

WRDC-TR-90-8007
Volume VIII
Part 36

AD-A248 975



INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 36 - Layout Optimization System Unit Test Plan

S. Barker, F. Glandorf

Control Data Corporation
Integration Technology Services
2970 Presidential Drive
Fairborn, OH 45324-6209



September 1990

Final Report for Period 1 April 1987 - 31 December 1990

Approved for Public Release; Distribution is Unlimited



MANUFACTURING TECHNOLOGY DIRECTORATE
WRIGHT RESEARCH AND DEVELOPMENT CENTER
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6533


92 4 21 126

NOTICE

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever, regardless whether or not the government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data. It should not, therefore, be construed or implied by any person, persons, or organization that the Government is licensing or conveying any rights or permission to manufacture, use, or market any patented invention that may in any way be related thereto.

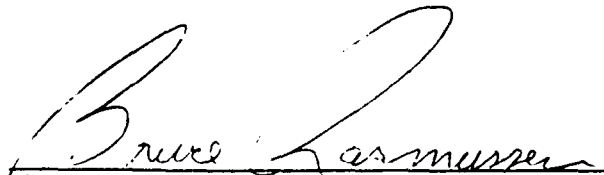
This technical report has been reviewed and is approved for publication.

This report is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations


DAVID L. JUDSON, Project Manager
WRDC/MTI
Wright-Patterson AFB, OH 45433-6533

25 July 91
DATE

FOR THE COMMANDER:


BRUCE A. RASMUSSEN, Chief
WRDC/MTI
Wright-Patterson AFB, OH 45433-6533

25 July 91
DATE

If your address has changed, if you wish to be removed from our mailing list, or if the addressee is no longer employed by your organization please notify WRDC/MTI, Wright-Patterson Air Force Base, OH 45433-6533 to help us maintain a current mailing list.

Copies of this report should not be returned unless return is required by security considerations, contractual obligations, or notice on a specific document.

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS			
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for Public Release; Distribution is Unlimited.			
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE						
4. PERFORMING ORGANIZATION REPORT NUMBER(S) UTP620344800			5. MONITORING ORGANIZATION REPORT NUMBER(S) WRDC-TR- 90-8007 Vol. VIII, Part 36			
6a. NAME OF PERFORMING ORGANIZATION Control Data Corporation; Integration Tecnology Services		6b. OFFICE SYMBOL (if applicable) WRDC/MTI		7a. NAME OF MONITORING ORGANIZATION WRDC/MTI		
6c. ADDRESS (City, State, and ZIP Code) 2970 Presidential Drive Fairborn, OH 45324-6209			7b. ADDRESS (City, State, and ZIP Code) WPAFB, OH 45433-6533			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Wright Research and Development Center, Air Force Systems Command, USAF		8b. OFFICE SYMBOL (if applicable) WRDC/MTI		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUM. F33600-87-C-0464		
8c. ADDRESS (City, State, and ZIP Code) Wright-Patterson AFB, Ohio 45433-6533			10. SOURCE OF FUNDING NOS.			
11. TITLE See block 19			PROGRAM ELEMENT NO. 78011F	PROJECT NO. 595600	TASK NO. F95600	WORK UNIT NO. 20950607
12. PERSONAL AUTHOR(S) Structural Dynamics Research Corporation: Barker, S., Glandorf, F.						
13a. TYPE OF REPORT Final Report		13b. TIME COVERED 4 / 1 / 87 - 12 / 31 / 90		14. DATE OF REPORT (Yr., Mo., Day) 1990 September 30		15. PAGE COUNT 199
16. SUPPLEMENTARY NOTES WRDC/MTI Project Priority 6203						
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify block no.)			
FIELD	GROUP	SUB GR.				
1308	0905					
19. ABSTRACT (Continue on reverse if necessary and identify block number) This unit test plan establishes the methodology and procedures used to test the Layout Optimization System (LOS). BLOCK 11: INTEGRATED INFORMATION SUPPORT SYSTEM Vol VIII -User Interface Subsystem Part 36 - Layout Optimization System Unit Test Plan						
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED x SAME AS RPT. DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified			
22a. NAME OF RESPONSIBLE INDIVIDUAL David L. Judson			22b. TELEPHONE NO. (Include Area Code) (513) 255-7371		22c. OFFICE SYMBOL WRDC/MTI	

FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

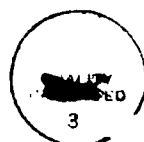
<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpect Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

TABLE OF CONTENTS

		<u>Page</u>
SECTION 1.0	GENERAL	1-1
1.1	Purpose	1-1
1.2	Project References	1-1
1.3	Terms and Abbreviations	1-1
SECTION 2.0	DEVELOPMENT ACTIVITY	2-1
2.1	Statement of Pretest Activity	2-1
2.2	Pretest Activity Results	2-1
SECTION 3.0	SYSTEM DESCRIPTION	3-1
3.1	System Description	3-1
3.2	Testing Schedule	3-2
3.3	First Location Testing	3-3
3.4	Subsequent Location Testing	3-3
SECTION 4.0	SPECIFICATIONS AND EVALUATIONS	4-1
4.1	Test Specification	4-1
4.2	Testing Methods and Constraints	4-5
4.3	Test Progression	4-5
4.4	Test Evaluation	4-5
SECTION 5.0	TEST PROCEDURES	5-1
5.1	Test Description	5-1
5.2	Test Control	5-1
5.3	Test Procedures	5-1
5.3.1	Access to LOS	5-3
5.3.2	Calling LOS Function	5-4
5.3.3	Testing the LOS	5-6

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
3-1	Interface Block Diagram	3-2
5-1	Keypad for VT100	5-2
5-2	IISS Logon Screen	5-3
5-3	IISS Function Screen	5-4
5-4	Main Menu	5-6
5-5	Test Screen 1	5-7
5-6	Test Screen 2	5-8
5-7	Test Screen 3	5-9
5-8	Test Screen 4	5-10
5-9	Test Screen 5	5-11
5-10	Test Screen 6	5-12
5-11	Test Screen 7	5-13
5-12	Test Screen 8	5-14
5-13	Test Screen 9	5-15
5-14	Test Screen 10	5-16
5-15	Test Screen 11	5-17
5-16	Test Screen 12	5-18
5-17	Test Screen 13	5-19
5-18	Test Screen 14	5-20
5-19	Test Screen 15	5-21
5-20	Test Screen 16	5-22
5-21	Test Screen 17	5-23
5-22	Test Screen 18	5-24
5-23	Test Screen 19	5-25
5-24	Test Screen 20	5-26
5-25	Test Screen 21	5-27
5-26	Test Screen 22	5-28
5-27	Test Screen 23	5-29
5-28	Test Screen 24	5-30
5-29	Test Screen 25	5-31
5-30	Test Screen 26	5-32



Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-31	Test Screen 27	5-33
5-32	Test Screen 28	5-34
5-33	Test Screen 29	5-35
5-34	Test Screen 30	5-36
5-35	Test Screen 31	5-37
5-36	Test Screen 32	5-38
5-37	Test Screen 33	5-39
5-38	Test Screen 34	5-40
5-39	Test Screen 35	5-41
5-40	Test Screen 36	5-42
5-41	Test Screen 37	5-43
5-42	Test Screen 38	5-44
5-43	Test Screen 39	5-45
5-44	Test Screen 40	5-46
5-45	Test Screen 41	5-47
5-46	Test Screen 42	5-48
5-47	Test Screen 43	5-49
5-48	Test Screen 44	5-50
5-49	Test Screen 45	5-51
5-50	Test Screen 46	5-52
5-51	Test Screen 47	5-53
5-52	Test Screen 48	5-54
5-53	Test Screen 49	5-55
5-54	Test Screen 50	5-56
5-55	Test Screen 51	5-57
5-56	Test Screen 52	5-58
5-57	Test Screen 53	5-59
5-58	Test Screen 54	5-60
5-59	Test Screen 55	5-61
5-60	Test Screen 56	5-62
5-61	Test Screen 57	5-63
5-62	Test Screen 58	5-64
5-63	Test Screen 59	5-65
5-64	Test Screen 60	5-66
5-65	Test Screen 61	5-67
5-66	Test Screen 62	5-68
5-67	Test Screen 63	5-69
5-68	Test Screen 64	5-70
5-69	Test Screen 65	5-71
5-70	Test Screen 66	5-72
5-71	Test Screen 67	5-73
5-72	Test Screen 68	5-74
5-73	Test Screen 69	5-75
5-74	Test Screen 70	5-76
5-75	Test Screen 71	5-77

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-76	Test Screen 72	5-78
5-77	Test Screen 73	5-79
5-78	IISS Function Screen	5-80
5-79	LOSTST Menu	5-81
5-80	Test Screen 74	5-82
5-81	Test Screen 75	5-83
5-82	Test Screen 76	5-84
5-83	Test Screen 77	5-85
5-84	Test Screen 78	5-86
5-85	Test Screen 79	5-87
5-86	Test Screen 80	5-88
5-87	Test Screen 81	5-89
5-88	Test Screen 82	5-90
5-89	Test Screen 83	5-91
5-90	Test Screen 84	5-92
5-91	Test Screen 85	5-93
5-92	Test Screen 86	5-94
5-93	Test Screen 87	5-95
5-94	Test Screen 88	5-96
5-95	Test Screen 89	5-97
5-96	Test Screen 90	5-98
5-97	Test Screen 91	5-99
5-98	Test Screen 92	5-100
5-99	Test Screen 93	5-101
5-100	Test Screen 94	5-102
5-101	Test Screen 95	5-103
5-102	Test Screen 96	5-104
5-103	Test Screen 97	5-105
5-104	Test Screen 98	5-106

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-105	Test Screen 99	5-107
5-106	Test Screen 100	5-108
5-107	Test Screen 101	5-109
5-108	Test Screen 102	5-110
5-109	Test Screen 103	5-111
5-110	Test Screen 104	5-112
5-111	Test Screen 105	5-113
5-112	Test Screen 106	5-114
5-113	Test Screen 107	5-115
5-114	Test Screen 108	5-116
5-115	Test Screen 109	5-117
5-116	Test Screen 110	5-118
5-117	Test Screen 111	5-119
5-118	Test Screen 112	5-120
5-119	Test Screen 113	5-121
5-120	Test Screen 114	5-122
5-121	Test Screen 115	5-123
5-122	Test Screen 116	5-124
5-123	Test Screen 117	5-125
5-124	Test Screen 118	5-126
5-125	Test Screen 119	5-127
5-126	Test Screen 120	5-128
5-127	Test Screen 121	5-129
5-128	Test Screen 122	5-130
5-129	Test Screen 123	5-131
5-130	Test Screen 124	5-132
5-131	Test Screen 125	5-133
5-132	Test Screen 126	5-134
5-133	Test Screen 127	5-135
5-134	Test Screen 128	5-136
5-135	Test Screen 129	5-137
5-136	Test Screen 130	5-138
5-137	Test Screen 131	5-139
5-138	Test Screen 132	5-140
5-139	Test Screen 133	5-141
5-140	Test Screen 134	5-142
5-141	Test Screen 135	5-143
5-142	Test Screen 136	5-144
5-143	Test Screen 137	5-145
5-144	Test Screen 138	5-146

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-145	Test Screen 139	5-147
5-146	Test Screen 140	5-148
5-147	Test Screen 141	5-149
5-148	Test Screen 142	5-150
5-149	Test Screen 143	5-151
5-150	Test Screen 144	5-152
5-151	Test Screen 145	5-153
5-152	Test Screen 146	5-154
5-153	Test Screen 147	5-155
5-154	Test Screen 148	5-156
5-155	Test Screen 149	5-157
5-156	Test Screen 150	5-158
5-157	Test Screen 151	5-159
5-158	Test Screen 152	5-160
5-159	Test Screen 153	5-161
5-160	Test Screen 154	5-162
5-161	Test Screen 155	5-163
5-162	Test Screen 156	5-164
5-163	Test Screen 157	5-165
5-164	Test Screen 158	5-166
5-165	Test Screen 159	5-167
5-166	Test Screen 160	5-168
5-167	Test Screen 161	5-169
5-168	Test Screen 162	5-170
5-169	Test Screen 163	5-171
5-170	Test Screen 164	5-172
5-171	Test Screen 165	5-173
5-172	Test Screen 166	5-174
5-173	Test Screen 167	5-175
5-174	Test Screen 168	5-176
5-175	Test Screen 169	5-177

SECTION 1

GENERAL

1.1 Purpose

This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Layout Optimization system known in this document as the LOS. The LOS is a tool provided in the Integrated Information Support System (IISS) User Interface (UI).

