

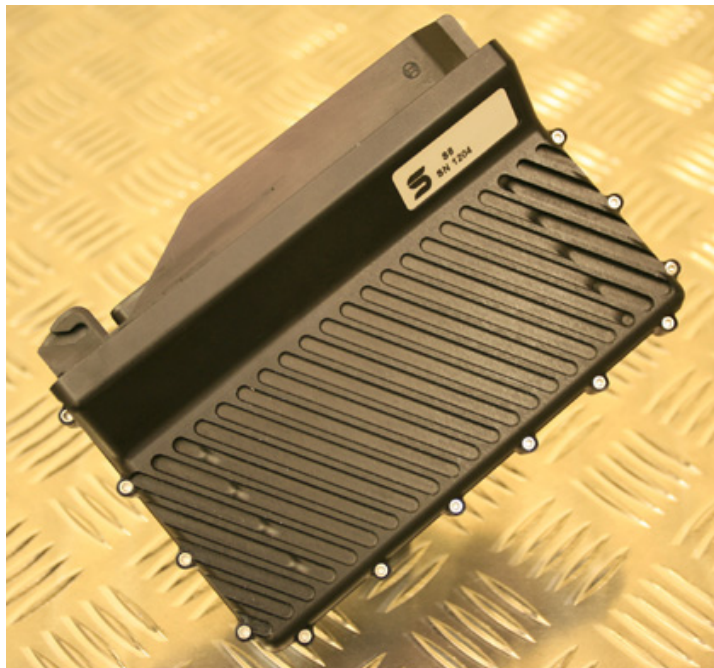


AiM Infotech

Syvecs

S6GP, S6PNP, S8C ECUs

Release 1.02



1 Supported Models

This tutorial explains how to connect Syvecs ECU to AIM devices. Supported Syvecs models are:

- S6GP
- S6PNP
- S8C

2 Software setup

Syvecs ECUs need a software setup to correctly communicate with AiM devices.

These ECU feature two bus communication protocol: one based on CAN and the other serial. They need of course different software settings.

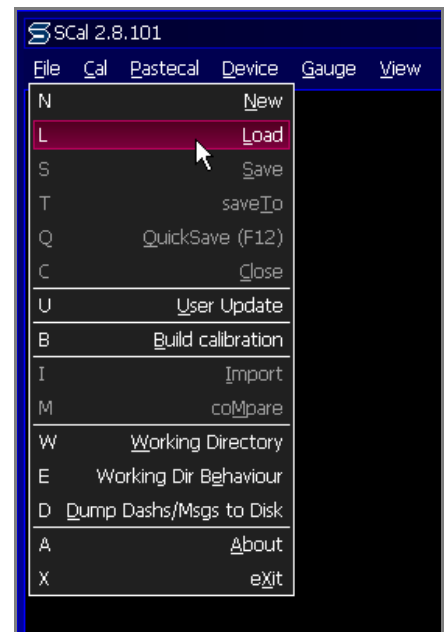
After software installation 6 icons appears on the PC desktop. Double click on "SCal" icon as shown here below.



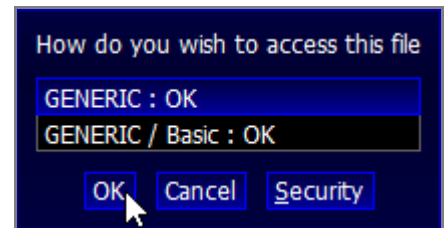
Solaris "SCal" main page shows up. Here below its the top menu bar. The rest of the page is empty.



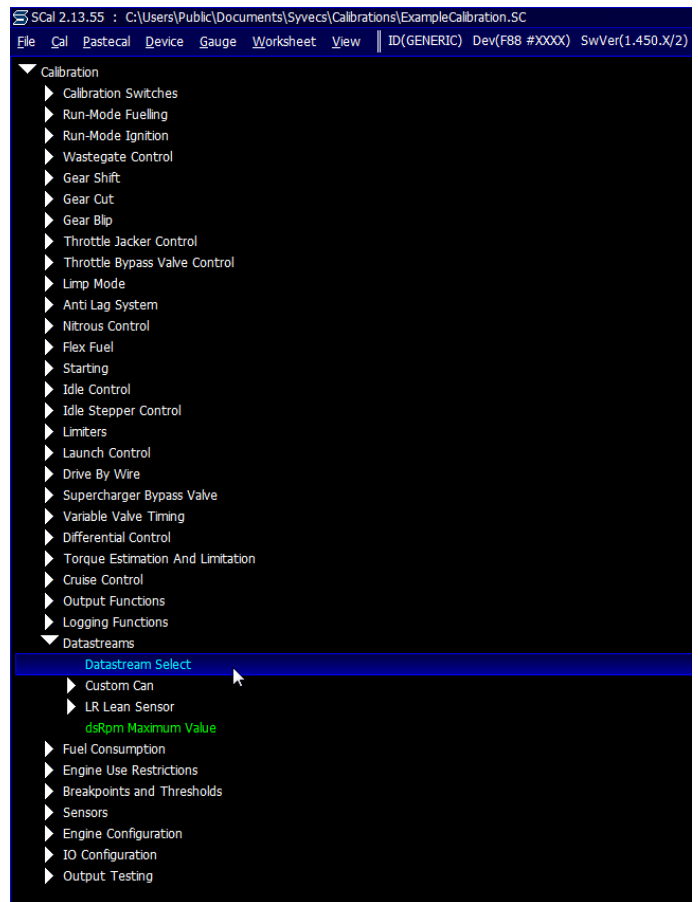
- Click "File -> Load".



- Browse the PC to find the folder where you stored the calibration file and select it. This panel appears. Press "OK".



- Scroll the list up to "Datastreams" and press "enter";
- select "Datastream Select" press enter.



