

## Technical specifications

Power supply.....	Internal AC power supply class I; 100-240 V $\pm$ 10% 50/60Hz Rechargeable NiMH batteries 1,2 Volt, 1900 mAh
Battery power capacity.....	2 hours (during patient monitoring); 1 hour (printing)
Writing system.....	Thermal printer, 8 dot/mm. Usable print height 110 mm
Thermosensitive paper.....	Format 110 mm in gridded Z-fold packets: length 30 m., page 110 x 100 mm
Display.....	Backlit graphic display 320x240 pixels, (1/4 VGA); (115x86mm) 5,7 inches
Keyboard.....	Membrane, with functional and alphanumeric extended keyboard; special "knob" for quick and easy browsing through the displayed information
Leads.....	12 standard leads acquired simultaneously and continuously
Signal memory.....	10 seconds each lead in automatic mode
Print channels.....	12
Print format.....	3, 6, 12, 3x4+2 R, Full
Display channels.....	1, 3, 6, 12
Operating modes.....	Manual: acquisition and printing in real time Automatic: simultaneous acquisition Autowizard: customisable by the user Arrhythmia: detection of arrhythmia events (optional) Stress Test (optional)
Recording/display sensitivity.....	5-10-20 mm/mV
Screen/print speed.....	3.125 (print only) - 6.25 (print only) - 12.5 - 25 - 50 mm/s
Defibrillation protection.....	Internal
Input dynamics.....	$\pm$ 300 mV @ 0 Hz $\pm$ 10 mV band width
Input impedance.....	160 Mohm a 10 Hz
Common mode rejection.....	> 100 dB
Frequency response.....	0.05 - 150 Hz (-3 dB)
Time constant.....	> 3,3 s
Acquisition.....	12 bit; 1000 samples/s/channel in acquisition and filters; 500 samples/s/channel in calculation, filters, print and memorization. Resolution 2,5 MicroV/bit
Pacemaker recognition.....	Recognizes pulse in accordance with current IEC standards
Filters.....	notch 50 - 60 Hz 0,67 Hz high-pass Mains and muscle interference (20, 25, 30 Hz) linear phase, without morphological distortion
Communication interface.....	Serial port (optional) LAN (optional)
Diagnostics programs.....	ECG measurements and Interpretation; resting ECG program (average complexes, single lead measurement table, global measurement, automatic interpretation); stress test management, including ergometer control, protocol definition, ST analysis
Options.....	Memory option, ECG measurements option, Arrhythmia option, Networking option, PC ECG option, Stress Test option
Dimensions.....	250 x 320 x 90 mm (length x height x depth)
Weight.....	2500 grams without paper
Safety and Conformity to standards.....	Class I, type CF Ref.: EN 60601-1, EN 60601-2-25, EN 60601-1-2, IEC 60601-2-51 According to: 93/42 CEE: class IIb

### Networking Option

The ECG-net is an information clinical system, composed of a number of ECG units and PCs, all LAN connected to a central server, where patient clinical data and ECG tests are automatically stored. ECG networking is the base for implementing a Central Referral System and streamlining the workflow associated with ECG data, from acquisition to final report.

It is not more necessary to move, from a department to another, the ECG hardware printout: through the LAN or a normal telephone line, the electronic ECG exams arrives to the PC of the Cardiologist that will reviewed, signed and finally sent back to the patient. Besides, from one of the computers of the system, the physician can explore and consult all the data memorized in the historical file, compare the ECG with the precedents, verify the clinical history of the patient, effect statistic calculations. The system can be updated with the CARDIOLINE® software solutions and with a large number of CARDIOLINE® ECG units, in a client/server or web-based architecture.

The ECG test will be transmitted by ELAN to the Cardiologist's PC workstation to be reviewed, signed and finally sent back to the patient. Instead of physically moving ECG printouts inside a hospital, just one click and a few seconds are all that's needed to transmit data via LAN and/or phone lines. The Central Referral System can be implemented with CARDIOLINE® software and ELAN units. Thanks to its compliance with SCP standards, ELAN can also be integrated with existing hospital information systems.

# CARDIOLINE® elan1100

## A new concept of electrocardiograph



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CARDIOLINE®  
is an et medical devices SpA brand

elan1100 combines the functionalities of a 12 channels electrocardiograph in the dimensions of a compact ECG

Entirely innovative in the performances and in the abilities of communication, elan1100 is the complete solution for the cardiology clinic from the rest ECG to the integrated management of Stress Test; from the connection to the PC to the solutions of the clinic data management CARDIOLINE®



## A new concept of electrocardiograph

elan1100 integrates with hospital information systems, communicating with surprising facility through any channel, from a LAN to the telephone system, without complicating routine work.

With elan1100 it is simple to create an ECG Network by using CARDIOLINE® clientserver software solutions, or integrating it directly with existing Clinical Data Management Systems.

elan1100 can be easily adapted to suit your individual requirements. The selection of the "options" offered has no restrictions or constraints, it has no effect on day-to-day use of the instrument and upgrades can be made directly at your clinic or surgery.

### A truly simple interface

The START key runs the recording of the ECG test in manual, automatic mode or wizard mode with name and functions selected by the user.

The high-resolution LCD screen makes it very easy to use. The monitor displays 12 ECG channels at a time. It is possible to modify sensitivity, trace speed and visualization format (from 1 to 12 channels). It is also possible to review the trace and diagnosis of an earlier test.

### Options available

#### Memory option

Storage of up to 100 full ECG exams. The LIST key displays the instrument's internal archive, including patient lists, stored ECG tests, referrals received from the Central Referral System.

#### ECG measurements option

The FREEZE key "freezes" 10 seconds of the signal on the display, starts or modifies the automatic analysis, prints and saves the test, or mails it immediately.

#### Arrhythmia option

Detection of arrhythmia events during continuous recording.

#### Networking option

The SEND key can be used to connect to the ECG Network through the selected channel (LAN or modem), and to send the last test or all the tests in the archive to the Central Referral System.

#### Stress Test option

Manages a stress test directly checking all the

phases of the examination and the ergometer in use. Every automatic recording at the change of the workload and possible manual recordings, are memorized and can be reviewed again at the end of the test.

#### PC ECG option

Real time display of the 12 ECG leads on a PC endowed with CARDIOLINE® software for the ECG computerised management. The software can offer an optional module for automatic interpretation of the ECG signal.