

Torrent Suite™ Software 5.18

Release Notes

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Revision History

Revision	Date	Description
D.0	Sept. 6, 2022	Updated release notes for Torrent Suite™ Software 5.18.1
C.0	June 28, 2022	Updated information for a Known Issue in Torrent Suite™ Software 5.18.
B.0	June 22 2022	Updated software package version information for Torrent Suite™ Software 5.18, and addition of two known issues.
A.0	21 April 2022	New release notes for Torrent Suite™ Software 5.18.

Release notes overview

The Torrent Suite™ Software 5.18 Release Notes describe Torrent Suite™ Software 5.18.1, new features in Torrent Suite™ Software 5.18, known issues and fixed issues in the software and in instrument control software for use with the following instruments.

- Ion S5™ Sequencer
- Ion S5™ XL Sequencer
- Ion GeneStudio™ S5 Series
- Ion Chef™ Instrument

Torrent Suite™ Software 5.18.1

Stalled analyses with use of Ion Torrent™ 550 chip

An issue in Torrent Suite™ Software 5.18 caused stalled analyses on Ion GeneStudio™ S5 Plus sequencers that includes the Ion Torrent™ Server. As a result, some analyses stalled indefinitely at the alignment stage. The issue occurred when the number of reads generated using Ion Torrent™ 550 chips exceeded the chip specification, which caused the instrument to run out of memory. The issue prevented run report generation but did not lead to data loss. Software upgrades were halted until the issue was investigated, and the root cause was identified. This issue is fixed in Torrent Suite™ Software 5.18.1.

New features in Torrent Suite™ Software 5.18

Password security policy

Torrent Suite™ Software checks each password when it is created to ensure that the password meets the Torrent Suite™ Software recommendations for password security. If any recommendations are not met, the user who created the password receives a notification in the Dashboard screen with details about how to create a stronger password. Notifications are not generated for passwords that meet the recommendations.

For more information, see the Torrent Suite™ Software 5.18 User Guide, (Pub. No. MAN0026163) or the Torrent Suite™ Software help system.

Dynamic Manifold temperature control parameter

A parameter to contribute to improved accuracy of MSI scores for the OCA Plus Assay has been added to Torrent Suite™ Software. When the Dynamic Manifold parameter is set to Dynamic in a Planned Run template, the manifold temperature control that is shown on the Planned Run template review page will automatically compensate for any drop in ambient temperature below 25C. Planned Run templates with a value of Default do not use this setting. This setting cannot be changed.

Planned Run Template for Ampliseq HIV Drug Resistance Research Panel

A new Planned Run template for the Ampliseq HIV Drug Resistance Research Panel is included in Torrent Suite™ Software. For more information about the panel, contact your Field Support Engineer (FSE), Field Bioinformatics Specialist, or marketing representative.

Planned Run templates for the OncoPrint™ Myeloid MRD Assay (RUO)

This release includes 12 Planned Run templates for use with the OncoPrint™ Myeloid MRD Assay (RUO). The settings in each Planned Run template support the workflows used with the OncoPrint™ Myeloid MRD Assay (RUO); 6 templates are for use with Ion Torrent™ 540 chips and 6 for Ion Torrent™ 550 chips. On the Ion Chef™ instrument, users can select "MRD 550 Templating Script" for Ion Torrent™ 550 chip listed in the Templating Protocol dropdown list in the Advanced Settings section of the 'Page Plan Kits' page of run plan.

For more information, see the OncoPrint™ Myeloid MRD Assay User Guide (Pub. No. MAN0025670).

Sample Barcodes modifications not allowed during Planned Run creation

In previous versions of Torrent Suite™ Software, users were able to change barcodes when creating or copying a Planned Run. In Torrent Suite™ Software 5.18, barcodes cannot be changed in the Barcode step of the Planned Run wizard. This prevents users from changing the barcode label of a previously created library.

Locked Planned Run template parameters

Some Planned Run templates have parameter settings in that cannot be changed. To change locked parameter settings, create a new template. For more information, see the Torrent Suite™ Software 5.18 User Guide, (Pub. No. MAN0026163) or the Torrent Suite™ Software help system.

New features in Ion S5™, Ion S5™ XL, and Ion GeneStudio™ S5 Series instrument control software

New temperature control parameter

A parameter to contribute to improved accuracy of MSI scores for the OCA Plus Assay that is supported on Ion S5™, Ion S5™ XL, and Ion GeneStudio™ S5 Series sequencers has been added to Torrent Suite™ Software. For more information, see “Dynamic Manifold temperature control parameter”.

New features for the Ion Chef™ Instrument control software

New Ion Chef™ camera

This release includes support for the current MicroMINI and new MicroHAWK camera for the Ion Chef™ instrument.

