# MINI 6

## GCOS 6 MOD 400

## Guide to Software Documentation

SOFTWARE

SOFTWARE

SOFTWARE

SOFTWARE

69 A2 CZ01 REV0

Bull

Bull

# MINI 6

## GCOS 6 MOD 400

## Guide to Software Documentation

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## Software

**Subject** : Summary GCOS 6 MOD 400 Software and Supporting Software Manual Set.

**Special Instructions** : This manual supersedes the GCOS 6 MOD 400 Software and Documentation Directories 69 A2 CG79 REV2 and 69 A2 8608 REV3 and the Master Index 69 A2 CB28 REV1

**Software Supported** : GCOS 6 MOD 400 Release 3.0,2.2,2.1,2.0 and 0120/0122.
GCOS 6 MOD 400/DSS Release 2.2,2.0, and 1.1.

**Date** : May 1985

**BULL**
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Suggestions and criticisms concerning the form, content, and presentation of this manual are invited. A form is provided at the end of this manual for this purpose.

# PREFACE

This document is written for the users of the GCOS 6 MOD 400 operating system. This manual is the lead document of the manual set. The manual is designed to introduce you to the MOD 400 software components and supporting documentation. It does not contain any conceptual or procedural information on the system.

The major topics presented are:

- A software/manual matrix covering both MOD 400 and MOD 400/DSS manuals.
- A software/documentation summary including brief synopses of the manuals.
- Suggestions for using the manual set effectively when performing different functional roles
- A summary of software products available with the MOD 400 system, including brief functional descriptions of the software components.
- A master index.

After reading this manual, you should have a general picture of the system software, and be sufficiently familiar with the manuals to be able to locate the particular kinds of information you require.

A Technical Publications Remarks Form is included at the back of this manual. This form is to be used to record any corrections, changes or additions that will make this manual more useful.

The following conventions are used to indicate the relative levels of headings in this manual:

| Level | Heading Format |
|---|---|
| Level 1 (highest) | ALL CAPITALS, UNDERLINED |
| Level 2 | Initial Capitals, Underlined |
| Level 3 | ALL CAPITALS, NOT UNDERLINED |
| Level 4 | Initial Capitals, Not Underlined |

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## FIGURES



## TABLES

# SECTION I

## SOFTWARE/MANUAL MATRIX

BULL software reference manuals are obtained by submitting a BULL Publications Order Form to the following address:

BULL
CEDOC-CELOG
BP110 Parc Industriel d'Incarville
27100 VAL DE REUIL. FRANCE

BULL software reference manuals are periodically updated to support enhancements and additions to the software. CEDOC can isolate specific editions of a publication only when supplied with the 10- and 11-character order numbers listed in the Tables.

For those publications that have been updated with addenda, two (or more) order numbers are listed. To obtain the base manual (revision n) and all listed addenda, enter the base number only on the Publications Order Form. To obtain a particular addendum, enter only that addendum identifier. For example, to obtain Revision 1, Addendum A, and Addendum B of the GCOS 6 Assembly Language Reference manual Release 2.1, enter order number 69 A2 CB07-01. To obtain only Addendum B, enter order number CB07-01B.

### A.MOD 400

Information in the MOD 400 Manual Matrix contained in five major tables:

Table 1-1 is specific to release 3.0 of the MOD 400 Executive and lists the various software product items and software reference manuals usable in that environment.

Table 1-2 is specific to Release 2.2 of the MOD 400 Executive and supporting software

Table 1-3 is specific to release 2.1 of the MOD 400 Executive and supporting software.

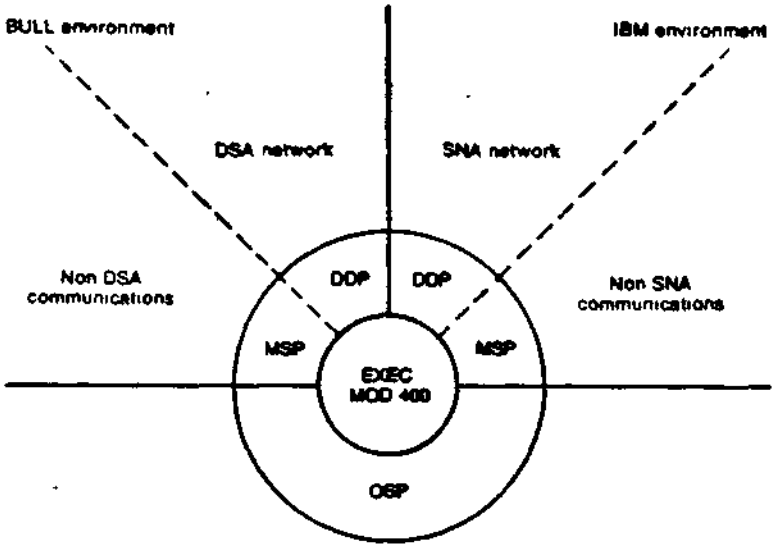
Table 1-4 is specific to Release 2.0 of the MOD 400 Executive and lists the various software product items and software manuals usable in that environment.

Table 1-5 is specific to Release 0120/0122 of the MOD 400 Executive and lists the various software product items and software manuals usable in that environment.

Customers should order software through their local sales representative.

The tables contain no information relative to BULL applications software packages. See your BULL representative for information concerning the availability of applications software and supporting documentation.

Referring to Table 1-1, the new MOD 400 Release 3.0 documentation listing has been constructed to illustrate the new functionalities with which the release will work. These are shown by the figure below.




Stand-alone systems (and secondary links through X 25)

OSP = ON SITE PROCESSING
MSP = MULTI-SITE PROCESSING
DDP = DISTRIBUTED DATA PROCESSING

The abbreviations indicate the following applications:

- OSP for Standalone applications
- MSP-BULL for applications involving links with BULL Systems outside DSA World
- MSP-IBM for applications involving links with IBM Systems outside SNA World
- DDP-BULL for applications involving links to BULL Systems in DSA World
- DDP-IBM for applications involving links to IBM Systems in SNA World.

Each "environment" is not exclusive of the others (such as it was in previous releases).
Example: DSA and SNA on the same Mini 6.

Table 1-1. Software/Manual Directory for Release 3.0 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number | Marketing Identifier |
|---|---|---|---|---|
| GCOS 6 MOD 400 Executive Operating System | 3.0 | Guide to Software Documentation | 69 A2 CZ01 | SHS 1412 |
| | | System Building and Administration | 69 A2 CZ02 | SHS 1412 |
| | | System Concepts | 69 A2 CZ03 | SHS 1412 |
| | | System User's Guide | 69 A2 CZ04 | SHS 1412 |
| | | System Programmer's Guide - Volume I | 69 A2 CZ05 | SHS 1412 |
| | | System Programmer's Guide - Volume II | 69 A2 CZ06 | SHS 1412 |
| | | Programmer's Pocket Guide | 69 A2 CZ07 | SHS 1412 |
| | | System Maintenance Facility Administrator's Guide | 69 A2 CZ09 | SHS 1412 |
| | | System Messages | 69 A2 CZ16 | SHS 1412 |
| | | Commands | 69 A2 CZ17 | SHS 1412 |
| | | Data File Organizations and Formats | 69 A2 CZ19 | SHS 1412 |
| | | Display Formatting and Control | 69 A2 CZ21 | SHS 1412 |
| | | Control of Questar/T Auxiliary Components | 69 A2 10MU | SHS 1412 |
| | | Software Release Bulletin MOD 400 | 69 A2 28MU | SHS 1412 |
| System Options and Facilities | 1.0 | Menu Management/Maintenance Guide | 69 A2 CZ10 | SHS 1412 |
| | 1.0 | Application Developer's Guide | 69 A2 CZ15 | SHS 1412 |
| | 4.3 | Sort/Merge | 69 A2 CZ18 | SHF 1092 |
| Languages | | Intermediate COBOL | 69 A2 CB10 | SHL 1252 |
| | 4.0 | Advanced COBOL Reference | 69 A2 CZ34 | SHL 1332 |
| | | Advanced COBOL Quick Reference Guide | 69 A2 CZ35 | SHL 1332 |

Table 1-1 (Cont). Software/Manual Directory for Release 3.0 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number | Marketing Identifier |
|---|---|---|---|---|
| | 3.0 | BASIC Reference | 69 A2 CZ36 | SHL 1302 |
| | | BASIC Quick Reference | 69 A2 CZ37 | SHL 1302 |
| | 1.1 | Assembly Language (MAP) Reference | 69 A2 CZ38 | SHL 1412 |
| | 2.0 | Advanced FORTRAN Reference | 69 A2 CZ39 | SHL 1272 |
| | 1.0 | Pascal User's Guide | 69 A2 CZ40 | SHL 9502 |
| | 4.0 | RPG-II Reference | 69 A2 CZ41 | SHL 1262 |
| End-User Facilities | 2.0 | Data Entry Facility II User's Guide | 69 A2 CZ47 | SHC 1492 |
| | | Data Entry Facility II Operator's Quick Reference Guide | 69 A2 CZ48 | SHC 1492 |
| Transaction and Data Base Subsystems | 2.0 | Transaction Control Language Facility | 69 A2 CZ20 | SHS 1202 |
| | 2.1 | DM6 IDS/II Programmer's Guide | 69 A2 CZ52 | SHD 1162 |
| | | DM6 IDS/II Data Base Administrator's Guide | 69 A2 CZ53 | SHD 1162 |
| | | DM6 IDS/II Reference Card | 69 A2 CZ54 | SHD 1162 |
| | 1.0 | DM6 TP Development Reference | 69 A2 CZ71 | SHS 1142 |
| | | DM6 TP Application User's Guide | 69 A2 CZ72 | SHS 1142 |
| BULL Multi-site Processing (MSP) | 3.6 | File Transmission Facility Mini 6/Mini 6 User's Guide | 69 A2 CZ59 | SHC 7822 |
| | 3.6 | File Transmission Facility Mini 6/DPS 8 User's Guide | 69 A2 CZ60 | SHC 7822 |
| | 2.3 | File Transmission Facility Mini 6/DPS 7 User's Guide | 69 A2 26MJ | SHC 7822 |
| | 4.2 | Remote Batch Facility Mini 6/DPS 8 User's Guide | 69 A2 CZ66 | SHC 7832 |
| | 2.3 | Remote Batch Facility Mini 6/DPS 7 User's Guide | 69 A2 27MJ | SHC 7832 |
| | 1.0 | Interactive Entry Facility (IEF) II User's Guide | 69 A2 CG90 | SHC 7842 |

Table 1-1 (Cont). Software/Manual Directory for Release 3.0 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number | Marketing Identifier |
|---|---|---|---|---|
| BULL Distributed Data Processing (DDP) | 3.45 | DSA File Transmission Facility Mini 6/DPS 8 User's Guide | 69 A2 14MU | SHC 7892 |
| | | DSA File Transmission Facility Mini 6/Mini 6 User's Guide | 69 A2 15MU | SHC 7892 |
| | 2.35 | DSA File Transmission Facility Mini 6/DPS 7 User's Guide | 69 A2 16MU | SHC 7822 |
| | 4.35 | DSA Remote Batch Facility Mini 6/DPS 8 User's Guide | 69 A2 11MU | SHC 78102 |
| | 2.35 | DSA Remote Batch Facility Mini 6/DPS 7 User's Guide | 69 A2 12MU | SHC 78102 |
| | 3.0 | DSA Network Messages | 69 A2 19MU | SHC 7852 |
| | | DSA Network Overview | 69 A2 20MU | SHC 7852 |
| | | DSA System Building Network Supplement | 69 A2 21MU | SHC 7852 |
| | | DSA Network Pocket Guide | 69 A2 22MU | SHC 7852 |
| | | DSA Network Operator's Guide | 69 A2 23MU | SHC 7852 |
| | | DSA In-Line Tests and Verification Operator's Guide | 69 A2 24MU | SHC 7852 |
| Network Control and Administration (NCC6) | 2.2 | NCC6 Operation Manual | 69 A2 9784 | SHC 7702 |
| | | AUPI Operation Manual | 69 A2 9924 | SHC 7712 |
| | | VIDSA Operation Manual | 69 A2 9765 | SHC 7732 |
| | | NCC6 Network Operator's Reference card | 69 A2 9941 | SHC 7702 |
| IBM Multi-Site Processing (IBM-MSP) | 2.6 | BSC Transport Facility User's Guide | 69 A2 CZ62 | SHC 7672 |
| | 3.2 | 2780/3780 Workstation Facility User's Guide | 69 A2 CZ63 | SHC 1222 |
| | 3.2 | HASP Workstation Facility User's Guide | 69 A2 CZ64 | SHC 1262 |
| | 2.5 | Programmable Facility (PF)/3271 User's Guide | 69 A2 CZ65 | SHC 1242 |

Table 1-1 (Cont). Software/Manual Directory for Release 3.0 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number | Marketing Identifier |
|---|---|---|---|---|
| IBM-DDP Distributed Data Processing SNA Transport Facility | 1.1 | Mini 6/IBM Distributed Data Processing Concepts | 69 A2 CR56 | SHC 1922 |
| | 1.1 | SNA Administrators Guide | 69 A2 CR57 | SHC 7852 |
| | 1.1 | SNA Interactive Terminal Facility User's Guide | 69 A2 CR58 | SHC 1412 |
| | 1.1 | SNA Remote Job Entry Facility User's Guide | 69 A2 CR59 | SHC 1922 |
| | 1.1 | SNA File Transmission Facility User's Guide | 69 A2 CR60 | SHC 2262 |
| | 1.1 | SNA Host System Programmer's Guide | 69 A2 GB88 | SHC 1902 |
| | 3.0 | DARTS User's guide | 69 A2 CZ74 | SHS 1412 |
| Multi-Domains Communication Facilities (BULL OPS.MSP.DDP) | Z30 | BCF/DTF Subsystem Overview | 69 A2 01MU | SHC 7652 |
| | Z30 | BCF/DTF Subsystem Implementation Guide | 69 A2 02MU | SHC 7652 |
| Basic Concentration Facility | Z30 | BCF/DTF Subsystem Operator's Guide | 69 A2 03MU | SHC 7652 |
| Distributed Transactional Facility | Z30 | DTF Programmer's Guide | 69 A2 04MU | SHC 7652 |
| | Z30 | BCF/DTF Subsystems Error Messages and Abort Codes | 69 A2 05MU | SHC 7652 |
| | Z30 | BCF/DTF Subsystems Pocket Guide | 69 A2 06MU | SHC 7652 |
| | 3.0 | VIDEOTEX User's Guide | 69 A2 08MU | SHC 7632 |

Table 1-1 (Cont). Software/Manual Directory for Release 3.0 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number | Marketing Identifier |
|---|---|---|---|---|
| Communications Programmatic Interface | | Secondary and Primary Network | | |
| | 3.0 | X25 Programmatic Interface User's Guide | 69 A2 09MU | SHC 7172 |
| | 3.0 | Secondary Public Data Network User's Guide | 69 A2 25MU | SHC 7872 |

A software release bulletin accompanies each software product item received from BULL. The user should consult this before using the software. See your BULL representative if a copy of the SRB is not available.

Additionally, the following publications provide supplementary information:

Mini 6 Communications Handbook (69 A1 AT97)
Mini 6 Microcomputer Systems Handbook (69 A1 CC71)

Table 1-2. Software/Manual Directory for Release 2.2 of MOD 400

Supporting Documentation (See Note 1 Page 1-12)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400 Executive | 2.1 | GCOS 6 MOD 400 Software and Documentation Directory | 69 A2 CG79-02 |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | Addendum D | 69 A2 CB01-02D |
| | | Addendum E | 69 A2 CB01-02E |
| | | GCOS 6 Commands | 69 A2 CB02-04 |
| | | Addendum A | 69 A2 CB02-04A |
| | | GCOS 6 Communications Processing | 69 A2 CB03-03 |
| | | Addendum A | 69 A2 CB03-03A |
| | | Addendum B | 69 A2 CB03-03B |
| | | GCOS 6 Data File Organizations and Formats | 69 A2 CB05-04 |
| | | Addendum A | 69 A2 CB05-04A |
| | | Addendum B | 69 A2 CB05-04B |
| | | GCOS 6 System Messages | 69 A2 CB06-04 |
| | | Addendum A | 69 A2 CB06-04A |
| | | Addendum B | 69 A2 CB06-04B |
| | | GCOS 6 MOD 400 System Concepts | 69 A2 CB20-01 |
| | | Addendum A | 69 A2 CB20-01A |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-02 |
| | | GCOS 6 MOD 400 Programmer's Guide | 69 A2 CB22-01 |
| | | Addendum A | 69 A2 CB22-01A |
| | | GCOS 6 MOD 400 System Building | 69 A2 CB23-03 |
| | | Addendum A | 69 A2 CB23-03A |
| | | GCOS 6 MOD 400 Operator's Guide | 69 A2 CB24-03 |
| | | GCOS 6 MOD 400 Programmer's Pocket Guide | 69 A2 CB27-03 |
| | | GCOS 6 MOD 400 Master Index | See Note 2 Page 1-12. |
| | 2.70 | Display Formatting and Control | 69 A2 CD46-03 |

Table 1-2 (Cont). Software/Manual Directory for Release 2.2 of MOD 400

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400 Executive (Cont). | 2.10 | Display Formatting and Control<br>Control of QUESTAR/T Auxiliary Components | 69 A2 8502-02 |
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference | 69 A2 CB07-02 |
| | | GCOS 6 System Service Macro Calls | 69 A2 CB08-02 |
| | | Addendum A | 69 A2 CB08-02A |
| | | Addendum B | 69 A2 CB08-02B |
| | | Addendum C | 69 A2 CB08-02C |
| | | Addendum D | 69 A2 CB08-02D |
| | | Addendum E | 69 A2 CB08-02E |
| | | Addendum F | 69 A2 CB08-02F |
| RPG | 4.00 | GCOS 6 RPG Reference | 69 A2 CB09-01 |
| Intermediate COBOL | 3.10 | GCOS 6 Intermediate COBOL Reference | 69 A2 CB10-01 |
| | | Addendum A | 69 A2 CB10-01A |
| | | Addendum B | 69 A2 CB10-01B |
| Advanced COBOL | 3.00 | GCOS 6 Advanced COBOL Reference | 69 A2 CB14-00 |
| | | Addendum A | 69 A2 CB14-00A |
| | | Addendum B | 69 A2 CB14-00B |
| BASIC Interpreter | 2.00 | GCOS 6 BASIC Reference | 69 A2 CB11-00 |
| | | Addendum A | 69 A2 CB11-00A |
| BASIC Interpreter/ Compiler | 2.00 | GCOS 6 BASIC Reference | 69 A2 CB11-00 |
| | | Addendum A | 69 A2 CB11-00 |
| BASIC Runtime Services | 2.00 | GCOS 6 BASIC Reference | 69 A2 CB11-00 |
| | | Addendum A | 69 A2 CB11-00A |

