RFID Library Solutions

EZ Sort AMH

Quick Reference Guide

Automated Material Handling System – V7.0

1.1 STARTING THE SOFTWARE

Starting at the CPU desktop, locate and double click on the RFIDLS '**EZ Sort 2.0'** icon. An image of the icon is depicted below.

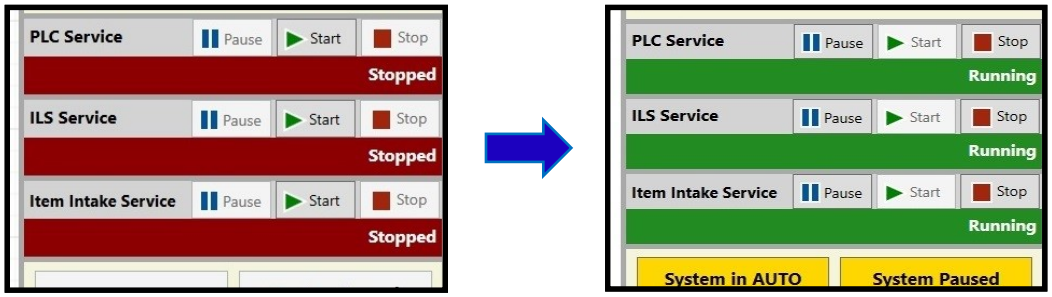
The EZ Sort software might take a minute or two to load and fully open for use on the monitor. Numerous program threads are beginning to communicate with system hardware.

1.2 STARTING THE SYSTEM SERVICES

Three primary system services are responsible for communication between the various installed hardware. They are the PLC, ILS and Item Intake Services. Each can be found on the right side of the Main User Interface in the Status/Control Column.

- The **PLC Service** initiates the heartbeat between the EZ Sort software program and the mechanical control program in the system's power panel. If the PLC Service is not started, conveyors will not move.
- The **ILS Service** is responsible for SIP communication between the AMH staff station CPU and the library ILS server. If the ILS Service is not started, material will not check-in.
- The **Item Intake Service** is the final process to activate. It initiates the RFID readers. Without is started, RFID tags will not be read by antennas under the conveyors.

Services may be started by clicking on the 'Start' arrow in each service row. (***START WITH THE PLC SERVICE FIRST. Wait until green & Running, then start the other two Services***.) A service is operating correctly when the red row changes to green and reads 'Running'. The pictures below display the differences between a stopped Service and a running one.



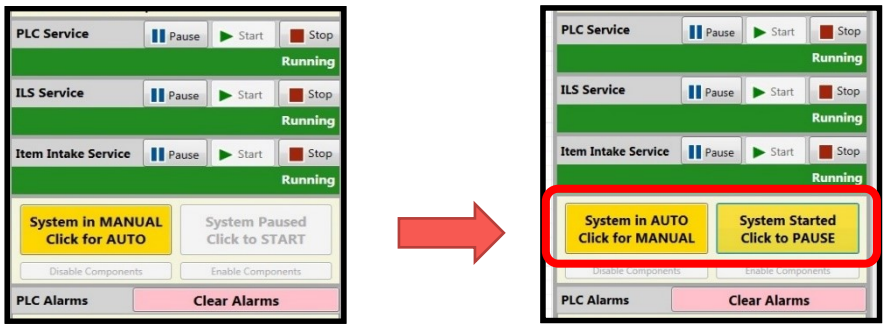
SERVICE ERRORS

If a Service does not start, the row will remain red and an Alert will display in the Service row describing the issue. Each service error will have different consequences as well as areas to search for resolution. PLC Service errors will require an RFID LS Technician to diagnose. ILS service issues could mean a lost connection to the server, loose Ethernet cable or down network. An Item Intake Service error typically involves the RFID readers. Re-starting the readers or checking their network connection is a good place to start to get this service working again.

Once all three Services are green and running, a user may begin operating the AMH system by placing it into AUTO & Start Modes. See the next section for how this is done.

1.3 PLACING THE AMH INTO AUTOMATIC & START MODES

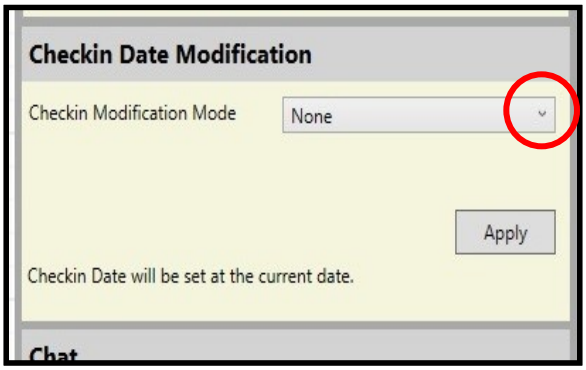
Upon start-up of the EZ Sort Services the system will be in Manual Mode. For the AMH system to run automatically, it must first be put into Automatic Mode. Clicking the yellow 'System in Manual' button shown below will toggle the system between Manual and Automatic modes.



Once in Automatic mode, the system may be started by clicking the yellow button on the right. This button toggles the system between Running and Paused modes. See the red circle above. In AUTO & Running modes, conveyors will initiate for the introduction of material

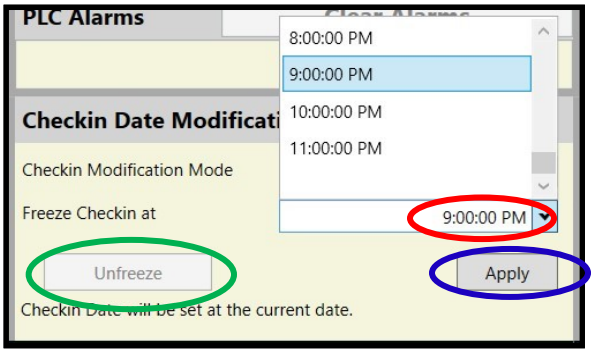
1.4 CHECKIN DATE MODIFICATION SETTINGS

Often it is desirable to modify the check-in date of items as they are processed by the AMH. At times, it may be necessary to Backdate items a day or two. At others, it may be useful to Freeze the Checkin date of items. Many libraries use this feature to hold the check-in date overnight until the library re-opens the next morning.



