12 January 1970

MEMORANDUM FOR: OCS Division and Staff Chiefs

SUBJECT : OCS Policy and Procedures Manual

The attached Table of Contents indicates the preliminary plan for the Procedures Manual. There are no changes planned for the arrangement and titles of sections; however, the order and content of chapters will be flexible to some degree.

All pages will be printed on a Policy and Procedures Handbook Form 3153, which was created for the purpose of organization and control of the manual. The format of the information within the manual is discussed in Topic 1.2.2. of the Introduction which is part of the attachment.

As each chapter is completed, it will be distributed to Division and Staff Chiefs for review. It is planned to allow two weeks for review. Any additions, deletions, corrections, etc., should be forwarded to [redacted] 25X1A. Comments which are received within the two-week period will be synthesized into the final version.

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[redacted]

Computer Science Advisor, OCS

Attachment: a/s

Office of Computer Services
POLICY AND PROCEDURES HANDBOOK

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CHAPTER

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3.1 Hours of Operation

3.2 Operation During Weather Emergencies

3.3 Security and Access

3.4 Tours of the Computer Center

3.5 Using the Facilities of the Computer Center

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8.0 Forms, Records, and Requests

8.1 Design and Procurement of New Forms

8.2 Computer Services Request Form (Form 930)

8.3 Speed Letter (Form 1831)

8.4 Prism Project Record (Form 2277)

8.5 Program Descripter Record (Form 2278)

8.6 Format Specifications (Form 2337)

8.7 Computer Request Form (Form 2737)

8.8 EAM Processing Request Form (Form 2875)

1.1.1 This manual describes the OCS policies and procedures to be followed when initiating, programming, documenting, and processing jobs in OCS. The manual contains the organization and function of OCS and its divisions in order that one may better understand and effectively utilize its services and facilities, a description of the OCS computer facilities; and standard practices for having a job approved for development in OCS and for the programming, testing, documentation, production, and filing of the job.

The objectives of the Policy and Procedures Handbook are:

1. to promote uniform documentation and design of jobs within the Agency for computer users.
2. to relate the needs and requirements of those offices with frequent inter-office contacts.
3. to disseminate Agency procedures which concern the computer user.
4. to establish a reference for the new employee.

1.2.1 Contents

The manual is composed of eight sections. Section 1.0 is a general discussion of the manual. Section 2.0 provides information on the structure and services available within OCS. Section 3.0 describes the OCS computer facilities, operating policies of the computer center, and lists the current hardware and software facilities available to users. Sections 4.0, 5.0, 6.0, and 7.0, provide standards and practices for all phases of project development, implementation, and operation. Section 8.0 contains information regarding all forms, records, and requests which apply to OCS functions and services.

1.2.2 Format

Each section of the manual is divided into chapters which are further divided into topics. The table of contents for the manual lists the sections and chapters. Each section is preceded by a section table of contents which gives the reference number and page number of each chapter and topic within the section.

1.2.3 Page Numbering

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DJOCS

Office of Computer Services

POLICY AND PROCEDURES HANDBOOK

Office of Computer Services

POLICY AND PROCEDURES HANDBOOK

The classification of Confidential is based upon the collection of the procedures which provide a complete summary of internal operations. Individual pages of this manual may be utilized on an unclassified basis after securing appropriate approval from the Computer Science Advisor, OCS.

Office of Computer Services
POLICY AND PROCEDURES HANDBOOK

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- 3.1.2 FACILITIES
- 3.1.3 USER TOOLS

3.2 HOURS OF OPERATION

- 3.2.1 GENERAL
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3.6-3	System-Dedicated Devices--Peripheral Systems
3.6-4	System-Switchable Devices

3.1.1 FUNCTIONS

The OCS Computer Center is dedicated to expeditiously and efficiently answering Agency requirements for data processing. The Center, through Operations Division staff, provides software and utility program and production control support to all customers. Questions about services and how to obtain them after reading the information herein, should be directed to Chief, Customer Services Section, X4045. These questions should form the basis for future updates to this section.

3.1.2 FACILITIES

The Center is designed and operated with computer hardware, software, and staff to provide general computer support to the entire Agency. New hardware and software are under constant evaluation by computer specialists (such as the Advanced Projects Staff or Technical Services Branch) to identify and respond to new requirements and changing Agency priorities. Staffing is addressed in subsection 3.3, hardware in 3.6, and software in 3.7.

3.1.3 USER TOOLS

To assure users of good service, they should be familiar with the information described in Sections IV and V. Section IV, Project Management Control, addresses control procedures from job initiation through production, quality, securing technical assistance, and reporting deficient products. Section V, Processing Standards, describes procedures and standards necessary to use the Computer Center's facilities. Members of the Operations Division are available to advise and assist users with any questions or problems.

Potential users also may find that it is advantageous to consult with or operate through one of the OCS applications programming divisions or staffs, especially for substantive problems. For example, the Scientific Applications Division develops and/or converts programs utilizing mathematical, statistical, or numerical-analysis techniques to solve problems in the areas of physical sciences, electrical and aerospace engineering, mathematical simulation, etc. The Management Support Division is staffed with a support group, the Design Integration Staff, that generally is responsible for the quality of the software developed in this division, and for the software design of systems using the Generalized Information Management System (GIMS).

Operations Division is staffed with personnel (specifically the Technical Services Branch) that are prepared to aid in the solution of specific hardware/software/programming problems. Consult the Guide to Office of

Computer Services, especially the "Functional Directory" attachment, to determine the appropriate organization or individual to contact. Unusual hardware/-software requests should be transmitted through the Information Processing Coordinator, one of which has been appointed for each Agency Directorate.

3.2.1 GENERAL

The OCS Computer Center operates 24 hours per day, 7 days per week, except for certain preapproved Holidays. Hours of operation are categorized as during prime time, non-prime time, and emergency.

Job scheduling for all systems during all hours of operation are described in Section IV, "Project Management Control." It is suggested that the reader reference Section IV also for terminology definitions such as "job categories," "priority service," "certified/non-certified terminals," etc.

3.2.2 PRIME TIME

Prime time is the hours from 0800 to 1800, Monday through Saturday, with all processing facilities available and the Point accessible. Prime time is scheduled to meet the following objectives:

- Provide less than 2-hour turnaround time (TT) for Category C jobs requiring less than 15 minutes' CPU time.
- Complete processing of all Category C jobs submitted by 1430 hours by 1700 hours, that require less than 15 minutes' CPU time.
- Provide timely service to Category A job requests.
- Provide timely response to Interactive Systems users.

Another service provided during prime time is current system status information by calling the following extensions:

Information	Extension
Interactive Systems:	
CP/CMS	6801
Online OS information (non-CP/CMS)	7766
ASP, for special processing requests	7766
Point, for batch job information	4292
Automatic status report of batch systems	7433

3.2.3 NON-PRIME TIME

Non-prime time is all hours other than prime time (reference 3.2.2) unless time is declared to be of an emergency nature (reference 3.2.4); specifically, from 1800 to 0800 hours, Monday through Saturday, and 1800 hours Saturday to 0800 hours Monday (includes all of Sunday).

Automatic non-prime time scheduling is designed to maximize throughput and minimize costs. The objectives to be realized during non-prime time are as follows:

- Provide the Agency with emergency computing service.
- Process prearranged priority job requests.
- Process batch load remaining from prime time.
- Provide limited interactive service.

3.2.4 EMERGENCY TIME

Emergency time is during any number of conditions declared to be critical by nature, such as: inclement weather--earthquakes, storms, floods, droughts; major power failures; threats to the safety and stability of this country (nuclear, war, air); emergency conditions occurring within the Headquarters building; emergency conditions confined to the Computer Center; etc.

Written procedures for operating during emergencies are maintained in the Center's Supervisors' office, and available to all chief operators and supervisors. Staffing during emergency conditions is described in subsection 3.3, "Staffing."

Total staffing support consists of personnel trained to plan, organize, and control the operation of the computer and pheripheral data-processing equipment (reference 3.6) on a 24-hour basis (reference 3.2) to effectively meet Agency processing requirements.

The complement of staffing is illustrated in Figure 3.3. Computing services are available 24 hours per day; however, staffing support is scheduled commensurate with the Agency's workload. Since most Agency employees' productive work is anywhere from 0900 to 2000 hours, the heaviest staff support, accordingly, is provided during these hours.

Staffing support is divided into three shifts--day, evening, and midnight--each overlapping into the next shift by one-half hour to provide smooth transition from one shift to another. Also, split shift coverage occasionally is assigned to meet certain prescheduled processing requirements. Shift assignments are on a two-week rotational basis, by teams, with emphasis toward ensuring that all equipment operations are properly represented, and that all personnel are properly trained (continuous training, as required, is enforced).

The shift schedule is enforced seven days per week, including weekends and Holidays; however, the staffing complement, for example, for a day shift of a normal work day (e.g., Monday) would differ from a day shift of a Holiday or Sunday.

It should be noted that--although operational support is available 24 hours per day, coverage during non-prime time (eves, mids, weekends, and Holidays) must be precoordinated with the Computer Processing Branch (CPB), X6572.

During emergency conditions (such as inclement weather), supervisory personnel determines and contacts the appropriate individuals to staff and maintain uninterrupted operational, hardware, and software support.

Questions resulting from review of this subsection or for information not covered herein, should be directed to the Chief, CPB, or his alternate.