Table 1-2 (Cont). Software/Manual Directory for Release 2.2 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| FORTRAN | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference<br>Addendum A | 69 A2 CB18-00<br>69 A2 CB18-00A |
| Transaction Control Language Facility | 1.0 | GCOS 6 MOD 400 Transaction Control Language Facility | 69 A2 CG80-00 |
| Data Entry Facility I | 3.2 | Data Entry Facility-I User's Guide<br>Data Entry Facility-I Operator's Quick Reference Guide | 69 A2 CB31-02<br>69 A2 CB32-01 |
| Data Entry Facility-II | 2.0 | Data Entry Facility-II User's Guide | 69 A2 CG70-01 |
| Remote Batch Facility/66 | 4.1 | Remote Batch Facility/66 User's Guide<br>Addendum A | 69 A2 CB30-01<br>69 A2 CB30-01A |
| Remote Batch Facility/64 | 2.15 | Remote Batch Facility/64 User's Guide | 69 A2 CF11-01 |
| Distributed Transactional Facility and Basic Concentration Facility | 220<br><br><br>220 | BCF/DTF Subsystems Implementation Guide<br>DTF Subsystems Programming Guide<br>BCF/DTF Subsystems - Guide to Operation and Use<br>BCF/DTF Subsystems - Error Messages & Abort Codes<br>BCF/DTF Subsystems Pocket Guide | 69 A2 9544-01<br>69 A2 9417-01<br>69 A2 9200-01<br>69 A2 9202-00<br>69 A2 8793-00 |
| Sort/Merge | 4.2 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D<br>Addendum E | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B<br>69 A2 CB04-01C<br>69 A2 CB04-01D<br>69 A2 CB04-01E |

Table 1-2 (Cont). Software/Manual Directory for Release 2.2 of MOD 400

Supporting Documentation (See Note 1, page 1-12)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility BULL Host | 3.55 | Mini 6/Mini 6 File Transmission Facility User's Guide<br>Addendum A<br>Addendum B | 69 A2 CB33-01<br><br>69 A2 CB33-01A<br>69 A2 CB33-01B |
| | 2.15 | Mini 6/64 DPS 7 File Transmission Facility User's Guide | 69 A2 CB35-01 |
| | 3.55 | Mini 6/66 DPS File Transmission Facility User's Guide | 69 A2 CB36-02 |
| File Transmission Facility Non-BULL Host | 2.4 | Mini 6/BSC 2780/3780 File Transmission Facility User's Guide<br>Addendum A | 69 A2 CB38-01<br><br>69 A2 CB38-01A |
| Interactive Entry Facility | 1.0 | Interactive Entry Facility-II User's Guide | 69 A2 CG90-00 |

Table 1-2 (Cont). Software/Manual Directory for Release 2.2 of MOD 400

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| 2780/3780 Workstation Facility | 3.1 | 2780/3780 Workstation Facility User's Guide | 69 A2 CB40-02 |
| HASP Work-station Facility | 3.1 | HASP Workstation Facility User's Guide | 69 A2 CB41-03 |
| Programmable Facility/3271 | 2.4 | 3270 Interactive Function User's Guide | 69 A2 CB48-00 |

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97), Mini 6 Minicomputer Systems Handbook (69 A1 CC71), and the Online Test and Verification Operator's Guide (69 A1 CD18).

2. The Master Index is an accurate guide to subject matter in MOD 400 manuals. The order number for the Master Index is 69 A2 CB28-01.

3. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 3.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

Table 1-3. Software/Manual Directory for Release 2.1 of MOD 400

Supporting Documentation (See Note 1, page 1-17)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400 Executive | 2.1 | GCOS 6 MOD 400 Software and Documentation Directory | 69 A2 CG79-01 |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | GCOS 6 Commands | 69 A2 CB02-04 |
| | | Addendum A | 69 A2 CB02-04A |
| | | GCOS 6 Communications Processing | 69 A2 CB03-03 |
| | | Addendum A | 69 A2 CB03-03A |
| | | GCOS 6 Data File Organizations and Formats | 69 A2 CB05-04 |
| | | Addendum A | 69 A2 CB05-04A |
| | | GCOS 6 System Messages | 69 A2 CB06-03 |
| | | GCOS 6 MOD 400 System Concepts | 69 A2 CB20-01 |
| | | Addendum A | 69 A2 CB20-01A |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-01 |
| | | GCOS 6 MOD 400 Programmer's Guide | See Note 2 |
| | | GCOS 6 MOD 400 System Building | 69 A2 CB23-03 |
| | | GCOS 6 MOD 400 Operator's Guide | 69 A2 CB24-03 |
| | | GCOS 6 MOD 400 Programmer's Pocket Guide | See Note 3 |
| | | GCOS 6 MOD 400 Master Index | See Note 4 |
| | | Display Formatting and Control | 69 A2 CD46-02 |

Table 1-3 (Cont). Software/Manual Directory for Release 2.1 of MOD 400

Supporting Documentation (See Note 1, page 1-17)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D<br><br>GCOS 6 System Service Macro Calls<br>Addendum A<br>Addendum B<br>Addendum C | 69 A2 CB07-01<br><br>69 A2 CB07-01A<br>69 A2 CB07-01B<br>69 A2 CB07-01C<br>69 A2 CB07-01D<br><br>69 A2 CB08-02<br><br>69 A2 CB08-02A<br>69 A2 CB08-02B<br>69 A2 CB08-02C |
| RPG | 4.0 | GCOS 6 RPG Reference | 69 A2 CB09-01 |
| Entry-Level COBOL | 2.1 | GCOS 6 Entry-Level COBOL Reference<br>Addendum A | 69 A2 CB12-00<br><br>69 A2 CB12-00A |
| Intermediate COBOL | 3.0 | GCOS 6 Intermediate COBOL Reference<br>Addendum A<br>Addendum B | 69 A2 CB10-01<br><br>69 A2 CB10-01A<br>69 A2 CB10-01B |
| Advanced COBOL | 1.0 | GCOS 6 Advanced COBOL Reference<br>Addendum A | 69 A2 CB14-00<br><br>69 A2 CB14-00A |
| BASIC Interpreter | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Quick Reference Guide | 69 A2 CB11-00<br><br>69 A2 CB17-00 |
| BASIC Interpreter/ Compiler | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Quick Reference Guide | 69 A2 CB11-00<br><br>69 A2 CB17-00 |

Table 1-3 (Cont). Software/Manual Directory for Release 2.1 of MOD 400

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| FORTRAN | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference<br>Addendum A | 69 A2 CB18-00<br>69 A2 CB18-00A |
| Transaction Control Language Facility | 1.0 | GCOS 6 MOD 400 Transaction Control Language Facility | 69 A2 CG80-00 |
| Data Entry Facility I | 3.2 | Data Entry Facility-I User's Guide<br>Data Entry Facility-I Operator's Quick Reference Guide | 69 A2 CB31-02<br>69 A2 CB32-01 |
| Data Entry Facility-II | 2.0 | Data Entry Facility-II User's Guide<br>Addendum A | 69 A2 CG70-01 |
| Remote Batch Facility/66 | 4.1 | Remote Batch Facility/66 User's Guide<br>Addendum A | 69 A2 CB30-01<br>69 A2 CB30-01A |
| Remote Batch Facility/64 | 1.0 | Remote Batch Facility/64 User's Guide | 69 A2 CF11-00 |
| Distributed Transactional Facility | 210 | DTF-Distributed Transactional Facility User's Guide | 69 A2 7691-04 |
| Basic Concentration Facility | 210 | Basic Concentration Facility (BCF) User's Guide | 69 A2 8487-02 |
| Sort/Merge | 4.1 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B<br>69 A2 CB04-01C<br>69 A2 CB04-01D |

Table 1-3 (Cont). Software/Manual Directory for Release 2.1 of MOD 400

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility BULL Host | 3.4 | Mini 6/Mini 6 File Transmission Facility User's Guide | 69 A2 CB33-01 |
| | | Addendum A | 69 A2 CB33-01A |
| | | Addendum B | 69 A2 CB33-01B |
| | | Mini 6/64 DPS (Native) File Transmission Facility User's Guide | 69 A2 CB35-00 |
| | | Addendum A | 69 A2 CB35-00A |
| | | Addendum B | 69 A2 CB35-00B |
| | | Mini 6/66 DPS File Transmission Facility User's Guide | 69 A2 CB36-02 |
| File Transmission Facility Non-BULL Host | 2.4 | Mini 6/BSC 2780/3780 File Transmission Facility User's Guide | 69 A2 CB38-01 |
| | | Addendum A | 69 A2 CB38-01A |

Table 1-3 (Cont). Software/Manual Directory for Release 2.1 of MOD 400

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| 2780/3780 Workstation Facility | 3.1 | 2780/3780 Workstation Facility User's Guide | 69 A2 CB40-02 |
| HASP Workstation Facility | 3.0 | HASP Workstation Facility User's Guide | 69 A2 CB41-02 |
| Host Resident Facility | See Note 5 | 66/DPS Host Resident Facility User's Guide | 69 A2 CB42-02 |
| Programmable Facility/3271 | 2.3 | 3270 Interactive Function User's Guide | 69 A2 CB48-00 |

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97), Mini 6 Minicomputer Systems Handbook (69 A1 CC71), and the Online Test and Verification Operator's Guide (69 A1 CD18).

2. The MOD 400 Programmer's Guide was written for the new user. It contains sample procedures for performing often-invoked user functions. The order number for this manual is 69 A2 CB22-01.

3. The MOD 400 Programmer's Pocket Guide is a handy reference tool that contains a summary of the commands and directives for all system utilities. The order number for this manual is 69 A2 CB27-03.

4. The Master Index is an accurate guide to subject matter in MOD 400 manuals. The order number for the Master Index in 69 A2 CB28-01.

5. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 3.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

Table 1-4. Software/Manual Directory for Release 2.0 of MOD 400

Supporting Documentation (See Note 1, page 1-23)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400 Executive | 2.0 | GCOS 6 MOD 400 Software and Documentation Directory | 69 A2 CG79-00 |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | GCOS 6 Commands | 69 A2 CB02-04 |
| | | GCOS 6 Communications Processing | 69 A2 CB03-03 |
| | | GCOS 6 Data File Organizations and Formats | 69 A2 CB05-04 |
| | | GCOS 6 System Messages | 69 A2 CB06-03 |
| | | GCOS 6 MOD 400 System Concepts | 69 A2 CB20-01 |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-01 |
| | | GCOS 6 MOD 400 Programmer's Guide | See Note 2 (page 1-23) |
| | | GCOS 6 MOD 400 System Building | 69 A2 CB23-02 |
| | | GCOS 6 MOD 400 Operator's Guide | 69 A2 CB24-02 |
| | | GCOS 6 MOD 400 Programmer's Pocket Guide | See Note 3 (page 1-24) |
| | | GCOS 6 MOD 400 Master Index | See Note 4 (page 1-24) |
| | | Display Formatting and Control | 69 A2 CD46-01 |
| | | Addendum A | 69 A2 CD46-01A |

Table 1-4 (Cont). Software/Manual Directory for Release 2.0 of MOD 400

Supporting Documentation (See Note 1, page 1-23)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D<br><br>GCOS 6 System Service Macro Calls<br>Addendum A<br>Addendum B | 69 A2 CB07-01<br><br>69 A2 CB07-01A<br>69 A2 CB07-01B<br>69 A2 CB07-01C<br>69 A2 CB07-01D<br><br>69 A2 CB08-02<br><br>69 A2 CB08-02A<br>69 A2 CB08-02B |
| RPG (See Note 5) | 4.0 | GCOS 6 RPG Reference | 69 A2 CB09-01 |
| Entry-Level COBOL (See Note 5) | 2.1 | GCOS 6 Entry-Level COBOL Reference<br>Addendum A | 69 A2 CB12-00<br><br>69 A2 CB12-00A |
| Intermediate COBOL (See Note 5) | 3.0 | GCOS 6 Intermediate COBOL Reference<br>Addendum A<br>Addendum B | 69 A2 CB10-01<br><br>69 A2 CB10-01A<br>69 A2 CB10-01B |
| Advanced COBOL | 1.0 | GCOS 6 Advanced COBOL Reference<br>Addendum A | 69 A2 CB14-00<br><br>69 A2 CB14-00A |
| BASIC Interpreter | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| BASIC Interpreter/ Compiler | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |

Table 1-4 (Cont). Software/Manual Directory for Release 2.0 of MOD 400

Supporting Documentation (See Note 1, page 1-23)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| FORTRAN (See Note 5) | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference | 69 A2 CB18-00 |
| Transaction Control Language Facility | 1.0 | GCOS 6 MOD 400 Transaction Control Language Facility | 69 A2 CG80-00 |
| Data Entry Facility I | 3.1 | Data Entry Facility-I User's Guide<br><br>Data Entry Facility-I Operator's Quick Reference Guide | 69 A2 CB31-02<br><br>See Note 6 (page 1-24) |
| Data Entry Facility-II | 1.0 | Data Entry Facility-II User's Guide | 69 A2 CG70-00 |
| Remote Batch Facility/66 | 4.0 | Remote Batch Facility/66 User's Guide | 69 A2 CB30-01 |
| Remote Batch Facility/64 | 1.0 | Remote Batch Facility/64 User's Guide | 69 A2 CF11-00 |
| Sort/Merge | 4.0 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B |
| Distributed Transactional Facility | 120<br><br>200 | DTF-Distributed Transactional Facility User's Guide | 69 A2 7691-02<br><br>69 A2 7691-03 |
| Basic Concentration Facility | 120<br><br>200 | Basic Concentration Facility (BCF) User's Guide | 69 A2 8487-00<br><br>69 A2 8487-01 |

Table 1-4 (Cont). Software/Manual Directory for Release 2.0 of MOD 400

Supporting Documentation (See Note 1, page 1-23)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility BULL Host | 3.3 | Mini 6/Mini 6 File Transmission Facility User's Guide | 69 A2 CB33-01 |
| | | Addendum A | 69 A2 CB33-01A |
| | | Addendum B | 69 A2 CB33-01B |
| | | Mini 6/Level 62 File Transmission Facility User's Guide | 69 A2 CB34-01 |
| | | Mini 6/64 DPS (Native) File Transmission Facility User's Guide | 69 A2 CB35-00 |
| | | Addendum A | 69 A2 CB35-00A |
| | | Addendum B | 69 A2 CB35-00B |
| | | Mini 6/66 DPS File Transmission Facility User's Guide | 69 A2 CB36-01 |
| | | Addendum A | 69 A2 CB36-01A |
| | | Addendum B | 69 A2 CB36-01B |
| | | Mini 6/Series 200/2000 File Transmission Facility User's Guide | 69 A2 CB37-00 |
| | | Addendum A | 69 A2 CB37-00A |
| | | Mini 6/64 DPS (Emulator) File Transmission Facility User's Guide | 69 A2 CB39-00 |
| | | Addendum A | 69 A2 CB39-00A |
| File Transmission Facility Non-BULL Host | 2.3 | Mini 6/BSC 2780/3780 File Transmission Facility User's Guide | 69 A2 CB38-01 |
| | | Addendum A | 69 A2 CB38-01A |

Table 1-4 (Cont). Software/Manual Directory for Release 2.0 of MOD 400

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| 2780/3780 Workstation Facility | 3.0 | 2780/3780 Workstation Facility User's Guide | 69 A2 CB40-02 |
| HASP Workstation Facility | 2.1 | HASP Workstation Facility User's Guide | 69 A2 CB41-01 |
| Host Resident Facility | See Note 7 | 66/DPS Host Resident Facility User's Guide | 69 A2 CB42-02 |
| Interactive Function | 1.2 | Interactive Function User's Guide<br>Addendum A | 69 A2 CB44-01<br>69 A2 CB44-01A |
| Programmable Facility/3271 | 2.2 | 3270 Interactive Function User's Guide | 69 A2 CB48-00 |

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97), Mini 6 Minicomputer Systems Handbook (69 A1 CC71), and the Online Test and Verification Operator's Guide (69 A1 CD18).

2. The MOD 400 Programmer's Guide was written for the new user. It contains sample procedures for performing often-invoked user functions. The order number for this manual is 69 A2 CB22-01.

3. The MOD 400 Programmer's Pocket Guide is a handy reference tool that contains a summary of the commands and directives for all system utilities. The order number for the manual is 69 A2 CB27-02.

