Labtech Cardiospy (EC-12RS / EC-12S)
SunTech Tango M2 Interface Notes

Minimum Cardiospy version: 5.03.03.02

To setup Tango M2 with the Labtech Cardiospy (EC-12RS / EC-12S) stress system, simply follow the directions below.

1. Verify Correct Communication and ECG Trigger Cables

- **Communication Cable** – used to communicate with the Labtech Cardiospy software. This cable enables the CustoMed Diagnostic to prompt Tango M2 when it needs a BP measurement, and allows the Tango M2 BP reading to be transferred to the Labtech Cardiospy display and reports. This SunTech part number comes with a Communication CD that will be needed to ensure communication between the Tango M2 and the stress system. For the Labtech part, please request the appropriate drivers from Labtech technical support.
    - SunTech Part Number = 98-1010-00 <u>OR</u> Labtech Part Number = CAB-00USB-03
    - Connection Ends:

Tango M2 Connection	Labtech Cardiospy PC connection
USB-B	**USB-A**

- **ECG Trigger Cable** – provides the ECG signal from the Labtech Cardiospy to the Tango M2.
    - Labtech Part Number = CAB-00SYN-05
    - **NOTE:** There is no SunTech ECG trigger cable for this system
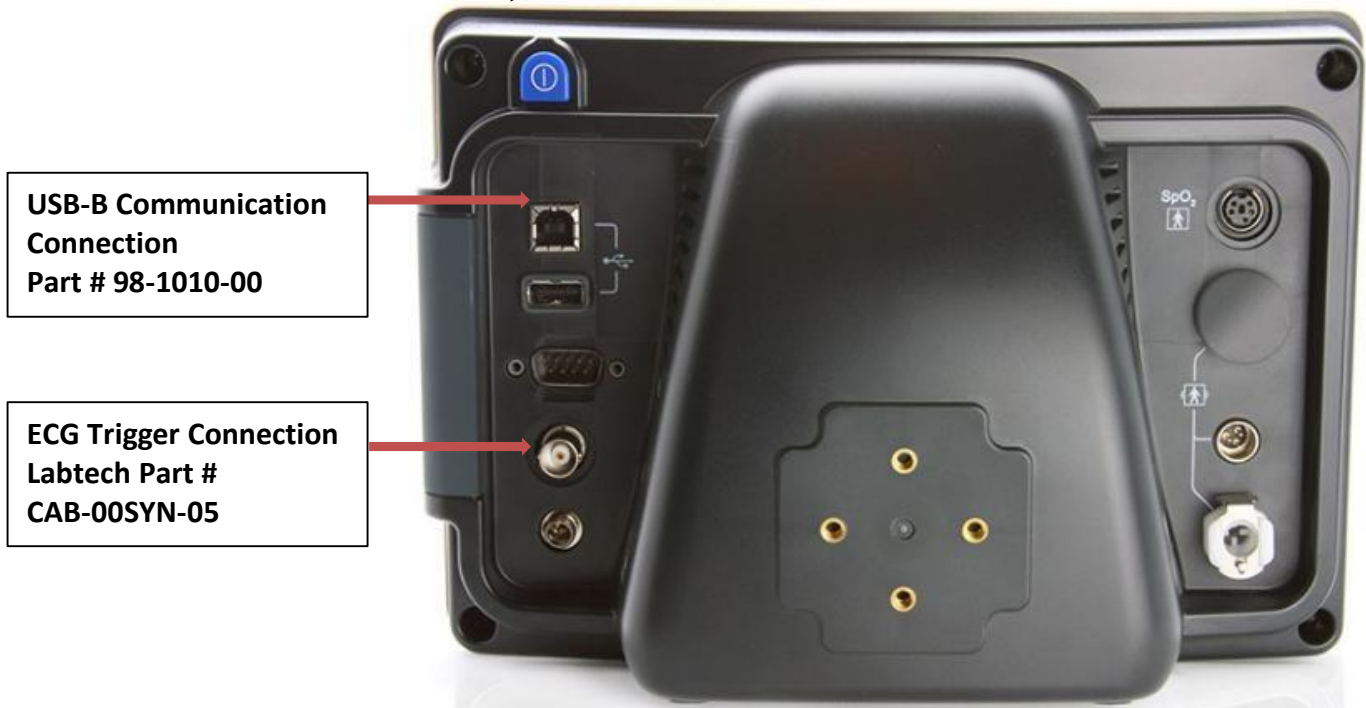   - Connection Ends:

Tango M2 Connection	Labtech Cardiospy PC connection
BNC male	**USB-A**

Tango M2 Monitor

USB-B Communication
Connection
Part # 98-1010-00

ECG Trigger Connection
Labtech Part #
CAB-00SYN-05

2. Connect the USB-B Communication Cable

From: the USB-B connection on the rear panel of the Tango M2.

