

## CMX7158

### Full Duplex Audio Scrambler

The CMX7158 is a full-duplex, frequency inversion audio scrambler IC for use in mobile radio and fixed systems to provide secure communication.

#### Features

- Fully independent Tx and Rx paths
- Programmable Inversion points
- MIC path AGC
- VOX detection
- DTMF encoder / decoder
- Selcall encoder / decoder
- Digital Gain Adjustment
- C-BUS Serial Interface to Host  $\mu$ Controller
- Bypass mode for HD Audio (up to 7kHz)
- Clear Mode
- Tx Enable and Rx Enable outputs
- Flexible Power saving modes
- Low-power 3.0 to 3.6V Operation
- Small 48-pin Q3 VQFN Package

#### Applications

- Cellular radio accessories
- Bluetooth communication headsets
- PMR/LMR radio systems
- Wired/Wireless access control systems
- Wired telephony

The CMX7158 is a full-duplex, frequency inversion audio scrambler IC. This makes it a suitable device for use in multi-function audio systems as well as mobile and hand portable Cellular / Bluetooth / PMR / LMR radio systems.

The device can be switched between clear and scrambled voice modes with a programmable inversion point and by employing analogue audio interfaces it can be easily integrated into existing systems or used to implement simple accessories.

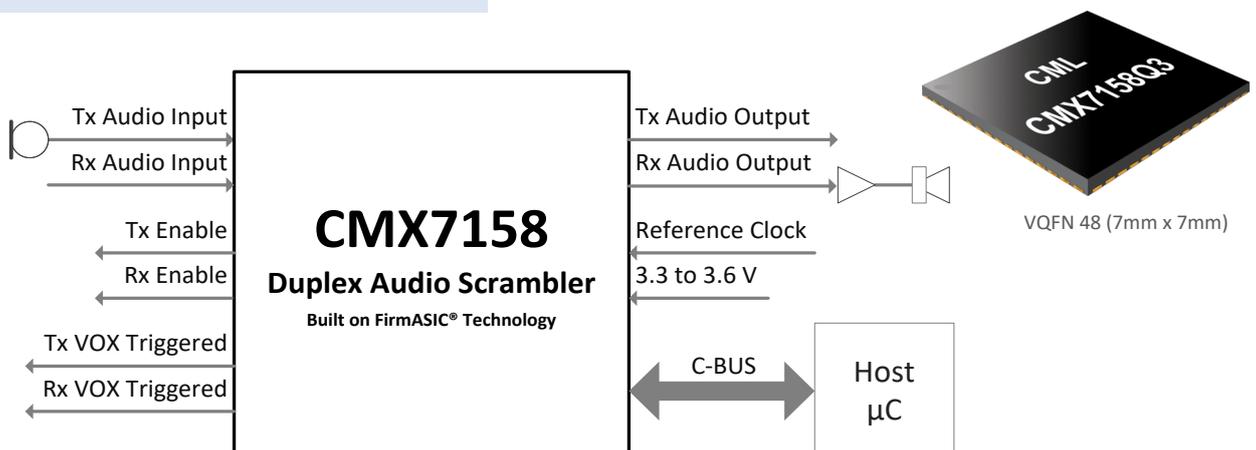
The device also provides additional functionality to facilitate implementation including DTMF and Selcall signalling, VOX detection on both channels and a MIC AGC.

The CMX7158 is realised using CML's proprietary *FirmASIC*<sup>®</sup> component technology. A Function Image<sup>™</sup> that defines the device's functionality is loaded at power-up, either from a host controller connected over the C-BUS interface or an attached serial flash memory device.

