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MultiMUX

User Guide

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Table of Contents

1.	Intr	oduct	tion	4
1	.1.	Syst	em Requirements	4
	1.1.	1.	PC Requirements	4
	1.1.	2.	Additional Hardware	5
2.	Con	necti	on Hardware	6
2	2.1.	Ethe	ernet Cable	6
3.	Sett	ing U	p Connection Hardware	7
0	8.1.	The	Basic XS VCI	7
4.	Inst	alling	the Software	8
5.	Lice	ncing	the Product	9
6.	Usir	ng the	Software	
е	5.1.	To r	un the MultiMUX software, please click on the icon on the PC desktop	o10
е	5.2.	The	application will start and display the MultiMUX launch pad	
	6.2.	1.	Settings - Options	
	6.2.	2.	Licence Status - Show licence	
	6.2.	3.	Licence Status - Upgrading Licence	13
	6.2.	4.	Application update – Download update	
	6.2.	5.	Application update - Install Update	14
	6.2.	6.	Application update - Uninstall update	14
7.	Acti	-MU>	CDiagnostics	15
7	7.1.	Star	t ActiMUX Diagnostic Session	16
7	7.2.	Rea	d Faults	
7	7.3.	IO S	tatus	20
7	7.4.	Mas	ter Mode	22
7	7.5.	Para	ameters	23
	7.5.	1.	Save	24
	7.5.	2.	Load	24
	7.5.	3.	Restore	24
	7.5.	4.	Store	25
7	7.6.	Net	work	25
7	7.7.	Star	t Download Session	26
7	7.8.	Che	ck Online Updates	
7	7.9.	Edit	Software Options	31
8.	Kibe	es Dia	gnostics	



0.1.	Start Kibes Diagnostic Session	
8.2.	Read Faults	
8.3.	IO Status	
8.4.	Master Mode	
8.5.	Parameters	
8.6.	Start Download Session	
8.7.	Check Online Updates	
8.8.	Edit Software Options	
9. Mul	lti-SCAN	
9.1.	Edit Software Options	
9.2.	Start ActiMUX Diagnostic Session	
9.3.	Network	
9.4.	Read Faults	
9.5.	Erase Faults	
9.6.	Live View	
9.7.	Record	51
9.8.	Save	
9.9.	Settings	53
10 EV/		
10. EV-L	DIAG	
10. 20-1	Launch EV Diag	
10. EV-1 10.1. 10.2.	Launch EV Diag Check Online Updates	54
10. EV-1 10.1. 10.2. 10.3.	Launch EV Diag Check Online Updates Edit Software Options	
10. EV-1 10.1. 10.2. 10.3. 11. Free	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question	
10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1.	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU	
10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2.	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do?	
10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3.	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase?	
10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4.	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence?	
 10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troo 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence?	
 10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface	
 10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 12.2. 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface	
 10. EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 12.2. 12.3. 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface Unable to Connect to Vehicle	
 EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 12.2. 12.3. 12.4. 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface Unable to Connect to Vehicle Download Failed No Vehicle Data	
 EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 12.2. 12.3. 12.4. 12.5. 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface Unable to Connect to Vehicle Download Failed No Vehicle Data On-Line Update Failure	
 EV-1 10.1. 10.2. 10.3. 11. Free 11.1. 11.2. 11.3. 11.4. 12. Troot 12.1. 12.2. 12.3. 12.4. 12.5. 13. Acti 	Launch EV Diag Check Online Updates Edit Software Options quently Asked Question Does Multi-MUX support diagnostics of CAMU My Licence is about to expire – what do I need to do? Can I Purchase additional Bolt-ON's after my Purchase? CAN I transfer my Multi-MUX licence? uble Shooting Guide Error Opening Communications Interface Unable to Connect to Vehicle Download Failed No Vehicle Data On-Line Update Failure	
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1. Introduction

Welcome to the Actia MultiMUX diagnostic software for maintaining and updating the Actia ActiMUX multiplexed system. This document gives instructions of how to set-up, use and maintain the PC based diagnostic application.

1.1. System Requirements

1.1.1. PC Requirements

Actia recommend the following PC requirements,

- PC or laptop with 1 GHz processor or greater
- Screen Resolution 1200*800 or higher
- 4Gb Ram
- 15 Gb of available hard disk space
- USB port for VCI Basic XS connection
- Ethernet port for DOIP Connection
- Windows 7 or above
- Internet connection for installing updates

Multi-MUX requires local administrator access to install and update the software. If you are running the application on a company laptop contact your IT support team for further assistance.

Depending on your operating system version you may be prompted to install the .NETFramework v4.5 from Microsoft. This is a requirement to run Multi-MUX. If you see this message, please follow the on-screen instructions. Further support can be found at http://www.microsoft.com/net



1.1.2. Additional Hardware

505-01-2900	Main Diagnostic Extension Cable	REQUIRED FOR ALL KITS (Multi-Aid & Multi-Mux)
505-01-0100	Multi-Mux MultIC2 Optare Download Cable	Req for connection to Acti-Mux multiplex system all kits
505-01-0110	Multi-Mux ADL Kibes Cable ZR32A-Diag	Req for connection to ADL with Kibes multiplex system
505-01-0111	Multi-Mux ADL Kibes Cable Moki/Dmux3- Diag	Req for connection to ADL Moki dash & Dmux system
505-01-2700	9pin J1939 Cable Adapter	Standard 9pin Adapter for Cummins & Allison diag, ADL Multic2 Download
505-01-2800	OBDII J1939 Diagnostic Adapter	16pin Adapter for Cummins & Allison diagnostics, ADL Multic2 Download
505-01-3045	M12/RJ45 Ethernet Cable	Optional for connection to Acti-Mux multiplex system



2. Connection Hardware

2.1. The Basic XS Vehicle Communication Interface (VCI)

A PC interface adapter is required to enable the PC to communicate with the vehicle electronic systems. The Basic XS has been designed to replace a number of dedicated interface adapters that are normally supplied with each individual diagnostic application.

The Interface features:

- USB Connectivity
- CAN 2.0B ISO 11898
- High Speed CAN up to 1 MBit/s
- Low Speed CAN fault tolerant
- K-Line ISO 9141 (100 mA)
- K-Line ISO 14230 (KWP2000)
- J1708 Interface



2.1. Ethernet Cable

Diagnostics can also be performed via an Ethernet cable. No VCI is required, simply connect the cable between the PC ether net port and the ActiMUX Master ECU Ethernet socket





3. Setting Up Connection Hardware

3.1. The Basic XS VCI

The following gives step-by-step instructions for the assembly and interconnection of the Basic XS system.

1. Connect the Basic XS USB connection to your PC USB port.

- Connect the main diagnostic extension cable (505-01-2900) to the Vehicle Communication interface (VCI) located in the rubber enclosure at the rear of the tablet.
- Connect the Multi-Bus Diagnostic Adapter cable (505-01-0062), the Multi-Bus Forced Download cable (505-01-0061) or the SCU Adapter Cable (555-01-2020) to the main diagnostic extension cable.
- 4. Connect the adapter cable to the vehicle diagnostic connector.











4. Installing the Software

Please refer to the 099-60-6551 Multi-MUX quickstart guide.pdf document.

Please note: - The Basic XS drivers are not part of the MultiMUX Installation. These will need to be downloaded separately through installing the MultiAid CD that you received free as part of your MultiMux purchase

Any issues with any of the above then please contact the Actia Helpdesk on 01686 611166

5. Licencing the Product

Please refer to the 099-60-6551 Multi-MUX quickstart guide.pdf document.

