

STAR – DOT – DCOP

Terrestrial Tuner Solutions



A complete and modular IC portfolio for Automotive AM/FM and Digital Broadcast receivers

The market demands for tuner platforms are continuously increasing in terms of usage, complexity and scalability. ST terrestrial tuner IC families allow the realization, with a single PCB design, of multiple receiver variants – from a simple single AM/FM tuner to a Multi-Standard / Multi-Channel receiver covering AM/FM phase diversity and digital standards such as DAB or HDRadio™, featuring additional functionalities such as TMC/TPEG and Background Scan.

STAR FAMILY

Single-chip radio receivers

- Integrated RF + Baseband
- Multiple band support (AM/FM/WX/DAB)
- Pin-to-pin compatible Dual- and Single-Channel versions

DOT FAMILY

Multi-standard RF Tuners with Digital Output

- Designed for Software-based radio architectures
- Multiple Data Interfaces to SoC
- Pin-to-pin compatible Dual- and Single-Channel versions

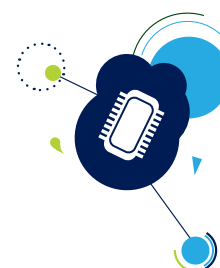
DCOP FAMILY

Digital Broadcasting Baseband Processors

- Pin-to-pin compatible HDRadio™ and DAB decoders
- Dual Path Audio + Data parallel processing
- Seamless Switching Support

PRODUCT GUIDE

- TDA7707: Dual-channel multi-standard receiver
- TDA7708: Single-Channel AM/FM receiver with digital BB I/F
- STA710: Dual-channel multi-standard digital Output tuner
- STA709: Single-Channel-channel multi-standard digital Output tuner
- STA660: DAB 1.5 Digital Coprocessor
- STA680D/STA680MD: HDRadio™ 1.5 / MRC Digital Coprocessor



SOFTWARE SUPPORT AND DEVELOPMENT ENVIRONMENT

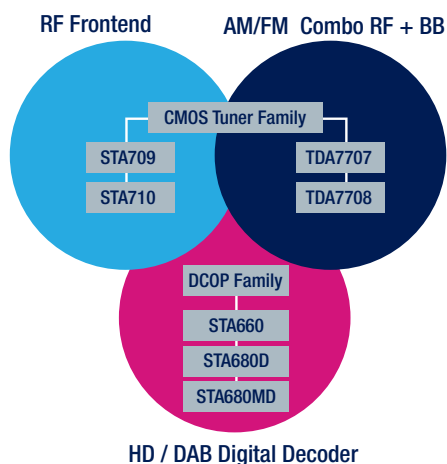
To assist the customer in the tuner application development, ST offers – on top of HW evaluation kits – a software interface abstraction layer in C language (suitable for execution on an embedded SoC or Windows/Linux PC): ETAL (Embedded Tuner Abstraction Layer) and TML (Tuner Middleware Layer)

The ETAL software layer is meant to hide any dependency from the specific hardware configuration chosen (support of multiple STAR/DOT instances and different DCOP types) while TML includes demo/reference code for complex and high level services such as Landscape Database Management or Service Following.

A demonstrator based on ST's development boards (STAR/DCOP Multi-Tuner Daughter-board and Accordo5 Evaluation Board) is available as a reference for Tuner Control stack implementation with HMI, ETAL and TML software stacks running on Accordo5 System-on-Chip and Linux Operating System.

Radio features such as Seek, Station List, Station Logos, RDS, RT/DLS and Slideshow both for legacy AM/FM and Digital Broadcasting are implemented

TERRESTRIAL TUNER FAMILIES



STAR/DOT FAMILY SELECTION TABLE

| CMOS tuner family | TDA7707 | TDA7708 | STA710 | STA709 |
|---------------------------------|---------------------------|-----------|-----------------------------|-----------------|
| Architecture | STAR ST Advanced Radio | | DOT Digital Output Tuner | |
| Number of Channels | 2 | 1 | 2 | 1 |
| Reception Band | AM/FM/DAB | AM/FM | AM/FM/DAB | AM/FM/DAB |
| Package (pin-to-pin compatible) | QFN 64 | | | |
| AM/FM Weak-Signal-Processing | Y | Y | N | N |
| FM Phase-diversity | Y | N | Supported | N |
| HD-radio 1.0 | Supported | Supported | Supported | Supported |
| HD-radio 1.5/2.0 | Supported | N | Supported | N |
| DAB 1.5 | Supported | N | Supported | N |
| Base Band Interface | I2S JESD204B | I2S | I2S JESD204B | I2S JESD204B |
| Control interface | I2C/SPI | I2C/SPI | I2C/SPI | I2C/SPI |
| Digital Audio out | Y | Y | N | N |
| Stereo audio DAC | Y | Y | N | N |

Supported: requires external base-band processor (e.g. STA660, STA680D or STA680MD)



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