

SEMA-200 Data Management Solution

Comprehensive management and archiving of your diagnostic data



SCHILLER
SWITZERLAND

The Art of Diagnostics

What is SEMA-200?

SEMA-200 is an advanced data management solution giving highly effective storage, analysis, and evaluation of your diagnostic recordings. It has been designed to ensure that healthcare professionals can work even more efficiently by providing improved data integration via secure, reliable, real-time access to information. And this information is delivered wherever and whenever required.

SEMA-200 not only extends the functionality of connected diagnostic devices, but also of the ARGUS PRO monitoring system. This is achieved by adding comprehensive management and archiving of diagnostic data and if required, integration with third party information systems.



Whether you use this solution as a single user or as a multi user in a network, SEMA-200 meets your requirements. It is highly effective and reliable as a stand-alone application in a Physician's office, interfacing with Electronic Medical Record (EMR) systems. It is equally effective as an integrated component of a larger systems solution at a hospital, interfacing with Hospital Information Systems (HIS) via standard HL7.



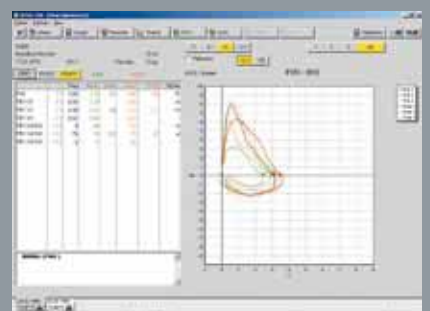
Resting ECG



Exercise ECG



Spirometry



What does it do for me?

Simple to Operate

The SEMA-200 has been designed for use on a daily basis and incorporates direct function buttons. These provide single click operations allowing you to efficiently access your information. 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

Instant access to historical diagnostic recordings means that you are able to make even faster and better informed clinical decisions giving rapid time to treatment in critical situations. Innovative index tabs provide fast, simple and direct access to your patients' recordings at the mere click of a button.

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.

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.

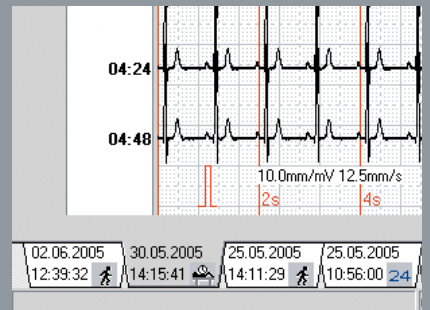


Reduces Errors

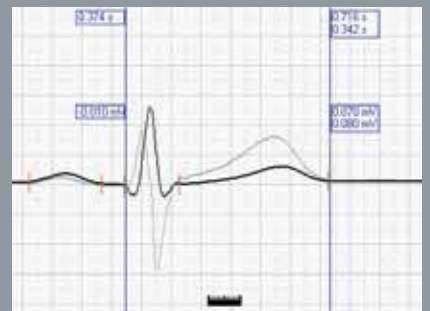
An open standard platform enables easy interfacing with Hospital Information Systems (HIS) and Electronic Medical Record (EMR) systems. The availability of information via automated import and export functions reduces manual data entry and minimises errors. For example SEMA-200 can automate the import of patient demographics and recordings and automatically export results back to your HIS or EMR.



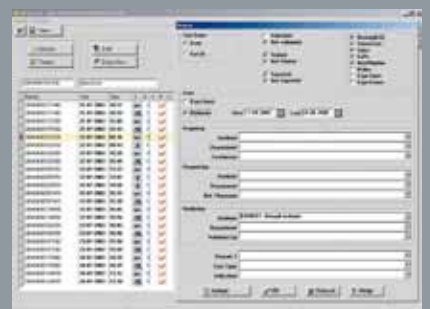
Index Tabs



On screen callipers



Batch editing/
Extensive search



What does it do for your organization?

Increases Access to Information

SEMA-200 can easily be installed on any PC that runs Windows 2000 or XP 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 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.



Increases Security

Fully integrated access control and user security management protects your archived data from unauthorized access and manipulation of stored information. Furthermore, it enables control of user rights; for example, controlling who is allowed to perform system configuration changes and who is allowed to perform the validation of interpretation statements.

SEMA-200 provides centralized digital storage of all diagnostic recordings in a reliable and secure database and also allows extensive archiving and backup to various storage media. This 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.

Integrated encrypted transmission of electronic recordings in XML format is provided from devices, via Ethernet or analogue modems. This increases the security of the transmissions to the level where data can be sent from one facility to another via otherwise insecure channels such as the Internet.

