

ELAN

Technical specifications



0426 Compliant with European Directive 93/42/EEC Annex II

Channels.....	12
Leads.....	12 standard leads, acquired simultaneously and continuously
Frequency response.....	0.05 - 150 Hz (-3 dB)
Digital filters.....	AC filter, drift filter, muscle tremor filter (20-25-30 Hz)
Writing system.....	8 dots/mm thermal head on 210 mm paper in Z-fold packs
Display.....	Backlit LCD screen 320 x 240 pixels (1/4 VGA); 1 to 12 channels preview; patient data, date, alarms and system messages, patients and ECG test list visualization
Display knob.....	knob control for quick and easy browsing through the displayed information
Keyboard.....	45 alphanumeric and 15 functional keys
Special keys.....	START key for executing the preferred task; FREEZE key for ECG storage; SEND key for ECG communication, ECG MANAGEMENT key for accessing stored ECG tests
Power supply.....	115 V ± 10% - 60 Hz, or 230 V ± 10% - 50 Hz
Batteries.....	built-in rechargeable batteries with automatic switch off
Battery capacity.....	5 hours (during patient monitoring); 2 hours (printing)
Consumption.....	50 VA max
Dimensions & weight.....	340 x 400 x 110 mm & 5.8 Kg
Norms.....	IEC 601-1 (Ed.1988); IEC 601-1-1 (Ed.1992); IEC 601-1-2 (Ed.1993); IEC 601-1-4 (Ed.1996); IEC 601-2-25 (Ed.1995) ANSI/AAMI EC 11 (1991); ANSI/AAMI EC 71 (2001)
Directives.....	89/336/CEE (Ed.06/93); 73/23/CEE (Ed.02/73); 93/42/CEE

FEATURES

Recording programs.....	manual printing mode; automatic printing mode; automatic analysis & interpretation mode (optional); Wizard mode for automatic ECG storage and/or sending and/or printing
ECG storage.....	internal on flash memory in SCP standard format
Freeze.....	screen freeze of 10 seconds ECG
Patient & ECG test management.....	patient list downloadable from PC; internal ECG test database (including patient data, diagnosis and signal analysis) uploadable and downloadable from PC
Data transmission.....	bi-directional digital transmission according to SCP standard protocol
Transmission channels.....	direct to LAN, RS232 serial port, PSTN external modem, external GSM modem, internal PCMCIA modem (optional)
Printing formats.....	12 channels; 6 channels; 4x3 + 2 rhythm leads; patient data and notes included; automatic diagnosis and analysis data optionally included
Printing & Screen speed.....	6.25 (printing only) - 12.5 - 25 - 50 mm/s
Printing & Screen sensitivity.....	5 - 10 - 20 mm/mV

ELAN OPTIONAL PROGRAMS

Analysis (CPI).....	ECG Measurements and Interpretation
Stress Test.....	stress test management, including ergometer control, protocol definition, ST analysis
Arrhythmia Monitor.....	patient monitoring and real-time detection of arrhythmias and ST events

ACCESSORIES

Cart.....	specifically designed with ELAN fixing system, four special casters with foot-brake, plastic handle, wire basket shelves for paper and accessories, patient cable support and optional LCD monitor arm
Carrying bag.....	specifically designed to protect the ELAN unit either in transit or during use; strong waterproof fabrics; special foam protection for patient connector; shoulder strap or hand-grip

PC SOFTWARES FOR ECGS COMMUNICATION AND NETWORKING

REALTIME.....	Windows™ SW for real-time visualization and management of ECG tests on PC
RECORD Server.....	ECG & Clinical Data Management software for ECG networking, featuring LAN, serial, modem, GSM modem and satellite communication. Available in client/server or web-based architecture.



ECG networking

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.

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 RECORD software and ELAN units in a client/server or web-based architecture.

Thanks to its compliance with SCP standards, ELAN can also be integrated with existing hospital information systems.

