Attention!

Attached is an updated "IDS" Users Guide Release 1.0, please discard the original Users Guide part # IN 1932 that is contained in the cart.

A copy of the IDS workstation assembly instructions is contained in the cart.

IDS

Integrated Diagnostic System

User Guide

Contents

The information contained in this User Guide was correct at the time of printing.

NOTE: The IDS software is subject to continuous development. Therefore, deviations may occur between the test procedures/scope of testing described in this user guide and IDS.

Acronyms and Abbreviations

The following acronyms and abbreviation have been used in this user guide:

CCF	Car Configuration File
CD	Compact Disc
CDROM	Compact Disc Read Only Memory
CDRW	Compact Disc Rewritable
DDR	Double Data Rate
DLC	Diagnostic Link Connector
DTC	Diagnostic Trouble Code
DVD	Digital Versatile Disc
Gb	Giga Byte
IDS	Integrated Diagnostic System
LAN	Local Area Network
LED	Light Emitting Diode
Mb	Mega Byte
OBD	On Board Diagnostics
PTU	Portable Test Unit
RAM	Random Access Memory
SDRAM	Synchronous Data Random Access Memory
TSD	Touch Screen Display
USB	Universal Serial Bus
VCM	Vehicle communication Module
VMM	Vehicle Measurement Module
WDS	Worldwide Diagnostic System

IDS Introduction

IDS is a leap forward in diagnostic technology for Jaguar vehicles. IDS combines the ease of use and familiarity of the previous WDS software with an up to date specification laptop computer. IDS is being introduced to improve the diagnostic capability of Jaguar dealers and it will replace the current WDS Portable Test Unit (PTU).

IDS uses a standard Panasonic Toughbook laptop computer which has been specifically designed to operate in an arduous environment and with the Vehicle Communications Module (VCM) and Vehicle Measurement Module (VMM) offers diagnostics for current and future Jaguar vehicles.

IDS includes a mobile workstation which provides the facility to store the Panasonic Toughbook and associated hardware.

The diagnostic capabilities of IDS include:

- EOBD Diagnostics
- OBDII Diagnostics
- Full DTC Read and Datalogger Diagnostics
- Full Vehicle Configuration
- Full Vehicle Tune Update
- IDS Diagnostic Self Test

A training mode is available which allows the user to run through a brief training program. IDS uses existing WDS diagnostic principles, the look and operation of which are very familiar to experienced technicians. IDS will be supplied pre loaded with the relevant operating system software.

IDS Laptop

IDS uses a standard Panasonic Toughbook laptop computer.

Specification

Processor:	Intel® Centrino® Processor 1.2 GHz
RAM:	512Mb DDR RAM minimum
Screen:	10.4" Anti-Reflective Touch Screen Display (TSD) Colour Screen
Hard Drive:	60Gb minimum
Optical Drive:	External CD Writer/DVD Reader Combo-Drive
Operating system:	Microsoft® Windows® XP Professional
Other:	Bluetooth®
	Integrated Wireless with 10/100 Ethernet LAN
	56Kbps Internal Modem
	Secure Digital (SD) Card Slot
	Reversible Screen to Support Tablet Mode

Note: Bluetooth® and Wireless are not licensed in all markets.

Power Supply

The Panasonic Toughbook may be powered from its internal battery or from a mains power supply. When the Panasonic Toughbook is docked on the workstation it is powered from the mains power supply.

If the Panasonic Toughbook is removed from the workstation, a separate power supply can be connected using the power supply socket located on the left hand side.

When the Panasonic Toughbook is switched on, a green power Light Emitting Diode (LED) is illuminated on the front panel.

Internal Battery

The Panasonic Toughbook has its own internal lithium battery which is located at the right hand side.

Battery Location

When the Panasonic Toughbook is powered from the internal battery, a battery symbol is shown on the task bar. If the cursor is positioned on the battery symbol, the condition is displayed together with the estimated operating time remaining.

Charging of the battery is automatically carried out when connected to the mains power supply. The Panasonic Toughbook will operate for approximately four hours from a fully charged battery in good condition.

NOTE: The power options and critical alarm actions have been set at the factory for optimum performance and should not be changed.

Battery Charging

The battery life deteriorates each time it is charged. Charging the battery only when it has become completely discharged will reduce the number of charge cycles and thus extend battery life.

System Standby and Hibernation

System standby and hibernation will shut down the Panasonic Toughbook without closing down programs or documents. Restarting the Panasonic Toughbook from standby or hibernation mode will return to the same programs and documents that were open at the time before the Panasonic Toughbook entered standby or hibernation.

When the Panasonic Toughbook enters standby mode, data is stored in memory (RAM) and the recovery time is short. Power must be maintained in order to retain this data in the memory. If power is lost, then the data will be lost.

When the Panasonic Toughbook enters hibernation mode, data is stored on the hard drive. The recovery time is a little longer than when in standby mode. However, power is not required in order to maintain the data.

Power Management Default Settings

Action	Running from mains power supply	Running from internal battery
Turn off monitor	Never	After 20 minutes
Turn off hard disc	After 1 hour	After 30 minutes
System standby	Never	Never
System hibernates	Never	Never

When power management has been activated the following must be completed to re-activate the system.

Activating IDS Following Power Management Actions

Power Management Action	How to re-activate IDS
Monitor or Hard Disc is OFF	Touch the TSD or operate the enter key
System standby	Operate the power switch
System hibernation	Operate the power switch

Battery Power Display

The battery condition can be displayed by selecting "**Fn +F9**"

Battery Calibration

As the battery deteriorates the remaining battery capacity may not be displayed accurately. In this situation, select the battery calibration function to recalibrate the battery. The battery will be charged (if not already fully charged), then fully discharged.

