

Flexcomm PND Product Brief



Product Overview

Flexcomm Limited as one of the worldwide leaders with many years of R&D experience in Communications and Consumer Electronics market is ready to deliver PND, a Portable Navigation Device (PND) which integrates versatile and resourceful functionality and performance in its compact box.

The highly scalable architecture of PND enables easy product and features upgrade for OEMs. For instance, with minimal design customization, the platform is capable of supporting bigger size LCD panel. This helps OEMs to minimize their investment in product roadmap development cycle. This contributes to the fact that the PND solution is lower in cost, faster TTM, higher ROI (return of investment), and less investment risk compared to other products or solutions in the same category.

PND utilizes the ZEVI01050 ARM926EJ-S Central Processing Unit that features a Jazelle technology enhanced 32-bit RISC CPU, flexible size instruction and data caches, tightly coupled memory (TCM) interfaces and memory management unit (MMU). The ARM926EJ-S processor implements the ARMv5TEJ instruction set and includes an enhanced 16 x 32-bit multiplier, capable of single cycle MAC operations. The ARMv5TEJ instruction set includes 16-bit fixed point DSP instructions to enhance performance of many signal processing algorithms and applications as well as supporting Thumb and Java bytecode execution. Meanwhile, the processing unit runs all major OSs and existing middleware; this translates into a lighter and more cost effective platform. The ARM926EJ-S supports all standard multimedia file formats such as MP3, WMA, MPEG4 (WMV), ASF and MPEG1 (MPG/MPEG/DAT) and AVI. As a plus point, any future new multimedia file format can be supported by software upgrading of PND.

This PND solution is not only a GPS navigator; users can also view photos, listen to music, listen to the radio, play games, as well as accessing its GPS functions. Built on the uNAV chipset, the GPS module is able to support high sensitivity level of very weak signal acquisition and tracking. It allows the receiver to track the satellites using up to 12-channel correlators and provides fast TTFF for cold start, warm and hot start. The location accuracy can be less than 15 meters.

Functionality searching and navigation can be achieved by touch screen or highly friendly 4-way joystick and intelligent buttons. The USB connectivity offers an exciting sharing experience of contents among the users. Content is stored in the SD card and is easy to update via SD card.

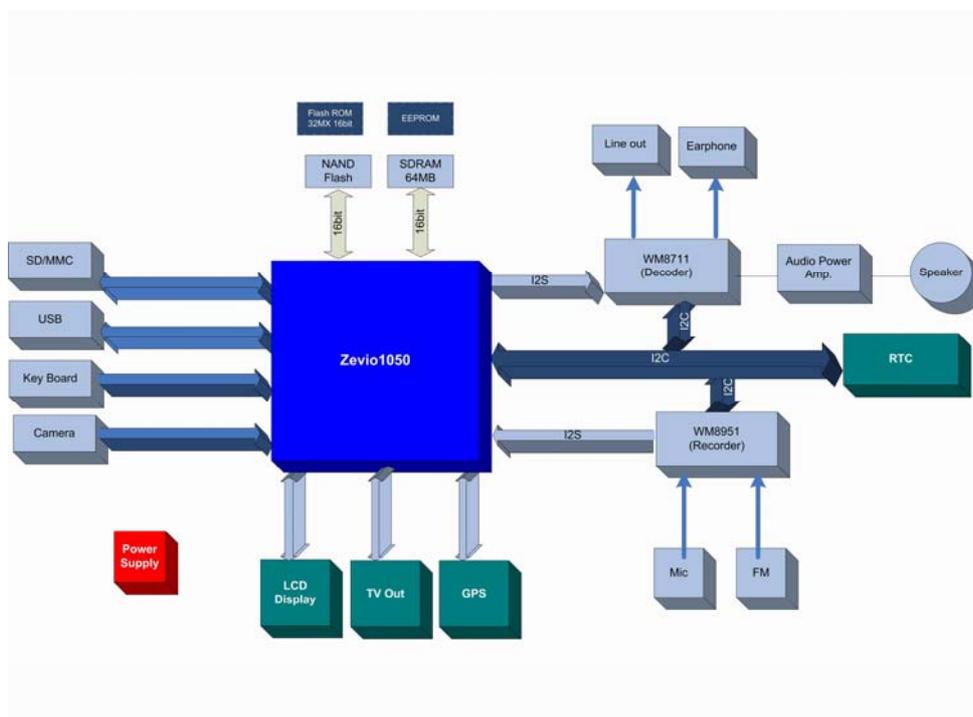
PND is packed full of value-added features that make it an excellent navigator. Its high sensitivity GPS receiver acquires satellites quickly and maintains signals even when users drive under heavy foliage or near skyscrapers.

