

Pulse Biomedical QRS-Card Tango M2 Interface Notes

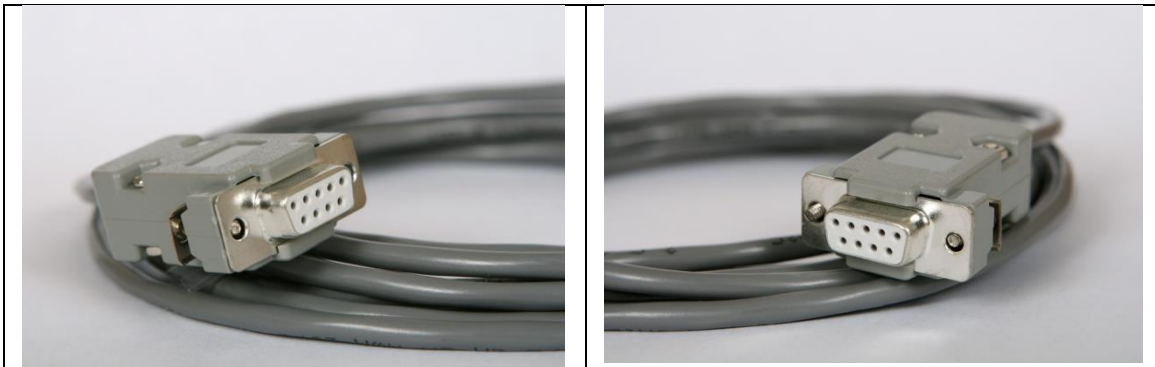
To setup Tango M2 with your stress system, simply follow the directions below.

1. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with your stress system. This cable enables your stress system to prompt Tango M2 when it needs a BP measurement, and allows the Tango M2 BP reading to be transferred to the stress system’s display and reports.
 - SunTech Part Number = 91-0013-01
 - Connection Ends:

Stress System Connection
9 pin female

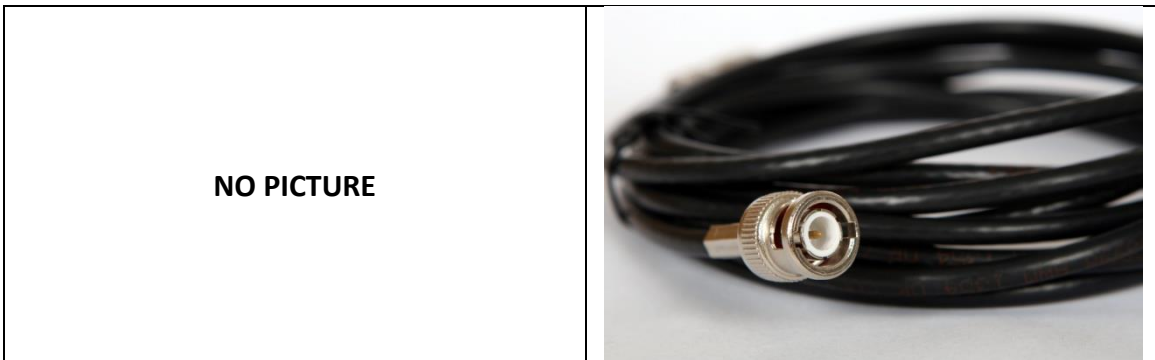
Tango M2 Connection
9 pin female



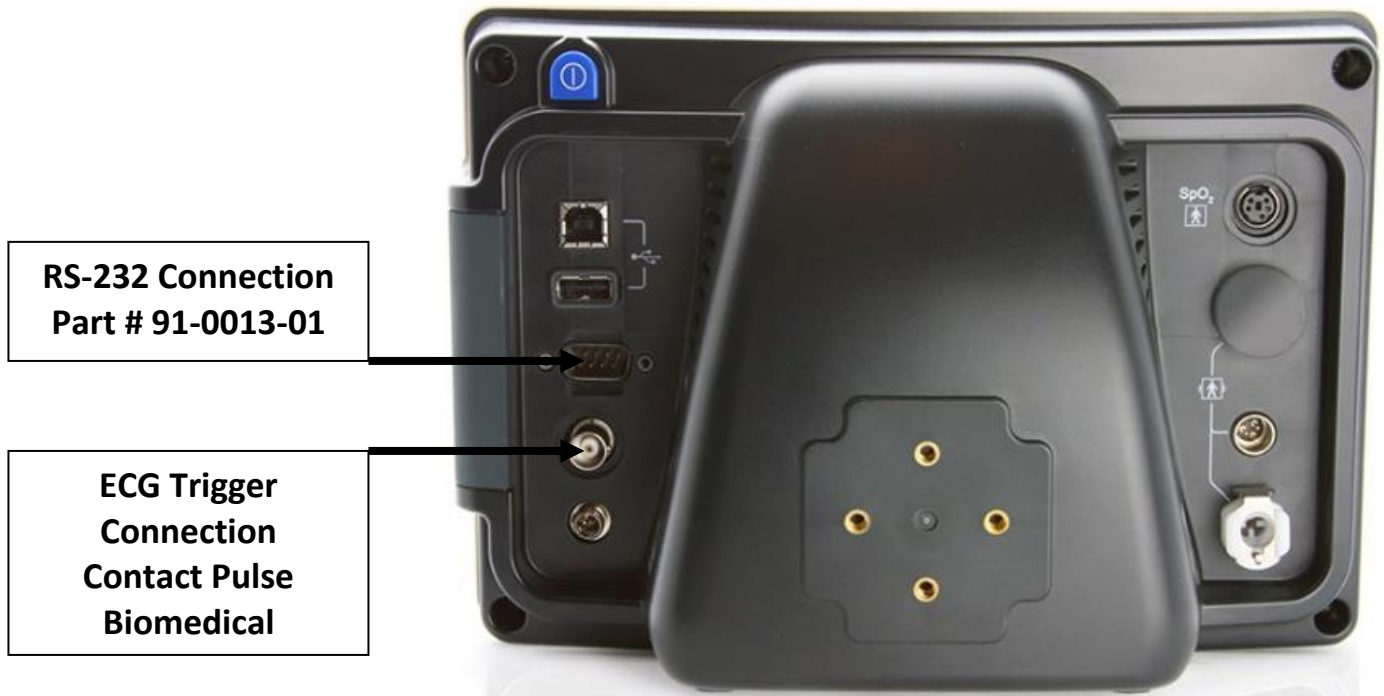
- **ECG Trigger Cable** – provides the ECG signal from the stress system to the Tango M2.
 - **Contact Pulse Biomedical**
 - Connection Ends:

Stress System Connection
RJ45 to 9 pin female

Tango M2 Connection
BNC male



Tango M2 Monitor



2. Connect the RS-232 Cable

From: the RS-232 connection on the rear panel of the Tango M2.

To: the serial port on the back of the stress system PC.

* Note - For use with a USB port, you will need the USB to RS-232 Adapter Cable - SunTech Part Number = 98-0057-00.



3. Connect the ECG Trigger Cable

From: the BNC External ECG connection on the rear panel of the Tango M2.

To: the RJ45 splitter that is connected to the QRS-Card.

4. Tango M2 Monitor Setup

- 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 SET UP** and press the **SELECT** button.
- Using the UP or DOWN arrows, highlight **STRESS SYSTEM** and press the **SELECT** button.

- d. Using the UP or DOWN arrows, scroll through the list until **QRS Card** is highlighted and press the **SELECT** button to confirm the choice.
- e. Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

5. QRS-Card System Setup

Note: In order for the QRS-Card – Tango interface to work, the software, QRS Card for Windows must have the most up to date version of the file, st_tango.bpd. You can check this using Windows Explorer. Go to the directory in which the software is installed and ensure that the file st_tango.bpd is dated after 7/12/2001. Download the patch from <http://www.suntechmed.com/interfacenotes.htm> and save the file in the directory where QRS Card for Windows is installed.

- a. From the file menu bar at the top of the screen, select **Procedures > Stress > Setup**.
- b. In the Configure Stress screen on the **Stress** tab, select **Automatic** for Blood Pressure, Type.
- c. Select the appropriate selection for Controlled Device (contact stress system manufacturer).
- d. Click the **Test** button under Controlled Device. The software will search the available ports for the Tango and controlled device chosen. You may have to attempt this search more than once in order for the devices to be recognized.
- e. When the devices are recognized, you can use the **Blood Pressure** icon to test that the interface between the computer and Tango are working properly.
- f. Click **OK** in the Configure Exercise Device window and again in the Configure Stress window to return to the main screen.
- g. From the file menu bar, select **Procedures > Stress > Protocol Update**. In the Protocol Update window, you can add BP measurements to the protocols that you use. In addition to the BP measurements that the stress system will prompt the Tango to take, you may prompt the Tango to take one by selecting the **BPM** icon or pressing B on your keyboard. See the QRS-Card manual for details on editing protocols and controlling the Tango using the QRS-Card software.

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.
 - a. 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.
 - b. 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.

- c. 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:
 1. When the operating screen is displayed, press the **SELECT** button once. This will bring up the **Main Menu** screen.
 2. Using the UP or DOWN arrows, highlight **Monitor Setup** and press the **SELECT** button.
 3. Using the UP or DOWN arrows, highlight **Brightness** and press the **SELECT** button.
 4. 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.
 5. 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).

Service Centers:

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