General Notice

When using this document, keep the following in mind:

1. This document is confidential. By accepting this document you acknowledge that you are bound by the terms set forth in the non-disclosure and confidentiality agreement signed separately and /in the possession of SEGA. If you have not signed such a non-disclosure agreement, please contact SEGA immediately and return this document to SEGA.

2. This document may include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new versions of the document. SEGA may make improvements and/or changes in the product(s) and/or the program(s) described in this document at any time.

3. No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without SEGA'S written permission. Request for copies of this document and for technical information about SEGA products must be made to your authorized SEGA Technical Services representative.

4. No license is granted by implication or otherwise under any patents or other rights of any third party or SEGA Enterprises, Ltd.

5. Software, circuitry, and other examples described herein are meant merely to indicate the characteristics and performance of SEGA's products. SEGA assumes no responsibility for any intellectual property claims or other problems that may result from applications based on the examples describe herein.

6. It is possible that this document may contain reference to, or information about, SEGA products (development hardware/ software) or services that are not provided in countries other than Japan. Such references/ information must not be construed to mean that SEGA intends to provide such SEGA products or services in countries other than Japan. Any reference of a SEGA licensed product/program in this document is not intended to state or simply that you can use only SEGA's licensed products/ programs. Any functionally equivalent hardware/software can be used instead.

7. SEGA will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user's equipment, or programs according to this document.

NOTE: A reader's comment/correction form is provided with this document. Please address comments to :

SEGA of America, Inc., Technical Publications Group
130 Shoreline Drive, Redwood City, CA 94065

SEGA may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

(11/2/94- 002)

SEGA™

SEGA OF AMERICA, INC.
Consumer Products Division

SATURN CartDev
Rev. B
Hardware Installation
Guide

Doc. # CART-08-030195

READER CORRECTION/COMMENT SHEET

Keep us updated!

If you should come across any incorrect or outdated information while reading through the attached document, or come up with any questions or comments, please let us know so that we can make the required changes in subsequent revisions. Simply fill out all information below and return this form to the Developer Technical Support Manager at the address below.   Please make more copies of this form if more space is needed. Thank you.

General Information:

Your Name _____ **Phone** _____

Document number   CART-08-030195 _____ **Date** _____

Document name   SATURN CartDev Rev. B Hardware Installation Guide _____

Corrections:

