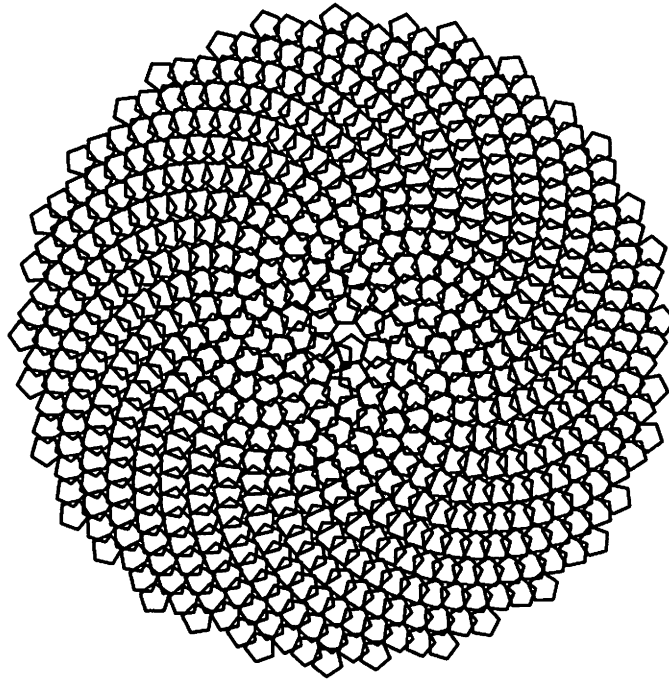


*G D D M*TM

Library Guide and Master Index

GC33-0595-0

IBM



Front Cover Pattern: Electronic Sunflower

The pattern on the front cover was produced by a GDDM program. The program to produce this pattern, and many variations of the pattern, is published in:

- *GDDM Application Programming Guide*
- *GDDM Base Programming Reference*

G D D M

Library Guide and Master Index

GDDM/VM, 5664-200	Version 2 Release 2
GDDM/VMXA, 5684-007	Version 2 Release 2
GDDM/MVS, 5665-356	Version 2 Release 2
GDDM/VSE, 5666-328	Version 2 Release 2
GDDM-PGF, 5668-812	Version 2 Release 1
GDDM Interactive Map Definition, 5668-801	Version 2 Release 1
GDDM-IVU, 5668-723	Version 1 Release 1
GDDM-GKS, 5668-802	Version 1 Release 1
GDDM-CSPF, 5688-013	Version 1 Release 1
GDDM-REXX, 5664-336	Version 1 Release 1
GDDM-PCLK	Version 1.1

Licensed Programs



First Edition (March, 1988)

This edition applies to the following IBM GDDM™-series licensed programs:

Program name	program number	program level
GDDM/MVS (Graphical Data Display Manager)	5665-356	Version 2 Release 2 Modification 0
GDDM/VM	5664-200	Version 2 Release 2 Modification 0
GDDM/VMXA	5684-007	Version 2 Release 2 Modification 0
GDDM/VSE	5666-328	Version 2 Release 2 Modification 0
GDDM-CSPF (Central Slide and Plot Facility)	5688-013	Release 1
GDDM-GKS (Graphical Kernel System)	5668-802	Release 1
GDDM Interactive Map Definition (GDDM-IMD)	5668-801	Version 2 Release 1 Modification 0
GDDM-IVU (Image View Utility)	5668-723	Release 1
GDDM-PCLK	—	Version 1.1
GDDM-PGF (Presentation Graphics Facility)	5668-812	Version 2 Release 1 Modification 0
GDDM-REXX	5664-336	Release 1

It does *not* apply to GDDM/graPHIGS™, program number 5668-792.

Changes are periodically made to the information herein; before using this publication in connection with the operation of IBM systems or equipment, refer to the latest *IBM System/370, 30xx, and 4300 Processors Bibliography*, GC20-0001, for the editions that are applicable and current.

Information about ordering this publication and how to submit comments to IBM is given on page iv.

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM licensed program in this publication is not intended to state or imply that only IBM's licensed program may be used. Any functionally equivalent program may be used instead.

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Preface

This manual explains the organization of the GDDM publications library and provides a master index to the contents of the library.

Who this book is for

The audience for this manual is anyone who uses manuals in the GDDM library.

How this book is organized

“Chapter 1. The GDDM Library” describes how the library is organized and which manual to read first; it also tells you how to order the manuals. It contains abstracts of manuals in the GDDM library, and describes library-related services, such as the System Library Subscription Service (SLSS). It also contains a directory of customer programming interfaces.

“Chapter 2. The GDDM Master Index” provides primary index entries to the GDDM library and instructions for using the master index. The index directs you to the publication that contains the specific information you are seeking.

How to use this publication

When using this publication, you should:

- Refer to chapter 1 to learn about the organization of the GDDM library and the contents of the individual manuals in the library. Use chapter 1 to determine which manual is the correct one for your needs.
- Refer to chapter 2 for a specific item of GDDM information; this section points you to the publication(s) containing information about a particular subject. Use this chapter to determine the appropriate manual, by topic.

Information not included in this publication

This publication does not include index entries derived from GDDM brochures, posters, reference summaries, messages manuals, or the Licensed Program Specifications (LPS).

Additional copies of this manual and submitting comments to IBM

Requests for IBM publications should be made to your IBM representative or to the IBM branch office serving your locality. Publications are not stocked at the addresses given below.

A form for readers' comments is provided at the back of this publication. If the form has been removed, comments may be addressed to either:

International Business Machines Corporation,
Department 6R111,
180 Kost Road,
Mechanicsburg,
Pennsylvania 17055,
U.S.A.

or:

IBM United Kingdom Laboratories Limited,
Information Development,
Mail Point 95,
Hursley Park,
Winchester,
Hampshire,
England, SO21 2JN.

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Chapter 1. The GDDM Library

In this chapter you can learn about the organization of the entire library as well as the contents of the individual manuals. This information will help you determine the appropriate GDDM* manuals for your needs. This chapter describes library-related services, such as methods for ordering, updating, and commenting on library manuals. It also includes a directory of programming interfaces for customers.

How the library is organized

The GDDM library is organized according to the major tasks that computer users perform. The tasks are:

Evaluation	Examining and judging the applicability of an IBM product to an installation's needs.
Planning	Making fundamental decisions about the options a program offers. Planning is an iterative task in that many of the decisions are made before installation, continually evaluated after installation, and revised as appropriate.
Installation	Making a program ready for use.
Administration	Managing the data processing resources used with an IBM program. The resources may be data files, data bases, programs, users, and so on.
Customization	Enhancing, extending, and otherwise altering an IBM program to meet an installation's special requirements.
Operation	Getting a program running, monitoring it to keep it operating, and shutting it down when no longer needed.
Application Programming	Designing, coding, compiling, executing, debugging, and maintaining application programs to perform specific functions.
End Use	Using an IBM program for the purpose for which it was provided.
Diagnosis	Identifying the IBM program that is the source of a programming problem, describing the problem, comparing it to similar known problems, reporting a new problem, and correcting the problem.

* GDDM is a trademark of International Business Machines Corporation.