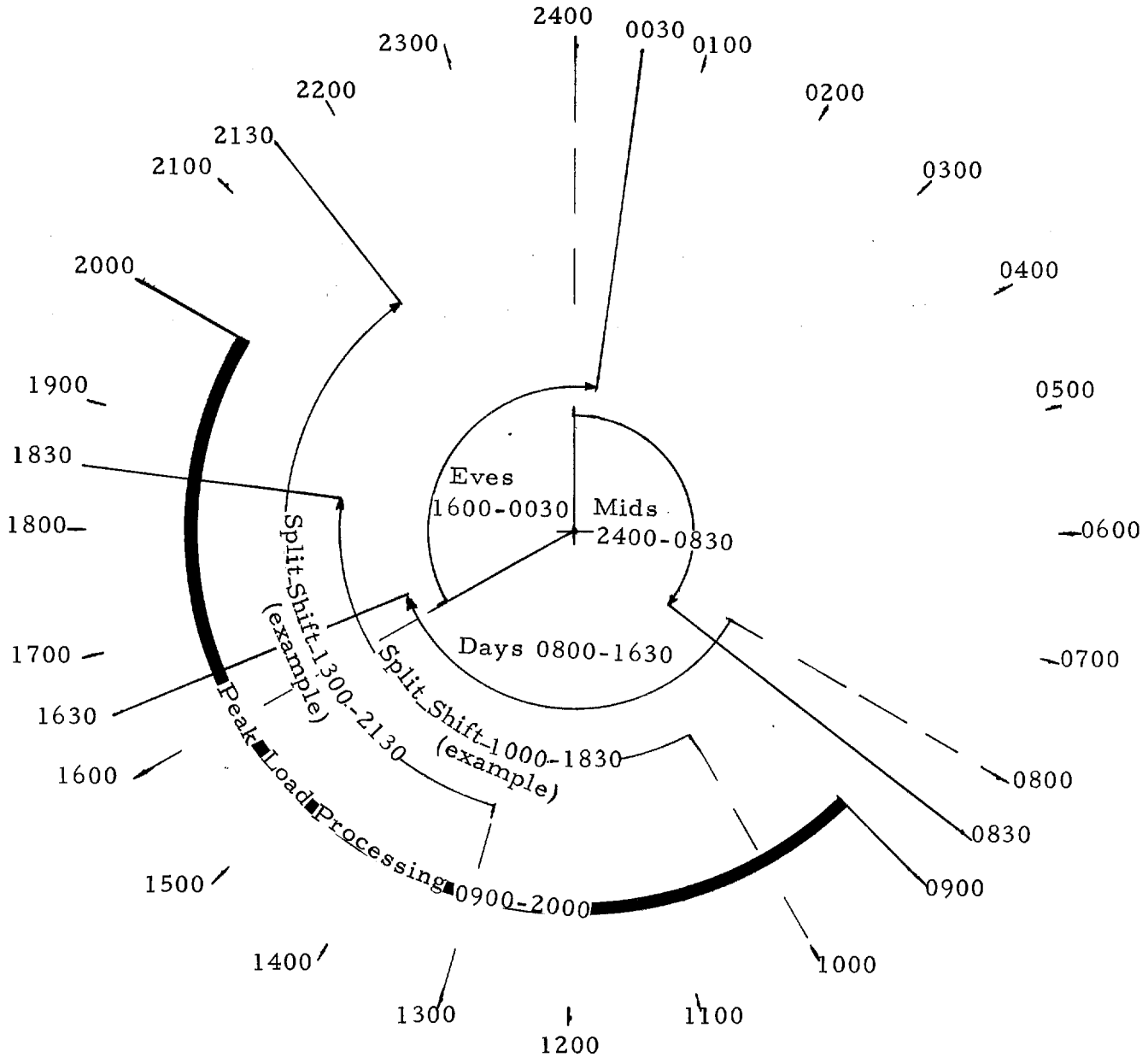

Figure 3.3. Total-Support Staffing Coverage

3.4.1 GENERAL

Procedures have been designed and implemented for security purposes to protect against ungainful access to the OCS Computer Center's computer area. These procedures are divided into two groups--access during and access after normal duty hours (not to be confused with "Hours of Operation," described in subsection 3.2)--each of which are described herein. Access privileges to the computer area also are classed by requirement--individuals requiring unrestricted (or "Easy") access (reference 3.4.2.1, "Permanent") and individuals requiring intermittent access (reference 3.4.2.2, "Temporary"). Names of individuals approved for either of these access classes are listed on Security Office-compiled, -monitored, and -maintained access lists which remain in effect both during and after normal duty hours.

3.4.2 ACCESS DURING NORMAL DUTY HOURS

A receptionist furnished by the Security Office (SO) controls traffic to/from the Center's computer area from 0730 to 1730 hours Monday through Friday.

Access to the computer area, determined and approved by the Operations Division Chief and OCS Security Officer, is controlled according to type--permanent, temporary, or escort required--each of which are described in the following paragraphs.

3.4.2.1 Permanent

Only personnel responsible for daily operations (and integrity thereof) in the computer area (e.g., computer operators, Customer Engineers, systems programmers, etc.) with proper security clearances gain "permanent access" status, which allows unrestricted movement within/to/from the area. The names of these personnel are maintained on the "OCS Access List, Easy Access With Badge Indicators," a copy of which is kept at the Center's OS Receptionist's desk. These personnel are [redacted] 25X1A

25X1A [redacted]. This indicator remains until such time the employee no longer requires permanent status.

3.4.2.2 Temporary

Personnel with the requirement to gain periodic access to the Center's computer area gain "temporary-access" status (e.g., certain management types directly associated with the Center's activities, technical writers

that must gain periodic access to meet docomentation requirements, software programmers requiring periodic immediate access to the equipment/operators, etc.) are allocated "temporary-access" status. Basically, this status allows the same freedom within the computer area as "permanent-access" status except on entrance to and exit from the computer area. Names of these indi-

25X1A

[redacted]

3.4.2.3 Escort Required

25X1A

[redacted]

3.4.3 ACCESS AFTER NORMAL DUTY HOURS

Procedures after normal duty hours are similar to those during normal duty hours. The major exception is the absence of an OS Receptionist, whose duties then are assumed by Control Point personnel.

The Section Chief and/or senior Operator are responsible for maintaining and enforcing proper access security (reference 3.4.2). Other methods are available to provide access security of the Center (after hours). In the event that the doors to GC03 are secured, call X4292 for admittance (the Center normally is staffed 24 hours per day, 7 days per week).

Tours are conducted through the Center's computer area for a variety of purposes and people. The ADP Training Staff frequently arranges for and conducts tours as part of their ADP-orientation courses; staff outside of OCS arrange tours for familiarization of the dynamic changes that occur within the Center to adjust to Agency changing requirements; annual tours are conducted for families of Agency personnel; etc.

Operations Division personnel are available to conduct tours; however, tours may be conducted by other knowledgeable and approved OCS personnel.

The following are procedures relative to arranging/conducting Computer Center tours:

- All tours must be coordinated in advance with the Chief, Operations Division, or his representative, X4465.
- Existing space conditions of the Center limit group size to six to eight, to permit adequate hearing and visibility.
- Non-Agency people must secure prior approval of the OCS Security Officer, X4011, to participate in a tour.
- It is suggested that a list of visitor names, badge numbers, and organization be submitted in advance to the receptionist for sign-in procedures--this saves time and avoids confusion at the entrance to the computer area.
- It is the responsibility of whomever conducts the tour to ensure the security of all equipment during the tour--such as advising the participants that no equipment is to be touched (especially buttons and switches), or only the equipment being described at any given time is appropriate subject matter, etc.

3.6.1 GENERAL

Computer Center hardware devices are grouped in three specific configurations, as follows:

- System-Interrelated Devices (reference 3.6.2 and Figure 3.6-1)
- System-Dedicated Devices (reference 3.6.3 and Figures 3.6-2 and 3.6-3)
- System-Switchable Devices (reference 3.6.4 and Figure 3.6-4)

Users are requested to refer to the appropriate vendor-published documentation for hardware descriptions and capabilities.

3.6.2 SYSTEM-INTERRELATED DEVICES

The Center's major computers are configured to perform the functions of the ASP (Attached Support Processor) and Interactive Systems (reference subsection 3.7, "Software") currently utilized to realize the Agency's processing requirements, as follows:

Computer	ASP		Interactive	
	Main	Support	CP/CMS	OS Online
360/195	X	X		
360/65-1		X		
360/65-2	X	X*		X
360/67-1	X	X*	X	
360/67-2	X	X*	X	X

Note that the 360/67-2 primarily is used for development.

*These computers would be run only as a LASP (they would not support any other CPUs)

Figure 3.6-1. System-Interrelated Devices

3.6.3 SYSTEM-DEDICATED DEVICES

Hardware that is dedicated to only one computer system is listed in Figures 3.6-2 for the major systems, and 3.6-3 for the peripheral systems. Each piece of dedicated equipment is listed by model/type, quantity, and device name for each system.

Major System	Dedicated Device		
	Model/Type	Quantity	Device Name
IBM 360/65-1	2065-H	1	Processing Unit
	1052-7	1	Printer-Keyboard
	2365-2	1	Processor Storage
	2860-3	1	Selector Channel
	2870-1	1	Multiplexer Channel
	6990	1	Selector Subchannel 1
	6991	1	Selector Subchannel 2
	4273	1	Multiplexer Channel Extension
	2000	1	Ampex Large-Core Storage (LCS)
IBM 360/65-2	2065-IH	1	Processing Unit
	1052-7	1	Printer-Keyboard
	2365-2	3	Processor Storage
	2860-3	1	Selector Channel
	1850	1	Channel-to-Channel Adapter
	2870-1	1	Multiplexer Channel
	6990	1	Selector Subchannel 1
	6991	1	Selector Subchannel 2
	4273	1	Multiplexer Channel Extension
	2000	1	Ampex Large-Core Storage (LCS)
IBM 360/67-1	2067-1	1	Processing Unit
	1052-7	1	Printer-Keyboard
	2365-2	4	Processor Storage
	2860-3	1	Selector Channel
	1850	1	Channel-to-Channel Adapter
	2870-1	1	Multiplexer Channel
	6990	1	Selector Subchannel 1
	6991	1	Selector Subchannel 2
	0757	1	Multiplexer Extension

Figure 3.6-2. System-Dedicated Devices--Major Systems
Sheet 1 of 2

Major System	Dedicated Devices		
	Model/Type	Quantity	Device Name
IBM 360/67-2	2067-1	1	Processing Unit
	1052-7	1	Printer-Keyboard
	2365-2	2	Processor Storage
	2860-3	1	Selector Channel
	1850	1	Channel-to-Channel Adapter
	2870-1	1	Multiplexer Channel
	6990	1	Selector Subchannel 1
	0757	1	Multiplexer Extension
IBM 360/195	3195-K	1	Processing Unit
	3851	1	Extended Channels
	3060-1	1	System Console
	3080-1	1	Power Unit
	3080-2	1	Power Unit
	3080-3	1	Power Unit
	3085-1	1	Power-Distribution Unit
	3086-1	1	Coolant-Distribution Unit
	7412-1	1	Console
	3215-1	1	Console Print Keyboard
	2880-2	1	Block Multiplexer Channel
	2860-3	1	Selector Channel
	1850	1	Channel-to-Channel Adapter
	2860-2	1	Selector Channel
	2870-1	1	Multiplexer Channel
	6990	1	Selector Subchannel 1
	6991	1	Selector Subchannel 2

Figure 3.6-2. System-Dedicated Devices--Major Systems
Sheet 2 of 2

Peripheral System	Dedicated Device		
	Model/Type	Quantity	Device Name
IBM 360/20-1	2020-C2	1	Processing Unit
	1403-N1	1	Printer
	1416-1	1	Train Cartridge
	2415-1	1	Magnetic Tape Unit and Control
	2560-A1	1	Multifunction Card Machine
IBM 360/20-2	2020-C2	1	Processing Unit
	1403-N1	1	Printer
	1416-1	1	Train Cartridge
	2415-1	1	Magnetic Tape Unit and Control
	2560-A1	1	Multifunction Card Machine
CDC Page Reader	915	1	Optical Page Reader
	8022	1	Page Reader Controller
	8092B	1	Teleprogrammer
	8096	1	Teletypewriter
	8291	1	Paper-tape Punch
	8299	1	Paper-tape Reader
	0601	1	Magnetic Tape Transport
	8193	1	Magnetic Tape Controller
CalComp Plotter	0900	1	Plotter Control
	900-1136	1	Interface
	1136	1	Drum Plotter
	937	1	Magnetic Tape Unit
Bunker-Ramo	BR90	1	Terminal

Figure 3.6-3. System-Dedicated Devices--Peripheral Systems
Sheet 1 of 2

Peripheral System	Dedicated Device		
	Model/Type	Quantity	Device Name
COMTEN	T3670	1	Processor
	T3016	3	Multiplexer Channel Expansion
	T4001	1	Console
	T2017	1	Bisynchronous Modem Interface Module
	T2040	1	Bisynchronous Modem Interface Module Extension
DatagraphiX (Stromberg)	4360	1	Micromation Printer with an F230 Universal Camera

Figure 3.6-3. System-Dedicated Devices--Peripheral Systems
Sheet 2 of 2

3.6.4 SYSTEM-SWITCHABLE DEVICES

Other than the central processing units (CPUs) or main frames, the operators' consoles, and the connecting channels, most of the equipment comprising the Center is switchable. These devices may be switched to/from various computer systems via the four IBM 2914 Switching Units.