2.1 Software setting for CAN bus protocol

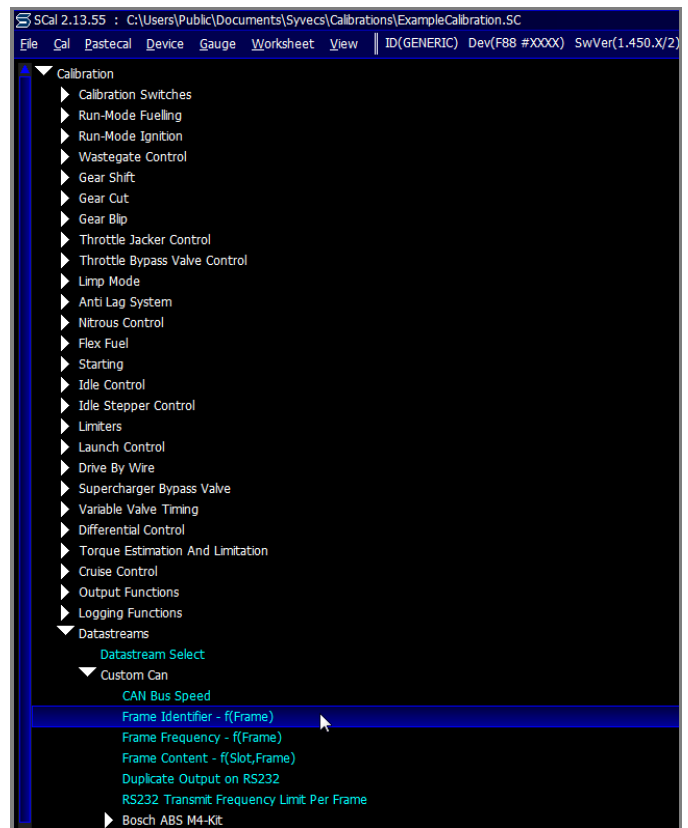
Once entered the Datastream selection page press enter on the page and this window shows up:

- Select "CUSTOM CAN" and press "OK"
- press ESC to come back to the previous page



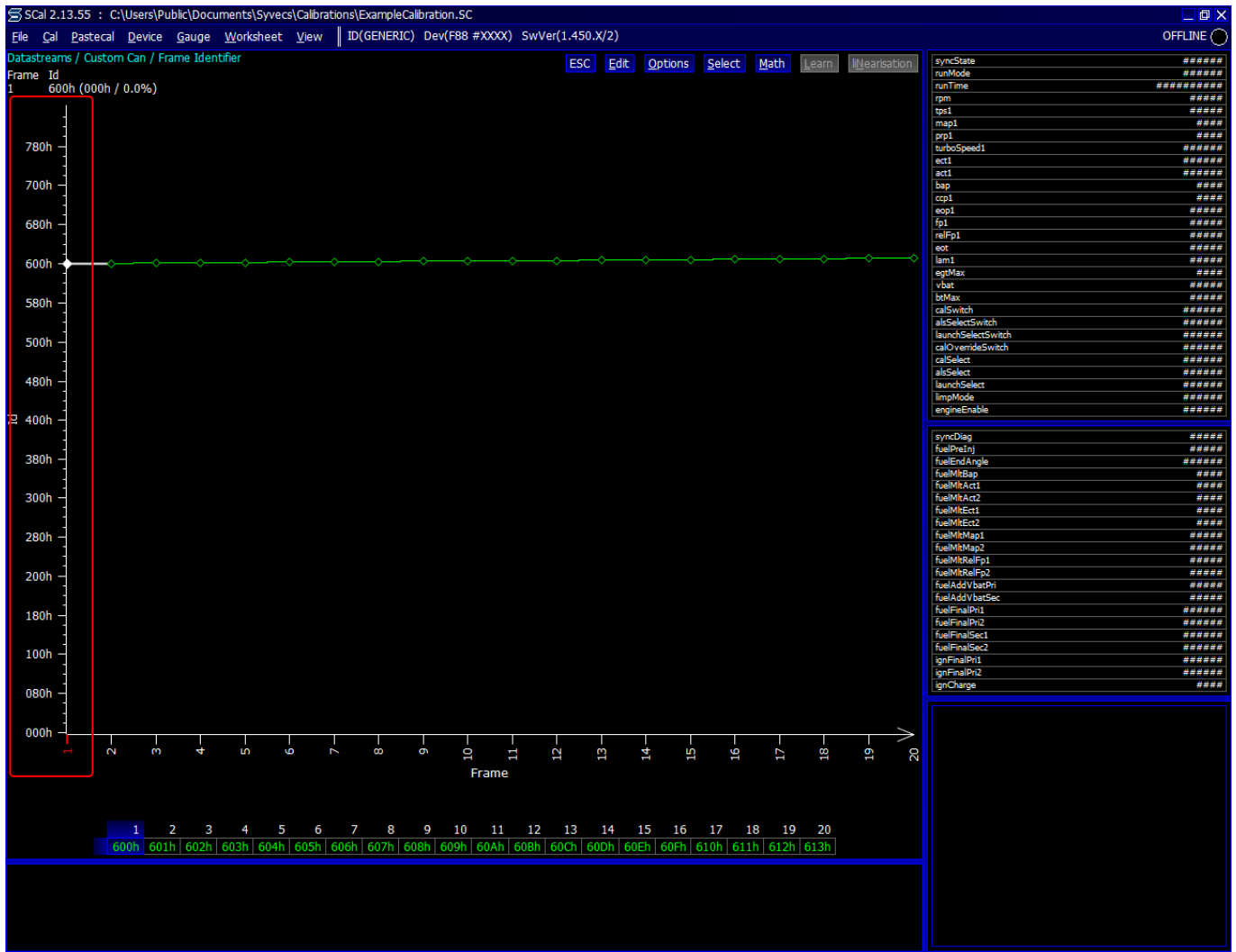


- Scroll the list up to:
 - "Datastreams -> Custom CAN -> Frame Identifier".
- Press ENTER

