

Room Control Module Integration Guide

for the

Rear Projection

SMARTBoard™ 3000i

and

Rear Projection

SMARTBoard™ 2000i

Interactive Whiteboards

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 instruction manual, 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.

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

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Room Control Interface Command Structure

This document defines the commands used to program the Room Control Module provided by SMART Technologies Inc. For information about installing the module, refer to the *Room Control Module Installation Guide for the Rear Projection SMART Board 3000i Interactive Whiteboard* or *Room Control Module Installation Guide for the Rear Projection SMART Board 2000i Interactive Whiteboard*.

You can use a third-party room control system to change the projector settings in a *Rear Projection SMART Board™ 3000i* or a *Rear Projection SMART Board™ 2000i* unit. However, when used on its own, a third-party room control system doesn't provide access to the many features available from the control panel on the 2000i/3000i. To provide an interface between the room control system and the 2000i/3000i, you need the 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/3000i.

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/3000i Room Control Module 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 (PC1) 2 = Source 3 (VCR)	Source (command or status query)
GAM	254 = 2000i/3000i Default Setting	Gamma (command for default setting only)
VOL	? = Query 0 = Minimum (Mute) To 100 = Maximum 254 = 2000i/3000i Default Setting	Volume (command or status query) in percentage

Command	Parameter Definition	Description
BRG	? = Query 0 = Minimum To 100 = Maximum 254 = 2000i/3000i Default Setting	Brightness (command or status query) in percentage
CON	? = Query 0 = Minimum To 100 = Maximum 254 = 2000i/3000i Default Setting	Contrast (command or status query) in percentage
LHR	? = Query 0 = Minimum* To 10000 = Maximum*	Lamp Hours (status query only; lamp hours can't be reset)
FWV	? = Query x.xx * (e.g. <FWV v1.00 6381 5A>)	2000i/3000i Room Control Module 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>)	2000i/3000i Control Panel Diagnostic Query

* Indicates there is a status reply only.

Examples of Commands

Example 1

Brightness query from a third-party room controller to the 2000i/3000i Room Control Module without using Checksum mode:

Without Checksum START Byte	CMD Byte 1	CMD Byte 2	CMD Byte 3	CMD Byte 4	Without Checksum END Byte
[B	R	G	?]

Reply indicating the current Brightness value of 76% sent from the 2000i/3000i 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
<	B	R	G	7	6	4	8	>

Example 2

Checksum mode command to adjust the brightness value to 100% from a third-party room controller to the 2000i/3000i Room Control Module:

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
<	B	R	G	1	0	0	6	C	>

Checksum Calculation

	Alphanumerical Data (ASCII)	Hex
CMD Byte 1	B	42
CMD Byte 2	R	52
CMD Byte 3	G	47
CMD Byte 4	1	31
CMD Byte 5	0	30
CMD Byte 6	0	30
Checksum Total		16C

Checksum High Nibble = 6 (ASCII)

Checksum Low Nibble = C (ASCII)

RS-232 Protocol Parameter Definition and Connector Pin Assignment

Baud rate: 9600 bps

Data bits: 8 bits

Parity: None

Stop Bit: 1 bit

2000i/3000i 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 2000i/3000i Room Control Module, they are internally connected. Do not connect any conductors to these pins.

Customer Support

SMART's Technical Support team welcomes your call. However, you may want to contact your local reseller first if you experience problems with any SMART product. SMART's resellers can readily provide you with quick advice so you can enjoy the benefits of the Room Control Module for the *Rear Projection* SMART Board 2000i/3000i interactive whiteboard without delay.

Contacting SMART Technical Support

All SMART software includes free telephone, fax and e-mail support. There are a number of ways to contact SMART Technical Support:

Telephone: toll-free at 1.866.518.6791 or outside North America at +1.403.228.5940
(Available 7 a.m. – 6 p.m. Mountain Time from Monday to Friday)

Fax: +1.403.245.0366

E-mail: support@smarttech.com

Web site: www.smarttech.com

Please note when you purchased the Room Control Module, the reseller's name and the serial number of both the Room Control Module and the 2000i/3000i so we may better assist you. The serial number label for the Room Control Module is located above the Control port on the rear of the cabinet. Two serial number labels are provided for the 2000i/3000i: one on the patch panel at the rear of the cabinet and another inside the right-hand door on the front.

General Inquiries

Main switchboard: toll-free at 1.888.42.SMART or outside North America at +1.403.245.0333

Fax: +1.403.806.1256

E-mail: info@smarttech.com

Our address: SMART Technologies Inc.
Suite 300, 1207 – 11th Avenue SW
Calgary, AB CANADA T3C 0M5

Product Warranty

The Room Control Module is covered by a one-year parts and labor warranty. Customers must return any defective merchandise to an authorized service center as directed by the distributor, dealer or manufacturer.

Warranty Shipping Charges

Shipping charges incurred from warranty service are paid as follows: The customer is responsible for shipping the system to the service center. SMART pays return shipping via ground service on any product returned for service within the warranty period. Any charges associated with a customer-requested rush order are billed to the customer. Following the warranty period, the customer is responsible for shipping the product to and from the service center. Read the warranty shipped with your Room Control Module for details.