1.2 Project References

- [1] Systran, ICAM Documentation Standards, IDS150120000C, 15 September 1983.
- [2] Control Data Corporation, System Design Specification, 31 May 1988.
- [3] Structural Dynamics Research Corporation, Forms Processor User Manual, UM620344200, 31 May 1988.
- [4] Structural Dynamics Research Corporation, Layout Optimization System Development Specification, DS620344908, 31 May 1988.

1.3 Terms and Abbreviations

American Standard Code for Information Interchange: (ASCII), the character set defined by ANSI X3.4 and used by most computer vendors.

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Attribute: field characteristic such as blinking, highlighted, black, etc. and various other combinations. Background attributes are defined for forms or windows only. Foreground attributes are defined for items. Attributes may be permanent, i.e., they remain the same unless changed by the application program, or they may be temporary, i.e., they remain in effect until the window is redisplayed.

Device Drivers: (DD), software modules written to handle I/O for a specific kind of terminal. The modules map terminal specific commands and data to a neutral format. Device Drivers are part of the UI Virtual Terminal.

Display List: a list of all the open forms that are currently being processed by the FP or the user.

Extended Binary Coded Decimal Interchange Code: (EBCDIC), the character set used by a few computer vendors (notably IBM) instead of ASCII.

Field: two dimensional space on a terminal screen.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Form Hierarchy: a graphic representation of the way in which forms, items and windows are related to their parent form.

Form Editor (FE), subset of the IISS User Interface that is used to create definitions of forms.

Forms Driven Forms Editor: (FD FE), subset of the FE that consists of a forms driven application used to create Forms Definition Language interactively.

Forms Language Compiler: (FLAN), subset of the FE that consists of a batch process that accepts a series of forms definition language statements and produces form definition files as output.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a computing environment used to investigate, demonstrate, test the concepts and produce application for information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Item: non-decomposable area of a form in which hard-coded descriptive text may be placed and the only defined areas where user data may be input/output.

Layout Optimization System: (LOS), a set of callable routines which allow an application to lay out charts of various types (e.g. IDEF1x, IDEF0 and hierarchies) in an optimal manner, so as to minimize line crossings and line bends which in turn enhances the readability of the chart.

Message: descriptive text which may be returned in the standard message line on the terminal screen. They are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messages.

Network Transaction Manager: (NTM), IISS subsystem that performs the coordination, communication and housekeeping functions required to integrate the Application Processes and System Services resident on the various hosts into a cohesive system.

Open List: a list of all the forms that are currently open for an application process.

Operating System: (OS), software supplied with a computer which allows it to supervise its own operations and manage access to hardware facilities such as memory and peripherals.

Physical Device: a hardware terminal.

Qualified Name: the name of a form, item or window preceded by the hierarchy path so that it is uniquely identified.

Subform: a form that is used within another form.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and the Application Generator.

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface Monitor: (UIM), part of the Form Processor that handles messaging between the NTM and the UI. It also provides authorization checks and initiates applications.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

Window Manager: a facility which allows the following to be manipulated: size and location of windows, the device on which an application is running, the position of a form within a window. It is part of the Form Processor.

SECTION 2

DEVELOPMENT ACTIVITY

2.1 Statement of Pretest Activity

During system development, the routines comprising the LOS subsystem were tested progressively. The software was corrected as bugs were found during this testing.

Each module of the callable interface of the LOS was individually tested. This testing was conducted by the program developer in a manual mode. This was performed in two manners. The developer would run a test program which accessed all the calls as well as manually invoking the callable routines interactively from the UI environment. The testing procedures outlined in this document will use the program in the UI environment which allows for the manual invocation of each routine. As the developer performed these tests, errors were noted and corrected.

Each function provided in the interactive portion of LOS was also exercised in order to find and correct bugs.

2.2 Pretest Activity Results

This testing activity performed by the developer brought out some bugs. These were then corrected and retesting was successful.

SECTION 3

SYSTEM DESCRIPTION

3.1 System Description

There are actually two parts to LOS. One is an interactive program that allows the application developer to define the chart, object and relationship knowledge base. The knowledge base is a set of files containing template information for the layout of any given type of chart. The template information specifies preferences in regard to whether the chart should have a vertical or horizontal orientation as well as the types of objects which make up the chart and the allowable relationships between the objects in the chart. This portion of the system can be run under the UI environment or in a stand alone mode. The test for this portion of the system will be run under the UI environment.

The other part of LOS does not interface directly with a user but is a set of callable routines employed by the application developer. The application developer incorporates these calls into his program, compiles his program, links and executes. The details of the CALLS are specified in Section 8 of the Forms Processor User Manual. The test for this part of the system has been set up such that each of the routines can be invoked independently from a UI screen.

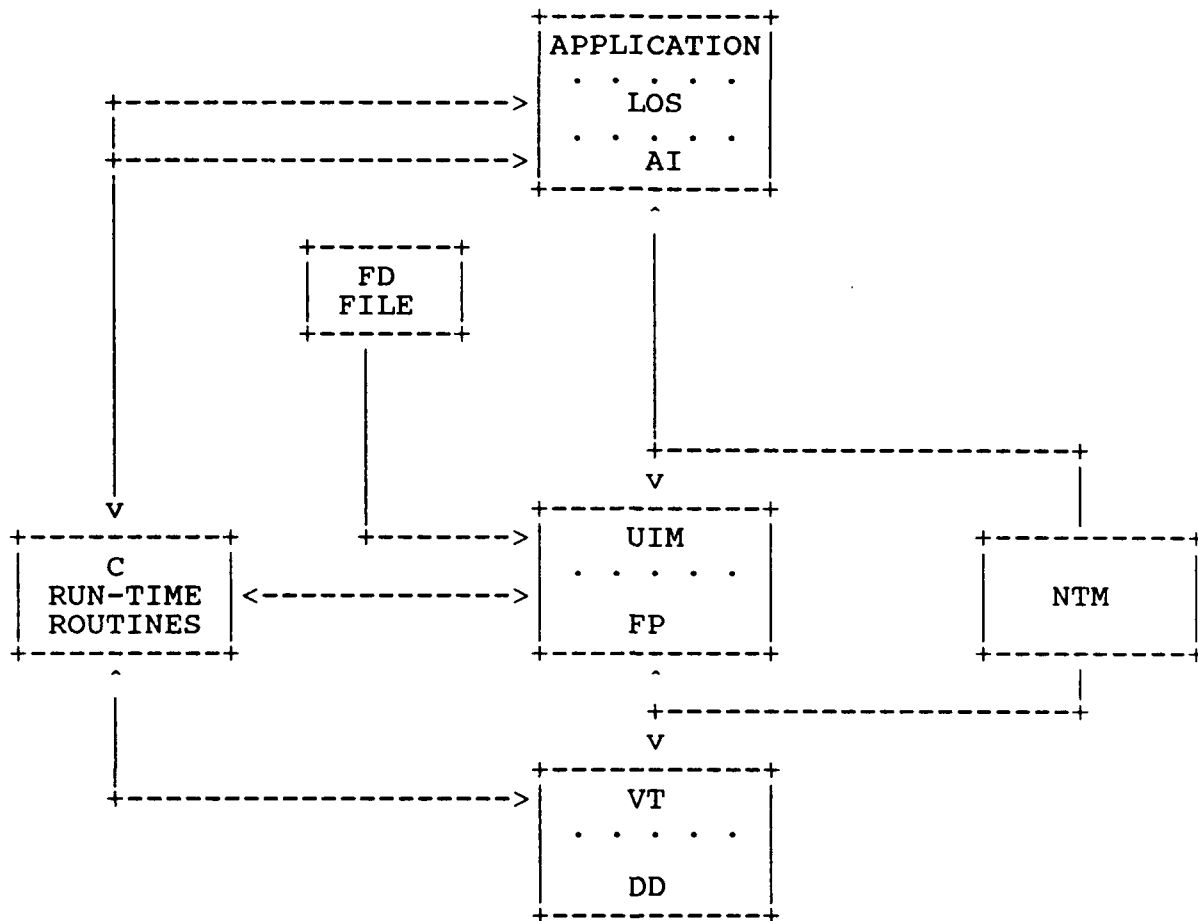


Figure 3-1 Interface Block Diagram

3.2 Testing Schedule

The execution of the LOS is dependent upon the NTM subsystem of IISS and testing of the LOS must be done only after the NTM has been successfully tested. Within the UI subsystem, the LOS uses the FP, VT, AI and FLAN and must be tested only after they have been successfully tested.

3.3 First Location Testing

These tests of the LOS require the following:

Equipment: VAX, terminal supported by the VT as listed in the the UI Terminal Operator Guide.

Support Software: The Integrated Information Support System and C run-time libraries.

Personnel: One integrator familiar with the IISS.

Training: Form Processor User Manual provided with this release.

Deliverables: The LOS subsystem of the UI.

Test Materials: This test is interactive and can be manually performed as outlined in this test plan. The test program LOSTST and the LOSKB function are used for this test. The file FLTST.CHT must be created in the test directory. This test also uses the files CHART.DAT, RELATN.DAT, OBJECT.DAT, FL6X6T.DAT, FLHTEST.DAT, AND FLKBT.DAT which must be copied from IISS CM to the test directory.

Security considerations: None.

3.4 Subsequent Location Testing

The requirements as listed above need to be met; however, in subsequent testing it may be advantageous to create a script file of the outlined tests and run this saving the output of the test for future comparisons.