4. The Master Index is an accurate guide to the subject matter in MOD 400 manuals. The order number is 69 A2 CB28-01.

5. Bound units created with the previous version of this compiler will execute under control of Release 2.0 of the MOD 400 Executive. The previous version of the language compiler is as follows:

   Release 0301 of RPG
   Release 0205 of Entry COBOL
   Release 0210 of Intermediate COBOL
   Release 0200 of FORTRAN

6. The DEF-I Operator's Quick Reference Guide is a pocket-size summary of the DEF-I procedures in easy-to-reference format. The current edition of the manual is 69 A2 CB32-01. This edition of the manual was originally issued in support of Release 0300 of DEF-I but can also be used with Release 0300 of DEF-I

7. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 2.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

Table 1-5. Software/Manual Directory for Release 0120/0122 of the MOD 400 Executive

| Software Product Item | Supporting Documentation: Order Number | Manual Title | Revision Number and Required Addenda (if any) |
|---|---|---|---|
| MOD 400 Executive (Release 0120 or 0122)<br><br>(Release 0122 enables certain separately priced Components to send/receive data using LHDLC) | 69 A2 CB01<br>69 A2 CB01A | GCOS 6 Program Preparation | Revision 2<br>Addendum A |
| | 69 A2 CB02 | GCOS 6 Commands | Revision 2 |
| | 69 A2 CB03 | GCOS 6 Communications Processing | Revision 2 |
| | 69 A2 CB05 | GCOS 6 Data File Organizations and Formats | Revision 2<br>Addendum A |
| | 69 A2 CB06 | GCOS 6 System Messages | Revision 1 |
| | 69 A2 CB20<br>69 A2 CB20A<br>69 A2 CB20B<br>69 A2 CB20-00C | GCOS 6 MOD 400 Concepts | Revision 0<br>Addendum A<br>Addendum B<br>Addendum C |
| | 69 A2 CB21 | GCOS 6 MOD 400 Program Execution and Checkout | Revision 0<br>Addendum A<br>Addendum B |
| | 69 A2 CB22<br>69 A2 CB22A | GCOS 6 MOD 400 Programmer's Guide | Revision 0<br>Addendum A |
| | 69 A2 CB23<br>69 A2 CB23A<br>69 A2 CB23-01 | GCOS 6 MOD 400 System Building | Revision 1<br>Addendum A<br>Addendum B |
| | 69 A2 CB24 | GCOS 6 MOD 400 Operator's Guide | Revision 1 |
| | 69 A2 CB27-01 | GCOS 6 MOD 400 Programmer's Pocket Guide | Revision 1 |
| | 69 A2 CB28-01 | GCOS 6 MOD 400 Master Index | Revision 1 |
| | 69 A2 CD46 | Display Formatting and Control | Revision 0 |

Table 1-5 (Cont). Software/Manual Directory for Release 0120/0122 of the MOD 400 Executive

| | Supporting Documentation | | |
|---|---|---|---|
| Software Product Item | Order Number | Manual Title | Revision Number and Required Addenda (if any) |
| Sort/Merge (Release 0400) | 69 A2 CB04-01 | GCOS 6 Sort/Merge | Revision 1 |
| Assembler/Macro Preprocessor (Release 0110) | 69 A2 CB07<br>69 A2 CB07A | GCOS 6 Assembly Language Reference | Revision 1<br>Addendum A |
| | 69 A2 CB08 | GCOS 6 System Services Macro Calls | Revision 2 |
| RPG (Release 0301) | 69 A2 CB09<br>69 A2 CB09A | GCOS 6 RPG Reference | Revision 0<br>Addendum A |
| Intermediate COBOL (Release 0210) | 69 A2 CB10<br>69 A2 CB10A | GCOS 6 Intermediate COBOL Reference | Revision 1<br>Addendum A |
| Entry-Level COBOL (Release 0205) | 69 A2 CB12 | GCOS 6 Entry-Level COBOL Reference | Revision 0 |
| FORTRAN (Release 0200) | 69 A2 CB13 | GCOS 6 FORTRAN Reference | Revision 0 |
| Advanced COBOL (Release 0100) | 69 A2 CB14-00 | GCOS 6 Advanced COBOL Reference | Revision 0 |
| | 69 A2 CB15-00 | GCOS 6 COBOL Pocket Guide | Revision 0 |
| Remote Batch Facility/66 (Release 0300) (When used in conjunction with Release 0122 of the Executive, data can be sent/received using LHDLC) | 69 A2 CB30<br>69 A2 CB30A<br>69 A2 CB30B | Remote Batch Facility User's Guide | Revision 0<br>Addendum A<br>Addendum B |

Table 1-5 (Cont). Software/Manual Directory for Release 0120/0122 of the MOD 400 Executive

| Software Product Item | Supporting Documentation: Order Number | Manual Title | Revision Number and Required Addenda (if any) |
|---|---|---|---|
| Data Entry Facility (Release 0300) | 69 A2 CB31<br>69 A2 CB31A | Data Entry Facility User's Guide | Revision 1<br>Addendum A |
| | 69 A2 CB32 | Data Entry Facility Operator's Quick Reference Guide | Revision 1 |
| File Transmission Facility - BULL Host (Release 0300/ 0301) (When Release 0301 of the FTF is used with Release 0122 of the MOD 400 Executive, data can be sent/ received using LHDLC) | 69 A2 CB33<br>69 A2 CB33A | Mini 6/Mini 6 File Transmission Facility User's Guide | Revision 1<br>Addendum A |
| | 69 A2 CB34 | Mini 6/Level 62 File Transmision Facility User's Guide | Revision 1 |
| | 69 A2 CB35<br>69 A2 CB35A<br>69 A2 CB35B | Mini 6/64 DPS (Native) File Transmission Facility User's Guide | Revision 0<br>Addendum A<br>Addendum B |
| | 69 A2 CB36<br>69 A2 CB36A | Mini 6/66 DPS File Transmission Facility User's Guide | Revision 1<br>Addendum A |
| | 69 A2 CB37<br>69 A2 CB37A | Mini 6/Series 200/ 2000 File Trans- mission Facility User's Guide | Revision 0<br>Addendum A |
| | 69 A2 CB39<br>69 A2 CB39A | Mini 6/64 DPS (Emulator) File Transmission Facility User's Guide | Revision 0<br>Addendum A |
| File Transmission Facility - Non- BULL Host (Release 0201) | 69 A2 CB38<br>69 A2 CB38A | Mini 6/BSC 2780/ 3780 File Trans- mission Facility User's Guide | Revision 1<br>Addendum A |

Table 1-5 (Cont). Software/Manual Directory for Release 0120/0122 of the MOD 400 Executive

| | Supporting Documentation | | |
|---|---|---|---|
| Software Product Item | Order Number | Manual Title | Revision Number and Required Addenda (if any) |
| 2780/3780 Workstation Facility (Release 0200) | 69 A2 CB40 | 2780/3780 Workstation Facility User's Guide | Revision 1 |
| HASP Workstation Facility (Release 0200) | 69 A2 CB41 | HASP Workstation Facility User's Guide | Revision 1 |
| Host Resident Facility (PDS - Release 0200 FORTRAN - Release 0200 COBOL - Release 0205) | 69 A2 CB42 | Mini 6 Host Resident Facility User's Guide | Revision 1 |
| Interactive Function (Release 0100/0101) (When Release 0101 of the IF is used with Release 0121 of the Executive, data can be sent/ received using LHDLC) | 69 A2 CB44<br>69 A2 CB44-00A | Interactive Function User's Guide | Revision 0<br>Addendum A |
| Remote Batch Facility/64 (Release 0100) | 69 A2 CF11-00 | Remote Batch Facility/64 User's Guide | Revision 0 |
| Distributed Transactional Facility | 69 A2 7691 | Distributed Transactional Facility (DTF) User's Guide | Revision 0<br>Revision 1 |

## B. MOD 400/DSS

Information in the MOD 400/DSS Manual matrix is contained in three tables:

Table 1-6 is specific to release 2.2 of the MOD 400/DSS Executive and lists the various software product items and software reference manuals usable in that environment.

Table 1-7 is specific to Release 2.0 of the MOD 400/DSS Executive and supporting software

Table 1-8 is specific to release 1.1 of the MOD 400/DSS Executive and supporting software.

Table 1-6. Software/Manual Directory for Release 2.2 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-34)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400/DSS Executive | 2.0 | GCOS 6 MOD 400/DSS Software and Documentation Directory | 69 A2 8608-03 |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | GCOS 6 MOD 400/DSS Commands | 69 A2 8363-01 |
| | | GCOS 6 MOD 400/DSS Communications Processing | 69 A2 8362-01 |
| | | GCOS 6 Data File Organizations and Formats | 69 A2 CB05-04 |
| | | Addendum A | 69 A2 CB05-04A |
| | | GCOS 6 MOD 400/DSS System Messages | 69 A2 8364-01 |
| | | Addendum A | 69 A2 8364-01A |
| | | GCOS 6 MOD 400/DSS System Concepts | 69 A2 8039-01 |
| | | Addendum A | 69 A2 8039-01A |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-01 |
| | | GCOS 6 MOD 400 Programmer's Guide | See Note 2 (page 1-34) |
| | | GCOS 6 MOD 400/DSS System Building | 69 A2 8041-01 |
| | | Addendum A | 69 A2 8041-01A |
| | | Addendum B | 69 A2 8041-01B |
| | | GCOS 6 MOD 400/DSS Operator's Guide | 69 A2 8040-01 |
| | | Addendum A | 69 A2 8040-01A |

Table 1-6 (Cont). Software/Manual Directory for Release 2.2 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-34)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| | | GCOS 6 MOD 400/DSS Programmer's Pocket Guide | 69 A2 8365-03 See Note 3 |
| | | Display Formatting and Control | 69 A2 CD46-03 |
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference | 69 A2 CB07-01 |
| | | Addendum A | 69 A2 CB07-01A |
| | | Addendum B | 69 A2 CB07-01B |
| | | Addendum C | 69 A2 CB07-01C |
| | | Addendum D | 69 A2 CB07-01D |
| | | GCOS 6 System Service Macro Calls | 69 A2 CB08-02 |
| | | Addendum A | 69 A2 CB08-02A |
| | | Addendum B | 69 A2 CB08-02B |
| | | Addendum C | 69 A2 CB08-02C |
| Intermediate COBOL | 3.0 | GCOS 6 Intermediate Reference | 69 A2 CB10-01 (See Note 5) |
| | | Addendum A | 69 A2 CB10-01A |
| | | Addendum B | 69 A2 CB10-01B |
| Advanced COBOL | 1.0 | GCOS 6 Advanced COBOL Reference | 69 A2 CB14-00 |
| | | Addendum A | 69 A2 CB14-00A |

Table 1-6 (Cont). Software/Manual Directory for Release 2.2 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-34)

| Software Production | Release Number | Manual Title | Order Number |
|---|---|---|---|
| BASIC Interpreter | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| BASIC Interpreter/ Compiler | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| FORTRAN (See Note 5) (page 1-34) | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference<br>Addendum A | 69 A2 CB18-00<br>69 A2 CB18-00A |
| Data Entry Facility-II | 2.0 | Data Entry Facility-II User's Guide | 69 A2 CG70-01 |
| Remote Batch Facility/66 | 415 | Remote Batch Facility/66 User's Guide | 69 A2 8043-01 |
| Remote Batch Facility/64 | 215 | Remote Batch Facility/64 User's Guide<br>Addendum A<br>Addendum B | 69 A2-8045-00<br>69 A2-8045-00A<br>69 A2-8045-00B |
| Sort/Merge | 4.1 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B<br>69 A2 CB04-01C<br>69 A2 CB04-01D |
| File Transmission Facility | 315 | Mini 6/DSS - Mini 6/DSS File Transmission Facility User's Guide<br>Addendum A<br>Addendum B | 69 A2 8367-00<br>69 A2 8367-00A<br>69 A2 8367-00B |

Table 1-6 (Cont). Software/Manual Directory for Release 2.2 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-34)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility | 215 | Mini 6/DSS - 64/DPS File Transmission Facility User's Guide | 69 A2 8044-00 |
| | | Addendum A | 69 A2 8044-00A |
| | | Addendum B | 69 A2 8044-00B |
| | 315 | Mini 6/DSS - 66/DPS File Transmission Facility User's Guide | 69 A2 8042-01 |
| | | Addendum A | 69 A2 8042-01A |
| | | Addendum B | 69 A2 8042-01B |
| File Transmission Facility Non-BULL Host | 2.4 | Mini 6/BSC 2780/3780 File Transmission Facility User's Guide | 69 A2 CB38-01 |
| | | Addendum A | 69 A2 CB38-01A |
| Distributed Transactional Facility and Basic Concentration Facility | 225 | BCF/DTF Subsystems Implementation Guide | 69 A2 9544-01 |
| | 225 | DTF Subsystems Programming Guide | 69 A2 9417-01 |
| | | BCF/DTF Subsystems - Guide to Operation and Use | 69 A2 9200-01 |
| | | BCF/DTF Subsystems - Error Messages and Abort Codes | 69 A2 9202-00 |
| | | BCF/DTF Subsystems Pocket Guide | 69 A2 8793-01 |
| Host Resident Facility | See Note 6 | 66/DPS Host Resident Facility User's Guide | 69 A2 CB42-02 |
| Interactive Function | 1.2 | Interactive Function User's Guide | 69 A2 CB44-01 |
| | | Addendum A | 69 A2 CB44-01A |

Table 1-6 (Cont). Software/Manual Directory for Release 2.2 of MOD 400/DSS

Supporting Documentation (See Note 1)

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97) and the Mini 6 Minicomputer Systems Handbook (69 A1 CC71).

2. The MOD 400 Programmer's Guide was written for the new user. It contains sample procedures for performing often-invoked user functions. The order number for this manual is 69 A2 CB22.

3. The MOD 400/DSS Programmer's Pocket Guide is a handy reference tool that contains a summary of the commands and directives for all system facilities.

4. The Master Index for GCOS 6 MOD 400 is a compilation of indexes of the other manuals of the set. The GCOS 6 MOD 400 Master Index has order number 69 A2 CB28-01.

5. Bound units created with the previous version of this compiler will execute under control of Release 1.1 of the MOD 400/DSS Executive. The previous version of the language compiler is as follows:

   Release 0210 of Intermediate COBOL
   Release 0200 of FORTRAN

6. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 2.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

Table 1-7. Software/Manual Directory for Release 2.0 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-39)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400/DSS Executive | 2.0 | GCOS 6 MOD 400/DSS Software and Documentation Directory | 69 A2 8608-02 |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | GCOS 6 MOD 400/DSS Commands | 69 A2 8363-01 |
| | | GCOS 6 MOD 400/DSS Communications Processing | 69 A2 8362-00 |
| | | Addendum A | 69 A2 8362-00A |
| | | Addendum B | 69 A2 8362-0B |
| | | Addendum C | 69 A2 8362-0C |
| | | GCOS 6 DATA File Organizations and Formats | 69 A2 CB05-04 |
| | | Addendum A | 69 A2 CB05-04A |
| | | GCOS 6 MOD 400/DSS System Messages | 69 A2 8364-01 |
| | | GCOS 6 MOD 400/DSS System Concepts | 69 A2 8039-01 |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-01 |
| | | GCOS 6 MOD 400 Programmer's Guide | See Note 2 (page 1-39) |
| | | GCOS 6 MOD 400/DSS System Building | 69 A2 8041-01 |
| | | Addendum A | 69 A2 8041-01A |
| | | GCOS 6 MOD 400/DSS Operator's Guide | 69 A2 8040-01 |

Table 1-7 (Cont). Software/Manual Directory for Release 2.0 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-39)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| | | GCOS 6 MOD 400/DSS Programmer's Pocket Guide | 69 A2 8365-02 See Note 3 (page 1-39) |
| | | GCOS 6 MOD 400/DSS Master Index | See Note 4 (page 1-39) |
| | | Display Formatting and Control | 69 A2 CD46-02 |
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference | 69 A2 CB07-01 |
| | | Addendum A | 69 A2 CB07-01A |
| | | Addendum B | 69 A2 CB07-01B |
| | | Addendum C | 69 A2 CB07-01C |
| | | Addendum D | 69 A2 CB07-01D |
| | | GCOS 6 System Service Macro Calls | 69 A2 CB08-02 |
| | | Addendum A | 69 A2 CB08-02A |
| | | Addendum B | 69 A2 CB08-02B |
| | | Addendum C | 69 A2 CB08-02C |
| Intermediate COBOL | 3.0 | GCOS 6 Intermediate Reference | 69 A2 CB10-01 (See Note 5) |
| | | Addendum A | 69 A2 CB10-01A |
| | | Addendum B | 69 A2 CB10-01B |
| Advanced COBOL | 1.0 | GCOS 6 Advanced COBOL Reference | 69 A2 CB14-00 |
| | | Addendum A | 69 A2 CB14-00A |

Table 1-7 (Cont). Software/Manual Directory for Release 2.0 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-39)

| Software Production | Release Number | Manual Title | Order Number |
|---|---|---|---|
| BASIC Interpreter | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| BASIC Interpreter/ Compiler | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| FORTRAN (See Note 5 page 1-39) | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference<br>Addendum A | 69 A2 CB18-00<br>69 A2 CB18-00A |
| Data Entry Facility-II | 1.2 | Data Entry Facility-II User's Guide<br>Addendum A<br>Addendum B | 69 A2 CG70-00<br>69 A2 CG70-00A<br>69 A2 CG70-00B |
| Remote Batch Facility/66 | 415 | Remote Batch Facility/66 User's Guide | 69 A2 8043-01 |
| Remote Batch Facility/64 | 215 | Remote Batch Facility/64 User's Guide<br>Addendum A<br>Addendum B | 69 A2-8045-00<br>69 A2-8045-00A<br>69 A2-8045-00B |
| Remote Batch Facility/ IRIS 80 | 115 | Remote Batch Facility IRIS/DSS Guide d'Utilisation | 69 F2 9111-00 |
| Sort/Merge | 4.1 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B<br>Addendum C<br>Addendum D | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B<br>69 A2 CB04-01C<br>69 A2 CB04-01D |
| File Transmission Facility | 315 | Mini 6/DSS - Mini 6/DSS File Transmission Facility User's Guide<br>Addendum A<br>Addendum B | 69 A2 8367-00<br>69 A2 8367-00A<br>69 A2 8367-00B |

Table 1-7 (Cont). Software/Manual Directory for Release 2.0 of MOD 400/DSS

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility | 215 | Mini 6/DSS - 64/DPS File Transmission Facility User's Guide | 69 A2 8044-00 |
| | | Addendum A | 69 A2 8044-00A |
| | | Addendum B | 69 A2 8044-00B |
| | 315 | Mini 6/DSS - 66/DPS File Transmission Facility User's Guide | 69 A2 8042-01 |
| | | Addendum A | 69 A2 8042-01A |
| | | Addendum B | 69 A2 8042-01B |
| File Transmission Facility Non-BULL Host | 2.4 | Mini 6/BSC 2780/3780 File Transmission Facility User's Guide | 69 A2 CB38-01 |
| | | Addendum A | 69 A2 CB38-01A |
| Distributed Transactional Facility | 215 | Mini 6/DSS Distributed Transactional Facility User's Guide | 69 A2 8047-02 |
| Basic Concentration Facility | 215 | Mini 6/DSS - Basic Concentration Facility User's Guide | 69 A2 8046-02 |
| | | BCF IRIS/DSS Guide d'utilisation | 69 F2 9110-00 |
| Host Resident Facility | See Note 6 | 66/DPS Host Resident Facility User's Guide | 69 A2 CB42-02 |
| Interactive Function | 1.2 | Interactive Function User's Guide | 69 A2 CB44-01 |
| | | Addendum A | 69 A2 CB44-01A |

Table 1-7 (Cont). Software/Manual Directory for Release 2.0 of MOD 400/DSS

Supporting Documentation (See Note 1)

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97) and the Mini 6 Minicomputer Systems Handbook (69 A1 CC71).

2. The MOD 400 Programmer's Guide was written for the new user. It contains sample procedures for performing often-invoked user functions. The order number for this manual is 69 A2 CB22.

3. The MOD 400/DSS Programmer's Pocket Guide is a handy reference tool that contains a summary of the commands and directives for all system facilities.

4. The Master Index for GCOS 6 MOD 400 is a compilation of indexes of the other manuals of the set. The GCOS 6 MOD 400 Master Index has order number 69 A2 CB28-01.

