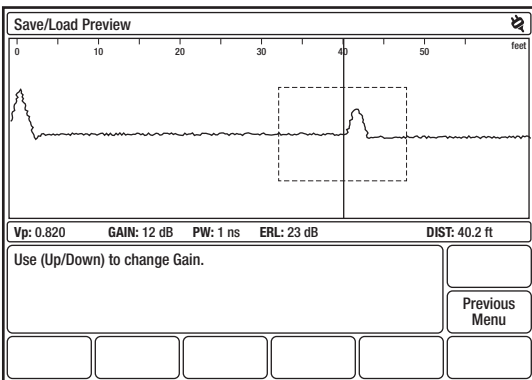


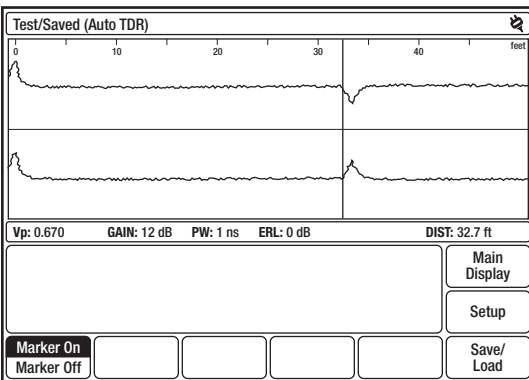
## Saving Waveforms

1. Complete the test of the cable per the appropriate procedure.
2. Press **Save/Load** to display the **Save/Load** menu.
3. Use **▲** to highlight a line marked < No Saved Traces >.
4. Press **Save** to display **Save/Load – Waveform Name**.
5. Use **◀▶** and **▲▼** to move through the characters to the letter or number you want. Press **\*** to add highlighted characters to your waveform name. When finished, press **OK** to return to the previous display, which shows the new text on the highlighted line.
6. To delete a saved waveform, use **▲▼** to highlight the waveform. Press **Delete**. A confirmation display allows you to verify or abort the deletion.
7. To check that a waveform is the one you want to test or send to your PC, use **▲▼** to highlight the waveform, and then press **Preview**. Preview displays a waveform in limited measurement-style display without manipulations available. To return to the **Save/Load** menu, press **Previous Menu**.



## Comparing Two Waveforms

1. Press **POWER** to turn on the TV220.
2. Connect cable to TV220.
3. Press **Setup** to display the **Setup – Choose Cable Type (User List)** menu.
4. Press **Test Type**. Use **▲▼** to select TEST/SAVED WAVEFORM.
5. Press **Return to Test**.
6. Press **Save/Load**. Use **▲▼** to select the saved waveform you wish to display.
7. Press **Return to Test** to display the test and saved waveforms.
8. The current test waveform is displayed in the top half of the display, and the saved waveform in the bottom half. The test waveform is scaled the same as the saved waveform and displayed with a common cursor. Test settings are those of the saved waveform. Return-loss values apply only to the current test waveform. Softkeys that affect the waveforms are not available just as in the Saved waveform display.



## Good/Bad Connections

1. For best results, connect the TV220 directly to the cable under test using 75 Ω impedance matched connectors. This will provide a good impedance match between the TV220 and the cable.
2. Using alligator clips to connect the TV220 to the cable under test causes an impedance mismatch, which reduces the measurement effectiveness.

## Power Options/AC Battery

1. A five-level battery-status indicator, located in upper right corner of all displays, shows battery-charge level.
2. The TV220 displays a low-battery message when the battery level is low. Use the AC charger or DC charger cable to recharge the TV220 battery. The TV220 can be used when the battery is being charged.

## General Troubleshooting

For service help, call 800-642-2155 or 760-598-8900.

- **No Power On.** Recharge or replace the battery, or power the instrument with the AC charger or DC charger cable.
- **No Power On with Fully Charged Battery.** Disconnect the battery cable for one minute, and then reconnect.
- **Instrument does not respond to softkey or front panel button presses.** Disconnect the battery for one minute, and then reconnect.

*Note: If the problem persists, contact Greenlee Service.*

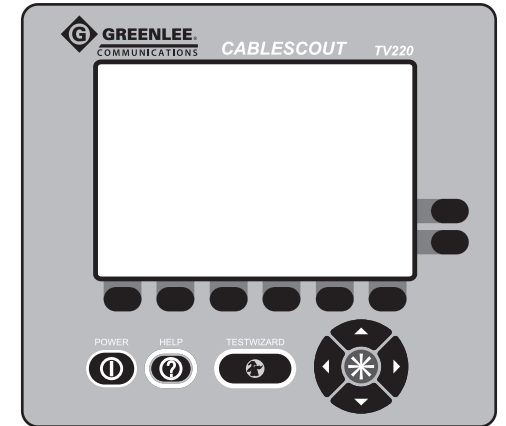


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# Quick Reference Card



## TV220 CableScout™ Metallic Time-Domain Reflectometer for Cable TV

This reference card provides a brief overview on how to use the TV220. For more detailed user information, refer to the TV220 Instruction Manual (52040565).

*Note: Press **Reset to Defaults** at the Main Display to reinstate original factory defaults, if necessary.*



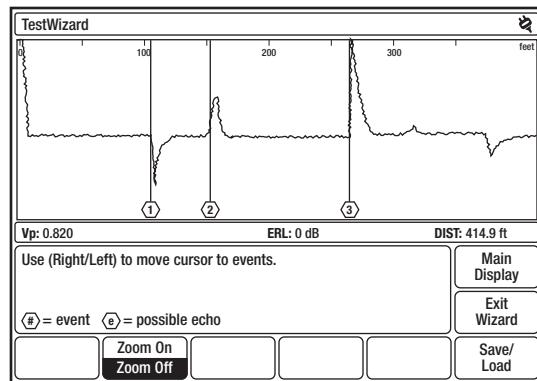
**Read and understand** all of the instructions and safety information in the Instruction Manual supplied with this tool before operating or servicing this tool.