SECTION 4

TEST SPECIFICATIONS AND EVALUATIONS

4.1 Test Specification

The following functionality of the LOS is demonstrated by the test outlined in section 5:

List of Functions

- 1) Chart Knowledge Base Functions
 - a) Add chart types to knowledge base
 - b) Retrieve all chart types
 - c) Update a chart type
 - d) Retrieve a single chart type
- 2) Object Knowledge Base Functions
 - a) Add object types to the knowledge base
 - b) Retrieve all object types
 - c) Update an object type
 - d) Retrieve a single object type
- 3) Relation Knowledge Base Functions
 - a) Add relation types to the knowledge base
 - b) Retrieve all relation types
 - c) Update a relation type
 - d) Retrieve a single relation type
- 4) Initialize LOS data structures
- 5) Define chart types at run time
- 6) Define object types for a particular chart type at run time
- 7) Define relation types for a particular chart type at run time
- 8) Allow user to retrieve chart definition from data base
- 9) Allow user determined charts - e.g. hierarchy charts
- 10) Delete a particular chart type at run time
- 11) Delete a particular object type from a particular chart type at run time
- 12) Delete relationship type from a particular chart type at run time
- 13) Define charts of a particular chart type at run time
- 14) Define objects of a particular type for a particular chart at run time
- 15) Define relations of a particular type for a particular chart at run time
- 16) Delete a particular chart at run time
- 17) Delete objects from a particular chart at run time
- 18) Delete relationships from a particular chart at run time
- 19) Allow user modification of objects through form processor calls
 - a) Begcht call
 - b) Form processor call
 - c) Endcht call
- 20) Optimize layout reducing line bends and line crossings

- 21) Paginate - wall style
- 22) Paginate - binder style
- 23) Terminate LOS
- 24) Delete Function of Knowledge Base
 - a) Delete chart types from knowledge base
 - b) Delete object types from knowledge base
 - c) Delete relation types from knowledge base

Table 4-1 shows the direct correspondence between the test (as outlined in Section 5) and the functional requirements as listed above. These functions directly correspond to the detailed functional requirements of the Layout Optimization System Development Specification. The numbers represent the functionality, the characters are used to indicate the figures which correspond to the execution of the test for that function.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	*																									
2		*																								
3			*																							
4				*																						
5					*																					
6						*																				
7							*																			
8								*																		
9									*																	
10										*																
11											*															
12												*														
13													*													
14														*												
15															*											
16																*										
17																	*									
18																		*								
19																			*							
20																				*						
21																					*					
22																						*				
23																							*			
24																								*		

Table 4-1 LOS Function Mapping Matrix

Key for Table 1:

A = Figures 5-4 through 5-20
B = Figures 5-21 through 5-40
C = Figures 5-40 through 5-70
D = Figures 5-79, 5-80
E = Figures 5-80, 5-81, 5-115, 5-116, 5-121, 5-122
F = Figures 5-82, 5-83, 5-117, 5-118, 5-123, 5-124
G = Figures 5-84, 5-85, 5-119, 5-120, 5-125, 5-126
H = Figures 5-129, 5-137
I = Figures 5-122 through 5-124, 5-130 through 5-136
J = Figures 5-97 through 5-99, 5-113, 5-114
K = Figures 5-109, 5-110
L = Figures 5-111, 5-112
M = Figures 5-86, 5-87, 5-128, 5-130
N = Figures 5-88, 5-89, 5-93, 5-94, 5-128, 5-130
O = Figures 5-90 through 5-92, 5-95, 5-96, 5-128
P = Figures 5-107, 5-108
Q = Figures 5-100 through 5-102, 5-105, 5-106
R = Figures 5-103, 5-104
S = Figures 5-162 through 5-169
T = Figures 5-138 through 5-147, 5-169, 5-170
U = Figures 5-148 through 5-160, 5-171, 5-172
V = Not Implemented
W = Figures 5-173, 5-174
X = Figures 5-71 through 77

SECTION 5

TEST PROCEDURES

5.1 Test Description

The test begins by logging onto the IISS environment and invoking the LOSKB function, which is the function which supports the knowledge base portion of the LOS. The test proceeds to execute the add, update, retrieval and delete functions for each of the three types of elements: charts, objects and relations. After quitting out of the LOSKB application but not out of the IISS environment, a second function is invoked from the IISS Function Screen. This function, LOSTST, is an interactive application designed specifically to test the application interface utilities of the LOS. This test exercises each of the calls in the normal sequence that they would be utilized within an application. Following this test two batch files are also run to draw several specific types of charts that exercise different aspects of the functionality provided in this system.

5.2 Test Control

As outlined, this unit test is a manual test which may be done by anyone. The required input data for each function being tested, the resulting successful output and the order of the testing are completely specified below. The test control information is described in Section 4.4. Accurate observation of the resulting successful output must be made to ensure the unit test was done properly. As noted in Section 4.4 scripting may be used instead of the manual test described below.

5.3 Test Procedures

To run the unit test plan in the VAX/VMS environment as outlined below, one must be logged on to an IISS account. The NTM must be up and running and the UI symbolic names IISSFLIB, IISSULIB, IISSSLIB and IISSMLIB must be set properly at the group level. IISSFLIB points to the directory containing system form definitions (FD files). IISSULIB points to the directory containing the user's form definitions (FD files). IISSSLIB points to the directory containing the user's form definition source files (FDL files). IISSMLIB points to the directory containing error and help messages (MSG files). To perform this test IISSULIB and IISSSLIB must be pointing to the default directory. The empty file FLTST.CHT must be created in the test directory and the .DAT files listed in the test materials must be copied to the test directory.

The test of the LOS application consists of individually testing each function provided by the LOS. The following keys are generally used to move within forms (using the VT100 terminal as an example): the <ENTER> key is used to activate all commands; the <QUIT> key is used to go back to previous activity without taking current action; the <TAB> key is used to move from field to field within the form; and the arrow keys are used to move within fields. In addition, ESC TAB is a reverse TAB. See Figure 5-1 for VT100 keypad layout.

PF 1 MODE KEY	PF 2 HELP KEY	PF 3 MESSAGE QUEUE KEY	PF 4 QUIT KEY
PF 5	PF 6	PF 7	PF 8
PF 9	PF 10	PF 11	PF 12
PF 13	PF 14	PF 15	PF 0
PF 16	PF 17	ENTER KEY	

Figure 5-1 Keypad for VT100

Assuming the NTM is up and running, an IISS user may start the test using scripting as follows:

```
$ SET DEF <to directory containing NTM environment>
$ VT100 -RLOSUTP.SCP -SLOSTST.SAV
```

These commands start up the VT100 device driver with a source script as input and specify a save file for the results. If the User Interface system has been installed at your site with a different device driver, then this step should be amended as appropriate. The test begins executing on the terminal. The results of this test are saved in the current directory in the file LOSTST.SAV. To execute this test manually enter only "VT100" at the second '\$'. The inputs and outputs for each test are illustrated by examining the following forms.

5.3.1 Access to LOS

Following entry of the system command "VT100" which activates the User Interface the following form appears:

```

USER ID: _____
PASSWORD: _____
ROLE: _____

```

Figure 5-2 IISS Logon Screen

- (1) USER ID is the identification name of the user, and is 1 to 10 alpha-numeric characters. USER ID is input as "MORENC".
- (2) PASSWORD must be the password associated with the USER ID, and is 1 to 10 alpha-numeric characters. PASSWORD was input as "STANLEY".

- (3) ROLE is any of the identifiers which are associated with the USER ID, and is 1 to 10 alpha-numeric characters. It will be checked against functions and applications which are selected by the user. ROLE is input as "MANAGER".

When this form is correctly completed and the <ENTER> key is pressed, the IISS Function Screen is displayed.

5.3.2 Choosing the LOS Functions

The LOSKB application and the LOSTST test program are accessed as functions through the following form:

[illegible]

Figure 5-3 IISS Function Screen

When the form appears, the cursor is located in the input field labeled FUNCTION. The items in the form are summarized below:

- (1) DATE contains the current date. This may not be changed by the user.
- (2) TIME contains the current time. This may not be changed by the user.
- (3) USER ID is the user's identification that was entered in the previous form. This may not be changed by the user.
- (4) ROLE is the currently active role and was entered in the previous form. This may be changed at any time.

UTP620344800
30 September 1990

- (5) FUNCTION is the function the user desires to activate.
To begin this test, enter "LOSKB" in this field.

5.3.3 Testing the LOS

This section contains the screens with input for the testing of a particular functionality, followed by the resulting screens. When the LOSKB application begins, the following form is displayed:

```

      Layout Optimization System
      Main Menu

Charts <PF5>                                tions <PF7>

MSG: 0                                     application

```

Figure 5-4 Main Menu

If the <PF5> key is pressed, the following screen should be displayed:

The screenshot shows a terminal window with a title bar at the top containing the text 'Layout Optimization System' on the left and 'MSC: 0' on the right. The main area of the window is mostly blank. At the bottom of the window, there is a menu of functions listed in two columns. The functions are: 'Retrieve Specific Item' (PF5), 'Add' (PF9), 'Update' (PF12), 'Delete' (PF16), and 'Retrieve All' (PF8). The text is centered at the bottom of the screen.

```
Layout Optimization System MSC: 0
Retrieve Specific Item <PF5>
Add <PF9>
Update <PF12>
Delete <PF16>
Retrieve All <PF8>
```

Figure 5-5 Test Screen 1

If the <PF9> key is pressed, the following screen should be displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Name: <input type="text"/>				
Chart Orientation		Initial Layout Preference		
<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Left Downward	<input type="checkbox"/> Left Upward	
Minimum Spacing Between Objects: <input type="text"/> characters.				
MSG: <input type="text"/>		application		

Figure 5-6 Test Screen 2

If the following data is entered:

Layout Optimization System			
Chart Functions			
Retrieve Specific Item	<PF5>	Add	<PF9> Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>
Chart Name: <input type="text" value="idefx"/>			
Chart Orientation		Initial Layout Preference	
<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Left Downward	<input type="checkbox"/> Left Upward
Minimum Spacing Between Objects: <input type="text" value=""/> characters.			
MSG: <input type="text" value="0"/>		application	

Figure 5-7 Test Screen 3

The following screen should be displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Name: <input type="text"/>				
Chart Orientation		Initial Layout Preference		
<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Left Downward	<input type="checkbox"/> Left Upward	
Minimum Spacing Between Objects: <input type="text"/> characters.				
MSG: <input type="checkbox"/> 4 Item added. Enter data to add another or use QUIT				
application				

Figure 5-8 Test Screen 4

If the <PF3> is pressed, the following screen should be displayed:

```

Message Queue
Msg: 4 Item added. Enter data to add another or use QUIT
Msg: 3 No min space specified - 1 supplied as default
Msg: 2 No layout preference specified - leftdown supplied as default
Msg: 1 No orientation specified - horizontal supplied as default

```

Figure 5-9 Test Screen 5

If <QUIT> is pressed, the following screen should be displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Name: <input type="text"/>				
Chart Orientation		Initial Layout Preference		
<input type="checkbox"/> Vertical		<input type="checkbox"/> Left Downward		
<input type="checkbox"/> Horizontal		<input type="checkbox"/> Left Upward		
Minimum Spacing Between Objects: <input type="text"/> characters.				
MSC: <input type="text"/> 4 Item added. Enter data to add another or use QUIT application				

