How To - Know How

Quick Guide

How to use Intrepid Basic Setup to log GeneSys ADMA data



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1 Contacts

Here you will find the contact details of the author, who is also available to answer the resulting questions:

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2 History

Date	Name	eMail	Description
2023-07-26	Andreas Kirsch	akirsch@intrepidcs.com	Initial description related to
			ADMA_ETH.vs3



3 Introduction

Intrepid Control Systems is specialized in logging, monitoring and accessing Vehicle networks. We provide Interfaces and Loggers for CAN/CAN-FD, LIN, FlexRay, Automotive and Standard Ethernet (100/1000-Base-T/T1, 10-Base-T1S), A2B audiobus. Also extensions for low speed analog or digital in and out, modules to connect thermo couples or for isolated power relays are available. Most devices support at least multiple CAN/CAN-FD, LIN and Ethernet together in one device.

Besides accessing and logging only Broadcast messages, Interpids Systems can be also transmit data. Requesting diagnostic information (such as OBD, UDS, KWP, or DoIP) or accessing the ECU directly (CCP/XCP) is easy to accomplish. All this can be done using the PC or standalone in Testbench environment or while test driving.

Using Intrepids wireless neoVI server solution, all acquired data may be uploaded and will be available to other users instantaneously.

Beside digital in-vehicle data in many use cases (see in later chapter) also external sensor- or precalculated data like acceleration, orientation or positioning is of big value to be stored in combination.

To access ADMA inertial platforms data, GeneSys provides CAN and Ethernet interface. In the following it will be described how access both of them in VehicleSpy and how to setup a logger for acquisition.

The full documentation of VehicleSpy could be found here: https://docs.intrepidcs.com/vspy-3-documentation/v/3.9.12/



4 VehicleSpy Basics

In the following, some basics will be presented and how to set up the logger easily. We will start with the Message Editor, the heart of the logger for decoding received messages and defining outgoing messages. In the next section we will have a look at how easy it can be to set up a logger for standalone logging.

4.1 Hardware setup

You can press the PCB button or select Setup/Hardware to open the Hardware Setup for basic configuration of your unit.



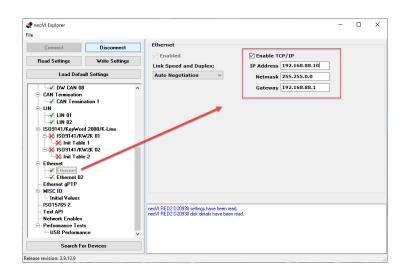
After connection to your device, you can change the CAN/CAN-FD and Ethernet settings to suit your needs.

🐲 neoVI Explorer File						-	×
File							
Connect	Disconnect	DW CAN 01		CAN FD			
Connect	Disconnect	Enabled		Enabled	ISO ISO		
Read Settings	Write Settings	Baud Rate	Specify by Baud	Baud Rate			
field octaingo	n neo oottiingo	125000 ~		2000000	~		
Load Default	Settings	83333					
	-	100000	Sync 16	TQ SEG1 3	Sync	1	
- System Settings	^	125000 250000	BRP-1 7	TQ SEG2 1	BRP-1	1	
– Available Firmware		500000		TQ Prop 0			
- 19 neoVI RED2 D2093	8	666667	(Clock is 80 MHz)	IQ Prop 0	TDC	8	
- General Settings		800000 1000000 V	e Calculator				
Product Details		1000000 *	conculator				
- Linux Settings		Mode	Normal 🗸 🗸				
 Storage Disk 							
E- CAN							
-X DW CAN 01							
W CAN 02							
CAN Termination							
-X CAN Terminat	tion 1						
B- LIN		neoVI RED2 D20938 st	ettings have been read. sk. details have been read.				
		10041112020203000	an downs novo deen redu.				
□ ISO9141/KeyWord	2000/K-Line 🗸						
Search For	Devices						
Release revision: 3.9.13.9		р <u>г</u>					

You can enable a programmable termination resistor when using CAN to connect ADMA.



If Ethernet connection is used, you can enable the TCP/IP and IP settings.



4.2 Including a database

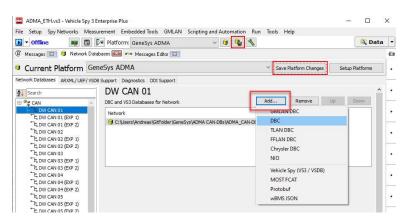
If you already have a database file (DBC, LDIF, FIBEX, ARXML...), you can do the setup or modification of your database platform.

• Offline	😅 🗒 🎼 Platform: (None)	10 2 1		🔍 Data
Messages 🖾	📵 Network Databases 🔝 🕬 Messages Editor 🖾			
Current Pl	atform (None)		✓ Save Platform Changes	Setup Platforms
	Setup Platforms		×	
	Available Platforms	ОК		
		^	Create a database platform	×
		Add	Enter a name for the database The name cannot contain cha	platform racters: / \ : * ? '' < >
		Rename	GeneSys ADMA	
		Сору	OK	Cancel
		Remove		
		Close		

The platform contains all of the databases that belong together.



For ADMA over CAN, select the network on the left where you have connected the ADMA.



Press the Add button and select the DBC file associated with your ADMA.

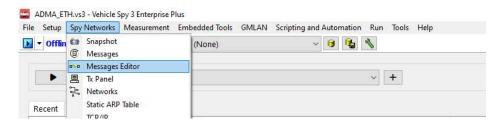
Finally, press one of the flashing "Save platform changes" buttons.

4.3 Using the manual Messages editor

If you do not have a database, you can also define and edit your messages and signals

manually.

