

AiM InfoTech

MecTronik
WSS 2026 NG

Release 1.00



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Models and years

This manual explains how to connect AiM devices to the WorldSuperSport bikes Engine Control Unit (ECU). Compatible models are:

MecTronik – MKE7 ECU with ECU FW update 2026 for the following categories:

- SuperSport
- SportBike
- RaceBike EVO
- RaceBike PRO

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Wiring connection

CAN connections for these categories are documented on Solo Engineering web pages. Here below are reported two of the main pinouts to connect to the bikes CANbus.



CAN Devices - All		
Connector Harness		JST JWPB
Connector Sensor		04R
Label		CAN
1	GND	Black
2	CAN_Lo	Green
3	CAN_Hi	White
4	12v Switched (Fused)	Red

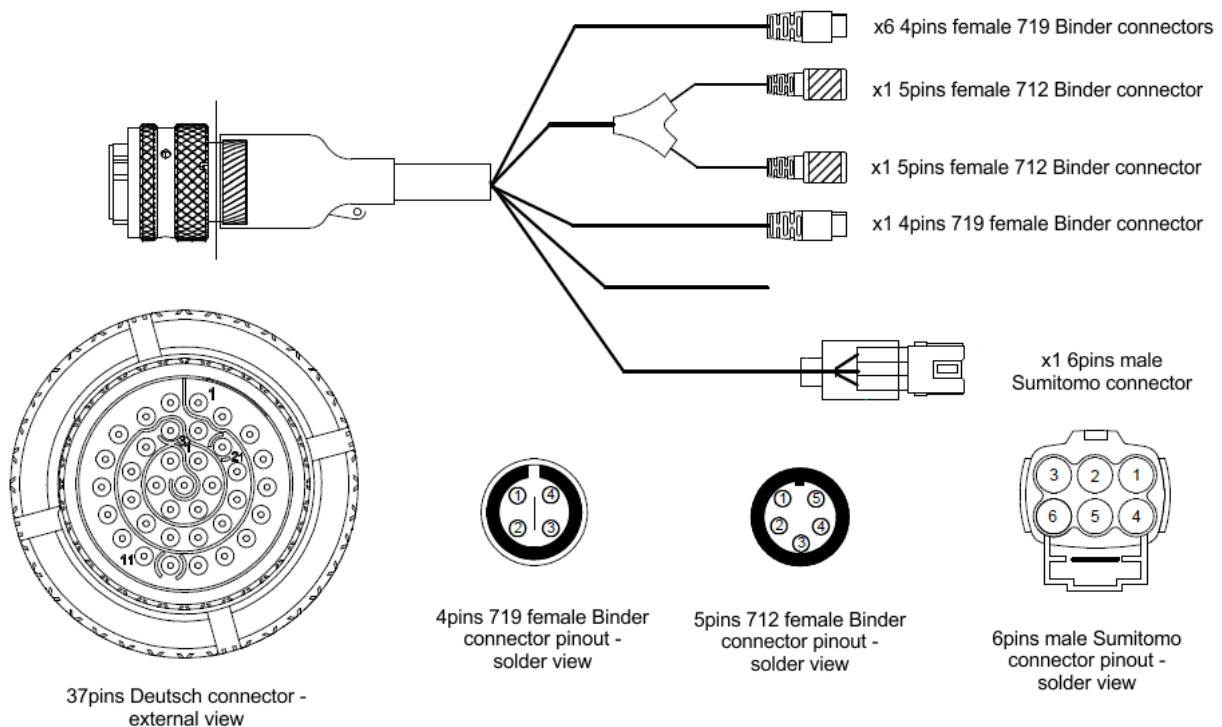
Download Connector		
Connector Harness		Sumitomo
Connector Sensor		Sumitomo
1	GND	Black
2	CAN_Lo	Green
3	ECU	Yellow
4	12v Switched (Fused)	Red
5	CAN_Hi	White
6	V Battery	Red



AiM has also developed a specific connection kit to these SS/SPBK classes ECU, fitting the MXx TFT dash series with data logging functionalities (Not usable with Strada units). Provided harness into this kit allows to read transmitted data from the ECU via CAN and, at the same time, to power up the system.

The part number of the AiM connection harness for SS/SPBK bikes is: **V02573530**.