You will normally require your Licence Key when speaking to an Actia representative.

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Licence Status

This can be found by clicking on the: -

Multi-MUX Registration Tool ×
Licence status for Multi-MUX
Licence expires on 08-Jun-2019. 319 day(s) remaining.
Your licence information is as follows :
CustomerName=Robert Myatt
CustomerEmail=rmyatt@actia.co.uk
CompanyName=Actia UK
ActivationFileEmail=rmyatt@actia.co.uk
LicenceKey=: XXXX-XXXX Pcld= jahfdojzshfkjdsjflkd

Licence Key will be shown in the format above.

MultiMUX User Guide

6. Using the Software

6.1. To run the MultiMUX software, please click on the icon on the PC desktop

6.2. The application will start and display the MultiMUX launch pad

Depending on the MultiMUX licence you have purchased, you will see either, or both the Acti-MUX, Kibes buttons.

	Multi-MUX LaunchPad
Acti-MUX	Kibes
문 EV-Diag	Multi-SCAN
Settings Options Licence Status	Application Update
Co Show Licence Upgrade Licence Remove Licence	Download Update
Waiting for user to select Multiplex system	Application : 1.7.5 (Prototype : D)
1	1
Status of Diagnostic Tool	MultiMUX Application Version





10 | 62

6.2.1. Settings - Options

By choosing the options button, the user can select the preferred language option for the diagnostic tool





6.2.2. Licence Status - Show licence



This displays the Licence status of the MultiMUX diagnostic tool.



6.2.3. Licence Status - Upgrading Licence

III Multi-MUX Registration Tool X
Upgrade Licence For Multi-MUX
To upgrade your Multi-MUX licence, you need an upgraded Activation File.
Request Activation File
Enter Activation File
Licence upgrades could include support for additional electronic systems and/or support for additional vehicle OEMs.
PC ID: xnnFat3/U/2jctIBSkKGeQ==

If you have purchased a licence upgrade for MultiMUX, you will have received an activation file. You can enter the activation file by clicking on the **Update Licence** button, then selecting **Enter Activation File.**

6.2.4. Application update – Download update



Clicking on the **Download Update** button will update the MultiMUX application to the latest release. This is only available if you have an internet connection.

Simple follow the instructions when prompted.



6.2.5. Application update - Install Update



Installs any update downloaded

6.2.6. Application update - Uninstall update



Uninstalls any update downloaded



7. Acti-MUX Diagnostics

	Multi-MUX LaunchPad
Acti-MUX	Kibes
문V-Diag	Multi-SCAN
Settings Options	
Licence Status Show Licence	Application Update
Co Upgrade Licence	Install Update
Waiting for user to select Multip ex system	Application : 1.7.5 (Prototype : D)

After clicking on the Acti-MUX button on the launchpad, the following screen will appear:



Acti-MUX Diagnostic Data Version

ACTIA®

7.1. Start ActiMUX Diagnostic Session

To start a diagnostic session, click on the Start Diagnostic Session button

The following screen will be displayed, prompting for a user password (This may not be the same password for accessing the download session)

Enter Password
Enter a password to start an advanced diagnostic session.
Leave the password blank to start a basic diagnostic session.
OK Cancel

Enter the user password and click **OK** to start the diagnostic session.

If the user does not enter a user password and clicks **OK**, the diagnostic session will start, but will have restricted functionality - access only to :-



		Build Dat
Build Data Peults Do Status		Main Men
	Build Data	
Monitor Data		
Monitor	P109038- MG MCU Moni.Disp.Dr	
Monitor Version	1.1.4.19	
Monitor Date	Mar 13 2015	
Application Data	Value	
Application	32985006- OPT MultIC 2 Master	
Application Version	1.1.4.3	
Application Date	May 18 2017	
Application OEM	Optare	
Application Architecture	1	
Application Software Level	4	
Application Prototype Level	3	

If the user does enter a user password and clicks **OK**, the diagnostic session will start with full access:-





	Build D
Null Data P Image: Construction of the second seco	Retwork Main
	Build Data
Monitor Data	Value
Monitor	P109038- MG MCU Moni.Disp.Dr
Monitor Version	1.1.4.19
Monitor Date	Mar 13 2015
Application Data	Value
Application	32985006- OPT MultIC 2 Master
Application Version	1.1.4.3
Application Date	May 18 2017
Application OEM	Optare
Application Architecture	1
Application Software Level	4
Application Prototype Level	3

The first screen above is the **Build Data** screen.

It contains version information about the Application in the Master ECU you are diagnosing.

From this screen, you can navigate to the addition diagnostic function listed below:

- Read Faults
- IO Status
- Master Mode
- Parameters
- Network

ACTIA	l®		Read Faults
Build Data	Read Faults	Parameters Network	Main Menu
Ð	No Stored Faults present		Section
Refresh			
Refresh Erase Faults	Location	7 Description	
Refresh	Location CN105-1 On GB_0 (CMD_OUT02_CN105)	7 Description Switch Pack Feed [SLU Feed]	Section 2
Refresh Erase Faults	Location CN105-1 On GB_0 (CMD_OUT02_CN105) CN1:2 On PWR33_1 (DUTYCYCLE_OUT05)	7 Description Switch Pack Feed [SLU Feed] Demister Feed (PWM)	Section 2
Refresh Erase Faults	Location CN105.1 On GB_0 (CMD_OUT02_CN105) CN1:2 On PWR33_1 (DUTYCYCLE_OUT05) CN1:4 On PWR33_1 (CMD_OUT19)	V Description Switch Pack Feed [SLU Feed] Demister Feed (PWM) Door 1 Down lights and Inverter Switch (Courtesy Light Option) Description	Section 2
Refresh Erase Faults	Location CN105.1 On GB_0 (CMD_OUT02_CN105) CN1:2 On PWR33_1 (DUTYCYCLE_OUT05) CN1:4 On PWR33_1 (CMD_OUT19) CN1:9 On PWR33_4 (INA01)	V Description Switch Pack Feed [SLU Feed] Demister Feed (PWM) Door 1 Down lights and Inverter Switch (Courtesy Light Option) Seloon Temperature Sensor	Section 2
Refresh Erase Faults	Location CN105.1 On GB_0 (CMD_OUT02_CN105) CN1:2 On PWR33_1 (DUTYCYCLE_OUT05) CN1:4 On PWR33_1 (CMD_OUT19) CN1:9 On PWR33_4 (INA01) CN1:8 On PWR33_4 (INA02)	V Description Switch Pack Feed [SLU Feed] Demister Feed (PWM) Door 1 Down lights and Inverter Switch (Courtesy Light Option) Saloon Temperature Sensor Saloon Temperature Sensor Engine Bay Air Temperature Sensor (Optional)	Section 2

The Read faults screen displays: -

- Stored faults (DTC's) section 1
- Current faults of the system section 2

Pressing the Erase Faults Button will clear the stored faults from the Master ECU memory.

Pressing the Refresh Button will update the current faults display.



7.3. IO Status

IO Status displays status of all inputs / outputs connected to the Acti-MUX electrical system.

The screen below shows IO displayed when the ECU button is pressed.





The screen below shows IO displayed when the **Group** button is pressed.

