Applications Note

Using an ipTEST Tester with a Pegasus™ Prober

Wentworth Laboratories

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This document briefly describes how to connect a Wentworth Laboratories Pegasus™ prober to an ipTest M2 tester. This connection can either be direct, or through a PC running LabMaster™ FA.

ipTEST makes the MOSTRAK series of testers. They are the fastest, most powerful and complete production line testers for power discrete MOS, IGBT, SiC, GaN and bipolar devices.

Notes:

1. This document is intended to supplement the Pegasus™ prober's user manual and should be read with that manual.
2. If LabMaster™ is being used, then this document is intended to supplement the LabMaster user manual and should be read with that manual.
3. This document assumes a basic knowledge of the ipTest tester and should be read with ipTest documentation.

Contents

1. LabMaster™ FA Set-up 3
   - Using the User Interface 3
   - Using a Python Script 3
2. LabMaster™ Pro Set-up 4
3. Pegasus™ Prober Set-Up 5

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1. LabMaster™ FA Set-up

If your system does not have a PC running LabMaster™ FA please ignore this section.

LabMaster™ FA uses the tester interface built into the Pegasus Controller, so the Pegasus Controller must be set-up following the instructions in section 3. Before doing this, the controller must be put into local mode. This is done by opening the Motion Control dialog box, pressing the **Local** button, and finally switching the monitor over to controller.

Full ipTEST support was added to the **LabMaster™ FA** software in version 15.2.1, which was released in October 2022. If you are currently using an earlier version of software, please contact Wentworth Laboratories for a quote to upgrade your system.

Using the User Interface

Open the Chuck Actions dialog box by right-clicking on the chuck icon in the Device Toolbox, and then do the following:

- Press the **SOW** button to send a start of wafer signal to the tester.
- Press the **Perform Test** button to perform a test and display the resulting pass/fail bin number.
- Press the **EOW** button to send an end of wafer signal to the tester.

Using a Python Script

The following Python script demonstrates how to test a device:

```
import proberio

proberio.SignalEOW(False)  # Start of wafer signal
print("Bin:", proberio.TesterPerformTest())
proberio.SignalEOW(True)  # End of wafer signal
```

Equivalent REXX functions are available if REXX scripting has been installed rather than Python.

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2. LabMaster™ Pro Set-up

If your system does not have a PC running LabMaster™ Pro please ignore this section.

LabMaster™ Pro uses the tester interface built into the Pegasus Controller, so the Pegasus Controller must be set-up following the instructions in section 3. Before doing this, the controller must be put into local mode. This is done by selecting the **Setup** item, selecting the **Diagnostic** menu item, selecting the **Prober Local Mode** menu item, and finally switching the monitor over to controller.

Full ipTEST support was added to the **LabMaster™ Pro** software in version 12.6, which was released in October 2022. If you are currently using an earlier version of software, please contact Wentworth Laboratories for a quote to upgrade your system.

To start using the ipTEST tester, do the following:

- Select the **Setup** menu item from the main menu.
- Select the **Run Control** menu item.
- Select the **Tester** menu item.
- Set the **Die Test Program** to be **FastTTL**.
- Set the **EOW Program** to be **SignalEOW**.

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3. Pegasus™ Prober Set-Up

Full support for ipTEST testers was added to the **Pegasus™** prober in firmware version 7.9.1, which was released in October 2022. If you are currently using an earlier version of firmware, please contact Wentworth Laboratories for a quote to upgrade your system.

The **Pegasus™** prober must have the optional RS232 functionality installed. If not, please contact Wentworth Laboratories for a quote to upgrade your system.

Connect the serial port on the ipTest tester to the serial port labelled **Serial 2** on the back on the controller using an RS232 null modem (crossover) cable.

Select the **Settings** option, and then select the **Tester Settings** item. This will display the **Tester Settings** menu. From this menu, set the following items:

- Set the **Tester** parameter to be **Enabled**.
- Set the Tester Interface parameter to be **Simple RS232** (this option will be greyed out if RS232 functionality is not installed).
- Consider setting the **Tester Timeout** parameter appropriate timeout time for your test.
- Press the home button to exit the menu.

To test the interface, do the following:

- Select **Diagnostics** to enter diagnostic mode.
- Select **Chuck Control**.
- Select **I/O**.
- Select **Do Test** and then select **Yes** when asked whether to send start/end of wafer.
- Press the home button to exit the menu.
- Press to home button to exit diagnostic mode.

If you have a LabMaster™ system, finally select **Remote** to return to PC control.

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