Product Specification Vista Remote control & Receiver – 2.4 GHz



Product Name: RF Vista Remote Product No.: RCGV0010AG-2403/RCGV0010BG-2403 Model No.: TSGV-2403/TSBX-2404 Reversion: Ver.01 Date: 02/05/2007

Topseed - RF Vista Remote (2.4GHz)



Revision History:

| Revision | Release Date | Remarks | Edited by | Approved by |
|----------|--------------|---------|-----------|-------------|
| Ver 01 | 05/02/2007 | Launch | Eddie | Amen |
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| Α | Approved by | | | |
|----------|-------------|-------------------|--|--|
| Topseed: | Eddie Feng | Topseed: Amen Chi | | |
| Date: | 2007/02/05 | Date: 2007/02/05 | | |
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- 1. About RF VISTA Remote
 - 1.1. Preliminary Product Specification:
 - 1.2.1. Scope:

This Spec. provides an overview of the required Vista remote control and receiver functionality for Windows® Media Center in the Windows Vista[™] Home Premium and Windows Vista Ultimate operating systems. The "Vista" product includes

- an RF Remote Control (2.4 GHz)
- an USB Receive dangle
- a manual and 2 AAA battery.
- 1.2.2. General:
 - 1.2.2.1. Batteries: 2 AAA batteries are designed to be used in RF VISTA remote to support at least 6 months normal usage.
 - 1.2.2.2. Restricted Substances and Environmental Requirements : all the materials and manufacturing process used to produce RF VISTA remote must comply to RoHS requirements
 - 1.2.2.3. RoHS (we can put some RoHS requirements here and state that all the materials used in the product specification complies to RoHS requirements)
- 1.2.3. Ergonomics Requirements:

This product was designed to be ergonomics for all users.

- 1.2.3.1. The ergonomic remote design is to fit into users' palms to reduce the discomfort caused by long time usage.
- 1.2.3.2. The symmetrical design is to be fit for both left-handed and right-handed users to reduce the discomfort or strain caused to users.
- 1.2.3.3. Every key designed on the remote is to be designed easy to reach for users for easy usability and reduce strain.
- 1.2.4. Product Functional Requirements:
 - 1.2.4.1. Operation System: Vista needs to be functional when working under Windows® Media Center in the Windows Vista[™] Home Premium and Windows Vista Ultimate operating systems.
 - 1.2.4.2. Interface: Receiver needs to be working under USB 1.1 and 2.0 Interface.
 - 1.2.4.3. PC Host Hardware Compatibility: Vista need to be compatible with the PC host which runs Windows® Media Center in the Windows Vista[™] Home Premium and Windows Vista Ultimate operating systems.

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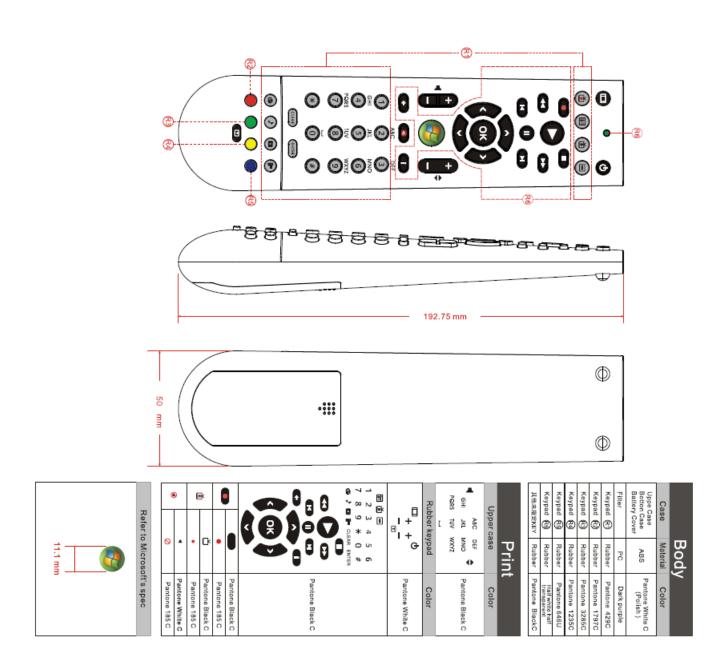
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- 1.2.4.4. Range Requirements: the transmission of the remote control shall be at least 10 meters with optical filter in place.
- 1.2.4.5. RF Protocol: Using Topseed Standard RF protocol with HID Driver.
- 1.2.4.6. Teletext: Teletext buttons are required in locales that support Teletext functionality. These buttons are used for Integrated Services Digital Broadcasting (ISDB) data functions in addition to Teletext. Teletext buttons appear below the numeric keypad on the remote control.
- 1.2.4.7. Frequency Range : 2.4 to 2.483 GHz (16 multi channels and 65535 ID channels for Remote Pointer)
- 1.2.4.8. Battery Life : 2 AAA batteries to provide at least 6 months normal usage
- 1.2.5. Detailed Product Specification RF Remote Control
 - 1.2.5.1. 2.4GHz RF VISTA Remote Control