ACTIA							IO Status
*	Q	-/~ _b	H O				-
Build Data	Read Faults	IO Status Master Mode Par	rameters Network				Main Meno
Groups	Ecus					Outputs	
Group Name	7 Read		Function	7 Value	2 Inf	Function	7 Value 7 Inf
Audible Warnings		A/C Fault Upper		No Respor		AC Condenser Fans Relay	OFF
Brakes		CPT Valve Timer		0		Cab AC Switch Illumination	OFF
CCTV		Demister Fan Faulty		NO		Demister Fan Speed PWM Control	0%
Door 1		Demister Valve Calibrated Fully Closed Positio	n	0.0	D	Demister Water Valve Motor - Direction	Open
Door 2		Demister Valve Calibrated Fully Open Position	1	0 Ω	١	Demister Water Valve Motor - Feed	OFF
External Lighting		Demister Valve Requested Position		0	0	Extract Fan PWM speed control	0%
Gauges		Demister Water Valve Position		8,190 Ω	A	Heating Circuit Boost Pump	0%
HVAC System		Drivers CablAC Switch		OFF	_	Lower Saloon Water Valve Motor - Direction	Open
Security		Drivers Denister Speed Up Switch		OFF		Saloon A Heater Motor PWM Speed Control	0%
Miscellaneous		Drivers Demister Temp Down Switch		OFF		Saloon B Heater Motor PWM Speed Control	0%
Power Supply		Drivers Demister Temp Up Switch		OFF		Saloon Heating Down Switch Illumination	OFF
Ramp		Drivery Saloon Heating Down Switch		OFF		Saloon Heating Up Switch Illumination	OFF
Suspension		Drivers Saloon Heating Up Switch		OFF		Screen Vent Fan	No Response
Switch Packs		External Air Temperature (BYD Chassis Only)		0.0	A	Webasto Heater Enable/Disable	OFF 🔥
Wipers		External Air Temperature (BYD Chassis Only)		90 °C	0		
AirSystem	~~~	Extract Fan Enable		OFF	10		
Control		Flag Calibration		0			
Lindate Display	Sustem Data	HMC Override Active		OFF	Ð		
		HVAC Overlide Timer		300 Sec	(I)		
					101		
/ Disables sy	/ ystem matiou	data	Select what status of by	ECU you w clicking on	ant t the s	o display Sliding No Respor	nse in Amber colou
/ Disables sy Data is inforu : / Output, i.e tion such as	/ ystem mation e. Inte CAN d	data n that is not rnal lata, timers,	Select what status of by button Note: Multij	ECU you w clicking on ple ECU's c	ant t the s an be	o display Sliding No Respor indicates t output is r	nse in Amber colou he ECU for that Inp not communicating
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/ Disables sy Data is inform t / Output, i.e tion such as	ystem mation e. Inte CAN d CAN d	data n that is not rnal lata, timers,	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's c	ant t the s an be	o display sliding No Respor indicates t output is r e selected Outputs Function	nse in Amber colou he ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.e tion such as	ystem mation e. Inte CAN d	data n that is not rnal lata, timers,	Select what status of by button Note: Multip Note: Multip	ECU you w clicking on ple ECU's c	ant t the s an be	o display Sliding No Respor indicates t output is r e selected Output Functor Output Functor Output Output	nse in Amber colou the ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.e tion such as	ystem mation e. Inte CAN d	data n that is not rnal lata, timers, voint Analogue Input 1 Analogue Input 1 Analogue Input 2 Analogue Input 3 Analogue Input 3	Select what status of by button Note: Multip Note: Multip	ECU you w clicking on ple ECU's c of velocity of e e e e e e	ant t the s an be	o display sliding No Respor indicates t output is r e selected Output Function Output Output Function Output Output Output Output Output	nse in Amber colou he ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.e tion such as Image: Active ACTIA Image:	ystem mation e. Inte CAN d	data n that is not rnal lata, timers, Avalogue input 1 Avalogue input 2 Avalogue input 3 Avalogue input 3 Aval	Select what status of by button Note: Multip Note: Multip	ECU you w clicking on ple ECU's c or or or or or	ant t the s an be	o display Sliding No Respor indicates t output is r e selected Cutput Function Cutput Guiput 1-Boolean Cutput Guiput 1-Boolean Cutput Guiput 1-Boolean Cutput Guiput 1-Corrent Cutput Guiput 1-Cutrent Cutput Guiput 3-Cutrent Cutput Guiput 3-Cutrent Cutput 3-Cutput 3-Cutrent Cutput 3	nse in Amber colou he ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.e tion such as Mater Eq. (MASTER Slave 3 (PWR33) Slave 3 (PWR33)	ystem mation e. Inte CAN c	data h that is not rnal lata, timers, saba Analogue Input 1 Analogue Input 1 Analogue Input 2 Analogue Input 3 Analogue Input 3	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's c off 4 off 4 off 4	ant t the s an be	o display Sliding No Respor indicates t output is r e selected Output - Command Output - C	IO Status
/ Disables sy Data is inform t / Output, i.e tion such as	ystem mation e. Inte CAN d CAN d	data that is not rnal lata, timers, visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue visue	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's c 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	ant t the s an be	o display sliding No Respor indicates t output is r e selected Output Sector Output - Boolean Output - Boolean Output - Boolean Output - Boolean Output - Boolean Output - Commend Output - Commend Output - Commend Output - Commend Output - Commend	nse in Amber colou he ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.e tion such as Image: Mathematic Action Image: Mathematic Action<	ystem mation e. Inte CAN d	data n that is not rnal lata, timers, Analogue Input 1 Analogue Input 1 Analogue Input 2 Analogue Input 2 Analog	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's c or or or or or or or or or or or or or	ant t the s an be	o display sliding No Respor indicates t output is r e selected Output 1-Bookan Output 1-Command Output 1-Command Output 1-Command Output 1-Command Output 1-Command Output 1-Command Output 2-Bookan Output 2-Bookan	nse in Amber colou the ECU for that Inp not communicating IO Status
/ Disables sy Data is inform t / Output, i.4 tion such as Mater for Market Save 1 (PWR33) Slave 3 (PWR33)	ystem mation e. Inte CAN d	data h that is not rnal lata, timers, Analogue input 1 Analogue input 1 Analogue input 2 Analogue input 2 Analogue input 2 Requercy input 1 - Tomo Off Frequency input 1 - Tomo Off Frequency input 2 - Solean Frequency input 3 - Solean -	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's ca off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d off d o	ant t the s an be	o display Sliding No Respor indicates t output is r e selected Vuputs Function Output - Boolean Output - Boolean Output - Commend Output - Commend	nse in Amber colou he ECU for that Inp not communicating IO Status
/ Disables sy Data is informed to a second seco	ystem mation e. Inte CAN d	data that is not rnal lata, timers,	Select what status of by button Note: Multip Inputs	ECU you w clicking on ple ECU's ci d e e e e e e e e e e e e e e e e e e	ant t the s an be	o display Sliding No Respor indicates t output is r e selected Uutput Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subjects Subj	IO Status
/ Disables sy Data is informed of the system of	ystem mation e. Inte CAN d	data that is not rnal lata, timers, lata, ti	Select what status of by button Note: Multip	ECU you w clicking on ple ECU's c of d of d of d of d d of d d of d of d	antt the an be	o display Sliding No Respor indicates t output is r e selected Output - Bookan Output - Command Output - Command Output - Day Output - Day Output - Command Output - Command	IO Status

21567

OFF

21600

OFF

23747

OFF

21600

OFF

The screen above shows IO displayed when Multi-MUX does not have the diagnostic data for the ecu

tput 3 - Voltag

utput 4 - Boolea

Output 4 - Current

utput 4 - Duty

Output 4 - Voltage

output 5 - Bo

utput 5 - Cor

Dutput 4 - Com

0 V OFF OFF

14 mA

0 %

0 V

OFF

OFF

ion : 1.5.6 | Data : Information

MultiMUX User Guide

Showing status of vehicle inputs and outputs..

put 3 - Analog

Input 3 - Boolean

nput 4 - Analog

nput 4 - Boolean

nput 6 - Analog

nput 6 - Booler

being diagnosed. (note: no groups - only Default group displayed)

ut 5 - An nput 5 - Boolean

7.4. Master Mode

Master Mode allows the user to directly control outputs connected to the Acti-MUX electrical system.

