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Vibroacoustic Payload Environment Prediction System (VAPEPS)

Data Base Management Center Remote Access Guide

V. C. Thomas

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by

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

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ACKNOWLEDGEMENT

ABSTRACT

A Vibroacoustic Data Base Management Center has been established at the Jet Propulsion Laboratory (JPL). The center utilizes the Vibroacoustic Payload Environment Prediction System (VAPEPS) software package to manage a data base of shuttle and expendable launch vehicle flight and ground test data. Remote terminal access over telephone lines to a dedicated VAPEPS computer system has been established to provide the payload community a convenient means of querying the global VAPEPS data base. This guide describes the functions of the JPL Data Base Management Center and contains instructions for utilizing the resources of the center.

PREFACE

This manual is intended to be used as a general guide for accessing the Vibroacoustic Payload Environment Prediction System (VAPEPS) Data Base Management Center (DBMC) at the Jet Propulsion Laboratory. It describes the resources of the DBMC and how to use them effectively. A general knowledge of the VAPEPS program commands and runstreams is assumed.

If there are any problems or suggestions, or if you need additional information, please contact:

Chuck Hayes   (818) 354-3672   VAPEPS Workshops, Computer accounts,
                                        Program tapes.

Valerie Thomas   (818) 354-7472   Technical questions, DBMC access.

Gloria Badilla   (818) 249-0508   Technical questions, DBMC access.

Kathy Duff   (818) 249-0508   Computer Accounts, Program Tapes,
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I. INTRODUCTION

A Vibroacoustic Data Base Management Center has recently been established at the Jet Propulsion Laboratory. The Center utilizes the Vibroacoustic Payload Environment Prediction System (VAPEPS) software package to maintain and update a Vibroacoustic Data Base. Lockheed Missiles and Space Company developed the VAPEPS program under the auspices of NASA/Goddard Space Flight Center and the USAF/Space Division.

The VAPEPS software includes theoretical prediction and extrapolation routines based on Statistical Energy Analysis (SEA) methods as well as numerous statistical and mathematical functions. The VAPEPS data base contains flight and ground test acoustic and vibration spectral data, structural parameters, and event descriptions for shuttle and expendable booster payloads. Given the launch vehicle environment, the VAPEPS prediction software can be used with or without the data base to establish the vibroacoustic environment of new payload components.

As Database Administrator for VAPEPS, JPL's primary objectives are to expand the data base, to maintain its integrity by reviewing new data sets for accuracy and completeness and to provide the aerospace community with a convenient access to the data base which is stored on a dedicated computer system at JPL.

This manual describes the information and procedures required to establish an account on the JPL computer, to access the data base using the VAPEPS software, to utilize the DBMC functions such as electronic mail service and bulletin board, to maintain and create data files, and to transmit those data files to your local site.

II. GETTING STARTED

It is recommended (but not required) that you have VAPEPS running on a computer system at your local site before you access the data base at JPL. The VAPEPS program that JPL provides to search the data base is a limited version. The prediction routines and other CPU intensive functions and commands are not provided to users of the DBMC. It is suggested that you transfer pertinent data from the JPL data base to your local site and use it with a complete version of VAPEPS.

Appendix I contains detailed information on how to obtain program tapes. Tapes of the complete data base will also be sent upon request. The following documentation is also available from JPL:

1. "Vibroacoustic Payload Environment Prediction System (VAPEPS)," NASA CR 166283.
   - Volume I: VAPEPS Technical Manual, Y.A. Lee and W. Henricks, October 1983.
   - Volume II: VAPEPS User's Manual, B.K. Davis and D.W. Russell, December 1982.
   - Volume III: VAPEPS Programmer's Manual, J.E. Schafer, December 1982.

- Volume IV: VAPEPS Sample Problems, B.K. Davis, W. Henricks, D.W. Russell, December 1982.
- Volume V: VAPEPS Plot Package, J.E. Schafer, B.K. Davis, Y.A. Lee, June 1984.

2. "Vibroacoustic Payload Environment Prediction System (VAPEPS)," NASA CR 177905.
   - Volume I: VAPEPS Improvement and Verification, Y.A. Lee, W. Henricks, D.M. Park, September 1985.
   - Volume II: VAPEPS Workshop User's Guide, D.M. Park, D.W. Russell, August 1985.
   - Volume III: VAPEPS Workshop Notes, W. Henricks, Y.A. Lee, D.M. Park, August 1985.

Periodic VAPEPS Workshops are also offered at JPL. The workshops consist of lectures, detailed program instructions and hands-on practice. Information about documentation and future workshops can be obtained from:

Chuck Hayes, MS 301-456
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4800 Oak Grove Drive
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III. ACCESSING THE COMPUTER SYSTEM

The VAPEPS program and data base are stored on a dedicated MASSCOMP 5500 Computer System located at JPL. An authorized account and the appropriate hardware are required to use the system.

A. Obtaining An Account

Each individual who wants to access the data base will be assigned a user id and password which will allow him/her to log on to the computer system. To obtain an account, fill out and mail the request form in Appendix I or contact JPL directly at the phone number listed.

B. Required Hardware

Table 1 lists the termcaps that are supported by the VAPEPS computer system. You should try a termcap that most closely resembles your terminal type. The default is vt100, if an unknown terminal type is specified when logging onto the system. A Tektronix graphics terminal or Tektronix emulation is required for graphics display. If you are using an IBM PC or compatible system to access the data base, a good choice is vt100 emulation with the PC running PC-PLOT as the communications software. PC-PLOT also has Tektronix 4010 emulation. If you are using a MacIntosh, VersaTerm PRO is recommended. It utilizes the Kermit protocol and emulates vt100, tek 4105 and 4014 terminals.

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C. Phone Numbers

There are currently four phone lines with Hayes Smartmodems available for dialing into the computer system. Three lines are 1200 baud. A Telebit Trailblazer modem has been installed on the fourth line which will allow communications at speeds up to 9600 baud. To take advantage of the Telebit's highest speed, the same modem will be required at your local site. The Telebit will also automatically sync up to Bell 103 or 212A compatible modems running at 300 or 1200 baud, respectively. The phone lines and computer system are available on a continuous basis, 24 hours per day, 7 days per week, except for maintenance periods. The numbers to dial are:

                (818) 353-6318
                (818) 353-6319
                (818) 353-6418
                (818) 353-6419 (Telebit)

Communication parameters are: 7 bit data words, even parity, 1 stop bit. Call waiting on your phone will disrupt the carrier causing loss of communications. It is recommended that only phone lines without this feature be used.

D. Logging On

After dialing one of the four phone numbers and connecting with a modem to the VAPEPS computer, a login prompt will be displayed on your terminal. It may be necessary to type several carriage returns to clear spurious characters which may interfere with initial communications. At the prompt, type your user id (in lower case letters) and a carriage return. Type your password at the password prompt. For security reasons, your password will not be displayed on your screen.

        login: user id
        password:

The computer will then prompt you for a terminal type:

        terminal type?