Figure 5-10 Test Screen 6

If <QUIT> is pressed again, the chart menu screen will be redisplayed:

Layout Optimization System					
Chart Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

MSG: 0 application

Figure 5-11 Test Screen 7

If <PF8> is pressed, the following screen should be displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Descriptions				
Chart Name	Orient.	Layout	Min Space	
IDEFX	H	D	1	
XTEST	H	D	02	

MSG: application

Figure 5-12 Test Screen 8

If <ENTER> is pressed while on this screen, and the cursor is on chart name IDEFX, this information will become the default. The screen does not change after the <ENTER> key is pressed. If <QUIT> is pressed the chart menu is redisplayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: application

Figure 5-13 Test Screen 9

If <PF12> is pressed, the following form is displayed:

Layout Optimization System			
Chart Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete		<PF16>	
Chart Name: <input type="text" value="IDEX"/>			
Chart Orientation		Initial Layout Preference	
<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Left Downward	<input type="checkbox"/> Left Upward
Minimum Spacing Between Objects: <input type="text" value=""/> characters.			
MSG: <input type="text" value="0"/>		application	

Figure 5-14 Test Screen 10

If the following information is entered:

Layout Optimization System					
Chart Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		
Chart Name: <input type="text" value="IDEX"/>					
Chart Orientation		Initial Layout Preference			
<input type="checkbox"/> Vertical		<input type="checkbox"/> Left Downward			
<input checked="" type="checkbox"/> Horizontal		<input type="checkbox"/> Left Upward			
Minimum Spacing Between Objects: <input type="text" value="10"/> characters.					
MSG: <input type="text" value="01"/>		application			

Figure 5-15 Test Screen 11

The following screen is displayed:

Layout Optimisation System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Name: <input type="text"/>				
Chart Orientation		Initial Layout Preference		
<input type="checkbox"/> Vertical		<input type="checkbox"/> Left Downward		
<input type="checkbox"/> Horizontal		<input type="checkbox"/> Left Upward		
Minimum Spacing Between Objects: <input type="text"/> characters.				
MSG: <input type="checkbox"/> Update successful.				
application				

Figure 5-16 Test Screen 12

If <QUIT> is pressed, the chart menu is redisplayed:

Layout Optimization System					
Chart Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

MSG: 0 application

Figure 5-17 Test Screen 13

If <PF5> is pressed, the following screen is displayed:

Layout Optimization System			
Chart Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
		Delete	<PF16>
Chart Name: <input type="text" value="IDEX"/>			
Chart Orientation		Initial Layout: Preference	
<input type="checkbox"/> Vertical		<input type="checkbox"/> Left Downward	
<input checked="" type="checkbox"/> Horizontal		<input type="checkbox"/> Left Upward	
Minimum Spacing Between Objects: <input type="text" value="10"/> characters.			
MSG: <input type="text" value="0"/>		application	

Figure 5-18 Test Screen 14

If <ENTER> is pressed, the following screen is displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Chart Name: <input type="text" value="IDEX"/>				
Chart Orientation		Initial Layout Preference		
<input type="checkbox"/> Vertical	<input checked="" type="checkbox"/> Horizontal	<input checked="" type="checkbox"/> Left Downward	<input type="checkbox"/> Left Upward	
Minimum Spacing Between Objects: <input type="text" value="10"/> characters.				
MSG: <input type="text" value="0"/>		application		

Figure 5-19 Test Screen 15

If <QUIT> is pressed, the chart menu is redisplayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 application

Figure 5-20 Test Screen 16

If <QUIT> is pressed again, the main menu is redisplayed:

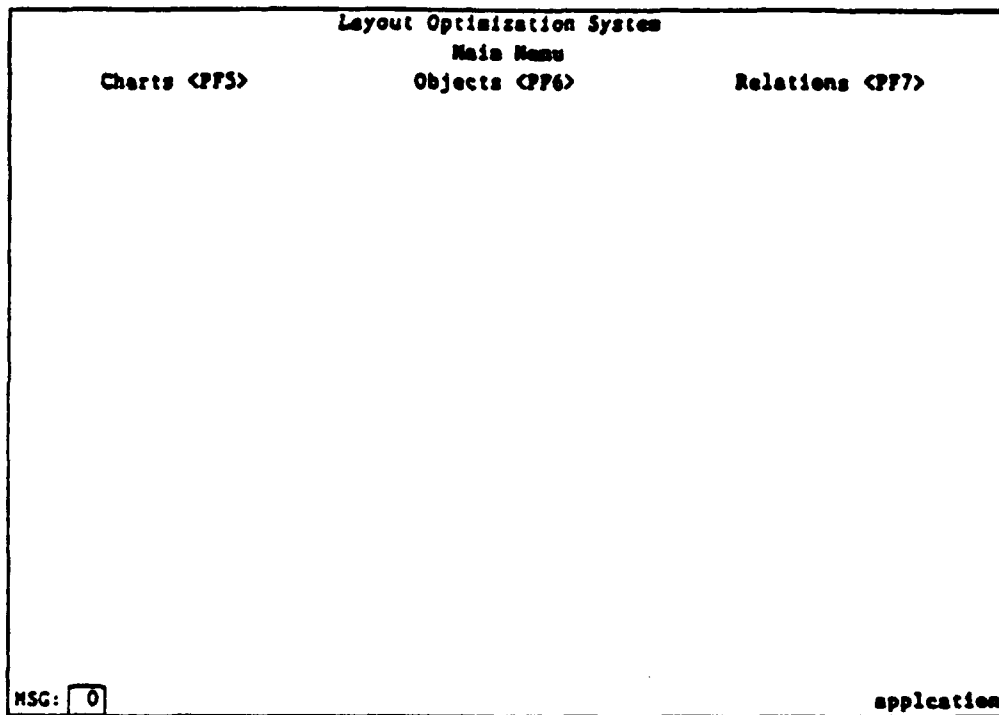


Figure 5-21 Test Screen 17

If <PF6> is pressed, the object menu is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

HSC: application

Figure 5-22 Test Screen 18

If <PF9> is pressed, the following is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDEX"/>				
Object Name: <input type="text"/>		Icon Name: <input type="text"/>		
Connector Placement				
Originating		Terminating		
<input type="text"/>	Any Location	<input type="text"/>	Any Location	
	Bottom		Bottom	
	Top		Top	
	Right		Right	
	Left		Left	
	Bottom Right Corner		Bottom Right Corner	
	Bottom Left Corner		Bottom Left Corner	
	Top Right Corner		Top Right Corner	
	Top Left Corner		Top Left Corner	
MSG: <input type="text" value="0"/>		application		

Figure 5-23 Test Screen 19

If the following data is entered:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDEX"/>				
Object Name: <input type="text" value="independ"/>		Icon Name: <input type="text" value="independ"/>		
Connector Placement				
Originating		Terminating		
<input type="text" value="Any Location"/>	Any Location	<input type="text" value="Any Location"/>	Any Location	
<input type="text" value="Bottom"/>	Bottom	<input type="text" value="Bottom"/>	Bottom	
<input type="text" value="Top"/>	Top	<input type="text" value="Top"/>	Top	
<input type="text" value="Right"/>	Right	<input type="text" value="Right"/>	Right	
<input type="text" value="Left"/>	Left	<input type="text" value="Left"/>	Left	
<input type="text" value="Bottom Right Corner"/>	Bottom Right Corner	<input type="text" value="Bottom Right Corner"/>	Bottom Right Corner	
<input type="text" value="Bottom Left Corner"/>	Bottom Left Corner	<input type="text" value="Bottom Left Corner"/>	Bottom Left Corner	
<input type="text" value="Top Right Corner"/>	Top Right Corner	<input type="text" value="Top Right Corner"/>	Top Right Corner	
<input type="text" value="Top Left Corner"/>	Top Left Corner	<input type="text" value="Top Left Corner"/>	Top Left Corner	
MSG: <input type="text" value="0"/>		application		

Figure 5-24 Test Screen 20

The following screen is displayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete			
<PF16>			
Object Definition			
For Chart: <input type="text"/>			
Object Name: <input type="text"/>		Icon Name: <input type="text"/>	
Connector Placement			
Originating		Terminating	
<input type="checkbox"/> Any Location		<input type="checkbox"/> Any Location	
<input type="checkbox"/> Bottom		<input type="checkbox"/> Bottom	
<input type="checkbox"/> Top		<input type="checkbox"/> Top	
<input type="checkbox"/> Right		<input type="checkbox"/> Right	
<input type="checkbox"/> Left		<input type="checkbox"/> Left	
<input type="checkbox"/> Bottom Right Corner		<input type="checkbox"/> Bottom Right Corner	
<input type="checkbox"/> Bottom Left Corner		<input type="checkbox"/> Bottom Left Corner	
<input type="checkbox"/> Top Right Corner		<input type="checkbox"/> Top Right Corner	
<input type="checkbox"/> Top Left Corner		<input type="checkbox"/> Top Left Corner	
MSG: <input type="text"/> 3 Item added. Enter data to add another or use QUIT			
application			

Figure 5-25 Test Screen 21

If the following data is entered:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDEX"/>				
Object Name: <input type="text" value="depend"/>		Icon Name: <input type="text" value="depend"/>		
Connector Placement				
Originating		Terminating		
<input type="text" value=""/>	Any Location	<input type="text" value=""/>	Any Location	
	Bottom		Bottom	
	Top		Top	
	Right		Right	
	Left		Left	
	Bottom Right Corner		Bottom Right Corner	
	Bottom Left Corner		Bottom Left Corner	
	Top Right Corner		Top Right Corner	
	Top Left Corner		Top Left Corner	
MSG: <input type="text" value="3"/> Item added. Enter data to add another or use QUIT				
application				

Figure 5-26 Test Screen 22

The following screen is displayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete			
<PF16>			
Object Definition			
For Chart: <input type="text"/>			
Object Name: <input type="text"/>		Icon Name: <input type="text"/>	
Connector Placement			
Originating		Terminating	
<input type="checkbox"/> Any Location		<input type="checkbox"/> Any Location	
<input type="checkbox"/> Bottom		<input type="checkbox"/> Bottom	
<input type="checkbox"/> Top		<input type="checkbox"/> Top	
<input type="checkbox"/> Right		<input type="checkbox"/> Right	
<input type="checkbox"/> Left		<input type="checkbox"/> Left	
<input type="checkbox"/> Bottom Right Corner		<input type="checkbox"/> Bottom Right Corner	
<input type="checkbox"/> Bottom Left Corner		<input type="checkbox"/> Bottom Left Corner	
<input type="checkbox"/> Top Right Corner		<input type="checkbox"/> Top Right Corner	
<input type="checkbox"/> Top Left Corner		<input type="checkbox"/> Top Left Corner	
MSG: <input type="text"/> 3 Item added. Enter data to add another or use QUIT			
application			

Figure 5-27 Test Screen 23

If <QUIT> is pressed, the object menu is displayed:

Layout Optimization System					
Object Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

MSG: application

Figure 5-28 Test Screen 24

If <PF8> is pressed, the following is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

Chart Name:

Only objects for the specified chart will be retrieved.