The ability to adjust dates can be found in the lower right corner of the Main User Interface. Look to the bottom of the Status/Controller Column. An illustration of the 'Checkin Date Modification' center is shown to the right in its default state – checking in items in real time with a current date stamp. To enable Checkin Date Modification, click on the down arrow to display the dropdown menu. Select the desired check-in feature & adjust checkin options as required.

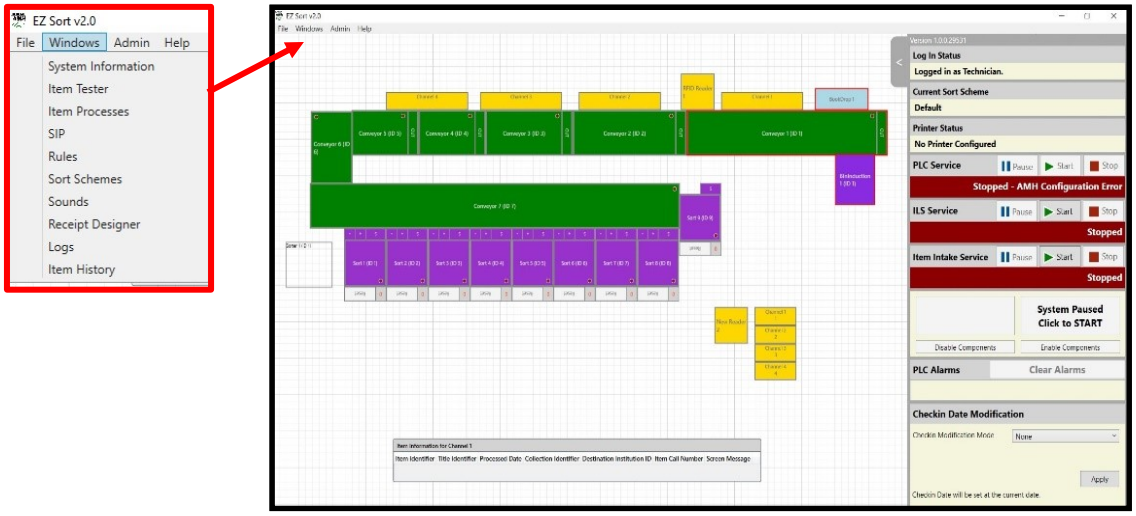
Freezing: Freezing the checked-in date will result in returned material continuously being checked-in at a set date and time. Use the text box to manually enter a time or the down arrow to select one from the dropdown menu. See red circle. Hit 'Apply' when desired time is entered to freeze the check-in time for the day. See blue circle. A confirmation notice will display in the lower left corner. When enabled, the system will AUTOMATICALLY lock the check-in time to 9:00 PM on the day activated. Check-in time stamps will STAY at this time until the 'Unfreeze' box is clicked. See green circle. For example, a library may use this feature to freeze the check-in date over a long Holiday weekend.



To deactivate Backdating or Freeze Checkin Date, simply click on the down arrow in the mode box, and select the 'None" option from the dropdown menu. Click the 'Apply' button to return the system to real-time item check-in. A confirmation will display in the lower left corner.

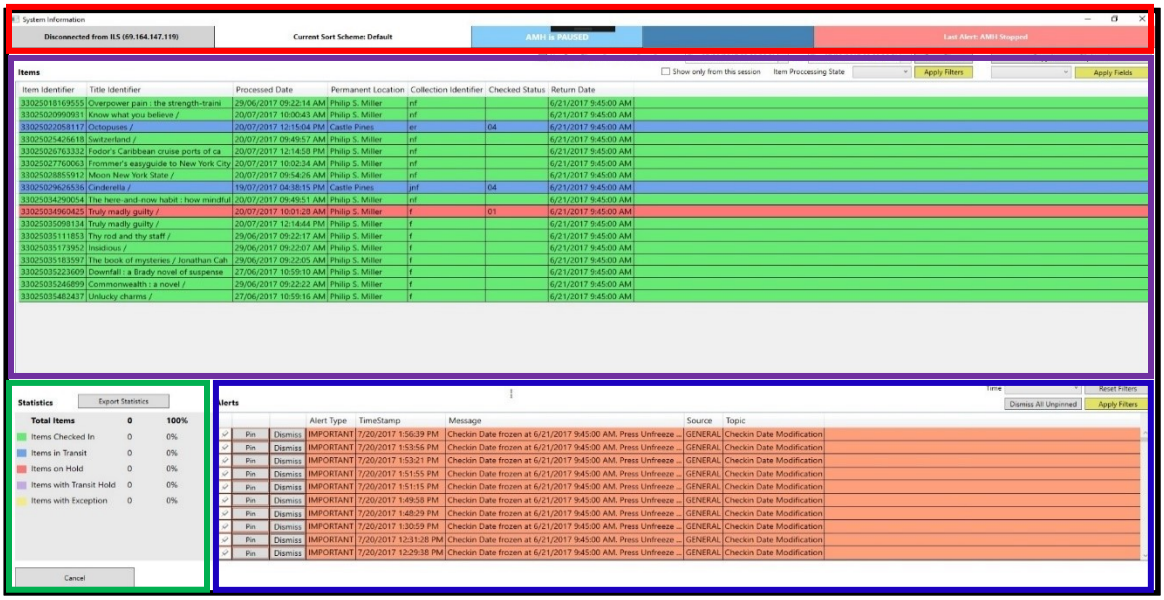
1.5 USER SHORTCUT WINDOWS

Users may change viewable screens to check the status of various system processes. For example, review the item information received from the ILS, view all the items that have been processing by the sorter, adjust sort rules/groups, or examine SIP settings. To open any of these windows, click on the 'Windows' tab in the upper left corner of the main user screen. See red box below…