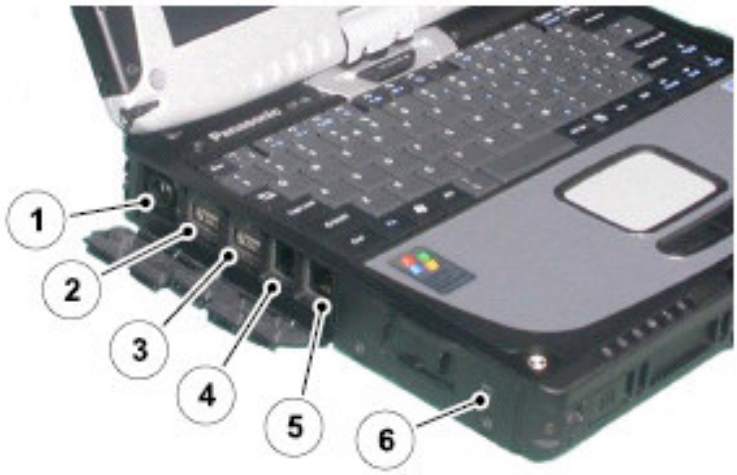
During battery recalibration, the following actions are carried out:

- Battery will be charged (providing it is not already fully charged)
- Battery will be discharged
- Computer will shut down
- Battery will be charged

Panasonic Toughbook Connections

There are a number of connections on the Panasonic Toughbook to allow connection to other devices.

Left Hand Side



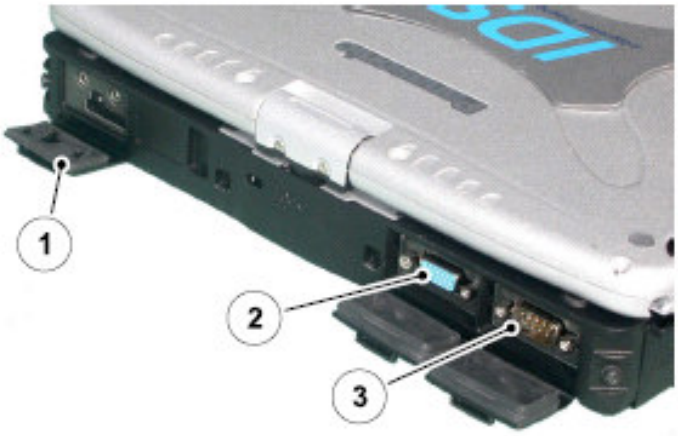
1. DC Power Supply Socket
2. USB Port
3. USB Port
4. Modem Connection Socket
5. Local Area Network (LAN) Connection Socket
6. SD Card Slot

SD Card Slot

Right Hand Side

1. Battery
2. Hard Disc Drive

Rear



1. Microphone and Headphone Socket Connections
2. External Display Port
3. Serial Port

The identification serial numbers, docking station connection and speaker are located on the underside of the Panasonic Toughbook.

Underside

1. Replicator Port and Cover
2. Speaker
3. Operating System Serial Number
4. Serial Number

Panasonic Toughbook Functions

The following functions are located on the front of the Panasonic Toughbook:

- Power Switch
- LED Indicators
- Lid Latch
- Tablet Buttons

Power Switch

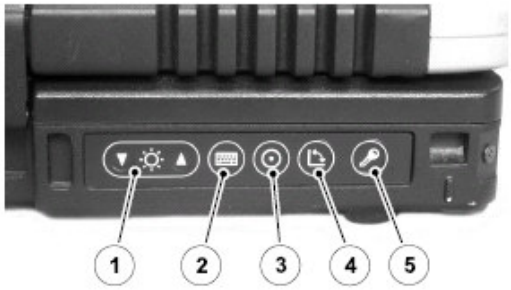
The power switch is located at the front of the Panasonic Toughbook.

To switch on IDS, slide the power switch and hold it for approximately 1 second, until the indicator is illuminated before releasing it.

The laptop will power up and will automatically open the 'Welcome to IDS Main Menu' screen.

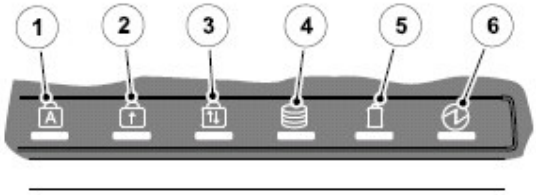
Tablet Buttons

The tablet buttons located at the front are for use when the Panasonic Toughbook is being used in tablet mode.



1. TSD Brightness Control
2. Software Keyboard
3. Enter
4. Display Rotation
5. Security

LED Indicators



The LED indicators are located at the front of the Panasonic Toughbook.

1. Caps Lock
2. Number Lock
3. Scroll Lock
4. Hard Disc Drive Status
5. Battery Status
6. Power Status

LED Indicator Definitions

LED	Function	Definition
1	Caps lock	Green - Indicates when caps lock is active. When caps lock is active then all the letters typed are in capitals.
2	NumLk (Number Lock key)	Green - Indicates when number key lock is active. Causes some of the keyboard to perform as a numeric keypad.
3	ScrLk (Scroll lock)	Green - Indicates when "**Fn + ScrLk"** are pressed. Scroll lock functions differently depending upon the application
4	Hard Disc Drive status	This illuminates to indicate when the hard drive is being accessed
5	Battery status	Not lit - Battery not connected or charging not being carried out

		Green - Connected to external power supply with battery over 95% of its full capacity (fully charged) Green (Flashing) - IDS in high temperature mode and battery is discharging to 80% of capacity Amber - Battery charging Amber (Flashing) - Battery cannot be recharged temporarily due to high internal temperature of battery Red - Battery level very low, 9% or less Red (flashing) - Fault with battery or charging not operating correctly Green and Amber (Flashing alternately) Warming up the system to prevent hard disc drive damage
6	Power status	Not lit - Power off or Hibernation mode Flashing once every 3 seconds – Standby mode

DVD Drive

An external/DVD drive is used to install software updates. The DVD drive is connected through a USB port to the Panasonic Toughbook and is located behind the front upper door of the IDS workstation.