5. Bound units created with the previous version of this compiler will execute under control of Release 1.1 of the MOD 400/DSS Executive. The previous version of the language compiler is as follows:

   Release 0210 of Intermediate COBOL
   Release 0200 of FORTRAN

6. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 2.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

Table 1-8. Software/Manual Directory for Release 1.1 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-44)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| GCOS 6 MOD 400/DSS Executive | 1.1 | GCOS 6 MOD 400/DSS Software and Documentation Directory | 69 A2 8608-01 |
| | | Addendum A | 69 A2 8608-01A |
| | | GCOS 6 Program Preparation | 69 A2 CB01-02 |
| | | Addendum A | 69 A2 CB01-02A |
| | | Addendum B | 69 A2 CB01-02B |
| | | Addendum C | 69 A2 CB01-02C |
| | | GCOS 6 MOD 400/DSS Commands | 69 A2 8363-00 |
| | | Addendum A | 69 A2 8363-00A |
| | | GCOS 6 MOD 400/DSS Communications Processing | 69 A2 8362-00 |
| | | Addendum A | 69 A2 8362-00A |
| | | GCOS 6 Data File Organizations and Formats | 69 A2 CB05-04 |
| | | GCOS 6 MOD 400/DSS System Messages | 69 A2 8364-00 |
| | | Addendum A | 69 A2 8364-00A |
| | | Addendum B | 69 A2 8364-00B |
| | | GCOS 6 MOD 400/DSS System Concepts | 69 A2 8039-00 |
| | | Addendum A | 69 A2 8039-00A |
| | | GCOS 6 MOD 400 Program Execution and Checkout | 69 A2 CB21-01 |
| | | GCOS 6 MOD 400 Programmer's Guide | See Note 2 |
| | | GCOS 6 MOD 400/DSS System Building | 69 A2 8041-00 |
| | | Addendum A | 69 A2 8041-00A |
| | | Addendum B | 69 A2 8041-00B |
| | | Addendum C | 69 A2 8041-00C |
| | | Addendum D | 69 A2 8041-00D |
| | | GCOS 6 MOD 400/DSS Operator's Guide | 69 A2 8040-00 |
| | | Addendum A | 69 A2 8040-00A |

Table 1-8 (Cont). Software/Manual Directory for Release 1.1 of MOD 400/DSS

Supporting Documentation (See Note 1, page 1-44)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| | | GCOS 6 MOD 400/DSS Programmer's Pocket Guide | 69 A2 8365-01 See Note 3 (page 1-44) |
| | | GCOS 6 MOD 400/DSS Master Index | See Note 4 (page 1-44) |
| | | Display Formatting and Control | 69 A2 CD46-01 |
| | | Addendum A | 69 A2 CD46-01A |
| Assembler and Macro Preprocessor | 2.1 | GCOS 6 Assembly Language Reference | 69 A2 CB07-01 |
| | | Addendum A | 69 A2 CB07-01A |
| | | Addendum B | 69 A2 CB07-01B |
| | | Addendum C | 69 A2 CB07-01C |
| | | Addendum D | 69 A2 CB07-01D |
| | | GCOS 6 System Service Macro Calls | 69 A2 CB08-02 |
| | | Addendum A | 69 A2 CB08-02A |
| | | Addendum B | 69 A2 CB08-02B |
| Intermediate COBOL | 3.0 | GCOS 6 Intermediate COBOL Reference | 69 A2 CB10-01 See Note 5 (page 1-44) |
| | | Addendum A | 69 A2 CB10-01A |
| | | Addendum B | 69 A2 CB10-01B |
| Advanced COBOL | 1.0 | GCOS 6 Advanced COBOL Reference | 69 A2 CB14-00 |
| | | Addendum A | 69 A2 CB14-00A |

Table 1-8 (Cont). Software/Manual Directory for Release 1.1 of MOD 400/DSS

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| BASIC Interpreter | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| BASIC Interpreter/ Compiler | 1.0 | GCOS 6 BASIC Reference<br>GCOS 6 BASIC Reference Guide | 69 A2 CB11-00<br>69 A2 CB17-00 |
| FORTRAN (See Note 5) | 3.0 | GCOS 6 FORTRAN Reference<br>Addendum A | 69 A2 CB13-00<br>69 A2 CB13-00A |
| Advanced FORTRAN | 1.0 | GCOS 6 Advanced FORTRAN Reference | 69 A2 CB18-00 |
| Data Entry Facility-II | 1.0 | Data Entry Facility-II User's Guide | 69 A2 CG70-00 |
| Remote Batch Facility/66 | 415 | Remote Batch Facility/66 User's Guide | 69 A2 8043-01 |
| Remote Batch Facility/64 | 215 | Remote Batch Facility/64 User's Guide<br>Addendum A<br>Addendum B | 69 A2-8045-00<br>69 A2-8045-00A<br>69 A2-8045-00B |
| Sort/Merge | 4.0 | GCOS 6 Sort/Merge<br>Addendum A<br>Addendum B | 69 A2 CB04-01<br>69 A2 CB04-01A<br>69 A2 CB04-01B |
| File Transmission Facility | 315 | Mini 6/DSS - Mini 6/DSS File Transmission Facility User's Guide<br>Addendum A | 69 A2 8367-00<br>69 A2 8367-00A |

Table 1-8 (Cont). Software/Manual Directory for Release 1.1 of MOD 400/DSS

Supporting Documentation (See Note 1)

| Software Product Item | Release Number | Manual Title | Order Number |
|---|---|---|---|
| File Transmission Facility | 215 | Mini 6/DSS - 64/DPS File Transmission Facility User's Guide | 69 A2 8044-00 |
| | | Addendum A | 69 A2 8044-00A |
| | | Addendum B | 69 A2 8044-00B |
| | 315 | Mini 6/DSS - 66/DPS File Transmission Facility User's Guide | 69 A2 8042-01 |
| | | Addendum A | 69 A2 8042-01A |
| Distributed Transactional Facility | 205 | Mini 6/DSS Distributed Transactional Facility User's Guide | 69 A2 8047-01 |
| | | Addendum A | 69 A2 8047-01A |
| Basic Concentration Facility | 205 | Mini 6/DSS - Basic Concentration Facility User's Guide | 69 A2 8046-01 |
| | | Addendum A | 69 A2 8046-01A |
| Host Resident Facility | See Note 6 | 66/DPS Host Resident Facility User's Guide | 69 A2 CB42-02 |
| Interactive Function | 1.2 | Interactive Function User's Guide | 69 A2 CB44-01 |
| | | Addendum A | 69 A2 CB44-01A |

Table 1-8 (Cont). Software/Manual Directory for Release 1.1 of MOD 400/DSS

Supporting Documentation (See Note 1)

NOTES:

1. A software release bulletin accompanies each software product item received from BULL. The user should consult the software release bulletin before using the software. See your BULL representative if a copy of the software release bulletin is not available. Additionally, the following publications provide supplementary information; Mini 6 Communications Handbook (69 A1 AT97) and the Mini 6 Minicomputer Systems Handbook (69 A1 CC71).

2. The MOD 400 Programmer's Guide was written for the new user. It contains sample procedures for performing often-invoked user functions. The order number for this manual is 69 A2 CB22.

3. The MOD 400/DSS Programmer's Pocket Guide is a handy reference tool that contains a summary of the commands and directives for all system utilities.

4. The Master Index for GCOS 6 MOD 400 is a compilation of indexes of the other manuals of the set. The GCOS 6 MOD 400 Master Index has order number 69 A2 CB28-01.

5. Bound units created with the previous version of this compiler will execute under control of Release 1.1 of the MOD 400/DSS Executive. The previous version of the language compiler is as follows:

   Release 0210 of Intermediate COBOL
   Release 0200 of FORTRAN

6. Currently available host resident software includes: Release 3.0 of the 66/DPS Host Resident Facility Program Development System, Release 3.0 of the 66/DPS Host Resident Facility COBOL Compiler, and Release 2.0 of the 66/DPS Host Resident Facility FORTRAN Compiler.

# SECTION II

# SOFTWARE DOCUMENTATION SUMMARY

The manuals described below support MOD 400 Release 3.0 software. A synopsis of each manual in the set and procedures for using the manuals effectively are given.

## SYNOPSES OF MANUALS

The manuals described in these synopses are identified by the first eight characters of the publication number. To ascertain the edition of the manual that supports the software currently in use at an installation, consult the software/manual matrix in Section I.

### Operating System

- Guide to Software Documentation (69 A2 CZ01) - Provides brief synopses of the manuals included in the manual set, software/manual matrix, suggestions (by audience level) for using the manual set effectively, and a master index using major headings from each manual.

- System Buiding and Administration (69 A2 CZ02) - Describes the system building and startup procedures for the Executive including: the Install facility, an interactive system building program, user registration, the software packages for distributed processing (as necessary), configuration directives, system disk layout, system overlays, minimum system hardware and configuration requirements for program preparation, and startup halts.

  Note that potential network configurators should refer to the DSA System Building Network Supplement (69 A2 21MJ) for further necessary information.

- System Concepts (69 A2 CZ03) - Describes the features and facilities specific to the system. Includes conceptual information on Operator Interface Manager (OIM), swap pool, time slicing, ease-of-use functionality, and an outline of all components available. Discussion of execution environment including descriptions of task groups and tasks, memory pools, and bound units.

- System User's Guide (69 A2 CZ04) - Describes the operating procedures from the operator and user terminals, procedural information on the dual-purpose operator terminal, Subsystem Switcher, error logging, creating EC files, establishing deferred processing, batch processing, buffer pools, line speed verification, and restarting after system failure.

- System Programmer's Guide (Volume I) (69 A2 CZ05) - Describes Executive function system control, text editor, File System, display processing and communications, data structures and their generation, device drivers, Line Protocol Handlers (LPHs), multi- and single-user debugging, linking, patching, dumps and their interpretation, trap handling.

  System Programmer's Guide (Volume II) (69 A2 CZ06) - Describes system service macro calls.

- Programmer's Pocket Guide (69 A2 CZ07) - Summarizes commonly-used commands, directives, and operating procedures.

  Note that if the system is operated in a network environment, the DSA Network Pocket Guide, (69 A2 22MJ) must also be consulted for necessary supplementary information.

- System Maintenance Facility Administrator's Guide (69 A2 CZ09) - Describes administrative system maintenance utilities such as Communications Status and Statistics (Initiate Communications Statistics (ICS)), Display Communications Statistics (DCS), and Terminate Communications Statistics (TCS), communications Trase, Scope, Dump Communications Processor (DCP), and Find.

- System Messages (69 A2 CZ16) - Describes "user-friendly" messages reported by system components (descriptions contain cause(s), effect(s), and corrective action(s)); procedure for updating the Message Library, tailoring the library (specifying message chains); national language support; standard messages.

- Commands (69 A2 CZ17) - Describes command line format (operator and user commands), task interrupt break function, activating an application program, and extending the command set. Describes, in detail, commands and active functions, utilities, and language processor execution. Describes additional command line arguments, terminal characteristics at login, and File Change directives; ASCII and EBCDIC character sets.

- Data File Organizations and Formats (69 A2 CZ19) - Describes disk and magnetic tape data file organizations; disk and magnetic tape record, file, and volume formats; journal file format; file and volume headers; ASCII and EBCDIC character set.

- Display Formatting and Control (69 A2 CZ21) - Describes forms creation and maintenance using the VFORMS command, the programmatic-interface from a language-independent point of view, Assembly language macro calls that manipulate forms, and Advanced COBOL, BASIC, Pascal, and FORTRAN calls that manipulate forms.

- Control of Questar/T Auxiliary Components (69 A2 10MJ) - Describes the operation of the GCOS 6 Badge and printer control software which is an extension of the Display Formatting and Control Facility.

- Software Release Bulletin MOD 400 (69 A2 28MJ) - Contains the SRB's for the Operating System, Languages and Facilities supporting GCOS 6 MOD 400 Release 3.0.

## System Options and Facilities

- Menu Management/Maintenance Guide (69 A2 CZ10) - Provides information on creation, modification, or deletion of menus. Contains information on using the User Productivity Facility, programmatic interfaces, and user registration for the User Productivity Facility.

- Application Developer's Guide (69 A2 CZ15) - Describes system usage for application programmers. Presents a detailed description of system access procedures, file conventions, screen and line editors, Linker procedures, Multi-User Debugger (symbolic mode), requesting and using memory dumps, Patch utility, as well as compile, link, and execute procedures for COBOL, BASIC and FORTRAN programs.

- Sort/Merge (69 A2 CZ18) - Describing the Sort and Merge program features, command and statement formats, and report contents. Includes file and memory requirements, operating procedures, sample program, using Sort as a subroutine, debug mode execution, and ASCII collating sequence.

## Languages

- GCOS 6 Intermediate COBOL Reference (69 A2 CB10) - Complete description of the general features of Intermediate COBOL programs, language elements, language syntax, the four major divisions of an Intermediate COBOL program and specific format descriptions of all Intermediate COBOL statements (including programming examples incorporating each statement). Includes the types of files and data handled, compiler diagnostics, ASCII collating sequence, COBOL glossary, comparison of standard COBOL with Intermediate COBOL, and Intermediate COBOL run-time considerations.

- Advanced COBOL Reference (69 A2 CZ34) - Describes general features of Advanced COBOL, language elements and syntax, and the divisions of a COBOL program. Presents format descriptions of all Advanced COBOL statements (with many programming examples). Contains a COBOL glossary and reserved word list, ASCII and EBCDIC collating sequences, the FIPS LEVELING feature of COBOL, and compiler diagnostics. Describes the types of files handled, the use of the Advanced COBOL compiler, and COBOL runtime considerations.

- Advanced COBOL Quick Reference Guide (69 A2 CZ35) - Summarizes Advanced COBOL syntax and national conventions. Describes, briefly, commonly used expressions. Gives identifier and condition formats, and I/O file structure and status keys. Lists special registers, system names, reserved words, collating sequences, and other reference information.

- BASIC Reference (69 A2 CZ36) - Describes the form and function of BASIC statements as well as the capabilities of the string, arithmetic, matrix, and file operations supported by the language. Describes the procedures used to initiate program execution, save a BASIC program on a secondary storage device, list a program, and perform other general programming functions.

- Basic Quick Reference Guide (69 A2 CZ37) - Summarizes all statements and commands and their formats. Lists the BASIC reserved words, system functions, special character set, notational conventions, ASCII-to-decimal conversion table, and error codes and messages.

- Assembly Language (MAP) Reference (69 A2 CZ38) - Describes all instructions, instruction formats, control statements, types of data handled, and macro language statements. Describes scientific and commercial instructions. Rules for writing reentrant code. Describes Advanced Assembler instructions, formats, and usage.

- Advanced FORTRAN Reference (69 A2 CZ39) - Describes the Advanced FORTRAN language including terms and concepts, source program formats, data types and constants, control statements, and expressions.

- Pascal User's Guide (69 A2 CZ40) - Describes language specification and compiler operation. Explains use of library procedures, I/O extensions, Profiler and Format utilities, and the Debugger. Gives information about program linking and compiler and runtime errors. Includes programming examples.

- RPG-II Reference (69 A2 CZ41) - Description of RPG-II data processing including, a primer on RPG-II programming, RPG-II specification form entries, description and use of the RPG-II fixed logic cycle, and operating instructions with sample programs.

## End-User Facilities

- Data Entry Facility-II User's Guide (69 A2 CZ47) - Describes the concepts and operation of the Data Entry Facility-II (DEF-II), a data entry package used with Mini 6 computer systems. Presents detailed descriptions of the terminal devices supported by the facility; the creation, maintenance, and use of screen forms; the configuration of the Executive for the DEF-II facility; and the files and programming interfaces used by the facility.

- Data Entry Facility-II Operator's Quick Reference Guide (69 A2 CZ48) - Describes the front and back control panels of the terminals, the keyboard controls, and the menu screens. Contains an annotated list of commonly-occurring error messages.

## Transaction and Database Subsystems

- Transaction Control Language Facility (69 A2 CZ20) - Describes the use of the Transaction Control Language (TCL) in writing transaction processing applications. Presents a detailed description of the TCL. Provides rules for writing Assembly language and COBOL programs to function with the TCL programs. Describes the procedures involved in preparing a system to run transaction processing programs under TCLF. Explains the transaction processing operating modes.

- DM6 IDS/II Programmer's Guide (69 A2 CZ52) - Describes IDS/II software from the perspective of the application programmer who uses the data base. Explains IDS/II system concepts and data definition and manipulation languages at the subschema level. Includes programming examples.

- DM6 IDS/II Data Base Administrator's Guide (69 A2 CZ53) - Describes the concepts and operation of IDS/II software for persons responsible for the design, installation, control, and maintenance of the data base. (Intended to be used in conjunction with the IDS/II Data Base Programmer's Guide.)

- DM6 IDS/II Reference Card (69 A2 CZ54) - Outlines language syntax, formats for translation, validation, and utilizing commands, and lists other reference material.

- DM6 TP Development Reference (69 A2 CZ71) - Includes conceptual description of the DM6 Transaction Processor (DM6 TP), language requirements for generating a DM6 TP application, and instructions for writing message-mode transaction processing routines in COBOL.

- DM6 TP Application User's Guide (69 A2 CZ72) - Provides instructions on installing and operating a DM6 Transaction Processor application. Includes instructions for building and initializing a DM6 TP application. Describes DM6 TP operator functions, including special DM6 TP commands. Describes the role of the terminal user in accessing DM6 TP and entering transactions.

- DM6 TP Forms Processing (69 A2 CZ73) - Describes the language requirements for creating screen forms and gives instructions for preparing transaction processing routines that operate in forms mode.

BULL-Multi-Site Processing (MSP)

- File Transmission Facility Mini 6/Mini 6 User's Guide (69 A2 CZ59) - Describes the process of transmissing data between Mini 6 computers. Includes instructions for activating and initiating file transmission as well as a description of the commands and arguments needed to transfer data.

- File Transmission Facility Mini 6/DPS 8 User's Guide (69 A2 CZ60) - Describes the operation of the File Transmission Facility used with Mini 6 and DPS 8 computer systems. Includes a discussion of the internal message exchange and interaction during the transmission of the files between the two systems as well as a listing of file transmission messages, and a sample DPS 8 statistical report.

- File Transmission Facility Mini 6/DPS 7 User's Guide (69 A2 26MJ) - Describes the operation of the File Transmission Facility used with Mini 6 and DPS 7 computer systems. Includes a discussion of the internal message exchange and interaction during the transmission of file between the two systems as well as a listing of file transmission messages.

- Remote Batch Facility Mini 6/DPS 8 User's Guide (69 A2 CZ66) - Describes the concepts and operation of the Remote Batch Facility. Explains how to establish or terminate communication with the host system and how to perform remote batch operations. Describes each remote batch console command and host software control record used to direct remote batch functions.