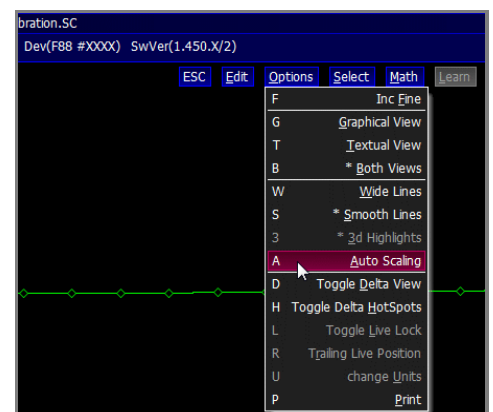




"Frame identifier" page shows the full frame scale as shown here below. As you can see the software shows on "Y" axle the full scale from 0 to 780. On the bottom horizontal bar – in green – is the range you are using: from 600 to 613. In case the range is not filled in you have to do it manually. Please refer to your ECU user manual to know how to perform this operation.

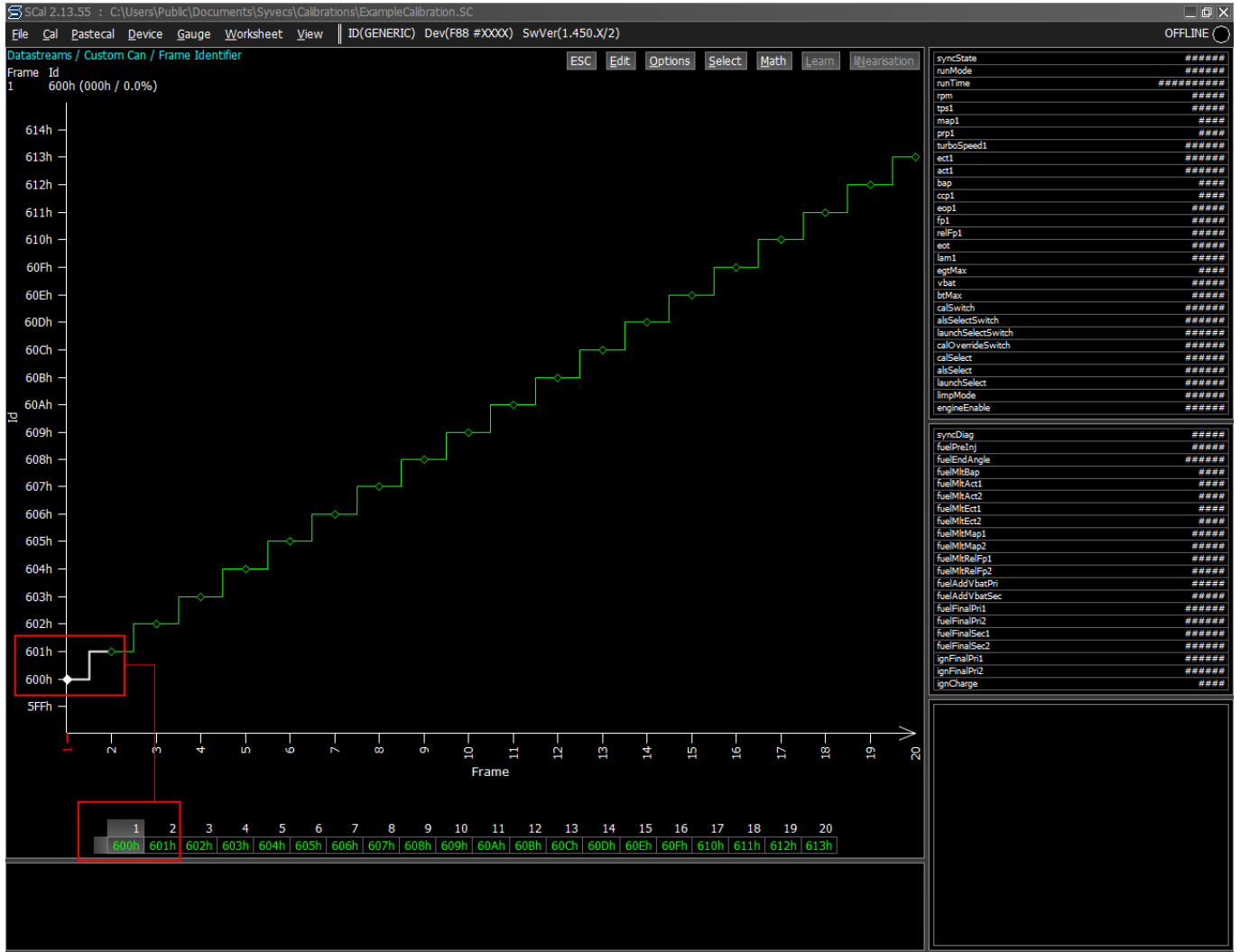


- To see a graph that shows only the value you are using press "Option" on the top menu bar and select "Auto Scaling".

