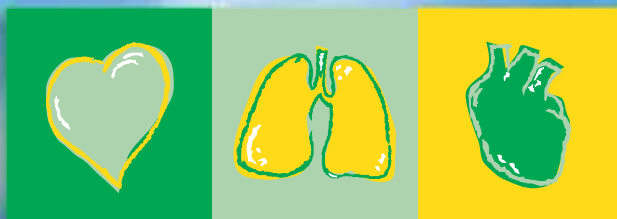


# CardioLaptop® AT-110



The new high-end CardioLaptop  
for Cardiologists!



**SCHILLER**

[www.schiller.ch](http://www.schiller.ch)

The Art of Diagnostics

# PC technology on a simple one-key-operation!

## Performance:

- Industrial embedded PC technology, Windows™ NT-based
- 12-channel Resting ECG: Measurements and interpretation
- Stress test: EXEC
- Data Management
- ETM (ECG Treatment Module) for averaging, measuring and interpretation of the data by the PC
- Internal hard disk for data storage

## In preparation:

- Extension on resting and exercise test features and spirometry



## AT-110: High performance in Laptop format

The new CardioLaptop® AT-110 takes SCHILLER's innovative and proven diagnostic capabilities yet another step further! This professional Windows NT solution unifies all cardiological diagnostic features within a handy Laptop format, by a simple one-key-operation. **Resting ECG recordings** give measurements, interpretation, average cycles and rhythm sections of all 12 leads

as standard. All leads and measurements can be printed out on the integrated high resolution thermal printer (or optionally on an external printer), in the format most convenient to the physician. Favourite print formats can be predefined so that obtaining an ECG printout with analysis is a single key operation. **Exercise testing** is an option, which includes predefined stress

protocols and dedicated keys to perform a complete exercise test. The user interface of the CardioLaptop® AT-110 has been extensively researched to ensure an ergonomic and user friendly system designed to be clear and to ensure quick, intuitive use.



### Features:

- Simple one-key-operation with dedicated function keys and icons
- Colour active 15" TFT display
- Resting ECG with measurements and average cycles
- Resting ECG rhythm
- Storage facilities for ECGs
- Interface for external blood pressure unit
- Interfaces for control digital ergometers/ treadmills
- Interfaces for dc input and dc output
- Automatic and manual ECG recording
- Selectable print formats with integrated quality thermal printer or optional external printers
- Internal battery
- QRS Trigger



## Conveniently selectable print formats



### Software Options:

- Pacemaker measurement
- Exercise ECG with analysis program with ST measurement, average complexes and trends. Full disclosure of all 12 leads is a further option with exercise ECG
- ECG interpretation

### Hardware Options:

- External blood pressure unit BP-200
- External Printer
- External pointing device (e.g. mouse, trackball)
- External keyboard

### AT-110 Philosophy and User Rights:

The operating philosophy of the AT-110 is that users have access to all the functions of the unit, that they require. Several user levels are available with defined user rights.

# Technical Data:

## CardioLaptop® AT-110:

**Dimensions:** 100 x 285 x 350 mm

**Weight:** 6.8 kg / 15 lbs

**Monitor:** 15" TFT display, high resolution  
1024 x 768 pixels

**Interfaces:** RS-232 interfaces, 1 LPT bi-directional  
Centronic interface, Ethernet LAN RJ45

### Operator interface:

- Alphanumeric PC keyboard with glide point
- Direct function keys
- PC mouse and external PC keyboard (optional)

**Power consumption:** 75 VA.

### Power supply requirements:

100 – 240 V, 50/60 Hz

### Battery:

- 24 V Lithium non rechargeable (built in charger);  
giving bridging power for at least 45 min

### Processor:

- Industrial single board computer
- Memory media: Integrated hard disk
- Network card: Integrated

### Printing process:

- Integrated high-resolution thermal print  
head, 8 dots/mm (amplitude axis), 40  
dots/mm (time axis), @ 25 mm/s
- Paper speeds: 10 / 25 / 50 mm/sec  
(manual)
- Chart paper: Thermo reactive, Z-folded, letter  
size, ready-to-file
- Frequency response of digital recorder:  
0 to 150 Hz (IEC/AHA)
- Recording tracks: 6 channels, positioned at  
optimal width on 200 mm, automatic  
baseline adjustment
- Sensitivities: 5 / 10 / 20 mm/mV

