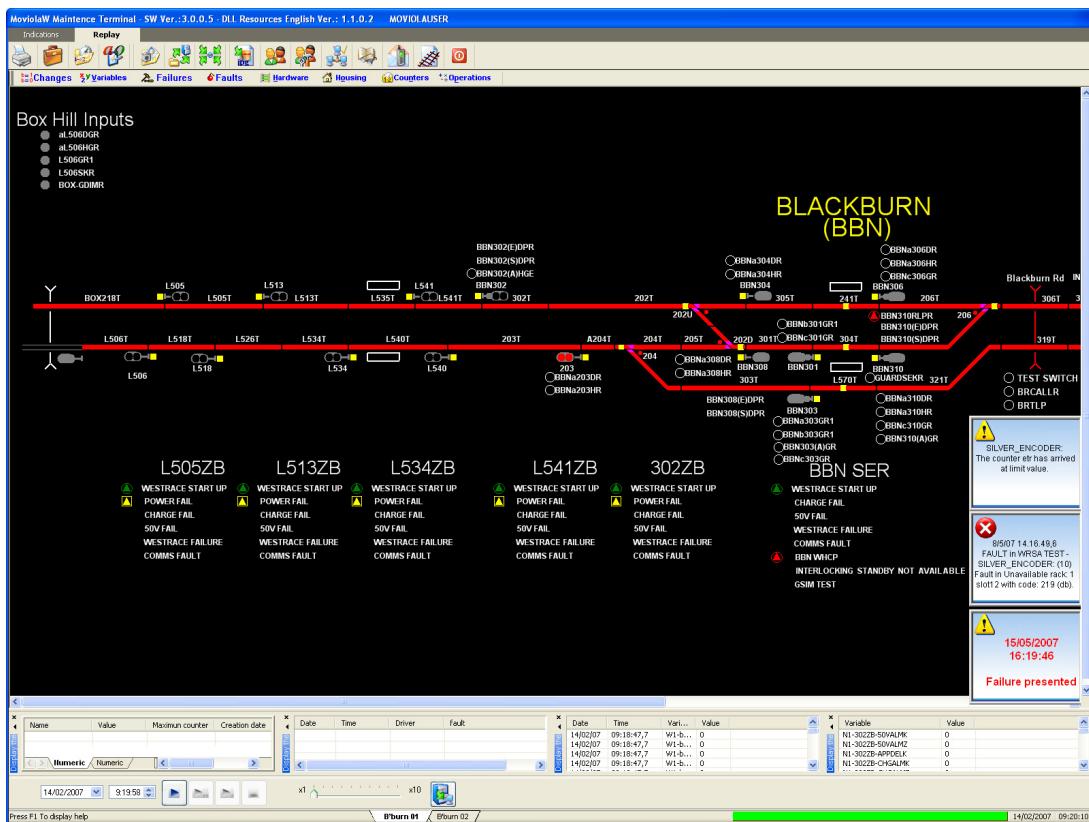


MoviolaW-XP

User Manual



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MoviolaW-XP

User Manual

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1. INTRODUCTION

1.1 MoviolaW-XP Overview

MoviolaW-XP is diagnostic software that allows you to log, monitor and replay events occurring at interlockings supervised by WESTRACE Vital Signalling Systems, SSI systems, and other sources of railway data such as the WESTRONIC S2 telemetry system.

MoviolaW-XP:

- continuously logs and monitors every interlocking event;
- displays the railway information graphically (as a Designer-defined track diagram) and as text (in Microsoft® Access™ database windows);
- allows user-selectable hiding of mnemonic labels in the graphical display, and filtering of mnemonics in some text displays;
- displays interlocking faults and external equipment failures in simple formats;
- displays WESTRACE housing information;
- provides mnemonic event and time counters, which can alert you when user-defined limits are reached.
- replays stored data graphically and texturally at various speeds;
- automatically creates and maintains archive files of logged data.

Typically, MoviolaW-XP runs on a computer located at the rail site, where it communicates directly with one or more WESTRACEs or other compatible interlockings, logging data from them and providing event monitoring, replay and other diagnosis capabilities (figure 1.1).

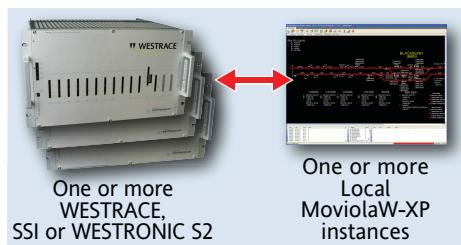


Figure 1.1 Overview 1

You can also run an extended version of MoviolaW-XP at a distant location (eg your office) and thereby communicate with and supervise one or more local MoviolaW-XPs, or communicate with the interlockings directly, to similarly log, monitor and replay railway events (figure 1.2).

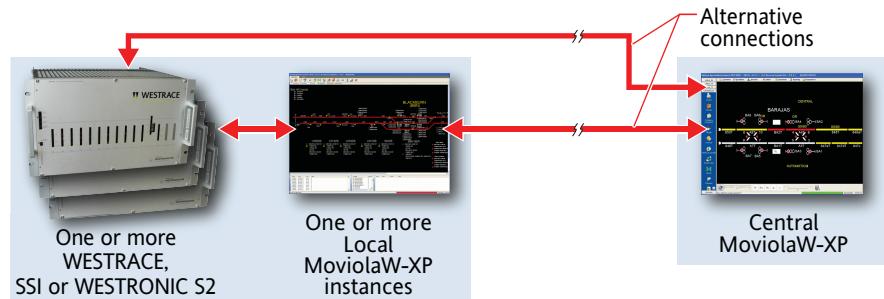


Figure 1.2 Overview 2

1.2 What's New in MoviolaW-XP

MoviolaW-XP is different from the previous version (MoviolaW for Windows NT) in the following ways:

- improved arrangement of buttons on the Control Bar and the Toolbar (figures 3.1, 3.3 and 3.4)
- “remote” MoviolaW-XP replaced by “central” MoviolaW-XP, which has different functionality and a different appearance—eg the Control Bar now consists of sliding panels at the side of the screen (figures 3.1 and 3.3)
- variables report removed—replaced by numerical and time counters (section 4.7)
- screen capture function added (section 4.12)
- SMS alert message capability added (section 4.16)
- reverse replay removed
- SSIs are now supported (section A.3)

1.3 This Manual

1.3.1 Purpose

This manual is the User Manual for MoviolaW-XP. It describes how to use MoviolaW-XP. Railway Maintenance Staff, Signal Engineers, and WRSA support staff are typical users of MoviolaW-XP.

This manual provides the specific information required over and above the skills listed in Section 1.6. Separate training should be undertaken to gain these skills, if required.

1.3.2 Scope

This manual describes the use of Windows XP MoviolaW systems to display, record and replay railway events.

It does not describe how to:

- design WESTRACE, SSI, WESTRONIC S2 or other systems—see [FLM];
- diagnose faults in WESTRACE, SSI, WESTRONIC S2 or other systems;
- use the PC Graphic Editor (PCGE)—see [PCGE];
- use the WESTRACE Graphical Configuration Sub-System (GCSS)—see [GCSS].

1.3.3 Relationship with Other WESTRACE Manuals

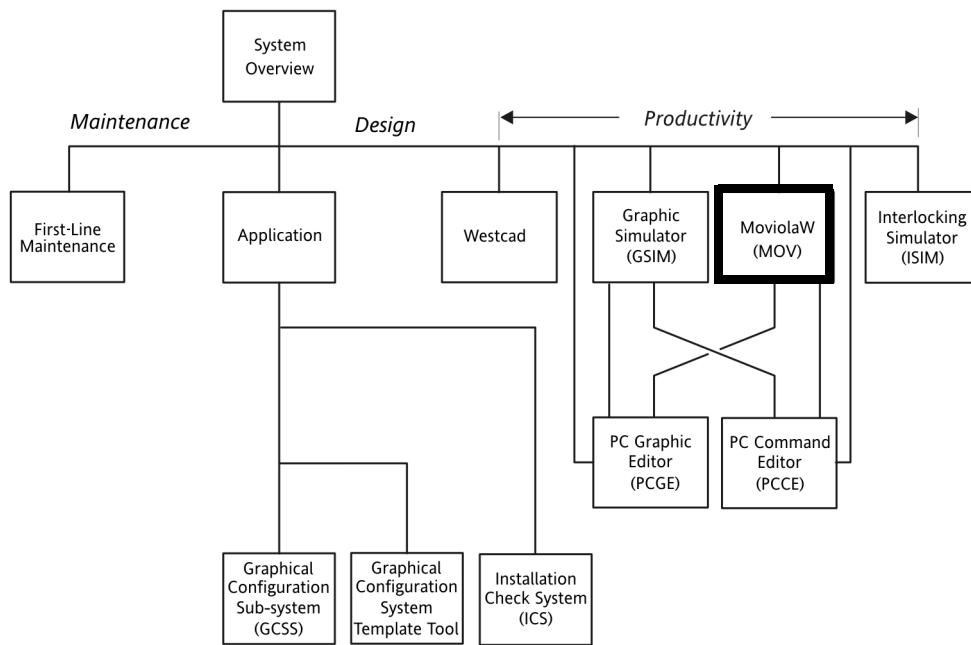


Figure 1.3 MoviolaW-XP and related manuals

1.3.4 Organisation of This Manual

- Chapter 1** *Introduction*—introduces the MoviolaW-XP User Manual .
- Chapter 2** *MoviolaW-XP Concepts*—discusses important MoviolaW-XP concepts.
- Chapter 3** *The MoviolaW-XP Interface*—describes the MoviolaW-XP windows, toolbars and buttons.
- Chapter 4** *Using MoviolaW-XP*—describes how to use local and central MoviolaW-XP.
- Appendix A** *Using Drivers*—describes how to hardware specific driver software to interrogate WESTRACE diagnostic modules and extract diagnostic information.

1.4 References

[SOM]	WESTRACE System Overview Manual, WRTOOVER: describes the WESTRACE system, what it is used for and what it consists of.
[APPM]	WESTRACE Application Manual, WRTOAPPM: describes the application design of a WESTRACE signalling system. It is the “how to” document that must be followed by system designers and installers.
[GCSS]	WESTRACE Graphical Configuration Sub-System User Manual, WRTOGCSS: describes how to use the configuration tools for the programming and checking of HVLM (and later) based WESTRACE systems. This includes the configuration of the WESTECT Communications Module which may be installed in a WESTRACE system.
[PCGE]	WESTRACE PC Graphical Editor Manual, WRTOPCGE: describes how to set up and use the PCGE to create station layout diagrams for use with GSIM and MoviolaW.
[GSIM]	WESTRACE Graphical Simulator User Manual, WRTOGSIM: describes how to configure GSIM to test WESTRACE Installation logic. GSIM is a Microsoft Windows application that simulates the operation of WESTRACE logic and trackside equipment for the purpose of testing application data.
[FLM]	WESTRACE First-Line Maintenance Manual, WRTFLMM: describes maintenance procedures to quickly and accurately diagnose system problems so that correct operation is restored (including WESTECT trackside equipment).

Table 1.1 MoviolaW-XP references

1.5 Conventions Used in This Manual



“Action Point”—identifies a task or a requirement for performing a task.

Note:

“Note”—*highlights important information.*

Caution:

“Caution”—*highlights the possibility of damage to equipment, but not necessarily danger to personnel when handling, operating or maintaining equipment.*



“Safety Warning”—*highlights information relating to safety hazards. Failure to follow these warnings may lead directly or indirectly to serious equipment damage, or serious injury or death of personnel.*

1.6 Operator Prerequisites

MoviolaW-XP users require:

- a working knowledge of Microsoft® Windows® XP;
- an appropriate understanding of railway signal interlockings.

2. MOVIOLAW-XP CONCEPTS

2.1 Local and Central MoviolaW-XP

There are two types of MoviolaW-XP. Each requires its own version of MoviolaW software.

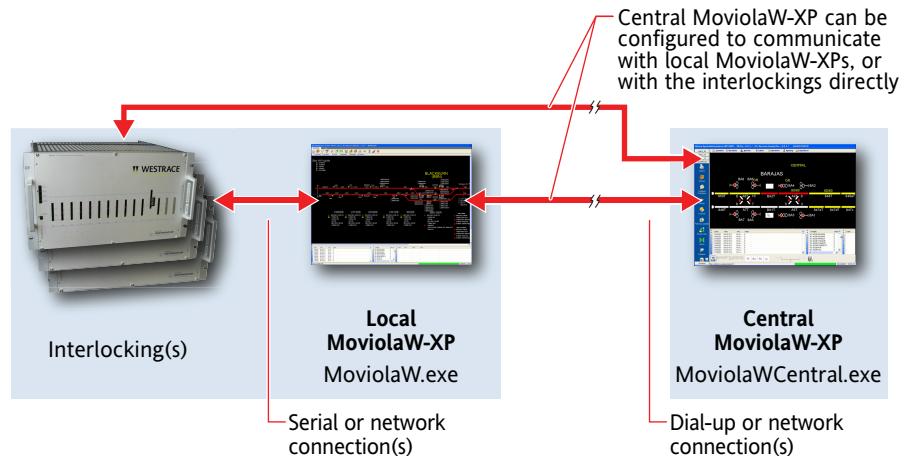


Figure 2.1 Local and central MoviolaW-XP

2.1.1 Local MoviolaW-XP

Local MoviolaW-XP is designed to run on a computer located near the interlocking (typically in the same room), and communicates with it by serial or network connection.

You can connect local MoviolaW-XP to:

- one interlocking—serial or network connection (preferred);
- several interlockings—network connection only.

See figure 2.2.

Logging information is a high-priority background task of local MoviolaW-XP. Information from all connected interlockings is constantly added to the local MoviolaW-XP's current database file.

Local MoviolaW-XP allows you to view:

- real-time information from the currently-connected interlocking;
- historical (ie replay) information from earlier in the day, week or month—in fact, from any database file accessible by the local MoviolaW-XP computer.

2.1.2 Central MoviolaW-XP

Central MoviolaW-XP is designed to communicate remotely with one or more local MoviolaW-XPs:

- by modem—one local MoviolaW-XP at a time;
- by network—multiple local MoviolaW-XPs simultaneously.

See figure 2.2.

When used in this way, central MoviolaW-XP does not log any information. You simply use it to view:

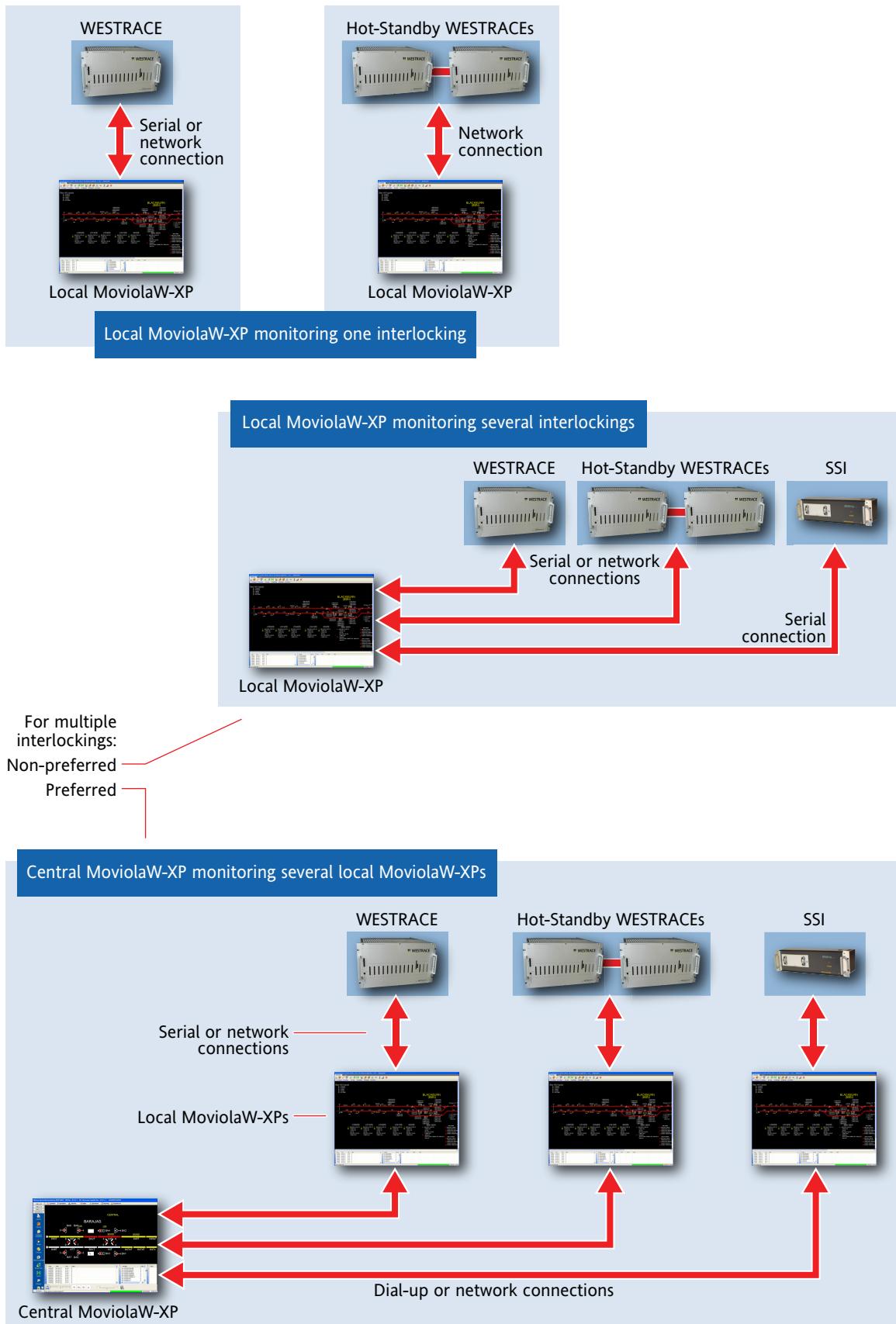
- real-time information from connected interlockings—via the appropriate local MoviolaW-XP;
- historical information from earlier in the day, week or month by replaying:
 - online¹ database files located on the **local** computer
 - any offline¹ MoviolaW-XP database file accessible by central MoviolaW-XP.

Central MoviolaW-XP can also be configured to communicate with interlockings **directly**, if required.

■ Related topics:

- “Indications Mode (Real-Time Display)” on page 2-14
- “Replay Mode” on page 2-15
- “Database Files” on page 2-10

¹ See figures 2.9 and 2.12.

**Figure 2.2** Examples of common local and remote MoviolaW-XP usage

2.2 Logging and Monitoring

Local MoviolaW-XP continually and simultaneously **logs** data from every installation² to which it is connected.

However, local and central MoviolaW-XP can only **monitor** one installation at a time. That is, you can only view events, either real-time or replayed, from one installation at a time.

- See also: figure 2.14

2.3 Faults and Failures



A **fault** is a problem within the interlocking itself (eg the shutdown of a WESTRACE module). Typically, the interlocking sends **fault** messages to MoviolaW-XP, which then translates the message codes and descriptions as defined by the Designer and includes them in the Faults child window and the Faults report, and pops-up an alert on the right side of the MoviolaW-XP main window.



A **failure** is a problem with external equipment, ie a mnemonic (eg a low power supply, points out of correspondence, an incorrect track sequence, or an open-circuit filament). Typically, MoviolaW-XP recognises the state of a specific mnemonic, or a sequence of mnemonics, and translates this into a failure message as defined by the Designer and includes it in the Failures child window, the Failures report and the Failures window, and pops-up an alert on the right side of the MoviolaW-XP main window.

- Related topics:

- section 3.5, “Alert Windows”
- section 4.8.3, “Faults Child Window (WESTRACE only)”
- section 4.9.3, “Faults Report (WESTRACE only)”
- section 4.8.4, “Failures Child Window (WESTRACE only)”
- section 4.9.4, “Failures Report (WESTRACE only)”
- section 4.14, “Viewing Failures”

² An installation is a group of one or more interlockings monitored by a local MoviolaW-XP. See section 2.7.

2.4 Displaying Information

Both local and central MoviolaW-XP can display interlocking information in:

- the graphical display (section 2.4.1);
- child windows (section 2.4.2);
- printed reports (section 2.4.4).

This is true for real-time information, and information from replay files.

2.4.1 Overview: Graphical Display

The graphical display may be a detailed track diagram that represents the layout of the monitored site, a simple listing of labelled indicators, or both of these.

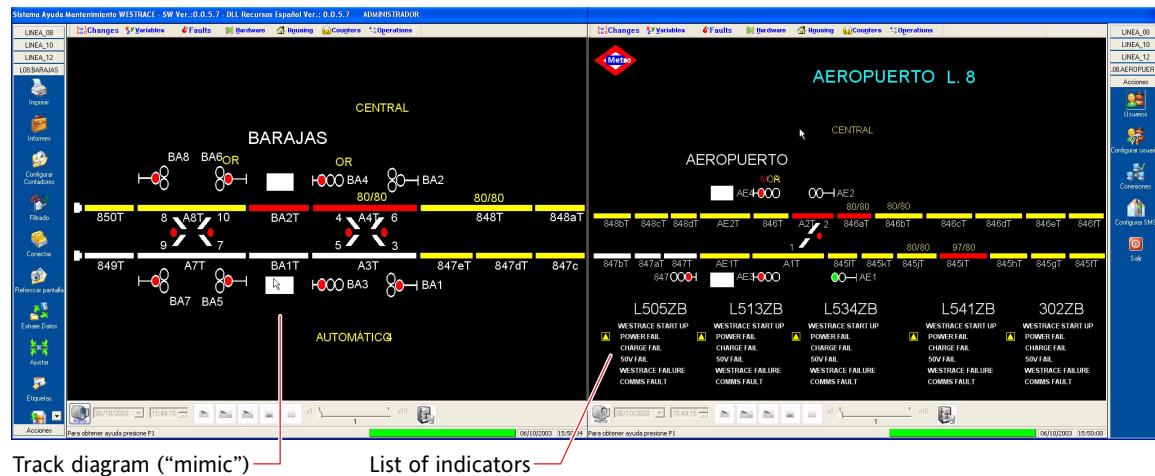


Figure 2.3 A typical MoviolaW-XP graphical display (central MoviolaW-XP shown; two monitors)

The MoviolaW-XP main window can display the states of signalling objects such as:

- track circuits;
- signal aspects;
- point settings.

The items displayed and the colours associated with varying logic states are defined by the Designer when creating the diagram file (.gpc). The colour and existence of any part of any object can be changed according to states—or combinations of states—of the information received from the interlocking. The display can include simple indicators (such as multi-coloured circles or squares that display the status of non-track-related entities), and supports many more states than appear on a typical railway mimic diagram. The Designer usually supplies a legend sheet that explains the meaning of the colours and shapes.

2.4.2 Overview: Child Windows

Both local and central MoviolaW-XP have **child windows** that display specific sets of data.

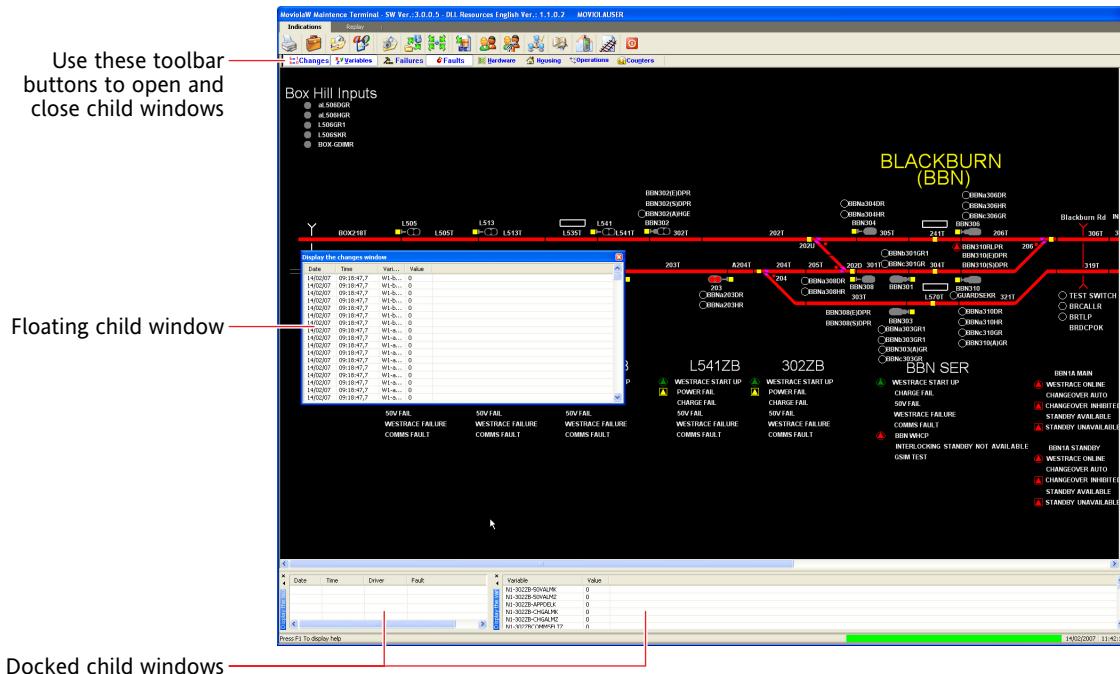


Figure 2.4 Typical child windows (local MoviolaW-XP shown)

Date	Time	Variable	Value
14/02/07	09:18:47,7	N1-3022B-50VALMK	0
14/02/07	09:18:47,7	N1-3022B-50VALMZ	1
14/02/07	09:18:47,7	N1-3022B-APPDELK	1

Variable	Value
N1-3022B-50VALMK	0
N1-3022B-50VALMZ	0
N1-3022B-APPDELK	1

Date	Time	Driver	Fault
08/05/07	14:16:50,6	ID_A	(15) Fault in Unavailable rack
08/05/07	14:16:50,6	ID_A	(14) Fault in Unavailable rack
08/05/07	14:16:49,8	ID_A	(13) Fault in VPIM50 rack: 1
08/05/07	14:16:49,8	ID_A	(12) Fault in Unavailable rack
08/05/07	14:16:49,8	ID_A	(11) Fault in Unavailable rack
08/05/07	14:16:49,6	ID_A	(10) Fault in Unavailable rack

Date	Time	Failures
15/05/07	16:19:46,6	Fault in VPIM
15/05/07	16:19:40,6	Fault in VPIM
15/05/07	16:19:36,5	Fault in VPIM

Card
NVCDM Driver
Address: 4194303
Non Vital CED Version: 5
Nn Vital CED size: 2304

Changes
A chronological list of the most recent changes of state of the railway system's mnemonics

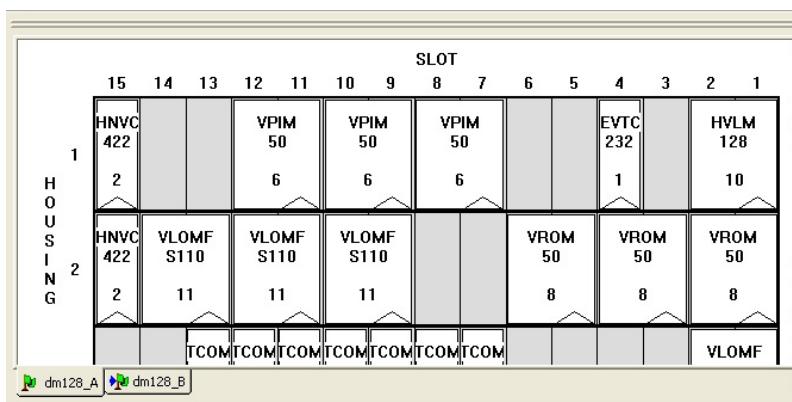
Variables
An alphabetical list of selected railway system mnemonics and their current state (also available as a report)

Faults (WESTRACE problems)
A chronological list of messages produced by MoviolaW-XP in response to problems with WESTRACE (also available as a report)

Failures (mnemonic problems)
A chronological list of Designer-defined messages produced by MoviolaW-XP in response to messages from the interlocking about problems with external equipment (also available as a report)

Hardware
A list of all WESTRACE modules in the monitored system

Figure 2.5 Child windows: 1 of 2

**Housing**

A graphical display of all WESTRACE modules

Name	Value	Maximum count	Creation date	Description	User
DTRcounterA	32	999	30/03/2007 11:08:05	TxD counter A (0 to 1)	ADMIN
DTRcounterB	684	10000	29/03/2007 06:00:01	TxD counter B (1 to 0)	BOSS

Counters

A list of counter details, including current value and maximum value (also available as a report)

Date	Time	Driver	Operations
23/10/06	13:24:39,3	NVCDM	Operation Code: 100
23/10/06	13:24:34,3	NVCDM	Operation Code: 100
23/10/06	13:24:26,2	NVCDM	Operation Code: 100
23/10/06	13:24:19,4	NVCDM	Operation Code: 100

Operations

A chronological list of significant operational occurrences, eg vital and non-vital state changes, and WESTRACE faults (also available as a report)

Figure 2.6 Child windows: 2 of 2

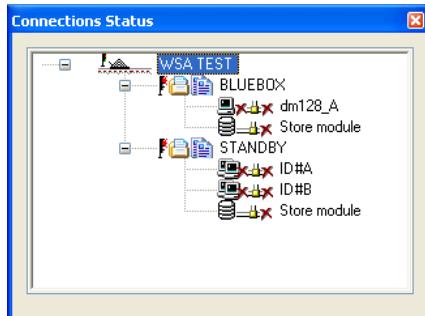
Not all of these child windows may be available (depends on MoviolaW-XP configuration).

■ Related topics:

- section 3.3, “Toolbar”
- section 4.8, “Using Child Windows”

2.4.3 Overview: System Information Windows

MoviolaW-XP has three windows that display special system information.



Connection Status window—useful for troubleshooting connections.
See sections 2.7.3 and 4.18.

Failures window—lists problems with external equipment (ie mnemonics). See section 4.14.

System Log window—lists system maintenance issues. See section 4.15.

