

Cambridge Heart CH 2000/HearTwave II Tango M2 Interface Notes

To setup Tango M2 with the Cambridge Heart stress system, simply follow the directions below.

1. Verify Correct Combined RS-232/ECG Trigger Cable

- This cable is required for the Tango M2 monitor to be able to take a BP measurement. It is also used to communicate with the CH 2000/HearTwave II. This cable enables the CH 2000/HearTwave II to prompt Tango M2 when it needs a BP measurement, and allows the Tango M2 BP reading to be transferred to the CH 2000/HearTwave II display and reports.
 - SunTech Part Number = 91-0065-01
 - Connection Ends:

Tango M2 ECG Connection
BNC male



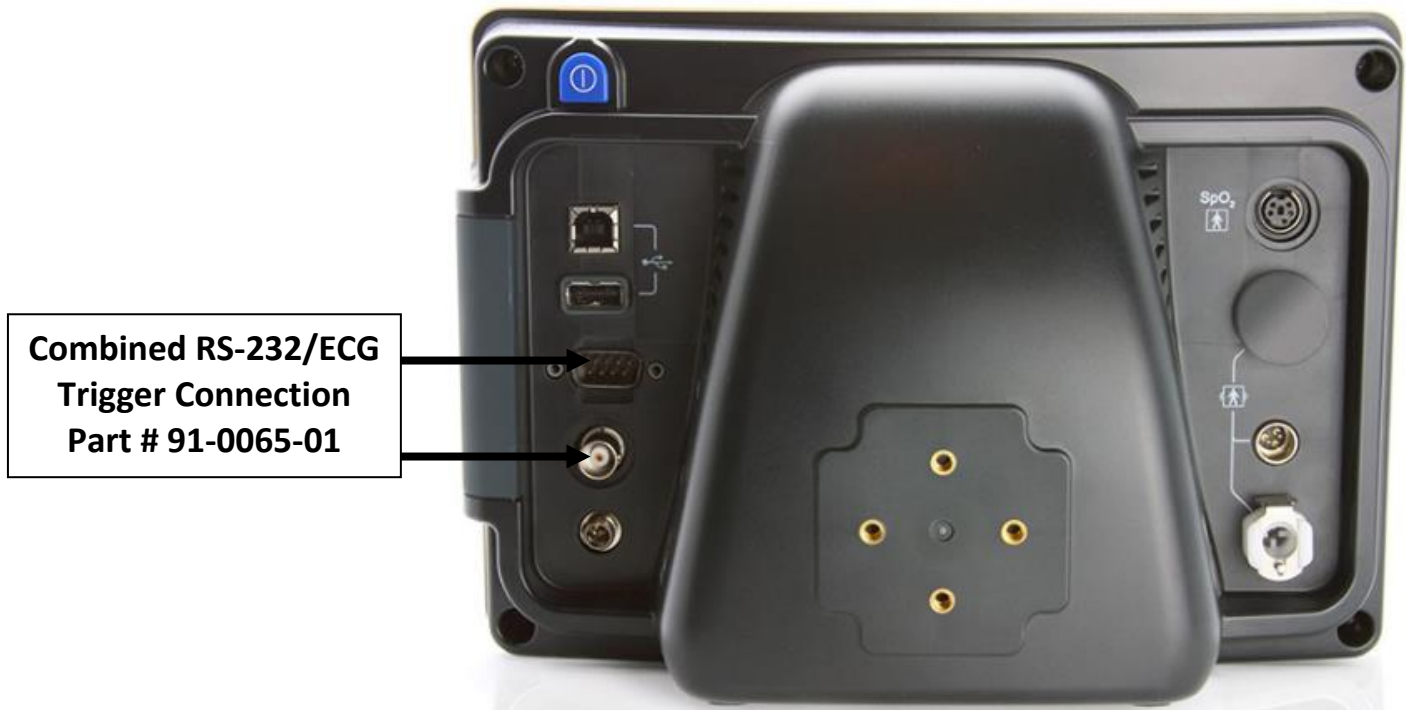
Tango M2 RS-232 Connection
9 pin female



CH 2000/HearTwave II Connection
9 pin female



Tango M2 Monitor



2. Connect the combined RS-232/ECG Trigger Cable

- From: the BNC External ECG connection on the rear panel of the Tango M2 (BNC) and the RS-232 connection on the rear panel of the Tango M2 (9 pin male)
- To: the NIBP port on the back of the CH 2000/HearTwaveII (9 pin female).