You must type in a termcap from the list in Table 1 (a carriage return will not produce a response). The computer will then reply:

        term type set to "your term type"

        date
        $

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Table 1.   Termcaps

masscomp2	aaa-18-rv	gt40	digilog
masscomp1	aaa-20-rv	vt50	tab132
masscomp24	aaa-22-rv	dw1	tab132w
masscomp	aaa-24-rv	vt50h	tab132rv
arpanet	aaa-26-rv	vt100s	tab132wrv
bussiplexer	aaa-28-rv	vt100w	mw2
contender	aaa-30-rv	vt52	trs100
du	aaa-36-rv	dw2	trs80
dumb	aaa-40-rv	adm3a	d800
switch	aaa-48-rv	2621	vc404
tk4107	aaa-60-rv	hp2626	vc404s
914	aaa-18-rv-s	hp2645	vc404na
914r	aaa-20-rv-s	2640	vc404sna
914u	aaa-22-rv-s	2621-ba	vc303a
922	aaa-24-rv-s	2621k45	vc303
922w	aaa-26-rv-s	hp	ampex
tvi970	aaa-28-rv-s	hp2648	compucolor
ansi	aaa-30-rv-s	2640b	d132
rbow100	aaa-36-rv-s	2621-48	soroc
rbow1001	aaa-40-rv-s	2621-nl	mime2a
cit80s	aaa-48-rv-s	2621-nt	mime3ax
cit80	aaa-60-rv-s	2621-wl	pe550
citc	aaa-24-ctxt	c100rv	fox
cit101e	aaa-24-rv-ctxt	c100	owl
cita	aaa-30-s-ctxt	mime	bc
ocit101	aaa-30-s-rv-ctxt	h19	nucterm
cit101b	aaa-ctxt	adm3	ex3000
cit101	aaa-rv-ctxt	1620	carlock
cit101w	aaa-db	1640	exidy
aa	tvi912	dtc300s	netx
aaa-29-np	912b	gsi	sexidy
aaa-unk	tvi9122p	aj830	ubell
aaa-18	tvi1950-ap	qume5	ttyWilliams
aaa-20	tvi1950-4p	x1720	xitex
aaa-22	tvi950b	cdc456	ti
aaa-24	tvi950ns	cdc456tst	ti745
aaa-26	tvi1950-2p	dm1520	ti800
aaa-28	tvi950	dm1521	t3700
aaa	tvi9502p	dm2500	t3800
aaa-36	tvi9504p	dm3025	t1061
aaa-40	tvi950rv	3045	t1061f
aaa-48	tvi950rv2p	dt80	4420
aaa-60	tvi950rv4p	dt80132	415
aaa-unk-s	vi200	delta	tec400
aaa-18-s	vi200-rvic	h1000	
aaa-20-s	vi200-f	h1552	tec500
aaa-22-s	vi200-rv	h1552rv	tec
aaa-24-s	vi200-ic	h1420	teletec
aaa-26-s	visual50	h1500	ep48
aaa-28-s	wy75	h1510	ep40
aaa-30-s	vt100n	h1520	terminet1200
aaa-36-s	vt100	h2000	aed512
aaa-40-s	ovt100	8001	datapoint
aaa-48-s	gt42	intext	dg
aaa-60-s	vt132	ibm	cdi

Table 1.   Termcaps
(cont'd)

x183
omron
plasma
remote
swtp
terak
virtual
delta
mdl110
zen30
40
33
43
37
4424
tek
tek4013
tek4014
tek4015
tek4014-sm
tek4015-sm
tek4023
4025
4025-17
4025-17ws
4025ex
4025-cr
4112
4112-nd
4112-5
regent
regent100
regent20
regent25
regent40
regent60
regent60na
a980
viewpoint
sb2
bh3m
superbeeic
microb
sb1
c108
c108
c108-rv-8p
c108-rv-4p
c108-na
c108-rv-na
c108-w
c100-rv-pp
c100-rv-na
c100-rv
c100-s

adm2
adm42
adm5
adm3a+
oadm31
mime3a
microterm
microterm5
act5s
mime-fb
mime-hb
mime2a
2621nl
2621nt
2621wl
c100-rv-s
i100
i400
addrinfo
infotonKAS
4014sm
adm31
dm2500
382
h89
h89a
h89e
dec vt52
4107-gs
4107
4107-s-vb

The $ is the system prompt. If you type in an unknown terminal type, the computer will reply:

```
unknown terminal
term set to vt100
date
$
```

At this point (at the $ prompt) you can execute VAPEPS or use the DBMC system utilities described in Section IV.

E.   Logging Off

To end a terminal session, type ctrl-d (hold down the control key while typing the letter d).

```
$ ctrl-d
```

You can then disconnect the modem and hang up the phone.

IV. DATA BASE MANAGEMENT SYSTEM RESOURCES AND COMMANDS

The VAPEPS dedicated computer system is a MASSCOMP 5500 using the UNIX* operating system.   This manual does not attempt to provide detailed instructions on how to use UNIX.   There are many good references on the subject, including:

The UNIX Programming Environment, B.W. Kernighan and R. Pike, Prentice-Hall Inc., New Jersey, 1984.

Introducing the Unix System, H. McGilton and R. Morgan, McGraw-Hill, New York, 1983.

A User Guide to the Unix System, 2nd edition, Dr. R. Thomas and J. Yates, Osborne McGraw-Hill, Berkeley, California, 1985.

The commands that are available to users of the DBMC are a restricted subset of those available in UNIX.   A list of these commands and a brief description of each are given in Appendix II. Appendix II and the remainder of this manual describes all the details of UNIX that you will need to fully utilize the VAPEPS computer system.   You may want to refer to a UNIX reference book if you are interested in more information.

Some of the more important utilities are described in detail in the following sections.

---

* UNIX is a trademark of Bell Laboratories

A.   Mail

The UNIX mail command allows users to send mail messages to each
other. To invoke the mail utility, type mail followed by the user
id of the person or persons you wish to send mail to.   Then type
in the text of your message, followed by ctrl-d.

```
$ mail mary tony
This is a mail message
ctrl-d
$
```

or you can mail the contents of a file:

```
$ mail tony < file
```

If someone has sent you mail, you will be greeted by the message
"You have mail", when you log in to the system.   To read your
messages simply type:

```
$ mail
```

Your mail messages will be printed one at a time starting with the
last one received. After each message, mail will wait patiently
with a ? prompt.   If you type ?, a list of options will be
displayed allowing you to save, delete, or forward your messages.

For example, to save your mail, type:

```
    ? s                        saves mail in file called mbox
or
    ? s filename               saves mail in file
```

The following options are available:

```
    ? ?
    q                          quit
    x                          exit without changing mail
    p                          print
    s [file]                   save (default mbox)
    w [file]                   same without header
    -                          print previous
    d                          delete
    +                          next (no delete)
    m [user]                   mail to user
    ! cmd                      execute cmd
```

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B.   Bulletin Board

A bulletin board has been set up so that users can exchange messages and information.   To have a message "posted" on the bulletin board, use the mail command:

```
$ mail vapeps
  message                 message you'd like posted
  ctrl-d
$
```

Mail messages to vapeps and other news about the VAPEPS program or the DBMC are placed in a file called:

/usr/vapeps/bin/bboard

To read the messages, use the UNIX more command described in Appendix II:

$ more /usr/vapeps/bin/bboard

C.   Kermit

Kermit is a communication and error checking program for file transfer between computer systems.   The software is non-proprietary and is available for a number of mainframes as well as IBM-PC's and PC compatibles.   The VAPEPS computer is running C-Kermit, Version 4.2.

To use the program for file transfer, you will need to have a version of Kermit running on your local machine and modems which can be used to dial out through your host (local) computer to the VAPEPS (remote) system.   To access Kermit:

1.   Start Kermit running on your local machine.

2.   Use the Kermit dial command (or your system's equivalent) to dial one of the 4 phone numbers to the VAPEPS (remote) system.

3.   Use the Kermit connect command to connect to the VAPEPS system.   At this point, a login prompt will be displayed.   You may need to type several carriage returns to get to the prompt.

4.   Login to the VAPEPS computer as you normally would.

5.   Start Kermit on the VAPEPS (remote) system:

$ kermit

6.   At the C-Kermit prompt, type server:

C-Kermit > server

7. Disconnect from the VAPEPS Kermit by typing the escape
    sequence for your system to close the connection. At
    this point, you should be connected to your local
    system's Kermit.

8. Use the Kermit get command (or your system's equivalent)
    to get the files you want to transfer:

        get filename(s)

9. When all files have successfully been transferred, type
    finish, then reconnect to the VAPEPS system using the
    connect command. The remote Kermit server will display:

        C-Kermit > server done

10. Exit from the remote Kermit:

        C-Kermit > exit

11. Log off the VAPEPS computer as you normally would.

12. Type the escape sequence for your system to return to
    your local Kermit.

13. Exit your local Kermit.

    The communication parameters for the MASSCOMP are:

        -   7 bit data words
        -   even parity
        -   1 stop bit

    These parameters should be set when you start up and
    initialize Kermit on your local computer.

