AVT-715 (Rev. C) - CCD Interface Add-On Board
Manual Supplement #3

Available for the AVT-715 is an add-on board that provides an interface to the Chrysler CCD network. Additionally, the CCD add-on board was designed to support Chrysler SCI operations.

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' 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 supports Chrysler SCI operations in both low speed (7812.5 bps) and high speed (62.5 kbps) operations. The speed selection is controlled by a simple software command.

The add-on board is configured for CCD operations or SCI operations by manually setting jumpers on the board. A hardware jumper configuration chart is provided in this document. There is also a software command to put the unit into SCI mode. Both hardware configuration and software command must be done.

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).

Attached is a list of commands and responses for an AVT-715 configured to support J1850 VPW and CCD modes of operation.

When the AVT-715 is first powered up it will always enter VPW mode. This is signified 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.

Technical Support

Contact Advanced Vehicle Technologies, Inc. for technical support. We are located in Maryland. Our office hours are: 0800 hrs. to 1800 hrs. Eastern Time. If calling after hours, please leave a message and we will return your call as quickly as possible. You may also fax or e-mail us. We will reply promptly to your requests. If writing or faxing, please include as much relevant information as possible. Our contact information is:

Voice:	410-798-4038
Fax:	410-798-4308
E-mail:	avt-inc@ari.net
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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.

In SCI mode, the capability exists to invert either or both the transmit or receive signals. The terms 'normal' and 'inverted' refer to the idle states of the signals. The SCI signal idles in the 'high' state (+5v, nominally) in the 'normal' configuration. When 'inverted,' the SCI signal idles in the 'low' state (`0v, ground).

The term 'transmit' is in reference to the AVT-715 unit. Thus, the AVT-715 SCI transmit line is connected to the vehicle SCI receive line.

To change the configuration the AVT-715 enclosure should be opened and the main board removed. The CCD add-on board can then be removed and accessed. Change the jumper configuration to meet your needs.

	CCD	**SCI (normal)**	**SCI (Rx inverted)**	**SCI (Tx inverted)**	**SCI (Tx & Rx inverted)**
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.

Jumper	**In**	**Out**
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

Jumper	CCD mode	SCI mode
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.

Pin #	Signal name	Direction *(relative to the 715 unit)*
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