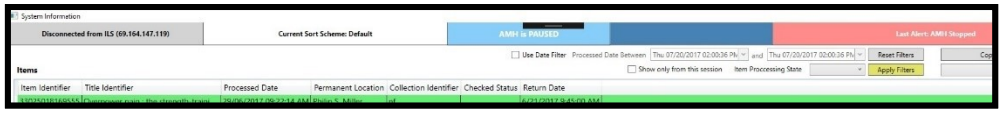
SYSTEM INFORMATION

Beginning across the top row, this updated version displays the status for several key AMH processes using colored tabs. See the illustration on the next page, red box. They include the ILS connection, current sort scheme in use, system Running/Paused state & the Last System Alert. Similar to before, the window also provides a list of all the items processed through the sorter. See the central purple box in the picture at the top of the next page. As before, Items are color coded by type: Hold, Transit, Transit Hold, Checked-in or Exception. The column order may be re-arranged, show different fields and be used to organize/alphabetize columns as needed. General statistics are presented on the screen in the lower left corner. See the green box. The colors 'Checked in Status' coordinates with the 'Item Processed List' from above, and are the current totals/percentages for last hour. Finally, a list of recent alerts and system alarms is compiled on the window. The blue box in the lower right corner shows where to find them. This is where alarms that 'Pause' or stop the system will display. Alerts may be filtered by date. Individual Alerts may be dismissed or deleted from the list. Alerts may also be pinned to the list for reference in the future or spotting system trends.



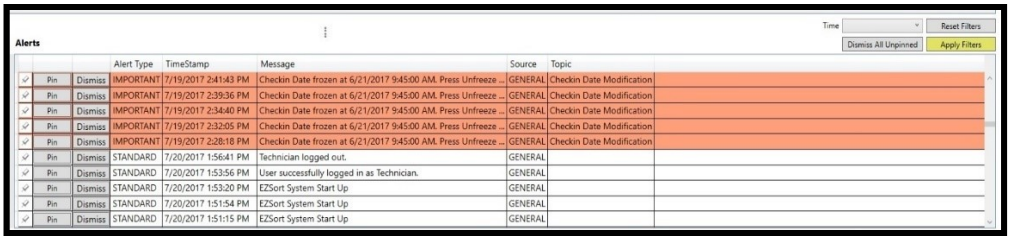
The following is an explanation of how to use & interpret the parts of the 'System Information' window.

System Status Bar: Displays the status of key AMH system processes. They include the ILS connection (grey tab), current sort scheme in use (white tab), system Running/Paused state (blue tab) & the Last System Alert (red tab). See the illustration below. The status bar is for viewing only. Depending on the status shown in each tab, another window may need to be opened in order to change or fix whatever current state is displayed.



Item Processed List: Lists the material recently processed by the AMH system. Columns display various item information returned from the ILS check-in message response. The item status is color coded by type: green for item checked-in for shelving, red for 'Hold' at location, blue for a 'Transit' item, purple for a 'Transit Hold', and yellow for an item with an 'Exception'. Column order may be re-arranged. To do so, click the column header, hold and drag to new position in order. A single click on the column header will organize the item list by the that field. Column fields may be added or removed using the 'Filter' tabs.

Alerts: A very important user functionality and visual component. It displays an ongoing list of alarms that have occurred on the AMH system. The 'Alerts' fall into three (3) categories, Critical (deep red), Important (light red) and Standard (white). Each has a different effect or response level required. Besides providing the 'Alert Type', a 'Time Stamp, brief 'Message', system 'Source' and 'Topic' are given. Alerts may also be pinned or deleted from the dynamic list. Clicking on the grey 'Pin' button locks that particular alert to the list, while hitting the 'Dismiss' button removes the alert from the list. A confirmation box will display asking the user to confirm the "Alert's" removal.



Critical Alert: An alarm that pauses the AMH system. It could be a 'Sort Sensor Blocked', loss of ILS connection, RFID reader failure, lost PLC communication, or another sensor blockage type. These will require library staff to follow their training for each type of Critical Alert. In other words, the mechanical issue will have to dealt with first, and then the 'Alert' dismissed from the list. The system may also need to be returned to 'Auto' and 'Run' modes. In addition, do not forget to verify that all three primary services are running with a green bar.

