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GEOLOGICAL SURVEY

ALACARTE INSTALLATION AND SYSTEM MANUAL

Version 1.0

Installation guide and programming reference for
ALACARTE, an easily used menu interface cast in geologic terms
that controls ARC/INFO, a commercial geographic information system

Todd T. Fitzgibbon

1991

Open-File Report 91-587 B

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INTRODUCTION

ALACARTE is a menu-driven interface to ARC/INFO, a commercial Geographic Information System (GIS) software package from Environmental Systems Research Institute (ESRI, Redlands, California). ALACARTE is designed for use by geologists in making, analyzing, and plotting geologic maps and associated data sets, including detailed large-scale quadrangle maps. ALACARTE consists of more than 25,000 lines of code and 10,000 comment lines in 470 subroutines written in the ARC/INFO Macro Language (AML), a high-level interpreted language.

Version 1.0 of ALACARTE includes functions for creating, editing, and attributing geologic maps. Common geologic line and point symbols, sample maps and a twenty-one-screen demonstration routine are provided. Additional analytic and cartographic output functions will be addressed in future versions. This manual describes the technical aspects of ALACARTE, including hardware and software requirements, installation, and source code details. It can serve as a preliminary reference manual for programmers who wish to modify ALACARTE or understand its inner workings.

User documentation is in the report, **ALACARTE User Manual Version 1.0, USGS Open File Report 91-587 C, by Carl M. Wentworth and Todd T. Fitzgibbon**. The AML code is referenced as **ALACARTE User Interface - AML Code and Demonstration Maps, USGS Open File Report 91-587 A, by Todd T. Fitzgibbon and Carl M. Wentworth**. The report describes how to obtain a machine-readable version on tape or through anonymous ftp. The machine-readable version includes IslandWrite, Postscript and ASCII versions of the manuals. Also see OBTAINING THE ALACARTE EXECUTABLE CODE below. Copies of both these reports and additional copies of this manual may be obtained for the cost of reproduction from:

U.S. Geological Survey
Books and Open-File Reports Section
Federal Center
P.O. Box 25425
Denver, CO 80255
(303) 236-7476

ALACARTE is designed by T.T. Fitzgibbon and C.M. Wentworth, with assistance from P.K. Showalter, and is written by Fitzgibbon with assistance from Showalter, P.H. Rice, D.L. Knifong, T.A. Lindquist, and others. Sample AML's and technical support from ESRI are greatly appreciated.

HARDWARE AND SOFTWARE REQUIREMENTS

ALACARTE runs under ARC/INFO 5.0.1 on UNIX systems and Prime minicomputers. It was developed on and has been extensively used on Sun 3 and SPARC systems running SunOS 4.0 and 4.1. It has been tested on Data General Aviion systems under DG/UX 4.32. It also runs on Prime minicomputers under the Primos operating system. It has been tested and extensively used on a Prime 9955 under Primos Revision 22. The same ALACARTE code runs on both UNIX and Prime systems.

ALACARTE can be modified to run on DEC VAX/VMS systems by changing the system-specific code that handles pathnames, as demonstrated with some VMS-specific code remaining from an early test version of ALACARTE. ALACARTE will not run under PCArc on IBM PC compatibles at this time because PCArc uses a different macro language, Simple Macro Language (SML). ALACARTE 1.0 has been partially tested under the ARC/INFO 6.0 preview release on the Sun SPARC platform and runs with some errors due to minor AML and command syntax differences between revisions 5.0.1 and 6.0.

ALACARTE, whenever possible, supports all peripheral hardware that is supported by ARC/INFO. ALACARTE can be accessed from workstation consoles and from terminals that support both graphic display and AML menus. These are the Tektronix terminals with model numbers of 4105 and above, and software packages that emulate them. Most digitizers are supported.

OBTAINING THE ALACARTE EXECUTABLE CODE

A machine-readable copy of the ALACARTE executable code and associated files can be obtained by anonymous ftp over Internet or by sending the authors a tape which will be returned with the ALACARTE 1.0 distribution. The ALACARTE AML source code is not available on paper (hard-copy).

Anonymous ftp (UNIX)

ALACARTE is available as a single 14.1 MB tar file through anonymous ftp by those sites connected to the Internet network. This procedure is recommended only for UNIX systems because the Primos UX_TAPE command apparently can not extract files from a tar file but only from a magnetic tape. The ARC/INFO coverages, INFO files and symbols sets have been converted to ARC/INFO's system-independent ASCII export format, which is compatible with both UNIX and Prime systems. Import AML's are included in the ALACARTE tour and symbol directories. The ftp procedure is as follows:

log in to your UNIX system	
cd /tmp	go to a temporary directory to receive the tar file
ftp sierra.wr.usgs.gov	numeric address is 130.118.4.118
Name: *anonymous*	use anonymous as user name
Password:	enter your user name as password
cd pub	
get alacarte1.0.tar	
quit	

This places the alacarte1.0.tar file on your system in the temporary directory. Follow the installation instructions in the UNIX section, INSTALLATION FROM FTP TAR FILE.

User-supplied Tape

ALACARTE can also be obtained by sending a tape to the authors which will be returned with the ALACARTE 1.0 distribution. The acceptable tape types are:

UNIX:	1/4 inch QIC-24 format (60MB) cartridge, 3M DC600A or equivalent
	1/4 inch QIC-150 format (150MB) cartridge, 3M DC6150 or equivalent
Prime:	1/2 inch 9-track tape reel

Send the appropriate tape to:

ALACARTE
c/o Todd Fitzgibbon
U.S. Geological Survey
345 Middlefield Rd. MS-975
Menlo Park, CA 94025

Note that the authors can not supply tapes or paper copies of the ALACARTE manuals. The UNIX cartridge will contain a tar file of all ALACARTE directories and files in ARC/INFO UNIX format. It will be written on a Sun SPARC system. The Prime tape will contain a single Primos magsav logical unit of all ALACARTE directories and files in ARC/INFO Primos format. It will be written at 6250 bpi density with the Primos Rev. 22 magsav command. Coverages and related files supplied on the cartridge or tape do not require ARC/INFO import.

To install ALACARTE follow the instructions in the UNIX or Prime section, INSTALLATION FROM TAPE.

REGISTERING YOUR SITE AND REPORTING BUGS

You can register your ALACARTE site in order to receive notification of updates, bug fixes, etc. Fill out the ALACARTE Registration Form in the Appendix and mail it to the authors at the address on the form, or fax it to the phone number on the form. An ASCII version of the form (reg.form in the ALACARTE doc directory) can be edited and emailed to:

tfitz@sierra.wr.usgs.gov

Software and documentation errors, enhancement requests and comments can be recorded on a copy of the ALACARTE Change Request Form located in the Appendix and mailed or faxed to the address or phone number, respectively, on the form. An ASCII version of the form (bugs.form in the ALACARTE doc directory) can be edited and emailed to the email address above. Bugs will be logged, prioritized, and fixed for inclusion in a future release.

INSTALLING ALACARTE

Installation of ALACARTE on UNIX and Prime systems is simple. The same ALACARTE code runs on both systems. The UNIX format is provided on 1/4 inch cartridge tapes, the Prime format on 1/2 inch 9-track tapes. These tapes contain identical AML files and the same sample coverages and symbol sets, but in UNIX and Prime ARC/INFO formats, respectively. The AML files and sample coverages and symbol sets are also available as a tar file that can be downloaded over Internet by anonymous ftp. In this tar file, the coverages and symbol sets are in ARC/INFO export format.

ALACARTE should be installed in the ARC/INFO system directory, arcexe50, which requires system administrator privileges. The ALACARTE directory is copied to a menus directory under arcexe50. The ALACARTE.AML is then copied to the ARC ATOOL directory so that ALACARTE can be invoked from the ARC command line, and symbol sets and fonts are copied to appropriate directories. The ALACARTE.AML must be edited to indicate pathnames if they are not standard, and a system-specific AML, UNIX.AML or PRIME.AML, is optionally edited to specify syntax for system commands or local aliases or abbreviations. The exact installation procedure is different for UNIX and Prime systems and each is described below. Installation programs provided for each system perform most of these steps.

ALACARTE can, alternatively, be installed in a directory outside the arcexe50 directory, including in a user directory. In this case, a UNIX alias or Primos abbreviation must be created that invokes ARC/INFO and runs the ALACARTE.AML by specifying an absolute pathname to the ALACARTE program directory. On UNIX systems, add the following line to the .cshrc file in your home directory:

```
alias alc 'arc \&run /pathname_to_alacarte/alacarte/main/alacarte.aml'
```

On Prime systems add an abbreviation with the following command:

abbrev -add alc arc &run pathname_to_alacarte>alacarte>main>alacarte.aml

In both cases substitute the directory where alacarte is located for 'pathname_to_alacarte.' You can then type *alc* to start ARC/INFO and ALACARTE.

Contents of the ALACARTE 1.0 Distribution

The ALACARTE files are organized into several subdirectories below the alacarte directory.

ALACARTE AML code directories contain AML files with a .aml extension and menu files with a .men (not .menu) extension:

Size (UNIX KB)	Size (Prime records)	Directory	Contents
214	179	main	startup and common routines
67	81	demo	routines to display 21 ALACARTE demonstration screens
206	170	setup	setup menu routines
650	574	edit	edit menu routines
21	20	plot	plot menu routines
0	0	mapx	empty dir for MAPX routines (unpublished software by A. C. Tarr, Golden, CO, USGS, see below)
50	47	analysis	analysis menu routines
41	56	general	general menu routines
45	61	conversn	conversion menu routines

Other directories:

335	622	symbols	geologic line and marker symbols and sample LUTs (in ARC/INFO UNIX format on the UNIX tar tape, in ARC/INFO Prime format on the magsav tape, exported in the ftp tar file)
1720	1515	tour	sample coverages for ALACARTE demo (in ARC/INFO UNIX format on the UNIX tar tape, in ARC/INFO Prime format on the magsav tape, exported in the ftp tar file)
21	39	tagmenus	templates for custom feature-tagging menus
62	94	help	help text files
18	19	utils	UNIX shell scripts related to ALACARTE
9887	4927	doc	documentation, including IslandWrite, Postscript and ASCII versions of this manual and the ALACARTE User Manual.

	UNIX	Prime
Total size of tape:	13,340 KB	8405 Prime records
Size of ftp tar file:	14,078 KB	

MAPX is a preliminary ARCPLOT style sheet for geologic maps developed by A. C. Tarr. It uses a parameter file containing variable assignments appropriate to a given map and plot. The MAPX 2.0 beta version has been linked to and tested with ALACARTE, but had not been published at the time of this writing.

If disk space is problem, the util and doc directories may be deleted. Deleting the demo and tour directories is not recommended, because the ALACARTE demo and the sample tour coverages would then be unavailable to users. Do not delete the symbols directory because it contains standard lookup tables.

Installation on UNIX Systems

ALACARTE is provided in machine-readable form on a user-supplied 1/4 inch cartridge tape or in a tar file obtainable by anonymous ftp. Use of ALACARTE requires a copy of ARC/INFO on the system where ALACARTE is to be run. The ALACARTE distribution tapes are written on a Sun SPARC system and are known to be compatible with Sun tape drives (60 and 150MB formats) and Data General Aviion drives (150MB format only). The distribution tape contains a single 13.4 MB UNIX tar file. Loading the tape or ftp tar file with tar creates an alacarte subdirectory in the directory where tar is invoked, normally /arcexe50/menus. The installation procedures are slightly different for tape and ftp tar file.