The specific 37pins harness for World SS bikes allows to connect to the vehicle battery and ECU directly, through the 6pins white Sumitomo female connector (labelled "Logger Dash"). Here below, the harness scheme is available.



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Race Studio 3 configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio 3 software. The parameters to select in the device configuration are:

- ECU manufacturer: **MecTronik**
- ECU Model: **WSS 2026 NG** (RS3 only)

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"MecTronik – WSS 2026 NG" protocol

Received channels by AiM device configured with "MecTronik – WSS 2026 NG" protocol are:

CHANNEL NAME	FUNCTION
RPM	RPM
GAS	Handgrip throttle position
GAS SMOOTH	Handgrip throttle position filtered
DEMAND	Throttle demand
GEARPOS VOLT	Gear barrel voltage
GEAR POS	Active gear
LOADCELL	Load cell force
GEARSHIFT UP SM	Gearshift up state machine
	Contains the following <i>encoded</i> messages:
= 0	DIS: DISABLED – strategy disabled
= 1	WAIT: WAITING – wait for rearm the strategy
= 2	REAR: REARMED – strategy is rearmed
= 3	PRET: PRETRIGGER – strategy pretrigger
= 4	TRIG: TRIGGER – strategy trigger
= 5	ACTU: ACTUATE – strategy is cutting power/blipping



= 6	SHAK: SHAKE – strategy is shaking
= 7	EXIT: EXIT – strategy exit (torque reintroduction)
GEARSHIFT DN SM	Gearshift down state machine
	Contains the following <i>encoded</i> messages:
= 0	DIS: DISABLED – strategy disabled
= 1	WAIT: WAITING – wait for rearm the strategy
= 2	REAR: REARMED – strategy is rearmed
= 3	PRET: PRETRIGGER – strategy pretrigger
= 4	TRIG: TRIGGER – strategy trigger
= 5	ACTU: ACTUATE – strategy is cutting power/blipping
= 6	SHAK: SHAKE – strategy is shaking
= 7	EXIT: EXIT – strategy exit (torque reintroduction)
CUT LEVEL	Cut level
CUT FUNCTION	Contains the following <i>encoded</i> messages:
= 1	ENGK: ENGINEKILL – Engine off for key off or safety
= 4	GSFU: GEARSHIFTUP – cut power for shift up
= 5	GSKU: GEARSHAKEUP – cut power for shift up shake
= 6	RPML: RPMLIMIT – engine rpm limit
= 7	GSFD: GEARSHIFTDN - cut power for shift down
= 8	GSKD: GEARSHAKEDN - cut power for shift down shake
= 11	SPDL: SPEEDLIMIT – bike speed limit
= 12	EBRK: ENGINEBRAKE – engine brake control
= 13	AJER: ANTIJERK – anti jerk control
SUSP REAR	Rear suspension position
SUSP FRONT	Front suspension position
BIKE STATE	Contains the following <i>encoded</i> messages:
= 1	SLIPV: SLIP VALID -ECU can calculate rear slip
= 2	WLYCK: WHEELY CHECK – ECU evaluating front wheel up
= 4	WLYUP: WHEELY UP – ECU detected front wheel up
= 8	TRACT: TRACTION - motorbike in traction phase
= 16	BRKIN: BRAKING – motorbike in braking phase



= 32	IMUV: IMU VALID – IMU sensor valid
= 32768	NOAID: NO RIDER AID – Aids disabled or in recovery mode
WTS	Water temperature
ATS	Air temperature
OTS	Oil temperature
OPS	Oil pressure
MAP	Manifold air pressure
BAP	Barometric air pressure
FPS	Fuel pressure
FUEL QT	Fuel used
BRAKE FRONT	Front brake pressure
BRAKE REAR	Rear brake pressure
TPS LIMIT	TPS limit
TPS REQUEST A	Throttle request bank A
TPS REQUEST B	Throttle request bank B
TPS A	Throttle position bank A
TPS B	Throttle position bank B
dTPS A	Throttle rate bank A
dTPS B	Throttle rate bank B
TRUMPET OUT A	Trumpet bank A output duty cycle
TRUMPET OUT B	Trumpet bank B output duty cycle
TORQUE ENGINE	Engine torque
TORQUE REAR	Rear wheel torque
TORQUE TARGET	Engine torque target
TORQUE REDUCTION	Engine torque reduction
SPEED FRONT	Front wheel speed
SPEED REAR	Rear wheel speed
SPEED VEHICLE	Vehicle speed
SPEED FRONT RAW	Front speed raw max radius
SPEED FRONT HZ	Front speed frequency
SPEED REAR RAW	Rear speed raw max radius



