

340M OB Telemetry Simplified Operating Instructions

Overview:

The 340M OB Telemetry system is comprised of a transmitter and receiver to provide an RF link between patient worn transducers and fetal monitor, allowing patient to freely move about while staff monitor fetal heart rate and uterine contractions remotely.

The 341 Receiver is line powered from 120 VAC, and the 342 Transmitter is powered from (4) AA size primary Alkaline cells. Expected life of the Alkaline cells in continuous use is roughly 16 Hrs.

There are two simulators used for exercising the transmitter. One is a production simulator (Model 325) and the other is a radiation hardened simulator (built into a metal box). The 325 simulator will be used for SAR testing and the radiation hardened will be used for other testing.

Other accessories are provided for their use in testing, if necessary.

Descriptions: (refer also to 340 Service manual, pages 3-2,3,4)

341 Receiver:

Front Panel:

AC power switch	far right
Toco/Iup mode change switch	left
Indicator lamps	center right
Signal strength indicator, green	top
Battery status, red	center
AC mains, green	bottom

Rear Panel:

Power Entry Module	far left top
Mark interconnect cable Jack	far left bottom
System Interconnect cable jack	left bottom
Ultrasound interconnect cable jack	bottom center
ECG interconnect cable jack	bottom right
UA interconnect cable jack	bottom far right
Equipotential ground jack	top center

Antenna jack (RA female BNC) Connect to ¼ wave stainless whip	top center
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342 Transmitter:

Front Panel:

Ultrasound Transducer jack	left
ECG Transducer jack	center
UA transducer jack	right

Rear Panel:

Headphone jack	far left
Remote mark transducer jack	left
Power switch	right
Antenna jack (BNC) Connect to ¼ wave helical wound ant.	far right

Bottom Panel:

Battery access door

Radiation Hardened Simulator (for use at ITS, Boxborough):

This is an aluminum die-cast box containing (2) Alkaline 'D' cells providing power, and active circuitry providing signal to the 5700 Ultrasound Transducers and UA Transducer plug.

Top:

Power switch:

Must be in the 'ON' position to obtain simulated transducer signal. Turn 'OFF' when not needed to conserve battery.

UA Ref pushbutton:

Forces UA simulated signal to a baseline level for physiologic signal drift testing. Not used for RF testing.

Adjustment Potentiometer:

Allows UA simulated signal to be offset from baseline level by adjustable amount. Not used for RF testing.

Side:

(4) Gray Cables total

- Gray cable, no plug:

Not used

-Gray cable, 5700 Transducer at end, nothing beyond

Not used

transducer -Gray cable, 5700 Transducer at end, mechanically face connected to slave 5700

This slave 5700 plug connects to Ultrasound input jack of the 342 transmitter.

-Gray cable, round 12 pin white connector at end

This plugs into the UA connector jack of the 342 Transmitter.

325 Maternal/Fetal Simulator (for use at ITS, Menlo Park, SAR):

Front Panel:

FECG/MECG section:

RATE bpm:

Set to 120

QRS AMPLITUDE:

Set to 2000

CMR:

Set to BAL

MODE:

Set to FECG

QRS POLARITY:

Set to (+)

ULTRASOUND/FMD section:

RATE bpm:

Set to 120

SIGNAL LEVEL:

Set to HIGH

MODE:

Set to US/FMD

UA Section

Black Slide Switch:

Left position
LEVEL mmHg:
Set to 100
MODE:
Set to TOCO

Bottom Center section

MANUAL ADJUSTMENT:
Full clockwise

PATTERN MEMORY:
ON

Bottom Right

POWER indicator:
Glows green when AC power connected and rear panel switch depressed

Rear Panel:

Power inlet:
Connect IEC style power cord to 120 VAC

Power button:
Push on/ Push off style button. 325 must be powered on for testing.

Cable Harness, Front Panel:

From Top Center (3) gray cables are connected from 'CONNECT TO FETAL MONITOR' connector.