Planned Run templates for use on the Ion Chef™ Instrument

Six Planned Run templates for use with Ion Torrent™ 540 chips and 6 for Ion Torrent™ 550 chips. On the Ion Chef™ Instrument. For more information, see “Planned Run templates for the OncoPrint™ Myeloid MRD Assay”.

New temperature control parameter

A parameter to contribute to improved accuracy of MSI scores for the OCA Plus Assay that is supported on the Ion Chef™ Instrument has been added to Torrent Suite™ Software. For more information, see “Dynamic Manifold temperature control parameter”.

Known Issues in Torrent Suite™ Software 5.18

Automatic launch of Ion Reporter™ Software analysis workflows can fail for Planned Runs from Sample Sets

Ion Reporter™ Software analysis workflows might not be launched automatically if you create a Planned Run in Torrent Suite™ Software that starts from one or more Sample Sets and do not make selections in the Ion Reporter and Barcoding steps.

Workaround: When you create a Planned Run from one or more Sample Sets, ensure that you make the required selections in the Ion Reporter step to connect to an Ion Reporter™ Software account and select an analysis workflow to use in the Planned Run. Then, when you complete the fields in the Barcoding step, you must then click the **Save & Finish** step, then click **Save and Finish** to save the run. For more information, see the user guide for the assay that you use.

Intermittent failure of OncoPrint™ OCA Plus Assay BAM file uploads

Intermittent failures can occur when BAM files are uploaded to Ion Reporter™ Software through a Planned Run with the IonReporterUploader plugin.

Workaround: Re-run the IonReporterUploader plugin manually for runs that do not upload to Ion Reporter™ Software.

Fixed Issues in Torrent Suite™ Software 5.18

Links to download BAM files after archived run is imported

An issue in Torrent Suite™ Software 5.12 caused the links for downloading BAM files to become inactive after archived run data was imported back into the software. The issue affected only the download links for BAM files. This issue is fixed in Torrent Suite™ Software 5.18.

Oncomine™ Comprehensive Assay Plus DL8 equalizer wash step

A software issue caused the wrong tube to be used when the equalizer buffer was divided during the DL8 Equalizer step on the Ion Chef™ instrument with the use of Oncomine™ Comprehensive Assay Plus. As a result, library pool #2 (samples E-H) was not washed during the equalizer washing step, which lead to high normalized library pool concentrations. The issue occurred only with the 2 Library Pools – OCA Plus workflow that is used when samples sets are created prior to the automated library preparation for the assay. This issue is fixed in Torrent Suite™ Software 5.18.

Fixed Issues on the Ion Chef™ Instrument

Issue with Ion Chef™ Instrument pump

An issue of excess aspiration that caused liquid to flow to the pump on an Ion Chef™ Instrument occurred in earlier versions of Torrent Suite™ Software. This issue is fixed in Torrent Suite™ Software 5.18.

Ampliseq.com Planned Run template mismatch

A mismatch between the Template Kit and Chip Type occurred in runs that used the Oncomine™ Comprehensive Assay v3 Planned Run template and an Exome Panel imported from ampliseq.com. The Chip Type “Ion 540 Chip” is compatible with the “Template Kit Ion 540 Kit-Chef” in Torrent Suite™ Software 5.18.

Some amplicon reads unmapped

An issue that affected many Oncomine™ Comprehensive Assay Plus amplicons caused some reads to be unmapped due to an issue in the default software algorithm. Torrent Suite™ Software 5.18 corrects this issue by using non-ATGC-tolerant alignment on non-standard bases in the reference file.

Important information for Torrent Suite™ Software 5.18

Discontinuation of Ion Torrent™ Personal Genome Machine™ and Ion Proton™ System

With the discontinuation of manufacture and sale of Ion Torrent™ Personal Genome Machine™ (Cat No. 4462921) and Ion Proton™ System (Cat No. 4476610), Torrent Suite™ Software 5.14 is the last software release that can be used with an Ion PGM™ System or Ion Proton™ System.

IMPORTANT! You can maintain the instrument connections and continue to view Ion PGM™ System or Ion Proton™ System data and run results from earlier versions of Torrent Suite™

Software. However, you cannot use the Ion Torrent™ Server to create new planned runs and templates for the Ion PGM™ System or Ion Proton™ System, or to run those instruments.

Install Torrent Suite™ Software 5.18

IMPORTANT! You cannot roll back to a previous version of Torrent Suite™ Software and Ion Torrent™ instrument software after you perform the upgrade described in this document.

IMPORTANT! When updating Torrent Suite™ Software, it is critical that you update both the software on the instrument and the software on the Ion Torrent™ Server. In Torrent Suite™ Software 4.0 and later, the instrument will not retrieve the proper on-instrument analysis if both systems are not updated.