Before using the DVD drive for the first time, make sure all transit protection is removed especially the cardboard cover inside the lid.

The DVD drive lid is opened by pressing the release catch located on the lid. The lid opens under spring tension.

A power switch is provided on the side of the DVD drive, but the drive will automatically operate without operating the switch following a command from the IDS software.

IDS software is loaded onto the hard drive of the Panasonic Toughbook allowing IDS to operate without a disc in the DVD drive.

Note: Once the software has been loaded onto IDS, the disc should be removed from the DVD drive and stored for future reference in the storage area located in the front upper door of the IDS workstation.

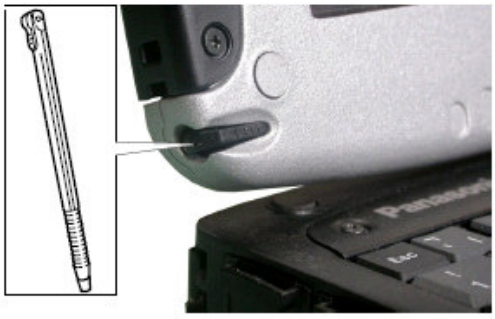
Touch Screen Display

The Panasonic Toughbook has a TSD with a layer covering the display to protect it from damage during normal use.

Stylus

A stylus for operating the display is neatly stowed in the screen of Panasonic Toughbook and can be tethered using the tether cord provided.

Stylus Location



CAUTION: Do not use excess pressure or sharp implements to operate the screen. Failure to follow this instruction may cause damage to the screen.

Operating Modes

The Panasonic Toughbook may be operated while it is either docked to the workstation or removed from it.

Laptop Mode

When used with the display open, it is referred to as 'Laptop' mode as shown in the picture below. When using laptop mode, the display may be tilted to any angle to suit the user.

Tablet Mode

The Panasonic Toughbook has the facility to reverse the display so that it is accessible in the closed position. When used in this manner, it is referred to as 'tablet mode' as shown in the picture below.

To use tablet mode, release the latch and open the display. Slide the release latch to the right and rotate the display in a clockwise direction as shown in the illustration below.

Display Rotation Release Latch

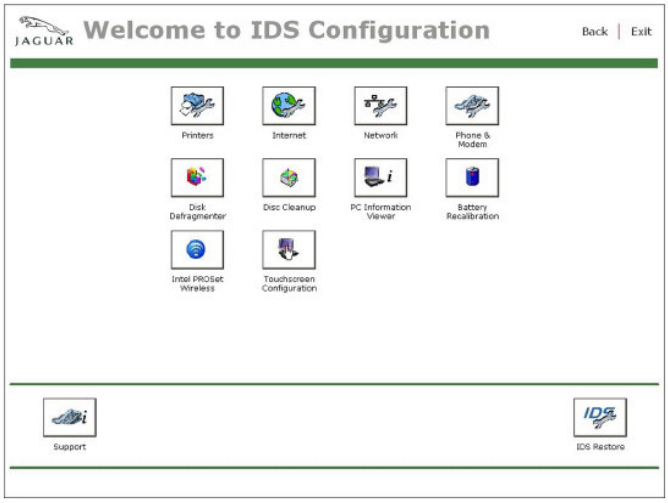
Rotate the display 180° before closing it and then securing it in the closed position.

When changing to tablet mode, the image will re-orientate the display in the same orientation as it was previously. This will prevent the image from appearing upside down. The orientation of the image may also be changed using the tablet rotation button. Each press of the tablet rotation button will rotate the image 180°.

Calibrating the Touch Screen

If the accuracy of the TSD display has depreciated then it may be recalibrated by selecting the TSD configuration button. To access this menu, select 'IDS Configuration' from the bottom right hand side of the main menu and then select 'Touch Screen Configuration'.

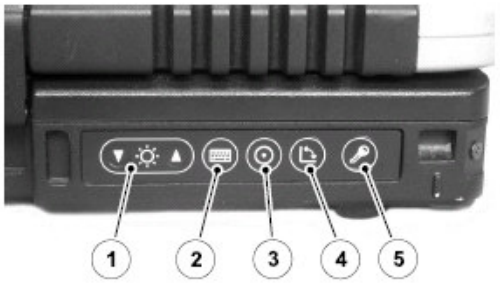
TSD Configuration Button



Software Keyboard

If preferred, a software keyboard can be used if keyboard operation is required when using tablet mode.

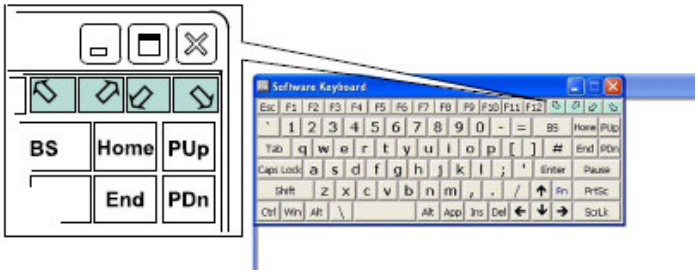
To access the keyboard, press button number 2.



When using the software keyboard it is recommended that the stylus is used to operate the keys.

Software Keyboard Location

The location of the software keyboard may be displayed in any of the 4 corners of the screen area using the appropriate arrow keys as shown in the following illustration.



The size of the software keyboard may also be changed by using the square key at the top left hand corner of the software keyboard. This will provide access to a drop down menu where the desired size of the software keyboard may be selected.

