

Monitor / Sentinel Setup Card

1. Documentation

Thank you for purchasing a Teledyne RD Instruments (TRDI) Monitor or Sentinel Acoustic Doppler Current Profiler (ADCP). All documentation is being provided to you on CD in a fully searchable, printable, electronic format. This way, information is always available, whether you are at the office or in the field, and the electronic format is an environmentally friendly way to provide a large set of technical manuals. The documentation for each software program is located on the software program's CD.

To purchase a printed copy of the system documentation (includes the WorkHorse Technical Manual, User's Guide, and software guides), contact our Customer Service department at rdifs@teledyne.com or call (858)-842-2600 and order the WorkHorse Technical Manual kit.

2. Unpacking and Inventory

When unpacking, use care to prevent physical damage to the transducer faces and connector. Use the protective cap and a soft pad to protect the transducer. When handling any electronics modules, follow electrostatic discharge (ESD) prevention measures.

Use the following figure to ensure you have all of the Workhorse equipment.

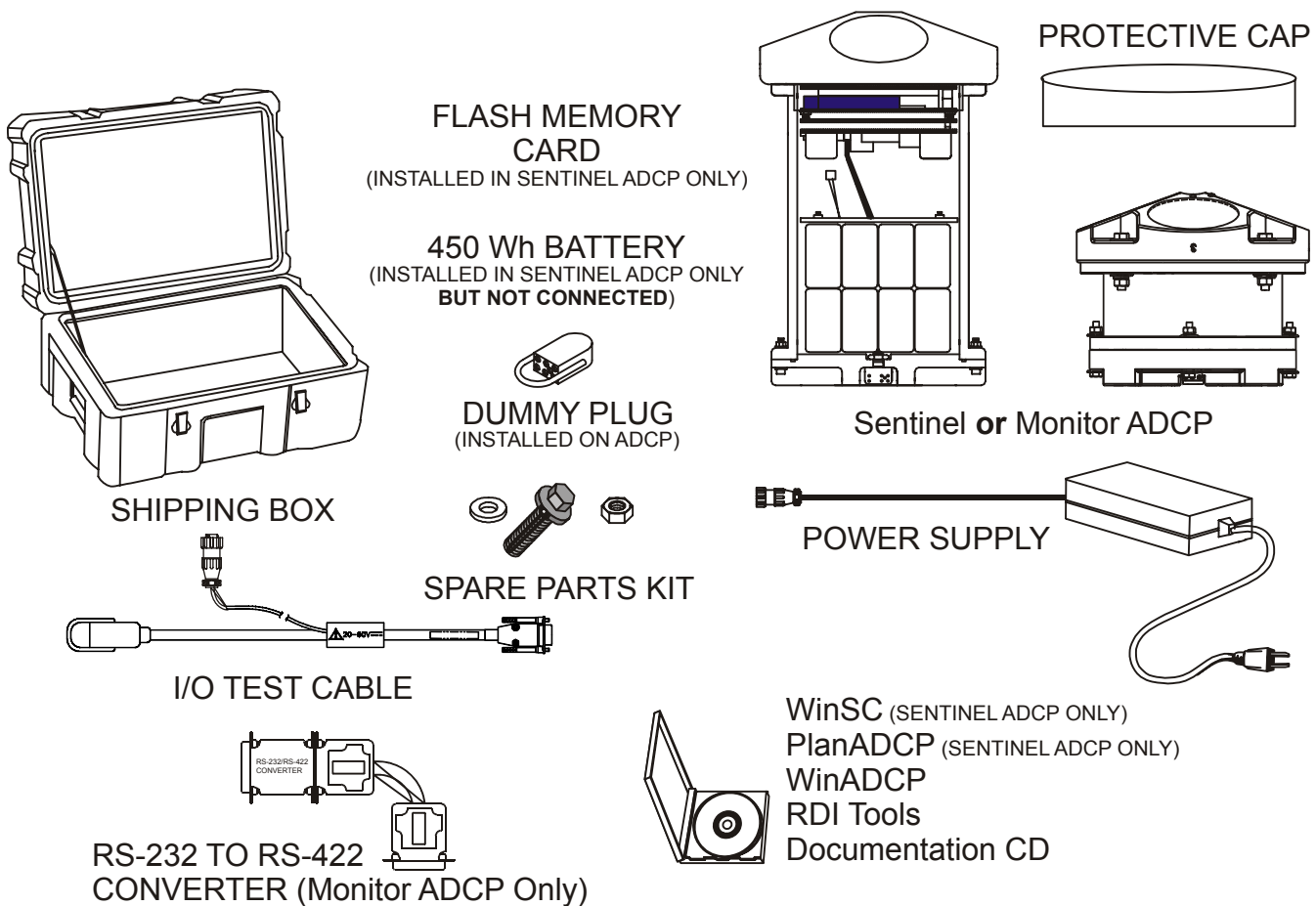


Figure 1. Workhorse Inventory

3. Set Up the Workhorse

Use this figure to connect the Workhorse to a computer for a bench test. Refer to the Workhorse User's Guide for more details on system interconnections.

