PG DRIVES TECHNOLOGY

DIAGNOSTIC TEST TOOL

TECHNICAL MANUAL

SK79393/I

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About this manual

The Technical Manual gives a general introduction to the R-net Omni. For more detailed and/or current information refer to the Electronic Manual.

Throughout the manual icons are used to draw the reader's attention.

The icons used are:

Note - A general point for best practice.

Caution - A point of safety which if ignored could result in damage to the control system or the vehicle.

Warning - A point of safety which if ignored could cause injury to the individual.

PG Drives Technology accepts no liability for any losses of any kind if the points are not followed.

CHAPTER I - OVERVIEW

I   Introduction

The Diagnostic Test Tool has been designed specifically to assist technicians, engineers and specialists. The DTT allows users to access, program and share PG Drives Technology controller specific files in a convenient and effective way.

The Diagnostic Test Tool will allow users to:

- Program PG Drives Technology controllers.

- Read and save program files.

- Read and save diagnostic logs.

- Read real-time controller related information.

- Save and delete program files locally.

- Save program files to external storage devices, such as memory sticks.

- Manage program + system log files from PC's. When connected the DTT appears as a drive on the PC and all normal PC functionality exists.

2   Controls

LCD Screen

Softkeys

Navigation Buttons

USB Port (Type A)

USB Port Cover

Programming Connector

USB Port (Type mini A)
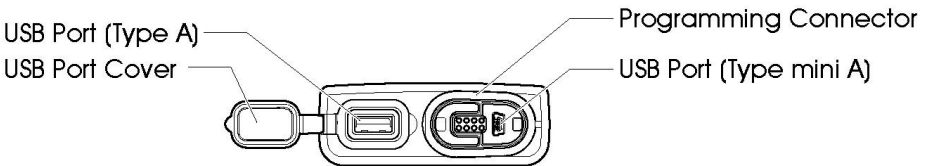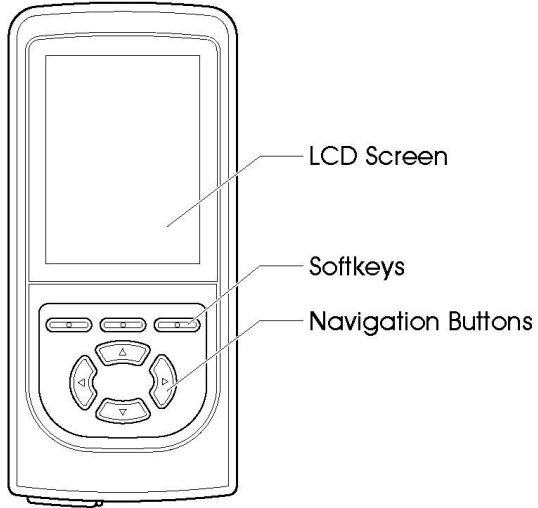
2.1   LCD Screen

The status of the DTT can be seen by observing the LCD.

The LCD does not light up when connected to a PC.

The screen layout is separated into thee distinct areas. For the purposes of illustration an R-net controller has been connected to the DTT.

Title Bar

Active Area
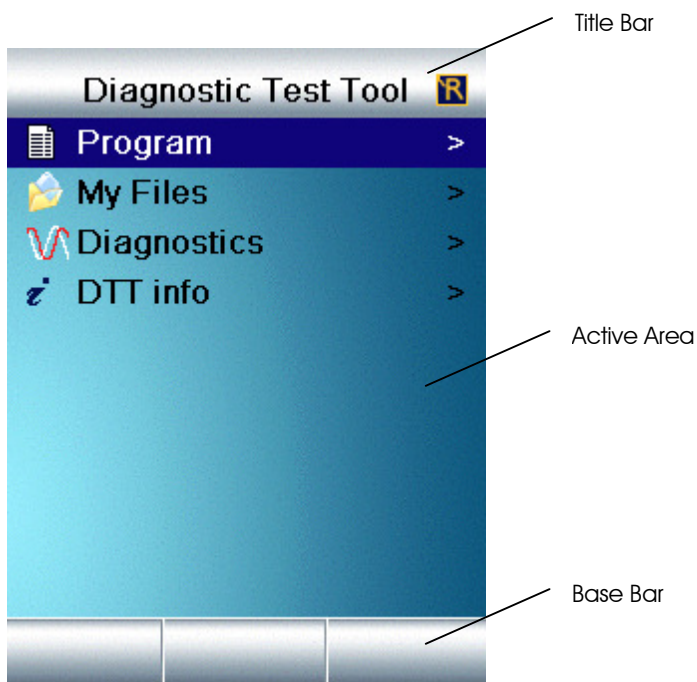
Base Bar

Title Bar   - Displays the Name of the screen currently being viewed and the Logo of the controller that is connected to the DTT.