INSTALLATION FROM TAPE

Load and install ALACARTE with the following steps:

1. Extract the contents of the tape:

place cartridge in system's cartridge drive	
su	become root (superuser)
cd /arcexe50	go to ARC/INFO system directory
mkdir menus	OPTIONAL: create menus directory if one doesn't already exist
cd menus	
tar xvf /dev/rst8	substitute your local device file for /dev/rst8

remove the cartridge from the drive and retain it as a backup copy of ALACARTE.

These steps will create the alacarte subdirectory in /arcexe50/menus and load the ALACARTE subdirectories and files below it.

2. */arcexe50/menus/alacarte/utils/install_alc_unix*

This executes a UNIX shell script that automatically performs several installation steps. It assumes alacarte was loaded into the /arcexe50/menus directory and that the arc command is in root's execution path. The script displays a message describing what it will do, then asks if you want to proceed before performing the installation steps described below. You must perform these steps manually, or edit the script appropriately, if your installation is not standard. A copy of the install_alc_unix script appears in the Appendix of this manual. The installation script performs the following steps.

cp /arcexe50/menus/alacarte/main/alacarte.aml /arcexe50/atool/arc/alacarte.aml

This puts the ALACARTE startup AML in the atool arc directory so that ALACARTE can be started from the ARC command line.

cp /arcexe50/menus/alacarte/symbols/fnt025 /arcexe50/igl63exe
cp /arcexe50/menus/alacarte/symbols/fnt039 /arcexe50/igl63exe
cp /arcexe50/menus/alacarte/symbols/alcgeol.mrk /arcexe50/symbols
cp /arcexe50/menus/alacarte/symbols/alcwrg.lin /arcexe50/symbols

This places ALACARTE's geologic line and point symbol sets and their associated fonts in the ARC/INFO system directories.

cd /arcexe50/alacarte/tour
arc externalall

This externals the demo coverages. Users can then copy the tour directory to their user area using an ALACARTE menu function so no user write access is required for this directory. A local copy of the tour directory is required to run the ALACARTE demo and is useful for its sample coverages. Users should delete their copy of tour when they are done with it because it requires about 1.7 MB of storage space and is easy to copy again.

3. *vi /arcexe50/atool/arc/alacarte.aml*

Optionally, edit the alacarte.aml. If you have ARC/INFO in /arcexe50 and load ALACARTE into /arcexe50/menus, then no changes to the commented installation block in the alacarte.aml are necessary. Otherwise follow the instructions in the installation block. A copy of the alacarte.aml is included in the Appendix of this manual.

4. *vi /arcexe50/menus/alacarte/main/unix.aml*

You can edit the system-specific unix.aml that sets global variables for system commands such as for the system screen editor. You may wish to specify aliases, etc., here. Default values are present for each variable. A copy of the unix.aml appears in the Appendix of this manual.

Verify the installation by confirming that the subdirectories in the alacarte directory correspond with the list in Contents of the ALACARTE 1.0 Distribution (above). Execute du in the alacarte directory and confirm that the total directory size reported (in KB) is approximately 13,400 KB. Finally, invoke ALACARTE at the ARC command line from a user account. If all these tests are successful then ALACARTE is installed properly. If there is a problem, confirm that all installation steps were followed and that your system directory names are the same as the defaults (or that you substituted your own).

INSTALLATION FROM FTP TAR FILE

You should have obtained the alacarte.tar file using the instructions in OBTAINING THE ALACARTE EXECUTABLE CODE above. Perform the following steps:

1. Extract the ALACARTE directories and files from the alacarte1.0.tar file into the ARC/INFO system area.

su	become root (superuser)
cd /arcexe50	
mkdir menus	OPTIONAL: create menus dir if one doesn't already exist
cd menus	
tar xvf /tmp/alacarte1.0.tar	assumes alacarte1.0.tar is in /tmp

These steps will create the alacarte subdirectory in /arcexe50/menus and load the ALACARTE subdirectories and files below it. Next follow steps 2 through 4 in the UNIX INSTALLATION FROM TAPE section above to complete the installation.

Installation on Prime Systems

ALACARTE is provided in machine-readable form on a user-supplied 1/2 inch 9-track tape. (Obtaining ALACARTE by anonymous ftp is recommended only for UNIX systems because the Primos UX_TAPE command apparently can not extract files from a tar file but only from a magnetic tape.) Use of ALACARTE requires a copy of ARC/INFO on the system where ALACARTE is to be run. The ALACARTE distribution tapes are written on a Prime 9955 system under Primos Revision 22 using Rev. 22 magsav -na at 6250bpi density. The distribution tape contains one 8405 record logical tape unit that contains the alacarte directory and its subdirectories and files. Loading the tape with magrst creates an ALACARTE subdirectory in the directory where the tape command is invoked.

INSTALLATION FROM TAPE

Load and install ALACARTE with the following steps:

1. Restore the contents of the tape:

load the tape into your tape drive using 6250bpi density
log in as user who has all permissions in the arcexe50 and igl63exe directories

attach arcexe50	move to the ARC/INFO system directory
create menus	OPTIONAL: create menus directory if one doesn't already exist
down menus	move to the menus directory
assign mt0	assign the tape drive, substitute your tape drive for mt0 if different
magrst	invoke Rev. 22 magrst command and follow the dialog. The logical unit number is 1. Enter yes to load the entire tape contents.

unassign mt0 -unload
remove your tape from the drive and keep it as a backup copy of ALACARTE.

These steps will create the alacarte subdirectory in arcexe50>menus and load the ALACARTE subdirectories and files below it.

2. *r arcexe50>menus>alacarte>utils>install_alc*

This executes a Prime CPL program that automatically performs several installation steps. It assumes that alacarte was loaded into the arcexe50>menus directory, that you can execute the arc command, and that the igl63exe directory is at the same level as arcexe50. The CPL displays a message describing what it will do, then asks if you want to proceed before performing the installation steps described below. You must perform these steps manually, or edit the CPL appropriately, if your installation is not standard. A copy of the CPL appears in the appendix of this manual. Install_alc.cpl performs the following steps:

copy arcexe50>menus>alacarte>main>alacarte.aml arcexe50>atool>arc>alacarte.aml

This puts the ALACARTE startup AML in the atool arc directory so that ALACARTE can be started from the ARC command line.

copy arcexe50>menus>alacarte>symbols>fnt025 igl63exe>==
copy arcexe50>menus>alacarte>symbols>fnt039 igl63exe>==
copy arcexe50>menus>alacarte>symbols>alcgeol.mrk arcexe50>symbols>==

copy arcexe50>menus>alacarte>symbols>alcwrg.lines arcexe50>symbols>==

This places ALACARTE's geologic line and point symbol sets and their associated fonts in the ARC/INFO system directories. Note that igl63exe is here assumed to be a directory at the same level as arcexe50. It may be a subdirectory below arcexe50 at some installations, which then require modification of install_alc.cpl.

cd arcexe50>menus>alacarte>tour
arc externalall

This externals the ALACARTE demo coverages. Users can then copy the tour directory to their user area using an ALACARTE menu function so no user write access is required for this directory. A local copy of the tour directory is required to run the ALACARTE demo and is useful for its sample coverages. Users should delete their copy of tour when they are done with it since it requires over 1500 records of storage space and is easy to copy again.

3. *emacs arcexe50>atool>arc>alacarte.aml*

A commented installation block appears near the top of the alacarte.aml. You can also refer to the printout of alacarte.aml at the end of this manual. If you have ARC/INFO in arcexe50 and load ALACARTE into arcexe50>menus then no changes are necessary.

4. *emacs arcexe50>menus>alacarte>main>prime.aml*

You can edit the system-specific prime.aml that sets global variables for system commands such as for the system screen editor. You may wish to specify abbreviations, etc. here. Default values are present for each variable. A copy of the prime.aml appears at the end of this manual.

Verify the installation by confirming that the subdirectories in the alacarte directory correspond with the list in Contents of the ALACARTE 1.0 Distribution (above). Execute ld in the arcexe50>menus directory and confirm that the total directory size reported is approximately 8400 records. Finally, invoke ALACARTE at the ARC command line from a user account. If all these tests are successful then ALACARTE is installed properly. If there is a problem, confirm that all installation steps were followed and that your system directory names are the same as the defaults (or that you substituted your own).

ALACARTE PROGRAM REFERENCE

ALACARTE is written entirely in ARC/INFO's Macro Language, AML. It comprises 470 subroutines and menus with over 25,000 lines of code plus 10,000 comment lines. ALACARTE development began at ARC/INFO Revision 4.0 and continued with Revision 5.0.1 on a Sun 3 and later SPARCstation running SunOS 4.1.

The ALACARTE code is organized into 8 directories. Startup and common code resides in the main directory which is always first in the &amlpath and &menupath. The directory containing code for the current secondary bar menus (edit, setup, etc.) is added to the paths upon selection by the user.

Coding Practices

This preliminary section lists some ALACARTE AML coding practices that should be followed when new code is written.

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Every aml sets &severity to a generalerror routine which calls errmsg.aml.

No hardwired &returns and &menus. Every aml should end in &return so that it returns to the routine that called it and so it is properly removed from the stack of open amls.

Every aml should include the standard header, header.doc (located in the doc directory). Header.doc is a modification of a standard header obtained from the Alaska ARC/INFO Users Group in Anchorage.

No tabs should be present anywhere in any aml or menu file because of an AML bug that prevents the immediately preceeding character from being read by the AML interpreter.

Aml and menu files should contain no blank lines because, while lines beginning with a comment character, /*, are stripped before code is interpreted, blank lines must be interpreted by AML, slowing execution. This limitation may not be true in future versions of ARC/INFO.

All menu files should have:

_MODIFIED <TAB>

on their first line to cause the ts timestamp utility to record the date of last modification (see UNIX Shell Scripts Related to ALACARTE below). This is the one exception to the no-tab rule.

Alcinit.aml in the main directory should initialize all global variables that need initialization and should additionally record all other global variables used in ALACARTE as comment lines. This file is not completely up to date.

Lines in aml and menu files should be no longer than 80 characters.

If an aml sets &messages &off, make sure that generalerror sets &messages &on. The next ALACARTE revision will make use of an exit routine as well as the error routine to accomplish this.

Restrict all aml and menu filenames to 8 characters starting with a letter, with at most a 3-character extension, composed of alphanumeric characters only, to permit ALACARTE files to be exchanged by MS-DOS disks. Filenames must be entirely lowercase on UNIX systems. Code file types include:

xxxxxxxx.aml	aml
xxxxxxxx.men	menu
xxxxxxxx.hlp	help text
xxxxxxxx.ap	ARCEDIT AP background file

Report on the screen completion of all menu actions such as setting a switch, etc. This has not always been followed!

Put the most-used command at the top of pulldowns and popup menus to make it the 'default.' Not everywhere followed in ALACARTE 1.0.