Navigation

Navigating is normally achieved using the TSD, although a touch pad is located in the centre of the Panasonic Toughbook. This is a pressure sensitive pad which may be used in the same way as a conventional computer mouse.

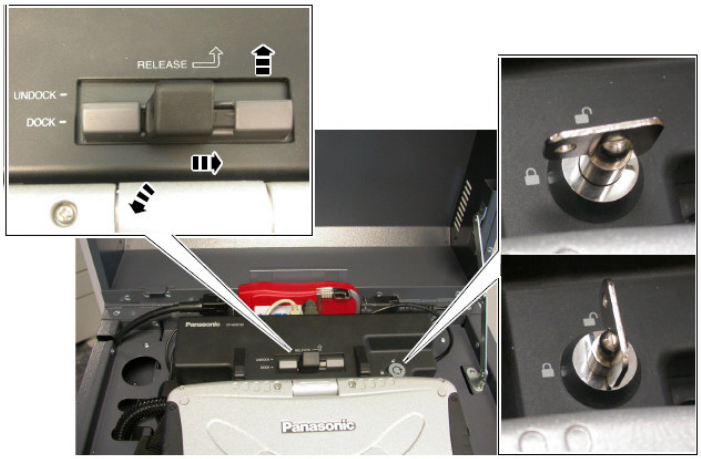
Item	Description
1	Left mouse button
2	Left mouse button
3	Touch pad
4	TSD swivel release latch

Docking and Undocking

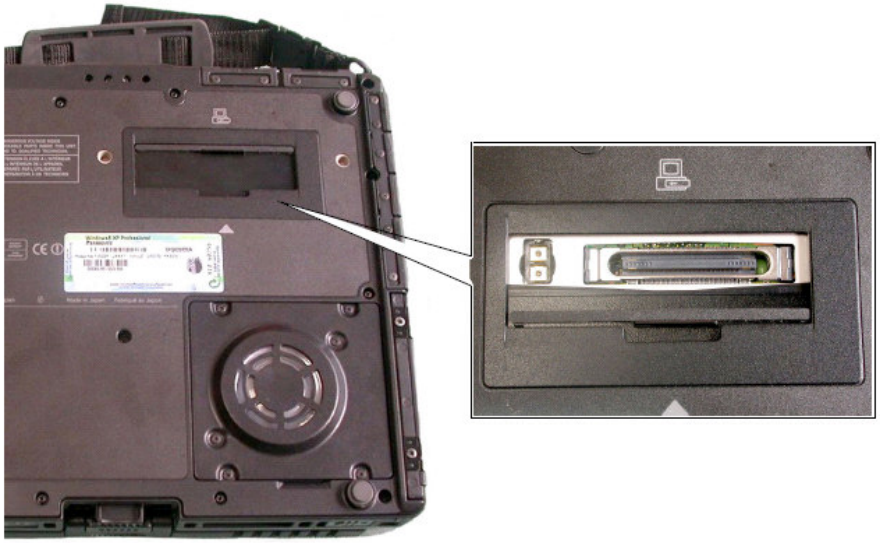
The Panasonic Toughbook should only be docked and undocked from the workstation whilst switched off.

Undocking Procedure

To undock from the workstation, simply unlock the release latch using the key provided. Operate the release latch and lift the Panasonic Toughbook clear of the workstation.



All connections will automatically be removed since connection to the workstation is managed using a single connector.



Once the Panasonic Toughbook has been removed from the workstation, close the access cover of the connector to prevent the ingress of dust and moisture. The docking procedure is the reverse of the undocking procedure.

⚠ **CAUTION: Make sure that the replicator port access cover is open before attempting to dock IDS to the work station.**

Vehicle Communication Module (VCM)

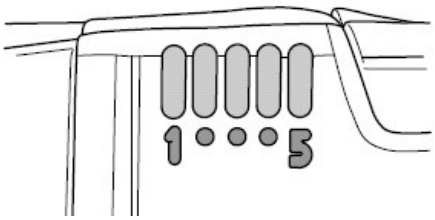
The VCM is a high performance, rugged, vehicle serial communications gateway. This device provides vehicle communication interfaces between the vehicle and IDS for current and future Jaguar vehicles.

The VCM unit is housed in a magnesium casing which also has a tough protective plastic cover. The VCM is located behind the docking station under the lid of the IDS workstation. It is attached to the bracket of the IDS workstation by locating lugs sliding into 'key holes' on the bracket. The VCM is easily removed from the bracket when required.

The VCM has 3 sockets for external connections, 2 of the sockets are used to connect to IDS and to the vehicle. The 3rd socket is used for a 12V DC power supply, but this is not used on the Jaguar applications. The VCM is powered up via the DLC when it is connected to the vehicles diagnostic socket.

The VCM features 5 LED's which are used to indicate status. The 5 LED indicators are visible through the plastic cover of the VCM.

Details of the LED's are given below:



LED	Colour	Purpose	Normal Status
1	Amber	Vehicle link	Flashes when communicating to the vehicle
2	Green	VCM operating	Lit when in normal mode
3	Red	Power supply	Lit when in normal mode
4	Green	Flash memory access	Should be OFF in normal mode
5	Amber	Host Link	Flashes when communicating to the Panasonic Toughbook

VCM Driver Software

In order to use the VCM it is necessary to download the latest driver software. Each time that the VCM is connected to IDS and the VCM is powered up, the stored driver software version will be checked. If later driver software is available, a message will be displayed and the VCM will be updated.

Once the software has been downloaded to the VCM, diagnostics with the vehicle may be carried out as normal.

⚠CAUTION: Do not switch off IDS or disconnect the VCM during a software download. Failure to follow this instruction may cause damage to the VCM or may cause communication errors when attempting to diagnose vehicle faults.

Vehicle Measurement Module (VMM)

The VMM is required in order to allow IDS to carry out electrical measurements on the vehicle.