V. VAPEPS PROGRAM EXECUTION AND OPERATIONS

The VAPEPS program that JPL provides to remote terminal users in the payload
community is limited in scope. The following functions are available:

1. VAPEPS on-line HELP utility.

2. Data base searching commands.

3. Data retrieval commands.

4. Data conversion/manipulation routines.

5. Plotting and data presentation commands.

Not included in the program are: all the prediction routines, the data base enter and prep commands, certain computations such as FFTs and shock response spectra, and administrative commands for creating boot tapes, manuals, etc.

The VAPEPS Workshop User's Guide is a good starting point for new or infrequent VAPEPS users. The specific commands associated with each of the five operations listed above are described in detail in the guide. If you attempt to execute a command or runstream that is not available, VAPEPS will display the message: 'command not found'.

A.   Executing and Terminating VAPEPS

To start execution of the program in the interactive mode, type vapeps at the system prompt:

```
$ vapeps

VAP4.0 4-04/20/86-15:18:38        , 20000
FOR SPLASHLINE DATED 860303, TYPE 'NEWS'
?                                            - VAPEPS prompt
.
.
.
(commands)
.
.
.
? end                                        - to terminate
                                               execution
$
```

B.   File Assignment and Naming Conventions

The UNIX operating system makes a distinction between upper and lowercase letters in commands and filenames. The convention is for all UNIX commands to be lowercase. File names are limited to 14 characters, either upper or lowercase. · DATA, Data, data, however, are 3 different names. Fortran units are denoted by the names fort.1, fort.2, ..., fort.99. The VAPEPS program makes no case distinction, except in naming external files.

On the VAPEPS MASSCOMP computer, logical names are assigned to DAL units within the VAPEPS program using the fname command. For example, to assign a name My.dal to DAL001, use the command:

```
      $ fname 1, 'My.dal'
   or
      $ FNAME 1, 'My.dal'
```

It is recommended that DAL files have '.dal' appended to their names so that users can distinguish between them and system files. Please remember that DAL files cannot be edited with the line editor, red.

C.   File Maintenance

The VAPEPS scratch files, DAL028 and DAL014, tend to grow with
time.   Data files, fortran files and other DAL files also tend to
accumulate rapidly.   Please review the files in your directory on
a regular basis and delete those that are unwanted or unused.
Files that have not been accessed for over 30 days will
automatically be removed by the system administrator unless other
arrangements are made.

VI. VAPEPS DATA BASE

The VAPEPS data base currently consists of 6 DAL files containing spectral
data and structural parameters for 68 events. The 6 DAL files are called:

/usr/dynthm/vapeps/db/LMSCDB1
/usr/dynthm/vapeps/db/LMSCDB2
/usr/dynthm/vapeps/db/LMSCDB3
/usr/dynthm/vapeps/db/LMSCDB4
/usr/dynthm/vapeps/db/LMSCDB5
/usr/dynthm/vapeps/db/LMSCDB6

Table 2 lists all the events and their corresponding filenames. A brief
description of each event is contained in Appendix III.

JPL will be constantly updating the data base with ground test and flight
data from new payloads.   JPL is also soliciting data from the aerospace
community. If you or your organization has data which you would like to see
included in the data base, please contact JPL at the address given in the
preface. Someone from JPL will work with you to establish the specific
requirements for data input formats, structural parameters, SEA models, etc.

JPL reviews each event for accuracy before it is added to the data base.
If, however, you discover what appears to be a discrepancy, please let us
know so that it can be re-checked and corrected if necessary.

Table 2. Data Base Events and Filenames

ALL

	PROC AGENCY	PROJECT	PROGRAM	ID
1.	LMSCLVET7640	CS3	ACOTAEN	P8A2
	FILE: /usr/dynthm/vapeps/db/LMSCDB1			
2.	LMSCLVET7640	CS3	ACOATEN	P8A0
	FILE: /usr/dynthm/vapeps/db/LMSCDB1			
3.	LMSCLVET7640	CS3	ACOATEN	P8A6
	FILE: /usr/dynthm/vapeps/db/LMSCDB1			
4.	LMSCLVET7640	P244	*	YPAN
	FILE: /usr/dynthm/vapeps/db/LMSCDB1			
5.	LMSCLVET7640	*	*	SP01
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
6.	LMSCLVET7640	P950A	SVAC	AC14
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
7.	LMSCLVET7640	P950A	SVAC	AC15
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
8.	LMSCLVET7640	P950A	SPAT*PH2TST1	ST21
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
9.	LMSCLVET7640	P950A	SPAT*PH1TST1	ST11
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
10.	LMSCLVET7640	P950A	SPAT*PH2TST4	ST24
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
11.	LMSCLVET7640	P950A	SVAC	AC17
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
12.	LMSCLVET7640	P950A	SVAC	AC13
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
13.	LMSCLVET7640	P950A	SSAT	APSA
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
14.	LMSCCNTL1933	P950A	*	F237
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
15.	LMSCLVET7640	P950A	SSAT	OR14
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
16.	LMSCLVET7640	P950A	SSQT	APSQ
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
17.	LMSCLVET7640	P950A	SSAT	ARMC
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
18.	LMSCCNTL1933	P950A	*	F109
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
19.	LMSCCNTL1933	P950A	*	F209
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
20.	LMSCCNTL1933	P950A	*	F137
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
21.	LMSCCNTL1933	P950A	SVAC	T709
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
22.	LMSCCNTL1933	P950A	SVAC	T737
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
23.	LMSCLVET7640	P950A	SPAT*PH1TST2	ST12
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
24.	LMSCLVET7640	P950A	SPAT*PH2TST3	ST23
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			

Table 2. Data Base Events and Filenames
(cont'd)

25.	LMSCLVET7640	P950A	SPAT*PH3TST2	ST32
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
26.	LMSCCNTL1933	P950A	SVQT	SQTO
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
27.	LMSCCNTL1933	P950A	SVQT	SQTJ
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
28.	LMSCLVET7640	P950A	SVAC	AC18
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
29.	LMSCLVET7640	P950A	SSAT	NPAC
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
30.	LMSCLVET7640	P950A	SSAT	NIH2
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
31.	LMSCLVET7640	P950A	SSAT	S772
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
32.	LMSCCNTL1933	P950A	SSQT	MDUL
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
33.	LMSCCNTL1933	P950A	*	F131
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
34.	LMSCCNTL1933	P950A	*	F231
	FILE: /usr/dynthm/vapeps/db/LMSCDB2			
35.	LMSCLVET7640	P252	SVDT	IAT3
	FILE: /usr/dynthm/vapeps/db/LMSCDB3			
36.	LMSCLVET7640	P252	SVDT	P905
	FILE: /usr/dynthm/vapeps/db/LMSCDB3			
37.	LMSCLVET7640	P252	SVQT	P906
	FILE: /usr/dynthm/vapeps/db/LMSCDB3			
38.	LMSCCNTL1933	IR&D	C8EK	ID09
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
39.	LMSCCNTL1933	IR&D	C8EK	ID03
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
40.	LMSCLVET7640	IR&D	C8EK	ID04
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
41.	LMSCLVET7640	IR&D	C8EK	ID05
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
42.	LMSCLVET7640	IR&D	C8EK	ID06
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
43.	LMSCLVET7640	IR&D	C8EK	ID07
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
44.	LMSCLVET7640	IR&D	C8EK	ID08
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
45.	LMSCCNTL1933	IR&D	C8EK	ID16
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
46.	LMSCCNTL1933	IR&D	C8EK	ID11
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
47.	LMSCCNTL1933	IR&D	C8EK	ID15
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
48.	LMSCCNTL1933	IR&D	C8EK	ID21
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
49.	LMSCCNTL1933	IR&D	C8EK	ID22
	FILE: /usr/dynthm/vapeps/db/LMSCDB4			
50.	LMSCLVET7640	SPACE-TEL	STDV	STD1
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
51.	LMSCLVET7640	SPACE-TEL	STDV	STD2
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
52.	LMSCLVET7640	SPACE-TEL	C85A	EAT3
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			

