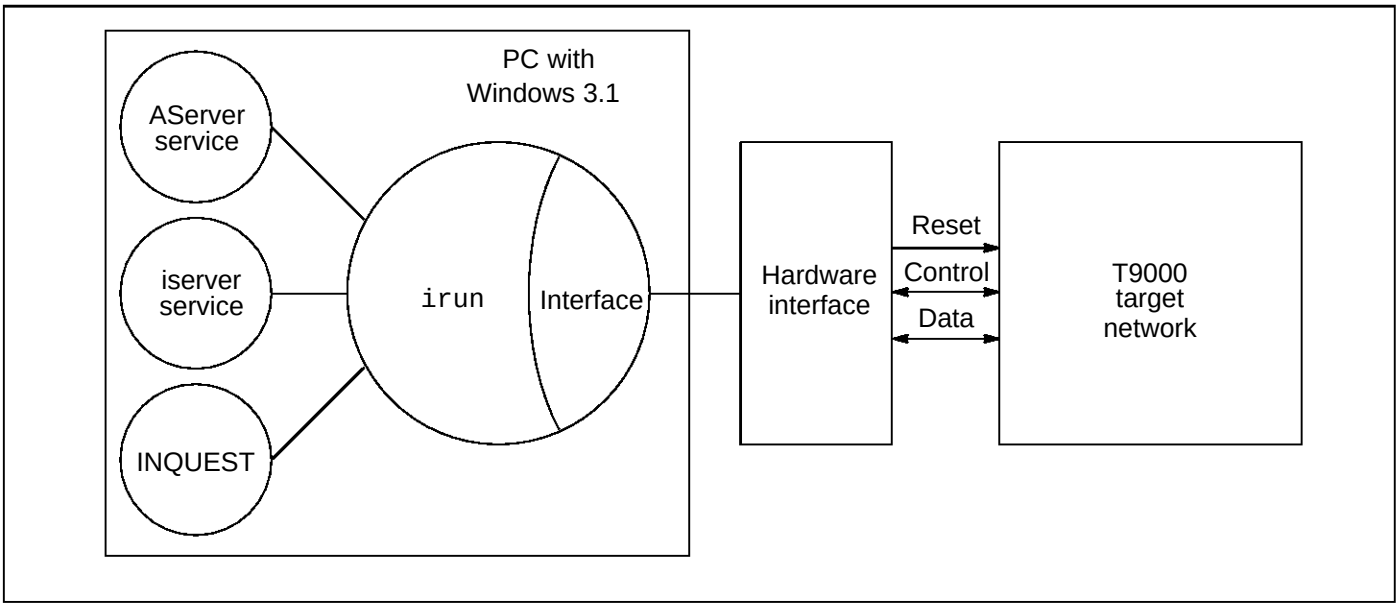
SGS-THOMSON MICROELECTRONICS

IMS S7397

T9000 PC interface software

PRODUCT INFORMATION



FEATURES

- Development interface package for access to T9000 target hardware from a PC using Microsoft Windows.
- Support for Ethernet networked interface and add-in board interface to target.
- Configuration of T9000 networks and booting of programs produced using the T9000 toolsets.
- **`iserver`** based runtime support of T9000 programs.
- Support for INQUEST debugging and profiling.
- AServer libraries to enable user specific servers to be created

DESCRIPTION

The IMS S7397 is used in conjunction with the T9000 software development toolsets to form a complete single user development environment for T9000 application programming. It supports either the IMS B108 PC HTRAM motherboard or a networked target using the IMS B103 Ethernet to DS-link interface. The product enables users to configure and boot applications, to provide input and output to the application, and to use INQUEST to perform interactive and post mortem debugging.

1 Product overview

The purpose of the PC T9000 interface software is to provide a software interface between a PC host and application software running on an IMS T9000 target network. The IMS S7397 supports two different types of hardware interface:

- an IMS B108 PC add-in HTRAM motherboard interface, as shown in Figure 1, which supports a single user;
- an Ethernet link to an IMS B103 Ethernet to DS-Link interface board, as shown in Figure 2, which supports multiple users with one or two target networks.