The GDDM Version 2 Release 2 library

Introduction (Evaluation and planning tasks)	<i>GDDM General Information</i>	GC33-0319
	<i>GDDM Release Guide</i>	GC33-0320
	<i>GDDM Library Guide and Master Index</i>	GC33-0595
	<i>GDDM If you make business presentations...</i> (brochure)	GC33-0455
	<i>GDDM If you're an engineer...</i> (brochure)	GC33-0456
	<i>GDDM-PGF Better Charts</i> (poster)	GC33-0529
	<i>GDDM General Information, brochures, and poster</i>	GBOF-0058
General (All applicable tasks)	<i>GDDM Image View Utility</i>	SC33-0479
	<i>GDDM-REXX Guide</i>	SC33-0478
	<i>GDDM Interactive Map Definition</i>	SC33-0338
	<i>GDDM-PCLK Guide, Version 1.1</i>	—
	<i>GDDM Series Licensed Program Specifications</i>	GC33-0423
User's Guides (End-user task)	<i>GDDM Guide for Users</i>	SC33-0327
	<i>GDDM-PGF Interactive Chart Utility</i>	SC33-0328
	<i>GDDM Image Symbol Editor</i>	SC33-0329
	<i>GDDM-PGF Vector Symbol Editor</i>	SC33-0330
	<i>GDDM-CSPF User's Guide</i>	SC33-0552
	<i>GDDM Typefaces and Shading Patterns</i>	SC33-0554
	<i>GDDM-PCLK Reference Summary</i> (booklet)	SX33-6067
Programming (Application programming task)	<i>GDDM Application Programming Guide</i> (two volumes)	SC33-0337
	<i>GDDM Base Programming Reference</i> (two volumes)	SC33-0332
	<i>GDDM Base Programming Reference Summary</i> (booklet)	SX33-6053
	<i>GDDM-PGF Programming Reference</i>	SC33-0333
	<i>GDDM-PGF Programming Reference Summary</i> (booklet)	SX33-6054
	<i>GDDM-GKS Programming Guide and Reference</i>	SC33-0334
Diagnosis (Diagnosis task)	<i>GDDM Messages</i>	SC33-0325
	<i>GDDM Diagnosis and Problem Determination Guide</i>	SC33-0326
Systems (Installation, administration, and customization tasks)	<i>GDDM Installation and System Management for MVS</i>	SC33-0321
	<i>GDDM Installation and System Management for VM</i>	SC33-0323
	<i>GDDM Installation and System Management for VSE</i>	SC33-0322
	<i>GDDM-CSPF Installation Guide</i>	SC33-0553
	<i>GDDM Performance Guide</i>	SC33-0324

The cover design

The cover design of the GDDM library is a graphic representation of a sunflower pattern. The pattern is generated by a GDDM application program, an example of which is printed in the *GDDM Application Programming Guide* and the *GDDM Base Programming Reference*.

Binders for manuals

You may want to store your GDDM library in binders. You can use one binder for two or more of the smaller books that deal with related subjects.

All GDDM books are less than one inch (25 mm) thick, except the *GDDM Base Programming Reference* which is three inches (75 mm) thick, and the *GDDM Application Programming Guide* which is two inches (50 mm) thick.

All GDDM books are in a standard 8½ × 11-inch (216 × 279-mm) format and three-hole punched, except the *GDDM-PCLK Guide* and the *GDDM Typefaces and Shading Patterns* booklet (which are 5½ × 8½ inches, 140 × 216 mm), and the three *Reference Summaries* (which are 3¾ × 8½ inches, 95 × 216 mm).

Which manual should I read first?

We suggest that you read the *GDDM General Information* manual first. It gives an overview of GDDM and describes how to use it. Once you have read it, you can more easily decide what other manuals you will need to use. The manuals you choose will depend on the task you want to perform. Each GDDM manual focuses on one major task (like installation). Within each major task are smaller subtasks (like installing hardware or an optional program). The table on page 2 shows you the task-oriented design of the GDDM library.

If you are already familiar with the library and are only interested in how GDDM has changed from the previous release, we suggest that you read the *GDDM Release Guide* published for that release. It explains the changes and cites references that contain additional information about a particular change.

Abstracts of the manuals start on page 10.

How to refer to manuals

Titles

The first part of the title of a manual identifies the licensed program that the manual applies to; the subsequent parts more specifically identify the task that the manual helps you perform. If the title starts with "GDDM" without any qualification, it generally applies to the entire GDDM series of products. The term "GDDM Base" is used to refer to one or all of the GDDM/MVS, GDDM/VSE, GDDM/VM, and GDDM/VMXA products.

For example, the first part of the title *GDDM Base Programming Reference* identifies the four GDDM Base products, and the second part identifies the task that the manual describes, namely application programming.

Certain key words in the title indicate the level or kind of information that the manual contains, and are standard in GDDM system libraries.

A “guide” generally contains procedural information or step-by-step instructions on how to do something; for example, the *GDDM Guide for Users*.

A “reference” manual is a source of information usually arranged alphabetically, such as the *GDDM Base Programming Reference*.

How to use an individual manual

We suggest that the first time you use a manual, you start with its “Preface.” This will introduce you to the manual’s:

- Purpose
- Audience
- Main subject
- Major topics.

It will also tell you if you need any previous knowledge of (or need to have read any specific books about) the subject matter in order to use it effectively. Whenever you want to locate a subtask in a manual:

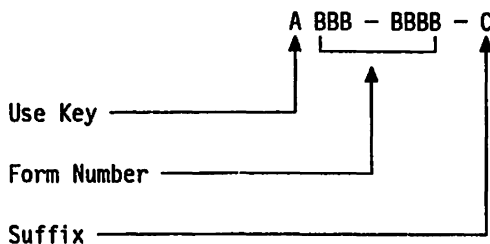
- Look at the “Table of Contents” in the front. It tells what each chapter and appendix contains, and is a quick way to get an overview of the information in the manual (in chapter order).
- Look at the “Index” in the back. It contains detailed references to the manual’s contents, in alphabetical order.

Order numbers and file numbers

Each GDDM manual is identified by both a unique order number, and a file number which it shares with other manuals about the same system.

Order Numbers

Order numbers appear on the covers of manuals. They consist of three parts: the use key, the form number, and the suffix. For example, GC33-0595-0.



The use key (A) indicates the availability of the manual.

- *G* means that the manual is generally available without charge to users of IBM systems.
- *S* means that the manual is for sale.

The form number (B...) uniquely identifies the manual. The first character indicates the format of the publication, as follows:

- *C* for standard publications
- *X* for reference summaries
- *N* for technical newsletters (TNLs)
- *T* or *Q* for temporary order numbers (pseudo-numbers).

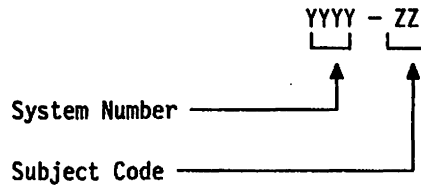
The next two characters identify the originating IBM location – 33 for GDDM publications, denoting the IBM UK Laboratories at Hursley. (Form numbers with other characters are used for special purposes.)

The suffix (C) identifies the edition of the manual (*not* necessarily the same as the release level of the program). The first edition of a manual has a suffix of 0.

Use the order number, *without* the suffix, to order the most current edition of any manual. To order earlier editions, see page 6.

File numbers

File numbers appear on the title pages of manuals. They consist of two parts: the system number (Y...) and the subject code (ZZ), separated by a dash. For example, S370/4300-34.



The system number for the GDDM library is S370/4300. Some books that are specific to one operating environment have an addition to the system number, such as "/MVS."

GDDM library subject codes are:

Code	Type of Book
20	General Information, Evaluation
34	System Planning, Installation, Administration, Performance, Customization
37	Diagnosis, Problem Determination
39	End use
40	Application programming, messages.

File numbers can be used to locate books in the *IBM System/370 and 4300 Processor Bibliography*, GC20-0001, which also contains a complete list of subject codes.

Bill-of-forms number for easy ordering

A bill-of-forms is a set of order-numbered items that can be ordered under a single order number. It simplifies ordering standard sets of material. GDDM has one bill-of-forms number set up for introductory material.

GBOF-0058 is the order number for the GDDM introductory package. The package contains the following items:

GC33-0319	<i>GDDM General Information</i> manual
GC33-0455	<i>GDDM If you make business presentations...</i> brochure
GC33-0456	<i>GDDM If you're an engineer...</i> brochure
GC33-0529	<i>GDDM-PGF Better Charts</i> poster (three copies).

Further items may be added from time to time.

Ordering publications for earlier releases

If you request a publication by its order number you automatically receive the *latest edition* of the publication supporting the latest release of GDDM (currently the Version 2 Release 2 level). To order publications relating to an earlier release, you must use a "pseudo-number," a number assigned to the respective edition of the publication. Do *not* use the order number; it is listed only to help you identify the book you need.

Therefore, to order a book that has been allocated a pseudo-number, find the pseudo-number in the lists in "Summary of GDDM books by release" on page 18, that corresponds to the title and order number of the publication you want. Any Technical Newsletters (TNLs) for the edition are automatically sent with each pseudo-number ordered.