3. Tango M2 Monitor Setup

- When the main screen is displayed, press the **SELECT** button once. You should be in the **MAIN MENU**. Use the UP or DOWN arrows, go to **MONITOR SET UP**. Press the **SELECT** button.
- Use the UP or DOWN arrow buttons to highlight **STRESS SYSTEM**. Press the **SELECT** button once. Use UP or DOWN arrows until **CH 2000** is highlighted and press the **SELECT** button to confirm the choice.
- Use UP or DOWN arrows to select Exit twice to return to the operating screen.

4. Stress System Setup (Note: requires software version 2.0.3 or greater for CH-2000)

- From the EXERCISE SYSTEM CH 2000/HearTwaveII screen, select **SYSTEM SETUP**.
 - Select **DEVICES I/O**.
 - Select **NIBP**.
 - Select **SunTech Tango**.
 - Select **OK**. If a window opens and asks if you would like to back up system, select **Don't Backup**.
- BP Prompts: Manual blood pressure readings can be initiated on the keyboard by pressing BP/Event on the numeric keypad.
 - For assistance with the protocols, call Cambridge Heart Service at 800-CAM-WAVE.

FAQs for Tango M2

Q. The Tango M2 displays a Status Message. What does it mean and what do I do?

- A.** See the eLibrary within your Tango M2 for quick troubleshooting tips. You can find the eLibrary under the Main Menu; select Monitor Setup → E-Library → Status Messages. You can also look in the Tango M2 User Manual under the *Status Messages & Alarms* section for details on each Status Message and solution.

Q. The Tango M2 monitor returns a result of 0/0 after blood pressure (BP) measurements. What do I need to do to get a BP reading?

- A.** There are certain noisy conditions where the Tango M2 cannot accurately measure BP. When the Tango M2 encounters these situations, it returns a reading of 0/0. Microphone placement is critical for reliable operation of the Tango M2; there are many places to find cuff placement help.
- See the eLibrary within your Tango M2 for quick cuff placement tutorials. You can find the eLibrary under the Main Menu; select Monitor Setup → E-Library → Tutorials.
 - Look in the Tango M2 User Manual under the *Using Tango M2 during a Stress Test* section for details on each type of cuff; the Orbit-K and the Single Patient Use (SPU) kit.
 - Follow the instructions in the **Cuff Tutorial** (located on the SunTech Medical website under Support → Customer Technical Support → Video Tutorials) for correct microphone placement.

Q. Can I use a heart rate or blood pressure simulator to test whether the Tango M2 is working correctly with my stress system?

- A.** You cannot use a heart rate or blood pressure simulator to test whether the Tango M2 is working with your stress system. The Tango M2 monitor requires that the ECG signal and the Korotkoff sounds, collected by the microphone in the cuff, originate from the same source, meaning the patient.

Q. How can I adjust the brightness of the Tango M2 display?

- A.** You can adjust the contrast of the Tango M2 display by following these steps:
- When the operating screen is displayed, press the **SELECT** button once. This will bring up the **Main Menu** screen.
 - Using the UP or DOWN arrows, highlight **Monitor Setup** and press the **SELECT** button.
 - Using the UP or DOWN arrows, highlight **Brightness** and press the **SELECT** button.
 - Using the UP or DOWN arrows, modify the contrast of the screen. When you are finished, and press the **SELECT** button to confirm the choice.
 - Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

Q. How can I get MAP on my Tango M2?

- A.** Register your Tango M2 Monitor online or through mail to receive MAP as a function on your Tango M2 monitor. Please note that due to FDA Regulations MAP is not available to the United States market.
- On the web go to SunTechMed.com → Support → Sales Support → Product Registration

Q. How do I clean the Orbit-K cuff after a stress test?

A. You can do either of the following:

1. Use a medical grade mild disinfectant wipe on the cuff or spray a cleaning solution onto a cloth and wipe the cuff. Afterwards, lay flat or line dry.
2. Remove the bladder and microphone from the outer shell of the Orbit-K cuff. Machine wash the shell in warm water with a mild detergent (50-140°F or 10-60°C). Lay flat or line dry the cuff. Do not place the cuff in a dryer.

Q. My Tango M2 displays a message, “Please VERIFY CALIBRATION” or “Equipment Maintenance and Calibration Required.” What do I do?

A. Verification of Pressure Calibration is required every year to maintain the accuracy of the Tango M2’s BP readings. You will need to contact your local SunTech Medical Service Center for help. In addition, the following items will be needed to verify calibration.

Equipment Required:

1. Calibrated electronic manometer or equivalent.
2. 500mL volume or the Orbit-K Adult Plus cuff wrapped around something that will not break or crush (no glass).
3. Hand Inflation Bulb with bleed valve.
4. Tubing, Tee pieces, and miscellaneous connectors or you can order the T-Tube Kit (SunTech Part # 98-0030-00).

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