Torrent Suite™ Software 5.14 Release Notes

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Contents

ThermoFisher
S C I E N T I F I C

For Research Use Only. Not for use in diagnostic procedures.

Revision History

Revision	Date	Description
C.0	24 September 2021	Added an issue that is fixed in Torrent Suite™ Software 5.14.1: Issue with Ion Chef™ Instrument pump.
B.0	10 September 2021	Updated software to Torrent Suite™ Software for compatibility with new motherboard in Ion GeneStudio™ S5 sequencers, and to fix issues with the Apache Tomcat™ software service, chip performance, the CSA plugin, and EULA.
A.0	1 September 2020	New release notes for Torrent Suite™ Software 5.14

Torrent Suite™ Software 5.14.1 release

Software update to support Ion GeneStudio™ S5 sequencer motherboard

The release enables users to run Torrent Suite™ Software 5.14.1 with Ubuntu 18.04 operating system on newly manufactured Ion GeneStudio™ S5 sequencers. The original motherboard on the sequencers was discontinued and replaced. Contact your Field Service Engineer (FSE) to obtain this software release.

Fixed Issues in Torrent Suite™ Software 5.14.1

Correct the analysis time for Ion™ 550 chip on Ion GeneStudio™ Prime and S5 XL instruments

After the Ion Torrent Server was upgraded to Ubuntu 18.04, some customers noticed an increase in the time required for the analysis pipeline to complete for runs that used an Ion 550™ chip. This issue is fixed in Torrent Suite™ Software 5.14.1.

Status of Tomcat service displayed incorrectly

In Torrent Suite™ Software 5.12 and later, the status of the Apache Tomcat® software service was displayed incorrectly. The status in the Services screen showed that Tomcat® software service was down, although the service was active. This issue is fixed in Torrent Suite™ Software 5.14.1.

CSA permission error on Ion Chef™ Instrument

An error 500 occurred when the CSA (Customer Support Archives) was downloaded. This issue fixed in Torrent Suite™ Software 5.14.1. Users can now run the CSA plugin to generate the CSA file in Torrent Suite™ Software.

Release Specific EULA

In some cases, the EULA version is shown incorrectly. Torrent Suite™ Software 5.14.1 ensures that the EULA version matches the corresponding Torrent Suite™ Software version.

Issue with Ion Chef™ Instrument pump

An issue of excess aspiration was reported that caused liquid to flow to the pump on an Ion Chef™ Instrument. A new script in the software corrects excess aspiration of the library preparation workflow with the 550 templating script on the Ion Chef™ Instrument. This issue is fixed in Torrent Suite™ Software 5.14.1.

New features in Torrent Suite™ Software 5.14

Ion RNA - Whole Transcriptome run plan templates updated

The recommended default templating protocol was updated to "Whole Transcriptome RNA" in the Ion RNA – Whole Transcriptome and Ion RNA – Whole Transcriptome – S5 run plan templates for Ion PI and 540 workflows.

BaseCaller module enhancement for improved identification of primer dimers

The BaseCaller module identifies primer dimers as reads which are too short after trimming the adapter. With the introduction of Tag Sequencing, dual barcoding and AmpliSeq HD chemistries, various primer interactions contributed to the no match BAM files. The BaseCaller module improvements in Torrent Suite™ Software 5.14 enhances the primer dimer detection to better reflect the changes in chemistries and results in improved classification of such trimmed reads as primers dimers instead of no match reads. As a result, depending on the chemistry that you use, you can expect to see more reads being filtered as primer dimers, and fewer reads in the no match BAM.

IonCode™ Barcode Adapters, 1153 – 1536 support added

Torrent Suite™ Software supports IonCode™ Barcode Adapters 1153-1536 (Cat. No. A44603) for use with AgriSeq™ HTS Library Kit.