Table 2. Data Base Events and Filenames
(cont'd)

53.	LMSCLVET7640	SPACE-TEL	C85A	EAT2
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
54.	LMSCLVET7640	SPACE-TEL	C85A	EAT5
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
55.	LMSCLVET7640	SPACE-TEL	C85A	EAT6
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
56.	LMSC	OEX	DATE	OSSL
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
57.	LMSC	OEX	DATE	OSST
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
58.	AEROSPACE	OEX	DATE	STSI
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
59.	AEROSPACE	OEX	DATE	STSL
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
60.	AEROSPACE	OEX	DATE	STST
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
61.	NASA-GSFC	OEX	SYS-GRD-TST	OSSG
	FILE: /usr/dynthm/vapeps/db/LMSCDB5			
62.	BOEING	IUS	IUS-STS	RP1
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
63.	BOEING	IUS	IUS-STS	RP2
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
64.	BOEING	IUS	IUS-6	I6T
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
65.	NASA-GSFC	ERBS	ACOUSTICTEST	ERBS
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
66.	ROCKWELL	NAVSTAR	QPS-QTV	GPSA
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
67.	ROCKWELL	NAVSTAR	GPS-QTV	GPSQ
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			
68.	GE	DSCSIII	ACOU-QUAL	DSCS
	FILE: /usr/dynthm/vapeps/db/LMSCDB6			

APPENDIX I

Computer Access and Tape Request Form

VAPEPS DATABASE MANAGEMENT CENTER
JET PROPULSION LABORATORY

Request for VAPEPS Program and Database Tapes

A written request on company letterhead, accompanied by a blank, 9 track, 1/2 inch magnetic tape, certified to 1600 bpi, is required to obtain a copy of the program. A second tape, with the same specifications, is required for the Database. Please specify which computer system your organization will be using: DEC VAX (VMS), MASSCOMP (UNIX), Sperry 1100 (Univac), Sperry 7000 (UNIX), CDC (NOS operating system, FORTRAN 77), CRAY 1S and XMP.

Request for Computerized Database Access

Individual Computer Accounts with Passwords will be assigned to each user requesting access to the JPL VAPEPS Database.

Please return the Database Access Form and requests for tapes to:

Charles D. Hayes, MS 301-456
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109

(818) 354-3672

DATABASE ACCESS FORM

Organization:_____

Address:_____

_____

_____

User #1: Name_____
          Mail Stop_____Phone_____

User #2: Name_____
          Mail Stop_____Phone_____

User #3: Name_____
          Mail Stop_____Phone_____

User #4: Name_____
          Mail Stop_____Phone_____

APPENDIX II

UNIX Commands

UNIX COMMANDS

All UNIX commands are in lower case letters.

1. cat: concatenate files

      cat file1   - prints file1 on standard output (terminal)

      cat file1>file2   - cats file1 and overwrites to file2

      cat file1>>file2   - appends file1 to file2

2. cp: restricted copy command

      cp file1 file2   - makes a copy of file1 called file2

3. date: returns current date and time

4. echo: echos its arguments

5. file: returns the file type

      file file1   - displays file type (i.e., ascii text, data, commands text, executable, etc.)

6. head: prints 1st 10 lines of file

      head file1

7. ls: list

      ls   - lists files in current directory

      ls -l   - detailed (long) version of ls

8. mail: mail command. See Section IV for details

9. more: View a file a page at a time. To see the next line, hit a carriage return. To see another full page, hit the space bar. To quit type q.

    more file1 file2 file3   - view 3 files one page at a time in consecutive order

10. ps: process status

    ps   - prints the status of the processes associated with your terminal
    ps -a   - prints the status of processes associated with all terminals

11. pwd: print working directory

12. rm: Restricted remove command. Will only allow you to delete your own files.

13. tail: prints last 10 lines of a file

    tail file1

14. who: displays information about users who are currently logged on to the system

15. whoami: returns login name

16. write: write to another user, who must be logged in

    write mary
    1st line of message   - Writes a message to Mary's
            .   screen. To end the communi-
            .   cation, type ctrl-d.
            .
    last line of message
    ctrl-d

In addition to the above commands, there is a restricted version of the line editor, ed, called red. As an example, the following shows how to use red to create and modify a file.

To create a file called example, type:

```
$ red example
? example                          - editor prompt
a                                  - append or add
this
is
an                                 - contents of file
example
file
.                                  - finished inputting text
w                                  - write
24                                 - red displays the number of char-
                                     acters in the file
q                                  - quit
$
```

To change a line, for example; to change line 2 from "is" to "was":

```
$ red example
24                                 - red displays # of characters in
                                     the file
2                                  - move to line 2
is                                 - red displays line 2
s/is/was                           - substitute "was" for "is"
was                                - red displays change
w                                  - write
25                                 - new # of characters
q                                  - quit editor
```

This should get you started. Any UNIX book will have a more complete description of ed.

APPENDIX III

Data Base Event Descriptions

```
PROCESS      LMSCLVET7640  CS3        ACOTAEN      P8A2
CONTRACT     *             CS3        *            P8A2
COGNIZNT     *             *          *            P8A2
DATE         11/01/75
EVENT        GROUND        REVERBERANT
LOCATION     LVET          CELL-1
```

P8A2   FAIRING ACO ATTENUATION TEST REVERBERANT EXCITATION LVET CELL 1
P8A2   UPLF FAIRING WITH FULL SET OF ACO ATTENUATION BLANKETS
P8A2   TEST STRUCTURE MOUNTED WITH MASS SIMULATED EQUIPMENT
P8A2   BOX PANEL EQUIPMENT MOUNTING STRUCTURE


```
PROCESS      LMSCLVET7640  CS3        ACOATEN      P8A0
CONTRACT     *             CS3        *            P8A0
COGNIZNT     *             *          *            P8A0
DATE         11/01/75
EVENT        GROUND        REVERBERANT
LOCATION     LVET          CELL-1
VEHICLE      BOOSTER
```

P8A0   FAIRING ACO ATTENUATION TEST REVERBERANT EXCITATION LVET CELL 1
P8A0   UPLF FAIRING, NO BLANKETS, FAIRING FILLED WITH 90 PERCENT HELIUM
P8A0   TEST STRUCTURE MOUNTED WITH MASS SIMULATED EQUIPMENT
P8A0   BOX PANEL EQUIPMENT MOUNTING STRUCTURE


```
PROCESS      LMSCLVET7640  CS3        ACOATEN      P8A6
CONTRACT     *             CS3        *            P8A6
COGNIZNT     *             *          *            P8A6
DATE         11/01/75
EVENT        GROUND        REVERBERANT
LOCATION     LVET          CELL-1
VEHICLE      BOOSTER
```

P8A6   FAIRING ACO ATTENUATION TEST REVERBERANT EXCITATION LVET CELL 1
P8A6   UPLF FAIRING WITHOUT BLANKETS
P8A6   TEST STRUCTURE MOUNTED WITH MASS SIMULATED EQUIPMENT
P8A6   BOX PANEL EQUIPMENT MOUNTING STRUCTURE

```
PROCESS      LMSCLVET7640 P244          *          YPAN
CONTRACT     LMSC*SSD6001 P244          *          YPAN
COGNIZNT     AFSC         *             *          YPAN
DATE         07/05/79
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-5
VEHICLE      BOOSTER
```

```
YPAN  +Y PANEL ACOUSTIC TEST
YPAN  MODULE CHAMBER TEST CELL
YPAN  ACTUAL EQUIPMENT ITEMS
YPAN  HONEYCOMP PANEL MOUNTING STRUCTURE
```

```
PROCESS      LMSCLVET7640 *             *          SP01
DATE         3/25/71
TIME         00:00:22.0
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
```

SPAT 1 ACOUSTIC TEST, LVET FILE#395-R2, TEST 4 RUN 1,W/O AGE
REVER AND INT MICS NEED RANDOM INCIDENCE CORRECTIONS, SEE CHAN 'MCOR'
DATA PROVIDES NOISE REDUCTION CHARACTERISTICS OF LMSC'S 10FT DIA
CORRUGATED FAIRING, DIRECT AND REVERBERANT ACOUSTIC EXCITATION

```
PROCESS      LMSCLVET7640 P950A    SVAC      AC14
CONTRACT     LMSC*SSD6001 P950A    SVAC      AC14
COGNIZNT     AFSC         *        *         AC14
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