Open the message editor (Spy Networks/Message Editor),





you can select your network

	Offline 📑 🖫 Platfo	orm: GeneSys ADMA	4	7 3 4 3						
0 N	lessages 🔯 😝 Network Databases 🔯	📔 💁 Messages Editor								
Edit	eve Receive I Transmit	Database	on Network	DW CAN 01 🔍 + — 🐰		R	►) \$↓	**	010	F 🖬
Key	Description	Туре	Arb ID, Mult	Hido Unused		B7	B8 More I	Data S	Src Node	Color
	Y	7	Y	🖻 🔶 CAN	A	7	7	7	7	Y
db0	GNSS_Receiver_Status	CAN Std 11 bit	C3 Non				(doub)	le dick) 🛛 🗚	ADMA_30	
db1	Kalmanfilter_Status	CAN Std 11 bit	C2 Non	ීද, DW CAN 01 (EXP 1)			(doubl	le dick) A	ADMA_30	
db2	Analog_In1	CAN Std 11 bit	C1 Non	"L, DW CAN 01 (EXP 2)			(doubl	le dick) A	ADMA_30	
db3	INS_EVE_and_INS_ETE	CAN Std 11 bit	C0 Non	"L, DW CAN 02			(doubl	le dick) A	ADMA_30	
db4	INS_EPE	CAN Std 11 bit	BF Non	"L, DW CAN 02 (EXP 1)			(doub)	le dick) A	ADMA_30	
db5	INS_Velocity_POI8_horizontal	CAN Std 11 bit	BE Non	ੈ, DW CAN 02 (EXP 1)			(doubl	le dick) A	ADMA_30	
db6	INS_Velocity_POI7_horizontal	CAN Std 11 bit	BD Non	", DW CAN 02 (EXP 2)			(doubl	le dick) A	ADMA_30	
db7	INS_Velocity_POI6_horizontal	CAN Std 11 bit	BC Non	"T, DW CAN 03 (EXP 1)			(doub)	le dick) A	ADMA_30	
db8	INS_Velocity_POI5_horizontal	CAN Std 11 bit	BB Non				(doub)	le dick) A	ADMA_30	
db9	INS_Velocity_POI4_horizontal	CAN Std 11 bit	BA Non	ි', DW CAN 03 (EXP 2)			(doub)	le dick) A	ADMA_30	
db 10	INS_Velocity_POI3_horizontal	CAN Std 11 bit	B9 Non	ግር, DW CAN 04			(doub)	le dick) A	ADMA_30	
db11	INS_Velocity_POI2_horizontal	CAN Std 11 bit	B8 Non	ት, DW CAN 04 (EXP 1)			(doubi	le click) A	ADMA_30	
db12	INS_Velocity_POI1_horizontal	CAN Std 11 bit	B7 Non	ිද, DW CAN 04 (EXP 2)					ADMA_30	
db13	INS_Velocity_frame	CAN Std 11 bit	B6 Non				(doub)	le dick) A	ADMA_30	
db14	INS_Velocity_horizontal	CAN Std 11 bit	B5 Non				(doub)	le dick) A	ADMA_30	
db15	INS_Position_POI8_relative	CAN Std 11 bit	B4 Non	්ද, DW CAN 05 (EXP 2)	~		(doub)	le dick) A	ADMA_30	
db 16	INS_Position_POI8_absolute	CAN Std 11 bit	B3 Non	5			(doub)	le dick) A	ADMA_30	
dh17	INS Position POI7 relative	CAN Std 11 hit	B2 Non	e 8			(doub)	le dick) A	ADMA 30	

and view the database decoding or the manual definition of the transmit and receive

messages.

				menter sembring	and Automation Run Tools Help				
	• Offline 👜 🖫 🖓 Platfor	m: (None)			- 😼 🔩 🔦				
0	Nerrager 🗺 🕫 Messager Editor 🎫								
Edi	•v• Receive	Databa	ase	on Network	Ethernet 🔽 🛨 🗕	X 🖻 🖻	10 2 4 1 🖶 🛞 🚅 🖬	1 6	
ey	Description	EtherType	e VI AN	Protocol S	K 🗁 Hide Unused 👌 Search	ław F	ayload Bytes	Tx Msg	Color
	7	7	7	7	E At CAN		7	7	7
	Coursel appear upp parts up p	IPv4	None	UDP	E 🔶 CGI	17,42	,49,4E,00,01,00,01,,,,,02,03,03	None	
12	General_ADMA_UDP_Data_V3.2							None	
	General_ADMA_UDP_Data_V3.2 General_ADMA_UDP_Data_V3.3.3	IPv4	None	UDP	E Sthemet	1/,42	,49,4E,00,01,00,01,,,,,03,03,03	None	
113		IPv4 IPv4	None None	UDP UDP	Ethernet		,49,4E,00,01,00,01,,,,,,03,03,03 ,49,4E,00,01,00,01,,,,,,03,03	None	
113	General_ADMA_UDP_Data_V3.3.3				Ethernet	17,42			
n12 n13 n22 n23 n25	General_ADMA_UDP_Data_V3.3.3 General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP		¥7,42 00,85	,49,4E,00,01,00,01,,,,,,03,03	None	

4.3.1 Adding a new message

Select your network and press the "+" button to add a new message.