Connection	Description
H	Host - Connection to IDS
A	Connection to battery reference lead
C1	Connection to red measurement probe
C2	Connection to black measurement probe
C3	Connection to VVA sensor (black lead)
C4	Connection to prop shaft balancer sensor (blue lead)

The VMM is located in the first drawer on the side of the IDS workstation. The drawer must be open to allow connection of the leads to the VMM. A bracket is provided to prevent strain on the leads at the connection with the VMM.

When the VMM is in use it will become warm. Connection of the measurement probes will prevent the drawer from being closed. This has been specifically designed to assist with cooling of the VMM, reducing the possibility of it from overheating.

VMM Driver Software

In order to use the VMM it is necessary to download the latest driver software. Each time that the VMM is connected to IDS and the VMM is powered up, the stored driver software version will be checked. If later driver software is available, a message will be displayed and the VMM will be updated.

Once the software has been downloaded to the VMM, diagnostics with the vehicle may be carried out as normal.

⚠CAUTION: Do not switch off IDS or disconnect the VMM during a software download. Failure to follow this instruction may cause damage to the VMM or may cause communication errors when attempting to diagnose vehicle faults.

VMM Status LED's

The VMM unit has 4 LED status indicators.

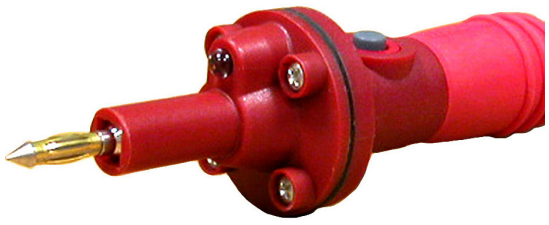
VMM LED Description

LED	Colour	Purpose	Status	Description
1	Green	Heart beat and under/over temperature	Flashes once per second	VMM running normally
			Flashes regularly every two seconds with all other LED's unlit	VMM is in warm up mode, following storage at temperatures below 0°C (32°F)
			Flashes rapidly at approximately five times per second	VMM is shut down due to over temperature
2	Red	Power/ Power On Self Test	Flashing	Indicates a boot failure code following a Power On Self Test (POST) The POST is carried out each time the VMM is powered up
			On permanently	No faults are present following the POST
3	Green	Memory Access	Flashing	Critical VMM activity such as when carrying out a flash memory access. This is when new software is being downloaded into the VMM
4	Amber	Host Link Activity	Flashing	Indicates activity between the IDS laptop and the VMM

CAUTION: The VMM power lead must not be removed when LED 3 is flashing. Failure to follow this instruction may cause irreversible damage to the VMM.

Probes

Measurement probes are provided to fit the connections of the VMM.



The red probe features an LED to illuminate the area which is being probed.

A battery reference lead must be connected to the vehicle battery when the VMM is in use, as the VMM is not powered from the IDS laptop computer.

Vibration Analyser and Propshaft Balancer Adaptor Leads

The vehicle vibration analyser connections on the VMM have also changed when compared to those on the PTU. Two adaptor leads are provided to allow connection to the tester leads.

IDS Workstation

The IDS workstation has been purpose designed and provides a secure and safe storage facility for the Panasonic Toughbook and associated IDS hardware. It also allows charging from a mains power supply.

The replicator port is located beneath the lid of the workstation and provides a secure mounting point for the Panasonic Toughbook. The VCM is stored behind the replicator port providing visibility of the status LED's whilst in use.

The front drawers and lower compartments allow for storage of cables and test lead adaptors. The inside of the front upper door also provides storage for release notes, job cards and the IDS software discs. Access to the external DVD drive is also available.

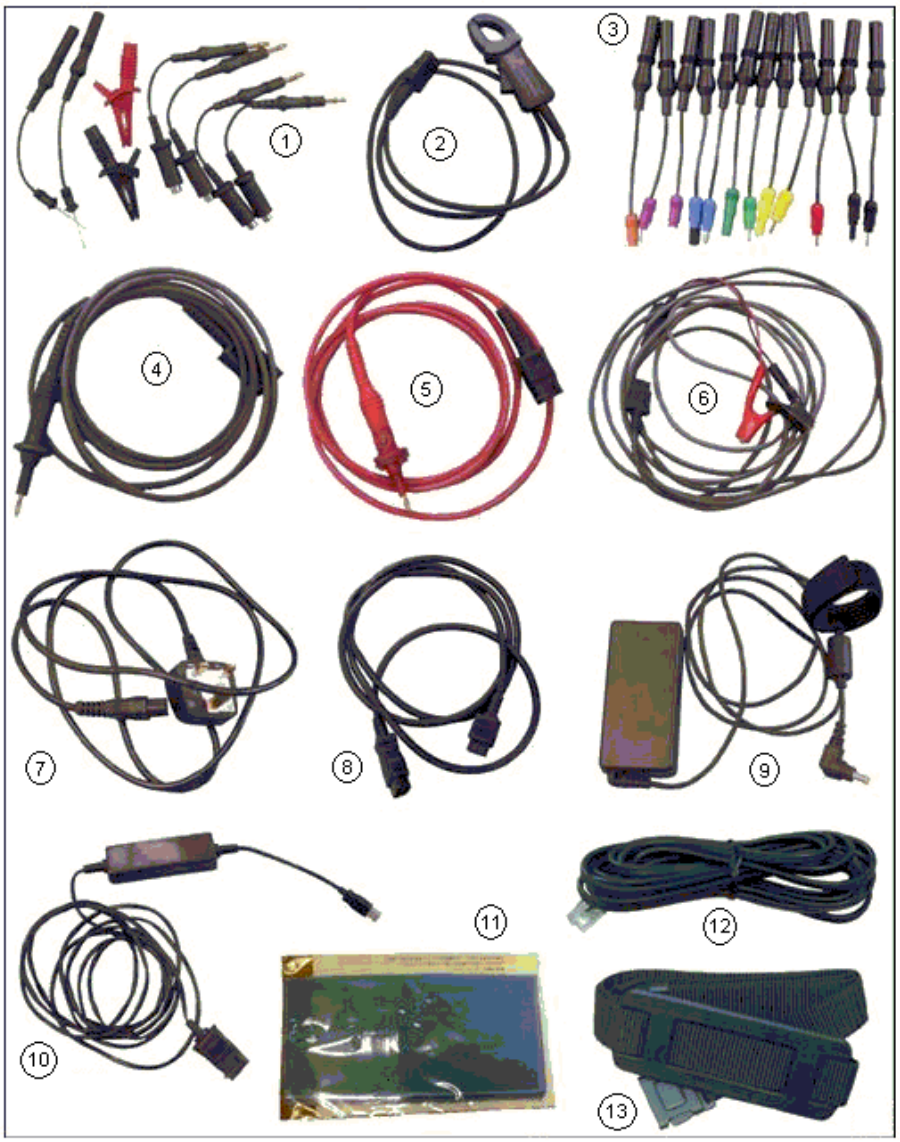
The top drawer on the side of the workstation provides the facility to hold 2 standard sized drinking cups and a compartment for storing documents. When the drawer is open it provides a surface for documents, such as job cards or circuit diagrams.