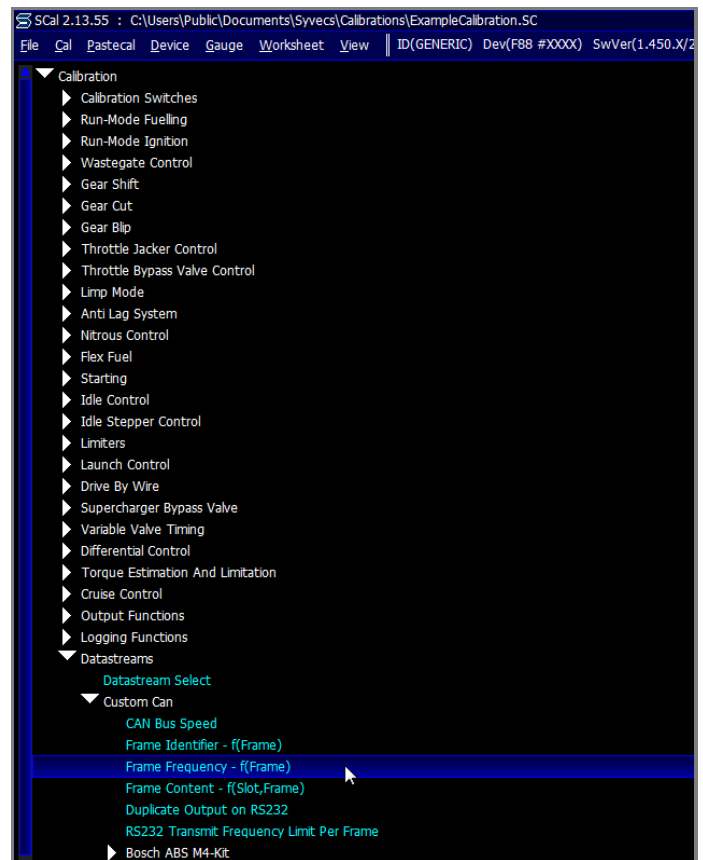




“Frame Identifier” page appears re-scaled. Selecting two values you can see the corresponding graph as here below.



- Press ESC to come back to the previous page
- Scroll the list up to
 - "Datastreams -> Custom CAN -> Frame Frequency"
- Press ENTER



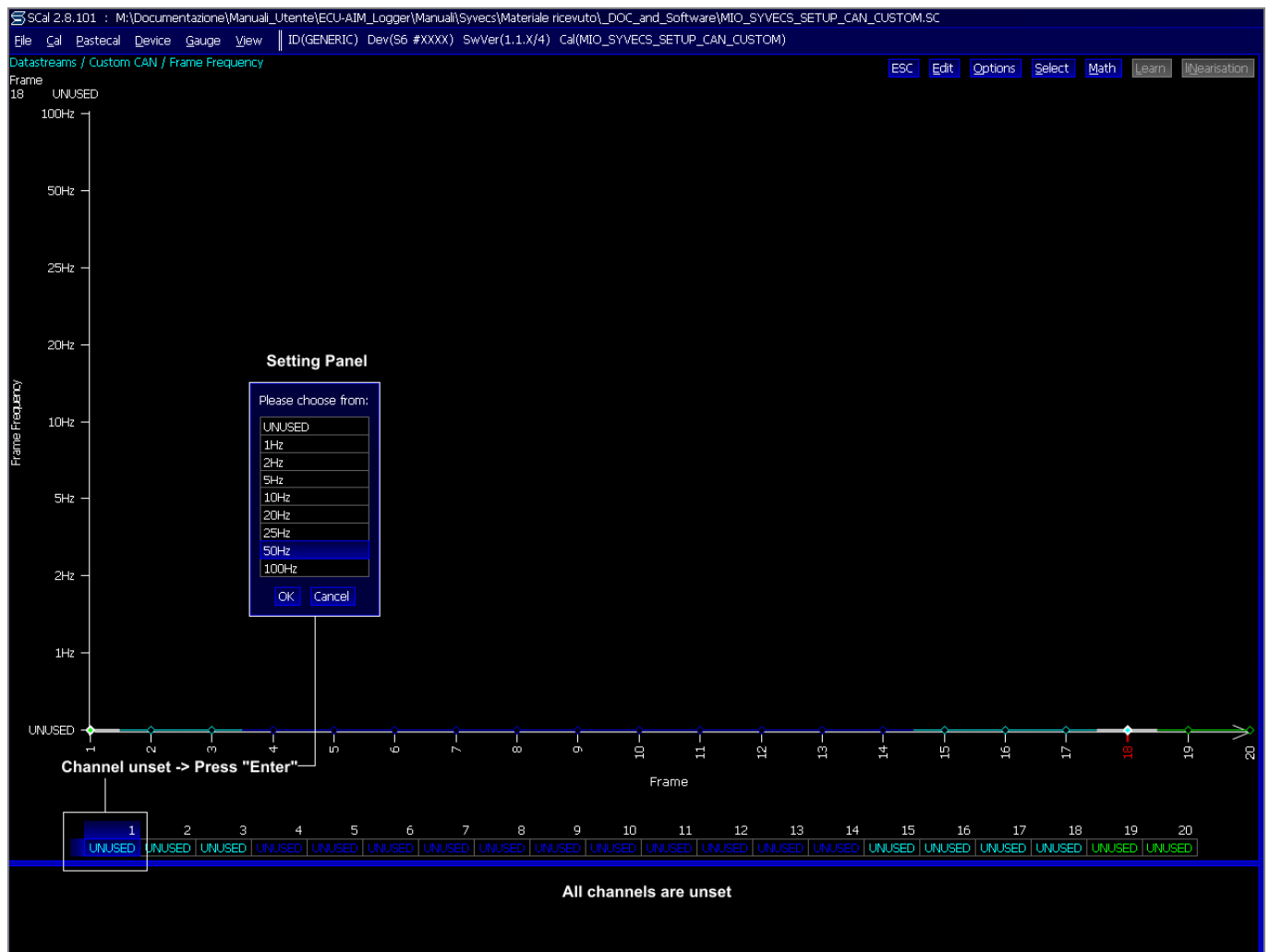
- Here on the right you see "Frame frequencies" page correctly set.