	Setup Spy Networks Measurement I • Offline III III III IIII IIII IIIIIIIIIIIIII		ons on br	or scripting	~ 👩 🚱		ioois incip					
	Messages 🔯 🏮 Network Databases 🔯	2 2	stics 🔝 🖻	 Messages E 								
Edit	Pro Receive I Transmit	Databa	se o	n Network	Ethernet		- + - I	¥ 🖻	n 21 🕈) 📽 🖬	ľ
Кеу	Description	EtherType	VLAN	Protocol	Source	Port	Destination	Port	Raw Payload Bytes	Tx Msg	Color	
	7	Y	Y	7	7	Y	7	Y	7	Y	7	
n12	General_ADMA_UDP_Data_V3.2	IPv4	None	UDP					47,42,49,4E,00,01,	None		
n13	General_ADMA_UDP_Data_V3.3.3	IPv4	None	UDP					47,42,49,4E,00,01,	None		
in22	General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP					47,42,49,4E,00,01,	None	1	
n23	ADMA_UDP_Delta_V7.0	IPv4	None	UDP					C0,85,3E,70	None	1	
n25	Target_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	192.168.88.32	1232	192.168.88.100	1232	47,42,49,4E,00,01,	None	1	
in27	Hunter ADMA UDP Data V3.3.4	IPv4	None	UDP	192.168.88.31	1131	192, 168, 88, 100	1131	47,42,49,4E,00,01,	None		



For CAN, define the CAN type, ArbID, length and frame type (CAN raw frames, ISO15765 or J1939 decoding).

escription		Enable	Source Node	Col		Default Peri	ou (may	
essage DW CAN 017		Enabled ~	None selected	~ 🛛	None	~	Ignore Tx Messa	ges
can v Messa	ge Filter (Specification						
CAN Type	Arbi	tration Identifier (Arb ID)	Length (DLC)	Multiframe	Message		Number of bytes to	
CAN Std 11 bit	~			None	~	D Multiframe Setu	reserve in memory fo payload (embedded o	r mlv): 0
CAN Std 11 bit	^							
CAN Xtd 29 bit SCAN FD Std 11 bit								
							Live E	lit

For Ethernet, you can set a default (filter) for the Ethertype, IP, and Port..

Description	Enable	Color			De	fault Period (ms)			
eneral_ADMA_UDP_Data_V3.2	Enabled	Custom	. ~			1	Ignore Tx Messages		
Message Filter Specification EtherType VLAN Protocol	Source IP	Port [Destination IP	Port	PDU Type		Number of bytes to res	erve	Has Protobuf payload
IPv4 V None IDP	<u>~</u>]:[][None ~		in memory for payload (embedded only):	0	
Chang ICP Ethernet Interface		Target MAC 00:	00:00:00:00:00						
Se IGMP									

Each entry can be considered a filter. If some property (e.g. port or ArbID) is not set, this message will be received for e.g. all ports of the set IP.

In the sample setup "ADMA.ETH.vs3", Intrepid Control Systems GmbH has already set up some general Ethernet messages to receive the GeneSys ADMA Ethernet stream.

File	Setup Spy Networks Measurement			Daiv Scripting			<u>T</u> ools <u>H</u> elp					
	• Offline 👜 🖫 🖓 Platfo	rm: (None)			~ 🖯 🔒	1						
@ I	Messages 🔯 💀 Messages Editor 🔛											
Edit	No Receive	Databas	ie i	on Network	Ethernet		- + -	X 🖻	n 1 2 1	•) 📽 🖬	8
Кеу	Description	EtherType	VLAN	Protocol	Source	Port	Destination	Port	Raw Payload Bytes	Tx Msg	Color	
	7	7	Y	7	7	7	7	7	7	7	7	
in12	General_ADMA_UDP_Data_V3.2	IPv4	None	UDP	10.0.0.1	60001	10.0.0.2	60002	47,42,49,4E,00,01,	None		
in13	General_ADMA_UDP_Data_V3.3.3	IPv4	None	UDP					47,42,49,4E,00,01,	None		
in22	General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP					47,42,49,4E,00,01,	None		
in23	ADMA_UDP_Delta_V7.0	IPv4	None	UDP					C0,85,3E,70	None	1	
in25	Target_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	192.168.88.32	1232	192, 168, 88, 100	1232	47,42,49,4E,00,01,	None	1	
in27	Hunter ADMA UDP Data V3.3.4	IPv4	None	UDP	192, 168, 88, 31	1131	192, 168, 88, 100	1131	47,42,49,4E,00,01,	None		



4.3.2 Adding signals

.

To add a signal to a message, select the size of the signal and press the "+" button.

