



Revision	Date
Initial Release	Dec 27, 2018
Rev 1	Jan 14, 2019
Added DD2 instructions	Feb 6, 2019



**Serial
Data**



***HONDATA KPro, KPro2 & KPro3 ECU's
to AEM CD-5 & CD-7 Displays***

Supported Devices

***KPro
KPro2
KPro3***

Running in PRB, PNF, PRD, PRC and PND ECUs.

Required Interface Device

AEM 30-2229, Serial2CAN Adapter, Hondata KPro



Supported Channels

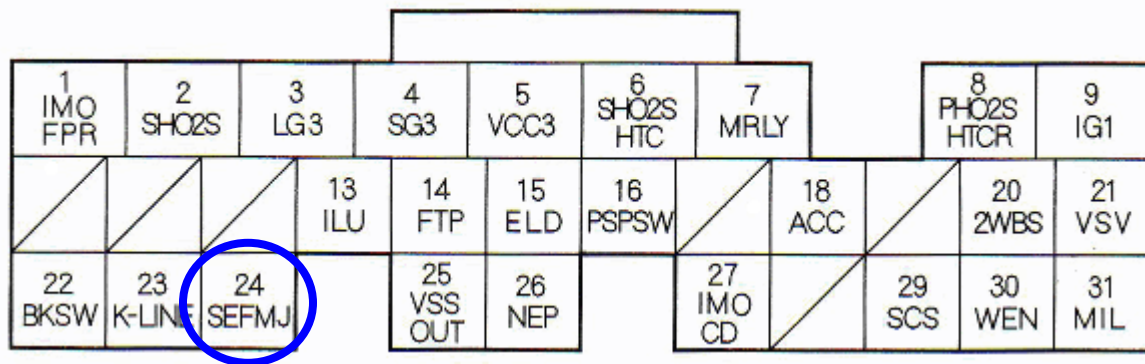
The CD-5 & CD-7 displays support the following 30 channels transmitted by the KPro ECUs:

EngineSpeed (RPM)	Reverse_Lockout_Status (On/Off)
VehicleSpeed (KPH)	Brake_Switch_Status (On/Off)
GearPosCalculated	AC_Switch_Status (On/Off)
ECUBatteryVoltage (V)	AC_Clutch_Status (On/Off)
IntakeManifoldAirTemp (C)	SCS_Status (On/Off)
CoolantTemp (C)	EPS_PSP_Status (On/Off)
ThrottlePos (%)	VTEC_Oil_Pressure_Status (On/Off)
IntakeManifoldAirPress (kPa)	VTEC_Sol_1_Status (On/Off)
FuellnjPulsewidth (mS)	VTEC_Sol_2_Status (On/Off)
IgnitionTiming (deg)	MIL_Status (On/Off)
AFR (EQ)	Nitrous1_Arm_Status (On/Off)
AFR (LA)	Nitrous2_Arm_Status (On/Off)
KnockCount	Nitrous1_Active_Status (On/Off)
CamIntakePos (Deg)	Nitrous2_Active_Status (On/Off)
Rad_Fan_Status (On/Off)	Fuel_Pump_Status (On/Off)

