

SmartMotion™ Remote Control Reference Kit and Bluetooth for Motion-Enabled User Interface Navigation

GENERAL DESCRIPTION

InvenSense's Remote Control Reference Kit allows you to explore and evaluate our patented SmartMotion™ processing technologies using an innovative remote-control design based on Texas Instruments' RF4CE platforms. The SmartMotion Remote Control Reference Kit and Bluetooth, like the TI RF4CE and Bluetooth platforms, comes instrumented with a 3-axis accelerometer, a 3-axis gyroscope (magnetometer), and InvenSense's SmartMotion firmware embedded on the remote's microprocessor.

InvenSense's patented SmartMotion technologies power advanced embedded applications such as remote controls that feature in-air point-and-click navigation and gesture recognition. Motion-enabled remotes deliver substantial benefits to customers in the Pay TV market including a dramatically enhanced user experience, more natural, intuitive user interface navigation, increased consumption of premium paid services, more immersive gaming, and more.

InvenSense's SmartMotion firmware is a key component of the MoveaTV™ platform, providing Pay TV ecosystem partners with a single unified platform on which to create a complete motion-enabled entertainment experience for consumers.

BENEFITS

- Increase ARPU with Compelling Motion-Driven Games and New Revenue Generating Services
- Create Easy-to-Use Next-Generation Motion-Driven User Interfaces with User Friendly Point-and-Click and Gesture-Based Navigation
- Vastly Improve User Experience with Motion-Enabled Widgets and Apps
- Attract New Consumers and Improve Retaining Current Subscribers With Improved Offerings
- Advanced Custom Gesture Recognition for User Authentication

APPLICATIONS

- TV Set-Top Box Remote Controls
- PC and Mobile Devices Controls
- Pointing Devices
- Game Controllers

FEATURES

- Natural, Motion-Enabled Point-and-Click Navigation
- High Accuracy, Low Latency Cursor Movement
- Tremor Cancellation
- Real Time Gyroscope Drift Correction
- Power Management
- Acceleration, Magnetic Field and Angular Velocity
- Easy Click for Optimized In-Air Usage
- 3A3G3M Configurations Available

PROCESSING MODES

- Embedded: In-Air Pointing and Basic Gesture Recognition
- Hosted: In-Air Pointing, Advanced Gesture Recognition, Dynamic Rotations, 3D Orientation, User Intent Anticipation

HOST INTERFACE

- RF4CE and Bluetooth Communication Protocol
- Universal USB Dongle Receiver

REMOTE FEATURES

- Configurable Buttons
- 5-Key, 10-Key Digit Pad, Input and Volume Controls Support
- Mouse Button and Keyboard Events
- Low Battery Indication
- Over-The-Air Upgradable Firmware
- 8-Bit Microcontroller

ADDITIONAL FEATURES

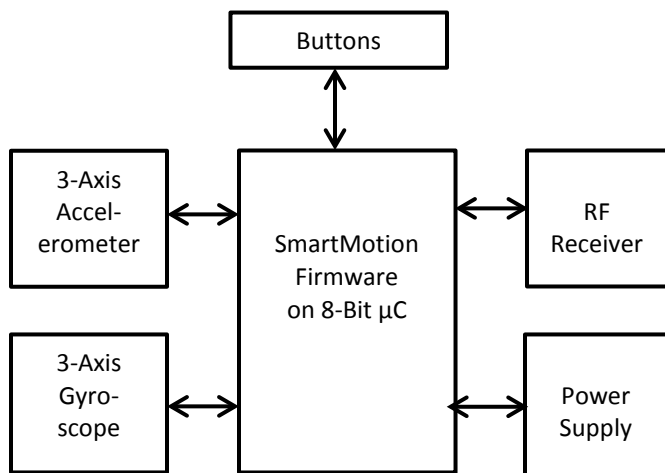
- All Standard Microcontrollers Supported
- Embedded and Hosted Solutions Available
- Optimized for InvenSense Sensors
- Wireless Protocol Agnostic
- Other Sensor Configurations Available: 6- and 9-Axis Solutions

MoveaTV™ and SmartMotion™ are registered trademarks of InvenSense, Inc.

GENERAL SPECIFICATIONS		
Dimensions	7" x 2" x 1"	17.5 x 5 x 2.5 cm
Weight (w/Batteries)	3.7 oz.	105 g
Operating Temperature Range	0°C 50°C	32°F 122°F
Storage Temperature Range	-30°C 70°F	22°C 158°F
Frequency (Motion to HID Report)	100 Hz	
Supply Voltage	1.6 V to 5.5 V	
Supply Current @ 3.0V (Active)	20 mA	
Supply Current @ 3.0V (Sleep)	<1 mA	
Processor	8 Bit μ C	
Battery Life	9 Months to 1 Year (Depending on Usage)	

PERFORMANCE SPECIFICATIONS	
OVERALL	
Update Rate	100 Hz
Bandwidth (-3 dB Point)	40 Hz
POINTER	
Sensitivity	30 Mickeys/Deg
Roll Compensation	Full Dynamic (6-Axis)
Pointer Ballistic	Integrated Dynamic Gain
Drift	Real time Corrected
Tremor Cancellation	>90%
LINEAR ACCELERATION	
Range	+/- 8G
Bias (Zero-G Offset)	< 50 mg
Sensitivity Accuracy	1%
Non Linearity (% Full Scale)	3%
Resolution	< 5 mg
ANGULAR VELOCITY	
Range	+/- 2000 °/sec
Bias	< 0.5 °/sec
Sensitivity Accuracy	3%
Non Linearity	1%
Resolution	0.1 °/sec

MODULE BLOCK DIAGRAMS



PACKAGE CONTENTS

InvenSense's Remote Control Reference Kit Includes:

- 6- and 9-Axis Remote Control
- 3 AAA Batteries
- SmartMotion Server Evaluation Kit