GE Measurement & Control

Bently Nevada* Asset Condition Monitoring

SCOUT100 Series and vbSeries
Quick Start Guide

Precautions

- Do **not** attach the accelerometer or tachometer to a high potential voltage source.
- Do **not** place the mounting base near objects that are sensitive to magnetic fields.
- Ensure cables cannot become entangled with moving machinery.
- Your device is a precision instrument. Handle it with care.

Keypad Quick Reference

⏻	**Power on/off** Turn the instrument on and off.
X	**Cancel / Go Back** Press and hold to go back to the main menu.
✓	**Accept / Go Forward** Proceed to the next menu.
ALT	**Activate alternate functions** for a key In some menus, keys can perform several functions. For available options, press **Alt** to toggle key functions.
?	**Help** expands the onscreen icons with easy-to-see hint labels. Press and hold for detailed help text.
1▲ 2▼	**Navigate Up/Down a List** Press and hold to move through a list more rapidly.
6 7	**Navigate Left/Right** Also expands and collapses levels in the navigator and directs movement between split-screen menus such as **Record Review**.

Step 1: Getting Started

1. Ensure the instrument is turned off.

2. Plug the power adapter into a standard power outlet.

3. Attach the other end of power adapter to the instrument charger socket. Charge the battery for two hours. Then disconnect.

4. Set the date and time:

   a. Press ⏻ to turn on the instrument.
   b. Press 0 twice to access **Date/Time** menu.
   c. Press 4 and use the number keys to set time. Then press ✓.
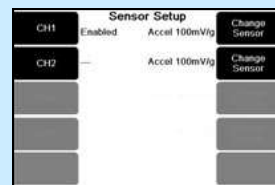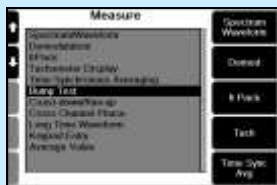   d. Press 3 and use the number keys to set date. Then press ✓.

You can start all instrument operations from the main menu.

To return to the main menu from any screen, press and hold X.


Part Number: 108M3536
Rev. A (10/15)

Step 2: Set up a Measurement

1. From the main menu, press **2▾** to display the **Measure** menu where you can select the type of measurement to take.

2. Press **6** to select Spectrum Waveform.

3. To change the default settings, use the keys beside each onscreen icon to make new selections.

4. Press **ALT** then **5** to set up your sensor.

5. Press **1▴** to enable channel 1.

6. Press **6** then **3**. You may use the keys beside each icon to change the settings.

7. Press **✓** repeatedly to return to the **Spectrum Waveform** menu.

Step 3: Measure the Vibration
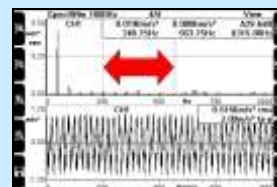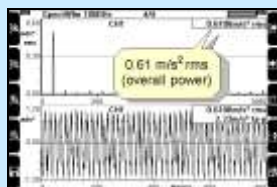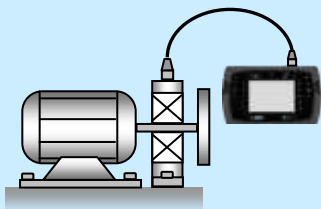
1. Attach the sensor connector to the instrument's channel 1 input.

2. Mount the sensor firmly onto the measurement location using the magnetic mounting base.

3. Press **✓** to start the measurement. The instrument displays the vibration spectrum, waveform, and overall power level.

4. Use **6** or **7** to move the cursor. Read the vibration levels.

5. Press **5** then **6** to save the recording. Choose a location to store the measurement.

Step 4: Save the Recording

To save to an existing machine:
1. Use **1▴** or **2▾** to move the selection bar.

2. Press **7** to expand the machine structures and reveal locations.

3. Press **✓** to select the highlighted location.

4. Press **✓** to save the recording to the location.

To Save to a new machine:
1. Press **8**.

2. Use the character keys to enter the machine's name. See **Entering Characters** below.

3. Press **9** to create a point.

4. Press **0** to create a location.

5. Press **✓** to save the recording to the new location.

How to Enter Characters

To enter letters or numbers, repeatedly press the keys beside the onscreen characters until the required character appears. For example, to enter the letter c, press **1** three times.

- To enter the number one, press **1** four times.
- To enter a space, press **9**.
- To enter punctuation or zero, press **0**.
- To delete a character, press **X**.
- To display hint labels, press **ALT** then **?**.
- When you have finished entering characters, press **✓** to return to the previous screen.

