

# Jupiter 6.1 FS4026-1

Platform for Wi-Fi radio/DAB/DAB+/FM/iPod dock



## Applications

- Portable radio
- Clock radio
- iPod docking system
- Mini/midi audio system
- HiFi tuner/adaptor

## Overview

The Jupiter 6.1 platform is a fully-qualified reference design for Wi-Fi radio applications. Based on the Venice 6 module (available with various options), Jupiter 6.1 provides a highly flexible architecture, enabling OEMs to use the design as-is, modified, or as a basis for development of custom products.

The platform also includes a new and attractive graphical user interface/display which has been specifically developed to make using the many modes as easy as possible.

Jupiter 6.1 provides a fast-track route to latest audio technology with minimal bill-of-materials and shortest time-to-market.

## Customer deliverables

Jupiter 6.1 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

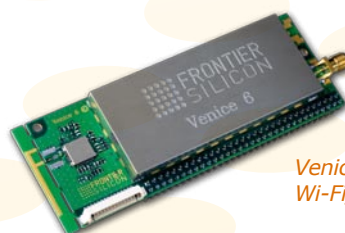
The reference design comprises two main PCBs and two daughterboards.

- Audio PCB: low-cost 2-layer board, ~ 145 x 120 mm
- User Interface PCB with 14-key keyboard, up to two rotary encoders and a full graphical display, 150 x 110 mm
- USB daughterboard (option, not shown), ~ 66 x 38 mm
- Ethernet daughterboard (option, not shown), ~ 70 x 50 mm

## Operating modes

Jupiter 6.1 supports a large and versatile set of operating modes:

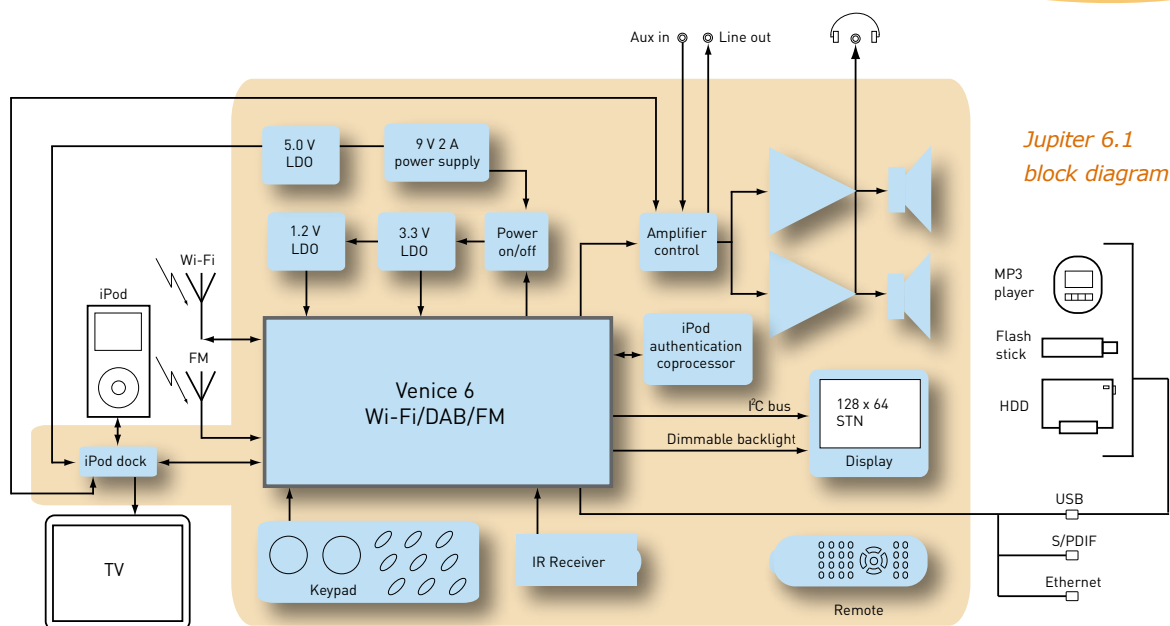
|                            |  |
|----------------------------|--|
| Internet radio             | Play audio streamed from the Internet through the Frontier Silicon/vTuner portal, giving access to over 20 000 stations and podcasts.  |
| Premium/on-demand services | Play premium music content from Sirius and on-demand jukebox subscription services such as Rhapsody and Napster.   |
| Music player               | Play audio library from a networked PC or media server over Wi-Fi/ethernet   |
| DAB radio                  | Reception of DAB/DAB+ audio and data stations (Band 3 with optional L-Band)  |
| FM radio                   | Reception of audio and RDS data from FM broadcast  |
| USB                        | Play audio files from USB storage device   |
| iPod                       | Play audio and video (s-video or composite outputs), control and charging. Includes authentication coprocessor, enabling video output from all models of iPod with video facilities. |
| Aux                        | Playback of external source e.g. DVD player/laptop   |



Venice 6  
Wi-Fi/DAB/DAB+/FM module

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## User interface display



## Features

|                      |   |
|----------------------|---|
| Additional functions | <ul style="list-style-type: none"> <li>• Multiple Alarms</li> <li>• Clock (auto update)</li> <li>• Sleep/snooze</li> <li>• Customisable number of presets</li> <li>• Internet software update</li> <li>• iPod authentication coprocessor</li> </ul> |
| Power supply         | 9 V 2A DC from adaptor or 6 x C/D cells<br>Current: 1.2A (typ),<br>1.8A (max, inc. iPod charging)   |
| Antennas             | <ul style="list-style-type: none"> <li>• Internal or external Wi-Fi antenna</li> <li>• Single external antenna for DAB/FM</li> <li>• internal AM antenna</li> </ul>   |
| User interface       | <ul style="list-style-type: none"> <li>• Up to 20 push-button switches with up to two rotary encoders</li> <li>• Infrared remote control</li> </ul>   |

|                     |  |
|---------------------|--|
| Display             | <ul style="list-style-type: none"> <li>• 128 x 64 STN full graphics display</li> <li>• Dimmable backlight (manual or auto)</li> </ul>  |
| Audio output        | <ul style="list-style-type: none"> <li>• 2 x 1 W amplifiers</li> <li>• Digital volume control with mute</li> <li>• S/PDIF out</li> <li>• Line out</li> <li>• Headphone jack</li> </ul> |
| Connectivity        | Ethernet, USB 2.0, Aux/line in   |
| Wi-Fi security      | TKIP, WEP, WPA, WPA2   |
| IP applications     | DHCP, DNS  |
| Streaming protocols | CIFS, HTTP, RDT, RTP   |
| Audio codecs        | AAC/AAC+, MP3, RealAudio, WMA  |

Frontier Silicon can also offer industrial designs for different product categories, developed in partnership with *therefore*, product design consultants.

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