```
ACOU TEST REVERBERANT EXCITATION LVET CELL1
10 FT DIAMETER CORRUGATED FAIRING
TEST STRUCTURE MOUNTED WITH REAL EQUIPMENT
AND WIRE HARNESSES
```

```
PROCESS      LMSCLVET7640 P950A          SVAC         AC15
CONTRACT     LMSC*SSD6001 P950A          SVAC         AC15
COGNIZNT     AFSC         *              *            AC15
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

ACOU TEST REVERBERANT EXCITATION LVET CELL1
10 FT DIAMETER CORRUGATED FAIRING
TEST STRUCTURE MOUNTED WITH REAL EQUIPMENT
AND WIRE HARNESSES

```
PROCESS      LMSCLVET7640 P950A          SPAT*PH2TST1 ST21
CONTRACT     LMSC*SSD6001 P950A          SPAT*PH2TST1 ST21
COGNIZNT     AFSC         *              *            ST21
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE2-TEST1,FULLY REVERBERANT ACOU. TEST
LVET CELL1,-3DB RUN,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT
 REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCLVET7640 P950A          SPAT*PH1TST1 ST11
CONTRACT     LMSC*SSD6001 P950A          SPAT*PH1TST1 ST11
COGNIZNT     AFSC         *              *            ST11
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE1-TEST1,DIRECT RADIATION REVERBERANT ACOU. TEST
LVET CELL1,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT
BASELINE, REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCLVET7640 P950A      SPAT*PH2TST4 ST24
CONTRACT     LMSC*SSD6001 P950A      SPAT*PH2TST4 ST24
COGNIZNT     AFSC         *          *            ST24
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE2-TEST4,FULLY REVERBERANT ACOU. TEST
LVET CELL1,+3DB RUN,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT
  REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCLVET7640 P950A      SVAC        AC17
CONTRACT     LMSC*SSD6001 P950A      SVAC        AC17
COGNIZNT     AFSC         *          *           AC17
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

 ACOU TEST REVERBERANT EXCITATION LVET CELL1
10 FT DIAMETER CORRUGATED FAIRING
TEST STRUCTURE MOUNTED WITH REAL EQUIPMENT
AND WIRE HARNESSES

```
PROCESS      LMSCLVET7640 P950A      SVAC        AC13
CONTRACT     LMSC*SSD6001 P950A      SVAC        AC13
COGNIZNT     AFSC         *          *           AC13
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

 ACOU TEST REVERBERANT EXCITATION LVET CELL1
10 FT DIAMETER CORRUGATED FAIRING
TEST STRUCTURE MOUNTED WITH REAL EQUIPMENT
AND WIRE HARNESSES

```
PROCESS      LMSCLVET7640 P950A        SSAT       APSA
CONTRACT     LMSC*SSD6001 P950A        SSAT       APSA
COGNIZNT     AFSC         *            *          APSA
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

REVERBERANT ACCEPTANCE TEST
LVET CELL1, 1 MIN. RUN
ACTUAL EQUIPMENT AND WIRE HARNESSES
TESTED ON HANDLING DOLLY

```
PROCESS      LMSCCNTL1933 P950A        *          F237
CONTRACT     LMSC*SSD6001 P950A        *          F237
COGNIZNT     AFSC         *            *          F237
TIME         00:00:39.5
VEHICLE      BOOSTER
```

PSD DEPENDS
ON TIME,
GIVEN PSD NOT
ALWAYS AT MAX

```
PROCESS      LMSCLVET7640 P950A        SSAT       OR14
CONTRACT     LMSC*SSD6001 P950A        SSAT       OR14
COGNIZNT     AFSC         *            *          OR14
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-2
VEHICLE      BOOSTER      *            OAM/RCM
```

ACOU TEST REVERBERANT EXCITATION LVET CELL2
OAM/RCM14 WITH ARRAYS
TEST STRUCTURE MOUNTED WITH REAL EQUIP
AND WIRE HARNESSES

PROCESS	LMSCLVET7640	P950A	SSQT	APSQ
CONTRACT	LMSC*SSD6001	P950A	SSQT	APSQ
COGNIZNT	AFSC	*	*	APSQ
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	BOOSTER			

REVERBERANT QUALIFICATION TEST
LVET CELL1, 3 MIN. RUN
ACTUAL EQUIPMENT AND WIRE HARNESSES
TESTED ON HANDLING DOLLY

PROCESS	LMSCLVET7640	P950A	SSAT	ARMC
CONTRACT	LMSC*SSD6001	P950A	SSAT	ARMC
COGNIZNT	AFSC	*	*	ARMC
DATE	01/04/78			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-5		
VEHICLE	BOOSTER			

ACOU TEST, REVERBERANT EXCITATION MODULE TEST CHAMBER
TEST PERFORMED IN THE BAY AND THE TWO HALVED STRUCTURE
ANALYTICAL MODEL OF THE ARMM
MODULE EXISTS

PROCESS	LMSCCNTL1933	P950A	*	F109
CONTRACT	LMSC*SSD6001	*	*	F109
COGNIZNT	AFSC	*	*	F109
TIME	00:00:02.5			
VEHICLE	BOOSTER			

PSD DEPENDS
ON TIME,
GIVEN PSD NOT
ALWAYS AT MAX

```
PROCESS      LMSCCNTL1933 P950A          *           F209
CONTRACT     LMSC*SSD6001 P950A          *           F209
COGNIZNT     AFSC         *              *           F209
TIME         00:00:49.0
VEHICLE      BOOSTER
```

PSD DEPENDS
ON TIME,
GIVEN PSD NOT
ALWAYS AT MAX

```
PROCESS      LMSCCNTL1933 P950A          *           F137
CONTRACT     LMSC*SSD6001 P950A          *           F137
COGNIZNT     AFSC         *              *           F137
TIME         00:00:03.5
VEHICLE      BOOSTER
```

PSD DEPENDS
ON TIME,
GIVEN PSD NOT
ALWAYS AT MAX

```
PROCESS      LMSCCNTL1933 P950A          SVAC        T709
CONTRACT     LMSC*SSD6001 P950A          SVAC        T709
COGNIZNT     AFSC         *              *           T709
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

DIRECT RADIATION-REVERBERANT ACOU. TEST
LVET CELL1
ACTUAL EQUIPMENT AND WIRE HARNESSES, CORRUGATED SHROUD
FM DATA ACQUISITION

```
PROCESS      LMSCLVET7640 P950A        SPAT*PH1TST2 ST12
CONTRACT     LMSC*SSD6001 P950A        SPAT*PH1TST2 ST12
COGNIZNT     AFSC         *            *            ST12
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE1-TEST2,DIRECT RADIATION REVERBERANT ACOU. TEST
LVET CELL1,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT
BASELINE REPEAT, REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCLVET7640 P950A        SPAT*PH2TST3 ST23
CONTRACT     LMSC*SSD6001 P950A        SPAT*PH2TST3 ST23
COGNIZNT     AFSC         *            *            ST23
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE2-TEST3,FULLY REVERBERANT ACOU. TEST
LVET CELL1,NOMINAL RUN,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT
 REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCLVET7640 P950A        SPAT*PH3TST2 ST32
CONTRACT     LMSC*SSD6001 P950A        SPAT*PH3TST2 ST32
COGNIZNT     AFSC         *            *            ST32
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

SPAT2-PHASE3-TEST2,FULLY REVERBERANT ACOU. TEST
LVET CELL1,35 SEC. RUN, NO CELL PURGE
CORRUGATED SHROUD, ACTUAL EQUIPMENT, AGE EQUIPMENT ON
10 HZ PSD ANALYSIS, REFER TO LMSC/D343946 SS-1524-6262