SPEED REAR HZ	Rear speed frequency
FRONT WHEEL LOAD	RaceBike EVO Only – Front wheel estimated load
REAR WHEEL LOAD	RaceBike EVO only – Rear wheel estimated load
TRANS RATIO	Transmission ratio
SPROKET	Number of teeth for sproket
PINION	Number of teeth for pinion
CLUTCH SLIP	Clutch slip
ACC X	Longitudinal acceleration
ACC Y	Lateral acceleration
ACC Z	Vertical acceleration
BIKE LEAN ANGLE	Lean angle
FORCE REAR	Force on rear wheel
GYRO X	Longitudinal gyroscope
GYRO Y	Lateral gyroscope
GYRO Z	Vertical gyroscope
TRIMMER ENG BRK	Engine brake trimmer
TRIMMER CONTEXT	RaceBike EVO/PRO only – Actual active trimmer (TC WC EB) Contains the following <i>encoded</i> messages:
= 0	DISAB: DISABLED
= 1	TC: TRACTION CONTROL selected
= 2	WC: WEELY CONTROL selected
= 3	EB: PREENGINE BRAKE selected
TRIMMER TC	Traction Control trimmer (RaceBike EVO/PRO only)
TRIMMER WC	Wheely Control trimmer (RaceBike EVO/PRO only)
TC TARGET	Traction Control target (RaceBike EVO/PRO only)
TC INPUT	Traction Control rear slip (RaceBike EVO/PRO only)
TC OUTPUT	Traction Control force reduction(RaceBike EVO/PRO only)
TC PROFILE	Traction Control profile in use (RaceBike EVO/PRO only)
WC TARGET	Wheely Control target angle speed (RaceBike EVO/PRO only)
WC INPUT	Wheely Control vehicle angle speed (RaceBike EVO/PRO only)
WC OUTPUT	Wheely Control force reduction (RaceBike EVO/PRO only)



INJ CORR CYL 1	Injection correction cylinder 1
INJ CORR CYL 2	Injection correction cylinder 2
INJ CORR CYL 3	Injection correction cylinder 3
INJ CORR CYL 4	Injection correction cylinder 4
IGN CORR CYL 1	Ignition correction cylinder 1
IGN CORR CYL 2	Ignition correction cylinder 2
IGN CORR CYL 3	Ignition correction cylinder 3
IGN CORR CYL 4	Ignition correction cylinder 4
INJ CORR LAM1	Injection correction lambda 1
INJ CORR LAM2	Injection correction lambda 2
INJ CORR LAM3	Injection correction lambda 3
INJ CORR LAM4	Injection correction lambda 4
LAMBDA CYL1	Lambda cylinder 1
LAMBDA CYL2	Lambda cylinder 2
LAMBDA CYL3	Lambda cylinder 3
LAMBDA CYL4	Lambda cylinder 4
LAMBDA	Internal lambda
LAMBDA STATE 1	Contains the following <i>bitfield status</i> messages:
= 1	ENABLED
= 2	OPEN LOOP
= 5	CLOSED LOOP 1
= 6	FREEZE 1
= 7	ADAPTIVE 1
= 8	CLOSED LOOP 2
LAMBDA STATE 2	Contains the following <i>bitfield status</i> messages:
= 1	FREEZE 2
= 2	ADAPTIVE 2
= 3	CLOSED LOOP 3
= 4	FREEZE 3
= 5	ADAPTIVE 3
= 6	CLOSED LOOP 4



= 7	FREEZE 4
= 8	ADAPTIVE 4
LAMBDA DIAG 1	Contains the following <i>bitfield status</i> messages:
= 1	HARDWARE
= 2	LOW TEMP
= 3	LOW POWER
= 4	VM SCGN
= 5	VM SCBAT
= 6	VM OPEN
= 7	UM SCGND
= 8	UM SCBAT
LAMBDA DIAG 2	Contains the following <i>bitfield status</i> messages:
= 1	UM OPEN
= 2	IAP SCGND
= 3	IAP SCBAT
= 4	IAP OPEN
= 5	HEATER SCGND
= 6	HEATER SCBAT
= 7	HEATER OPEN
LAMBDA TEMP	Internal lambda temperature
CRASH TILT	Tilt sensor voltage
CRASH STATE 1	Contains the following <i>bitfield status</i> messages:
= 1	ENABLED
= 2	ACTIVE
= 3	ENGINE OFF
= 4	LATCH OFF
= 5	IMU CHECK Z
= 6	IMU EVENT Z
= 7	IMU CHECK Y
= 8	IMU EVENT Y
CRASH STATE 2	Contains the following <i>bitfield status</i> messages:



= 1	TILT CHECK
= 2	TILT EVENT
CRASH ACC Y	Lateral acceleration crash detection
CRASH ACC Z	Vertical acceleration crash detection
SAFE OFF STATE	Contains the following <i>encoded</i> messages:
= 1	ENAB: ENABLED
= 2	ACTI: ACTIVE
= 4	ENG OF: ENGINE OFF
= 8	LTC OF: LATCH OFF
BOARD TEMP	ECU temperature
BOARD TIME	ECU run time
VBAT	Battery voltage
VREF 1	Reference voltage 1 (5V)
VREF 2	Reference voltage 2 (5V)
VREF3	Reference voltage 3 (5V)
ENG REVS	Engine revolutions
ENG STATE 1	Contains the following <i>bitfield status</i> messages:
= 1	STALL
= 2	MOVING
= 4	SYNC
= 8	PHASED
ENG STATE 2	Contains the following <i>bitfield status</i> messages:
= 1	STARTED
= 2	SEQUENTIAL
RBW STATE 1	Contains the following <i>bitfield status</i> messages:
= 1	ENABLED
= 2	BANK A
= 3	BANK B
= 4	CHECKING
= 5	RECOVERY
= 6	DISABLE A



= 7	DISABLE B
= 8	ERR GAS
RBW STATE 2	Contains the following <i>bitfield status</i> messages:
= 1	ERR TPS A
= 2	ERR PID A
= 3	ERR HBR A
= 5	ERR TPS B
= 6	ERR PID B
= 7	ERR HBR B
USER INPUT 1	Contains the following <i>bitfield status</i> messages:
= 1	BUTTON 1
= 2	BUTTON 2
= 3	BUTTON 3
= 4	BUTTON 4
= 5	BUTTON 5
= 6	BUTTON 6
USER OUTPUT 1	Contains the following <i>bitfield status</i> messages:
= 1	BACK LIGHT
DEMAND PROFILE	Index of demand profile in use
SHIFT LIGHT	Shift light percent
ACTUATORS DIAG 1	Contains the following <i>bitfield status</i> messages:
= 1	COIL 1
= 2	COIL 2
= 3	COIL 3
= 4	COIL 4
= 5	INJECTOR 1
= 6	INJECTOR 2
= 7	INJECTOR 3
= 8	INJECTOR 4
ACTUATORS DIAG 2	Contains the following <i>bitfield status</i> messages:
= 1	INJECTOR 5

= 2	INJECTOR 6
= 3	INJECTOR 7
= 4	INJECTOR 8
= 5	HBRIDGE 1
= 6	HBRIDGE 2
= 7	PWM 1
= 8	PWM 2
ACTUATORS DIAG 3	Contains the following <i>bitfield status</i> messages:
= 1	PWM 3
= 2	PWM 4
= 3	PWM 5
= 4	PWM 6
= 5	PWM 7
= 6	PWM 8
= 7	PWM 9
= 8	PWM 10
ACTUATORS DIAG 4	Contains the following <i>bitfield status</i> messages:
= 1	PWM 11
= 2	PWM 12
= 3	MFO 1
= 4	MFO 2
= 5	MFO 3
= 6	MFO 4
= 7	MFO 5
SENSORS DIAG 1	Contains the following <i>bitfield status</i> messages:
= 1	PICKUP
= 2	PHASE
= 3	CAM
= 4	GAS
= 5	TPS A
= 6	TPS B



