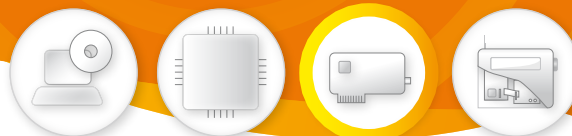


Venice 5.0 FS2025

Low-power, low-cost DAB/FM tuner module



Venice 5.0 module - 5.02 x 40 mm

Overview

Venice 5.0 is the most popular DAB receiver module on the market today. Using Frontier Silicon's state-of-the-art digital and RF ICs, it offers audio product manufacturers **unrivalled DAB performance**. **Venice 5.0 offers a battery life of over 170 hours** using six D cells, which is an incredible jump in performance when compared to the battery life of previously typical DAB modules - around 20 hours. The highly-integrated architecture also makes it the lowest-cost DAB/FM module available.

Venice 5.0 is based on the powerful Apollo/Kino 2 chipset, which offers tri-band DAB/FM reception with industry-leading performance, cost and size.

Venice 5.0 includes all the interfaces necessary so that manufacturers need only add a power supply, display, keypad, audio amplifiers and speakers to provide a fully functional DAB radio.

Build options

Product code	Description
FS2025.0-B	Band 3/Software FM with RDS
FS2025.0-D	Band 3/L Band/Software FM with RDS

Applications

- Kitchen radio
- Clock radio
- CD clock radio
- CD microsystem
- iPod/DAB docking system
- Home cinema systems

Features

ETSI EN 300 401 (EUREKA-147) compliant receiver

- Ultra low-power DAB and FM baseband reception
- DAB sensitivity to -98 dBm (typical)
- Decodes multiple audio services up to 25.06 kbps with no external RAM
- Temperature range:
 - operation: -10 to +70°C
 - storage: -40 to +85.0°C
- Memory options:
 - non-volatile Flash memory: 4, 8 or 16 Mb
- On-board stereo DAC
- Optional I²S bus
- Optional S/PDIF interface
- Serial control interfaces
- Combined antenna input for FM, Band 3 and L-Band
- RoHS compliant

Software

- Software is configured to customer requirements and is pre-installed in the module's Flash memory. Software builds are available for the module to be used as host, or as slave under control of a host microcontroller.
- Full suite of customisable application software includes:
 - Software FM with RDS
 - Clocks
 - Multiple alarms/timers
 - Presets
 - Support for rotary encoders
 - Support for 2-line display with icons

Venice 5.0 FS2025

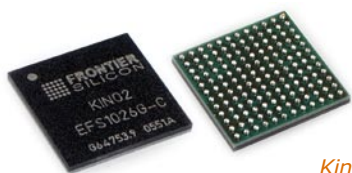
Low-power, low-cost DAB/FM tuner module

Description

The main components of the Venice 5.0 module are shown in the block diagram opposite. These are the Apollo tri-band RF front-end, Kino 2 baseband processor, serial boot Flash memory and audio DAC. Hardware interfaces include serial ports for connection to a controlling CPU. A stereo audio output is available in S/PDIF digital formats, as well as line level; alternatively a digital channel audio output is available via the I²S port.

Chipset highlights

The **Kino 2** FS1026 IC¹ is an advanced programmable DAB baseband receiver, incorporating a number of mixed signal system components as well as advanced peripherals previously only available as discrete additional components, providing significant space, cost and power savings.



*Kino 2 chip
10 x 10 mm*

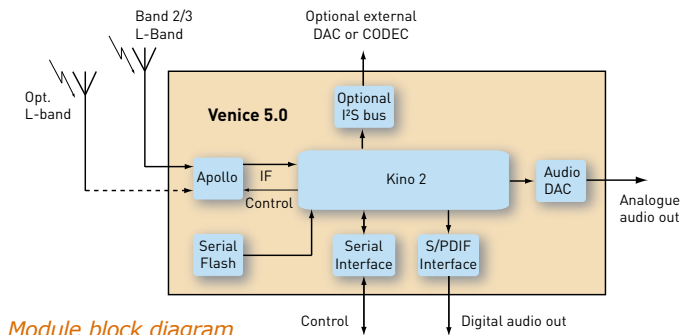
The **Apollo 1** FS1110 IC¹ is a state-of-the-art tri-band RF front-end receiver for broadcast digital radio applications. Using minimal external components, it provides high performance with low size and power consumption at minimal cost.



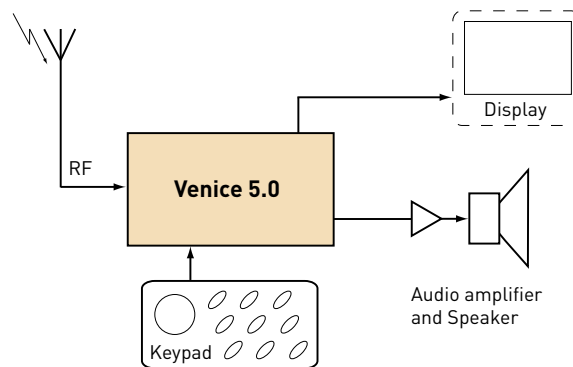
*Apollo 1 chip
5.0 x 5.0 mm*

Tools support

- Comprehensive toolkit support including compiler, assembler and debugger
- A range of evaluation and development systems
- Powerful PC GUI software for system evaluation.



Module block diagram



Venice 5.0 as host in a simple DAB radio

Specification

Supply voltages	3.3 V (baseband I/O and RF) 1.2 V (baseband core)
Typical power consumption	360 mW (DAB) 380 mW (software FM-RDS)
DAB sensitivity	-98 dB (typical)
DAB ACR	30 dB (min)
DAB FOS	42 dB (min)
FM sensitivity	-107 dB (typical)
FM stereo separation	28 dB (typical)

¹ Product briefs available from website