This is a basic howto for the GuzziDiag suite of tools, for use on the CARC series, Breva 750, V7 Classic, 1100 California & California 1400. This howto will show you how to connect, read (backup) your existing map, write (flash) a new map and perform a TPS reset. This uses the Windows versions as examples, but Mac & Linux versions function the same.

All types of ECU use the same version of GuzziDiag. Click on the link for your operating system:

Windows: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag\_V0.47.zip

Linux 32 bit: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag\_V0.47.tgz

Linux 64 bit: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag\_V0.47\_x64.tgz

Mac: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag\_V0.47.app.zip

For the **5AM ECU**, you will need the following Reader/Writer software from the GuzziDiag page:

## Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader\_V0.28.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter\_V0.24.zip

# Linux 32 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader\_V0.28.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter\_V0.24.tgz

#### Linux 64 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader\_V0.28\_x64.tgz

# http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter\_V0.24\_x64.tgz

# Mac:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader\_V0.28\_x64.app.zip http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter\_V0.24.app.zip

# For the **7SM** ECU

#### Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW7SMReader\_V0.03.zip http://www.von-der-salierburg.de/download/GuzziDiag/IAW7SMWriter\_V0.03.zip

# For the 15M/15P/15RC ECU

# Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader\_V0.67.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter\_V0.26.zip

## Linux 32 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader\_V0.67.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter\_V0.26.tgz

## Linux 64 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader\_V0.67\_x64.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter\_V0.26\_x64.tgz

## Mac OS X:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader\_V0.67.app.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter\_V0.26.app.zip

Each is a standalone program that works independently of each other and does not require any extra software.

You will also need the two cables. They are available from various resellers on the net.

**Lonelec** is the best source on the net. They sell a kit that includes both cables and is guaranteed to work

Get it here: http://lonelec.co.uk/index.php?route=product/product&product\_id=51

Another source is OBD Innovations.

https://www.obdinnovations.com/vag-kkl-obd2-usb-cable-ftdi-ft232rl-chip-fiat-3-pin-adaptercable/

Do not use the drivers that come with the cables. Download these drivers:

Windows: https://www.griso.org/CDM21228\_Setup.zip

**OS X 10.9 & above**: https://www.griso.org/FTDIUSBSerialDriver\_v2\_4\_2.dmg

**OS X 10.3 - 10.8**: https://www.griso.org/FTDIUSBSerialDriver\_v2\_2\_18.dmg

Linux doesn't require drivers.

Required Cables:

1. The OBD2 KKL 16 pin to USB cable with the FTDI chip.



2. The Fiat 3 Pin to 16 pin Adapter



To connect to the bike, connect the two 16 pin connectors on the cables together and the 3 pin cable to the diagnostic port. It's usually located under the seat beside the airbox or close to the frame. For the Cali 1400, it's clipped to the ECU cover.



Attach the clips from the 3 pin cable to the battery (take note of polarity) and plug the USB cable into a USB port on your computer.

A LED on the OBD2 cable will indicate power is connected.



To read and backup your existing map, open the Reader. Your computer may have multiple COM ports, so select the correct one from the drop-down box. it is usually the last one or highest number. if it doesn't connect at first, keep trying different ports. In my example, I only have one, COM4.



Then, click on 'read'



A dialog box will open, and here you can select the folder where you want to save the .bin file. You can name it anything you like, but leave the "Save as type" as "\*.bin".

Save data as				×
V Pro	ogram F	iles 🕨 GuzziDiag 🛛 👻 😽	Search GuzziDiag	Q
Organize 🔻 Ne	w folde	r		0
🗼 Downloads	*	Name	Date modified	Туре 📩
🖳 Recent Places		A 122.bin	12/04/2014 12:49	
🚍 Libraries		3222NG01-CM227006-Norge1200-8V .bin	13/04/2014 8:58 AM	BIN Fil
Documents		CM227001.2010.07.09.bin	24/01/2014 2:06 PM	BIN Fil
Music		Griso24S-C.2013.12.07.bin	7/12/2013 10:02 AM	BIN Fil
Iviusic     Distance	=	Griso24S-FU2-8A12.2014.04.24.bin	24/04/2014 5:03 PM	BIN Fil
Pictures		Griso24S-FU2-8B28.2014.04.06.bin	6/04/2014 8:28 PM	BIN Fil
Videos		Griso24S-FU2-8V68.2014.01.27.bin	27/01/2014 10:21	BIN Fil
		Griso24S-FU2-9378.2014.04.13.bin	13/04/2014 3:42 PM	BIN Fil
Computer	_	Griso24S-FU2-C35D.2014.04.21.bin	21/04/2014 9:50 AM	BIN Fil
Acer (C:)		Griso24S-FU2-C735.2014.04.21.bin	21/04/2014 11:38	BIN Fil 👻
ISB DISK (D:)	-	•		F.
File name:	Test-2	604204		•
Save as type:	*.bin			•
Hide Folders			Save Can	icel ai