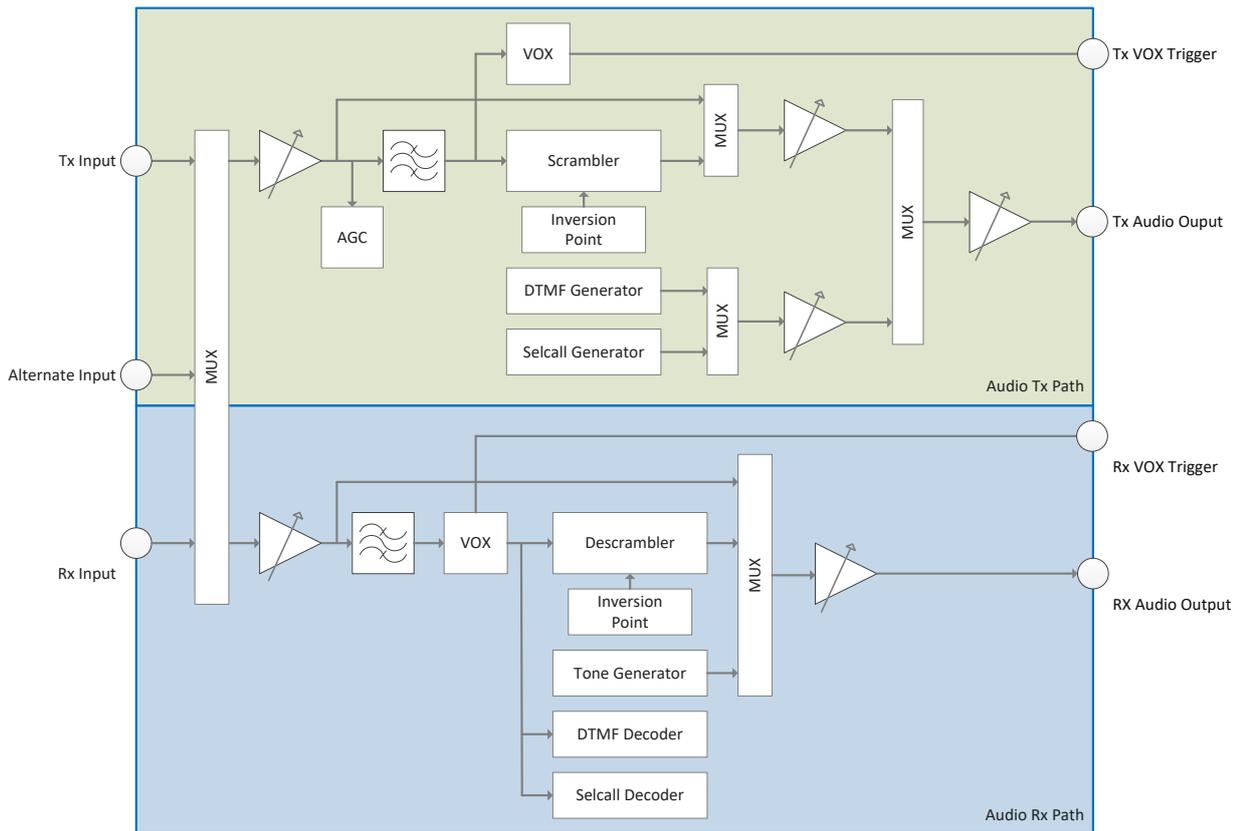
Product development using the CMX7158 is supported by the PE0402 evaluation board.

#### CMX7158 Key Benefits

- High quality audio
- Very low scrambling/descrambling delay
- Easy setup
- Small solution



## Function Block Diagram



## Documentation

### Website

- Product Preview
- Datasheet

### Technical Portal (Contact CML for access)

- Complete Datasheet/User manual
- Evaluation/demonstration software support tools
- Software updates



## WHAT TO DO NEXT

Visit: [www.cmlmicro.com](http://www.cmlmicro.com)

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## CML Microcircuits Benefits

### Faster time to market

Developing proven high performance and field tested ASSP ICs, CML is helping engineers to cope with increasing pressure in delivering shorter project design cycles.

### Design flexibility

CML's FirmASIC® reconfigurable technology with the use of a Function Image upload enables a single hardware platform to be used for multiple communications systems.

### High Quality

With 100% of products being tested before shipping, customers are assured of the highest reliability.

### Product Longevity

Designing with CML products, manufacturers are rewarded with longer product life cycles and a stable BOM, ensuring minimum engineering costs and maximum profit.

### Low Power

Being at the forefront of low power chip technology, manufacturers can develop smaller equipment with extended battery life.

### Superior Support

Internal and field based applications teams worldwide provide focused customer support to ease the development process.