



JUPITER 6.5 REFERENCE PLATFORM

OVERVIEW

Jupiter 6.5 is a cost and performance optimised reference design for audio streaming applications using WiFi and/or Ethernet. Optional functionality includes DAB/DAB+, FM-RDS reception and iPod/iPhone docking. This allows Jupiter 6.5 to act as a reference design for several applications.

Based on the Venice 6.5 module running IR 2.7 software, the Jupiter 6.5 reference platform supports streaming radio and music files in a variety of formats including AAC, AAC+, ALAC, MP3, WAV, WMA and FLAC, enabling a new generation of stand-alone network-based audio products. Jupiter 6.5 operates as an internet radio, wireless speaker or docking platform with full graphic display.

Using a highly flexible architecture, the Jupiter 6.5 platform enables OEMs to use the design as-is, modified, or as a basis for development of custom products. The Jupiter 6.5 3D design provides better characterisation of RF noise sources to help reduce development time.

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

CUSTOMER DELIVERABLES

Jupiter 6.5 is provided 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 Four main PCBs.

- Audio PCB: low-cost 2-layer board, 120 x 105 mm
- Keyboard PCB: 13 keys, 2 rotary encoders with push button, 177 x 28 mm
- Display PCB: 160 x 86 mm
- iPhone dock connector PCB: 44 x 63.4 mm

APPLICATIONS

- AV receivers
- Wireless speakers
- Table-top radio
- iPhone/DAB docking systems
- Mini audio systems
- HiFi tuner/adaptor
- Spotify Connect

OPERATING MODES

Jupiter 6.5 supports a versatile set of operating modes:

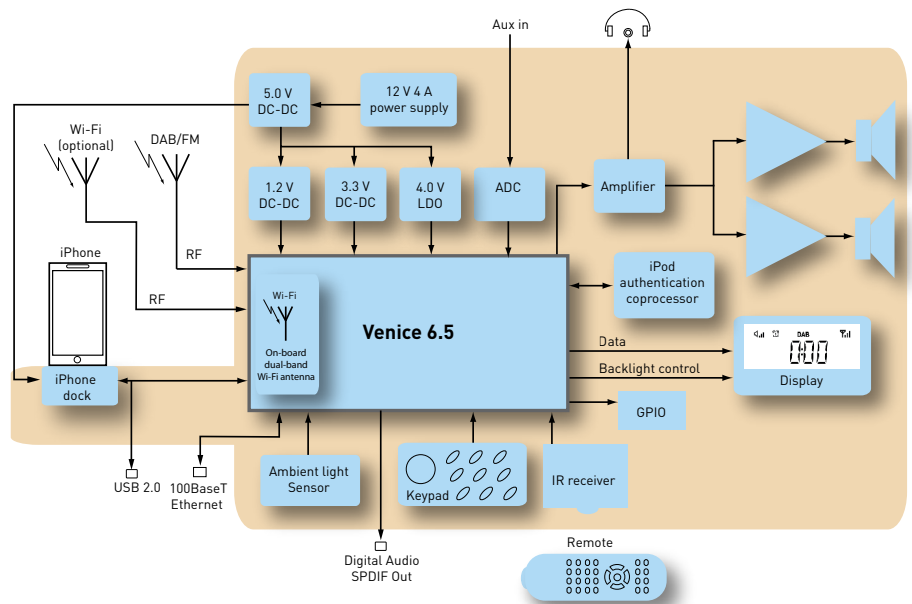
Music player	Play audio libraries from a networked DLNA media server over Wi-Fi/Ethernet, or over USB.
Internet radio	Play audio streamed from the Internet through the Frontier Silicon/vTuner portal, with access to over 13 000 stations and podcasts.
DAB radio	Reception of DAB/DAB+ (Band III & L-band).
FM radio	Reception of audio and RDS data from FM broadcasts.
Spotify Connect	Use the Spotify app to play music on Jupiter 6.5.
Wired iPhone Docking	Play audio and charge. Remote control from Jupiter 6.5 unit.
Smart Device App	Smart device app remote control of radio, playback and audio streaming
Aux-in	Playback of external source e.g. MP3 player/laptop.

JUPITER 6.5 FS4226

Venice 6.5 module based network audio streaming platform for wireless speakers

FEATURES

Power supply	12 V 4 A AC/DC from adaptor Current: 1.5 A (typ), 4 A (max, including simultaneous iPhone and iPad charging from dock and USB)
Antennas	Internal dual-band Wi-Fi antenna External Wi-Fi antenna Single external antenna for DAB/FM
User interface	13 push-button switches, 2 rotary encoders with push button, infrared remote
Display	128 x 64 Full Graphic LCD Optional ambient light sensor to control display brightness.
Audio output	2 x 10 W amplifier, digital EQ with presets, digital volume control with mute, S/PDIF out. Headphone jack (analogue audio only)
Connectivity	Wi-Fi (802.11 a,b,g and n modes), Ethernet, USB 2.0 Hi-speed
Wi-Fi security	WEP, WPA, WPA2
IP applications	DHCP, DNS
Streaming protocols	HTTP, UPnP (DLNA 1.5)
Audio codecs	AAC/AAC+, ALAC, MP3, WMA, FLAC, WAV, LPCM



JUPITER 6.5 BLOCK DIAGRAM

SOFTWARE AND USER INTERFACE

Frontier silicon has made considerable investment in creating the most versatile and intuitive connected audio software available anywhere. Jupiter 6.5 uses IR 2.7 software, which is customisable to OEM's individual requirements.

STANDARDS AND CERTIFICATION

Venice 6.5, Jupiter 6.5 and IR 2.7 have been designed to operate seamlessly with the rest of the network audio world. The Jupiter 6.5 platform is tested to comply with EN55020, EN55013, CE (ETSI) and FCC (part-15) to assist suitable end-products based on this platform to obtain certification for industry standards; such as CE approval, iPod and iPhone certification, FCC, Wi-Fi Alliance and DLNA certification.

For more information, contact Frontier Silicon.

See also:

Venice 6.5 Product Brief FSM0010-7719

IR 2.7 Product Brief FSM0013-1113



Frontier Silicon is a trademark or registered trademark of Frontier Silicon Ltd. iPhone, iPod, iPod classic, iPod nano, iPod shuffle, and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries. Windows 7 is a registered trademark of Microsoft Corporation.

Jupiter 6.5 contains IP licensed from Imagination Technologies Ltd. Specifications are subject to change without notice.

Jupiter 6.5 FS2026-5 Product Brief FSM-0010-7983 Rev 1



© 2014 Frontier Silicon Ltd. February 2014