The workstation is easily moved on the 4 castors. The 2 front castors have a brake facility to prevent the workstation from moving.

The base of the workstation has a tether point to secure it to a suitable anchor point in the workshop.

IDS Kit Contents

The following items will also be included with the IDS kit:



1. Supplementary Test Leads
2. Current Probe (50 Amp)

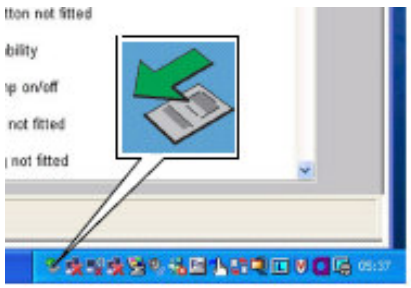
3. Adaptor Probes
4. Black Measurement Probe
5. Red Measurement Probe
6. Battery Adaptor Lead
7. Mains Power Supply Lead
8. Vehicle Diagnostic Link Cable (DLC)
9. Mains Power Supply Transformer
10. USB to Ethernet Leads (x 2 VCM and VMM)
11. TSD Cleaning Cloth
12. Ethernet Lead
13. Toughbook Carrying Strap

Using the USB Drive

A 128MB USB drive is supplied to allow files to be stored or transferred to another computer.

To use the USB drive, insert it into one of the USB ports. After a short time, the USB drive will be recognized and the software will open and display the contents of the drive. A symbol will appear on the task bar to indicate that a USB device is connected.

CAUTION: Do not remove the USB drive from IDS without first closing the drive and carrying out the disconnection procedure.



Before removing the USB drive select the USB symbol on the task bar. The following message will be displayed: **'Safely remove USB mass storage device'**. Select the message. A confirmation message will be displayed stating that it is safe to remove the USB drive and the symbol will disappear from the task bar.

PDF995 – Electronic Printing

PDF995 is a program which will allows the user to capture screen images and save them as a portable document format (pdf) file. These files may then be saved to a preferred file destination of the computer, or the USB drive and transferred to another computer for printing or e-mailing etc.

When a problem exists it is extremely helpful if the screen images are captured and sent to the support desk. To capture the screen image, select the '**Select System Options'** button. When the **'Print screen'** confirmation message is displayed, select the tick symbol.

A '**Pdf995 Save As'** window will be displayed. Select the address where the file is to be saved and give the file a name.

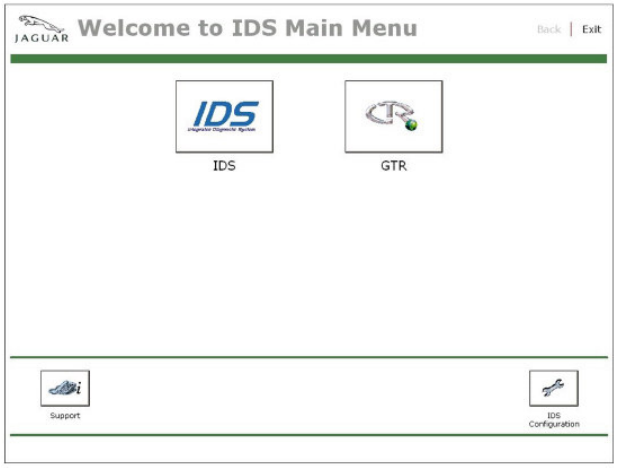
For Example: Save in: My Documents, IDS screen images. File name: VIN_012345_ DTC1 Select save. Adobe Reader will be opened displaying an image of the screen you have captured. Close the document. To locate the document, open the desktop and go to the file where the document has been saved.

PDF995 should be used with the USB drive to allow quick and easy printing of diagnostic screen shots, vehicle reports etc.

IDS Software

Main Menu

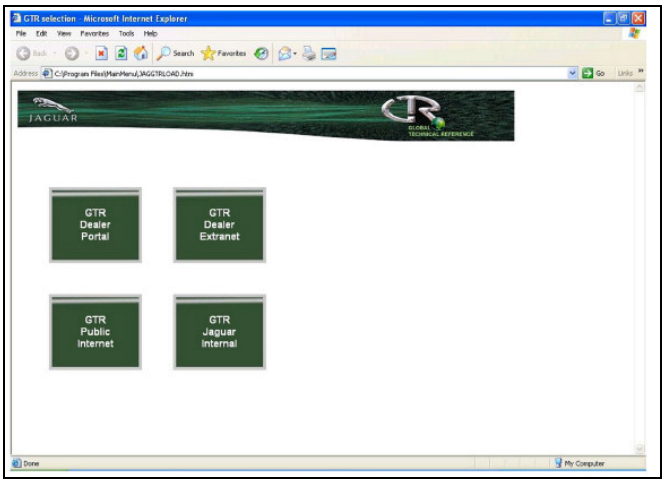
The 'Welcome to IDS Main Menu' screen will automatically be displayed once IDS has been switched on.



