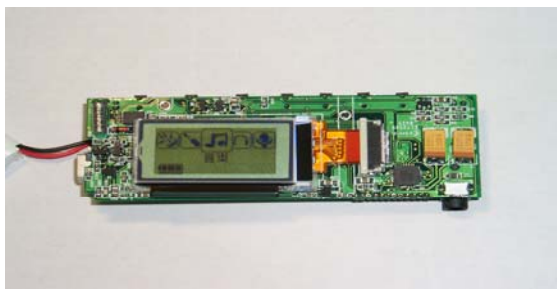# DIGIWELL

Sparrow

The Most Slim Size of MP3 Player/Learner Solution

The Sparrow is a USB Flash Disk module which's enable to perform multimedia features like MP3 Player、Voice Recorder and Language Learning both on USB1.1 and USB2.0 version.

Besides supporting the one cell battery, there's battery charge circuit inside the module which can support Li / Polymer battery charge from PC power through USB interface.

Digiwell is an expertise on digital audio algorithm which can enhance the MP3 and ADPCM decoder quality at the international level. Except providing the key chipset, we can also design the customized features or keypad definitions on demand.

KEY FEATURES

Multimedia & Storage
- Pen size of USB Flash Disk (USB1.1 & USB2.0 supported)
- No driver required for Windows XP, 2000, ME or higher. (Driver in needed for Window 98, 98SE)
- Flash RAM size support: 32M~256MBytes
- MP3 Player/ Voice Recorder/ Language learning (Tempo Shifting) / FM Radio

Battery & Power Consumption
- Provide Li / Polymer battery & 1 cell battery solution
- Li Polymer batter charge support (from PC/NB USB port)
- Support Battery Indicator
- Power Consumption: 38~50 mA

Equalizer & others
- Normal, Rock, Classic, Club, Hall, Pop, Bass, Treble
- AB Repeat, Repeat one, Repeat all

Bit-rate support
MP3 decoder
> MPEG-I layer 3: 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 Kbps
> MPEG-II & MPEG-2.5 layer 3: 8, 16, 24, 32, 40, 48, 56, 64, 80, 96, 112, 128, 144, 160 Kbps
ADPCM decoder
> 32 Kbps

Sample-rate support
MP3 decoder
> MPEG-I layer 3: 44.1K, 48K, 32KHz
> MPEG-II layer 3: 22.05K, 24K, 16KHz
> MPEG-2.5 layer 3: 11.025K, 12K, 8KHz
ADPCM decoder
> 8 KHz

Customized design
- Serial interface of LCM integration, keypad definition
- Differential function design
- Optimized layout to fit Customer ID

Function list：

Model Name	Sparrow- I (USB1.1)	Sparrow-II (USB2.0)
USB Disk Drive	Yes	Yes
MP3 Decoder	Yes	Yes
Voice Recode / Playback	Yes	Yes
Tempo Shifting (playback as 2 times of slowdown)	Yes	Yes
A-B Repeat	Yes	Yes
Repeat All / One	Yes	Yes
Equalizer	8 modes	8 modes
Battery Indicator	Yes	Yes
Battery Support	AAA / Polymer / Li	AAA / Polymer / Li
FM Radio function	Yes	Yes
FM pre-set 6 radio station	Optional	Yes
FM Record	Optional	Yes
Flash memory Support	32MB~256MB	32~256MB
Power Consumption	50mA	38mA
Playback when it connects to PC	Yes	Yes
RTC (Schedule Playback)	Optional	Optional

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