



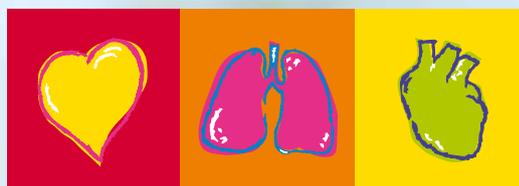
SEMA-200 DATA MANAGEMENT SOLUTION

COMPREHENSIVE MANAGEMENT AND ARCHIVING OF YOUR DIAGNOSTIC DATA

The trusted SEMA-200 Data Management Solution provides highly effective storage, analysis, and evaluation of your diagnostic recordings. It extends the functionality of connected devices, and ensures a more efficient workflow with the help of advanced search, batch editing, worklist, and interpretation tools.

Standard interfaces enable SEMA-200 to become an integrated component in a larger systems solution. Built in security features, such as auto logoff, role based login, and filtered access control functions, keeps your data safe from prying eyes.

Thanks to its unique flexibility and scalability, SEMA-200 is perfectly suited for everything from a physician's office to multi-site hospital organizations. With SEMA-200, your diagnostic data is secure and easily accessible anytime.



SCHILLER

The Art of Diagnostics

MANAGING INFORMATION

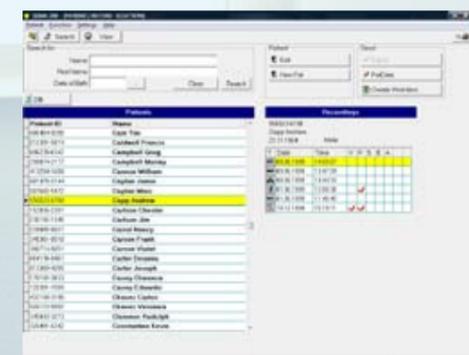
Data Formats

SEMA-200 manages and archives the following diagnostic recording types:

- **Resting ECG** including average complexes, rhythms, measurements, QT dispersion, serial comparison, and vector analysis
- **Exercise ECG** including measurements, rhythms, average complexes, protocols, and trends, as well as ST segment slope, measurements, and graphs
- **Resting Rhythm** including full disclosure and event classification
- **Spirometry** including FVC, SVC, MVV, and MV tables, graphs, and trends
- Analysis of **Ventricular Late Potentials** including filtered and unfiltered averages, and vector magnitude

In seamless combination with other applications, SEMA-200 will also manage and archive:

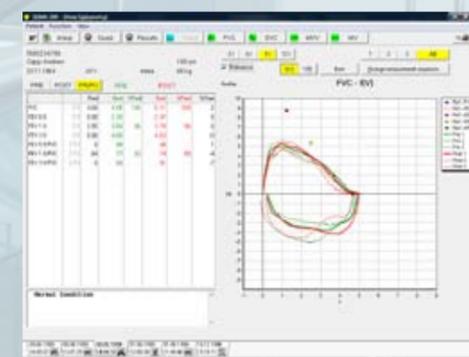
- Up to 72 hours of Ambulatory (Holter) ECG monitoring (requires MT-200 Holter program)
- Up to 48 hours of Ambulatory Blood Pressure monitoring (requires MT-300 ABP program)



Patient / Record Selection



Exercise ECG



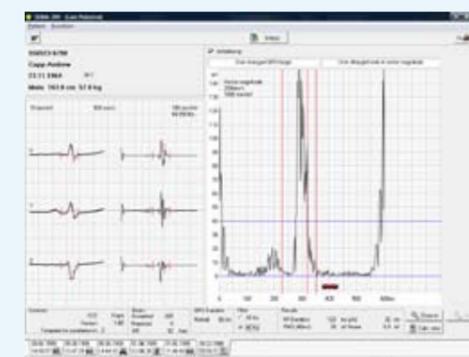
Spirometry



Resting ECG



Resting Rhythm



Analysis of Late Potential

Simple to Operate

The SEMA-200 has been designed for use on a daily basis and incorporates direct function buttons and innovative index tabs to provide instant access to historical diagnostic recordings. A clear and intuitive user interface means that SEMA-200 can be used immediately by almost anyone with minimal operator training. Indeed, no prior computer knowledge is necessary.

Increases Productivity

SEMA-200 provides a single interface to all archived diagnostic recordings with extended search capabilities. This

reduces the burden of clerical tasks and allows you, as a healthcare professional, to focus more on value added tasks and provide the best possible care for the patient.