```
PROCESS      LMSCCNTL1933 P950A         SVQT        SQTO
CONTRACT     LMSC*SSD6001 P950A         SVQT        SQTO
COGNIZNT     AFSC         *             *           SQTO
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

OCTES, DIRECT RADIATION REVERBERANT ACOU. QUALIFICATION TEST
LVET CELL1, 3 MIN. RUN, CELL PURGED
CORRUGATED SHROUD, ACTUAL EQUIPMENT
10 HZ PSD ANALYSIS

```
PROCESS      LMSCCNTL1933 P950A         SVQT        SQTJ
CONTRACT     LMSC*SSD6001 P950A         SVQT        SQTJ
COGNIZNT     AFSC
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

JULTES, DIRECT RADIATION REVERBERANT ACOU. QUALIFICATION TEST
LVET CELL1, 3 MIN. RUN, CELL PURGED
CORRUGATED SHROUD, ACTUAL EQUIPMENT
10 HZ PSD ANALYSIS

```
PROCESS      LMSCLVET7640 P950A         SVAC        AC18
CONTRACT     LMSC*SSD6001 P950A         SVAC        AC18
COGNIZNT     AFSC         *             *           AC18
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

AC18
ACOUSTIC ACCEPTANCE TEST
REVERBERANT TEST
LVET CELL 1

PROCESS	LMSCLVET7640	P950A	SSAT	NPAC
CONTRACT	LMSC*SSD6001	P950A	SSAT	NPAC
COGNIZNT	AFSC	*	*	NPAC
DATE	10/16/76			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-5		
VEHICLE	BOOSTER			

LVET FILE #1233 ACOU TEST REVERBERANT EXCITATION MODULE
TEST CHAMBER PALLET TEST ON HANDLING DOLLY, TEST STRUCTURE MONT.
W/REAL EQUIP & WIRE HARNESSES ANALYTICAL MODEL OF THE ARMM
MODULE EXISTS NAVPAC PALLET AND MESA TEST

PROCESS	LMSCLVET7640	P950A	SSAT	NIH2
CONTRACT	LMSC*SSD6001	P950A	SSAT	NIH2
COGNIZNT	AFSC	*	*	NIH2
DATE	11/06/76			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-5		
VEHICLE	BOOSTER			

LVET FILE #977 ACOU TEST REVERBERANT EXCITATION MODULE TEST
CHAMBER PALLET TEST ON HANDLING DOLLY, TEST STRUCTURE MONT.
W/REAL EQUIP & WIRE HARNESSES ANALYTICL MODEL OF THE ARMM MODULE
EXISTS NICKEL-HYDROGEN BATTERY ACOU TEST

PROCESS	LMSCLVET7640	P950A	SSAT	S772
CONTRACT	LMSC*SSD6001	P950A	SSAT	S772
COGNIZNT	AFSC	*	*	S772
DATE	09/21/77			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-5		
VEHICLE	BOOSTER			

LVET FILE #1194 ACOUSTIC TEST REVERBERANT EXCITATION
MODULE TEST CHAMBER PALLET TEST ON HANDLING DOLLY, TEST
STRUCTURE MONT. W/REAL EQUIP & WIRE HARNESSES
ANALYTICAL MODEL OF THE ARMM EXISTS

PROCESS	LMSCCNTL1933	P950A		SSQT	MDUL
CONTRACT	LMSC*SSD6001	P950A		SSQT	MDUL
COGNIZNT	AFSC		*	*	MDUL
DATE	12/02/69				
EVENT	GROUND		REVERBERANT		
LOCATION	LVET		CELL-5		
VEHICLE	BOOSTER		*	SCS*MODULE	

MODULE REVERBERANT CHAMBER TEST
MODULE CHAMBER
ACTUAL EQUIP AND WIRE HARNESSES
BAY IN ONE HALF MOUNT

PROCESS	LMSCCNTL1933	P950A	*	F131
CONTRACT	LMSC*SSD6001	P950A	*	F131
COGNIZNT	AFSC	*	*	F131
VEHICLE	BOOSTER			

F131 CORRESPONDS TO F109 AND F137
PSD'S MAXIMUM OBTAINED FROM A 1/3 OCTAVE
TIME HISTORY.

PROCESS	LMSCCNTL1933	P950A	*	F231
CONTRACT	LMSC*SSD6001	P950A	*	F231
COGNIZNT	AFSC	*	*	F231
VEHICLE	BOOSTER			

F231 CORRESPONDS TO F209 AND F237. PSD'S MAX
OBTAINED FROM A 1/3 OCTAVE TIME HISTORY.
F231 MAX Q= 976 LB/FT**2 F209 MAX Q= 806 LB/FT**2
F237 MAX Q= 736 LB/FT**2

```
PROCESS       LMSCCNTL1933  IR&D          C8EK          ID09
CONTRACT      LMSC*SSD6260  IR&D          C8EK          ID09
COGNIZNT      LMSC*SSD6001  IR&D          C8EK          ID09
DATE          03/18/81
TIME          13:01:46.0
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       EXPERIMENT
```

1981 ID ACOU TEST LVET FIL#1631 REVER. EXCIT. LVET C1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN=NONE, MASSES=OFF, PANELS=INSTR., INTERNAL FOAM=REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

```
PROCESS       LMSCCNTL1933  IR&D          C8EK          ID03
CONTRACT      LMSC*SSD6260  IR&D          C8EK          ID03
COGNIZNT      LMSC*SSD6001  IR&D          C8EK          ID03
DATE          03/13/81
TIME          17:42:56.0
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       EXPERIMENT
```

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, ORTS OPEN: NONE, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

```
PROCESS       LMSCLVET7640  IR&D          C8EK          ID04
CONTRACT      LMSC*SSD6260  IR&D          C8EK          ID04
COGNIZNT      LMSC*SSD6001  IR&D          C8EK          ID04
DATE          03/16/81
TIME          16:36:32.0
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       EXPERIMENT
```

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: H1, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

```
PROCESS      LMSCLVET7640 P252         SVDT        IAT3
CONTRACT     LMSC*SSD3001 P252         SVDT        IAT3
COGNIZNT     HDQT         *            *           IAT3
DATE         11/01/73
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

IAT3   ACO TEST NO INTEGRATED ACO TEST REVERBERANT EXCITATION CELL 1
        10 FT DIA CORRUGATED FAIRING
        TEST STRUCTURE MOUNTED WITH BOTH SIMULATED AND ACTUAL EQUIPMENT
    SKIN MOUNTED RADIAL PANEL EQUIPMENT MOUNTING STRUCTURE IN EQUIP SECTION

```
PROCESS      LMSCLVET7640 P252         SVDT        P905
CONTRACT     LMSC*SSD3001 P252         SVDT        P905
COGNIZNT     HDQT         *            *           P905
DATE         01/17/74
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

P905   ACO TEST NO REVERBERANT EXCITATION LVET CELL 1
        10 FT DIA CORRUGATED FAIRING
        TEST STRUCTURE MOUNTED WITH BOTH SIMULATED AND ACTUAL EQUIPMENT
    SKIN MOUNTED RADIAL PANEL EQUIPMENT MOUNTING STRUCTURE IN EQUIP SECTION

```
PROCESS      LMSCLVET7640 P252         SVQT        P906
CONTRACT     LMSC*SSD3001 P252         SVQT        P906
COGNIZNT     HDQT         *            *           P906
DATE         10/16/75
EVENT        GROUND       REVERBERANT
LOCATION     LVET         CELL-1
VEHICLE      BOOSTER
```

P906   ACO TEST NO 1906 REVERBERAT EXCITATION LVET CELL 1
P906   10 FT DIA CORRUGATED FAIRING
P906   TEST STRUCTURE MOUNTED WITH REAL EQUIPMENT AND WIRING HARNESS
    SKIN MOUNTED RADIAL PANEL EQUIPMENT MOUNTING STRUCTURE IN EQUIP SECTION

