

Reliability in a box.

DRE Waveline *Plus* | Vital Signs Monitor

- Upgradeable monitor with a maximum of seven parameters
- High resolution 10.4" (diagonally) color TFT display
- Multi-lead ECG monitoring
- Built-in cautery and defibrillator protection
- 24-hr. graphical/tabular trends with zoom facility with separate trend for storing
- 240 NIBP readings



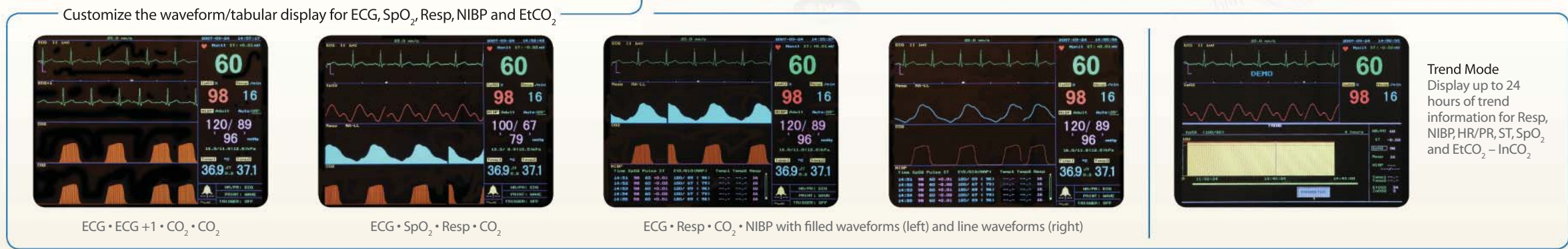
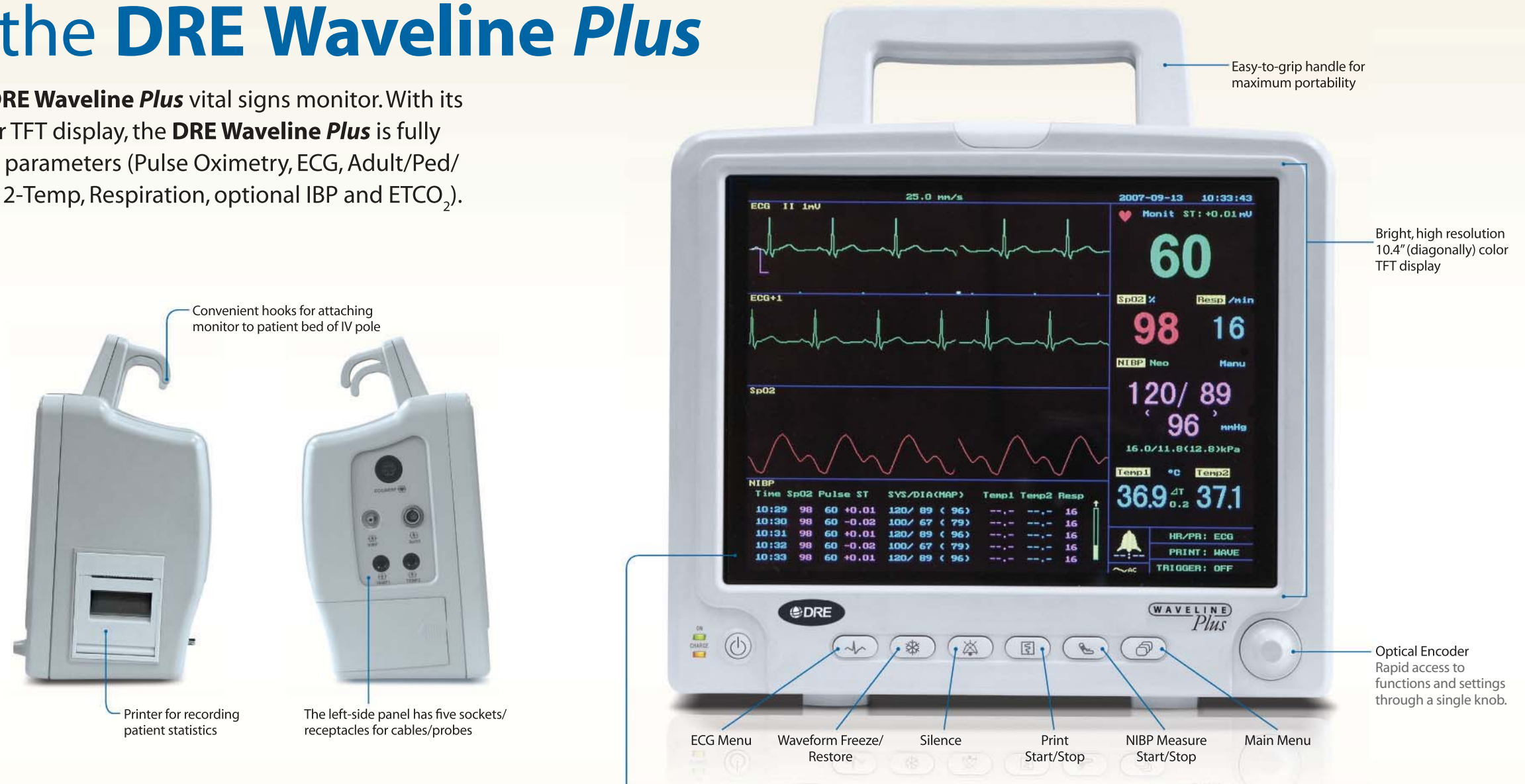
Equipment for the way *you* operate

Get to know the DRE Waveline Plus

Introducing the new, top-of-the-line **DRE Waveline Plus** vital signs monitor. With its high resolution (10.4" diagonally) color TFT display, the **DRE Waveline Plus** is fully upgradeable with a maximum of seven parameters (Pulse Oximetry, ECG, Adult/Ped/Neonate Non-Invasive Blood Pressure, 2-Temp, Respiration, optional IBP and EtCO₂).