The screen below shows Master Mode when the Groups button is pressed.



 Select what group you want to display parameters of by clicking on the sliding button

Note: Multiple groups can be selected

To activate an output, select the output required from the list in the Function window, then use the control panel in the lower LH part of the screen to control the output, see below: -

Wip	er Speed C	ontrol
OFF	S	F

Wiper Control

Logical	Output
ON	OFF

Logical ON / OFF Control



Bridge Control



PWM Control



The screen below shows Master Mode when the **ECU** button is pressed.

Multi-MUX Actimux		-	o ک
ACTIA®	Ma	ster M	lode
Build Data Read Faults	10 Status Na Status Made Parameters Network	ма	in Menu
🚠 roups 📄 Ecus	Outputs		
Ecu Name 🤊 Read	Function 7	Value	7 Inf
Aaster Ecu (MULTIC2)	Add Fault Wil.	OFF	
lave 1 (PWR33)	Bettery Master Push Illumination (PWM)	0 %	
lave 2 (PWR33)	Dayant Running Lamp Main Light Feed (Optional)	OFF	
lave 3 (PWR33)	Dayloght Running Lamp Sidelight Feed (Optional)	OFF	
lave 4 (PWR33)	Dip Behm WL	OFF	
witchPack 1 (SWP_ACT	Engine Amber W/L	OFF	
witchPack 3 (SWP_ACT	Engin MIL Light W/L	OFF	4
	Engrine 4 W/L	OFF	4
	Garge Bockgoht Intensity	0 %	4
`	Herdwired Switch Illumination Output (LOGICAL)	OFF	
\backslash	Hazard Push Illumbedion (PWM)	100 %	A
\sim \sim	High Engine Coolent Temp WL	OFF	
\sim	High Geerbox Lemperature W/L	OFF	
	Ighton Push Illumination (PTM)	0%	
		ON	
		OFF	
	Low Rain of Departure Wit	OFF	
	Low Engine On Product vir.	OFF	
	The set of	OFF	+
	Child - Bernaria	OFF	
	Park Brake Warning Light Wil.	OFF	
Vaiting to set vehicle outputs	Application	o: 156 Data	Informat
-	Select what ECU you want to display IO of by clicking on the sliding button		
	Note: Multiple ECU's can be selected		

7.5. Parameters

Viewing and adjusting parameters are dependent on what level password is entered by the user.

Multi-MUX Actimux			– Ø ×
			Parameters
Build Data Read Faults IO Status	Master Mode Parameters Network		Main Menu
📰 Show All 📋 Clear All			
Coup Name 7 Shov A	Parameter Name	7 Value 7	Options
Ardible Warnings Door 1 Settings 1		8200	
Bus Stopping System Door1Settings2		1029	~
Door 1 Coor 1 Door 1 Coor 1 Co		1280	×
Door 2 PB SS_AssaultA	am	2	1 momentary switch
HVAC System PB \$S StartSect	ann yye antyAlarmType	0	Hom ~
Security Start Security		2	
Interior Lighting	Select what group you want to display		
Miscellaneous	Sciect what group you want to display		
Ramp	parameters of by clicking on the sliding		
Adia Only	hutton		
Configuration Options			
Parameter File Numb			
	Note: Multiple groups can be selected		
Save Load Restore Store			
Edit Parameter Value	Door1Settings1	7 Value 7	Options
Min PB_DR1_FootSw	Control	0	Door Open Only
Max 65535 PB_DR1_ParkBra	AreClose	0	Disabled V
Harue S200 PB_DR1_Faikure	veEdge	1	Fitted V
Write	Calent II they tank		~
Value to Write	зелесь на шастирия		
Showing vehicle parameters			Application : 1.5.6 Data : Information
_			
	Baremotors can be adjusted f	from	
	Parameters can be aujusted i	nom	
	Drop down box		
	Edit Deventer Velve en	stion	
	 Eait Parameter Value se 	cuon	
MultiNALIX Lloor Colo			
wultivity user Guid	ie		

7.5.1. Save



This feature allows the user to save the current Master ECU parameters to a .xml Parameter file. The user will be allowed to name the file to whatever you choose, via a windows browser window, see below: -



7.5.2. Load



This feature allows user to load an existing .xml Parameter file into the Master ECU.

The user will be allowed to choose the parameter file, via a windows browser window, see below: -

💽 Open				×
← →	timux > AdI > Parameters ~ で	Search Paramete	rs	P
Organise 👻 New folde	er	B	-	?
OneDrive	Name	Date modified	Туре	^
TILLOC	302351v02 (Volvo M25 E428_V7 - Chassis	08/06/2018 09:26	XML File	
This PC	302352v04 (Volvo M25 E452_V5 - Chassis	08/06/2018 09:26	XML File	
> 🧊 3D Objects	302353v04 (Volvo M25 E444+F436_V4 - C	08/06/2018 09:26	XML File	
🔉 🔜 Desktop	302354v02 (Scania M25 F414_V2).xml	08/06/2018 09:26	XML File	
🗧 🗄 Documents	302355v02 (Scania M25 F426_V4).xml	08/06/2018 09:26	XML File	
> 🕹 Downloads	302356v02 (BYD).xml	08/06/2018 09:26	XML File	
Music	Availation (Scania M25 G423_V1).xml	08/06/2018 09:26	XML File	
Dictures	302358v02.xml	08/06/2018 09:26	XML File	
	302359v02 (BYD 13degSaloonHeat).xml	08/06/2018 09:26	XML File	
Videos	302360v04 (Scania M25 G473_G475 bringl	08/06/2018 09:26	XML File	
Windows (C:)	302361v03 (BYD_G278 - RevMute180).xml	08/06/2018 09:26	XML File	
🗧 👝 Recovery Image	302362v02 (BYD_G283_G284 - HeatScreen	08/06/2018 09:26	XML File	~
Nukurah 🗸 🗸 🗸	<			>
File n	ame:	XML Files (*.xml)	~
		Open	Cancel	

7.5.3. Restore





This feature allows the user to restore the parameters to their default values in the Master ECU. The user will be prompted to confirm this function, see below: -



7.5.4. Store



This feature allows the user to store the current displayed Parameters in the Master ECU, instead of manually putting the system to sleep.

The user will be prompted to confirm this function, see below: -



7.6. Network

The Network screen displays summary information about all the ECU's on the electrical system



The summary reports are: -

- Network Initialisation Faults
 - Displays faults from when the Acti-MUX system was first Initialised or powered up, i.e.
 Power xx Not responding
- Slave Status Report
 - o Displays a List of expected slave Power units on the Acti-MUX system.
 - Displays each slave unit's status, ECU number, Wakeup origin, Firmware / Hardware versions
- Initialisation and Integrity Report
 - o Displays a List of expected slave Power units on the Acti-MUX system.
 - Displays a summary of possible issues for slave unit when they system was first Initialised or powered up, i.e. No response, CRC Error, Address conflict
- Slave Can Link Status



- o Displays a List of expected slave Power units on the Acti-MUX system.
- Displays a summary of what the Master ECU has instructed the Slave ECU to do, i.e. Restart, Reset, Inhibit mode, etc.