Active Area - Displays the information relevant to the screen being viewed.

Base Bar   - Displays the current function of the softkeys.

2.2   Softkeys

The function of the softkeys is dependant on the state of the DTT. As each screen is entered the function of the softkey will be displayed in the Base Bar of the screen. Refer to section 3 for more details on the screens and their functions

2.3   Navigation Keys

The Navigation Keys (Nav Keys) are used to navigate through all of the DTT screens.

Up   - Pressing the Up arrow key will select the menu item or parameter above.

Down   - Pressing the Down arrow key will select the menu item or parameter above.

Right   - When in a Menu structure the Right arrow key will select the highlighted menu item.

   - When in the programming structure the Right arrow key will select the parameter to the right.

Left   - When in a menu structure the Left arrow key will take you up to the previous level. This will occur until the Main Menu screen is reached.

   - When in the programming structure, if the highlight is over the first parameter entry then pressing of the Left arrow key will display the parameter name in full.

   - The next press of the Left arrow key after the full parameter name has been displayed will take the user up to the previous level.

   - When the highlight is over a parameter entry other than the first, then pressing the Left arrow key will select the parameter to the left.

3   Connections

3.1   Programming Connector

The DTT can be connected to a controller when the controller is either on or off. Once connected and the controller switched on Programming and Diagnostics can commence.

If the connected controller has actuators they can be driven while the DTT is connected.

For safety reasons, accessing some critical parameters will cause the controller to trip. This is intentional and the controller can be simply reset by switching off then on again.

The DTT uses different cables to connect to different PG Drives Technology controllers.

Programming Cables

Molex 4-Way
Connector

Neutrik
Connector

R-net
Connectors
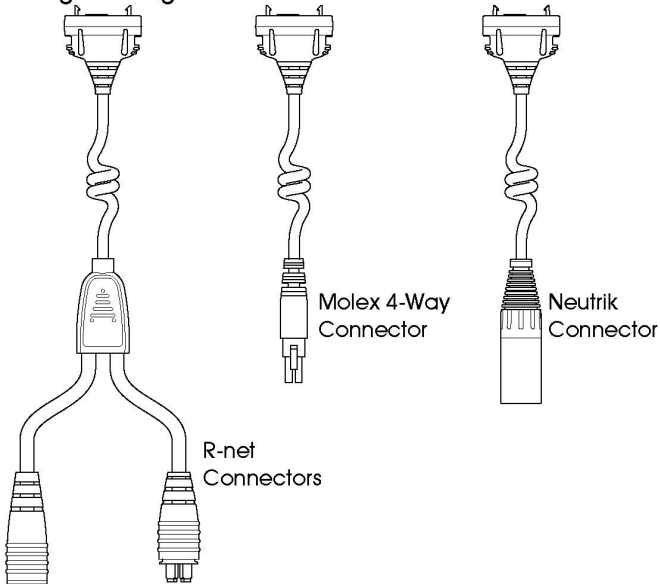
3.2   USB Ports

The DTT has two USB ports. A Type A port and a Type mini A port.

3.2.1   USB Mini A

USB Port type Mini A is located on the base of the DTT within the Programming Connector and can be used to connect the DTT to a PC. Once connected the DTT will draw its power from the computer.

The DTT will appear as a drive in the computer's drive list.

If the DTT powers up, but the drive does not appear in your list, you will need to allocate a new drive letter to the device on the PC. Please refer to your specific Operating System's help file for details of how this is achieved.

3.2.2   USB A

USB Port type A is located on the base of the DTT and can be used to connect a USB Memory stick or similar memory device. This function is only accessible when the DTT is connected to a PDGT controller that is switched on.

4   Software Upgrades

If you have purchased a Diagnostic Test Tool you are eligible for free upgrades.

To qualify for free upgrades, you need to send the following information to ftprequest@pgdt.com:

- Your name

- Your address

- Your organization (the organization which originally purchased the DTT)

- Product serial number – this is the number, *Hxxxxxxx*, which can be located on the product label.

