



Fraunhofer

IIS

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

DRM RECEIVER KIT



SOFTWARE FOR EFFICIENT IMPLEMENTATION OF DRM RADIO RECEIVERS

BENEFITS

FASTER TIME TO MARKET:

READY-TO-RUN SOFTWARE GREATLY SIMPLIFIES WHAT WOULD OTHERWISE BE A HIGHLY TIME AND RESOURCE INTENSIVE IMPLEMENTATION PROCESS, AND ACCELERATES THE PRODUCT DEVELOPMENT STAGE.

FLEXIBLE ARCHITECTURE:

SUPPORT FOR DIFFERENT CONFIGURATIONS OF BASEBAND AND SERVICE LAYER FUNCTIONS.

INTEGRATION SERVICES:

SUPPORT FOR RECEIVER INTEGRATION INTO MANUFACTURER'S OWN SOFTWARE DEFINED RADIO (SDR) PLATFORM.

FASTER ACCESS TO NEW TECHNOLOGIES:

FRAUNHOFER IIS OFFERS DRM BASEBAND AND SERVICE LAYER DECODERS USED WITH POPULAR FIXED-POINT AND EMBEDDED FLOATING-POINT PROCESSORS.

RELIABLE AND EXPERIENCE:

FRAUNHOFER IIS HAS BEEN DEVELOPING OR CO-DEVELOPING DIGITAL RADIO RECEIVERS SINCE THE EARLY 90TH AND IS AN ACTIVE MEMBER OF THE DRM CONSORTIUM.

Modern radio receivers for car and home entertainment contain more and more software. This enables the radio maker to support different radio standards on the same hardware platform. Updates or extensions become possible even in the very last stage of the development process. The Fraunhofer IIS DRM Receiver Kit is the first DRM solution providing radio manufacturers this flexible software option for their radio platforms.

Key Features

The DRM Receiver Kit from Fraunhofer IIS is a fully validated DRM solution for the automotive and consumer market. This innovative software radio approach allows terminal manufacturers to efficiently enhance their radio platform with the full range of the DRM feature set. It is a platform independent C-code ready for multiple baseband and service layer instances.

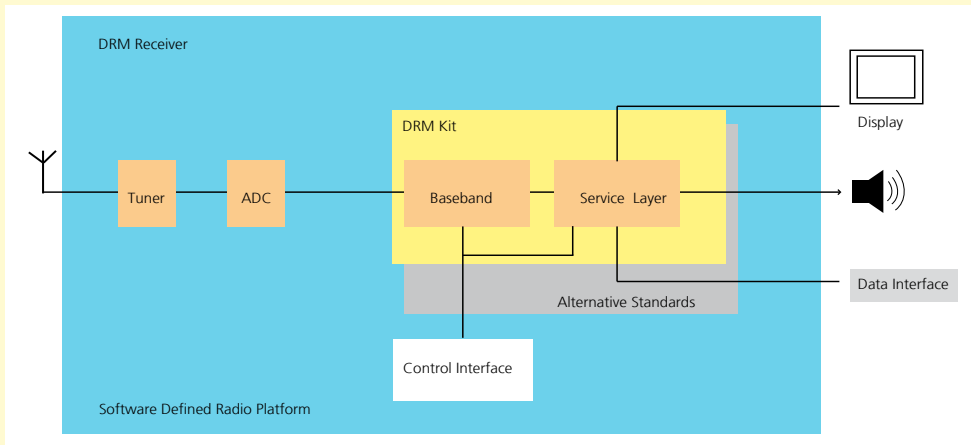
Fully compliant with the ETSI ES 201 980, the DRM Receiver Kit is able to decode a full DRM multiplex or only a subset to save computing power. With its flexible data interface, it can be easily combined with external applications. The API interface is adoptable to the customers framework.

Basic feature set of the baseband processing:

- Reception frequencies up to 240 MHz
- Automatic mode detection for DRM mode A-D
- Full featured FAC, SDC, MSC decoding
- 4,5kHz, 5kHz, 9kHz, 10kHz, 18kHz, 20kHz, 96kHz bandwidth
- Optionally including DRM+ (Mode E)

Basic feature set for audio and data decoding (DRM profile):

- MOT decoder in header and directory mode
- Packet mode decoder, enhanced packet mode decoder
- MPEG HE-AAC v2
- MPEG xHE-AAC
- Legacy CELP and HVXC on demand



Software defined radio platform with DRM Receiver Kit

Optional Features

Digital Radio Mondiale™ offers more than just digital radio: Besides distortion-free reception and near CD-quality sound, this technology allows audio, video and other data to be broadcast efficiently and reliably. The DRM standard has included the capability of optional features, which are offered together with the DRM Receiver Kit:

- DRM text messages
- Journaline® advanced text
- Slideshow images
- MPEG Surround®
- Diveemo®
- TPEG traffic information
- HECA – High Efficient Conditional Access
- DRM emergency warning
- Proprietary Data Services

Availability

The Fraunhofer IIS DRM Receiver Kit is designed to fit on arbitrary digital signal processors (DSP). Extensions and additional features can smoothly be integrated into the kit – on customer request.

The library has three main interfaces, which can be customized for customer platforms. These interfaces are the IF input interface, the audio output interface and the control interface to operate the library from an external host. Fraunhofer IIS also offers integration support for customer radio platforms.

The terminal DRM development framework of Fraunhofer IIS allows embedding and optimization of a receiver architecture from the antenna input to the audio output as complete design based on customer requirements. It is compatible to the DAB Receiver Kit offered by Fraunhofer IIS.

Licensing

Generally, Fraunhofer IIS DRM Receiver Kit licensing scales with the type of application and the adaptation efforts. The basic DRM Receiver Kit can be licensed and the additional services for the adaptation and integration can be provided as NRE. For more information about the DRM Receiver Kit licensing options, please contact martin.speitel@iis.fraunhofer.de.

For more information please visit

WWW.IIS.FRAUNHOFER.DE

*Fraunhofer Institute for
Integrated Circuits IIS*

*Director
Prof. Dr. Albert Heuberger*

*Am Wolfsmantel 33
91058 Erlangen, germany*

Contact
*Martin Speitel
Phone +49 9131 776-4052
martin.speitel@iis.fraunhofer.de*

www.iis.fraunhofer.de