Click 'save'. You will then get:

IAW 5x Reader V0.22		X
COM4	•	Read
	Info	8
	Switch ignition on Than press Ok.	
I	ОК	
		Test-2604204.bin

Turn your keyswitch to 'on'. Do not start the engine. Click "OK". Reader will start downloading. The download takes 15 minutes for CARC bikes, 20 minutes for Breva 750, V7 Classic & 1100 California. It takes 30 minutes for Cali 1400. I recommend using a battery tender to maintain battery voltage.



When it has finished, it will ask you to switch off your keyswitch.

1AW 5x Reader V0	.22			X
COM4	•		Re	ad
	Info Switch off at least 10	ignition for seconds.	X	
		ОК		2044.
disconnected		Te	st-2604	204.bin

You have successfully saved your current map.

Writing a new map.

To write or flash a new map, start the Writer program. You can select your COM port here as well.

IAW 5x Writ	er V0.20			(	23
File					
COM4		•	Write		
		Donate			
	Not	for s	ale !		
Testercode	WLoad1039T		2014.04.26		

Click on the button with the 3 dots, and you will get a dialog box where you can browse to and select the .bin file you wish to flash by clicking 'Load'.

Acer GameZone	*	File	_ ^	Information
Adobe		3222NG01-CM227006-Norge1200-8V.bin		
AVAST Software		CM227001 2010 07 09 bin	=	
Common Files	_	Griso24S C 2013 12 07 bin		
J. DIFX	=	Origo245 EU2 8442 2014 04 24 bis		
DUCationag		G1150243-F02-0A12.2014.04.24.001		
		Gris0245-FU2-8828.2014.04.06.0In		
EgisTec MyWinLocker		Griso24S-FU2-8V68.2014.01.27.bin		
		Griso24S-FU2-9378.2014.04.13.bin		
EgisTec Shredder		Griso24S-FU2-C35D.2014.04.21.bin		
EPSON		Griso24S-FU2-C735.2014.04.21.bin		
FileZilla FTP Client		Griso24S-FU2-DE63.2014.01.02.bin		Save informations
Google		Griso24S-EU2-E0CB 2014 03 05 bin	<b>T</b>	Save informations
GUMC4A5.tmp				
GuzziDiag	_			

Then, click 'Write' Note: In the bottom right-hand corner is the checksum of the bin file. If I send you a map, it will have the checksum as part of the file name. If it is different, do not flash it.



You will be asked to switch on your keyswitch again.

File	W 5x Writer V0.20 Griso24S-FU2-8	A12.2014.04	4.24.bin			8
	COM4	Info	•	Write		
	,	Switch i Than pr	gnition or ess Ok.			
Teste	rcode WLoa		ОК	26		
			5AM	Checksum	n: 8A12	

It will start the upload. Note the message in the bottom left corner 'uploading'. Upload time is 3 minutes for CARC bikes, 5 minutes for Breva 750, V7 Classic & 1100 California, and 15 minutes for Cali 1400. The message will then change to 'programming' as it writes the file to the ECU. Again, the use of a battery tender is recommended.

It will confirm programming was successful.

1AW 5x W	iter V0.20	23
File Griso	4S-FU2-8A12.2014.04.24.bin	
COM4	✓ Write	
	Success 💌	
	Programming was successful!	
	ОК	
Testercode	WLoad1039T Date 2014.04.26	
disconnec	ed 327680 5AM Checksum	: 8A12

Click 'OK' and switch off your keyswitch.

