

HunterLab's Strategies for 21 CFR Part 11 Compliance



Introduction

21 CFR Part 11, "Electronic Records; Electronic Signatures; Final Rule," ("Part 11") outlines the United States Food and Drug Administration's (FDA) requirements for companies that wish to manage data records electronically (i.e., through software), rather than as stored paper documents. Use of electronic records is not required, although it is becoming more widespread due to the time it can save, especially during the drug review and approval process.

HunterLab instruments, particularly the ColorQuest® XE, LabScan® XE, UltraScan® VIS, and UltraScan® PRO are gaining popularity for the color measurement of pharmaceutical products and intermediates, such as tablets, powders, creams, plastic parts for medical devices, and liquid solutions. When a pharmaceuticals company (within the U.S. or that sells in the U.S.) purchases new measuring equipment of any kind, it must give special consideration to the requirements of the FDA predicate rule that regulates their measurements, as well as Part 11. While compliance with Part 11 is the responsibility of companies using HunterLab systems, HunterLab has developed ways to help them comply. The purpose of this white paper is to describe HunterLab's strategies for doing so.

Is My System Subject to Part 11?

Part 11 applies to all computer systems that create, modify, maintain, archive, or retrieve records required by FDA.

Some of HunterLab's instruments do not generate electronic records, and so are not subject to Part 11 regulation (although they are still subject to regulation under predicate rules). The data from these instruments would be copied or printed to paper, signed by hand, and maintained as hard copies. The instrument configurations that fall into this category are detailed in Table 1.

Any other system configuration (such as those using a computer running HunterLab color software) may be used in either of two ways:

1. as a non-subject system by printing results, signing by hand, and maintaining hard copies
2. as an electronic record-keeping system subject to Part 11 regulation.

Systems described by number 1 would be subject only to predicate rules, not Part 11. Systems described by number 2 must comply with Part 11. It is these systems that we will discuss further.

What Should My System Do to Comply?

Part 11 describes four basic system elements that must be addressed. They are:

- Electronic Signatures/Audit Trail
- Record Keeping
- Security
- System Validation.

Let's examine them each in turn.

Electronic Signatures/Audit Trail

Electronic signatures must be linked to their data records and, when displayed

on the computer screen or printed, include the signer's printed name, the significance of the signature (record creation, approval, etc.), and the date and time of execution.

Record Keeping

Data records must be stored in a format that FDA can reasonably be expected to be able to read. These records must be retained for the length of time required by predicate rule.

Security

System access must be restricted to authorized individuals using biometric or non-biometric (password-protected) log-ins. These individuals must be held accountable for their actions throughout the audit trail.

System Validation

The system must be validated to prove that it complies with the technical requirements of Part 11. Installation Qualification, Operation Qualification, and Performance Qualification (IQ/OQ/PQ) should also be performed.

How Can HunterLab Help?

It is not possible to "buy" a Part 11 compliant system. This is because the requirements of Part 11 fall into two categories: those that are handled technically (through software features), and those that are handled procedurally (such as through system validation, SOPs, policies, etc.). Both categories must be addressed. The best software package you can purchase is not Part 11 compliant unless it is implemented and documented properly.

HunterLab sells a special pharmaceuticals configuration of its EasyMatch® QC software, called EasyMatch QC-ER. Designed for a 32-bit Windows platform, this software controls the ColorFlex, ColorQuest XE, ColorQuest XT, ColorQuest II Sphere, ColorQuest 45/0 LAV, LabScan XE, MiniScan XE Plus, UltraScan XE, UltraScan PRO and UltraScan VIS sensors while supporting the technical requirements of Part 11. This package utilizes the security features of Microsoft® Windows® NT, 2000, and XP, as well as addressing data storage

Instrument	Limitations
ColorFlex®	Used with firmware and printer only; no connection to software.
ColorQuest® XE	Used with touch screen and printer only; no connection to software.
ColorQuest® XT	Used with touch screen and printer only; no connection to software.
ColorTrend™ HT	Hand-held or fixed terminal only; no connection to software.
D25 DP-9000®/D25LT	Used with firmware and printer only; no connection to computer.
LabScan® XE	Used with DP-9000 and printer only; no connection to software.
MiniScan® XE Plus	Used with firmware and printer only; no connection to software.

Table 1. Instrument Configurations Not Subject to Part 11

and audit trail requirements from within EasyMatch QC itself.