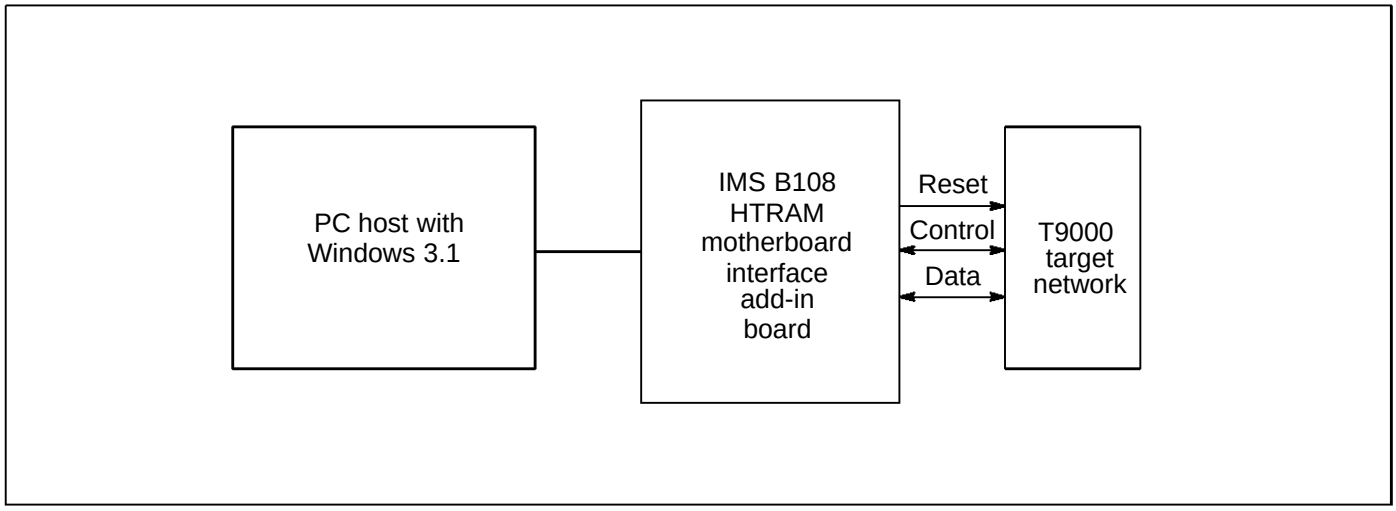


Figure 1 Add-in board T9000 target interface

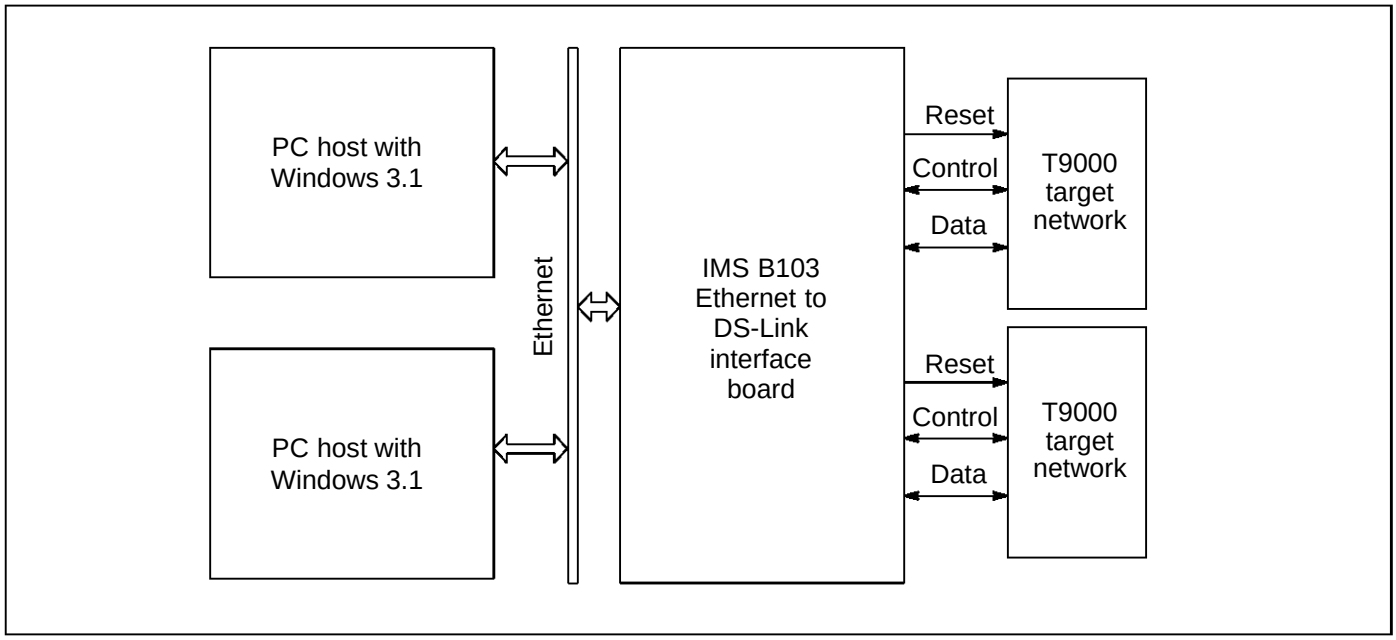


Figure 2 Networked T9000 target interface

The IMS S7397 product is used in conjunction with the T9000 ANSI C or T9000 occam 2 Toolset and the INQUEST debugging and profiling tools.

The PC T9000 interface software provides a simple interface for running IMS T9000 applications. It also provides a flexible framework for users who wish to customize the host server for their own requirements. The product enables users to:

- configure and boot applications onto T9000 networks;
- provide input and output to the T9000 application;
- use INQUEST to perform interactive, post mortem debugging and profiling of the application;
- build customized hosted user interfaces for T9000 applications.

The AServer is a standard mechanism for allowing user defined communication with a transputer based application at the same time as that application is using standard run-time library interfaces or being debugged using INQUEST. The flexibility offered by the AServer allows independent service activity to be supported across the network without mutual interference. Service modules developed for use with the AServer can be simple or complex and are compatible with existing transputer environments.