ALACARTE menus have a standard appearance that assists users in navigating the menu system and which lets them better predict the consequence of selecting a menu item. These standards are as described in the ALACARTE User Manual's ALACARTE Operations section. ALACARTE code contains violations of these standards where old code has not yet been updated. Some of these concepts are described below:

Capitalization of menu items helps indicate the item's action:

ALL CAPS	go to another bar menu
Inital caps	open a subordinate menu (popup, pulldown), then return to current bar
all lower case	actually perform a function

Thus the user can always pick a menu item that is entirely capitalized or starts with a capital letter confident that the only action will be the display of another menu, either a stable bar, or a popup, or pulldown, respectively. Only a menu item in all lower case characters will execute a command or process.

The left-most menu item on a bar menu is the name of the menu enclosed in square brackets, for example, [Lines]. Selecting this item causes a pop-up command menu to appear that offers standard items including command-line access, etc..

The right-most item on a bar menu is the name of the menu immediately above the current bar menu, prefixed with a caret, for example, ^EDIT. Selecting this item causes a return to the named bar menu. The caret reinforces the idea that this item returns to a menu above in the menu hierarchy. If the menu is a standard one that is called from several other menus, the right-most item should be ^PREV (for previous).

Menu items that require prior selection of one or more map elements shall have (S) after the item name, for example: delete(S). Menu items that require prior selection of one and only one map element shall have (S1) after the item name, for instance split(S1).

The group of menu functions that are displayed on the menu (including all pulldowns, etc.) at any given time should include the entire suite of related commands that might be used in consort. This is intended to keep the user informed of available possibilities and to minimize menu changing. This objective should be balanced with the complexity of the menu.

A menu should be of pulldown type if the map drawn on the screen must be observed or clicked on, in order that no part of the map is obscured by the menu. Not necessary for menus that disappear before the action is perfomed.

ALACARTE includes popup, matrix function menus that return a command to the calling routine. There are some limitations to this approach, including that the menus must not include any AML function calls themselves nor can they include more than one command on a menu item line. An example is draw.men, which calls callsel.aml and similar routines in order to get around these limitations. ARC/INFO Revision 5.0.1 form menus will replace these older menus.

AML Global Variables Used in ALACARTE

Alcinit.aml documents with comment lines or initializes (where required) global variables used in ALACARTE, but is not up-to-date. In the future we will use ESRI's new procedure for returning values to a calling routine whereever appropriate. We are also in the process of renaming all ALACARTE variables to the form .alc$varname to avoid conflicts with outside amls and menus called from ALACARTE. Refer to the file alcinit.aml in the ALACARTE main directory.

Special ALACARTE Files in Coverages

Coverages created in ALACARTE may include several ASCII documentation and custom feature tagging menus. Each file has the filename extension .alc and is copied with copyalc.aml whenever an ARC/INFO function does not copy all files in the cover directory (for instance, the build menu calls copyalc.aml).

Templates for custom feature-tagging menus are in the ALACARTE tagmenus directory. The 'create tagging menus' item on the Prep Scans pulldown of the SETUP menu bar calls tagmenu.aml. This calls up the system editor to allow a user to enter codes into the matrix menu file. Up to 100 codes can be placed in each menu file, for a total of 300 codes for each feature type.

Polygon label tags:	area1.alc	area2.alc	area3.alc
Line tag modifiers:	lmod1.alc	lmod2.alc	lmod3.alc
Line type tags:	ltype1.alc	ltype2.alc	ltype3.alc

Point lineation type:	ptln1.alc	ptln2.alc	ptln3.alc
Point attitude type:	ptpl1.alc	ptpl2.alc	ptpl3.alc
Point stations type:	ptpt1.alc	ptpt2.alc	ptpt3.alc

Coverage setup file (snapping tols, etc.)	setup.alc
Coverage projection file	proj1.alc, proj2.alc, etc., where proj1.alc is projection file for first projection operation.

ALACARTE Menus Related to Software Development

ALACARTE has several functions that are helpful for debugging AML code. Refer to Structure and Functions in the ALACARTE User Manual for menu locations and organization.

The SHOW bar menu, available from the Commands popup, provides show, &show, AML variable listing and setting, traceback, listing open files, and help and usage for AML directives and functions.

The 'run my aml or menu' item on the Command popup (click on the menu name at the left end of any menu bar) lets you reset &amlpath and &menupath and call your own aml or menu from within ALACARTE. The paths are restored when you return to ALACARTE.

The DEVICES bar menu, also available from the Commands popup, provides &messages, &echo, and &watch functions.

The Commands popup also provides access to the system, ARC/INFO, and ARCEDIT (in the EDIT menu system only) command lines, a system screen editor and a page list command.

UNIX Shell Scripts Related to ALACARTE

The following UNIX C-shell scripts and the install_alc.cpl Prime CPL are located in the ALACARTE utils directory.

hc — Hierarchical Chart lists all &run and &menu statements for a specified file.
Usage is: hc filename

sz — Size uses wc and grep to give total number of executable and comment lines, and number of amls and menu files in the directory where it is invoked.
Usage is: sz

ts — TimeStamp timestamps (records date in) all aml and menu files modified since last timestamp. Operates in the directory where it is invoked. See comments in the ts file in the utils dir for details. Assumes existance of empty file named

	TIMESTAMP in the aml directory and use of standard ALACARTE header for aml and menu files. Usage is: ts
install_alc_unix	Installation script used in ALACARTE UNIX installation procedure.
zapbu	Uses UNIX find command to delete backup text files that end in % located in the directory (and its subdirectories) where invoked.
ftpalc	Sample batch ftp script for copying ALACARTE amls from a UNIX system to a PRIME system over Ethernet. Must be edited before use.
ftpdoc	Sample batch ftp script for copying ALACARTE documentation files (doc directory) from a UNIX system to a PRIME system over Ethernet. Must be edited before use.
install_alc.cpl	Installation CPL used in ALACARTE Prime installation procedure.

ALACARTE Subroutine Chart

This hierarchical chart of the ALACARTE program shows the program calling structure. Subroutine files are located in one of eight AML subdirectories, with common and startup routine in the main directory, setup menu routines in the setup directory, an so on. Some last-minute bug fixes have not been incorporated into this chart; updated charts will be made available with future releases.

Notes:

1. (#) after a file name, where # is a number between 1 and 6, indicates that this is a standard popup menu or an aml that calls a standard popup menu. The subroutines called by that menu or aml are listed at the end of the chart..

2. [] after a menu filename indicates that the menu is the function [menu] type. Otherwise all menus are &menu type.

3. /* after a filename indicates that the file has been commented-out in the current code.

4. (sys dep) after a filename indicates that the file contains system-dependent code. Not everywhere noted.

5. *Every* aml also calls errmsg.aml.

The ALACARTE File Hierarchy:

alacarte.aml (sys dep)
- unix.aml (sys dep)
- prime.aml (sys dep)
- vax.aml (sys dep)
- alcversn.aml
- station.aml
  - getterm.aml
    - termhlp.aml
    - fastdisk.aml
    - setreom.aml
    - fastmous.aml
    - tek41xx.men
    - tek42xx.men
    - ws.men
  - getdsply.aml
    - dsplyopt.men[]
  - getdig.aml
    - dig.men[]
    - digtty.men[]
    - alchelp.aml

```
        tek41xx.men
        tek42xx.men
        ws.men
        fastmous.aml
        fastdisk.aml
alcinit.aml
main.aml
        main.men
                lmain.men[](5)
setup.aml
        setup.men
                lmain.men[](5)
                newmap.aml
                        mapname.men
                                wkspace.men
                        derivmap.men
                                alchelp.aml
                        makebox.men
                                alchelp.aml
                        symbitm.men
                                alchelp.aml
                        makefats.aml
                        copyalc.aml
                                numproj.aml
                                copyproj.aml
                        rdsetup.aml
                        svsetup.aml
                        makebox.men
                        makebox.aml
                        tagbox.aml
                        bell.aml
                        prepproj.men
                        showproj.men
                        blanksu.aml
                        copyproj.aml
                        prepdb.men
                        prepsu.men
                        quadtype.men
                                alchelp.aml
                        getlatln.men
                                alchelp.aml
                        quadtics.men
                                alchelp.aml
                        quadtics.aml
                                dms2dec.aml
                                fourtics.aml
                                setlatln.aml
                        suscale.men
                                alchelp.aml
```

gettics.aml
    getlatln.men
        alchelp.aml
    dms2dec.aml
suproj.men
    alchelp.aml
projprm.aml
    conic2.aml
        stdpara1.men
            alchelp.aml
        stdpara2.men
            alchelp.aml
        baselat.men
            alchelp.aml
        cenmerid.men
            alchelp.aml
        dms2dec.aml
        dec2dnc.aml
    dnag.aml
        baselat.men
            alchelp.aml
        dec2dnc.aml
        dms2dec.aml
    oblique.aml
        baselat.men
            alchelp.aml
        cenmerid.men
            alchelp.aml
        dec2dnc.aml
        dms2dec.aml
        scalfact.men
            alchelp.aml
        centrlaz.men
            alchelp.aml
    plyconic.aml
        baselat.men
            alchelp.aml
        cenmerid.men
            alchelp.aml
        dec2dnc.aml
        dms2dec.aml
    state.aml
        state.men
            alchelp.aml
    transvers.aml
        baselat.men
            alchelp.aml
        cenmerid.men
            alchelp.aml

dec2dnc.aml
dms2dec.aml
scalfact.men
alchelp.aml
utm.men
easting.men
alchelp.aml
snap.men
setsnap.aml
alchelp.aml
covtols.men
setsnap.aml
alchelp.aml
showprms.men
showproj.aml
bell.aml
showedsn.aml
showtols.aml
makeproj.aml
addtics.aml
unitanno.aml
unitanno.men
alchelp.aml
alchelp.aml
preptics.aml
movetics.men
getbacks.men
symb.aml
symb.men
movetics.aml
qsetup.aml
qsetup.men
chgsetup.aml
chgsetup.men
rdsetup.aml
setupvar.aml
chgsu2.men
svsetup.aml
cpsetup.aml
cpsetup.men
rdsetup.aml
setupvar.aml
svsetup.aml
viewproj.aml
viewproj.men
numproj.aml
vwproj2.men
vwproj2.aml
tagmenu.aml

```
                    tagmenu.men
                            alchelp.aml
                create.men
edit.aml                    (note:  rest of edit routines indented one too many)
                startedt.men[]
                wkspace.aml
                newmap.men
                edmapnam.aml
                        mapcover.aml
                        rdsetup.aml
                                setupvar.aml
                         tols.aml
                        showsnap.aml
                register.men[]
                creatmap.men
                tols.aml
                alchelp.aml
                rdsetup.aml
                        setupvar.aml
                showsnap.aml
                dweninit.aml
                edit.men
                        ledit.men[](4)
                        edmapnm2.aml
                                mapcover.aml
                                rdsetup.aml
                                tols.aml
                                        edsetsnp.aml
                                        getunits.men
                                        suscale.men
                                showsnap.aml
                        showmaps.aml
                        rmvedit.aml
                        creatmap.aml
                                creatmap.men
                                tols.aml
                                showsnap.aml
                        getbackc.aml
                                backcov.aml
                                symb.aml
                                        symb.men[]
                        showback.aml
                        wkspace.aml
                        curwkspc.aml
                        descmap.aml
                        suscale.aml
                        getunits.men
                        tek41xx.men
                        tek42xx.men
```

```
ws.men
lines.aml
        lines.men
                ledit.men[](4)
                digline.men
                        ledit.men[](4)
                        addline.aml
                        tagline.aml
                        digsel.aml
                        seltgcol.aml
                                tagline.aml
                                symb.aml
                                        symb.men
                        setlntyp.aml
                        setlnmod.aml
                        ltypcstm.aml
                                setlntyp.aml
                                ltype1.alc[]
                                ltype2.alc[]
                                ltype3.alc[]
                        lmodcstm.aml
                                setlnmod.aml
                                lmod.alc[]
                                lmod2.alc[]
                                lmod3.alc[]
                        sellin.aml
                                sellin.men
                                        setdwsymb.aml
                                                symb.aml
                                                        symb.men
                                        selhlp.men
                                selbylen.aml
                                        selbylen.men
                                        getlen.aml
                        tek41xx.men
                        tek42xx.men
                        ws.men
                        savecont.aml
                                svaudit.aml
                        rstrsave.aml
                        draw.men[](1)
                        zoom.men[](2)
                reshape.men
                        ledit.men[](4)
                        dashslid.aml
                                mvinplc.aml
                        mvinplc.aml
                        dwvertex.aml
                                symb.aml
```

```
                symb.men[]
nodes.aml
        nodes.men
                ledit.men[](4)
                nodecol.aml
                        symb.aml
                                symb.men
                nodesize.aml
                        getnum.aml
                tek41xx.men
                tek42xx.men
                ws.men
                savecont.aml
                        svaudit.aml
                draw.men[](1)
                zoom.men[](2)
get.men
putbar.men
        ledit.men[](4)
        select.aml
                selold.men
                        sel.aml
                        asel.aml
                        resel.aml
                        unsel.aml
                        selbyatt.aml
                        selbylen.aml
                                selbylen.men
                select.men
                        setdwsym.aml
                                symb.aml
                                        symb.men
                        selhlp.men
        put.aml
                put.men
        tek41xx.men
        tek42xx.men
        ws.men
        savecont.aml
                svaudit.aml
sellin.aml
        sellin.men
                setdwsymb.aml
                        symb.aml
                                symb.men
                selhlp.men
        selbylen.aml
                selbylen.men
                getlen.aml
```

tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
rstrsave.aml
draw.men[](1)
zoom.men[](2)
showsnap.aml
edsnap.men
edsetsanp.aml
setdeflt.aml
edsnap1.aml
edsetsnp.aml
edsnap2.aml
edsetsnp.aml
edsnap3.aml
edsetsnp.aml
edsnap4.aml
edsetsnp.aml
edsnap5.aml
edsetsnp.aml
alchelp.aml
chkscale.aml
edsymb.men
ledit.men[](4)
symbset.men
lineset.men
mrkset.men
ptpllut.men
apbckpt.aml
bckptcov.men
apptpl.aml
mrkset2.men
textset.men
draw.men[](2)
zoom.men[](1)
sellin.aml
sellin.men
setdwsymb.aml
symb.aml
symb.men
selhlp.men
selbylen.aml
selbylen.men
getlen.aml
setitem.aml
showuniq.aml
calc.aml

calc.men
calc2.men
moveit.aml
moveit.men
moveit2.men
update.aml
update.men
update2.men
change.aml
change1.men
change2.men
changopt.men
cnnect.men
relate.men
ledit.men[](4)
rlateadd.men
rlateres.men
rlatesav.men
dwlnsymb.aml
tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
rstrsave.aml
draw.men[](1)
zoom.men[](2)
points.aml
points.men
ledit.men[](4)
ptpl.aml
digptpl.men
ledit.men[](4)
addptpl.aml
tagptpl.aml
azlhstk.men
azlhdip.men
azlhatt.men not called?
striksel.aml
qdstksel.men
striksel.men
dipsel.aml
qddipsel.men
dipsel.men
ptplcstm.aml
ptpl1.alc
ptpl2.alc
ptpl3.alc
showptpl.aml

mrkset.men
ptpllut.men
ptplitem.men
ptplanno.men
attfmt.men
select.aml
    select.men
        setdwsym.aml
            symb.aml
                symb.men
        selhlp.men
tek41xx.men
tek42xx.men
ws.men
savecont.aml
    svaudit.aml
rstrsave.aml
ptpldraw.men[](3)
zoom.men[](2)
digptlin.men
ledit.men[](4)
addptlin.aml
tagptpl.aml

    azlhstk.men
    azlhdip.men
    azlhatt.men not called?
striksel.aml
    qdstksel.men
    striksel.men
dipsel.aml
    qddipsel.men
    dipsel.men
shptltag.aml
ptlncstm.aml
    ptln1.alc
    ptln2.alc
    ptln3.alc
showptpl.aml
mrkset.men
ptpllut.men
ptplitem.men
ptplanno.men
attfmt.men
select.aml
    select.men
        setdwsym.aml
            symb.aml
                symb.men

```
                                        selhlp.men
                        tek41xx.men
                        tek42xx.men
                        ws.men
                        savecont.aml
                                svaudit.aml
                        rstrsave.aml
                        ptpldraw.men[](3)
                        zoom.men[](2)
digptpt.men
        ledit.men[](4)
        addptpt.aml
        tagptpt.aml
        select.aml
                select.men
                        setdwsym.aml
                                symb.aml
                                        symb.men
                        selhlp.men
        ptptcstm.aml
                ptpt1.alc
                ptpt2.alc
                ptpt3.alc
        tek41xx.men
        tek42xx.men
        ws.men
        savecont.aml
                svaudit.aml
        rstrsave.aml
        draw.men[](1)
        zoom.men[](2)
digptsymb.men/*
pntmove.men
        ledit.men[](4)
        select.aml
                select.men
                        setdwsym.aml
                                symb.aml
                                        symb.men
                        selhlp.men
        tek41xx.men
        tek42xx.men
        ws.men
        savecont.aml
                svaudit.aml
        rstrsave.aml
        draw.men[](1)
        zoom.men[](2)
        get.men
```

putbar.men
ledit.men[](4)
select.men
setdwsym.aml
symb.aml
symb.men
selhlp.men
put.aml
put.men
tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
setitem.aml
showuniq.aml
cnnect.men
relate.men
ledit.men[](4)
rlateadd.men
rlateres.men
rlatesav.men
edsymb.men
ledit.men[](4)
symbset.men
lineset.men
mrkset.men
ptpllut.men
apbckpt.aml
bckptcov.men
apptpl.aml
mrkset2.men
textset.men
draw.men[](2)
zoom.men[](1)
select.aml
select.men
setdwsym.aml
symb.aml
symb.men
selhlp.men
tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
rstrsave.aml
draw.men[](1)
zoom.men[](2)

areas.aml
- areas.men
  - ledit.men[](4)
  - digareas.men
    - ledit.men[](4)
    - addlabel.aml
    - taglabel.aml
    - seltglab.aml
      - taglabel.aml
      - symb.aml
        - symb.men
    - areacstm.aml
      - area1.alc
      - area2.alc
      - area3.alc
      - addlabel.aml
    - select.aml
      - select.men
        - setdwsym.aml
          - symb.aml
            - symb.men
        - selhlp.men
    - ap.aml
      - ap.men
        - apsymb.men
      - apareas.aml
    - draw.men[](1)
    - tek41xx.men
    - tek42xx.men
    - ws.men
    - savecont.aml
      - svaudit.aml
    - rstrsave.aml
    - zoom.men[](2)
  - areamove.men
    - ledit.men[](4)
    - select.aml
      - select.men
        - setdwsym.aml
          - symb.aml
            - symb.men
        - selhlp.men
    - tek41xx.men
    - tek42xx.men
    - ws.men
    - savecont.aml
      - svaudit.aml
    - rstrsave.aml
    - draw.men[](1)

```
                zoom.men[](2)
                get.men
                putbar.men
                        ledit.men[](4)
                        select.aml
                                select.men
                                        setdwsym.aml
                                                symb.aml
                                                        symb.men
                                        selhlp.men
                        put.aml
                                put.men
                        tek41xx.men
                        tek42xx.men
                        ws.men
                        savecont.aml
                                svaudit.aml
        edsymb.men
                ledit.men[](4)
                symbset.men
                lineset.men
                mrkset.men
                ptpllut.men
                apbckpt.aml
                        bckptcov.men
                        apptpl.aml
                mrkset2.men
                textset.men
                draw.men[](2)
                zoom.men[](1)
        select.aml
                select.men
                        setdwsym.aml
                                symb.aml
                                        symb.men
                        selhlp.men
        setitem.aml
        showuniq.aml
        calc.aml
                calc.men
                calc2.men
        moveit.aml
                moveit.men
                moveit2.men
        update.aml
                update.men
                update2.men
        change.aml
                change1.men
```

change2.men
changopt.men
cnnect.men
relate.men
ledit.men[](4)
rlateadd.men
rlateres.men
rlatesav.men
tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
rstrsave.aml
draw.men[](1)
zoom.men[](2)

anno.aml
annoenv.men
ansz.aml
annooff.aml
annoit.aml
annover.aml
alchelp.aml
anno.men
ledit.men[](4)
diganno.men
ledit.men[](4)
annoenv.aml
annoenv.men
ansz.aml
annooff.aml
annoit.aml
annover.aml
alchelp.aml
shannoc.aml
shannoc.men
alchelp.aml
select.aml
select.men
setdwsym.aml
symb.aml
symb.men
selhlp.men
tek41xx.men
tek42xx.men
ws.men
savecont.aml
svaudit.aml
draw.men[](1)

zoom.men[](2)

chganno.men

ledit.men[](4)

action.aml

channo.aml

chopt.men

chngann1.men

chngann2.men

alchelp.aml

annolevc.men

annosizc.men

setannsz.aml

annosymc.men

shannoc.aml

shannoc.men

alchelp.aml

select.aml

select.men

setdwsym.aml

symb.aml

symb.men

selhlp.men

tek41xx.men

tek42xx.men

ws.men

savecont.aml

svaudit.aml

draw.men[](1)

zoom.men[](2)

get.men

putbar.men

ledit.men[](4)

select.aml

select.men

setdwsym.aml

symb.aml

symb.men

selhlp.men

put.aml

put.men

tek41xx.men

tek42xx.men

ws.men

savecont.aml

svaudit.aml

edsymb.men

ledit.men[](4)

symbset.men

lineset.men

```
                    mrkset.men
                    ptpllut.men
                    apbckpt.aml
                        bckptcov.men
                        apptpl.aml
                    mrkset2.men
                    textset.men
                    draw.men[](2)
                    zoom.men[](1)
                select.aml
                    select.men
                        setdwsym.aml
                            symb.aml
                                symb.men
                        selhlp.men
                draw.men[](1)
                tek41xx.men
                tek42xx.men
                ws.men
                savecont.aml
                    svaudit.aml
                zoom.men[](2)
tics.aml
    tics.men
        ledit.men[](4)
        movetics.aml
        select.aml
            select.men
                setdwsym.aml
                    symb.aml
                        symb.men
                selhlp.men
        get.men
        draw.men[](1)
        zoom.men[](2)
savecont.aml
    svaudit.aml
    svsetup.aml
savesel.aml
savesymb.aml
setaudit.aml
showsave.aml
svsetup.aml
rdsetup.aml
usesetup.aml
    rdsetup.aml
    svsetup.aml
    showsnap.aml
draw.men[](1)
```

