



**H-3000 Autoloader
With
RoboPrint Software
User Guide**

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repaired, improperly installed, altered, or disassembled -except according to R-Quest's written instructions.

This warranty is subject to the following further conditions:

- 1) This warranty is limited to the electronic and mechanical performance only, as expressly detailed in the Product specifications and NOT to the imbedded software, firmware or to third party software.
- 2) This warranty shall not apply to any Products which are stored, or utilized, in harsh environmental or electrical conditions outside R-Quest's written specifications.
- 3) This warranty is applicable only to Products shipped from R-Quest subsequent to January 19, 2008.
- 4) This warranty shall be valid only if the Product was purchased by the End User from an authorized R-Quest Distributor/Reseller.
- 5) Heavy use (per recorder or printer, 12,000 discs / 100 cartridges) may require consumable items such as printers or recorders to be serviced within the warranty period. Parts replaced in the course of a service are warranted to be free of defects in material and workmanship for a period of ninety (90) days, or until the expiration of the original warranty (whichever is the later), and are subject to the same service interval requirements.
- 6) Removal of the R-Quest Label or Serial number from the product will void this warranty.
- 7) Inkjet Printers Only: Use only the appropriate genuine HP cartridges in the FlashJet 4800 and Si1000 printers. Using, or attempting to use cartridge refills or attempting to 'bulk ink' the printers will void this warranty.

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If a R-Quest Distributor or an End User desires to make a warranty Claim, the Distributor or End User shall, if requested by R-Quest, ship the Product to R-Quest's authorized service facility, postage or freight prepaid. R-Quest shall, at its option, take one of the following two courses of action for any Products which R-Quest determines are defective in materials or workmanship:

- 1) Repair or replace the Product and ship the Product to the End User or to the authorized R-Quest Distributor, postage or freight prepaid; or
- 2) Replace with a new product and ship the product to the End User or to the authorized R-Quest Distributor, postage or freight prepaid.

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Governing Law and Venue

The sale and purchase of Products covered hereby and all terms and conditions of this Warranty shall be governed by the laws of the State of California, and any disputes hereunder shall be venued in the El Dorado County District Courts in California.

If Your Product Requires Support

If your product requires servicing, you should first contact the place of purchase and request support. If the service request cannot be completed by the place of purchase, you should contact R-Quest directly using one of the following methods:

E-Mail: support@r-quest.com
Telephone: (530) 621 9916
Fax: (530) 621 3144

Before shipping any item to *R-Quest*, first obtain an RMA (Return Material Authorization) Number from *R-Quest* support. This number must be placed on the outside of the product packaging where it can be easily found otherwise the item will be refused and returned at the sender's expense.

All products returned to *R-Quest* under warranty MUST be in original R-Quest supplied packaging. If you do not have the original packaging, new packaging can be supplied for a charge. Please contact R-Quest for the cost of replacement packaging, which may vary based on the product, and your location. Your warranty will be voided if original R-Quest packaging are not used.

Within the first 30 days of warranty, R-Quest will cover the cost of shipping to the R-Quest factory via UPS Ground or other similar transportation method; otherwise you are responsible for the cost of shipping the product to R-Quest.

During the warranty period, R-Quest will cover the cost of returning the repaired product to you via UPS Ground or other similar transportation method. If you require a more urgent transportation method, upgrades can be arranged for a charge, which in all cases must be pre-paid.

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System Description

The H-3000 autoloader is designed to be attached to a computer via a USB (USB2 preferred) port. The H-3000 ships with RoboPrint software, which runs on the Windows XP Home and XP Professional operating systems (Service Pack 2). RoboPrint allows almost any graphics application to print directly to a printer mounted on the H-3000 autoloader, and automatically handle the loading/unloading of the disc as a background task.

RoboPrint is specifically targeted at the FlashJet 4800 and Teac P55 printers, but all printers that conform to the R-Quest Printer Control Port specification will work with RoboPrint on the H-3000 autoloader.

