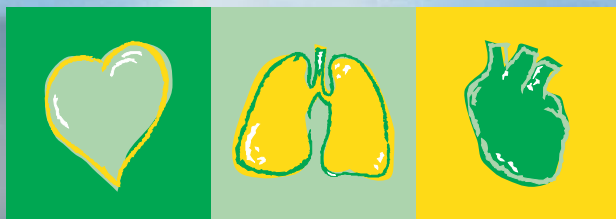


# CardioLaptop® AT-110



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 Hz 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:

- Myogram filter (muscle tremor filter): on/off  
at 25 Hz or 35 Hz programmable
- Line frequency filter: Distortion-free suppression  
of superimposed 50 or 60 Hz sinusoidal interferences  
by adaptive digital filtering
- SCHILLER smoothing filter (SSF)
- SCHILLER baseline stabilizer (SBS): Filter to suppress  
or greatly reduce base line fluctuations without  
changing the measurement values

### Safety Standards:

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

### Safety standards:

- IEC/EN 60601-1 (systems) and IEC/EN 60601-1-2
- CF according IEC 60601-1 and IEC 60601-2-25

### Protection class:

- Class I according IEC 60601-1, with internal  
power supply
- Class IIa according MDD 93/42/EEC

**Conformity:** CE according to MDD 93/42/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-2
- CARDIOVIT AT-2 plus

### Exercise ECG (Multitasking Systems):

- 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
- Magnetic Resonance Monitoring (MRM)
- ARGUS LCM Monitor

### Defibrillators/Monitoring:

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

### Holter ECG MT-100/200

- 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: \_\_\_\_\_

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