Mult	-MUX Actimux													- 5 ×
	A <i>CTI</i>	A°												Network
	X Build Data	Read Fi	aults IO Status	Master M	de Parameters	Network								Main Menu
							Network Initi	alisation Faults						
		Initialisatio	in Fault					Fault Der	scription					
P	5	PWR66@2 not	responding				Possit	le power wiring fault, communi	cations wiring fault.	or faulty slave unit				
	Type	Addr	Firm	ware Version		Firmware Variant		Hardware Number		Parameter	Crc		Wakeup	
0	PWR66	2		0		0		0		0			Unknow	wn
				_			Initialisation and	Integrity Report	'					
			Same Add		Restarted	Not Exp	ected			Sleep Mode	No Respor			Wakeup
	PWR66	1	•		0			0		0	0			Unknown
0	PWR66	2	•		0	0		•		0	0			Unknown
							Slave Can	Link Status						
0	PWR66	1	•	•	•	•	•	•	•	0	0	(0	0
•	PWR66	2	•	0	•	•	•	•	0	0	0	(•	•
l														
l														
Shr	wina netwo	rk configura	ation.										Applicatio	n : 1.5.6 Data : Informatio

7.7. Start Download Session

To start a diagnostic session, click on the Start Download Session button

The following screen will be displayed, prompting for a download password (This may not be the same password for accessing the diagnostic session)

Enter Password
Please enter a password below to start a download session.
OK Cancel

The download password is specific for each vehicle manufacturer. Generally, it is the name of the deployment created in Multi-MUX Manager.



MultiMUX User Guide



When the correct deployment password is entered, the following screen will be displayed: -

This screen will list the files available for download and the Master ECU that they are for.

Click on the file required from the list and then click the **Download** button.

You will then be prompted to select a Parameter File to download

② Download Parameter File
Would you like to download a vehicle parameter file after downloading the vehicle Application?
Press Yes to select a parameter file to download after the application download.
Press No to download the application without a parameter file.
Yes No

If you require a parameter file to be downloaded, click the Yes button

A windows browser window will then open, allowing you to navigate to where the parameter file is located on your PC



Select the parameter file and click the open Button.

The following confirmation screen will be displayed. Click Yes button to proceed



Your Download should now start.



	Download Application
Soundoad Marcal	Lizih Menzi
Vehicle Description	Master Type
ADL PRODUCTION - APP V2_1_2_1 + MONITOR V1_2_0_25 VOLVO ONLY	MASTER25
ADL PRODUCTION - APP V2_1_3_2 + MONITOR V1_2_0_25 SCANIA / BYD ONLY	MASTER25
ADL PRODUCTION - APPLICATION FILE - V2C (MultIC2 English)	MULTIC2
ADL PRODUCTION - APPLICATION FILE - V2C (MultIC2 Spanish)	MULTIC2
ADL PRODUCTION - GRAPHICS FILE - V1A (MultIC2 All Variants)	MULTIC2
File Details	
Application Filename: 301-06-0014_FS_ADL_V1_A.mhx (25/07/2017 10:36:12)	Database Name:
Application Description: ADL PRODUCTION - GRAPHICS FILE - V1A (MultIC2 All Variants)	Last Database Update: 01/01/2016
Download Progress	
Downloading file to vehicle Ecu (47%)	Application : 1.3.1 Data : V20
↑ · · · · · · · · · · · · · · · · · · ·	

The Status of the download is indicated here and by the green progress bar

A typical download will take approximately 3 minutes to complete.

The following screen will be displayed if download is completed successfully: -





7.8. Check Online Updates

Check Online Updates Check online for database and vehicle update

This function allows the user to update the diagnostic data of the Multi-MUX diagnostic tool. Depending upon the licence purchased will determine what vehicle manufacturers are supported.



When the user, clicks the Check Online Updates button, the dialog box above will appear. Click Yes to check for updates.

Updating 'actimux-sol' database files from server.. 100% Completed

The lower left status bar will indicate the status of the update, see example above.



Once the update is complete, the dialog box above will appear to confirm the update is sucessful.

		Installed Database	Lotest Database	Requires Generic	Requires Application		
Generic	GEN	V2018_01	V2018_01	V2017_01		Current database installed	0
Optare	OPT	V2018_22	V2018_22	V2018_01	1.5.1	Current database installed	0
Alexander Dennis	ADL	V2018_28	V2018_28	V2018_01	1.5.1	Current database installed	0
Dennis Eagle	DNE	V2018_25	V2018_25	V2018_01	1.5.1	Current database installed	0
Irizar	IZR	V2018_23	V2018_23	V2018_01	1.5.1	Current database installed	0
Castrosua	CAS	V2018_20	V2018_20	V2018_01	1.5.1	Current database installed	0
Solaris	SOL	V2018_20	V2018_20	V2018_01	1.5.1	Current database installed	0
Actia	ACT	V2018_27	V2018_27	V2018_01	1.5.1	Current database installed	0

Click OK, then the above information box wil appear to indicate what manufacturers have been updated.



7.9. Edit Software Options



This function allows the user to select the diagnostic connection options of the Multi-MUX diagnostic tool.

Multi-MUX Actimus	-
	Software Settings
settings	Main Meru
Connection Settings Protocol Selection Diagnostics over Ethernet (DolP) DelP Network Inter-se Ethernet	
\sim	
	\mathbf{A}
	$\langle \cdot \rangle$
	$\langle \rangle$
Waiting for user to edit software settings	Application : 1.3.6 [Data : information
	$\langle \rangle$
Select the Diagnostic Protocol you want to use from the	Select the Diagnostic Protocol option you want to use
dropdown box: -	from the dropdown box: -
Diagnostic over CAN (DoCAN) – uses Basic XS	Diagnostic over CAN (DoCAN)
Diagnostic over Ethernet (DoIP) – Uses Ethernet cable	• Auto Detect CAN Bus Speed
	Diagnostic over Ethernet (DoIP)
	 DoIP Network Interface



8. Kibes Diagnostics



After clicking on the Kibes button on the launchpad, the following screen will appear: -



MultiMUX User Guide

8.1. Start Kibes Diagnostic Session

To start a diagnostic session, click on the Start Diagnostic Session button

The following screen will be displayed, prompting for a user password (This may not be the same password for accessing the download session)

Enter Password
Enter a password to start an advanced diagnostic session.
Leave the password blank to start a basic diagnostic session.
OK Cancel

Enter the user password and click **OK** to start the diagnostic session.

If the user does not enter a user password and clicks **OK**, the diagnostic session will start, but will have restricted functionality - access only to:-

		Build Data
Build Data Read Faults		Main Menu
	Build Data	
Build Data	Value	
ZR32A Manufacture Date	12 September 2014	
ZR32A Serial Number	124681	
ZR32A Software Date	29 June 2017 - 14:01:17	
ZR32A Parameters Date	29 June 2017 - 14:01:31	
VIN	****	
Dataset Id	303222v000	
/ehicle Id	Alexander Dennis - MMC_E200_UK	



start with full access:-

Build Data Read Faults IO Status Master Mode Para	meters	
	Build Data	
Build Data	Value	
ZR32A Manufacture Date	12 September 2014	
ZR32A Serial Number	124681	
ZR32A Software Date	29 June 2017 - 14:01:17	
ZR32A Parameters Date	29 June 2017 - 14:01:31	
VIN	~~~~~	
Dataset Id	303222v000	
Vehicle Id	Alexander Dennis - MMC_E200_UK	

The first screen above is the **Build Data** screen.

It contains version information about the Application in the Master ECU you are diagnosing.