If the page appears with all frequencies unset (labelled as "UNUSED") as below:

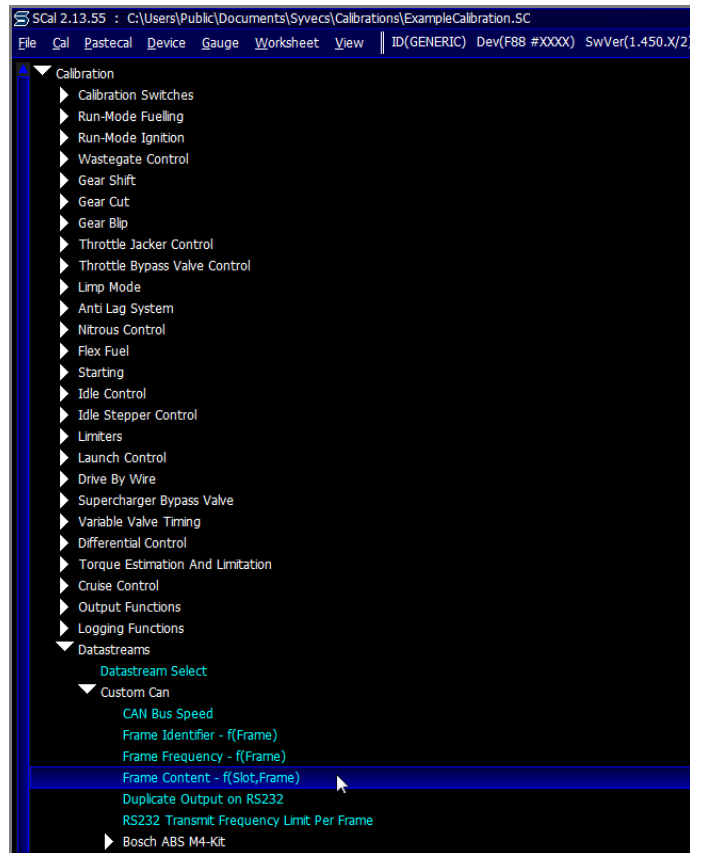
- select the first channel
- press "enter"
- select the desired frequency in the setting panel
- press "OK"

Please refer to your ECU user manual to know how to set each channel frequency.





- Press ESC to come back to the previous page
- Scroll the list up to
 - "Datastreams -> Custom CAN -> Frame Content"
- Press ENTER



“Frame Content” page should be already set as below.

Scal 2.8.101 : M:\Documentazione\Manuali_Utente\ECU-AIM_Logger\Manuali\Syvecs\Materiali_ricevuto_DOC_and_Software\MIO_SYVECS_SETUP_CAN_CUSTOM.SC

File Cal Pastecal Device Gauge View ID(GENERIC) Dev(S6 #XXXX) SwVer(1.1.X/4) Cal(MIO_SYVECS_SETUP_CAN_CUSTOM)

Datastreams / Custom CAN / Frame Content

Slot Frame

1 1 rpm(S)

Frame Content

- wgTurboPDDuty2(S)
- vytInBase(S)
- turboSpeed2(S)
- tps1AIC(U)
- syncFault(U)
- prp1(S)
- loadCellSum(S)
- ipp2V(U)
- gearCutInputV(U)
- fuelBase1(U)
- eop2V(U)
- dbwTargBlip(S)
- clTargAddEgt2(S)
- an16V(U)
- NOT_SET

Slot

	1	2	3	4
1	rpm(S)	ppsA(S)	vbat(S)	longG(S)
2	map1(S)	prp1(S)	turboSpeed1DeSpiked(S)	tps1(S)
3	map2(S)	prp2(S)	turboSpeed2DeSpiked(S)	SPARE(U)
4	relFp1(S)	lam1(S)	fuelMltCl1(S)	SPARE(U)
5	relFp2(S)	lam2(S)	fuelMltCl2(S)	SPARE(U)
6	act1(S)	ect1(S)	egt1(S)	bitMax(S)
7	act2(S)	ect2(S)	egt2(S)	SPARE(U)
8	ccp1(S)	ccp2(S)	ccp3(S)	ccp3(S)
9	eop1(S)	eop2(S)	eop3(S)	eop4(S)
10	eot(S)	ft(S)	ecp(S)	bap(S)
11	engineEnable(U)	calSwitch(U)	tcSwitch(U)	pitSwitch(U)
12	clutchSwitch(U)	SPARE(U)	wow(U)	autoStartState(U)
13	fuelConsLR(U)	sensorSwitch(U)	alsState(U)	SPARE(U)
14	gearCutDogkickCount(U)	gearCutFailCount(U)	dbwStatus(U)	knockStatus(U)
15	gearV(U)	gear(S)	SPARE(U)	SPARE(U)
16	fspeed(S)	frSpeed(S)	rspeed(S)	rrSpeed(S)
17	swa(S)	latG(S)	vehicleSpeed(S)	drivenSpeed(S)
18	wheelSpin(S)	tcSpinTarg(S)	tcSpinErr(S)	tcTrq(S)
19	NOT_SET	NOT_SET	NOT_SET	NOT_SET
20	NOT_SET	NOT_SET	NOT_SET	NOT_SET

All engine parameters are correctly set

If the page appears with all frequencies NOT SET – as below – you need to set each engine parameter.

SCal 2.8.101 : M:\Documentazione\Manual_Utente\ECU-AIM_Logger\Manual\Syvecs\Materiale ricevuto_DOC_and_Software\MIO_SYVECS_SETUP_CAN_CUSTOM.SC

File Cal Pastecal Device Gauge View ID(GENERIC) Dev(S6 #XXXX) SwVer(1.1.X/4) Cal(MIO_SYVECS_SETUP_CAN_CUSTOM)

Datstreams / Custom CAN / Frame Content

ESC Edit Options Select Math Learn Localisation

Slot Frame NOT_SET

1 18 NOT_SET

Frame Content

- wgTurboPDDuty2(S)
- vytInBase(S)
- turboSpeed2(S)
- tos1AIC(U)
- syncFault(U)
- prp1(S)
- loadCellSum(S)
- ipp2V(U)
- gearOutInputV(U)
- fuelBase1(U)
- eop2V(U)
- dbwTargBlip(S)
- clTargAddEgt2(S)
- an16V(U)
- NOT_SET