The RoboPrint software runs on the Windows XP Home and XP Professional operating systems (Service Pack 2), and allows almost any graphics application to print directly to a printer mounted on an H-3000 autoloader/robot. RoboPrint will automatically handle the loading/unloading of the disc as a background task.

RoboPrint includes robot alignment and configuration utilities, together with ink level monitoring for the FlashJet 4800 printer. It resides in the system tray at the bottom right corner of the Windows taskbar. RoboPrint is accessed by right clicking on the disc icon.



For detailed information about printers, and printer operation, please refer to the user manual for your specific printer.

System Requirements

The system requirements of RoboPrint are modest, but please remember that the real system requirements will probably be dictated by the label design software and printer drivers used. Please refer to your printer user guide for more information.

H-3000 & RoboPrint minimum requirements are:

Windows XP Home (Service Pack 2) or Windows XP Professional (Service Pack 2)

Pentium or better CPU running at 800 MHz or faster, with 128MB or more RAM.

1 Spare USB (USB2 preferred) for the robot

1 Spare USB (USB2 preferred) or spare ECP Parallel port for the printer.

Quick Start Installation – H-3000

Your new H-3000 Autoloader is designed to allow fast, easy and reliable robotic loading/unloading of discs to any H-3000 compatible printer.

Box Contents

IMPORTANT NOTE:

The removal of this product should be undertaken by at least two people because of its size and weight. Please ensure safe manual handling procedures are followed.

Carefully remove your H-3000 Autoloader from its shipping carton and verify that all parts are present. If there are missing or damaged parts contact R-Quest or an authorized distributor immediately to correct any miss-packed or missing parts.

You should find the following packaged with your Autoloader:

- H-3000 Autoloader (Printer Not included as standard)
- Power Cord
- USB Cable
- Software CD
- This user manual

NOTE:

If your H-3000 Autoloader is damaged during shipment, please contact the freight carrier first, then contact your distributor or R-Quest.

You need to save your packaging materials so that if the need arises you can return your Autoloader for service. Sending a unit to R-Quest without the original packaging will void the warranty. This packaging was designed specifically for shipping your Autoloader. Other packaging may not be as suitable. If you have already disposed of your packaging materials, you can receive a new set from R-Quest for a fee.

Operating Environment

Your H-3000 Autoloader system should be used in a climate controlled environment free of dirt, dust, excess humidity, excessive heat or electro-magnetic interference. Your H-3000 Autoloader system should be placed on a sturdy flat and level surface – away from sources of vibration.

Allow at least four (4) inches of clearance around the sides and back of the unit for ventilation.

Before powering the H-3000 system on, please ensure that the printer is correctly installed. The printer should be powered on before the main system.

Printer Setup

Ensure that the printer-mounting platform is secured to the top of the right hand side of the autoloader.

Position the printer as per the instructions supplied with the printer.

Connect the printer to the H-3000 via the R-Quest Printer Control Cable, and to your PC using a USB or Parallel cable.

Ensure that the printer is powered on at the same time, or before the H-3000 Autoloader. This will allow the system to correctly initialize the printer.

Printer Drivers

Each supported printer has different system requirements and installation procedures. Please see the printer user guide on how to install the printer drivers on your Windows XP computer.

Connecting the H-3000 to a PC

The H-3000 is supported on Windows XP (Home & Professional) computers, with Service Pack 2 installed. If Service Pack 2 is not installed, please run Windows Update (from the Start menu) before continuing with the rest of these setup steps.