Library-related services

Bibliography

The *IBM System/370 and 4300 Processor Bibliography*, GC20-0001, lists by subject code and provides abstracts (by order number) of all the publications available which pertain to GDDM. The abstracts consist of brief descriptions of the purpose, scope, and intended audience of each publication listed.

System Library Subscription Service (SLSS)

The System Library Subscription Service (SLSS) is an automatic updating service for technical documentation. If IBM releases a new or revised document that matches your SLSS subscription, you automatically receive the latest version or edition of the publication.

You can enter a subscription two ways: by *profile* of the system or by the *order numbers* of the manuals. Both methods require the SLSS order form, G120-1816.

You should subscribe by system profile when you need all the documents relating to a specific system.

You should subscribe by order number when you need many copies, when the document was not part of the set automatically shipped with the software, or when it is not available through the profile service.

To discontinue this subscription service for particular subjects or individual manuals, you must mark "D" for delete on an SLSS order form.

For additional information on SLSS, see *Entering an SLSS Subscription*, G320-1561, or contact your IBM marketing representative.

Entitlement to documentation

Starting with Version 2 Release 2 of GDDM, one copy of most of the manuals in the library is shipped with the product tape. These manuals are listed in the following table. One copy of any subsequent updates to these manuals (new releases, technical newsletters, and revisions between releases) will also be sent automatically.

The other manuals in the Version 2 GDDM library can be ordered through your IBM marketing representative by using the order number, *without* the suffix, of the book you need. If you want to subscribe to these other manuals, or to multiple copies of any manual, you can use the System Library Subscription Service (SLSS).

Book	Product(s)
GDDM Application Programming Guide	Feature with each Base product
GDDM Base Programming Reference	Feature with each Base product
GDDM Diagnosis and Problem Determination Guide	Entitlement with each Base product
GDDM Guide for Users	Entitlement with each Base product
GDDM Image Symbol Editor	Entitlement with each Base product
GDDM Series Licensed Program Specifications	Entitlement with each Base product
GDDM Library Guide and Master Index	Entitlement with each Base product
GDDM Messages	Entitlement with each Base product
GDDM Performance Guide	Entitlement with each Base product
GDDM Release Guide	Entitlement with each Base product
GDDM Installation and System Management for MVS	Entitlement with GDDM/MVS
GDDM Installation and System Management for VM	Entitlement with GDDM/VM and GDDM/VMXA
GDDM Installation and System Management for VSE	Entitlement with GDDM/VSE
GDDM-CSPF Installation Guide	Entitlement with GDDM-CSPF

Book	Product(s)
GDDM-CSPF User's Guide	Entitlement with GDDM-CSPF
GDDM-GKS Programming Guide and Reference	Entitlement with GDDM-GKS
GDDM Interactive Map Definition	Entitlement with GDDM-IMD
GDDM Image View Utility	Entitlement with GDDM-IVU
GDDM-PGF Interactive Chart Utility	Entitlement with GDDM-PGF
GDDM-PGF Programming Reference	Feature with GDDM-PGF
GDDM-PGF Vector Symbol Editor	Entitlement with GDDM-PGF
GDDM-REXX Guide	Entitlement with GDDM-REXX
<p>Notes:</p> <p>Base products are GDDM/MVS, GDDM/VM, GDDM/VMXA, and GDDM/VSE.</p> <p>Entitlement means that the documentation is shipped at no charge with the product tape.</p> <p>Feature means that the documentation is shipped at no charge with the product tape if the programming documentation feature has been requested; such books are part of the customer's entitlement, but are not provided automatically.</p>	

Between-release publications

From time to time, IBM provides new GDDM support between releases. Each support item may be described in a separate publication; licensees will automatically receive one copy. This publication describes the new support, hardware device, new or changed commands and messages, system generation considerations, and new and changed modules. It is to be used along with the regular library.

Technical Newsletters (TNLs)

TNLs are occasionally issued to update and correct existing manuals. They consist of a cover letter listing the changes, and either pages to add onto the existing manual or pages to substitute for the original pages.

A manual is normally revised when the current stock to which TNLs have been issued is exhausted, or when major changes are made in its content.

TNLs and new editions are automatically sent to users who subscribe to the base document using the System Library Subscription Service, or who have received the base document as part of their entitlement to publications.

Program Temporary Fixes (PTFs)

A Program Temporary Fix (PTF) is an interim update to a program, generally used to fix problems. Sometimes PTFs are used to support a new device or to make a minor functional improvement to that program. A stand-alone guide describes code updates to GDDM between releases; its size depends on the enhancement.

A stand-alone guide is a booklet containing all the information about the enhancement. It typically describes the support and explains how to invoke it, as well as listing any new or changed messages, call statements, macros, or modules that the new support entails. These changes are then incorporated in the next release of the library.

Revision bars

The entire content of a manual does not usually change when it is revised, or when a TNL is issued. New or changed information is marked with vertical "revision bars" to the left of the text.

Look to the left of this sentence to see a revision bar.

Reader's Comment Forms

A postpaid reader's comment form is included at the back of most IBM manuals. Manuals that will not be updated or revised may not contain this form.

This form explains how to comment on a manual and provides space to do so. It also gathers general information about readers and their level of satisfaction with the manual.

Note that you cannot order manuals using this form.

Users in countries other than the United States can submit their comments free by giving them to their IBM representative, who will forward them.

Abstracts of GDDM manuals

The following abstracts briefly describe the contents of the various manuals; they should help you identify which is best suited to your task. The titles are listed alphabetically. Manuals other than at the latest revision level can only be ordered using an allocated pseudo-number (see "Ordering publications for earlier releases" on page 6). Order numbers are listed in "Summary of GDDM books by release" on page 18.

GDDM Application Programming Guide

This book introduces the application programming interfaces of GDDM. It is for application designers and programmers who are experienced in application programming in the language in which the GDDM programs are to be written, and in the subsystem under which the GDDM programs are to run.

The book is in two volumes. The first volume introduces the Base application programming interface of GDDM. The second volume introduces the Presentation Graphics (GDDM-PGF) application programming interfaces of GDDM. The last part of each volume is devoted to complete example programs. The book does not address GDDM-GKS or other GDDM programming interfaces.

GDDM Base Programming Reference

This book is principally for application programmers who use GDDM, and also for systems programmers who install and maintain GDDM. The reader needs to have some understanding of and familiarity with GDDM, to understand what task the application program is trying to perform, and to have some knowledge of programming and systems terminology.

This book is in two volumes. Volume 1 contains introductory information and a list of the syntax and function of all GDDM Base calls. It starts with introductory and conceptual information, followed by descriptions of the calls in alphabetic order. Volume 2 provides detailed support information.

GDDM Base Programming Reference Summary: This pocket-sized booklet provides a summary of some of the GDDM Base reference information. It is intended to be used as a companion to the *GDDM Base Programming Reference*.

GDDM-CSPF User's Guide

This book provides the information needed to use the GDDM-CSPF licensed program. It is for people who want to use GDDM-CSPF to produce plots and film slides.

The book gives an overview of the product, shows how to use the product with a plotter, and gives a step-by-step guide to producing 35-mm slides. It also gives some advice on using colors.

GDDM-CSPF Installation Guide

This book provides the information needed to install and manage the GDDM-CSPF licensed program. It is for system programmers experienced in installing IBM licensed programs; it assumes that the reader is experienced in using SMP/E or SMP installation tools (for MVS), or CMS EXECs (for VM).

It contains a brief introduction to the GDDM-CSPF program and to the hardware and software supported by it. It gives step-by-step descriptions of the installation process on MVS and VM. It tells how to define GDDM-CSPF to the system, lists the error messages and abend codes that may be produced, and gives some guidance on dealing with problems. It also shows the plotter patterns that can be used, and describes how to set up a protocol converter.

GDDM Diagnosis and Problem Determination Guide

This book describes how to diagnose problems that may occur when GDDM runs on CMS, TSO, CICS, IMS, and VSE systems. It is for application and systems programmers who use GDDM, and for IBM service personnel.

This book assumes that the reader is familiar with GDDM, has some knowledge of how to debug application and system problems, and understands the task that the application program is intended to perform.

