VS1000 Button-Cell Player

ver. 1.5 / December 2009
Overview

- Ogg Vorbis format for best quality and low bitrates
- 4MByte SPI FLASH for boot code and audio content
- Single CR2032 battery
- Continuous playing time 4 hours
- Total playing time over 6 hours
- Low-power pause with automatic power off
Applications

• Entrance ticket bundled audio guide (museums, sightseeing tours)
• Solar cell operated audio guide
• Intelligent clothing
• Promotional tool (new product audio presentation)
• Novelty item
• Intelligent toy
- Very simple
- BOM less than 3 USD in mass production
Features

Voice Player

- Up to 55 minutes of mono voice in 4-megabyte SPI FLASH
- Content can be preprogrammed or can be loaded via USB
- 6 MHz internal clock for very low power consumption
- 6 to 22 kHz sample rates, 10 to 41 kbit/sec bitrates

Extended Player

- 6 MHz or 12 MHz internal clock, requires slightly more power
- Higher clock allows one or more extra features:
  - Stereo (24kHz stereo, 96kbit/s, -q 5)
  - Higher sample rates (44kHz mono, 70kbit/s, -q 3)
  - EarSpeaker processing (3D sound)
Features (cont.)

**Power Consumption**

- Depends on headphones, volume, and audio material
- Tested with 30-Ohm headphones and a talk radio program with default volume level
- Active mode (voice player): 6.0-7.0 mA
- Low-power pause mode: 0.425 mA
- Power-off mode: 0.0 µA
- Pause between tracks increases the total playing time
- Active mode (extended player): 9 mA
Battery Life

Battery Voltage

Sony CR2032-VE1H (220 mAh)
First Playing Session

Unbranded CR2032
First Playing Session

Unbranded CR2032
Second Playing Session, after 2H break

Sony CR2032-VE1H (220 mAh)
2nd. Playing Session, after 2H break

0 1 2 3 4 5 Hours

2.5 V 3.0 V
User Interface

Voice Player

- POWER – power on, pause/play, power off (long press)
- PREV – start of track or previous track, rewind (long press)
- NEXT – next track, fast forward (long press)
- VOL+ VOL- – volume up and down
- FEATURE – not used in voice player

Extended Player

- POWER, PREV, NEXT, VOL+, VOL- like in voice player
- FEATURE – EarSpeaker mode, random play (long press)
Operation

**Player operation:**
- Turn sw7 to BAT position
- Attach headphones
- Press POWER button (sw6) to start player
- Press POWER for a couple of seconds to turn off player

**USB operation:**
- Turn sw7 to USB position (disconnects battery)
- Attach USB cable
- Press POWER button (sw6) to start player
- Copy files
- Detach USB cable
Do you want to customize?

Our support will help you

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