The following options may be selected from the 'Welcome to IDS Main Menu' screen:

- IDS – this launches the IDS applications
- GTR – this launched the GTR selection screen (see below)
- Support – this displays the IDS support contact numbers
- IDS Configuration – this launches the IDS configuration manager

GTR Selection Screen



The following explains each button:

GTR Dealer Extranet is being progressively replaced by Dealer Portal. The Dealer Extranet is a web page to allow users to login once and access several business applications from a single source.

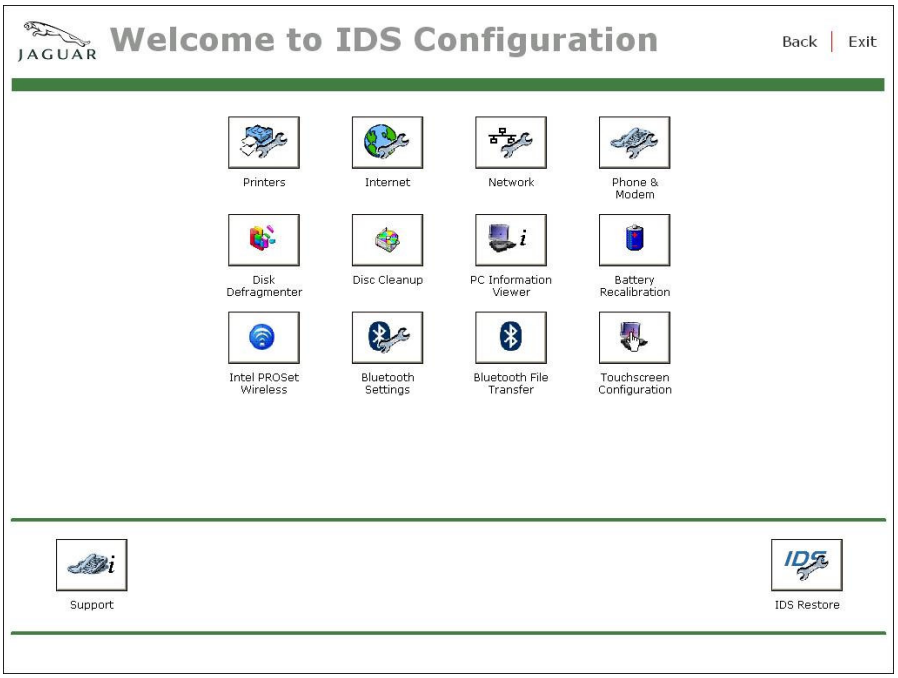
GTR Dealer Portal is currently being rolled out globally. Dealer Portal is a web page to allow users to login once and access several business applications from a single source.

GTR Public Internet is the link to be used for access to GTR mainly by Independent Repairers.

Internal - This is for internal Jaguar employees to access GTR via the Intranet.

IDS Configuration Manager

The IDS configuration manager provides a menu of set-up and configuration applications.



- Printers – Enables printers to be added and configured.
- Internet – Configure internet connections
- Network – Configure network connections
- Phone and Modem – Configures the modem
- Disk Defragmenter – Runs disk defragmenter to improve file access, it is recommended that this is run after each new disk installation
- Disc Clean-up – Inspects hard disc drive for unused files and removes them
- PC information viewer – Displays current PC configuration
- Battery recalibration – Recalibrates the battery
- Intel PROSet wireless – Configures wireless network connection
- Bluetooth settings – Configures Bluetooth connections
- Bluetooth file transfer – Transfer files using Bluetooth network
- Touchscreen configuration – Reconfigures the touch screen
- IDS Restore – Runs the IDS restore software

IDS Restore Software

The IDS restore software is installed on IDS and may be used to reset the Panasonic Toughbook to known good previous condition or rest to the factory supplied condition. IDS restore uses a software package called 'Phoenix FirstWare Recover Pro'.

The 2 options are:

• New Restore Point (known good condition)
• Static Restore Point (factory condition)

New Restore Point

The Phoenix restore program is set to make a new restore point each day. A new restore point is created when IDS is first switched on daily. The program takes a snap shot of the hard drive and stores it on a partitioned part of the hard disc drive.

Static Restore Point

There is only one static restore point. The static restore point will have been created the very first time that the computer is operated. Restoring the computer to the static restore point condition will erase all data and changes made after the static restore point was created.

If 'Windows' fails to run on 6 consecutive attempts of switching on IDS, the Phoenix restore program will automatically be opened.

CAUTION: Do not access the Phoenix restore program unless instructed to do so by the IDS support desk.

CAUTION: If instructed by the support desk to use the Phoenix restore program, make sure that the instructions are followed carefully.

NOTE: Once a restore point action has been carried out, all restore points and data saved since the selected date will be deleted.

IDS Software Installation

The IDS software will be released in DVD format. A DVD has a much larger data storage capacity than a CD. It will also prevent the possibility of the IDS software being inadvertently loaded onto the PTU.

To carry out a software update simply insert the latest IDS disc into the DVD drive and follow the on screen instructions.

Contacting the Support Desk

In the event that problems are experienced using IDS and they cannot be resolved by repeating the procedure or by consulting IDS literature, contact the IDS Support Desk for assistance.

