

## MCF-21B (12.1 inches) Series Fetal Monitor (CTG) (version 3.2)

Model	Fetal Parameter					Maternal Parameter		Printer				Battery	
	Single FHR	Dual FHR	TOCO	AFM & MFM	Signal Overlap Alarm	NIBP, SpO2, PR	ECG, TEMP, RESP	112mm A type	112mm B type	150mm A type	150mm B type	Laser Printer Interface	Lithium battery
<b>Config. A</b>	√	×	√	√	×	×	Option	√	Option	Option	Option	Option	√
<b>Config. B</b>	√	√	√	√	√	×	Option	√	Option	Option	Option	Option	√
<b>Config. C</b>	√	×	√	√	√	√	√	√	Option	Option	Option	Option	√
<b>Config. D</b>	√	√	√	√	√	√	√	√	Option	Option	Option	Option	√

**Option:** 1) HDMI 2) Touch Screen 3) Fetal Stimulator 4) Wall-mount 5) Trolley 6) Central Monitoring Station  
 7) Waterproof FHR Probe & TOCO Probe 8) USB Keyboard & Mouse control function 9) Auto CTG analysis(4 types)  
 10) Exporting CTG data & analysis in PDF format for EMR connectivity by USB memory 11) Laser Printer Interface

Remark: User can NOT choose USB mouse function and WIFI at the same time

**UNICARE**  
 CE/ISO/RoHS/CFDA

# Feature

## Core

- Newly advanced A9 main board with Linux OS
- Support **storage** of 25000 groups of medical record and 8640 hours trend review

## Body

- **12.1-inch** color Folded high-brightness TFT **LED**
- Humanized **probe frame** design
- Build-in **handle**

## Sensor

- **12-Crystal** ultrasound transducer
- **Event Marker**
- **Signal strength indicator**

## Printer

- Built-in high-speed thermal printer, **112mm /150mm**
- Support **fast printing** of stored trend
- Support external laser printer(option)

## Central System

- Wired or wireless connection
- Optional Support HL7 (Health Level Seven)

## Alarm

- Three-level acousto-optic alarm on abnormal FHR
- FHR signal strength prompt
- **Cross-Channel Verification (CCV)**
- Sensor-off alarm
- Paper out alarm
- Support alarm review

## Linux OS

- Support operation with **mouse** and computer keyboard (option)
- **Multi-display mode**
- **NIBP self-test mode**
- **Medical history search**
- **NST Timer**
- **Fetal Movement Profile (FMP)**
- **Heart rate offset mode**
- **Multi-language**
- **Auto CTG analysis report:** Advanced Fischer / Fischer / NST / KREBS
- **Online software upgrading** by net/USB
- Exporting CTG data & analysis in PDF format for EMR connectivity by USB memory (option)

# Auto CTG Analysis / FHR Interpretation (Option)

NST Result					
NST Report					
Name: Lily			FHR1	FHR2	
Age: 25		FHR Baseline:	144 bpm	144 bpm	
Weeks: 34		Amplitude Variation:	11 bpm	11 bpm	
ID: 150602154631		PV:	5.5 cpm	5.5 cpm	
Bed ID:		Acceleration:	15 Count	15 Count	
Date: 2015-06-03		Small Accel:	0 Count	0 Count	
Start Time: 13:48:10		Deceleration:	0 Count	0 Count	
Test Time: 20 min		Fischer Report:	10 Score	10 Score	
Advanced Fischer (NST) Score:					
Item	0 Score	1 Score	2 Score	FHR1 Score	FHR2 Score
FHR Baseline	<100,>180	100~119,161~180	120~160	2	2
Amplitude Variation	<3	3~5,>25	6~25	2	2
PV	<3	3~4	≥5	2	2
Acceleration	No	Accel 1 or Sm Accel ≥3	≥2	2	2
Deceleration	LD, PD, SVD	MVD ≥2 or ED ≥3	No	2	2
Please confirm the report.					
				Print	Exit

The fetal monitors can be equipped with Auto CTG Analysis Report function (option) to give a score of fetal wellbeing after 20 minutes continuous monitoring, thus helping the doctors make judgment about fetal health condition.

## • Four-types: (monitoring time ≥ 20 Min)

- 1) Advanced Fischer analysis report
- 2) Fischer analysis report
- 3) NST analysis report
- 4) KREBS analysis report

## • FHR Baseline

## • Tachycardia and Bradycardia

## • Amplitude Variation

## • Number of PV (period variation)

## • Number of Acceleration:

Small acceleration/ Periodic acceleration/ Non-periodic acceleration

## • Number of Deceleration

Early deceleration (ED) / Late deceleration (LD)

Prolonged deceleration (PD) / Mild variable deceleration (MVD)

Severe variable deceleration (SVD)

## • Fetal heart rate rise time during fetal movement

## • Number of Fetal Movement

# Performance Specifications

- **Dimension and Weight**

- Dimension: 360mm\*310mm\*120mm
- Weight: 5.3kg (excluding accessories)

- **Power Supply**

- Voltage: AC100~240V, 50/60HZ

- **Display**

- 12.1" color TFT LED (0-90° rotation)
- Resolution: 1024\*768 pixels

- **Battery (Built-in)**

- Type: Rechargeable lithium battery
- Charge Cycle: ≥500 times
- Working time: 2 hours

