

T2SL

PRODUCT OVERVIEW I-CONNECT SOFTWARE

INTRODUCTION

To support their "Paradise" range of transputer/SCSI systems T2SL will provide the "connect" series of software modules. Each member of this family will adapt the Paradise system to a particular role. A Paradise system running I-connect will allow up to three independent transputer systems to access mass storage or peripherals such as Winchester, optical discs or tape storage systems.

FEATURES

- # Easy to use Application Interface runs (with minimum of CPU overhead) on users own transputer systems.
- # Application Interface supports all common transputer languages.
- # Execution of all Group 0 and Group 1 SCSI commands.
- # High speed data transfer at a sustained 700 Kbytes/sec.
- # Accessible from three independent sources through three Paradise serial links.
- # Link access controlled by high priority "Arbitrator" ensures fast response to all access requests - eliminates processor deadlock.
- # Examples of applications provided as source code on floppy disc - assists user in quick system development.
- # Well written software manual provides more examples of Application Interface.

APPLICATIONS

Operating system disc device driver.
Database "mass store" interface.
Printer/Plotter interface for users application programs.
Tape streamer interface for cheap mass backup.

OPERATION

I-connect consists of the high-level "Application

SEQ

```
.  
.   
control.block [addr.o] := next.sector  
control.block [length.o] := no. of sectors  
control.block [opc.o] := read  
control.block [lun.o] := 0  
control.block [control.o] := 0  
I-talk (to.SCSI, from.SCSI,  
Control.block, data)
```

– Fig 1 –

Interface" described in the next section, and the low-level control firmware which runs on the Paradise unit. The two halves are connected by transputer links running a simple protocol. The low-level firmware (running on a T222 transputer) was written in OCCAM2 for maximum efficiency. The firmware has link "Block Mode" DMA to overcome the memory limits of the Paradise systems.

THE APPLICATION INTERFACE

This always consists of calls to a single procedure "I-talk (which is provided in a variety of language formats). Individual SCSI commands are designed by five integers in a "control.block". This ensures that it is extremely easy for a user's application to update sector addresses, transfer lengths etc. Fig. 1 shows a code fragment which reads data from a disc.

Data is always passed by I-talk as an array of bytes. This allows the user to RETYPE the data blocks into structures of arbitrary complexity.