ELAN

Digital 12 channel electrocardiograph



World-Wide Medical Partnership



Remco Italia SpA
Quality System
is certified by



I-20060 Vignate (MI) - Italy
Tel. +39 02 95 05 18.1 r.a.
Fax +39 02 95 66 013
cardioline@cardioline.it

Represented by

Cardioline® is a trademark of Remco Italia SpA

Remco Italia SpA points out that the information contained in this leaflet is subject to change without notice. Please refer to a representative of Remco Italia SpA for further detailed information and updates.



CARDIOLINE®

ELAN

*Traditional
in use...*

*...revolutionary
in performance*

A new concept of electrocardiograph

ELAN is the perfect ward electrocardiograph, traditional to use and ready to go, but with highly innovative performance and communication capacities.

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

With **ELAN** it is simple to create an ECG Network by using CARDIOLINE® client-server software solutions, or integrating it directly with existing Clinical Data Management Systems.

ELAN is a 12 channel cardiological monitor that can transmit the patient's ECG signal to a central monitoring unit. And with the Arrhythmia Monitor Option, arrhythmic events can be automatically recorded.

ELAN is a complete solution for the cardiology clinic: from Rest ECG to Stress Test, the unit is a powerful and complete cardiological workstation, usable as stand-alone unit or connected to a PC.

A key for each operation



Consult Archive

The **LIST** key displays the instrument's internal archive, including patient lists, stored ECG tests, referrals received from the Central Referral System.



Patient Monitoring

The **MONITOR** key displays the patient's electrocardiogram and heart rate, and with the Arrhythmia Monitor Option, any arrhythmia alarms are displayed and recorded.



Analyse and report

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.



Communicate

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.

Just one key for recording ECG

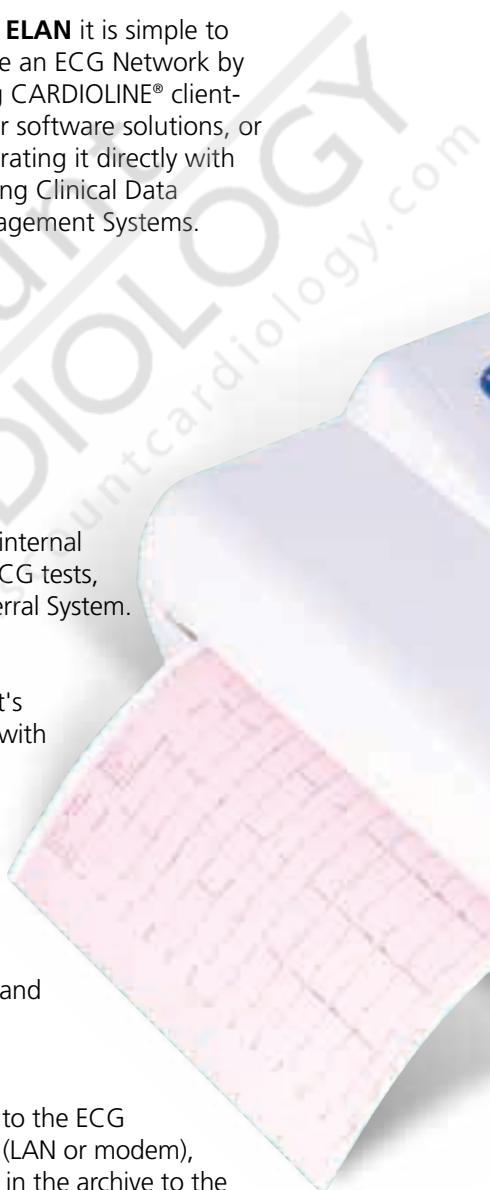


The **START** key starts registration of the ECG test in manual or automatic mode, or in the new wizard mode, which allows a

Personalised Mode to be added to the instrument, with name and functions selected by the user. Each time the **START** key

is pressed, the unit guides the user through all the steps defined, automatically skipping those that are unnecessary: from patient

data entry, interpretive signal analysis and printing in a pre-selected format to saving and finally transmitting by LAN or modem.



A truly simple interface



The high-resolution **LCD screen** and a **knob** make it very easy to use. The monitor displays 12 ECG channels at a time, and the knob can be used to quickly progress from one group of channels to another, and to modify sensitivity and trace speed. It is also possible to consult the list of stored ECG tests and review the trace and diagnosis of an earlier test.