Room Control Module (2000i-RCM)

Interface Command Structure

for the

Rear Projection

SMART Board™ 2000i-DVS

Interactive Whiteboard

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Trademark Notice

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Copyright Notice

U.S. Patent Nos. 5,448,263 and 6,141,000. Canadian Patent No. 2,058,219. Other U.S., Canadian and foreign patents pending.

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Contents

Room Control Interface Command Structure

This document defines the commands you can use to program the SMART Room Control Module (2000i-RCM). For information about installing the module, refer to the *Room Control Module Installation Guide for the Rear Projection SMART Board™ 2000i-DV/DVX/DVS Interactive Whiteboard*.

If you prefer, you can use a third-party room control system to change the projector settings for a *Rear Projection* SMART Board 2000i-DVS unit. However, when used on its own, a third-party room control system doesn't provide access to the many features that are available from the control panel on the 2000i-DVS. To provide an interface between the room control system and the 2000i-DVS, you need the SMART Room Control Module. You can then use the control panel or the room control system to change the power, source, display and volume settings for the 2000i-DVS.

Data Format

There are two data formats for room control interface commands: one without checksum bytes and the other with checksum bytes. You can use either data format, since the 2000i-RCM recognizes both.

Use the following symbols at the start and end bytes:

- With Checksum:

  START Byte = <
  END Byte = >

- Without Checksum:

  START Byte = [
  END Byte =]

Command List

Command	Parameter Definition	Description
PWR	? = Query 0 = OFF 1 = ON 2 = Powering Up* 3 = Cooling* 4 = Reversible Standby*	Power (command or status query)
SRC	? = Query 0 = Source 1 (PC1) 1 = Source 2 (PC2) 2 = Source 3 (VCR)	Source (command or status query)
VOL	? = Query 0 = Minimum (Mute) To 100 = Maximum 254 = Default Setting for 2000i-DVS	Volume (command or status query) in percentage
LHR	? = Query 0 = Minimum* To 10000 = Maximum*	Lamp Hours (status query only; you can't reset the lamp hours using the Room Control Module)
FWV	? = Query x.xx * (e.g. <FWV v1.00 6381 5A>)	2000i-RCM Firmware Version Number
DIA	0? = Hardware Model Number Query 1? = Firmware Version Number Query 2? = Checksum Query 3? = Module Status Query* (e.g. <DIA H8A CF>, <DIA v2.11 46>, <DIA 524D ED>, <DIA F0 84>)	Control Panel Diagnostic Query for 2000i-DVS

* Indicates there is a status reply only.

Examples of Commands

Example 1 – Query and Response

Volume query from a third-party room controller to the 2000i-RCM without using Checksum mode:

Without Checksum START Byte	CMD Byte 1	CMD Byte 2	CMD Byte 3	CMD Byte 4	Without Checksum END Byte
[	V	O	L	?	]

Reply indicating the current volume value of 76% sent from the Room Control Module to a third-party room controller. All responses are in Checksum mode:

With Checksum START Byte	CMD Byte 1	CMD Byte 2	CMD Byte 3	CMD Byte 4	CMD Byte 5	Checksum High Nibble	Checksum Low Nibble	With Checksum END Byte
<	V	O	L	7	6	5	E	>

Example 2 – Command

Checksum mode command from a third-party room controller to the 2000i-RCM to adjust volume value to 100%:

With Checksum START Byte	CMD Byte 1	CMD Byte 2	CMD Byte 3	CMD Byte 4	CMD Byte 5	CMD Byte 6	Checksum High Nibble	Checksum Low Nibble	With Checksum END Byte
<	V	O	L	1	0	0	8	2	>

Checksum Calculation

	Alphanumerical Data (ASCII)	Hex
CMD Byte 1	V	56
CMD Byte 2	O	4F
CMD Byte 3	L	4C
CMD Byte 4	1	31
CMD Byte 5	0	30
CMD Byte 6	0	30
Checksum Total		**182**

Checksum High Nibble = 8 **(ASCII)**
Checksum Low Nibble = 2 **(ASCII)**

RS-232 Protocol Parameter Definition and Connector Pin Assignment

Baud rate: 9600 bps
Data bits: 8 bits
Parity: None
Stop Bit: 1 bit

SMART Room Control Module DB9 Connector Pin Assignment

Pin Number	Signal	Description
1	--	--
2	RXD	Receive Data
3	TXD	Transmit Data
4	--	--
5	GND	Ground
6	--	--
7	RTS	Request to Send
8	CTS	Clear to Send
9	--	--

NOTE: Although pins 4 and 6 are not used for the Room Control Module, they are internally connected. Do not connect any conductors to these pins.

Customer Support

Contacting SMART Technical Support

SMART's Technical Support team welcomes your call. However, you may first want to contact your local reseller if you experience any difficulties with your SMART product, as they may be able to solve the problem without delay.

All SMART products include free telephone, fax and e-mail support.

Telephone: 1.866.518.6791 (toll-free in Canada/U.S.) or +1.403.228.5940 (all other countries)
(Available 7 a.m. - 6 p.m. Mountain time from Monday to Friday)

Fax: +1.403.806.1256

E-mail: support@smarttech.com

Web Site: www.smarttech.com/support

When you phone Technical Support, it will be helpful if you have access to your 2000i-DVS and the Room Control Module during the call.

The support representative may ask you for the following information:

- the serial number of your hardware
- the version of the software that's causing the problem and the version of your computer's operating system (if applicable)

General Inquiries

Main Switchboard: 1.888.42.SMART (toll-free in Canada/U.S.) or +1.403.245.0333 (in all other countries)

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