GE CardioSoft (Version 6.01 or higher)
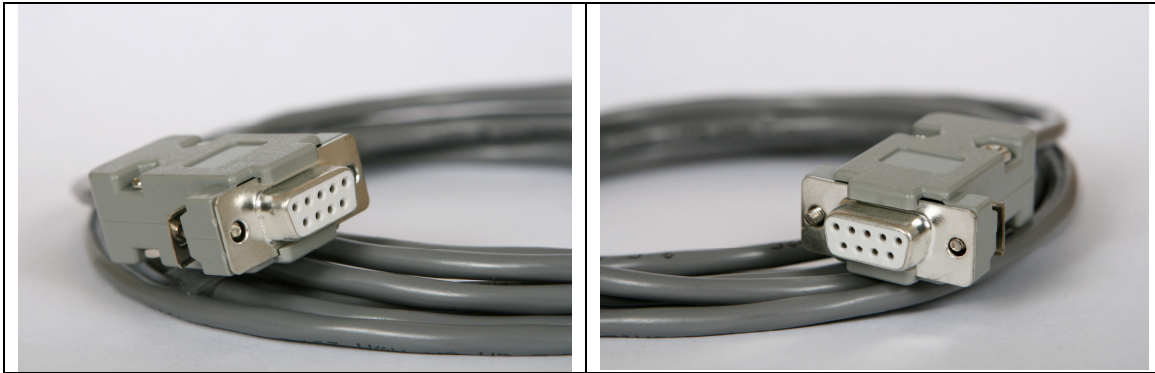# Tango+ Interface Notes

To setup Tango+ with your CardioSoft (version 6.01 of higher), simply follow the directions below.

1. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with the CardioSoft. This cable enables the CardioSoft to prompt Tango+ when it needs a BP measurement, and allows the Tango+ BP reading to be transferred to the CardioSoft's display.
  - o SunTech Part Number = 91-0013-00
  - o Connection Ends:

Stress System Connection　　　　　　**Tango+ Connection**
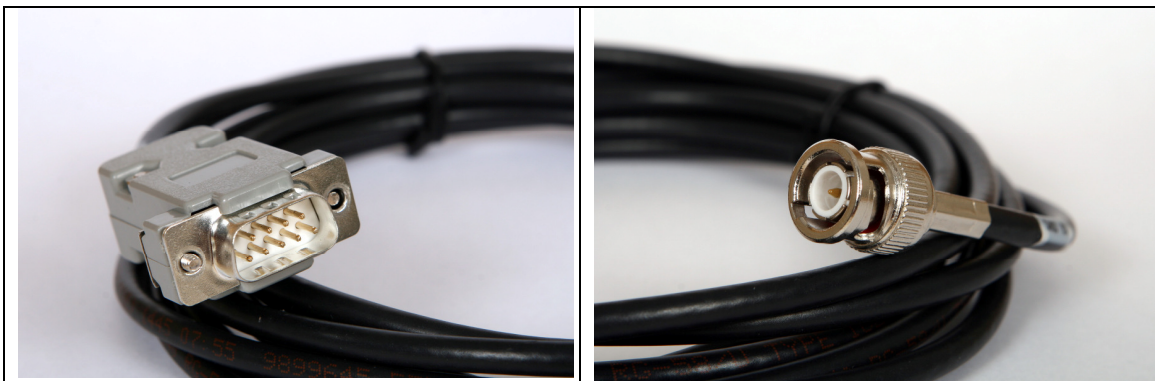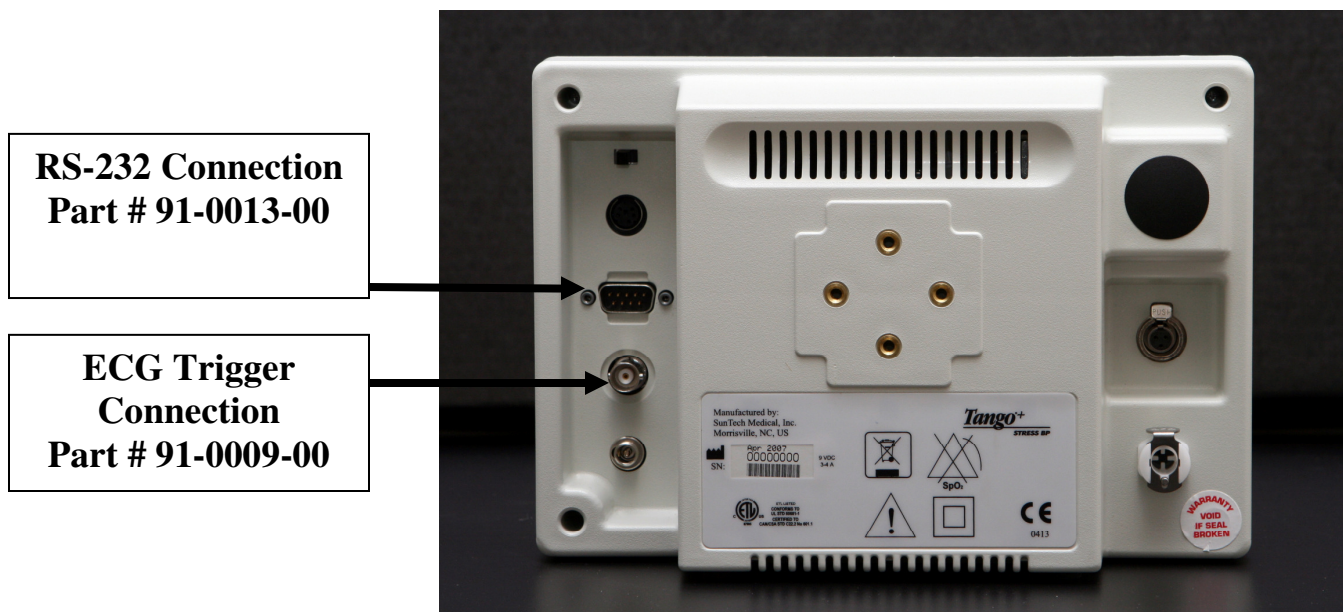**9 pin female**　　　　　　　　　　　　**9 pin female**

