

Sega Saturn DataLink Protocol Specification V1.1

After installing the Drivers from the CD, the DataLink device may be accessed as a standard COM port. If writing for a non-Windows operating system, drivers may be downloaded from the following site:

<http://www.ftdichip.com/Drivers/VCP.htm> (for device FT232R)

The following COM settings are required:

BAUD: 375000 (375Kbit/s)
 PARITY: None
 DATA BITS: 8
 STOP BITS: 2

Receiving Data from the Sega Saturn

These command packets request data from the Saturn. The Data Length has a maximum value of 191. The checksum is the addition of all packet bytes except Byte1 (the sum of Byte2 to Byte8).

First Packet		Middle Packets		Last Packet	
BYTE1	0x5A	BYTE1	0x5A	BYTE1	0x5A
BYTE2	0x07	BYTE2	0x07	BYTE2	0x07
BYTE3	0x01	BYTE3	0x11	BYTE3	0x21
BYTE4	Address MSB	BYTE4	Address MSB	BYTE4	Address MSB
BYTE5	Address 2	BYTE5	Address 2	BYTE5	Address 2
BYTE6	Address 1	BYTE6	Address 1	BYTE6	Address 1
BYTE7	Address LSB	BYTE7	Address LSB	BYTE7	Address LSB
BYTE8	Data Length	BYTE8	Data Length	BYTE8	Data Length
BYTE9	Checksum	BYTE9	Checksum	BYTE9	Checksum

Response from DataLink

Successful Data		Error with request	
BYTE1	0xA5	BYTE1	0xA5
BYTE2	Data Length + 0x07	BYTE2	0x07
BYTE3	0xFF	BYTE3	0x00
BYTE4	Address MSB	BYTE4	0x00
BYTE5	Address 2	BYTE5	0x00
BYTE6	Address 1	BYTE6	0x00
BYTE7	Address LSB	BYTE7	0x00
BYTE8	Data Length	BYTE8	0x00
Byte9 - Byte199	Data	BYTE9	0x07
Last Byte	Checksum		

* Even if only a small amount of data is to be read (for instance, 10 bytes), the First Packet and Last Packet must still be sent. So, in this case, you could send the First Packet requesting 5 bytes and then send the Final Packet requesting the remaining 5 bytes.

Sending Data to the Sega Saturn

These command packets send data to the Saturn. The Packet Size has a maximum value of 198.

The Data Length has a maximum value of 191.

The checksum is the addition of all packet bytes except Byte1.

Send Data Packet		Send Data and jump to address	
BYTE1	0x5A	BYTE1	0x5A
BYTE2	Packet Size	BYTE2	Packet Size
BYTE3	0x09	BYTE3	0x19
BYTE4	Address MSB	BYTE4	Address MSB
BYTE5	Address 2	BYTE5	Address 2
BYTE6	Address 1	BYTE6	Address 1
BYTE7	Address LSB	BYTE7	Address LSB
BYTE8	Data Length	BYTE8	Data Length
Byte9 - Byte199	Data	Byte9 - Byte199	Data
Last Byte	Checksum	Last Byte	Checksum

Response from DataLink

Successful Data Transmission		Error with Transmission	
BYTE1	0xA5	BYTE1	0xA5
BYTE2	0x07	BYTE2	0x07
BYTE3	0xFF	BYTE3	0x00
BYTE4	0x00	BYTE4	0x00
BYTE5	0x00	BYTE5	0x00
BYTE6	0x00	BYTE6	0x00
BYTE7	0x00	BYTE7	0x00
BYTE8	0x00	BYTE8	0x00
BYTE9	0x06	BYTE9	0x07

* When a packet is sent with a 0x19 written to Byte 3 (jump to address), after the data bytes have been written the Saturn jumps to the address in the packet.

So to send a large download, begin sending with the 192nd byte of data. After all remaining data has been sent, send the first 191 bytes with the jump (0x19) command.