Figure 3.6-4 is representative of the types of devices that are switchable. Because of the dynamic requirements levied on the various systems, it is not possible to accurately list all of the devices and applicable systems at any given time. The illustration includes the device name, model/type, quantity, and systems to which the device may be switched as of the above date.

Switchable Device			IBM 360 Systems				
Model/Type	Quantity	Device Name	195	65-1	65-2	67-1	67-2

These charts will follow.

3.8.1 GENERAL

The tape library, a doubly-secured area located in GC0309A, Headquarters building, is a vault within a vault; specifically, the library itself is a vaulted area within the Computer Center (GC03), which also is a vaulted area.

The library is operated 24 hours per day with its own access-control procedures under the direction of the Chief, Computer Processing Branch.

Users are requested to familiarize themselves with the rules and procedures governing tape library functions (reference Section V).

3.8.2 STAFFING

The tape library is staffed 24 hours per day, commensurate with staffing of the Computer Center (reference subsection 3.3). Normally, the library is staffed with three personnel during the heavy dayshift activities, and one during both the evening and midnight shifts; however, if unusual circumstances prevail, extra coverage is provided, accordingly.

If circumstances are such that no support is required (such as during an approved and prearranged Holiday), the area is secured and vaulted, but with personnel "on call" in case of an emergency.

3.8.3 EQUIPMENT

The tape library is furnished with the following:

- Independent alarm system to alert personnel of impending emergency conditions.
- Independent wet-pipe sprinkler system for emergency fire conditions.
- Approximately 15,000 reels of tape, with both slimline cases and selfloading cartridges (emphasis is on total stocking with selfloading cartridges), and both 800-bpi and 1600-bpi tested tapes (emphasis is on total stocking with 1600-bpi tested tapes).
- Tape storage racks to accommodate the approximately 15,000 magnetic tapes.

- KYBE TMS Model 70 Tape Cleaner/Verifier.
- KYBE Tape Cleaner.
- GKI Magnetic Tape Erasures (three units)--these units are approved by the Office of Security as being adequate to comply with effective degaussing procedures.
- IBM 2741 Communications Terminal--used for TAPE FETCH operations for jobs already in the system.
- Computer-Link Corporation's Model 650 Disk Pack Inspector--for verifying mechanical tolerances and cleaning the individual disk surfaces.
- Randomex Model 235 Disk Pack Cleaner.

4.1 GENERAL
4.2 PROJECT INITIATION

4.2.1 PROCEDURE
4.2.2 AUTHORITY
4.2.3 APPROVAL
4.2.4 APPROVAL NOTIFICATION

4.3 PRODUCTION RESPONSIBILITY

4.3.1 GENERAL
4.3.2 CUSTOMER
4.3.3 CUSTOMER SERVICES SECTION (TSB/OPS/OJCS)
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4.4 SCHEDULING COMPUTER CENTER RESOURCES

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4.5 TECHNICAL ASSISTANCE

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4.6 PROCESSING INTEGRITY (nearing completion)

4.6.1 POLICY
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4.6.2.1 ASP System Output

4.6.2.1.1 SYSOUT A Listing:
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B - Completeness
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D - Online Punched-Card Output Requests
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4.6.2.1.2 ABEND Codes
4.6.2.1.3 JCL Error Messages
4.6.2.1.4 Online-Generated Punched-Card Output Requests

4.6.2.2 IBM 360/67-1 Interactive System Output

4.6.2.2.1 Printer Output
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4.6.2.3.1 Multiproduct Job
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4.7.1 GENERAL
4.7.2 TYPES

4.7.2.1 General
4.7.2.2 Remote Terminal Devices
4.7.2.3 Peripheral Equipment
4.7.2.4 ...

4.8 QUALITY CONTROL (being developed)

4.8.1 GENERAL
4.8.2 RESPONSIBILITY
4.8.3 ORGANIZATION REVIEW GROUP (ORG)
4.8.4 CHANGE CONTROL PROCEDURES
4.8.5 ...

This section provides guidelines on how to obtain and use services provided by the Office of Joint Computer Support (OJCS), and the procedures implemented by Operations Division personnel to provide and protect the effectiveness of these services.

A prospective customer normally approaches OJCS with a programming problem or task for either a partial or total solution, which OJCS terms as "projects." Form 2277, PRISM Project Record (reference 4.2.1 and Section VIII), provides the prospective user with a simple vehicle on which to register this problem, which is used for costing and data control purposes.

The publication entitled A Guide to OCS, especially the "Functional Directory" attachment, is a useful tool to guide potential users or customers to OJCS services.

The remainder of this section documents basic customer/OJCS relationships, prudent resource management, and the minimum control necessary for orderly operation of a large computer center, such as the OJCS Computer Center.

4.2.1 PROCEDURE

When an individual or office (potential customer) is ready to formally request OJCS services, it is assumed that a set of processing requirements (termed by OJCS as a project) exists. The potential customer must first complete and submit a Form 2277, "PRISM Project Record," to the Director of OJCS for review and action. Following the Director's approval and acceptance of the proposed project, the Form 2277 is the vehicle by which a unique identifier and common reference to all phases of activity is formulated for the project.

The potential customer also should accompany the form with any other pertinent facts that would aid in the OJCS Director's determination of which OJCS resources are being tasked, especially if the OJCS Applications Programming Division support is required.

4.2.2 AUTHORITY

OJCS endeavors response to all requests, and exercises value judgement on a particular project only on request. The requesting office holds the responsibility to ensure the validity of its request for OJCS services and that the expenditures are to the benefit of the mission of the office and Agency.

4.2.3 APPROVAL

The Director, OJCS, must ensure that OJCS resources are adequate before approving acceptance of any proposed project. OJCS systems or programming resources are limited and must be coordinated with one of the OJCS programming divisions. Most requirements for "normal" computing hardware can be accommodated; however, "unusual" hardware/software requirements should be directed through the requesting office's Directorate Information Processing Coordinator (reference subsection 4.7, "Computer-Related Equipment Requests").

4.2.4 APPROVAL NOTIFICATION

Following the OJCS Director's decision to accept a project, a copy of the approved Form 2277 is returned to the requesting office as OJCS' official agreement to support the project.

4.3.1 GENERAL

After a project has been programmed and successfully tested, the requesting office, itself, may assume the responsibility for production processing (reference 4.3.2) or submit it to the Customer Services Section (CSS/TSB/OPS) (reference 4.3.3). The following addresses the responsibilities of each decision.

4.3.2 CUSTOMER

If the requesting office elects to assume production processing responsibility, OPS will continue providing hardware support, as requested. However, the original PRISM Project number and office designation must be specified for such requests. The customer also must ensure that only the minimum number of necessary magnetic tapes be assigned and retained for his use by the tape library, and that current, adequate backup files are maintained.

4.3.3 CUSTOMER SERVICES SECTION

If the requesting office elects to submit the project to OJCS for production processing, procedures must be coordinated with the Customer Services Section (CSS) as early as possible during the testing stage. CSS advises the customer as to the required documentation that must be supplied (reference 4.3.4), and coordinates other details, as required.

CSS' responsibility to the project includes the following:

- Scheduling computer resources.
- Backup files.
- Input control.
- Output verification.
- Program modification in the event of OS or ASP changes.
- Cataloging datasets and programs, as required.
- Program optimization.

- Ensuring timely delivery of output products to proper destination.
- General "trouble shooting" activities to protect the integrity of the project.

4.3.4 REQUIRED USER DOCUMENTATION FOR CSS SUPPORT

The following lists information that must be furnished and forms that must be completed and submitted to the Chief, CSS, prior to CSS's acceptance of project production responsibility. Section VIII provides the instructions for completing each of the forms. CSS also assists users in completing all forms and selecting only those necessary for project production documentation for their particular project.

- Copy of "PRISM Project Record," Form 2277 -- this form initially was completed and submitted when the individual or office formally requested OJCS services (reference subsection 4.2, "Project Initiation").
- "Program Descriptor Record," Form 2278 -- used to provide a brief program description, including program language and version, list of modules used and where they are located in the system, and core requirements (including minimum and maximum transactional variations, etc.).
- "Reports - Printer Setup and Distribution," Form 2968a -- used to provide customer-desired printing instructions.
- "Computer Processing Request," Form 2737 -- used as the vehicle to submit certain (not all) jobs for processing and control by the Computer Center.
- "Record Format Description," Form 2968 -- used to describe the inherent features of a program record; its fields--number, name, length, type (alpha or numeric), and description of each--are listed.
- Other Required Information -- deemed necessary by CSS to ensure processing continuity and integrity, such as:
  a. System and/or program flowcharts.
  b. Sample "expected" output produced from the object deck and/or module, such as SYSMSG.

c. "Run Schedule" -- processing daily, weekly, monthly, quarterly, etc.

d. Rerun procedures, in the case of an abnormal job termination (ABEND).

- Data Backup Forms:

a. "Data Backup Questionnaire" -- to be completed if no data backup support is required other than that provided by the OJCS Tape Library.

25X1A b. "[redacted] Data Backup Request" -- to be completed for data that is deemed irreplaceable and of vital importance to the Agency.

c. "Headquarters Data Backup Request" -- accompanied by a justification memorandum, to be completed for data of the highest priority and sensitivity that must be accessible in less than 24 hours--usually 30 minutes or less.

4.4.1 GENERAL

This subsection describes the procedures in effect for scheduling the Attached Support Processor (ASP) resources provided by the Computer Center, the characteristics that form processing requirement categories (reference 4.4.2) designed to encourage effective scheduling, and methods by which customer/-Center communications are enforced.

Control, as described herein, is directed toward the ASP System as being the "standard" system on which most Agency work is processed. The other systems, such as interactive and peripheral, are addressed elsewhere in this document.

The objectives of controlled scheduled processing are as follows:

- Establish and maintain procedures for optimum utilization of resources.
- Effectively and expeditiously accommodate all of the processing requirements levied on the Center.
- Maximize service to the user, especially during "prime time" (reference 3.2).
- Effectively communicate submitter requirements to the Center, and, in turn
- Provide the submitter with current project/system status information.

Successful achievement of these objectives depends on operator/customer cooperation and understanding relative to available hardware/software resources. Also, it should be noted that Operations Division personnel cannot evaluate the urgency or relative priority of computer processing requirements, nor can individuals submitting work for a third party. This responsibility rests with the customer, who should exercise objectivity in selecting his requirement categories, and consideration of the fact that any job processed will impact turnaround time on all other jobs submitted.

4.4.2 PROCESSING REQUIREMENT CATEGORIES

Scheduling of computer processing resources is based on the specific requirements of the job. Processing requirements are categorized into the following five areas:

Category	Description
A	Category A represents an urgent processing request that must be processed during prime time by a specified time and date, regardless of the run characteristics or resources (reference 4.4.5). This type of request must be approved by the Director (or his alternate) of the office for which the job is to be processed.
B	Category B requests are such that they require monitoring by a specific programmer (determined by the submitter) during processing to correct errors as they occur. Operations alerts the submitter when the job is to be started, and the submitter acts accordingly.
C	Category C requests are submitted for processing during prime time (normally) with an "ASAP" turnaround time.
D	Category D represents processing completion by 0800 hours the following morning.
E	Category E requests are processed on a "time-available-basis," but must be completed no later than the time and date specified on the Form 2737--usually at least 24 hours after being submitted.

4.4.3 REQUESTING COMPUTER PROCESSING

Form 2737, "Computer Processing Request," (reference Section VIII) must be used to request all computer processing, regardless of category (reference 4.4.2), which should include all applicable run characteristics. Operations Division schedules the Center's resources based (by category) on the general algorithms described in paragraph 4.4.4.

