

# MC92308

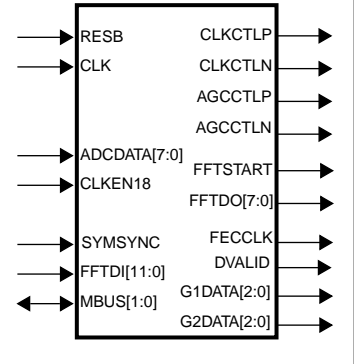
## Product Preview

### OFDM Demodulator

The MC92308 is a Orthogonal Frequency Division Multiplex Demodulator for 2K transmission mode according to the ETSI specification for digital terrestrial broadcasting (PR ETS 300744). The MC92308 contains all the functionality required to demodulate the information transmitted in one UHF channel.

#### Feature Summary

- Usable for 8MHz/7MHz/6MHz channels by adjusting the clock rate
- Digital I/Q separation on-chip
- Supports QPSK, 16-QAM and 64-QAM
- Supports all guard interval lengths (1/32, 1/16, 1/8, 1/4)
- Accepts 8-bit TTL-compatible twos-complement data input
- Provides the required control signals for Automatic Gain Control and ADC clock frequency control
- Performs channel estimation and correction by using the embedded pilot carriers
- I<sup>2</sup>C serial bus compatible interface (M-Bus) and parallel interface for external programming and control of the device
- Transmission Parameter Signalling is decoded and made available to the system controller via M-Bus or parallel microprocessor interface
- Companion to DVB compliant 2K-FFT Processor (MC92307)
- Output interface for DBV compliant FEC
- Fast synchronization at power-on and after channel switch
- Low implementation margin
- 0.5µ CMOS Process at 3.3V



Ordering Information	
Device	Package
MC92308CI	160MQUAD

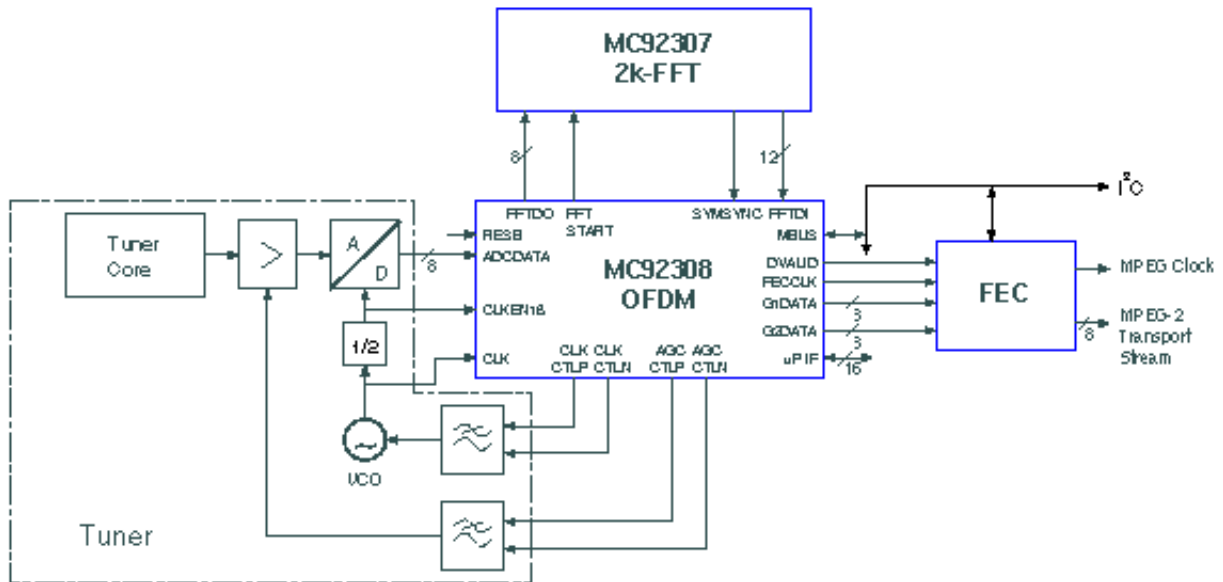
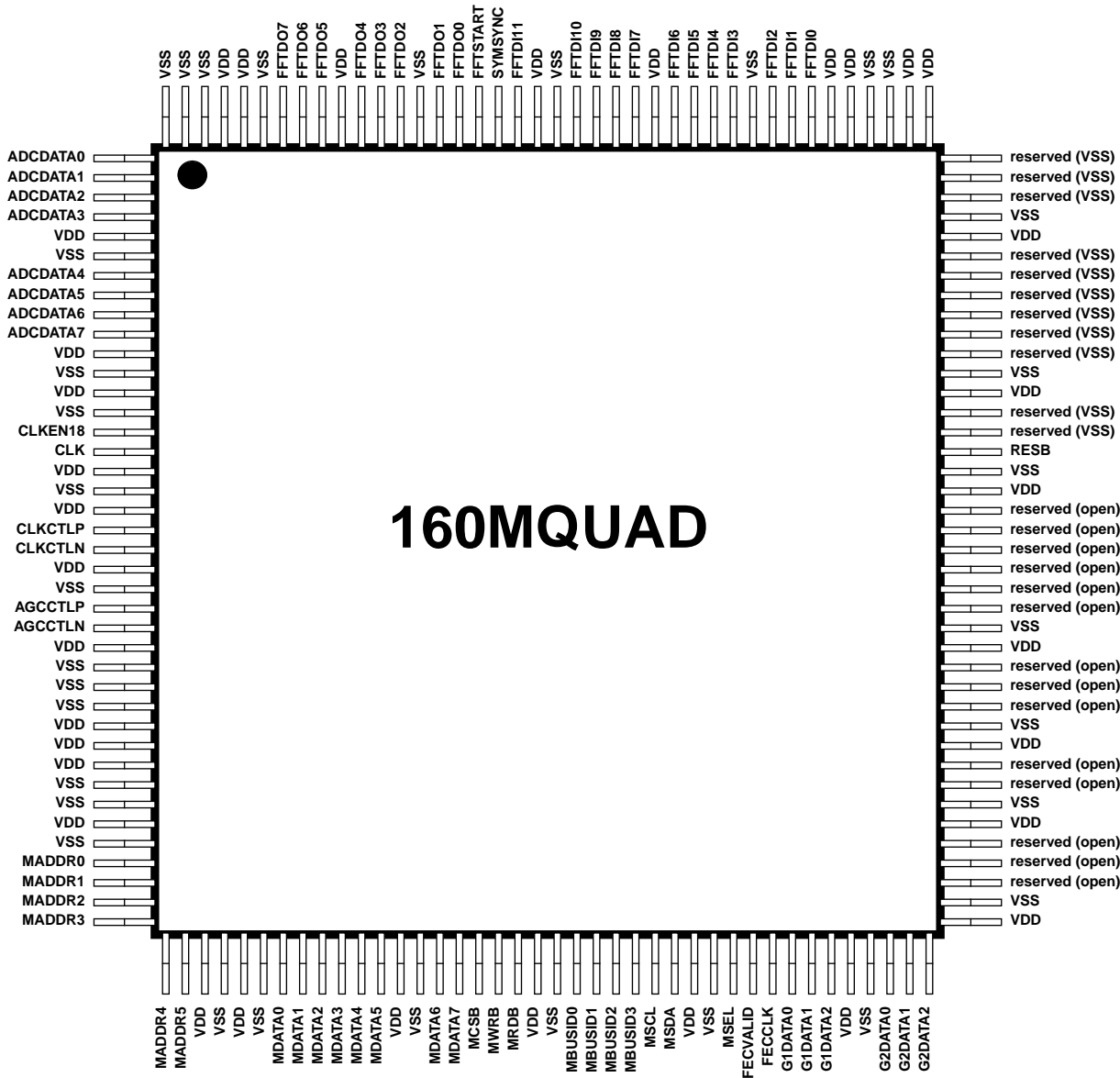