Print-outs



XML



PDF Generation



Application Overview

Data Formats

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

- **Resting ECG** including average complexes, rhythms, measurements, QT dispersion and pacemaker detection. Additional analysis by Serial Comparison of up to four Resting ECGs. Vector Analysis is also possible including two and three dimensional loops and measurements.
- **Exercise ECG** including measurements, rhythms, average complexes, NIBP, protocols, trend plots, event identification, break reasons, indications, 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 and graphs, as well as trends of up to 10 selected test categories.
- **Analysis of Ventricular Late Potentials** including filtered and unfiltered averages, vector magnitude, as well as the following analysis parameters: HF, QRS duration, RMS-values for the last 40 ms, low amplitude signal, and noise of the vector amplitude.

Furthermore, in seamless combination with other SCHILLER applications, SEMA-200 will also manage and archive the following additional diagnostic data formats:

- Up to 72 hours of **Ambulatory (Holter) ECG** monitoring (requires MT-200 Holter program) including analysis of 2 or 3 channels, ST analysis, template matching, HR trend overview, HR variability, pacemaker templates, and reclassification in less than 2 seconds with "drag & drop" functionality.
- Up to 48 hours of **Ambulatory Blood Pressure** monitoring (requires MT-300 ABP program) including a measurement table, comprehensive statistical calculations, trends, and histograms.



Expert Analysis and Evaluation

SEMA-200 will allow you to rapidly analyse and evaluate examinations through comprehensive editing tools including on-screen measurements and editing of global measurement points. Interpretive statements can be added as a combination of free text, acronym expansions, and an easily accessible catalogue of validation statements.

EMR System Integration

Seamless integration with Electronic Medical Record (EMR) systems, using a standard 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. Furthermore, findings, validations, and diagnostic data in PDF format can automatically be transmitted back, or easily accessed and displayed by the EMR system.

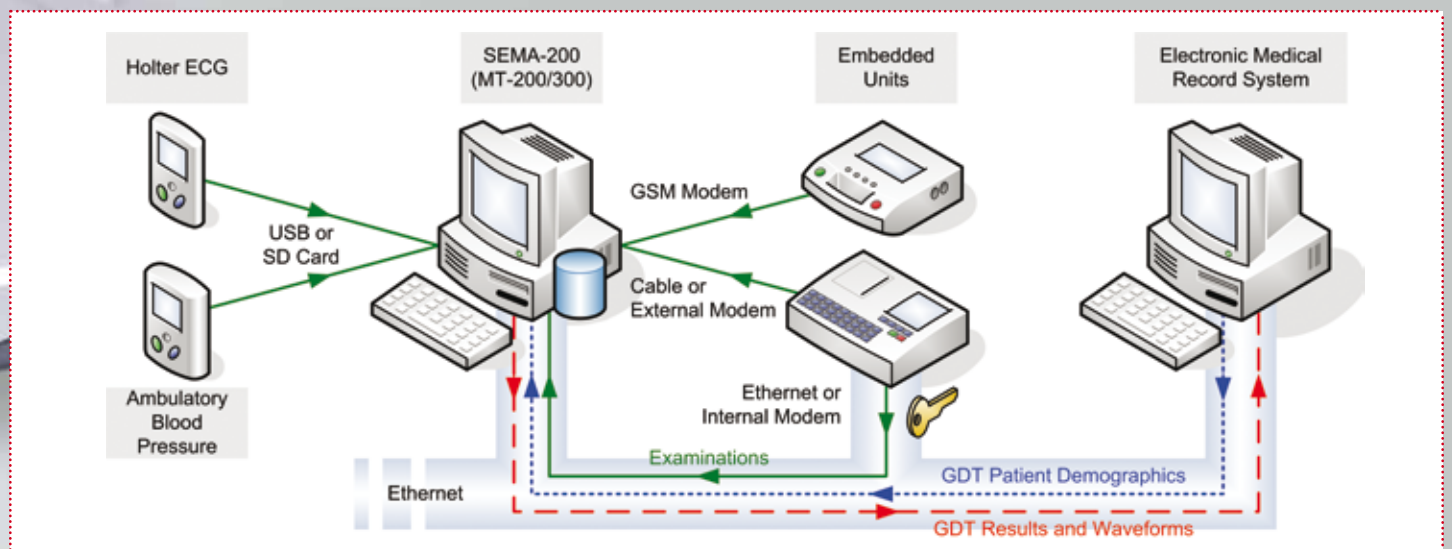
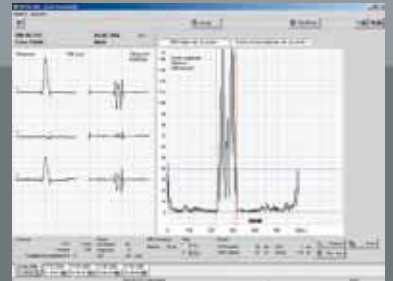
Serial Comparison