zoom.men[](2)
tek41xx.men

tek42xx.men
ws.men
savecont.aml
svaudit.aml
rstrsave.aml

plot.aml
plot.men
lmain.men[](5)
apcmds.aml
callmapx.aml
mapx.aml (unpublished software by A. C. Tarr, USGS, Golden, CO)
alcplt.men
alcplt.aml
alchelp.aml
editplot.men
drawplot.aml
drawplot.men

analysis.aml
analysis.men
lmain.men[](5)
buffer.aml
bufvar.men
bufconst.men
near.men
pntdist.men
append.aml
append.men
clip.men
erase.men
mapjoin.aml
mapjoin.men
split.aml
split.men
update.men
disspolve.men
eliminate.aml
eliminate.men
resel.aml
resel.men
identity.men
intersect.men
union.men

conversn.aml
conversn.men
lmain.men[](5)
transfrm.men

project.aml
projfile.men
projcov.men
export.men
import.men
tapewr.men
taperd.men
assign.aml
assign.men
unassign.men
scitxlin.men
scitxpnt.men
scitxply.men
arcscitx.men
arcsci.aml
arcscinm.men
wkspace.aml
arcsci.men
numluts.aml
lut.aml
wrarcsci.aml
exsciprm.men
exscisun.men
pltscitx.men
scitxrd.men
scitxwr.men

general.aml

general.men

lmain.men[](5)
copy.men
kill.men
create.men
additem.men
additem.aml
dropitem.men
creatlab.men
matchnodes.men
alcitems.aml
alcitems.men
alcitm1.men
alcitm2.men
alcitm3.men
alcitm4.men
addsvitm.men
addsvitm.aml
clean.aml
clean.men
copyalc.aml
build.men

copyalc.aml
copyalc.men
copyalc.aml
toleranc.men
tolchang.men
tollist.men
labelers.men
restorae.men
rename.men
chwksp.men

Standard popup menus:

1. zoom.men[]
    - zmovrvw.aml
    - zoom36.aml
        - zoom36.men
    - zoom32.aml
        - zoom32.men
    - zmsel.aml
    - zmbnd.aml
    - zmtic.aml
    - zm2scale.aml
        - zm2scale.men
        - mapunits.men
    - oldframe.aml
    - savframe.aml
    - callpan.aml
        - pan.men
            - panul.aml
            - panu.aml
            - panur.aml
            - panl.aml
            - pan.aml
            - panr.aml
            - pandl.aml
            - pand.aml
            - pandr.aml
        - zoomout.aml
        - zoomin.aml
        - zmpan.aml
        - zmxy.aml
        - calldraw.aml
            - draw.men[](2)

2. draw.men[]
    - drawenv.aml
        - drawenv.men
    - setdwsym.aml
        - symb.aml
            - symb.men
    - callsel.aml
    - getsymb.aml
        - symb.aml
            - symb.men
    - callzoom.aml
        - zoom.men[](1)

3. ptpldraw.men[]
    - drawenv.aml

drawenv.men
callsel.aml
ptplds.aml
callzoom.aml
zoom.men[](1)

4. ledit.men[]
syscmd.aml
commands.aml
listdir.aml
arccmd.aml
arccmds.aml
aecmd.aml
keybdcmds.aml
wkspace.aml
curwkspc.aml
runaml.aml
runaml.men
editor.aml
editor.men
alchelp.aml
pagelist.aml
dfltdaln.aml
fsdaline.aml
devices.men
showdev.aml
getterm.aml
getdisply.aml
disoption.men
getdig.aml
dig.men
dighlp.aml
digtty.men[]
diglinhlp.aml
tek41xx.men
tek42xx.men
ws.men
fastdisk.aml
fastmous.aml
dfltdaln.aml
fsdaline.aml
savestat.aml
station.aml
getterm.aml
alchelp.aml
fastdisk.aml
setreom.aml (not on sun yet)
fastmous.aml

tek41xx.men
tek42xx.men
ws.men
getdsply.aml
dsplyopt.men[]
getdig.aml
dig.men[]
digtty.men[]
alchelp.aml
tek41xx.men
tek42xx.men
ws.men
fastmous.aml
fastdisk.aml
edaudit.men
aeshow.men
edstatus.men
time.aml

5. lmain.men[]
alchelp.aml
demo.aml
startdem.men
copytour.aml
screen1.aml
screen2.aml
screen3.aml
screen4.aml
screen5.aml
screen6.aml
screen7.aml
screen8.aml
screen9.aml
screen10.aml
screen11.aml
screen12.aml
screen13.aml
screen14.aml
screen15.aml
screen16.aml
screen17.aml
screen18.aml
screen19.aml
syscmd.aml
commands.aml
listdir.aml
arccmd.aml
arccmds.aml
wkspace.aml

curwkspc.aml
runaml.aml
    runaml.men
editor.aml
    editor.men
        alchelp.aml
pagelist.aml
dfltdaln.aml
fsdaline.aml
devices.men
    showdev.aml
    getterm.aml
    getdisply.aml
        disoption.men
    getdig.aml
        dig.men
        dighlp.aml
        digtty.men[]
        diglinhlp.aml
    tek41xx.men
    tek42xx.men
    ws.men
    fastmouse.aml
    fastdisk.aml
    savestat.aml
    dfltdaln.aml
    fsdaline.aml
    station.aml
        getterm.aml
            alchelp.aml
            fastdisk.aml
            setreom.aml (not on sun yet)
            fastmous.aml
            tek41xx.men
            tek42xx.men
            ws.men
        getdsply.aml
            dsplyopt.men[]
        getdig.aml
            dig.men[]
            digtty.men[]
            alchelp.aml
        tek41xx.men
        tek42xx.men
        ws.men
        fastmous.aml
        fastdisk.aml
arcshow.men
    time.aml

THE TOUR DIRECTORY

The ALACARTE Tour directory contains ARC/INFO coverages and associated files used by the ALACARTE demo routine and tutorial and to provide sample geologic coverages for users. Users must copy the tour directory to their own area before starting the demo. The ALACARTE demo menu provides a tour copy function for this purpose and to start the demo.

Description of Contents

These ARC/INFO coverages are co-registered layers for a portion of the Loma Prieta 7 1/2' quadrangle in California. The info directory contains coverage feature attribute tables, lookup tables, etc. Coverages and related files used by the ALACARTE demonstration are noted.

Base coverages:

clp.index	Scanned index contours	Used by screen amls 1, 3
clp.inter	Scanned intermediate contours	Not used by demo
clp.cult	Scanned culture layer	Not used by demo
clp.hydro	Scanned hydrology layer	Used by screen amls 1, 3

Geology coverages:

clp.geol	Geologic map	Used by screen amls 1-9, 17, 20, 21
clp.struc	Structure layer: oriented symbols, fold axes	Not used by demo
clp.anno	Annotation text	Used by screen aml 1
clp.paleo	Fossil sample layer	Used by screen aml 18
clp.att	Same as clp.struc	Used by screen amls 1, 20
clp.scan.17	17 lines/mm scan of author-drafted geologic map	Not used by demo

Symbolsets and fonts:

alcgeol.mrk	Markerset of oriented sturctural symbols	Used by demo
alcwrg.lin	Lineset of standard geologic lines	Not used by demo
fnt025	Font used by alcwrg.lin	Not used by demo
fnt039	Font used by alcgeol.mrk	Used by demo
demo.txt	Text symbol set	Used by demo
demo.line	Lineset for demo	Used by demo
black.mrk	Markerset for demo	Used by demo

Tour INFO lookup tables:

colorlin.lut	Lookup table for demo	Used by demo
demoline.lut	Lookup table for demo	Used by demo
demopt.lut	Lookup table for demo	Used by demo
ptpl.lut	Lookup table for demo	Used by demo
demo2shade.lut	Lookup table for demo	Used by demo
yellowptpl.lut	Lookup table for demo	Used by demo
clp.struct.lut	Standard 1x oriented symbols lut for clp.struc layer	Not used by demo
clp.struct.lut2x	Standard 2x oriented symbols lut for clp.struc layer	Not used by demo
clp.att.lut	Standard 1x oriented symbols lut for clp.att layer	Not used by demo
clp.att.lut2x	Standard 2x oriented symbols lut for clp.att layer	Not used by demo

Other Files:

info	Info database directory
texport.aml	Tour export.aml
timport.aml	Tour import.aml
tdele00.aml	Aml to delete tour export files (*.e00 files)
log	ARC/INFO workspace log

Files Used by the ALACARTE Demo AML's

Listed here are amls and ARC/EDIT ap background files located in the ALACARTE demo directory along with the tour coverages, symbol sets, fonts, and lookup tables that are used by each aml.

DEMO.AML CALLS SCREENXX.AML WHERE XX = 0 THROUGH 21

USES THE FOLLOWING FILES:

CLP.GEOL	DEMO2SHADE.LUT	PATCH9.AP
CLP.INDEX	DEMOLINE.LUT	PATCH10.AP
CLP.HYDRO	DEMO.LINE	DEMOPT.LUT
PATCH14.AP	CLP.ATT	COLORLIN.LUT
PATCH15.AP	CLP.ANNO	PTPL.LUT
PATCH18.AP	CLP.PALEO	BLACK.MRK
YELLOWPTPL.LUT	SCREEN15.AP	DEMO.TXT
FNT025	SCREEN17.AP	FNT039

SCREEN0.AML CALLS NONE, USES NONE

SCREEN1.AML	CLP.GEOL	COLOR.SHD	DEMO2SHADE.LUT
	CLP.INDEX	DEMOLINE.LUT	CLP.ANNO
	CLP.HYDRO	BLACK.MRK	DEMOPT.LUT

	CLP.ATT	DEMO.LINE	
SCREEN2.AML	CLP.GEOL DEMO.LINE	DEMO.TXT	DEMOLINE.LUT
SCREEN3.AML	CLP.INDEX CLP.HYDRO	PLOTTER.MRK	CLP.GEOL
SCREEN4.AML	CLP.GEOL		
SCREEN5.AML	CLP.GEOL		
SCREEN6.AML	CLP.GEOL	COLOR.LIN	COLORLIN.LUT
SCREEN7.AML	CLP.GEOL	COLOR.LIN	
SCREEN8.AML	CLP.GEOL	COLOR.LIN	COLORLIN.LUT
SCREEN9.AML	CLP.GEOL	COLORLIN.LUT	
SCREEN10.AML	PATCH10.AP		
SCREEN11.AML	PATCH10.AP		
SCREEN12.AML	PATCH10.AP		
SCREEN13.AML	PATCH10.AP		
SCREEN14.AML	COLOR.MRK	PATCH14.AP	
SCREEN15.AML	DEMO.TXT	SCREEN15.AP	PATCH15.AP
SCREEN16.AML	PLOTTER.TXT		
SCREEN17.AML	SCREEN17.AP		
SCREEN18.AML	PLOTTER.TXT	PATCH18.AP	COLOR.MRK
SCREEN19.AML	CALLS NONE, USES NONE		
SCREEN20.AML	CLP.GEOL CLP.ATT	PTPL.LUT YELLOWPTPL.LUT	PATCH18.AP
SCREEN21.AML	CLP.GEOL	PLOTTER.MRK	PLOTTER.LIN

THE ALACARTE SYMBOLS DIRECTORY

The ALACARTE symbols directory contains standard ALACARTE symbol sets, fonts, and lookup tables used by ALACARTE routines. Do not delete any files from this directory even though some may have been loaded into the arcexe50 area.

