

**TTM**

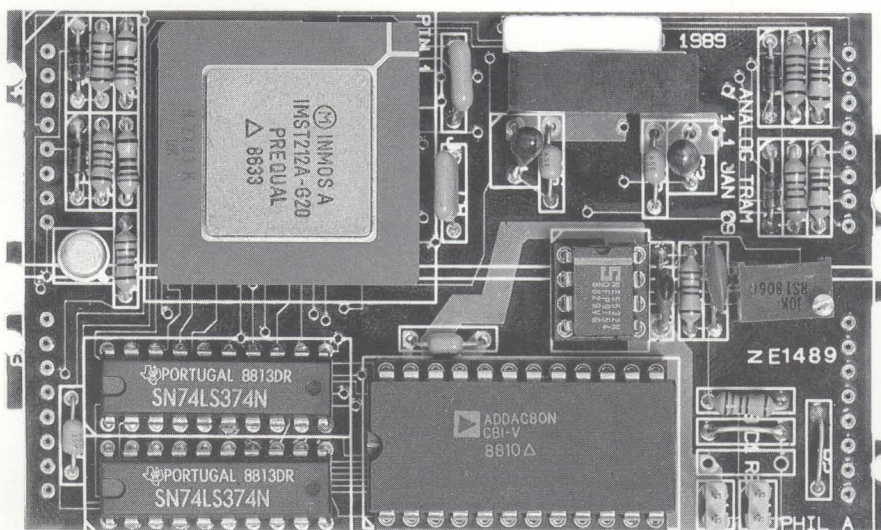
# Transtech TRAMs

## TTM14

**TTM**

### A DIGITAL TO ANALOG CONVERTER TRAM

- Features**
- ♦ IMST212 16-bit transputer
  - ♦ 12-bit D to A converter
  - ♦ Analog output channel
  - ♦ Standard size 2 TRAM
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**Introduction** The TTM14 is a small daughterboard for the Transtech range of TRAM (TRANputer Module) motherboards. It has an IMST212 16-bit transputer interfaced to a 12-bit digital to analog converter. The TTM14's single analog output channel enables transputer systems to generate a high quality analog signal for use in robotics, process control, waveform generation, digital audio, speech synthesis and similar applications.

#### **TRAM Standard**

Measuring only 2.10" by 3.66" (5.33mm by 9.30mm) the TTM14 conforms to the published TRAM standard, allowing them to be plugged easily onto a wide range of motherboards for many different host machines. Up to 10 TRAMs can be accommodated on a Transtech TMB08 board for IBM PC XT or AT's and compatibles, 4 on the Transtech TMB04 and TMB05, 16 on a TMB12 double extended eurocard and 32 on the MCP1000 Multi Computing Platform for Sun workstations, allowing rapid prototyping of transputer systems. Transtech TRAMs are also compatible with motherboards from other manufacturers. Further details on the TRAM standard and TRAM Module Motherboard Architecture are published by Prentice Hall in 'Transputer Technical Notes' ISBN 0-130929126-1.

**Functional  
Description**

Several TTM14's may be used in a TRAM based system to perform multi-channel control. The IMST212 transputer has enough memory and processing power to perform sophisticated digital signal processing on digital output data. The software provided with the TTM14 demonstrates how the T212 can be used to directly output data it has received on its links, or run a more complicated program controlled by an IMST800, IMST425 or IMST414 transputer. The IMST212 may be replaced by an IMST222 if more memory is required.

From an analog point of view the board is extremely flexible. The analog output frequency response is controlled by resistors and capacitors, and is presented in both unbuffered and low pass filtered form. The analog buffer is socketed and has a standard pin out, to enable it to be replaced by a device with other qualities such as lower offset voltage or lower output impedance. When shipped the TTM14 has a filter cut off frequency of 15 KHz and a 10us maximum slew rate.

**Ordering  
Information**

PART NUMBER	DESCRIPTION
TTM14	DIGITAL TO ANALOG CONVERTER TRAM



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Document Reference: TTM14FLY0789