From this screen, you can navigate to the addition diagnostic function listed below:

- Read Faults
- IO Status
- Master Mode
- Parameters

8.2. Read Faults

IDER IIS						Read I	Fau
Read Fault	5						Main M
Status ⊽	Priority V	SPN 🔻	SPN Description	Connector 7	FMI 🔻	FMI Description マ	000
Not Active			Battery Master Relay				
Not Active	1	520427	Alt. 1 Deactivation	MUX1.3-E01	5	Open Circuit	12
Not Active	1	520428	Alt. 2 Deactivation	MUX1.3-E05	5	Open Circuit	12
Not Active	1	520263	Alt. Excitation 1	MUX1.3-E06	5	Open Circuit	12
Not Active	1	520264	Alt. Excitation 2	MUX1.3-E04	5	Open Circuit	12
Not Active	1	523142	HVAC Demister Valve	No Data Found	7	Syst. Not Respond	3
Not Active	1	523069	Interior Lights	MUX2.1-B12	6	Current Above Nor	11
Not Active	1	523065	Destination Lights	MUX2.1-E18	6	Current Above Nor	55
Not Active	1	523103	Dest Sign Rel	MUX2.1-E12	6	Current Above Nor	55
Not Active	1	524005	MUX 2.1	MCAN 2	9	Time Out	20
Not Active	1	523074	Dis Bell Push for Dr	MUX2.1-B04	6	Current Above Nor	1
Active	1	520254	Washer Pump	MUX1.2-A02	5	Open Circuit	12
Not Active	1	523062	Interior Lights	MUX2.1-A16	6	Current Above Nor	4
	1	520214	Dinn Beam Headl I H	MUX1 1-B16	6	Current Above Nor	1

The Read faults screen displays the stored SPN faults stored in the ZR32 memory.: -

Pressing the Erase Faults Button will clear the stored faults from the ZR32 memory.

Pressing the **Refresh** Button will update the current faults display.

8.3. IO Status

IO Status displays status of all inputs / outputs connected to the Kibes electrical system.





8.4. Master Mode

Master Mode is not available on the Kibes system.





8.5. Parameters

Viewing and adjusting parameters are dependent on what level password is entered by the user.

Level 3 user allows viewing access.

Level 4 user allows parameter adjustment.



• Edit Parameter Value section

Note: Multiple groups can be selected



8.6. Start Download Session

To start a diagnostic session, click on the **Start Download Session button**

The following screen will be displayed, prompting for a download password (This may not be the same password for accessing the diagnostic session)

Enter Password
Please enter a password below to start a download session.
OK Cancel

The download password is specific for each vehicle manufacturer. Generally, it is the name of the deployment created in Multi-MUX Manager.

When the correct deployment password is entered, the following screen will be displayed: -

LEXANDER DENNIS		Dowr	load Applicatio
Download			Main Mene
	File Sele	ection	
nf	Vehicle Description		Master Type
H224 - Courtney Coaches			MOKI3
H224 - Courtney Coaches			
	File De	tails	
Filename: 300841v109_303222v000.ZR32J	File De A.A. (27/07/2018 09:01:31)	trails Database Name:	MMC_E200_UK
Filename: 300841y109_303222y000.ZR32J Description: H224 - Courtney Coaches	File De A_A (27/07/2018 09:01:31)	tails Database Name: Last Database Up	MMC_E200_UK date: 22/05/2018 11:37:23
Filename: 300841v109_303222v000.ZR32/ Description: H224 - Courtney Coaches	File De A_A (27/07/2018 09:01:31) Download I	ttails Database Name: Last Database Up Progress	MMC_E200_UK date: 22/05/2018 11:37:23
Filename: 300841v109_303222v000.ZR32J Description: H224 - Courtney Coaches	File De A_A (27/07/2018 09:01:31) Download 1	tails Database Name: Last Database Up Progress	ММС_Е200_UK date: 22/05/2018 11:37:23

This screen will list the files available for download and the Master ECU that they are for.

Click on the file required from the list and then click the **Download** button.



		Downloa	ad Applicatior
Download			Main Menu
	File Selection		
nf	2 Confirm Download		Master Type
H224 - Courtney Coaches	<u> </u>		MOKI3
H224 - Courtney Coaches	'H224 - Courtney Coaches' application selected for download.		ZR32-A
	Ensure wakeup switch is on then press OK to continue.		
	Press Cancel to cancel the download.		
	OK Cancel		
	File Details		
Filename: 300841v109_303222v000.ZR32A_A (27/07/2018 0	9:01:31)	Database Name:	MMC_E200_UK
Description: H224 - Courtney Coaches		Last Database Update:	22/05/2018 11:37:23
	Download Progress		

Click OK to initiate the download.

8.7. **Check Online Updates**

Check Online Updates Che

This function allows the user to update the diagnostic data of the Multi-MUX diagnostic tool. Depending upon the licence purchased will determine what vehicle manufacturers are supported.



Waiting for user to select option..

Click Yes to check for online updates.



8.8. Edit Software Options

Edit Software Options Change software options and preferences

This function is not implemented for the Kibes system: -





9. Multi-SCAN



After clicking on the Multi-SCAN button on the launchpad, the following screen will appear: -



Acti-MUX Diagnostic Data Version



9.1. Edit Software Options



Clicking on the Edit Software Options button will show the above screen.



9.2. Start ActiMUX Diagnostic Session

To start a diagnostic session, click on the Start Diagnostic Session button

Multi-SCAN					-			
ACTI	A [®]				Net	work		
() Network	Read Faults	Live View	Record	Save Setting		in Menu		
			ECU Lis	st				
MIL ECU Addres	s		Description		Active Faults	Fault Status		
• 0	Engine #1				15	0		
3	Transmission #1				1	0		
16	Retarder - Drivelin	ie			0	0		
41	Retarder, Exhaust	, Engine #1			0	0		
			ECU Build	Data				
E	CU	Desc	ription	Value				
Engine #1		Make		CMMNS				
Engine #1		Model		6B e05D067				
Engine #1		Serial Number		11111111				
Engine #1		Vehicle Identificat	ion Number	*****				
Engine #1		Software Identifica	ation	04995445*25000273*033009104952*0853005	1*B7*BBX*			
Scanning					Application : 1	1.7.0 Data		

The folloing screen will then appear:-

The first screen above is the **Network** screen.

It contains version information about the J1939 network you are connected to.

From this screen, you can navigate to the addition diagnostic function listed below:

- Read Faults
- Live view
- Record J1939 CAN Trace
- Save Recorded J1939 CAN Trace
- Settings



9.3. Network

Multi-SCAN		– 🗆 X
ACTIA®		Network
Network Read Faults	Live View Rec	cord
	ECU	J List
MIL ECU Address	Descript	tion Active Fault Faults
0 Engine #1	41	15 O Section
16 Retarder - Driv	eline	
41 Retarder, Exha	uust, Engine #1	
	ECU P.	ild Data
500	ECU BU	
ECU	Description	Chimits
Engine #1	Model	6B e05D067
Engine #1	Serial Number	11111111 Section
Engine #1	Vehicle Identification Number	*********
Engine #1	Software Identification	04995445*25000273*033009104952*08530051*B7*BBX*
Scanning		Application : 1.7.0 Data : 1.0
I The MIL status of each ECL	J is displayed here	The type of Active Faults is displayed here:- Red =Major Fault
The numb	er of Active Faults is display	yed here Amber= Minor Fault Green = All OK

The Network screen displays: -

- Section 1 ECU's present on the J1939 network and fault status
- Section 2 ECU's Build data



