



R I M A G E™

7725 Washington Ave. South; Minneapolis, Minnesota 55349 USA

Phone: (952) 944-8144 Fax: (952) 944-7808

Date: 2018-10-12

Subject: Firmware, Catalyst & Producer 5. Rimage Internal Distribution Only

1. Overview:

AutoLoader Firmware for Rimage CATALYST 6000 & 6000N and Producer 8300 & 8300N.

2. Compatibility:

2.1 AutoLoader Firmware / System Compatibility.

P/N	Current Release File	Systems	GemUtil	CDRPS
1000640	1000640-10p020.bin	CATALYST: 6000, 6000N	9.1.11.0	9.1.51.0
1000780	1000780-10p020.bin	PRODUCER 5: 8300, 8300N	9.2.1.0	9.4.6.0

2.2 AutoLoader Control Board PCBA / System Compatibility.

Control PCBA	Current Release File	CATALYST 6000, 6000N	PRODUCER 5 8300, 8300N	Note
2003317_C	1000640-10p020.bin	Yes	No	2003317_C is OBS
2003340_D	1000780-10p020.bin	Yes	Yes	

2.3 AutoLoader Control Board Initial Programming

The AutoLoader control boards are programmed with an initial firmware version by the contract manufacturer. We started marking the 2003340_D control boards with the version programmed in 2017-December. The version is marked near the PN label and appears as:

2003340_D
V10.011

2003340_D V10.011 or later may be used in either Catalyst or Producer 5 and does not need to go through the programming station before use. Circuit board inventory often does not have the latest firmware for a specific product. After installing a new control board in a system do the following in order:

1. Update firmware to the latest released version for the specific system.
2. Execute calibration process.
3. Execute system testing.

2.4 Firmware Ratchet

The firmware ratchet is 10.020 so systems running firmware versions 10.020 or higher cannot be programmed with firmware versions lower than 10.020.

2.5 Output Bin Slide Motor (Catalyst Only)

The output bin slide motor has been withdrawn from the standard Catalyst product. The motor was to be a solution to a problem where the discs did not always slide into the output bin. A more effective solution is to change the output slide to a new revision made of a more slippery plastic. Firmware support for the motor may be deprecated in future versions. Any Catalyst that has the slide motor should be reworked to remove the motor and change to the new slide.

Firmware version 10.003 or later is required to support operation of the output bin slide motor. Version 10.003 and later tests for the presence/absence of the slide motor and operates correctly in either case.

Systems that have the output bin slide motor present may not boot correctly if 10.002 or lower firmware is present. If this happens, 1) turn off AC power, 2) disconnect output bin motor home sensor, 3) power-up, 4) program with 10.003 or later, 5) power off, 6) connect output bin motor home sensor, 7) power on.

2.6 TRAP DETECTOR

A fatal error TRAP DETECTOR function is added at version 10.013. When the MCU detects an execution fault it does the following:

1. Turns off all fans, motors, solenoids, etc...
2. The display shows the message below, waits for the operator to tap the button then restarts.
“TRAP DETECTED”
“PRESS BUTTON”
3. Additional information may be scrolled on the display to report back to Rimage to assist with problem determination.

This function was implemented to aid in debugging firmware induced hardware fault which has been fixed so triggering of the trap detector is not expected to occur at all under normal conditions.

3. Known Issues

The firmware ratcheting mechanism in versions lower than 10.003 not able to prevent firmware downgrade. Catalyst systems with output bin motor should not be programmed with firmware versions lower than 10.003.

4. History (Most Recent First)

V10.020, 2018-10-20, ECN 3138

- 1) Jira #CATAFW-10: Add solenoid watchdog to prevent accidental over-heating.
- 2) Fix problem with Catalyst diagnostic 2 (cycle test) when setting up to cycle discs from bins to printer to output.
- 3) Set firmware ratchet to 10.020.
- 4) Jira #CATAFW-9: Fix problem preventing production server from properly handling error 254.