4.4.4 PRIME-TIME SCHEDULING ALGORITHMS

4.4.4.1 General

Category A jobs are processed before all other jobs, regardless of their characteristics. A queue is reserved for A-jobs, and only under extreme situations would they be aborted while being processed.

The ASP System has five initiators, each of which has its own queue with equal priority. Following completion of A-job processing, the queues are filled and scheduled according to certain setup and core requirement criteria. Under special conditions, a queue with slack time may be loaded with jobs that don't conform to the criteria for that queue. It should be noted that a job with the least number of setups and least-required CPU time generally is scheduled at a higher processing priority. Users should estimate their CPU time as accurately as possible to take advantage of the scheduling algorithms (reference 4.4.4.2).

The JCL JOB card contains a TIME parameter to be used to specify maximum CPU time, e.g.,

```
//jobname JOB (suboperands),userID,REGION=nnnK,
//      TIME=nnnn,CLASS=<A through E>
```

where, nnnK equals core size, and nnnn equals minutes (maximum four digits).

4.4.4.2 ASP Scheduling Priorities

The criteria that determine priority scheduling under the ASP System range from 00 through 09 (priority 02 is reserved for processing work by the Center's operators). Classes A, D, and E are scheduled permanently for processing as follows:

Class	Priority
A	09
D	01
E	00

The criteria that determine scheduling priority for Class C jobs are as follows:

Core Requirement	Run Time (minutes)					
	≤1	≤4	≤7	≤12	≤15	≤1440
260	08	07	06	05	04	03
320		06	06		04	03
410			06		04	03
16383						03

4.4.4.3 ASP Print Output Priority

After job processing is complete, another set of criteria determines the priority at which a job is printed, specifically the number of lines to be printed, except in the case of Classes A, D, and E jobs, as follows:

Priority	Lines	
14	≤ 1000	
13	≤ 2000	and all Class A jobs.
12	≤ 3000	
11	≤ 4000	
10	≤ 5000	
09	≤ 6000	
08	≤ 7000	
07	≤ 8000	
06	≤ 9000	
05	≤10000	
04	≤15000	
03	≤20000	
02	≤50000	
01	>50000	
00	-------	all Classes D and E jobs.

4.4.5 SCHEDULING URGENT PROCESSING REQUESTS

The following procedures have been established to ensure that urgent processing requests (Category A) are completed by the specified date and time, regardless of run characteristics. Because of the dynamic nature of the Center's loading situation, blanket or long-term approval or further delegation of authority cannot be granted or recognized.

1. The user should consult first with C/CPB, X7586, to learn the status of hardware and job processing backlog. This information enables the user to determine whether or not his processing requirements can be handled through routine processing procedures--such as for Category C jobs (reference 4.4.2 and 4.4.4.2, "Queuing").

2. If conditions of the Center preempt advantageous routine processing, the user submits a Form 2737 specifying a request for Category A processing (reference Section VIII for aid in completing the form), which first is approved by an Office Director, Clandestine Service Division Chief (or his designee), or the Directorate Information Processing (IP) Coordinator.

3. When time and/or circumstances do not allow following these normal procedures, individual requests may be called for consideration directly to the Chief, Operations Division, X4465.

4.5.1 GENERAL

Computer Center users are encouraged to coordinate all computer-processing-oriented problems with the Customer Services Section (CSS/TSB), black extension 4045, red extension 1918, located in GA0513, Headquarters Building.

CSS attempts to either administer the technical assistance themselves, or locate the expertise elsewhere that possibly could solve the user's problem. CSS is prepared to interface with the source of information, or it may be decided that the user assume this task, whichever proves the most efficient and beneficial to the user.

Specific areas in which CSS is prepared to assist the Computer Center user are as follows:

- Assist in the solution of problems experienced by Computer Center customers, such as improper use of JCL, abnormal job termination (ABENDs) codes, inability to access certain user files, I/O errors, and any unexplanable processing problem or the solution of which is not apparent to the user.

- Recommend system software modifications as the result of identifying the solution to processing problems. CSS interfaces with the Systems Section (SS/TSB) to coordinate this type of activity and determine the feasibility of such changes.

- Write/modify generalized programs, as required and subject to approval by Chief, TSB, to support customer processing requirements. Reference Section VIII, "Computer Services Request", Form 930.

- Maintain user-dedicated portions of a system, such as entries in the Users' Procedures Library (PROCLIBU), system catalog, shared disk packs, etc.

- Test system changes and ensure readiness prior to their being placed into a production environment.

- Arrange for and coordinate data backup, as requested. Reference Section VIII for proper forms.

4.5.2 CPB USER ASSISTANCE

CPB provides users (if desired) with assistance in identifying and determining the cause of various processing problems, and suggests methods for correcting the problem(s) or directs the user to appropriate personnel for assistance (such as CSS).

CPB assistance is requested either directly by the user or through CSS (reference 4.6.3). The operators assigned to the CPB control area, GC03 Headquarters, are prepared to direct users to the appropriate CPB personnel responsible for providing this assistance.

4.5.3 REPORTING USER PROBLEMS

Inadequate processing may be caused by any number of problems related to hardware, software, and/or human intervention. If the user experiences certain processing problems unsolvable through his own effort, the Chief, CSS, should be notified (reference 4.5.1). Depending on the nature and cause of the problem, the Chief, CSS (or his alternate), coordinates this effort accordingly with his own staff, CPB personnel (reference 4.5.2), other TSB personnel--such as SS, HSS, or Chief, TSB, if required, or any authority necessary to solve the problem.

Initially, users only need to furnish the following minimum information to initiate assistance in solving their problem, which may be related simply by contacting CSS on extension 4045:

- User(s) name and extension number.
- Brief description or statement of problem.
- The answer to certain questions posed by CSS during the conversation.

Frequently, the above information is ample in solving the problem. However, CSS may determine that additional information is required, for example:

- Copy of the job's SYSMSG, if it actually was generated; if not--
- Job name.
- Date and time of execution.
- Core dump if job was terminated with an ABEND code (e.g., 0C6).
- Programming language used, such as PL/I, FORTRAN, COBOL.
- System used (if known); may be major (such as 360/65s, 67s, or 195) or peripheral (such as the Model 20s, CDC 915 Page Reader, DatagraphiX, Paper Tape Reader/Punch, etc.).
- Procedure or utility used, such as PROCLIB, PROCLIBU, FORTLIB, etc.

- Input/output devices used, such as tape units, disk drives, printers, etc.
- Extenuating circumstances, such as power surge or failure.
- Name of other individuals aware of or familiar with the problem that could possibly furnish additional information, such as CPB.

If the above-described procedures prove inadequate or unsuccessful, the problem documentation should be directed for action by the Chief, Operations Division, room 1D1601 Headquarters, extension 4465.

There are times when work performed by the Computer Center is not what is expected. This may be due to computer hardware malfunction, software malfunction or inadequacy, operator error, or other causes. This should immediately be brought to the attention of the Chief, Operations Division. The procedure for doing this is described below:

1. A standard Agency Speed Letter (Form 1831) should be filled out by the person who must correct the defect, usually the OCS contact.

2. Indicate on this form (as a minimum):

   a. Job name and program number;

   b. Date of run;

   c. OCS/Operations Division log number;

   d. Whether test, assembly, or production;

   e. Machine identity (if known);

   f. Description of problem in narrative;

   g. Who has been notified as a preliminary measure and when, if appropriate.

It will be presumed that all reasonable steps have been taken by the user to ensure that everything was done correctly by the user before notifying the Chief, Operations Division, of a particular problem.

Form 1831 is a three-part form. Fill out the form, retain one copy, and forward two copies to Chief, Operations Division. All such notifications, as documented, will be answered.

The reply to the user also is considered as a reply to the customer component, particularly on problems of a general nature.

When the form is received, the Operations Division, Technical Staff, undertakes fact finding, analysis, and takes action or makes recommendations on the problem.

Technical assistance is provided by the OCS Technical Staff and generally falls into three basic categories:

1. Writing/modifying generalized programs and utilities in support of programmers.

2. Software systems support, including such items as maintenance and updating of cataloged procedures, PROCLIB, etc., and modifications to systems software caused by the identification and solution of problems.

3. Assistance in solving program problems which may be related to systems software, program languages, compilers, assemblers, etc.

To obtain technical assistance, submission of a Computer Services Request Form 930 is required for Categories 1 and 2 above and would be helpful if submitted for Category c above.

The form 930 should be addressed to the Chief, Technical Staff, OCS, and filled out giving all pertinent facts concerning what is required. (Refer to Section 8 for instructions for completing Form 930.) If submitted for Category 3 above, it should include attached documentation related to the problem including dumps, printouts, etc.

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POLICY AND PROCEDURES HANDBOOK

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5.1.1. General

All output and scratch tapes for use in the OCS Computer Center are obtained from the scratch tape pool. Tapes stored in the scratch tape pool have been degaussed. In addition, it is possible to assign a set of tapes to a specific project to be used as input, output, or scratch tape, at the discretion of the user. The procedure for assigning tapes to projects is given below.

5.1.2. Tapes Assigned to Projects

1. The procedure allows the user to assign a set of magnetic tapes to a specific project or program. These tapes remain within the project to which they are assigned until the Project Leader authorizes their return to the pool. In effect, all tapes assigned to a project become permanently saved tapes.

2. To invoke this procedure, the Project Leader should contact the Tape Librarian and establish how many tapes are required for the system to function and identify by reel number and external label those tapes which are to be in the system. This should include backup tapes as appropriate. The Project Leader will be given a list of the tape reel numbers assigned to that project. The external tape label identification must be sufficiently unique, including project name and control number, for Operations Division to insure that those tapes are not used for any other project or job submission.

3. At job submission time, the instructions on Form 2737 or the job documentation must precisely state which reels of tape by number and name are to have the protective rings either inserted or removed for each computer run.

4. The Project Leader is responsible for the cyclic control of tapes within the project by maintaining accurate, up-to-date records on the status of tapes within each of his projects. The Tape Librarian will provide periodic listings of these tape reel numbers, by project, in order for the Project Leader to verify the status of each tape.

5. As necessary, tapes can be added to, removed from, or replaced within, a given project.

6. If the user wants to use scratch tapes from the Library pool, this should be indicated on the form 2737.

7. If the Project Leader wants any of the tapes assigned to a project to be degaussed, he must request this in writing to the Tape Librarian. The date, the tape number, and the external label of the tape must be included.

8. If a project, using this rotating tape procedure, is turned over to the Production Control Branch for operational responsibility, the project documentation must include the tape reel control numbers and identification.

9. The use of project-assigned tapes may have impact on such things as the size of the magnetic tape library inventory, computer setup time, etc. Therefore, the appropriate Division or Staff Chief must approve each request for use of this new procedure for each project before the request is made to Operations Division.

The following procedure will be followed in updating the current OCS version of the IBM Operating System being used in the Computer Center. These updates will include the addition of load modules, macros, procedures, and catalogued data sets as well as any modifications to the system itself:

1. System updates will be made on every other Friday. The update will be ready for general use at 0800 the following Monday. The new system packs created are processed on that Friday for the creation of backup tapes and all necessary operational system packs.

2. Submitters should document their request on a Form 930 addressed to the Chief, Technical Staff, and submit it at least two weeks prior to the next scheduled update. Requests received during the two weeks prior to an update may or may not be included in the update. One copy of the 930 will be returned to the requestor stating the date that his requested modification was incorporated into the system.

3. The Chief, Technical Staff, is responsible for the order in which requests are processed. Requestors will be contacted if a delay is anticipated in complying with their request. Requests with an unusually high priority will be handled on an individual basis.