Slot

	1	2	3	4
1	NOT_SET	NOT_SET	NOT_SET	NOT_SET
2	NOT_SET	NOT_SET	NOT_SET	NOT_SET
3	NOT_SET	NOT_SET	NOT_SET	NOT_SET
4	NOT_SET	NOT_SET	NOT_SET	NOT_SET
5	NOT_SET	NOT_SET	NOT_SET	NOT_SET
6	NOT_SET	NOT_SET	NOT_SET	NOT_SET
7	NOT_SET	NOT_SET	NOT_SET	NOT_SET
8	NOT_SET	NOT_SET	NOT_SET	NOT_SET
9	NOT_SET	NOT_SET	NOT_SET	NOT_SET
10	NOT_SET	NOT_SET	NOT_SET	NOT_SET
11	NOT_SET	NOT_SET	NOT_SET	NOT_SET
12	NOT_SET	NOT_SET	NOT_SET	NOT_SET
13	NOT_SET	NOT_SET	NOT_SET	NOT_SET
14	NOT_SET	NOT_SET	NOT_SET	NOT_SET
15	NOT_SET	NOT_SET	NOT_SET	NOT_SET
16	NOT_SET	NOT_SET	NOT_SET	NOT_SET
17	NOT_SET	NOT_SET	NOT_SET	NOT_SET
18	NOT_SET	NOT_SET	NOT_SET	NOT_SET
19	NOT_SET	NOT_SET	NOT_SET	NOT_SET
20	NOT_SET	NOT_SET	NOT_SET	NOT_SET

All engine parameters are "NOT SET"

To set engine parameters:

- select the first cell and press "enter";
- the panel showing all available channels appears;
- you can filter channels typing the name of the desired channel or part of it. The first cell is for "RPM" so type "rpm" and the panel resizes reducing the number of available channels. Select the desired RPM channel and press OK. Repeat this operation for all channels.

The graph below shows this operation using "RPM" channel as example.

The screenshot illustrates the software interface for setting engine parameters. It shows a main window with a graph and a list of channels. A secondary window displays a list of channels being filtered by typing 'rpm'. A third window shows the filtered list with 'rpm(S)' selected.

List of all available channels

1	2	3	4
1	NOT_SET	NOT_SET	NOT_SET
2	NOT_SET	NOT_SET	NOT_SET
3	NOT_SET	NOT_SET	NOT_SET
4	NOT_SET	NOT_SET	NOT_SET
5	NOT_SET	NOT_SET	NOT_SET
6	NOT_SET	NOT_SET	NOT_SET
7	NOT_SET	NOT_SET	NOT_SET
8	NOT_SET	NOT_SET	NOT_SET
9	NOT_SET	NOT_SET	NOT_SET
10	NOT_SET	NOT_SET	NOT_SET
11	NOT_SET	NOT_SET	NOT_SET
12	NOT_SET	NOT_SET	NOT_SET
13	NOT_SET	NOT_SET	NOT_SET
14	NOT_SET	NOT_SET	NOT_SET
15	NOT_SET	NOT_SET	NOT_SET
16	NOT_SET	NOT_SET	NOT_SET
17	NOT_SET	NOT_SET	NOT_SET
18	NOT_SET	NOT_SET	NOT_SET
19	NOT_SET	NOT_SET	NOT_SET
20	NOT_SET	NOT_SET	NOT_SET

Please choose from:

- NOT_SET
- SPARE(U)
- aat(S)
- aat1C(U)
- aat1V(U)
- act1(S)
- act11C(U)
- act1V(U)
- act2(S)
- act21C(U)
- act2V(U)
- actAvg(S)
- actMax(S)
- actMin(S)
- ait1(S)
- ait11C(U)
- ait1V(U)
- ait2(S)
- ait21C(U)
- ait2V(U)
- alsCal(U)
- alsPlenumDamping(U)
- alsRecovery(U)
- alsState(U)
- alsSwitch(U)
- alternatorState(U)
- an01V(U)
- an02V(U)
- an03V(U)
- an04V(U)
- an05V(U)
- an06V(U)
- an07V(U)
- an08V(U)
- an09V(U)
- an10V(U)
- an11V(U)
- an12V(U)
- an13V(U)
- an14V(U)
- an15V(U)
- an16V(U)
- astAvg(U)
- astPeak(U)
- astPeakIdx(U)
- autoStartState(U)
- bap(S)
- bap1C(U)
- bap1V(U)

Type "rpm" to filter channels

Please choose from:

- pitRpmError(S)
- rpm1(S)
- rpm1DT(S)
- rpm11C(U)
- rpm1V(U)
- rpm2(S)
- rpm2DT(S)
- rpm21C(U)
- rpm2V(U)
- rpm(S)
- rpm(S)
- rpm(S)
- wgPrrErr1(S)
- wgPrrErr2(S)
- wgPrrLimit(S)
- wgPrrPDDuty1(S)
- wgPrrPDDuty2(S)

List of all channels is filtered: Select "rpm (S)" and press "OK"