- Remote Batch Facility Mini 6/DPS 7 User's Guide (69 A2 27MJ) - Describes the concepts and operation of the Remote Batch Facility. Explains how to establish or terminate communication with the host system and how to perform remote batch operations. Describes each remote batch console command and host software control record used to direct remote batch functions.

- Interactive Entry Facility-IEF/II User's Guide (69 A2 CG90) - Describes the facility which provides a clustered, interactive programmable terminal capability for communication with the host computer.

- DSA File Transmission Facility Mini 6/DPS 8 User's Guide (69 A2 14MJ) - Description of file transmission operations between a Mini 6 and a DPS 8 host in a DSA environment.

- DSA File Transmission Facility Mini 6/Mini 6 User's Guide (69 A2 15MJ) - Description of file transmission between Mini 6 computers in a DSA environment.

- DSA File Transmission Facility Mini 6/DPS 7 User's Guide (69 A2 16MJ) - Describes the operation of the File Transmission Facility used with Mini 6 and DPS 7 computer systems in a DSA environment.

- DSA Remote Batch Facility Mini 6/DPS 8 User's Guide (69 A2 11MJ) - Description of remote batch operations in a DSA environment: communicating with the host, DPS 8 central processor, preparing job decks, managing job streams, input and output processing, operator commands and messages, host software control records.

- DSA Remote Batch Facility Mini 6/DPS 7 User's Guide (69 A2 12MJ) - Descriptions of remote batch operations in a DSA environment. Communication is between Mini 6 and DPS 7 central processor.

- DSA Network Messages (69 A2 19MJ)* - Description of only those messages reported by the network types.

- DSA Network Overview (69 A2 20MJ)* - Description of only those additional concepts involved with a Mini 6 in a DSA environment.

- DSA System Building Network Supplement (69 A2 21MJ)* - Describes only the additional procedures required to configure a Mini 6 within a DSA network.

- DSA Network Pocket Guide (69 A2 22MJ)* - Provides a pocket-size summary of only the additional commands directives and operating procedures used within a DSA network.

- DSA Network Operator's Guide (69 A2 23MJ)* - Gives only those additional to be used by a network operator.

- DSA In-Line Tests and Verification Operators Guide (69 A2 24MJ) - The manual describes how the In-Line test system can be applied to a Mini 6 in a DSA environment. Test structure, commands and responses are detailed here.

* Note for the above indicated manuals.
It should be stressed that these DSA manuals only describe the additional information required when a Mini 6 is operated in a DSA network.
It is imperative that they are used with their counterpart manuals listed earlier.

For instance, MOD 400 System Building and Administration (69 A2 CZ02) must be referred to when using the DSA System Building Network Supplement (69 A2 21MJ), etc.

## Network Control and Administration (NCC6)

- NCC6 Operation Manual (69 A2 9784)

- AUPI Operation Manual (69 A2 9924)

- VIDSA Operation Manual (69 A2 9765)

- NCC6 Network Operators Reference (69 A2 9941)

Network Control Center/6
NCC/6 consists of a set of utilities which provide network administration and control services from a central point. The Operation Manual and the Network Operator's Reference detail the following NCC/6 components:

- Network Operator Interface (NOI)
- Logfiles Manager
- Cross-net Libraries Manager
- Basic Logfile Editor
- Basic Dump Editor

The VIDSA (Video DSA) component of the NCC/6 permits the user the build a real-time image of the network on a graphics screen.

## IBM Multi-Site Processing (IBM-MSP)

- BSC Transport Facility User's Guide (69 A2 CZ62) - Describes the File Transmission Facility for transmitting data between the Mini 6 and host computer systems. Includes a detailed description of the file transmission operation as well as a listing of file transmission messages. ASCII and EBCDIC character sets.

- 2780/3780 Workstation Facility User's Guide (69 A2 CZ63) - Describes the 2780/3780 Workstation Facility (WF) used for either transmitting batch input to, or receiving batch output from a host system that supports a BSC 2780/3780 line protocol. Includes a detailed description of commands and directives entered at the user terminal as well as specific examples of 2780/3780 WF interfacing with a host system. Describes the error messages generated by the 2780/3780 WF. Includes the ASCII and EBCDIC character sets used by Mini 6 and the host system.

- HASP Workstation Facility User's Guide (69 A2 CZ64) - Describes the HASP Workstation Facility for transmitting data through a single link between either a Mini 6 and a host system or between two Mini 6 systems. Includes detailed descriptions of the HASP commands, directives, and arguments entered through a terminal.

- Programmable Facility/3271 User's Guide (69 A2 CZ65) - Describes configuration, invocation, and termination of the Programmable Facility/3271. Describes data entry keys for the supported terminals and creating user-written extensions.

- 2780/3780 Workstation Facility User's Guide (69 A2 CZ63)
- HASP Workstation Facility User's Guide (69 A2 CZ64)

Each of the above documents describes the capabilities of the particular workstation emulation facility, including an overview of the facility, the commands and parameter strings to be entered at the workstation, and programming information required to interface with the host system.

IBM-DDP Distributed Data Processing
SNA Transport Facility

- Mini 6/IBM Distributed Data Processing Concepts (69 A2 CR56) - Describes the capabilities supported by Mini 6 in IBM networkds using either BSC or SNA products. Includes an application scenario illustrating the use of GCOS 6 facilities in an IBM SNA network.

- SNA Administrator's Guide (69 A2 CR57) - The manual is written for those who operate Mini 6 nodes in a Mini 6/SNA network and those who configure such nodes. The manual also describes two system-user interfaces: form-driven and command-line.

- SNA Interactive Terminal Facility User's Guide (69 A2 CR58) - Describes in detail the SNA ITF, which, through emulation of an IBM 3274 control unit, is used for transmission of data to an IBM host system in an SNA network environment.

- SNA Remote Job Entry Facility User's Guide (69 A2 CR59) - Describes in detail the concepts of the RJE facility, operating procedures and operator commands. A sample illustrating RJE use and error and informational messages is also included.

- SNA File Transmission Facility User's Guide (69 A2 CR60) - Describes in detail the concepts of SNA File Transmission Facility (SFT), file preparation information for SFT-H (executes on an IBM host), operating procedures and SFT operator commands and utility control language.

- SNA Host System Programmer's Guide (69 A2 GB88) - Written for those who configure an IBM host to support connection with the Mini 6 SNA program products (ITF, RJE facility and SFT)

- Data-Base Augmented Real-Time Tracing System (DARTS) User's Guide (69 A2 CZ74) - Describes the DARTS on line software trace facility available with the MOD 400 executive. It is designed for use as a field support and maintenance facility.

- BCF/DTF Subsystems Overview (69 A2 01MJ) - This manual gives a conceptual description of the software products BCF (the Basic Concentration Facility), DTF (the Distributed Transactional Facility).

- BCF/DTF Subsystems Implementation Guide (69 A2 02MJ) - This manual gives information on the installation and generation of Basic Concentration Facility (BCF), Distributed Transactional Facility (DTF), and Distributed Transactional Facility with Recovery for Restart (DRR) subsystems. For conceptual information on these systems, the Overview manual should be consulted; likewise, the person charged with generating a BCF or DTF subsystem should read the appropriate System Building and Administration manual for his operating system.

- BCF/DTF Subsystems-Guide to Operation and Use (69 A2 03MJ) - This manual describes the procedures necessary to start up and run a BCF, DTF, system on GCOS 6 MOD 400. All references to BCF assume DTF in concentration mode.

  Much of this manual, in explaining how to use the subsystems, refers only to terminal concentration, as the use of DTF in transactional mode depends on the actual transactional programming and the application for which the system is being used.

- DTF Subsystems Programming Guide (69 A2 04MJ) - This manual provides a detailed description of the programming interface for use under the Mini 6 software product, DTF.

- BCF/DTF Subsystems-Error Messages and Abort Codes (69 A2 05MJ) - Provides error messages and abort code listings with summaries of cause, effect and corrective action.

- BCF/DTF Subsystems Pocket Guide (69 A2 06MJ) - Pocket-sized summary of commonly used commands and operating procedures available under BCF/DTF. A brief description of each coded error message is also given.

- VIDEOTEX User's Guide (69 A2 08MJ) - The manual describes Videotex Terminal Driver (VTD) configuration, Videotex/DTF configuration, and implementation and application programming.

- X25 Programmatic Interface User's Guide (69 A2 09MJ) - The use of a X25IO software, providing access to all X25 Public Data Networks, is described in this manual.

- Secondary Public Data Network (SPDN) User's Guide (69 A2 25MJ) - Describes the Network Terminal Driver and NTDX25 being a component of the Secondary Network Manager, and connection to a Public Data Network.

The following publications supply supplementary information:

- Mini 6 Communications Handbook (69 A1 AT97) - Description of the MLCP and the Communications-Pac interfaces for use in creating applications for a Mini 6 hardware environment that includes an MLCP and one or more Communications-Pacs.

- Mini 6 Minicomputer System Handbook (69 A1 CC71) - Descriptions of hardware models, central processor, system and central processor architecture, instruction set and addressing modes, instruction timing, and control panel operating procedures.

# SECTION III

## PROCEDURES FOR USING THE DOCUMENTATION SET

MOD 400 users look to the documentation set for many different kinds of information related to various functions. Ways of making more effective use of the manuals are suggested below. The user classifications chosen for this discussion are arbitrary: at small installations, the diversity of functions may require many people playing additional or different roles. Information is tailored to the following user classifications:

- System builder - Designs and builds the system according to the requirements of his installation
- System programmer - Writes system programs and debugs the system
- Novice user - Not familiar with MOD 400; may or may not be an experienced programmer
- Experienced applications programmer - Writes and executes applications programs
- Operator - Operates the system and maintains the peripheral devices
- Distributed systems user - Employs the Mini 6 in a distributed processing environment.

> Note that if the system is to be operated in a DSA environment the appropriate DSA manuals, indicated in the following figures, must first be consulted.

### System Builder's Guide to Manuals

The suggested sequence for using the manuals for system building is shown in Figure 3-1. As a system builder, you may wish to become familiar with the software by reading this guide.

Before designing the system configuration for installation, read the conceptual material in the System Concepts manual. If you plan to use the Editor to enter data into the system, refer to the Application Developer's Guide and the System Programmer's Guide - Vol I for Editor directives.

The primary manual for the builder is the System Building and Administration manual, which provides information on starting up the initial system, directives for building the executive, and the optional procedures for building the system interactively.

If you want to define user roles or modify menus or messages for the User Productivity Facility (UPF), see the Menu Management/Maintenance Guide.

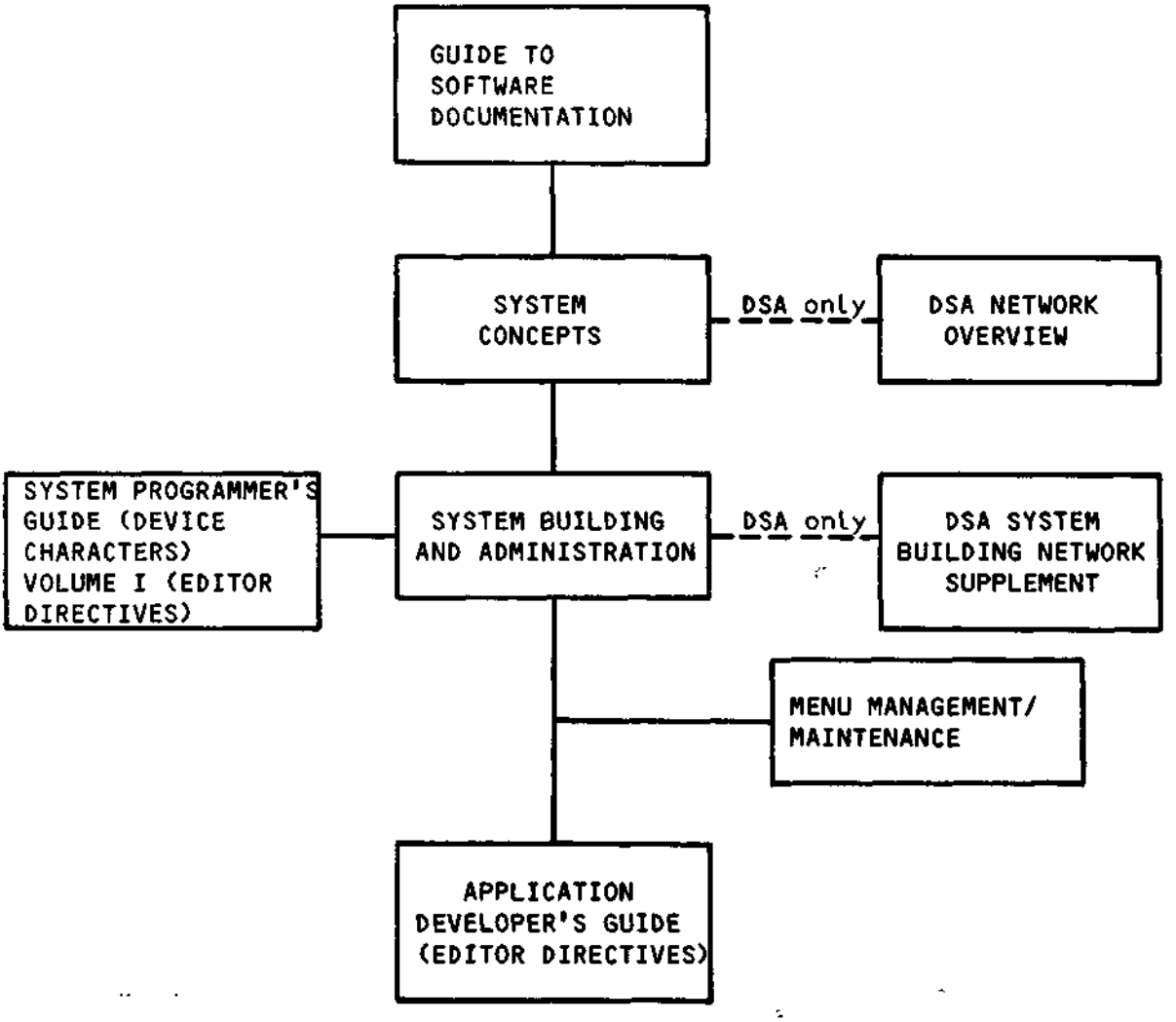



Figure 3-1. System Builder's Guide to Manuals

## System Programmer's Guide to Manuals

Figure 3-2 illustrates manuals of particular interest if you are a system programmers. Before performing any system functions, you may wish to become familiar with the system software by reading this guide as well as the System Concepts manual.

If you plan to write additional system software code for your installation, refer to the Assembly Language (MAP) Reference manual and the System Programmer's Guide - Vol I and II. To control execution of new system programs, you can use commands from the Commands manual.

If you are trouble shooting or debugging the system (as opposed to an application), use the System Programmer's Guide - Vol I and II, which contains Debug and Patch descriptions and information on interpreting memory dumps. Error messages are given in the System Messages manual.

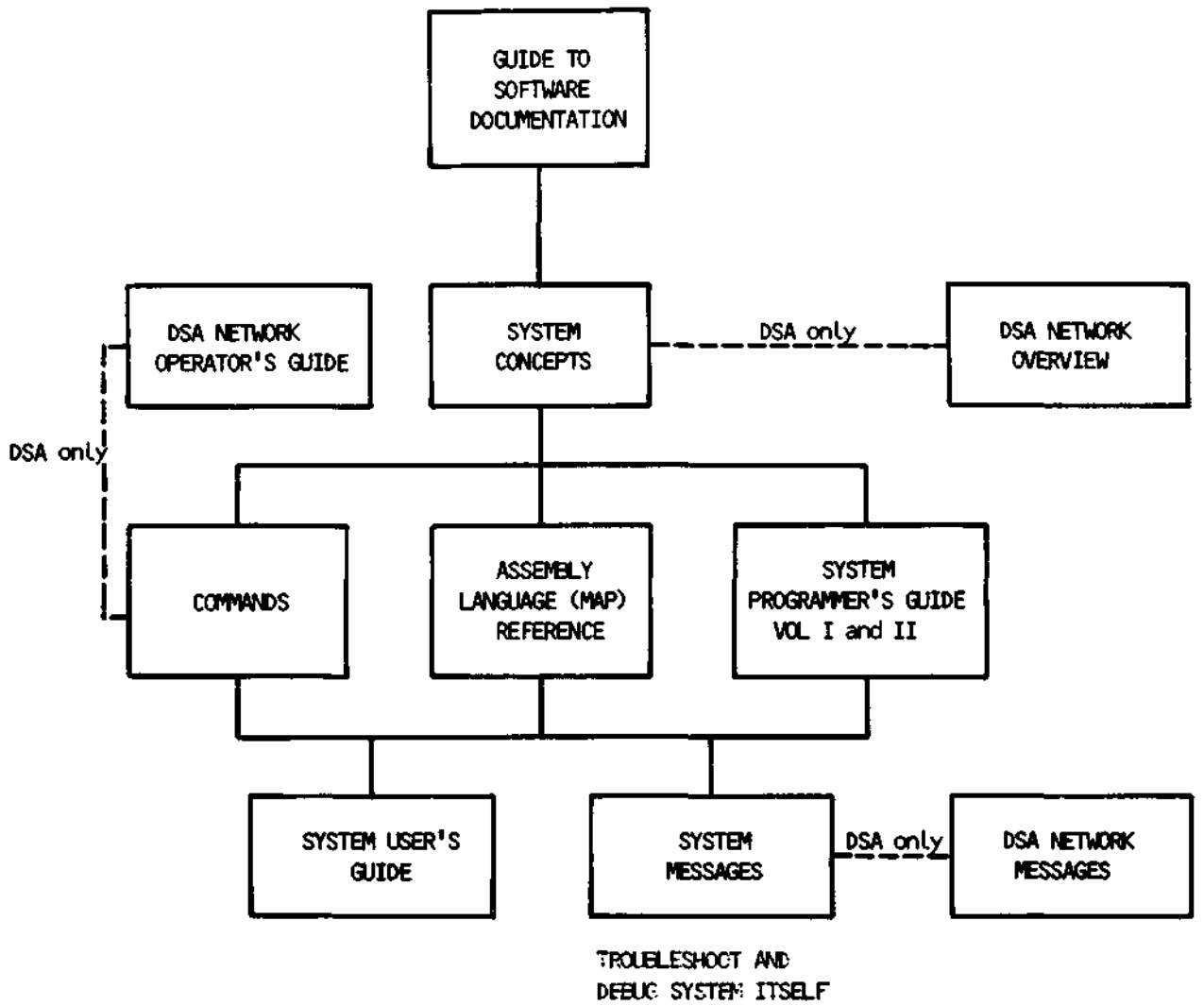



Figure 3-2. System Programmer's Guide to Manuals

## Notice User's Guide to Manuals

If you are a new MOD 400 user, you can use the System User's Guide for step-by-step instructions in performing selected procedures. The manuals shown in Figure 3-3 contain additional information on using the software. Read this guide and the System Concepts manual for descriptions of the software. To locate other software topics in the documentation set, refer to the Master Index.