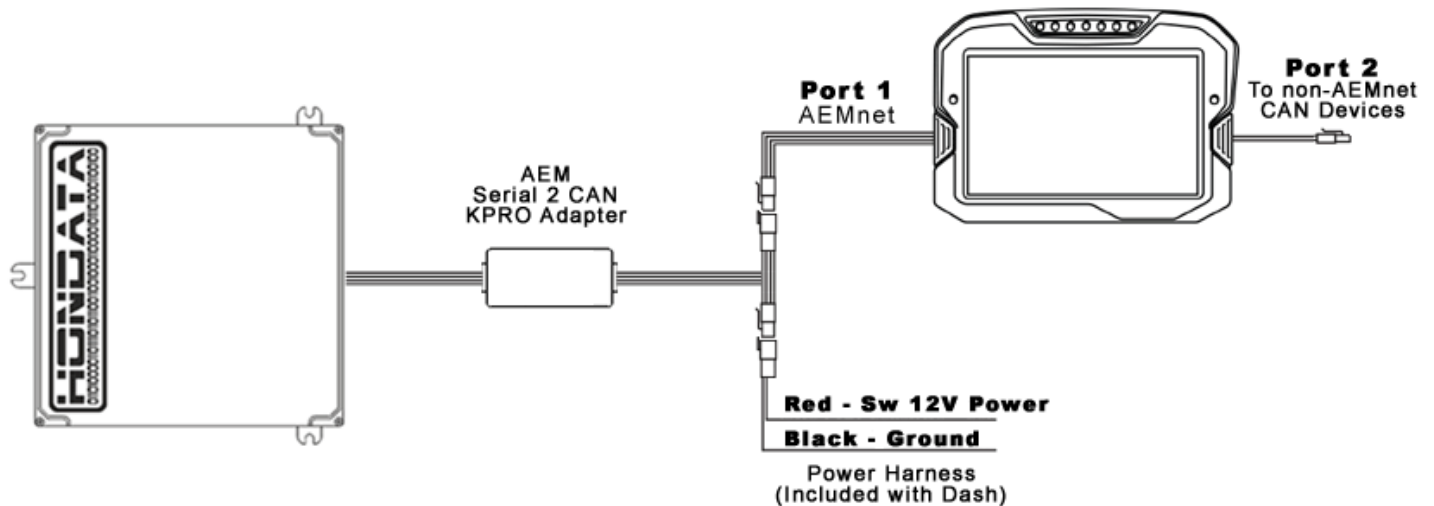
CAN Bus Wiring

To hook a Hondata KPro 1, 2 or 3 to an AEM CD-5 or CD-7, you first have to plug the KPro Serial2CAN adapter contact into the existing ECU connector on your vehicle harness and attach the ground terminal to the ECU mounting.

Pin E24 (SEFMJ) on the ECU, which is normally used for OEM dashboard communication, needs to be removed (if present) and replaced with the Yellow wire w/terminal coming from the Serial2CAN Adapter. The Black ring terminal needs to be attached to the ECU mount.



To connect the Serial2CAN adapter top the dash, plug the adapter into the 4 pin connector on the main harness supplied with the dash and the other 4 pin connector into the power harness supplied with the dash. The Red & Black wires from the power harness should be connected to switched, fused 12V power and ground, respectively.



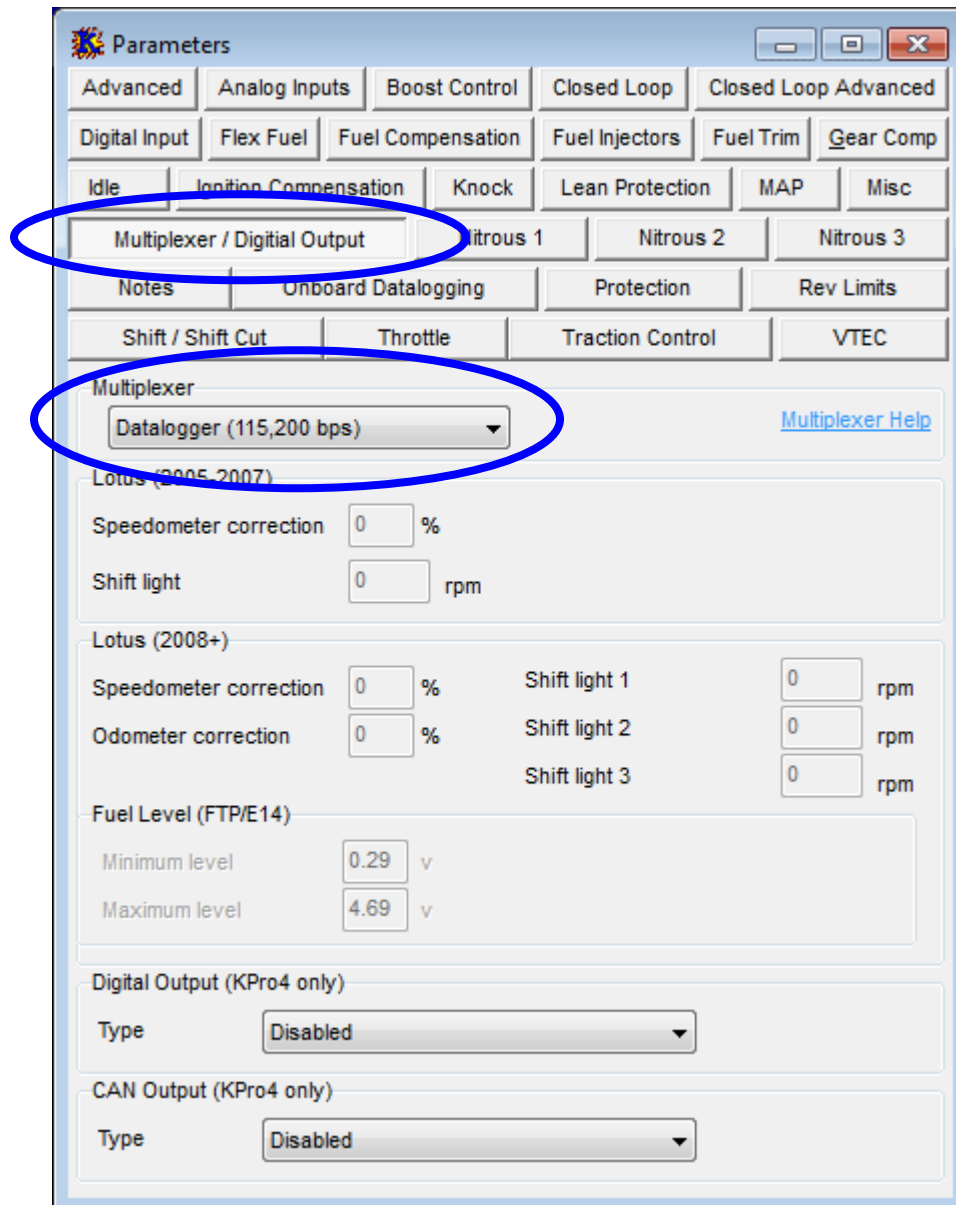
The AEM Serial2CAN adapter has an internal terminating resistor. As long as the adapter is on one physical end of the CAN Network and the AEM Display is on the other with its terminating resistor activated then no further action regarding terminating resistors is required on this port.