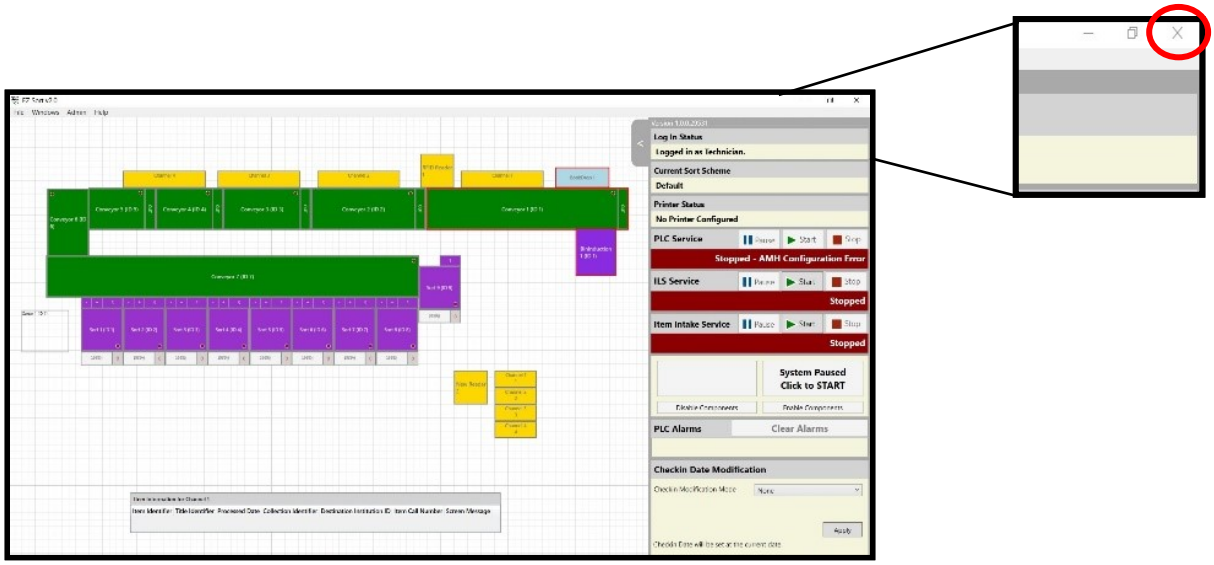
Important Alert: An alarm that notifies the user of a change in system check-in or sorting process. It will not 'Pause' or stop the AMH system, but will definitely change when, where or how material is processed through the conveyors.

Standard Alert: Notifies the user of basic system activities. This might include a user login recognition or a Pause/Start of system conveyors.

1.6 EXIT SYSTEM

To close down EZ Sort software safely, please note that it is important to STOP all (3) three system services first. This is quickly done by clicking on the STOP button for the PLC, ILS & Item Intake Services. Make sure to wait until each color bar turns red. See illustration below.

Whether the colored service bar reads ‘Stopped’ or is in an Error state, it is safe to exit the system. Similar to other PC applications, click the “X” button in the upper right corner of the EZ Sort window. See example below.



2.0 SYSTEM TROUBLESHOOTING

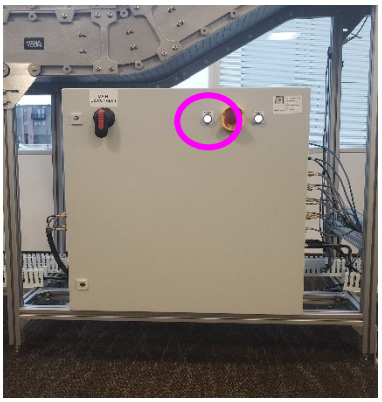
This section shows how to resolve issues or 'Critical Alerts' that 'Pause' the AMH system. There is also a short 'Common Questions' page at the end regarding system use.

2.1 EMERGENCY STOP (E-STOP) PRESSED

Emergency stop buttons are available at multiple locations on the AMH system. Pictured to the right are two examples. The one with a red background plate is the most common and found on the grey transport conveyors, while the other is located on the system power panel or staff control pendant for the induction module. In the event of a dangerous or undesirable situation, press the nearest **RED** button to cut power to the entire AMH system.

STEP 1. Resolve any issue that led to pressing an E-stop button.
It may be to clear a book jam, to remove an unwanted object from a conveyor or due to any mechanical concern. An issue that is beyond the Users ability or comfort level should be directed to RFID Library Solutions for resolution. Contact your technician directly or by calling toll free **(877) 924-7434**.

STEP 2. Re-set the pressed E-stop button.
An E-stop is reset by turning the red knob clockwise until you feel as well as hear the button 'pop' back out into its neutral position. A tripped E-stop is indicated by an illuminated red button. See picture above, left. If you do no recall which E-stop was pressed, check/re-set all red push-buttons on the system.



STEP 3. Power up the system & Re-start PLC Service!
To do this, locate the control panel(s), pictured right. The enclosure has three buttons, a white 'System Power' button, a red E-stop, & a white 'Reader Reset' button. Press the white one (circled) until it illuminates indicating power is present. Remember, the power button will NOT light up if an E-stop remains depressed. Finally, click start on the PLC Service. Wait for Service to indicate 'Running'.

STEP 4. Clear, then Dismiss the system 'Alarms.'
In the 'Alerts' box on the Main User Interface, dismiss the active alerts. Next, click the pink 'Clear Alarms' tab located in lower right corner of illustration. Clicking the button will clear all alerts & allow both of the yellow 'AUTO' & 'Start' buttons to become active so that the user may press them. If these two buttons stay greyed-out, system power is still off or an E-stop remains tripped.

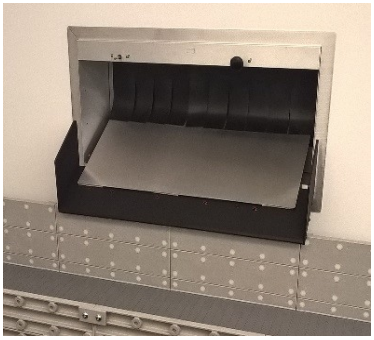
STEP 5. Place the system in Automatic & Run Modes.
Prior to starting the conveyors again, reconfirm the machine is safe to operate & everyone is clear of system. Staying at the controller PC, use the two (2) yellow tabs pictured to the right to start the AMH system again.