Manuals you will need for processing include the Commands manual, System Messages manual (for error messages), Application Developer's Guide and System Programmer's Guide - Vol I (for Editor directive), System User's Guide (for Linker, Patch, and Debug directives), and the Programmer's Pocket Guide (for summaries of commonly used commands and directives). When executing a program in any of the languages supported by the system, refer to the appropriate language reference manual.

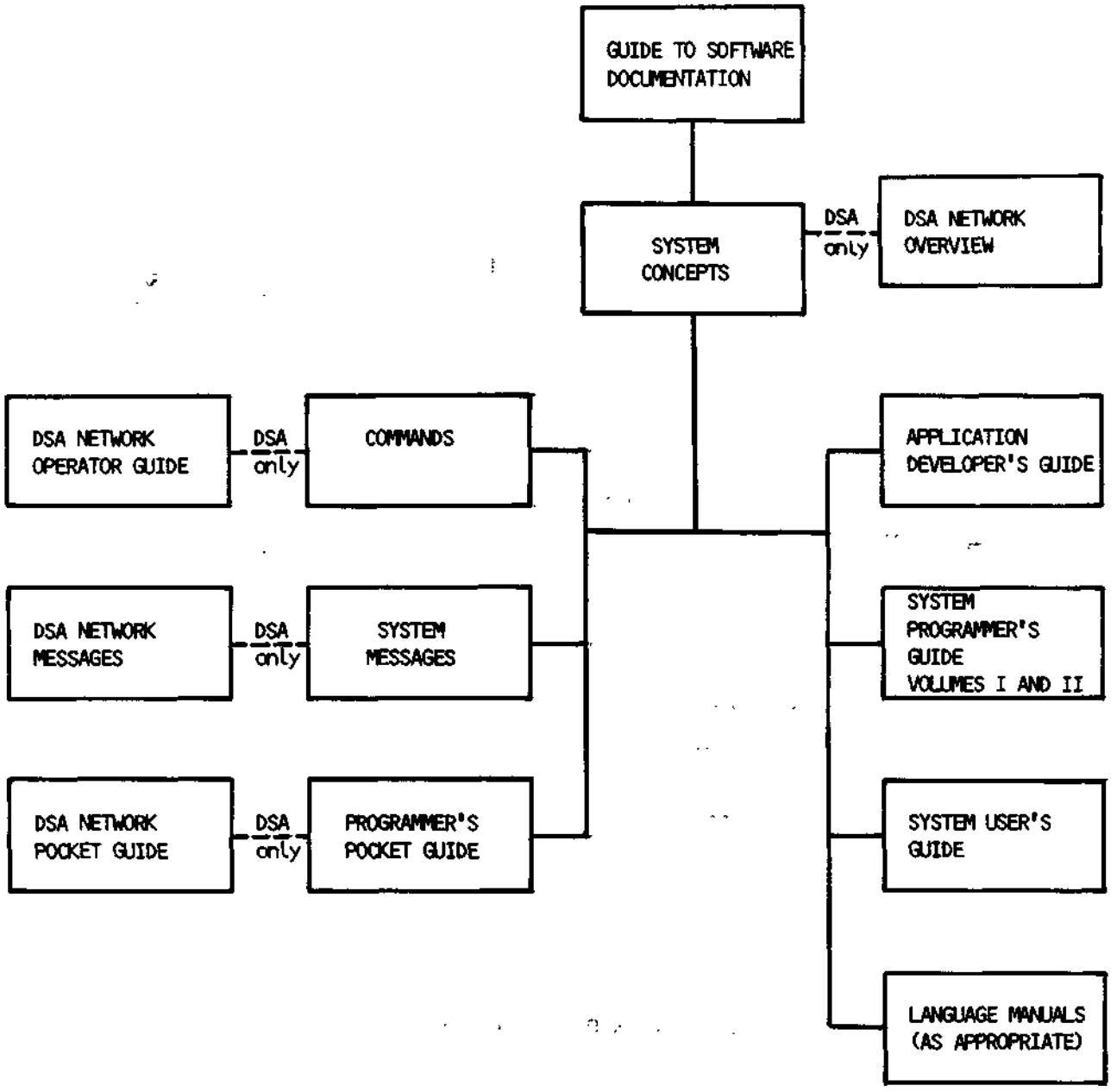



Figure 3-3. Novice User's Guide to Manuals

## Applications Programmer's Guide to Manuals

If you are an experienced applications programmer, refer to Figure 3-4 for suggestions on the use of manuals in developing and running applications. To familiarize with the system software and operation, read this guide and the System Concepts manual. To locate specific software topics in other manuals, refer to the Master Index.

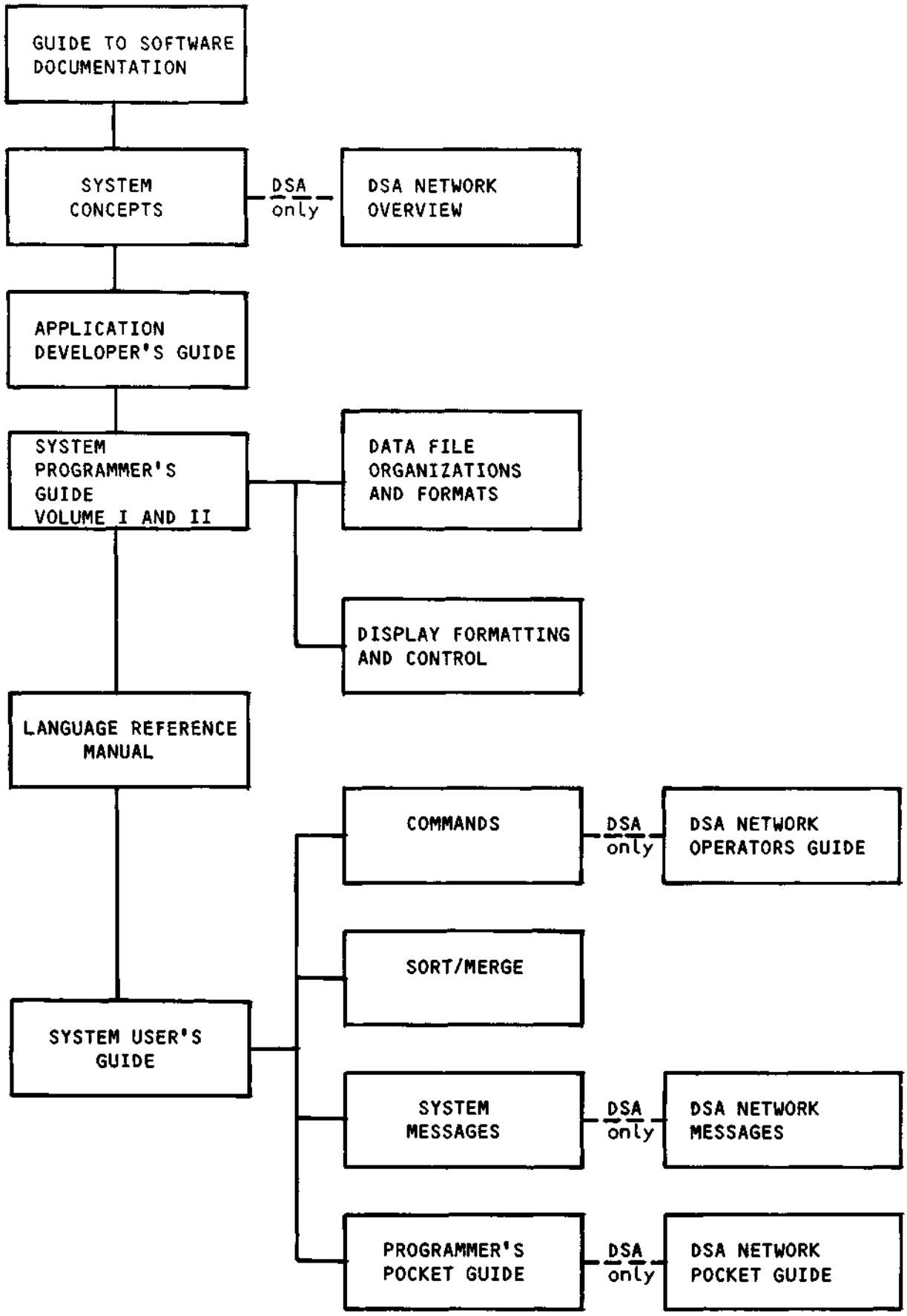



Figure 3-4. Application Developer's Guide to Manuals

The Application Developer's Guide contains Editor directives to create and update an application language source unit. For each of the languages, the appropriate language reference manual contains the description of the language statements. The macro calls used in assembly language programs are described in the System Programmer's Guide - Vol II.

To obtain more control over the execution of the program or to utilize the system facilities more completely or effectively, use the commands, including utility program commands, in the Commands manual. The Patch, Debug and dump utilities are described in the Application Developer's Guide and System Programmer's Guide - Vol I. The Sort/Merge utility programs are described in the Sort/Merge manual. Error messages and return status codes are listed in the System Messages manual. The Programmer's Pocket Guide summarize commonly used commands, directives, system messages, and operating procedures.

## Operator's Guide to Manuals

Specific MOD 400 operator job functions must be determined by each installation; a large system might have a person assigned as an operator; a small system might have programmers also act as operators. If you are to perform operator functions, refer to the manuals shown in Figure 3-5.

The System User's Guide indicates those system procedures performed by the operator and the Commands manual describes operator commands used in system operation. Prior to reading the System User's Guide you may wish to become familiar with the software and system concepts by reading this guide and the System Concepts manual, respectively. To run utilities, use the commands described in the Commands manual. Error messages are listed in the System Messages manual.

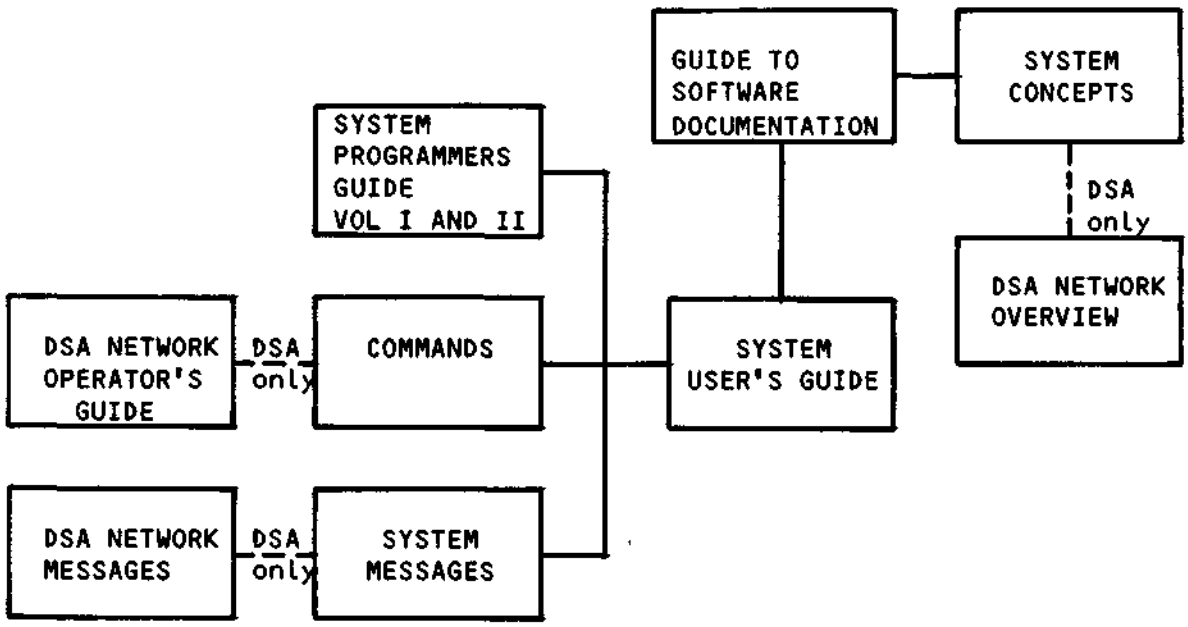



Figure 3-5. Operator's Guide to Manuals

## Guide for Using Manuals in a Distributed Processing Environment

GCOS 6 MOD 400 supports the use of Mini 6 in a distributed processing environment. Using BULL-supplied software packages, processing capability can be assigned to sites remote to the host computer system. Other software programs permit files to be transmitted to and received from remotely located processors. Additionally, software is available to develop links with non-Mini 6 host processors and to distribute this total processing load between the host and Mini 6.

BULL software packages and corresponding reference manuals are described in Figure 3-6.

| Software Package | Manual |
|---|---|
| Remote Batch Facility/DPS 8 | Remote Batch Facility Mini 6/DPS 8 User's Guide |
| Remote Batch Facility/DPS 7 | Remote Batch Facility Mini 6/DPS 7 User's Guide |
| Data Entry Facility-II | Data Entry Facility-II User's Guide |
| BULL File Transfer Facility | File Transmission Facility Mini 6/Mini 6 User's Guide<br>File Transmission Facility Mini 6/DPS 7 User's Guide<br>File Transmission Facility Mini 6/DPS 8 User's Guide |
| Non-BULL File Transfer Facility | Mini 6/BSC2780/3780 File Transmission Facility User's Guide |
| 2780/3780 Workstation Facility | 2780/3780 Workstation Facility User's Guide |
| HASP Workstation Facility | HASP Workstation Facility User's Guide |
| Programmable Facility/3271 | 3270 Interactive Facility User's Guide |
| Basic Concentration Facility/Distributed Transactional Facility | BCF/DTF Sybsystems Implementation Guide<br>DTF Subsystem Programming Guide<br>BCF/DTF Subsystems - Guide to Operation and Use<br>BCF/DTF Subsystems - Error Messages & Abort Codes<br>BCF/DTF Subsystems Pocket Guide |
| Host Resident Facility | Host Resident Facility User's Guide |

Figure 3-6. Guide for Using Manuals in a Distributed Processing Environment, under MOD 400

# SECTION IV

# MOD 400 SOFTWARE SUMMARY

A user ordering MOD 400 software can obtain the MOD 400 Executive and various separately-priced components that can run under control of the MOD 400 Executive.

The following software is available as part of the MOD 400 Executive:

- System Control Software
- File System Software
- Physical Input/Output Software
- Networking Software
- Communications Software
- System Building Software
- Editor
- Linker
- Patch Facility
- Debug Facilities (Symbolic and Numeric Modes)
- Dump Facilities
- General Utility Software (excluding Sort)
- Hardware Simulators
- System Maintenance Facility
- Display Formatting Control

Remaining software, including chiefly the language compilers, are available separately.

This section includes a brief description of each of the software components.

## LOCAL SYSTEM CONTROL SOFTWARE

System control software includes the following:

- Task manager - Handles the disposition of tasks within the system, and responds to requests placed against tasks. It processes requests to activate tasks, returns control to interrupted tasks, and synchronizes, suspends and terminates tasks.

- Clock manager - Handles all requests to control tasks based on real-time considerations, and responds to requests for the time of day and date in ASCII format.

- Memory manager - Controls dynamic requests for memory or the return of memory to a memory pool.

- Trap manager - Handles the transfer of execution control from an executing program to a predefined trap location when a trap (a special condition such as a hardware error) occurs. The trap manager handles system traps and allows a task group to connect its own trap routines for specific traps.

- Operator interface manager - Manages all messages sent simultaneously by multiple task groups to the operator terminal or from the operator terminal to a task group.

- Loader - Loads the root and overlays of a bound unit dynamically from a disk.

- Listener/login - The listener monitors a selected set of local and remote terminals, reporting any change of state (for example, connect, disconnect) to the login component. If a user submits a login command requesting access to the system, the login component requests that a task be spawned for the user.

- Message facility - Provides for inter/intra task group communication. The message facility uses mailbox structures for sending/receiving messages.

- Command processor - Processes all commands. It is the lead task of the batch task group and can be the lead task of an online task group.

The user can obtain system control functions through system commands, through system service macro calls (for assembly language programs), and through statements in higher-level languages.

## FILE SYSTEM SOFTWARE

The file system is based on a tree-structured hierarchy and software functions are provided to create or maintain this directory structure, locate a file by its pathname, create and maintain data files, control concurrent use of files, and provide for the logical transfer of records between an application program and an external device. These functions are available through commands or, for an assembly language program, through system service macro calls.

The File System software handles input/output functions of each of the different supported devices, including communications. MOD 400 supports six file organizations, each with its own unique file format:

- UFAS Sequential
- UFAS Indexed
- UFAS Relative
- UFAS Random
- UFAS Alternate Index
- UFAS Dynamic

In addition to the standard UFAS organizations, fixed-relative organization is supported for compatibility with BES applications. A description of the data file organizations and their propertoes is found in the Data File Organizations and Formats manual.

The higher-level languages use the logical file organizations listed above. The language reference manual for each language provides statements for accessing the logical files.

An Assembly language program can access files through file and data management macro calls or through the physical I/O drivers; both methods are described in the System Programmer's Guide. Vol. I.

The interface to communications software is described in the System Programmer's Guide. Vol.I.

## PHYSICAL INPUT/OUTPUT SOFTWARE

An Assembly language program can use physical input/output driver software which works at the hardware physical level. Each peripheral and communications device type has a driver which is a reentrant procedure that can control one or more devices. A description of the peripheral drivers and the physical I/O macro calls is found in the System Programmer's Guide. Vol I. Macro calls for communications are described in the System Programmer's Guide. Vol. II.

## COMMUNICATIONS SOFTWARE

Communications software is accessible through the standard input/output interface, is memory and MLCP resident, and interacts with Monitor software to process user communications applications. With the BULL-supplied communications software, users need not provide their own communications system programs.

The communications software is user-driven. It answers the phone in response to a user-issued connect; it polls terminals in response to user-issued reads. Users (application or system software) must provide buffers to the communications software to accomodate read and write operations.

Communications software provides a common I/O interface to its users through the standard physical I/O interface (the $RQIO macro call).