9.4. Read Faults

Multi-SCAN						4 73 4		
ACTIA®						Read Fa	aults	
Network Read Faults	Live	∲ _ ₂ View		Record Save		Settings Ma	in Menu	
Show All Hide All				Active Fau				
Cu Name Read	ECU	SPN		SPN Description	FMI	FMI Description	oc ^	
Engine #1	0	91	0	Accelerator Pedal Position 1	4	Voltage Below Normal	1	
Transmission #1	0	97	0	Water In Fuel Indicator	3	Voltage Above Normal	1	Section 1
	0	102	0	Engine Intake Manifold #1 Pressu	4	Voltage Below Normal	1	
	0	105	0	Engine Intake Manifold 1 Temper	3	Voltage Above Normal	1	
	0	108	0	Barometric Pressure	4	Voltage Below Normal	2 🗸	
				Stored Fau	ılts			
	ECU	SPN		SPN Description	FN	II FMI Description	oc	
	0	100	0	Engine Oil Pressure	2	Erratic, Intermittent, or Incorrect	1	
Control	0	2623		Accelerator Pedal #1 Channel 2	3	Voltage Above Normal	1	Section 2
Refresh Erase Faults			<			Application : 1	7.0 Data : 1.0	
The ECU's present on the J1	939		_		_	Erase Faults button wil	l erase all A	Active
network that have any Activ	e or st	ored				and Stored Faults for th	he ECU's se	elected
faults						 see erase faults sect 	ion below.	
The Network care on display				Refresh button	upc	lates the view of		
The Network screen displa	ys			Active and store	ed f	aults		
• Section 1 - ECU's A	ctive f	fault ir	nfor	mation (present faults)				
• Section 2 - ECU's St	tored	fault i	nfoi	mation				
The Information is represen	nted i	n a tak	ole f	ormat with the followin	g h	eadings: -		
• ECU Column – Sho	ws Ad	dress	of E	CU on the J1939 Netwo	rk			
SPN Column – Show	ws the	e Susp	ect	Parameter Number of th	ne f	fault		
Information Colum	ın(i) –	Shows	s ad	ditional SAE help inform	nati	on on the fault		
SPN Description Co) Jumn	– Sho	ws	a description of the SPN				
 FMI Column – Show 	ws the	s Failu	no N	Ande Identifier of the fa	ı.l+			
EMI Description Co	Jump			description of the EMI	ait			
			vv 5 (f accurrance of the form	.1.			

OC Column – Shows the number of occurrences of the fault

Note: Information is based on data from the SAE J1939 standard



9.5. Erase Faults

Multi-SCAN						1700	
ACTIA®						Read Fa	ults
Network	Liv	Ve View		Record Save		Settings	Menu
Show All Control of the second	ase F	aults uest to clea	ır/rese	t all active and stored faults to all selec	ted ECUs	; (Engine #1; Transmission #1).	OC ^ 1 1 1 1 1 2
				Stored Fa	ults		
	ECU	SPN	1	SPN Description	FMI	FMI Description	ос
	0	100	0	Engine Oil Pressure	2	Erratic, Intermittent, or Incorrect	1
Control	0	2623		Accelerator Pedal #1 Channel 2	3	Voltage Above Normal	1
Refresh Erase Faults							

The above "Erase Faults" message is displayed when the erase fault button is pressed

Multi-SCAN						Read Fai	ults
Network Read Faults	Liv	/ // . /e View		Record		Settings	Menu
Show All Hide All	Er equest t	ase Fai to clear/rese o continue t	ults et all fa	aults has been sent to all selected ECUs (ait 5 seconds for Multi-SCAN to re-read	Engine faults.	#1; Transmission #1).	OC 1 1 1 1 1 2
				Stored Fau	lts		
	ECU	SPN		SPN Description	FMI	FMI Description	oc
	0	100	0	Engine Oil Pressure	2	Erratic, Intermittent, or Incorrect	1
Control	0	2623		Accelerator Pedal #1 Channel 2	3	Voltage Above Normal	1
Refresh Erase Faults							

The above "Erase Faults" message is then displayed to confirm the request



9.6. Live View

Multi-SCAN					– 🗆 X
ACTIA®					Live View
Network Read Faults	- Liv	∳∕∟ e View		Record	Settings
🚠 By Group 🛄 By ECU	\supset)		Parameters	
cu Name Read	ECU	SPN		SPN Description	Value
Engine #1	0	69	0	Two Speed Axle Switch	Low speed range
Transmission #1	0	84	0	Wheel-Based Vehicle Speed	0 km/h
Retarder, Exhaust, Engin 🔾 🗩	0	86	0	Cruise Control Set Speed	0 km/h
	0	91	0	Accelerator Pedal Position 1	Error
	0	92	0	Engine Percent Load At Current Speed	0 %
	0	94	0	Engine Fuel Delivery Pressure	612 kPa
	0	97	0	Water In Fuel Indicator	Error
	0	100	0	Engine Oil Pressure	480 kPa
	0	102	0	Engine Intake Manifold #1 Pressure	Error
Control	0	105	0	Engine Intake Manifold 1 Temperature	Error
	0	108	0	Barometric Pressure	Error
Update Display	0	110	0	Engine Coolant Temperature	Error
	0	168	O	Battery Potential Power Input 1	25.65 V
		d			
Scanning					Application : 1.7.0 Data : 1.0



Data on the J1939 can be viewed by ECU or by defined groups

The Information is represented in a table format with the following headings: -

- ECU Column Shows Address of ECU on the J1939 Network
- SPN Column Shows the Suspect Parameter Number of the fault
- Information Column(i) Shows additional SAE help information on the fault
- SPN Description Column Shows a description of the SPN
- Value Column Shows the actual value of the SPN in converted units)



Multi-SCAN					– 🗆 X
ACTIA®					Live View
Network Read Faults	Lit	M. ve View		Record Save	Settings
🚠 By Group	SPN	168			
Group Name A I Aftertreatment ADBlue Catalytic Converter Cruise Control DPF Engine Running Data Engine Start Interlocks FMS Fuel System	168 - Batter parameter r og from on ised when ctly from th	y Potential , measures tł e or more i ECM's are i te same ba	/ Powe ne first batteri nterco ttery/b	r Input 1 source of battery potential as measured at the input of es, irrespective of the distance between the component . nnected in a series configuration, where the source of p atteries.	the ECM/actuator etc. and the battery. This SPN is ower is coming directly or
Transmission Interloc	<u>- 1</u>		1		
Control	0	190	0	Engine Speed	0 rpm
Update Display	0	512	0	Driver's Demand Engine - Percent Torque	0 %
	0	513	0	Actual Engine - Percent Torque	0 %
	0	558	0	Accelerator Pedal 1 Low Idle Switch	Error
Scanning					Application : 1.7.0 Data : 1.0

When clicking on the Information Column(i) — the above SPN information window will appear. The information displayed is text directly from the SAE standard.