•	Offline 🔊 🖫	Platfor	2				1000						
М	dessages 🔯 😝 Network I	Databases 🔀	😤 Diagnos	stics 🔝 🛛	🚧 Messages E	Editor 🔛							
dit	•v• Receive	Transmit	Databa	se	on Network	Ethernet		- + -	¥ 🗈	₽ 0 1	24 🕈 🗮 🛛	8 🛎 🖪	
у	Description		EtherType		Protocol	Source	Port	Destination	Port		d Bytes Tx Msg	Color	1
	7		7	7	7	7	7	7	7	7	7	7	
2	General_ADMA_UDP_Data_V		IPv4	None	UDP	L	1				E,00,01, None		
3	General_ADMA_UDP_Data_V		IPv4	None	UDP						E,00,01, None	_	
2	General_ADMA_UDP_Data_V	3.3.4	IPv4	None	UDP						E,00,01, None		
	ADMA_UDP_Delta_V7.0		IPv4 IPv4	None	UDP	100 100 00 00	1000	100 100 00 100	1000	C0,85,3E,7		_	
	Target_ADMA_UDP_Data_V3 Hunter_ADMA_UDP_Data_V3		IPV4 IPv4	None None	UDP	192.168.88.32 192.168.88.31		192.168.88.100 192.168.88.100	1232		E,00,01, None E,00,01, None	_	1
-	Hunter_ADMA_ODF_Data_V3		11-04	NUNE	UDF	192,100.00.01	1151	192.100.00.100	1151	T/,T2,T5,T	c,00,01, None		
sa	ription	F	nable	Color				Default Per	od (me)				
Me	eral_ADMA_UDP_Data_V3.2 essage Filter Specificat	ion	nabled	✓ □ c	Custom	V Port	PDU Ty			Ignore Tx N		—- ·	ła
Me	essage Filter Specificat	ion					PDU Ty	pe		Number of b	ytes to reserve		ła
Me	essage Filter Specificat therType VLAN F Pv4 V None Datasentita DC Chang	ion Protocol UDP V	nabled	Por	t Destinal	tion IP Port	PDU Ty None			Number of b	ytes to reserve	 	ła
Et	essage Filter Specificat therType VLAN f Pv4 V None Cetransmit on PC Ethernet Interface Sec	ion Protocol UDP V	Source IP	Por : Target M Target IF	t Destinal	tion IP Port	100000	pe		Number of b	ytes to reserve		ła
Et IP	essage Filter Specificat therType VLAN f Pv4 V None Cetransmit on PC Ethernet Interface Sec	ion Protocol UDP V e Destination ave Unchanged to Self nd to Specified T	Source IP	Por : Target M Target IF	t Destinal	tion IP Port	None	pe V		Number of b	ytes to reserve	H	ła
Et IP	essage Filter Specificat therType VLAN Pove VLAN Retarguing to PC Constrained on PC Constrained on PC Constrained on the second	ion Protocol UDP V e Destination ave Unchanged to Self nd to Specified T	Source IP	Por Por : Target M Target If	t Destinat IAC 00:00:00: 0. 0. 0. UDP Data	tion IP Port	None	pe →		Number of b in memory fc (embedded o	ytes to reserve	H	ła
Et IP Sig	essage Filter Specificat therType VLAN Pove VLAN Retarguing to PC Constrained on PC Constrained on PC Constrained on the second	ion Protocol UDP V e Destination we Unchanged nd to Self id to Specified T net iteader IP Type	Source IP	Por ? Target M Target If JDP Header	t Destinat	tion IP Port	None	pe →		Number of b in memory fc (embedded o Edit	ytes to reserve or payload only): 0 Byte 8	Byte 9	
Et IP Sig	essage Filter Specificat therType VLAN None Ethernet Interface gnab in Message Ether + 8 + +	ion Protocol UDP Constant UDP C	Source IP	Por ? Target M Target If JDP Header	t Destinat	tion IP Port	None	pe 96,8 Byte 5 By		Number of b in memory fc (embedded o Edit	ytes to reserve or payload only): 0 Byte 8	Byte 9	
Me Et IP Sig +	essage Filter Specificat therType VLAN Received the VLAN Retransmit on PC Ethernet Interface est gnals in Message Ether 1 Add 1 Bit Signal 1 Add 1 Bit Signal 1 Add 16 Bit Signal	ion Protocol UDP C Destination eve Unchanged d to Self d to Self d to Self A halog A halog A halog	Source IP	Por ? Target M Target If JDP Header	t Destinat	tion IP Port	None	pe 96,8 Byte 5 By		Number of b in memory fc (embedded o Edit	ytes to reserve or payload only): 0 Byte 8	Byte 9	
Me Et IP Sig +	essage Filter Specificat therType VLAN forme Thetramiton PC there gnate in Message Ether 4 8 V d 1 Bit Signal 4 8 Add 8 Bit Signal 4 8 Add 8 Bit Signal	ion Protocol UDP CEDENTATION e Destination we Unchanged di to Specified T net fleader IP Analog Analog Analog	Source IP	Por ? Target M Target If JDP Header	t Destinat	tion IP Port	None	pe 96,8 Byte 5 By		Number of b in memory fc (embedded o Edit	ytes to reserve or payload only): 0 Byte 8	Byte 9	
Me Et IP Sig + + +	essage Filter Specificat therType VLAN Received the VLAN Retransmit on PC Ethernet Interface est gnals in Message Ether 1 Add 1 Bit Signal 1 Add 1 Bit Signal 1 Add 16 Bit Signal	ion Protocol UDP C Destination eve Unchanged d to Self d to Self d to Self A halog A halog A halog	Source IP	Por ? Target M Target If JDP Header	t Destinat	tion IP Port	None	pe 96,8 Byte 5 By		Number of b in memory fc (embedded o Edit	ytes to reserve or payload only): 0 Byte 8	Byte 9	

The signal size is not fixed to the selected length. It can be adjusted individually.

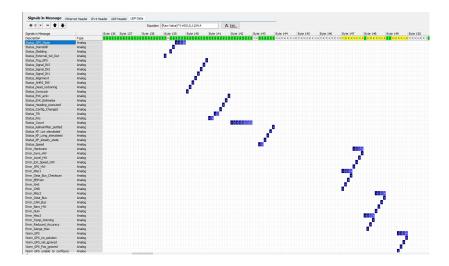
By opening the properties of the signals by pressing the "fx Edit" button, you can completely define the scaling and representation of the new signals.