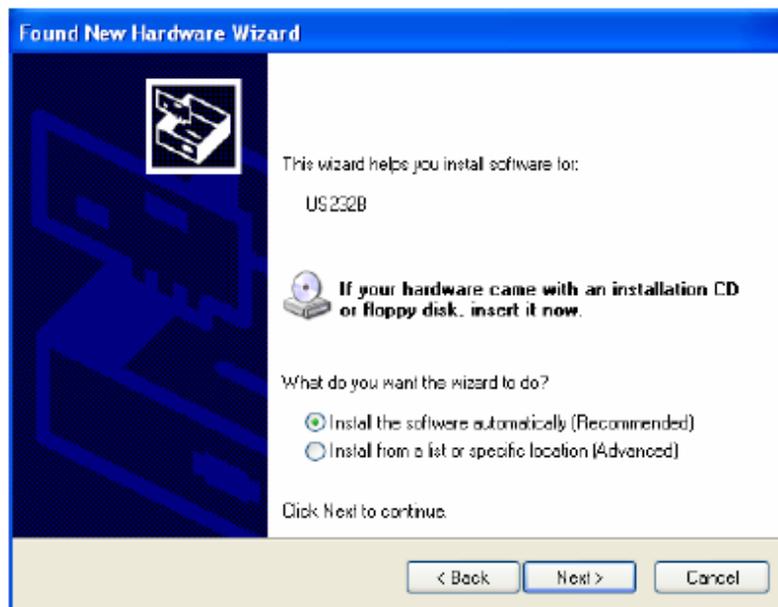
Step 1: Connect the USB cable to the H-3000, and then to an available USB (USB2 Preferred) port on your computer, and power on the H-3000. Within a few seconds, an information bubble will appear. This tells us that Windows has found new hardware, and is preparing to install the drivers. After a further few seconds, the following dialog will appear.



Step 2: Windows XP (Service Pack 2) ships with compatible drivers for the H-3000, and can find these drivers automatically. Click on “Yes, this time only” to tell windows to automatically search for the H-3000 drivers, and click on the ‘Next’ button.



Step 3: On the next dialog, select “Install the software automatically”, and then click ‘Next’.



Step 4: Windows will search for the drivers, and display the following dialog while this is happening. This could take from a few seconds to several minutes depending on the speed of your computer.



Step 5: Once the drives have been located and installed, Windows will display the following dialog to confirm installation.



Click on the 'Finish' button to complete the driver setup.

Because the H-3000 uses a dual channel serial port function, windows may repeat the previous sequence a second time to support the second communications channel. Simply follow the steps 2-5 shown above a second time.

Once the installation is complete, the following information bubble will appear.



If you have not already installed the printer drivers that will be used with your H-3000 system, you should do so before installing the RoboPrint software that is used to drive the H-3000 Autoloader.



Installation – RoboPrint Software

IMPORTANT

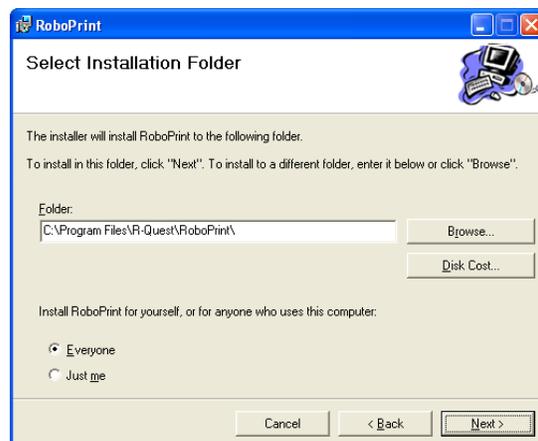
Please ensure that your H-3000 autoloader is installed (see the H-3000 set-up guide) and your printer driver loaded BEFORE you install RoboPrint.

To install RoboPrint on your computer, select the RoboPrint directory on your installation media (e.g. CD) and double click on the Setup.exe program.

