

HeartSense Wireless ECG System

Context

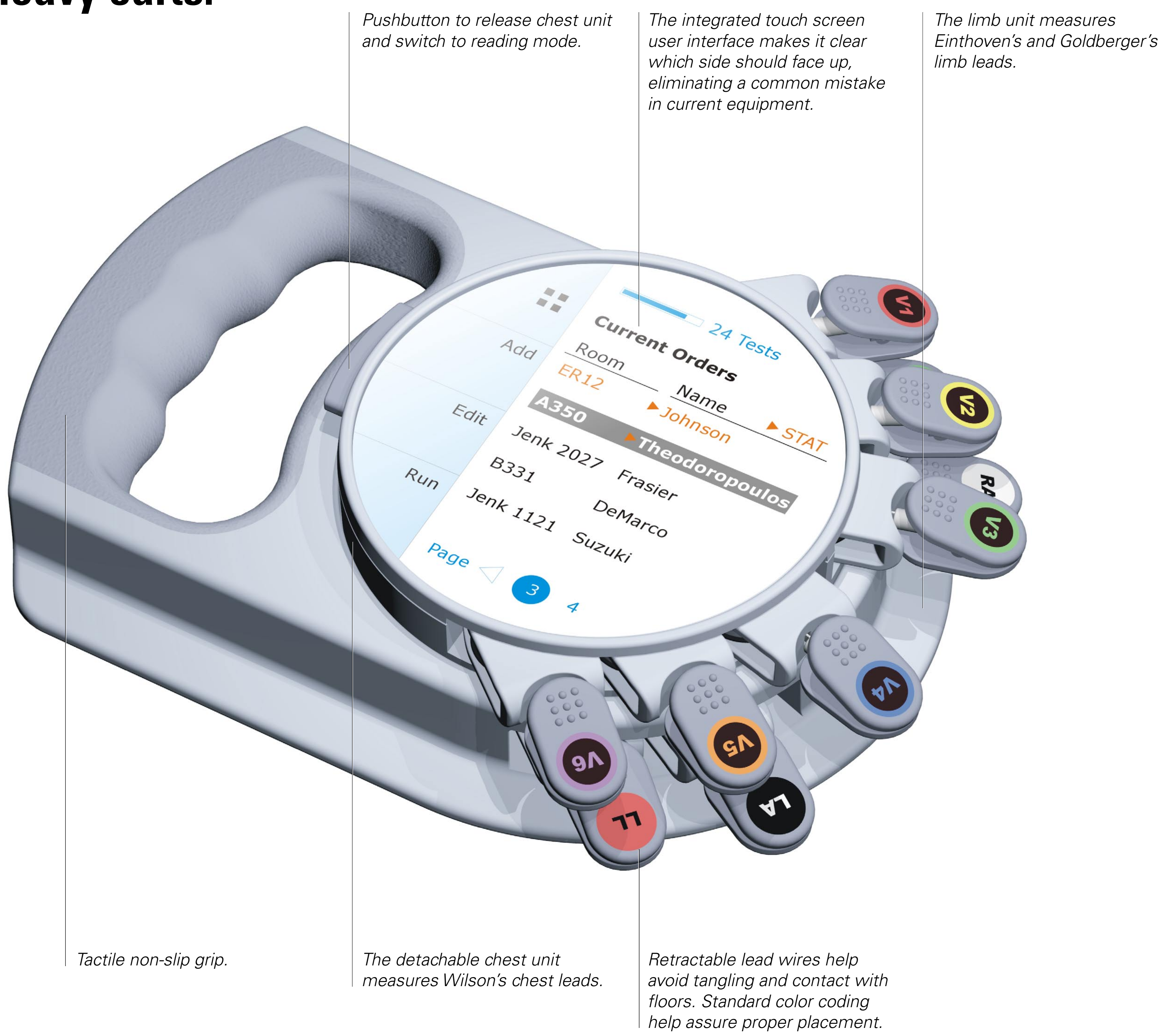
Electrocardiogram (ECG or EKG) equipment helps health care professionals understand the physical function of the heart, using electrical signals measured on the skin. Existing equipment is heavy and difficult to maneuver. Long lead wires get tangled and sometimes drag on the floor. Data transfer via modem is slow, and floppy disks are subject to damage and loss.

Design Solution

HeartSense is a light, handheld alternative to heavy ECG carts. Retractable leads reduce tangling and eliminate contact with the floor. The graphics guide users toward proper orientation, reducing the chance of misdiagnosis due to incorrect lead placement. A touch screen interface gives users what they need, when they need it.

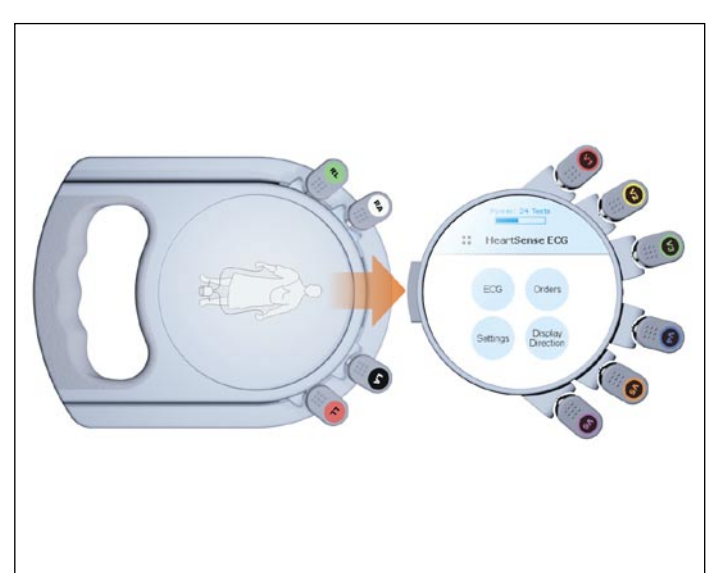
The two sections of the HeartSense ECG system share data wirelessly, and transmit the resulting readings to wireless printers and networks. This allows faster archiving without the problems of floppy disks. As more hospitals consolidate their ECG order dispatching, wireless networking also facilitates up-to-date order management.