Resting Rhythm



Analysis of Late Potentials



System Overview

Device Communication

SEMA-200 communicates with, and receives examinations from the following types of devices:

- **Classic SCHILLER embedded devices** which communicate via direct cable (RS-232) connection to computers running the SCHILLER Communication Software, SEMACOMM. For communication over long distances, an external Serial Analogue modem can be employed.
- **New SCHILLER embedded devices** equipped with the SCHILLER Communication Module (SCM) which communicate via Ethernet or internal Serial Analogue modem with a SEMA-200 installation running the SCHILLER Communication Server (SCS) software. Secure transmission of examinations via the Internet is possible using 1024-bit strong encryption.

- **PC-based SCHILLER diagnostic devices** all contain a built-in SEMA-200 client, which communicates with the SEMA-200 installation via Ethernet. This provides you with full access to historic diagnostic recordings directly on the device.

- **Mobile SCHILLER Telemedicine devices**, which transmit data on the go to SEMA-200 via GSM modem or satellite.

Open System Architecture

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

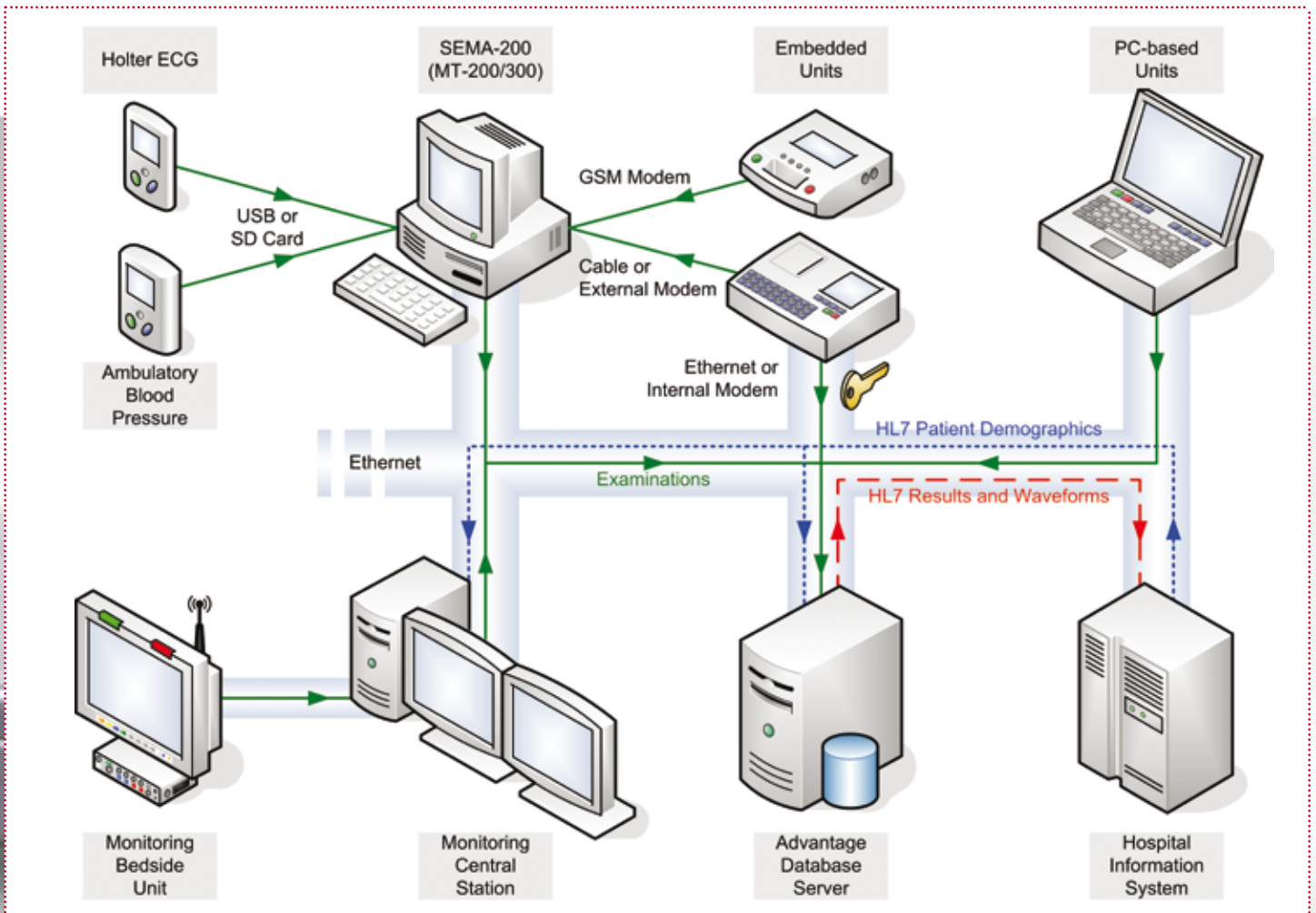


Hospital Information System Integration

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 or SCHILLER data formats. Patient demographics can be imported automatically into the SEMA-200 database from Patient Data Management Systems via ADT messages. Findings, validations and diagnostic data and waveforms can be exported automatically back to the HIS via ORU messages.

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 in XML output format via a LAN (Local Area Network). In conjunction with the HL7 interface module to SEMA-200, the ARGUS PRO system has access to all of the demographic information relating to your patients that is stored in the Hospital Information System.





SCHILLER
SWITZERLAND

The Art of Diagnostics