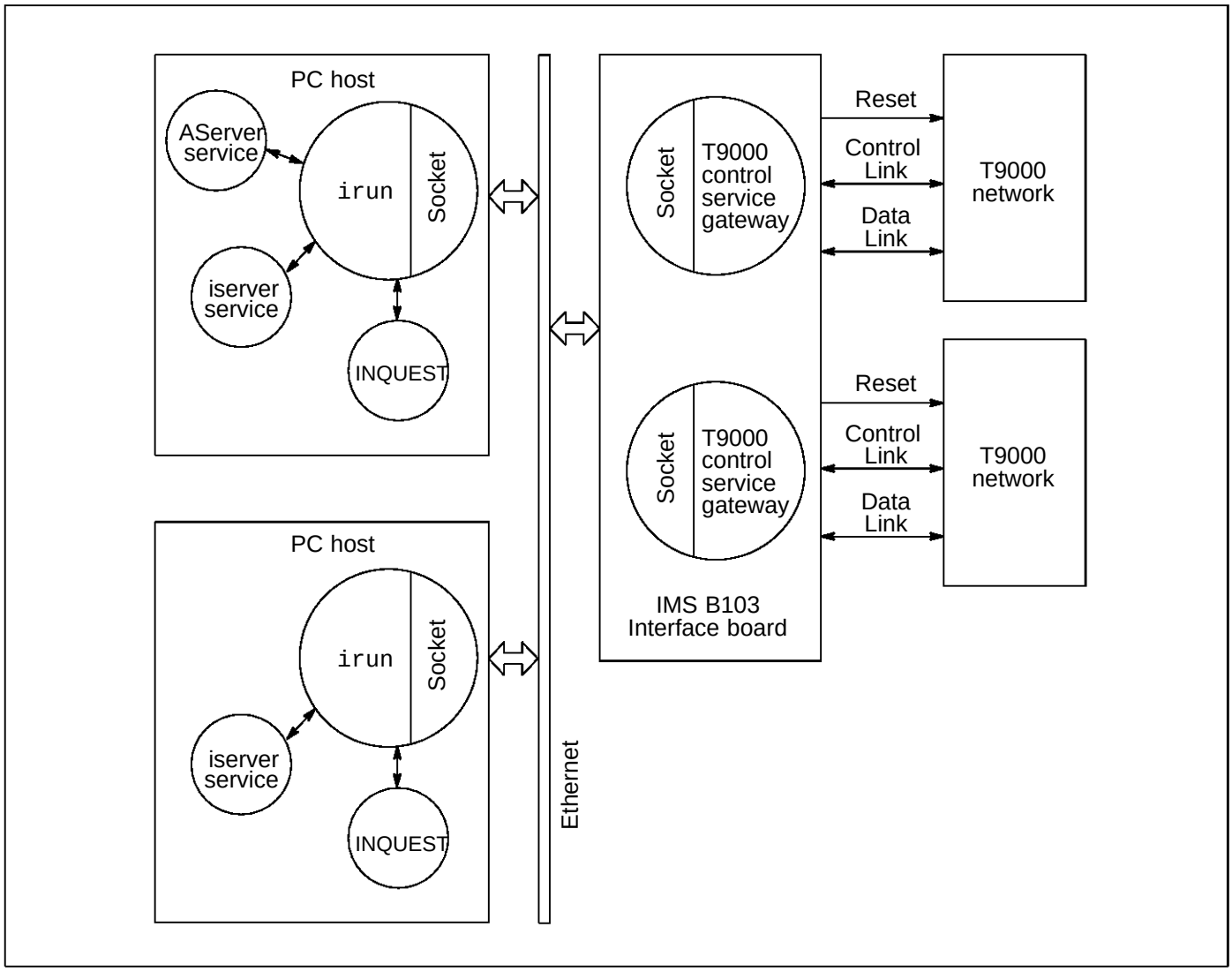


Figure 3 Networked example development environment

2 Example development environments

Figure 3 shows an example of use of the IMS S7397 with the IMS B103 interface board to provide two independent T9000 development environments.

The figure shows the software that would be running when two users with PC hosts are each accessing one T9000 target network. The application loader **`irun`** is running on each host and each **`irun`** has configured its target network and loaded an application program onto the target.

Both application programs have been configured with the INQUEST debugging option, so in each case **irun** has started the INQUEST debugger on the host and is handling communications between INQUEST and the debugger kernels on the target. Both programs have performed some host I/O, (perhaps opening a file for reading), causing **irun** to start an **iserver** service which implements this I/O. Finally, for one of the applications the user has produced a customized AServer service – perhaps providing a graphical user interface to the application, for example.