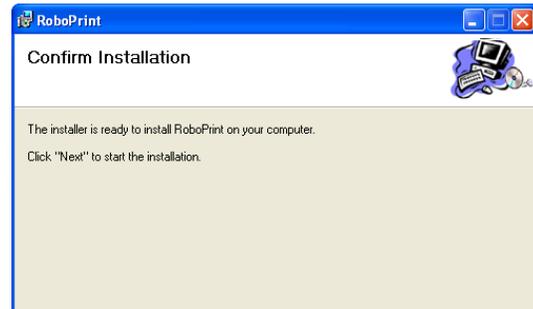
The set-up program will walk you through the installation with a series of simple dialog boxes that allow some control over where the program is installed. You can cancel installation at any time.



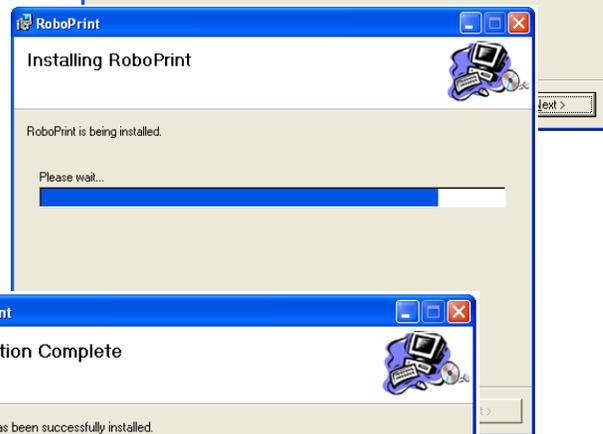
The following dialog allows you to select where the program is installed. Most users will choose to install in the default directory, which only requires you to click on the 'Next' button.



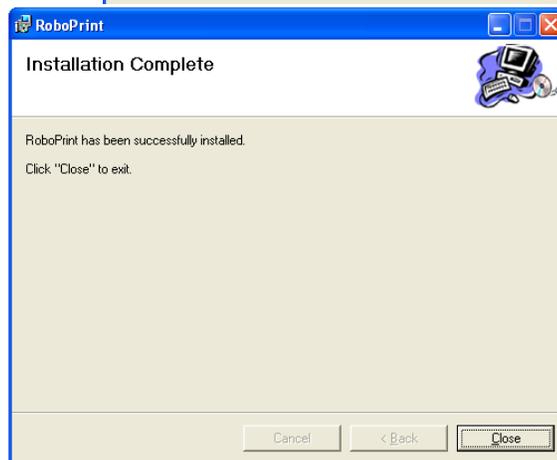
Once you are happy with the installation location, click 'Next' to continue.



The RoboPrint installer will show the installation progress.



Once the install has completed, click on 'Close' to exit.



A new entry is created in your 'Start' menu (called RoboPrint) and also in your 'Start-up' directory, enabling RoboPrint to run as soon as the computer is started. This will allow you to print *automatically* without having to remember to start the RoboPrint program.

If you do not want RoboPrint to run every time the computer is started, simply delete the RoboPrint entry from the Start/Start-up menu. If you 'Exit' RoboPrint for any reason, and want to re-run the program, select RoboPrint from the start menu.

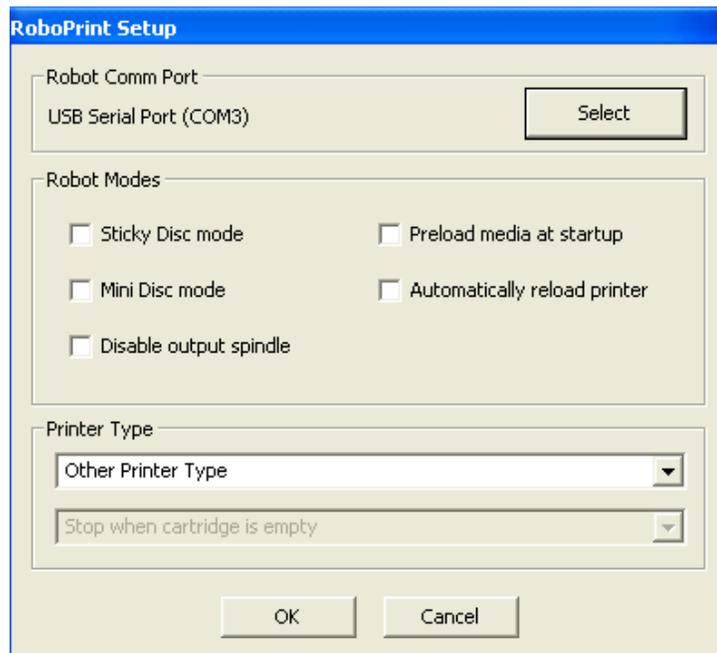
To run RoboPrint the first time without restarting your computer, go to the Start menu and click on RoboPrint.