Headquarters: SCHILLER AG, Altgasse 68, CH-6341 Baar, Switzerland, Phone +41 41 766 42 42, Fax +41 41 761 08 80, sales@schiller.ch

Asia

SCHILLER Asia-Pacific
10 C, Jalan SS 3/33
Taman Universiti
47300 Petaling Jaya
Selangor, Malaysia
Phone +603 78 77 5336
Fax +603 78 77 5744
sales@schiller.com.my

Austria

SCHILLER Handelsgesellschaft mbH
Kampmüllerweg 24
A-4040 Linz
Phone +43 732 70 99-0
Fax +43 732 757 000
sales@schiller.at

C.I.S. & Russia

SCHILLER AG
Moscow Representative Office
Office 414, 1-st Yamskogo Polya Street 15
125124 Moscow, Russia
Phone/Fax
+7 (095) 970 11 33,
+7 (095) 956 29 10
mail@schiller-ag.com
www.schiller-cis.com

France

SCHILLER Médical S.A.S.
4, rue Louis Pasteur
F-67162 Wissembourg/Cedex
Phone +33 3 88 63 36 00
Fax +33 3 88 94 12 82
info@schiller.fr

Germany

SCHILLER Medizintechnik GmbH
Rudolf-Diesel-Strasse 14
D-85521 Ottobrunn
Phone +49 89 62 99 81-0
Fax +49 89 609 50 90
info@schillermed.de

India

SCHILLER Healthcare India Pvt. Ltd.
D.C. Silk Mills Compound, 'A' Wing,
1st floor
5, Chunawala Estate, Kondivitta Lane
Andheri-Kurla Road, Andheri (E)
Mumbai - 400 059, India
Phone +91 22 826 35 20
Fax +91 22 826 35 25
schiller@vsnl.com

Japan

SCHILLER Japan, Ltd.
Biomedical Research Building 218
1-2-3 Kasumi, Minami-ku
Hiroshima 734-8551
Phone +81 82 250 2055
Fax +81 82 253 1713
koji.maekawa@schiller.jp
www.schiller.jp

Spain

SCHILLER ESPAÑA, S.A.
Avenida Baviera, 12 - 14 Posterior
E-28028 Madrid
Phone +34 91 713 01 76
Fax +34 91 355 79 33
schiller@schiller-es.com

Switzerland

SCHILLER-Reomed AG
Riedstrasse 14
CH-8953 Dietikon
Phone +41 1 744 30 00
Fax +41 1 740 37 10
sales@schiller-reomed.ch

Turkey

SCHILLER TÜRKIYE
Halli Rifat Pasa Mah.
Darülaceze Cadd.
Perpa Ticaret Merkezi
B/Blok No: 41 K: 2
Okmeydanı-Sisli - Istanbul
Phone +90 212 210 8681 (pbx)
Fax +90 212 210 8684
sales@schiller-turkiye.com

USA

SCHILLER America Inc.
11300 NW 41st Street
Miami, Florida 33178
Phone +1 786 845 06 20
Fax +1 786 845 06 02
sales@schilleramerica.com