Jobs run under 360 OS Release 16 must be submitted with two job cards in the following format:

Card 1 Columns

1-3	//L
4-5	Submitter Office Code
6-8	Log Number from the Form 2737
9-11	Blank (Not Used)
12-14	Punch the letters JOB in these columns.
15	Blank (Not Used)
16-27	(AAAB, CCDD)
72	*

AAA = Three digit control number that is assigned by the Production Control Branch on Form 2277.

B = 0 if a test run, 1 if a production run.

CC = Two character customer office code which is being supported by this run.

DD = The security classification of the printed output

TS if Top Secret
SC if Secret
CL if Confidential
UN if Unclassified

Card 2 Columns

1-2	//
3-15	Blank (Not Used)
16-25	MSGLEVEL=1

NOTE: The above job card format will permit PRIORITY and CLASS cards to be inserted between Card 1 and Card 2.

Job Card Example

```
1               12      16              72
//L3E111        JOB     (2330,31UN)     *
//                      MSGLEVEL=1
```

If job cards are not in this format, the editing functions of the software will cause the job to terminate before execution.

5.4.1 General

The purpose of this instruction is to define the policy and procedures which have been established for the control of tapes, disc packs, data cells, and similar data storage devices used in the OCS Computer Center.

5.4.2 Policy

1. OCS tapes, disc packs, data cells, and similar devices used for information processing in the Computer Center are maintained and controlled by the Operations Division Tape Librarian. Each item is considered to bear the classification of the highest level of information ever recorded thereon, unless it has been downgraded by means of a degaussing or overwrite technique approved by the Office of Security.

2. Such material is stored in the Library Vault except when actually in use. Storage or retention in other locations in the Computer Center is prohibited.

3. Items received from other Agency components or other organizations which are to be permanently retained in the Computer Center will be treated as OCS data processing material and will be entered into the Library system.

5.4.3 Procedures

1. Prior to use in the Computer Center, all OCS tapes, discs, and data cells are assigned a unique number by the Librarian and are thereafter regularly accounted for under the Library inventory procedures. Data processing material from other Agency components or other organizations which is obtained for temporary use in the Computer Center will be logged in by the Production Control Branch and will be labelled as non-OCS material. This material will similarly be logged out through the Production Control Branch when it is released.

2. If an OCS tape, disc pack, or data cell must be removed from the Computer Center, a removal permit must be obtained from the

Production Control Branch, and the item must be logged out through the Production Control Branch. Upon its return, each item will be logged in through the Production Control Branch and returned to Library Control.

3. Failure to comply with these procedures shall constitute the unauthorized handling of classified information and shall be treated as a breach of security on the part of the responsible individual.

5.4.4 Removal of OCS Volumes from the Computer Center

TAPE REMOVAL RECORD NO. A 00084	REEL IDENTITY B
SPECIAL COMPARTMENTATION LIST C	

OUT D	IN E
F	G
RELEASED TO: (LAST NAME)	RETURNED TO: (LAST NAME)

EXTERNAL RELEASE	BADGE NUMBER H	TELEPHONE NO. I	CLASS. J	DESTINATION K

IRM 067653

1. Fill out a tape removal record with the following information:

A. Pre-printed by Operations Division;

B. Reel Number;

C. If the volume bears a Special Compartmentation Sticker, "C" should contain this special alpha character.

D. Date and time the volume is released (time stamped);

F. The last name of the individual removing the volume (must be legible);

H. The Agency badge number of the individual removing the volume;

I. The extension of the individual removing the volume;

J. The classification of the volume;

K. The destination of the volume

Note: The above procedure applies to Disk Pack also.

MAGNETIC TAPE REMOVAL PERMIT NO.-------

REEL NO.--------
THIS TAPE HAS BEEN REMOVED FROM THE
CONTROL OF THE CIA COMPUTER CENTER
TAPE LIBRARIAN

CLASSIFICATION----------;

2. A Magnetic Tape Removal Permit must be attached to the volume.

A. Tape Removal Record Number (paragraph 1A). Above.

B. Reel number of the volume being removed.

3. The classification is to be stamped in at the bottom of the Removal Permit. This information must be provided by the individual removing the volume from the Computer Center.

4. File the tape removal record in the suspense file, by the reel number.

5.4.5. Return of OCS Volumes to the Computer Center

1. Remove the tape removal record from the suspense file.

   E. Date and time returned (time stamp).

   G. The last name of the individual to whom the volume is returned (must be legible).

2. The tape removal permit on the volume must be removed and placed on the back of the tape removal record.

3. Send the volume and tape removal record to the Tape Library.

5.7.1. Program Applications

The IEBPTAPE program reads or punches five, six, seven or eight level paper tape. The program will create an output data set on any OS/QSAM supported device and can have as input to the punch program any QSAM data sets, including paper tape.

Records can be read or punched to meet either standard specifications or user specifications. The standard specifications are as follows:

- EBCDIC code is the default for reading or punching if no code parameter is supplied.
- Physical record size to be read or punched is 480 characters.
- Reading of paper tape is assumed if no read or punch code is indicated.

Other specifications can also be supplied, provided that no record size exceeds 1000 characters.

The IEBPTAPE program provides optional facilities such as the submission of a user translate table via a sequential input data set, copying, adding to or deleting existing paper tape files from a sequential data set, or combining two or more paper tape input reels into one punched output reel.

The program can be used to:

- Read or punch five, six, seven or eight level paper tape and perform the necessary code translation.
- Translate to or from EBCDIC several paper tape codes including Teletype, TTS, Dura, ASCII-8 level, ASCII-7 level for PDP or a user supplied code.
- Reproduce a paper tape directly from the Paper Tape Reader.

5.7.2. IEBTAPE Table 1 Data Sets Used (Input) and Produced (Output)

Input

Paper Tape Reader Data Set: This sequential data set contains the data to be read.

Paper Tape Punch Data Set: This sequential data set contains the data to be punched.

Paper Tape Old Data Set: This sequential data set contains data from previously read paper tapes. It is required only when using the copying, adding or deleting functions.

Translate Table Data Set: This sequential data set contains the translate table supplied by the user. It is only used if the required code is not supplied by the utility.

Outputs

Paper Tape Reader Data Set: This sequential data set contains the data read from the 2671 Paper Tape Reader.

Paper Tape Punch Data Set: This sequential data is the output produced by the 1018 Paper Tape Punch.

Message Data Set: This data set contains information such as record and file counts and error messages.

5.7.3. Control

The IEBPTAPE program is controlled by the job control statements and two parameters supplied via the PARM field on the EXEC card. The job control statements are required to execute or invoke the IEBPTAPE program and to define the data sets that are used and produced by the program. The PARM field parameters control the function of the IEBPTAPE program.

5.7.4. IEBPTAPE Table 2 Job Control Statements for IEBPTAPE

JOB
statement- Initiates the job step

EXEC
statement- Specified the program name (PGM=IEBPTAPE) and also supplies the parameters to control the utility functions.

PTREADER DD- Defines the 2671 Paper Tape Reader data set.

PTPUNCH DD- Defines the 1018 Paper Tape Punch data set.

PTPRINT DD- Defines a sequential message data set. This DD statement must be present for each application of the IEBPTAPE program.

SYSUT1 DD- Defines the input data set to be punched. It can define a sequential data set on a card reader, a magnetic tape volume, or a direct access device.

SYSUT2 DD- Defines the output data set to be created from reading paper tape. It can define a sequential data set on a card punch, a printer, a magnetic tape volume or a direct access device.

TABLE DD- Defines sequential data sets containing a translate table. It is only used when the user is supplying the code to be used in translation.

PTOLDMAS DD- This sequential data set specified the input data set when using the copy, add, or delete functions. When this data set is used SYSUT2 must also be specified.

5.7.4. IEBPTAPE Table 2 (con't)

NOTE: The input data sets can contain fixed-length or undefined-length records. If undefines, the DCB information must contain the largest possible record length.

Both the output data set and the message data set can reside on the system output device when reading a paper tape. This capability allows you to print a paper tape.

5.7.5. User ABEND Codes

111	Paper Tape Reader DCB Failed to Open DDNAME=PTREADER
222	Paper Tape Output DCB Failed to Open DDNAME=SYSUT2
333	DCB for User Supplied Translate Table Failed to Open DDNAME=TABLE
777	DCB for Old Tape Master File Failed to Open DDNAME=PTOLDMAS
888	DCB for Punch Input Failed to Open DDNAME=SYSUT1
999	Paper Tape Punch DCB Failed to Open DDNAME=PTPUNCH

5.7.6. Constructing the User Translate Table

The IEBPTAPE program uses the S/360 Translate instruction for code conversion. With this instruction, the S/360 can translate data from any code to any desired code, provided that each coded character consists of eight bits or fewer.

5.7.6. Constructing the User Translate Table (con't)

The operation is as follows:

An argument byte (first operand) is obtained from storage. The eight-bit byte, interpreted as a binary number, is added to the second operand address, thereby giving a new address somewhere in the conversion table. The byte at this newly computed address is obtained from storage and placed in the position occupied by the original argument byte. This action is repeated for all argument bytes until the first operand is exhausted.

The table contains the characters of the codes into which you are translating. This table must be in order, not by the binary values it contains, but by the binary sequence of the original code.

EXAMPLE: Dura code 'A' to EBCDIC 'A'

The binary code for the Dura 'A' is 01011100, which is 5C in hexadecimal and 92 decimal. The coding for an EBCDIC 'A' is 11000001=C1=193. Set up the table so that 92 bytes after the start of the table, beginning with the count of zero, there is a byte consisting of 11000001=C1=193. Thus, an 'A' in dura code read from the paper tape will be properly translated.

For a further example, take the word TABLE. It would have the following Dura codes:

$T = 01100111 = 67_{16} = 103_{10}$

$A = 01011100 = 5C_{16} = 92_{10}$

$B = 01100000 = 60_{16} = 96_{10}$

$L = 01101001 = 69_{16} = 105_{10}$

$E = 01100101 = 65_{16} = 101_{10}$

5.7.6. Constructing the User Translate Table (con't)

Setting up a table, it would look like this:

	0	1	2	3	4	5	6	7	8	9	A	B	C	E	E	F	
0																	0
1																	1
2																	2
3																	3
4																	4
5													C1				5
6	C2					C5		E3		D3							6
7																	7
8																	8
9																	9
A																	A
B																	B
C																	C
D																	D
E																	E
F																	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Continuing this procedure for the remaining Dura code, and then filling the remainder of the table in with FF-characters which will be deleted when translation takes place, the table would look like this:

5.7.6. Constructing the User Translate Table (con't)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	FF	50	E0	FF	40	FF	FF	FF	6E	FF	70	FF	FF	FF	7E	FF	0
1	6F	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	1
2	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	2
3	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	3
4	60	E8	FF	FF	D8	D7	4C	D1	FF	5B	FF	FF	6B	4D	C6	C7	4
5	E6	E2	FF	FF	C9	FF	4B	5D	FF	D6	FF	FF	C1	D9	E5	D4	5
6	C2	C8	FF	FF	D2	C5	D5	E3	FF	D3	FF	FF	C3	C4	E4	E7	6
7	F9	F0	FF	FF	F6	F5	F2	E9	FF	F4	FF	FF	F8	F7	F3	F1	7
8	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	8
9	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	9
A	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	A
B	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	B
C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	C
D	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	D
E	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	E
F	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

5.7.7. Table Data Card Format

The card format is as follows:

Column 1-2 Numeric sequence
Column 3 Blank
Column 4-67 64 characters from two rows of your table

For a 256 byte table, 8 data cards must be submitted. The last card must have the following format:

Columns 1 - 3 END

5.7.7. Table Data Card Format (con't)

EXAMPLE:

```
T1 FF50E0FF40FFFFFF6EFF70FFFFFF7EFF6FFFFFFFFFFFFFFFFFFFFFFFFFFF
T2 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
T3 60E8FFFFD8D74CD1FF5BFFFF6B4DC6C7E6E2FFFFC9FF4B5DFFD6FFFFC1D9E5D4
T4 C2C8FFFFD2C5D5E3FFD3FFFFC3C4E4E7F9F0FFFFF6F5F2E9FFF4FFFFF8F7F3F1
T5 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
T6 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
T7 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
T8 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
END
```

This deck would then be submitted as an input data set to the utility using the 'U' code in the parameter field of the EXEC card. //EXEC PGM=IEBPTAPE, PARM='R,U'.