= 7	MAP
= 8	BAP
SENSORS DIAG 2	Contains the following <i>bitfield status</i> messages:
= 1	OPS
= 2	FPS
= 3	WTS
= 4	ATS
= 5	OTS
= 6	LAMBDA
= 7	GEARPOS
= 8	LOADCELL
SENSORS DIAG 3	Contains the following <i>bitfield status</i> messages:
= 1	SPEED FRONT
= 2	SPEED REAR
SENSORS DIAG 4	Contains the following <i>bitfield status</i> messages:
= 6	VREF 1
= 7	VREF 2
= 8	VBAT
ENGINE FUNC 1	Contains the following <i>bitfield status</i> messages:
= 1	SWITCH OFF
= 2	CRASH OFF
= 3	SAFETY OFF
= 4	RPM LIMIT
= 5	IDLE CTRL
= 6	LAMBDA CTRL
ENGINE FUNC 2	Contains the following <i>bitfield status</i> messages:
= 1	MAINT ENTRY
= 2	MAINT ACTIVE
STR FUNCTION 1	Contains the following <i>bitfield status</i> messages:
= 2	SPEED LIMIT
= 3	GEAR SHIFTUP



= 4	GEAR SHIFTDN
= 5	ENGINEBRAKE
= 6	ANTIJERK
= 7	LAUNCH
= 8	TRACTION
STR FUNCTION 2	Contains the following <i>bitfield status</i> messages:
= 1	WHEELY
WORKMODE	Active work mode ID
WORKMODE MASK 1	Contains the following <i>bitfield status</i> messages:
= 2	RAIN LIGHT
= 3	CRASH DETECT
= 4	SAFE OFF
= 5	TYRE DRY
= 6	TYRE RAIN
= 8	AUX SPROKETS
ENG BRAKE	Contains the following <i>encoded</i> messages:
= 1	A: ENG BRAKE A
= 2	B: ENG BRAKE B
TRACTION	Contains the following <i>encoded</i> messages:
= 1	A: TRACTION CONTROL A
= 2	B: TRACTION CONTROL B
DEM WMODE	Contains the following <i>encoded</i> messages:
= 1	A: DEM WMODE A
= 2	B: DEM WMODA B
WORKMODE MASK 3	Contains the following <i>bitfield status</i> messages:
= 4	WHEELY CTR
= 5	ANTIJERK
= 6	GEARSHIFT UP
= 7	GEARSHIFT DOWN
WORKMODE MASK 4	Contains the following <i>bitfield status</i> messages:
= 1	LAMBDA CL



= 5	CORR INJ
= 6	CORR INJ SPEED
= 7	CORR IGN
CALIBRATION INFO	Contains the following <i>encoded</i> messages:
= 1	ERAM : ENGINE RAM
= 2	EFLS : ENGINE FLASH
= 3	SRAM : STRATEGY RAM
= 4	SFLS : STRATEGY FLASH
= 16384	WARN : WARNING
= 32768	ERR : ERROR
TEAM CRC	Strategies calibration CRC
MANUFACTURER CRC	Engine calibration CRC

Technical note: not all data channels outlined in the ECU template are validated for each manufacturer model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable.



ENCODED messages show a string of characters that can be shown on a display field, in Live Measure and in RaceStudio 3 Analysis running the most updated combination of software firmware and configuration file.

BITFIELD STATUS messages on the **Display** and on **Live Measure** show a value composed by active bits (from 1 to 8). For example if the 4 lambdas are all in closed loop, active values will be those corresponding to these 4 states, thus 5 and 8 for Lambda State 1, 3 and 6 for Lambda State 2

Lambda State 1: 58 (5 and 8)

Lambda State 2: 36 (3 and 6)

LAMBDA CYL3	0.00 lambda	LAMBDA CYL4	0.00 lambda	LAMBDA	0.00 lambda	LAMBDA STATE 1
LAMBDA STATE 1	58 #	LAMBDA STATE 2	36 #	LAMBDA DIAG 1	0 #	58 #
LAMBDA DIAG 2	0 #	LAMBDA TEMP	0.0 C	CRASH TILT	0 mV	LAMBDA STATE 2
CRASH STATE 1	ENAB	CRASH STATE 2	0 #	CRASH ACC Y	0.00 g	36 #
CRASH ACC Z	0.00 g	SAFE OFF STATE	ENAB	BOARD TEMP	0 C	

LAMBDA STATE 1

	Contains the following messages:
= 1	LAMBDA ENABLED
= 2	OPEN LOOP
= 3	Not used
= 4	Not used
= 5	CLOSED LOOP 1
= 6	FREEZE 1
= 7	ADAPTIVE 1
= 8	CLOSED LOOP 2