To: the USB-A connector on the back of the Labtech Cardiospy PC.

After connecting the cable to both the PC and the SunTech Tango M2, turn the BP monitor on. The device should then be shortly recognized and installed, but may not function until the drivers supplied are associated to the device. After the proper driver is installed, please verify that it is listed in the Ports section of the Device Manager under the name of *TangoM2 serial over USB*. Please note the port number (COMxx) listed for the cable.

3. Connect the ECG Trigger Cable

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

To: the USB-A connector on the back of the Labtech Cardiospy PC.

After connecting the cable to the PC, please verify that it is listed in the Ports section of the Device Manager under the name of *USB Serial port*. Please note the port number (COMxx) listed for the cable.

NOTE: The driver for the ECG Trigger Cable is already installed by the installer of Cardiospy.

4. Tango M2 Monitor Setup

a.   When the operating screen is displayed, press the **SELECT** button once. This will bring up the **MAIN MENU** screen.

b.   Using the UP or DOWN arrows, highlight **MONITOR SETUP** 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 **CUSTOM** is highlighted and press the **SELECT** button to confirm the choice.

e.   Using the UP or DOWN arrows, highlight **PROTOCOL** and press the **SELECT** button.

f.   Using the UP or DOWN arrows, scroll through the list until **STANDARD** is highlighted and press the **SELECT** button to confirm the choice.

g.   Using the UP or DOWN arrows, highlight **ECG TRIGGER** and press the **SELECT** button.

h.   Using the UP or DOWN arrows, scroll through the list until **DIGITAL RISING** is highlighted and press the **SELECT** button to confirm the choice.

i.   Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

k.   When the operating screen is displayed, depress and hold down **SELECT** button, then while holding down the **SELECT** button press the **DOWN** arrow once and the **UP** arrow once, then release the **SELECT** button. This will bring up the **DIAGNOSTICS** screen.

l.   Using the UP or DOWN arrows, highlight **ECG Delay** and press the **SELECT** button.

m. Using the UP or DOWN arrows, scroll through the list until **290** is highlighted and press the **SELECT** button to confirm the choice.

n.   Using the UP or DOWN arrows, select **EXIT** to return to the operating screen.

5. Labtech Cardiospy Setup

a.   On the main patient database screen, choose the **Stress ECG** mode on the left.

b.   Click on the **System configuration** button.

c.   Choose the **Blood pressure** tab.

d.   Select **External SunTech Tango blood pressure meter**.

e.   Set the COM port number noted in Step 2 in the **SunTech COM port** dropdown menu.

f.   Choose the **Miscellaneous** tab.

g.   Set the COM port number noted in Step 3 in the **TTL serial port** dropdown menu in the **TTL ECG output** section.

h.   Press **Close** to save your settings.

6. Verifying the correct operation of the connection

a.   Start a Stress ECG test in Cardiospy with a real patient. Attach the ECG electrodes and the BP cuff properly.

b.   Wait a few seconds until the ECG appears on the screen of Cardiospy and the real-time heart rate is displayed.

c.   The heart rate should soon be displayed on the screen of the Tango M2. Different averaging techniques are used by the two devices for the calculation of the heart rate, so there may be slight differences between the two displayed values.

d.   On the Tango M2 BP monitor, when the operating screen is displayed, press the **SELECT** button once. This will bring up the **MAIN MENU** screen.

e.   Using the UP or DOWN arrows, highlight **VIEW** and press the **SELECT** button.

f.   Using the UP or DOWN arrows, highlight **WAVEFORM DISPLAY** and press the **SELECT** button.

g.   Using the UP or DOWN arrows, scroll through the list until **ECG** is highlighted and press the **SELECT** button to confirm the choice.

h.   Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

i.   Verify that the spikes corresponding to heartbeats appear on the screen.

j.   Wait until an automatic blood pressure measurement is started or start a manual blood pressure measurement using the Start BP button in Cardiospy.

NOTE: Please do not use the start BP button on the Tango M2, as data may not be transferred to Cardiospy.

k.   Wait until the BP measurement is finished by the Tango M2.

l. Verify that the values displayed in the **Auto BP** infobox in Cardiospy are the same as the values displayed on the operating screen of the Tango M2.

m. Finish the stress ECG test.

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 → Product Training & 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).

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