Symbolsets and fonts:

alcgeol.mrk	markerset of oriented sturctural symbols
alcwrg.lin	lineset of standard geologic lines
fnt025	font for alcwrg.lin
fnt039	font for alcgeol.mrk
cca.shd	Calcomp hardware shades 1-999
ccb.shd	Calcomp hardware shades 1001-1024
cca.lin	Calcomp pen numbers 1-999
ccb.lin	Calcomp pen numbers 1001-1024

INFO Lookup Tables:

CCPTPL.LUT	Calcomp plotter version of ptpl.lut, uses color 3
DEMOLINE.LUT	Lookup table used by Alacarte demo
CCSTRUCTURE.LUT	Calcomp plotter version of ptpl.lut
ALCLINE.LUT	Line lookup table, refers to alcwrg.lin
PTPL.LUT	Point plane lookup table, refers to alcgeol.mrk
PTPL.LUT2X	Point plane lookup table, refers to alcgeol.mrk, draws symbols at twice normal size.
PTPL.LUT1X	Same as ptpl.lut, not used currently.
MARKERSET	Info template for markersets. Used to modify markersets in info.

Other Files:

info	Info database directory
sexport.aml	Symbols export aml
simport.aml	Symbols import aml
sdele00.aml	Aml to delete symbols export files (*.e00 files)
log	ARC/INFO workspace log

ALACARTE DATABASE DETAILS

ALACARTE uses character items to store most attribute information. This was chosen pending release of USGS coding and symbol standards and because character attributes are readable. ALACARTE will use this standard coding scheme in the future and will provide conversions from the current scheme. The characteristic feature attribute is placed in an item in the feature attribute table in the current ALACARTE version, rather than in a related table . An alternative for the standard ALACARTE item name for arc attributes, LTYPE, may be specified with the 'set lines item' on the Db pulldown on the LINES menu. Alternative attribute item names can also be specified for the other feature types from the Db pulldown on the respective feature menu.

Arc Attributes

ARC attributes are stored in AAT item LTYPE, defined as 35 35 C. The attribute consists of two parts, the line type (contact, thrust, etc.) separated by a comma from the line modifier (inferred, queried, etc.) After these are each independently set on the digitize lines menu arcs can be added and automatically tagged, selected using the current line type and modifier, or selected arcs can be tagged with the current line type and modifier. Kinds of geologic lines are typically standard, thus permiting their listing in menu form. Those supported by ALACARTE are listed in the next section.

STANDARD ATTRIBUTES FOR GEOLOGIC LINES

ALACARTE INFO Database Attributes and Corresponding Symbol Numbers and Menu Choices

INFO db attribute stored in LTYPE	alcwrg.lin Symbol no.	LINES/DIG menu Line Type[4]	LINES/DIG menu Line Modifier[5]
	--	no attribute	--
atten. fault, approx. located	20	attenuation	approx. located
atten. fault, certain	19	attenuation	certain
atten. fault, concealed	23	attenuation	concealed
atten. fault, concealed, queried	24 or 58[2]	attenuation	concealed ?
atten. fault, inferred	21	attenuation	inferred
atten. fault, inferred, queried	22 or 57[2]	attenuation	inferred ?
conglomeratic, marker	48	--[3]	--
contact, approx. located	26	contact	approx. located
contact, certain	25	contact	certain
contact, concealed	29 or 44[1]	contact	concealed
contact, concealed, queried	30	contact	concealed ?
contact, gradational	--	contact	gradational
contact, inferred	27	contact	inferred
contact, inferred, queried	28	contact	inferred ?
contact, scratch	29	contact	--

dike	39	--	--
dikelet	38	--	--
f.a., anticline, certain	31	anticline	certain
f.a., anticline, concealed	35 or 45[1]	anticline	concealed
f.a., anticline, concealed, queried	36	anticline	concealed ?
f.a., anticline, inferred	33	anticline	inferred
f.a., anticline, inferred, queried	34	anticline	inferred ?
f.a., antiform, certain	31	antiform	certain
f.a., monocline, certain	31	monocline	certain
f.a., syncline, certain	31	syncline	certain
f.a., syncline, concealed	35 or 45[1]	syncline	concealed
f.a., syncline, concealed, queried	36	syncline	concealed ?
f.a., syncline, inferred	33	syncline	inferred
f.a., syncline, inferred, queried	34	syncline	inferred ?
f.a., synform, certain	31	synform	certain
fault, approx. located	2	fault	approx. located
fault, certain	1	fault	certain
fault, concealed	5 or 43[1]	fault	concealed
fault, concealed, queried	6	fault	concealed ?
fault, inferred	3	fault	inferred
fault, inferred, queried	4	fault	inferred ?
glacial moraine	46	--	--
glacier boundary	25	glacier bndry	none
glauconitic, marker	47	--	--
map boundary,	0	map boundary	none
map boundary, certain	0	map boundary	certain
map boundary, internal	0	map boundary	--
marker bed	42	--	--
normal fault, certain	1	normal	certain
normal fault, concealed	5	normal	concealed
normal fault, inferred	3	normal	inferred
normal fault, inferred, queried	4	normal	inferred ?
o.t. thrust fault, approx. located	14	--	--
o.t. thrust fault, certain	13	--	--
o.t. thrust fault, concealed	17	--	--
o.t. thrust fault, concealed, queried	18 or 56[2]	--	--
o.t. thrust fault, inferred	15	--	--
o.t. thrust fault, inferred, queried	16 or 55[2]	--	--
photo lineament	37	--	--
reverse fault, certain	1	reverse	certain
s.s. fault, certain	1	strike-slip	certain

s.s. fault, r.l., certain	1	dextral	certain
s.s. fault, r.l., concealed	5	dextral	concealed
s.s. fault, r.l., inferred	3	dextral	inferred
s.s. fault, r.l., inferred, queried	4	dextral	inferred ?
s.s. fault, l.l., certain	1	sinistral	certain
sag pond	41	--	--
scratch boundary, certain	29	scratch bndry	certain
thrust fault, approx. located	8	thrust	approx. located
thrust fault, certain	7	thrust	certain
thrust fault, concealed	11	thrust	concealed
thrust fault, concealed, queried	12 or 54[2]	thrust	concealed ?
thrust fault, inferred	9	thrust	inferred
thrust fault, inferred, queried	10 or 53[2]	thrust	inferred ?
topographic escarpment	40	--	--
water boundary, certain	25	water boundary	certain

Notes:

1. The lower numbered symbol defines dots as short dashes, the higher by true dots.
2. The lower numbered symbol has '?' up and teeth or barbs down (line left to right); the higher has '?' up and teeth or barbs up.
3. '--' means this line type and/or line modifier not on the ALACARTE LINES/DIG menu and must be entered as 'other' from the line type and/or line modifier pulldown menus. For Symbol no., '--' means the corresponding symbol is not available at this time.
4. The line type is chosen from the LINES/DIG C, F, A, or O pulldowns (for Contacts, Faults, fold Axes, and Other respectively).
5. The line modifier is chosen from the 'Mod' pulldown on the LINES/DIG menu.
6. This table includes entries for all attributes for which there is a symbol in the alcwrg.lin lineset, and at least the 'certain' example of each line type on the LINES/DIG line type pulldowns. The 'gradational' line modifier is shown with the 'contact' line type as an example. Other combinations are stored by ALACARTE in the same fashion as the ones shown; these may be used as models.
7. A fairly complete lookup table (LUT) for the above lines is ALCLINE.LUT in the info directory in ALACARTE's symbols directory (/arcexe50/alacarte/symbols:arc:alcline.lut).

Polygon Label Attributes

Polygon label attributes are stored in PAT item PTYPE, defined as 35 35 C. Polygons typically represent geologic units on a geologic map. Because these are generally unique to a given map or region, no standard ALACARTE label attributes were defined. Users enter the geologic unit from the keyboard or select it from a custom tagging menu prepared during map setup.

Point Attributes

Point labels are used to represent three types of features on a geologic map: points that represent points in space (sample localities), points that represent the location and orientation of lines in space (lineations), and points that represent the location and orientation of planes in space (bedding and other attitudes). ALACARTE has different digitize menus for each of these types. ALACARTE aml and menu filenames use the prefixes ptpt for points representing points, ptln for points representing lines, and ptpl for points representing planes. Lineations and attitudes are stored in the same coverage and use the same items.

SAMPLE LOCALITIES

These use info item PTTYPE, defined 35 35 C, to record type of sample (e.g. chem, KAr, etc.) and SAMPNO, defined 35 35 C, to record individual sample numbers or other identifiers.

ORIENTED STRUCTURE SYMBOLS

These also use info item PTTYPE, defined 35 35 C, to record type of feature (lineation, overturned bedding, etc.), STRIKE (3 3 I) to record attitude strike or lineation azimuth and DIP (3 3 I) to record attitude dip or lineation plunge. Strike is calculated from labelangle and stored in INFO in degrees clockwise from north such that the dip is on the left hand. Azimuth is recorded in degrees clockwise from north. Note that the azimuths determined for strike and bearing are derivatives of labelangle and therefore are duplications. (A routine to update STRIKE based on labelangle and vice versa should be created). The ALACARTE standard attributes for attitudes and lineations are listed below:

Standard Attitude Attributes

These are the attributes as stored in the PTTYPE item in INFO for structural attitudes. These are presented in the same form on the 'Pt tags' pulldown on the DIG PLANAR points bar. The corresponding symbolset and lookup table are alcgeol.mrk and PTPL.LUT, both in the ALACARTE symbols directory.

INFO db attribute stored in PTTYPE	alcgeol.mrk Symbol no.
bedding	1
approx bedding	7
ot bedding	2
bedding w/tops	6
ot bedding w/tops	10
flat bedding	4

vert bedding	3
vert bedding w/tops	11
crumpled bedding	9
foliation	5
foliation and bedding	8
vert foliation and bedding	12
horz foliation	14
inclined cleavage	13
inclined cleavage w/tops	31
joint	15
horz joint	21
vert joint	24
joint unmineralized	36
air photo attitude	32

Standard Lineation Attributes

These are the attributes as stored in the PTTYPE item in INFO for lineations. These are presented in the same form on the 'Pt tags' pulldown on the DIG LINEAR points bar. The corresponding symbolset and lookup table are alcgeol.mrk and PTPL.LUT, both in the ALACARTE symbols directory. Symbol 33, an arrow, is the only symbol available for lineations in version 1.0. The lineation tag is stored in somewhat coded form in PTTYPE but is presented to the user in a more readable form on the menus.

INFO db attribute stored in PTTYPE	PLANAR DIG Pt tags menu
_l_lineation_i_	inclined lineation
_l_lineation_att_i_	inclined lineation at attitude
_l_lineation_h_	horizontal lineation
_l_lineation_v_	vertical lineation
_l_slick_i_n_	inclined slickenside, normal slip sense
_l_slick_i_r_	inclined slickenside, reverse slip sense
_l_slick_i_u_	inclined slickenside, unknown slip sense
_l_bdclvg_i_	bedding-cleavage intersection lineation
_l_anticline_i_	minor anticline
_l_syncline_i_	minor syncline
_l_fold_i_	minor inclined fold axis
_l_fold_h_	minor horizontal fold axis
_l_paleocurrent_i_	inclined paleocurrent
_l_faultdip_i_	dip of fault surface

Other Database Items

ALACARTE optionally creates and uses two items, SEL (1 1 I) and SYMB (3 3 I) that are part of the feature attribute table. SEL is used to record which items are selected before a coverage is saved in ARCEDIT, in order to allow that selected set to be restored after the save. This is done by calculating SEL to 1 for selected items, then selecting for SEL = 1 to restore the set. Similarly, SYMB is used to record the symbol ($SYMBOL) assigned to map elements for later restoration.