**External printer (optional):** Windows™ standard

## ECG Measuring Data:

### ECG amplifier:

- Simultaneous, synchronous recording of all  
active electrode signals
- Dynamic range:  $\pm 10$  mV AC
- Sampling frequency: 1000 Hz
- Frequency response: 0.05 to 150 Hz (-3dB)
- Digital resolution: 5  $\mu$ V
- Maximum electrode potential:  $\pm 300$  mV DC
- Time constant: 3.2 sec
- Common mode rejection:  
>100dB / 50 or 60 Hz
- Input Impedance: > 100 M Ohm

### Filters:

- **SPF SCHILLER Powerline Frequency Filter:** Distortion-free suppression of superimposed 50 or 60 Hz sinusoidal interferences by adaptive digital filtering
- **SSF SCHILLER Smoothing Filter, SMF SCHILLER Myogram Filter (muscle tremor filter):** Adaptive low pass smoothing filter to suppress muscle tremor and high-frequency noise, without bothering the QRS complex
- **SBS SCHILLER Baseline Stabilizer:** Filter to suppress or greatly reduce base line fluctuations without changing the measurement values (for Resting and Exercise ECGs); safety standard: IEC/EN 60601-2-51 (protection against hazardous output)

### Safety Standards:

**Patient input:** Fully floating and isolated, defibrillation protected (only with original SCHILLER patient cable)

### Safety standards:

IEC/EN 60601-1; UL 60601-1; C22.2 No. 601.1-M90;  
IEC/EN 60601-2-25; IEC/EN 60601-1-2 (EMC)

**Protection Class:** I according to IEC/EN 60601-1 (with internal power supply)

**Applied Part:** CF according IEC/EN 60601-1

**Conformity:** CE according Directive 93/42/EEC (Medical Devices)

**Classification:** IIa according Directive 93/92/EEC

### Environmental conditions:

- Temperature, operating: 10° to 40° C
- Temperature, storage: -10° to 50° C
- Relative humidity: 25 to 95 % (no condensation)
- Pressure: 700 to 1060 hPa

Technical data are subject to change without notice.



## Answer fax

**Yes, I am interested in the innovative products from SCHILLER.  
Please send me more information about:**

### Resting ECG:

- CARDIOVIT AT-1
- CARDIOVIT AT-1 smartprint
- CARDIOVIT AT-101
- CARDIOVIT AT-2
- CARDIOVIT AT-2 plus

### Exercise ECG (Multitasking Systems):

- CARDIOVIT AT-10 plus
- CardioLaptop® AT-110
- CardioLaptop® PT-160
- CARDIOVIT AT-102
- CARDIOVIT CS-200
- CARDIOVIT AT-104 PC
- CARDIOVIT AT/SP-10
- Ergometry

### Spirometry:

- SPIROVIT SP-1
- SPIROVIT SP-2
- CS-200 Ergo-Spiro
- PC Spirometry

### Monitoring:

- ARGUS PRO System
- PHYSIOGARD TM/CS 910
- Pulse Oximeter OX-2
- MR Compatible Monitoring
- ARGUS LCM Monitor

### Defibrillators/Monitoring:

- FRED® (First Responder External Defibrillator)
- FRED® easy
- FRED® easyport
- DEFIGARD (1002, 3002 IH, 6002)

- Holter ECG** MT-101/200
- Telemedicine:** MT-120/220 and AT-4 TELE
- SEMA-200 Data Management System**
- BR-102 Blood Pressure Recorder**
- MS-3 Pocket ECG**
- VAC-100 Vacuum Electrode System**
- ECG & Spiro Accessories**

Name: \_\_\_\_\_

Hospital: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

Phone (daytime): \_\_\_\_\_

Fax: \_\_\_\_\_

e-mail: \_\_\_\_\_

**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  
e-mail: sales@schiller.com.my

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

**C.I.S.**  
**SCHILLER AG Moscow**  
**Representative Office**  
Pokrovskiy blv., house 3  
block 1, office 2202, P.O. Box 27  
Moscow, 109028, Russia  
Phone: +7 095 956 29 10  
Fax: +7 095 956 18 63  
e-mail: mail@schiller-ag.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  
e-mail: 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  
e-mail: 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  
e-mail: schiller@vsnl.com

**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  
e-mail: 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  
e-mail: sales@schiller-reomed.ch

**Turkey**  
**SCHILLER TÜRKİYE**  
Halil Rifat Pasa Mah.  
Darülaceze Cadd.  
Perpa Ticaret Merkezi  
B/Blok No: 69 K: 2  
Okmeydanı-Sisli - Istanbul  
Phone: +90 212 210 8681 (pbx)  
Fax: +90 212 210 8684  
e-mail: 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  
e-mail: sales@schilleramerica.com

Your specialist:



# SCHILLER

w w w . s c h i l l e r . c h

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, e-mail: sales@schiller.ch