Hondata KPro Setup

The Datalogger Output must be enabled on the KPro and is done using the KManager Software.

Note that only PRB calibrations support the serial output. PRB calibrations may be used in PRB, PNF, PRD, PRC and PND ECUs with re-tuning, but cannot be used in PRA ECUs.

In KManager, in the Parameters window, select the Multiplexer/Digital Output tab, then select the Multiplexer to be "Datalogger (115,200 bps). Save the file upload as usual.



AEM Setup in DashDesign

The fastest way to get something working is to start with an AEM created setup for the KPro using the Serial2CAN adapter. These are installed with DashDesign on your computer and can be found at:

...\AEM\DashDesign\Setups\App Specific

STOP HERE

You only need to continue if you choose to not use the AEM supplied layout and wish to import KPro Serial2CAN support to custom or other existing layouts.

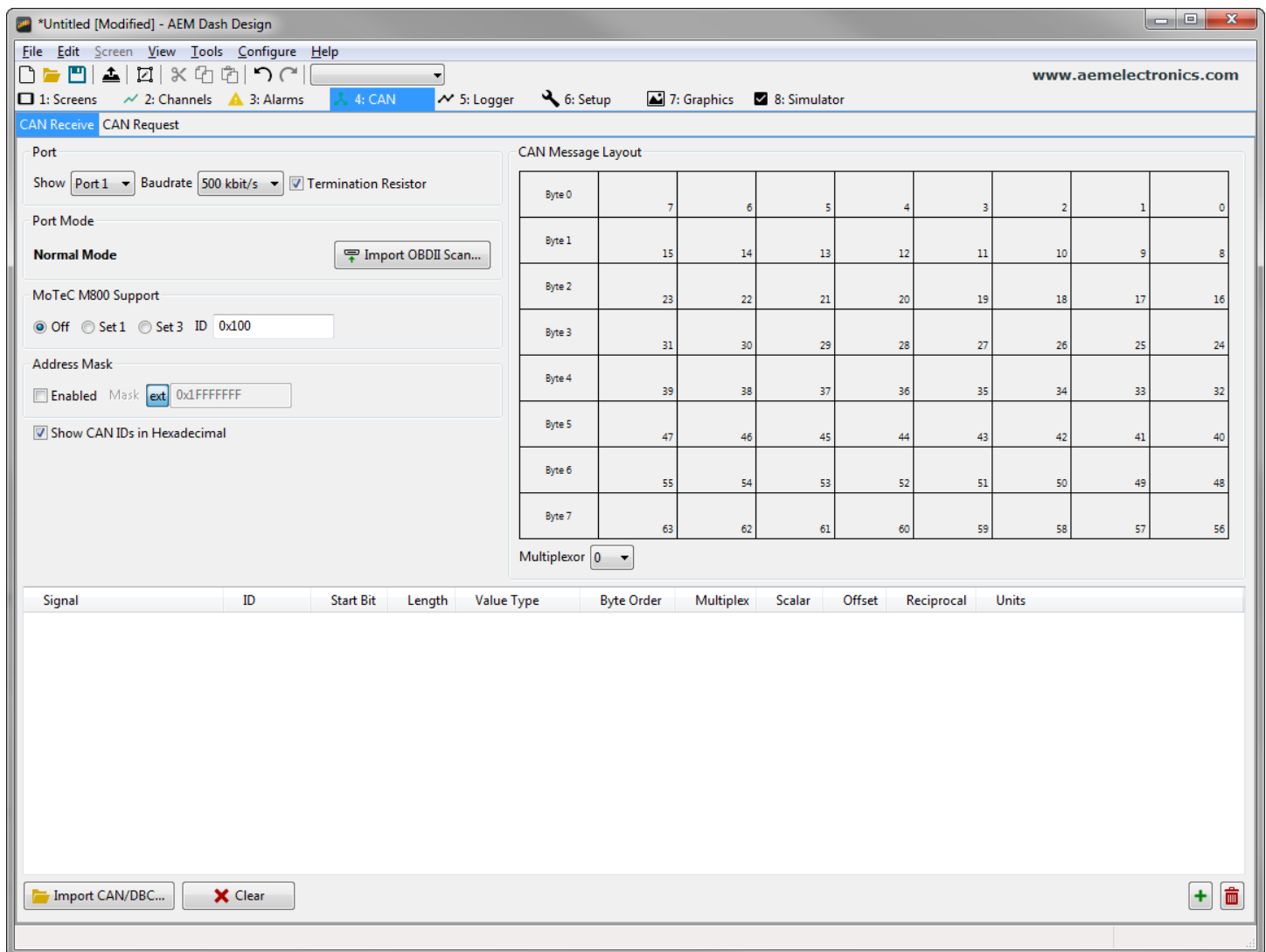
Adding Serial2CAN KPro support on different Layouts