Comprehensive and clear evaluations are simplified through extensive batch editing tools, diagnostic statements (with acronym expansion), and on-screen calliper measurements. This speeds the reviewing and validation process, saving valuable time.

Reduces Errors

An open standard platform enables easy interfacing with Hospital Infor-

mation Systems (HIS) and Electronic Medical Record (EMR) systems. The availability of information via automated import and export functions reduces manual data entry and minimises errors. For example SEMA-200 can automate the import of patient demographics and worklists, and automatically export results back to your HIS or EMR.

Increases Access to Information

SEMA-200 can easily be installed on any PC that runs Windows 2000, XP, or Vista and is compatible with all current PC based networks (allowing access

to data from multiple sites). This not only eliminates the need for dedicated computers, but also enables the retrieval and analysis of diagnostic data wherever your patient is located. Additionally, full integration with SCHILLER PC based diagnostic units allows healthcare professionals, in the clinic or hospital, to acquire, diagnose, save, and share patient information directly on the unit. Furthermore, they can perform post data processing at any time directly on the unit or on SEMA-200.

Saves Money and Space

This electronic storage solution enables complete paperless archiving of all diagnostic patient data, which eliminates the need for bulky filing cabinets. Furthermore, being able to print recordings in diagnostic quality on a normal office printer reduces your need for expensive thermal paper. The centralized digital storage of all diagnostic recordings in a reliable and secure database not only increases your data safety and storage efficiency, but also prolongs the maintenance of data.

This aids you to comply with the legal archiving requirements for retention of patient information.

Increases Security

Fully integrated role based access control, auto-logout, and user security management protects your archived data from unauthorized access and manipulation of stored information. Electronic audit trail functions can supervise and log all actions from all users, providing traceability and accountability in case of suspected safety breaches or illicit actions.

MAKING THE CONNECTION

Device Communication

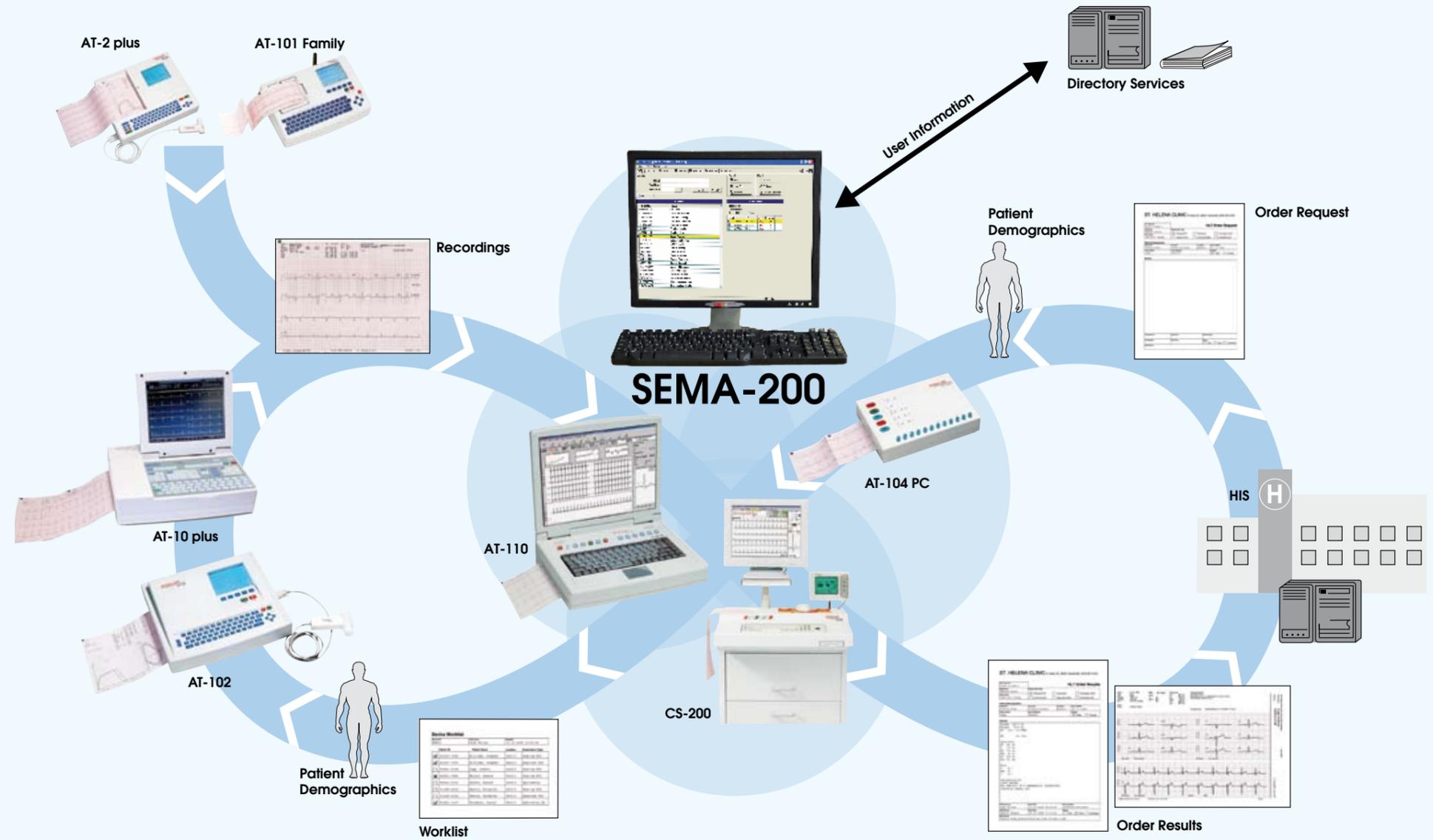
SEMA-200 supports communication with the following SCHILLER devices:

- Reception of recordings via direct cable (RS-232), Ethernet, or GSM from AT-2 plus, AT-101, AT-101 Tele, and AT-101 easy (among others)
- Bi-directional communication and worklist support via Ethernet, WiFi/WLAN, or internal serial analogue modem, with AT-102, and AT-10 plus
- Full data management integration of AT-104 PC, AT-110, and CS-200 via Ethernet. This provides full access to SEMA functionality directly on the device.

System Interfaces

On the back end side, SEMA-200 supports automated communication with the following types of external systems using standard interface protocols:

- Electronic Medical Record (EMR) Systems and Hospital Information Systems (HIS), enabling import of patient demographics (ADT), and export of results (ORU) and PDF reports
- Order Entry and Billing Systems, including import of order requests (ORM), and export of financial transactions (DFT)
- Directory Services via LDAP, allowing all users and passwords to be managed centrally



Open System Architecture

SEMA-200 and the SCHILLER Communication Server (SCS) software are developed using open system architectures, making them highly compatible with existing standard networks (TCP/IP, Novell, etc.), supporting XML data formats over the standard Internet transfer protocol HTTP.

EMR System Integration

Seamless integration with Electronic Medical Record (EMR) systems, using a standard HL7 interface, GDT interface or SCHILLER interface, delivers close interactivity between EMR systems

and SEMA-200. Patient demographics and requests for examinations can be received by SEMA-200 and be made available to connected devices. Furthermore, findings, validations, and diagnostic data of recordings stored in SEMA, are automatically transmitted back in textual or PDF format, and can easily be accessed and displayed by the EMR system.

Hospital Information System Integration

SEMA-200 can be easily integrated into existing Hospital Information Systems (HIS) via the HL7 (version 2.x) interface

standard and extensive data export functions in PDF data formats. New or updated patient demographics can be imported automatically into the SEMA-200 database via ADT messages, resulting in a synchronized copy of all patients stored in the Hospital Information System. Received order request messages (ORM) can be automatically received and compiled into worklists, which are sent only to the intended device or group of devices. Findings, validations, parameterized diagnostic data, and waveforms of preformed recordings are automatically exported back

to the HIS via result messages (ORU). This provides a complete closed loop workflow, with virtually no manual data entry and complete traceability.

External User Management

The availability of the new LDAP interface allows SEMA-200 and all integrated PC-based devices to access user information and credentials stored in external Directory Services, such as Microsoft Active Directory or Novell eDirectory. This enables SEMA-200 to only manage user groups or roles, with their corresponding permissions and access

rights. All specific user information, such as passwords and group associations, are managed by the Directory Service. This almost completely eliminates user administration tasks in SEMA-200, and allows the users to use the same usernames and passwords as in other systems.

Monitoring Integration

The SCHILLER ARGUS PRO monitoring system is fully equipped with an interface to the SEMA-200 data management solution. This enables the quick retrieval of patient demographics and export of resting ECG performed

on the bedside monitor. In conjunction with the HL7 interface module to SEMA-200, the ARGUS PRO system has access to all of the demographic information relating to patients stored in the Hospital Information System.