- ***Manual/AUTO mode*** - With the system powered up, place the machine in AUTO mode by pressing the "System in Manual. Press for AUTO" button.

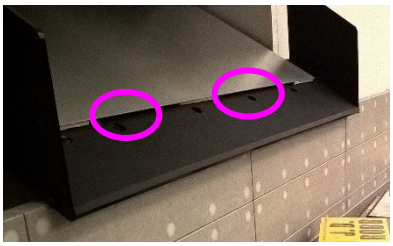
- ***Pause/START*** - With the machine in AUTO mode, place the machine in RUN by pressing the "System Paused. Click to START". Upon start up, the AMH conveyors will begin to move, indicating the system has been re-activated.

2.2 BOOK DROP SENSOR BLOCKED

Every book return connected to the AMH system has a custom black transition attached that transfers material from the deposit chute onto a waiting in-feed conveyor. Embedded in the transition is a photo eye that detects the absence or presence of material as it passes. The picture to the right shows one type of transition installed, while the image below depicts where photo eye sensors can be positioned. Some can be positioned from above or lower on sides.



An active sensor is indicated by a blue box on the main graphical user interface. An example is shown in the circle to the lower right. Each book drop sensor has a set time limit that alerts users when a sensor has been covered or blocked for too long. Typically, that time is 120 seconds.



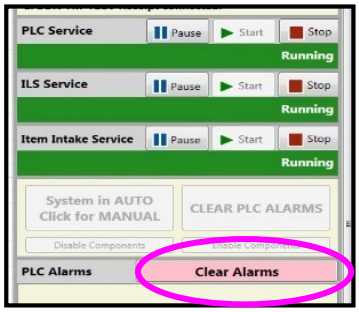
Once that time limit has been reached, the system will automatically 'Pause' itself. This action raises an alarm requiring intervention by a library staff member. The following steps will help clear an alarm for a blocked sensor at a book return.

STEP 1. Clear any or all material from around the book drop sensor holes.

Verify on 'Alarms' window that a book drop sensor is the cause of machine stoppage. A description line in Alerts box will indicate this status. Many systems have more than one return connected. Therefore, refer to User Interface to see if either one has a pop-up box next to it. Use the Alert to identify return with an issue. Proceed to book return so that material or whatever is blocking the sensor can be removed. It also may be that the sensor is dirty, in which case clean it with cloth.

STEP 2. Clear, then Dismiss the system 'Alarms.'

Return to the Staff Station PC to check the state of the system. On the monitor should be an 'Alerts' window, dismiss the active alerts. Next, before the system can be placed into Auto Mode, all alarms must first be cleared. To do so, click the pink 'Clear Alarms' label in lower right corner of illustration. Clicking the button will clear all alerts & allow the yellow 'Start' button to be actively pressed by the user.



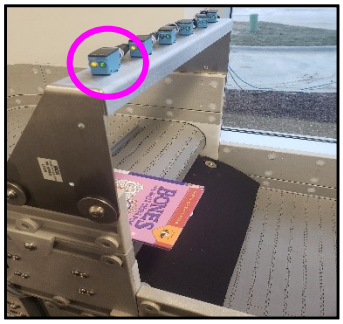
STEP 3. Place the system in Automatic Run Mode.

Prior to starting the conveyors again, reconfirm the machine is safe to operate & everyone is clear of system. Staying at the controller PC, use the two (2) yellow tabs pictured to the right to start the AMH system again.

- **Manual/AUTO mode** - With the system powered up, place the machine in AUTO mode by pressing the *"System in Manual. Press for AUTO"* button."

- ***Pause/ START*** *- With the machine in AUTO mode, place the machine in RUN by pressing the "System Paused. Click to START". Upon start up, the AMH conveyors will begin to move, indicating the system has been activated.*

2.3 CONVEYOR SENSOR BLOCKED



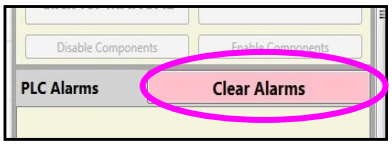
Each grey transport conveyor has a sensor bracket at its end to detect the presence or absence of material. Pictured to the right, it consists of a series of photo eyes that project red light beams down onto a black neoprene transition. This sensor net is used to control material flow onto the next conveyor.

A Conveyor Sensor Blockage may be triggered as a result of either a physical blockage, or one of the photo eyes misreading. In the event of a Conveyor Sensor Blocked Alert, it is possible to determine which conveyor is blocked by viewing the main AMH screen.

When blocked, an Alert pop-up window presents next to the out-feed sensor on the monitor. Circled in the illustration to the lower right is where conveyor sensor indicators can be found. The sensor & alert must be cleared before system operation may continue. Follow the steps below to resolve a Conveyor Sensor Alert.

STEP 1. **Determine which sensor is blocked & what type?**
In the case of a blockage, use the Main Users Interface to discover which conveyor sensor has triggered the alarm. Look for the Alerts pop-up window, it will display next to the flashing output sensor. See example circled at right.

STEP 2. **Clear the jam or remove the obstacle from conveyor.**
Often, the stoppage may be a patron receipt, a small children's book, or foreign object. Once the blockage is dealt with, return to the controller PC to clear the pink Alarms button. All 3 Services should be Running. If so, place the system into AUTO and RUN mode from a stopped state.



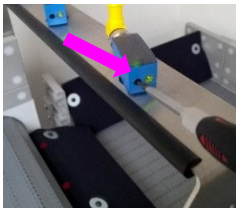
STEP 3. **In the event of a <u>MIS-READING</u> sensor, follow the next few measures...**
Examine the black neoprene transition below the sensor bracket. Sometimes when the transition collects a lot of dust or debris it can cause the photo eyes to misread. First thing would be to clean the transition using the provided microfiber cloth. We even recommend using the brush attachment on the vacuum hose to scrub the neoprene clean. A small portable vacuum can be found under one of the conveyors. Technicians use them extensively during annual maintenance visits. Attempt to re-start the sorter by clicking both yellow AUTO and RUN buttons on the User Interface.