PROCESS	LMSCLVET7640	IR&D		C8EK	ID05
CONTRACT	LMSC*SSD6260	IR&D		C8EK	ID05
COGNIZNT	LMSC*SSD6001	IR&D		C8EK	ID05
DATE	03/16/81				
TIME	17:09:08:.0				
EVENT	GROUND	REVERBERANT			
LOCATION	LVET	CELL-1			
VEHICLE	EXPERIMENT				

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: H1+H2, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCLVET7640	IR&D		C8EK	ID06
CONTRACT	LMSC*SSD6260	IR&D		C8EK	ID06
COGNIZNT	LMSC*SSD6001	IR&D		C8EK	ID06
DATE	03/17/81				
TIME	08:44:02.0				
EVENT	GROUND	REVERBERANT			
LOCATION	LVET	CELL-1			
VEHICLE	EXPERIMENT				

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: S1, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCLVET7640	IR&D		C8EK	ID07
CONTRACT	LMSC*SSD6260	IR&D		C8EK	ID07
COGNIZNT	LMSC*SSD6001	IR&D		C8EK	ID07
DATE	03/17/81				
TIME	09:29:08.0				
EVENT	GROUND	REVERBERANT			
LOCATION	LVET	CELL-1			
VEHICLE	EXPERIMENT				

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: S1+S2, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCLVET7640	IR&D	C8EK	ID08
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID08
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID08
DATE	03/17/81			
TIME	10:35:00.0			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: S5, MASSES: ON AND INSTR, INTERNAL FOAM: INSTALLED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCCNTL1933	IR&D	C8EK	ID16
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID16
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID16
DATE	03/19/81			
TIME	12:51:52.0			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FILE#1631 REVERBERANT EXCITATION LVET CELL1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 2-FT ABVE
FLOR, PORTS OPEN: NONE, MASSES: ON AND INSTR, INTERNAL FOAM: REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCCNTL1933	IR&D	C8EK	ID11
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID11
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID11
DATE	3/18/81			
TIME	14:40:46.0			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FIL#1631 REVER. EXCIT. LVET C1,
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: H1, MASSES: ON, PANELS: INSTR., INTERNAL FOAM: REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCCNTL1933	IR&D	C8EK	ID15
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID15
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID15
DATE	03/19/81			
TIME	10:01:40.0			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FIL#1631 REVER. EXCIT. LVET C1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: NONE, MASSES: ON AND INSTR, INTERNAL FOAM: REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-FLOOR SPAC,CYL/CAV INTER

PROCESS	LMSCCNTL1933	IR&D	C8EK	ID21
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID21
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID21
DATE	03/24/81			
TIME	14:29:24.31			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FIL#1631 REVER. EXCIT. LVET C1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABV
FLOR, PORTS OPEN: H1, MASSES: ON AND INSTR, INTERNAL FOAM: REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-2 FT LONG PIPE IN HOLE

PROCESS	LMSCCNTL1933	IR&D	C8EK	ID22
CONTRACT	LMSC*SSD6260	IR&D	C8EK	ID22
COGNIZNT	LMSC*SSD6001	IR&D	C8EK	ID22
DATE	03/24/81			
TIME	15:01:44.32			
EVENT	GROUND	REVERBERANT		
LOCATION	LVET	CELL-1		
VEHICLE	EXPERIMENT			

1981 ID ACOU TEST LVET FIL#1631 REVER. EXCIT. LVET C1
14-FT DIA ALU CYL W/SPECIAL HATCH AND ATTCH LOAD, SPECIMEN IS 4-FT ABVE
FLOR, PORTS OPEN: H1, MASSES: ON AND INSTR, INTERNAL FOAM: REMOVED
PURPOSE: VENT EFFECT,ATTCH LOAD EFFECT,SPECIMEN-4 FT LONG PIPE IN HOLE H

```
PROCESS     LMSCLVET7640 SPACE-TEL    STDV        STD1
CONTRACT    LMSC*SSD6001 SPACE-TEL    STDV        STD1
COGNIZNT    LMSC*SSD6001 *            *           STD1
DATE        12/03/76
EVENT       GROUND       REVERBERANT
LOCATION    LVET         CELL-1
VEHICLE     SHUTTLE
```

SPACETELESCOPE ACO TEST REVERBERANT EXCITATION LVET CELL 1
STRUCTURAL DYNAMIC TEST VEHICLE   AIR BAG SUSPENSION SYSTEM
SIMULATED EQUIPMENT
JSC 07700 VOL 14   ACO SPECTRUM

```
PROCESS     LMSCLVET7640 SPACE-TEL    STDV        STD2
CONTRACT    LMSC*SSD6001 SPACE-TEL    STDV        STD2
COGNIZNT    LMSC*SSD6001 *            *           STD2
DATE        12/03/76
EVENT       GROUND       REVERBERANT
LOCATION    LVET         CELL-1
VEHICLE     SHUTTLE
```

SPACETELESCOPE ACO TEST REVERBERANT EXCITATION LVET CELL 1
STRUCTURAL DYNAMIC TEST VEHICLE   AIR BAG SUSPENSION SYSTEM
SIMULATED EQUIPMENT
TEST SPECTRUM BASED ON EARLY 0V101 HANGER ACO TEST

```
PROCESS     LMSCLVET7640 SPACE-TEL    C85A        EAT3
CONTRACT    LMSC*SSD6001 SPACE-TEL    C85A        EAT3
COGNIZNT    NASAMSFC     *            *           EAT3
DATE        6/21/80
TIME        16:17:06.0
EVENT       GROUND       REVERBERANT
LOCATION    LVET         CELL-1
VEHICLE     SHUTTLE
```

RUN 3 SPECTRUM B
        ALL
        APPENDAGES
        ADDED

```
PROCESS       LMSCLVET7640 SPACE-TEL      C85A          EAT2
CONTRACT      LMSC*SSD6001 SPACE-TEL      C85A          EAT2
COGNIZNT      NASAMSFC
DATE          6/21/80
TIME          13:55:30.0
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       SHUTTLE
```

RUN 2 SPECTRUM A
        ALL
        APPENDAGES
        ADDED

```
PROCESS       LMSCLVET7640 SPACE-TEL      C85A          EAT5
CONTRACT      LMSC*SSD6001 SPACE-TEL      C85A          EAT5
COGNIZNT      NASAMSFC
DATE          6/22/80
TIME          9:19:04.0
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       SHUTTLE
```

RUN 5 SPECTRUM A
        ALL
        APPENDAGES
        REMOVED

```
PROCESS       LMSCLVET7640 SPACE-TEL      C85A          EAT6
CONTRACT      LMSC*SSD6001 SPACE-TEL      C85A          EAT6
COGNIZNT      NASAMSFC     *             *             EAT6
DATE          12/01/80
EVENT         GROUND        REVERBERANT
LOCATION      LVET          CELL-1
VEHICLE       SHUTTLE
```

RUN 6 SPECTRUM A
        A) REMOVED 35LB MASSES FROM 120IN HGA SUPPORTS (FORE + AFT)
        B) REMOVED 35LB MASS FROM 168IN HGA BOOM AFT SUPPORT
        C) REMOVED SCIENTIFIC INSTRUMENT CARD AND DH TRAY

PROCESS	LMSC	OEX	DATE	OSSL
CONTRACT	NASA-GSFC	OEX	DATE	OSSL
COGNIZNT	NASA	OEX	DATE	OSSL
DATE	03/22/82			
TIME	00:00:06.0			
EVENT	FLIGHT	LIFTOFF		
LOCATION	KSC	LAUNCHPAD39A		
VEHICLE	SHUTTLE	COLUMBIA	OV102	

INTEGRATED OSS-1 PALLET PAYLOAD FLIGHT MAXIMUM FOR LIFTOFF
FLOWN ON STS-3
CAN BE COMPARED TO GROUND TEST DATA IN EVENT OSSG
ACTUAL MEASUREMENT NUMBERS START WITH A '9' INSTEAD OF 'M' OR 'V'

PROCESS	LMSC	OEX	DATE	OSST
CONTRACT	NASA-GSFC	OEX	DATE	OSST
COGNIZNT	NASA	OEX	DATE	OSST
DATE	03/22/82			
TIME	00:00:45.0			
EVENT	FLIGHT	TRANSONIC		
LOCATION	KSC	LAUNCHPAD39A		
VEHICLE	SHUTTLE	COLUMBIA	OV102	