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## TestWizard Setup

TestWizard is the quickest and easiest way to test a cable. You press one button, and the TV220 asks you some simple questions and then automatically tests the cable and displays a waveform with events marked.

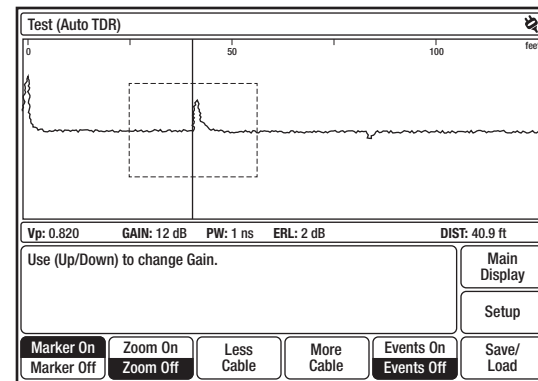
1. Press **TESTWIZARD** to begin automatic test sequence and display the **TestWizard – Choose Cable Type (User List)** menu.
2. Use **▲▼** to select your cable type. If your exact cable type is not on the list, select one that is most similar to it, or press **Exit Wizard** and go to the **Setup** menu to add the proper cable type or to create a custom cable type. (For more information, refer to Chapter 3 in the TV220 Instruction Manual.)
3. Press **Next** to display the **TestWizard – Choose Cable Span** menu. Use **▲▼** to select cable length. Pick the span that is just greater than the length of the cable you are testing.
4. Press **Next** to display the **TestWizard – Choose Event Type** menu. Use **▲▼** to select the appropriate level of analysis. If the system you are testing is not working, select **FIND LARGEST EVENT**. If the system is working poorly and you want to find the most significant problem areas, select **FIND 3 LARGEST EVENTS**. If you want to find everything on the system that could possibly affect it, select **FIND ALL EVENTS**.
5. Press **Next** to begin automatic testing and display the **TestWizard Measurement** display, which shows a waveform with the events of the selected type marked and numbered



## Auto TDR Test Setup

Use Auto TDR when you want an automatic test with some user control of test settings. In Auto TDR, you have control of gain setting and cable length during the test.

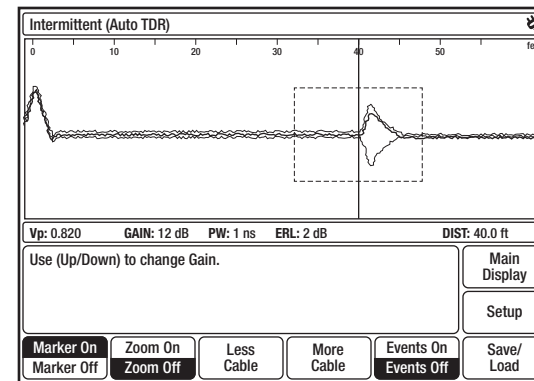
1. Press **POWER** to turn on the TV220.
2. Connect cable to TV220.
3. Press **Setup** to display the **Set-up – Choose Cable Type (User List)** menu.
4. Use **▲▼** to select the cable type to be tested, or press **Add Cable** to add a cable type to the user list or **Create Custom Cable** to create a custom cable type.
5. Press **Return to Test**.
6. Press **More Cable** until waveform is visible.
7. Use **◀▶** to position the cursor on the left edge of the event. The distance to the event is displayed in the DIST box in the lower right corner of the display.



## Intermittent

1. Press **POWER** to turn on the TV220.
2. Connect cable to TV220.
3. Press **Setup** to display the **Set-up – Choose Cable Type (User List)** menu.
4. Press **Test Type**. Use **▲▼** to select **INTERMITTENT**.
5. Press **Return to Test**.
6. Once the intermittent event is visible, use **◀▶** to move the cursor to the edge of the event.
7. This display is the same as in Auto TDR test, except that in addition to the current test waveform, minimum and maximum waveforms are displayed in gray. The minimum and maximum waveforms are made up of the minimum and maximum values for each data point on the current waveform.
8. To acquire a new waveform, use **▲▼** to adjust the gain or press **Zoom On/Off, Less Cable, More Cable, or Setup**.

*Note: Use care when adjusting any settings. You may trigger the instrument to acquire a new waveform, which erases the current waveform.*



## Return Loss

The TV220 can measure Return Loss (RL) and Event Return Loss (ERL). Both RL and ERL measure the severity of an event. The difference between RL and ERL is that ERL measures the true severity of an event by subtracting out the manufacturer's specific cable loss of the cable length from the measurement. RL does not account for cable loss.

1. Press **POWER** to turn on the TV220.
2. Connect cable to TV220.
3. Press **Setup**. Then press **More Settings**.
4. Use **▲▼** to highlight Return Loss. Use **◀▶** to select Return Loss or Event Return Loss.
5. Press **Return to Test**.
6. To measure RL and ERL, use **◀▶** to position the cursor on the left edge of the event. The TV220 looks to the right of the cursor for the event closest to the cursor. To calculate RL or ERL for a different event, use **◀▶** to move the cursor to the left of a different event. **In order to get an accurate RL and ERL measurement, you need to be able to see the entire event on the display.** Use **▲▼** to lower the gain value until the entire event is displayed.

