

**PROGRAM
PRODUCT
SPECIFICATION****ICAM Terminal
Support Facility****Type Number: 6231-00****SECTION I**

The ICAM Terminal Support Facility is the collection of communications routines which control the physical input and/or output to the single line communications adaptor (SLCA) and required microcode loads. This package is required for access to any terminals which connect to the SLCA. ICAM is a modular software package capable of supporting either simple or complex communications environments. A single ICAM configuration can provide concurrent support for multiple user programs that handle a variety of terminals and line types.

PRODUCT FEATURES

ICAM offers the communications user these features:

■ Message Queuing

Message queuing is the stacking of complete messages in main or disk storage while they are waiting to be serviced by a remote device handler or a message processing program.

A user, when defining the network configuration, may select line or terminal message queuing.

■ Multiple Destination Routing

The message queuing facility provides multiple routing of messages. Provision is made for allowing up to 255 destinations for a single message.

■ Activity Scheduling and Priority Control

An activity scheduling routine is provided with an optional priority queuing and scheduling capability. For use by all ICAM Software elements.

■ Timer Service

A centralized timing service for control of active data buffers and for scheduling an activity is provided for use by all ICAM software elements.

- Checkpoint/Restart

Restart procedures can reconstruct message queues to their status at the point of system hardware or software failure. The reconstruction involves only complete messages; incomplete messages must be reprocessed after the recovery operation. Restart is supported only in conjunction with a checkpoint and journaling feature. Checkpoint results in the complete network definition being written on a tape or disk file. When checkpointing has been specified, it is performed automatically by the ICAM.

- Journal Control

Journal files are required when a user of ICAM requires a recovery/restart capability, or when a statistical accounting of the network operation is required. The journal control routine provides for the recording of message processing events and message data on a disk or magnetic tape file.

- Statistics Accumulation

ICAM maintains statistics that reflect the operating status of the communication environment. These statistics are maintained by line and by terminal and are written to the journal file. The accumulation contains totals for types of information such as:

- Number of messages received
- Number of output transmission requests
- Number of input retransmission requests
- Number of poll messages
- Number of messages transmitted
- Number of no-traffic responses

Communication Interface Options:

At system generation time, the individual user can choose the level of support needed. The levels are named for the interface between the user's message processing program and the ICAM modules combined into a loadable software module. Each interface contains its own unique set of macroinstructions.

- Standard Interface

The standard interface is a conventional GET/PUT interface for communications that automatically queues input and output messages in network buffers. In this interface, the processing program requests data from a process file or input queue and not directly from the line. Conversely, output is placed in a destination queue or output queue for transmission by ICAM. An extended set of macroinstructions known as message processing procedure specifications are optionally available to this interface for additional processing of messages.

- **Transaction Control Interface**

The transaction control interface is an interface designed for customized processing of transaction programs. The user may select disk queueing or disk buffering, depending on whether he chooses to operate in transient or resident mode. Text fields may be previewed and selectively retrieved for immediate processing in main storage or stored on disk for deferred processing.

- **Direct Data Interface**

This interface permits programs to interface directly with the ICAM remote device handlers. This level of support is intended to provide a communications capability in the smallest systems while maintaining a degree of device independence. Message queueing and message recovery is performed by the DDI user program.

- **Communications Physical Interface**

The Interface between ICAM and the user's program occurs at the physical input/output level. This interface permits the user to write message control programs (without modifying the operating system interfaces) and is normally used for the attachment of foreign devices.

- **ANS '74 COBOL Communications**

SOFTWARE REQUIREMENTS

The ICAM Terminal Support Facility requires the following OS/3 software products for operation:

- SCS - OS/3 System Control Software

HARDWARE REQUIREMENTS

The ICAM Terminal Support Facility will operate on any System 80 model and configuration that meets the minimal hardware configuration requirement for that specific model and satisfies the main storage requirements specified in the software release documentation accompanying each release.

Additional main storage and/or peripheral devices may be required, depending on the user's selection of the system's supported features and the size of the user's programs, files and data bases.

SECTION II

CUSTOMER EDUCATION

Sperry Univac makes available customer education related to this program product. Course availability and schedules are contained in the published course catalog. Charges for courses will be at the then prevailing rates. Customers should contact their local Sperry Univac representatives for enrollment procedures.

PROGRAM PRODUCT SUPPORT

Sperry Univac will endeavor to correct any significant error in an unaltered current release of the Program Product, which the customer brings to the attention of Sperry Univac in accordance with established correction procedures. Sperry Univac does not represent or warrant that all errors will be corrected. This error correction service may result from time to time in update releases which the customer will install. Sperry Univac reserves the right to alter the classification of this Program Product to reflect changes in policy or support requirements.

ORDERING INFORMATION

This Program Product and its associated documentation may be leased from Sperry Univac at separately stated lease charges. Upon execution of a Supplement for Program Products (Form UD1-1306) or its equivalent for this Program Product, the following will be provided:

1. A magnetic tape, diskette(s) or removable disk media in OS/3 Operating System format containing:
 - Installation Verification Program

2. One copy of the associated documentation:
 - Software Release Documentation
 - Introduction to ICAM - UP-8846
 - System Installation User Guide, UP-8839
 - ICAM Concepts and Facilities, UP-8194
 - ICAM Network Definition & Operations User Guide, UP-8947
 - ICAM Communications Physical Interface, UP-8945
 - ICAM Direct Data Interface User Guide, UP-8549
 - ICAM Standard MCP Interface User Guide, UP-8550
 - ICAM Message Processor Procedure Specification, UP-8946
 - ICAM Utilities User Guide, UP-8552
 - ICAM Programmer Reference, UP-8269