- **Recorder (Built-in)**

- Method: Thermal printer
- Paper: Z-fold, thermosensitive
- Paper width: 112 mm (4.41 in)/150 mm (5.91 in)
- Printing speed: 1/2/3cm/min
- Trace: Max. 4 tracks
- Recording way: Real-time Recording & Review Printing

- **Alarm**

- Level: Low, medium and high
- Indication: Auditory, Visual, Delay of FHR Alarm

- **Input & Output**

- Standard: Knob, Keypad
- Option: Touch screen/ Mouse/ Keyboard
- USB port for patient data/Auto CTG analysis backup (option)

- **System Output & Extensible Interface**

- Ethernet Network: standard RJ45 socket \*1
- USB Port \* 2
- Video Output: HDMI port (option) \* 1

- **Safety**

- IEC60601-1 Approved, CE marking according to MDD93/42/EEC
- With reference to RoHS Directive 2011/65/EU recasting

- **Ultrasound (FHR)**

- Measure method: Wide beam pulse doppler
- FHR Measurement range:
  - 30 to 240 bpm (US Standard)/ 50 to 210 bpm (Europe Standard)
- Accuracy: ±1 bpm
- Update: beat to beat
- Intensity: <3 mW/cm<sup>2</sup>
- Ultrasound frequency: 1MHz±3%, 2 / 2.5 / 3MHz can be customized
- Resolution: 1 bpm

- **TOCO**

- Measurement method: Strain gauge sensor element
- Measure range: 0 ~ 100 units
- Resolution: 1 unit
- Nonlinear deviation : ≤ ±8%
- Baseline setting: 0,5,10,15, 20 can be selected
- Auto offset correction, Auto zero adjust

- **Fetal Movement Recording**

- Automatic fetal movement (AFM): pulsed doppler ultrasound
- Automatic fetal movement autograph
- Manual fetal movement marker (MFM)

- **Maternal SpO<sub>2</sub> (Digital Technic)**

- Measurement Range: 0 ~ 100 %
- Resolution: 1 %
- Accuracy: ±2% (70% ~ 100%); ±3 % (35% ~ 69%)

- **Pulse Rate**

- Range: 25~250bpm
- Accuracy: ±1% or ±1 bpm, whichever is greater
- Resolution: 1bpm

- **Maternal ECG**

- Lead mode: 3/5 Leads, I, II, III or I, II, III, AVR, AVL, AVF, V
- Gain: x0.25, x0.50, x1, x2, x4, Auto
- Sweep speed: 6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s
- Accuracy: ±1bpm/ ±1%, whichever is greater
- Resolution: 1 bpm

- **Maternal Heart Rate**

- Measure range: Adult: 0bpm; 10 ~ 300 bpm
- Resolution: 1 bpm
- Accuracy: ± 1% or ± 1bpm, whichever is greater

- **Maternal Respiration**

- Method: Impedance between RA-LL, RA-LA
- Respiration Rate: 0bpm, 6 ~ 150 bpm
- Resolution: 1 bpm
- Accuracy: ±2 bpm or ±2%, whichever is greater
- Apnea Alarm: 10 ~ 60 s

- **Maternal NIBP**

- Method: Oscillometric
- Measure mode Manual, Auto, STAT
- Measure Interval in AUTO Mode 1~480 min
- STAT mode cycle time: Keep 5 minutes, at 5 seconds interval
- Measure and Alarm Range:
  - Systolic: 30~270 mmHg
  - Diastolic: 10~220 mmHg
  - Mean: 20~235 mmHg
- Static pressure accuracy ±3mmHg
- Resolution: 1mmHg
- Accuracy: Maximum Mean error ±5mmHg  
Maximum Standard deviation 8mmHg
- Over pressure Protection: Dual protection via software & hardware

- **Maternal Temperature**

- Technique: Thermistor probe (2.25K)
- Measuring and Alarm Range: 0.0 °C ~ 50 °C (32°F ~ 122°F)
- Unit: Celsius (°C), Fahrenheit ( °F)
- Resolution: 0.1 °C
- Accuracy: ±0.1 °C

\* Specifications subject to change without prior notice

# Gallery for Optional Accessories:



• FHR Transducer



• TOCO Transducer



• Event Marker



• Reusable Transducer Belt



• NIBP Cuff and NIBP Tube



• Temperature Transducer



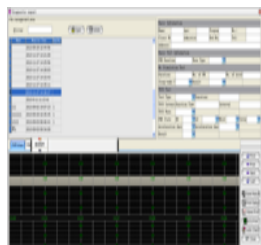
• ECG Cables



• SpO2 Transducer



• Fetal Acoustic Stimulator



• Central Monitoring Station Software



• Wall-mount with basket



• Trolley with Basket



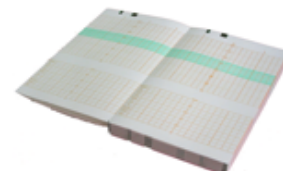
• 112(A) mm Thermal Paper  
(112mm×100mm×150p,  
European Standard, 30-210 bpm)



• 112(B) mm Thermal Paper  
(112mm×100mm×150p, USA  
Standard, 30-240 bpm)



• 150 (A) mm Thermal Paper  
(150mm×100mm×150p,  
European Standard,  
50-210bpm)



• 150 (B) mm Thermal Paper  
(150mm×100mm×150p,  
USA Standard, 30-240bpm)

For more product video, please visit: <https://drive.google.com/open?id=1fAbgqYEd664jq-2H1o7Txs2lk8tIbm3u>

**DISTRIBUTOR:**



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