



**SCHILLER**  
The Art of Diagnostics



# CARDIOVIT AT-102 SCM SP

The redesigned two in one EKG

# Perfect 12-channel EKG solutions



**The redesigned two in one EKG device with high quality meeting high demands.**

The AT-102 is a versatile EKG that offers speed, simplicity, and options that adapt to your practice needs and help you provide the best patient care at an affordable price. The user interface and intuitive operation allow for higher productivity and efficiency while offering great value for money.

The CARDIOVIT AT-102 is a resting EKG system that is particularly suitable for routine use in practice, clinic, or emergency medicine due to its intuitive and easy operation with direct function keys. The integrated high-resolution A4 real-time printer guarantees long-term storing of EKG recordings in archive quality.

On its brilliant graphic display, all 12 EKG leads can be displayed in freely selectable sequences of 3, 6, or 12. EKG and Spirometry Interpretation including measurements with the printout of the recording.

Furthermore, an external LCD screen can be connected to the CARDIOVIT AT-102 (optional).

Take fast EKG readings with the touch of a button and ensure accuracy following simple on-screen instructions.

SCHILLER AT-102 EKG is best choice for hospitals, practices, clinics, and clinical research institutes due to its excellent quality and reliability.



# CARDIOVIT AT-102 SCM SP

# RESTING EKG & ULTRASONIC SPIROMETER



Upgrade your AT-102 SCM EKG with Ultrasound Spirometry measurements. In the CARDIOVIT AT-102 SCM, we have implemented your requests for more flexibility and more efficient work processes in your daily routine. By connecting a SpiroScout SP sensor, the CARDIOVIT AT-102 SCM transforms into a pulmonary function test device that records and measure the flow of air into and out of the patient's lungs. This accurate ultrasound technology is calibration-free requires no warm up time and maintenance free.

## FEATURES:

- Intuitive, easy operation with direct function keys
- 12-channel Resting EKG
- Interpretation
- Internal memory for up to 40 records
- Integral full size thermal quality printer with various user defined print format options
- Full size keyboard and dedicated soft key interface for easy user friendly operation
- Internal SCHILLER Communications module (SCM) is available to transmit resting EKG data in the XML format to a PC or information system
- Ethernet data transfer to PC for storage of both resting EKG and spirometry recordings in PDF format

## ADVANTAGES OF ULTRASOUND TECHNOLOGY

Sensor not in contact with sample, not influenced by humidity, barometric pressure, contamination and calibration free, maintenance free, simple and economic consumables, extremely high accuracy for low flows, and no downtime needed.

## The following programs are available:

- Slow spirometry (SVC)
- Forced spirometry (FVC)
- MVV
- Flow-volume and volume-time curves
- Interpretation programs following ATS or ERS

**PN 9.070000SCMSP**



# CARDIOVIT AT-102 SCM SP

# TECHNICAL DATA



## SYSTEM

|  |   |
|--|---|
| Dimensions:                                  | 400 x 330 x 101 mm, approx. 5 kg  |
| On-screen status indicators:                 | Battery status, date, time, power source  |
| Control panel and keyboard:                  | User-friendly, alphanumeric keyboard, LED indicator and LC display  |
| Power supply requirements:                   | 220-240 V (nominal), 50/60 Hz;<br>110-115 V (nominal), 50/60 Hz;<br>stand-alone operation with built-in rechargeable battery; LED indicator for mains operation, integrated power supply unit |
| Battery capacity:                            | 4 hours of normal use (approx. 300 automatic EKG printouts or 100 spirometry records)   |
| Power consumption:                           | Max. 30 VA  |
| Line frequency filter:                       | Distortion-free suppression of superimposed 50 or 60 Hz sinusoidal interferences using adaptive digital filtering (SCHILLER Powerline Filter SPF)   |
| Frequency range of digital recording system: | 0 Hz - 150 Hz (IEC/AHA)   |
| Chart paper:                                 | Thermo-reactive, Z-folded, 210 mm wide (A4, 8.5 x 11 inches)  |
| Printing process:                            | High-resolution thermal head printer, 8 dots/mm (amplitude axis), 40 dots/mm (time axis) @ 25 mm/s  |
| Communications:                              | RS-232 interface-to connect spirometry sensor   |
| SCHILLER Communication Module (SCM):         | Ethernet (PN 9.070000SCMSP)   |

|                           |   |
|---------------------------|---|
| Memory:                   | Possibility to save up to 40 Resting EKG or Spirometry measurements   |
| Environmental conditions: | Temperature, operating: 10° to 40°C<br>Temperature, storage: -10° to 50°C<br>Relative humidity: 25 to 95% (no condensation)<br>Pressure during operation: 700 to 1060 hPa |