Date/time	Test
(83C) [2007/03/14-04:21:45,5...	CDSMThread::OnDSMCreate
(83C) [2007/03/14-03:14:05,8...	CDSMThread::OnDSMCreate
(1DC) [2007/03/14-03:14:05,8...	CMoviolaWView::LoadGraphic - Loading GPC FILE : \\127.0.0.1\CMoviolaW\config\...
(364) [2007/03/14-03:13:28,6...	CMoviolaWAsyncSocket::OnConnect - ERROR OnConnect (0x274D)
(364) [2007/03/14-03:13:27,5...	CMoviolaWBar::StartDBReplay - Connecting to sck:10.61.67.82:57578
(364) [2007/03/14-03:13:27,5...	CMoviolaWBar::StartDBReplay - Requesting a socket to 10.61.67.82 PORT:57578
(83C) [2007/03/14-03:13:27,0...	CDSMThread::OnDSMCreate
(364) [2007/03/14-03:13:27,0...	CMoviolaWView::LoadGraphic - Loading GPC FILE : \\127.0.0.1\CMoviolaW\config\...
(364) [2007/03/14-03:13:27,0...	CInstalationFrame::EndCreatedocking
(364) [2007/03/14-03:13:27,0...	CInstalationFrame::Checking Command
(364) [2007/03/14-03:13:26,9...	CInstalationFrame::Checking m_pTranslate
(364) [2007/03/14-03:13:26,9...	CInstalationFrame::CreateDockingWindows - Creating DockingWindows
(83C) [2007/03/14-03:12:58,5...	CDSMThread::OnDSMCreate
(1DC) [2007/03/14-03:12:58,5...	CMoviolaWView::LoadGraphic - Loading GPC FILE : \\127.0.0.1\CMoviolaW\config\...
(364) [2007/03/14-03:12:34,6...	CMoviolaWAsyncSocket::OnConnect - ERROR OnConnect (0x274D)
(364) [2007/03/14-03:12:33,6...	CMoviolaWBar::StartDBReplay - Connecting to sck:10.61.67.82:57578

Figure 2.7 System Information windows: Connection Status, Failures and System Log

2.4.4 Overview: Reports

You can generate and print a variety of reports using MoviolaW-XP. This is covered in section 4.9.



Not all of these report types may be available (depends on MoviolaW-XP configuration)

Administrator users only

Figure 2.8 Report types

2.5 Database Files

Local MoviolaW-XP maintains a set of database files as shown in figure 2.9 for each interlocking to which it is connected.

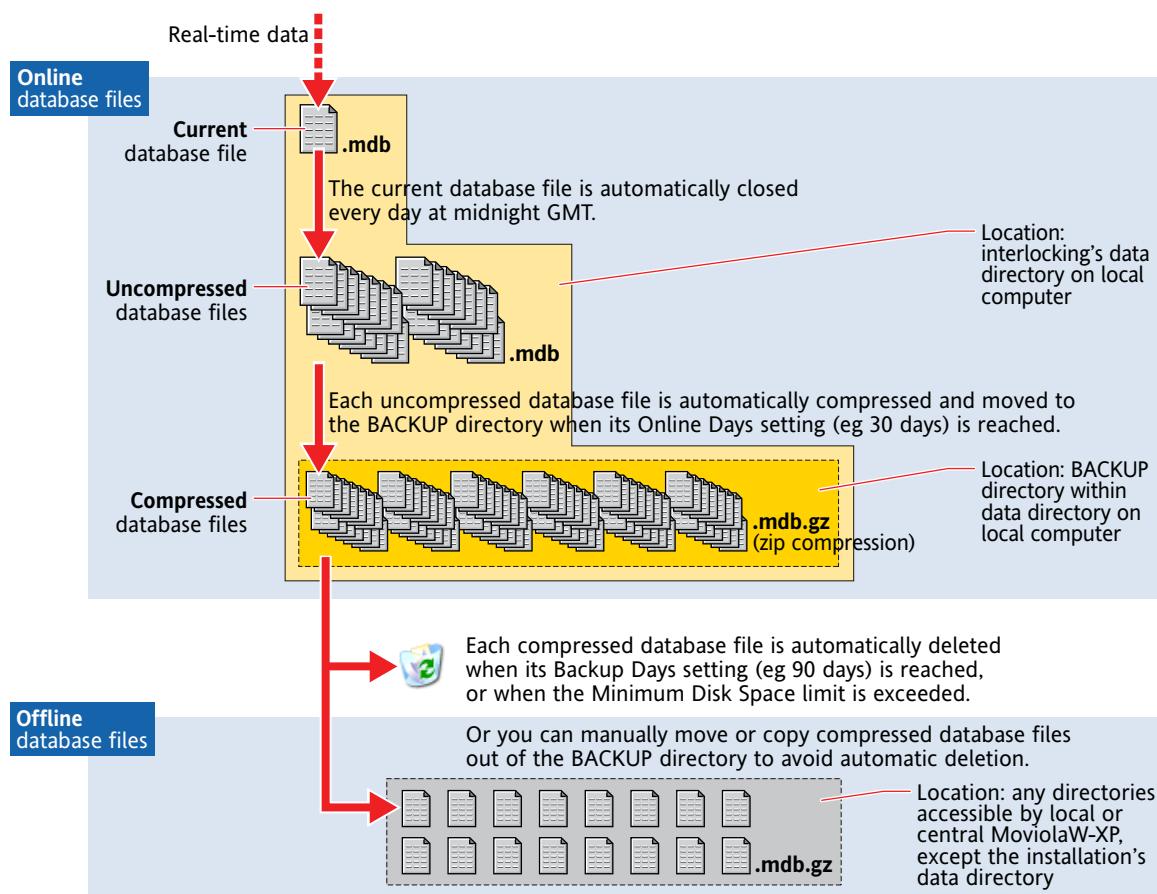


Figure 2.9 Database files

2.5.1 Online Database Files

MoviolaW-XP uses three types of **online** database files: **current**, **uncompressed** and **compressed**.

2.5.1.1 Current Database File

A local MoviolaW-XP automatically saves each railway event—as it occurs—to a Microsoft Access database file (.mdb). This is the local MoviolaW-XP's **current database file**.

Once a day (at midnight GMT) the local MoviolaW-XP:

- closes the current database file;
- opens a new database file (becomes the current database file), into which it starts logging new event information.

The current database file resides in the interlocking's data directory (specified during setup)—see figure 2.10, which also shows the filename convention for MoviolaW-XP database files.

The current database file is an **online** file because MoviolaW-XP can access it automatically when you define a replay (see section 4.5, “Using Replay Mode”).

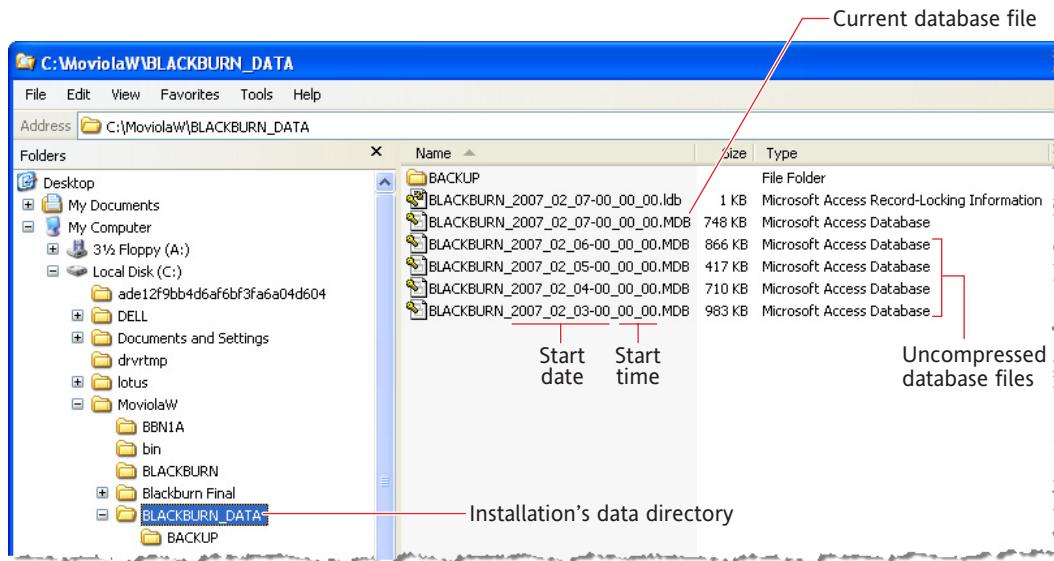


Figure 2.10 Typical data directory, current database file and uncompressed database files

2.5.1.2 Uncompressed and Compressed Database Files

When local MoviolaW closes its current database file, it saves it in the interlocking’s data directory along with database files from previous days (figure 2.10). These closed files are called **uncompressed database files**. They can be used by local or central MoviolaW-XP as sources of replay data.

Local MoviolaW stores each uncompressed database file for a specified period³, then automatically compresses it and moves it to the BACKUP directory within the interlocking’s data directory (figure 2.11). These are called **compressed database files**. They can also be used by local or central MoviolaW-XP as sources of replay data.

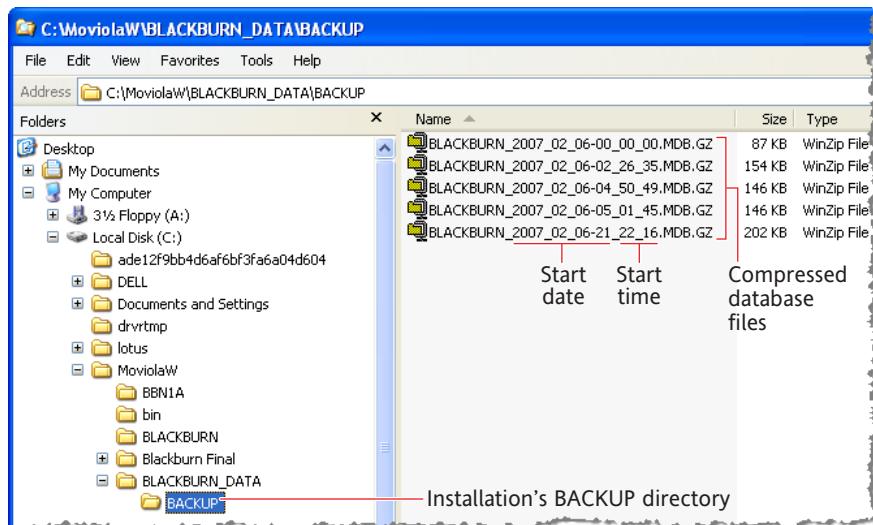


Figure 2.11 Typical BACKUP directory and compressed database files

³ We recommend 30 days (specified when MoviolaW-XP is installed).

Local MoviolaW-XP stores each compressed database file for a specified period⁴, or until the Minimum Disk Space setting⁵ is reached, then automatically deletes it.

Uncompressed and compressed database files are **online** files because MoviolaW-XP accesses them automatically when you define a replay (see section 4.5, “Using Replay Mode”).

2.5.2 Offline Database Files

Compressed database files left in an interlocking’s BACKUP directory will eventually be deleted automatically. However, you can keep compressed (and uncompressed) files indefinitely by moving or copying them out of the data or BACKUP directories.

Once transferred, these files are called **offline database files** because they are no longer automatically accessed by MoviolaW-XP when you define a replay. (You can still replay them, but you must use the **Open Offline Database** function instead—figure 3.8.)

2.5.3 Replaying Database Files

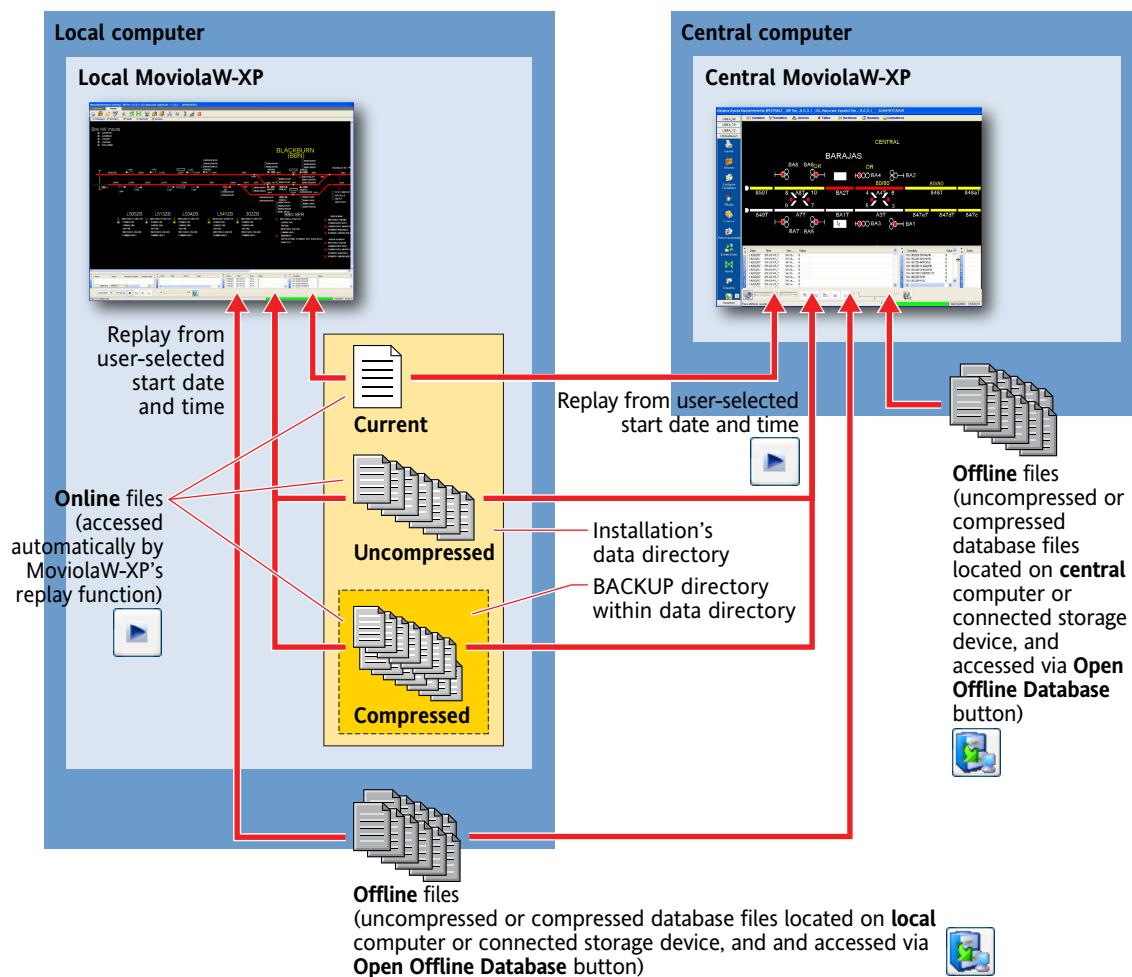


Figure 2.12 Replaying database files

⁴ We recommend 90 days (specified when MoviolaW-XP is installed).

⁵ Specified when MoviolaW-XP is installed.

From a **local** MoviolaW-XP in Replay Mode, you can replay:

- the current database file and other online database files;
- offline database files—ie uncompressed or compressed database files archived on the local computer or other accessible media.

From a **central** MoviolaW-XP in Replay Mode, you can replay:

- the current database file and other online database files from the **local** computer;
- offline database files—ie uncompressed or compressed database files accessible by the central computer.

■ Related topic: section 4.5, “Using Replay Mode”

2.6 Indications Mode and Replay Mode

MoviolaW-XP has two operating modes: Indications Mode and Replay Mode. Indications Mode is the default for both local and central MoviolaW-XP.

In local MoviolaW-XP, select the mode using the tabs near the upper left corner of the main window. In central MoviolaW-XP, select the mode using the button near the lower left corner of the main window.

Note:

No matter which mode local or central MoviolaW-XP is in, local MoviolaW-XP continues to log data.

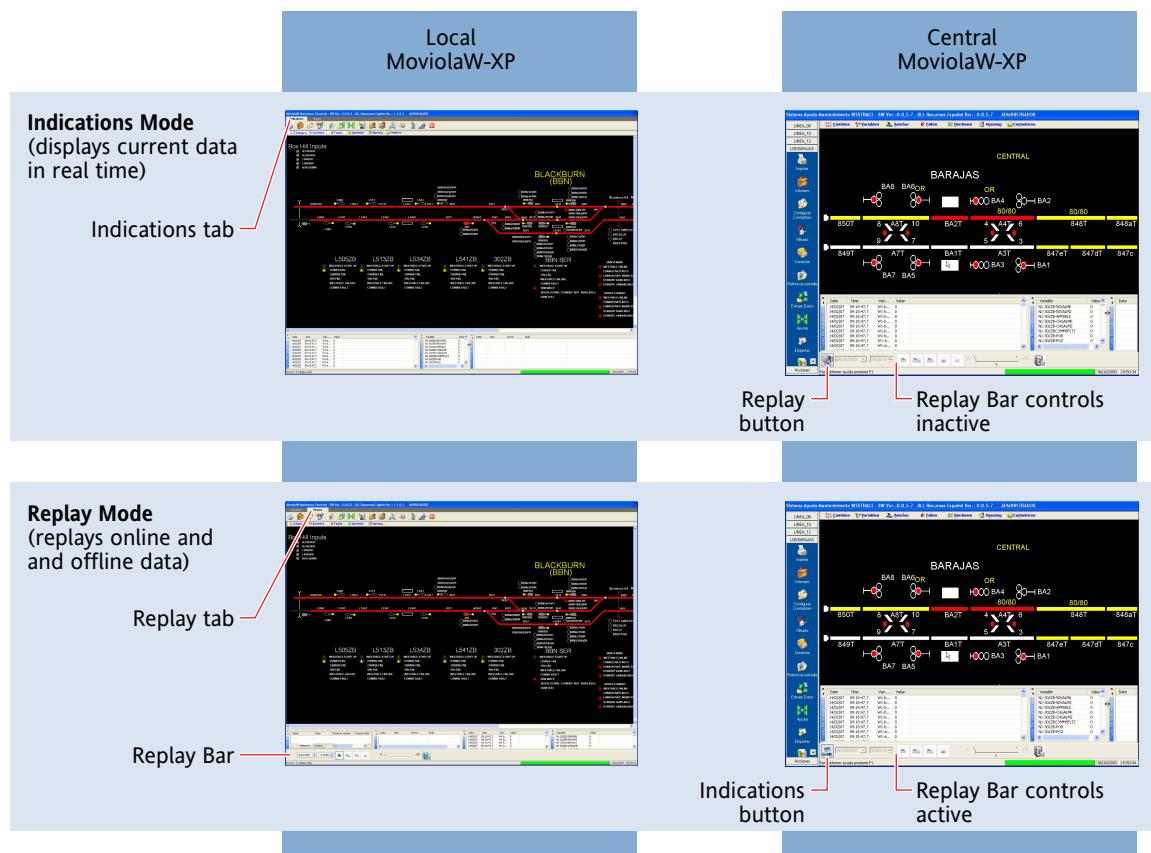


Figure 2.13 Indications Mode and Replay Mode

2.6.1 Indications Mode (Real-Time Display)

In Indications Mode:

- a **local** MoviolaW-XP displays events received from the connected interlockings in real time;
- a **central** MoviolaW-XP connected to a local MoviolaW-XP displays events in near-real time (via the local MoviolaW-XP; depends of the speed of the communications link).

Events are:

- displayed in the track diagram and in any open child windows;
- automatically stored in the local MoviolaW's current database file.

NOTE:

- Both local and central MoviolaW-XP can be used in Indications Mode at the same time.
- Both local and central MoviolaW-XP can monitor the same interlocking or different interlockings at the same time.

■ Related topic: section 4.4.1, “Entering Indications Mode”

2.6.2 Replay Mode

In Replay Mode, both local and central MoviolaW-XP can replay:

- the current database file and other online database files on the local MoviolaW-XP computer (figure 2.9);
- any accessible offline database files.

The replay speed is variable from x1 (real time) to x10.

NOTE:

- Both local and central MoviolaW-XP can be used in Replay Mode at the same time.
- Both local and central MoviolaW-XP can replay the same database file or different database files at the same time.

■ Related topic: section 4.5, “Using Replay Mode”

2.7 Installations, Lines and Drivers

2.7.1 Installations and Lines

An **installation** is a group of one or more interlockings monitored by MoviolaW-XP. Interlockings are assigned to their MoviolaW-XP installation during configuration. Even a single interlocking is assigned to an installation.

Installations are assigned to MoviolaW-XP **lines** (figure 2.14). This is done during configuration. Even a single installation is assigned to a line.

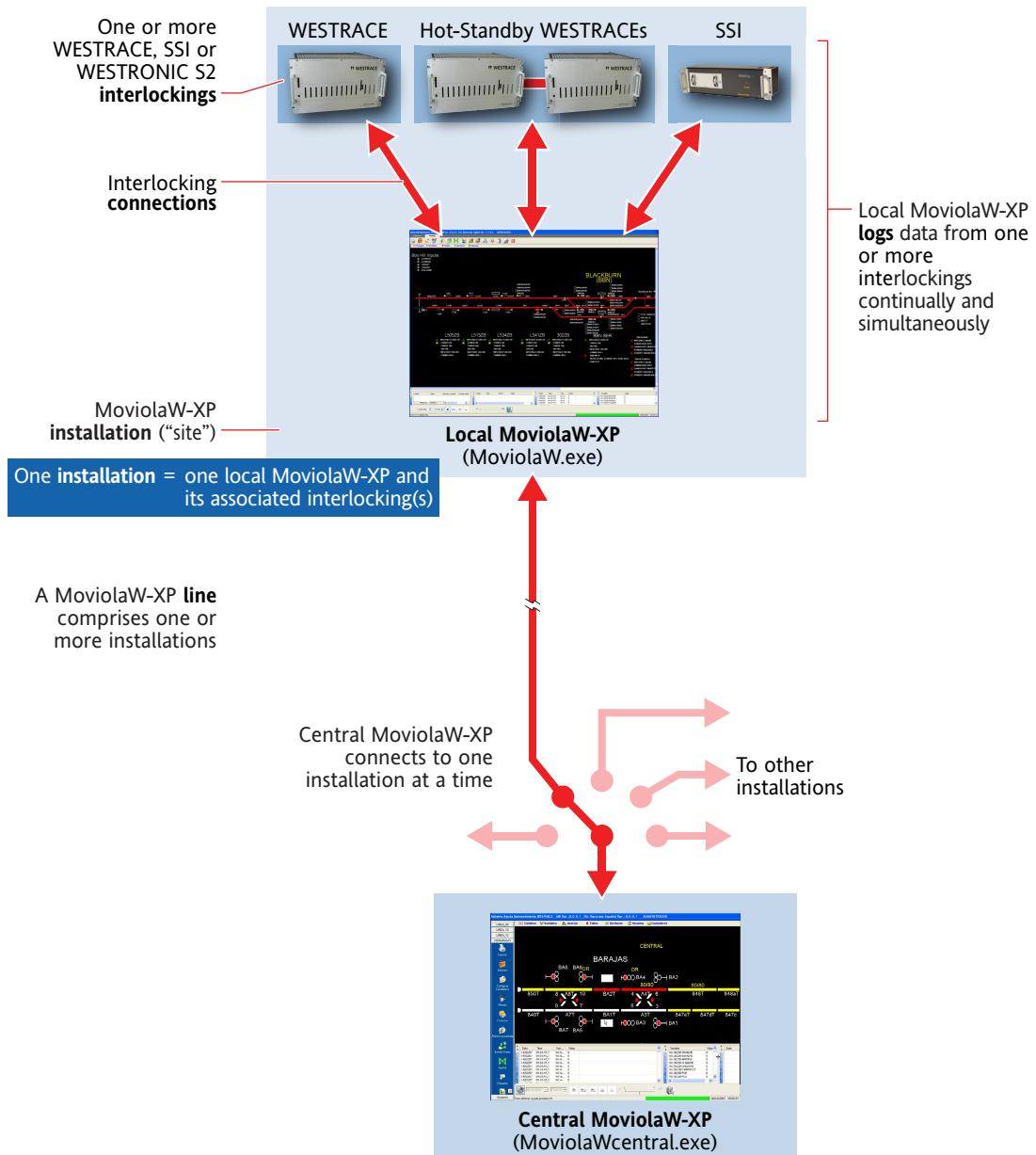


Figure 2.14 Installations and lines: overview

2.7.2 Interlocking Drivers

MoviolaW-XP requires a software driver for each connection to an interlocking (figure 2.15). The driver is selected and configured as part of the MoviolaW-XP set-up procedure. There may be several instances of the one type of connection, eg a single MoviolaW-XP logging multiple WESTRACES.

The drivers currently available are:

- **N(V)CDM Driver**—connects to the serial port of a WESTRACE NVC/DM or NCDM or the network port of an NCDM;
- **Remote Driver**—connects to interlocking test environments (eg GSIM);
- **DM128 Driver**—connects to a DM128 or DM128A diagnostic module on WESTRACE. The DM128 Driver can connect to two WESTRACES. When connected thus, the driver automatically supports the WESTRACE hot-standby operating mode;
- **Alarms Driver**—manages alarms that require logic processing
- **SSI Driver**—connects to the SSI interface processor
- **Interlogic Driver**—connects to the diagnostic port of WESTRONIC S2/SCN41 running Interlogic.

■ Related topic: section 4.18, “Troubleshooting Connections”

2.7.3 Hierarchy: Lines, Installations and Drivers

MoviolaW-XP organises its drivers (section 2.7.2) in a tree structure. This hierarchy, and the status of each connection, is shown in the Connection Status window (figure 2.15).

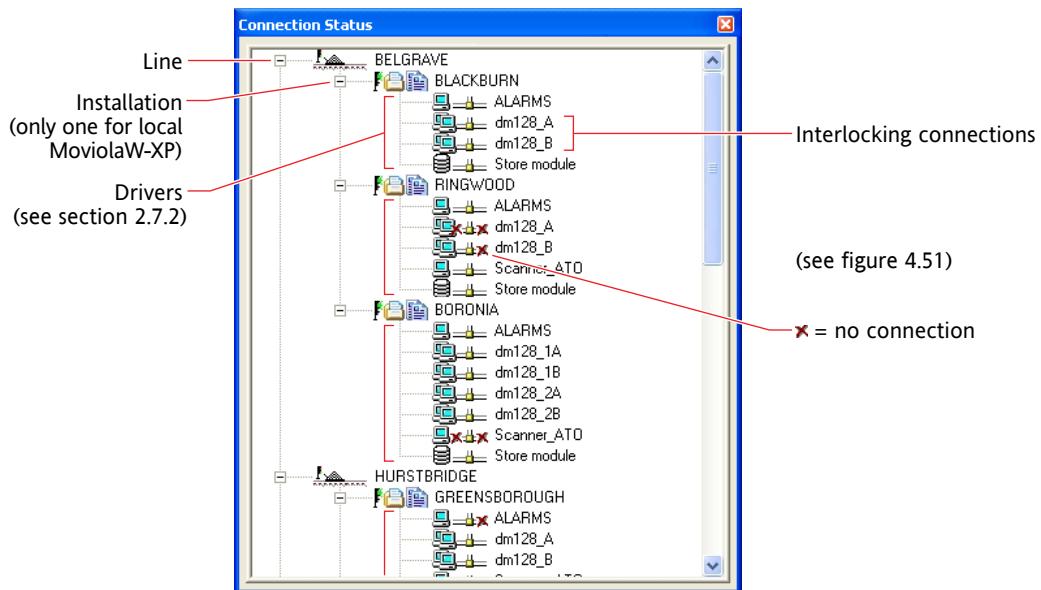


Figure 2.15 Connection Status window: drivers tree structure

There is also a version of this window that pops up when you click the Connection Status Indicator (figure 3.6).

■ Related topic: section 4.18, “Troubleshooting Connections”

2.8 Users and Groups

MoviolaW-XP **users** are user IDs for persons (or groups of people) who have specific rights when logging onto and using MoviolaW-XP.

These are not necessarily the same as user IDs registered with Windows XP.