Here follows the table with all channels settings

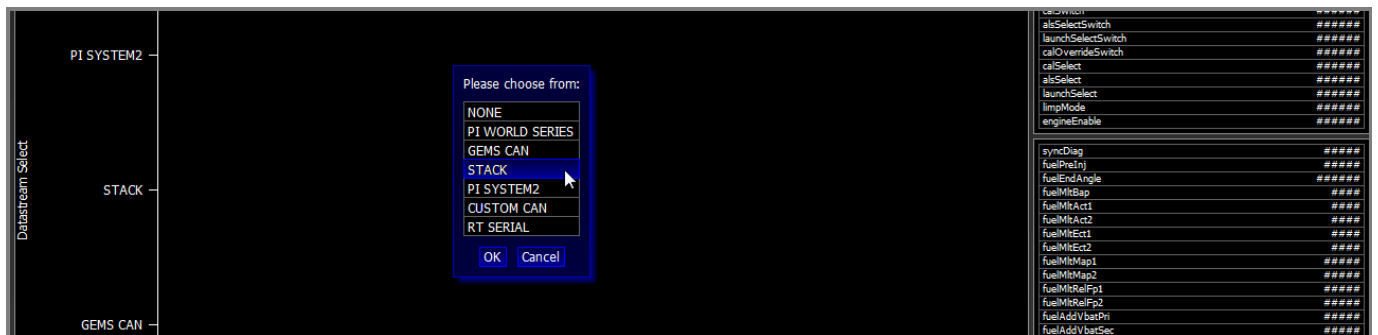


	1	2	3	4
1	rpm_S	ppsA_S	vbat_S	longG_S
2	map1_S	prp1_S	turboSpeed1DeSpiked_S	tps1_S
3	map2_S	prp2_S	turboSpeed2DeSpiked_S	SPARE_U
4	relFp1_S	lam1_S	fuelMltCII1_S	SPARE_U
5	relFp2_S	lam2_S	fuelMltCII2_S	SPARE_U
6	act1_S	ect1_S	egt1_S	btMax_S
7	act2_S	ect2_S	egt2_S	SPARE_U
8	ccp1_S	ccp2_S	ccp3_S	ccp3_S
9	eop1_S	eop2_S	eop3_S	eop4_S
10	eot_S	ft_S	ecp_S	bap_S
11	engineEnable_U	calSwitch_U	tcSwitch_U	pitSwitch_U
12	clutchSwitch_U	SPARE_U	wow_U	autoStartState_U
13	fuelConsLR_U	sensorSwitch_U	alsState_U	SPARE_U
14	gearCutDogKickCount_U	gearCutFailCount_U	dbwStatus_U	knockStatus_U
15	gearV_U	gear_S	SPARE_U	SPARE_U
16	flSpeed_S	frSpeed_S	rlSpeed_S	rrSpeed_S
17	swa_S	latG_S	vehicleSpeed_S	drivenSpeed_S
18	wheelSpin_S	tcSpinTarg_S	tcSpinErr_S	tcTrq_S
19	NOT_SET	NOT_SET	NOT_SET	NOT_SET
20				

2.2 Software setting for the serial protocol

Once entered the Datastream selection page press enter on the page and this window shows up:

- Select "STACK" and press "OK"
- press ESC to come back to the previous page



3

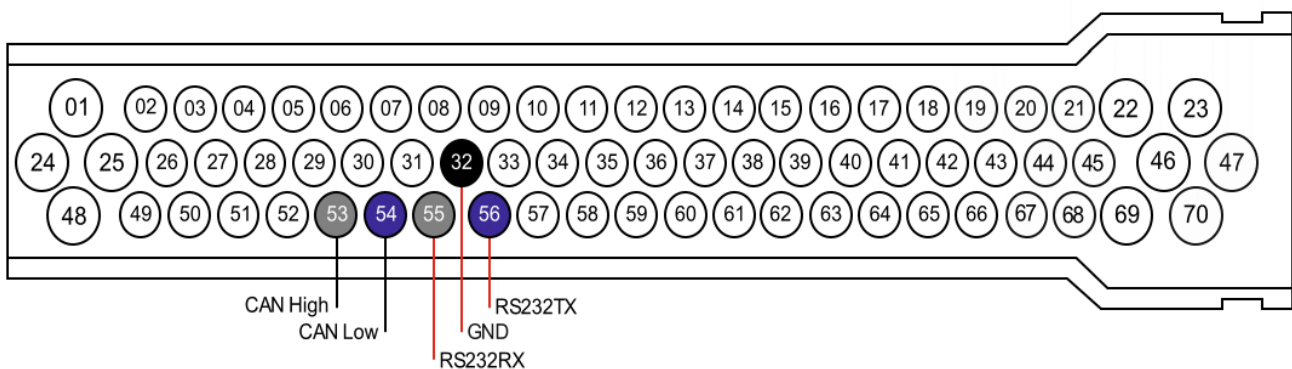
Wiring connections

As said before Syvecs ECUs feature both serial and CAN communication protocol. ECUs pinout changes according to the model.

3.1

Wiring connection of Syvecs S6GP

Syvecs S6GP features a 70 pins front connector. Here below are connector pinout on top and connection table on bottom.



70 pins Connector pin	Pin function	AiM cable label
53	CAN High	CAN+
54	CAN Low	CAN-
55	RS232RX	RS232TX
56	RS232TX	RS232RX
32	Communication GND	GND

3.2

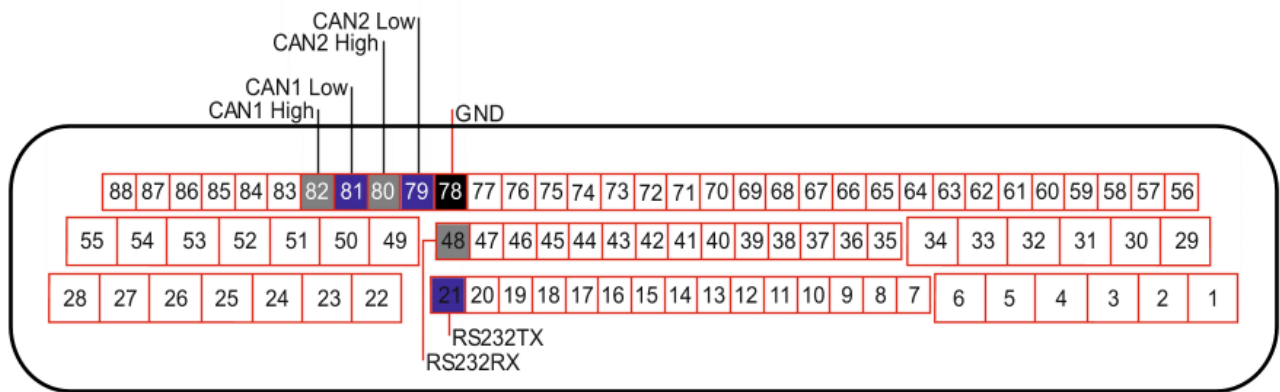
Wiring connection of Syvecs S6PNP

Syvecs S6PNP ECU has 5 additional connectors on the rear edge of the board. The connector to be used is "Comms" connector. Here below is connection table.