♣ 8 ▼ = ♠ ♣		Equation {Raw Value}*1+0 0,0,1104,4
Signals in Message		Byte 1 Byte 2 Byte 3 Dut syne 5 Byte 6 Byte 7 Byte 8
Description	Type	6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 7
Status_GPS_Mode	Analog 📒	
Status_Standstill	Analog	
Status_Skidding	Analog	Edit Signal 🖊 🗡
Status_External_Vel_Out	Analog	Signal Type Raw Value Type
Status_Trig_GPS	Analog	
Status_Signal_IN3	Analog	Analog V Unsigned Integer V
Status_Signal_IN2	Analog	Analog Unsigned Integer
Status_Signal_IN1	Analog	Digital d'Signed 2's Complement Integer State Encoded Signed Sign/Magnitude Integer
Status_Alignment	Analog	State Encoded Signed Sign/Magnitude Integer
Status_AHRS_INS	Analog	DTC 064 Bit IEEE Float
Status_Dead_reckoning	Analog	Start: 1104 Packed BCD
Status_SyncLock	Analog	Tasking Float Bits Bytes
Status_EVK_activ	Analog	
Status_EVK_Estimates	Analog	Length: 4 V Or 1 V
Status_Heading_executed	Analog	Big End First : Byte X > Byte (X+1) Motorola Format
Status_Config_Changed	Analog	
Status_Tilt	Analog	Little End First : Byte X < Byte (X+1) Intel Format
Status_Pos	Analog	Format Min Max Units
Status_Count	Analog	0 0 15
Status_Kalmanfilter_settled	Analog	
Status_KF_Lat_stimulated	Analog	OK Cancel Help
Status_KF_Long_stimulated	Analog	
Status KF steady state	Analog	



"ADMA_ETH.vs" already includes all signals defined in GeneSys

- ADMA_UDP-DataStream_ADMAnet_v3.2_v30.2.0.0.xml
- ADMA_UDP-DataStream_ADMAnet_v3.3.3_v30.8.0.1.xml and
- ADMA_UDP-DataStream_ADMAnet_v3.3.4_v30.10.0.40.xml



4.3.3 Adding additional message filters

In contrast to standard DBC or other decoding databases, VehicleSpy can handle multiple messages with, e.g. the same Arbitration ID or Ethernet IP and Port, and additionally map to individual payload content.

Edit	eve Receive	Database	on Netwo	IK DW	CAN 01		1	<u> </u>	÷ -	1 4	自由		16.3	≜ ↓ 🛧 🖣			
(ey	Description	Туре	Arb ID	Multi	Len	B1	B2	B3	B4	B5	B6	B7	B8	More Data	Src Node	Tx Msg	Color
	Y	7	7	7	7	7	7	7	7	7	7	Y	7	7	7	7	7
116	Tester Present	CAN Std 11 bit	7E0	None		02	3E	00						(double click)		None	
17	Diag_Request	CAN Std 11 bit	7E0	None			22							(double click)		None	
14	Diag_Request_single	CAN Std 11 bit	7E0	None		03	22							(double click)		None	2
n15	Diag_Response	CAN Std 11 bit	7E8	ISO15765	5-1	62								(double click)		None	



In the case of ADMA Ethernet decoding, some header values are predefined as an additional filter in the "ADMA_ETH.vs3" setup. So the messages are mapped to the different subversions.

2 /	ADMA_ETH.vs3 - Vehicle Spy 3 Enterprise Plu	s									
File	Setup Spy Networks Measurement E	mbedded T	ools GMLA	N Scriptir	ng and Automat	ion Ru	n Tools Help				
	• Offline 👜 🐻 📴 Platfor	m: GeneSy	rs ADMA		~ 👩 🖣	5 🔨					
0	Messages 🔯 🮯 Network Databases 🔯	2 Diagno	stics 🔝 🗝	 Messages 	Editor 🔝						
Edit	Receive Receive	Databa	<u>156</u> 01	n Network	Ethernet			- 🗶	🖻 🖻 🖉 🎼 🛊 🕹 🖉 📾	I 🖌	
(ey	Description	EtherType	e VLAN	Protocol	Source	Port	Destination	Port	Raw Payload Bytes	Tx Msg	Color
	7	7	7	7	7	Y	7	7	7	7	7
12	General ADMA_UDP_Data_V3.2	IPv4	None	UDP					47,42,49,4£,00,01,00,01,,,,,02,03,03	None	-
13	General_ADMA_UDP_Data_V3.3.3	IPv4	None	UDP					47,42,49,4E,00,01,00,01,,,,,03,03,03	None	
122	General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP					47,42,49,4E,00,01,00,01,,,,,,03,03	None	
123	ADMA_UDP_Delta_V7.0	IPv4	None	UDP					C0,85,3E,70	None	
125	Target_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	192.168.88.32	1232	192.168.88.100	1232	47,42,49,4E,00,01,00,01,,,,,,03,03	None	
n27	Hunter_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	192.168.88.31	1131	192.168.88.100	1131	47,42,49,4E,00,01,00,01,,,,,,03,03	None	

4.3.4 Copy-pasting messages to another setup

You can setup your hardware and use the "ADMA_ETH.vs3" setup directly if you are starting a new setup that should also decode the GeneSys ADMA Ethernet stream.

If you want to extend an existing setup and want to add the ADMA stream, you can use this basic setup and just copy and paste the needed messages into your own setup.

Just right click on the message you want to copy and choose copy or press the copy button.