There are four groups of MoviolaW-XP users:

- Observer
- Maintenance
- Supervisors
- Administrators

Note: *There is only one Observer user, and it cannot be modified or deleted.*

The groups have the following permissions:

Action	Observer	Maintenance	Supervisors	Administrators
Use Indications Mode in both local and central MoviolaW-XP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Use Replay Mode in both local and central MoviolaW-XP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Open and close child windows	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Use filters to display selected mnemonics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Generate and print reports	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configure counters		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configure notifications		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Manage users		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Exit MoviolaW-XP				<input checked="" type="checkbox"/>

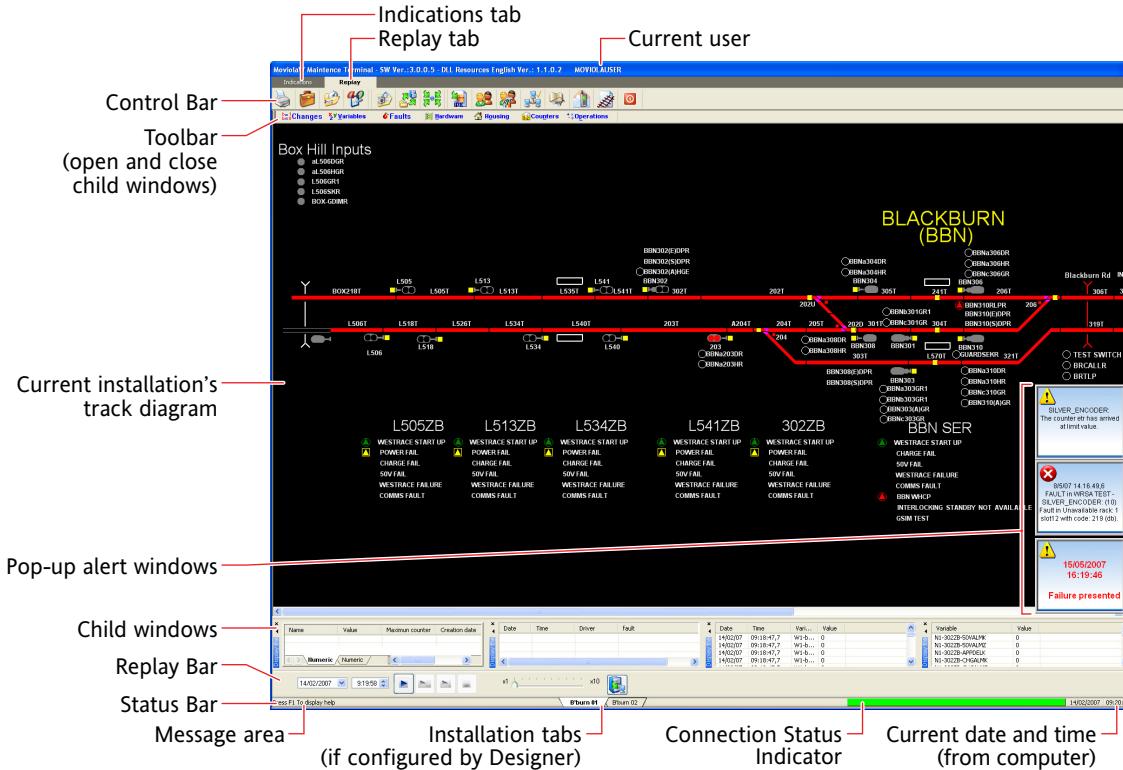
Table 2.1 User groups and permissions

■ Related topic: section 4.13, “Managing MoviolaW-XP Users”

3. THE MOVIOLAW-XP INTERFACE

3.1 Main and Child Windows

Local MoviolaW-XP



Central MoviolaW-XP

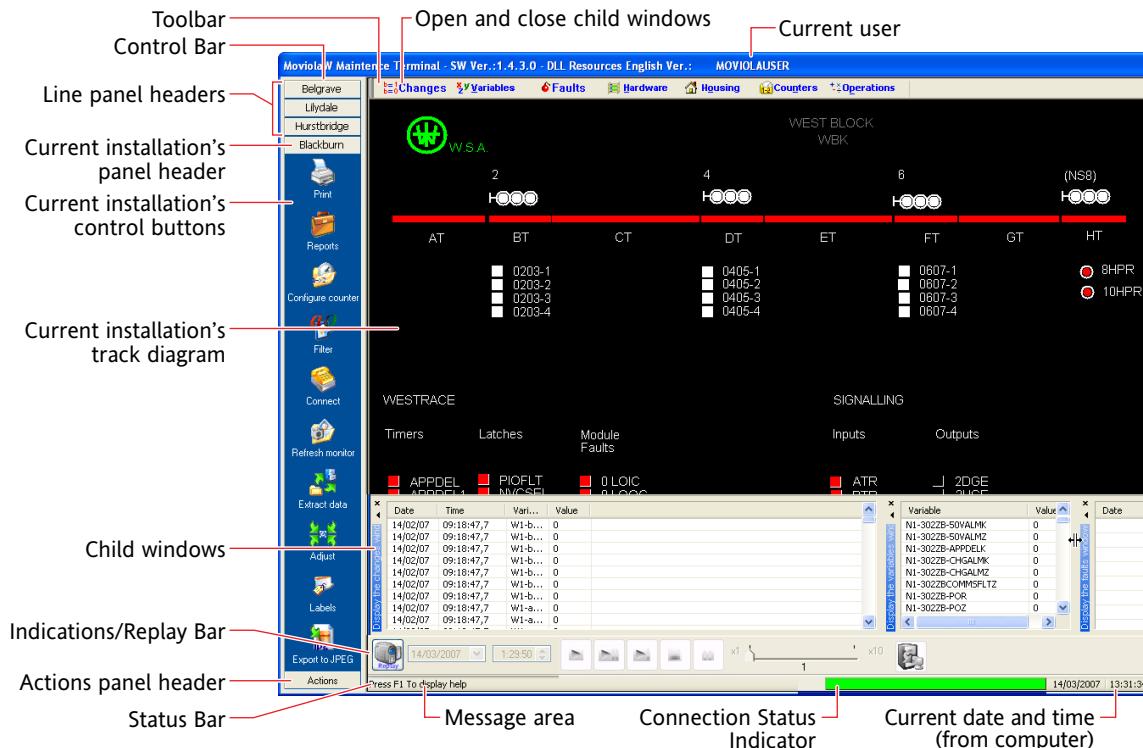


Figure 3.1 Local and central MoviolaW-XP main windows

Figure 3.1 shows the differences between the main windows of local and central MoviolaW-XP.

Figure 3.2 shows the controls available for child windows.

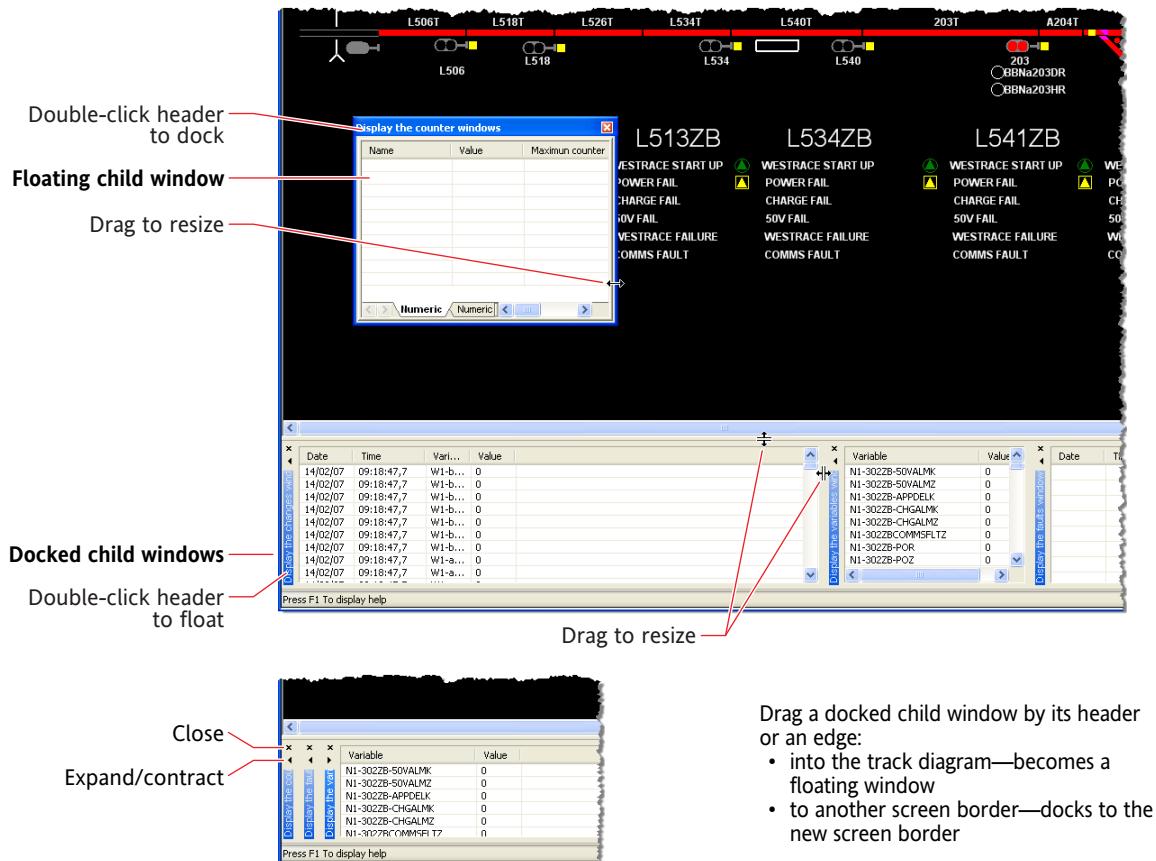


Figure 3.2 Child window controls

- Drag a docked child window by its header or an edge:
- into the track diagram—becomes a floating window
 - to another screen border—docks to the new screen border

3.2 Control Bars

The Control Bars contain the main MoviolaW-XP control buttons. The buttons are inactive until you log on as a valid user (see section 4.2).

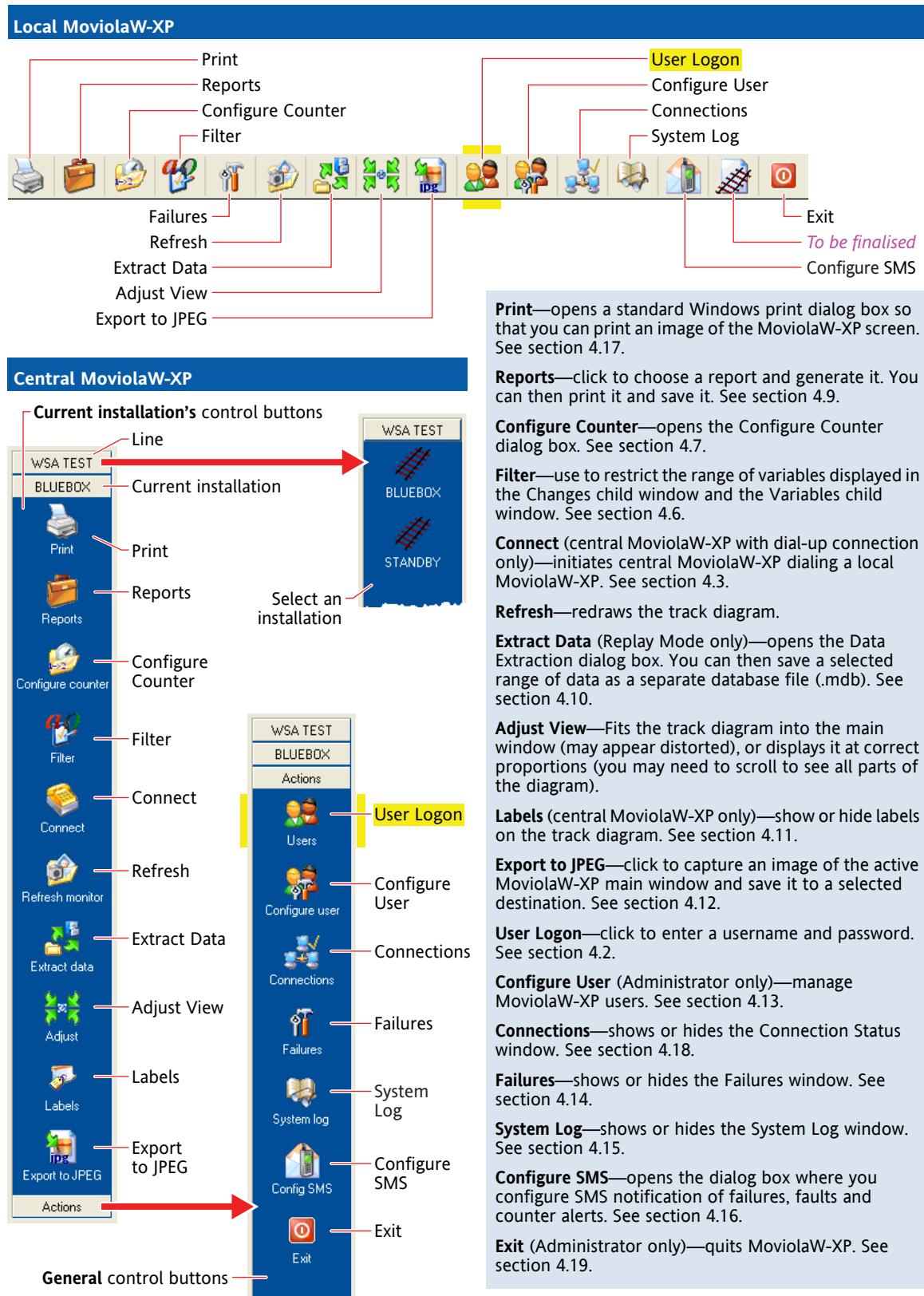


Figure 3.3 Control Bars and buttons

3.3 Toolbar

The Toolbar is the same in both local and central MoviolaW-XP. You use it to open and close MoviolaW-XP's child windows.

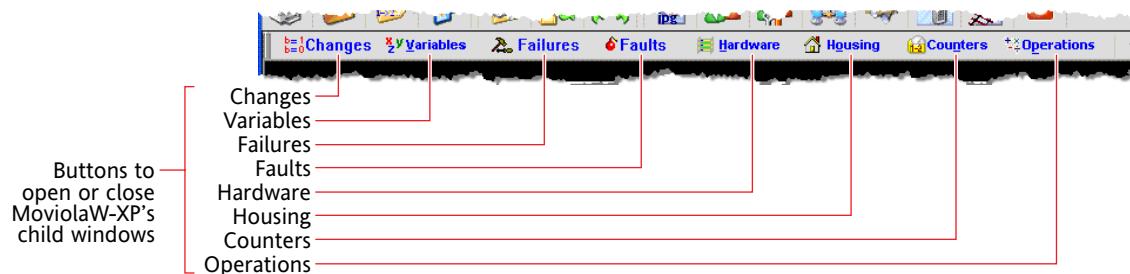


Figure 3.4 Toolbar buttons

- Related topics:
 - section 2.4.2, “Overview: Child Windows”
 - section 4.8, “Using Child Windows”

3.4 Status Bar

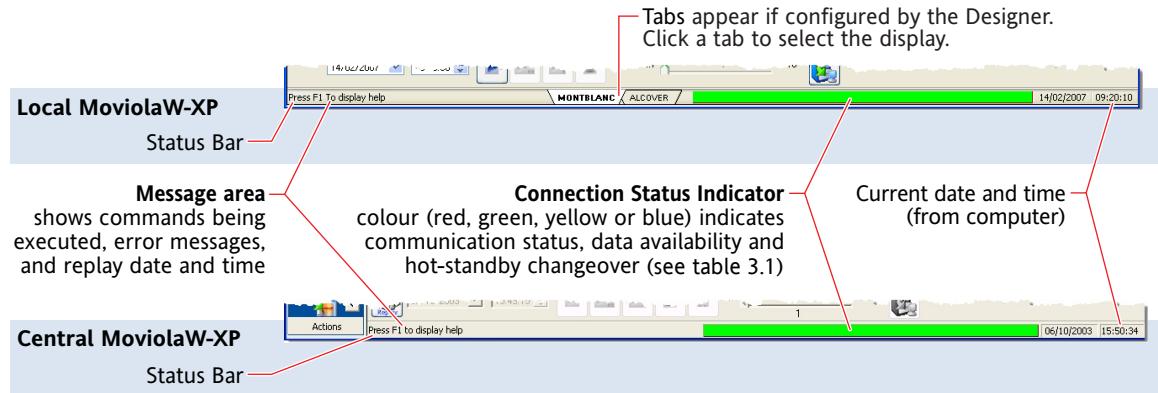


Figure 3.5 Local and central MoviolaW-XP Status Bars

		All Interlockings		Hot-Standby WESTRACE Only	
		Red	Green	Yellow	Blue
Local MoviolaW-XP	Indications Mode	Communication between local MoviolaW-XP and the WESTRACE or S2 is unsatisfactory.	Communication between local MoviolaW-XP and each WESTRACE or S2 is satisfactory.	One of the WESTRACES in a hot-standby system is not functioning properly, but data shown by local MoviolaW-XP is correct.	Changeover to the hot-standby WESTRACE is occurring. Data shown by local MoviolaW-XP is correct.
	Replay Mode	A period has not been selected, or data is not available for the selected period.	A period has been selected and data is available for the selected period.	Dial-up or LAN communication between central and local MoviolaW-XP is satisfactory.	Changeover to the hot-standby WESTRACE is occurring. Data shown by local MoviolaW-XP is correct.
Central MoviolaW-XP	Indications Mode	Dial-up or LAN communication between central and local MoviolaW-XP is unsatisfactory.	Dial-up or LAN communication between central and local MoviolaW-XP is satisfactory.	One of the WESTRACES in a hot-standby system is not functioning properly, but data shown by central MoviolaW-XP is correct. Dial-up or LAN communication between central and local MoviolaW-XP is satisfactory.	Changeover to the hot-standby WESTRACE is occurring. Data shown by local MoviolaW-XP is correct.
	Replay Mode	A period has not been selected, or data is not available for the selected period, or dial-up or LAN communication between central and local MoviolaW-XP is unsatisfactory.	A period has been selected, data is available for the selected period, and dial-up or LAN communication between central and local MoviolaW-XP is satisfactory.	A period has been selected, data is available for the selected period, and dial-up or LAN communication between central and local MoviolaW-XP is satisfactory.	A period has been selected, data is available for the selected period, dial-up or LAN communication between central and local MoviolaW-XP is satisfactory, and changeover to the hot-standby WESTRACE is occurring.

Table 3.1 Connection Status Indicator colours

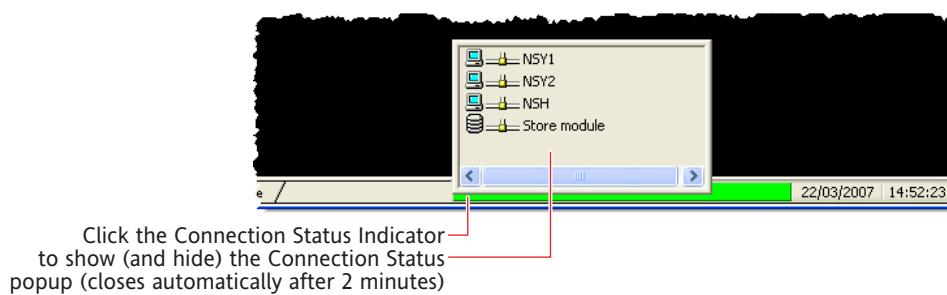


Figure 3.6 Status Bar: Connection Status popup

3.5 Alert Windows

MoviolaW-XP pops-up an alert window on the right side of the main screen when:

- a fault message is received;
- a failure message is received;
- a counter Limit Value is reached.

A fault alert window repeats (shows for 10 seconds then hides for 50 seconds) until the problem is fixed. A failure alert window shows permanently until the problem is fixed (then you must click the alert to close it). A counter alert window repeats until you reset it using the menu in the Counters child window (figure 4.17).

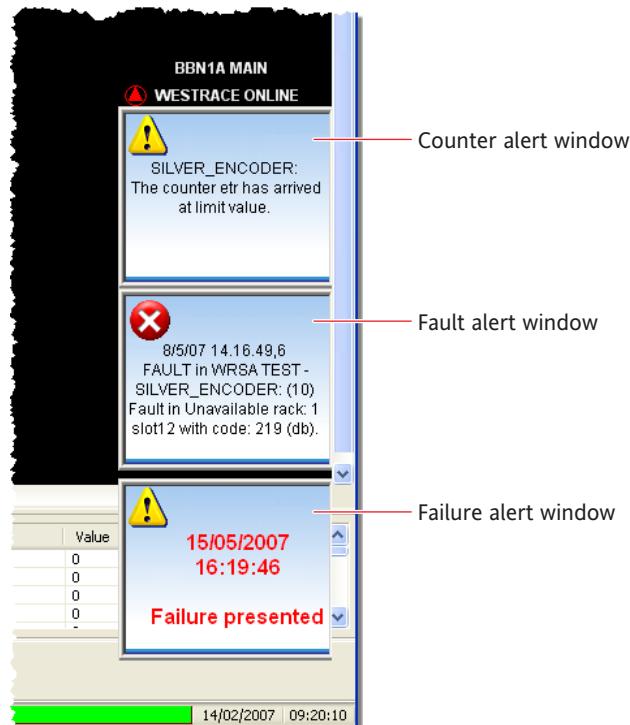


Figure 3.7 Alert window examples

■ Related topics:

- section 2.3, “Faults and Failures”
- section 4.7, “Configuring Counters”
- section 4.8.4, “Failures Child Window (WESTRACE only)”
- section 4.14, “Viewing Failures”

3.6 Replay Bar

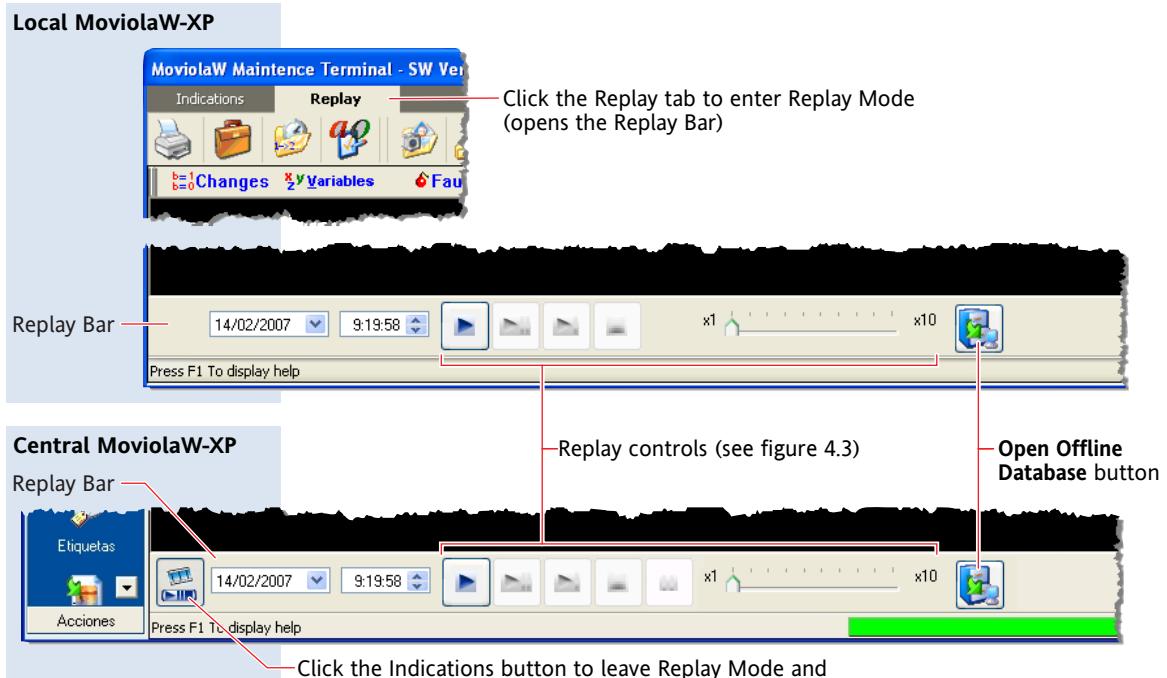


Figure 3.8 Local and central MoviolaW-XP Replay Bars

In both local and central MoviolaW-XP, you use the Replay Bar to replay selected periods from the current database file, or from any uncompressed, compressed or offline database files accessible by local or central MoviolaW-XP (figure 2.9).

When central MoviolaW-XP is in Indications Mode, the replay controls on the Replay Bar are unavailable (figure 3.9). However, the Replay button is available—click this to enter Replay Mode.

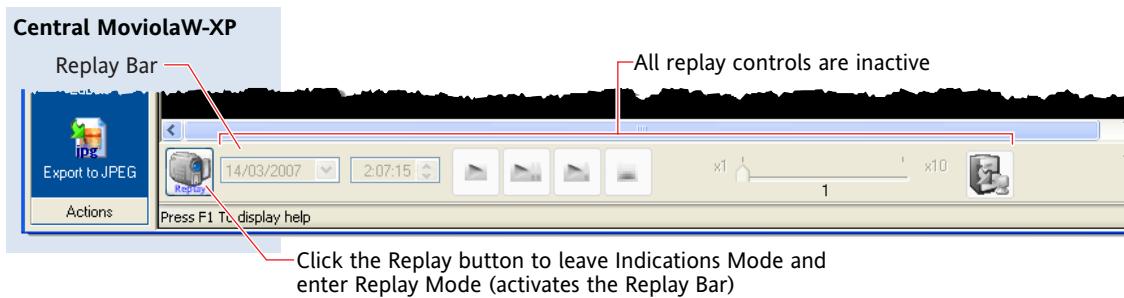


Figure 3.9 The Replay Bar when central MoviolaW-XP is in Indications Mode

■ Related topics:

- section 2.6, “Indications Mode and Replay Mode”
- section 2.5, “Database Files”
- **section 4.5, “Using Replay Mode”**

4. USING MOVIOLAW-XP

Note: *Other applications or screen savers may interfere with MoviolaW-XP. Therefore make sure that no other Windows applications (other than networking services and a virus checker) are running while MoviolaW-XP is in use.*

4.1 Starting MoviolaW-XP

Local MoviolaW-XP is normally configured to auto-start, ie it is installed on a dedicated computer and configured to run automatically on power-up.

Central MoviolaW-XP may be configured to auto-start, or for manual start (ie launched by clicking an icon).

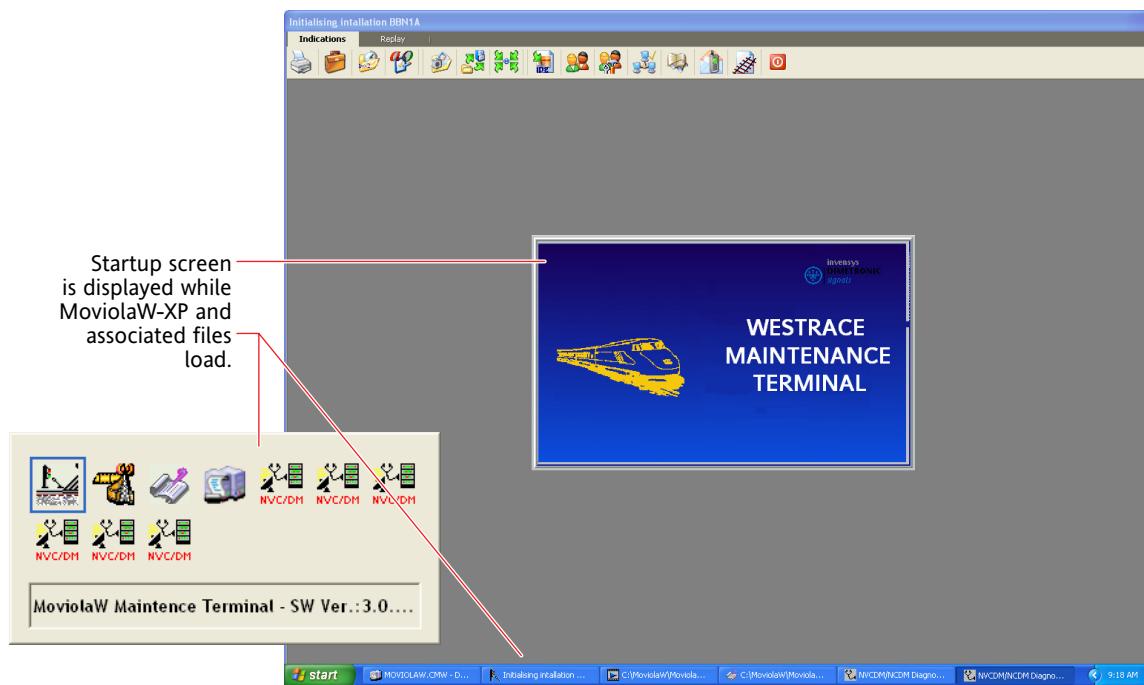


Figure 4.1 Startup screen (local MoviolaW-XP shown) and Alt+Tab window

4.1.1 Auto-Start



- Ensure that the remote communications equipment is powered (if used).
- Power the MoviolaW-XP computer.
MoviolaW-XP should start automatically and:
 - connect to the interlocking(s);
 - display the default installation's track diagram;
 - set the Status Bar to green;
 - start logging to the installation's current database file.

To do anything more than simply watch the current track display, you must now log on to MoviolaW-XP (section 4.2).

Note:



If a Moviola W-XP system fails to auto-start, start it manually from the Windows Start menu or by double-clicking the appropriate icon on the Windows desktop.

4.1.2 Manual Start



- Ensure that the remote communications equipment is powered.
- Power the MoviolaW-XP computer and log on to Windows.
- Double-click the MoviolaW-XP icon on the Windows desktop (or use the Windows Start menu).

To do anything more than simply watch the current track display, you must now log on to MoviolaW-XP (section 4.2).

Note:

If using a Moviola W-XP computer to temporarily connect to and monitor an interlocking, you must ensure that the computer's IP address is appropriate to communicate with the interlocking (eg same subnet).

4.2 Logging On

All MoviolaW-XP Control Bar buttons (except User Logon) and Toolbar buttons are inactive until you log on as a valid user.



To log on to local or central MoviolaW-XP:

- Click the User Logon button (highlighted in yellow in figure 3.3).



Figure 4.2 User Logon dialog box

- In the User Logon dialog box:
 - Select the username from the **User** drop-down list.
 - Type that username's password in the **Password** field.
 - Click **OK**.

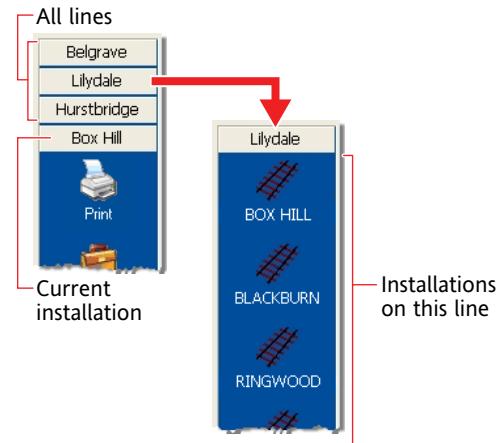
4.3 Selecting an Installation (Central MoviolaW-XP)

In central MoviolaW-XP, you must select an installation before you can monitor it or replay its online data

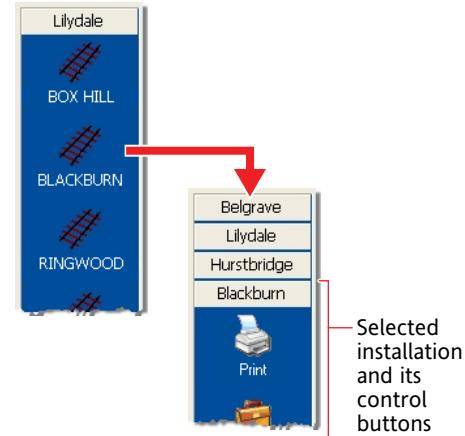


To select an installation in central MoviolaW-XP:

- Click the name of the line that contains the installation you want.
The line's installations appear in the Control Bar.



- Click the installation you want.
The installation's control buttons appear in the Control Bar.



- If a dial-up connection is used between central MoviolaW-XP and the local MoviolaW-XP:
 - Click the **Connect** button.
 - Complete any connection and password dialog boxes that may open.

Central MoviolaW-XP connects to the installation (via local MoviolaW-XP) and shows its track display in the main window and its data in any open child windows.

4.4 Using Indications Mode

- Related topic: section 2.6, “Indications Mode and Replay Mode”

You use Indications Mode to monitor events as they arrive from an installation’s interlocking(s).

Indications Mode is the default operating mode for both local and central MoviolaW-XP.