IDS Support Desk Contact Details

Region	Phone Number	Web Address
Europe/ROW	00800 77977910	www.spxtools.com
ROW	+49 (0) 6182 959400	www.spxtools.com
USA	+1 (1) 800 5335338	www.spxtools.com
Japan	+81 (0) 45 5624483	www.spxtools.com
Mexico	+52 (01) 55 25951630	www.spxtools.com

The IDS Support Desk will carry out a call qualification check.

NOTE: IDS support is carried out by SPX and not the Dealer Technical Support Hotline. Dealer Technical Support Hotline will ONLY deal with vehicle concerns.

Before contacting the IDS Support Desk make the following details are available:

- Dealer Name
- Dealer code
- Telephone Number
- Fax Number
- Contact name
- IDS Serial/Model Number
- VIN of the vehicle being tested
- Details of the test being carried out
- Details and description of the fault
- Details of any error messages displayed
- The IDS software application details. Example: IDS DVD 41 v5

Vehicle Details and Reported Fault

This should include the exact vehicle model, derivative, model year and VIN, plus any component numbers or codes relevant to the area of the vehicle being worked on. When combined with details of the reported fault that is being diagnosed, this gives the IDS engineers a short cut to a solution based on previous experience.

Details of Test Being Carried Out

This information is vital to an IDS engineer who is trying to reproduce and solve the problem. Some diagnostics may be reached using several different routes. It is vital that the IDS engineers follow exactly the same diagnostic route as the technician experiencing the problem. It would help if a note of each screen where a decision is made so the IDS engineer can follow exactly the same route.

For Example:

• Select 'Diagnostic System'
• Select 'Security'
• Select 'Locking/Unlocking'
• Select 'Guided Diagnostics'

Continue the route until the screen is reached where the fault occurred.

Full Details of Any Difficulties Using IDS

It may be useful to IDS engineers if they are informed of difficulties experienced when using IDS even though you may have resolved the problem yourself. This information may then be used to prevent problems occurring in the future.

NOTE: If the IDS screen on which the problem occurred is one of those that can be printed, please print it off and fax it through to the IDS Support Desk with the Information Sheet. The more information provided to the IDS Support Desk, the faster they can resolve the problem.

Trace Monitor

Trace monitor creates a file containing all details of a diagnostic routine carried out. For some problems a trace monitor may be requested by the IDS support engineer. For details on how to run trace monitor please refer to the latest IDS release note.

Car Configuration Files (CCF)

⚠CAUTION: Vehicle low battery conditions will adversely affect module programming and CCF uploading or downloading, and may damage the vehicle. When any programming functions are being performed the vehicle must be connected to a suitable battery charger and the Panasonic Toughbook is fully charged.

The CCF on the vehicle replaces what was previously known as the vehicle identification data block. Although the vehicle identification data block system has been replaced by the CCF data the principles of the two are similar.

The CCF consists of 2 parts:

- Vehicle Parameters
- Vehicle Module Codes

Vehicle parameters are derived from the vehicle specification and relate to which features are fitted to the vehicle and their market settings. This is sent round on the CAN network to be used by the modules on the vehicle. Vehicle module codes are the data used in manufacturing to specify the vehicle and are stored to be used in service.

The CCF is stored in various modules around the car. The data is stored in the "Master" control module and also in a number of "Back-up" control modules.

The master control module transmits the vehicle parameters section of the CCF on the CAN bus. When ever the CAN network is active, the master control module broadcasts the CCF onto the network at regular intervals.

The back-up control modules contain backup copies of this data and do not broadcast the CCF onto the network. IDS is the only way of updating the back-up copies of the CCF data. The car does not update the back-up copies.

The master control module will monitor the integrity of the CCF data and if a fault is detected a DTC will be set. Within the vehicle parameters section the vehicle VIN is stored. The VIN data is implanted and locked into every module that is capable of accepting it, during the programming process. This has service implications as it is a vehicle security feature and will prevent the swapping of modules from vehicle to vehicle.

Examples of data held in the vehicle parameters section are:

- Vehicle Type
- Brand
- Model Year
- VIN
- Tyre Dynamic Rolling Radius
- Brake System Type
- Brake Disc size

• Final Drive Ratio
• Transmission Type
• Hand of Drive
• MOST configurations

Some of the CCF vehicle parameters can be altered by the customer as part of the personalization mode. Some of these parameters may be able to be changed by the driver. Changing the personalization settings changes the master CCF but does not update the back-up copies.

IDS may be used to configure new and existing modules and also to change personalization settings. There will also be a CCF editing tool built into IDS which will allow certain parameters of the CCF to be changed. Whenever IDS is used to change the CCF file, the other modules will also be programmed with the CCF data as part of the process. This makes sure that all modules which hold the CCF data all contain the same information.

Replacing a module which contains the CCF data is possible because IDS can retrieve the data from one of the other modules and then download it to the new module. If for some reason the CCF data in the other modules has been wiped from the modules or has been overwritten using incorrect data, then it will also be possible to retrieve the 'as built' CCF data from the IDS software disc.

This CCF data will be the same as was originally programmed to the vehicle during manufacture. If any accessories have since been fitted to the vehicle in Service which required the CCF data to be modified, then the CCF will then need to be modified to allow these accessories to operate. The vehicle module codes held in the master and back-up modules will also be read by IDS when requested. These vehicle module codes are not transmitted on the CAN bus and are only read by IDS.

Accessing CCF Data using IDS

When carrying out diagnostics using IDS, the CCF data must first be uploaded in order for it to be viewed. Select the upload, view and modify from the menu. IDS will then communicate with the vehicle and the CCF data will then be displayed. Certain parameters of the CCF file will have the option of allowing the user to modify it. This option will only be available when it is necessary.

Example, the fitting of an accessory may need the CCF to be changed in order for the accessory to operate.