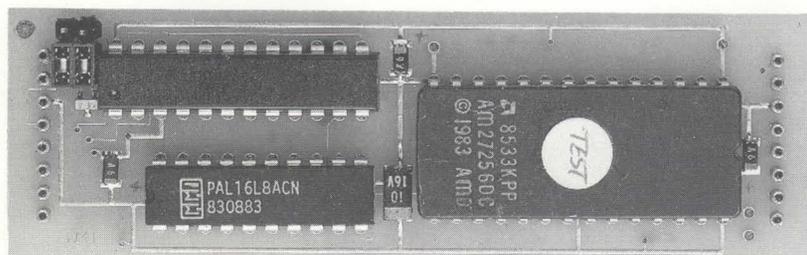# Transtech TRAMs
TTM12

EPROM LOADER/BOOTSTRAP TRAM

Features

- ◆ **Up to 27512 EPROM (64 KBytes)**

- ◆ **Plugs directly onto other TRAMs**

- ◆ **IMSC012 link adaptor**

- ◆ **Allows standalone systems to be rapidly built**

- ◆ **Size 1 TRAM**

- ◆ **Compatible with Transtech TTM11 SCSI TRAM**

- ◆ **Compatible with Transtech range of TRAM motherboards**

Introduction

The Transtech TTM12 is a small daughterboard for the Transtech range of TRAM (TRAnsputer Module) motherboards, that allows a transputer system to be made standalone from a development system. The TTM12 has a 27512 EPROM which can be programmed to hold transputer boot code to be downloaded through a link on reset. The EPROM can be loaded with code developed by any transputer development system, using a suitable PROM programming system.

TRAM Standard

Measuring only 1.05" by 3.66" (2.67mm x 9.30mm) the TTM12 conforms to the published TRAM standard allowing it to be plugged easily onto a wide range of motherboards (or TRAMs) from Transtech and other manufacturers. 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	The TTM12 can output code on either link 1 or link 2 (selectable by jumper), allowing the transputer to which it is attached to be booted from ROM while it is set to boot from link. This has the advantage that TRAMs (that are normally fixed to boot from link) can be booted in a standalone system without the need to build any special hardware. The TTM12 outputs code immediately after the end of a reset and should be at the same level in the system services hierarchy as the processor which it is intended to boot. The links on the TTM12 can be set to run at 10 or 20 Mbits/sec to enable it to support systems using either link speed. The capability of selecting either link 1 or link 2 enables the TTM12 to be connected to either 'pipehead' or 'pipetail' in TRAM systems.
Booting systems via a SCSI interface	When the TTM12 is used in conjunction with the Transtech TTM11 SCSI interface TRAM it enables an entire system to be booted. The TTM12 can boot the IMST222 16-bit transputer on the TTM11 with a program that causes the TTM11 to load code stored on a SCSI disk to the rest of the transputer network. In this case the TTM12 is stacked on top of the TTM11 so that it is directly connected to it without having to use connections on the motherboard. It must be remembered not to connect another TRAM to the link being used to boot the TTM11. For more details see information on the Transtech TTM11 SCSI interface TRAM.

Ordering Information

PART NUMBER	DESCRIPTION
TTM12	EPROM LOADER/BOOTSTRAP TRAM

Document Reference:TTM12FLY0789