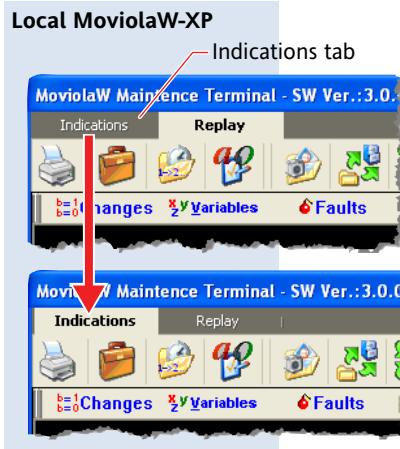
4.4.1 Entering Indications Mode



To enter Indications Mode (ie leave Replay Mode):

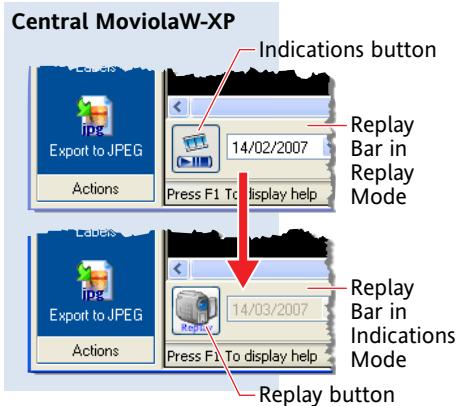
- In local MoviolaW-XP, click the **Indications** tab.

The Replay Bar closes and the Indications tab becomes active to show that MoviolaW-XP is in Indications Mode.



In central MoviolaW-XP, click the **Indications** button.

The replay controls in the Replay Bar become unavailable and the Indications button changes to the Replay button to show that MoviolaW-XP is in Indications Mode.



4.4.2 Watching Real-Time Track Events

In the track diagram, you use Indications Mode to watch signal changes, point movements, train movements etc as they happen.

You can also use:

- child windows (section 4.8) to watch mnemonics changes, fault messages, counter and timer information, and NVC/DM or NCDM operations;
- reports (section 4.9) to view and print fault messages, counter and timer information, and NVC/DM or NCDM operations.

4.4.3 Leaving Indications Mode

You leave Indications Mode by entering Replay Mode (section 4.5.1).

4.5 Using Replay Mode

You use Replay Mode to replay an installation's events, starting from a selected date and time.

■ Related topics:

- section 2.6, "Indications Mode and Replay Mode"
- section 2.5, "Database Files"
- section 3.6, "Replay Bar"

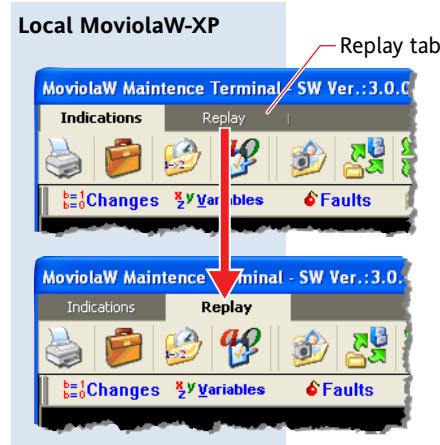
4.5.1 Entering Replay Mode



To enter Replay Mode (ie leave Indications Mode):

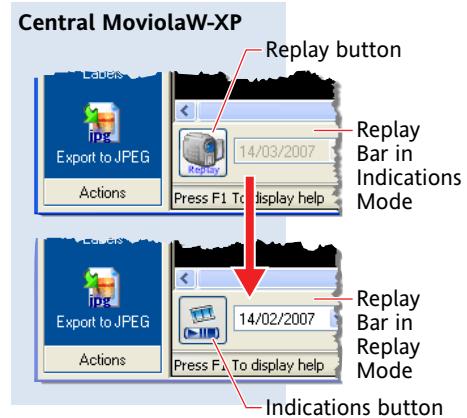
- a) In local MoviolaW-XP, click the **Replay** tab.

The Replay Bar opens and the Replay tab becomes active to show that MoviolaW-XP is in Replay Mode.



In central MoviolaW-XP, click the **Replay** button.

The replay controls in the Replay Bar become available and the Replay button changes to the Indications button to show that MoviolaW-XP is in Replay Mode.



4.5.2 Watching Replayed Track Events

In the track diagram, you use Replay Mode to watch the replay of signal changes, point movements, train movements etc from data stored in any online or offline MoviolaW-XP database files (see figure 2.12).

You can also use:

- child windows to watch replayed mnemonics changes, fault messages, counter and timer information, and NVC/DM or NCDM operations (section 4.8);
- reports to view and print replayed fault messages, counter and timer information, and NVC/DM or NCDM operations (section 4.9).

NOTE:

- High display speeds may be limited by the communications speed and the number of events to be transferred.
- The date and time of the replayed events are shown in the Replay Start Date and Replay Start Time fields.

The method of selecting the data to be replayed is different for online data (section 4.5.2.1) and offline data (section 4.5.2.2).

4.5.2.1 Replaying Online Data

For online data (figure 2.12) you use the **Replay Start Date** and **Replay Start Time** fields in the Replay Bar to specify the starting point of the data to be replayed.



To replay online data:

- Select the installation (section 4.3).
- Enter Replay Mode (section 4.5.1).
- In the **Replay Start Date** and **Replay Start Time** fields (figure 4.3), enter the date and time from which you want to begin the replay.

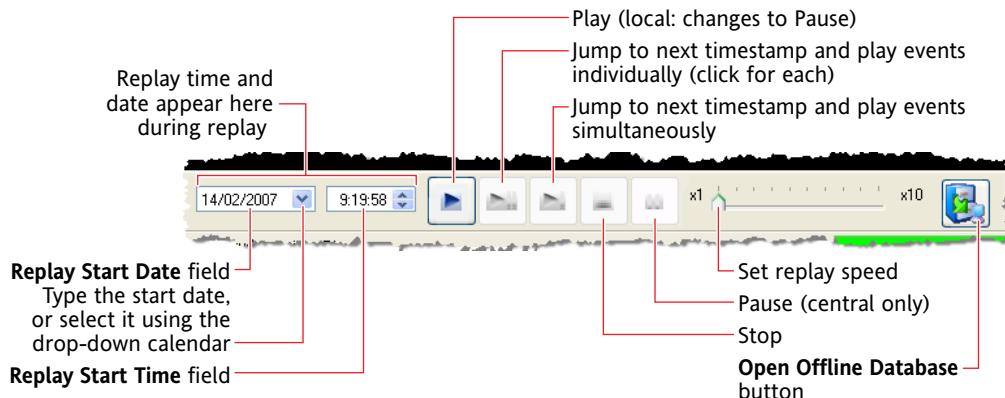


Figure 4.3 Replay Bar controls

- Use **Play** and the other replay controls shown in figure 4.3 to replay the events beginning from your selected start date and time. If no data is available for the selected day and time, the display begins at the next available event.
- Click **Stop** to end the replay (frees MoviolaW-XP resources).

4.5.2.2 Replaying Offline Data

You must use the Open Offline Database dialog box to access offline database files (figure 2.12). These files can be uncompressed or compressed, and located on any accessible medium (eg the computer's hard disk, a CD or a Flash memory stick).

Important:

Before replaying a database file, ensure its Read-Only attribute is NOT selected. (Database files can become read-only when backed up to CD or other medium.)

**To replay offline data:**

- a) Select the installation (section 4.3).
- b) Enter Replay Mode (section 4.5.1).
- c) Click the **Open Offline Database** button (figure 4.4).

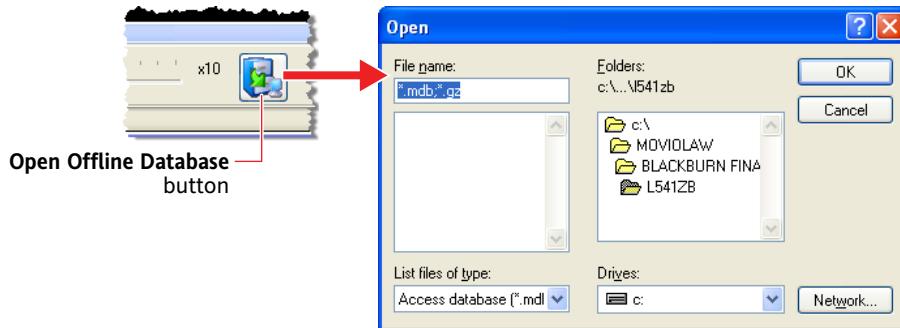


Figure 4.4 Opening an offline database

- d) In the Open dialog box, navigate to the offline database file you want to replay, then click **OK**.
Figure 2.11 shows how MoviolaW-XP names its offline database files.
- e) In the **Replay Start Date** and **Replay Start Time** fields (figure 4.3), enter the date and time from which you want to begin the replay.
- f) Use **Play** and the other replay controls shown in figure 4.3 to replay the events beginning from your selected start date and time.
- g) Click **Stop** to end the replay (frees MoviolaW-XP resources).

4.5.3 Leaving Replay Mode

You leave Replay Mode by entering Indications Mode (section 4.4.1).

4.6 Filtering Variables

You use MoviolaW-XP's Filter dialog box to reduce the number of variables whose data appears in the Changes child window (section 4.8.1) and the Variables child window (section 4.8.2).

NOTE:

- MoviolaW-XP's default is to include all variables (no filtering).
- MoviolaW-XP does not remember your filter settings through restarts, ie the Changes and Variables child windows show all variables (no filtering) after a restart.



To filter data:

- Click the **Filter** button.

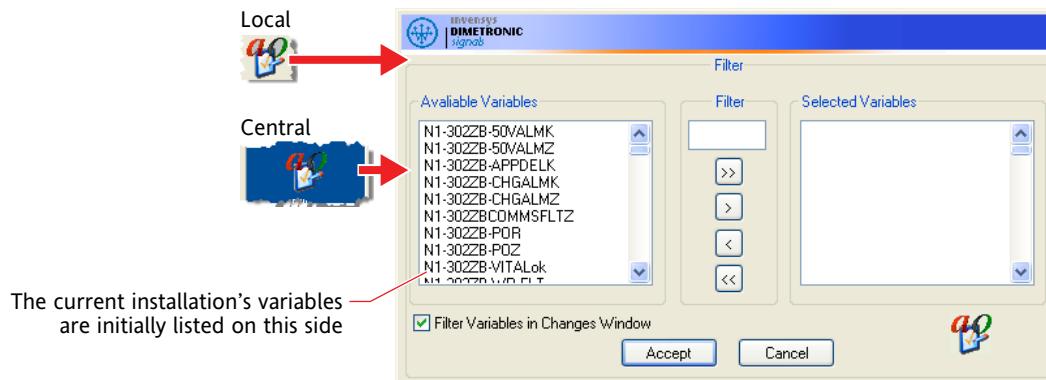


Figure 4.5 Filter dialog box

- Move the variables you want to the Selected Variables list using either or both of the following methods:
 - Method 1: Type appropriate filter text in the **Filter** field then click **>>**. You can include the wildcard characters ? (represents a single character) and * (represents one or more characters). For example:
 - * selects all variables (MoviolaW-XP's default)
 - abc* selects variables with names beginning with abc
 - a*c selects variables abc, abbbccc, aq47c etc
 - a?c? selects variables abcd, apc9, etc
 - abc selects the variable with the specific name abc

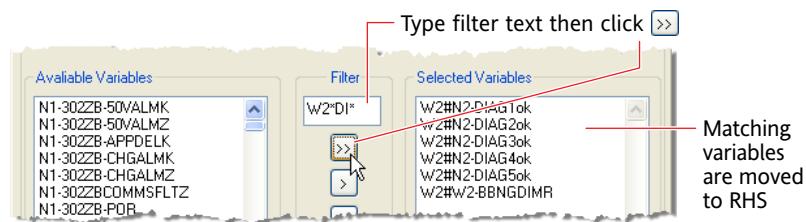


Figure 4.6 Filtering: moving variables (method 1)

- Method 2: Click (highlight) one or more variables in the Available Variables list then click **>**.

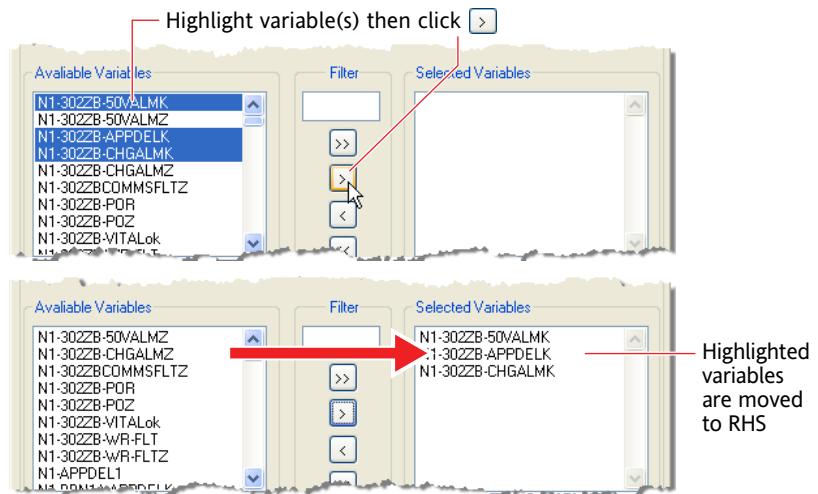


Figure 4.7 Filtering: moving variables (method 2)

Note that you can use the **<** and **<<** buttons to move items out of the Selected Variables list.

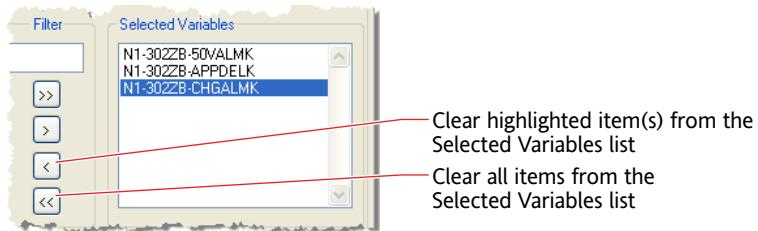


Figure 4.8 Filtering: clearing the Selected Variables list

- c) If you want the Changes child window to be un-filtered (ie all variables shown in the Changes child window and only the reduced set shown in the Variables child window), clear the **Filter Variables in Changes Window** tick box.
 - d) Click **Accept**.
- The Changes child window and Variables child window are updated according to your selection.

4.7 Configuring Counters

MoviolaW-XP can count the number of times a mnemonic changes state, or count the total elapsed time a mnemonic stays at 1, then open an alert window when a user-defined limit is reached.



To configure a numerical counter or a time counter:

- Click the **Configure Counter** button.

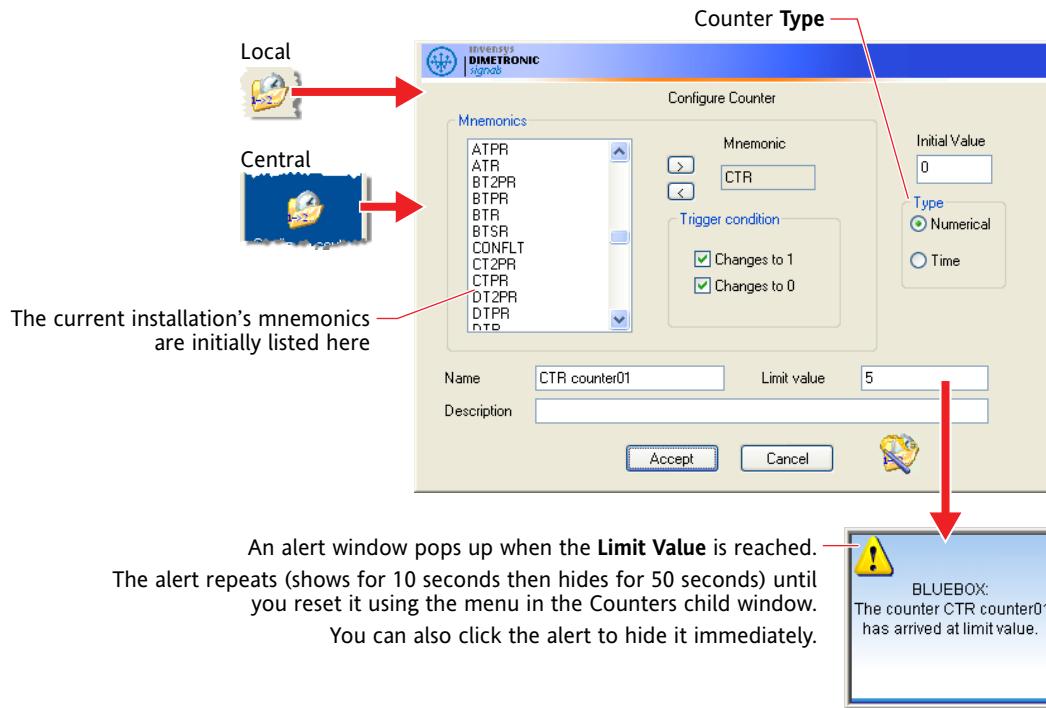


Figure 4.9 Configure Counter dialog box

- Highlight a mnemonic in the list, then click .
- Tick the **Trigger Condition(s)** you want.
You can choose to increment the count when the mnemonic's state changes from **0** to **1**, **1** to **0**, or both. (This functionality is not yet finalised for time counting.)
- If you want the counter to start from a value other than zero, type an appropriate number (counts or minutes) in the **Initial Value** field.
- Choose the counter **Type (Numerical or Time)**.
- Type a **Name** and **Description** for the counter.
This information appears in the Counters child window and report.
- Type a **Limit Value** (counts or minutes).
MoviolaW-XP pops up an alert window (figures 3.7 and 4.9) when this limit is reached. Figure 4.17 shows how to acknowledge (stop) the alert.
- Click **Accept**.
The counter is shown in the Counters child window (section 4.8.7), and begins counting according to the trigger you set.

■ Related topics:

- section 3.5, “Alert Windows”
- section 4.8.7, “Counters Child Window”

4.8 Using Child Windows

■ Related topics:

- section 2.4.2, “Overview: Child Windows”
- section 3.3, “Toolbar”
- section 4.6, “Filtering Variables”

In both local and central MoviolaW-XP, you use child windows to display real-time railway events and replayed railway events as text. You can manipulate this textual data as described below.

Figures 2.5 and 2.6 introduce the child windows that are available.



To open, close, move, dock, float and resize child windows, see figures 3.1, 3.2 and 3.4.

4.8.1 Changes Child Window

Date	Time	Variable	Value
14/02/07	09:18:47,7	N1-3022B-50VALMK	0
14/02/07	09:18:47,7	N1-3022B-50VALMZ	1
14/02/07	09:18:47,7	N1-3022B-APPDELK	1
14/02/07	09:18:47,7	N1-3022B-CHGALMK	0
14/02/07	09:18:47,7	N1-3022B-CHGALMZ	0
14/02/07	09:18:47,7	N1-3022BCOMMSFLTZ	1
14/02/07	09:18:47,7	N1-3022B-POR	0
14/02/07	09:18:47,7	N1-3022B-POZ	1
14/02/07	09:18:47,7	N1-3022C-ABC	0
.....

Figure 4.10 Child window: Changes

Use the Changes child window to monitor interlocking events as they occur in real time, or during a replay (subject to any restrictions in data provided by the interlocking). This allows you to focus on just the mnemonics that have changed.

You may want to apply filters (section 4.6) to restrict the display to fewer mnemonics.

Typically, a changed input causes several internal changes and usually lead to some output changes. The Changes window is useful for checking:

- that the changed input was seen;
- the internal sequence of events;
- that the expected output change was generated.

To monitor particular mnemonics, not just the ones that have changed, use the Variables child window (section 4.8.2).

4.8.2 Variables Child Window

The screenshot shows a table titled "Variables" with two columns: "Variable" and "Value". The variables listed are N1-3022B-50VALMK, N1-3022B-50VALMZ, N1-3022B-APPDELK, N1-3022B-CHGALMK, N1-3022B-CHGALMZ, N1-3022BCOMMSFLTZ, N1-3022B-POR, N1-3022B-POZ, and N1-3022B-VITALok. The "Value" column contains either 0 or 1. A legend on the right indicates that 0 = de-energised and 1 = energised. Red arrows point from labels to specific parts of the interface: "Variable (mnemonic)" points to the first column, "Variable's current value (current logic state)" points to the second column, and "Display the variables window" points to the title bar.

Variable	Value
N1-3022B-50VALMK	0
N1-3022B-50VALMZ	0
N1-3022B-APPDELK	1
N1-3022B-CHGALMK	0
N1-3022B-CHGALMZ	0
N1-3022BCOMMSFLTZ	1
N1-3022B-POR	0
N1-3022B-POZ	0
N1-3022B-VITALok	0

Figure 4.11 Child window: Variables

The Variables child window displays the interlocking's mnemonics in alphabetical order, together with their current state.

You may want to apply filters (section 4.6) to restrict the display to fewer mnemonics.

To monitor only changed mnemonics, use the Changes child window (section 4.8.1).

4.8.3 Faults Child Window (WESTRACE only)

The screenshot shows a table titled "Faults" with four columns: "Date", "Time", "Driver", and "Fault". The data listed is as follows:

Date	Time	Driver	Fault
08/05/07	14:16:50,6	ID_A	(15) Fault in Unavailable rack: 1 slot4 with code: 32769 (8001).
08/05/07	14:16:50,6	ID_A	(14) Fault in Unavailable rack: 1 slot4 with code: 40961 (a001).
08/05/07	14:16:49,8	ID_A	(13) Fault in VPIM50 rack: 1 slot5 with code: 1 (1).
08/05/07	14:16:49,8	ID_A	(12) Fault in Unavailable rack: 1 slot7 with code: 1 (1).
08/05/07	14:16:49,8	ID_A	(11) Fault in Unavailable rack: 1 slot10 with code: 46 (2e).
08/05/07	14:16:49,6	ID_A	(10) Fault in Unavailable rack: 1 slot12 with code: 219 (db).
08/05/07	14:16:49,6	ID_A	(9) Fault in NCDM rack: 1 slot3 with code: 57 (39).
08/05/07	13:37:15,0	ID_A	(8) Fault in Unavailable rack: 1 slot4 with code: 3875 (f23).
08/05/07	13:17:37,8	ID_A	(7) Fault in Unavailable rack: 1 slot4 with code: 47032 (b7b8).
08/05/07	13:17:36,3	ID_A	(6) Fault in Unavailable rack: 1 slot4 with code: 47033 (b7b9).

Red arrows point from labels to specific parts of the interface: "Significant fault (ie one that typically initiates system shutdown)" points to the first row; "Date and time the fault was received by MoviolaW-XP" points to the "Date" and "Time" columns; "Driver (reporting source, eg WESTRACE DM128 or S2/SCN41)" points to the "Driver" column; and "Fault module, location and code" points to the "Fault" column. A vertical double-headed arrow on the right indicates the order of the faults: "Newer" at the top and "Older" at the bottom.

Figure 4.12 Child window: Faults (WESTRACE only)

The Faults child window lists the 50 most recent WESTRACE faults that occurred at the current installation. (WESTRACE generates fault codes for all vital modules after a fault is detected, and MoviolaW-XP generates fault messages from them.)

Related topics:

- section 2.3, “Faults and Failures”
- section 3.5, “Alert Windows”
- section 4.9.3, “Faults Report (WESTRACE only)”

4.8.4 Failures Child Window (WESTRACE only)

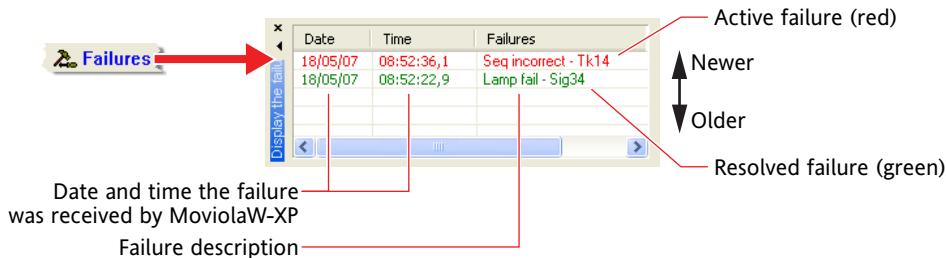


Figure 4.13 Child window: Failures (WESTRACE only)

The Failures child window lists problems with external equipment, ie with individual mnemonics or a combination of mnemonics. (WESTRACE generates failure codes after a failure is detected, and MoviolaW-XP generates failure messages from them.)

Figure 4.43 shows how to clear a failure once it has been resolved.

■ Related topics:

- section 2.3, “Faults and Failures”
- section 3.5, “Alert Windows”
- section 4.9.4, “Failures Report (WESTRACE only)”
- section 4.14, “Viewing Failures”

4.8.5 Hardware Child Window (WESTRACE only)

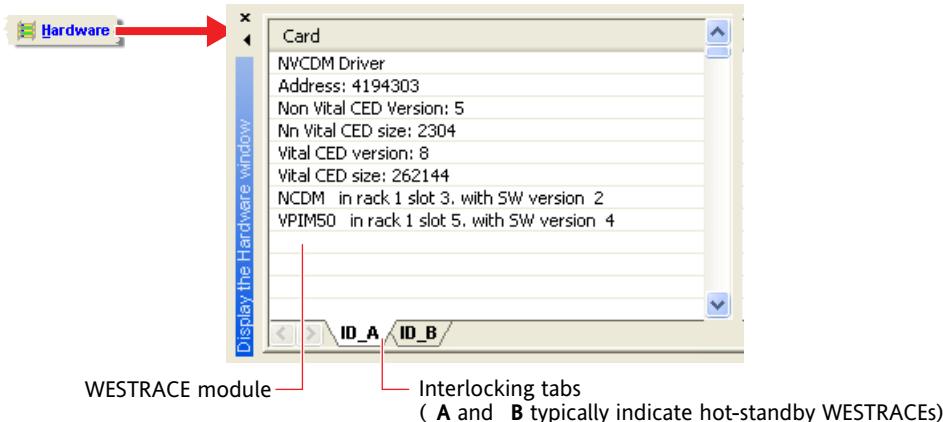


Figure 4.14 Child window: Hardware (WESTRACE only)

The Hardware child window lists all WESTRACE hardware modules in the current installation.

Each interlocking's modules are shown on a separate tab.

4.8.6 Housing Child Window (WESTRACE only)

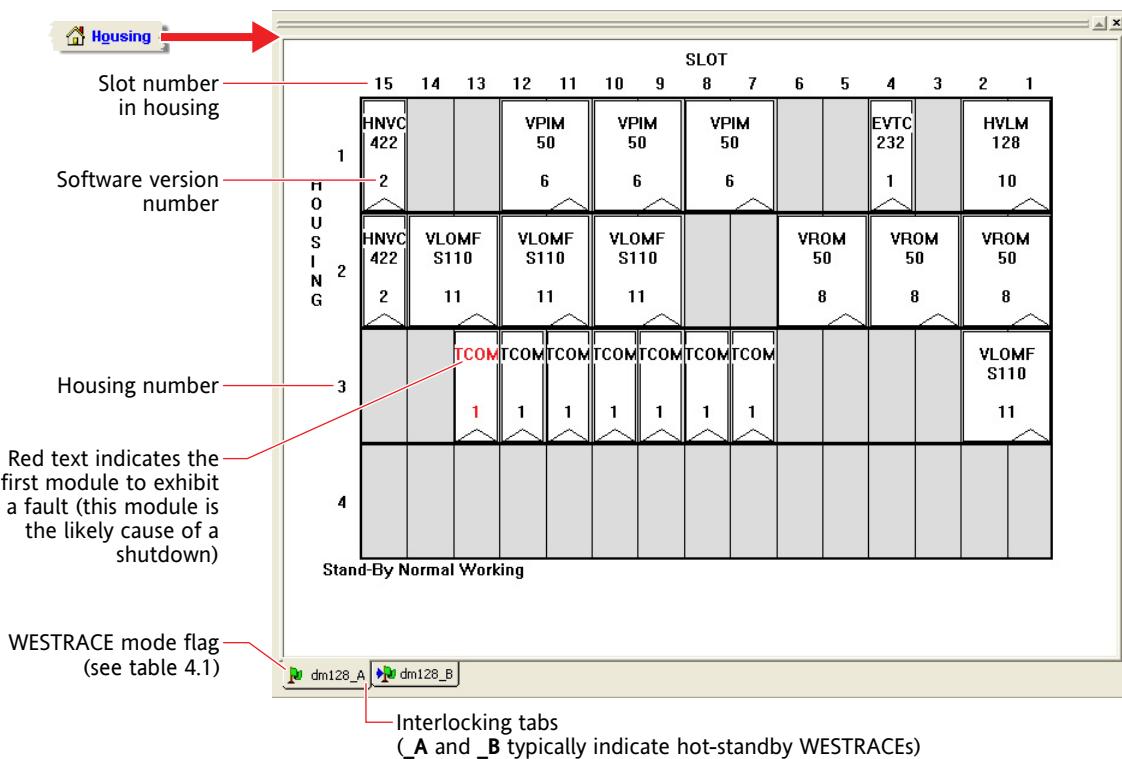


Figure 4.15 Child window: Housings (WESTRACE only)

The Housing child window shows all hardware modules fitted in the WESTRACE housing(s) of the current installation.

Each WESTRACE housing is shown on a separate tab. Table 4.1 explains the flag symbols that appear on the tabs.

Communication with WESTRACE	Stand-Alone WESTRACE	Hot-Standby WESTRACE	
		Online WESTRACE	Standby WESTRACE
Satisfactory (green flag)	Green flag	Green flag with blue outline	Green flag with blue outline
Unsatisfactory (red flag)	Red flag	Red flag with blue outline	Red flag with blue outline
Synchronising and satisfactory (yellow flag)	—	Yellow flag with blue outline	Yellow flag with blue outline

Table 4.1 Housing window: WESTRACE communication symbols

4.8.7 Counters Child Window

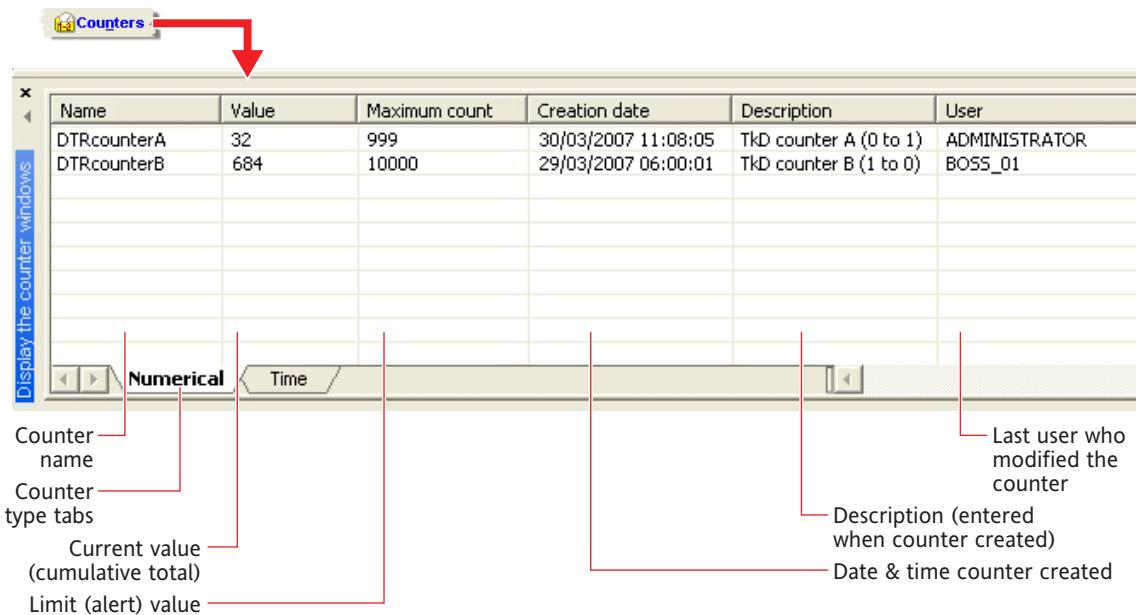


Figure 4.16 Child window: Counters

The Counters child window lists the details of the current installation's counters.