•	Offline 👜 🖫 🎼	Platform: (None)			~ 😝 🚱	1						
₿ M	essages 🔯 🮯 Network Databasi	es 🔯 🏹 Diagno	ostics 🔝	∾• Messages E	ditor 🔛			-	1			
dit	•v• Receive Receive	nit 🚺 🗊 Databi	ase	on Network	Ethernet			,6 🖷	🚉 🗠 👌 🕇	•	🗃 🖬	8
у	Description	EtherTyp	e VLAN	Protocol	Source	Port	Destination	Port	Raw Payload Bytes	Tx Msg	Color	
	A	7	7	7	7	7	7	7	7	Y	7	
12 13 13 13 15 15 15 15 15 15 15 15 15 15 15 15 15	General_ADMA_UOP_Data_V3.2 General_ADMA_UOP_Data_V3.3 General_ADMA_UOP_Data_V3.3,3 Cut 4 Cut 4 Copy Paste Copy To •	IPv4 IPv4 IPv4 IPv4 IPv4 IPv4 IPv4 IPv4	None None None None None Color	UDP UDP UDP UDP UDP UDP	192. 168. 88. 32 192. 168. 88. 31		192, 168, 88, 100 192, 168, 88, 100 Default Peri		47,42,49,4E,00,01, 47,42,49,4E,00,01, 47,42,49,4E,00,01, 00,85,8E,70 47,42,49,4E,00,01, 47,42,49,4E,00,01, 47,42,49,4E,00,01,	None None None None		
+ -	Create Multiplex Filters Add Delete V4 V None UDP	Source IP	Por	t Destinat	ion IP Port	PDU Ty None	pe ~		Number of bytes to r in memory for payloa (embedded only):		-	las



In your Destination Setup, select your Ethernet network, select Receive and press the Past button or right-click in the message area and select Past.

	Setup Spy Networks Measure			GMLAN	Scriptin			Jools <u>H</u> elp						
120		Platform	: (None)			~ 👩 🖣	5 5							
∿¤ M	essages Editor										V-0.000 V-0.000			
Edit	•v• Receive 🛛 🖳 Tran	smit	Database	on	Network	Ethernet			-	አ 🖻 🛍 🕒	≥ ≜ ↓ ≜	₽ ⊗	i 🖉 🔛	16
еу	Description	EtherType	VLAN	Protocol	Source		rt Destir		Port	Raw Payload	ytes Tx Msg	Color		
	7	Y	Y	Y		7	7	Y	Y	Y	7	Y		
22	General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	i (1			47,42,49,4E,0	0,01, None			
		እ ዓ በ	🖹 Сору											
		+		ltiplex Filte	rs									



5 Data Logger Configuration

Vehiclescape DAQ is the easiest way to configure your hardware to work as a stand-alone data logger.

- 1. Open your existing or new setup and select Measurement/Vehiclescape DAQ and
- 2. Add your DBC, LIDIF, A2L, ... databases as needed.

e <u>S</u> etup Spy <u>N</u> etworks	Measurement Embedde	ed Tools GMLAN Scripting and Automation Run Tools Help
• Offline	✤ VehicleScape DAQ	- 😼 🔁 🔨
🕅 Messages 🔯 😝 Netw	Signal Plot	ostics 🔯 🚸 VehicleScape DAQ 🖾 👓 Messages Editor 🔯
atabase/Hardware Setup Ch		e Logging Gateway Online Auto Start PC DAQ DAQ 1
DAQ Name DAQ 1 Hardware Setup On the Hardware view, you must be plugged in and	Logging MEP (XCP/CCP)	ps, as well as access other hardware-specific settings. The hardware t
	Ta Video	are and network setungs
Platform Setup		
Current Platfo	rm 👌 Setup Platforms	(None) ·
Network databases are	ded <i>platform</i> . A platform is a c used for normal bus traffic. /SDB files and are loaded in	collection of all the loaded databases.
Network databases are These are usually DBC or V the Databases view.	used for normal bus traffic.	collection of all the loaded databases.
Network databases are These are usually DBC or V the Databases view.	used for normal bus traffic. /SDB files and are loaded in C or VSDB files re for protocols such as ISO d on the ECUs view, and	collection of all the loaded databases.
Network databases are These are usually DBC or V the Databases view. Load DBI Diagnostic databases a 14229 or GMLAN, are loade are usually ODX, MDX/GD	used for normal bus traffic. /SDB files and are loaded in C or VSDB files re for protocols such as ISO d on the ECUs view, and	collection of all the loaded databases.
Network databases are These are usually DBC or the Databases view. Diagonstic databases a 14229 or GRLAN, are loade are usually ODX, MDX/GD Load ODX, MD	used for normal bus traffic. SDB files and are loaded in C or VSDB files re for protocols such as ISO on the ECUs view, and X or A2L files. DX/GDX or A2L files CP and XCP communication.	collection of all the loaded databases.
Hetwork databases are These are usually DBC or the Databases view. Diagnostic databases are dr229 or GNLAN, are loade are usually ODX, MDX/GT Cload CDX, MI MEP databases are for C They are A2L files and are	used for normal bus traffic. SDB files and are loaded in C or VSDB files re for protocols such as ISO on the ECUs view, and X or A2L files. DX/GDX or A2L files CP and XCP communication.	collection of all the loaded databases.
Network databases are These are usually OBC or the Databases view. I databases view. Diagnostic databases are 14229 or CHLM, are leaded are usually ODX, MDX/GE I databases are for C They are A2L file and are Load A2L fi	used for normal bus traffic. ISDB files and are loaded in C or VSDB files re for protocols such as ISO d on the ECUs view, and X or A2L files. DX/GOX or A2L files CP and XCP communication. loaded on the MEP view.	
Hetwork databases are These are usually DBC or the Databases view. Diagnostic databases are 14229 or GNLAN, are loade are usually ODX, HDX/GT Classes are for C They are A2L files and are Load A2L f Extract and Export	used for normal bus traffic. ISDB files and are loaded in C or VSDB files of or the ECDs view, and X or A2L files. DX/GDX or A2L files CP and XCP communication. loaded on the MEP view. lies for CCP/XCP	vou can export vour data for analysis here.