## Step 5: Transfer Recorded Data to a PC

Install Ascent

1. Insert the CD-ROM and follow the onscreen instructions to install the Ascent* software on your PC.
2. Use the supplied data transfer cable to connect the instrument to a PC.
3. Press **⏻** to turn on the instrument.
4. Install the software driver if prompted.

Add Instrument to Ascent Database

1. Start Ascent:
   Selecting **Start, All Programs, Commtest, Ascent** and **Ascent**.
2. Select **Edit, Manage** and **vb Instruments.**
3. Select **Add** and **vbX Portable.**
4. Double-click your instrument to add it to the Ascent database.
5. Select **Cancel**
6. Select **Close.**
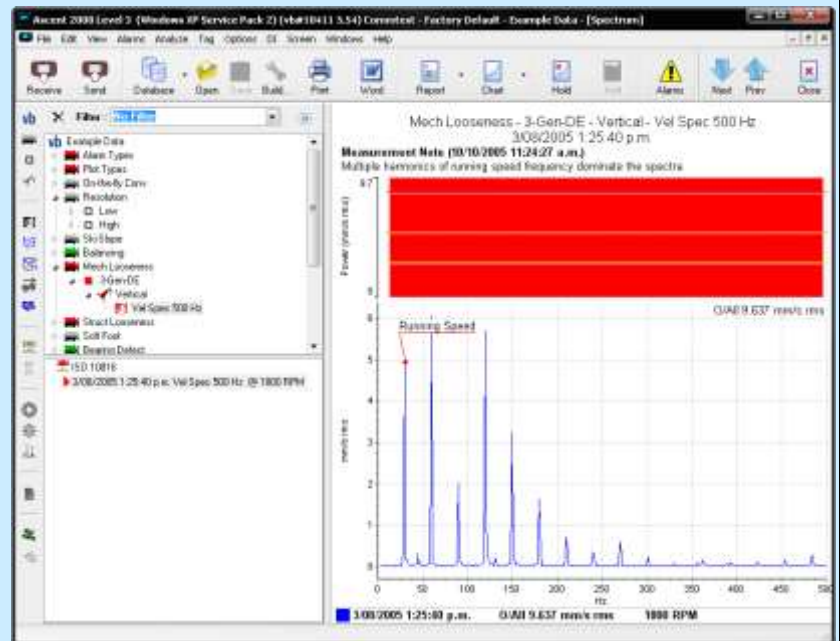
Transfer Data from Instrument to Ascent

1. On the Ascent toolbar, select **Receive**.
2. Select your instrument from the **Instrument** dropdown list.
3. Select the checkbox beside the folder where you saved your data.
4. Select **Receive** to transfer the selected folder.

   ✎ The panel on the left is the navigator. The navigator tree displays your machines, points and measurement locations. When you select an item in the tree, its corresponding parts appear in the bottom panel. For example, the bearings defined for a point appear in the bottom panel below the tree when you select the point. Recordings are labeled with the time, date and measurement type.

5. Double-click a recording to plot it.
6. Select **Save** on the toolbar to save your data.

For detailed instructions on how to use Ascent, use Help to open the Software Reference Guide and online tutorials.
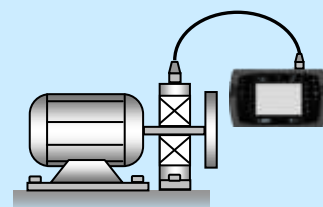
Machine Balancing

Introduction

- Read the **precautions** for **Measurement and Analysis** on page 1.

- This quick start guide is for **single plane** balancing only. This guide is typically suited for rigid rotors with diameters at least twice their lengths.

- For information on dual plane balancing, see **Instrument Reference Guide**.

- Good results can only be obtained if the vibration is caused by **uneven mass distribution** in the rotor. If you attempt to balance a rotor that has other problems, the vibration level will **not** be reduced.

Step 1: Set up a Sensor
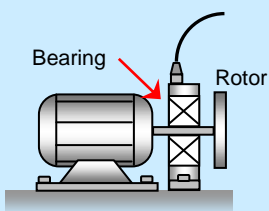
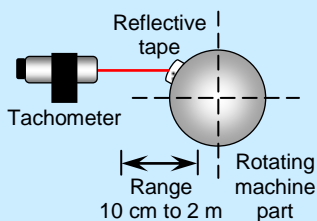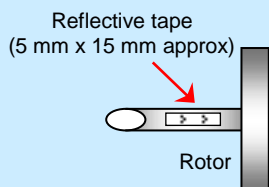|		
	Ensure the sensor is: ☑ Close to the bearing ☑ Along the bearing centerline ☑ Firmly attached	
1. Attach the sensor firmly along the centerline of the bearing using the magnetic mounting base.	🖊 **You must attach the sensor correctly to obtain accurate results.**	2. Attach the sensor connector to the instrument's channel 1 input.