MSG: 0

application

Figure 5-29 Test Screen 25

If the following is entered:

Layout Optimization System					
Object Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

Chart Name:

Only objects for the specified chart will be retrieved.

MSC: application

Figure 5-30 Test Screen 26

The following screen is displayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete			
<PF16>			
Object Descriptions			
For Chart: IDEFX			
Object	Icon	Orig	Term
Name	Name	Conn	Conn
DEPEND	DEPEND	ANY	ANY
INDEPEND	INDEPEND	ANY	ANY

MSG: 0 application

Figure 5-31 Test Screen 27

If <ENTER> is pressed while the cursor is on DEPEND in the object name field, that object information becomes the default and the following screen is displayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Object Descriptions			
For Chart: IDEFX			
Object	Icon	Orig	Term
Name	Name	Conn	Conn
DEPEND	DEPEND	ANY	ANY
INDEPEND	INDEPEND	ANY	ANY

MSG: 0 application

Figure 5-32 Test Screen 28

If <QUIT> is pressed, the object menu is redisplayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 application

Figure 5-33 Test Screen 29

If <PF12> is pressed, the following is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDEX"/>				
Object Name: <input type="text" value="DEPEND"/>		Icon Name: <input type="text" value="DEPEND"/>		
Connector Placement				
Originating		Terminating		
<input type="text" value=""/>	Any Location	<input type="text" value=""/>	Any Location	
	Bottom		Bottom	
	Top		Top	
	Right		Right	
	Left		Left	
	Bottom Right Corner		Bottom Right Corner	
	Bottom Left Corner		Bottom Left Corner	
	Top Right Corner		Top Right Corner	
	Top Left Corner		Top Left Corner	
MSC: <input type="text" value="0"/>		application		

Figure 5-34 Test Screen 30

If the following data is entered:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDFX"/>				
Object Name: <input type="text" value="DEPEND"/>		Icon Name: <input type="text" value="DEPEND"/>		
Connector Placement				
Originating		Terminating		
<input checked="" type="checkbox"/>	Any Location	<input checked="" type="checkbox"/>	Any Location	
	Bottom		Bottom	
	Top		Top	
	Right		Right	
	Left		Left	
	Bottom Right Corner		Bottom Right Corner	
	Bottom Left Corner		Bottom Left Corner	
	Top Right Corner		Top Right Corner	
	Top Left Corner		Top Left Corner	
MSC: <input type="text" value="0"/>		application		

Figure 5-35 Test Screen 31

The following screen is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text"/>				
Object Name: <input type="text"/>		Icon Name: <input type="text"/>		
Connector Placement				
Originating		Terminating		
<input type="checkbox"/> Any Location		<input type="checkbox"/> Any Location		
<input type="checkbox"/> Bottom		<input type="checkbox"/> Bottom		
<input type="checkbox"/> Top		<input type="checkbox"/> Top		
<input type="checkbox"/> Right		<input type="checkbox"/> Right		
<input type="checkbox"/> Left		<input type="checkbox"/> Left		
<input type="checkbox"/> Bottom Right Corner		<input type="checkbox"/> Bottom Right Corner		
<input type="checkbox"/> Bottom Left Corner		<input type="checkbox"/> Bottom Left Corner		
<input type="checkbox"/> Top Right Corner		<input type="checkbox"/> Top Right Corner		
<input type="checkbox"/> Top Left Corner		<input type="checkbox"/> Top Left Corner		
MSG: <input type="checkbox"/> Update successful.				
application				

Figure 5-36 Test Screen 32

If <QUIT> is entered. The object menu is redisplayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
		Delete	<PF16>

HSC: application

Figure 5-37 Test Screen 33

If <PF5> is pressed, the following is displayed:

Layout Optimization System			
Object Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete			
<PF16>			
Object Definition			
For Chart: IDEFX			
Object Name: DEPEND		Icon Name: DEPEND	
Connector Placement			
Originating		Terminating	
x	Any Location	x	Any Location
	Bottom		Bottom
	Top		Top
	Right		Right
	Left		Left
	Bottom Right Corner		Bottom Right Corner
	Bottom Left Corner		Bottom Left Corner
	Top Right Corner		Top Right Corner
	Top Left Corner		Top Left Corner
MSG: 0		application	

Figure 5-38 Test Screen 34

If <ENTER> is pressed, the following screen is displayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Object Definition				
For Chart: <input type="text" value="IDEX"/>				
Object Name: <input type="text" value="DEPEND"/>		Icon Name: <input type="text" value="DEPEND"/>		
Connector Placement				
Originating		Terminating		
<input checked="" type="checkbox"/>	Any Location	<input checked="" type="checkbox"/>	Any Location	
<input type="checkbox"/>	Bottom	<input type="checkbox"/>	Bottom	
<input type="checkbox"/>	Top	<input type="checkbox"/>	Top	
<input type="checkbox"/>	Right	<input type="checkbox"/>	Right	
<input type="checkbox"/>	Left	<input type="checkbox"/>	Left	
<input type="checkbox"/>	Bottom Right Corner	<input type="checkbox"/>	Bottom Right Corner	
<input type="checkbox"/>	Bottom Left Corner	<input type="checkbox"/>	Bottom Left Corner	
<input type="checkbox"/>	Top Right Corner	<input type="checkbox"/>	Top Right Corner	
<input type="checkbox"/>	Top Left Corner	<input type="checkbox"/>	Top Left Corner	
MSG: <input type="text" value="0"/>		application		

Figure 5-39 Test Screen 35

If <QUIT> is pressed, the object menu is redisplayed:

Layout Optimization System				
Object Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 application

Figure 5-40 Test Screen 36

IF <QUIT> is pressed again, the main menu is redisplayed:

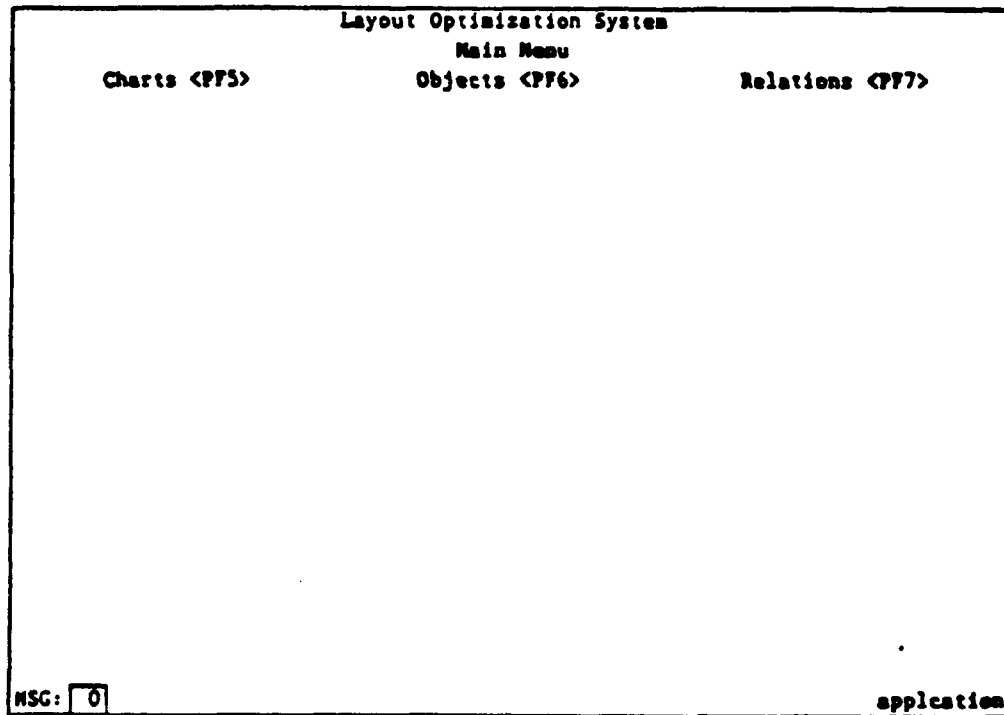


Figure 5-41 Test Screen 37

If <PF7> is pressed, the relation menu is displayed:

Layout Optimization System					
Relation Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

MSG: 0 application

Figure 5-42 Test Screen 38

If <PF9> is pressed, the following screen is displayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	
Retrieve All	<PF8>	Update	<PF12>	
Delete <PF16>				
Relation Definition				
For Chart:	IDEFX	Relation:		
Icon Names				
Origination:		Termination:		
Complex:				
Connector Placement		Special Characteristics		
Originating	Terminating	Two Bend	Combine	
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations	
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes	
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No	
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left		
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right		
Line Style:				
MSG: 0		application		

Figure 5-43 Test Screen 39

If the following data is entered:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Relation Definition				
For Chart:	IDEFX	Relation:	xrelbin	
Icon Names				
Origination:		Termination:	xrelbin	Complex:
Connector Placement		Special Characteristics		
Originating	Terminating	Two Bend	Combine	
Any Location	Any Location	Line Slope	Relations	
Bottom	Bottom	Up	Yes	
Top	Top	Down	No	
Right	Right	Left		
Left	Left	Right		
Line Style:				
MSG: 0 application				

Figure 5-44 Test Screen 40

The following screen is displayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Relation Definition				
For Chart:	<input type="text"/>	Relation:	<input type="text"/>	
Icon Names				
Origination:	<input type="text"/>	Termination:	<input type="text"/>	Complex: <input type="text"/>
Connector Placement		Special Characteristics		
Originating	Terminating	Two Bend	Combine	
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations	
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes	
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No	
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left		
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right		
Line Style: <input type="text"/>				
MSG: <input type="checkbox"/> Item added. Enter data to add another or use QUIT				
application				

Figure 5-45 Test Screen 41

If the following data is entered:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
		Delete	<PF16>
Relation Definition			
For Chart:	<input type="text" value="ideix"/>	Relation:	<input type="text" value="comdisc"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text" value="comdisc"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="text" value="4"/> Item added. Enter data to add another or use QUIT			
application			

Figure 5-46 Test Screen 42

The following screen is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="text"/> 4 Item added. Enter data to add another or use QUIT			
application			

Figure 5-47 Test Screen 43

If <PF3> is pressed, the following screen is displayed:

```

Message Queue
Msg: 4 Item added. Enter data to add another or use QUIT
Msg: 3 Combine relations not specified - No supplied as default
Msg: 2 No terminating connection specified - Any supplied as default
Msg: 1 No originating connection specified - Any supplied as default

MSG: 4 Item added. Enter data to add another or use QUIT

```

Figure 5-48 Test Screen 44

If <QUIT> is entered, the following screen is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="checkbox"/> 4 Item added. Enter data to add another or use QUIT application			

Figure 5-49 Test Screen 45

If the following is entered:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
		Delete	<PF16>
Relation Definition			
For Chart:	<input type="text" value="idefx"/>	Relation:	<input type="text" value="incdisc"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text" value="incdisc"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="text" value="4"/> Item added. Enter data to add another or use QUIT			
application			