ALACARTE 1.0 STATUS

ALACARTE 1.0 is the first published release of an evolving program now in use by several dozen users and installed in preliminary form at over twenty USGS sites. Future ALACARTE development, limitations, and known bugs are discussed below.

Future ALACARTE Development

An ALACARTE Version 1.1 is planned that will incorporate bug fixes, minor but critical enhancements, revised manuals, and compatibility with both ARC/INFO Revisions 5.0.1 and 6.0.

A further revision of ALACARTE would require ARC/INFO Revision 6.0 and UNIX workstations running X-Windows. ALACARTE can be modified to support new ARC/INFO 6.0 capabilities, including multiple simultaneous menus using AML threads, and could include general and geologic-specific analytical routines in both vector and raster (GRID) domains. Semi-automated style-sheets for cartographic layout, plotting and publication of standard USGS geologic maps, and creation of comprehensive geologic symbols per pending USGS standards are a high priority. Terrain-modeling and extended SQL-based database functionality could also be included.

There are no plans to implement ALACARTE on systems other than those running UNIX and Primos.

ALACARTE Limitations

Listed here are some of the broader limitations of ALACARTE.

Only selected functions of ARC, INFO, ARCEDIT, and ARCPLOT modules are supported.

TIN, NETWORK, COGO, RDBI, and Librarian are not supported at all.

ALACARTE includes specific support for several common USGS map projections. Map units of meters are specifically supported (though other map units are permitted with less support) and not all PROJECT options are available in setting up an ALACARTE map (but they are available from the

PROJECT form menu).

ALACARTE uses a primitive character-based attributing scheme. This should change when pending USGS coding standards are published.

The ALACARTE help system is only partially implemented.

Some AML documentation headers are imcompletely filled out or are no longer accurate.

The alcinit.aml does not document all global variables used in ALACARTE, and global variables have been overused in some instances and must be cleaned up.

ALACARTE runs only on UNIX and Prime systems.

Known Bug List

A comprehensive list of known bugs was not completed at time of publication, but is expected to be available in the future (an announcement will be made to registered ALACARTE sites).

APPENDIX

The ALACARTE.AML

```
/*****************************************************************************
/* PROJECT                ALACARTE
/*
/*              User-friendly interface to ARC/INFO for earth scientists
/*              U.S. Geological Survey, Menlo Park, California
/*              Todd T. Fitzgibbon
/*****************************************************************************
/* PROGRAM              alacarte.aml
/* PURPOSE              Initial routine for ALACARTE.  Sets up paths,calls
/*                        routines to get device specifications,initialize
/*                        global variables, call main.men
/* AUTHOR               Todd T. Fitzgibbon
/* MODIFIED             28 Aug 90
/* REQUIRES ARC/INFO    Rev. 5.0.1 or later
/* HOSTS                Sun, Prime
/* CALLED BY            None
/* CALLS                station.aml
/*                      unix.aml
/*                      prime.aml
/*                      vax.aml
/*                      alcinit.aml
/*                      main.men
/* RETURNS
/* ARGUMENTS            None
/* INPUTS
/* OUTPUTS
/* STATUS
/* COMMENTS
/*****************************************************************************
/*
&severity &error &routine generalerror
/*
/*
/*
/*
/*
/*****************************************************************************
/*
/* TO INSTALL ALACARTE ON YOUR SYSTEM:
/*
/* 1. Remove the /* comment symbol from the left end of the line in the
/*      appropriate section below.  Then specify the path to the alacarte dirs
/*      on your system.  Make sure only one of the three path statements is
```

```
/*      uncommented.
/*
/*****************************************************************************
/*  Set path for UNIX
/*   Be sure to end path in a /
/*
&s .alc$path       /arcexe50/menus/alacarte/
/*
/*****************************************************************************
/*  Set path for PRIME
/*   Be sure to end path in a >
/*
/*&s .alc$path       arcexe50>menus>alacarte>
/*
/*****************************************************************************
/*  Set path for VAX  NOTE - VAX/VMS NOT SUPPORTED AT THIS TIME.
/*   Be sure to end path in a .
/*
/*&s .alc$path       disk$userdisk:[tfitz.alacarte.
/*
/*****************************************************************************
/*
/*
/*
/* 2. Enter the location of the arcexe50 directory below. (Used to find stations
/*     and other arc and alacarte dirs).
/*
/*****************************************************************************
/*  Set path for UNIX
/*   Be sure to end path in a /
/*
&s .alc$arcpath       /arcexe50/
/*
/*****************************************************************************
/*  Set path for PRIME
/*   Be sure to end path in a >
/*
/*&s .alc$arcpath       arcexe50>
/*
/*****************************************************************************
/*  Set path for VAX    /* NOTE - VAX/VMS NOT CURRENTLY SUPPORTED.
/*   Be sure to end path in a .
/*
/*&s .alc$arcpath       disk$userdisk:[arcexe50.
/*
/*****************************************************************************
/*
/*
/*
```

```
/* 3. Change "arc" in the following line to the name of ARC on your system
/*    if it is different.  E.g., arc32, arc4, arc50, etc.
/*
/*
&setvar .arcname arc
/*
/*
/* 4. Change "5" in the following line to the overall version of ARC on your
/*    system.  This should be either 5 or 6 (not 4.03 or 5.0.1, etc.).
/*    NOTE: ARC 5 ONLY IS CURRENTLY SUPPORTED.
/*
&setvar .arcversion 5
/*
/*
/* 5. Remove the /* comment symbol from the left of the appropriate operating
/*    system type.  Systems currently available are prime and unix. Make sure
/*    only one of the three host types is uncommented.
/*
&s .alc$host unix
/*&s .alc$host prime
/*&s .alc$host vax    /* NOTE - VAX/VMS NOT CURRENTLY SUPPORTED.
/*
/*
/* 6. Optionally edit the file specified in step 5 above, either unix.aml or
/*    prime.aml, to specify local system commands such as for the system
/*    screen editor.  These files are located in the alacarte main subdirectory.
/*
/*  END OF INSTALLATION SECTION
/*
/*****************************************************************************
/*
/*
/* This is the main loop that calls the menus
/*
&s .firsttime .true.
&s .alc$next main
&do &until %.alc$next% = quit
 /*
 /*  Set current paths
 /*
 &if %.alc$host% = vax &then
  &do
   &menupath [unquote %.alc$path%%.alc$next%']']   [unquote %.alc$path%main']']
   &amlpath  [unquote %.alc$path%%.alc$next%']']   [unquote %.alc$path%main']']
  &end
 &else
  &do
   &menupath %.alc$path%%.alc$next%   %.alc$path%main
   &amlpath  %.alc$path%%.alc$next%   %.alc$path%main
```

```
  &end
 /*
 &if %.firsttime% &then
  &do
   &run alcversn.aml
   &run %.alc$host%.aml
   &run alcinit.aml
   &run station.aml
   &s .firsttime .false.
  &end
 /*
 &type Please pick a menu item with the %.menudevice%
 &run %.alc$next%.aml
&end
/*
&type Leaving ALACARTE...
/*
quit                              /* return from main.men = quit from arc
/*
&return
/*
/*****************************************************************************
/*
/*      Subroutines
/*
/*****************************************************************************
&routine generalerror
&severity &error &ignore
&severity &warning &ignore
&run errmsg.aml ALACARTE.AML
&return
```

The UNIX.AML

```
/*****************************************************************************
/* PROJECT                ALACARTE
/*
/*              User-friendly interface to ARC/INFO for earth scientists
/*              U.S. Geological Survey, Menlo Park, California
/*              Todd T. Fitzgibbon
/*****************************************************************************
/* PROGRAM              unix.aml
/* PURPOSE              Sets system-dependent parameters
/* AUTHOR               Todd T. Fitzgibbon
/* MODIFIED             28 Aug 90
/* REQUIRES ARC/INFO    Rev. 5.0 or later
/* HOSTS                Sun
/* CALLED BY            alacarte.aml
/* CALLS                None
/* RETURNS              See below
/* ARGUMENTS            None
/* INPUTS               None
/* OUTPUTS              None
/* STATUS               ok
/* COMMENTS
/*****************************************************************************
/*
&severity &error &routine generalerror
/*
/* The following are old forms of these variables, some still used
/* but to be replaced in the future.
/*
/* BE SURE TO MAKE ANY CHANGES TO BOTH VERSIONS OF VARIABLES, E.G. .DIR
/* AND .ALC$DIR
/*
&s .dir          ls
&s .dirsep       /
&s .sysreturn    exit
&s .del          rm
&s .lst          cat
&s .host         %.alc$host%
/* &s .copy         cp
&s .statsep       _
/*
/* The following are the new forms of the variables that should be used.
/* These should be unique to ALACARTE
/*
&s .alc$dir          ls
&s .alc$dirsep       /
&s .alc$sysreturn    exit
```

```
&s .alc$delete       rm
&s .alc$lst          cat
&s .alc$copy         cp
&s .alc$statsep      _
&s .alc$editor       vi
&s .alc$pagelist     more
&s .alc$wldcard      *
&s .alc$print        lpr
/*
&return
/*
/*****************************************************************************
/*
/*     Subroutines
/*
/*****************************************************************************
&routine generalerror
&severity &error &ignore
&severity &warning &ignore
&run errmsg.aml UNIX.AML
&return
```

The PRIME.AML

```
/*****************************************************************************
/* PROJECT                 ALACARTE
/*
/*              User-friendly interface to ARC/INFO for earth scientists
/*              U.S. Geological Survey, Menlo Park, California
/*              Todd T. Fitzgibbon
/*****************************************************************************
/* PROGRAM              prime.aml
/* PURPOSE              Sets system-dependent parameters
/* AUTHOR               Todd T. Fitzgibbon
/* MODIFIED             04 Apr 90
/* REQUIRES ARC/INFO    Rev. 5.0 or later
/* HOSTS                Prime
/* CALLED BY            alacarte.aml
/* CALLS                None
/* RETURNS              None
/* ARGUMENTS            None
/* INPUTS               None
/* OUTPUTS              None
/* STATUS               ok
/* COMMENTS
/*****************************************************************************
/*
&severity &error &routine generalerror
/*
/* The following are old forms of these variables, some still used
/* but to be replaced in the future.
/*
/* BE SURE TO MAKE ANY CHANGES TO BOTH VERSIONS OF VARIABLES, E.G. .DIR
/* AND .ALC$DIR
/*
&s .dir          ld
&s .dirsep       >
&s .sysreturn    quit
&s .del          delete
&s .lst          slist
&s .host         %.alc$host%
/* &s .copy         copy
&s .statsep      -
/*
/* The following are the new forms of the variables that should be used.
/* They should be unique to ALACARTE
/*
&s .alc$dir          ld
&s .alc$dirsep       >
&s .alc$sysreturn    quit
```

```
&s .alc$delete      delete
&s .alc$lst         slist
&s .alc$copy        copy
&s .alc$statsep     -
&s .alc$editor  emtab
&s .alc$pagelist pl
&s .alc$wldcard  @
&s .alc$print        spool
/*
&return
/*
/*****************************************************************************
/*
/*     Subroutines
/*
/*****************************************************************************
&routine generalerror
&severity &error &ignore
&severity &warning &ignore
&run errmsg.aml PRIME.AML
&return
```