## Step 2: Set up Tachometer

1. Stop the machine. 2. Place a piece of reflective tape on a machine part that rotates at the speed of the rotor.	3. Attach the tachometer to a stationary surface so that the sensor is slightly offset from the centerline of the shaft but is parallel to the reflective tape.	4. Attach the tachometer connector to the instrument's tachometer input.

Step 3: Take Initial Reading
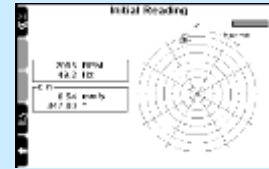
1. Clean the rotor.
2. Start the machine and let the rotor settle to its normal operating speed.
3. Press ⏻ to turn on the instrument.
4. Press **5** to display the **Balance** menu.

5. Press **3** to set up the balance job.
6. Press ✓ to take an initial reading of the imbalance.

Tip: Read the onscreen messages to ensure your instrument and sensors are connected.

🖉 The instrument displays the rotor speed, vibration level, and vibration phase angle.

7. Allow the readings to stabilize. Then press ✓.

Step 4: Attach Trial Weight

1. Stop the machine.

2. Attach a trial weight to the rim of the rotor.
   The instrument suggests a trial weight mass and weight position if you entered machine information during the setup stage.

   Ensure the added weight meets the following conditions:
   ☑ It does **not** loosen when the rotor spins.
   ☑ It does **not** obstruct machine motion.
   ☑ It includes the weight of any mechanism used to hold it in place.
   ☑ It is of sufficient mass to change the imbalance so that the instrument can perform accurate calculations.
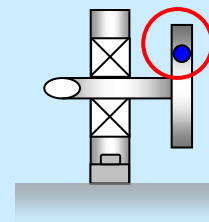
3. Press **1** and use the number keys to enter your trial weight mass.

4. Press **6** to enter the weight position.

Step 5: Take Trial Weight Reading
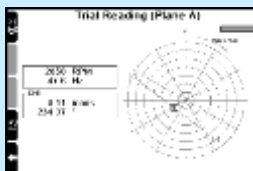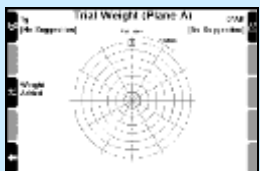
1. Start the machine and let the rotor settle to its normal operating speed.

2. Press ✓ to take the trial weight reading.

🖉 The instrument displays the rotor speed, vibration level and vibration phase angle.

3. Allow the readings to stabilize. Then press ✓.

4. The instrument asks if you intend to leave the trial weights in place or remove them. Press the appropriate key as directed.

🖉 With the initial and trial readings completed, you can begin correcting the imbalance.

Step 6: Attach Correction Weights

The instrument displays the weight required to correct the original imbalance, and the position to attach or drill out the correction weight.
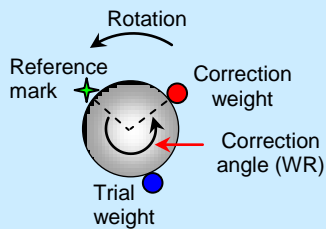


Ensure the correction weight:
- ☑ Does **not** loosen over time
- ☑ Does **not** collect dirt
- ☑ Does **not** obstruct machine motion
- ☑ Includes the weight of any mechanism used to hold it in place

1. Stop the machine.

2. Attach or drill out the correction weight in the direction and angle indicated: **Against Rotation (AR) or With Rotation (WR)**

   The displayed correction angle will be relative to your chosen weight reference mark.

3. Press 1 and use the number keys to enter your correction weight mass.

4. Press 6 to enter the weight position.

Step 7: Check Results
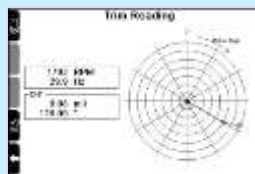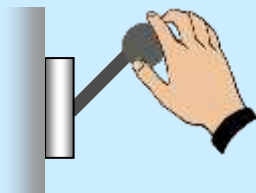
1. Start the rotor and let the machine settle to its normal operating speed.
2. Press ☑ to take the reading.

The instrument displays the vibration level with the imbalance corrected.

You can finish balancing and view the balancing report, or use additional trim weights to improve the balance level.

After performing the steps described in this quick start guide, you have completed a basic machine balancing routine. To further reduce the imbalance, press ☑ and continue trim balancing by attaching correction weights.

To learn how to save and view the balance job, or produce a balancing report, see **vbSeries Instrument Reference Guide**.