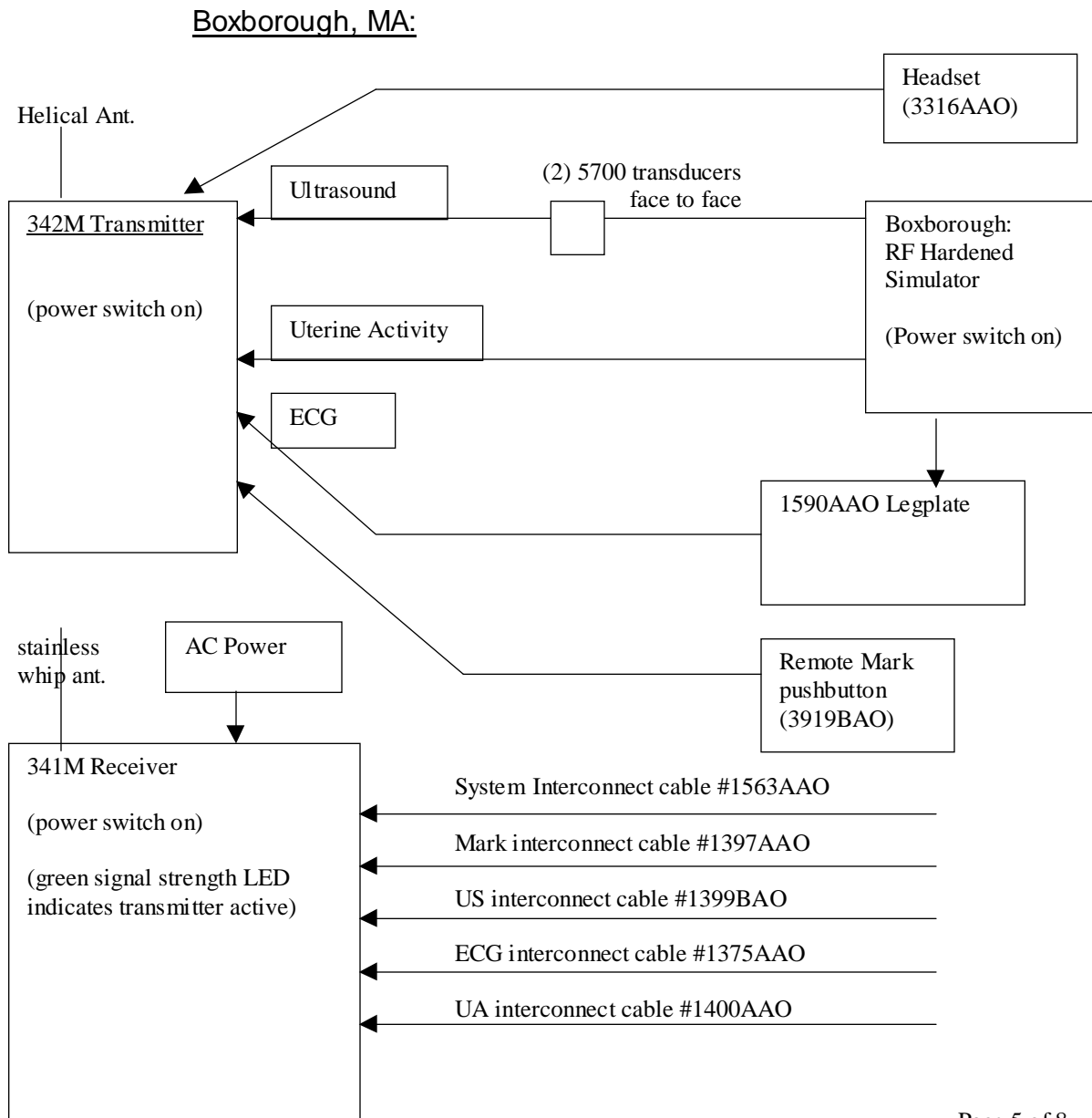
- Round white to UA input jack of 341 Transmitter
- Round Gray/Blue to ULTRASOUND input jack of 341 Transmitter
- Round dark gray to ECG input jack of 341 Transmitter

Procedure:

- 1) Identify packed items.
 - 341M Telemetry Receiver
 - Line cord
 - System Interconnect cable #1563AAO
 - Mark interconnect cable #1397AAO
 - US interconnect cable #1399BAO
 - ECG interconnect cable #1375AAO
 - UA interconnect cable #1400AAO
 - Quarter wave stainless whip antenna (receiver)

- 342M Telemetry Transmitter
 - Black Helical antenna (transmitter)
 - 3 sets of AA batteries
 - Remote Mark transducer #3919BAO
 - Softrans Cable #1336AAO
 - Softrans Intrauterine Pressure Catheter #2076AAO
 - Ultrasound Transducer #5700AAX
 - Toco transducer, #2264LAX
 - Headset #3316AAO
 - Qwik Connect Plus Legplate interface cable, #1590AAO
- Radiation Hardened Simulator, (no marking) Boxborough site
- Model 325 Simulator, Menlo Park site

2) For tests involving fully modulated transmitter signals, interconnect system as shown:



3) Description of System as connected above.

Input to modulate transmitter is derived from simulator. Can be monitored via headset.

Uterine activity modulation derived from simulator.