The counters are grouped onto two tabs—**Numerical** and **Time**.

To reset, modify, remove or update a counter, use the menu that appears when you left-click the counter name in the Counters child window (figure 4.17).

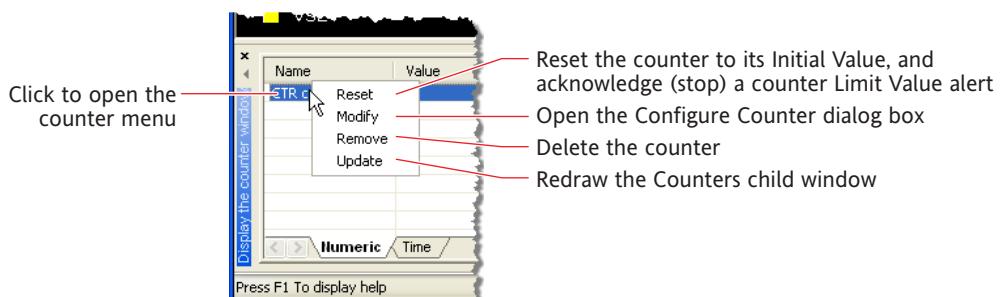


Figure 4.17 Counter menu

4.8.8 Operations Child Window (WESTRACE only)

The Operations child window lists significant operational occurrences, eg changes to vital and non-vital logic states, and WESTRACE faults.

Date and time the operation was received by MoviolaW-XP

Driver (NVC/DM or NCDM)

Operation's code and description

Newer

Older

Date	Time	Driver	Operations
23/10/06	13:24:39,3	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:24:34,3	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:24:26,2	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:24:19,4	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:24:01,2	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:23:54,5	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:23:16,7	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:23:16,5	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:23:16,5	NVC/CDM	Operation Code: 100 (Login: P2 read)
23/10/06	13:23:16,1	NVC/CDM	Operation Code: 100 (Login: P2 read)

Figure 4.18 Child window: Operations (WESTRACE only)

The Operations child window lists significant operational occurrences, eg changes to vital and non-vital logic states, and WESTRACE faults.

4.9 Using Reports



Use the MoviolaW-XP reports to assist in diagnosing problems occurring in a selected time period. Reports are automatically opened in MoviolaW-XP's DBViewer, and can be saved as HTML files.

In Indications Mode, report data is extracted from the current database file. In Replay Mode, report data is extracted from the database file being replayed.

4.9.1 Preliminaries

4.9.1.1 Time Format



Make sure the computer's time format is set to **HH:mm:ss** (figure 4.19).

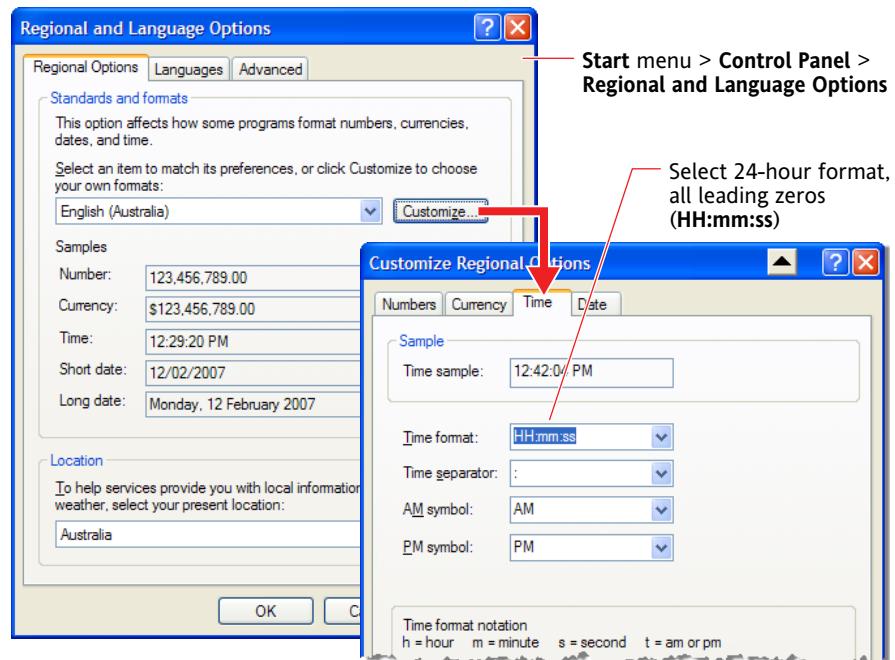


Figure 4.19 Reports: setting the computer's time format

4.9.1.2 Opening a Report Dialog Box



- Select (section 4.3) or open (section 4.5.2) the database file that contains the initial and final dates you want.
- Click the **Reports** button.

The Report Type dialog box opens.

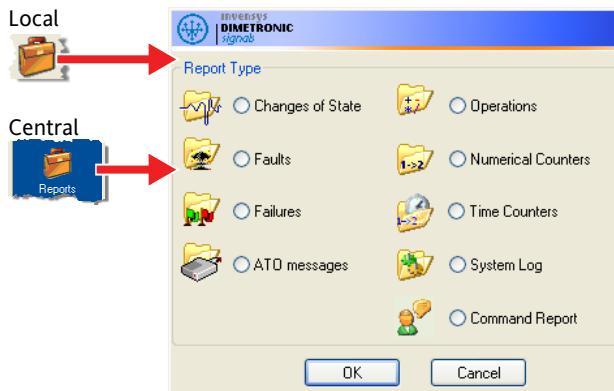


Figure 4.20 Report Type dialog box

- Select a report type, then click **OK**.

The appropriate report dialog box opens where you specify the initial and final date and time for the report, and other details.

4.9.1.3 DBViewer

MoviolaW-XP opens each report in a Microsoft Access “DBViewer” database window. Some of these allow extra functionality, such as the Initial Values object in the Changes of State report (figure 4.21).

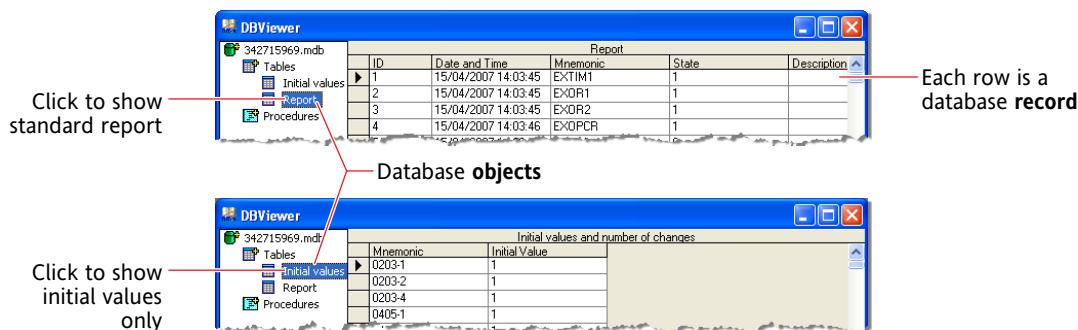


Figure 4.21 Database window objects

You can also use the Tab key or the mouse to select a cell's contents, which you can then copy to the Windows clipboard (Ctrl+c).

4.9.1.4 Saving, Printing and Closing a Report



Use these buttons (at the bottom of each report):



Save—save the report in text, HTML or database format by completing the standard Windows Save As dialog box



Print—print the report on a printer selected through the standard Windows Print dialog box (section 4.17)



Exit—close the report window

Note: If you want to save a report, do so before closing it. This is because MoviolaW-XP does not prompt you to save the report when it is closed by clicking the close window button.

4.9.2 Changes of State Report

The Changes of State report lists the details of mnemonics that changed at an installation during a specified period.

You can also show only the initial values—see figure 4.21.

ID	Date and Time	Mnemonic	State	Description
1	15/04/2007 14:03:45	EXTIM1	1	
2	15/04/2007 14:03:45	EXOR1	1	
3	15/04/2007 14:03:45	EXOR2	1	
4	15/04/2007 14:03:46	EXOPCR	1	
5	15/04/2007 14:03:46	EXTIM	0	
6	15/04/2007 14:03:46	EXOR1	0	
7	15/04/2007 14:03:46	EXOR2	0	
8	15/04/2007 14:03:46	EXOPCR	0	
9	15/04/2007 14:03:46	EXTIM	1	
10	15/04/2007 14:03:46	EXTIM1	0	
11	15/04/2007 23:39:54	EXTIM1	1	
12	15/04/2007 23:39:54	EXOR1	1	
13	15/04/2007 23:39:54	FXNR2	1	

Figure 4.22 Changes of State report



To create a Changes of State report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the Changes of State Report dialog box (section 4.9.1.2).

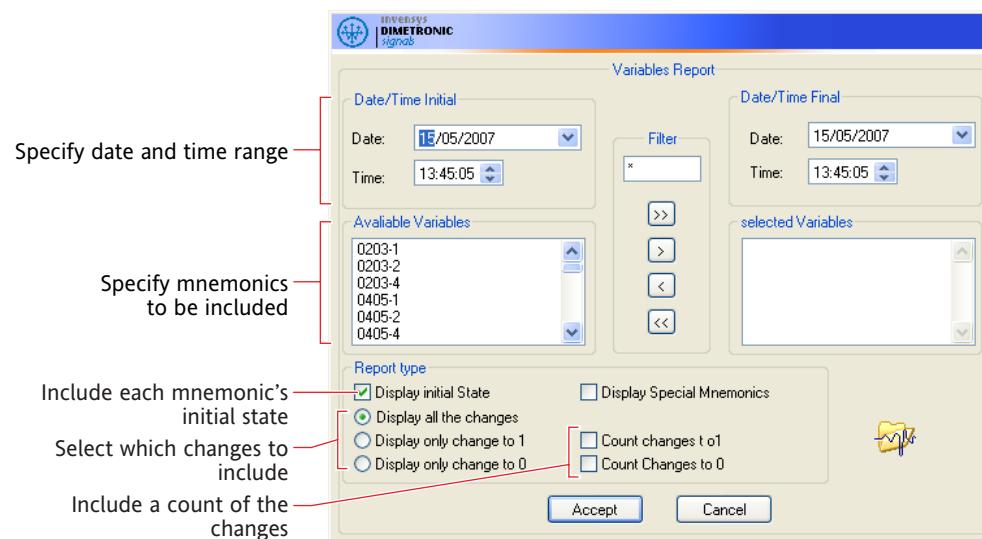


Figure 4.23 Changes of State Report dialog box

- c) Specify the date and time range for the report in the **Date/Time Initial** and **Date/Time Final** fields.
- d) Move the mnemonics you want included in the report into the **Selected Variables** list.
Use Method 1 and Method 2 as shown in figures 4.6 to 4.8.
- e) In the Report Type area, specify the information and mnemonics you want included in the report (figure 4.23).
- f) Click **Accept**.
MoviolaW-XP creates the report and opens it in DBViewer.

4.9.3 Faults Report (WESTRACE only)

The Faults report lists interlocking problems (eg WESTRACE module shutdown) that occurred at an installation during a specified period.

Related topics:

- section 2.3, “Faults and Failures”
- section 4.8.3, “Faults Child Window (WESTRACE only)”

ID	Reception Date/Time	Driver	Module	Rack	Slot	Error code	Critical Error	WESTRACE Date/Time	Description
1	15/05/2007 11:40:12	ID_A	Unavailable	1	4	2048	0	11/05/2007 14:33:39	
2	15/05/2007 11:40:12	ID_A	Unavailable	1	4	47033	0	11/05/2007 14:33:47	
3	15/05/2007 11:40:12	ID_A	Unavailable	1	4	47032	0	11/05/2007 14:33:47	
4	15/05/2007 11:40:12	ID_A	NCDM	1	3	220	0	11/05/2007 14:34:29	
5	15/05/2007 11:40:12	ID_A	Unavailable	1	10	1	0	11/05/2007 14:34:29	
6	15/05/2007 11:40:13	ID_A	Unavailable	1	7	1	0	11/05/2007 14:34:29	
7	15/05/2007 11:40:12	ID_A	Unavailable	1	12	46	0	11/05/2007 14:34:29	
8	15/05/2007 11:40:13	ID_A	VPIM50	1	5	45	0	11/05/2007 14:34:29	
9	15/05/2007 11:40:13	ID_A	Unavailable	1	4	32769	0	11/05/2007 14:34:58	
10	15/05/2007 11:40:13	ID_A	Unavailable	1	4	45057	0	11/05/2007 14:37:59	

Figure 4.24 Faults report (WESTRACE only)



To create a Faults report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the Faults Report dialog box (section 4.9.1.2).

Figure 4.25 Faults Report dialog box

- c) Specify the date and time range for the report in the **Date/Time Initial** and **Date/Time Final** fields.
- d) Move the modules you want included in the report into the **Selected Variables** list.
Use Method 1 and Method 2 as shown in figures 4.6 to 4.8.
- e) Click **Accept**.
MoviolaW-XP creates the report and opens it in DBViewer.

4.9.4 Failures Report (WESTRACE only)

The Failures report lists track equipment problems (eg low B24 supply) that occurred at an installation during a specified period.

- Related topics:
 - section 2.3, “Faults and Failures”
 - section 4.14, “Viewing Failures”

Shows **Emerged Failure** if **Failures** radio button selected,
or **Fixed Failure** if **Failures Solved** radio button selected

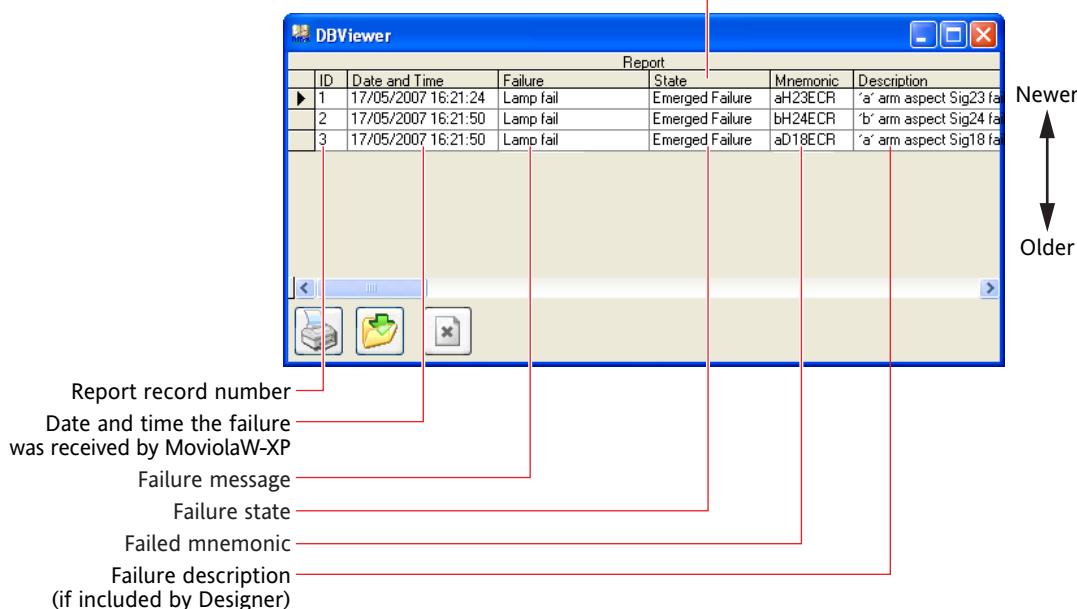


Figure 4.26 Failures report (WESTRACE only)



To create a Failures report:

- a) If using central MoviolaW-XP, select the appropriate installation.
- b) Open the Failures Report dialog box (section 4.9.1.2).



Figure 4.27 Failures Report dialog box

- c) Specify the date and time range for the report in the **Date/Time Initial** and **Date/Time Final** fields.
- d) Select the type of failures you want included in the report:
 - **Failures**—mnemonics that failed during the report interval (value changed from 1 to 0, energised to de-energised);
 - **Failures Solved**—mnemonics that were resolved during the report interval (value changed from 0 to 1, de-energised to energised).
- e) Click **Accept**.

MoviolaW-XP creates the report and opens it in DBViewer.

4.9.5 Operations Report (WESTRACE only)

The Operations report lists the operations executed in a WESTRACE¹ during a specified period.

ID	Date and Time	Driver	Operation	WESTRACE Date/Time
67	15/05/2007 11:40:18	ID_A	(148): Operation Code: 100 (Login: P11S1)	11/05/2007 14:38:35
68	15/05/2007 11:40:18	ID_A	(149): Operation Code: 600 (VLE Status C)	11/05/2007 14:39:26
69	15/05/2007 11:40:18	ID_A	(150): Operation Code: 104 (Forced Logout)	11/05/2007 14:40:09
70	15/05/2007 11:40:19	ID_A	(151): Operation Code: 900 (Westtrace Re)	11/05/2007 14:46:33
71	15/05/2007 11:40:19	ID_A	(152): Operation Code: 600 (VLE Status C)	11/05/2007 14:46:52
72	15/05/2007 11:40:19	ID_A	(153): Operation Code: 100 (Login: P11S1)	11/05/2007 14:47:10
73	15/05/2007 11:40:19	ID_A	(154): Operation Code: 600 (VLE Status C)	11/05/2007 14:47:45
74	15/05/2007 11:40:19	ID_A	(155): Operation Code: 103 (Forced Disco)	11/05/2007 14:48:55
75	15/05/2007 11:40:19	ID_A	(156): Operation Code: 100 (Login: P11S1)	11/05/2007 14:48:56
76	15/05/2007 11:40:19	ID_A	(157): Operation Code: 600 (VLE Status C)	11/05/2007 14:49:49

Report record number
Date and time the operation message was received by MoviolaW-XP
Driver type that generated the operation message
Operation code and description
Date and time the operation occurred in the WESTRACE

Figure 4.28 Operations report (WESTRACE only)



To create an Operations report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the Operations Report dialog box (section 4.9.1.2).

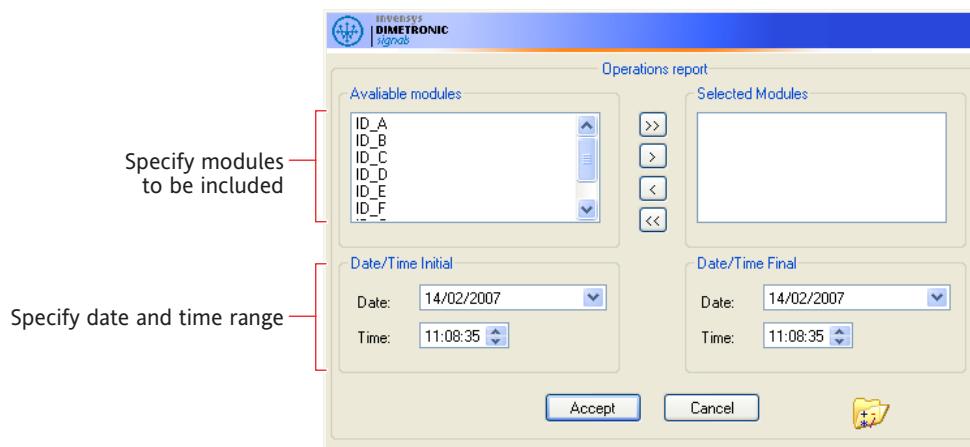


Figure 4.29 Operations Report dialog box

- Move the modules you want included in the report into the **Selected Modules** list.
Use Method 1 and Method 2 as shown in figures 4.6 to 4.8.
- Specify the date and time range for the report in the **Date/Time Initial** and **Date/Time Final** fields.

¹ NVC/DM or NCDM models only

- e) Click Accept.

MoviolaW-XP creates the report and opens it in DBViewer.

4.9.6 Numerical Counters Report

The Numerical Counters report lists an installation's selected numerical counter details for a specified period.

ID	Date and Time	Name	Value	Counter Limit	Condition	Mnemonic	Creation Date	Creator	Description
1	15/05/2007 16:19:13	ATR Count	1	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count
2	15/05/2007 16:19:21	ATR Count	2	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count
3	15/05/2007 16:19:26	ATR Count	3	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count
4	17/05/2007 16:21:35	ATR Count	4	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count
5	17/05/2007 19:32:45	ATR Count	5	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count
6	18/05/2007 08:44:08	ATR Count	6	10	1	ATR	15/05/2007 11:55:40	WRSAUSER	ATR Count

Figure 4.30 Numerical Counters report



To create a Numerical Counters report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the Numerical Counters Report dialog box (section 4.9.1.2).

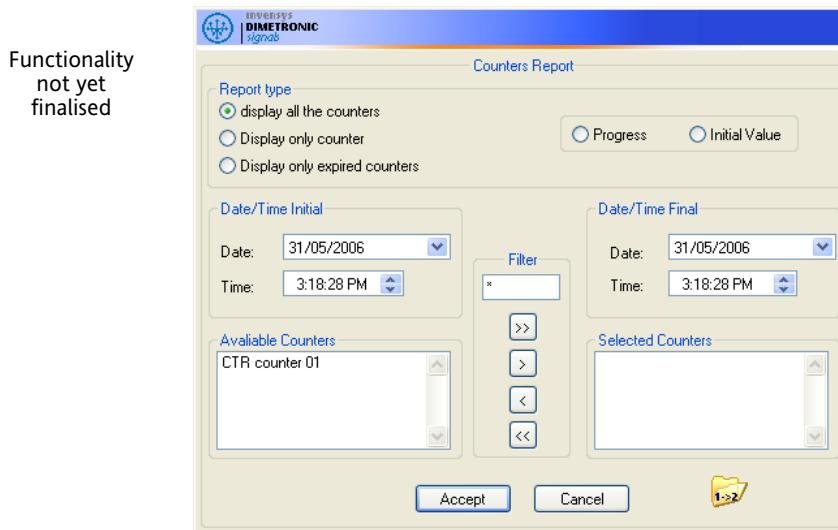


Figure 4.31 Numerical Counters Report dialog box

- The functionality of this dialog box is not yet finalised.

4.9.7 Time Counters Report

The Time Counters report lists an installation's selected time counter details for a specified period.

ID	Date and Time	Name	Time counter (hours)	Counter Limit (hours)	Condition	Mnemonic	Creation Date	Creator	Description
1	15/05/2007 14:07:48	ATRtimer	0:00	0:50	1	ATR	15/05/2007 14:07:47	WRSAUSER	ATR time counter

Figure 4.32 Time Counters report



To create a Time Counters report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the Numerical Counters Report dialog box (section 4.9.1.2).

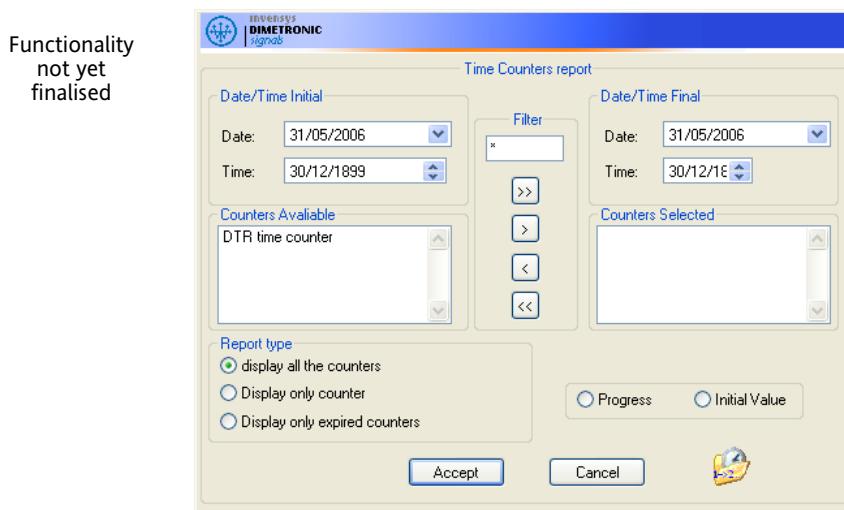


Figure 4.33 Time Counters Report dialog box

- The functionality of this dialog box is not yet finalised.

4.9.8 System Log Report

The System Log report is used by WRSA to analyse operational problems.

Only users with Administrator rights may create this type of report.

ID	Date and Time	Driver	Connection string	Information
1	15/05/2007 11:36:41	DBWriter	DBWriter - Internal	DBWriter Is Starting :)
2	15/05/2007 11:37:07	ENCODER_DBWRITER_MOV	sck:0.0.0.0.47777	User WRSAUSER has been logged into the system
3	15/05/2007 11:37:48	ENCODER_DBWRITER_MOV	sck:0.0.0.0.47777	The user WRSAUSER has closed the application
4	15/05/2007 11:40:00	DBWriter	DBWriter - Internal	DBWriter Is Starting :)
5	15/05/2007 11:40:26	ENCODER_DBWRITER_MOV	sck:0.0.0.0.47777	User WRSAUSER has been logged into the system
6	15/05/2007 11:55:40	ENCODER_DBWRITER_MOV	sck:0.0.0.0.47777	The User WRSAUSER has configured the counter ATR Count
7	15/05/2007 14:07:48	ENCODER_DBWRITER_MOV	sck:0.0.0.0.47777	The User WRSAUSER has configured the counter ATRtimer

Figure 4.34 System Log report



To create a System Log report:

- If using central MoviolaW-XP, select the appropriate installation.
- Open the System Log Report dialog box (section 4.9.1.2).

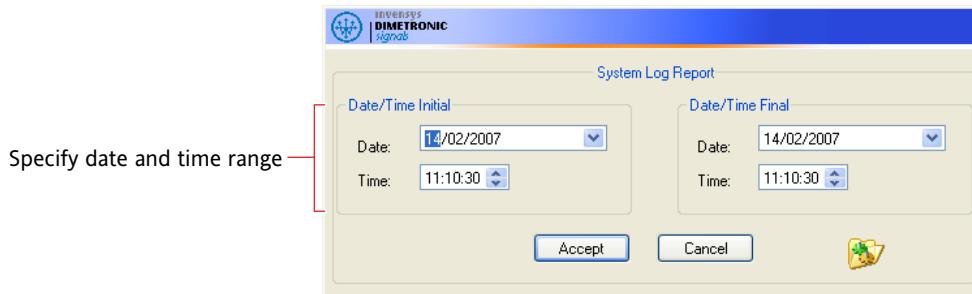


Figure 4.35 System Log Report dialog box

- Specify the date and time range for the report in the **Date/Time Initial** and **Date/Time Final** fields.
- Click **Accept**.

MoviolaW-XP creates the report and opens it in DBViewer.

4.9.9 Commands Report

The Commands report lists commands sent from the SCC control centre to an installation during a specified period.

It is not used in Australia.

4.10 Extracting Data

You can extract subsets of data and save them as separate database files. This makes it quick and easy to open and replay specific periods of railway events.

NOTE: You can only extract data from uncompressed online files, ie from:

- the current database file;
- database files in the installation's data directory (figures 2.9 and 2.10).



To save a range of data as a separate database file:

- a) If using central MoviolaW-XP, select the appropriate installation.
- b) Enter Replay Mode (section 4.5.1).
- c) Click the **Extract Data** button.

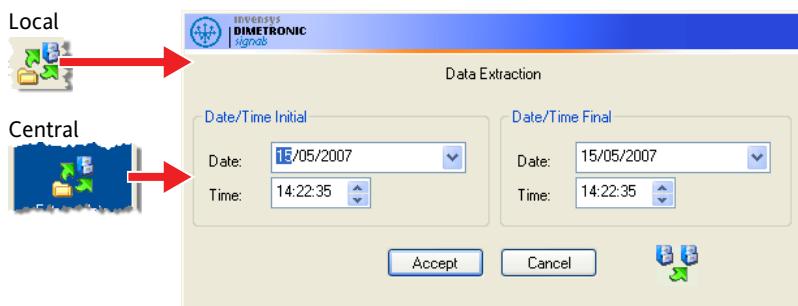


Figure 4.36 Extract Data dialog box

- d) Specify the date and time range for the data in the **Date/Time Initial** and **Date/Time Final** fields.
- e) Click **Accept** and wait for the data transfer to finish.
- f) In the Save As dialog box that opens, navigate to a storage location and enter a name for the new database file that will contain the extracted data.
For consistency, and so that the extracted database file can be recognised by MoviolaW-XP's replay function, we recommend that you use MoviolaW-XP's filename format as shown in figure 2.10.
- g) Click **Save**.

You can now use MoviolaW-XP's Replay Mode to examine the extracted data (section 4.5).

BEWARE:

- MoviolaW-XP's time limit for keeping uncompressed database files in an installation's data directory (figure 2.9)—typically 30 days.
- Different time zone settings of the local and central MoviolaW-XP computers.
- If MoviolaW-XP is monitoring a complex interlocking, there may be a lot of data in the period that you extract and therefore data transfer could take a long time, especially over a slow communications link. In such cases, it may be quicker to download the **entire** database (using Windows Explorer), then extract and save the period you want.

4.11 Hiding or Showing Labels

You can hide or show the labels associated with graphic elements on the track diagram (central MoviolaW-XP only).

The items that appear on the Labels pop-up menu are defined in the track layout by the Designer.



To hide or show track diagram labels (central MoviolaW-XP only):

- Click the **Labels** button.

The Labels pop-up menu opens.