## SAFETY STANDARDS

|                   |  |
|-------------------|--|
| 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:       | according Directive 93/42/EEC (Medical Devices)  |
| Classification:   | Ila according Directive 93/92/EEC  |

# CARDIOVIT AT-102 SCM SP

# TECHNICAL DATA



## TECHNICAL DATA FOR ECG

|                          |  |
|--------------------------|--|
| Patient input circuit:   | Fully floating and isolated, defibrillation-protected (only with original SCHILLER patient cable)  |
| Monitor display:         | 3- 6 or 12-channel display of the selected leads<br>25, 50 mm/s<br>5, 10, 20 mm/mV<br>Filter status (on/off)<br>Insufficient electrode contact<br>Heart Frequency, HF<br>mm/ mV, mm /s   |
| Leads:                   | 12 simultaneous leads:<br>Standard / Cabrera   |
| Chart printout speed:    | 5/10/25/50 mm/s (manual print)   |
| Sensitivities:           | 5/10/20 mm/mV, either automatically adjusted or manually selected  |
| Automatic lead programs: | 6/12-channel presentations of 12 simultaneously recorded standard lead on one or more A4 (8.5 x 11 inches) pages. Numerous printout formats can be selected  |
| Data record:             | Patient data (name, age, height, weight, BP), user ID.<br>Listing of all ECG recording conditions (date, time, filter).<br>Measurement program (M): EKG measurements results (intervals, amplitudes, electrical axes), average complexes with measurement reference markings.<br>Interpretation (C) with adult and pediatric guidance. |
| Recording track:         | 6/12-channel presentation, optimal positioning on a width of 200 mm, automatic baseline adjustment   |
| Filter:                  | Myogram filter (muscle tremor filter): 25 Hz or 35 Hz, can be switched on/off (SCHILLER Baseline Stabilizer SBS, SCHILLER SmoothingFilter SSF)   |

|                |   |
|----------------|---|
| ECG amplifier: | Simultaneous recording of all 9 active electrode signals (=12 leads).<br>Pacemaker detection:<br>2 mV/ 0,1 ms |
|----------------|---|



## TECHNICAL DATA FOR SPIROMETRY

|   |   |
|---|---|
| Measured values:                                  | <b>FVC:</b> FVC, FEV0.5, FEV1.0, FEV3.0, FEV0.5/FVC, FEV1,0/FVC, FEV3.0/FVC, FEFO.2-1.2, FEF25-75%, FEF75-85%, PEF, FEF25%, FEF50%, FEF75%, FIVC, FIV1.0 , FIV1.0/FIVC, FIV1.0/FVC, PIF, FIF50%, FMFT<br><b>SVC:</b> SVC, ERV, IRV, TV<br><b>MVV:</b> MVV, RR, TV   |
| Presentation possibilities (printout and screen): | Flow/volume graph, Volume/time graph, Table of measured values<br>Real time flow curve  |
| Data record:                                      | Patient data (name, age, height, weight), user ID<br>Registration conditions (date, time, date of the last calibration)<br>Flow/volume graph and/or volume/time graph<br>Table of measured values with PREDICTED/ACTUAL / DIFFERENTIAL values<br>Diagnosis guidance |
| Prediction equation:                              | Adults: ECCS, Austria, Crapo, Morris, Knudson, Knudson76, Polgar, Berglund, Finland, India, Composite<br>Children: Quanjer & Tammeling, Austria, India, Knudson, Knudson76, Polgar  |

## EXTRAPOLATED PREDICTED VALUES

Comparison of PRE/POST medication is possible

|                       |                  |
|-----------------------|------------------|
| Standards Compliance: | ATS, OSHA, NIOSH |
|-----------------------|------------------|

# CARDIOVIT AT-102 SCM SP

The background of the entire page is a repeating pattern of stylized hearts and lungs in a light gray color. The hearts are simple outlines, and the lungs are also simple outlines showing the main lobes. The pattern is dense and covers the entire area.

# SCHILLER

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A M E R I C A S

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