Once qualification has been recognized you will then be sent an Email containing a unique username and password.

This username and password allows you to access the latest software via the www.pgdt.com website.

This is achieved as follows:

- Upon entering www.pgdt.com site locate the Service Center and select "To access the Technical Manuals click here."

- When prompted enter the unique username and password.

- Open the DTT folder.

- Download the zip file to your PC.

- Double-click on the zip and extract the .exe file to a location on your PC.

- Connect the DTT to your PC via a USB cable.

- Double-click on the .exe file to begin

- Follow the instructions within the installation wizard.

CHAPTER 2 - OPERATION

I   Introduction

When the DTT is connected to a controller that is switched on, the LCD screen will light up and go through an initialization procedure after which it will display the Main Menu screen.

This screen is the avenue by which all other facilities within the DTT are reached.

> - An Arrow icon depicts that the item listed can be entered.
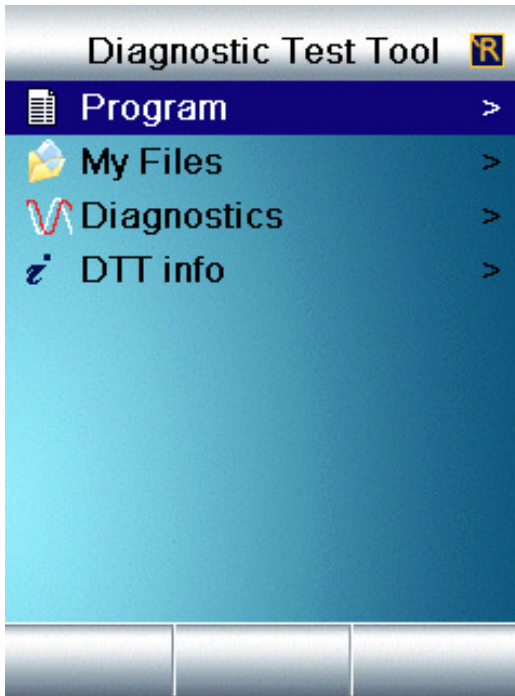
Nav Keys – Use as described in overview to select the option you require.

Softkeys – No function.

2   Programming

The main advantage of using programmable controllers is that they can be easily tailored to the specific needs and capabilities of a particular vehicle.

The programmable controller achieves this great flexibility by referring to a set of internal parameters that govern factors such as speed, acceleration and braking.

> It is possible to set up a control system so that it is unsuitable for some users or even some applications. For all of the above reasons it is important that you contact **PG Drives Technology** if you have the slightest doubts or if you need any advice on programming.

2.1   Menus

Nav Keys – Use as described in overview to select the option you require.

Softkeys – No function.

2.2. Adjusting Parameters

Nav Keys – Use as described in overview to select the parameter setting you require.

Softkeys – Make adjustments to the parameters. Read the Base Bar for adjustment choices. These will change as you navigate around the screens.

Parameter adjustments are made in real time, direct to the controller. Each adjusted entry is shown in red.

This allows programmers to make multiple changes with clear visibility of the changes made.

These entries will remain red until the controller power has been cycled.

3   My Files
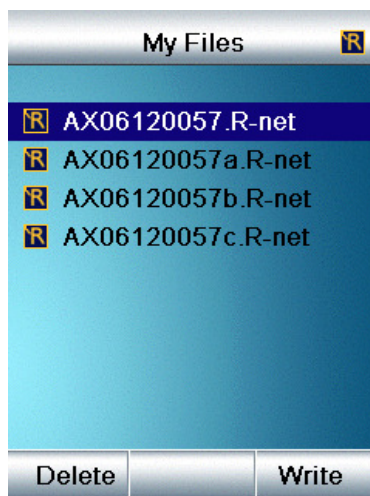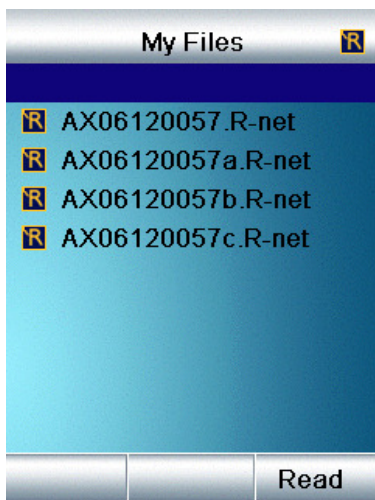
Nav Keys – Use as described to select the option you require.