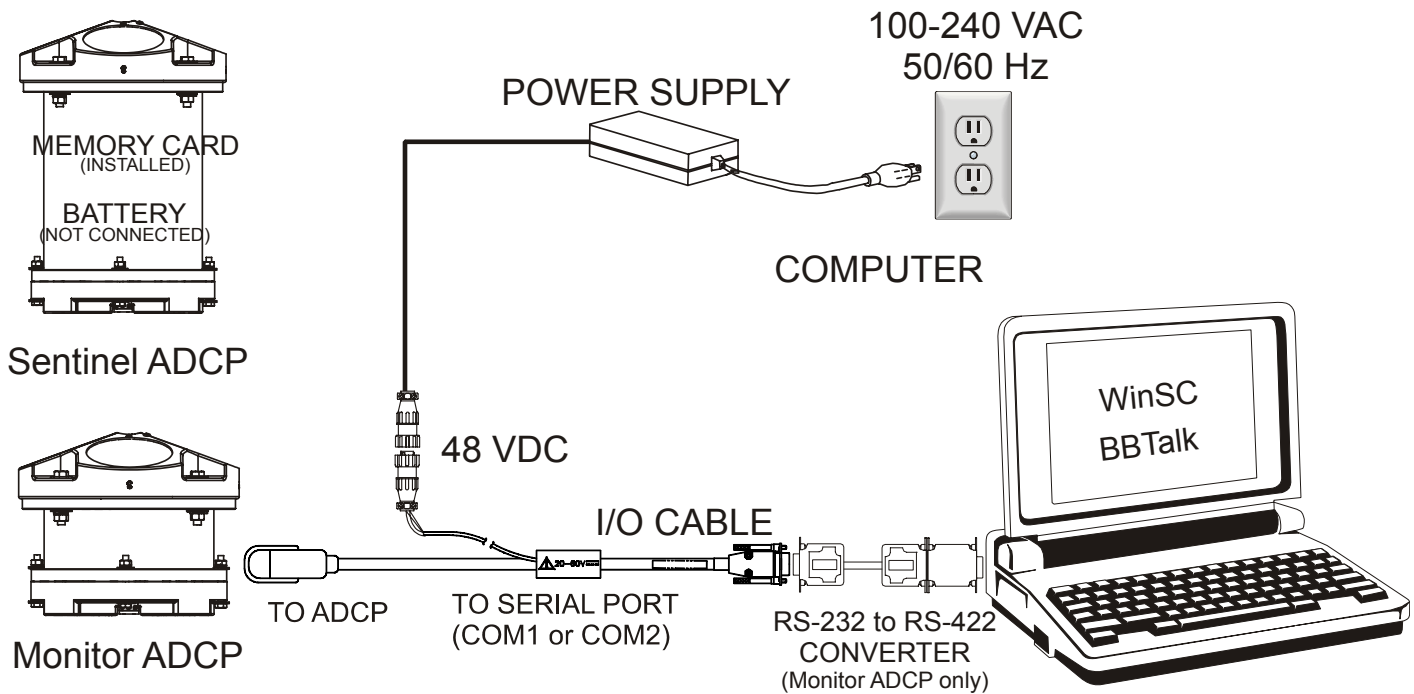


Figure 2. Workhorse Connections

4. System Requirements

TRDI software requires the following:

- Windows XP® or Windows 2000®
- Pentium III 600 MHz class PC (higher recommended)
- 64 megabytes of RAM (128 MB RAM recommended)
- 50 MB Free Disk Space plus space for data files (A large, fast hard disk is recommended)
- One Serial Port (two or more High Speed UART Serial Port recommended)
- Minimum display resolution of 1024 x 768, 256 color (higher recommended)
- CD-ROM Drive
- Mouse or other pointing device

5. Install the Software

To install the software, do the following.