| Item | Standard Specification | | Option |
|-----------------|--------------------------|------------------------|--------|
| RF | Frequency Range | 2.4GHz-2.483 GHz | |
| Characteristics | Modulation | GFSK | |
| (TX) | Channel Spacing | 1 MHz | |
| | Channel No. | 16 | |
| | Channel I.D | 65535 | |
| | TX Power | 1 mW | |
| | Transmission rate | 1M bps | |
| | TX frequency deviation | +/- 156 KHz | |
| | Frequency tolerance | +/- 20ppm | |
| | Distance of Transmission | 10 m min. | |
| | Antenna type | PCB Track | |
| Input power | AAA*2 DC 3V batteries. | | |
| Power | working mode | 7mA | |
| Consumption | saving mode | 200uA | |
| Power | Battery | AAA*2 DC 3V batteries | |
| | Batter Life | 6 months | |
| Electrical | Supply Voltage | DC 2.2V ~ 3.4V | |
| Performance | Button | 50/45 | |
| Mechanical | Dimension | 192.81 x 49.87 x 27.96 | |
| Performance | Key Operating Force | 140 ± 20 gf | |
| | Operating Stroke | 0.9 ± 0.1 mm | |
| | Keytop Material | Silicon Rubber | |

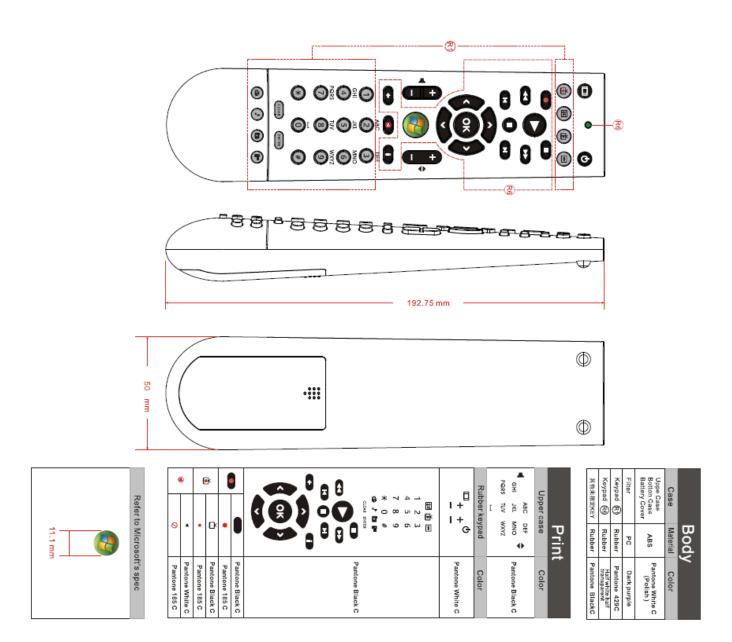
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Physical Description and Specification – Text type -Teletext (RCGV0010AG-2403)