While procedural requirements of Part 11 are the responsibility of each user company, a Validation and Compliance Notebook is included with the EasyMatch QC-ER package. This notebook provides policy suggestions, advice, and templates for implementing the procedural requirements of Part 11. If additional assistance is required beyond that provided in the notebook, HunterLab can help on a fee-paid basis.

Table 2 summarizes how the various requirements of Part 11 are addressed by the EasyMatch QC-ER package. More details are available by contacting HunterLab Technical Support at (703) 834-2206.

Disclaimer

While HunterLab has attempted to consider all parts of the Part 11 rule in developing the EasyMatch QC-ER package and the instructions and advice contained in this white paper and the Validation and Compliance Notebook, the system described has not been approved or mandated by FDA or any other government agency. HunterLab makes no claims that completion of all steps described will disqualify companies or individuals from FDA sanction. Compliance responsibility lies with the user company, not HunterLab.

References

21 CFR Part 11, "Electronic Records; Electronic Signatures; Final Rule," March 20, 1997, http://www.fda.gov/ora/compliance_ref/part11/.

Guidance for Industry, Part 11, Electronic Records; Electronic Signatures – Scope and Application (Final Guidance), U.S. Department of Health and Human Services Food and Drug Administration, August 2003, <http://www.fda.gov/cder/gmp/index.htm>.

Guidance for Industry, Computerized Systems Used in Clinical Investigations, U.S. Department of Health and Human Services Food and Drug Administration, May 2007, <http://www.fda.gov/CDER/GUIDANCE/7359fnl.pdf>



Section of Rule	Solution
11.10 (a)	The user company must initially and periodically validate the system using guidance given in the Validation and Compliance Notebook. EasyMatch QC-ER displays an error message when any job file is opened that has been tampered with from outside the software.
11.10 (b)	Permanent records are stored as job (.JSD) files that can be viewed and printed through EasyMatch QC-ER.
11.10 (c)	The job files will be retained (and backed up) for the period indicated by predicate rule. EasyMatch QC-ER is fully network-enabled and an NTFS file system may be used to limit access to the jobs.
11.10 (d)	The Windows system and EasyMatch QC-ER both limit access to authorized users with their correct passwords.
11.10 (e)	Audit logs are maintained for each job and for the EasyMatch QC-ER application as a whole. The system time is synchronized with the network server.
11.10 (f)	EasyMatch QC-ER prompts for standardization as required. Other sequencing requirements should be established in SOPs.
11.10 (g)	Login to the Windows system and EasyMatch QC-ER is required before users can access EasyMatch QC. Functions available to each user can be restricted as desired.
11.10 (h)	EasyMatch QC-ER does not allow measurements if the instrument is not detected or if standardization has expired.
11.10 (i)	Training needs should be determined and undertaken by the user company.
11.10 (j)	The user company must establish electronic signature policies using guidance given in the Validation and Compliance Notebook.
11.10 (k)	The EasyMatch QC User's Manual is provided in Adobe Reader format on the software installation CD. These files may not be modified. Control and distribution of all system documentation is the responsibility of the user company.
11.30	HunterLab is addressing closed systems only.

Section of Rule	Solution
11.50 (a)	Electronic signatures are applied to the job file and include all required signature elements.
11.50 (b)	The electronic signature, once applied in EasyMatch QC-ER, is always available for display and printing.
11.70	Electronic signatures, once applied to a job file, may not be altered or deleted.
11.100 (a)	Windows does not allow a single user name/password combination to be used more than once.
11.100 (b)	The user company must establish an SOP for identity verification using guidance given in the Validation and Compliance Notebook.
11.100 (c)	The user company must certify that it will be using legally-binding electronic signatures using guidance given in the Validation and Compliance Notebook.
11.200 (a)	Signing of an EasyMatch QC-ER job file requires initial log-in to the Windows system and EasyMatch QC with ID and password, plus entry of the ID and password on each signing.
11.200 (b)	HunterLab is not addressing biometric means of applying signatures at this time.
11.300 (a)	Windows does not allow a single user name/password combination to be used more than once.
11.300 (b)	The Windows system will be set up to require that new passwords be entered at specified intervals.
11.300 (c)	The user company must establish system back-up procedures using guidance given in the Validation and Compliance Notebook.
11.300 (d)	The Windows system will be configured to lock out an attempted user when an incorrect ID/password combination is entered more than three times.
11.300 (e)	HunterLab is not addressing biometric means of applying signatures at this time.

Table 2. Summary of HunterLab's Compliance Solutions