Figure 5-50 Test Screen 46

The following screen is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart: <input type="text"/>		Relation: <input type="text"/>	
Icon Names			
Origination: <input type="text"/>		Termination: <input type="text"/>	Complex: <input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSC: <input type="text"/> 4 Item added. Enter data to add another or use QUIT application			

Figure 5-51 Test Screen 47

If the following data is entered:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	ideix	Relation:	xreleq
Icon Names			
Origination:		Termination:	xreleq
		Complex:	
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
Any Location	Any Location	Line Slope	Relations
Bottom	Bottom	Up	Yes
Top	Top	Down	No
Right	Right	Left	
Left	Left	Right	
Line Style:			
MSG: 4 Item added. Enter data to add another or use QUIT			application

Figure 5-52 Test Screen 48

The following screen is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
Complex:		<input type="text"/>	
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="text"/> 4 Item added. Enter data to add another or use OUTT application			

Figure 5-53 Test Screen 49

If the following is entered:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete
Retrieve All	<PF8>	Update	<PF12>	<PF16>
Relation Definition				
For Chart:	idefx	Relation:	xrelgt	
Icon Names				
Origination:		Termination:	xrelgt	Complex:
Connector Placement		Special Characteristics		
Originating	Terminating	Two Band	Combine	
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations	
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes	
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No	
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left		
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right		
Line Style:				
MSG: 4 Item added. Enter data to add another or use QUIT application				

Figure 5-54 Test Screen 50

The following is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="checkbox"/> Item added. Enter data to add another or use QUIT			
application			

Figure 5-55 Test Screen 51

If the following is entered:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete			
<PF16>			
Relation Definition			
For Chart:	idefx	Relation:	xrelno
Icon Names			
Origination:		Termination:	xrelno
Complex:			
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
Any Location	Any Location	Line Slope	Relations
Bottom	Bottom	Up	Yes
Top	Top	Down	No
Right	Right	Left	
Left	Left	Right	
Line Style:			
MSG: 4 Item added. Enter data to add another or use QUIT application			

Figure 5-56 Test Screen 52

The following is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="checkbox"/> Item added. Enter data to add another or use QUIT application			

Figure 5-57 Test Screen 53

If <QUIT> is pressed, the relation menu is redisplayed:

Layout Optimization System					
Relation Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		

MSC: application

Figure 5-58 Test Screen 54

If <PF8> is pressed, the following screen is displayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

Chart Name:

Only relations for the specified chart will be retrieved.

HSC: application

Figure 5-59 Test Screen 55

If the following data is entered:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

Chart Name:

Only relations for the specified chart will be retrieved.

MSG: application

Figure 5-60 Test Screen 56

The following screen will be displayed:

Layout Optimization System									
Relation Functions									
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>				
Retrieve All	<PF8>	Update	<PF12>						
Relation Descriptions									
For Chart: IDEFX									
Relation	Origin	Term	Complex	Line Style	Orig Conn	Term Conn	Two Bend Line	Comb Rel	
CONDISC			CONDISC		A	A		N	
INCDISC		INCDISC			A	A		N	
XRELBIN		XRELBIN			A	A		N	
XRELEQ		XRELEQ			A	A		N	
XRELGT		XRELGT			A	A		N	
XRELNO		XRELNO			A	A		N	

MSG: 0 application

Figure 5-61 Test Screen 57

If the cursor is placed on the relation field containing COMDISC and <ENTER> is pressed, CDMDISC becomes the default and the following screen is displayed:

Layout Optimization System									
Relation Functions									
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>				
Retrieve All	<PF8>	Update	<PF12>						
Relation Descriptions									
For Chart: IDEFX									
Relation	Origin	Term	Complex	Line Style	Orig Conn	Term Conn	Two Bend Line	Comb Rel	
COMDISC			COMDISC		A	A		N	
INCDISC		INCDISC			A	A		N	
XRELBIN		XRELBIN			A	A		N	
XRELEQ		XRELEQ			A	A		N	
XRELGT		XRELGT			A	A		N	
XRELNO		XRELNO			A	A		N	

MSC: 0 application

Figure 5-62 Test Screen 58

If <QUIT> is pressed, the relation menu is redisplayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 application

Figure 5-63 Test Screen 59

If the <PF12> is pressed, the following screen is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	IDEFX	Relation:	COMDISC
Icon Names			
Origination:		Termination:	
		Complex:	COMDISC
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="text"/> 0		application	

Figure 5-64 Test Screen 60

If the following is entered:

Layout Optimization System					
Relation Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		
Relation Definition					
For Chart:	IDEFX	Relation:	COMDISC		
Icon Names					
Origination:		Termination:		Complex:	COMDISC
Connector Placement			Special Characteristics		
Originating	Terminating	Two Bend	Line Slope	Combine	Relations
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location		<input type="checkbox"/> Up	<input checked="" type="checkbox"/> Yes	
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom		<input type="checkbox"/> Down	<input type="checkbox"/> No	
<input type="checkbox"/> Top	<input type="checkbox"/> Top		<input type="checkbox"/> Left		
<input type="checkbox"/> Right	<input type="checkbox"/> Right		<input type="checkbox"/> Right		
<input type="checkbox"/> Left	<input type="checkbox"/> Left				
Line Style: dash					
MSG: 0		application			

Figure 5-65 Test Screen 61

The following is displayed:

Layout Optimisation System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	<input type="text"/>	Relation:	<input type="text"/>
Icon Names			
Origination:	<input type="text"/>	Termination:	<input type="text"/>
		Complex:	<input type="text"/>
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input type="checkbox"/> Any Location	<input type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: <input type="text"/>			
MSG: <input type="checkbox"/> Update successful.			application

Figure 5-66 Test Screen 62

If <QUIT> is pressed, the relation menu is redisplayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: application

Figure 5-67 Test Screen 63

If <PF5> is pressed, the following is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	IDEFX	Relation:	COMDISC
Icon Names			
Origination:		Termination:	
		Complex:	COMDISC
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
Any Location	Any Location	Line Slope	Relations
Bottom	Bottom	Up	Yes
Top	Top	Down	No
Right	Right	Left	
Left	Left	Right	
Line Style: DASH			
MSG: 0		application	

Figure 5-68 Test Screen 64

If <ENTER> is pressed, the following is displayed:

Layout Optimization System			
Relation Functions			
Retrieve Specific Item	<PF5>	Add	<PF9>
Retrieve All	<PF8>	Update	<PF12>
Delete <PF16>			
Relation Definition			
For Chart:	IDEFX	Relation:	COMDISC
Icon Names			
Origination:		Termination:	
			Complex: COMDISC
Connector Placement		Special Characteristics	
Originating	Terminating	Two Bend	Combine
<input checked="" type="checkbox"/> Any Location	<input checked="" type="checkbox"/> Any Location	Line Slope	Relations
<input type="checkbox"/> Bottom	<input type="checkbox"/> Bottom	<input type="checkbox"/> Up	<input type="checkbox"/> Yes
<input type="checkbox"/> Top	<input type="checkbox"/> Top	<input type="checkbox"/> Down	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Right	<input type="checkbox"/> Right	<input type="checkbox"/> Left	
<input type="checkbox"/> Left	<input type="checkbox"/> Left	<input type="checkbox"/> Right	
Line Style: DASH			
MSG: 0		application	

Figure 5-69 Test Screen 65

If <QUIT> is pressed, the relation menu is redisplayed:

Layout Optimization System				
Relation Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 . application

Figure 5-70 Test Screen 66

If <QUIT> is pressed, the main menu is redisplayed:

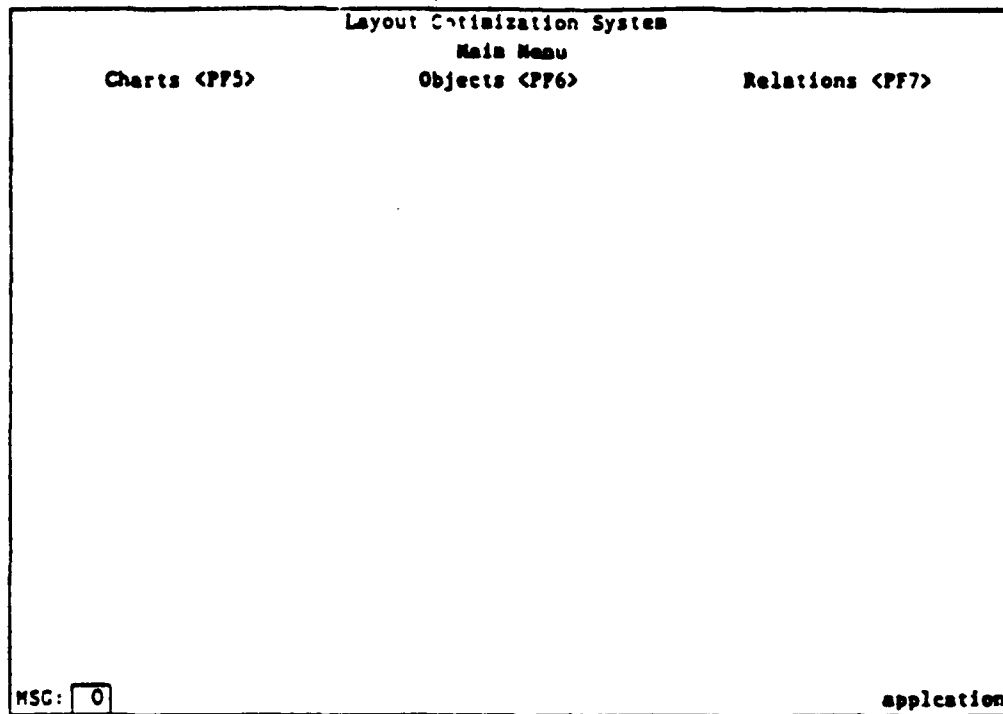


Figure 5-71 Test Screen 67

If <PF5> is pressed, the following is displayed:

Layout Optimisation System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: 0 application

Figure 5-72 Test Screen 68

If <PF16> is pressed the following is displayed:

Layout Optimization System					
Chart Functions					
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete	<PF16>
Retrieve All	<PF8>	Update	<PF12>		
Chart Name: <input type="text"/>					
MSG: <input type="text"/> 0					
application					

Figure 5-73 Test Screen 69

If the following is entered:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	
Chart Name: <input type="text" value="idefx"/>				
MSG: <input type="text" value="0"/>		application		

Figure 5-74 Test Screen 70

If <ENTER> is pressed, the following is displayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	
Chart Name: <input type="text" value="IDEX"/>				
MSG: <input type="text" value="1"/> Successfully deleted.				
application				

Figure 5-75 Test Screen 71

If <QUIT> is pressed, the chart menu is redisplayed:

Layout Optimization System				
Chart Functions				
Retrieve Specific Item	<PF5>	Add	<PF9>	Delete <PF16>
Retrieve All	<PF8>	Update	<PF12>	

MSG: application

Figure 5-76 Test Screen 72

If <QUIT> is pressed, the main menu is redisplayed:

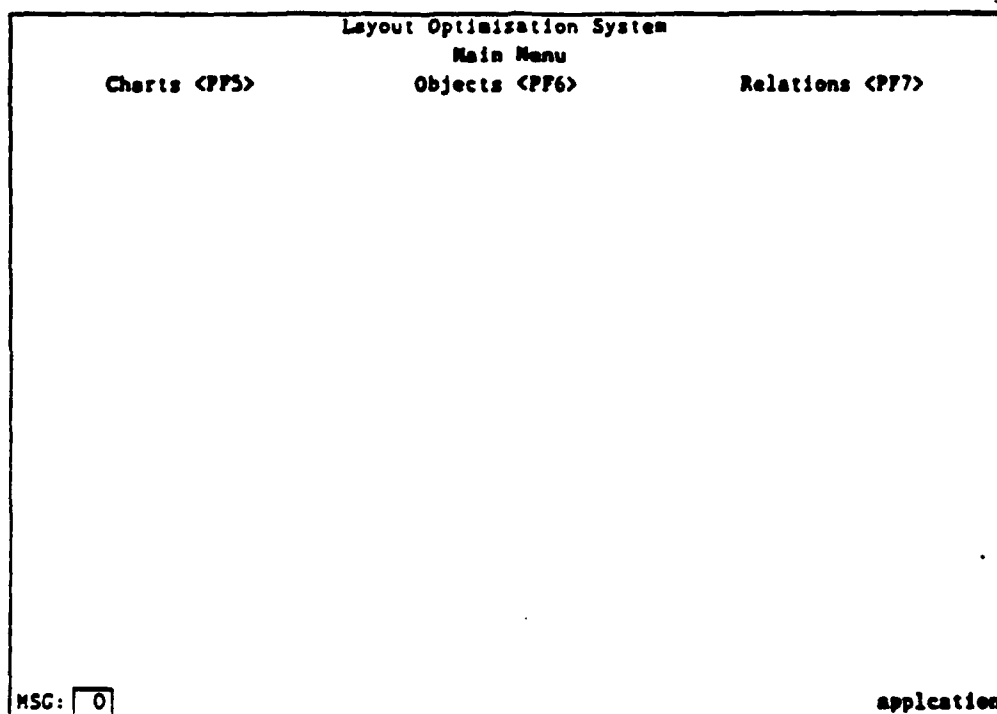


Figure 5-77 Test Screen 73

If <QUIT> is pressed again, the IISS function screen will be displayed.

IISS TEST BED VERSION 2.3			
Date: 1/ 5/88	Time: 15:07:09	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text" value="lostst"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="1"/> Application SDLOSXBZZZ has terminated			
application			

Figure 5-78 IISS Function Screen

Enter the screen as shown to run the LOSTST test program.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-79 LOSTST Menu

Tab to "Initialize F.L." and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-80 Test Screen 74

Tab to "Define chart type" and press <ENTER>.

Test for Form Layout				
Initialize F. L.	Batch: Make All	Terminate Forms Layout		
Define chart type	Define object type	Define relation type		
Make a chart	Make an object	Make a relationship		
Modify form	Draw a chart	Print a chart		
Delete a chart type	Delete an object type	Delete a relation type		
Delete a chart	Delete an object	Delete a relationship		
Chart Definition				
Chart Type <input type="text" value="TESTTMP"/>				
Primitives				
Primitives List				
vertical	horizontal	leftdown	leftup	minspace-num
MSG: <input type="text" value="1"/> Enter information for define chart call				
application				

Figure 5-81 Test Screen 75

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key

application

Figure 5-82 Test Screen 76

Tab to "Define object type" and press <ENTER>.

Test for Form Layout			
Initialize P. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Object Definition			
Chart Type <input type="text" value="TESTTMP"/>	Object Type <input type="text" value="OBJTMP"/>	Template Name <input type="text" value="FLTEMPLT"/>	
Primitives			
Primitives List			
org_bottom	org_top	org_left	org_right
trn_bottom	trn_top	trn_left	trn_right
org_lov_r	org_lov_l	org_up_r	org_up_l
trn_lov_r	trn_lov_l	trn_up_r	trn_up_l
MSG: <input type="text" value="1"/> Enter information for define object call			application

Figure 5-83 Test Screen 77

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-84 Test Screen 78

Tab to "Define relation type" and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Relationship Definition			
Chart Type	<input type="text" value="TESTTMP"/>	Relation Type	<input type="text" value="RELTMP"/>
		Line Definition	<input type="text" value="DOT"/>
Category	<input type="text"/>	Termination	<input type="text"/>
		Origination	<input type="text"/>
Primitives			
Primitives List			
org_bottom	org_top	org_left	org_righth
trn_bottom	trn_top	trn_left	trn_right
slopeup	slopedown	slopeleft	sloperight
MSG: <input type="text" value="1"/> Enter information for define relationship call			application

Figure 5-85 Test Screen 79

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout -
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-86 Test Screen 80

Tab to "Make a chart" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Make a Chart		
Chart Name	TEST	Chart Type
		TESTTMP
MSG: 1 Enter information for make chart call		application

Figure 5-87 Test Screen 81

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-88 Test Screen 82

Tab to "Make an object" and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Make an Object		
Chart Name <input type="text" value="TEST"/>	Object Name <input type="text" value="OBJ1"/>	Object Type <input type="text" value="OBJTMP"/>
MSG: <input type="text" value="1"/> Enter information for make object call		
application		

Figure 5-89 Test Screen 83

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-90 Test Screen 84

Tab to "Make a relationship" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Make a Relationship

Chart Name Relation Name Relation Type

Parent Obj. Child Obj.

Label

MSG: ☐ Enter information for make relationship call application

Figure 5-91 Test Screen 85

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Po.
Define chart type	Define object type	Define relatio
Make a chart	Make an object	Make a relation
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation
Delete a chart	Delete an object	Delete a relationsh
Make a Relationship		
Chart Name <input type="text" value="TEST"/>	Relation Name <input type="text" value="REL12"/>	Relation Type <input type="text" value="RELTMP"/>
Parent Obj. <input type="text" value="OBJ1"/>	Child Obj. <input type="text" value="OBJ2"/>	
Label <input type="text"/>		
MSG: <input type="text" value="1"/> Object does not exist		
application		

Figure 5-92 Test Screen 86

You will notice that you will not be able to create this relationship because one of the objects (obj 2) does not yet exist. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-93 Test Screen 87

Tab back to "Make an object" and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Make an Object		
Chart Name <input type="text" value="TEST"/>	Object Name <input type="text" value="OBJ2"/>	Object Type <input type="text" value="OBJTMP"/>
MSG: <input type="text" value="1"/> Enter information for make object call		
application		

Figure 5-94 Test Screen 88

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms
Define chart type	Define object type	Define relation
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key

application

Figure 5-95 Test Screen 89

Tab back to "Make a relationship" and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Make a Relationship

Chart Name Relation Name Relation Type

Parent Obj. Child Obj.

Label

MSG: Enter information for make relationship call application

Figure 5-96 Test Screen 90

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-97 Test Screen 91

Tab to "Delete a chart type" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete a Chart Type		
Chart Type: <input type="text" value="TESTMP"/>		

MSG: Enter information for delete chart type call application

Figure 5-98 Test Screen 92

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete a Chart Type		
Chart Type: <input type="text" value="TESTIMP"/>		
MSG: <input type="text" value="1"/> Chart type in use		
application		

Figure 5-99 Test Screen 93

You will notice that you are unable to delete chart type because it is in use. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-100 Test Screen 94

Tab to "Delete an object" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Form Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete an Object		
Chart Name	TEST	Object Name
		OBJ1
MSG: 1 Enter information for delete object call		
application		

Figure 5-101 Test Screen 95

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete an Object		
Chart Name	TEST	Object Name OBJ1
MSG: 1 Object is still in relationship(s) with other object(s) application		

Figure 5-102 Test Screen 96

You will notice that you can not delete the object because it is still in a relationship. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key

application

Figure 5-103 Test Screen 97

Tab to "Delete a relationship" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layo
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation typ
Delete a chart	Delete an object	Delete a relationship
Delete a Relation		
Chart Name	TEST	Relation Name
Parent Obj.	OBJ1	Child Obj.
MSG: 1 Enter information for delete relationship call application		

Figure 5-104 Test Screen 98

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-105 Test Screen 99

Tab back to "Delete an object" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete an Object		
Chart Name	TEST	Object Name
		OBJ1
MSG: 1 Enter information for delete object call		application

Figure 5-106 Test Screen 100

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-107 Test Screen 101

Tab to "Delete a chart" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete a Chart		
Chart Name: <input type="text" value="TEST"/>		

MSG: Enter information for delete chart call application

Figure 5-108 Test Screen 102

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choose and press the enter key application

Figure 5-109 Test Screen 103

Tab to "Delete an object type" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Delete an Object Type

Chart Type Object Type

MSG: Enter information for delete object type call application

Figure 5-110 Test Screen 104

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-111 Test Screen 105

Tab to "Delete relation type" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Delete a Relation Type

Chart Type Relation Type

MSG: Enter information for delete relationship type call application

Figure 5-112 Test Screen 106

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout.
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-113 Test Screen 107

Tab to "Delete chart type" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Delete a Chart Type		
Chart Type <input type="text" value="TESTTMP"/>		

MSG: Enter information for delete chart type call application

Figure 5-114 Test Screen 108

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
-		

MSG: ☐ Tab to choice and press the enter key application

Figure 5-115 Test Screen 109

Tab to "Define chart type" and press <ENTER>.

Test for Form Layout				
Initialize F. L.	Batch: Make All	Terminate Forms Layout		
Define chart type	Define object type	Define relation type		
Make a chart	Make an object	Make a relationship		
Modify form	Draw a chart	Print a chart		
Delete a chart type	Delete an object type	Delete a relation type		
Delete a chart	Delete an object	Delete a relationship		
Chart Definition				
Chart Type <input type="text" value="TESTYP"/>				
Primitives				
VERTICAL, LEFTDOWN, MINSPECE=4				
Primitives List				
vertical	horizontal	leftdown	leftup	minspace=nus
MSG: <input type="text" value="1"/> Enter information for define chart call			application	

Figure 5-116 Test Screen 110

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-117 Test Screen 111

Tab to "Define object type" and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Object Definition			
Chart Type <input type="text" value="TESTYP"/>	Object Type <input type="text" value="OBJTYP"/>	Template Name <input type="text" value="FLTEMPLT"/>	
Primitives			
Primitives List			
org_bottom	org_top	org_left	org_right
trn_bottom	trn_top	trn_left	trn_right
org_lov_r	org_lov_l	org_up_r	org_up_l
trn_lov_r	trn_lov_l	trn_up_r	trn_up_l
MSG: <input type="text" value="1"/> Enter information for define object call			application

Figure 5-118 Test Screen 112

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout-
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-119 Test Screen 113

Tab to "Define relation type" and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Relationship Definition

Chart Type	<input type="text" value="TESTYP"/>	Relation Type	<input type="text" value="RELTYT"/>	Line Definition	<input type="text" value="DASH"/>
Category	<input type="text"/>	Termination	<input type="text"/>	Origination	<input type="text"/>

Primitives

Primitives List

org_bottom	org_top	org_left	org_righ
trn_bottom	trn_top	trn_left	trn_right
slopeup	slopedown	slopeleft	sloperight

MSG: Enter information for define relationship call application

Figure 5-120 Test Screen 114

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout-
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-121 Test Screen 115

Tab to "Define chart type" and press <ENTER>.