GDDM General Information

This book introduces the GDDM series of licensed programs. It does not highlight the new function introduced in the latest release; for what is new, see the *GDDM Release Guide*.

It is primarily for executives and data processing managers, but it may be found useful by application designers, programmers, and terminal operators.

Two GDDM brochures and a wall poster are also available, complementing the *GDDM General Information* manual. (See page 6 for easy-ordering information.)

If you make business presentations...: This brochure contains some ideas for using GDDM products, for people who make presentations for business purposes.

If you're an engineer...: This brochure contains some ideas for using GDDM products, for people who are primarily professional engineers.

Better Charts: This wall poster suggests some ideas for improving business charts, using the Interactive Chart Utility. It shows some techniques that can be used.

GDDM-GKS Programming Guide and Reference

This book provides information about writing and running application programs that use the GDDM-GKS (Graphical Kernel System) licensed program. It is intended primarily for application programmers, although some of the information is also applicable to system programmers. The first four chapters give an overview of GDDM-GKS. The remainder of the book is reference material.

The book includes introductory information for using GDDM-GKS to perform simple graphics programming tasks. To advance to more complicated GKS programming, the reader should refer to the various application programming guides that are available, in which techniques for GKS programming are described; some specific techniques are described in this book. (Note that the *GDDM Application Programming Guide* does not refer specifically to GDDM-GKS.)

GDDM-GKS Installation: This manual describes how to install GDDM-GKS on MVS and VM systems. For installations that use Version 2 Release 2 or later of the GDDM Base program, this information is included in the appropriate *GDDM Installation and System Management* manual, thereby rendering this book obsolete.

GDDM-GKS Messages: This manual explains the messages issued by GDDM-GKS. For installations that use Version 2 Release 2 or later of the GDDM Base program, this information is included in the *GDDM Messages* manual, thereby rendering this book obsolete.

GDDM Guide for Users

This book describes some GDDM functions that a non-programming user can use from a terminal or work station – printing, plotting, and transferring files, and manipulating data on the screen (panning and zooming) with “user control.”

It is intended for business and professional people who are not programmers and who might not use GDDM every day, but who want to use it efficiently. It assumes that the reader has some experience of using a terminal.

GDDM Image Symbol Editor

This book introduces the Image Symbol Editor, which is used for producing image symbols, logos, and so on, for inclusion in charts and graphics display programs. (The Image Symbol Editor does not allow editing of images that are read in by a document scanner or similar device.)

This book is for newcomers to, and existing users of, the Image Symbol Editor. It assumes some experience of using terminals; no knowledge of computer graphics or programming is assumed. The book consists of several learning sections; to complete the sessions should typically take about two hours.

This manual, together with the help panels of the Image Symbol Editor, provides all the information needed to use the editor.

GDDM Image View Utility

This book explains how to install GDDM-IVU, and describes its end user and application programming interfaces. It also lists the GDDM-IVU messages, with explanations. It is intended for end users, application programmers, and system programmers.

End users need no programming or other data processing expertise, but they do need some experience as end users of DP systems. They should know, for example, how to use a terminal, how to log on to the DP system (TSO, CMS, or CICS) under which GDDM-IVU runs, and the major differences between main storage and disk files.

Application programmers may find a knowledge of GDDM Base calls useful, but the only essential requirement is basic programming experience in one of the supported languages.

System programmers need to have installed the requisite GDDM Base product.

GDDM Installation and System Management for MVS

This book provides the information needed to install and manage the following licensed programs:

- GDDM/MVS, program number 5665-356
- GDDM-PGF, program number 5668-812
- GDDM-IMD, program number 5668-801
- GDDM-IVU, program number 5668-723
- GDDM-GKS, program number 5668-802,

including their National Language and PCLKF features (as available).

This book is for system programmers experienced in installing IBM licensed programs. It assumes that the reader is experienced in using SMP/E or SMP installation tools.

This book is divided into three parts, corresponding to before installation, installation, and after installation, followed by a number of appendixes. It should be used sequentially to install GDDM. After installation it can be used for reference.

(Editions before GDDM 2.2 did not address GDDM-IVU or GDDM-GKS.)

GDDM Installation and System Management for VM

This book provides the information needed to install and manage the following licensed programs:

- GDDM/VM, program number 5664-200
- GDDM/VMXA, program number 5684-007
- GDDM-PGF, program number 5668-812
- GDDM-IMD, program number 5668-801
- GDDM-IVU, program number 5668-723
- GDDM-GKS, program number 5668-802
- GDDM-REXX, program number 5664-336,

including their National Language and PCLKF features (as available).

This book is for system programmers experienced in installing IBM licensed programs. It assumes that the reader is experienced in using CMS EXECs.

This book is divided into three parts, corresponding to before installation, installation, and after installation, followed by a number of appendixes. It should be used sequentially to install GDDM. After installation it can be used for reference.

(Editions before GDDM 2.2 did not address GDDM/VMXA, GDDM-IVU, GDDM-GKS, or GDDM-REXX. Technical newsletter SN33-6323 added information about installing the GDDM/VM PCLKF feature for GDDM 2.1.1.)

GDDM Installation and System Management for VSE

This book provides the information needed to install and manage the following licensed programs:

- GDDM/VSE, program number 5666-328
- GDDM-PGF, program number 5668-812
- GDDM-IMD, program number 5668-801
- GDDM-IVU, program number 5668-723,

including their National Language and PCLKF features (as available).

This book is for system programmers experienced in installing IBM licensed programs. It assumes that the reader is experienced in using Maintain System History Program (MSHP) installation tool.

This book is divided into three parts, corresponding to before installation, installation, and after installation, followed by a number of appendixes. It should be used sequentially to install GDDM. After installation it can be used for reference.

(Editions before GDDM 2.2 did not address GDDM-IVU.)

GDDM Interactive Map Definition

This book, together with the topics in GDDM-IMD's online tutorial, provides all the information needed to use the product from a display device. It is intended for use by application programmers, system programmers, or anyone else who is responsible for producing maps using GDDM-IMD with GDDM under VM/SP CMS, OS/TSO, or CICS/VS.

To produce maps (panel layouts) using GDDM-IMD, the reader must be familiar with using an alphanumeric display device. To use maps in an application program, the reader must be familiar with the information in the *GDDM Base Programming Reference* and the *GDDM Application Programming Guide*.

The manual is designed so that it can be used in two ways: to obtain guidance and background information on using GDDM-IMD; and to read about what GDDM-IMD is and does, without having the online version of the GDDM-IMD tutorial available on a display device.

GDDM Library Guide and Master Index

This book explains the organization of the GDDM publications library and provides a master index to the contents of the library.

It is intended for anyone who uses manuals in the GDDM library.

GDDM Messages

This book provides help on the messages issued by these IBM licensed programs: GDDM/MVS, GDDM/VM, GDDM/VSE, GDDM/VMXA, GDDM-CSPF, GDDM-GKS, GDDM-IMD, GDDM-IVU, GDDM-PGF, and GDDM-REXX. It does *not* provide help on GDDM/graPHIGS messages.

It is intended for anyone who receives a GDDM message while using GDDM or any of its utilities. The messages that are issued by each utility are also listed and described in the user's guide for that utility.

This book assumes a basic knowledge of the program that issued the message. The messages are listed in alphanumeric order.

GDDM-PCLK Guide

This book describes how to install and use Version 1.1 of the GDDM-PCLK licensed program, for the IBM Personal Computer (PC) including the PS/2 family. It is intended for three classes of GDDM-PCLK user: PC users, application programmers, and system programmers.

A PC user will need to be familiar with using a PC and the basic commands of the PC Disk Operating System, and also using a PC as a host-attached terminal through a terminal emulator.

An application programmer will need to be familiar with writing GDDM applications. A system programmer will need to be familiar with the subsystem under which the GDDM applications are to run.

GDDM-PCLK Reference Summary: This pocket-sized booklet provides a summary of some of the GDDM-PCLK reference information. It is intended to be used as a companion to the *GDDM-PCLK Guide*.

GDDM Performance Guide

This book provides information about performance aspects of GDDM. It gives the background to GDDM performance, and shows how to run GDDM in the most efficient way.