If you have not already installed the H-3000 drivers, you should do so now. Refer to the **H-3000 Installation Quick Start Guide** for more information on how to do this.

Running for the first time

The first time that RoboPrint runs it asks for some 'set-up' information. It is important that you have already installed your H-3000 autoloader and your printer driver. You should also have them both connected and switched on at this time. Once set-up is complete, it is not necessary to have the Robot and printer switched on all the time when not printing.

RoboPrint will present you with the following dialog:

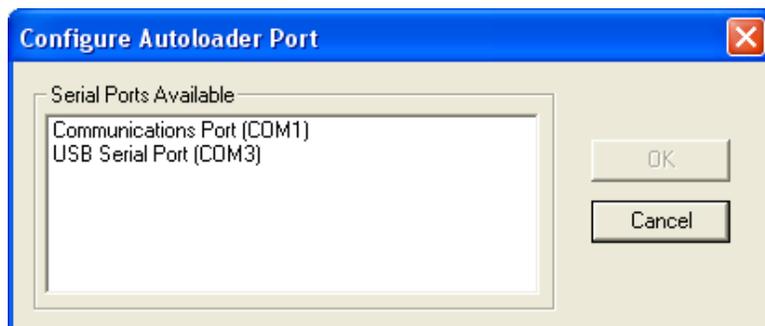


The RoboPrint Setup dialog box is titled "RoboPrint Setup" and has a blue header. It contains three main sections: "Robot Comm Port" with a text field showing "USB Serial Port (COM3)" and a "Select" button; "Robot Modes" with five checkboxes: "Sticky Disc mode", "Mini Disc mode", "Disable output spindle", "Preload media at startup", and "Automatically reload printer"; and "Printer Type" with a dropdown menu showing "Other Printer Type" and another dropdown menu showing "Stop when cartridge is empty". At the bottom are "OK" and "Cancel" buttons.

Selecting the Robot Com Port

The RoboPrint first needs to know which com port the robot is connected to. Click the 'Select' button, and a new dialog will appear showing what com ports are installed on your computer.

The H-3000 autoloader uses a USB to RS232 adapter system that will appear in this box as a USB Serial Port. In the above example,

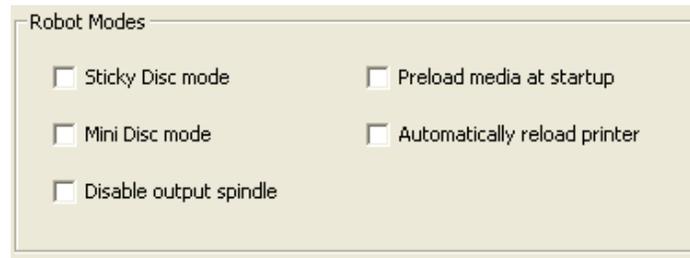


The Configure Autoloader Port dialog box is titled "Configure Autoloader Port" and has a blue header with a close button (X). It contains a "Serial Ports Available" section with a list box showing "Communications Port (COM1)" and "USB Serial Port (COM3)". At the bottom are "OK" and "Cancel" buttons.

it is “USB Serial Port (COM3)”. Your computer may be different. Select the USB com port then click on OK.