Comms connector pin	Pin function	AiM cable
4	CAN High	CAN+
5	CAN Low	CAN-
1	RS232RX	RS232TX
2	RS232TX	RS232RX
3	Communication GND	GND

3.2 Wiring connection of Syvecs S8C

Syvecs S8C ECU has an 88 pins rear connector. Here below are connector pinout and connection table.



Comms connector pin	Pin function	AIM cable
82	CAN1 High	CAN+
81	CAN1 Low	CAN-
80	CAN2 High	CAN+
79	CAN2 Low	CAN-
48	RS232RX	RS232TX
21	RS232TX	RS232RX
78	GND	GND

4

AiM device configuration

Before connecting the ECU to AiM device set it up using AiM Race Studio software. The parameters to select in the device configuration changes according to the protocol you are using.

To use the CAN bus set these parameters:

- ECU manufacturer: "LIFE"
- ECU Model: "F88_CAN"

To use the serial protocol set these parameters:

- ECU manufacturer "Syvecs"
- ECU Model "Stack_Datastream";

5

Available channels

Channels received by AIM devices connected to "Syvecs" S6GP, S6PNP and S8C ECUs changes according to the selected protocol.

5.1

"LIFE" "F88_CAN" protocol

Channels received by AIM devices connected to "LIFE" "F88_CAN" protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	F88_RPM	RPM
ECU_2	F88_PPSA	"A" Pedal position
ECU_3	F88_V_SPEED	Vehicle speed
ECU_4	F88_D_SPEED	Driven speed
ECU_5	F88_SPEED_FL	Front left wheel speed
ECU_6	F88_SPEED_FR	Front right wheel speed
ECU_7	F88_SPEED_RL	Rear left wheel speed
ECU_8	F88_SPEED_RR	Rear right wheel speed
ECU_9	F88_LONG_ACC	Longitudinal acceleration
ECU_10	F88_LAT_ACC	Lateral acceleration
ECU_11	F88_MAP1	Manifold air pressure bank 1
ECU_12	F88_MAP2	Manifold air pressure bank 2
ECU_13	F88_TRBO_SPD1	Turbo speed bank 1
ECU_14	F88_TRBO_SPD2	Turbo speed bank 2
ECU_15	F88_LAMBDA1	Lambda value bank 1
ECU_16	F88_LAMBDA2	Lambda value bank 2
ECU_17	F88_ACT1	Air coolant temperature bank 1
ECU_18	F88_ACT2	Air coolant temperature bank 2
ECU_19	F88_ECT1	Engine coolant temperature bank 1



ECU_20	F88_ECT2	Engine coolant temperature bank 2
ECU_21	F88_EGT1	Exhaust gas temperature bank 1
ECU_22	F88_EGT2	Exhaust gas temperature bank 2
ECU_23	F88_FUEL_CONS	Fuel consumption
ECU_24	F88_GEAR	Engaged gear
ECU_25	F88_OIL_P1	Oil pressure bank 1
ECU_26	F88_OIL_P2	Oil pressure bank 2
ECU_27	F88_OIL_P3	Oil pressure bank 3
ECU_28	F88_OIL_P4	Oil pressure bank 4
ECU_29	F88_V BATT	Battery supply
ECU_30	F88_FUEL_PR1	Fuel pressure bank 1
ECU_31	F88_FUEL_PR2	Fuel pressure bank 2
ECU_32	F88_EOT	Engine oil temperature
ECU_33	F88_FUEL_T	Fuel temperature
ECU_34	F88_BARO_PR	Barometric pressure
ECU_35	F88_STEER_ANGLE	Steering angle
ECU_36	F88_TPS1	Throttle position 1
ECU_37	F88_BTMAX	Max ECU internal temperature
ECU_38	F88_OVERBOOST	Overboost pressure
ECU_39	F88_CRANK1_PR	Crank 1 pressure
ECU_40	F88_COOL_PRESS	Engine coolant pressure
ECU_41	F88_ENG_ENABLE	Engine enable
ECU_42	F88_CAL_SWITCH	Calibration switch
ECU_43	F88_TC_SWITCH	Traction control switch
ECU_44	F88_PIT_SWITCH	Pit lane limiter switch
ECU_45	F88_ALS_STATE	ALS signal status
ECU_46	F88_GEAR_VOLT	Gearbox voltage
ECU_47	F88_GEAR_PRESS	Gear pressure
ECU_48	F88_WHEEL_SPIN	Wheel spin
ECU_49	F88_PPSB	"B" Pedal position
ECU_50	F88_DBW_STATUS	DBW Status
ECU_51	F88_KNK_STATUS	Knock status

5.2

"SYVECS" "Stack_Datastream" protocol

Channels received by AIM devices connected to "SYVECS" "Stack_Datastream " protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	ECU_RPM	RPM
ECU_2	ECU_SPEED	Speed
ECU_3	ECU_OIL_PRESS	Oil pressure
ECU_4	ECU_OIL_TEMP	Oil temperature
ECU_5	ECU_WATER_TEMP	Water temperature
ECU_6	ECU_FUEL_PRESS	Fuel pressure
ECU_7	ECU_BATT_VOLT	Battery supply
ECU_8	ECU_THRT_ANGLE	Throttle angle
ECU_9	ECU_MAP	Manifold Air pressure
ECU_10	ECU_AIR_CHARGE	Air charge
ECU_11	ECU_EXH_TEMP	Exhausted gas temperature
ECU_12	ECU_LAMBDA	Lambda value
ECU_13	ECU_FUEL_TEMP	Fuel temperature
ECU_14	ECU_GEAR	Engaged gear
ECU_15	ECU_ERRORS	ECU error
ECU_16	ECU_COUNTER	ECU counter
ECU_17	ECU_FUEL_USED	Used fuel