STEP 4. **If procedure 3 fails, examine each blue photo eye on the bracket.**
When a blue photo eye is 'Active' & working properly, a single green light will display on front side. See example to the right. This green is "Go" or "Good" signal will allow the conveyor belt to correctly move material forward. When an item passes under a photo eye, an orange indicator light flashes on, pausing the conveyor. The orange light disappears once the item is moved away. The green light always stays on, while the orange light flashes on and off in sync with passing material. Look for a sensor with a continuous or flashing orange light & NO item below it. That's the culprit that needs adjustment.

Adjusting Sensor Sensitivity…

<u>Tool(s) Needed:</u>
Mini Screwdriver

<u>Activity:</u>
At the sensor bracket with the questionable photo eyes, locate the single adjustment screw. It's on the surface opposite the black cable. Using the screwdriver, turn the dial counter-clockwise until the orange light is turned off. Twist screwdriver in short, 1/8 turn increments. The dial & LED are sensitive technologies so adjust carefully & slowly.



STEP 5. **With the sensor(s) adjusted the system may be restarted.**
Prior to starting the conveyors again, reconfirm the machine is safe to operate & everyone is clear of system. Staying at the controller PC, use the two (2) yellow tabs pictured to the right to start the AMH system again.

- ***Manual/AUTO mode*** *- With the system cleared, place the machine in AUTO by pressing the "System in Manual. Press for AUTO" button."*
- ***Pause/ START*** *- With the machine in AUTO mode, place the machine in RUN by pressing the "System Paused. Click to START". Upon start up, the AMH conveyors will begin to move.*

2.4 SORT SENSOR BLOCKED

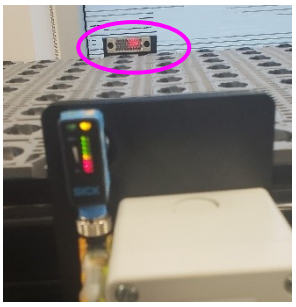
Every sort zone on the long black conveyor has a sensor, circled to the right, that shoots a red beam across the belt to a reflector pad. Along with the sensor are a blue push-button, a metal chute, a zone number and a piece of white/silver reflective tape.

In the event of a blocked Sort Sensor alarm, it may be possible to determine which conveyor sensor is causing trouble by viewing the main AMH screen. When blocked, the rectangle button representing the sort sensor, circled in illustration below & right, will change from light green to purple. A block sort sensor will cause the AMH system to switch into 'Pause' mode. The measures below will guide staff through fixing a sort sensor issue…

STEP 1. **Determine which sort sensor is blocked.**
Either visually examine each zone's sensor or use the Main Users Interface to discover which sort sensor has triggered the alarm. Look for the Alert pop-up window along the sorter. Zones are numbered in order from the first, all the way through to the Exceptions bin. The 'S' indicator square is for the sensor. When an item crosses in front of the photo-eye, this 'S' square flashes light green on the monitor.

STEP 2. **Remove obstacle or clear jam at sort zone.**
In the case of physical blockage, for instance books backing up on the chute or a small piece of paper under the sensor, remove the obstacle & clear the Alarms button. Verify all 3 Services are Running, and if so, place system in AUTO & Run.

STEP 3. **Verify Red Photo-eye Beam is fully hitting Opposite Reflective Pad.**
If Alerts continue in the same zone, check to see that the Sensor's Red Beam is fully reflected on the opposing pad. If not, the sensor bracket should be tapped up or down slightly to get the red dot on the reflector pad. At this point, it should be possible to clear the pink Alarm button & verify all 3 Services are Running. If so, place the system into AUTO and RUN mode.

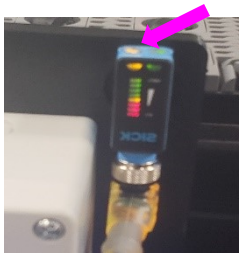


STEP 4. **In the event of a <u>MIS-READING</u> sensor, follow the next few measures…**
Examine the Photo-eye beam across the belt very carefully. The lower part of the beam may be grazing the top of the black roller balls on the sort belt. If this is the case, tap the sort bracket 1/8 " up as to not hit the ball tops. This is not always an easy movement. A RFID LS Technician may need to be contacted to do so.

STEP 5. **If procedure 3 fails to resolve the alarm, it's time to adjust the sensor's sensitivity dial.**

<u>Tool(s) Needed:</u>
Mini Screw Driver–
Phillips style tip

<u>Activity:</u>
At the sensor bracket with the questionable photo eyes, locate the single adjustment screw. It's on the surface opposite the yellow cable. Using the screwdriver, turn the dial counter-clockwise until the orange light is turned off. Twist screwdriver in short, ¼ turn increments. The dial and LED emitter are VERY sensitive technologies – slower is better!

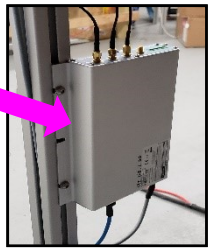


STEP 6. **With the sensor(s) adjusted the system may be restarted.**
Prior to starting the conveyors again, reconfirm the machine is safe to operate & everyone is clear of system. Staying at the controller PC, use the two (2) yellow tabs pictured to the right to start the AMH system again.