BRIDGING THE DISTANCE

SEMAweb INTERFACE MODULE

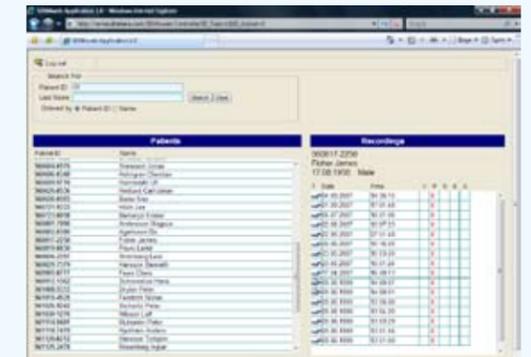
SEMAweb is an add-on module for SEMA-200 which enables diagnostic recordings to be immediately retrieved, viewed and printed from any PC throughout your organization and beyond.

Features:

- Password-secured access
- Seamless integration with SEMA 200's user management and audit trails
- Search functions
- Just-in-time server side generation of PDF reports
- Print-out of data and curves in diagnostic quality
- Familiar user interface
- No SCHILLER specific client side software required

Requirements:

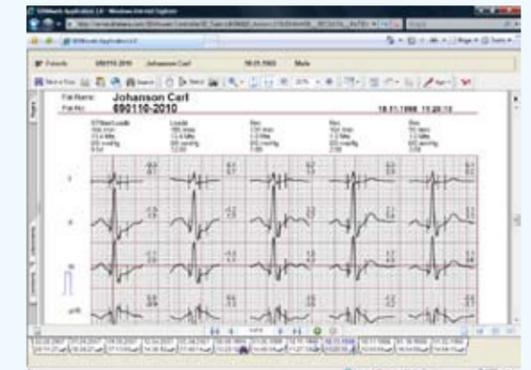
- SEMA-200 General Network License (version 2.45 or later, incl. ADS database software, version 7.1 or later)
- Internet Explorer™ (version 6 or later)
- Adobe Reader™ (version 5 or later)



SEMAweb Patient/Record Selection



SEMAweb Resting ECG



SEMAweb Exercise ECG

Universal Access

With SEMAweb Interface Module installed on a central server, no SCHILLER specific software is required anywhere else to enable easy access to a patient's recordings. Users allowed access in SEMA can use any PC with a standard web browser to log in and view or print any diagnostic recording stored in the SEMA-200 data management system.

With appropriate security measures installed, SEMAweb gives instant access to up-to-date information from any remote location. This can be your

home, an external location, or even on the go. This frees you from physically having to be on location to provide your professional services, potentially minimizing unnecessary travelling when on call.

Familiar and Intuitive

The familiar and intuitive user interface of the normal SEMA-200 software has been preserved. This means shorter learning curves in organizations already familiar with the SCHILLER diagnostic workstations or data management solutions. Patients with re-

cordings in the database are easily located using search functions with combinations of Patient ID and name. Search results are clearly displayed together with a patient summary and listing of recordings, giving you a clear overview of available information. While viewing a recording, innovative index tabs at the bottom of the screen provide direct access to your patients' previous recordings at the mere click of a button. Just-in-time report generation ensures that newly added or updated recordings are immediately made available. A local printout can

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be obtained at any time ensuring accurate results in diagnostic quality on any standard office printer.

Low Maintenance

The web-server based solution of SEMAweb effectively means that the module only runs on a centralized server. Maintenance and service costs of SEMAweb are minimised because upgrades and configurations are done centrally on the server. Additionally, the number of SEMA-200 software installations can be reduced to only those PCs where full processing and analysis

of the recordings is needed. The more effective utilisation of database resources from a single location means that regardless of how many users are logged in at the same time, all PCs using SEMAweb share a single database license. This results in lower total solution cost. SEMAweb integrates seamlessly with new or existing SEMA-200 installations. User management, print-out settings, and audit trails are shared, resulting in a single point of administration of the complete data management solution. The SEMAweb interface module only needs minimal

maintenance or configuration after it has been installed.



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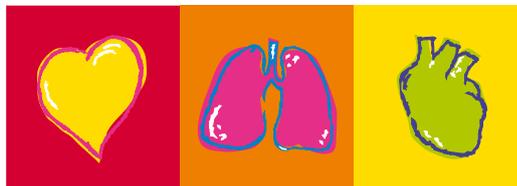
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