5.7.8. End-of-Record Switches (EOR)

The eight end-of-record switches on the 2671 Paper Tape Reader can be used for setting an 8-bit EOR code.

Upon sensing the EOR character as defined by the switches, the reader stops, but no EOR character is sent to the SYSTEM/360.

If the tapes contain successive EOR characters, all are recognized and not transmitted.

5.7.8. End-of-Record Switches (EOR) (con't)

The sensing of the EOR code will cause a record to be written to the output device.

EXAMPLE: Incoming code is teletype. Would like to delimit record by sensing of a carriage return which is A X'02'.

The bit structure is 00000010 and the bits correspond to the switch settings on the 2671 (87654321).

Therefore, to detect this carriage return, you would have to include in your setup instructions for the operator to place switch 2 in the upright position with all other switches down.

5.11.1. Standard 360 Print Train

The standard print train graphics and codes are as follows:

CHAR	DEC	HEX	CARD	CHAR	DEC	HEX	CARD
1	241	F1	1	(	77	4D	12-8-5
2	242	F2	2	A	193	C1	12-1
3	243	F3	3	B	194	C2	12-2
4	244	F4	4	C	195	C3	12-3
5	245	F5	5	D	196	C4	12-4
6	246	F6	6	E	197	C5	12-5
7	247	F7	7	F	198	C6	12-6
8	248	F8	8	G	199	C7	12-7
9	249	F9	9	H	200	C8	12-8
0	240	F0	0	I	201	C9	12-9
X	231	E7	0-7	+	78	4E	12-8-6
Y	232	E8	0-8	.	75	4B	12-8-3
/	97	61	0-1	)	93	5D	11-8-5
S	226	E2	0-2	%	108	6C	0-8-4
T	227	E3	0-3	$	91	5B	11-8-3
U	228	E4	0-4	*	92	5C	11-8-4
V	229	E5	0-5	#	123	7B	8-3
W	230	E6	0-6	&	80	50	12
|	79	4F	12-8-7	@	124	7C	8-4
:	122	7A	8-2	M	212	D4	11-4
_	109	6D	0-8-5	N	213	D5	11-5
"	127	7F	8-7	O	214	D6	11-6
,	107	6B	0-8-3	P	215	D7	11-7
=	126	7E	8-6	Q	216	D8	11-8
J	209	D1	11-1	R	217	D9	11-9
K	210	D2	11-2	-	96	60	11
L	211	D3	11-3	Z	233	E9	0-9

5.11.2. EPIC Print Train

The EPIC print train graphics and codes are as follows:

CHAR	DEC	HEX	CARD	CHAR	DEC	HEX	CARD
1	241	F1	1	*	92	5C	11-4-8
2	242	F2	2	%	27	1B	11-3-8-9
3	243	F3	3	'	93	5D	11-5-8
4	244	F4	4	‘	94	5E	11-6-8
5	245	F5	5	°	95	5F	11-7-8
6	246	F6	6	†	80	50	12
7	247	F7	7	a	193	C1	12-1
8	248	F8	8	b	194	C2	12-2
9	249	F9	9	c	195	C3	12-3
0	240	F0	0	d	196	C4	12-4
=	123	7B	3-8	e	197	C5	12-5
.	75	4B	12-3-8	f	198	C6	12-6
>	125	7D	5-8	g	199	C7	12-7
<	126	7E	6-8	h	200	C8	12-8
↓	42	2A	0-2-8-9	-	192	C0	12-0
r	217	D9	11-9	'	124	7C	4-8
s	226	E2	0-2	@	224	E0	0-2-8
t	227	E3	0-3	[	59	3B	3-8-9
u	228	E4	0-4	]	78	4E	12-6-8
v	229	E5	0-5	}	79	4F	12-7-8
w	230	E6	0-6	1	1	01	12-1-9
x	231	E7	0-7	2	2	02	12-2-9
y	232	E8	0-8	3	3	03	12-3-9
z	233	E9	0-9	4	4	04	12-4-9
(	108	6C	0-4-8	5	5	05	12-5-9
)	76	4C	12-4-8	6	6	06	12-6-9
,	107	6B	0-3-8	7	7	07	12-7-9
-	96	60	11	8	8	08	12-8-9
.	110	6E	0-6-8	9	9	09	12-1-8-9
,,	111	6F	0-7-8	0	10	0A	12-2-8-9
i	201	C9	12-9	#	11	0B	12-3-8-9
j	209	D1	11-1	&	15	0F	12-7-8-9
k	210	D2	11-2	^	77	4D	12-5-8
l	211	D3	11-3	/	13	0D	12-5-8-9
m	212	D4	11-4	\	12	0C	12-4-8-9

5.11.2. EPIC Print Train (cont'd)

CHAR	DEC	HEX	CARD	CHAR	DEC	HEX	CARD
n	213	D5	11-5	/	97	61	0-1
o	214	D6	11-6	S	17	11	11-1-9
p	215	D7	11-7	T	18	12	11-2-9
q	216	D8	11-8	U	19	13	11-3-9
$	91	5B	11-3-8	V	20	14	11-4-9
_	41	29	0-1-8-9	W	21	15	11-5-9
..	16	10	12-11-1-8-9	X	22	16	11-6-9
↳	43	2B	0-3-8-9	Y	23	17	11-7-9
.	44	2C	0-4-8-9	Z	24	18	11-8-9
~	14	0E	12-6-8-9	⌣	45	2D	0-5-8-9
⋀	25	19	11-1-8-9	A	46	2E	0-6-8-9
;	26	20	11-2-8-9	B	47	2F	0-7-8-9
!	208	D0	11-0	C	48	30	12-11-0-1-8-9
v	28	1C	11-4-8-9	D	49	31	1-9
•	29	1D	11-5-8-9	E	50	32	2-9
_	30	1E	11-6-8-9	F	51	33	3-9
J	31	1F	11-7-8-9	G	52	34	4-9
K	32	20	11-0-1-8-9	H	53	35	5-9
L	33	21	0-1-9	I	54	36	6-9
M	34	22	0-2-9	±	55	37	7-9
N	35	23	0-3-9	:	56	38	8-9
O	36	24	0-4-9	•	57	39	1-8-9
P	37	25	0-5-9	≠	58	3A	2-8-9
Q	38	26	0-6-9	?	40	28	0-8-9
R	39	27	0-7-9	{	60	3C	4-8-9

5.11.3. Standard RCA Print Table

CHAR	DEC	OCTAL	301 CHAR	CHAR	DEC	OCTAL	301 CHAR
-	32	40	-	(	13	15	(
+	26	32	+	;	28	34	;
space	15	17		>	15	17	
0	00	00	0	↑	15	17	
1	1	01	1	]	15	17	
2	2	02	2	[	15	17	
3	3	03	3	←	15	17	
4	4	04	4	=	62	76	=
5	5	05	5	A	17	21	A
6	6	06	6	B	18	22	B
7	7	07	7	C	19	23	C
8	8	10	8	D	20	24	D
9	9	11	9	E	21	25	E
,	59	73	,	F	22	26	F
.	27	33	.	G	23	27	G
@	12	14	@	H	24	30	H
%	60	74	%	I	25	31	I
:	29	35	:	J	33	41	J
#	11	13	#	K	34	42	K
$	43	53	$	L	35	43	L
)	14	16	)	M	36	44	M
"	48	60	"	N	37	45	N
subscript$_{10}$	15	17		O	38	46	O
CR	15	17		'	30	36	'
*	44	54	*	P	39	47	P
&	16	20	&	Q	40	50	Q
/	49	61	/	R	41	51	R
⌑	15	17		S	50	62	S
T	51	63	T	U	52	64	U
V	53	65	V	W	54	66	W
X	55	67	X	Y	56	70	Y
Z	57	71	Z				

5.11.4. RCA 301 Characters

CHAR	DEC	OCTAL	301 CHAR	MEANING
]	10	12	_	Underline (space)
[	42	52	EI	End of Information
>	45	55	ED	End of Data
<	46	56	EF	End of File
÷	58	72	EB	End of Block
↑	61	75	.	Item Separator
space	15	17	$(17)_8$	Not Designated
CR	31	37	$(37)_8$	" "
subscript$_{10}$	47	57	$(57)_8$	" "
⌧	63	77	$(77)_8$	" "

8.1 Design and Procurement of New Forms*

8.2 Computer Services Request Form (Form 930)

8.3 Speed Letter (Form 1831)

8.4 Prism Project Record (Form 2277)*

8.5 Program Descripter Record (Form 2278)

8.6 Format Specifications (Form 2337)

8.7 Computer Request Form (Form 2737)*

8.8 EAM Processing Request Form (Form 2875)

8.9 OCS Charge Record Form (Form 2865)*

*Chapter Completed

8.1.1. OCS Records Manager

The OCS Records Management Office is responsible for revising and reordering existing forms and approving new forms. All action taken on forms will be coordinated through the OCS Records Management Officer.

8.1.2. Request for Additional Forms

Stock replenishment is controlled by the Office of Logistics. Periodically, they send a Form 30A to the OCS Administrative Office, indicating the amount of forms they have on hand and what action is recommended. If additional forms are required, the administration office prepares a Form 70 and submits it to Forms Management Services.

8.1.3. New Forms or Revisions to Existing Forms

Forms may be created or revised by submitting a REQUEST FOR APPROVAL OF FORM (Form 30), along with example form to your Division Chief. The form is evaluated and approved by the Division Chief and then submitted to Records Management Officer/OCS. After approval by the Records Manager, the form is submitted to the Records Administration Staff, which is responsible for coordinating the records and having the forms printed.

8.1.4. Request for Special Printer Paper

Requests for a specific type of printer paper are initiated by completing a REQUISITION FOR MATERIALS AND/OR SERVICES, (Form 88), with subsequent approval by the Division Chief. Processing of the form is coordinated through the OCS Supply Officer and the Processing Control Branch of the Office of Logistics who evaluate the forms for general use. After approval of the form, the OCS Supply Officer officially requests the printer paper from the Office of Logistics. It is the responsibility of the requesting party to determine the size of the initial order as well as the stock level to be maintained.

8.4.1. Purpose

The purpose of Form 2277 is to give OCS management effective control over computer projects and to provide a unique identification for each project.

The objective is to establish a project number and description which, when associated with an appropriate user code, can be used to summarize OCS activity related to a particular project/customer. A degree of judgment is involved in defining the scope of a project; e.g., it is not desirable to establish a project for each program or computer report and, on the other hand, the scope should not be so broad that it will not provide meaningful information about a particular area of interest.