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Physical Description and Specification – Text type (USA) (RCGV00010BG-2403)



1.2.5.3. Remote Control Buttons

| item | Function | Icon |
|-------|--------------------|----------|
| 1 | Power (Standby) | ٥ |
| 2 | Zoom | Đ |
| 3 | My Radio | 6 |
| 4 | My Music | 0 |
| 5 | My Pictures | 0 |
| 6 | My Videos | ® |
| 7 | Live TV | ø |
| 8 | DVD Menu | 0 |
| 9 | Recorded TV | ۵ |
| 10 | Guide | |
| 11 | Media Center Start | (|
| 12/13 | Volume Up/Down | |



1.2.5.2. Remote Control Buttons (cont.)

| item | Function | Icon |
|-------|-----------------|------------|
| 14/15 | Channel up/down | Î + |
| 16 | Browser Back | 0 |
| 17 | More | 0 |
| 18 | Volume Mute | |
| 19 | OK | OK |
| 20 | Up | |
| 21 | Down | |
| 22 | Left | < |
| 23 | Right | > |
| 24 | Media Reocrd | |

1.2.5.3. Remote Control Buttons (cont.)

| item | Function | Icon |
|----------------------------|-----------------|------|
| 25 | Media Pause | 0 |
| 26 | Media Play | 0 |
| 27 | RWD | ß |
| 28 | FWD | Ð |
| 29 | Replay | C |
| 30 | Media Stop | 0 |
| 31 | Skip | P |
| Teletext Button (5 Keys) | | |
| 32 | TELETEXT On/Off | e |
| 33 | Red | ۲ |
| 34 | Green | • |
| 35 | Yellow | 0 |
| 36 | Blue | |
| | | |

1.2.5.3 Remote Control Buttons (cont.)

| item | Function | Icon |
|------|----------|--------------|
| 37 | 0 | Ŏ |
| 38 | 1 | 1 |
| 39 | 2 | ABC 2 |
| 40 | 3 | 3 |
| 41 | 4 | GHI |
| 42 | 5 | JKL 5 |
| 43 | 6 | MNO 6 |
| 44 | 7 | PGRS |
| 45 | 8 | 8 |
| 46 | 9 | wxyz 9 |
| 47 | * | \bigotimes |
| 48 | # | (#) |
| 49 | ESCAPE | (III) |
| 50 | RETURN | (INTER) |

1.2.6. Detailed Product Specification – RF USB Receiver

1.2.6.1. 2.4GHz USB receiver Receiver

| Item | Standard Specification | | Option |
|-------------------------------|------------------------|--------------------|--------|
| | Frequency Range | 2.4GHz-2.483 GHz | |
| | Modulation | GFSK | |
| | Channel Spacing | 1 MHz | |
| RF Characteristics (Rx) | Channel No. | 16 | |
| | Channel I.D | 256 | |
| | Data rate | 1M bps | |
| | Rx Sensitivity | -85 dBm | |
| | Distance | 10 m | |
| | Antenna type | PCB Track | |
| Input power | USB Power | 5 V | |
| Power Consumption | working mode | 30mA | |
| | saving mode | 60uA | |
| Mechanical | Dimension | 70 x 18.7 x 8.4 mm | |
| Performance | | | |

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1.2.6.2. Physical Description and Specification for Receiver Actual Size: 70 x 18.7 x 8.4 mm



Appendix: Warning Statement

FCC Guidelines

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Declaration of Conformity for R&TTE directive 1999/5/EC

Essential requirements – Article 3

Protection requirements for health and safety - Article 3.1a

Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b Testing for electromagnetic compatibility according to EN 301 489-1, EN 301 489-3 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2 Testing for radio test suites according to EN 300 440-2 has been conducted. These are considered relevant and sufficient.

Hereby, [Dong Guan Jess-Link Electronics Co., Ltd.], declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

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