

OVERVIEW

Jupiter 6.5S is a cost and performance optimised headless reference design for audio streaming applications using WiFi and/or Ethernet. Optional functionality includes iPod/iPhone docking facilities. This allows Jupiter 6.5S to act as a reference design for Multi-Room and wireless speaker applications without displays.

Based on the Venice 6.5 module running IR 2.8 software, the Jupiter 6.5S reference platform supports streaming radio and music files in a variety of formats including AAC, AAC+, MP3, WAV, WMA, FLAC and ALAC, enabling a new generation of stand-alone network-based audio products. Jupiter 6.5S operates as a display-less internet radio or wireless speaker.

Jupiter 6.5S can be controlled from content-specific apps like Spotify, or from Frontier's DOK app, available for iOS and Android. DOK allows easy setup of the wireless network, as well as remote control of the platform.

Using a highly flexible architecture, the Jupiter 6.5S platform enables OEMs to use the design as-is, modified, or as a basis for development of custom products. The Jupiter 6.5S 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 6.5S 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 Three main PCBs and Venice 6.5 module.

- Audio PCB: low-cost 2-layer board, 114 x 60 mm
- Keyboard PCB: 13 keys, 1 rotary encoders with push button, 107 x 64 mm
- Headless interface PCB: 120 x 72 mm
- Venice 6.5 module: 110 x 51 mm

JUPITER 6.5S REFERENCE PLATFORM



APPLICATIONS

- **Wireless speakers**
- **Multi-Room Speakers**
- **Internet Radio**

OPERATING MODES

Jupiter 6.5S supports a versatile set of operating modes:

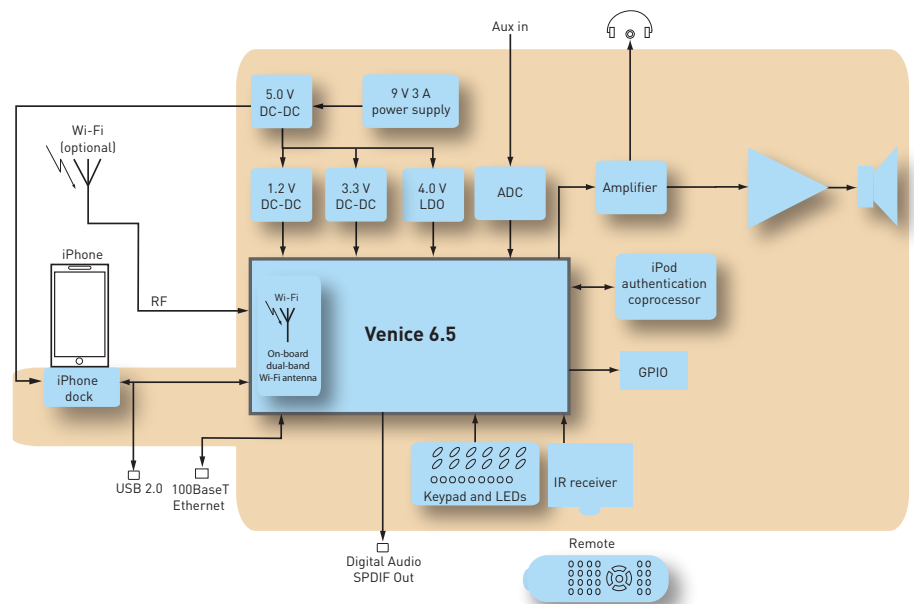
Spotify Connect	Stream music from a Spotify Premium account controlled by Spotify App on a Smart Device
Music player	Play audio libraries from a networked DLNA media server over Wi-Fi/Ethernet, or over USB.
Internet radio	Play audio streamed from the Internet through the Frontier Silicon/vTuner portal, with access to over 13 000 stations and podcasts.
Wired iPhone Docking	Play audio and charge. Remote control from Jupiter 6.5S unit.
Smart Device App	Smart device app remote control of radio, playback and audio streaming
Aux-in	Playback of external source, for example MP3 player/laptop.
Headless Design	User Interface is by buttons and rotary volume control with LEDs for feedback.

JUPITER 6.5S 4226-S

Headless Venice 6.5 module based network audio streaming platform for wireless speakers

FEATURES

Power supply	9V 3A AC/DC from adaptor
Antennas	Internal dual-band Wi-Fi antenna Optional: External Wi-Fi antenna
User interface	9 push-button switches, a rotary encoder with push button, infrared remote
Display	Up to 2 multicolour LEDs.
Audio output	1 x 2 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, SPDIF out
Wi-Fi security	WEP, WPA, WPA2
IP applications	DHCP, DNS
Streaming protocols	HTTP, UPnP (DLNA 1.5)
Audio codecs	AAC/AAC+, MP3, WMA, FLAC, ALAC, WAV, LPCM



JUPITER 6.5S 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 6.5S uses IR 2.8 software, which is customisable to OEM's individual requirements.

STANDARDS AND CERTIFICATION

Venice 6.5, Jupiter 6.5 S and IR 2.8 have been designed to operate seamlessly with the rest of the network audio world. The Jupiter 6.5S 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 2.8 Product Brief FSM-0013-2486



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