Freeing electrocardiogram technicians from tangled wires and heavy carts.



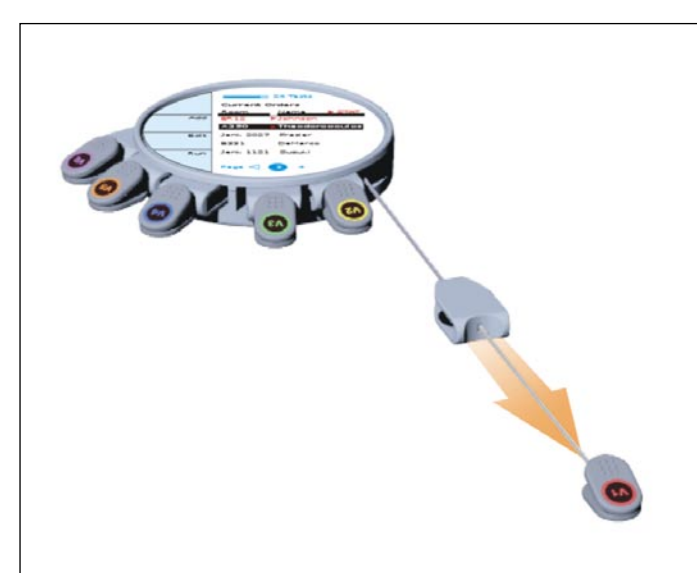
A New Level of Portability

By separating the printer from the equipment that must go into patient rooms, HeartSense achieves unparalleled ease of transport.



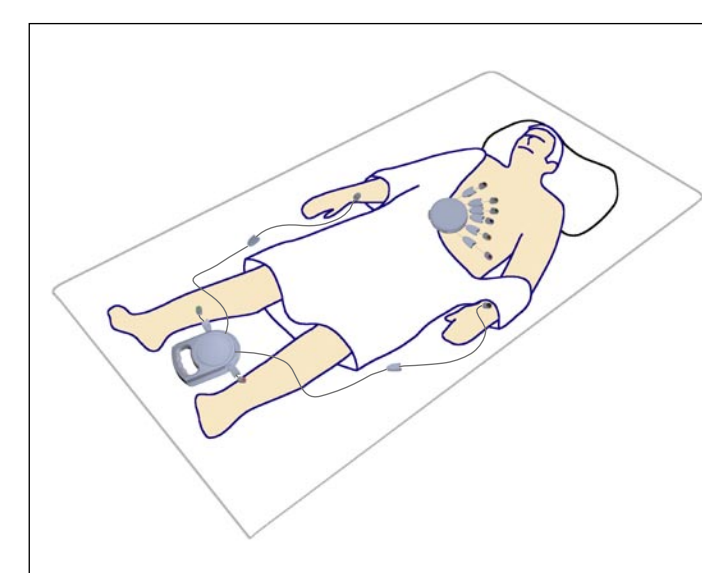
Two-Part System

The HeartSense device has two parts: a chest lead unit, and a limb lead unit. This approach allows lead wires to be shorter, reducing the problem of tangled wires and incorrect lead placement. A diagram in the limb lead unit illustrates proper placement for those leads.



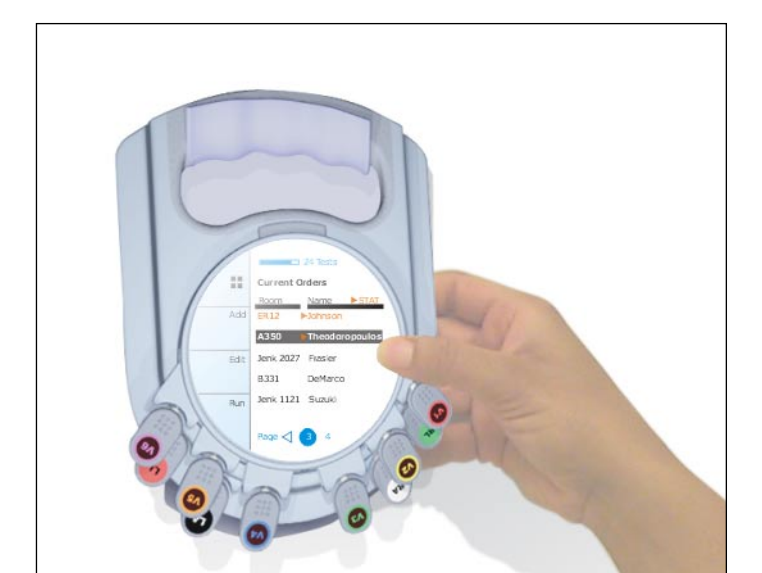
Retractable Leads

Lead wires retract into the device, eliminating the chance that they will be dragged on the floor during transport, and reducing the problem of tangled wires. A lip around the limb lead unit helps protect all the leads from accidental damage.



Wireless Data Flow

The chest lead unit sends data to the limb unit, which has the most space for electronics. Then the limb unit consolidates the reading, and passes it on to wireless printers, archive systems or the charging station.



Storage and Charging

HeartSense is stored on a wall or on a desk, in a holder that also serves as a charger. A version with a hard wired ethernet connection provides data transfer in hospitals without wireless networks.