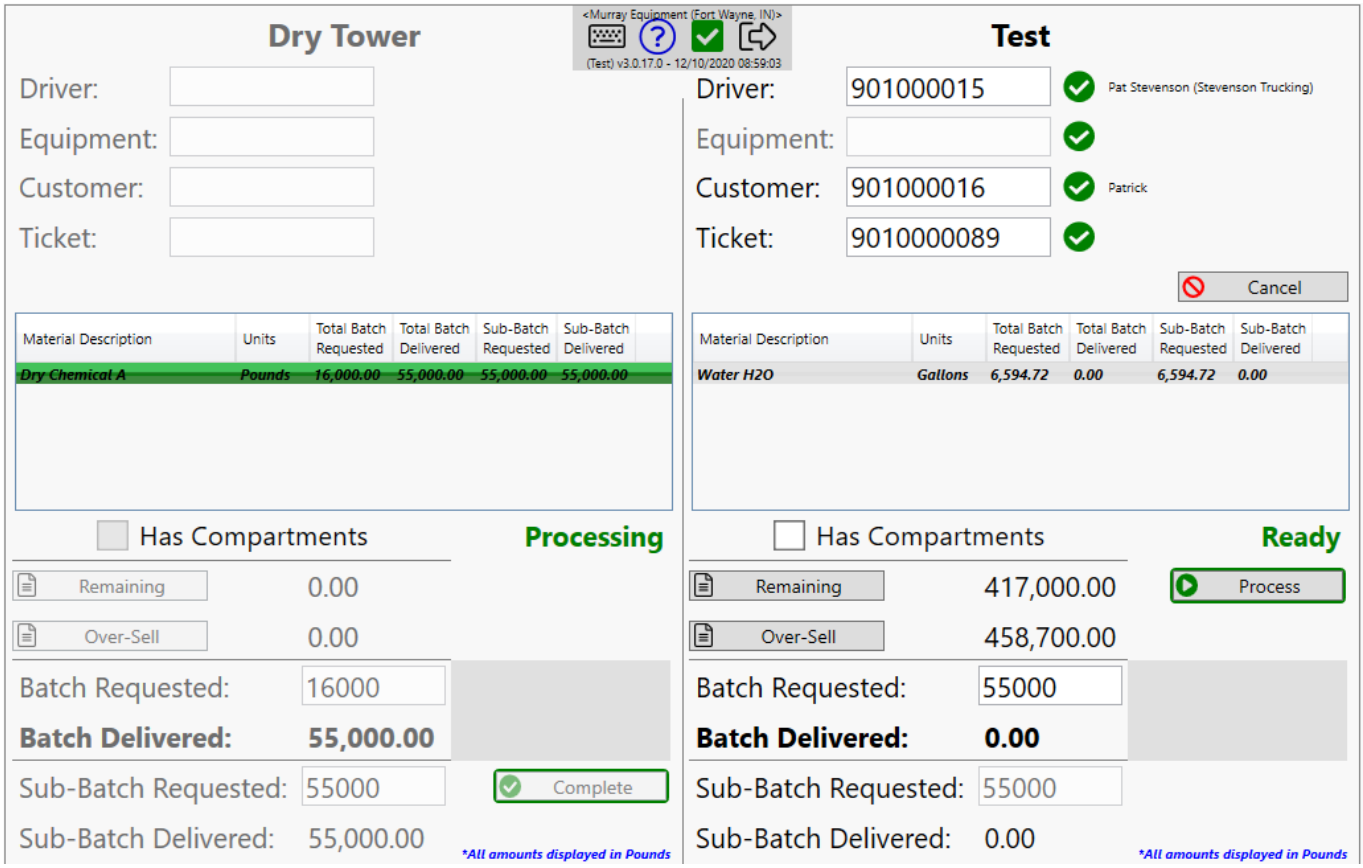
Sub-batches will always be smaller than batches. Sub-batches can be used because a piece of equipment has multiple compartments, or a truck is pulling a pup trailer and a single bill of lading is desired. A system could also have a small mixer that needs to be filled and emptied multiple times to fulfill an entire batch.

Unattended Systems

In addition to manually operating systems through the System Details screens, ControlPro can be configured to operate unattended via the Unattended Systems screen. The Unattended tab on the Settings screen has all the configuration options available. Notably: users can configure which systems to display, whether to allow ticket over-selling, how tickets are validated, whether to capture driver signatures, enable a session timer, configure a gate opener, etc.

