EDAN Instruments – Twelve Channel ECG SE-12 Express Tango+ Interface Notes

To setup Tango+ with the EDAN stress system, simply follow the directions below.

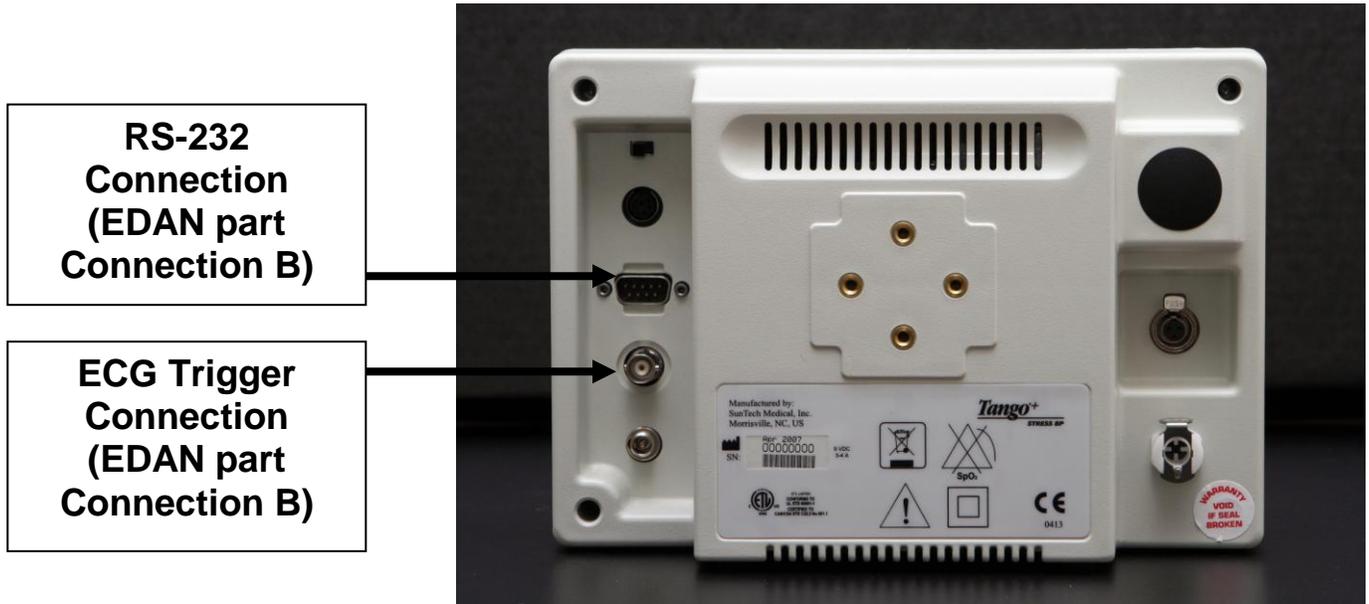## 1. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with the EDAN SE-1010 PC ECG Stress System. This cable enables the EDAN Stress System to prompt Tango+ when it needs a BP measurement, and allows the Tango+ BP reading to be transferred to the EDAN display and reports.
    - o Part provided by EDAN
    - o Labeled connection ends connect as followed:
        - ▪ **A**: Connects to the EDAN Stress System
        - ▪ **B**: Connects to the SunTech Tango+ monitor

- **ECG Trigger Cable** – provides the ECG trigger signal from the EDAN Stress System to the Tango+.
    - o Part provided by EDAN
    - o Labeled connection ends connect as followed:
        - ▪ **A**: Connects to the SunTech Tango+ monitor
        - ▪ **B**: Connects to the EDAN Stress System

Tango+ Monitor

RS-232 Connection (EDAN part Connection B)

ECG Trigger Connection (EDAN part Connection B)

2. Connect the RS-232 Cable
From: The RS-232 connection on the rear panel of the Tango+.
To: One of the COM ports on the back of the PC of the EDAN stress system

3. Connect the ECG Trigger Cable
From: The BNC External ECG connection (A) on the rear panel of the Tango+.
To: The ECG Trigger cable connects to the port on the EDAN Stress System

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 **SUNTECH** 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. EDAN System Setup
➔ Please reference the EDAN User Manual pages 159-164 informational diagrams and images for the information provided.

1. Turn on the electrocardiograph
   Note: Turn on the electrocardiograph before connecting the treadmill or the ergometer; the start-up of the electrocardiograph may be abnormal.
2. Connect the electrocardiograph to the treadmill or the ergometer.
   A. Connect the electrocardiograph to the treadmill
      →Connect the RS232 port of the treadmill to the RS232 port of the electrocardiograph with an RS232 cable.
   Note: The position of the RS232 port may be different on different treadmills.
   B. Connect the electrocardiograph to the ergometer
      →Connect the RS232 in port of the ergometer to the RS232 port of the electrocardiograph with an RS232 cable.
   Note: The position of the RS232 in port may be different on different ergometers.
   C. Connect the electrocardiograph to the stress BP monitor
   D. Connect the power cords, and connect the earth wire (when necessary)
   E. Load the recorder paper
   F. Turn on the stress BP monitor and treadmill/ergometer
   G. Set the electrocardiograph
3. After turning on the electrocardiograph, press **Pretest** on the keyboard to open the main interface of the exercise test.
4. Press the function key **F6** below **Setup** to open the **System Setup** interface.
5. Press **Tab** or Shift **+ Tab**, or the Up, Down, Left or Right arrow to move the cursor. When the cursor is on **General Info** on the **System Setup** interface, press ⏎ to open the **General Information Setup** interface.
6. Set **Device Type**, **Device Mode**, and **BP Monitor**
   Note: Press **Tab** or Shift + **Tab** to move the cursor to the **Device Type** list box, and then press the Up or Down arrow to highlight **Treadmill** or **Ergometer**. Press **Tab** or Shift + **Tab** to move the cursor to the **Device Model** list box, and then press the Up or Down arrow to specify the device model. Press **Tab** or Shift + **Tab** to move the cursor to the **BP Monitor** list box, and then press the Up or Down arrow to highlight **Off**, **Tango** or **In Ergometer**.
7. Press **Tab** or Shift + **Tab** to move the cursor to the **OK** button, and then press ⏎ to confirm. Then the **System Setup** interface appears.
8. Press **Tab** or Shift **+ Tab**, or the Up, Down, Left or Right arrow to move the cursor. When the cursor is on **Protocol** on the **System Setup** interface, press ⏎ to open the **Protocol Manager** interface. Select a protocol by pressing the Up or Down arrow. Then press the function key **F7** below **Return** to return to the **System Setup** interface.
9. Press **Tab** or Shift **+ Tab**, or the Up, Down, Left or Right arrow to move the cursor to **Return**, and then press ⏎ to return to the main interface of the exercise test.

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.