Chpt.	pg. #	Correction

Questions/comments: _____

_____

_____

_____

Saturn CartDev Rev B Hardware Installation Guide

Configuration 1

1. Install SCSI board into computer.
2. Connect SCSI cable to SCSI connector on CartDev rear panel and SCSI connector on SCSI board.
3. Connect Saturn NMI cable to CartDev Saturn Control Interface connector (rear panel).
4. Connect CartDev interface cable to Saturn unit.
5. Plug in 5V power supply cable to CartDev.
6. Plug in Saturn AC power cable and CartDev power supply cable to outlets.
7. See page 4 for switch settings and power on sequence.
8. See page 5 for verifying proper CartDev installation and configuration.
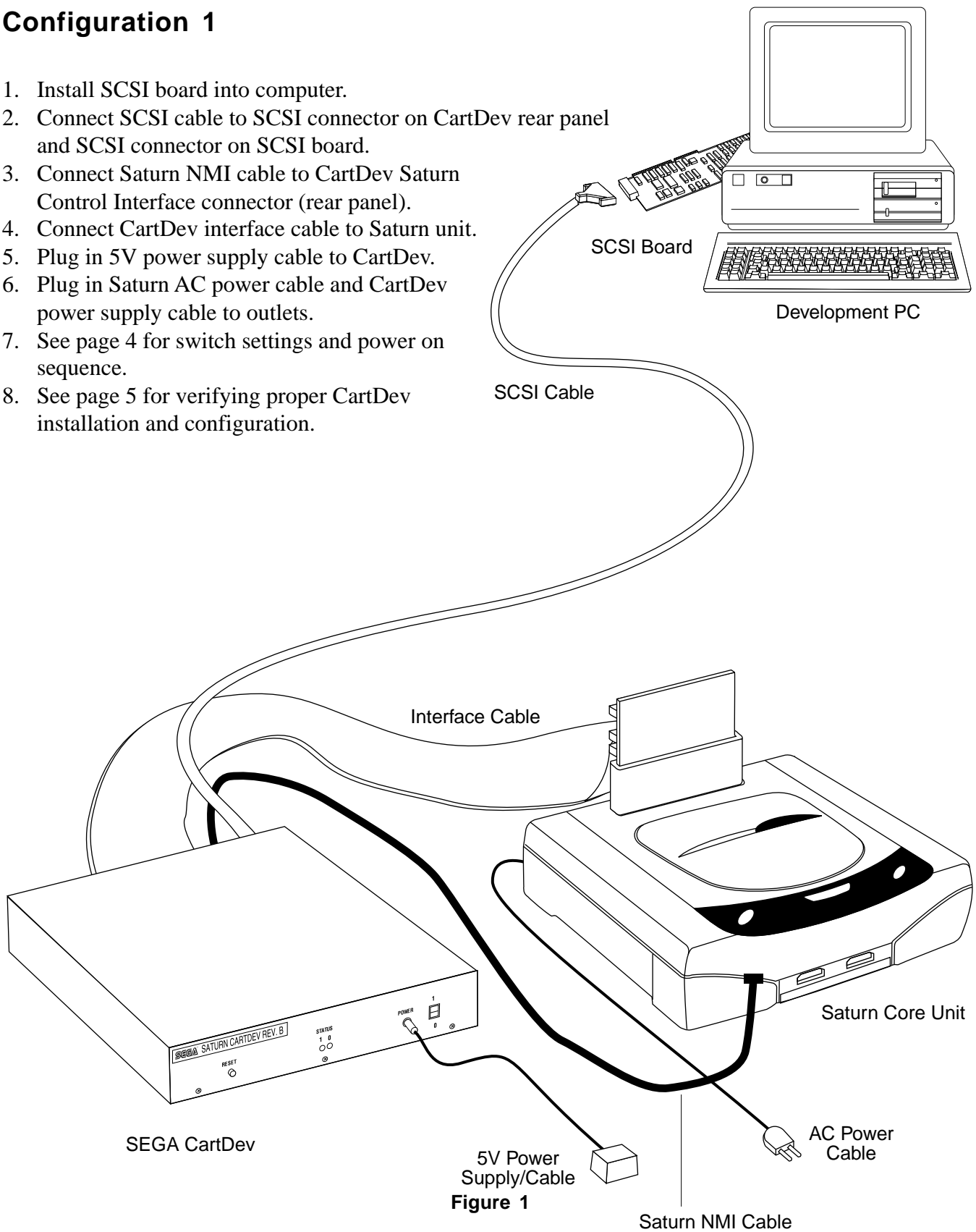
SCSI Board