It is intended for system designers and programmers, and application designers and programmers. Some of the chapters require familiarity with the subsystem under which application programs are to run; other chapters require some experience of computer applications.

GDDM-PGF Interactive Chart Utility

This book is about the Interactive Chart Utility (ICU). It begins with an introduction to charts, computers, and using panels. It continues with a step-by-step guide to the ICU, and tells how to add extra features to charts. Finally, it explores the full ICU with information on the advanced features of the ICU.

The book is largely pictorial, and employs a straightforward, friendly style for the reader.

GDDM-PGF Programming Reference

This book provides information about writing and running GDDM application programs that use the GDDM-PGF licensed program. It is intended primarily for application programmers, although some of the information is also applicable to system programmers.

It contains conceptual information, information about how GDDM-PGF operates, and reference material for application and system programmers. It introduces the Interactive Chart Utility (ICU) and describes the two programming interfaces to it. It also describes the basic concepts of the GDDM Presentation Graphics routines. It lists the GDDM-PGF function calls (both CHxxxx and CSxxxx), with their syntax and parameters, and also describes how GDDM-PGF application programs are run on various operating systems. Appendixes provide information on sample programs and modules.

GDDM-PGF Programming Reference Summary: This pocket-sized booklet provides a summary of some of the GDDM-PGF reference information. It is intended to be used as a companion to the *GDDM-PGF Programming Reference*.

GDDM-PGF Vector Symbol Editor

This book introduces the Vector Symbol Editor, which is used for producing vector symbols, logos, and so on, for inclusion in charts and graphics display programs. It is for newcomers to, and existing users of, the Vector Symbol Editor. It assumes some experience of using terminals; no knowledge of computer graphics or programming is assumed. The book consists of several learning sections; to complete the sessions should typically take about two hours.

The main session uses a non-interactive graphics terminal, an IBM 3279 Color Display Station (and is also suitable for the 3278, 8775, 3290, and 3270-PC). An appendix covers differences when using an interactive graphics terminal, such as the 3179-G, the 3270-PC/G and /GX work stations, the 5080, and the 5550.

This manual, together with the help panels of the Vector Symbol Editor, provides all the information needed to use the editor.

GDDM Release Guide

This book describes the changes to the GDDM series between Version 2 Release 2 of the GDDM Base programs, and the previous release, Version 2 Release 1. It covers changes made to the Base programs, including those made in Version 2 Release 1 Modification 1, and describes all the new licensed programs. In addition, it lists the supported and prerequisite hardware and software. It does not describe any Systems Application Architecture functions.

It is intended for data processing managers, systems analysts, and programmers. The descriptions of new and changed functions assume a knowledge of the previous release of GDDM. The guide will therefore not serve as an introduction to GDDM as a whole; for this, the *GDDM General Information* manual is needed.

GDDM 2.1.1 Guide for MVS and VSE: This was a special guide for GDDM Version 2 Release 1 Modification 1 for users of MVS and VSE systems. It is now obsolete, the information being included in the latest edition of the *GDDM Release Guide*.

GDDM 2.1.1 Guide for VM: This was a special guide for GDDM Version 2 Release 1 Modification 1 for users of VM systems. It is now obsolete, the information being included in the latest edition of the *GDDM Release Guide*.

GDDM-REXX Guide

This book describes GDDM-REXX, a programming productivity tool that lets GDDM be used from EXECs written for the VM/System Product Interpreter.

This book is for users of GDDM-REXX and those who install it. It assumes some knowledge of high-level language programming and of CMS. Introductory information and learning sessions are at the front of the book, installation and diagnosis information in the middle, and reference at the back. It does not contain reference information on REXX statements and GDDM calls, for which other books are needed.

GDDM Series Licensed Program Specifications

This document contains the terms and conditions under which a customer can use GDDM licensed programs, and also specifies the operating environment for these programs.

GC33-0423-0 was for GDDM Version 2 Release 1
GC33-0423-1 added GDDM-REXX, GDDM-IVU, and GDDM-GKS
No edition was published with suffix 2
GC33-0423-3 was for GDDM Version 2 Release 1 Modification 1
GC33-0423-4 added GDDM-CSPF
GC33-0423-5 added GDDM Version 2 Release 2.

GDDM Typefaces and Shading Patterns

This booklet is intended for users of GDDM applications such as the Interactive Chart Utility (ICU), and for application programmers. It describes and illustrates the typefaces (symbol sets) that are distributed as part of GDDM. It tells how to use these and customer-produced symbol sets, and it also introduces the two symbol editors that are supplied as part of GDDM.

In addition, this booklet describes the shading patterns, line types, and marker symbols that can be used in GDDM applications. It also introduces the IBM 4250 printer typefaces that can be used from GDDM application programs, mentions how to select IBM 3800 character sets, and lists supported code pages. Application program calls that are used are listed.

Note: This booklet summarizes information that is described in more detail in other publications.

Summary of GDDM books by release

The table on page 19 shows the books applicable to each release in Version 2 of the GDDM Base programs. Tables after it give equivalent information for the non-Base programs.

For each publication, the first entry in each column is the full order number as shown on the cover of the book. If the book has been assigned a temporary order number ("pseudo-number") and a revision has been published (with the same order number but an updated revision number), you'll find underneath the first number the pseudo-number by which you can continue to order *this* level of the book. (Pseudo-numbers are printed in *italics*.) Other entries in the table are described in the "Abstracts of GDDM manuals" on page 10.

See "Order Numbers" on page 4 for an explanation of IBM's order-numbering scheme, and "Ordering publications for earlier releases" on page 6 for an explanation of pseudo-numbers.

GDDM publication	GDDM/MVS GDDM/VM GDDM/VSE 2.1.0	GDDM/MVS GDDM/VM GDDM/VSE 2.1.1	GDDM/MVS GDDM/VM GDDM/VMXA GDDM/VSE 2.2.0
Application Programming Guide	SC33-0337-0 ST33-0337-0	SC33-0337-0 ST33-0337-0	SC33-0337-0 ST33-0337-0
Base Programming Reference	SC33-0332-0 ST33-0332-0	SC33-0332-0 ST33-0332-0	SC33-0332-0 ST33-0332-0
Base Programming Reference Summary	SX33-6053-0	SX33-6053-0	SX33-6053-1
Diagnosis and Problem Determination Guide	SC33-0326-0 ST33-0326-0	SC33-0326-1 SQ33-0326-0	SC33-0326-1 SQ33-0326-0
General Information	GC33-0319-0	GC33-0319-0	GC33-0319-1
Guide for Users	SC33-0327-0 ST33-0327-0	SC33-0327-0 ST33-0327-0	SC33-0327-0 ST33-0327-0
Image Symbol Editor	SC33-0329-0 ST33-0329-0	SC33-0329-0 ST33-0329-0	SC33-0329-0 ST33-0329-0
Installation for MVS	SC33-0321-0	SC33-0321-1	SC33-0321-2
Installation for VM	SC33-0323-0 ST33-0323-0	SC33-0323-1 SQ33-0323-0 + SN33-6323	SC33-0323-2
Installation for VSE	SC33-0322-0	SC33-0322-1	SC33-0322-2
Library Guide	—	—	GC33-0595-0
Licensed Program Specifications	GC33-0423-0 GT33-0423-0 GC33-0423-1 —	GC33-0423-3 — GC33-0423-4 GQ33-0423-0	GC33-0423-5
Messages	SC33-0325-0 ST33-0325-0	SC33-0325-1 SQ33-0325-0	SC33-0325-2
Performance Guide	SC33-0324-0 ST33-0324-0	SC33-0324-0 ST33-0324-0	SC33-0324-0 ST33-0324-0
Release Guide (and two obsolete guides for 2.1.1)	GC33-0320-0 GT33-0320-0	GC33-0320-0 GT33-0320-0 SC33-0476-0 (for VM) SC33-0477-0 (for MVS and VSE)	GC33-0320-1
Typefaces and Shading Patterns	—	—	SC33-0554-0

GDDM-CSPF publication	GDDM-CSPF 1.1.0
CSPF User's Guide	SC33-0552-0
CSPF Installation Guide	SC33-0553-0

GDDM-GKS publication	GDDM-GKS 1.1.0
GKS Programming Guide and Reference	SC33-0334-0
Note: <i>GDDM-GKS Installation</i> , SC33-0439-0, and <i>GDDM-GKS Messages</i> , SC33-0496-0, are now obsolete – use the general GDDM manuals.	

