

# PenReader Module

The PenReader Module utilizes adaptive learning and pattern recognition technology to eliminate manual data input for tracking and/or using structured report systems.

With the PenReader system the radiologist continues to transcribe narrative reports while the system automatically extracts exam information from the narrative reports.

Pertinent tracking information such as exam type, letter type, recall interval, BI-RADS are automatically extracted and stored for MQSA audit, tracking, statistics and unresolved case report generation.

The PenReader adapts to each radiologist by each exam type to enhance data extraction. PenReader frees the staff and radiologists from entering information for tracking and statistical analysis.

The PenReader processes breast imaging examinations including but not limited to mammography, ultrasound, MRI, BSGI, stereotactic, Usbx, MRI bx, cryoablation, brachy, FNA, aspiration, localization, sentinel node and specimen imaging.



## PenReader System Package

The PenReader Module includes the setup and installation of the PenTrac tracking and AutoReader modules, the HL7 interface, and also the MS SQL database with scheduled back-ups and maintenance plan. The customer to supply a back-up source.

Six custom patient exam and recall letters are included as well as an electronic patient history sheet including breast graphics. The system automatically generates and tracks patient recall letters.

Statistical report generation for MQSA, practice management, data mining and export is included using Crystal reports. Two day web training is included.

# PenRad

*the mammography information solution provider*

PenRad, 10580 Wayzata Blvd., Suite 200, Minnetonka, MN 55305 P:763.475.3388 F:763.475.2815 [www.PenRad.com](http://www.PenRad.com)

# PenReader Installation

The PenReader installation includes remote setup of PenTrac, PenReader, HL7, radiologist and technologist database and the testing of HL7 communications, extraction of orders, results and doctors and the creation of patient letters, site logo, and verification of exam and recall letters.

After initial testing and setup the system will accumulate reports from each radiologist by exam type to initiate the adaptive learning process. This typically is a 30 day period. After the initial 30 day period, PenRad will schedule the two day training program with the site staff to teach the PenReader System application.



## PenReader Data Extraction

The PenReader extracts data from the HL7 result messages in real time or batch format. Data extracted include exam type, exam and approve date and time. Patient demographics are updated by ADT feed and the referring doctor is added to the dictionary automatically. The module also tracks the second reader and the technologist. Data is extracted based on learned phrases from the narrative reports and stores the narrative reports in the PenRad application for review and reference.

## PenReader Options

The PenReader training can be scheduled as on-site training. Patient letters can be increased above twelve (supports multi-language letters also). Additional seat/workstation licenses can be added.

PenRad offers a HL7 repeater that allows facilities with a single HL7 feed to feed multiple systems requiring HL7 that would facilitate the PenReader module without additional investment with the RIS/HIS vendor.

PenRad also offers a DICOM SR module that extracts narrative from the HL7 result message and creates a DICOM SR message for archive in PACs, also a DICOM WL module that offers DICOM Worklist for imaging and scanning devices from the HL7 order messages and our PenFetch module that automatically prefetches and transfers images to reading workstations.

# PenRad

*the mammography information solution provider*

PenRad, 10580 Wayzata Blvd., Suite 200, Minnetonka, MN 55305 P:763.475.3388 F:763.475.2815 [www.PenRad.com](http://www.PenRad.com)