Softkeys – Delete – Read – Write

Delete – Deletes the file currently highlighted.

Read – Makes a copy of the program file from the currently connected controller.

The Read function is only available when the highlight is on the blank slot at the top of the screen.

If a USB memory device is connected then entering the Memory Stick folder prior to pressing read will save the file on to the memory stick.

The file name will be the controller's serial number. Adjustments to file names can be made once the DTT is connected to a PC.
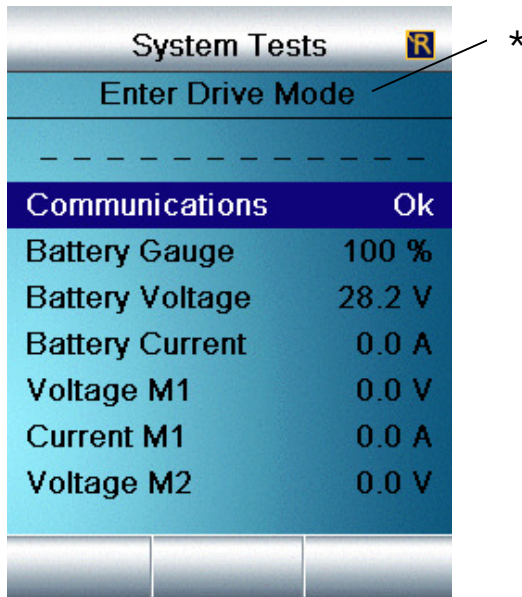
Write – Loads the currently highlighted program file onto the controller connected, if compatible.

The logo next to the file name will change for different controller files.

4   Diagnostics

4.1 System Tests

Allows the technician to monitor real time information relating to the application and the controller.

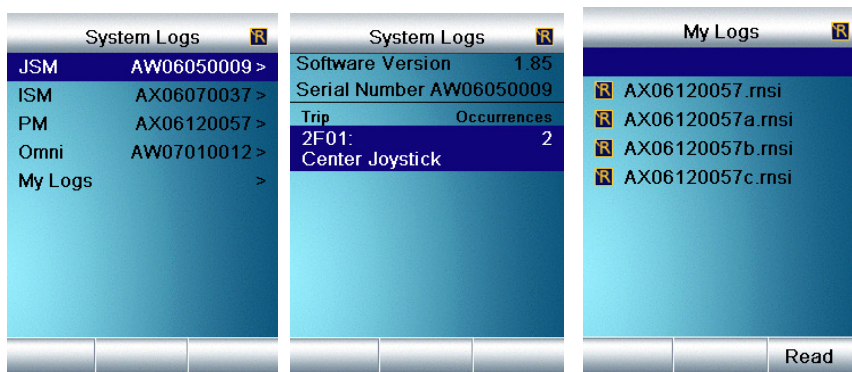Nav Keys – Use as described to select the option you require.

Softkeys – No function – Unless Connected to a controller with an Intelligent Seating Module.

If applicable, Actuators can be driven from within the Test Screens using the softkeys.

* The controller that is connected to the DTT must be in the Mode as indicated by the DTT.

System Log

Displays the contents of the system logs of the modules connected.

Nav Keys – Use as described to select the option you require.

Softkeys – Save

Save – Saves the System Log file to the DTT. In the case of a multi module system then all log files are compiled into one file.

The save function is only available once **My Logs** has been entered.

If a USB memory device is connected then entering the Memory Stick folder prior to pressing save will save the file on to the memory stick.

The file name will be the controller's serial number with the appropriate extension. Adjustments to file names can be made once the DTT is connected to a PC.

 Live Trips are flagged in a pop-up window as and when they occur. Refer to section 4.4.

4.3   System Timers

Displays how many hours the application has been driven.

4.4   Trip Screen

If at anytime the controller the DTT is connected to goes into a Tripped state a pop-up window will appear in the screen.

The Screen will contain the Trip Number, the Trip Description and, in a multiple module control system, the module where the trip is in effect.

5   DTT Info

Contains information pertaining to the DTT including the software version.

5.1   Language Support

The DTT will interrogate the controller it is connected to and display the relevant language choices.