GDDM-IVU publication	GDDM-IVU 1.1.0
Image View Utility	SC33-0479-0

GDDM-IMD publication	GDDM-IMD 2.1.0
Interactive Map Definition	SC33-0338-0

GDDM-PCLK publication	GDDM-PCLK 1.0	GDDM-PCLK 1.1
PCLK Guide	6242906	6242913
PCLK Reference Summary	SX33-6067-0	SX33-6067-1

GDDM-PGF publication	GDDM-PGF 2.1.0
PGF Interactive Chart Utility	SC33-0328-0 <i>ST33-0328-0</i>
PGF Programming Reference	SC33-0333-0 <i>ST33-0333-0</i>
PGF Programming Reference Summary	SX33-6054-0
PGF Vector Symbol Editor	SC33-0330-0 <i>ST33-0330-0</i>

GDDM-REXX publication	GDDM-REXX 1.1.0
GDDM-REXX Guide	SC33-0478-0

Directory of programming interfaces for customers

This section is a directory of interfaces provided by GDDM for use by customers in writing programs.

The programs included in this directory are:

Program name	program number	program level
GDDM/MVS	5665-356	Version 2 Release 2 Modification 0
GDDM/VM	5664-200	Version 2 Release 2 Modification 0
GDDM/VMXA	5684-007	Version 2 Release 2 Modification 0
GDDM/VSE	5666-328	Version 2 Release 2 Modification 0
GDDM-CSPF	5688-013	Version 1 Release 1 Modification 0
GDDM-GKS	5668-802	Version 1 Release 1 Modification 0
GDDM-IMD	5668-801	Version 2 Release 1 Modification 0
GDDM-IVU	5668-723	Version 1 Release 1 Modification 0
GDDM-PGF	5668-812	Version 2 Release 1 Modification 0
GDDM-REXX	5664-336	Version 1 Release 1 Modification 0.

You should read this section if you are:

1. An application programmer or systems programmer who writes programs that will invoke the services or functions provided by GDDM, or
2. A systems programmer who may wish to use installation exits, or other "product-sensitive" interfaces, provided by GDDM to allow the customer to extend or modify GDDM.

This section is a directory to other documents, or sections of documents, that contain the detailed descriptions of programming interfaces. In addition, this section specifies files or data sets that are created by GDDM and are intended to be accessed by customer programs. It also specifies which macros distributed with the product are intended to be used as, or as part of, a programming interface.

This section provides a directory of all programming interfaces provided by GDDM for use by customers. It also identifies and specifies limitations on the use of some "product-sensitive" interfaces, which are dependent on the detailed design and implementation of GDDM.

No information other than that identified in this directory should be construed as defining a programming interface.

You should understand that we have devoted considerable effort to maintaining the compatibility of these interfaces and every effort will be made to continue this compatibility. However, no guarantee can be given that the definition or the status of any of these interfaces will not change. For this reason, the definitions apply only to the above releases of GDDM.

Identified here are those interfaces provided by GDDM by which a customer-written program is to request or receive functions or services of GDDM. They are described under these headings:

- “Programming interfaces” below
- “Product-sensitive programming interfaces” on page 24
- “Data sets” on page 25
- “Macros” on page 26.

Programming interfaces

The GDDM programming interface is a call interface, supported by some macros.

- The following books describe the programming interfaces for *GDDM/MVS*, *GDDM/VSE*, *GDDM/VM*, and *GDDM/VMXA*:

GDDM Base Programming Reference, Volume 1

Chapter 2 of this book contains the definitive description of the ISSE call, in the section “Calling the Image Symbol Editor from an application program.”

Chapter 4 contains the definitive description of the GDDM call interface.

The information in that chapter on the following calls is not part of the programming interface for customers: ASGGET, ASGPUT, ESPCB, FSCLS, FSOPEN, FSQDEV, FSSAVE, FSSHOR, FSSHOW, FSTRCE, GSCORR, GSIMGS, GSMSC, GSQMSC, and SPMXMP. (ESEUDS, FSEXIT, and FSQERR are part of the “product-sensitive” interface – see page 24.)

The information in other chapters is for guidance only. The references in this book to the *GDDM Application Programming Guide*, the *GDDM Interactive Map Definition* guide, the *GDDM Messages* manual, and the *GDDM-PGF Programming Reference* manual are for guidance only.

GDDM Base Programming Reference, Volume 2

Chapter 1 of this book contains the definitive description of the GDDM user default specifications interface, including the NICKNAME and DEFAULT statements. Only source-format user default specifications are part of this interface. Appendixes A and B provide supporting reference information.

Chapter 10 describes the ADMMCOLT macro for setting up color-master tables.

Chapter 11 describes the application data structure for mapping.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Application Programming Guide*, the *GDDM Diagnosis and Problem Determination Guide*, the *GDDM Image Symbol Editor* guide, and the *GDDM Interactive Map Definition* manual are for guidance only.

GDDM Release Guide

Chapter 3 contains the definitive description of those interfaces that are new or extended in GDDM Version 2 Release 2, namely, the Image Print Utility, the CDPU call, country-extended code page support (including the ESQCPG, ESSCPG, and FSTRAN calls, but excluding ESQEUD, part of the “product-sensitive” interface — see page 24), and an extension to the FSQUERY call.

Chapters 3 and 4 contain newly-defined processing options.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Application Programming Guide*, the *GDDM Messages* manual, and the *GDDM Typefaces and Shading Patterns* guide are for guidance only.

GDDM Installation and System Management for MVS

GDDM Installation and System Management for VM

GDDM Installation and System Management for VSE

Appendix C of these books gives the definitions of the ADMMIMAG, ADMMSYSP, and ADMM3270 macros, used to define device characteristics tokens.

Appendix I (for VM and VSE) and Appendix K (for MVS) give the definition of the ADMMFONT macro.

Appendix A of *GDDM Installation and System Management for VSE* gives the definition of the ADMMDFTX macro.

The information in other chapters and appendixes is for guidance only.

- The following book describes the programming interface for *GDDM-PGF*:

GDDM-PGF Programming Reference

Chapter 4 of this book contains the definitive description of the GDDM-PGF call interface, except the CHART call which is not part of this interface.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Base Programming Reference*, the *GDDM-PGF Interactive Chart Utility* guide, and the *GDDM-PGF Vector Symbol Editor* guide are for guidance only.

- The following book describes the programming interface for *GDDM-GKS*:

GDDM-GKS Programming Guide and Reference

Chapter 5 of this book contains the definitive description of the GDDM-GKS call interface.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM-GKS Messages* and *GDDM Messages* manuals are for guidance only.

- The following book describes the programming interface for *GDDM-IVU*:

GDDM Image View Utility

Chapter 2.2 of this book contains the definitive description of the GDDM-IVU call interface, under the heading “GDDM-IVU calls.”

The information in other chapters and appendixes is for guidance only.

- The following book describes the programming interface for *GDDM-REXX*:

GDDM-REXX Guide

Part 4 of this book contains the definitive description of the GDDM-REXX interface.

The information in the sections on ERXPROTO, on “Error message explanations,” the listing of the ERXMODEL EXEC, and information in other parts of this book are for guidance only. The references in this book to the *GDDM Base Programming Reference* and the *GDDM-PGF Programming Reference* manuals are for guidance only.

- The following book describes the programming interface for *GDDM-CSPF*:

GDDM-CSPF Installation Guide

Appendix A of this book contains the definitive description of the system definition macros for GDDM-CSPF.

Information in other parts of this book is for guidance only.

There are no programming interfaces for *GDDM-IMD*.

Product-sensitive programming interfaces

Installation exits and other “product-sensitive” interfaces are provided to allow the customer installation to perform tasks such as product tailoring, monitoring, modification, or diagnosis. They are dependent on the detailed design or implementation of GDDM. Such interfaces should be used only for these specialized purposes. Because of their dependencies on detailed design and implementation, it is to be expected that programs written to such interfaces may need to be changed in order to run with new GDDM releases or versions, or as a result of maintenance.