## SYSTEM BUILDING SOFTWARE

BULL supplies an interactive system generation utility program; this program asks the system builder pointed questions and uses his responses to create an appropriately-specialized file of building directives. (Alternatively, the system builder can choose to use the Editor to create the directive file by hand.) The building directives are then processed by the Configuration Load Manager (CLM) which uses the information in the directives to build the system. See the System Building and Administration Manual (69 A2 CZ02).

## EDITOR

The Editor is used to create and update, on disk, a source unit written in one of the provided programming languages. It will edit characters, expressions, or lines of text. The Editor is reentrant and can support multiple users. A description of the Editor directive language is found in the Application Developer's Guide and System Programmer's Guide. Vol. I.

## LINKER

The Linker combines object units that are the output of a compiler or the Assembler and produces a bound unit for subsequent loading. It resolves external references made between object units being linked. Linker directives can be used to create reentrant bound unit files. A description of Linker directives is found in the Application Developer's Guide and System Programmer's Guide. Vol. I.

## PATCH

The Patch utility program applies patches to and removes patches from object units and bound units. Patch is also used to list all patches for an object unit or bound unit. Execution of Patch is controlled by directives entered from the operator's terminal, another terminal, a card reader, or a sequential file. A description of Patch directives is found in the Application Developer's Guide and System Programmers Guide. Vol. I.

## DEBUG Facilities (Symbolic and Numeric Modes)

Debug software is used for testing programs at the machine language level. There are two debuggers available: The Multi-User Debugger (in symbolic and numeric modes) and the single-user Debugger. Hexadecimal patches can be made to the program. A debugging program that can be invoked in your task group and a debugging program that can be invoked as a separate task group are included. The Multi-User Debugger is described in the Application Developer's Guide (symbolic mode) and the System Programmer's Guide. Volume I (numeric mode). The single-user Debugger is described in the System Programmer's Guide. Volume I.

## DUMP FACILITIES

MOD 400 contains a MDUMP utility program and a Dump Edit utility program. Dumps produced by Dump Edit are in edited format that makes them easier to interpret. If an executing program encounters a problem, the user can use just Dump Edit to obtain the dump or the user can first dump memory to a disk file using the MDUMP utility program and then print the memory dump using Dump Edit. The MDUMP program and the Dump Edit program are described in the Application Developer's Guide and System Programmers Guide. Vol. I. Additionally, a DUMCP program is available to dump the contents of all or part of the Multiline Communications Processor (MLCP) memory. The DUMCP program is described in the Application Developer's Guide.

MOD 400 Operating in a DSA environment also contains a networking dump utility program called by the use of the DNET command. The DNET command produces a structured dump of the networking vehicle, and partially interprets the data structures associated with the communications management layers.

## GENERAL UTILITY SOFTWARE

A comprehensive set of utility programs is available to perform commonly-used programming functions. The usage of the utility programs is described in the Commands manual unless otherwise indicated.

- Abort Batch - Suspend, terminate, and delete the batch task group.

- Abort Batch Request - Terminate the execution of the current batch request.

- Abort Group - Suspends, terminates, and deletes a task group.

- Accept Message - Accepts or defers messages from other system user task groups.

- Accept Message Mailbox - Accepts messages in a mailbox queue; messages are deleted immediately after they are received.

- Activate Batch - Roll in and resume execution of the previously rolled-out and suspended batch tack group.

- Activate Group - Resume execution of a previously suspended online task group.

- Add/Delete Message - Add messages into or delete messages from the Message Library.

- Adjust Buffer Pool - Adjust a specified private (user-specific) buffer pool by enabling or disabling a specified number of buffers.

- Assign Recovery File - Assign the recovery file to a specified directory and assign allocation sizes.

- Associate - Makes the specified logical file number (LFN) a synonym for the indicated pathname.

- Auto Report - Produce an RPG source program from a file.

- Break Off - Disable break key functionality within the issuing task group.

- Break On - Enable break key functionality within the issuing task group.

- Buffer Pool Information - Prints a detailed status of a specified pool and optionally resets the pool's statistical counters.

- Buffer Pool Status - Prints a summary status of the public buffer pools or of the private buffer pools created by the issuing task group.

- Bye - Terminates execution of the current request in the issuing task group and releases user-owned resources.

- Cancel Mount Request - Cancels a mount request.

- Cancel Queue Request - Cancels request(s) in a print, punch, batch, or task group's request queue, or messages in a task group's mailbox.

- Change Message Library - Allow the named Message Library to be the first one searched by the Message Reporter.

- Change System Directories - Change the system root directory and/or the library search rules.

- Change Working Directory - Changes the working directory to the specified disk directory.

- Check Mass Storage Volume - Checks the accuracy of the allocation of data on a mass storage volume.

- Checkpoint File Assignement - Establishes (or terminates) the checkpoint file assignement for the issuing task group.

- Close Journal - Close the after-image journal file.

- Compare - Performs a file-to-file or volume-to-volume comparison.

- Compare ASCII - Compares a file to its edited version.

- Compare Data Exchange - Logically compares Mini 6 (native) disk files to IBM diskette files (and vice versa); compares IBM diskette volumes by physical sectors.

- Convert Date - Converts a short-form representation of the date and time to the long form.

- Convert Node - Translate free-form data in an ASCII file into the correct format.

- Copy - Copies one or more files or a single volume; copies can be placed on tape or disk.

- Copy Data Exchange - Copies and translates IBM disk files to Mini 6 (native) disk files (or vice versa); copies an IBM diskette volume to another IBM diskette volume.

- Copy Reorg - Copy a single or multivolume directory to another volume (root-directory).

- Create Batch - Perform the initialization necessary to initiate the batch task group.

- Create Buffer Pool - Creates a buffer pool having the specified number of buffers of the specified size.

- Create Directory - Creates a new disk directory.

- Create File - Creates the specified disk file.

- Create Group - Performs the initialization necessary to initiate an online task group.

- Create Group Request Queue - Creates on disk or in memory a task group request queue for the specified task group.

- Create Index - Creates the specified alternate index.

- Create Mailbox - Creates a mailbox to contain messages for communicating between task groups, or for daemon processing of batch and print/punch queues.

- Create Task - Performs the initialization necessary to initiate a task within the issuing task group.

- Create Volume - Creates or modifies a volume.

- Create Volume Cynthia - Creates or modifies a CYNTHIA Mini Cartridge disk volume. This command handles defective sectors on a CYNTHIA device only.

- Create Volume for Data Exchange - Creates a diskette volume for data exchange that will be acceptable on IBM equipment.

- Deferred Print - Queues a request for deferred printing of the indicated file.

- Deferred Punch - Queue a request for deferred punching of the indicated file.

- Delete Access - Deletes entries from the access control list (ACL) of a file or directory.

- Delete Batch - Mark the batch task group as eligible for deletion when dormant.

- Delete Buffer Pool - Deletes a specified buffer pool.

- Delete Common Access - Deletes entries from the common access control list (CACL) of a directory.

- Delete Cumulative File - Delete records from the cumulative enorlog file.

- Delete Directory - Deletes a disk directory and releases the disk space allocated to it.

- Delete File - Releases the space occupied on the disk by the named file and deletes directory entries describing the file.

- Delete Group - Marks a task group as eligible for deletion when it becomes dormant.

- Delete Index - Deletes an alternate index from the system and releases the disk space allocated to it.

- Delete Mailbox - Deletes a previously created mailbox.

- Delete Task - Marks a task as eligible for deletion from the issuing group when the task becomes dormant.

- Disk Evaluation - Return the absolute pathname of a directory or file, given a sector number on the disk.

- Display - Display a message which may or may not be found in your current message library.

- Display Journal - Display status information about the current journal file.

- Dissociate - Terminates the association between the indicated logical file number and pathname.

- Display Communication Statistics - Dump communication statistics for the indicated subsystem, channel, and or station. (See the System Maintenance Facility Administrator's Guide.)

- Dump Edit - Transfer to the user-out file (in a annotated, edited display) the contents of a previously written memory dump file or the contents of current memory. The user-out file must be a device that provides 132 print positions per line.

- Edit Profile - Create and modify user profiles. (See the System Building and Administration manual.)

- Enter Batch Request - Enters a group request into the batch task group request queue.

- Enter Group Request - Activates the lead task of an online task group previously created by a create group command.

- Enter Task Request - Allocates and initializes a task request block and places it on the request queue of the indicated task.

- Execute - Invokes the command (EC) processor to read commands from a designated file.

- File Change - Changes the contents of a disk sector or control interval.

- File Change for Data Exchange - Changes the contents of an IBM diskette physical sector.

- File Dump - Dumps the contents of the specified disk or magnetic tape file or the contents of the specified area of a disk or magnetic tape volume; output in ASCII, hexadecimal, or octal notation.

- File Dump for Data Exchange - Dumps, by physical sectors, the contents of an IBM diskette.

- File Out - Changes the destination to which user output is sent.

- File Status - Display the current status of one all files reserved by your task group.

- Find - Write, to the user-out file, the low memory address and the high memory address of each segment of virtual memory visible to the current user.

- Format - Automatically paragraph and indent Pascal programs in a consistent manner.

- Form Transfer - Run the Forms Transfer utility after creating the Forms Storage File.

- Get File - Reserves a file and establishes a logical connection between the reserved file and a logical file number.

- Get Quota - Writes quota information to the user-out file.

- Initialize Tape - Creates a magnetic tape volume.

- Initiate Communication Statistics - Initiate the collection of communication statistics for the indicated subsystem, channel, and/or station (See the System Maintenance Facility Administrator's Guide.)

- Invoke Remote Batch Task Group - Invoke a Remote batch Terminal (RBT) task group and associate it with a logical stream.

- Keyboard - Set up Display Formatting and Control keyboard assignments.

- Kill Task - Abort a currently executing task.

- List Access - Prints all access entries (access control list and common access control list) or only access control list entries for a specified file or directory.

- List Access Control List - Print all access entries (access control list and common access control list) for a specified disk file or directory.

- List Bound Unit Attributes - List bound unit attributes.

- List Common Access - Prints the entries from the common access control list (CACL) for the specified directory.

- List Creation Date - Lists creation date of file(s) in a directory.

- List Home Directory - Lists the pathname of the user's default working directory.

- List Identifier - List the Software Technical Identifier (STI) that identify the software.

- List Message Library - Determine the primary Message Library to be searched.

- List Mount Request - Lists outstanding volume mount requests.

- List Names - Lists information about one or more File System entities (directories and/or files) contained in the working directory or in a specified directory or directories; may be listed in brief, normal or detailed format.

- List Names Data Exchange (IBM) - Lists, by file name, the contents of an IBM diskette.

- List Profile - List the specified sections of the invoker's profile.

- List Queue Request - Lists pending requests in a queue.

- List Search Rules - Displays the search rules currently defined for the issuing task group.

- List Tape Contents - Prints information about 9-track, labeled, magnetic tape files.

- List Working Directory - Displays the absolute pathname of the working directory.

- Load Band Image - Define the sequence in which characters are presented to the print mechanism.

- Load Index - Loads the specified alternate index file.

- Load Sharable Bound Unit - Load a sharable bound unit into the system memory pool.

- Login - Gains access to the system.

- Mail - Sends mail to another task group's mailbox or displays all mail in your own task group's mailbox.

- Memory Clear Off - Disable memory clear functionnality within the issuing task group.

- Memory Clear On - Enable memory clear functionality within the issuing task group.

- Merge Files - Merges the records of up to eight sequential, relative, or indexed files.

- Message - Sends a message from a user command device to the operator terminal.

- Modify External Switches - Modifies selected external switches associated with the issuing task group.

- Modify File - Modifies the attributes of a disk file.

- Modify Reboot Parameters - Allow valid alterations to the reboot parameters without requesting a reboot.

- More Help Off - Turn off message chaining.

- More Help On - Turn on message chaining.

- New Process - Aborts the current task group request and restarts the task group using the same arguments as specified in the original group request or during login.

- Now - Displays the current day, date, and time.

- Open Journal - Establish an after image journal file.

- OPER - Allow a specially configured operator terminal to function alternately as an operator terminal and a user terminal.

- Peruse Directory - Scroll through, format, and write to the user-out file the indicated portion of the directory hierarchy.

- Peruse File - Scroll through, format, and write to the user-out file the indicated portion of the source file.

- Prime Index - Pre-initializes an indexed sequential file.

- Print - Prints the contents of the indicated file. The file may contain FORTRAN control characters, standard print control characters, or no print control characters.

- Print Cumulative File - Prints records in the error log cumulative file. This command is described in the Operator's Guide.

- Print Error Log - Prints error logging information for the device(s) specified. This command is described in the Operator's Guide.

- Print Hold File - Prints error logging information for memory or a device from the specified hold file. This command is described in the Operator's Guide.

- Print Quick Disk File - Prints the information generated by quick breakpoints located in the quick file.

- Program interrupt - Signals a program interrupt condition to a task.

- Queue Report - Enters into a report queue the name of a report that will subsequently be unspooled; associates with the report a specialized profile file that governs the details of the unspooling.

- Ready Off - Suppresses the ready message printed at the completion of each command.

- Read Mail - Examine and manipulate messages stored in a mailbox.

- Ready On - Activates the printing of the ready message at the completion of each command.

- Ready Off - Suppress the ready message printed at the completion of each command.

- Reboot - Allow valid alterations to be made to the reboot arguments before rebooting the system or request the reboot of the system using the existing reboot arguments.

- Recover Files - Cause a system-wide rollback of recoverable files after a system failure occurred.

- Remove - Cancels a previous file reservation.

- Rename - Changes the name of an existing file or directory.

- Reorganize Indexed File - Reorganizes an indexed sequential file.

- Report Queue Maintenance - Creates, modifies, views, renews, renames, and/or deletes a report queue.

- Restart Initiation - Restarts the issuing task group at the most recent valid checkpoint on the currently assigned pair of checkpoint files.

- Restore - Restores disk files and directories previously saved by the Save utility.

- Rollforward - Update a disk file by applying after images from a journal file.

- Save - Saves the specified disk volume (root directory), disk directories and/or files for a subsequent restore (by a Restore command).

- Send Mail - Transmit a message or file to one or more recipients.

- Send Message Mailbox - Sends a message to another task group.

- Set Access - Add or change access rights to disk or directory.

- Set Access Control List - Updates the access control list (ACL) of a file or directory by adding new entries or changing the access mode of an existing entry.

- Set Common Access - Updates the file or directory common access control list (CACL) of a directory by adding a new entry or changing the access mode of an existing entry.

- Set Date - Set the system internal clock to the indicated date and time.

- Set Error Logging - Sets the error logging level, initializes error logging files if necessary, and allows the accumulation of error logging information over an extended period of time. This command is described in the Operator's Guide.

- Set Listener - Activates or deactivates the listener monitoring utility for specified terminals. This command is described in the Operator's Guide.

- Set Terminal Characteristics - Changes the file characteristics of a terminal.

- Shrink File - Shrink a disk file by releasing any disk space beyond the logical end of data.

- Sort Files - Sorts the records of up to eight sequential, relative, or indexed files.

- Spawn Group - Creates, requests the execution of, and then deletes a task group.

- Spawn Task - Creates, requests the execution of, and then deletes a task within the issuing task group.

- Start - Resumes execution of the previous command level when the level has been interrupted, or resumes execution of a task.

- Start Error Logging - Requests error logging for memory or for specified devices. This command is described in the Operator's Guide.

- Start Mail - Activate a local mail facility.

- Start Network - Starts the networking software, using predeclared configuration files.

- Status Group - Displays the status of the issuing task group.

- Status System - Display general system status.

- Status Terminal - Display information regarding the status of all terminals configured on the system.

- Stop Error Logging - Deactivates error logging for memory or the named devices. This command is described in the Operator's Guide.

- Suspend Batch - Temporarily terminate the execution of the batch task group, and roll it out of memory.

- Suspend Group - Temporarily terminate the execution of the specified online task group.

- Swap Journal - Close the current journal tape/disk volume and open the next one.

- Tape Position - Positions magnetic tape forward or backward to a specific block, tape mark, or file name.

- Terminate Communication Statistics - Terminate the collection of communication statistics for the indicated subsystem, channel, and/or station. (See the System Maintenance Facility Administrator's Guide.)

- Terminal Identification - Return the appropriate terminal identification.

- Time - Displays the current date and time in ASCII format.

- Transaction Control Language Processor - Initiate the transaction Control Language Processor (TCLP).

- Transmit File - Transmit or receive data between two Mini 6 systems.

- Unified File Transfer - Initiate file transfer interface.

- Unload Sharable Bound Unit - Unloadfrom the system memory pool the sharable bound unit previously loaded with the Load Sharable Bound Unit command.

- Unlock Dumpfile - Unlock the currently configured dumpfile.

- Unspool - Transcribes previously queued disk and tape reports to a printer or card punch.

- Unwind - Terminates processing of the current command line.

- Update Cumulative File - Removes all raw records and updates the cumulative error logging file. This command is described in the Operator's Guide.

- User - Return user parameters obtained from the system data bases.

- Validate Checkpoint - Causes the specified pair of checkpoint files to be examined for a valid restartable checkpoint.

- Vertical Format Unit - Edit or create the UFU.

- VFORMS - Creates, modifies, or views a form.

- Walk Subtree - Executes a command line in a specified directory and in all subordinate directories; prints (on error-out) the pathname of every directory referenced.

- Where - Displays the full pathname of a file (found by using currently defined search rules).

## HARDWARE SIMULATORS

The SSIP and DSIP (single- and double-precision scientific instruction processor) provide software simulation of

- Floating-point instructions (add, subtract, multiply, divide, compare, load, store, swap, and negate) that are generated by the FORTRAN Compiler or the Assembler.

- Floating-point branch instructions (branch on bit settings of scientific indicator register or scientific accumulator values).

The Commercial Simulator provides software simulation of commercial instructions (commercially oriented calculations and operations) that are generated by the Intermediate COBOL Compiler, RPG Compiler, or Assembler.

## System Maintenance Facility

The System Maintenance Facility acts as an aid in testing and maintaining the Mini 6 system. The facility includes the following utilities:

- System Confidence Assessment Test 6 (SCAT6)
- Error Logging
- Communications Status and Statistics
- Communications Trase
- Scope
- Dump Communications Processor (DCP)
- Unplug and Replug
- Find

The System Confidence Assessment Test 6 (SCAT6) utility is used as a final acceptance test of a newly installed system; it can be run any time thereafter as a system confidence test.

The Error Logging utility collects memory and/or hardware statistics for selected peripheral devices.

The Communications Status and Statistics utility initiates, displays, and terminates the collection of software and hardware status and statistics for the communications subsystem.

The Communications Trase utility documents the communications subsystem activities for specified communications lines.

The Scope utility display specified areas of main memory and of the Random Access Memory (RAM) of the Multiline Communications Processor (MLCP) on a Cathode Ray Tube (CRT) screen.

