



VENUS REFERENCE
PLATFORM

APPLICATIONS

- Entry level digital radio
- Portable (kitchen) radio
- Clock radio

OVERVIEW

Venus is a fully-qualified WorldDMB Profile 1 reference design for price sensitive, entry level radio applications with DAB/DAB+/DMB-Radio and FM-RDS. Based on the Verona module, Venus provides a flexible architecture, enabling OEMs to use the design either as-is, modified, or as a starting point to speed development of custom products.

Venus provides a fast-track route for packaging the latest audio technology with the smallest possible bill-of-materials and shortest time-to-market. The design comes complete with 6 x AA battery operation or 9 V (mains powered).

CUSTOMER DELIVERABLES

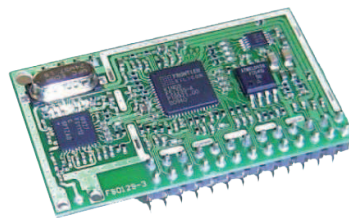
Venus is provided complete with a full engineering design pack including detailed specification, schematics, gerbers, bill-of-materials, software, EMC and ESD compliance reports. Support is available to customise the platform for individual requirements.

The platform is production-ready and needs only industrial design tooling to finish off a complete high-quality audio system.

PCB ARRANGEMENT

The fully-flexible reference design comprises of three main PCBs and one connector PCB.

- Mainboard PCB: power and audio, 140 x 130 mm
- Keyboard PCB with 14 keys, 1 rotary encoder, 128 x 115 mm
- LCD Connector PCB, 96 x 25 mm



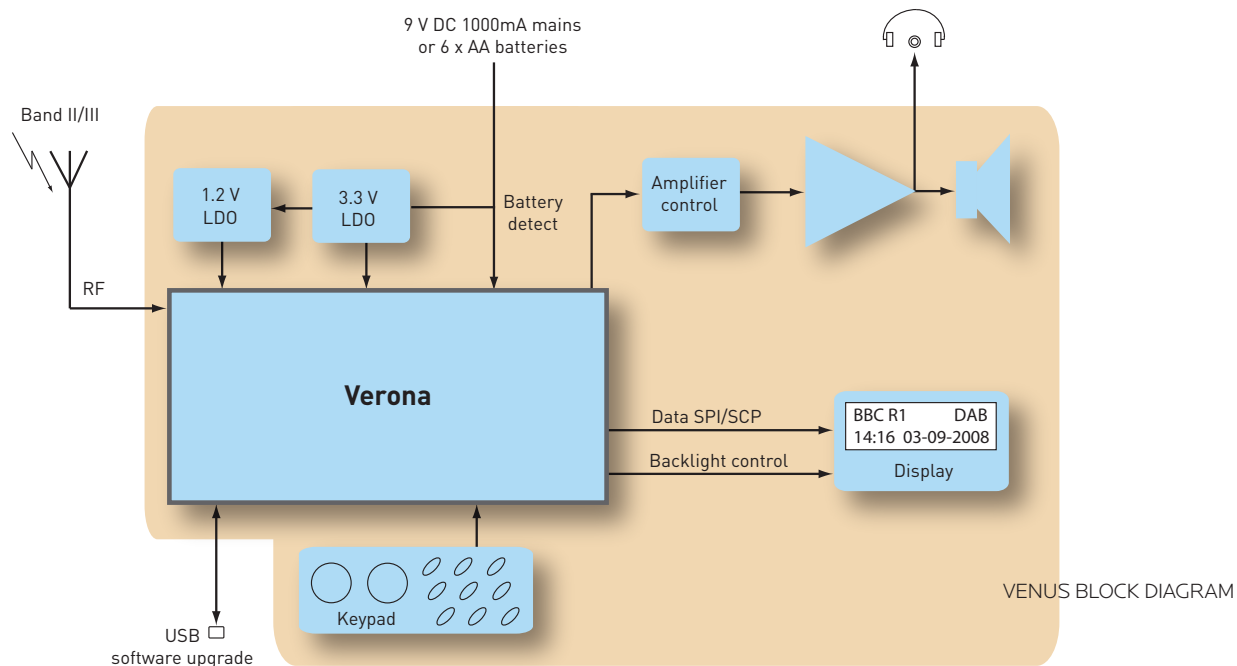
VERONA MODULE

FEATURES

- DAB/DAB+/DMB-Radio
- WorldDMB Profile 1 compliant
- FM with RDS
- Clock (with auto update)
- Multiple alarms with snooze and sleep
- Customisable number of presets
- Headphones output
- Mono audio output
 - 1 x 1W amplifier (into 4 Ω)
 - Digital volume control with optional mute function
- 2-line 16-character dot matrix display support
- Display backlight control
- Power supply
 - AC/DC adaptor jack; DC 9 V
 - 6 x AA battery cells (portable operation)
- Battery detection
- Customisable user interface keypad with 14 tact switches
- USB socket for firmware upgrades
- CE compliant

VENUS FS4052

Platform for low-cost DAB/DAB+/DMB-Radio/FM Profile 1 digital radio



DESCRIPTION

The main components of the Venus platform are shown in the diagram above. These are the RF front-end, Verona module, keypad, display, amplifier control and power supply.

SOFTWARE AND USER INTERFACE

Frontier Silicon has made considerable investment in creating the most versatile and intuitive and flexible available. Venus uses the DAB 4.X software which is customisable to OEM's individual requirements. Venus supports a standard 2 x 16 character display.

SPECIFICATION

DAB/DAB+/DMB-Radio	Sensitivity	-97 dBm (typical)
	Tuning range	174 - 240 MHz
FM	Sensitivity (@40 dB SNR)	-106 dBm (typical)
	Tuning range	89.5 to 108 MHz
THD	Mono	< 2%
Channel separation (FM)		> 35 dB
Audio power output (RMS)		1 x 1W

PRODUCT OPTION

CODE		TYPE	POWER OPTIONS
FS4052	A	Clock and kitchen	6 x AA and Mains powered

STANDARDS AND CERTIFICATION

Verona and Venus have been designed to exceed WorldDMB's Profile 1 specification for basic digital radio throughout Europe and beyond, and also operate seamlessly with the rest of the digital audio world. As well as working with the standards shown, suitable end-products based on this platform should be able to obtain certification for various other industry standards; for more information, contact Frontier Silicon.