LAMBDA STATE 2

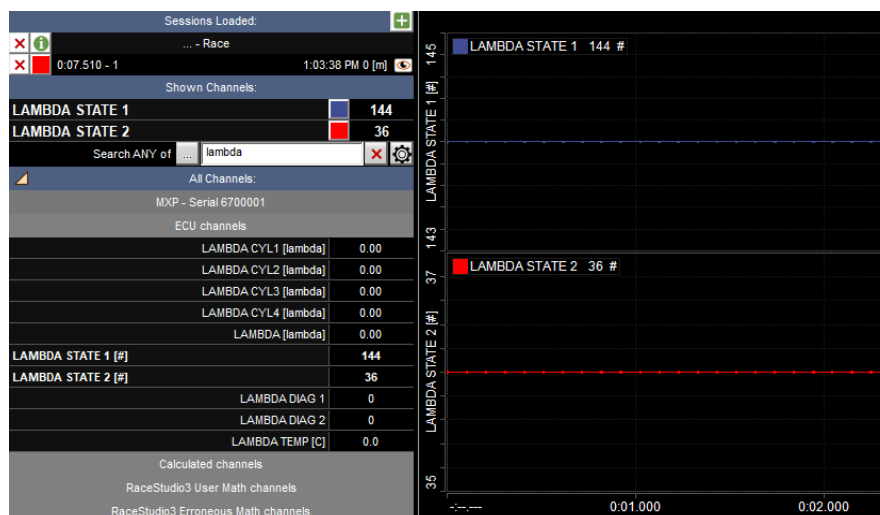
	Contains the following messages:
= 1	FREEZE 2
= 2	ADAPTIVE 2
= 3	CLOSED LOOP 3
= 4	FREEZE 3
= 5	ADAPTIVE 3
= 6	CLOSED LOOP 4
= 7	FREEZE 4
= 8	ADAPTIVE 4

In RaceStudio3 **Analysis**, channels are represented as transmitted by the ECU in decimal values. So Lambda State1 = 144 translated into binary is 1001 0000, which can be compared to the following table (from less significant bit to most significant)

LAMBDA STATE 1	Contains the following messages:	
= 1	LAMBDA ENABLED	0
= 2	OPEN LOOP	0
= 3	Not used	0
= 4	Not used	0
= 5	CLOSED LOOP 1	1
= 6	FREEZE 1	0
= 7	ADAPTIVE 1	0
= 8	CLOSED LOOP 2	1

The same applies to Lambda State 2 = 36 translated into binary is 0010 0100, which can be compared to the following table (from less significant bit to most significant)

LAMBDA STATE 2	Contains the following messages:	
= 1	FREEZE 2	0
= 2	ADAPTIVE 2	0
= 3	CLOSED LOOP 3	1
= 4	FREEZE 3	0
= 5	ADAPTIVE 3	0
= 6	CLOSED LOOP 4	1
= 7	FREEZE 4	0
= 8	ADAPTIVE 4	0



In the data logger configuration, the bitfield channels allow to handle every single bit independently, to switch on a warning LED, show a message, activate an action.
Here following an example with alarms.



Condition

☐ Always TRUE ☐ Always FALSE ☐ Specify Channel1 As Text ☐ Specify Channel2 As Text

☒ LAMBDA STATE 1 [Primary-ECU]:CL... ☐ 1 is ON

TRUE after a time of sec in which it is verified FALSE after a time of sec in which it is no longer verified

OK Cancel

Select Channel

Device	Type	Channel	Bitfield
Main Device - MXP or MXP 1.3	ECU	INJ CORR CYL 1	All
	Lap Channels	INJ CORR CYL2	ENABLED
	GPS	INJ CORR CYL3	OPEN LOOP
	A/D Channels	INJ CORR CYL4	b3
	Odometer	IGN CORR CYL 1	b4
	Math Channels	IGN CORR CYL 2	CLOSED LOOP 1
	Start Recording Condition	IGN CORR CYL 3	FREEZE 1
	Internal	IGN CORR CYL 4	ADAPTIVE 1
	Battery Channels	INJ CORR LAM1	CLOSED LOOP 2
		INJ CORR LAM2	
		INJ CORR LAM3	
		INJ CORR LAM4	
		LAMBDA CYL1	
		LAMBDA CYL2	
		LAMBDA CYL3	
		LAMBDA CYL4	
		LAMBDA	
		LAMBDA STATE 1	
		LAMBDA STATE 2	

OK Cancel