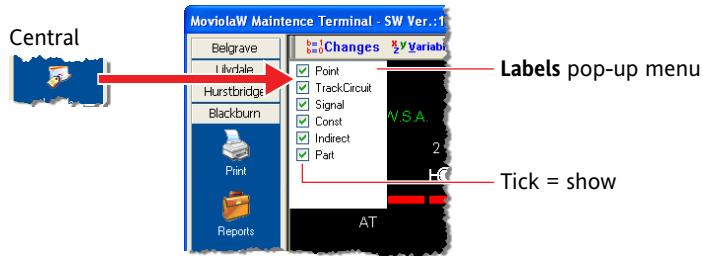


Figure 4.37 Labels pop-up menu

- Un-tick or tick the label class you want to hide or show, or press **Esc** to close the menu without making a change.

4.12 Saving a Screen Capture

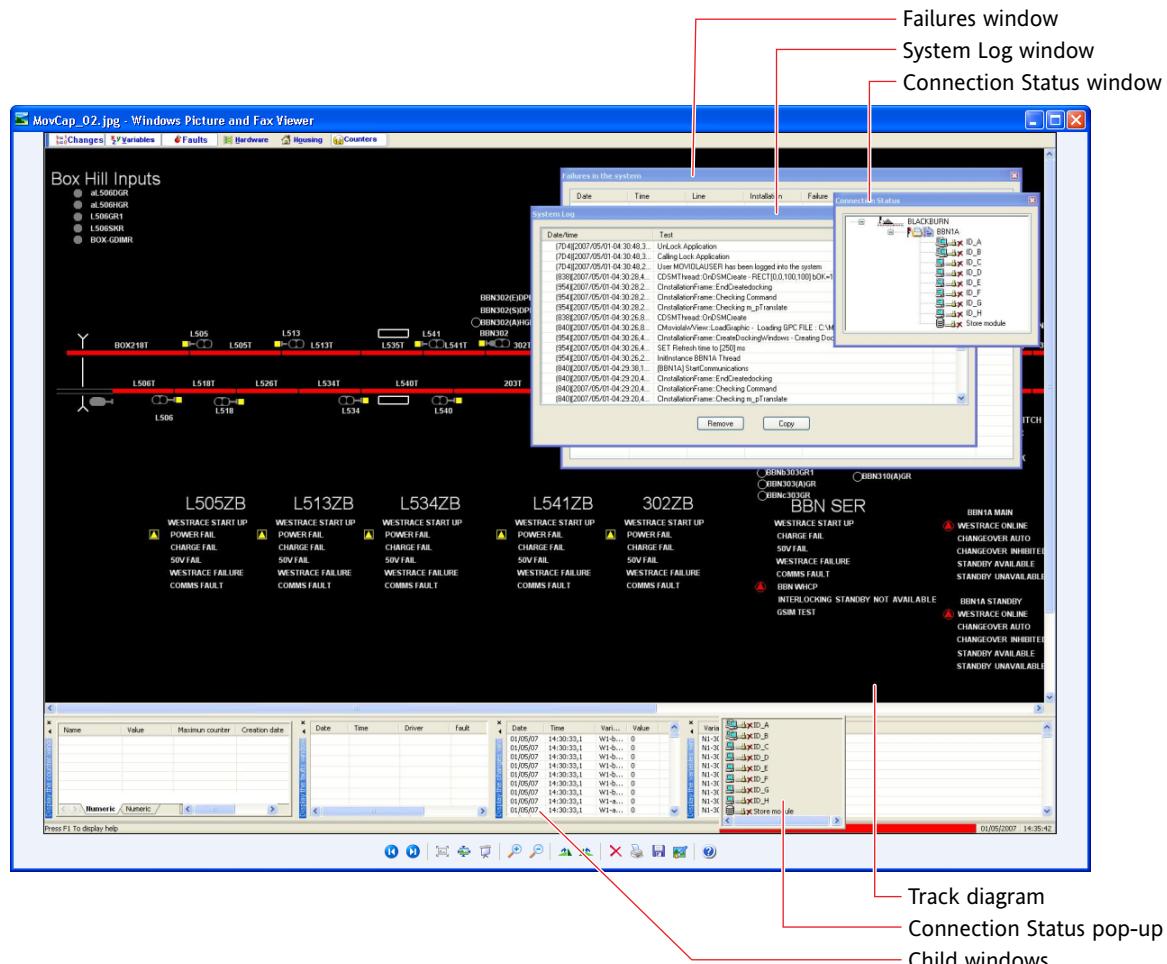


Figure 4.38 JPEG screen capture: screen elements that can be captured



To capture an image of the MoviolaW-XP main window as a JPEG graphic file:

- Open and arrange the screen elements you want included in the capture (figure 4.38).
Scroll the track diagram and window contents for the most useful view.
- Click the **Export to JPEG** button.

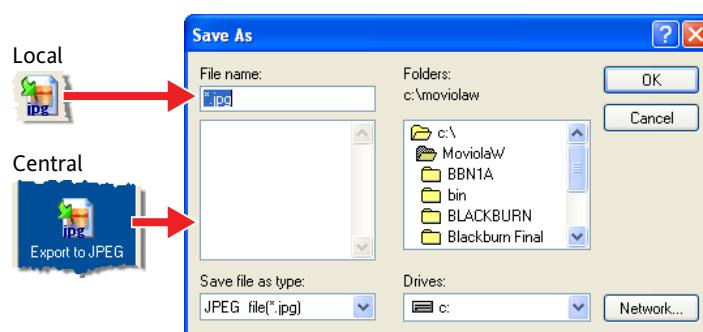


Figure 4.39 Save As (JPEG) dialog box

- Specify the filename and destination for the JPEG file, then click **OK**.

4.13 Managing MoviolaW-XP Users

User groups and permissions are described in section 2.8.

Users can only be managed—ie added, removed or modified—by MoviolaW-XP Supervisor or Administrator users.



To add a new MoviolaW-XP user:

- Log on as either a Supervisor or an Administrator (see section 4.2).
- Click the **Configure User** button.

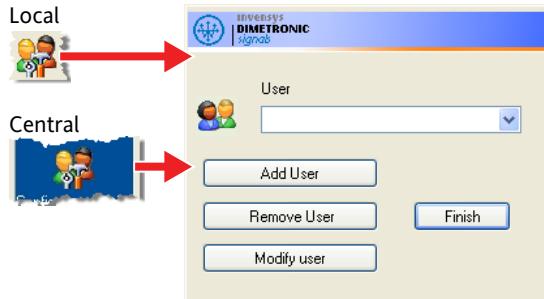


Figure 4.40 Configure User dialog box

- Click **Add User**.

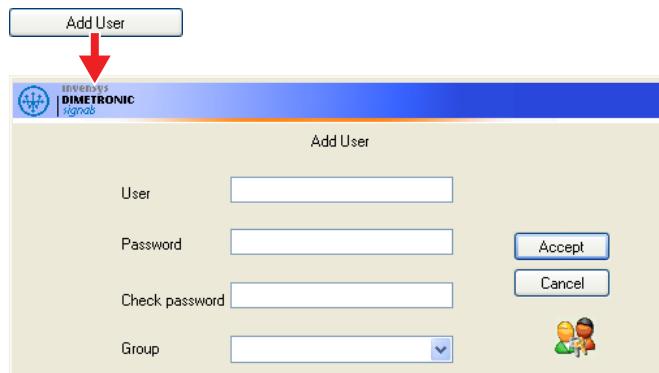


Figure 4.41 Add User dialog box

- In the Add User dialog box:
 - Type a name for the new user in the **User** field.
Spaces are not allowed.
 - Type the password for the new user in the **Password** field and the **Check Password** field.
 - In the **Group** drop-down list, select the group to which the new user will be assigned.
 - Click **Accept**.
- In the Configure User dialog box, click **Finish**.



To remove (delete) an existing MoviolaW-XP user:

- Log on as either a Supervisor or an Administrator (see section 4.2).
 - Click the **Configure User** button.
- The Configure User dialog box opens (figure 4.40).

- c) Click **Remove User** and complete the Remove User dialog box.
- d) In the Configure User dialog box, click **Finish**.



To modify an existing MoviolaW-XP user (ie change password or group):

- a) Log on as either a Supervisor or an Administrator (see section 4.2).
- b) Click the **Configure User** button.
The Configure User dialog box opens (figure 4.40).
- c) Click **Modify User**.



Figure 4.42 Modify User dialog box

- d) In the Modify User dialog box:
 - i) If required, change the user's password by typing a new password in the **Password** field and the **Check Password** field.
 - ii) If required, assign the user to a different group using the **Group** drop-down list.
 - iii) Click **Accept**.
- e) In the Configure User dialog box, click **Finish**.

4.14 Viewing Failures

You can view failure messages in:

- the Failures window—a chronological list of existing failures in the currently-monitored installation;
- the Failures child window;
- the Failures pop-up alert window;
- the track diagram.

Figure 4.43 shows a typical Failures window. You can keep it open while you work with MoviolaW-XP. Figure 4.43 also shows how to clear a failure once it has been resolved.

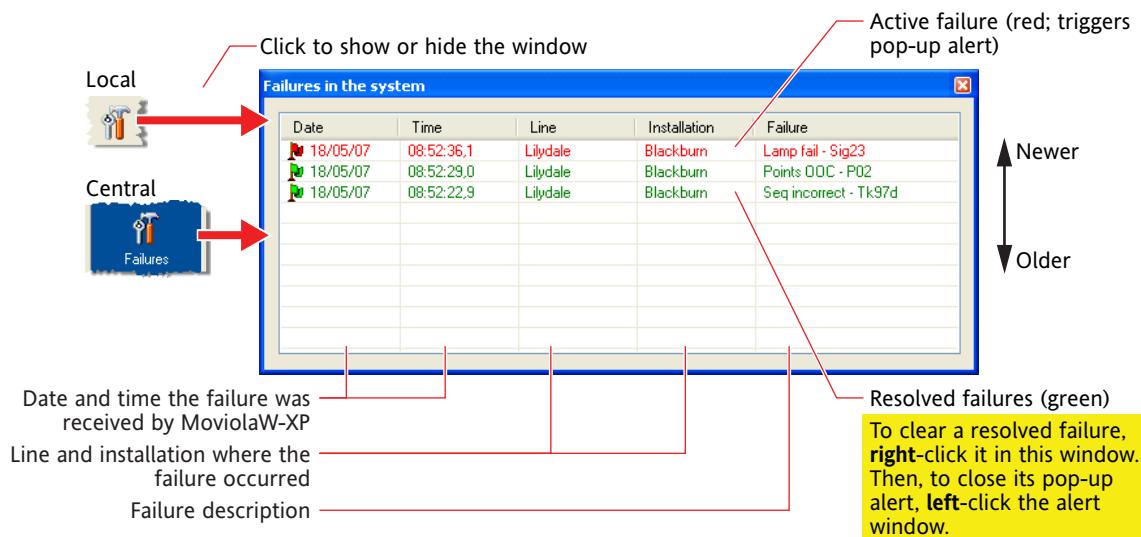


Figure 4.43 Failures window

■ Related topics:

- section 2.3, “Faults and Failures”
- section 3.5, “Alert Windows”
- section 4.8.4, “Failures Child Window (WESTRACE only)”

4.15 Viewing the System Log

The System Log window records system maintenance issues.

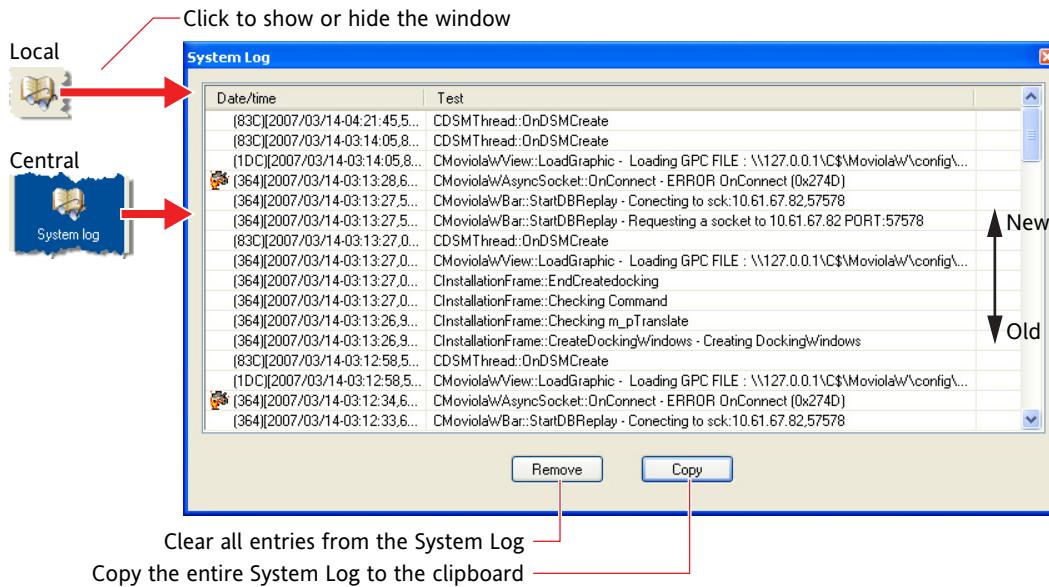


Figure 4.44 System Log window

4.16 Configuring SMS Notifications

A failure, a fault, or a counter Limit Value alert can trigger MoviolaW-XP to send an SMS (text) message to one or more phone numbers or e-mail addresses.

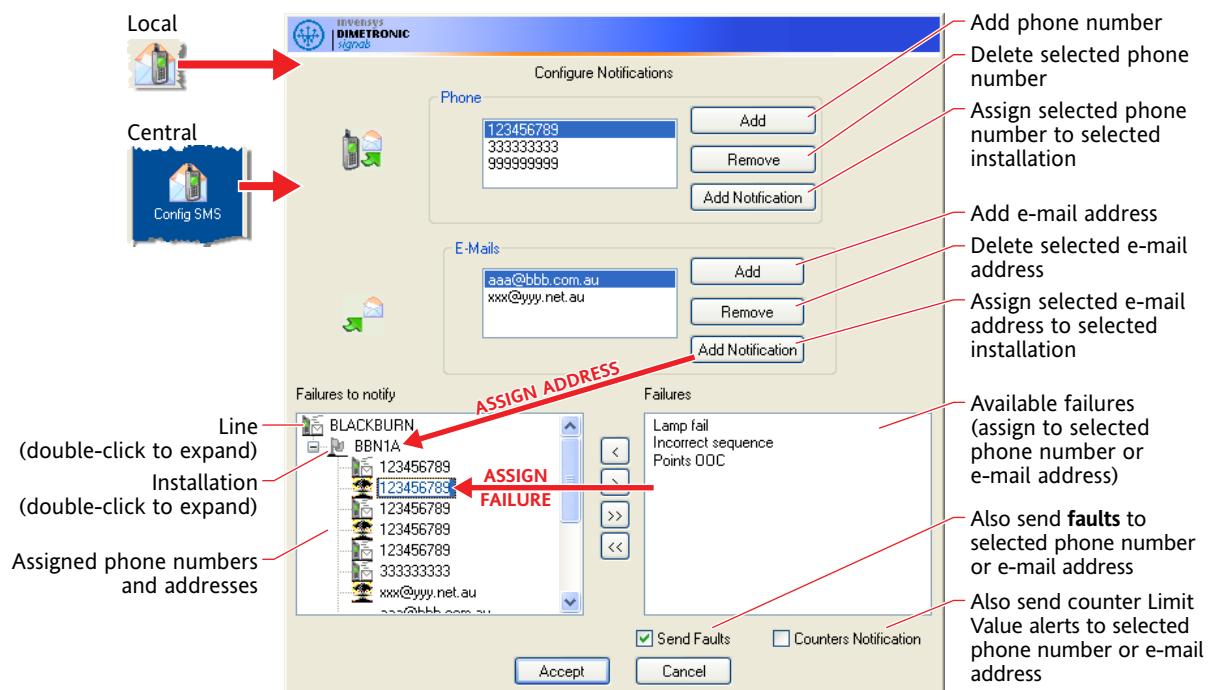


Figure 4.45 Configure Notifications dialog box



To configure automatic SMS notification:

- Click the **Configure SMS** button.
- The Configure Notifications dialog box opens (figure 4.45).
- Follow the steps in figure 4.46 to add the required phone number or e-mail address to the notification list.

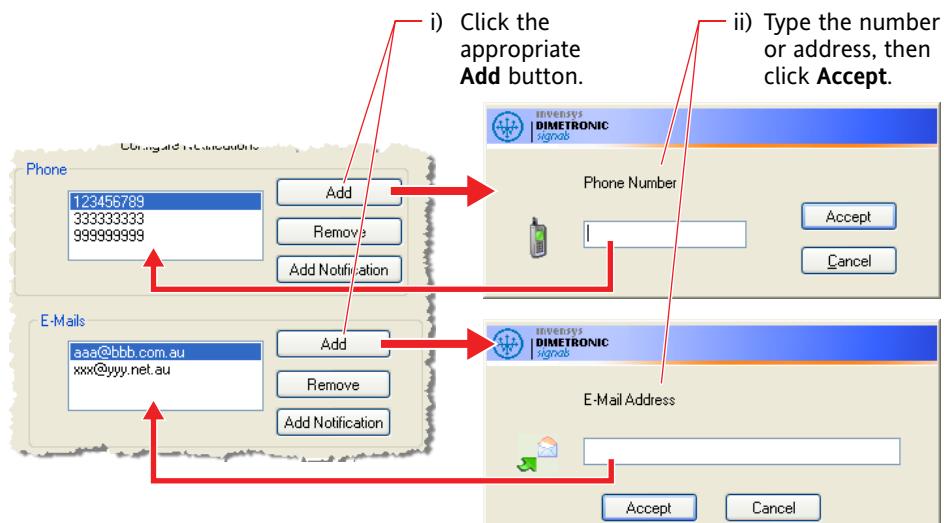


Figure 4.46 Adding an SMS number or address

- c) Follow the steps in figure 4.47 to assign phone numbers or e-mail addresses to installations.

You can assign the same phone number or e-mail address to several installations.

- i) Click (highlight) the **installation**.

Double-click the line if the installations are not visible.

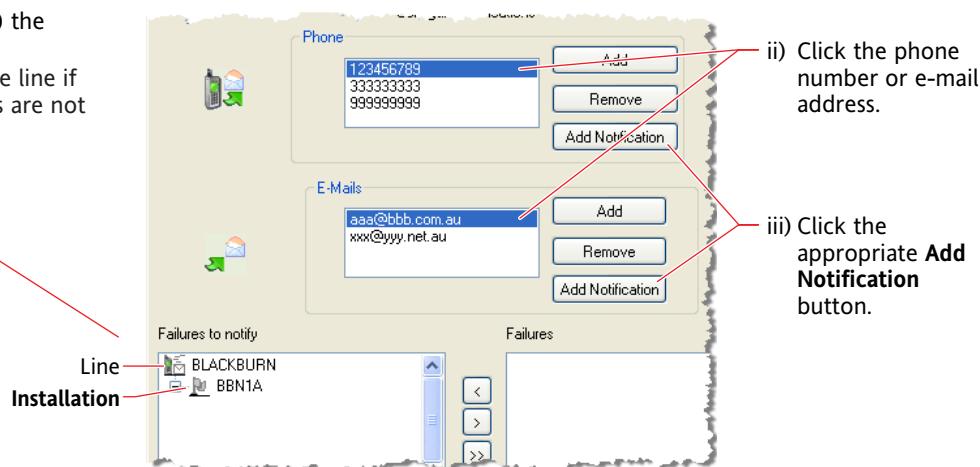


Figure 4.47 Assigning an SMS number or address to an installation

- d) For each installation, follow the steps in figure 4.48 to assign types of failures to particular phone numbers or e-mail addresses.

MoviolaW-XP will then send the appropriate failure message when a failure occurs.

NOTE: If the same phone number or e-mail address is used at several installations, you must assign failures to that phone number or e-mail address **for each installation**.

- i) Click the phone number or e-mail address.

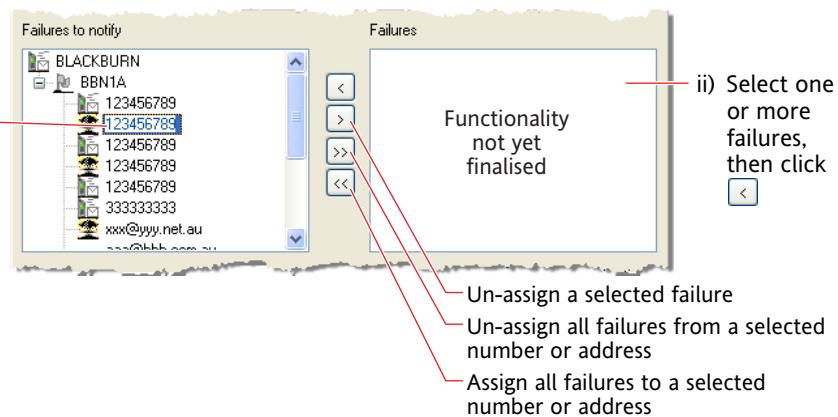


Figure 4.48 Assigning failures to a number or address

- e) If you also want to send all fault messages to the selected number or address, tick **Send Faults** (figure 4.45).
- f) If you also want to send all counter Limit Value alert messages to the selected number or address, tick **Counters Notification** (figure 4.45).
- g) Click **Accept**.

You can re-open the Configure Notifications dialog box at any time to change the settings.

4.17 Printing

MoviolaW-XP allows you to print:

- an image of the active MoviolaW-XP main window;
- a report.

4.17.1 Printing a Screen image



- a) Open and arrange the screen elements (child windows, Failures window etc; see figure 4.38) as you want them to be printed.
- b) Click the **Print** button on the Control Bar.

The Print dialog box opens.

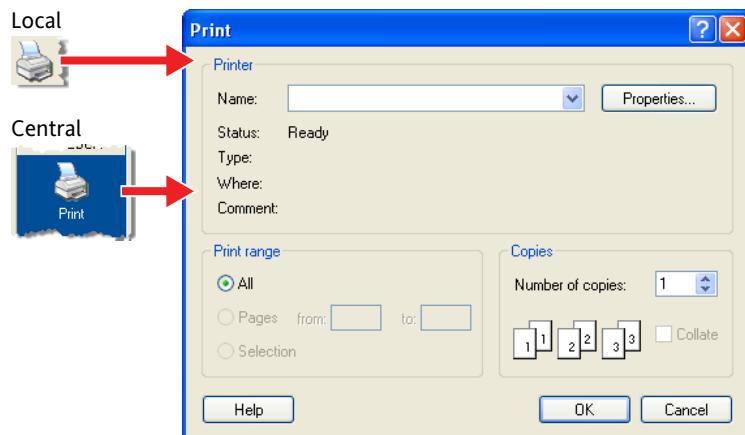


Figure 4.49 Print dialog box

- c) Set the print details and click **OK**.

4.17.2 Printing a Report



- a) Generate the report (section 4.9.1.2).
- b) Click the **Print** button on the bottom of the report.



Figure 4.50 Report Print button

The Print dialog box opens (figure 4.49).

- c) Set the print details and click **OK**.

4.18 Troubleshooting Connections

Users with Administrator rights can observe real-time communications between MoviolaW-XP and the current installation, typically to locate communication problems. There are two ways to do this:

- Use the Connection Status window, which provides a useful overview of MoviolaW-XP connections—section 4.18.1.1.
- Use the connection driver's own window, which provides detailed connection information and other capabilities—section 4.18.1.2.

■ Related topics:

- section 2.7.3, “Hierarchy: Lines, Installations and Drivers”
- section 2.7.2, “Interlocking Drivers”

4.18.1 Locating Communication Problems

4.18.1.1 Troubleshooting Using the Connection Status Window



a) Click:

- the **Connections** button (the Connection Status window opens; figure 4.51), or;
- the **Connection Status Indicator** (the Connection Status pop-up opens; figure 3.6).

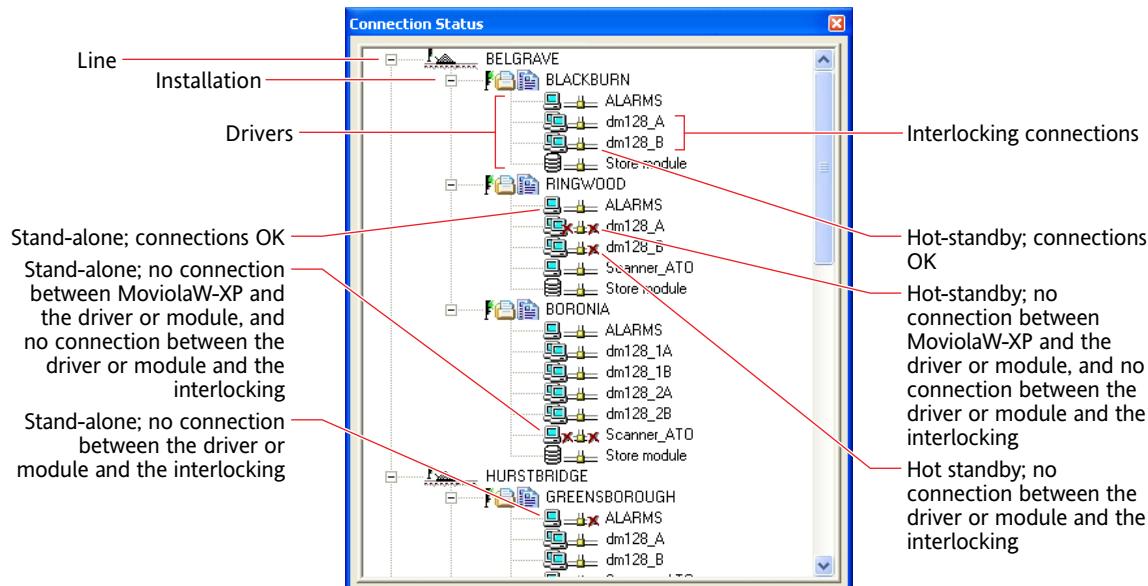


Figure 4.51 Connection Status window: icon details

b) Look for the **X** symbol.

It indicates faulty connections as shown in figure 4.51.

c) Leave the Connection Status window open while you work, or close it by clicking the Connections button, or **X** in the title bar.

The Connection Status pop-up closes automatically after 2 minutes, or you can click the Connection Status Indicator to close it.

4.18.1.2 Troubleshooting Using the Connection Driver's Window



- Press **Alt+Tab** repeatedly to select the driver you want to monitor.
The driver's window opens.

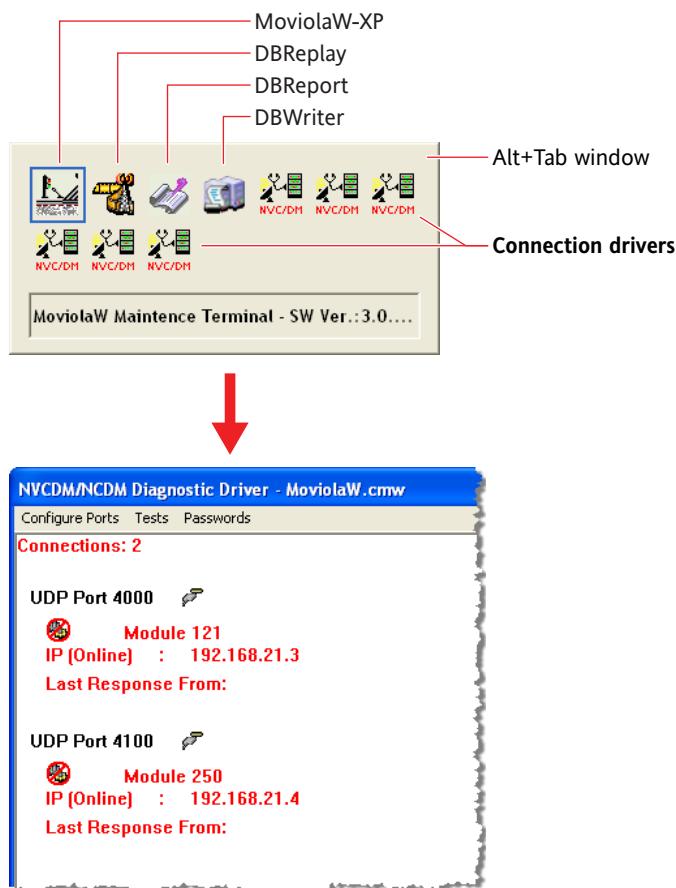


Figure 4.52 Opening a connection driver window

- b) Observe the communications traffic between the MoviolaW-XP computer and the monitored railway system.
- c) Use Alt+Tab to return to MoviolaW-XP.
You can also return to MoviolaW-XP using the Windows taskbar, or by minimising the driver window—but do NOT close or exit the driver window (the driver must be running for proper operation).

4.18.2 Advanced Communication Troubleshooting

Having located a communication problem (section 4.18.1), you may want to continue troubleshooting by pinging the interlocking's IP address.

- If no response is received, check network cables, plugs and switches, and network connectivity.
- If a response is received, check that the computer's IP address is appropriate for communicating with the interlocking (eg the IP address may have changed if a fixed IP address was not set initially).

For further assistance, contact your network supervisor or WRSA.

4.19 Exiting MoviolaW-XP

Exiting (quitting) MoviolaW-XP is a restricted operation. Only users with MoviolaW-XP Administrator rights can exit local or central MoviolaW-XP (see table 2.1, page 2-18).

Note:

Only exit a local or central MoviolaW-XP system if recovering from a fault condition, or if you definitely intend to shut the program down and discontinue data logging and monitoring.



To exit MoviolaW-XP:

- a) Click the **Exit** button.
- b) Complete any Password dialog box that opens.
- c) Click **OK** in the “Exit MoviolaW-XP?” dialog box.

Note:

We recommend that you re-start the computer before re-starting MoviolaW-XP.

APPENDIX A: USING DRIVERS

MoviolaW-XP uses software drivers to interface with the interlockings.

There are different drivers for each type of interlocking. The driver for a WESTRACE DM128 for example, is different to the driver for an NVC/DM or NCDM and different again from an S2 Interlogic driver. The person configuring MoviolaW must select and configure the appropriate driver for the application. A MoviolaW-XP working with multiple interlockings will need a driver for each communication channel or session.

Most of the drivers allow you to view the information being transferred but this would generally only be used for de-bugging an installation.

Accessing Driver Windows



Press **Alt+Tab** until the driver window is displayed.

A.1 N(V)CDM Driver

This driver is only applicable to a local MoviolaW-XP installation.

You must log on to MoviolaW-XP as a user with MoviolaW-XP Administrator rights before you can operate the N(V)CDM Driver.