3. If you want to log only selected signals and messages, go to the Channels tab and select the desired signals.

ADMA ETH.vs3 - Vehicle Spy 3 Enterprise	Plus										
File Setup Spy Networks Measurement	Embedded Tools GMLAN	Scripting an	nd Automati	ion Run Tools Help							
💽 🕶 Offline 📷 📴 🖓 Plat	form: (None)		- 0 0	•							
Messages 3 Network Databases 3											
Database/Hardware Setup Channels PC Logo	and a second second			Auto Start PC DAQ DAQ 1							
Search	ng standard re cogging dater	nay Grane		Poling / Decimation Setup							
				When poling / decimating items, at what requests / decimate responses? (In mill	it rate should we send	III Setup from CAL File					
2		~	Clear		High 0 Advanced	CAL File					
Paste list Selected >>	Al >>				Advanced						
				Selected Channels For Test							
Results Displayed 2090 items in 31 ms (0 ite				Signal	Rate Source	Display Identifier	Type	Size Netw	ark Condition	Proto Expor Alarms	Decimation
Signal	Source	Protocol	Netwo	Acc Body HR X	Ethernet General		Analog	4 byt Ethe	Always	Norm 1	
E C Al Messages	All Messages		-	Acc_Body_HR_Y	Ethernet General	ADMA UDP D	Analog	4 byt Ethe	Always	Norm 2	
E- CAN	CAN			Acc_Body_HR_Z	Ethernet General	ADMA_UDP_D	Analog	4 byt Ethe	Always	Norm 3	
⊕ 🔁 neoVI	neoVI			Acc_Body_X	Ethernet General	ADMA_UDP_D	Analog	2 byt Ethe	Always	Norm 4	
(B- Re neoVI (EXP 1)	neoVI (EXP 1)			ABD_Header	Ethernet ADMA_U	DP_Delta_V7	Text	5 byt Ethe	Always	Norm 5	
D neoVI (EXP 2)	neoVI (EOP 2)		_	Pt- Mcc_Body_X_POI1	Ethernet General	ADMA UDP D	Analog	2 byt Ethe	Always	Norm 6	
Ethernet	Ethernet	_	-	The Att Body X POI2	Ethernet General	ADMA_UDP_D	Analog	2 byt Ethe	Always	Norm 7	
🖨 🔁 Ethernet	Ethernet			Acc_Body_X_POI3	Ethernet General	ADMA_UDP_D	Analog	2 byt Ethe	Always	Norm 8	
eve ADMA_UDP_Delta_V7.0	Ethernet (\$IPv4)	Message	Eth	Acc_Body_X_POI4	Ethernet General	ADMA_UDP_D	Analog	2 byt Ethe	Always	Norm 9	
G • • General_ADMA_UDP_Dat		Message	Eth								
Acc_Body_HR_X	Ethernet General_ADMA_U		Eth								
Acc_Body_HR_Y	Ethernet General_ADMA_U		Eth								
Acc_Body_HR_Z	Ethernet General_ADMA_U		Eth								
Acc_Body_X	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI1	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI2	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI3	Ethernet General_ADMA_U		Eth								
Acc_Body_X_PO14	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POIS	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI6	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI7	Ethernet General_ADMA_U		Eth								
Acc_Body_X_POI8	Ethernet General_ADMA_U		Eth								
Acc_Body_Y	Ethernet General_ADMA_U		Eth								
Acc_Body_Y_POI1	Ethernet General_ADMA_U	. Signal	Ett								



4. Finally, in the Standalone Logging tab, you can define a number of different collections that will store data under certain conditions. You can use pre-post triggering, save the complete full trace or only selected signals with or without reduced rate.

Messages 🔯 🮯 Network Databas		
	ses 🔯 🏆 Diagnostics 🔯 🚸 VehicleScape DAQ 🔯 🔤 Me	ssages Editor 🔯
abase/Hardware Setup Channels PC	Logging Standalone Logging Gateway Online	uto Start PC DAQ DAQ 1
ollections		
+ -	••• Message Capture 📃 Bus Query	/ Be, Histogram
1. Full trace Message Capture Log all bus messages on all networks	Name Triggered selected data only	Append Time and Date to file name Enabled
Start immediately	Message Collection Options	Exclude Slave A Advanced Ontions
2. Triggerd trace 1 Message Capture	O Log all bus messages (on All or Specific Networks) Select Net	works Exclude Slave A Advanced Options
Log all bus messages on all networks	October Contract C	Exclude Ethernet 03
Start immediately		
 Triggered selected data only Message Capture 	Start	
Log only the items selected on the C	Start immediately	
Start immediately		IC button press OTE using DW CAN 03
		tton Pendant / MISC 5 Trigger
	Should we always collect the DAQ channels even if we're not logg	ing? (Needed if start expression/trigger is a DAQ item.)
	Stop	
	Finish after collecting 50000 messages ~3.051757	8125MB
	Finish when expression is true	
	Restart	Upload to Wireless neoVI
	O Do not restart the collection when finished	WiFi / Ethernet
	Restart the collection when finished	Cellular Upload Priority Normal
	Force restart (do not wait for start expression)	

In addition, devices such as the neoVI-RED2 or neoVI-Fire3 are able to upload the data directly to the Wireless neoVI Server.

