

Viasys Vmax Encore Tango+ Interface Notes

To setup Tango+ with the Viasys Vmax Encore, simply follow the directions below. NOTE: You must use a **Tango+ monitor with an internal ECG board.**

1. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with the Encore. This cable enables the Vmax Encore to prompt Tango+ when it needs a BP measurement, and allows the Tango+ BP reading to be transferred to the Vmax Encore display and reports.
 - Sensormedics Part Number = 464695
 - Connection Ends:

Vmax Encore Connection

Tango+ Connection 9 pin female



- **ECG Trigger Cable** – provides the ECG signal from the Vmax Encore to the Tango+.
 - Sensormedics Part Number = 772539
 - Connection Ends:

Vmax Encore Connection

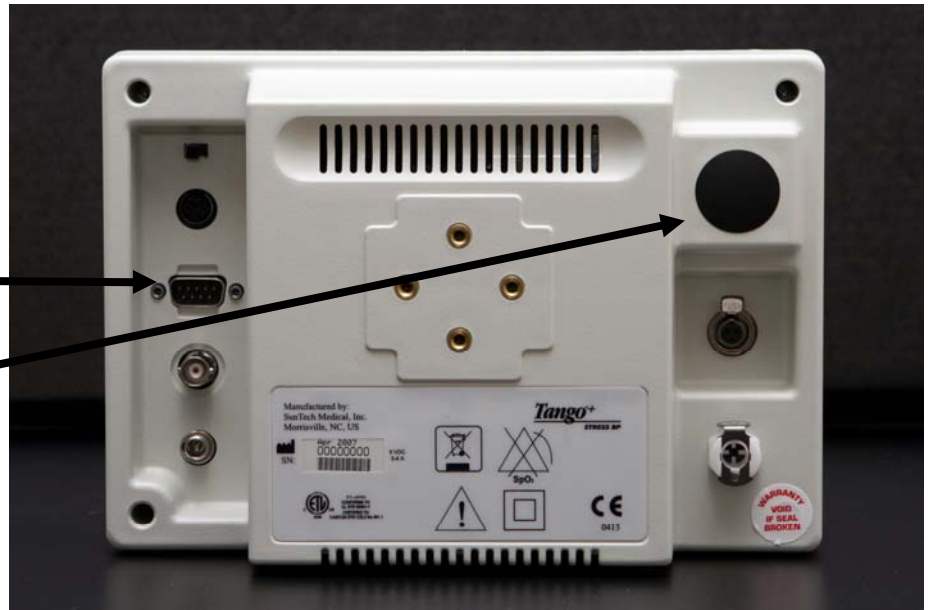
Tango+ Connection AAMI connector



Tango+ Monitor

RS-232 Connection
Sensormedics
Part # 464695

ECG Trigger Connection
Sensormedics
Part # 772539



2. Connect the RS-232 cable

From: the RS-232 connection on the rear panel of the Tango+
To: the COM 2 port (if occupied, COM 1) on the back of the stress system

3. Connect the ECG Trigger Cable

*To connect the Tango+ to the ECG trigger of the Vmax Encore, you must use a **Tango+ monitor with an internal ECG board.**

From: the Internal ECG connection on the rear panel of the Tango+ (AAMI connector)
To: the Analog Port E on the Vmax POD module

4. Tango+ Monitor Setup

- When the main screen is displayed, press the **SELECT** button 2 times. This will bring up the **MAIN MENU** screen.
- Using the UP or DOWN arrows, go to **MONITOR SET UP** and press the **SELECT** button.
- Using the UP or DOWN arrows, highlight **STRESS SYSTEM** and press the **SELECT** button.
- Using the UP or DOWN arrows, scroll through the list until **CardioSys** is highlighted and press the **SELECT** button to confirm the choice.
- Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

5. Vmax Encore System Setup

- From the VMMax Program Manager Screen, click on **Special Functions**.
- On the Special Functions Screen, click on **ECG Software**.
- In the Select Patient window, click on **un-named**.
- Click on the **Wrench**
- Click **Systems Configuration**
- Click on the **Devices** tab

- g. Under **BP Monitor** select
 - **SunTech**
 - COM port used in step 2, **COM 1** or **2**
- h. Click **OK**
- i. Click on the **Exit** icon at the top of the screen
- j. Quit the program
- k. Click **ESC** to go back to the VMax Program Manager Screen
- l. Next, setup the Vmax by choosing the appropriate exercise protocol (10 watt ramp/External treadmill, etc...). Click on **Exercise Metabolic Test** and choose the protocol from the **Metabolic Study Window**.
- m. Click on **F10**
- n. Under **Signal Out**, choose **Analog Group 3**
- o. Click **F3** to save the settings
- p. Repeat steps k-n for any other protocols.

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.