- The following books describe the “product-sensitive” interfaces for *GDDM/MVS*, *GDDM/VSE*, *GDDM/VM*, and *GDDM/VMXA*:

GDDM Base Programming Reference, Volume 1

Chapter 3 of this book lists the sets of PL/I DECLARE statements that support the call interface to GDDM; they have names of the form ADMUPINx and ADMUPIRx and are listed in “Macros” on page 26.

Chapter 4 contains the definitive description of the GDDM interface provided by these calls: ESEUDS, FSEXIT, and FSQERR.

The information in other chapters is for guidance only. The references in this book to the *GDDM Application Programming Guide*, the *GDDM Installation and System Management* manuals, the *GDDM Interactive Map Definition* guide, and the *GDDM Messages* manual are for guidance only.

GDDM Base Programming Reference, Volume 2

Chapter 1 of this book contains the definitive description of the encoded-format user default specifications.

Chapter 12 contains the definitive description of the system programmer interface to GDDM, including the system programmer interface block and the interface to exit routines.

Appendix H defines the call format descriptor module.

Appendix I defines the format of the APL request codes module.

The information in other chapters and appendixes is for guidance only.

GDDM Release Guide

Chapter 3 contains the definitive description of the ESQEUD call.

The information in other chapters and appendixes is for guidance only.

GDDM Diagnosis and Problem Determination Guide

Chapter 3 of this book contains the definitive description of the GDDM tracing interface in the sections TRCESTR syntax in the sections "Coding TRCESTR statements" and "Functions available with the TRCESTR keyword."

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Base Programming Reference* and the *GDDM 2.1.1 Guides* are for guidance only.

- The following book describes the "product-sensitive" interfaces for *GDDM-PGF*:

GDDM-PGF Programming Reference

The section "PL/I declarations" in Chapter 4 lists the sets of PL/I DECLARE statements that support the call interface to GDDM-PGF, and are listed in "Macros" on page 26.

- The following book describes the "product-sensitive" interfaces for *GDDM-IVU*:

GDDM Image View Utility

The section "Calling GDDM-IVU" in Chapter 2.2 lists the sets of PL/I DECLARE statements that support the call interface to GDDM-IVU, and are listed in "Macros" on page 26.

There are no "product-sensitive" interfaces for *GDDM-GKS*, *GDDM-REXX*, *GDDM-IMD*, and *GDDM-CSPF*.

Data sets

This section lists the books that describe those data sets created by GDDM and intended to be accessed by customer programs.

- The following books describe the data sets for *GDDM/MVS*, *GDDM/VSE*, *GDDM/VM*, and *GDDM/VMXA*:

GDDM Base Programming Reference, Volume 2

Chapter 8 and Appendix F describe GDDM symbol sets.

Chapter 9 describes picture interchange format files, and Appendix D lists GDF order descriptions. The marker-scale order and the IMAGEWIDTH and IMAGEDEPTH fields of the image-begin order are not part of the defined interface.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Application Programming Guide*, the *GDDM Base Programming Reference*, the *GDDM Guide for Users*, the *GDDM Image Symbol Editor* guide, and the *GDDM Installation and System Management* manuals are for guidance only.

GDDM Release Guide

Appendix B describes the format of a composite document presentation data stream.

The information in other chapters and appendixes is for guidance only. The references in this book to the *GDDM Base Programming Reference* are for guidance only.

There are no unique data sets created by *GDDM-PGF*, *GDDM-GKS*, *GDDM-IVU*, *GDDM-REXX*, *GDDM-IMD*, and *GDDM-CSPF*, and intended to be accessed by customer programs.

Macros

This section lists the macros and copy files which are intended to be used as, or as part of, a programming interface for customers. These objects are in the GDDMSAM distribution library (MVS), the ADMLIB MACLIB (VM), and are type A members of the GDDM sublibrary (VSE).

- The following objects form part of the programming interface for customers for *GDDM/MVS*, *GDDM/VSE*, *GDDM/VM*, and *GDDM/VMXA*:

Macros:

ADMMCOLT	Color-separation masters
ADMMDFT	User defaults
ADMMDFTX	Batch printing (VSE only)
ADMMEXIT	User exits
ADMMFONT	Font table definition
ADMMIMAG	Device tokens for composed-page printers
ADMMNICK	Nickname definitions
ADMMSYSP	Device tokens for system printers
ADMM3270	Device tokens for 3270-family devices and queued printers

PL/I declaration files (non-reentrant interface):

ADMUPINA	ADMUPINE	ADMUPING	ADMUPINK	ADMUPINP	ADMUPINW
ADMUPIND	ADMUPINF	ADMUPINI	ADMUPINM	ADMUPINS	

PL/I declaration files (reentrant interface):

ADMUPIRA	ADMUPIRE	ADMUPIRG	ADMUPIRK	ADMUPIRP	ADMUPIRW
ADMUPIRD	ADMUPIRF	ADMUPIRI	ADMUPIRM	ADMUPIRS	

Mapping constants declarations:

ADMUAIMC (Assembler)	ADMUCIMC (COBOL)	ADMUPIMC (PL/I)
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Request control parameter table: ADMURCPB

- The following objects form part of the programming interface for customers for ***GDDM-PGF***:

PL/I declaration files:

Non-reentrant interface: ADMUPINC ADMUPINV

Reentrant interface: ADMUPIRC ADMUPIRV

Request control parameter table: ADMURCP0

- The following objects form part of the programming interface for customers for ***GDDM-IVU***:

PL/I declaration files:

Non-reentrant interface: ADMUPIN5

Reentrant interface: ADMUPIR5

- The following objects form part of the programming interface for customers for ***GDDM-CSPF***:

Macros:

EAKDEVS Start of device definitions

EAKDEV Plotter and film recorder definition

EAKDEVE End of definitions

EAKGROUP Device group characteristics definition

EAKMDFT CSPF defaults

There are no macros or PL/I declaration files, intended to be used by a programming interface for customers, defined by ***GDDM-GKS***, ***GDDM-REXX***, and ***GDDM-IMD***.

Chapter 2. The GDDM Master Index

This index contains the combined main index entries from other books in the GDDM library. Each entry shows you in which book(s) you can find more information on a particular topic. On the next page is a table of the master index codes used for each book in the index.

The index entries in this book don't always match word-for-word the ones in the books they refer to because, to make things easier to find, we've made some very similar entries into one entry. We've also added some entries that aren't in the indexes of the individual books, to help you locate information. Some entries, like "GDDM-PGF," are so general that they are marked *see more specific topic* – use a more specific category (like "chart by example") in such cases.

How to use the Master Index

To use the index, you need to follow these four steps:

1. Decide what subject or topic you want to look up. For example, you might want information about fast update mode; your keyword is "fast update mode."
2. Look up the keyword in the index. You might not find the keyword in the first place you look. If this happens, try to look for another keyword for your topic and look up that keyword. This entry is in the index:

fast update mode *BPR2*

3. Look up the code assigned to the manual in the table on page 30. The codes are the uppercase abbreviations following each entry. For this keyword, the code and corresponding manual are:

BPR2 GDDM Base Programming Reference, Volume 2 SC33-0332-0

4. You can look in Volume 2 of the *GDDM Base Programming Reference* to find information about your topic. Look in that manual's index (or table of contents) to locate the specific information you need.

If an index entry contains some elaboration in parentheses, you may also find further references to follow up under the parenthesized topic.