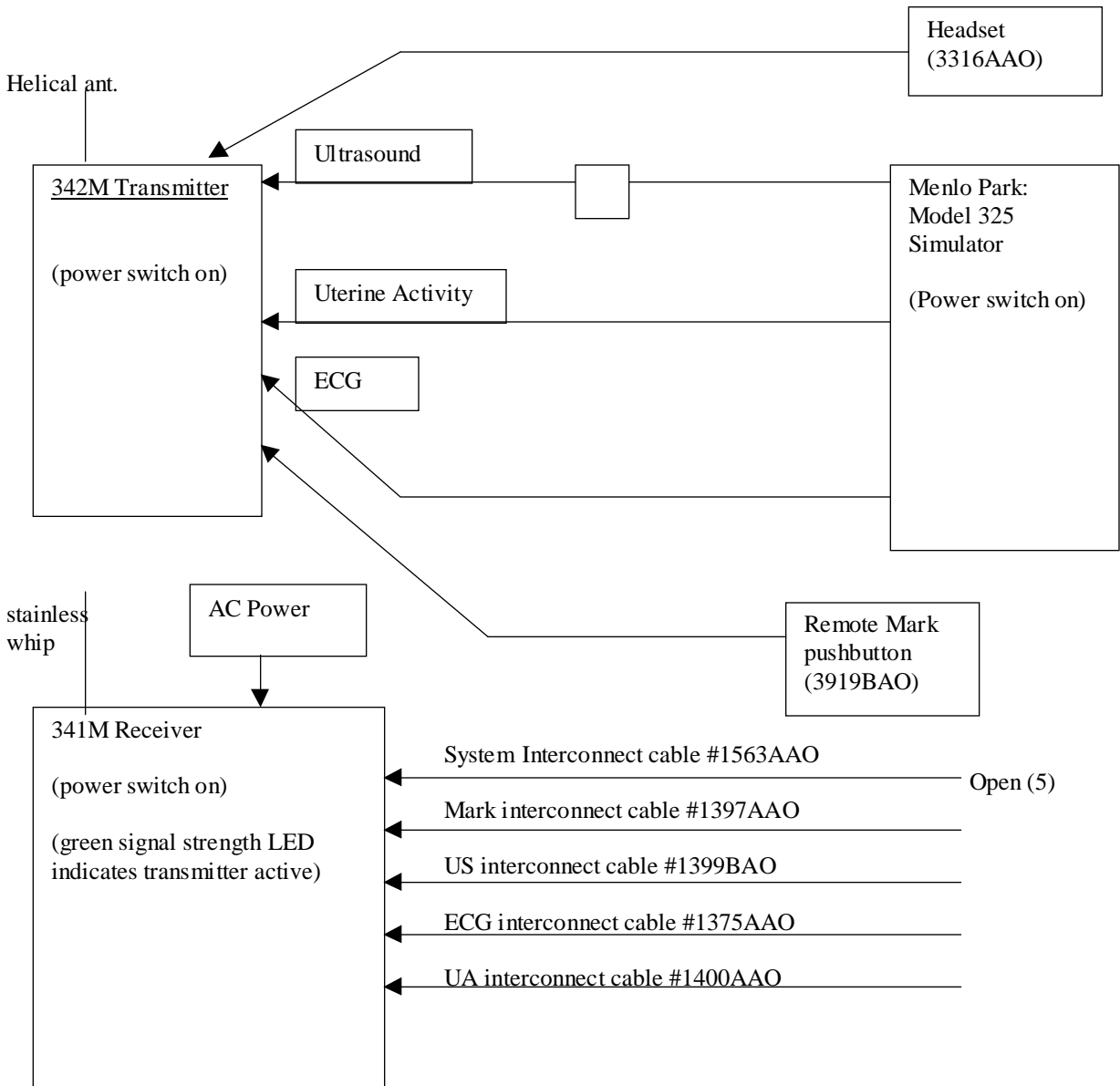
ECG modulation derived from simulator.

Helical antenna radiates modulated RF to 341 Receiver.

341 Receiver intercepts RF via $\frac{1}{4}$ wave stainless whip antenna.

341 Receiver signal strength LED indicates transmitter active.

Menlo Park Configuration:



3) Description of System as connected above.

Input to modulate transmitter is derived from simulator. Can be monitored via headset.

Uterine activity modulation derived from simulator.

ECG modulation derived from Model 325 simulator.

Helical antenna radiates modulated RF to 341 Receiver.

341 Receiver intercepts RF via $\frac{1}{4}$ wave stainless whip antenna.

341 Receiver signal strength LED indicates transmitter active.