Upon start-up, the driver attempts to establish a secure connection with the NVLM module of the WESTRACE installation



Use this driver to get (or send) information from (to) WESTRACE NVC/DM or NCDM (NVLM) modules.

The connection between the PC running the N(V)CDM driver and the WESTRACE:

- can be through a network or serial port when the WESTRACE is using an NCDM module;
- must be through a serial port when the WESTRACE is using an NVC/DM module.

The driver interface will be similar to Figure A.1 when the connection is established.

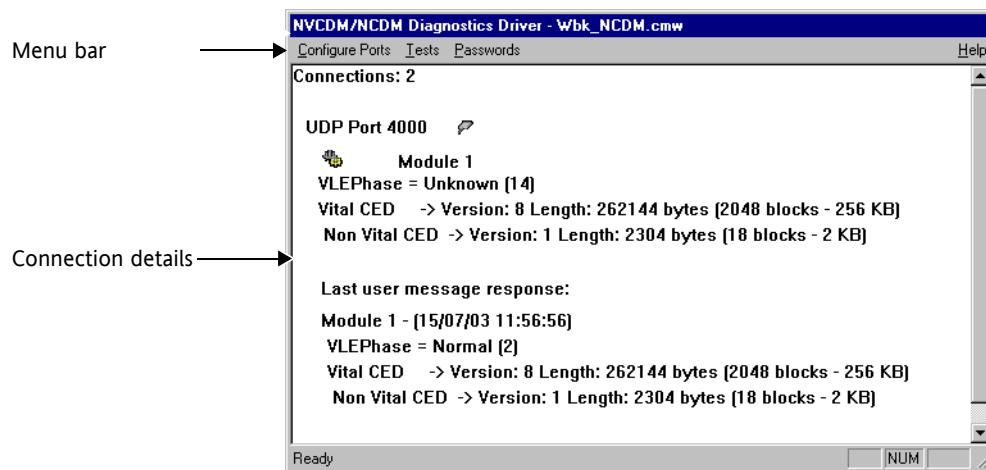


Figure A.1 User Interface—N(V)CDM Driver

Menu Bar

See Section A.1.1.

Connection Details

The address of the NVLM is shown and its working state is indicated. A hot-standby configuration will be either “OnLine” or “Standby”.

A.1.1 Menus

A.1.1.1 Configure Ports



Use this menu to configure the serial port connection parameters (only when made possible by the MoviolaW-XP configuration procedure).

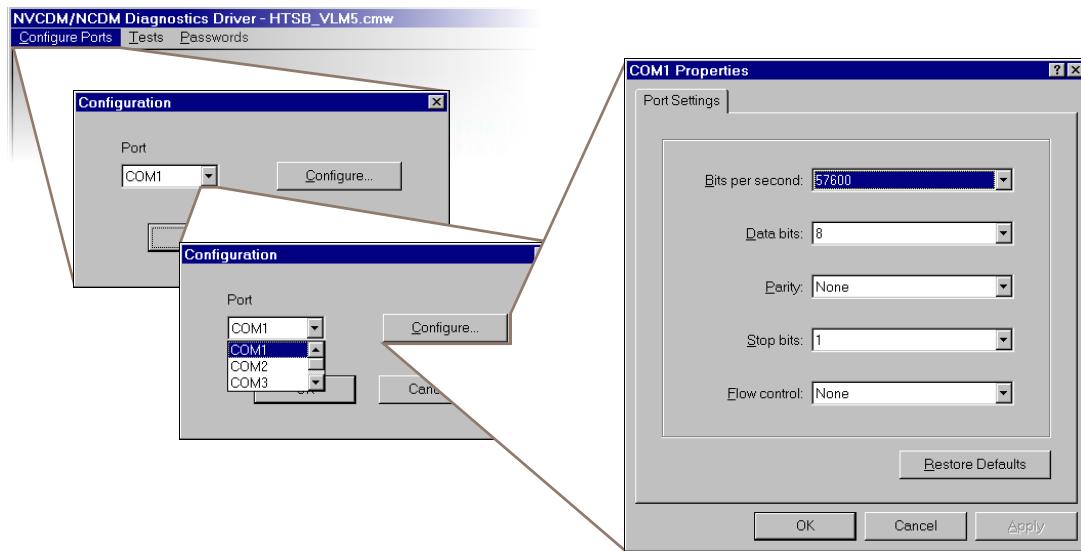


Figure A.2 Configure Ports—N(V)CDM Driver

A.1.1.2 Tests



Use this menu to send commands to the NVLM for getting information from the WESTRACE.

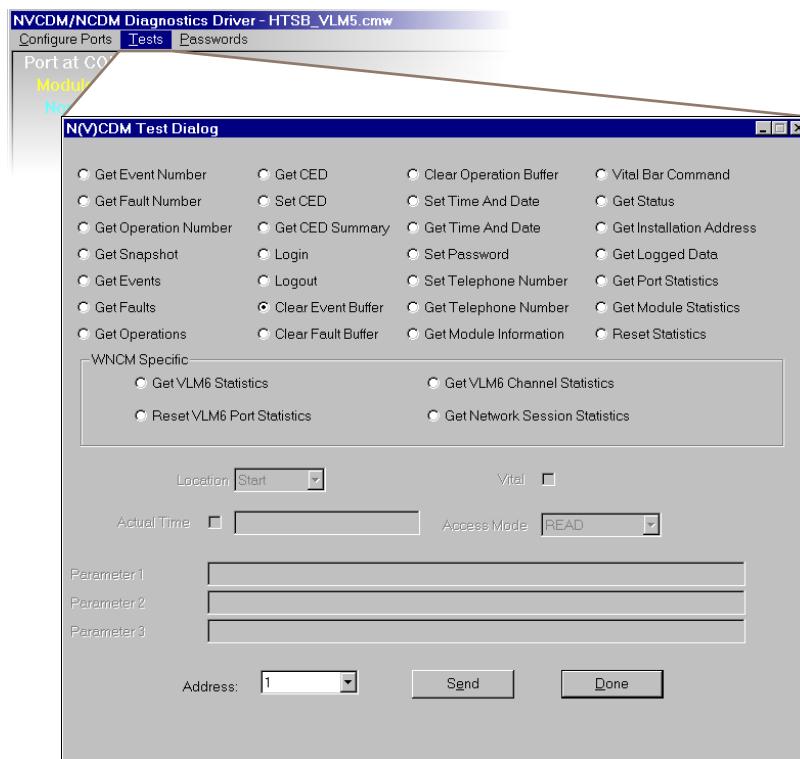


Figure A.3 Test Dialog—N(V)CDM Driver

See Section A.1.2 for assistance in using the commands available through this dialog box.

A.1.1.3 Passwords



Use this menu to change the read or write password of the WESTRACE module associated with a user defined address.

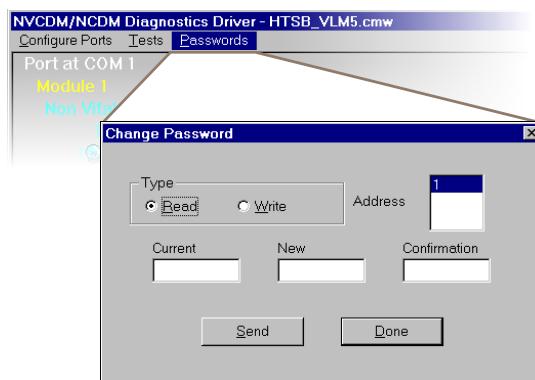


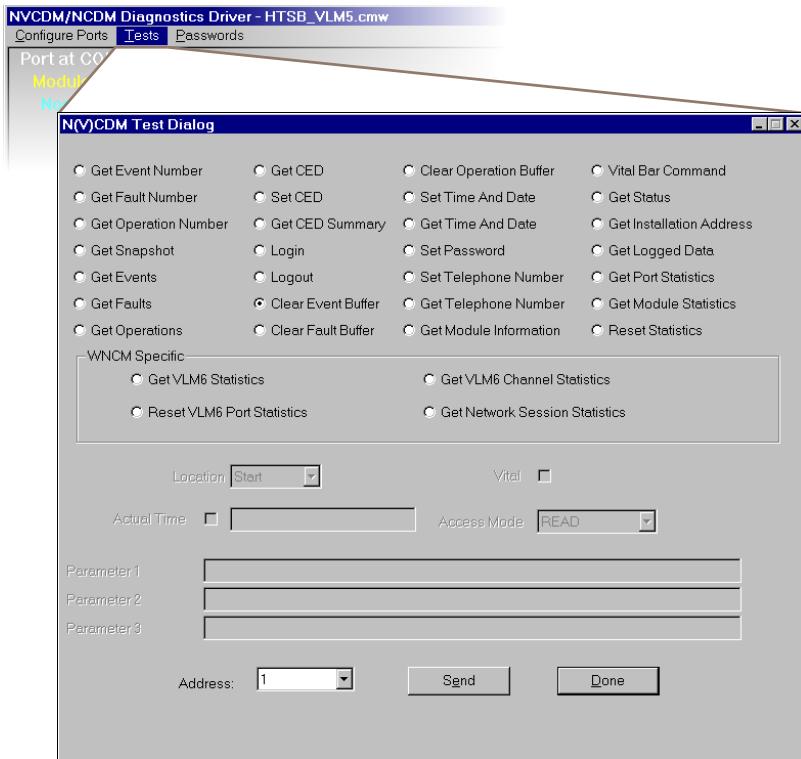
Figure A.4 Change Password Dialog—N(V)CDM Driver

See Section A.1.3 for assistance in changing passwords.

A.1.2 Using N(V)CDM Commands



- a) Select the **Tests** menu to open the N(V)CDM Test dialog box;



- b) Click the radio button for the information you require;
 c) Click the button and change the **Address** when required;
Address—address of a module associated with a port. Range 0 to FFFFh
 d) Enter or set other options as required. See the table below and sections A.1.2.1.1 to A.1.2.1.32;
 e) Click the **Send** button to send the N(V)CDM commands;
 f) Click the **Done** button to close the dialog box.

For Command...	see section...	
Get Event Number	A.1.2.1.1	
Get Fault Number	A.1.2.1.2	
Get Operation Number	A.1.2.1.3	
Get Snapshot	A.1.2.1.4	
Get Events	A.1.2.1.5	
Get Faults	A.1.2.1.6	
Get Operations	A.1.2.1.7	

Table A.1 N(V)CDM commands index

For Command...	see section...
Get CED	A.1.2.1.8
Set CED	A.1.2.1.9
Get CED Summary	A.1.2.1.10
Logon	A.1.2.1.11
Logout	A.1.2.1.12
Clear Event Buffer	A.1.2.1.13
Clear Fault Buffer	A.1.2.1.14
Clear Operation Buffer	A.1.2.1.15
Set Time and Date	A.1.2.1.16
Get Time and Date	A.1.2.1.17
Set Password	A.1.2.1.18
Set Telephone Number	A.1.2.1.19
Get Telephone Number	A.1.2.1.20
Get Module Information	A.1.2.1.21
Vital Bar Command	A.1.2.1.22
Get Status	A.1.2.1.23
Get Installation Address	A.1.2.1.24
Get Logged Data	A.1.2.1.25
Get Port Statistics	A.1.2.1.26
Get Module Statistics	A.1.2.1.27
Reset Statistics	A.1.2.1.28
WNCM Specific Commands (only with NCDM module)	
Get VLM6 Statistics	A.1.2.1.29
Reset VLM6 Port Statistics	A.1.2.1.30
Get VLM6 Channel Statistics	A.1.2.1.31
Get Network Session Statistics	A.1.2.1.32

Table A.1 N(V)CDM commands index (*Continued*)

Table A.2 in Section A.1.2.2 summarizes the objective of the N(V)CDM driver commands and possible responses to the commands.

A.1.2.1 N(V)CDM Driver Command Parameters

A.1.2.1.1 Get Event Number

Event Number—a unique identifier for an event in the Event Buffer.



Click the Location button and select from:

- **Start**—find the earliest event number near the start of the buffer;
- **End**—find the last event number before the end of the buffer;
- **Time**—find the event number in the buffer with a time stamp equal to or greater than the specified time.

A.1.2.1.2 Get Fault Number

Fault Number—a unique identifier for a fault in the Fault Buffer.



Click the Location button and select from:

- **Start**—find the earliest fault number near the start of the buffer;
- **End**—find the last fault number before the end of the buffer;
- **Time**—find the fault number in buffer with a time stamp equal to or greater than the specified time.

A.1.2.1.3 Get Operation Number

Operation Number—a unique identifier for an operation in the Operation Buffer.



Click the Location button and select from:

- **Start**—find the earliest operation number near the start of buffer;
- **End**—find the last operation number before the end of the buffer;
- **Time**—find the operation number in buffer with a time stamp equal to or greater than the specified time;.

A.1.2.1.4 Get Snapshot



- a) Click and set the **Vital** check box when a vital snapshot is required;
- b) Enter these parameters:
 - **Event Number**—from Section A.1.2.1.1;
 - **State Identity**—the first internal logic state to be included in the response. Range: 1 to 65535.

A.1.2.1.5 Get Events



Enter the **Event Number** parameter—from Section A.1.2.1.1.

A.1.2.1.6 Get Faults



Enter the **Fault Number** parameter—from Section A.1.2.1.2.

A.1.2.1.7 Get Operations



Enter the **Operation Number** parameter—from Section A.1.2.1.3.

A.1.2.1.8 Get CED



Enter the **BlockId** parameter.

The CED data is divided into 128 byte blocks and the BlockId selects a 128-byte block within the CED. Range 0 to 65535.

A.1.2.1.9 Set CED



- a) Clear the **Vital** check box;

The vital CED cannot be changed;

- b) Enter these parameters:

- **BlockId**—the identifier for the 128byte block to be changed. Range 0 to 65535.
CED data is divided into 128 byte blocks and the BlockId selects a 128-byte block within the CED.;
- **Last BlockId**—the identifier for the last block of CED;
- **Data**—128 bytes of data to be written to the CED.

A.1.2.1.10 Get CED Summary

No parameters required.

A.1.2.1.11 Logon

The NVLM must not be in maintenance mode. See Reference [FLM].



- a) Click the Access Mode button and select from:
 - **Read**—read only access;
 - **Write**—read and write access;b) Enter the **Password** for the selected access mode.

A.1.2.1.12 Logout

No parameters required.

A.1.2.1.13 Clear Events

Must be logged into WESTRACE in Maintenance mode. See Section A.1.2.1.11

No parameters required.

A.1.2.1.14 Clear Faults

Must be logged into WESTRACE in Maintenance mode. See Section A.1.2.1.11

No parameters required.

A.1.2.1.15 Clear Operations

Must be logged into WESTRACE in Maintenance mode. See Section A.1.2.1.11

No parameters required.

A.1.2.1.16 Set Time and Date

Must be logged into WESTRACE in Write mode. See Section A.1.2.1.11



Set the date and time:

- **Check box**—reads the current time from the MoviolaW-XP PCs clock;
- **Field**—enter **dd/mm/yy hh:mm:ss**

A.1.2.1.17 Get Time and Date

No parameters required.

A.1.2.1.18 Set Password

Must be logged into WESTRACE in Write mode. See Section A.1.2.1.11



- a) Click the Access Mode button and select from:
 - **Read**—read only access;
 - **Write**—read and write access;
- b) Enter the **Password** for the selected access mode.

A.1.2.1.19 Set Telephone Number

Must be logged into WESTRACE in Write mode. See Section A.1.2.1.11



Enter these parameters:

- **Tel. No. Index**—identifies the telephone number to be changed. Range 0 to 4;
- **Port Number**—identifies the port on the NVLM that will use the telephone number.
Range (NVCDM): 2 to 7 (serial).
Range (NCDM): 2 to 7 (serial).
- **Telephone Number**—the dial-out telephone number for the port.
Range: 1 to 31 characters.

A.1.2.1.20 Get Telephone Numbers

Enter the **Port Number** parameter—identifies a port on the NVLM.

Range (NVCDM): 2 to 7 (serial).

Range (NCDM): 2 to 7 (serial).

A.1.2.1.21 Get Module Information

No parameters required.

A.1.2.1.22 Vital Bar Command

Not used.

A.1.2.1.23 Get Status

No parameters required.

A.1.2.1.24 Get Installation Address

No parameters required.

A.1.2.1.25 Get Logged Data



Enter these parameters:

- **Fault Number**—the identifier for the next expected fault;
- **Operation Number**—the identifier for the next expected operation;
- **Event Number**—the identifier for the next expected event.

A.1.2.1.26 Get Port Statistics



- a) Click the **Vital** check box to clear it.
- b) Enter the **Port Number** parameter—identifies a port on the NVLM.
Range (NVCDM): 2 to 7 = Serial, 8 = IMB, 9 = Hot-Standby.
Range (NCDM): 2 to 7 = Serial, 8 = IMB, 9 = Hot-Standby,
11 = Network.

A.1.2.1.27 Get Module Statistics



- a) Click the **Vital** check box to clear it.
- b) Enter these parameters:
 - **Port Number**—identifies a port on the NVLM.
Range (NVCDM): 2 to 7.
Range (NCDM): 2 or 3.
 - **Address**—
NVCDM—the address of the module associated with the port. Range: 0 to FFFF hexadecimal.
NCDM—the address of the S2 module.
Range: 0 to FFFF hexadecimal.

A.1.2.1.28 Reset Statistics



Click the **Vital** check box to clear it.

A.1.2.1.29 Get VLM6 (Port) Statistics

WNCM only.



- a) Click the **Vital** check box to set it on (ticked).
- b) Enter the **Port Number** parameter—use 10.

A.1.2.1.30 Reset VLM6 Port Statistics

WNCM only.



Click the **Vital** check box to set it on (ticked).

A.1.2.1.31 Get VLM6 Channel Statistics (WNCM only)

- a) Click the **Vital** check box to set it:
on (ticked) for vital statistics;
off (clear) for non-vital statistics;
- b) Enter these parameters:
 - **Port Number**—identifies the VLM6 port on the NCDM. Use 10;
 - **Address**—the VLM6 channel number. Range: 0 to FFFF hexadecimal.

A.1.2.1.32 Get Network Session Statistics (WNCM only)

- a) Click the **Vital** check box to clear it;
- b) Enter these parameters:
 - **Port Number**—identifies the network port on the NCDM. Use 11;
 - **Protocol Identifier**—use:
 - 1 for diagnostic;
 - 2 for WSL/S2 (slave only);
 - 3 for WSA/S2 master;
 - 4 for WSA/S2 slave;
 - 5 for VLM6;
 - 6 for WESTRACE non-vital;
 - 7 for IMB;
 - 9 for hot-standby;
 - **Address**—the network session identifier or the diagnostic port address. Range: 0 to FFFF hexadecimal.

A.1.2.2 N(V)CDM Driver Command Objectives and Responses

Command	Command Objective	Possible Response ¹					
		A	P	O	B	OK	CR
Get Event Number	Request the number of the event associated with a specified time or location in the Event Buffer. The number is required for other commands, Get Snapshot for example.	✓	✓	✓			✓
Get Fault Number	Request the number of the fault associated with a specified time or location in the Fault Buffer. The number is required for other commands, Get Faults for example.	✓	✓	✓			✓
Get Operation Number	Request the number of the operation associated with a specified time or location in the Operations Buffer. The number is required for other commands, Get Operations for example.	✓	✓	✓			✓
Get Snapshot	Request a snapshot of the installation states prior to the specified event number. The request must indicate the first state in the reply because the reply may not be able to contain all states in the snapshot.	✓	✓	✓			✓
Get Events	Request events from the buffer beginning with the specified event number.	✓	✓	✓			✓
Get Faults	Request faults from the buffer beginning with the specified fault number.	✓	✓	✓			✓
Get Operations	Request operations from the buffer beginning with the specified operation number.	✓	✓	✓			✓
Get CED	Request a 128 byte block of data from the vital or non-vital CED.	✓	✓	✓			✓
Set CED	Set a block in the non-vital CED. Blocks shall be in ascending order (0,... N). This command is accepted only in when the NVLM is in Maintenance Mode. See Reference [FLM].	✓	✓	✓		✓	
Get CED Summary	Request a summary of the configuration data.	✓		✓			✓
Logon	Initiate a session with a remote installation.	✓	✓	✓	✓	✓	
Logout	Close a session with a remote installation.	✓		✓		✓	
Clear Event Buffer	Remove all events from the buffer.	✓		✓		✓	
Clear Fault Buffer	Remove all faults from the buffer.	✓		✓		✓	
Clear Operation Buffer	Remove all operations from the buffer.	✓		✓		✓	
Set Time and Date	Set the time and date of the slave.	✓		✓		✓	
Get Time and Date	Request the current time and date of the slave.	✓		✓			✓
Set Password	Set the slave system's diagnostic password for the selected access mode.	✓		✓		✓	

Table A.2 Test Commands—N(V)CDM Driver

Command	Command Objective	Possible Response ¹					
		A	P	O	B	OK	CR
Set Telephone Number	Set a telephone number for a diagnostic port.	✓	✓	✓		✓	
Get Telephone Numbers	Request all stored telephone numbers associated with a port.	✓	✓	✓			✓
Get Module Information	Request module address and software version number for each internal WESTRACE module in the installation.	✓		✓			✓
Vital Bar Command	Not used.						
Get Status	Request summary status of the NVLM. The response will indicate the next available event, fault, or operation number and also the current VLE phase.	✓		✓			✓
Get Installation Address	Request the installation address of the installation.			✓			✓
Get Logged Data	Get any faults, operations, or events that are more recent than those specified.	✓	✓			✓	✓
Get Port Statistics	Request communication statistics for a port.	✓	✓	✓			✓
Get Module Statistics	Request communication statistics for a module (or S2 module communicating via a serial port (NCDM)). If the communication protocol is a master the statistics will be for the external (S2) modules. If the communication protocol is a slave then the statistics will be for the (S2) modules that the NVLM is emulating.	✓	✓	✓			✓
Reset Statistics	Reset port and module statistic counters to 0.	✓		✓		✓	
WNCM Specific Commands (only with NCDM module)							
Get VLM6 Statistics	Request communication statistics for the VLM6 port.	✓	✓	✓			✓
Reset VLM6 Port Statistics	Reset the VLM6 port, including its channels, statistics counter to the default value.	✓		✓		✓	
Get VLM6 Channel Statistics	Request communication statistics for a channel associated with the VLM6 port.	✓	✓	✓			✓
Get Network Session Statistics	Request communication statistics for a session associated with the network port.	✓	✓	✓			✓

Table A.2 Test Commands—N(V)CDM Driver *(Continued)*

1 See Command Response below.

Command Response**A—ACCESS.** The user has not the necessary rights to execute the command**P—PARAMETER.** The parameters of the command are not correct.**O—OTHER.** The time, location or length of the message are not correct.

B—BUSY. The user has been registered in mode read/ write and there is a diagnostic session with another user or when the maximum number of diagnostic sessions has been exceeded.

OK—the command has been executed correctly.

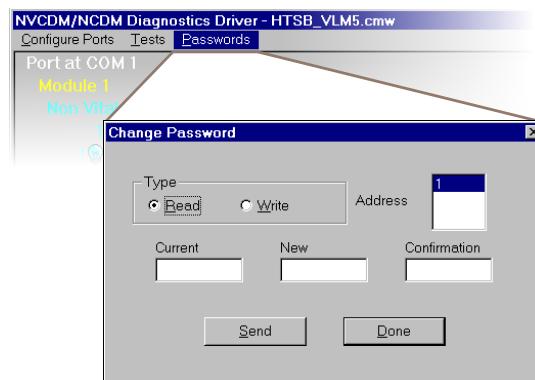
CR—COMMAND RESPONSE. The equipment responded correctly to the sent command and has returned an appropriate response.

A.1.3 Changing Passwords

The read or write password of the WESTRACE module associated with a user defined address can be changed.



- a) Select **Password > Change Password** to display the Change password dialog box;



- b) Click the **Read** and **Write** radio buttons as required;
- c) Alter the **Address** value if required;
- d) Type the current password into the **Current** field;
- e) Type the new password into the **New** field;
- f) Type the current password into the **Confirmation** field;
- g) Select the **Send** button;
- h) Select the **Done** button.

A.2 DM128 Driver

This driver is only applicable to a local MoviolaW-XP installation, and WESTRACES that use DM128 modules.

You must log on to MoviolaW-XP as a user with MoviolaW-XP Administrator rights before you can operate the DM128 Driver.

Upon start-up, the driver attempts to establish a secure connection with the DM128 module(s) of the selected WESTRACE installation and then sends a “DA” command (see Section A.2.2.3) that requests the date and time from the DM128.

A time-out function of the DM128 driver breaks connection when the WESTRACE does not respond.

The DM128 driver indicates the speed of connection and the VLM phase of the WESTRACE when the connection between drivers is established. See Figure A.5.



Use this driver from a local MoviolaW-XP PC to get (or send) information from (to) a WESTRACE having a DM128 or DM128A module.

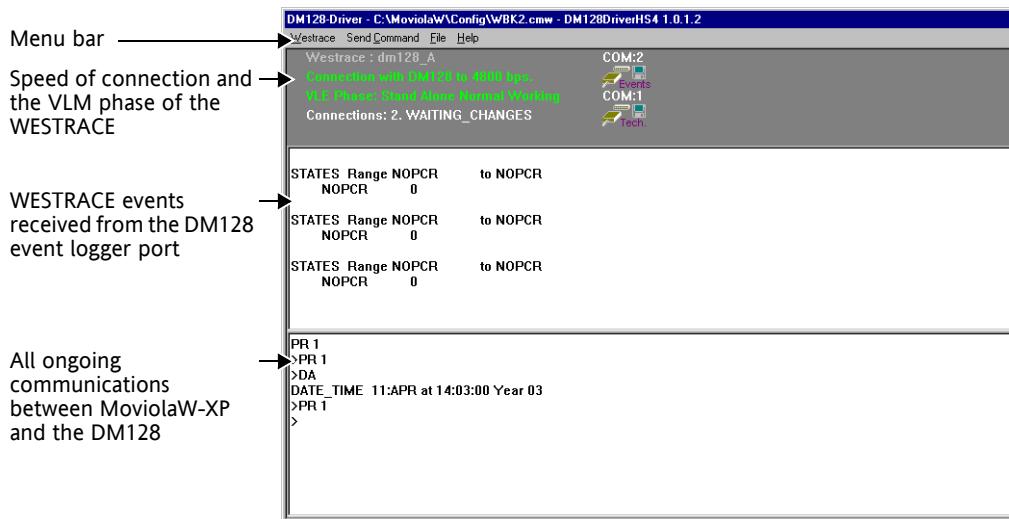


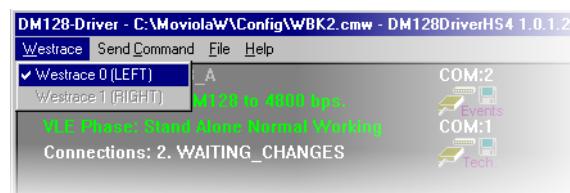
Figure A.5 User Interface—DM128 Driver

A.2.1 Menus

A.2.1.1 WESTRACE



Use this menu to specify the target WESTRACE (Online or Standby) for sending commands and file storage.



A.2.1.2 Send Command



Use this menu to send commands to the WESTRACE specified through the *WESTRACE* menu (see Section A.2.1.1).

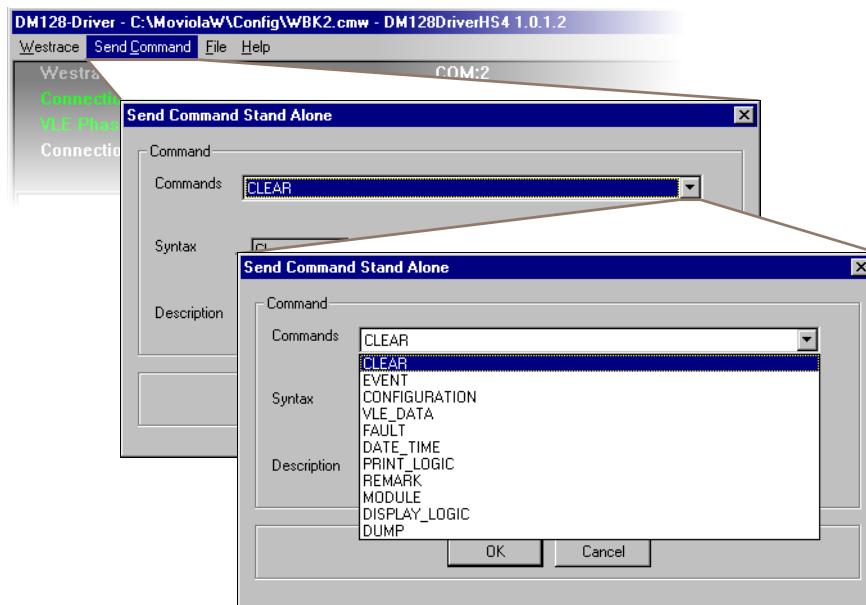


Figure A.6 Commands—DM128 Driver

See Section A.2.2 and reference [FLM] for details of DM128 Driver commands.

A.2.1.3 File



Use items on this menu to:

- store data in files, and;
- clear the DM 128 Driver window.

A.2.1.3.1 Storing (Commands and Responses)



Use this menu item to:

- Specify a file to store data (in text format) sent to and received from the DM128 (or DM128a) via the:
 - Event Port, and;
 - Technical Port.
- The number of days data to be collected.

It is also possible to store all commands and replies in the form of a log file.

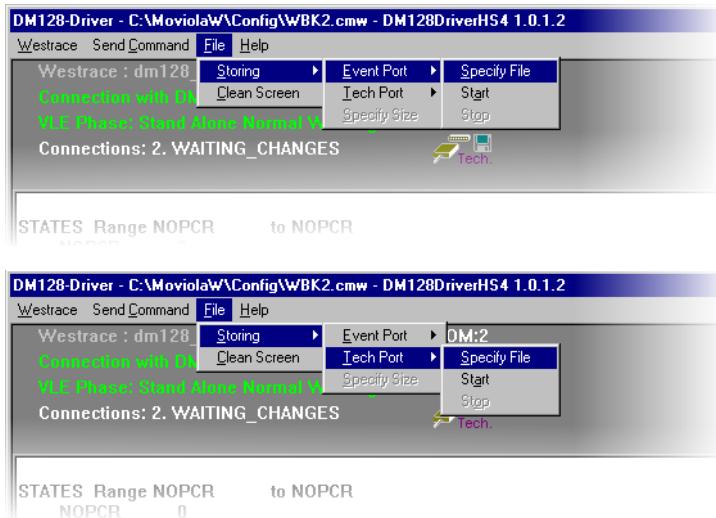


Figure A.7 Store Files—DM128 Driver

A.2.1.3.2 Clean Screen



Use this menu item to clear all information displayed in both DM128 driver list boxes (see Figure A.8).