Development PC

SCSI Cable

Interface Cable

Saturn Core Unit

SEGA CartDev

Figure 1

5V Power Supply/Cable

Saturn NMI Cable

AC Power Cable

1. A Programming Box NMI cable may not have been delivered with the CartDev system. It can be identified by a 7-pin connector and a grounding lug on the end of the cable that connects to the Programming Box. Call Sega Technical Support if you plan to use CartDev with a Programming Box and do not have a Programming Box NMI cable.
2. Install SCSI board into computer.
3. Connect SCSI cable to SCSI connector on CartDev rear panel and SCSI connector on SCSI board.
4. Connect Programming Box NMI cable to Saturn Programming Box (see page 3 for NMI cable connection instructions)
5. Connect Programming Box NMI cable to CartDev Saturn Control Interface connector (rear panel).
6. Connect CartDev interface cable to Saturn Programming Box.
7. Plug in 5V power supply cable to CartDev.
8. Plug in Saturn Programming Box AC power cable and CartDev power supply cable to outlets.
9. See page 4 for switch settings and power on sequence.
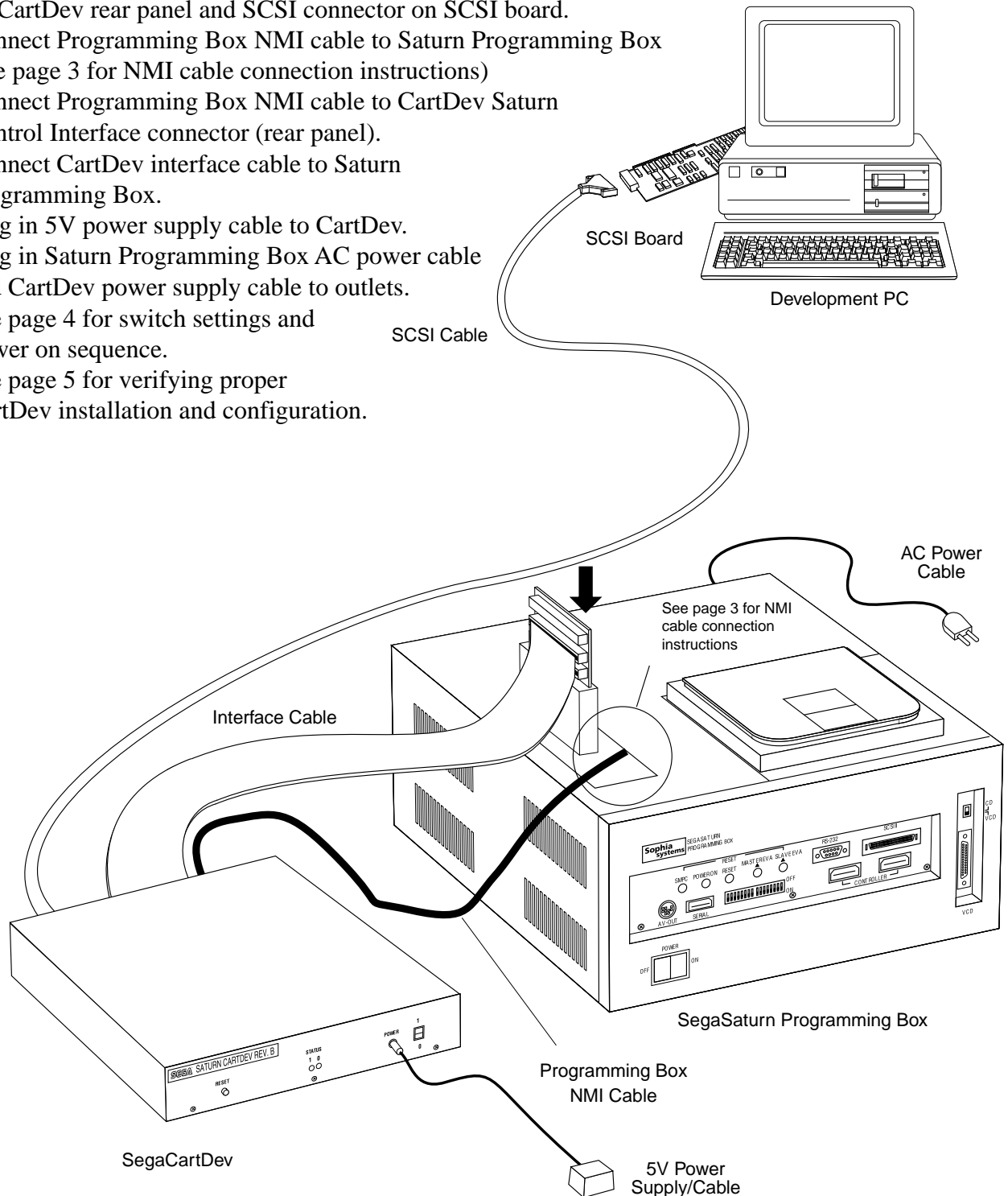10. See page 5 for verifying proper CartDev installation and configuration.