Here's a little video of a map upload: http://youtu.be/ZAi1N3ZFhHA

You will then need to reset your TPS (or relearn the throttle) and autolearning parameters. Open the GuzziDiag program. For the Cali 1400, perform Handle Self Learning, then Throttle Self Learning immediately after. Do NOT use GuzziDiag to reset the TPS on a Bellagio. For the Bellagio & 15M based 1100 California, the TPS is set via voltmeter and is not required after a remap.



Click 'File' -> 'Preferences' to configure the software. It only needs to be done once.



The GuzziDiag settings dialog box opens. Here you can select language, COM port and bike type. Click the X to close, when done.

GuzziDiag V0.36 (c) 2013 File View Help	by Beard				
Throttie -	Engine temperat	ure 🗸 C	CO Trimm 🗸	Advance ignition	▼ Status
Lambda mV 1 🗸	Injection period	Guzzi Diag Se General Extra Language: COM Port: Motorcycle:	ettings as English COM4 Griso 1200 8V	•	•
ECU informati	PF2C		Donate		Guzźi
Griso 1200 8V	Disconnected		Not for s	ale!	

Next we want to connect to the ECU, so click 'File' -> 'Connect'

12 GuzziDiag V0.36 (c) 2013	3 by Beard					
File View Help						
Connect						
Setup -	Engine temperat	ire 👻 CO	Trimm	▼ Advance ign	iition 👻	Status
Exit				-		
Lambda mV 1 🗸	Injection period	→ Air	pressure	RPM	-	
ECU informat	tions:					
IAW 5AM	PF2C		Donat	e	42	นิเรร์เ≩ิ
					X SIL	
			Not for	sale!		.de
Griso 1200 8V	Disconnected					

GuzziDiag V0.36 (c) 201 File View Help	.3 by Beard		
The new http			
Throttle	Engine temperature	✓ CO Trimm	ion 👻 Status
			-
Lambda mV 1	- Injection period	GuzziDiag V0.36	-
		Please switch on ignition. Than press Ok.	
		ОК	
ECU informa	ations:		
LAW 5AM	PE2C	Donate	( Autoria
	1120		GUZZIY
		Not for calo	muter
		Not for sale:	1.de
Griso 1200 8V	Disconnected		

It will ask you to switch on your keyswitch and click 'OK'

You'll notice there are 8 drop down boxes to select various readouts. Select whatever you wish. You should make sure one of the drop-downs selected is 'Throttle'.



You can see here after uploading the map, my TPS (Throttle) is slightly out. It should read about 4.7. For CARC bikes, it could be 4.6, 4.7 or 4.8. For Breva 750 & V7 Classic, Throttle is 3.1. For the 15RC California, spec is 3.2 - 3.6



Let's reset it! Click on 'View' -> 'Actors'. You will see the 'Actors' menu.



Next, click on one of the drop-down selection boxes under 'Engine Off'

Engine off		Engine	on
Fuelpump	Start	Stepper (idle control)	▼ Start
ignition E Injection L Injection R TPS Reset Reset autolearning parameters Service Reset (Ducati)	Start		
Ignition R 🗸 🗸	Start		
	N	ot for sale!	Guzz F#

Select TPS Reset (for Cali 1400 - Handle Self Learning or Throttle Self Learning)

Engine off		Engine	on
Fuelpump -	Start	Stepper (idle control)	▼ Start
Fuelpump Ignition L Ignition R			
Injection L Injection R TPS Reset Reset autolearning parameters Service Reset (Ducati)	Start		
ignition R 🗸	Start		
			<b>N</b> 177
	N	لة ot for sale!	F+

# Click 'Start'



You'll get the TPS Reset OK dialog. Click OK. For Cali 1400, GuzziDiag will ask you to switch off the key, then close GuzziDiag. Do not switch off the key. Close GuzziDiag, then reopen it and perform the next step. That is: Handle Self Learning -> close GuzziDiag -> Reopen GuzziDiag -> Throttle Self Learning.

e View Help					
Eng	gine off			ingine on	
TPS Reset	Ŧ	Start	Stepper (idle control)	v	Start
Ignition L	*	Start	GuzziDiag V0.45 💌 TPS Reset: Ok		
Ignition R	v	Start	Cok		
					UZŹ
			Not for sale!		

To reset the Autolearning parameters (ECU fuel trims), using the drop-down selection box, select 'Reset autolearning parameters', then click 'Start'. Not required for 15M bikes.