INTEGRATED OSS-1 PALLET PAYLOAD FLIGHT MAXIMUM FOR LIFTOFF
FLOWN ON STS-3
CAN BE COMPARED TO GROUND TEST DATA IN EVENT OSSG
ACTUAL MEASUREMENT NUMBERS START WITH A '9' INSTEAD OF 'M' OR 'V'

PROCESS	AEROSPACE	OEX	DATE	STSI	
CONTRACT	NASA	OEX	DATE	STSI	
COGNIZNT	NASA	OEX	DATE	STSI	
DATE	11/11/82				
EVENT	FLIGHT	SSME-IGN	STS5		
LOCATION	KSC	*	STS5		
VEHICLE	SHUTTLE	COLUMBIA	STS5	OV102	

STS5 FLIGHT DATA
MAIN ENGINE IGNITION SSME
OV102 COLUMBIA
AEROSPACE DATA PROCESSING

PROCESS	AEROSPACE	OEX	DATE	STSL
CONTRACT	NASA	OEX	DATE	STSL
COGNIZNT	NASA	OEX	DATE	STSL
DATE	11/11/82			
EVENT	FLIGHT	LIFTOFF	STS5	
LOCATION	KSC	*	STS5	
VEHICLE	SHUTTLE	COLUMBIA	STS5	OV102

STS5 FLIGHT DATA
LIFTOFF
OV102 COLUMBIA
AEROSPACE DATA PROCESSING

PROCESS	AEROSPACE	OEX	DATE	STST
CONTRACT	NASA	OEX	DATE	STST
COGNIZNT	NASA	OEX	DATE	STST
DATE	11/11/82			
EVENT	FLIGHT	TRANSONIC	STS5	
LOCATION	KSC	*	STS5	
VEHICLE	SHUTTLE	COLUMBIA	STS5	OV102

STS5 FLIGHT DATA
TRANSONIC
OV102 COLUMBIA
AEROSPACE DATA PROCESSING

PROCESS	NASA-GSFC	OEX	SYS-GRD-TST	OSSG
CONTRACT	NASA	OEX	SYS-GRD-TST	OSSG
COGNIZNT	NASA	OEX	SYS-GRD-TST	OSSG
DATE	09/25/80			
EVENT	GROUND	REVERBERANT	PROTOFLIGHT	
LOCATION	GREENBELT	GSFC	40KCELL	
VEHICLE	OEX	OSS	OSS-1	

INTEGRATED OSS-1 PALLET PAYLOAD ACOUSTIC TEST
TEST PERFORMED IN 40,000 CUBIC FOOT GSFC ACOUSTIC CHAMBER
DATE ACCELS ARE LABELLED WITH (A), AND NON-DATA WITH (V)
REF: NASA TM86087, FRANK ON, APRIL 1984.

PROCESS	BOEING	IUS	IUS-STS	RP1
CONTRACT	AIR*FORCE	IUS	*	RP1
COGNIZNT	AEROSPACE	IUS	*	RP1
DATE	08/17/84			
EVENT	GROUND	REVERBERANT		
LOCATION	BOEING	KENT	BLDG18-24	
VEHICLE	ELV	IUS	COMPONENT	PLUME-SHIELD

IUS PLUME SHIELD RUN 145T ACOU TEST: OA=145DB, DUR=1 MIN. HP 5451C
ANALYZER; 20 SEC REC; FREQ RANG 2660 HZ;10HZ BANDWIDTH, 64 AVGS. ACCEL
SENSE: X-AXIAL,Y-RADIAL,Z-TANG,N-NORMAL TO SHIELD. DATA FROM 90/270
AND 189 DEG SHIELD AND ACOU TEST FIXS. RE: CLARK BECK - BOEING - KENT.

PROCESS	BOEING	IUS	IUS-STS	RP2
CONTRACT	AIR*FORCE	IUS	*	RP2
COGNIZNT	AEROSPACE	IUS	*	RP2
DATE	08/17/84			
EVENT	GROUND	REVERBERANT		
LOCATION	BOEING	KENT	BLDG18-24	
VEHICLE	ELV	IUS	COMPONENT	PLUME-SHIELD

IUS PLUME SHIELD RUN 151T ACOU TEST: OA=151DB, DUR=3 MIN. HP 5451C
ANAL; 20 SEC REC(FIRST 20); FREQ RANG 2660 HZ;10HZ BAND, 64 AVGS. ACCEL
SENSE: X-AXIAL,Y-RADIAL,Z-TANG,N-NORMAL TO SHIELD. DATA FROM 90/270
AND 189 DEG SHIELD AND ACOU TEST FIXS. RE: CLARK BECK - BOEING - KENT.

PROCESS	BOEING	IUS	IUS-6	I6T
CONTRACT	AIR*FORCE	IUS	*	I6T
COGNIZNT	AEROSPACE	IUS	*	I6T
DATE	04/29/82			
EVENT	GROUND	REVERBERANT		
LOCATION	BOEING	KENT	BLDG18-24	
VEHICLE	ELV	IUS	IUS-6	

INTERTIAL UPPER STAGE (IUS). ACOUSTIC ACCEPTANCE TEST: IUS-6
(T34D CONF) OA=145DB, DUR=1 MIN. HP 5451C ANALYZER; 20 SEC REC;
FREQ RANG 2660 HZ; 10HZ BANDWIDTH, 64 AVGS. ACCEL SENSE: A-AXIAL,
R-RADIAL,T-TANGENTIAL TO IUS. RE: CLARK BECK - BOEING AEROSPACE - KENT.

```
PROCESS        NASA-GSFC    ERBS           ACOUSTICTEST ERBS
CONTRACT       NASA         ERBS
DATE           06/13/84
EVENT          GROUND       REVERBERANT  PROTOFLIGHT
VEHICLE        SHUTTLE
```

ERBS OBSERVATORY ACOUSTIC TEST AT PROTOFLIGHT LEVEL, JUNE 1984 IN
GSFC 40K CU. FT. REVERB. NOISE TEST FACILITY. EVENT INCLUDES TEST(T)
& FLIGHT(L) TRANSDUCERS. SPACECRAFT COORDINATES ARE USED THROUGHOUT,
+ZE-+ZO, -XE-+YO, +YE-+XO

```
PROCESS        ROCKWELL     NAVSTAR      QPS-QTV       GPSA
CONTRACT       AIRFORCE
COGNIZNT       AEROSPACE
DATE           03/10/77
EVENT          GROUND       REVERBERANT  ACCEPTANCE
LOCATION       ROCKWELL     CELLB-1
```

THE ACOUSTIC TEST AT ACCEPTANCE-LEVEL ON THE GPS
QUALIFICATION TEST VEHICLE WAS PERFORMED MARCH 8-10
1977 AT ROCKWELL INTERNATIONAL B-1 DIVISION ACOUSTIC
TEST CHAMBER.

```
PROCESS        ROCKWELL     NAVSTAR      GPS-QTV       GPSQ
CONTRACT       AIRFORCE
COGNIZNT       AEROSPACE
DATE           03/10/77
EVENT          GROUND       REVERBERANT  ACCEPTANCE
LOCATION       ROCKWELL     CELLB-1
```

THE ACOUSTIC TEST AT QUAL-LEVEL ON THE GPS
QUALIFICATION TEST VEHICLE WAS PERFORMED
MARCH 8-10, 1977 AT ROCKWELL INTERNATIONAL
B-1 DIVISION ACOUSTIC TEST CHAMBER.

PROCESS	GE	DSCSIII	ACOU-QUAL	DSCS
CONTRACT	AIRFORCE			
COGNIZNT	AEROSPACE			
DATE	01/01/81			
LOCATION	SPACE	DIV		

THE ACOUSTIC TEST AT QUAL-LEVEL ON THE DSCS VEHICLE
JANUARY 1, 1981 AT GENERAL ELECTRIC-SPACE DIVISION.