- ***Manual/AUTO mode*** *- With the system cleared, place the machine in AUTO mode by pressing the "System in Manual. Press for AUTO" button."*
- ***Pause/ START*** *- With the machine in AUTO mode, place the machine in RUN by pressing the "System Paused. Click to START". Upon start up, the AMH conveyors will begin to move, indicating the system has been activated.*

2.5 TAGSYS RFID READER DEVICE FAILED

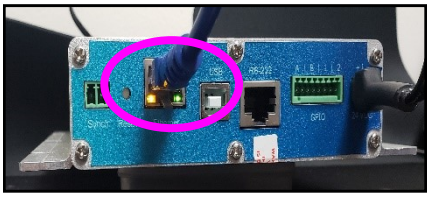
Location



Each AMH system has at least two, sometimes three RFID readers operating to detect RFID tags on the various conveyors. They are typically located below conveyors attached to legs or cross members. A TagSYS RFID reader in position is pictured to the right.

One is always positioned early in the system to check-in book returns, while another is at the short RFID sort conveyor before the sorter. A correctly functioning reader has flashing green & red lights on the face of the device. On the back, the Ethernet Jack is the key. A sold green light and a flashing orange indicator should be present.

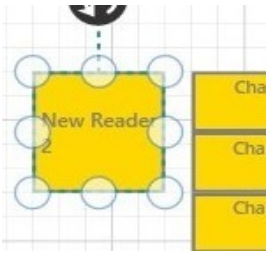
Failure



In the event of an RFID Reader (*TagSys Device*) alarm, it will be necessary to examine the actual reader to confirm its state. Typically, a TagSys Device Reader alarm occurs due to a loss of communications with the PC. This may happen because of a power loss to the device or entire system. If either reader fails, **ALL** items will travel to the 'Exceptions' bin at the end. A TagSYS Reader Device Failure will NOT pause the system. Staff will need to learn as well as recognize the system signs or glance at the AMH monitor from time to time.

STEP 1. **Put the AMH system into 'Pause' mode.**
Use yellow buttons in Control Column of main User Interface to put the system in Pause & Manual mode.

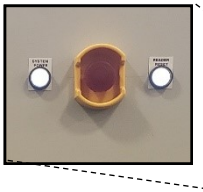
STEP 2. **Determine which RFID reader is NOT functioning.**

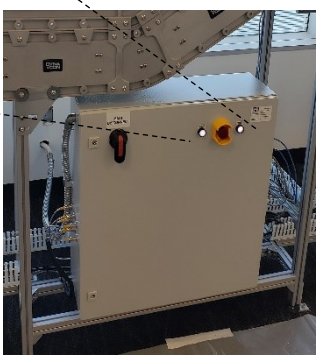


Use the main graphical screen to derive a general feel for the location of the readers under the conveyors. A reader is signified by a square yellow box – pictured right. Travel to approximate location on the real system & look for the silver box w/ blue front. See photo top right of page for image of reader. If green lights are flashing, reader is functioning okay. If no green lights are flashing, the reader is NOT working properly. At this time, power to the readers needs to be cycled. Follow the next several steps to turn on/off reader power.

STEP 3. **Close down AMH software program.**
Since the EZ Sort program is already paused, quickly click the STOP button for all three Services. Next, click on the red "X' in the upper right corner of the program.

STEP 4. **Turn off power and restart the TagSys RFID device.**
Powering down a RFID reader is very simple. It only requires pressing a button. Look for the system control panel, shown below right. While facing it, two white indicator buttons flank an E-stop on either side. The one on the right is the 'Reader Reset' button.





Turning power off is done by pressing the button. The white indicator light will turn off. Wait 10 – 15 seconds to allow the reader to fully power down. After, hit the reader reset button again. Light should turn on.

Allow a few seconds for the reader to re-boot itself. While this is happening, head back to the staff station to re-start AMH program. Click on EZ Sort Icon shown below.

STEP 5. **Open RFID LS EZ Sort software by clicking on EZ sort icon**
When the software window opens, hit the Start button for the PLC Service. Wait until Green and running before starting the other two Services. The Item Intake Service should turn green and be in a running state. If not, check the network connection on the back of the RFID reader for a grean and orange indicator light. Make sure the receptacile is push all the way in the jack. Its even a good idea to unplug and re-plug the Ethernet cable into the connection. If all else fails, call your RFID LS technician to assit.

2.6 SYSTEM POWER OUTAGE/TOTAL POWER LOSS

If the library building has suffered a power outage or the system power has been lost, it is necessary to **RE-ENABLE** the AMH conveyors before restarting the system. A loss of power to the system will be indicated by a couple key occurrences. Foremost, the blue sort lights will be flashing on/off. Although, if the building power remains Off, NO lights will be flashing. The white power light on the left control panel will also be OFF. If the controller PC is powered by the system, it will also be turned off and the AMH software will NOT be up & running either. If the controller PC is plugged into a building wall outlet, the software might be up & running, but NOTHING will activate when the User clicks **AUTO** & **RUN** modes. To **ENABLE** the conveyors, follow these steps…

STEP 1. Power up the AMH System.

For the AMH system to operate, all the electrical components in the system must be powered up and enabled. One the AMH system, that means press and hold the white power button, labeled 'System Power' on the left control panel until the light illuminates. For the PC, locate power button and press so that Windows Operating software initiates on monitor.

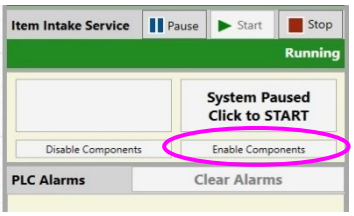
STEP 2. Open RFID LS AMH software and Login at an Technican User level.

