



APPLICATIONS

- In-vehicle aftermarket digital radios/infotainment systems
- In-vehicle digital radio adapters

OVERVIEW

AUTODAB 3.x is embedded software for Frontier Smart Technologies' automotive single tuner digital radio modules operating in slave mode. It runs as a component in an automotive audio system to provide DAB/DAB+ audio and data to the manufacturer's host processor. AUTODAB 3.x offers a complete DAB decode subsystem from RF to digital or analogue audio output, all controlled through an asynchronous control channel.

Automotive-specific features include DAB announcements, service linking support and audio concealment/soft muting.

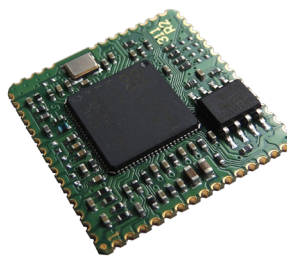
Profile 1 internal memory build - Implements full WorldDMB Profile 1 functionality; targeted to fit in systems without external SDRAM and with an 8 Mbit flash device.

MODULE OR MICROPROCESSOR

AUTODAB 3.x can be provided either on Frontier Smart Technologies' full-featured Siena digital radio module for optimum time-to-market, or on the Kino 4 baseband microprocessor for Chip down integration onto a manufacturer's own PCB.



KINO4 SOC
(SYSTEM ON CHIP)



SIENA MODULE

FEATURES

- Autonomous DAB->DAB service following behaviour with DAB->FM service linking recommendations
- Simplified service selection mechanism with direct support for DAB seek
- UART and I²C control interfaces
- SPI support for station logos
- Configuration options for audio concealment and soft muting
- DL plus support
- DAB reception as defined in EN 300 401
- DAB+ reception as defined in TS 102 563
- Single audio sub-channel decode of any bit rate from 8kbps to 192kbps, including LSF
- Seamless dynamic sub-channel reconfigurations
- DLS decode
- Dynamic Range Control (DRC) support
- Support for announcement switching
- Fast Information Channel (FIC) decode for service linking information
- Service linking enhancements for automotive operation

AUTODAB 3.X

Slave mode software for automotive digital radio modules

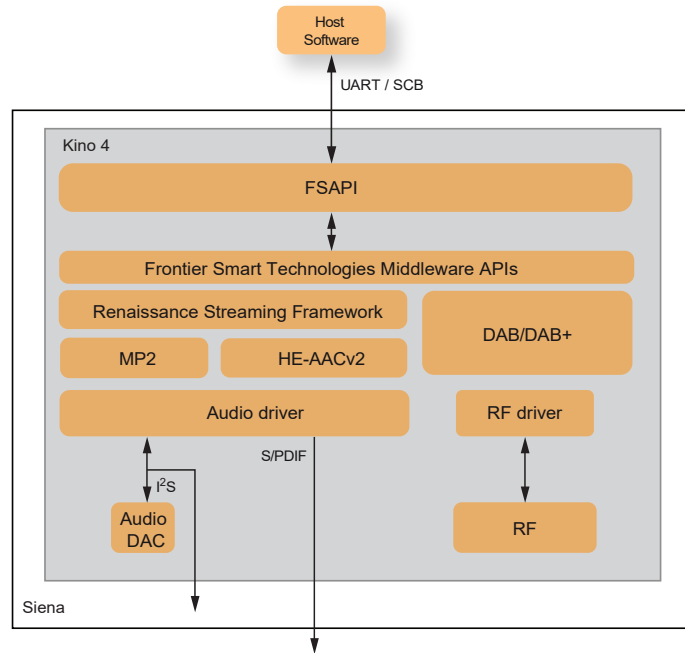
FSAPI COMMAND PROTOCOL

The FSAPI command protocol is used for all communication between the host processor and AUTODAB 3.x. It includes the following characteristics and features:

- Uses efficient industry-standard communications protocols
- An easy environment to develop and debug applications
- Automatic synchronisation between host and slave
- Uses a common set of actions for all messages
- Allows complex control and monitoring through a small set of simple commands
- Support for UART and I²C
- Host Controlled switching

SOFTWARE ARCHITECTURE

An architectural overview of AUTODAB 3.x Architecture is shown below.



AUTODAB 3.X
ARCHITECTURE

STANDARDS AND CERTIFICATION

AUTODAB 3.x and the Siena module have been designed to exceed the WorldDMB Profile 1 specification for basic digital radio, interoperable throughout Europe and beyond, and also operate seamlessly with the rest of the digital audio world.

DOCUMENTATION

The following documentation is available for the AUTODAB 3.x development environment:

- AUTODAB 3.x Product Specification
- FSAPI Protocol Reference Guide
- AUTODAB 3.x FSAPI User Guide