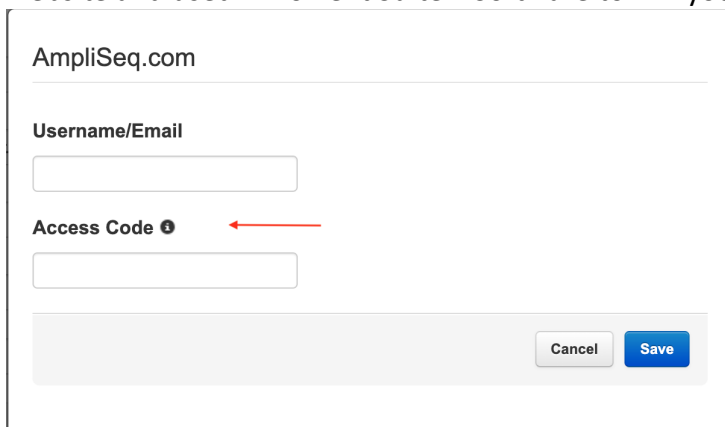## Ion AmpliSeq™ Pan Bacterial Community Research Panel

A Planned Run template to support the previously released Ion AmpliSeq™ Pan Bacterial Community Research Panel is included in this release of the software. The template is available under the **16S rRNA Profiling** and **16S Target Sequencing** research application categories in the list of templates on the Templates screen under the Plan tab.

AmpliSeq.com account linking updated

With the updates to the Ion AmpliSeq™ Designer (AmpliSeq.com) website that enable single sign-on accounts for Thermo Fisher Scientific customers and improve security, Torrent Suite™ Software includes corresponding changes. In order to link your AmpliSeq.com account to your Torrent Suite™ Software account, an access code is now required instead of the AmpliSeq.com password. The access code can be generated on Ion AmpliSeq Designer website and used in Torrent Suite™ Software to link your account.

AmpliSeq.com
Username/Email
Access Code ⓘ
Cancel **Save**

Fixed Issues in Torrent Suite™ Software 5.14

Torrent Variant Caller (TVC) reports false positives alleles having higher RBI value

In some cases, the TVC module was observed to report several false positive alleles which have unusually high RBI value. TVC improvements implemented in Torrent Suite™ Software 5.14 greatly addresses such variant calls.

Hotspot alleles with zero coverage not reported as No Calls when using unique molecular tag (UMT)

When using UMT, the TVC module does not report alleles having zero reads coverage with "NODATA" as the reason for corresponding No Call. The issue is fixed in Torrent Suite™ Software 5.14.

Unable to run the variantCaller plugin on combined runs
An issue was identified which prevented the variantCaller plugin from running on an analysis of combined run data from more than one run. The issue is fixed in Torrent Suite™ Software 5.14.

Dark screen with "X" mark displayed on Ion Chef™ Instrument

An issue was identified which resulted in a software crash on the Ion Chef™ Instrument and an "X" mark that showed on the dark screen. The issue is fixed in Torrent Suite™ Software 5.14.

"Reagent Check Failed" message when initializing with the Ion 550™ chip fixed

When initializing instruments with the Ion 500™ chip, users saw a "Reagent Check Failed" error message. The issue is fixed in Torrent Suite™ Software 5.14.

Important information in Torrent Suite™ Software 5.14

Upgrading Ubuntu OS

Torrent Suite™ Software 5.14 is available for all supported instruments on Ubuntu 18.04.

Ubuntu Upgrade to 18.04

Ubuntu is the OS required for Torrent Suite™ Software and after the end of support of version 14.04 in April 2019, there are no new updates being provided for that version of Ubuntu. If your Torrent Suite™ Software is running on Ubuntu 14.04, upgrading to Ubuntu 18.04 is recommended to continue to receive new updates for the Ubuntu OS.

Ubuntu Upgrade Options

Torrent Suite™ Software 5.12 was the last software version made available on Ubuntu 14.04 and Ubuntu 18.04; Torrent Suite™ Software 5.14 and later is supported only on Ubuntu 18.04.

The following options are available for upgrading the Ubuntu OS:

1. Upgrade Service—On-site OS upgrade done by your local Field Service Engineer. Contact local service and support personnel to request the upgrade service.
2. Self-upgrade Kit—For performing the OS upgrade yourself.

Ion Torrent Platform	Upgrade options
Ion PGM™ System	Upgrade Service
Ion Proton™ System	Self-upgrade Kit
Ion S5™ XL System	
Ion GeneStudio™ S5 Prime System	
Ion S5™ System	Upgrade Service Only[1]
Ion GeneStudio™ S5 System	
Ion GeneStudio™ S5 Plus System	

Final major update to Torrent Suite™ Software for PGM and Proton Systems

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 will be the last major update for the aforementioned sequencing systems.