Provision is made for pseudo-projects which consist of an unbounded number of unrelated programs or sequence of programs in which some explainable generic relationship exists. This should be explained in the Brief Description of the project.

Form 2277 is submitted by the Project Leader whenever the Division Chief or other appropriate official has approved the project as an OCS task and responsibility. It is submitted to the Director/Office of Computer Services in triplicate for approval. A project number and title are assigned to be used in the PRISM Project Register. From OCS, the form is sent (in triplicate) to the Chief, Production Control Branch, where the project is entered into the PRISM Project Register. The form is then sent to the tape librarian, where the name of the person to receive the tape lists is recorded. An approval copy containing the appropriate project number and name is returned to the project leader.

8.4.2. Instructions for Completing Form 2277

1. Project Number - A unique three (3) position numeric job identifier assigned by D/OCS after the form has been reviewed and approved by D/OCS and C/PCB. When using this control

number, the two-digit alpha-numeric customer office code is used as a prefix. This then becomes a five (5) position identifier for all listings, cards, and storage data as well as machine accounting.

2. Project Name - This is the short title assigned by the user and is a maximum of ten (10) alpha/numeric characters. Most users find it desirable to use an acronym as a meaningful short title.

3. Date - Date of submission.

4. New, Change, or Deletion - Indicate one. If change or deletion is noted, indicate disposition of data storage media.

5. Customer Office(s) - Enter the customer office(s).

6. Customer Code - Enter the customer code.

Note: The list of customer office and customer codes is classified and is maintained separately from this manual.

7. Send Tape Lists To - Enter person responsible for scratching tapes.

8. Computers Used - Enter the computer(s) to be used.

9. Languages - Enter the primary computer language of the project.

10. OCS Contact - Assigned by OCS. This should be an OCS individual who has primary responsibility to the customer and is most knowledgeable of the job requirements.

11. Customer Contact - Assigned by the user. This should be the person and office that is requesting OCS service and the contact for any questions or problems.

12. Brief Description of Project - This should be a general description of the particular project and its objectives. It should include information on the purpose, type of activity, products, and any other pertinent information (limited to 150 positions of data).

13. Submitted By - Enter the name of the submitter.

14. D/OCS - Approved by D/OCS or his representative.

15. C/PCB - Received and registered by C/PCB; project number is assigned.

16. Tape Librarian - Notifies librarian of the new project number.

8.7.1. General

The Computer Processing Request Form comprises an original and two copies. To submit a job for computer processing, the form must be filled out and submitted with the job. Copy three (3), after time stamping, will be returned to the job submitter as his receipt and authorization to pick up the completed job. The first two copies are retained by Operations. Instructions are printed on the back of each 2737.

When copy three (3) is presented to pick up work, the last name and initials of the individual to whom this job is released is entered in the "Released To" box. Copy two (2), with appropriate operations comments, and copy three (3) are returned to the submitter. Copy one (1) is retained by Operations.

If copy three (3) has been misplaced, it will be the responsibility of the job submitter to insure that it is not presented to the Computer Coordination Staff by an unauthorized individual. This could result in a violation of security or in release of proprietary data to an unauthorized individual.

8.7.2. Instruction for Completing Form 2737

LOG NUMBER - A unique log number is preprinted on each form. The submitter enters his office code preceding this log number. Office codes are classified and are maintained separately from the Procedures Notebook.

RUN_____OF_____ - It is anticipated that normally "1 of 1" will be entered here. If it is necessary to have jobs processed in sequence, then explicit instructions should be entered in the special instructions space as to the steps the operator should take if one of the jobs terminates abnormally before the successful completion of all jobs.

TIME IN - Filled in by Operations Division; indicates time when the request is received.

TIME AVAILABLE - Filled in by Operations Division; indicates time when the job is ready for pick-up.

TIME RELEASED - Filled in by Operations Division; indicates time job is picked up by the customer.

PROJECT NUMBER - A five-digit control number assigned to each job by the submitter. The first two digits are the office code of the office for which the job is being processed, and the last three digits are the project number as assigned on the PRISM Project Record Form 2277 (see Section 8.4)

Note: OCS should only be charged for test runs if the production runs will be charged to OCS.

PROJECT/PROGRAM NAME - The valid project name that has been assigned and approved on the PRISM Project Record (Form 2277). Can be followed by program name if desired.

O/P CLASS - The security classification of output data. (Include an indication of any special systems control.)

MACHINE USED - The major computer on which the job is to be processed; e.g., 360/65, Spectra 70/45, etc.

SUBMITTER'S NAME AND EXTENSION - Submitter's last name, initial, and telephone extension.

EST. RUN TIME - The estimated run time in minutes on the major computer used. A) MVT or Time Sharing = estimated CPU time. B) Other = estimated elapse time.

MAX. RUN TIME - A) MVT = maximum time allowed before the system cancels the job. B) Other = the maximum run time in minutes a job should be allowed to process before being terminated by Operations.

DATE AND TIME NEEDED - This should be a realistic indication of absolute requirements and is used with Requirement Categories A, B, and E only.

RELEASED TO - Signed by person to whom job is released.

REQ CATEGORY - Filled in by the submitter with the proper category code. (Refer to 4.3.2. Requirement Categories.)

TYPE OF RUN - Checking the box to the left of "OS" indicates a 360/Operating System run; a run other than OS MVT is indicated by checking OTHER and entering designator (e.g., 360/20, 70/45, etc.) in the space provided. Also, the appropriate word designating the process, i.e., test or production, must be checked. If the job library is to be updated, check LIB UPDATE.

VOLUMES - Device - Refer to legend on back of the form and fill in appropriate code. For direct access devices, indicate only other than system volumes. Unit - Refer to legend and fill in appropriate code. Volume No. - (a) Tapes - Required from user for input. Entered by operator for output. (b) Direct Access Devices - Required from user for input and output. I/O - Enter "I" for input volumes or "0" for output volumes. Density - Refer to legend and fill in appropriate code.

Disposition -

(a) Tapes - When using the code T (Temp Save) the number of days the tape is to be saved must be included in the following format (T - X and X = the number of days to be saved, maximum of 30 days). When a code other than S, T, or R is placed in the blank for disposition, all pertinent information regarding printing, punching, or plotting should be specified in the special instructions. This should include such information as BCD, Binary, Odd Parity, Even Parity, 7-Track, 9-Track, Calcomp Plotter, or Benson Lehner, etc.

If listing is requested, one or more of the following options must be specified.

Program Control - ASA, machine code, 7010 or 7090 carriage control characters must be specified.

Line Spacing - Single, double or triple must be specified.

Data Sets - If more than one, the number of data sets must be specified.

If specific instructions are not provided, no action will be taken. (This does not apply to the operating system standard print tapes.)

(b) Direct Access Devices - Prior arrangements must be made with the Operations Division for reserving or saving of any direct access volumes.

Label - The label description entered on the input and output volumes. The first word of a label should be a project name. Also enter MOUNT MESSAGE. Referred to in the program (see Legend).

Paper Size - If not filled in, 14 7/8" X 11" is assumed.

Number of Copies - If not filled in, one copy is assumed.

Form Number - To be filled in when requesting special form paper only. (If not filled in, standard 14 7/8" X 11" is assumed.)

Carriage Tape - If not filled in, 11" standard is assumed. 60 lines per page is printed.

Train or Chain - If not filled in, PN is assumed.

PUNCH O/P - Check if punch output is produced.

CORE DUMP - Check if core dump is desired when job is terminated because of operator action.

MAXIMUM CORE REQUIREMENTS - For MVT and Time Sharing, the maximum core to be used must be entered.

SPECIAL INSTRUCTIONS - Reserved for special instructions to Operations.

OPERATOR COMMENTS - To be filled in by Operations when appropriate.

START/STOP TIME - This time includes set-up time. (Filled out only for non-O/S processing.)

LEGEND

Unit	Device	Disposition
NNN = Phys Address XXX = Symbolic Device Name	T = Tape C = Data Cell D = Disk Drive	L = List Tape P = Punch Cards PL = Plot Tapes PT = Punch Paper Tape D = Dupe S = Perm Save* T = Temp Save* R - Release
If this option is used, the volume serial number indicated in the DD card must be placed in the label blank surrounded by parentheses.		

Density

2 = 200 bpi
5 = 556 bpi
8 = 800 bpi
16 = 1600 bpi

* Perm Save = Indefinite retention
**Temp Save = Specified in days up to a maximum of 30 days

8.9.1 Purpose

The OCS Charge Record Form has been designed with two copies. Any time a non-OCS volume is brought into the Computer Center, this form must be completely filled out and submitted with the volume. Copy two, after time stamping, will be given to the submitter as his receipt and authorization to pick up the volume. The first copy is retained by Operations. The label portion of Copy one contains a five-digit sequence number preceded by a "Z", which is attached to the volume. While this volume is in the Computer Center, it should always be referred to by this number.

When Copy two is presented to pick up a volume, the last name and initials of the individual to whom this volume is released is entered in the "RELEASED NAME" box of Copy one. Copy two can be destroyed, Copy one is time-stamped out and retained by Operations. The "Z" label should be removed from the volume.

If Copy two has been misplaced, it will be the responsibility of the submitter to insure that Copy two is not presented to Production Control by an unauthorized individual. This could result in a violation of security or in release of proprietary data to an unauthorized individual.

It should be noted that this system is designed as a means of temporary storage only. Volumes entered in this system will be held for thirty (30) days only and then returned to the user unless prior arrangements have been made.

8.9.2 Instructions For Completing Form 2865

SUBMITTED BY	The last name and first initial of the submitter.
EXTENSION	The telephone extension of the submitter.
OFFICE CODE	The office code of the submitter (if unknown or non-existent, enter office name).
LOG NUMBER	If a given volume is to be linked to a computer run, the log number of the #2737 should be indicated here.

CLASSIFICATION	The security classification of the volume. (If the volume is blank and data is to be recorded on it by OCS, the classification of this data should be used.)
RECEIVED-DATE-TIME	The date and time the volume entered the Computer Center (time stamp).
RELEASED-NAME	The last name and first initial of the individual picking up the volume.
RELEASED-DATE-TIME	The date and time the volume leaves the Computer Center (time stamp).
DESCRIPTION	Any descriptive information that can be given about the volume (i.e., the physical label of the tape if there is one).

5.18.1. General

The CALCOMP 1136 Plotter is now fully operational. It has a 36 and 13 inch drum, 9-track input, and can operate as an 1136 or a 565 simulator.

For details on the complete CALCOMP basic software package, see Programming CALCOMP Pen Plotters, copies of which are available from OCS/ATS, ext. 7331.

5.18.2. 565 Simulation

Plot data for the CALCOMP 565 Plotter can be plotted on the 1136 if it is generated on a 9-track tape with the following DD cards:

```
//GO.PLOTAPE DD UNIT=(2400,,DEFER),LABEL=(,BLP),
//    DISP=(NEW,KEEP),VOL=SER=CAL565
```

The actual plotting time will be reduced by a factor of 2½ and the amount of tape written by a factor of 4.

5.18.3. 1136 Plotting

The 1136 will plot at over three times the speed of the 565, and a much shorter tape file will be generated (in some instances one-tenth as much) on the 360/65. If the 36-inch drum is requested, you can plot up to 33 inches in the Y direction. If the 13-inch drum is requested, you can plot up to 11 inches in the Y direction. You should try to use the 1136 software rather than the 565 simulator to take full advantage of the shorter tape record, which gets the job off the 360/65 quicker, and faster 1136 operation when it plots as an 1136 rather than a 565 simulator.

