Human identification

GeneMapper *ID-X* Software v1.7
Forensic data analysis and NDIS Expert System software

Applied Biosystems™ GeneMapper™ *ID-X* Software is an automated genotyping software solution for all human identification (HID) data analysis needs, including forensic casework, databasing, and paternity testing.

The software supports a multi-user database configuration in which a database host computer stores projects, settings, and results. Client computers connect to the database host computer to create and analyze projects. This configuration allows you to maintain one version of analysis settings that multiple users can access. GeneMapper *ID-X* Software is considered to be an Expert System and is approved for use on offender samples and known reference samples by the National DNA Index System (NDIS).

NDIS
Approved

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New database

GeneMapper *ID-X* Software v1.7 utilizes a new PostgreSQL™ database. The PostgreSQL database implementation was designed in compliance with Center for Internet Security™ CIS Benchmarks™ guidelines. The incorporation of the database includes new features and maintenance improvements in GeneMapper *ID-X* Software v1.7. Your lab will now be able to schedule automated database backups (Figure 1). Additionally, manual (*ad hoc*) database backups and the restore function are now available in the GeneMapper *ID-X* Software v1.7, along with the new scheduled backup feature. The need to manually increase table space no longer exists with the PostgreSQL database that auto-increments in size on an as-needed basis. Finally, there has been no change to the analysis algorithms as a result of this database change. Your lab can rely on the same consistent results as you upgrade between software versions.
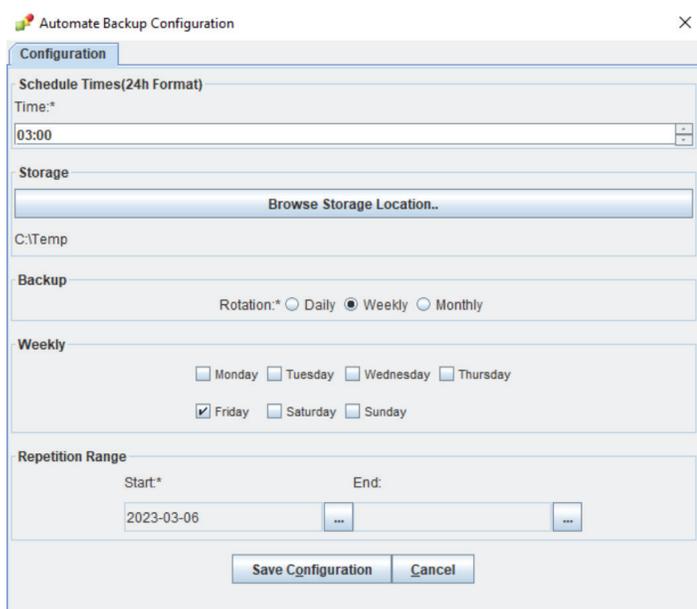
Figure 1. The automation backup configuration menu contains options to best suit your laboratory requirements.

Interface and usability
User-friendly plot view

With the new plot view in GeneMapper *ID-X* Software v1.7, you will be able to visualize and configure sample plots to focus on relevant data, and most importantly, you can annotate directly on sample plots (Figure 2). These notes can be moved anywhere within the dye channel by clicking and dragging. The notes are auditable, and all changes are recorded. The notes are printed on the PDF export and any associated printouts.
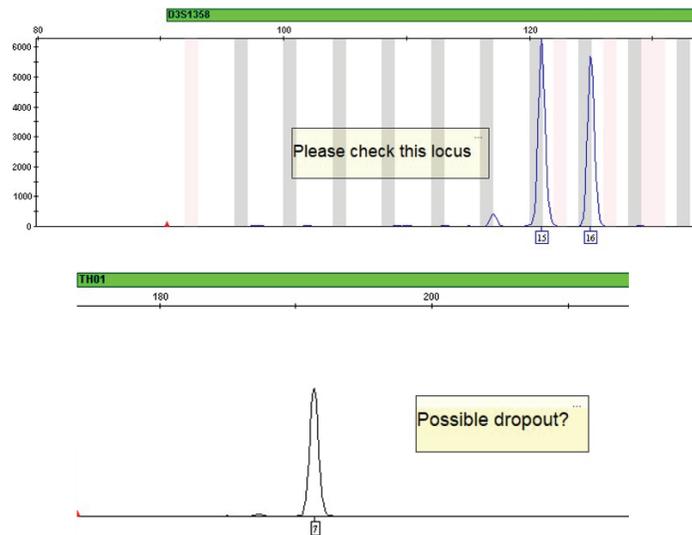
Figure 2. Example of annotation directly on an electropherogram.