The install_alc_unix Script

```
#! /bin/csh
#    install_alc_unix
#
echo ' '
echo '  ***   This script must be run by root (superuser).   ***'
echo ' '
echo It assumes that alacarte has been loaded into the /arcexe50/menus dir
echo and that the arc command is in root\'s execution path.
echo ' '
echo It performs the following steps:
echo ' '
echo 1. Copies the alacarte.aml to the /arcexe50/atool/arc directory.
echo This aml points to the ALACARTE code in /arcexe50/menus/alacarte and
echo permits any user to start ALACARTE by typing alacarte at the arc prompt.
echo ' '
echo 2. Copies two fonts, fnt025 and fnt039, to the /arcexe50/igl63exe dir, and
echo two arc symbol files to the /arcexe50/symbols dir.  These files provide
echo geologic line and point symbols.
echo ' '
echo 3. Externals coverages in the alacarte/tour directory.
echo ' '
echo -n " Enter YES to continue, NO to quit? "
set input_line = 'head -1'
set ans = 'echo $input_line | awk '{print substr($1,1,1)}' '
if ( $ans == "n" || $ans == "N" ) then
   echo "    Answer is NO, installation cancelled."
else if ( $ans == "y" || $ans == "Y" ) then
   echo "    Answer is Yes, installation proceeding..."
echo ' '
#
#                       STEP 1
#
cp /arcexe50/menus/alacarte/main/alacarte.aml   /arcexe50/atool/arc/alacarte.aml
#
#                       STEP 2
#
cp /arcexe50/menus/alacarte/symbols/fnt025       /arcexe50/igl63exe
cp /arcexe50/menus/alacarte/symbols/fnt039       /arcexe50/igl63exe
cp /arcexe50/menus/alacarte/symbols/alcgeol.mrk  /arcexe50/symbols
cp /arcexe50/menus/alacarte/symbols/alcwrg.lin   /arcexe50/symbols
#
#                       STEP 3
#
cd /arcexe50/menus/alacarte/tour
arc externalall
#
```

```
#                          DONE
#
echo ' '
echo The install_alc_unix command has finished.
echo ' '
echo You may need to edit /arcexe50/atool/arc/alacarte.aml and
echo /arcexe50/menus/alacarte/main/unix.aml.  See the installation
echo instructions in the ALACARTE Installation and System Manual.
echo ' '
else
   echo $input_line
   echo "    Answer not recognized, installation cancelled."
endif
exit
```

The Prime install_alc.cpl

```
/* install_alc.cpl for Primos
/*
type ' '
type '  *** You must have all permissions in the arcexe50 and ***'
type '  ***      igl63exe directories to run this cpl.        ***'
type ' '
type It assumes that alacarte has been loaded into the arcexe50>menus dir
type and that the arc command is in your execution path.
type ' '
type It performs the following steps:
type ' '
type 1. Copies the alacarte.aml to the arcexe50>atool>arc directory.
type This aml points to the ALACARTE code in arcexe50>menus>alacarte and
type permits any user to start ALACARTE by typing alacarte at the arc prompt.
type ' '
type 2. Copies two fonts, fnt025 and fnt039, to the igl63exe dir, and
type two arc symbol files to the arcexe50>symbols dir.  These files provide
type geologic line and point symbols.
type ' '
type 3. Externals coverages in the alacarte>tour directory.
type ' '
&if ^ [query 'Enter YES to continue, NO to quit' .false. -tty] &then &return
type ' '
/*
/*                      STEP 1
/*
copy arcexe50>menus>alacarte>main>alacarte.aml arcexe50>atool>arc>alacarte.aml
/*
/*                      STEP 2
/*
copy arcexe50>menus>alacarte>symbols>fnt025       igl63exe>==
copy arcexe50>menus>alacarte>symbols>fnt039       igl63exe>==
copy arcexe50>menus>alacarte>symbols>alcgeol.mrk  arcexe50>symbols>==
copy arcexe50>menus>alacarte>symbols>alcwrg.lin   arcexe50>symbols>==
/*
/*                      STEP 3
/*
attach arcexe50>menus>alacarte>tour
arc externalall
/*
/*                        DONE
/*
type ' '
type The install_alc.cpl command has finished.
type ' '
type You may need to edit arcexe50>atool>arc>alacarte.aml and
```

```
type arcexe50>menus>alacarte>main>prime.aml.  See the installation
type instructions in the ALACARTE Installation and System Manual.
type ' '
&return
```

The HEADER.DOC Standard File Header

```
/*****************************************************************************
/* PROJECT                ALACARTE
/*
/*             User-friendly interface to ARC/INFO for earth scientists
/*             U.S. Geological Survey, Menlo Park, California
/*             Todd T. Fitzgibbon
/*****************************************************************************
/* PROGRAM                    put aml name here
/* PURPOSE                    briefly describe program purpose
/* AUTHOR                     name(s) of authors
/* MODIFIED                   date of last mod, automatically updated with ts
                                   util (see UNIX Shell Scripts Related to
                                   ALACARTE in this manual)
/* REQUIRES ARC/INFO    Rev.  ARC Revision(s) the aml runs under
/* HOSTS                      Hosts the aml runs on, UNIX, Prime, etc.
/* CALLED BY                  Names of amls or menus that call this one, or
                                   several if a standard aml
/* CALLS                      Amls and menus called by this one
/* RETURNS                    Values returned, typically give names of global
                                   variables set in this routine
/* ARGUMENTS                  &args arguments, if any, and possible values
/* INPUTS                     input files, coverages, info files
/* OUTPUTS                    files, coverages, info files created or modified
/* STATUS                     completed, prototype, etc.
/* COMMENTS                   description of operation, other requirements
/*****************************************************************************
/*
&severity &error &routine generalerror
/*

/*
&return
/*
/*****************************************************************************
/*
/*     Subroutines
/*
/*****************************************************************************
&routine generalerror
&severity &error &ignore
&severity &warning &ignore
&run errmsg.aml amlname.AML          <---------- also put aml name here
&return
```

How to Setup a GTCO Digipad 5 Digitizer for Sun ARC

1. Cable:

DB25 male GTCO J5 (port A)	DB25 male Sun Serial Port
1	1
2	3
3	2
4	4
5	5
6	6
7	7
8	8
20	20

2. Switches on GTCO controller:

Dip Switch	Switch	Setting		
S1	1	off	9600 baud	
	2	off	"	
	3	on	"	
	4	on	"	
	5	off	parity disabled	
	6	off	NA	
	7	off	1 stop bit	
	8	on	8 bits	
S2	1	on	format:	key-pressed = first character
	2	on		space between coordinates
	3	on		CR
	4	on		LF
	5	on		high-res ASCII
	6	off	port A active	
	7	off	port B active	
	8	off	alarm disabled	
S3	1	off	not used	
	2	off	NA	
	3	off	NA	
	4	off	point/line mode	

5	on	16 button cursor
6	off	inch scale
7	off	ASCII formats
8	off	no hardware flow control

3. ARC/INFO gtco digitizer file (arcexe50/digform/dig_gtco) should look like:

```
'gtco'                GTCO digi-pad 5
1                     Device driver #
'(A1,F5.3,1X,F5.3)'   Format
F                     Menu bar on
F                     Single button mode off
73.0, 1.0, 0.0        X max, x scale, x offset
85.0, 1.0, 0.0        Y max, y scale, y offset
12                    Key conversion table
'0' 0, '1' 1, '2' 2, '3' 3, '4' 4, '5' 5
'6' 6, '7' 7, '8' 8, '9' 9, ':' 10, ';' 12
-1                    No initialization characters
-1                    No shut down characters
```

4. Setup of Sun serial port:

Assuming the digitizer is attached to serial port b on the rear of a Sun 3/60 workstation, the /etc/ttytab file entry should appear as follows (this is unchanged from the default entry):

```
ttyb "/usr/etc/getty std.9600"  unknown      off secure
```

If changes are made to the /etc/ttytab file, give the following command to make them current:

```
kill -1 1
```

5. Use the following ARC/INFO digitizer command:

```
digitizer gtco /dev/ttyb
```

where /dev/ttyb is the special device file for serial port b

NOTES:

This setup assumes a 16-button cursor. If otherwise, change the setting of GTCO controller dip switch 3-5 to OFF for stylus or 4 or 5-button cursor. Modify the dig_gtco file as required (see ARC/INFO documentation).

Use the ARC/INFO *digtest* command to check out your digitizer.

If you hit the F-button on the digitizer cursor you will switch to line mode where coordinates are sent as long as a cursor button is depressed. The green light on the cursor will be ON in line mode. Line mode will cause unpredictable results in ARC/INFO. Press the F-key again to toggle back to point mode.

ALACARTE Change Request Form

	Date	_____
From:	Name	_____
	Organization	_____
	Email address	_____
	Address	_____
		_____
		_____
		_____
	Phone	_____
	FAX	_____
	System name	_____
	System type	Sun3 Sun4 Aviion Prime Other_____
	Operating system/revision	_____
	ARC/INFO revision	_____
	ALACARTE revision	_____

What: **Bug** **Enhancement** **Documentation** **Other**_____

(Note circumstances if bug: menu name, menu item being executed, any error messages displayed, etc.)

Description (continue on rear or separate sheet if necessary):

Mail to: ALACARTE, c/o Todd Fitzgibbon, U.S. Geological Survey, 345 Middlefield Rd. MS-975, Menlo Park, CA 94025, **or FAX to:** 415-329-4936 (FTS 459-4936) **or email to:** tfitz@sierra.wr.usgs.gov

Logs (for use by ALACARTE development team):

Request No. _____

1. Changes made by:
   Location of finished code:
   Date completed:
2. Recorded on Structures & Functions: Y N N/A
3. Recorded on Hchart:: Y N N/A
4. Recorded in system manual: Y N N/A
5. Recorded in user manual: Y N N/A

Names of subroutines (or attach list):

6. Devalc updated by Fitzgibbon: Y N N/A
   Date of update:

ALACARTE Registration Form

Purpose: To register your copy of ALACARTE in order to receive notification of bug-fixes, additional documentation and new versions.

Date: _____

System administrator:

Name _____

Division/Branch/District/etc. _____

Email address _____

Address _____

_____

_____

Phone _____

Fax _____

System:

Name (e.g. gismnl) _____

Manuf. & model (e.g. Sun 4/65) _____

OS and revision (e.g. SunOS 4.1) _____

Media (e.g. 1/4" 150MB cartridge) _____

Internet domain and address _____

ARC/INFO:

Revision _____

Modules _____

_____

ALACARTE: Revision _____

Comments:

Mail to: **ALACARTE**
c/o Todd Fitzgibbon
U.S. Geological Survey
345 Middlefield Rd. MS-975
Menlo Park, CA 94025

or FAX to: **FTS 459-4936**
(415-329-4936)

or email to: **tfitz@sierra.wr.usgs.gov**