Master Index code table

Code	Book title	Order number
APG1	<i>GDDM Application Programming Guide, Volume 1</i>	SC33-0337-0
APG2	<i>GDDM Application Programming Guide, Volume 2</i>	SC33-0337-0
BPR1	<i>GDDM Base Programming Reference, Volume 1</i>	SC33-0332-0
BPR2	<i>GDDM Base Programming Reference, Volume 2</i>	SC33-0332-0
CSPF	<i>GDDM-CSPF User's Guide</i>	SC33-0552-0
CSPFINST	<i>GDDM-CSPF Installation Guide</i>	SC33-0553-0
DIAG	<i>GDDM Diagnosis and Problem Determination Guide</i>	SC33-0326-1
GFORU	<i>GDDM Guide for Users</i>	SC33-0327-0
GIM	<i>GDDM General Information</i>	GC33-0319-1
GKS	<i>GDDM-GKS Programming Guide and Reference</i>	SC33-0334-0
ICU	<i>GDDM-PGF Interactive Chart Utility</i>	SC33-0328-0
IMD	<i>GDDM Interactive Map Definition</i>	SC33-0338-0
ISM(MVS)	<i>GDDM Installation and System Management for MVS</i>	SC33-0321-2
ISM(VM)	<i>GDDM Installation and System Management for VM</i>	SC33-0323-2
ISM(VSE)	<i>GDDM Installation and System Management for VSE</i>	SC33-0322-2
ISSE	<i>GDDM Image Symbol Editor</i>	SC33-0329-0
IVU	<i>GDDM Image View Utility</i>	SC33-0479-0
PCLKG	<i>GDDM-PCLK Guide</i>	Version 1.1
PERF	<i>GDDM Performance Guide</i>	SC33-0324-0
PGFPR	<i>GDDM-PGF Programming Reference</i>	SC33-0333-0
RELG	<i>GDDM Release Guide</i>	GC33-0320-1
REXX	<i>GDDM-REXX Guide</i>	SC33-0478-0
TYPES	<i>GDDM Typefaces and Shading Patterns</i>	SC33-0554-0
VSSE	<i>GDDM-PGF Vector Symbol Editor</i>	SC33-0330-0

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zooming *APG1, GFORU*
zooming and panning pictures *BPR2*
zooming graphics *GIM*
ZPICK option *APG2, PGFPR*
ZVERTICAL option *APG2, PGFPR*

Numerics

1403 Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
16M, GDDM code above this location *BPR2*
17-inch wide output on 4250 *RELG*
24-bit addressing mode (MVS/XA) *BPR2*
31-bit addressing mode (MVS/XA) *BPR2, ISM(MVS)*
3104 Display Terminal *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3117 Image Scanner *APG1, BPR1, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF*
3118 Image Scanner *APG1, BPR1, GIM, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF*
3178 Display Station *APG1, BPR1, ISM(MVS), ISM(VM), ISM(VSE)*
3179 Color Display Station *BPR1, GIM, ISM(MVS), ISM(VM), ISM(VSE), TYPES*
3179-G Color Display Station *APG1, BPR1, GFORU, GKS, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF*
3180 Display Station *BPR1, GIM, ISM(MVS), ISM(VM), ISM(VSE)*
3191 Display *ISM(MVS), ISM(VM), ISM(VSE), RELG*
3192 Display *GIM, ISM(MVS), ISM(VM), ISM(VSE), RELG*
3193 Display Station *APG1, BPR1, GIM, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF*
3194 Display *ISM(MVS), ISM(VM), ISM(VSE), RELG*
3203 Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3211 Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3230 Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3232 Keyboard Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3262 Line Printer *APG1, ISM(MVS), ISM(VM), ISM(VSE)*
3268 Printer *APG1, BPR1, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, RELG, TYPES*

3270 emulators supported *PCLKG*
 3270 Extended Data Stream *PCLKG*
 3270 hardware attributes *APGI*
 3270 Personal Computer/G *APGI, BPR1, BPR2, GIM, GKS, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF, TYPES*
 3270 Personal Computer/GX *APGI, BPR1, BPR2, GIM, GKS, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF, TYPES*
 3270 Workstation Program *PCLKG*
 3270-PC *BPR1, GIM, ISM(MVS), ISM(VM), ISM(VSE), TYPES*
 3274 Control Unit *APGI, ISM(MVS), ISM(VM), ISM(VSE), PERF*
 3275 Display Station *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3276 Control Unit Display Station *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3277 Display Station *APGI, BPR1, ISM(MVS), ISM(VM), ISM(VSE)*
 3278 Display Station *APGI, BPR1, GIM, GKS, ICU, ISM(MVS), ISM(VM), ISM(VSE), TYPES*
 3279 Color Display Station *APGI, BPR1, GFORU, GIM, GKS, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF, TYPES*
 3283 Printer *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3284 Printer *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3286 Printer *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3287 Printer *APGI, BPR1, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, RELG, TYPES*
 3288 Line Printer *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3289 Line Printer *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 3290 Information Panel *APGI, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), TYPES*
 3620 character set extension *ISM(MVS), ISM(VM), ISM(VSE)*
 370 extended architecture *ISM(MVS)*
 3800 Printing Subsystem *APGI, BPR1, BPR2, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, RELG, TYPES*
 3800 typefaces *TYPES*
 3812 Page Printer *BPR2, GIM, ISM(MVS), ISM(VM), ISM(VSE), IVU, RELG, TYPES*
 3820 Page Printer *BPR1, BPR2, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, RELG*
 3852 Color Jetprinter *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 4-button cursor (see four-button cursor)
 4201 Proprinter II *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 4202 Proprinter XL *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 4207 Proprinter X24 *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 4208 Proprinter XL2 *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 4224 Printer *APGI, BPR1, BPR2, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF, RELG, TYPES*
 4234 Printer *BPR1, ISM(MVS), ISM(VM), ISM(VSE)*
 4245 Printer *ISM(MVS), ISM(VM), ISM(VSE)*
 4248 Printer *ISM(MVS), ISM(VM), ISM(VSE)*
 4250 code pages *RELG, TYPES*
 4250 Printer *APGI, APG2, BPR1, BPR2, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), IVU, PERF, PGFPR, RELG, TYPES*
 4250 typefaces *TYPES*
 5080 Graphics System *APGI, BPR1, GFORU, GIM, GKS, ICU, ISM(MVS), ISM(VM), ISM(VSE), PERF, RELG*
 5080IO function in TRCESTR statements *DIAG*
 5081 Graphics Display *ISM(MVS), ISM(VM), ISM(VSE)*
 5152 Graphics Printer *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 5170 System Unit *ISM(MVS), ISM(VM), ISM(VSE)*
 5182 Color Printer *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 5201 Quietwriter Printer *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 5202 Quietwriter III *ISM(MVS), ISM(VM), ISM(VSE), PCLKG*
 5279 (see 3270-PC/G)
 5371 System Unit *ISM(MVS), ISM(VM), ISM(VSE)*
 5373 System Unit *ISM(MVS), ISM(VM), ISM(VSE)*
 5379 (see 3270-PC/GX)
 5550 Multistation *APGI, BPR1, GFORU, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), PERF, RELG, TYPES*
 618x plotters *APGI, BPR1, CSPFINST, GIM, ISM(MVS), ISM(VM), ISM(VSE), PCLKG, RELG, TYPES*
 64-color pattern sets *APGI, ISM(MVS), ISM(VM), ISM(VSE)*
 64-color shading (PG routines) *APG2*
 7-color display attributes *PCLKG*
 737x plotters *APGI, BPR1, GIM, ICU, ISM(MVS), ISM(VM), ISM(VSE), PCLKG, TYPES*
 8514/A display adapter *TYPES*
 8514/A - driver load *PCLKG*

8775 Display Terminal *APGI, ISM(MVS),
ISM(VM), ISM(VSE), TYPES*
8815 Scanner *IVU*

Special Characters

¢ sign *APGI*
./ ADD statement (CICS/OS/VS) *IMD*
- (subtract) command *ICU*
+ (add) command *ICU*
\$ sign *APGI*
* (multiply) command *ICU*
~ (number) notation *IMD*
/ (divide) command *ICU*
/ (scroll) *ICU*
/BROADCAST command (IMS/VS) *BPRI*
% (graphic-area-display character) *IMD*
? (nondisplayable characters) *IMD*
(cursor) adjunct *IMD*
(number) notation *IMD*
= (assign) command *ICU*
= (repeat last function) *IMD*
"." for missing values *ICU*

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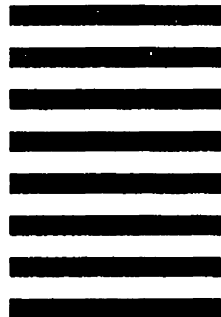


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