SCSI Board

Development PC

SCSI Cable

AC Power Cable

See page 3 for NMI cable connection instructions

Interface Cable

SegaSaturn Programming Box

SegaCartDev

Programming Box NMI Cable

5V Power Supply/Cable

Figure 2

Programming Box NMI Cable Connection Instructions

1. Remove the two screws from Programming Box rear panel.
2. Remove the two screws from Programming Box side panels and remove lid.
3. Plug Programming Box NMI cable into connector CN8 on the Programming Box motherboard.
4. Use the nut provided with the Programming Box NMI cable to attach grounding lug to the Programming Box CD mounting screw directly above connector CN8.
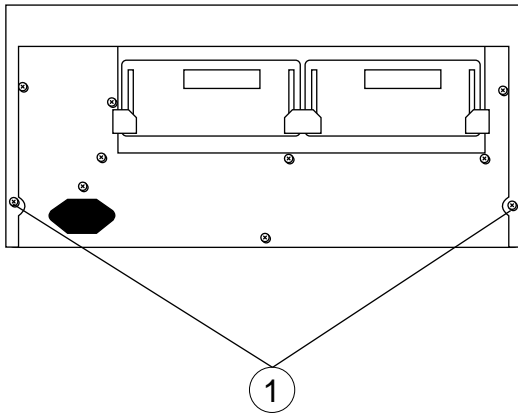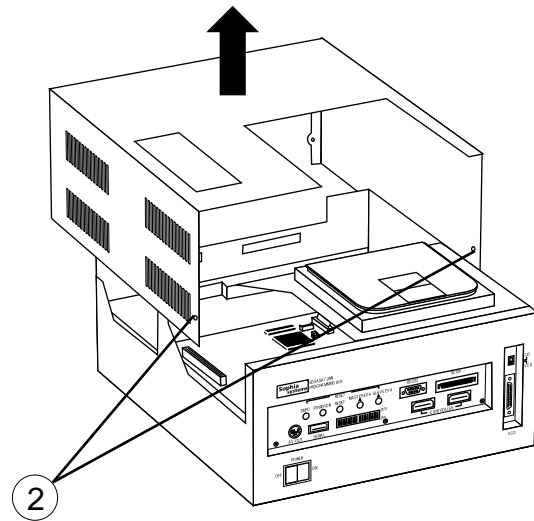
Figure 3