50 | 62



9.7. Record

Multi-SCAN							– 🗆 X
ACTIA®						Read	Faults
Network Read Faults	- Liv	∕∕⊷ ve View		Record Save		O Settings	Main Menu
Show All Hide All				Active Fat	ılts		
Ecu Name Read	ECU.	SPN		SPN Description	FMI	FMI Description	oc ^
Engine #1	0	91	0	Accelerator Pedal Position 1	4	Voltage Below Normal	1
Transmission #1	0	97	0	Water In Fuel Indicator	3	Voltage Above Normal	1
	0	102	9	Engine Intake Manifold #1 Pressu	4	Voltage Below Normal	1
	0	105	0	Engine Intake Manifold 1 Temper	3	Voltage Above Normal	1
	0	108	0	Barometric Pressure	4	Voltage Below Normal	2 🗸
				Stored Fa	ults		
	ECU	SPN		SPN Description	FM	FMI Description	oc
Control Refresh Erase Faults							
Scanning						Applicati	on : 1.7.0 Data : 1.0

Pressing the Record Button will start recording a trace of the J1939 data bus

Multi-SCAN × **Read Faults** Ð Stop Active Faults 0 91 ① Accelerator Pedal Position 1 4 Voltage Bel w Normal 1 Engine #1 3 Voltage Abo 0 97 Water In Fuel Indicator 1 lormal Transmission #1 Engine Intake Manifold #1 Pressu... 4 Voltage Below Norma 1 0 102 0 105 O Engine Intake Manifold 1 Temper... 3 Voltage Above Norma 1 108 2 0 Barometric Pressure 4 Voltage Below Normal ording (0 mins 13 s

When recording is in operation, the record button will be greyed out. (See below)

Once the desired recording is completed, you can stop recording by pressing the Stop button



9.8. Save

	Read Faults
Network Pread Faults Live View Record Record Show All Save As Cu Name Crganise * New folder Organise * New folder Transmission #1 This PC Douments Downloads Music Pictures Videos	Sever Settings Main Menu Settings Main Menu Search Desktop Date modified Type 01/02/2019 10:11 File folder 1 1 2
Contro File name: Save frace Save as type: ASCII Files (*.asc) A Hide Folder Refresh Contro Scanning.	Application : 1.7.0 Data : 1.0

Pressing the Save Button will save the CAN trace to a file. The above "Save As" browser window open, allowing the user to save the file to a location of their choosing.

The file format (ASC) of the saved file will be compatible with CAN playback software such as Vector, etc...



9.9. Settings

Multi-SCAN	— — X
	Settings
Network Read Faults Live View Record	Save Settings Main Menu
Diagnostics Software Settings	
☑ Display 'Undefined' SPNs	Number System
Display 'Not Available' Messages Display Legacy DTCs (pre-V/4 decoding)	
 Display Legacy Dires the evolution of the country of	
■ Use PGN Groups	
Scanning	Application : 1.7.0 Data : 1.0

Pressing the Settings Button will open the above screen

The Diagnostics Software Settings: -

- Display Undefined SPN's Displays custom messages that are not listed in the J1939 SAE Standard
- Display Not Available Messages Displays SPN's where the value read is defined as Not Available (i.e. 0xFF, 0x03, etc...)
- Display Legacy DTC's Displays DTC's that are using the V4 decoding method
- Display Message Timestamps Displays the time stamp on a CAN trace
- Use PGN Groups Displays Groups as PGN groups instead of Actia default groups
- Numbering System Defines if values are displayed in Decimal or Hexadecimal



10. EV-DIAG



After clicking on the EV-Diag button on the launchpad, the following screen will appear: -



Acti-MUX Diagnostic Data Version



10.1. Launch EV Diag

Click on Launch EV Diagnostic App to launch the application



The screen below will appear.







Click on the tick once you've connected your XS, then select your baud rate.

Finally click the tick again and the following screen will show:

	ACTIA
ACTIA® Operation selection.	BAUD RATE: 250
▼ AP-e-Diag	
Create all systems data and DTCs report	
Read DTCs on all ECUs	
Clear All DTCs	
EVCU (Electric Vehicle Control Unit)	
INVERTERS	
AUXILIARIES	
CHARGE	
HIGH VOLTAGE BATTERY	
Change user level	
Initial angle configuration	



10.2. Check Online Updates

This function allows the user to update the data of the diagnostic tool. Depending upon the licence purchased will determine what vehicle manufacturers are supported.



When the user, clicks the Check Online Updates button, the dialog box above will appear. Click Yes to check for updates.



s Failed s Failed
s Failed
s Failed
s Failed
s Succesfu
s Succesfu
s Succesfu
s

Once it has completed updating, the status of the download will either show successful or failed.

10.3. Edit Software Options

This allows you to configure which drive to save your packages on.

	Software Settings
	Main Menu
EV Diag Application Settings Application Location C:\ ~ AWRD\Launcher\LctActiDiag.exe Version 3.5.3.0	Sync Packages
Waiting for user to edit software settings	cation: 1.7.5 (Debug) Server muxaidtest Data: Information



MultiMUX User Guide

11. Frequently Asked Question

11.1. Does Multi-MUX support diagnostics of CAMU

No – this is supported by the MultiAID diagnostic tool. Contact your local Actia subsidiary for details.

11.2. My Licence is about to expire – what do I need to do?

You will start receiving reminder emails when your licence is due to expire within the next 30 days and there will also be a count down on the Home Screen of your Multi-MUX software. The email will state the costs of your renewal. Once payment is made for your renewal you will be sent an email to renew your Multi-Mux. Please refer to the **099-60-6551 Multi-MUX quickstart guide.pdf** document on how to activate your renewal, this will be attached to this email.

11.3. Can I Purchase additional Bolt-ON's after my Purchase?

Yes - Contact your local Actia subsidiary for purchase of additional Bolt-on licence.

11.4. CAN I transfer my Multi-MUX licence?

Yes - In the event of your PC failing, please contact your local Actia subsidiary for the transfer of your licence.

9.5 My Multi-MUX has lost its licence – What do I do

Contact your local Actia subsidiary who will assist relicensing your Multi-MUX

12. Trouble Shooting Guide

12.1. Error Opening Communications Interface



The above error usually indicates that there is an issue with the Basic XS drivers. Please re-install drivers and ensure Basic XS is powered up (Green LED flashing)

12.2. Unable to Connect to Vehicle

😢 Connection Failed
Unable to connect to vehicle.
Press OK to continue.
СК

The above error usually indicates that there is an issue with the connection from the Basic XS / Ethernet adapter to the ECU being diagnosed.

Check the following: -

- Correct cable being used refer to Additional Hardware section of this document
- ECU is powered up
- Basic XS is powered up (Green LED flashing)
- Firewall / Antivirus settings (Ethernet connection only)

12.3. Download Failed



The above error usually indicates that there is an issue with the connection from the Basic XS / Ethernet adapter to the ECU being diagnosed.

Check the following: -

- Correct cable being used refer to Additional Hardware section of this document
- ECU is powered up
- Basic XS is powered up (Green LED flashing)
- Firewall / Antivirus settings (Ethernet connection only)





The above error usually indicates that there is an issue with the Basic XS drivers. Please re-install drivers and ensure Basic XS is powered up (Green LED flashing)

12.4. No Vehicle Data



The above error usually indicates that Multi-MUX does not have the latest diagnostic data or recognise the software banner of the ECU being diagnosed.

Check the following: -

- Ensure diagnostic data is up to date refer to "Check on-line Updates" section of this document
- Ensure s-diag export data is correctly installed Actigraf Users only

12.5. On-Line Update Failure



The above error usually indicates that Multi-MUX does not have an internet connection. Check the following: -

- Ensure diagnostic tool has internet connection
- Check firewall settings are not blocking connection



13. Actia Contact Information

13.1. Actia Sales

When calling the Actia for assistance. Please ensure you have your Licence Key available. (see **Licencing the Product** section of this document)

13.2. Actia Helpdesk

When calling your local Actia subsidiary for assistance. Please ensure you have your Licence Key available or your KIT ID (this is the WO number on your Basic XS) and your PC has internet access. The Helpdesk Assistant may have to remotely access your PC to resolve the issue.

For UK support please contact

Tel: +44 (0) 1686 611150 Email: <u>helpdesk@actia.co.uk</u> For International support please visit the ACTIA website to find your local ACTIA representative

https://www.actia.com/en/the-group/locations