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[1] Due to the additional complexity involved in updating devices running Torrent Suite™ Software in a Virtual Machine, the self-upgrade option is not available for these systems.

Install Torrent Suite™ Software 5.14

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 PGM™ Instrument, Ion Chef™ Instrument, Ion Proton™ Sequencer, Ion GeneStudio™ Plus S5, Ion GeneStudio™ S5 Prime, and Ion S5™ and S5™ XL Sequencers).

Use these steps to install Torrent Suite™ Software 5.14.

1. Sign in to Torrent Suite™ Software as **ionadmin** user.

2. Click ⚙ **(Settings)** > **Services**. Ensure that there are no active jobs running.

3. Click ⚙ **(Settings)** > **Configure** > **Admin Interface**.

4. Click **Update Server**.

5. Click **Check** to check for updates.

6. When the **Available** message appears, click **Update Server** to start the update process.

7. On the EULA screen, scroll down to read, then accept the EULA to begin update.

8. When finished, ensure that the "**Upgrade completed successfully!**" message appears.

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.

New in this release, for Ubuntu™ 14.04 systems, the command-line interface update procedure has an additional TSconfig step of TSconfig --configure-server. 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 5.14, 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 Proton™ Sequencer

- Ion GeneStudio™ S5 Sequencer

- Ion S5™ and S5™ XL Sequencer

- Ion Chef™ Instrument

- Ion OneTouch™ 2 Instrument

Package and version information

Release Date	September 2021
Release Version	5.14.1

Software packages versions in 5.14.1

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

Package	Version
ion-analysis	5.14.16-1
ion-dbreports	5.14.24-1
ion-django	5.14.0-1
ion-gpu	5.14.2-1
ion-pipeline	5.14.28-1
ion-plugins	5.14.6-1
ion-publishers	5.14.3-1
ion-rsmts	5.14.2
ion-torrentpy	5.14.15-1
ion-torrentr	5.14.15-1
ion-tsconfig	5.14.19-1
Plugin	Version
ion-plugin-ampliseqrna	5.14.0.2
ion-plugin-assemblerspades	5.14.0.0
ion-plugin-coverageanalysis	5.14.0.2
ion-plugin-dataexport	5.14.0.1
ion-plugin-erccanalysis	5.14.0.0
ion-plugin-fieldsupport	5.14.0.0

Package	Version
ion-plugin-fileexporter	5.14.0.0
ion-plugin-filterduplicates	5.14.0.0
ion-plugin-immuneresponserna	5.14.0.0
ion-plugin-ionreporteruploader	5.14.0.6
ion-plugin-molecularcoverageanalysis	5.14.0.2
ion-plugin-pgxanalysis	5.14.0.0
ion-plugin-runtransfer	5.14.0.0
ion-plugin-sampleid	5.14.0.0
ion-plugin-variantcaller	5.14.0.3

Ion Chef™ Instrument Control Software in 5.14.1

Package	Version
ion-chefupdates	5.14.5

Package	Version
GUI	13003
IS_scripts	001004
InstrumentServer	001003
GM	000023
OS	000061
TsLink	7.0.2

Ion GeneStudio™ S5/Ion S5™ Instrument Control Software in 5.14.1

Update Package	Version
ion-s5updates	5.14.3
Package	Version
Scripts	020146
RaptorScripts	000131
RsmAgent	40
OIA	051231
LiveView	2762
Graphics	134
DataCollect	3972

Ion Proton™ Instrument Control Software in 5.14.1

Update Package	Version
ion-protonupdates_5.12.0_amd64.deb	5.12.0
Package	Version
datacollect	3738
Graphics	134
LiveView	2514
OIA	51206
OS	35
rsmagent	40
Scripts	2.1.46

Ion PGM™ Instrument Control Software in 5.14.1

Update Package	Version
ion-pgmupdates _5.10.0_amd64.deb	5.10.0
Package	Version
LiveView	755
DataCollect	489
HW8560	134
Scripts	220000
OS	21
Graphics	36
TSLink	1.0.5

For support visit thermofisher.com/support or email techsupport@lifetech.com

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