Testing Robots Using the VEXnet Upgrade

Method I. Using the ROBOTC Competition Debug Window

You will need:
- A VEX robot and transmitter with paired VEXnet Upgrades
- A computer with ROBOTC for IFI 2.0.2 (or later)
- A VEX Programming Kit
- An object to prop the robot up, off of its wheels

1. Connect the VEXnet Upgrade on the Radio Control Transmitter to the computer using the VEX Programming Kit.

   1a. Connect to Transmitter
   Plug the “phone cable” end of the Programming Kit into the SERIAL port of the VEXnet Upgrade on the Transmitter.

   1b. Connect to PC
   Plug the USB connector on the Programming Kit into the PC.

2. Prop the robot up, so that its wheels are no longer touching a surface.
Testing Robots **Using the VEXnet Upgrade** (cont.)

3. Turn on the VEX robot and transmitter. Allow the VEXnet Upgrades to pair.

4. Open ROBOTC for IFI.

5. Establish a connection to the VEX Microcontroller by going to the **Robot** menu and selecting **Debugger**.
Testing Robots Using the VEXnet Upgrade (cont.)

6. After a connection has been established and the Program Debug window appears, go to Robot > Debug Windows and select Competition Control.

7. The VEXnet Competition Control debug window will appear.

8. Press the Start button on the Program Debug window.

Note: After pressing the Start button, the robot will automatically go into User Control mode.
Testing Robots Using the VEXnet Upgrade (cont.)

9. To test the robot’s autonomous mode, press the Autonomous button on the VEXnet Competition Control window.

The code for autonomous mode will run once, until it is finished, or until you press the Disabled button on the VEXnet Competition Control window. A stopwatch can be used to time the duration of the autonomous mode, if desired. To run the code for the autonomous period again, simply press the Autonomous button again.

10. To test the robot’s user control mode, press the User Control button on the VEXnet Competition Control window.

The code for user control mode will run until you press the Disabled button on the VEXnet Competition Control window. To restart the code for the user control period period, simply press the User Control button again.
Testing Robots Using the VEXnet Upgrade (cont.)

Method II. Using the VEXnet Competition Switch

You will need:
• A VEX robot and transmitter with paired VEXnet Upgrades
• A VEXnet Competition Switch
• An Ethernet Cable
• An object to prop the robot up, off of its wheels

1. Connect the VEXnet Upgrade on the Radio Control Transmitter to the VEXnet Competition Switch using the VEX ethernet cable.

   1a. Connect to Transmitter
   Plug one end of the ethernet cable into the COMPETITION port on the VEXnet Upgrade.

   1b. Connect to Switch
   Plug the the other end of the ethernet cable into one of the ports on the VEXnet Competition Switch.

2. Set the ENABLE/DISABLE switch to DISABLE and the DRIVER/AUTONOMOUS switch to AUTONOMOUS.
Testing Robots Using the VEXnet Upgrade (cont.)

3. Prop the robot up, so that its wheels are no longer touching a surface.

4. Turn on the VEX robot and transmitter. Allow the VEXnet Upgrades to pair.

To test the robot’s autonomous mode, verify that the DRIVER/AUTONOMOUS switch is set to AUTONOMOUS and change the ENABLE/DISABLE switch to ENABLE. The code for the autonomous period will run once, until it is finished, or until it is disabled on the VEXnet Competition Switch. A stopwatch can be used to time the duration of the autonomous mode, if desired. To run the code for the autonomous period again, toggle the ENABLE/DISABLE switch to DISABLE and then to ENABLE.

To test the robot’s user control mode, first verify that the ENABLE/DISABLE switch is set to DISABLE. Then, set the DRIVER/AUTONOMOUS switch to DRIVER and change the ENABLE/DISABLE switch to ENABLE. The code for the user control period will run until it is disabled on the VEXnet Competition Switch. To restart the code for the user control period again, toggle the ENABLE/DISABLE switch to DISABLE and then to ENABLE.
Testing Robots Using the VEXnet Upgrade (cont.)

Useful Information - The VEX Remote Screen

The ROBOTC Competition Templates are pre-programmed to display status information to the VEX LCD Screen. Even if you don’t have the VEX LCD Screen attached to your robot, you can use the ROBOTC VEX Remote Screen to view the information (along with any other information you choose to display yourself).

To open the VEX Remote Screen, first open the ROBOTC Debugger. Then go to Robot > Debug Windows, and select VEX Remote Screen.

Programming help for the VEX LCD Screen / VEX Remote Screen can be found in the ROBOTC Help documentation under ROBOTC Functions > Display.