Test for Form Layout				
Initialize F. L.	Batch: Make All	Terminate Forms Layout		
Define chart type	Define object type	Define relation type		
Make a chart	Make an object	Make a relationship		
Modify form	Draw a chart	Print a chart		
Delete a chart type	Delete an object type	Delete a relation type		
Delete a chart	Delete an object	Delete a relationship		
Chart Definition				
Chart Type <input type="text" value="TESTYP"/>				
Primitives				
VERTICAL.Minspace=4				
Primitives List				
vertical	horizontal	leftdown	leftup	minspace=num
MSG: <input type="text" value="1"/> Enter information for define chart call			application	

Figure 5-122 Test Screen 116

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-123 Test screen 117

Tab to "Define object type" and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Object Definition			
Chart Type <input type="text" value="HTESTYP"/>	Object Type <input type="text" value="ROBJTYP"/>	Template Name <input type="text" value="FLTEMPLT"/>	
Primitives			
Primitives List			
org_bottom	org_top	org_left	org_right
trn_bottom	trn_top	trn_left	trn_right
org_lov_r	org_lov_l	org_up_r	org_up_l
trn_lov_r	trn_lov_l	trn_up_r	trn_up_l
MSG: <input type="text" value="1"/> Enter information for define object call			application

Figure 5-124 Test Screen 118

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key

application

Figure 5-125 Test Screen 119

Tab to "Define relation type" and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Form Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Relationship Definition			
Chart Type <input type="text" value="HTESTYP"/>	Relation Type <input type="text" value="HRELTYT"/>	Line Definition <input type="text" value="DASH"/>	
Category <input type="text" value="FLRAKE"/>	Termination <input type="text"/>	Origination <input type="text"/>	
Primitives			
Primitives List			
org_bottom	org_top	org_left	org_rigth
trm_bottom	trm_top	trm_left	trm_right
slopeup	slopedown	slopeleft	sloperight
MSG: <input type="text" value="1"/> Enter information for define relationship call			application

Figure 5-126 Test Screen 120

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSC: ☐ 1 Tab to choice and press the enter key

application

Figure 5-127 Test Screen 121

Tab to "Batch: Make All" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Batch file		
File Name	<input type="text" value="FL6X6T.DAT"/>	
MSG: <input type="text" value="1"/> Enter batch file name		
application		

Figure 5-128 Test Screen 122

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Batch file		
File Name	<input type="text" value="FLKBT.DAT"/>	
MSG: <input type="text" value="0"/>		
application		

Figure 5-129 Test Screen 123

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-130 Test Screen 124

Tab to "Draw a chart" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="BTEST"/>		
MSG: <input type="text" value="1"/> Enter information for draw chart call		
application		

Figure 5-131 Test Screen 125

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name: <input type="text" value="MTEST"/>		
MSG: <input type="text" value="1"/> Chart does not exist		
application		

Figure 5-132 Test Screen 126

You should get an error saying that the chart does not exist.
return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key

application

Figure 5-133 Test screen 127

Tab to "Batch: Make All" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Batch file		
File Name	FLHTEST.DAT	
MSG: <input type="checkbox"/> Enter batch file name		
application		

Figure 5-134 Test Screen 128

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key application

Figure 5-135 Test Screen 129

Tab to "Draw a chart" and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="HTEST"/>		

MSG: Enter information for draw chart call application

Figure 5-136 Test Screen 130

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name: <input type="text" value="TEST"/>		

MSG: application

Figure 5-137 Test Screen 131

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a-Chart		
Chart Name <input type="text" value="TEST0"/>		

MSG: application

Figure 5-138 Test Screen 132

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST1"/>		

MSG: application

Figure 5-139 Test Screen 133

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST2"/>		
MSG: <input type="text" value="0"/>	application	

Figure 5-140 Test Screen 134

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST"/>		

MSG: application

Figure 5-141 Test Screen 135

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST4"/>		

MSG: application

Figure 5-142 Test Screen 136

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST5"/>		

MSG: application

Figure 5-143 Test Screen 137

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name: <input type="text" value="TEST6"/>		
MSG: <input type="text" value="0"/>		
application		

Figure 5-144 Test Screen 138

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST7"/>		

MSG: application

Figure 5-145 Test Screen 139

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Form Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST8"/>		

MSG: application

Figure 5-146 Test Screen 140

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialise F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="TEST9"/>		

MSG: application

Figure 5-147 Test Screen 141

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 1 Tab to choice and press the enter key

application

Figure 5-148 Test Screen 142

Tab to "Print a chart" and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	HTEST	Pagination	PHYSICAL
Device Name	FLYST.CMT	Device Type	SDPRINTER2
MSG: 1 Enter information for print chart call		application	

Figure 5-149 Test Screen 143

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Print a Chart		
Chart Name	TEST	Pagination
Device Name	FLTST.CHT	Device Type
application		

MSG: 0

Figure 5-150 Test Screen 144

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

Print a Chart

Chart Name	TEST1	Pagination	PHYSICAL
Device Name	PLTST.CMT	Device Type	SDPRINTER2

MSG: 0

application

Figure 5-151 Test Screen 145

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
-		
Print a Chart		
Chart Name	TEST0	Pagination
Device Name	FLTST.CBT	Device Type
		SDPRINTER2
NSC: 0		application

Figure 5-152 Test Screen 146

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Print a Chart		
Chart Name	TEST2	Pagination
Device Name	FLTST.CMT	Device Type
SDPRINTER2		
MSG: 0		
application		

Figure 5-153 Test Screen 147

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialize P. L.	Batch: Make All	Terminate Form Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TEST3	Pagination	PHYSICAL
Device Name	FLTST.CHT	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-154 Test Screen 148

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialize P. L.	Batch: Make All	Terminate Form Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart:	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TEST4	Pagination	PHYSICAL
Device Name	FLTST.CH1	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-155 Test Screen 149

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TESTS	Pagination	PHYSICAL
Device Name	FLTST.CH	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-156 Test Screen 150

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialize F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TEST6	Pagination	PHYSICAL
Device Name	FLTST.CMT	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-157 Test Screen 151

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Print a Chart		
Chart Name	TEST?	Pagination
Device Name	PLTST.CH?	Device Type
		SDPRINTER?
MSG: 0		application

Figure 5-158 Test SCREEN 152

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialize P. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TEST8	Pagination	PHYSICAL
Device Name	PLTST.CMT	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-159 Test Screen 153

Enter the screen as shown and press <ENTER>.

Test for Form Layout			
Initialise F. L.	Batch: Make All	Terminate Forms Layout	
Define chart type	Define object type	Define relation type	
Make a chart	Make an object	Make a relationship	
Modify form	Draw a chart	Print a chart	
Delete a chart type	Delete an object type	Delete a relation type	
Delete a chart	Delete an object	Delete a relationship	
Print a Chart			
Chart Name	TEST9	Pagination	PHYSICAL
Device Name	PLTST.CHT	Device Type	SDPRINTER2
MSG: 0		application	

Figure 5-160 Test Screen 154

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-161 Test Screen 155

Tab to "Modify form" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object: type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name <input type="text" value="test9"/>		
addelm to:	<input type="text"/>	
putdata to:	<input type="text" value="obj1"/>	
data:	<input type="text" value="obj1"/>	
MSG: <input type="checkbox"/> Enter chart name and path name (and data for pdata call) application		

Figure 5-162 Test Screen 156

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name: <input type="text" value="TEST9"/>		
addelm to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ2"/>	
data:	<input type="text" value="obj2"/>	
MSG: <input type="checkbox"/> putdata was successful		
application		

Figure 5-163 Test Screen 157

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name <input type="text" value="TEST9"/>		
addeln to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ3;"/>	
data:	<input type="text" value="obj3"/>	
MSG: <input type="text" value="2"/> pdata was successful		
application		

Figure 5-164 Test Screen 158

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name: <input type="text" value="TEST9"/>		
adddata to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ4;"/>	
data:	<input type="text" value="obj4"/>	
MSG: <input type="text" value="3"/> pdata was successful		
application		

Figure 5-165 Test Screen 159

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name <input type="text" value="TEST9"/>		
addelm to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ5;"/>	
data:	<input type="text" value="obj5"/>	
MSG: <input type="text" value="4"/> pdata was successful		
application		

Figure 5-166 Test Screen 160

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name <input type="text" value="TEST9"/>		
addelm to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ6;"/>	
data:	<input type="text" value="obj6"/>	
MSG: <input type="text" value="5"/> pdata was successful		
application		

Figure 5-167 Test Screen 161

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Modify a form		
Chart name <input type="text" value="TEST9"/>		
addelm to:	<input type="text"/>	
putdata to:	<input type="text" value="OBJ6;"/>	
data:	<input type="text" value="obj6"/>	
MSG: <input type="text" value="6"/> pdata was successful		
application		

Figure 5-168 Test Screen 162

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 7 Tab to choice and press the enter key application

Figure 5-169 Test Screen 163

Tab to "Draw a chart" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Draw a Chart		
Chart Name <input type="text" value="test9"/>		

MSG: Enter information for draw chart call application

Figure 5-170 Test Screen 164

Enter the screen as shown and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship -
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key application

Figure 5-171 Test Screen 165

Tab to "Print a chart" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship
Print a Chart		
Chart Name	test9	Pagination
Device Name	flrst.cht	Device Type
MSG: 7 Enter information for print chart call		application

Figure 5-172 Test Screen 166

Enter the screen as shown and press <ENTER>. Return to the main menu by pressing <QUIT>.

Test for Form Layout		
Initialize P. L.	Batch: Make All	Terminate Forms Layout
Define chart type	Define object type	Define relation type
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation type
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ Tab to choice and press the enter key

application

Figure 5-173 Test Screen 167

Tab to "Terminate Forms Layout" and press <ENTER>.

Test for Form Layout		
Initialize F. L.	Batch: Make All	Terminate Forms Lay
Define chart type	Define object type	Define relation typ
Make a chart	Make an object	Make a relationship
Modify form	Draw a chart	Print a chart
Delete a chart type	Delete an object type	Delete a relation typ
Delete a chart	Delete an object	Delete a relationship

MSG: ☐ 2 Tab to choice and press the enter key

application

Figure 5-174 Test Screen 168

Press <QUIT> to exit test program.

```

      T I S S   T E S T   B E D   V E R S I O N   1.3
-----
Date: 1/ 5/88      Time: 15:19:32      User ID: MORENC      Role: 

Function:       Device Type:       Device Name: 

MSG:  Application SDLOSTSTZZ has terminated      application

```

Figure 5-175 Test Screen 169

Press <QUIT> to terminate test.

The charts produced by this test exist in the file FLTST.CHT and can be printed using the command PRINT/FORM=WIDE.