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AVT-715 - CCD Interface Add-On Board

Introduction

The AVT-715 CCD add-on board is installed in the enclosure above the main AVT-715 interface board, on the right hand side. The AVT-715 interface board must be hardware revision 'C' or higher to support the CCD add-on board. The EPROM installed on the AVT-715 interface board must be configured to support CCD operations. The EPROM can contain any two functions: J1850 VPW; J1850 PWM; or CCD. (Contact the factory to obtain an EPROM to meet your requirements.)

The CCD add-on board was originally designed to support SCI operations. The SCI function is not currently supported in firmware.

The add-on board is configured by manually setting jumpers on the board. A hardware jumper configuration chart is provided in this document.

Operation

With the AVT-715 properly configured to support J1850 VPW and CCD signals types, the unit operates just like a regular AVT-715 unit (except that PWM operations are not supported).

When the AVT-715 is first powered up it will enter VPW mode. This is indicated by the unit reporting a \$91 \$05 to the host. To switch the 715 to CCD mode the command: \$E1 \$55 must be issued by the host and accepted by the 715 unit. When the switch to CCD mode is complete the AVT-715 will respond with \$91 \$0D to signal that CCD mode is now operational.

Hardware Configuration

To configure the AVT-715 CCD add-on board, refer to the tables below and set the jumpers as needed to meet your operational requirements.

When in CCD mode, the bus loading resistor (120 ohm) and the bias resistors (13 K ohm) may be connected or removed. Refer to Table 2 to determine the settings depending on desired operations.

To change the configuration of the AVT-715 remove the enclosure cover to gain easy access to the CCD add-on board. All jumpers are on the top of the CCD add-on board and are clearly marked. *Pin #1 of a jumper is the pin closest to the jumper label.* Change the jumper configuration to meet your needs. Be sure to check the status of all the jumpers when changing the configuration.

	<u>CCD</u>	<u>SCI</u> <u>(normal)</u>	<u>SCI</u> <u>(Rx inverted)</u>	<u>SCI</u> <u>(Tx inverted)</u>	<u>SCI</u> <u>(Tx & Rx inverted)</u>
JP1	1-2	1-2	2-3	1-2	2-3
JP2	1-2	2-3	2-3	2-3	2-3
JP3	1-2	2-3	2-3	2-3	2-3
JP4	x-x	1-2	1-2	2-3	2-3
JP13	In	Out	Out	Out	Out
JP14	In	Out	Out	Out	Out

Table 1. CCD & SCI Operations - Jumper Configurations

x-x: Don't care; doesn't matter.

<u>Jumper</u>	<u>In</u>	<u>Out</u>
JP5	120 ohm bus load resistor in.	Bus load resistor out.
JP6	13 K ohm BUS- bias resistor (pull-up to VCC) in.	BUS- bias resistor out.
JP7	13 K ohm BUS+ bias resistor (pull down to ground) in.	BUS+ bias resistor out.

Table 2. Bus Loading and Bias

<u>Jumper</u>	<u>CCD mode</u>	<u>SCI mode</u>
JP12	1-2	2-3

Table 3. CCD and SCI mode

JP8	1-2
JP9	1-2
JP10	1-2
JP11	1-2

Table 4. Other Jumpers *(Do Not Change)*.

Connector P1 Listing

The following is a pin assignment listing of the P1 connector on the AVT-715 enclosure with the CCD add-on board installed. The P1 connector is an industry standard DA-15P connector and will mate to a 15 socket 'D' sub type connector.

<u>Pin #</u>	<u>Signal name</u>	<u>Direction</u> <i>(relative to the 715 unit)</i>
1	not connected	
2	J1850 Bus +	bi-directional
3	CCD Bus +	bi-directional
4	Ground, chassis	---
5	Ground, power	---
6	SCI transmit	out
7	SCI receive (normal)	in
8	not connected	
9	not connected	
10	J1850 Bus -	bi-directional
11	CCD Bus -	bi-directional
12	not connected	
13	Vehicle power to the AVT-715 unit	---
14	not connected	
15	SCI receive (inverted)	in

Table 4. Connector P1 (enclosure) Pin/Signal Assignments