V10.019, 2018-09-19, ECN 3136 Cancelled.

- 1) Add solenoid watchdog to prevent accidental over-heating.
- 2) Fix problem with Catalyst diagnostic 2 (cycle test) when setting up to cycle discs from bins to printer to output.
- 3) Set firmware ratchet to 10.019.

V10.018, 2018-07-30, ECN 3125

- 1) Fix problem where LCD shows a ribbon count of “???” when the Everest printer returns a value of 999.
- 2) Fix problem handling ribbon & retransfer out conditions.
- 3) Fix problem with printer reset command used by Production Server to auto-recover from printer-busy error.
- 4) Remove unneeded delay when picking and outputting a printed disc from the Everest printer.
- 5) Fix problem returning printer SN shorter than 8 characters.
- 6) Set firmware ratchet to 10.018.

V10.017, 2018-06-06, ECN 3116

- 1) Fix another cause of AutoLoader deadlock.

V10.016, 2018-05-11, ECN 3109

- 1) Fix problem reporting USB VID, PID, SID strings.
- 2) JIRA #CATFW-6: All Optical Disc Drives in a non-embedded system are not enumerated in Windows after a power-up. Fixed by modifying ODD power-up sequencing to allow more time for power supply and USB hubs to stabilize before ODD enumeration starts.
- 3) Fix another cause of AutoLoader freeze problem.

V10.015, 2018-04-25, ECN 3102

- 1) Jira CATAFW-5: Fix problem remembering the non-volatile counters through a power cycle.

V10.014, 2018-04-12, ECN 3098

- 1) Another try to fix autoloader deadlock (a.k.a. hang, freeze, lock-up) problem. This was thought to be fixed in 10.013 (item 1) but persisted on some systems.

V10.013, 2018-04-02, ECN 3088

- 1) Fix autoloader deadlock (a.k.a. hang, freeze) problem. This was thought to be fixed in 10.012 (item 7) but persisted on some systems.
- 2) Implemented the TRAP DETECTOR described in section 2.6.
- 3) Fix problem where Production Server is unable to execute a bin reset.
- 4) Remove "WARMING UP..." display message that would show when Everest was either warming up or idle.
- 5) Fixed problem where autoloader erroneously reported "failed to release disc" after successfully releasing a disc.

V10.012, 2018-03-11, ECN 3050

- 1) Improve system throughput on both Catalyst and P5. Disc handling optimizations were made in AutoLoader 10.012 and Production Server 9.4.13.0 so for fastest operation use these versions or later.
- 2) Solve problem where Production Server does not detect the ODDs in the correct bay at startup.
- 3) Solve problem with mechanism initialization on start-up.
- 4) Refine motion controls.
- 5) Fix JIRA #CATAFW-3: Catalyst Display error after exchanging with a new Retransfer Ribbon.
- 6) Fix autoloader deadlock (a.k.a. hang, freeze) problem.
- 7) Fix problem in P5 where output bin slide calibration does not save to non-volatile memory.
- 8) Raise gripper above nearest element if a stall occurs during lift motion. This prevents a collision between lift and a closing recorder or printer tray.
- 9) Improve autoloader capability to detect and restart a deadlocked Everest.

V10.011, 2017-12-22

- 1) Enable use of PCB 2003340_D in Catalyst.

V10.010, 2017-12-14, ECN 3034

- 1) Add support for Producer 5 in file 1000780-10p010.bin.

V10.003, 2017-06-12, ECN 2963

- 1) Add capability to set the status lamp intensity.
- 2) Add support for output bin slide motor.

V10.002, 2017-03-09, ECN 2936

- 1) Resolve JIRA #CATAFW-2: AutoLoader does not always detect the PrismIII printer at power-up.

V10.001, 2016-03-28, ECN 2812

- 1) Resolve JIRA #CATAFW-1: Production Server does not attach all recorders in the AutoLoader.

V10.000, 2016-01-29, ECN 2781

- 1) First Release.