Nihon Kohden Cardiofax ECG-9320A
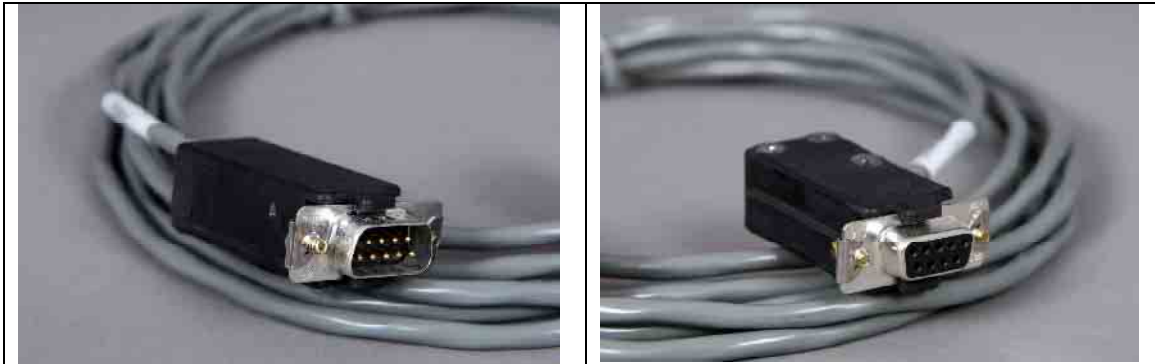# Tango+ Interface Notes

To setup Tango+ with the ECG-9320A stress system, simply follow the directions below.

1. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with the ECG-9320A. This cable enables the ECG-9320A to prompt Tango+ when it needs a BP measurement, and allows the Tango+ BP reading to be transferred to the ECG-9320A display and reports.
    - o SunTech Part Number = 91-0061-00
    - o Connection Ends:

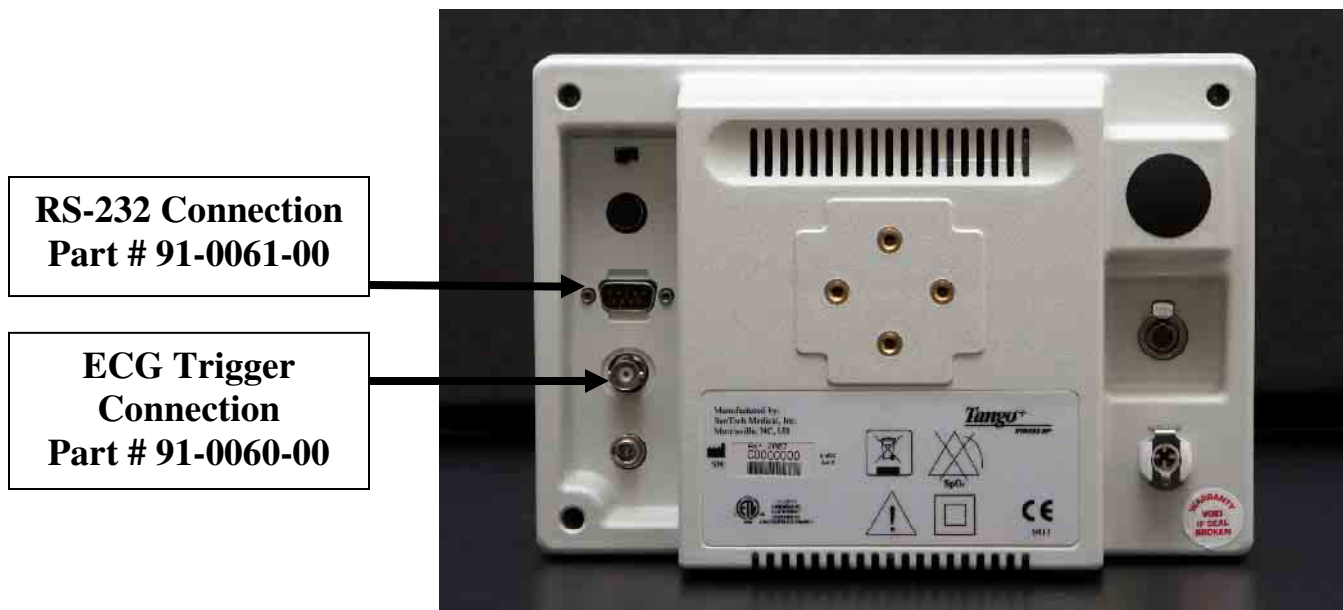| ECG-9320A Connection 9 pin male	Tango+ Connection 9 pin female

- **ECG Trigger Cable** – provides the ECG signal from the ECG-9320A to the Tango+.
    - o SunTech Part Number = 91-0060-00
    - o Connection Ends:

ECG-9320A Connection 20 pin Hirose jack	Tango+ Connection BNC male
NO PICTURE	

Tango+ Monitor

**RS-232 Connection
Part # 91-0061-00**

**ECG Trigger
Connection
Part # 91-0060-00**

2. Connect the RS-232 Cable
From: the RS-232 connection on the rear panel of the Tango+.
To: the SIO3 connector on the back of the ECG-9320A.

3. Connect the ECG Trigger Cable
From: the BNC External ECG connection on the rear panel of the Tango+.
To: the "EXT" connection on the back of the ECG-9320A.

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 **ECG-1550/1560** 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. ECG-9320A System Setup
   a. From the main screen, select MENU at the lower left corner.
   b. Select **PROGRAM SELECTION**.
   c. Select either **STRESS TEST** of **EX ECG**. The key label name may vary depending upon operator preference of program name. The PATIENT DATA INPUT screen will be displayed.
   d. Select the **MENU** button in the lower left corner.
   e. Select **SYSTEM SETUP**.
   f. Select **SYSTEM DATA SETTINGS** in the right column.
   g. Select **START UP SETTINGS**.

h. Select **AUTO BP MONITOR CONNECTION**. *DO NOT TOUCH THE AUTO BP EQUIPMENT TYPE button just below it.

i. A small window will pop up with 2 choices. Choose **ON**.

j. While in START UP SETTINGS, select **AUTO BP EQUIPMENT TYPE**. Another window will pop up with one choice, **Colin STBP 780**. Select it.

k. Confirm on the bottom right hand column that Colin STBP 780 is displayed. If it is, select **OK** in the lower right corner. If not, repeat equipment selection process for AUTO BP EQUIPMENT TYPE.

l. At the Start Up Settings, choose **OK**. At the System Data Settings screen, select **EXIT**. At System Setup, select **EXIT**.

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 quires 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.