🔹 Offline 📰 🖾 📴	Platform: (None) 🗸 🧃 🐔 🔧	
🛛 Messages 🔯 🮯 Network Databas	es 🔯 🏹 Diagnostics 🔯 🚸 VehicleScape DAQ 🜌 💀 Messages	s Editor 🔝
tabase/Hardware Setup Channels PC	Logging Standalone Logging Gateway Online	art PC DAQ DAQ 1
ellections	e Vo Message Capture	Be Histogram
I. Full trace Message Capture Log all bus messages on all networke Start immediately Triggerd trace 1 Message Capture Log all bus messages on all networke Start immediately	Name Triggered selected data only Message Collection Options	Append Time and Date to file name Enabled Exclude Slave A Exclude Slave B Exclude Slave B Exclude Ethernet 03
 Triggered selected data only Message Capture Log only the items selected on the C Start when expression is true Upload to Wireless neoVI 	Start Start Start Start when expression is true Start using trigger expression Start every 100,00 seconds CR Push Button Pe Should we always collect the DAQ channels even if we're not logging? (Margos DAQ	ing DW CAN 03 indant / MISC 5 Trigger
	Stop Stop Finish after collecting 50000 messages ~3.0517578125M Finish when expression is true f/x	8,
	Restart Do not restart the collection when finished Restart the collection when finished Concentrative data with finished	Upload to Wireless neoVI WIFI / Ethernet Cellular Upload Priority Normal
< >	O Force restart (do not wait for start expression)	



To program the logger, simply press the Generate button at the bottom.

			📇 Generate	
Generate for CoreMini V	cack to set an encryption password			
	Click to set an encryption password	Advanced Options		
Transfer to SD card	Set default ASC/BLF network mappings See help for a list of supported devices	Gean		

The CoreMini console opens. You can send the script to the device.

						Help
Build		Advanced Settings		, ,		nep
		e supports 32 bit archi	tecture with r	max CoreMini size o	f 1048576 bytes	
~ ~	Compiled for 32 b					
		d commands used - Co ation turned off. selec			d	
		e Not Optimized for fa		esn't support it.		
		ace Usage: 9278 byte				
		ee Space: 1039298 by				
>	O Compilation o					
		bit architecture for Wi	VI export			
			Sector Market			
Compile	e CoreMini					
	Compiled with V	Varnings at UTC 202	23/07/26 08	8:03:59:33300.	Compile	Copy to Clipboard
Wireles	s neoVI					
Expo	rt a .wivi packao	e for use with Wire	less neoVI			Export WiVI File
	-					
	ad to Device					
Downlo		TAN) DS2324 IAPT				
	(USB) neoECU (
neoVI						
neoVI	(USB) neoECU (Hardware Setup	61			
neoVI	nfigure Devices	📑 Hardware Setup				
neoVI	nfigure Devices			~		
neoVI	nfigure Devices	Hardware Setup		v		
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neoVI	nfigure Devices	Hardware Setup neoVI RED2 D20938 SD Card ~	_	v		
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neoVI Cor	nfigure Devices	Hardware Setup neoVI RED2 D20938 SD Card	_	voad Show A	dvanced Settings	



6 Summary

To access and decode the GeneSys ADMA Ethernet data stream, you can use the Intrepid Control Systems VehicleSpy setup "ADMA_ETH.vs3".

You can either start from scratch with this basic example. Or you can copy/paste the messages defined in the Ethernet network.

-	Offline 📑 🖫	Platform	m: (None)				1						
Ê ∦ Edit	lessages 🔝 😝 Network D	atabases 🔀	C Diagnos		 Messages E Network 	ditor 🖾		- +	6 Ba	≅ ∞ 2 ↓ ♠		🗳 🔒	B
εy	Description		EtherType	VLAN	Protocol	Source	Port	Destination	Part	Raw Payload Bytes	Tx Msg	Color	
	7		7	7	7	7	7	7	Y	7	7	7	
2	General_ADMA_UDP_Data_V3	3.2	IPv4	None	UDP					47,42,49,4E,00,01,	None		
3	General_ADMA_UDP_Data_V3		IPv4	None	UDP					47,42,49,4E,00,01,	None		
2	Conoral ADMA LIDD Data VS	2,3.4	IPv4	None	UDP					47,42,49,4E,00,01,	None		
0	Undo		IPv4	None	UDP					C0,85,3E,70	None		i.
x	Cut	4	IPv4	None	UDP	192.168.88.32	1232	192.168.88.100	1232	47,42,49,4E,00,01,		1	
	Cut	4	IPv4	None	UDP	192.168.88.31	1131	192.168.88.100	1131	47,42,49,4E,00,01,	None		
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(ey	Description	EtherType	VLAN	Protocol	Source		Port	Destination	Port	Raw Fayload B	ytes Tx Msg	Color	
	Y	7	7	Y		Y	A	Y	Y	Y	7	7	
122	General_ADMA_UDP_Data_V3.3.4	IPv4	None	UDP	1			10		47,42,49,4E,00	0,01, None		
			Copy Paste										
		+		ltiplex Filter	s								



7 Additional applications

In addition to data logging, there is a wide variety of applications that can be used with the ADMA platform.

The following is an incomplete list of possible applications.

- Remote data logging of in-vehicle, position and orientation data on the proving ground, while engineers evaluate the last set of data back in the office.
- Benchmark testing: Compare in-vehicle data (accelerations, speed, rpm ...) with external, high-precision sensor data. In-vehicle data can be obtained from databases, diagnostics or reverse engineering.
- Simulation output: Playback of acquired data from all sources
- Gateway application: Gateway signals from one source to another network to connect e.g. test bench
- Fault injection: Transmission of manipulated signals or use of RAD-IO2 series (e.g. RAD-IO2-PWRLY for shortcut)