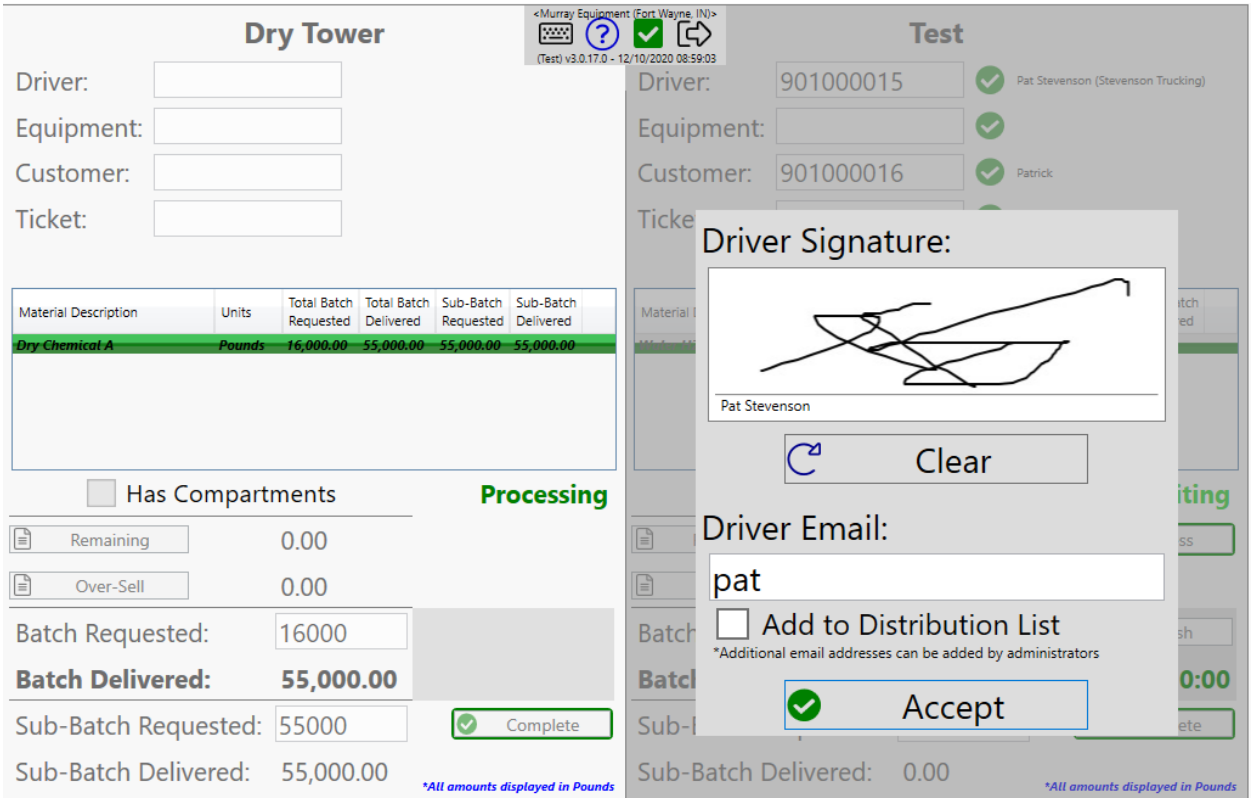


Once a driver has entered in all validations in the top half of the screen, the bottom half of the screen enables. Drivers can manually enter in the desired batch amount or click the Remaining or Over-Sell buttons to automatically calculate the batch size. The Has Compartments checkbox has the same functionality as the Multi-Batch checkbox on the System Details screen.



Once ready to proceed, the driver clicks the Process button and batch delivery starts. Just as on the System Details screen, progress bars will walk across the grid as material actuals are reported. If delivering material into a container that does not have compartments, the ticket will auto-complete once the mixer reports complete. If the container has compartments, the Unattended Systems screen will allow the driver to select another batch size and deliver again or complete the batch as-is.

If capturing driver signatures, the Signature panel will popup next. Drivers sign directly onto the touchscreen using their finger or a stylus. Clicking the Accept button will print out and/or email any deliver ticket(s) and reset the system for the next driver.



Note that two loads can be delivered on two systems simultaneously with this screen. While this screen is open, most of Windows functionality is disabled: start menu, task bar, Alt keys, Ctrl keys, and the Unattended Systems screen is locked as the top-most window. Ctrl + Alt + Delete is the only Windows command that can get around ControlPro's lockout – because this is how Windows works.

Print Template Overview

ControlPro supports multiple types of printing. Every search screen supports reporting functionality. Every report you make can have its own unique print template(s). Outside of reporting, systems can print ticket summaries of all assigned tickets at any time, and print mix tickets whenever a batch is sent for processing. When batches are completed – or from the Loads tab of the Ticket Details screen – delivery tickets can be printed.

The basic premise for templates is that users can layout Word documents using any font, formatting, images, etc. desired. When ControlPro processes a template, it replaces all the supported tags with the specified pieces of data. Tags are recognized as text inside squiggly brackets. For example, {TIK_ID} will map to a ticket's ID.

Full documentation on print templates can be found in: C:\Murray\ControlPro\Templates\Template Documentation.docx

Glossary

- **Material**: a product that can either be automated, a hand-add, or a billing-only line item. These exist globally throughout the application. They can be assigned to tickets, formulas, systems, and other materials as ingredients. E.g., “32%”, “Water”, “Delivery Charge”, etc.
    - **Aggregate Material**: a [finished] material with ingredient materials.
    - **Stores**: CP’s inventory management component. Inventory can be managed via transactions and/or tank level sensors.
- **System**: a physical blender, loadout, or delivery point. Can be maned or unattended. Can be automated, manual, or even an over-the-side load pad.
    - **Materials (system-materials)**: automated materials are configured to system. This way, CP knows which pumps/meters to turn on/monitor. Optionally, both automated and hand-add materials can be assigned to systems so CP can manage their inventories.
    - **Batch**: what materials are being configured for delivery or actively being delivered. Can deliver one or more tickets at the same time.
- **Ticket**: the parent component of a blend. Contains all order and customer information.
    - **Materials (ticket-materials)**: how much of each material is requested and delivered on the ticket. These are the material amounts that are transmitted over an interface.
    - **Customers**: which fields, customers, consignees, carriers, etc. are associated with the ticket.
    - **Dispatches**: an instance of a future pickup to be assigned to a driver, equipment, or carrier. Can be used to streamline the driver experience on the terminal.
    - **Loads**: an instance of a delivery of a ticket. Most tickets will only have a single load. But seasonal tickets for a single customer could potentially have hundreds of loads. Bills of lading (BOLs) are associated with loads.
        - **Materials (load-materials)**: an instance of a delivered material.
        - **Driver & equipment**: which driver, equipment, and/or carrier picked up the load.
- **Formula**: used to create tickets from preexisting templates of blends.
    - **Materials (formula-materials)**: how much of each material to be delivered on the formula.
- **Parties**: drivers, carriers, and customers.
- **Equipment**: trucks, trailers, mini-bulks, etc.