5.18.4. Initialization

A call to PLOTS will initiate the PLOT subroutine and assign the logical unit of the output device.

```
CALL PLOTS (LDEV)
```

where LDEV is the FORTRAN logical tape number for the plotter output.

A DD card must be used to assign data set FTOnF001, where n=LDEV, to an appropriate tape unit. Assuming LDEV=8, sample DD cards follow:

```
//GO.FT08F001 DD UNIT=(2400,,DEFER),
//    LABEL=(,BLP),DISP=(NEW,KEEP),
//    DCB=(RECFM=VS,LRECL=484,BLKSIZE=488),
//    VOL=SER=PT1136
```

Note that you no longer have to set up a buffer in your FORTRAN program, but you must assign your own logical tape number and set up the DCB yourself. The 1136 has a fixed buffer size so you should use the DCB parameters as shown above.

5.18.5. SYMBOL

The SYMBL4 subroutine is now called SYMBOL. A dummy SYMBL4 routine, which in turn calls SYMBOL, will be added in case you forget.

Calls to SYMBOL fall into two categories. The first type plots a string of characters or a single character corresponding to the alphanumeric data defined by IBCD when NCHAR≥Ø.

```
CALL SYMBOL (XPAGE,YPAGE,IBCD,ANGLE,NCHAR)
```

5.18.5. SYMBOL (con't)

IBCD may be an array, a single variable, or a character literal.

NOTE: NCHAR must ≥Ø.

TABLE 1 shows the characters available in the 360 SYMBOL subroutine. Three special characters that are control characters and not plotted symbols are included in the table.

Backspace (BS, HEX 11) causes the following character to be plotted over the preceeding one.

Carriage Return (CR, HEX 15) causes the following character to be plotted below the first character in the present call. The spacing between lines is 5/7 the height of the characters.

Null (NUL, HEX 19) is a null character and causes a no space.

The second type of call to SYMBOL plots a single symbol as selected by the integer value of INTEQ when NCHAR<Ø.

CALL SYMBOL (XPAGE, YPAGE, HEIGHT, INTEQ, ANGLE, NCHAR)

INTEQ is an integer from Ø to 127 which will produce the associated character shown in TABLE 2. Values of Ø through 15 produce centered characters.

NCHAR

-1 pen is up during move to X, Y after which a single symbol is produced.

5.18.5. SYMBOL (con't)

-2 or less pen is down during the move, after which a single symbol is produced.

NOTE: TABLE 2 differs from the table used with the SYMBOL routine for the 565 Plotter.

5.18.6. NEWPEN

The 1136 has three pens which can be used under program control. The calling sequence is:

CALL NEWPEN(INP)

where INP specifies the number (1-3) of the pen to be selected. Pen number 1 is the bottom-most of the pens which are spaced 0.6 inch apart in the Y direction. The default pen is number 1. When a new pen is specified, the old pen is raised and the new pen is moved to the same physical location where the old pen was positioned. Be careful changing pens close to either Y axis limits.

5.18.7. WHERE

A call to WHERE following a call to SYMBOL or NUMBER will return the coordinates of the start rather than the end of the character string.

5.18.8. 2737 Considerations

You must specify on the 2737 Form the following:

PLOT TYPE	565 Simulation
	1136
DRUM SIZE	13"
	36"

5.18.8. 2737 Considerations (con't)

If you leave off the drum size, 13 inches will be assumed. The 13-inch will be standard. You must request 36-inch drum if you plan to plot more than 11 inches in the Y direction.

Office of Computer Services

POLICY AND PROCEDURES HANDBOOK

SECTION 1
CHAPTER 18
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PAGE 6

SECTION (*Title*) Processing Standards

CHAPTER (*Title*) 1136 Plotter

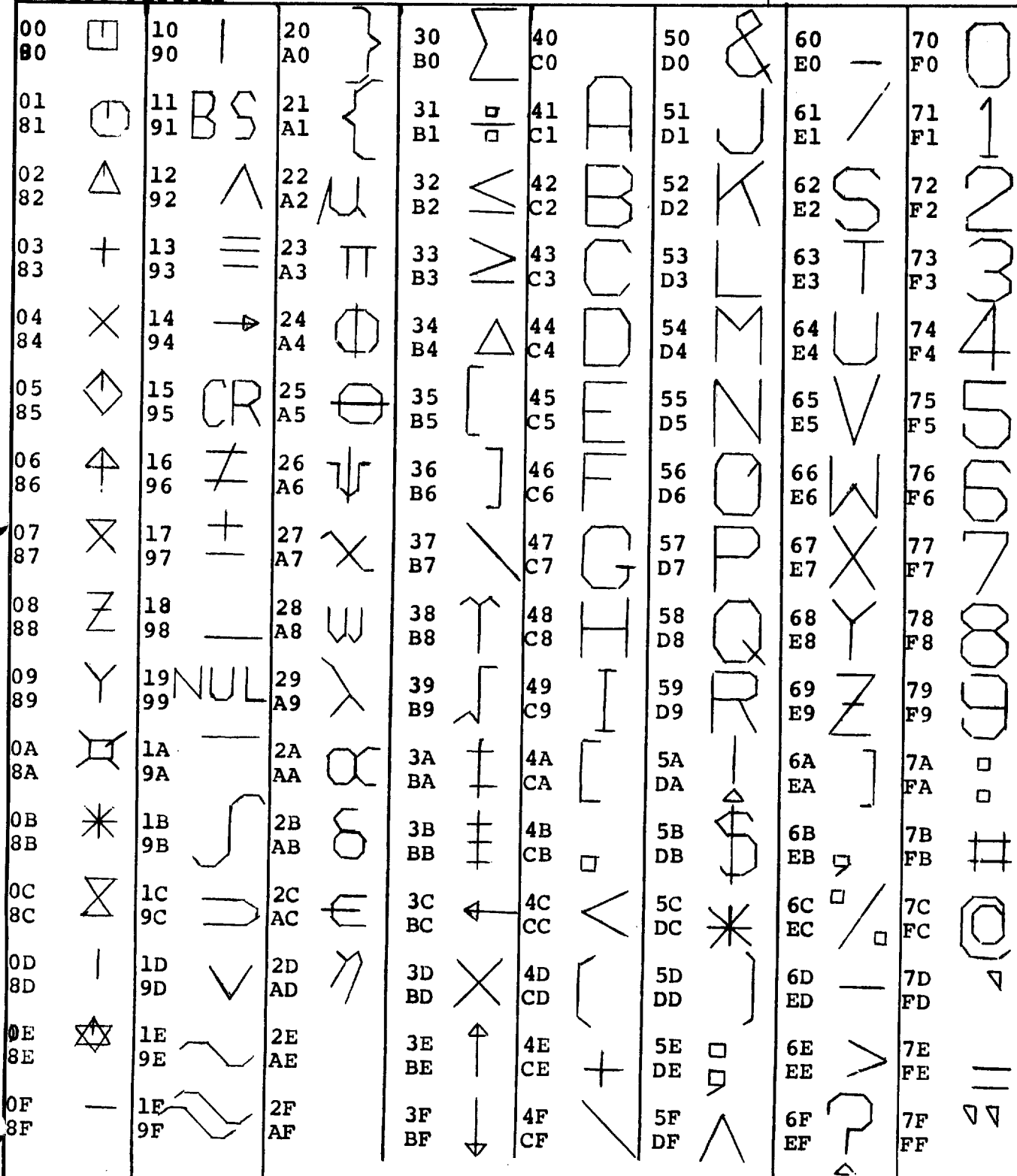

TABLE 1

Office of Computer Services

POLICY AND PROCEDURES HANDBOOK

SECTION
CHAPTER 18
DATE 15 July 1971
PAGE 7

SECTION (Title) Processing Standards

CHAPTER (Title) 1136 Plotter

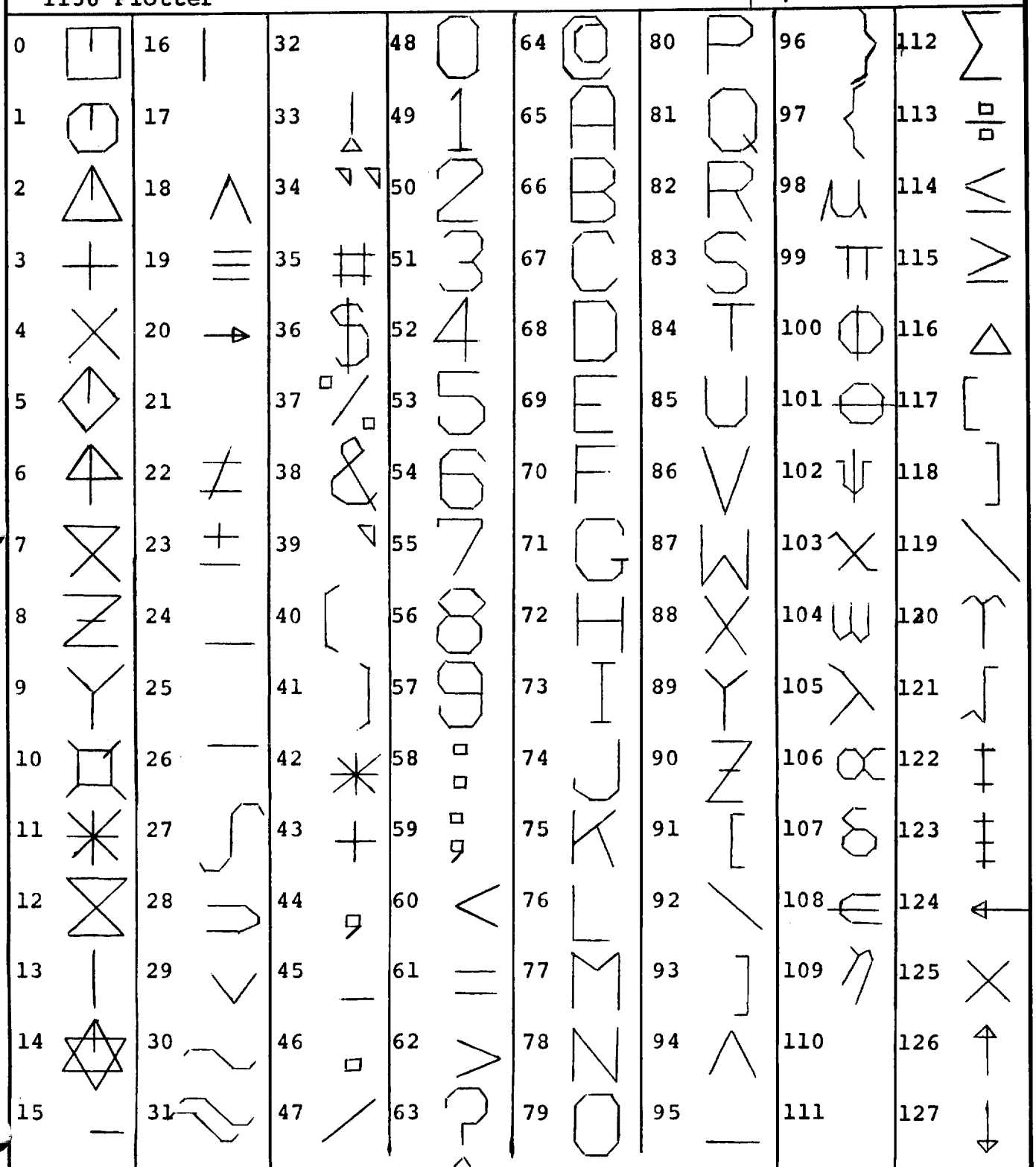

TABLE 2