Robot Operating Modes

RoboPrint supports the different operating modes provided by the H-3000 autoloader, and this dialog is where the required modes are selected.



Sticky Disc Mode

Some brands of discs are ‘sticky’ and difficult to break apart, even by hand. This can be especially troublesome for autoloader robotics, and R-Quest have introduced an extra operating mode to help. If you know that your discs are extra ‘sticky’, select Sticky Disc Mode. There is no harm to either the discs or the Robot by operating in this mode, even if the discs are not sticky, but it does add a couple of seconds to the load time due to additional robotic movements.

Mini Disc Mode

The H-3000 is capable of loading/unloading mini discs and business card media, where appropriate hopper and printer adapters are fitted. When using these adapters, Mini Disc mode should be selected. The default setting is not selected. The input/output capacity of the H-3000 autoloader is reduced to 100 in MiniDisc mode. Please refer to the H-3000 and/or adapter user manuals for more information.

Disable Output Spindle

If the output spindle is obscured by a ‘larger than normal’ printer, it must be disabled to prevent the robot attempting to place a disc on the spindle (which would fail because the printer is in the way). You would not normally use this feature with the FlashJet 4800 or Teac P55 printers.

Preload Media at Start-up

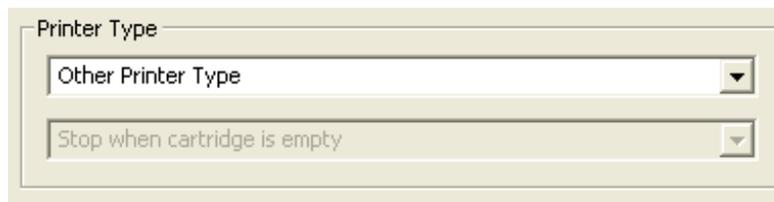
If you would like a disc to be pre-loaded in to the printer when you start the RoboPrint program, select this option. This will only affect the very first disc.

Automatically reload printer

If you would like the robot to automatically reload a new disc in to the printer as soon as the previous (printed) disc is removed, select this option. This will generally save time and printer tray movements during longer print jobs. However, it should be noted that at the end of the print job, a blank disc will now be in the printer (assuming there are enough blank discs in the input hopper).

Selecting the printer type

It is important to tell RoboPrint if you are using a FlashJet4800 printer. If you are using a different printer (e.g. Teac P55) then select “Other Printer Type”.



The screenshot shows a dialog box titled "Printer Type". It contains two dropdown menus. The first dropdown menu is set to "Other Printer Type". The second dropdown menu is set to "Stop when cartridge is empty".

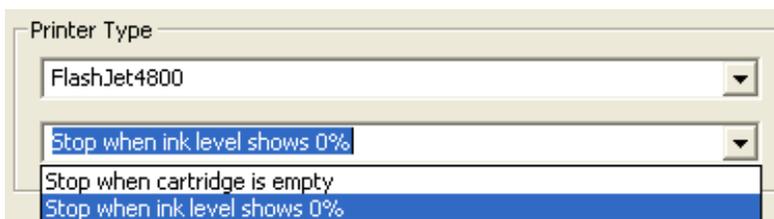
When using the FlashJet4800 select:



The screenshot shows the "Printer Type" dialog box with the first dropdown menu open. The list of options includes "FlashJet4800" (which is highlighted in blue), "FlashJet4800", and "Other Printer Type".

Using the FlashJet4800

RoboPrint will monitor the Ink Levels of the FlashJet4800, and to warn you when the ink is running low, and to prompt you to change cartridges. Select where the Ink Level monitoring should prompt you for new cartridges:



The screenshot shows the "Printer Type" dialog box with the first dropdown menu set to "FlashJet4800". The second dropdown menu is open, showing a list of options: "Stop when ink level shows 0%" (highlighted in blue), "Stop when cartridge is empty", and "Stop when ink level shows 0%".