Its size is only 121mm(L) x 75mm(W) x 28mm(T), weighing 220g. It conveniently moves from vehicle to vehicle with an easy, adjustable mount. Its compact size makes it convenient to take along on business trips and even use in rental cars.

Product Highlight

- ARM926EJ-S Central Processing Unit contains ARM Jazelle technology that accelerates Java execution by up to eight times compared to a fully software-based JVM
- ZEVIO1050 graphics and display capabilities include the following features:
 - Character font based 2D graphics with hardware scroll and blending of six layers
 - 3D graphics with integrated geometry and rendering engines that are capable of performing at 1.5M polygons
 - Integrated VDAC supports NTSC/PAL composite video
- Audio features: 2D/3D voices
- Multifunctional GPS navigator with Media player, Photo Viewer, TV Output, Radio, Camera, Game, Smart Clock, Notepad functions

Block Diagram



Hardware & Software Specification

CPU	ZEVIO1050 ARM926EJ-S Central Processing Unit
Memory	Nandflash can be upgraded to 1G
	SDRAM can be upgraded to 64MB
	Support extended SD memory card
Video	Display: 3.5" Color TFT LCD; LED Backlight
	Resolution: 320x240, 65K colors with touch panel
GPS	GPS module built-in with uNAV chipset(12 channels)
TV Output (CVBS)	Support NTSC/PAL output
Radio Receiver	FM Tuner(87.5~108MHz; Japan: 76~90MHz)
Input/Output	Touch Panel: Resistive type touch panel
	Input Method: Stylus
	Storage: 2 x SD slot, data mode support
	USB: OTG, low speed, high speed and full speed
	Microphone and earphone interface
	Speaker: Built-in type speaker x 1
	Headphone and AV Out: 3.5mm Mini jack x 1
	Bluetooth system/wireless card(optional)
Debugging Uart	
Buttons	5 programmable buttons that can be defined by user
	4-way joystick + enter(up, down, left, right, enter)
	Reset button, Power On/Off button, Sleep Mode button
Indicator	power/charging LED, green for using, red for charging
Battery	Rechargeable battery, 1250mA
AC-DC Adapter	Input: 100~240VAC
	Output: 5VDC, 2A
	Connection: AC adapter connect to main unit directly
Dimension	121mm(L) x 75mm(W) x 28mm(T)
Weight	220g
Accessories	A/V Cable x 1
	AC-DC power adapter x 1
	Earphone x 1
	Touch Pen x 1
	User Manual x 1, CD Driver x 1
	Wrist Belt x 1, Carrying Bag x 1
Operation System	Windows CE 5.0 Chinese/English Edition
Applications	UI: Customized Shell (English/Chinese)
	Media Player: MP3,WMA,MPEG4(WMV),ASF,MPEG1(MPG/MPEG/DAT),AVI
	Photo Viewer: JPG/GIF/BMP
	System Setup
	Radio
	Camera
	GPS Navigation

GPS Navigation



GPS Module	GPS module built-in with uNAV chipset
	Receiver Specifications
	(i) Frequency: L1 GPS (1575.42MHz)
	(ii) C/A Code: 1.023 MHz chip rate
	(iii) Channel: 12 Channels
	Location Accuracy
	< 15 meters
	GPS data format
	NMEA-0183
	Acquisition Time
	(i) Reacquisition: 0.1 sec (average)
	(ii) Hot Start: 4 sec (average)
	(iii) Warm Start: 32 sec (average)
	(iv) Cold Start: 37 sec (average)
	Highly sensitive GPS tracking capability
-155dBm, indoor (don't need outer-antenna)	
Highly sensitive GPS acquisition capability	
-144dBm	
Highly sensitive GPS antenna (inside)	
chinaware	