SuzziDiag V0.45 (c) 2014 by Bea : View Help	rd				
En	gine off		En	gine on	
Reset autolearning parameters Fuelpump Ignition L	-	Start	Stepper (idle control)	•	Start
Ignition R Injection R TPS Reset Reset autolearning parameters Service Reset (Ducati)	ar an	Start			
Ignition R	·	Start			
					UZŹ
Griso 1200 8V Co	nnected	N	ot for sale!		G

Once you are done, click "File" -> "Disconnect"

GuzziDiag V0.36 (c) 2013 File View Help	by Beard			
Throttle 🗸	Engine temperature 🗸	CO Trimm 🗸	Advance ignition	▼ Status
			1	
Lambda mV 1 👻	Injection period 🗸	Air pressure – GuzziDiag V0.36	RPM	-
		Ignition off		
		ОК		-
ECU informatio	ons:			in in
IAW 5AM F	PF2C	Donate		GUZZI
См227001 2014.04.26	;	Not for s	ale!	
Griso 1200 8V	Disconnected			

# CO Trim - 5AM & 15M/15RC only. The MIUG3 & 7SM do not have this feature.

If you load a new map or do something simple to your stock map like switch of the lambda sensor, you may find you need to adjust the CO trim for a smoother idle or less smelly idle (too much fuel). You should only do this after a test ride or if you have a rough idle. For example, the 8V idles at 1200 +/- 50, 2V 1100 at 1100 +/- 100. If your idle is low, or very lumpy, you may need to go positive. If your idle is high, you may need to go positive or negative. If you smell unburnt fuel, you should go negative.

To do this with GuzzDiag, get your engine up to temperature (which is 60 deg celsius). Go for a short ride or let it idle with GuzziDiag connected so you can monitor the engine temp.



Once up to 60C, hit the kill switch. Click on 'View' -> 'CO Trim'

File View Help	GuzziDiag	g V0.39 (c) 2013 by I	Beard	- + x
Measurements Th Faults Diagram Actors CO Trim	r temperature + 17°C	Engine temperature 字	RPM 👻	Status Stagton vidi (dec Sule, stante vidi Chicoh nate queet Throuble decent
Injection period	Advance ignition 👻	CO Trimm	Air pressure	Carefor considered (14) Book of a polytope Strain - Kragensetel Del (20) Antonio - Antonio Careforgenetics - 1 - 300 (20) Antonio - 2 - 300 (20) Antonio - 3 - 300 (20) Antonio - 3 - 300 (20) Antonio - 3 - 300
ECU informations IAW 5AM PF CM227001 IAW5AMHW	F2C	Donate Not for s		GUZŹI F+rum

You will get the following dialog box. Click 'OK'





You will then be presented with the CO trim menu. Click 'Start'

You will get a dialog box that asks you to start your engine. Click 'Ok' and start 'er up.



With the engine running, click the plus '+' or 'minus '-' button to adjust the CO trim. You can go up to +128 or down to -128. Every +/-1 step adds or removes 100uS to the injection pulse. The entire rev range is affected, although the greatest affect is at idle. The effect is non-linear. Adjusting CO too far will affect the midrange and top end.

What value you use will depend on what type of map you have installed and what you are trying to achieve. If you have one of my maps built specifically for the exhaust you have, you should only need to go +/- a small amount. If you smell unburnt fuel, try going to -5. Wait 15-20 seconds. Click 'Finish'. Let it idle for a few seconds. Better or worse? Go up or down as needed. With each change, make sure you wait ~20 seconds between adjustments, and be sure to click 'Finish'. If you have a rough or lumpy idle, try going positive first. Say, +3 or +5. Better or worse? Go up or down as needed. If you have to go more than 10 in either direction, you have the wrong map, you have a mechanical issue you should address, or may have forgotten to reset the TPS or relearn the throttle.

When you click 'Start' to make another adjustment, GuzziDiag will ask you start your engine again, but as it is already running, simply click 'OK' and go. Repeat as necessary until idle is smooth and at your required idle RPM. Always make sure you hit the 'Finish' button when you've made a change. Once done, hit the kill switch.

Try not to let the engine get too hot. You can't hurt anything by adjusting the CO trim, unless you set the number too negative, in which case the engine may run lean. If you feel you haven't quite got it right, let the engine cool off and start again. Of course, you can use a fan to assist with cooling.



Done!