Support for multiple projects and plots

GeneMapper *ID-X* Software v1.7 allows analysts to open multiple projects at once (Figure 3) and compare samples across all these open projects using the Profile Comparison tool as well as compare annotation differences between multiple projects. You can open electropherograms in separate windows and compare them side by side, rather than scrolling back and forth between the two different profiles.
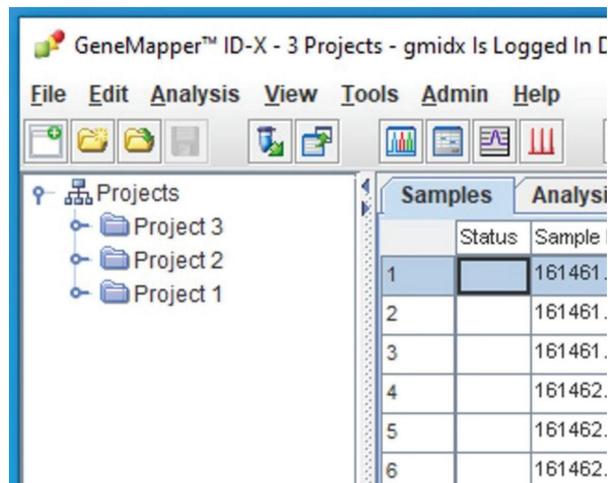
Figure 3. Multiple projects are open at the same time in the left-hand navigation panel.

User base of instruments supported

As technology advances, GeneMapper *ID-X* Software v1.7 helps set you up for success in adapting to those changes. The software is supported on both Windows™ 10 and Windows™ 11 operating systems. GeneMapper *ID-X* Software v1.7 is compatible with files from Applied Biosystems™ SeqStudio™ Flex Genetic Analyzers and, in the future, will be able to analyze and view data files (.fsa/.ser) generated by the Applied Biosystems™ RapidHIT™ ID System. The software ensures continuity of analysis from your existing platforms—Applied Biosystems™ 3500 Series Genetic Analyzers and SeqStudio™ Genetic Analyzers—as well as files produced by Applied Biosystems™ ABI PRISM™ 3730, 3130, 3100, and 310 Genetic Analyzers.

Additional improvements in the user interface of GeneMapper *ID-X* Software v1.7 are:

• **Auto-save**—you no longer need to worry about losing your edits if the server connection is unexpectedly closed. Auto-save is configurable on a per-minute basis.

• **Prepopulated analysis settings**—these can now be imported from the capillary electrophoresis (CE) plate document. You can add the analysis method along with panel and bin sets, and settings will transfer over to the GeneMapper *ID-X* Software when an instrument file is imported.

• **Printing**—the 10-page spool print limit has been removed, improving PDF export efficiency.

• **Analysis settings on plot**—choose parameters to display on the profile plot, such as analytical threshold, analysis threshold, panel, and size standard.

• **Stutter visualization**—filtered stutter can now be visualized in grayed-out form, indicating the presence of a peak that was filtered due to stutter settings.

• **Displayed peak height ratios**—on-the-fly peak height ratio calculation has been expanded from a single dye channel to any two peaks in the sample plot.

New optional analysis features

GeneMapper *ID-X* Software v 1.7 includes new analysis options that can help you save time in both primary and secondary data review:

• **Allele-specific stutter**—using parameters developed by your own laboratory

• **Marker-specific filters**—including marker-specific PAT, homozygous and heterozygous minimum peak height, maximum peak height, minimum peak height ratio, and cutoff (Figure 4)

• **Spectral pull-up filter**—with the click of a few buttons, you can enable pull-up detection and separately choose to remove pull-up peaks rather than just labeling them

• **Additive stutter**—the ability for the software to include the effects of both forward and back stutter during peak evaluation
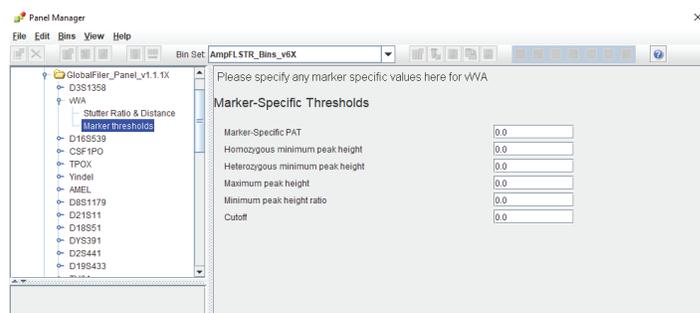
Figure 4. Menu options for incorporating marker-specific thresholds based on laboratory requirements.

Validation

Thermo Fisher Scientific has validated GeneMapper *ID-X* Software v1.7 following the DNA Advisory Board (DAB) Quality Assurance Standards (July 1, 2020) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDAM, December 5, 2016). Each laboratory using GeneMapper *ID-X* Software v1.7 should perform its own appropriate internal verification or validation studies to establish interpretation criteria and demonstrate that the software is appropriate and fit for its own human identification uses. Please refer to the GeneMapper *ID-X* Software v1.7 New Features and Software Verification User Bulletin (*Pub. No. MAN0029209*) for our developmental validation data.

Ordering information

Description	Cat. No.
GeneMapper *ID-X* Software v1.7, full installation	A71700
GeneMapper *ID-X* Software v1.7, client installation	A71701
GeneMapper *ID-X* Software v1.7, full upgrade	A01700
GeneMapper *ID-X* Software v1.7, client upgrade (1 license)	A01701
GeneMapper *ID-X* Software v1.7, client upgrade (5 licenses)	A01705
GeneMapper *ID-X* Software v1.7, client upgrade (10 licenses)	A01710

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