Figure 1. OFDM Frontend Processing

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# 160MQUAD

Table 1. MC92308 Pin Description

SIGNAL	FUNCTIONALITY	TYPE	POLTY
CLK	Common clock input (36.57 MHz)	TTL - IN	high
RESB	Reset (synchronous)	TTL - IN	low
CLKEN18	ADC data strobe	TTL - IN	high
ADCDATA[7:0]	Input for samples from ADC	TTL - IN	high
CLKCTLP	ADC clock synchronization loop (+)	TTL - OUT	high
CLKCTLN	ADC clock synchronization loop (-)	TTL - OUT	low
AGCCTLP	Analog AGC loop (+)	TTL - OUT	high
AGCCTLN	Analog AGC loop (-)	TTL - OUT	low
FFTSTART	FFT start signal	TTL - OUT	high
FFTDO[7:0]	Complex data output to FFT (muxed)	TTL - OUT	high

**Table 1. MC92308 Pin Description (Continued)**

SIGNAL	FUNCTIONALITY	TYPE	POLTY
<b>FFTDI[11:0]</b>	<b>Complex data input from FFT (muxed)</b>	<b>TTL - IN</b>	<b>high</b>
<b>SYMSYNC</b>	<b>Symbol start signal from FFT</b>	<b>TTL - IN</b>	<b>high</b>
<b>G1DATA[2:0]</b>	<b>Data output for Viterbi decoder</b>	<b>TTL - OUT</b>	<b>high</b>
<b>G2DATA[2:0]</b>	<b>Data output for Viterbi decoder</b>	<b>TTL - OUT</b>	<b>high</b>
<b>FECCLK</b>	<b>Clock for Viterbi Decoder (free running)</b>	<b>TTL - OUT</b>	<b>high</b>
<b>FECVALID</b>	<b>Data valid signal for Viterbi Decoder</b>	<b>TTL - OUT</b>	<b>high</b>
<b>MSDA</b>	<b>I<sup>2</sup>C compatible control bus, data pin</b>	<b>TTL - OD</b>	<b>-</b>
<b>MSCL</b>	<b>I<sup>2</sup>C compatible control bus, clock pin</b>	<b>TTL - IN</b>	<b>high</b>
<b>MBUSID[3:0]</b>	<b>I<sup>2</sup>C compatible control bus, variable ID selector</b>	<b>TTL - IN</b>	<b>high</b>
<b>MSEL</b>	<b>Enable Microprocessor parallel interface</b>	<b>TTL - IN</b>	<b>high</b>
<b>MDATA[7:0]</b>	<b>Microprocessor interface bidirectional databus</b>	<b>TTL - bidir</b>	<b>high</b>
<b>MADDR[5:0]</b>	<b>Microprocessor interface address bus</b>	<b>TTL - IN</b>	<b>high</b>
<b>MCSB</b>	<b>Microprocessor interface chip select</b>	<b>TTL - IN</b>	<b>low</b>
<b>MWRB</b>	<b>Microprocessor interface write enable</b>	<b>TTL - IN</b>	<b>low</b>
<b>MRDB</b>	<b>Microprocessor interface read enable</b>	<b>TTL - IN</b>	<b>low</b>

### Notes:

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