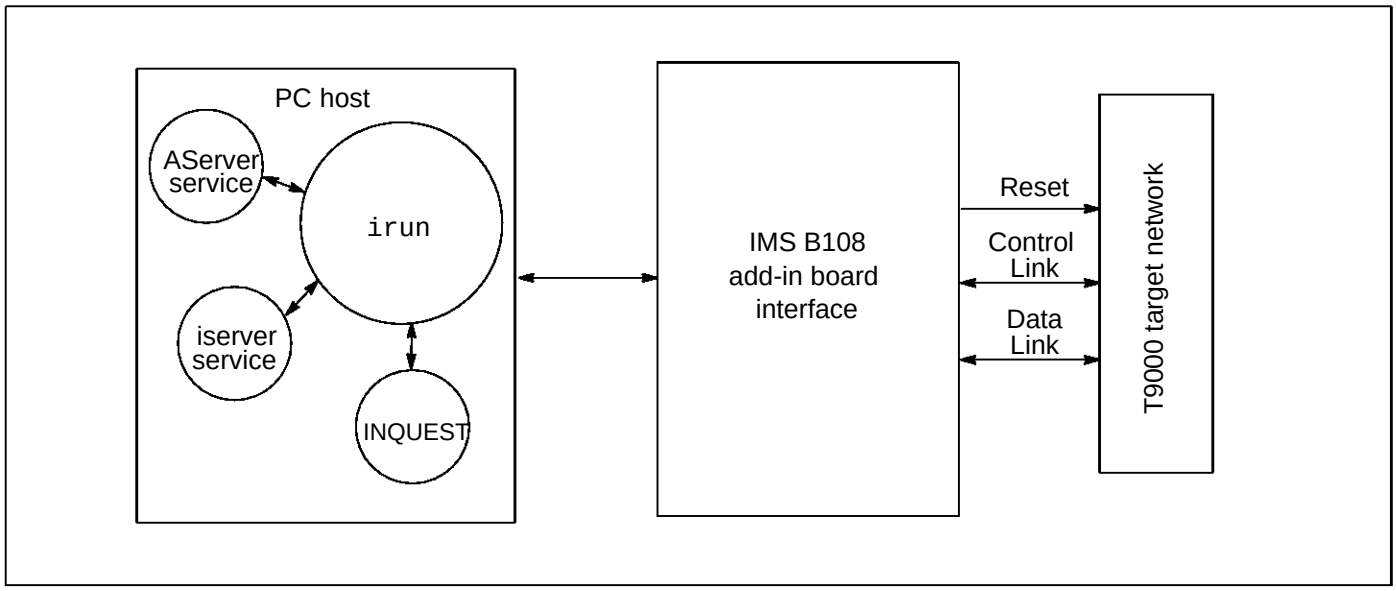


Figure 4 Add-in board example development environment

Figure 4 shows an example of use of the IMS S7397 interface software with an add-in board to provide a T9000 development environment.

The figure shows the software that would be running when the user with a PC host is accessing the T9000 target network. The application loader **irun** is running on the host and has configured its target network and loaded an application program onto the target. As with the networked example, the application program has been configured with the INQUEST debugging option, the program has performed some host I/O and the user has produced a customized AServer service.

3 Product description

The IMS S7397 product includes:

- A TFTP bootable module for the IMS B103 Ethernet to DS-Link interface that enables its use as a two user T9000 network development interface;
- **irun** application loader interface utility for the host environment;
- **iserver** run-time support server for the T9000 toolset environment;
- AServer programming interface for the host and T9000;
- AServer example programs;
- an example AServer connection database **aservdb**;
- a T9000 network analyzer **t9spy**.

Full installation and user documentation is supplied.

4 Product environmental requirements

The IMS S7397 software package is designed to be used in conjunction with the T9000 ANSI C and occam 2 toolset products and the T9000 INQUEST product. It is compatible with either:

- an IMS B103 Ethernet to DS-Link interface board;
- an IMS B108 HTRAM motherboard.

The IMS S7397 product requires a 386, or better, PC with at least 4Mbytes of memory, DOS 5.0 and Windows 3.1 or better. The product also requires a TCP/IP implementation to be installed and running on the PC offering a Winsock application library interface. The product has been verified with Microsoft and PC-NFS v5 TCP/IP implementations.

5 Ordering information

Description	Order Number
IMS S7397 T9000 PC Interface Software	IMS S7397

Table 1 Ordering information

6 Field Support

SGS-THOMSON products are supported worldwide through SGS-THOMSON Sales Offices, Regional Technology Centers and authorized distributors.