IMPORTANT! During this upgrade, you must use the same user account for both the Ion Torrent™ Server and the Ion instruments (Ion Chef™ Instrument, Ion GeneStudio™ Plus S5, Ion GeneStudio™ S5 Prime, and Ion S5™ and S5™ XL Sequencers).

- 1) Click **(Settings) > Configure**.
- 2) Scroll to the **Database Administration** section, then click **Admin Interface**.

If you are prompted to sign in, use your ionadmin account.
- 3) In the Admin Interface scroll to the **Management Actions** section, then click **Update Server**.

The Update Torrent Suite™ screen opens with information on available software versions, including whether updates are available.
- 4) Click **Activate** to power on website maintenance.
- 5) Click **Check** to check for updates.
- 6) Click **Update Server** to update software on the server.
- 7) When the software update is complete, click **Back to Main Site**, then click **(Settings) > About**.
- 8) Review the software version number in the releases list to ensure that it reflects the update that you completed.
- 9) To ensure that the software upgrade is complete, and that the software is ready to run analysis programs, click **(Settings) > Services**.
- 10) In **Services** in the **Status** column, review all services to ensure that each is running.
- 11) To ensure compatibility between the software and your instruments, upgrade your sequencing instruments after the software upgrade is complete.

Updates through a command-line user interface

Note: This procedure is typically performed by Thermo Fisher Scientific field service engineers. Most users will instead use the procedure above for updates through the Torrent Suite™ Software.

You can use a command-line interface to update the Torrent Suite™ Software. The complete command-line interface update procedure is:

- 1 `sudo apt-get update`
- 2 `sudo apt-get install ion-tsconfig`
- 3 When prompted to accept EULA acceptance, press “Tab”, then “Return” to proceed with update.
- 4 `sudo TSconfig -s`
- 5 `sudo TSconfig --configure-server`

Verify the software update on the Ion Torrent™ Server

To verify that the Ion Torrent™ Server is running Torrent Suite™ Software 5.18, click **(Settings) > About** in the Torrent Suite™ Software and review the version number.

Update the instrument software

Update the software on any Ion instruments in use:

- Ion GeneStudio™ S5 Series
- Ion S5™ Sequencer
- Ion S5™ XL Sequencer
- Ion Chef™ Instrument

Package and version information

Release Date	Sept. 2022
Release Version	5.18.1

Software package versions in Torrent Suite™ Software 5.18

These tables list the versions for each of the latest software packages for Torrent Suite™ Software plugins and control software for Ion Torrent™ instruments.

Package	Version
ion-analysis	5.18.6-1
ion-dbreports	5.18.20-1
ion-django	5.18.1-1
ion-gpu	5.18.1-1
ion-pipeline	5.18.10-1
ion-referencelibrary	2.2.0
ion-publishers	5.18.1-1
ion-rsmts	5.18.0-1
ion-sampleddata	1.2.0.1
ion-torrentpy	5.18.2-1
ion-torrentr	5.18.2-1
ion-tsconfig	5.18.10-1
Plugin	Version
ion-plugin-ampliseqrna	5.18.0.0
ion-plugin-assemblerspades	5.18.0.0
ion-plugin-coverageanalysis	5.18.0.2
ion-plugin-dataexport	5.18.0.0
ion-plugin-erccanalysis	5.18.0.0
ion-plugin-fieldsupport	5.18.1.0
ion-plugin-fileexporter	5.18.0.0

Package	Version
ion-plugin-filterduplicates	5.18.0.0
ion-plugin-immuneresponse	5.18.0.0
ion-plugin-ionreporteruploader	5.18.0.24
ion-plugin-molecularcoverageanalysis	5.18.0.0
ion-plugin-pgxanalysis	5.18.0.0
ion-plugin-runtransfer	5.18.0.0
ion-plugin-sampleid	5.18.0.2
ion-plugin-variantcaller	5.18.0.0

Ion Chef™ Instrument control software

Update Package ¹	Version
ion-chefupdates	5.18.7
Package ²	Version
GUI	150005
IS_scripts	3005
InstrumentServer	3009
GM	23
OS	63

¹ Software package number shown on the Ion Torrent™ Server after upgrade to Torrent Suite™ Software 5.18.

² Software package numbers shown on the Ion Chef™ instrument screen for each function after upgrade to Torrent Suite™ Software 5.18.

Ion S5™ Instrument control software

Update Package ³	Version
ion-s5updates	5.18.3
Packages ⁴	Version
Scripts	20146
RaptorScripts	132
RsmAgent	40
OS	5
OIA	51231
LiveView	2766
Graphics	134
DataCollect	3980

³ Software package number shown on the Ion Torrent™ Server after upgrade to Torrent Suite™ Software 5.18.1.

⁴ Software package numbers shown on the Ion Torrent™ S5 instrument screen for each function after upgrade to Torrent Suite™ Software 5.18.1.

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