- **ECG Trigger Cable** – provides the ECG signal from the CAMUSB AT to the Tango+.
  - o SunTech Part Number = 91-0009-00
  - o Connection Ends:

Stress System Connection　　　　　　**Tango+ Connection**
9 pin male　　　　　　　　　　　　　**BNC male**

Tango+ Monitor

RS-232 Connection Part # 91-0013-00

ECG Trigger Connection Part # 91-0009-00

2. Connect the RS-232 Cable
From: the RS-232 connection on the rear panel of the Tango+.
To: the COM port on the back of the computer. Note which COM port the RS-232 in inserted too (you will need this information for Step 5.e). If all of the COM ports are occupied, an USB to RS-232 converter can be used.

3. Connect the ECG Trigger Cable
From: the BNC External ECG connection on the rear panel of the Tango+.
To: the DB 9 female connection on the CAM USB AT.

4. Tango+ Monitor Setup
a. When the operating screen is displayed, press the **SELECT** button 2 times.   This will bring up the **MAIN MENU** screen.
b. Using the UP or DOWN arrows, highlight **MONITOR SET UP** and press the **SELECT** button.
c. 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 **CardioSoft** 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. CardioSoft Setup
a. In the vertical menu bar on the right side, select **SYSTEM CONFIGURATION**.
b. In the System Configuration screen, click on the **DEVICES** tab on the top.
c. Check that the **TTL OUTPUT** is set to a **PULSE WIDTH: 50ms**, **DELAY: 10ms**, and **POLARITY: POSITIVE**.
d. Go to **BP MONITOR** and select **SUNTECH**.

e. For **PORT**, choose the COM port (1 or 2) that you have attached the RS 232 cable to in Step 2 above.
f. Click **OK** to return to the main screen.

FAQs for Tango+

Q. The Tango+ displays a status message. What does it mean and what do I do?
A. See the Quick Set-Up guide (that is attached to your Tango+) or the Troubleshooting section in your User's Guide for details on the Status Message and solution.

Q. The Tango+ monitor returns results of 0/0 after blood pressure measurements. What do I need to do to get a BP reading?
A. There are certain noisy conditions where the Tango+ cannot accurately measure BP. When the Tango+ encounters these situations, it returns a reading of 0/0. Placement of the microphone attached to the cuff is critical for reliable operation of the Tango+. Follow the instructions in the **Cuff Tutorial** (located on the SunTech Medical website under Products → Tango+) for correct microphone placement. Follow steps 1 and 2 in Conducting the Stress Test in the User's Guide to provide the best conditions to obtain a measurement.

Q. Can I use a heart rate or blood pressure simulator to test whether the Tango+ is working correctly with my stress system?
A. You cannot use a heart rate or blood pressure simulator to test whether the Tango+ is working with your stress system. The Tango+ 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. I cannot clearly see the Tango+ display. How do I fix this?
A. If you cannot clearly read Tango+, you can adjust the contrast of the display by following these steps:
   1. When the operating screen is displayed, press the **SELECT** button 2 times.   This will bring up the **MAIN MENU** screen.
   2. Using the UP or DOWN arrows, highlight **MONITOR SET UP** and press the **SELECT** button.
   3. Using the UP or DOWN arrows, highlight **CONTRAST** 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. My Tango+ displays a message, "Please VERIFY CALIBRATION" or "Equipment Maintenance and Calibration Required." What do I do?
A. Verification of Pressure 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).

Procedure:

5. When the operating screen is displayed, press the **SELECT** button 2 times. This will bring up the **MAIN MENU** screen.
6. Using the UP or DOWN arrows, highlight **MONITOR SET UP** and press the **SELECT** button.
7. Using the UP or DOWN arrows, highlight **VERIFY CALIBRATION** and press the **SELECT** button. The monitor will close its bleed valves and will display on its screen the pressure applied to the patient hose connector.
8. Verify the Tango+ calibration by manually inflating and checking the manometer against the pressure reading on the Tango+ display.
9. Once the calibration has been completed, use the UP or DOWN arrows to select **EXIT** twice and return to the operating screen.