- Insert the compact disc into your CD-ROM drive and then follow the browser instructions on your screen. If the browser does not appear, complete Steps "b" through "d."
- Click the **Start** button, and then click **Run**.
- Type **<drive>:launch**. For example, if your CD-ROM drive is drive D, type **d:launch**.
- Follow the browser instructions on your screen. Once, installed, you will have a shortcut added to your Windows® **Start** menu.

6. Test the Workhorse

BBTalk (included on the RDI Tools CD) will establish communications with the Workhorse and run the System Test to make sure the Workhorse is functioning properly. If you have questions about *BBTalk* operation, see the *RDI Tools* User's Guide.

- a. Connect the Workhorse as shown in Figure 2. Place the Workhorse in a bucket of water (enough water to cover the transducer head). If the Workhorse is not placed in water, some of the tests will fail (but not harm the ADCP).
- b. Start the *BBTalk* program.
- c. Press <F2> and run the script file *TestWH.rds*. The results of the tests will be printed to the screen and saved to the log file *WH_RSLTS.txt*.

7. Workhorse Care

This section contains a list of items you should be aware of every time you handle, use, or deploy your Workhorse ADCP. *Please refer to this list often.*

General Handling Guidelines

- Never set the transducer on a hard or rough surface. **The urethane faces may be damaged.**
- Always remove the retaining strap on the end-cap underwater-connect cable and dummy plug when disconnecting them. **Failure to do so will break the retainer strap.**
- Do not apply any upward force on the end-cap connector as the I/O cable is being disconnected. **Stressing the end-cap connector may cause the ADCP to flood.** Read the Technical Manual for details on disconnecting the I/O cable.
- Do not expose the transducer faces to prolonged sunlight. **The urethane faces may develop cracks.** Cover the transducer faces on the ADCP if it will be exposed to sunlight.
- Do not expose the I/O connector to prolonged sunlight. **The plastic may become brittle.** Cover the connector on the ADCP if it will be exposed to sunlight.
- Do not store the ADCP in temperatures over 60 degrees C. **The urethane faces may be damaged.**
- Store Workhorse Sentinel batteries in a **cool dry location** (0 to 21 degrees C). If the batteries are installed in the ADCP (Sentinel only), do not store the ADCP in temperatures over 21 degrees C.
- Do not store batteries inside the Workhorse (Sentinel only) for extended periods. **The batteries may leak.**
- Use batteries within one year. **Batteries stored for more than 12 months should NEVER be used!**
- Vent the system before opening by loosening the end-cap. **If the ADCP flooded with batteries installed, there may be gas under pressure inside the housing.**
- Do not scratch or damage the O-ring surfaces or grooves. **If scratches or damage exists, they may provide a leakage path and cause the ADCP to flood.** Do not risk a deployment with damaged O-ring surfaces.
- Do not lift or support an ADCP by the external I/O cable. **The connector or cable will break.**

Assembly Guidelines

- Read the Workhorse Technical Manual for details on re-assembly. Make sure the housing assembly O-rings stay in their groove when you re-assemble the unit. Tighten the hardware as specified. **Loose, missing, stripped hardware, or damaged O-rings can cause the ADCP transducer to flood.**
- Place a light amount of silicone lubricant on the end-cap connector pins (rubber portion only). **This will make it easier to connect or remove the I/O cable and dummy plug.**
- Do not connect or disconnect the I/O cable with power applied. An exception to this is the optional external battery case. The external battery case connector is always “hot” when batteries are installed. When you connect the cable with power applied, you may see a small spark. **The connector pins may become pitted and worn.**

Deployment Guidelines

- Read the Workhorse User’s Guide and the Software User’s Guides. **These guides have tutorials to help you learn how to use the ADCP.**
- Workhorse Sentinel batteries are shipped inside the ADCP but not connected. **Connect the battery and seal the unit before deployment.**
- Align the compass whenever the battery pack or flash memory card is replaced, or when any ferrous metals are relocated inside or around the Workhorse Sentinel housing. **Ferro-magnetic materials affect the compass.**



NOTE. When the batteries are changed the compass must be calibrated with the AF command (see the WorkHorse Commands and Output Data Format Guide).

- The AC power adapter is not designed to withstand water. **Use caution when using on decks in wet conditions.**
- Avoid using ferro-magnetic materials in the mounting fixtures or near the Workhorse. **Ferro-magnetic materials affect the compass.**

8. How to Contact Teledyne RD Instruments

If you have technical issues or questions involving a specific application or deployment with your instrument, contact our Field Service group:

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