

## DL500FS : Foetal Heart Simulator evaluation : SW : 25-5-01.

Performance. DL500FS trialed against HP3010A & Sonicaid ultrasound monitors :

### Hp3010A

- (✓) - able to pick up and display exact simulated heart rate.
- (✓) - relatively realistic heart beat sound.
- (×) - max. amplitude setting on simulator swamps monitor.
- (×) - oscilloscope display shows twin peaked trace for every heart beat.
- (×) - oscilloscope display very clean - not enough background noise.
- (×) - heart beat sound possibly too clear.
- (×) - 30 bpm setting outside performance of monitor.

### Sonicaid

- (✓) - able to pick up and display exact simulated heart rate.
- (✓) - relatively realistic heart beat sound.
- (×) - heart beat sound possibly too clear.
- (×) - 30 bpm setting outside performance of monitor.

### User appeal.

- (✓) - Charge / fast charge / low battery indicator.
- (×) - Large amount of vibration / audible noise from unit particularly at high amplitude setting
- (?) - Black case rather than white - less prone to looking dirty.
- (?) - Tactile facia panel incorporating on / off button rather than switch.
- (?) - Amplitude pot on facia - possibly cosmetically recessed slightly.
- (?) - Too large ?
- (?) - Substantial enough ?

### Engineering questions.

- (?) - Battery duration ?
- (?) - Charge time ?
- (?) - Case to be gel proof ?
- (?) - Unit defaults to 120 bpm at switch on.
- (?) - Battery to be sealed in or purposely removable.
- (?) - EMC shielded case required.
- (?) - Can case be modified to allow full circle of rubber pad for circular ultrasound transducer
- (?) - plastic of case immediately under rubber pad - requires more amplitude from internal transducer and hence more vibration and audible noise.
- (?) - How easy to modify unit to accommodate next generation model giving abnormal conditions.
- (?) - Microprocessor based device
  - who will be allowed to alter software ?
  - documentation record of software alterations ?
  - software based on which language ?
  - software disclosed to Viamed ?
- (?) - Unit draws 42 - 200mA from battery dependent on amplitude pot setting.