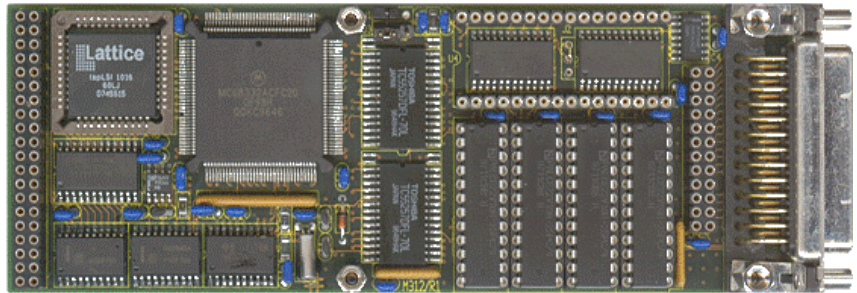# M312

General Timing Analyser/Synthesizer M-module

The M312 General Timing Analyser/Synthesizer M-module has an MC68332 CPU. The MC68332 contains intelligent peripheral modules such as the time processor unit (TPU), which provides 16 microcoded channels for performing time-related activities from simple input capture or output compare to complicated motor control or pulse width modulation. All 16 TPU channels and 4 general purpose I/O channels are buffered and available on the connector for use with for instance an external amplifier.

The specific behaviour of the M312 is defined by the user software. The example code that is available, gives a flying start for application development.

Features:

> 68332 local 32-bit microcontroller with up to 1 Mbyte memory, of which 128 kbyte is dual ported
> Optional onboard Flash memory up to 4 Mbit
> Jumper selectable boot device (RAM or EPROM)
> 16 buffered TPU channels
> 4 general purpose buffered I/O channels
> All TPU channels and buffered I/O lines have individual programmable direction
> Onboard firmware is extendable

M-module Compliancy

* A08/D16 (8-bit address and 16-bit data)
* INTA (software end-of-interrupt)
* IDENT (identification EEPROM)

Controller

* MC68332@20MHz
* TPU resolution max. 200ns
* TPU (Time Processing Unit) provides 16 macrocode channels for performing time-related functions
* User application defines functionality
* Mailport interrupt from/to local CPU to/from host

Memory

* Up to 1Mbytes (128kbytes standard) SRAM
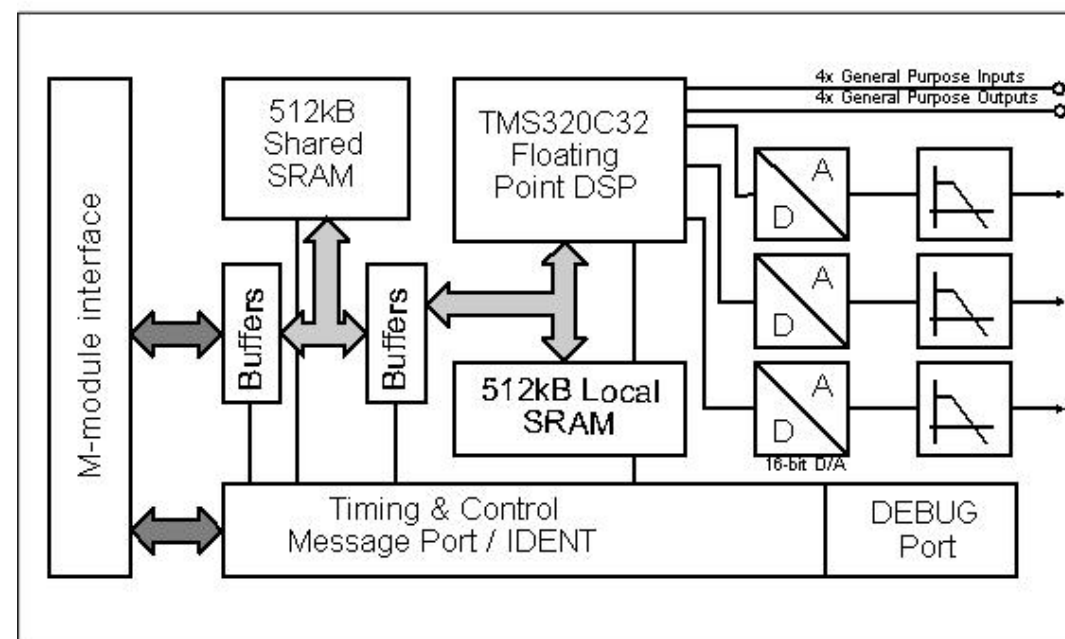* 32-pin EPROM socket for application program storage

Line Interfacing

* All 16 TPU channels and the 4 general purpose I/O channels are buffered
* Direction of each individual TPU channel and I/O line is programmable

Example Applications

* Period and pulse width accumulator
* Position synchronized pulse generator
* Input capture/transition counter
* (Synchronized)pulse width modulator
* (Fast)quadrature decoder

Ordering Information

* **M312/T01** M-module
* **M312/SW** APIS based software
* **M312/MAN** manual on paper

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m312_v3_ds

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