“Stop when ink level shows 0%” means that RoboPrint will prompt for a new cartridge when the ‘guaranteed’ ink level reaches 0%. In most cases there are

still a few further prints that can be made after the 'guaranteed ink level' reaches 0%. In order to continue past the 0% level, and continue until the printer is sure it is reaching the end of the ink, select "**Stop when cartridge is empty**".

Completing the Set-up

Once all selections have been made, click on OK to save the changes and exit the dialog box. To return to this dialog box, right click on the disc icon in the system tray, make sure that 'Run' is not selected, then click on the Settings menu item.

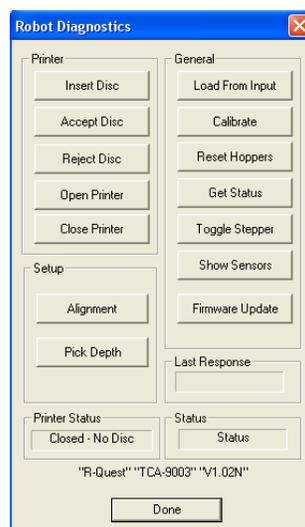


Aligning the printer

In order to reliably handle CDs and DVDs the Robot Arm, Robot Arm Tower, and printer must be properly aligned. A properly aligned system should handle thousands of discs without a problem, so the easiest way to verify alignment is to run your system. While your system was factory tested, alignment can move in shipping, and it may be necessary to adjust printer-to-autoloader alignment before use. The alignment check and adjustment procedure that follows should also be used periodically to maintain reliable disc handling.

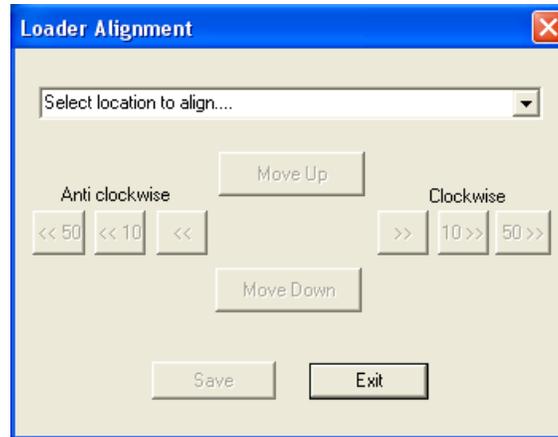
Right click on the RoboDisc icon in the system tray (), make sure that 'Run' is not selected, then click on the Robot Diagnostics menu item.

After a few seconds, the following dialog should appear:

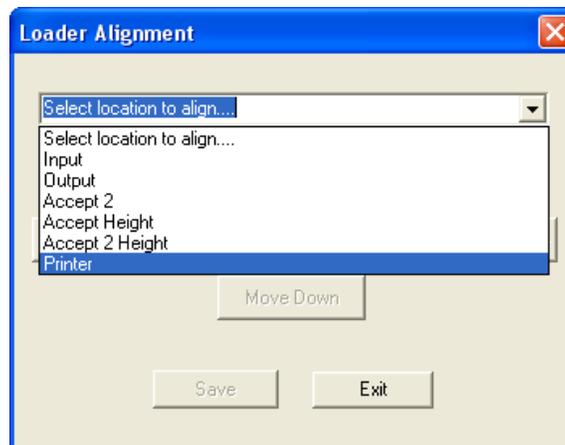


Place a disc in the input hopper of the H-3000, then click the “Open Printer” button. Once the printer is open, click the “Load From Input” button on the top right. The robot will pick a disc from the input hopper, and move to the ‘home’ position (not the printer insert position).

Click the “Alignment” button. After a few seconds the following dialog will appear:



From the drop down menu, select Printer.



The robot arm will now move to the printer position, and from here you can make any fine adjustments that are required.