If you want to create something from scratch, you can either start with a new dash layout by selecting “File” then “New” in DashDesign or you can select from a pre-designed layout that has screens already designed and inserted but has the CAN inputs left blank. These are chosen by selecting “File” then “Open” and selecting one of the setups titled xzyblank.aemcd7 with the xyz representing a description of the layouts contained in the file.

To import the Serial2CAN Hondata KPro CAN configuration into your setup you select the CAN tab from within Dash Design and choose the CAN Receive tab.

Make sure the port settings are as follows:

Show: “Port 1” **Baudrate:** 500 kbit/s **Termination Resistor:** “ON”
Address Mask: “OFF”
M800 Support: “OFF”



Then click on “Import CAN” on the lower left and select the Serial2CAN Hondata KPro CAN setup file “S2C_Hondata_KPro_Rev0.dbc”.

*Untitled [Modified] - AEM Dash Design

File Edit Screen View Tools Configure Help

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1: Screens 2: Channels 3: Alarms 4: CAN 5: Logger 6: Setup 7: Graphics 8: Simulator

CAN Receive CAN Request

Port
 Show Port 1 Baudrate 500 kbit/s Termination Resistor

Port Mode
 Normal Mode Import OBDII Scan...

MoTeC M800 Support
 Off Set 1 Set 3 ID 0x100

Address Mask
 Enabled Mask ext 0x1FFFFFFF

Show CAN IDs in Hexadecimal

CAN Message Layout

Byte 0	EngineSpeed	7	6	5	4	3	2	1	0
Byte 1		15	14	13	12	11	10	9	8
Byte 2	VehicleSpeed	23	22	21	20	19	18	17	16
Byte 3		31	30	29	28	27	26	25	24
Byte 4	GearPosCalculated	39	38	37	36	35	34	33	32
Byte 5	ECUBatteryVoltage	47	46	45	44	43	42	41	40
Byte 6		55	54	53	52	51	50	49	48
Byte 7		63	62	61	60	59	58	57	56

Multiplexor 0

Signal	ID	Start Bit	Length	Value Type	Byte Order	Multiplex	Scalar	Offset	Reciprocal	Units
EngineSpeed	0x660	8	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	angular_speed:rpm
VehicleSpeed	0x660	24	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	speed:mph
GearPosCalculated	0x660	32	8	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	
ECUBatteryVoltage	0x660	40	8	Unsigned Integer	BE/Motorola	Off	0.1	0	<input type="checkbox"/>	voltage:V
IntakeManifoldAirTemp	0x661	8	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	temperature:F
CoolantTemp	0x661	24	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	temperature:F
ThrottlePos	0x662	8	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	fraction:%
IntakeManifoldAirPress	0x662	24	16	Signed Integer	BE/Motorola	Off	0.1	0	<input type="checkbox"/>	pressure:psi
FuelInjPulsewidth	0x663	8	16	Signed Integer	BE/Motorola	Off	0.001	0	<input type="checkbox"/>	time:ms
IgnitionTiming	0x663	24	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	angle:deg
AFR	0x664	8	16	Signed Integer	BE/Motorola	Off	3.0518e-05	0	<input type="checkbox"/>	af:LA
KnockCount	0x665	8	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	
ComIntakePos	0x666	24	16	Signed Integer	BE/Motorola	Off	1	0	<input type="checkbox"/>	angle:deg

Import CAN/DBC... Clear

The new items will appear in the table. They can now be viewed on the display or logged. You can rename, filter, or manipulate any of these channels to make them more useful.