Figure 4

Connector CN8
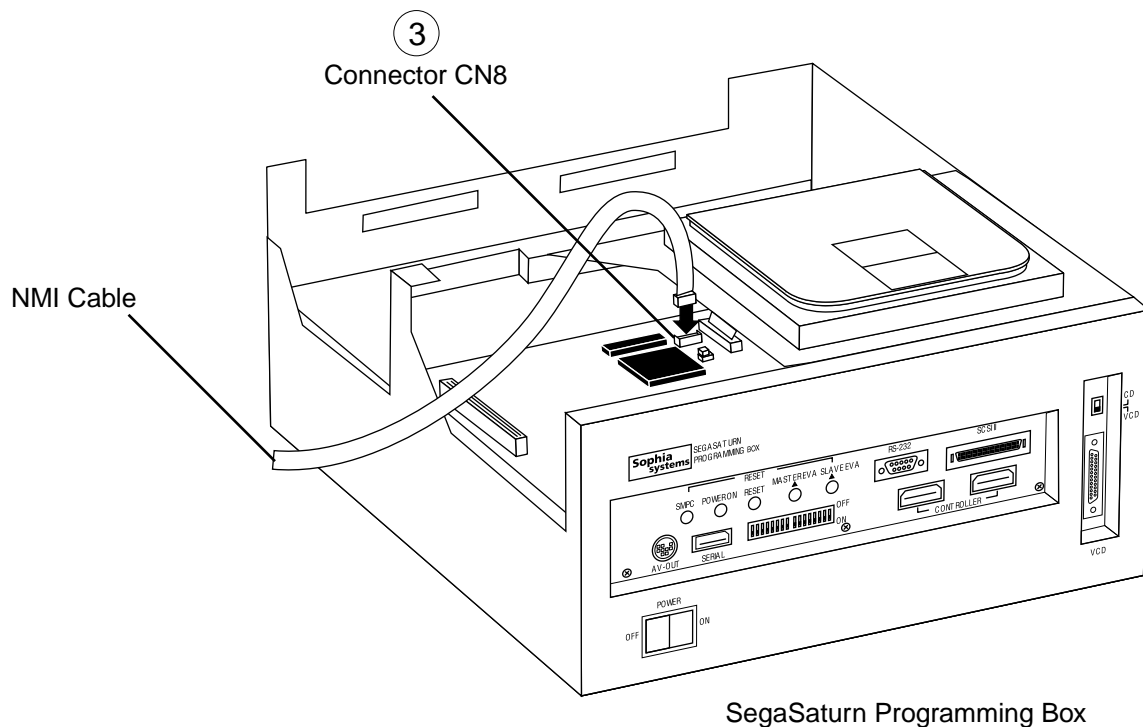
NMI Cable

SegaSaturn Programming Box
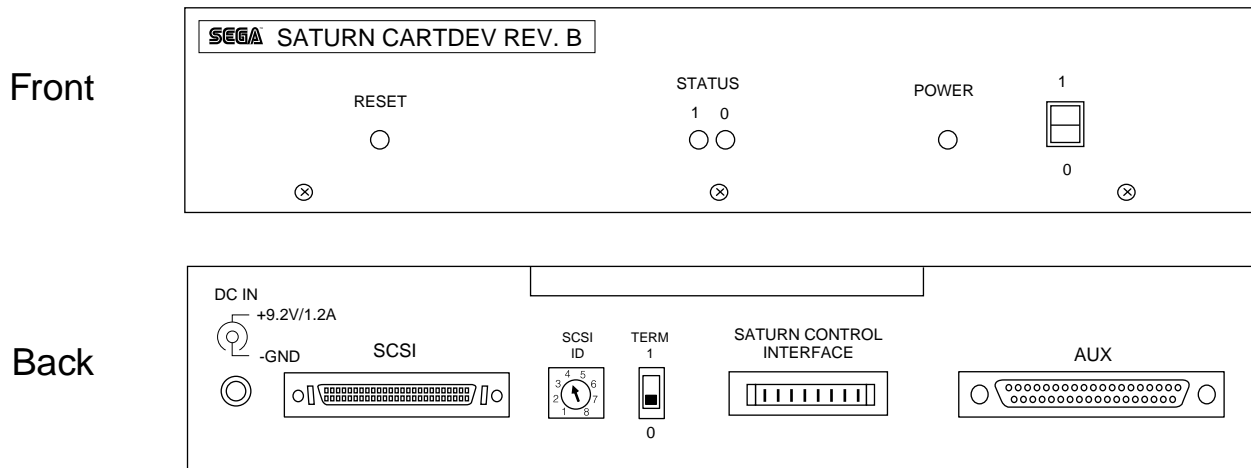
Figure 5

CartDev Saturn Panels

Figure 6

Switch Settings and Power On Sequence

1. Set the SCSI ID rotary switch to an open ID (as defined by the existing configuration of the development PC) between #2 and #6.
2. Set the TERM (SCSI termination) switch to 1 (on) if CartDev is at the end of the SCSI chain.
3. Turn the CartDev POWER switch on.
4. Both STATUS LEDs will be on for a brief period and then LED 0 will blink. LED 1 will be on during SCSI transactions.
5. Power the Saturn (or Programming Box).

> WARNING: *Powering the Saturn (or Programming Box) prior to powering CartDev may damage CartDev or Saturn (or Programming Box).*

6. Turn Saturn (or Programming Box) power off prior to turning CartDev power off.

CartDev Installation Verification

1. Install the CONFTEST disk shipped with the CartDev.
2. Change the PC directory to the drive containing the CONFTEST disk.
3. Type CONFTEST and then press ENTER. The Saturn CartDev Confidence Test software will load and run.
4. Press ENTER for help in using the Confidence Test software.
5. Type "1" from the menu to execute the Installation Tests. If an error occurs, then follow the displayed corrective action steps and re-run CONFTEST. If error(s) still persist, then run CONFTEST and type "2" to display the CartDev hardware and software version numbers. Call Sega Technical Support and request additional help.
6. If the Installation Tests passed, then type "3" from the menu to execute a Continuous Loopback test. Allow the test to run for five minutes to verify the reliability of the Host-to-CartDev interface. Press ESC to end the test. If an error occurs, then follow any displayed corrective action steps and re-run the test. Call Sega Technical Support and request additional help if an error persists.
7. If the Installation Tests and Continuous Loopback test both passed, then the CartDev Installation Verification is complete.
8. Menu item 4 provides a way to install new CartDev firmware if required. Do not use this feature unless instructed to do so by Sega.