Only the rotation positions are saved. The “Move Up” and “Move Down” buttons are there for your convenience, to help ensure that the position is accurate when the disc is placed on to the open printer tray.

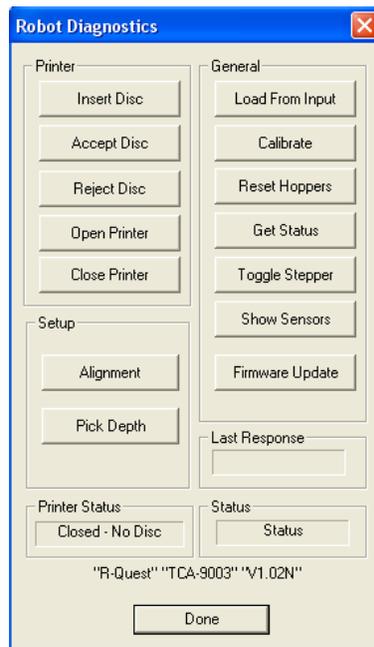
The “Clockwise” and “Anti Clockwise” buttons allow movements in 1, 10 and 50 steps of the Robot rotation system, allowing very precise control and alignment.

The optimal position for a disc being placed on the open printer tray is almost never dead centre. Usually, a small offset (e.g. one or two steps) towards the printer and slightly away from the Robot tower is preferred for optimal operation. This is because the Robot needs some movement of the disc while picking from the printer (e.g. when moving a disc to the output or reject hoppers).

Note that on the H-3000 autoloader, an additional adjustment can be made to the printer alignment via a knob situated to the side and under the printer mounting. For specific adjustment recommendations, please refer to the printer user manual.

Once the optimal alignment position is found, click “Save” to save the settings, or “Exit” to exit without saving the new position.

Testing the alignment.



Once back in the Robot Diagnostics dialog, click on the “Insert Disc” button at the top left. This should place the disc currently held by the Robot in to the printer, and the printer tray should close. If the alignment is correct, the printer should clamp the disc as it closes. If the printer does not clamp the disc, further adjustment to the alignment will be required.

Next, click the “Accept Disc” button, and the printer tray should open. The disc will be removed by the robot and placed on the output hopper. The printer tray will then close. If this is successful, run the “Insert Disc”, “Accept Disc” sequence again to verify consistent operation before clicking the “Done” button to exit this dialog. If the sequence fails, check the alignment once again.

Trouble Shooting

From time to time, errors occur with all systems that move media around. Errors could be as simple as “Input Hopper Empty”, where the only action required by the operator is to add more blank discs to the input hopper (and remove printed discs from the output hopper).

However, just as paper printers and photocopiers ‘jam’ from time to time, errors may occur with disc printing systems too. Given the number of different disc/media manufacturers, each using their own size tolerances and curing methods (meaning some discs are stickier than others), problems should be expected ‘from time to time’ during the life of the machine. Such problems should be regarded as the exception, rather than the rule.

If problems happen more often with a specific brand of discs, try using a different brand, or check the alignment of the printer to the Robot arm. Often a simple adjustment to the robot rotation position can make a big difference to reliability.

RoboPrint gives plain language explanations of what operation should have happened, what went wrong, and what the operator needs to do to clear the problem.

An example is:



In this example, there is a Reset Hoppers check box. If checked, this tells the robot to start taking blank media from the first hopper again. If this box is not checked, the robot will continue picking from the last hopper used.

Clicking OK will cause the robot to retry the command that failed. Clicking the Cancel button will cause the Robot to pause until restarted in the main menu (right click on the RoboPrint icon in the system tray).

When the Robot is paused, an information bubble will appear in the system tray to remind you to restart the Robot once all issues are cleared:



For trouble shooting printing problems, e.g. print quality, please refer to your printer user guide.

Powered By R-Quest

H-3000™ With RoboPrint Software User Manual

Part Number **900-00055-01** Revision C

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