Open sorting software on controller PC (see icon on desktop window). Once open, click on the "File' tab located in the upper left corner of the AMH screen. Use the appropriate User name and Password to access Technician mode.

LOGIN ID: Technician **LOGIN PASSWORD:** 123456

STEP 3. Start the PLC Service, then Click the 'Enable Components' to engage conveyors.

In the Status/Control column, just below the yellow AUTO & START buttons is the endable/disable components buttons. Click on the "Enable Components" button. .



STEP 4. Log out of Technican mode.

Click on the File menu tab again in the upper left corner of the AMH screen. In the drop-down menu, click on the 'Logout' label. This will return the software to the original user state.

STEP 5. Resetting System Alarms.

Prior to running the AMH system confirm with the computer that there are no Alarm conditions. Typically, when an alarm is present the screen will display the Alarms screen as show below. However, it is possible for the machine controller to be in an alarm state without the Alarms dialog visible. This may occur if the PC and/or the AMH software was shut down and restarted. When this happens, open the Alarms screen and reset the system alarms.

2.7 MECHANICAL FAILURE

Contact RFID Library Solutions in the event of a mechanical failure. For example, a plastic conveyor part breaks, part falls off machine, hardware component will not power up, etc.

You may call your technician directly using cell number or send an urgent e-mail notice. Technician business cards are typically attached to each AMH staff station cart. Another option is to call our toll-free number ***(877) 924-7434.***

2.8 MISCELLANEOUS QUESTIONS

1. *The system has stopped running with items still on it. What has happened?*

Occasionally the system will stop running with items still on the conveyors. Typically, this occurs when an item can't make it up an incline conveyor. This situation is normal, and because items are usually checked-in very quickly after being placed on the system, it should not be a major cause for concern. Another reason for items to be left on the system is as a result of an alarm that stops the system. If this occurs, resolve the alarm condition and restart the system and the items will be processed. Follow these steps to rectify the situation:

Check alerts	On the system PC, confirm there are no alarms present.
Clear alarms	Even if no alarms are present, it is always a good idea to press the 'Clear Alarms' button on the Alarms screen.
Place system into Run mode	Click on the Run/Pause mode button to see if the machine is Paused.

2. *I can't restart the system. What do I do now?*

There are many possible reasons that the system may not be able to be restarted, including loss of power, alarms, or loss of communications to the machine. To resolve these issues:

Check emergency stops	If any of the emergency stop buttons are pressed in, twist them clockwise to release the red button.
Check system power	If the white button is not illuminated on the left grey control panel, press & hold it to power on the system.
Check alarms	On the system PC, confirm there are no alarms present.
Clear alarms	Even if no alarms are present, it is always a good idea to press the 'Clear Alarms' button on the Alarms screen.
Enable the AMH	If there has been a power outage or the machine power has been turned off completely it will be necessary to re-enable the AMH.
Place system into Auto mode	Click on the Auto/Manual mode button if the machine is in Manual mode.
Place system into Run mode	Click on the Run/Pause mode button if the machine is Paused.

*****If all else fails, call RFID Library Solutions! (877) 924-7434***

3. *All the items are going to the end bin. What is wrong?*

This situation is caused either by a failure in the RFID tag reader at the sorter, or a failure in the SIP server computer communications. To resolve the issue:

Check the RFID reader nearest the Sorter	Verify that green (flashing) and red lights are ON. If not, shut down software as well as power down reader (unplug or switch), wait several seconds & power the device back on, in addition to re-staring AMH software.

Check 'Logs' Window for SIP Communication Loss Error.	In the event of a SIP alarm, contact a supervisor, or the IT department to confirm Ethernet communications with the machine PC. Typically, a SIP alarm occurs when the connection between the PC and the library's server computer has been lost. The RFIDLS EZ Sort software will continue to attempt to reconnect with the server CPU.
Restart the AMH software	Make sure to put the system in 'Pause' mode before closing out the program. Red 'X' in upper right corner. Click on RFIDLS AMH icon located on the CPU Desktop window to restart software.

*****If all else fails, call RFID Library Solutions! (877) 924-7434***

4. *A conveyor is noisy? What can we do?*

After many months of use, dust build-up in motors can develop a screechy noise when a conveyor turns.

Motor brushes must be cleaned	The DC motors driving RFIDLS conveyors have two (2) small carbon blocks, call 'Brushes' that require cleaning after so many hours of operation. On each side of the blue motor casing is a small rectangular hatch. Some require a screwdriver to open, while other can be pried open with a flathead screwdriver. NOTE: Always E-stop system or shut off the conveyor's motor 'Breaker' before any service work is performed on a motor. Remove each hatch, watch carefully how the spring mechanism holds the brush in place, clean it thoroughly with a rag and place exactly as it was removed. If you are not comfortable performing the task, ask a more mechanically inclined staff member, or contact RFID LS.

*****If all else fails, call RFID Library Solutions! (877) 924-7434***

5. *The bin or tote inductor didn't dump all the items onto the conveyor. What has happened?*

The item induction modules have been designed to slowly meter items onto the conveyors. It is specifically programmed to only raise the bin floor or tip the tote while the attached conveyor is moving. Sometimes, if the system is very busy, the induction device will 'time out' and stop its process. Follow these steps when the inductor doesn't fully dump:

Restart the induction Process	Quick press the green button to re-initiate the module. If there are only a few items remaining, manual place them on the conveyor.
Re-center induction bin &/or push fully forward on tilting device	Specifically located proximity sensors are used to control hardware movements with the module, if they are not within a certain tolerance, they will not work correctly. Therefore, centering the bin on the tilter and fully engaging it forward to the cross tombstone is essential to the process.

*****If all else fails, call RFID Library Solutions! (877) 924-7434***