The Dump Communications Processor (DCP) utility generates a printout of the formatted contents of the MLCP.

The Unplug and Replug utilities logically enable/disable specified channel(s) from/for use by the Executive.

The Find utility locates the load addresses, in memory, of specified character strings.

For a complete description of these utilities, see the System Maintenance Facility Administrator's Guide.

### Display Formatting and Control Software

A BULL-supplied software package is available for forms definition and control. This software package is supplied with the Executive and can be configured as part of your system at system building time.

The software includes a VFORMS utility that enables you to create forms interactively; subsequently, you can modify existing forms without recompiling the programs that use the forms. The capabilities of this package are available to Assembly language programmers. See the Display Formatting and Control manual for additional information.

## ADDITIONAL SOFTWARE

The following pages describe some of the software available in addition to the standard Executive software.

### Screen Editor

The screen Editor (also referred to as SCORPEO) is a full screen, interactive text editing and documentation tool. You can manipulate full screens of data making text editing faster and simpler by using the features of a video display terminal Screen Editor functionality is described in the Application Developer's Guide.

## INTERMEDIATE COBOL COMPILER

The Intermediate COBOL Compiler translates source statements of a source unit into text of a relocatable object unit. Descriptions of the Intermediate COBOL language statements are given in the Intermediate COBOL Reference manual.

## ADVANCED COBOL COMPILER

The Advanced COBOL Compiler translates source statements of source unit into text of a relocatable object unit. Advanced COBOL supports Intermediate COBOL features plus additional features based on the 1974 American National Standard. It provides full segmentation, enhanced data description and arithmetic facilities, greater I/O processing capabilities, and additional verbs (ALTER, SORT, STRING, SEARCH, USE). The Advanced COBOL Reference manual describes the Advanced COBOL language statements.

## ADVANCED FORTRAN COMPILER

GCOS 6 Advanced FORTRAN is based on the American National Institute Programming Language standard commonly known as FORTRAN 77. In addition to fully implementing this standard, Advanced FORTRAN contains extensions which further increase its utility (although use of the extensions would make the resulting program nonconforming). A description of the Advanced FORTRAN language statements is found in the Advanced FORTRAN Reference manual.

## BASIC INTERPRETER/COMPILER

The BASIC Interpreter/Compiler provides the user with an easy-to-use and easy-to-learn programming language. The small number of powerful and readily understood statements and commands of BASIC provide a simple means of problem solving. A BASIC program can be created at a terminal keyboard. Users can obtain BASIC in different flavors with different capabilities. The BASIC Interpreter/Compiler is described in the BASIC Reference manual.

## Transaction Control Language Compiler

The Transaction Control Language Compiler (TCLC) processes Transaction Control Language (TCL) source language program statements and produces a Transaction Descriptor (TD) and a diagnostic listing. The TCLC is described in the Transaction Control Language Facility manual.

## User Productivity Facility

The User Productivity Facility (UPF) is a feat ure that offers a menu-driven interface for the execution of system commands and user-written programs. Its design reflects a simplified environment in which to use the Executive.

Most commands can be invoked from executed within the UPF. You can manipulate forms and menus rather than entering command lines; the Menu Processor builds and executes command lines from the data entered on forms.

For a detailed description of the UPF, see the Menu Management/Maintenance Guide.

## Sort/Merge

Sort and Merge are invoked by separate commands. Sort may also be called from a COBOL, FORTRAN, or Assembly language program. The Sort program arranges records of a file in an order based on the values you specify for record key fields. Merge combines the records of up to six sequentially ordered input files on the basis of record key values. Up to 16 key fields can be specified, with values to be arranged in ascending or descending order according to the ASCII collating sequence. The data type of a key field can be character string, signed binary, packed decimal, or signed/unsigned decimal Sort/Merge options include record selection, redefinition or rearrangement of record contents, and deletion of duplicate records. See the Sort/Merge manual for a detailed description of these capabilities.

## Advanced Assembler

The Advanced Assembler is available when you program in Assembly language.

Assembly language source statements of a source unit are translated into text of a relocatable object unit and, optionally, a cross-reference listing indicating symbol usage is produced. The Advanced Assembler is described in the Assembly Language (MAP) Reference Manual.

An Assembly language source program can include calls to system service macro all routines. Programs that are to include such macro calls must first use the Advanced Assembler. The calls are replaced by assembly source routines. The Advanced Assembler language statements are described in the Assembly Language (MAP) Reference manual.

## Pascal Compiler/System

The Pascal Compiler/System is an optimizing compiler that supports the capabilities of the International Standards Organization (ISO) Pascal, plus a set of extensions for ISO support and interfacing with Assembly language or FORTRAN routines. A high-level interactive debugger, and a profiler which monitors program execution and reports the frequency of execution of each line of code, are provided as development aids. The Pascal Compiler/System is described in the Pascal User's Guide.

## RPG-II Compiler

The RPG-II compiler translates RPG-II source statements of a source unit into a set of object units consisting of a root, or a root plus multiple overlays. The compiler also produces a file containing Linker directives; user-written Linker directives are thus unnecessary. When the Command Processor is invoked to process the statements in this file, it invokes the Linker and supplies it with Linker directives necessary to create an executable bound unit. The compiler supports an RPG-II language comparable to that in current industry-wide use. Significant features include: look-ahead, control levels and matching fields on input, table and array processing; forms alignment; and editing, detail, and total time functions on output. The compiler generates commercial instruction code. The RPG-II language is described in the RPG-II Reference manual.

## Transaction Control Language Facility

The Transaction Control Language facility (TCLF) includes a Transaction Control Language Compiler (TCLC) and a Transaction Control Language Processor (TCLP).

## DSA REMOTE BATCH FACILITY MINI 6/DPS 8

The Mini 6/DSA Remote Batch Facility (N-RBF) is a software package enabling Mini 6 hardware to be used in a remote batch processing environment with DPS8 host processing systems. Remotely located Mini 6 peripheral devices can enter jobs into and receive output from one or more (up to 16) host processors.

The Remote Batch Facility works in conjunction with a host processor and a Front-End Network Processor (FNP), operating under control of Network Processing Supervisor (NPS) software. The Remote Batch Facility uses the High-Level Data Link Control (HDLC) line protocol convention that controls the flow of data between the Mini 6 and the FNP.

The Front-End Processor is always the DATANET 7100, running under DNS, the Distributed Network Supervisor.

The facility operates under control of the GCOS 6 system. Remote batch and GCOS 6 local processing functions that are independent of the host processor can be performed concurrently, provided adequate resources (i.e., memory, peripheral devices) are available. Remote batch terminal (RBT) software is run as a task executing in a unique task group and using the resources reserved for that task group.

Each RBT permits the batch entry of remote jobs destined for processing in a host system and the receipt of output from those jobs. Jobs to be processed are submitted in ASCII files, on cards read directly by the RBT, or on cards spooled to a file and read in GBCD code. Commands entered from the RBT console control remote batch operations.

Refer to the DSA Remote Batch Facility Mini 6/DPS 8 Users Guide for additional information.

## REMOTE BATCH FACILITY MINI 6/DPS 8

The Mini 6 Remote Batch Facility (RBF) is a software package enabling Mini 6 hardware to be used in a remote batch processing environment with DPS 8 host processing systems. Remotely located Mini 6 peripheral devices can enter jobs into and receive output from one or more (up to 16) host processors.

The Remote Batch Facility works in conjunction with a host processor and a Front-End Network Processor (FNP), operating under control of General Remote Terminal Supervisor (GRTS) or Network Processing Supervisor (NPS) software. It supports multiple communications lines (dedicated, switched, or a mixture of dedicated and switched) to the host processors.

The facility operates under control of the GCOS 6 system. Remote batch and GCOS 6 local processing functions that are independent of the host processor can be performed concurrently, provided adequate resources (i.e., memory, peripheral devices) are available. Remote batch terminal (RBT) software is run as a task executing in a unique task group and using the resources reserved for that task group.

Each RBT permits the batch entry of remote jobs destined for processing in a host system and the receipt of output from those jobs. Jobs to be processed are submitted in ASCII files, on cards read directly by the RBT, or on cards spooled to a file and read in GBCD code. Commands entered from the RBT console control remote batch operations.

Refer to the Remote Batch Facility Mini 6/DPS 8 User's Guide for additional information.

## DSA REMOTE BATCH FACILITY MINI 6/DPS 7

The DSA Remote Batch Facility Mini 6/DPS 7 (N-RBF7) enables remotely-located Mini 6 peripheral devices to enter jobs into and receive output from a DPS7 host processor in a DSA environment. The Mini 6 operator can control the scheduling and execution of jobs in the same manner as the DPS7 operator. Each DPS7 host processor can accommodate up to six Mini 6 processors running this facility (a single host link is allowed for each Mini 6. The Front-End processor is the DATANET 7100.

Login to the DPS7 host system is achieved through the DPS7 Interactive Operation Facility (IOF). As a result, the Mini 6 operator has access to all available Basic IOF commands to supplement specific N-RBF7 functionality. Interactive Library Maintenance and the Interactive Text Editor are other DPS7 products that can be used with this facility.

Refer to the DSA Remote Batch Facility, Mini 6/DPS 7 User's Guide for additional information.

## REMOTE BATCH FACILITY MINI 6/DPS 7

The Remote Batch Facility enables remotely-located Mini 6 peripheral devices to enter jobs into and receive output from a DPS 7 host processor. The Mini 6 operator can control the scheduling and execution of jobs in the same manner as the DPS 7 operator. Each DPS 7 host processor can accomodate up to six Mini 6 processors running this facility (a single host link is allowed for each Mini 6).

Login to the DPS 7 host system is achieved through the DPS 7 Interactive Operation Facility (IOF). As a result, the Mini 6 operator has access to all available Basic IOF commands to supplement specific RBF/64 functionality. Interactive Library Maintenance and the Interactive Text Editor are other 64/DPS products that can be used with RBF/64.

Refer to the Remote Batch Facility Mini 6/DPS 7 User's Guide for additional information.

## DATA ENTRY FACILITY-II (DEF-II)

DEF-II provides a multi-station, CRT-oriented, source data collection function for subsequent processing by a host computer. DEF-II functionality embodies established data entry concepts in a menu-driven approach, making it easy to specialize and run procedures. The facility supports up to 32 operator workstations (VIP 7200 DKU 7001, or DKU 7002 terminals) and up to eight line or serial printers. The Data Entry Facility-II User's Guide provides detailed information on DEF-II functionality.

## HOST RESIDENT FACILITY

The BULL DPS 8 Host Resident Facility (HRF) is a set of programs that run on a DPS 8 system under the control of GCOS. The HRF permits Mini 6 users to write, compile, assemble, and link Mini 6 programs on a DPS 8. Once developed, HRF generated programs can be sent to a Mini 6/DPS 8 File Transmission Facility and executed at the convenience of the Mini 6 operator. HRF includes a facility to permit the printing of Mini 6 memory dumps on a DPS 8 line printer.

## FILE TRANSMISSION BETWEEN Mini 6 AND HOST COMPUTERS (DSA Environment)

File transmission in a DSA environment between the Mini 6 and other processors (Mini 6/DSS, 64 DPS (DPS7), 66/DPS (DPS8) is implemented through utility programs. Each of these utility programs permits files to be transmitted to or received from one remotely located processor. Each processor must incorporate appropriate file transmission software.

The N-FTF utility program provides for file transmission between the Mini 6 and Mini 6 or DPS 8 host processors. The N-FTF7 utility program is used for file transmission between the Mini 6 and DPS7 processors, N-FTF transmits files in ASCII format, using the polled VIP protocol. N-FTF transmits files in EBCDIC. Each file transmission program is invoked by a command (either entered on a terminal or included within a user EC command file). The command name corresponds to the name of the utility program invoked; N-FTF or N-FTF7. Each program provides error analysis.

For N-FTF or N-FTF7 an initiate/accept dialog between file transmission software in each of the two processors determines whether a file can be transferred. A restart capability is available when transmission between a Mini 6 and a DPS 8 processor is aborted due to failure in the transmission line. File transfer can be restarted at any record in the file being transferred at the time of failure.

For details on the use of the file transmission utility programs to transmit files to a specific processor, refer to the appropriate file transmission manual.

## FILE TRANSMISSION BETWEEN MINI 6 AND OTHER COMPUTERS

File transmission between the Mini 6 and a variety of other processors (Mini 6, Level 66/DPS 8, Level 64/DPS 7 and non-BULL processors) is implemented through three utility programs: TRAN, TRANH, and TRANB. Each of these utility programs permits files to be transmitted to or received from one or more remotely located processors. Each processor must incorporate appropriate file transmission software.

The TRAN utility program provides for file transmission between the Mini 6 and one or more DPS 8 host processors. The TRANH utility program is used for file transmission between the Mini 6 and other Mini 6 processors, or between the Mini 6 and DPS 7 host processors. Both TRAN and TRANH transmit files in ASCII format, using the polled VIP protocol.

A third utility program, TRANB, enables file transmission between the Mini 6 and BULL processors that use the BSC2780/3780 protocol; TRANB converts ASCII data in Mini 6 files into EBCDIC 80-character records for transmission, and converts the received EBCDIC records into ASCII format.

Each file transmission program is invoked by a command (either entered on a terminal or included within a user EC command file). The command name corresponds to the name of the utility program invoked; TRAN, TRANH, or TRANB. Each program provides error analysis. For TRAN and TRANH, an initiate/accept dialog between file transmission software in each of the two processors determines whether a file can be transferred. A restart capability is available when transmission between two Mini 6 processors or between a Mini 6 and a DPS 8 processor is aborted due to failure in the transmission line. File transfer can be restarted at any record in the file being transferred at the time of failure.

Multiple file transmissions between the Mini 6 and one or more processors can occur concurrently. (For example, the Mini 6 could transmit files to a DPS 7 and a DPS 8 host processor concurrently.) Each file transfer takes place over a different communications line. An argument in the command that invokes the transmission program specifies whether a specific communications line is to remain connected after a file transfer or is to be disconnected. As long as the line is connected, file transfers can be made by issuing the appropriate command (TRAN, TRANH, or TRANB) for each transfer.

For details on the use of the file transmission utility programs to transmit files to a specific processor, refer to the appropriate file transmission manual.

## 2780/3780 WORKSTATION FACILITY

The 2780/3780 Workstation Facility allows a Mini 6 to communicate with a host system via 2780/3780 binary synchronous (BSC) line protocol. Batch jobs can be submitted to the host system and output directed back to the Mini 6. The following capabilities are provided:

- Line printer horizontal format control
- Automatic restart
- Dual communications interface
- Auto answer (dial-up operation only)
- Multiple record transmission
- Error reporting and retransmission

In addition to the previously specified capabilities, the 3780 operational mode provides the following additional capabilities:

- Space compression/expansion
- Conversion Mode
- Automatic disconnect

The 2780/3780 Workstation Facility is described in the 2780/3780 Workstation Facility User's Guide.

## HASP WORKSTATION FACILITY

The HASP Workstation Facility enables a Mini 6 system to perform functions of a HASP multi-leaving workstation when communicating with a host system. The following capabilities are provided:

- BSC multi-leaving protocol
- EBCDIC transparency
- Data compression/expansion
- Switched or dedicated terminal communication facilities

Refer to the HASP Workstation Facility User's Guide for additional information.

## PROGRAMMABLE FACILITY/3271 (PF/3271)

The Programmable Facility/3271 (PF/3271) enables an appropriately configured Mini 6 system to perform functions of a host system 3271 terminal cluster. Communication with the host system is performed by means of a multipoint, polled 3271 BSC line protocol. PF/3271 is described in the 3270 Interactive Facility User's Guide.

## BASIC CONCENTRATION FACILITY (BCF)

The Basic Concentration Facility supports the connection of a variety of synchronous and asynchronous terminals to a remote host system via the Mini 6.

BCF provides a means of smoothing the traffic of messages from terminals and sending them over a higher quality line. It also reduces the need for modems and long distance lines.

BCF supports up to 32 terminals and runs at the same time as other Mini 6 facilities or user applications.

## DISTRIBUTED TRANSACTIONAL FACILITY (DTF)

The Distributed Transactional Facility provides a complete set of capabilities for synchronizing the execution of multiple transactions for multiple terminals simultaneously. DTF can handle all the functions necessary to process transaction locally and remotely and call in resources held in a host system in the network to satisfy the user's requirements. DTF handles the management of local and remote synchronous and asynchronous terminals. It also manages the activation and sequencing of transaction processing routines and interfaces with DFC, the Display Formatting and Control facility.

## NETWORKING OPERATION SOFTWARE

Most of the network operation are controlled by the application program or network software. The facilities available to the operator are described in GCOS 6 MOD 400 System User's Guide and are restricted to the following operations that are performed through the Network (NCL) Commands.

1. Numbering physical lines, logical lines and virtual circuits.

2. Listing physical lines and virtual lines.

3. Displaying the attributes of physical lines, network connections, logical connections, paths and virtual circuits.

4. Displaying the history of physical lines and logical lines.

5. Obtaining the history of physical lines, logical lines, logical connections and virtual circuits.

6. In line tests.

Also, the operator has some limited control of the network operations through the use of predefined operating procedures.

1. Starting the system, using the S_NET command which may be included in the predefined START_UP EC file.

2. Enabling Alternate paths.

## SECONDARY NETWORK MANAGER (SNM)

The SNM manages workstations connected to the Mini 6 secondary network over a Public Data Network (e.g. TRANSPAC).

The workstation configuration supported by this line manager connected to TRANSPAC, is:

TCU 7022 cluster controller with up to 8 DKU 7007 stations each having optional TTU 8125/7 ROP and DKF 7006 badge reader.

# SECTION 5

# MASTER INDEX TO MOD 400 PUBLICATIONS

The following Master Index combines, in an abbreviated form, the indexes of individual MOD 400 Release 3.0 manuals. It does not, however, index either the quick reference guides or the GCOS 6 MOD 400 Commands manual. Please note that specific language statements and commands, which are included in the individual indexes of the MOD 400 publications, have generally been excluded from the Master Index.

The Master Index references only the final four characters of the base publications number of the manual in which a topic may be found. These publication numbers are listed with their corresponding manual titles in the Manual Directory at the beginning of this manual. For specific page numbers, consult the individual manual concerned.

Index entries are listed in standard dictionary order (i.e., ignoring spaces, hyphens, etc.), rather than in ASCII sequence.

A

E

External Procedure, CZ39, CZ41

External Switches, CZ34

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Bull

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MINI 6 GCOS 6 MOD 400 Guide to Software Documentation

N° Réference / Reference No

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Date / Dated

May 1985

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