► A Quick Look

- Upgradeable monitor with maximum seven parameters
- High resolution 10.4" (diagonally) color TFT display
- Multi-lead ECG monitoring
- Built-in cautery and defibrillator protection
- 24-hr. graphical/tabular trends with zoom facility with separate trend for storing
- 240 NIBP readings
- Graded and color coded alarms with audio/visual indicators
- Alarm recall ability to view last 16 stored critical alarms (patient related)
- Demo mode for training the staff
- Comprehensive patient data entry
- Battery back-up operation [built-in or external battery (12V)]
- Ability to interface with auxiliary monitor for remote display
- RS-232 communication port
- Recorder



Technical Specifications

Power Requirements

- Power supply AC 90-264V/47-63Hz
- Input Power <55VA
- Fuses Two fuse sockets in the rear panel indicated by "FUSE"; 5X20, 2A/250V
- Battery 12V/4.0AH sealed lead-acid
- Charge time >8 hours
- Operating time >1.5 hours (full recharge)
- Battery charging method Automatic charging after monitor is connected to AC power supply (with charge protection function)
- Discharge protection When powered by battery, the monitor will be automatically turned off when battery power is almost used up.

Performance Specifications

EKG

- Patient safety standard IEC60601-1-1988
- CMRR >60dB (Common Mode Rejection Ratio)
- Heart rate range 20 ~ 254bpm ± 1bpm
- Heart rate averaging 8 second average
- ST segment range -0.8 ~ + 0.8mV
- Interface AAMI 6-pin
- Lead selection I, II, III (3 lead mode)
I, II, III, aVR, aVL, aVF, V (5 lead mode)
- Lead fault alarm Audible, visual
- Input 5-lead ECG patient cable
- QRS Indicator Audible and visual alert
- Waveform storage 6 minutes
- Sweep speed 12.5/25/50 mm/sec
- Gain selection 4mV, 2mV, 1mV, 0.5mV, 0.25mV, Auto
- Trends 2 hours » 4 hours » 8 hours » 24 hours » 48 hours
- Patient Isolation Breakdown voltage, 4000VAC 50Hz, 60 seconds
- Frequency width Leakage current, <10µA
Monitoring mode: 0.5 ~ 40Hz (+0.4dB, -3.0dB)
Surgery mode: 0.5 ~ 20Hz (+0.4dB, -3.0dB)
(not calibration significant)
- Patient drive current <10µA
- Enclosure leakage current <0.1mA
- Maximum T wave rejection capability 1.2mV
- Heart rate alarm response time < 7 seconds
- Aspect ratio 0.24 ~ 0.6 sec/mV
- Alarm frequency Low alarm, 2-2.4kHz
High alarm, 3-3.4kHz
- Defibrillator protected and ESIS protected Tested with 5kV
- Recovery time following defibrillation <5 seconds

Respiration

- Measurement method Thoracic impedance
- Respiration Rate Range 0 ~ 100±1rpm
- Accuracy ±2 rpm
- Pulse Oximetry (SpO₂)

Respiration continued

- SpO₂ Range 0-100%
- Adult/pediatric/neonate SpO₂ Averaging 8 second average
- SpO₂ accuracy ±2% (70 ~ 100%), ±3% (40 ~ 70%)
- Pulse rate range 30 ~ 250bpm
- Pulse rate averaging 8 beat average
- Pulse rate accuracy ±1% @ 30 ~ 100bpm
- Sensor types Finger, universal "Y", wrap probes
- Pulse rate display Digital
- Operating temperature 0° - 40° C (32° - 104° F)
- Operating humidity 30-85% RH
- Storage temperature -10° - 60° C (14° - 140° F)
- Storage humidity 10 - 95% RH
- Operating altitude -1000 ft - 15000 ft

Power

- Power Requirements 100 - 120 VAC;
220-240 VAC;
50 - 60 Hz
- Battery 12 VDC 1.8 Ah
- DC input 10 - 14 VDC
- Power consumption Max. 50 VAC, 40 WDC
- Protective class IEC Class 1

Display

- Method TFT 64 color LCD
- Screen dimensions 11.5 cm (H) x 8.42 cm (W)
- Monitoring traces 2 (selectable)
- Sweep speed 6.25, 12.5, 25 mm/sec
- Line list 400 sets of data
- Graphic trend 1, 3, 6, 12, 24 hr

Alarm ranges

	High	Low
• Blood pressure (mmHg)	50-240	20-160
• Systolic	40-180	20-120
• Diastolic	50-200	20-120
• Mean	35-300	30-295
• Heart rate, pulse rate bpm	51-100	50-99
• SpO ₂ (%)	16-45	15-44
• Body temperature (F)	61-113	59-111
	(C)	10-150
• Respirations	10-60	3, 5-145
• Apnea (sec)		

Recorder

- Recording method Dual Trace Thermal Head
- Resolution 8 dots/mm
- Recording speed 6.25, 12.5, 25 mm/sec (selectable)

Safety Approval & Quality System

- Designed to meet IEC60601-1-1988, EN60601-1-1, EN60601-2
- Class II equipment, double insulated
- Type BF applied parts
- ISO9001 and EN46001 certified