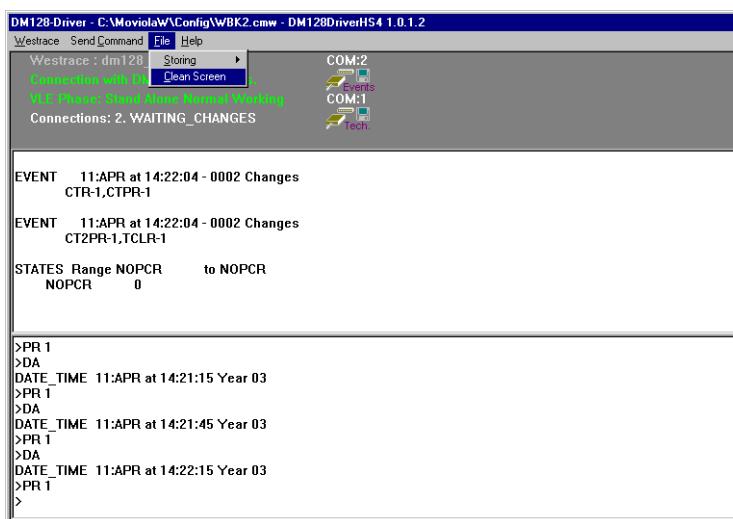


Figure A.8 Clean Screen—DM 128 driver

A.2.1.4 Help



Use this menu to:

- View statistics from the DM128 Driver;
- View the About DM128 Driver box.

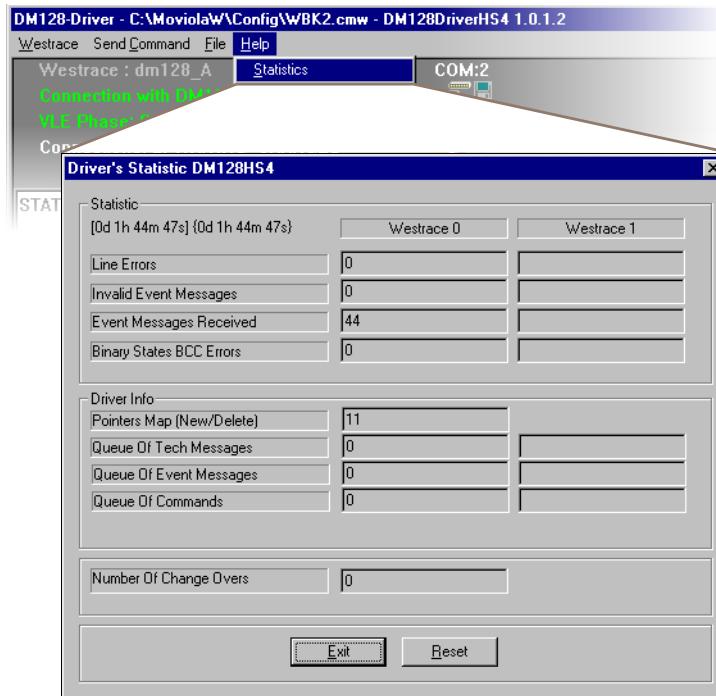
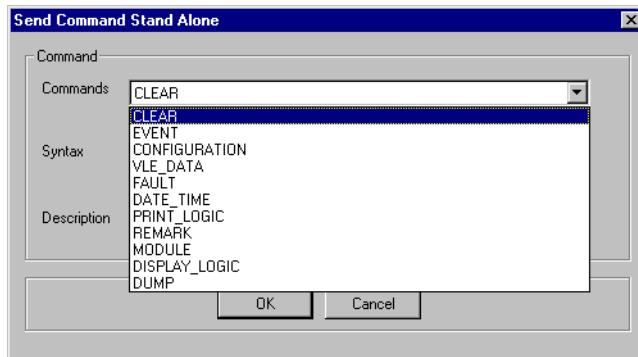


Figure A.9 Statistics—DM128 Driver

A.2.2 Using DM128 Commands

See Section A.2.1.2 for assistance in sending these commands.



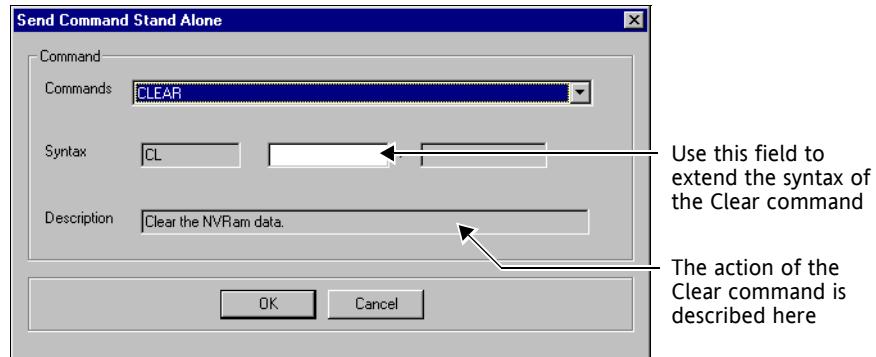
For Command...	see section...
CLEAR	A.2.2.1
EVENT	A.2.2.6
CONFIGURATION	A.2.2.2
VLE_DATA	A.2.2.11
FAULT	A.2.2.7
DATE_TIME	A.2.2.3
PRINT_LOGIC	A.2.2.9
REMARK	A.2.2.10
MODULE	A.2.2.8
DISPLAY_LOGIC	A.2.2.4
DUMP	A.2.2.5

Table A.3 DM128 commands index

A.2.2.1 Clear Logged Events and Faults



Use the **Clear** command to clear logged event and fault data stored in diagnostic module non-volatile RAM.



The syntax options for **Clear** commands are:

- **CL**—clear logged faults and events from all buffers;
- **CL EV**—clear logged events buffer;
- **CL FA**—clear logged faults buffer.

Later versions of the **DM128.ini** file contain the line:

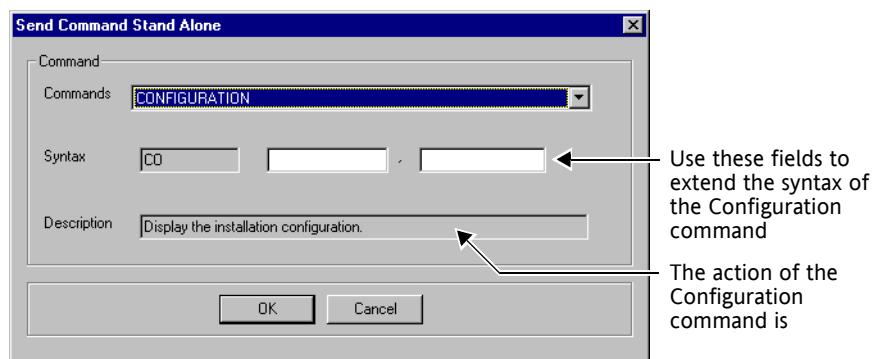
```
ClearEvent=TRUE
```

When set to **TRUE**, the **ClearEvent=** command automatically sends the **CL** command to clear the DM128 faults and events buffers when MoviolaW-XP starts up.

A.2.2.2 Display Configuration Information



Use the **Configuration** command to display configuration information from the WESTRACE.



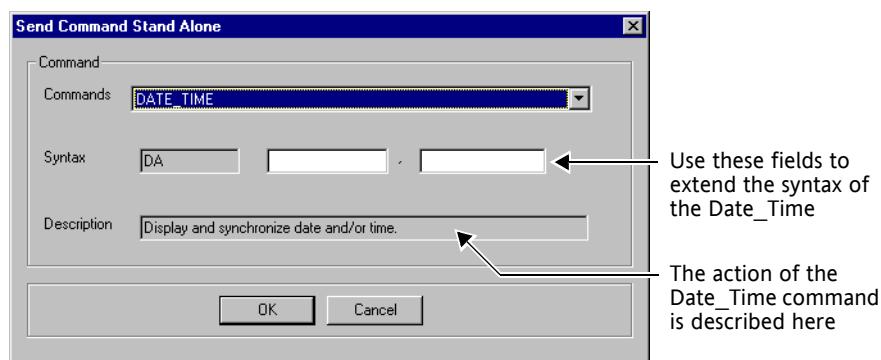
The syntax options for **Configuration** commands are:

- **CO**—displays all configuration information.

A.2.2.3 Display or Reset Date and Time



Use the **Date_Time** command to display or reset the current day/month/year or hour/minute/second settings of the WESTRACE.



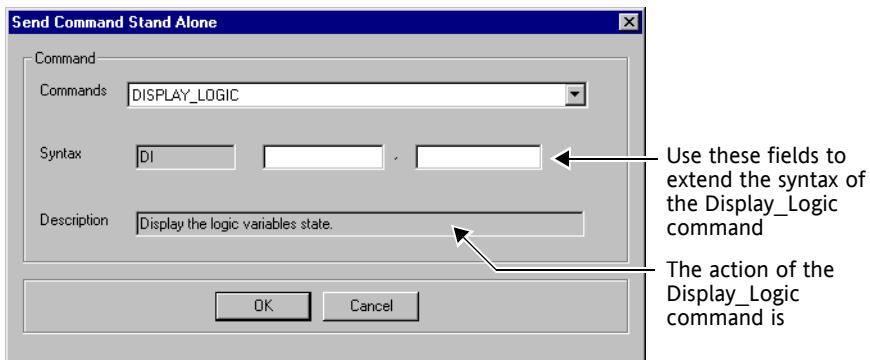
The syntax options for **Date_Time** commands are:

- **DA**—requests the date and time from the DM128;
- **DA dd:mmm:yy**—sets the day, month (first 3 letters) and year;
- **DA hh:mm:ss**—sets the hour, minutes and seconds;
- **DA dd:mmm:yy, hh:mm:ss**—sets both date and time.

A.2.2.4 Display Logic Elements



Use the **Display_Lo_{gic}** command to display information about current logic elements in the WESTRACE.



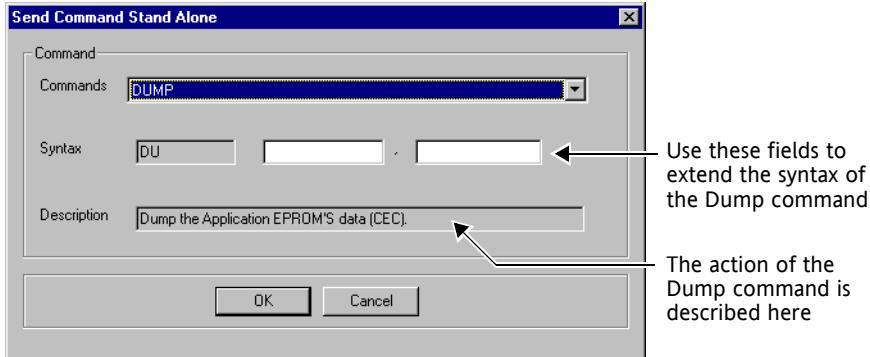
The syntax options for **Display_Lo_{gic}** commands are:

- **DI**—displays all current logic elements;
- **DI nnnn**—displays logic element numbered **nnnn**;
- **DI mnemonic**—displays the logic state of the named mnemonic;
- **DI nnnn, nnnn**—displays the nominated range of logic elements.

A.2.2.5 Dump



Use the **Dump** command to display the current state of variables.



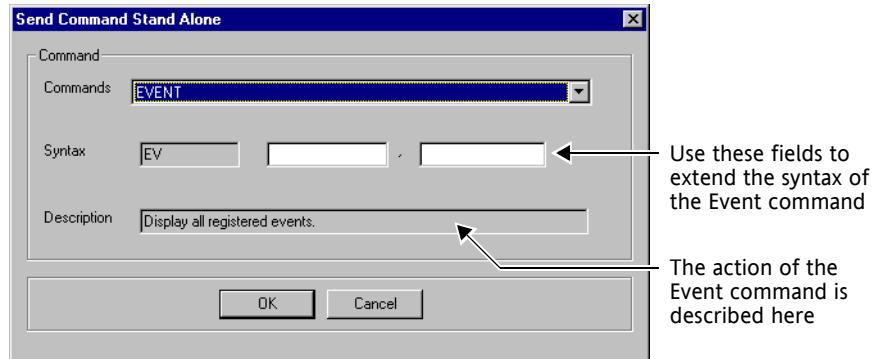
The syntax options for **Dump** commands are:

- **DU**—displays the current state of all variables;
- **DU nnn**—displays the current state of the nominated variable.
- **DU nnn, nnn**—displays the current state of the nominated range of variables where **nnn** is the page number.

A.2.2.6 Display Event History



Use the **Event** command to display the history of logged events.



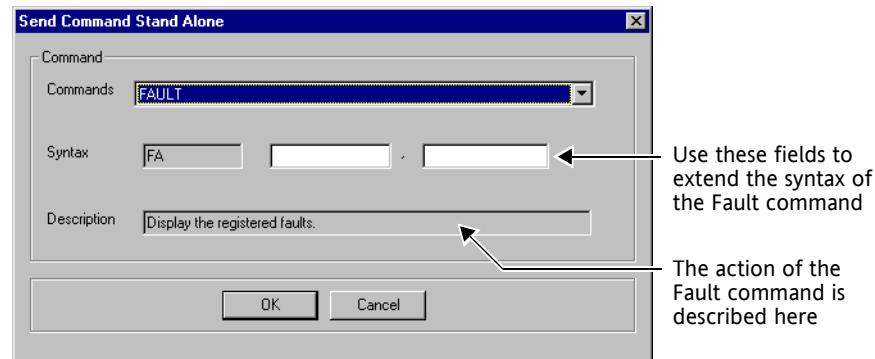
The syntax options for **Event** commands are:

- **EV**—displays all logged events;
- **EV nnn**—displays event numbered **nnn** if logged;
- **EV dd:mmm**—displays all events logged on the nominated date;
- **EV nnn, nnn**—displays the nominated range of events if logged.

A.2.2.7 Display Logged Faults



Use the **Fault** command to display logged faults.



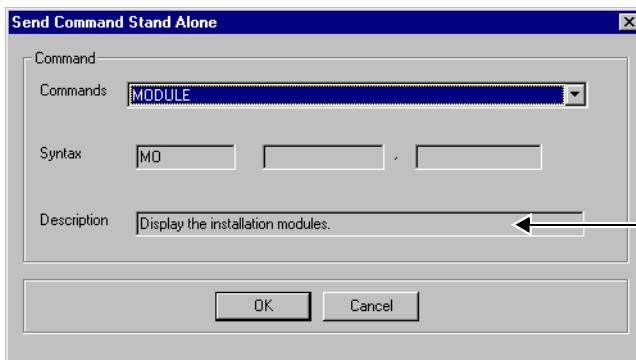
The syntax options for **Fault** commands are:

- **FA**—displays all logged faults;
- **FA nnn**—displays fault numbered **nnn** if logged;
- **FA dd:mmm**—displays all faults logged on the nominated date;
- **FA nnn, nnn**—displays the nominated range of faults if logged;

A.2.2.8 Display Module Details



Use the **Module** command to display details of modules in the WESTRACE housing(s).

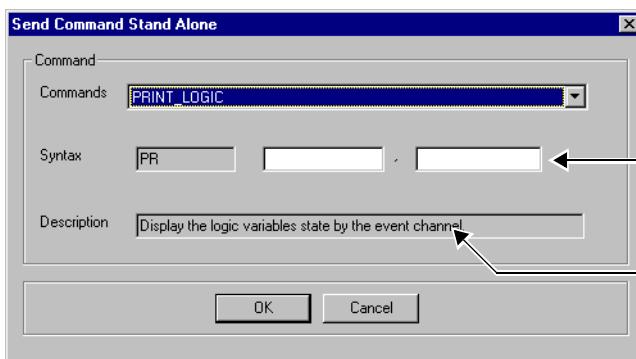


The action of the Module command is described here

A.2.2.9 Print Current Logic States



Use the **Print_Logic** command to print the current logic state of logic elements or nominated mnemonics.



Use these fields to extend the syntax of the Print_Logic

The action of the Print_Logic command is described here

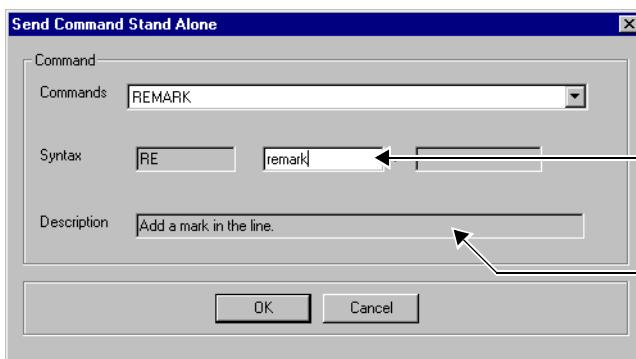
The syntax options for Print_Logic commands are:

- **PR**—prints all logic elements;
- **PR nnnn**—prints logic element numbered **nnnn**;
- **PR mnemonic**—prints the logic state of the named mnemonic;
- **PR nnnn, nnnn**—prints the nominated range of logic elements.

A.2.2.10 Remark



Use the **Remark** command to add a user-defined text string.



Use this field to extend the syntax of the Remark command

The action of the Remark command is described here

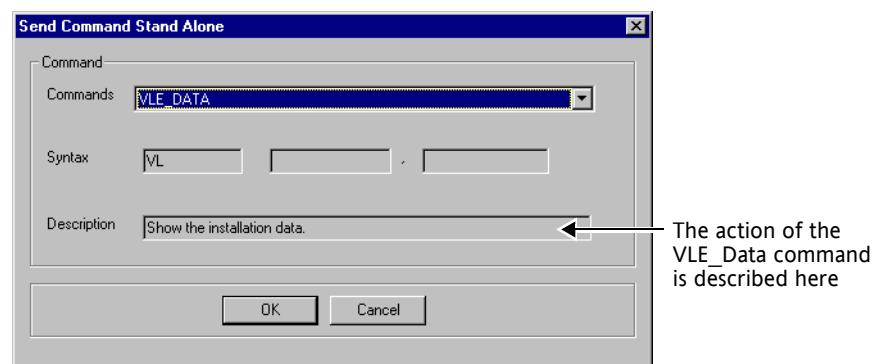
The syntax for **Remark** commands is:

- **RE remark**—adds a user defined text string where **remark** can be any text.

A.2.2.11 Display Diagnostic Status



Use the **VLE_Data** command to display diagnostic status information.



A.3 SSI Driver

Use this driver to return data from SSIs (listen only) to a local MoviolaW-XP for logging and monitoring.

The driver window allows you to view and manage the messages arriving from connected SSIs (figure A.10).

MoviolaW-XP Administrator rights are required to view the SSI Driver window.

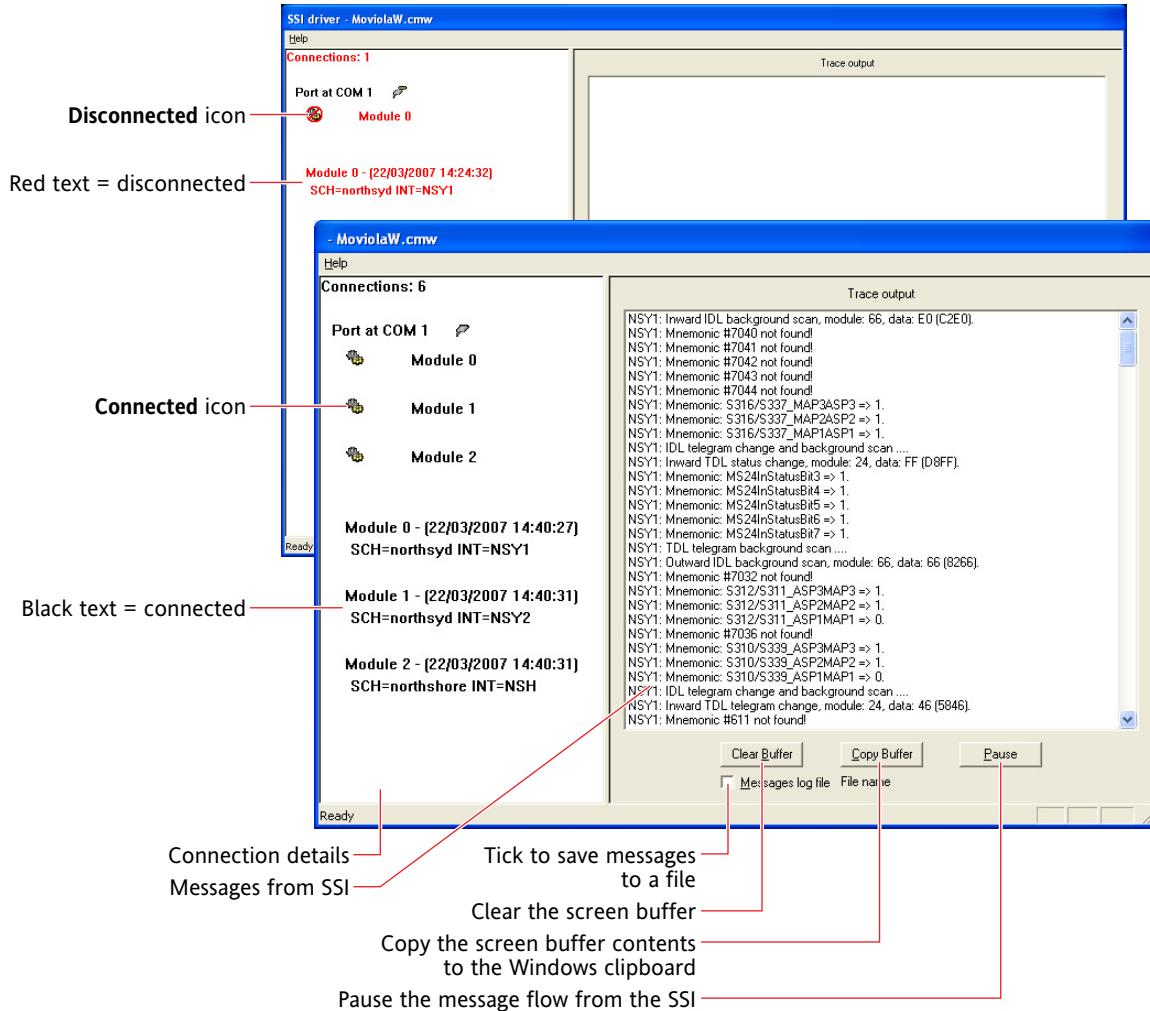


Figure A.10 SSI Driver window

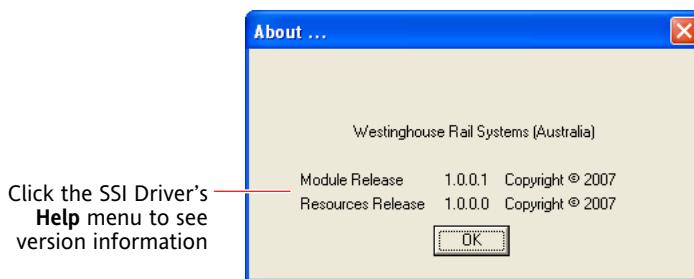
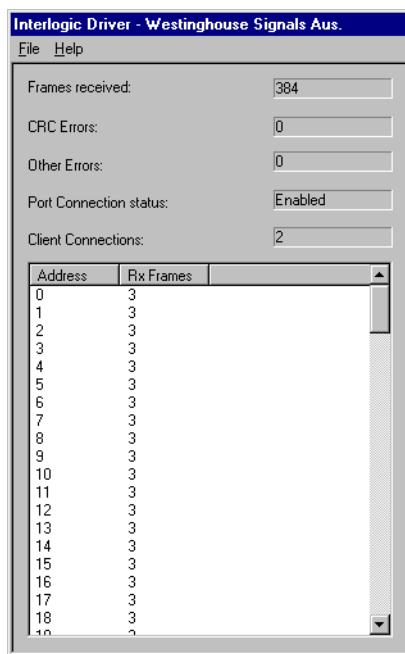


Figure A.11 SSI Driver: About... dialog box

A.4 Interlogic Driver



Use this driver to view communication statistics for a WESTRONIC S2 system.



GLOSSARY

address	Address of a module associated with a port
BlockId	CED data is divided into 128 byte blocks and the BlockId selects a 128-byte block within the CED .
CED	Configuration Element Data—refers to the non-vital installation configuration data
changes	Changes of state experienced by mnemonics in the monitored system
CMW	Configuration MoviolaW Windows— MoviolaW-XP configuration file extension
commands	Commands sent to the monitored system by the control centre or from a central MoviolaW-XP installation
connection type	Sck—socket interface of TCP/IP (for a LAN connection) Old— DDE with a low number of mnemonics DDE— DDE with a high number of mnemonics WSL—old DDE plus WESTCAD support
CRC	Cyclic Redundancy Check—a method of protecting a file against corruption (ie the file cannot be used if the result of a new cyclic redundancy check does not match the original CRC value stored within the file)
current database file	The database file in which a local MoviolaW-XP automatically stores railway event information as it occurs. See section 2.5.
DAO	Data Access Objects
DDE	Dynamic Data Exchange
DHCP	Dynamic Host Configuration Protocol—dynamically assigns private IP addresses to all computers connected to the connection sharing computer on a private LAN
DispSM	Display Software Module
DISPSM.OCX	Enables MoviolaW-XP to display GPC files
DLL	Dynamic Link Library
DM128	Diagnostic Module—128kB
event	Track events such as signal changes and train movements are displayed in the main MoviolaW-XP window. The event log records changes in the status of the monitored system, plus commands sent to the system and any returned response.
event log	The local MoviolaW-XP creates event logs of the WESTRACE operation and stores these logs for a defined period. Events recorded in the event log can be replayed on both the local and central systems.
event number	A unique identifier associated with an event

fault	A problem that occurred in the interlocking (eg WESTRACE); “significant” faults typically cause the interlocking to shut down.
failure	A user-defined event external to the interlocking that can be defined by a logic state (mnemonic); either input or derived from logic. It indicates a degraded state in the performance of the railway and is only reported when allowed-for in the design of the particular MoviolaW-XP installation.
GCSS	Graphical Configuration Sub-System—a computer software package used by Railway Signal Engineers to design a Railway Signal Interlocking using WESTRACE Vital Logic Equipment
GMT	Greenwich Mean Time
GPC	Graphic PC file extension—for MoviolaW-XP graphic configuration files that are prepared using the PCGE tool
GSIM	WESTRACE Graphic Simulator—a computer-based simulator used for testing WESTRACE applications
HTML	HyperText Markup Language—a standard method for presenting text that is independent of the displaying device
ICD	Interface Control Document
ILS	Internal Logic State
IMB	WESTRACE Inter-Module Bus
installation	A group of one or more interlockings monitored by MoviolaW-XP (see section 2.7)
IP	Internet Protocol
IPCSM	Inter-Process Communication Software Module—developed by Dimetronic, a subsidiary of Invensys Rail
IPCSM.OCX	Enables MoviolaW-XP to communicate using TCP/IP or DDE protocols
LAN	Local Area Network
module	WESTRACE module
MoviolaW-XP	A Windows -based application for logging, monitoring and playback of events occurring at interlockings supervised by WESTRACE , SSI and other sources of railway data such as the WESTRONIC S2 telemetry system
NCDM	Network Communication and Diagnostic Module
NVCDM	Non-Vital Communications and Diagnostic Module
NVLM	Non-vital Logic Module—eg NVCDM or NCDM
operations	Significant operational occurrences, such as changes to vital and non-vital logic states, and WESTRACE faults
OS	Operating System—eg Microsoft Windows XP
PCGE	PC Graphics Editor—a software application designed to create installation layout diagrams for railway signalling application data

port	Windows port addresses. A socket port will only communicate with another socket port (on a different computer) having the same port number. Do not change the default values proposed by Windows.
RAS	Remote Access Service— Windows service for remote access via a modem over a network
real-time monitoring	The display of events as they occur, with the MoviolaW-XP application running in Indications Mode. Both the local and central MoviolaW-XP computers are capable of real-time monitoring when the local MoviolaW-XP computer has a valid connection to the WESTRACE DM128 , NVCDM or NCDM module(s).
replay	The display of WESTRACE events recreated from event logs of the WESTRACE events, with the MoviolaW-XP application running in Replay Mode. Both the local and central MoviolaW-XP computers are capable of replaying events. Users can adjust both the speed and direction of Replay to facilitate problems diagnosis.
SCC	Small Control Centre
SMS	Short Message Service—a telecommunications protocol for short text messages
Sck	Windows Socket —a Windows implementation of the UC Berkeley Sockets API. Sockets are an interface between programs and the transport protocol and they work as a bi-directional pipe for incoming and out-going data. Sockets have an IP address and a port number.
SCN41	Scanner 41—the processor module of a WESTRONIC S2 system
service	<i>DDE</i> service to connect
SSI	Solid-State Interlocking
stand-alone	A central MoviolaW-XP that is also required to accept and display database files from a local MoviolaW-XP
state	See ILS .
state identity	A unique identifier for each ILS
TCP/IP	Transmission Control Protocol / Internet Protocol—network protocols that permit communication between interconnected networks that are formed by computers with different hardware architecture and operation systems
UPS	Uninterrupted Power Supply—detects a power failure in the main supply and provides power to the computer from a storage battery to enable orderly closing down of MoviolaW-XP
VLM	Vital Logic Module—represents the original VLM(1) or the later HVLM128, HVLM128a, VLM5 or VLM6
VNC	Virtual Networking Computer—a software system that allows a computer user to remotely control another computer that can be anywhere in the world provided the two computers are connected by a communications link
WESTCAD	WESTRACE Control and Display—a computer-based Control Panel developed by Westinghouse Rail Systems Australia
WESTRACE	WEStinghouse Train Radio Advanced Control Equipment

Windows Microsoft Windows XP**WRSA** Westinghouse Rail Systems Australia

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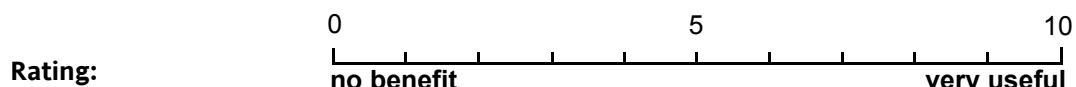
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