WINDII SOPPS USER'S GUIDE

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1. INTRODUCTION

1.1. PURPOSE

This manual presents the information needed to effectively use WINDII-Science Data Production Processing Software (SDPPS) Version 3.2 and later.

The WINDII-SDPPS will be used in two operational environments :
- OPERATIONAL SPACE, in delivery CDHF area (by CDHF operators),
- USER'S SPACE, for testing, tracing and maintenance operations on CDHF or a RAC (by the project team : PI + analysts).

This document is devoted to present the use of SDPPS in OPERATIONAL SPACE, which includes the Production mode and some control capabilities of the CDHF operators to run the SDPPS programs in TEST MODE.

1.2. SCOPE

Chapter 2 gives a WINDII-SDPPS system overview and a brief introduction of the UARS CDHF environment, to explain the DATA MANAGEMENT and the OPERATIONAL ASPECTS which are common to the different programs.

Chapters 3 to 10 explain how an operator shall work to use the WINDII-SDPPS Production Programs in the OPERATIONAL SPACE.

Chapters 11 to 13 explain how an operator shall work to run level jobs.

Chapter 14 explain how an operator shall work to run WINDII_LOG program.

Another document [WIN-ME-470-01-EU] USER'S MANUAL (in USER'S SPACE and to the RAC) deals with the testing and maintenance procedures.

The principal used concepts are explained in the GLOSSARY at the end of this document.

Appendix 1 presents error messages which can occur during execution. Possible causes and actions are also given.

1.3. USE OF THIS DOCUMENT

It is assumed that the reader already understand the basic UARS concepts such as DATA TYPES, LEVELS and other UARS terminology.

The user should also be familiar with the basic VAX/VMS concepts, control language and help systems.

The second section is requiered to understand the control and data structures of the SDPPS as well as its operation modes.

The following sections may be read in any order, because they are self-sufficient.

2. SYSTEM OVERVIEW

The objective of the Upper Atmospheric Research Satellite (UARS) Project is to study the physical processes acting within and upon the stratosphere, mesosphere and atmosphere. The UARS systems supports eleven mission instruments, one of them is the WIND Imaging Interferometer (WINDII), institutional communications and ground system elements to support flight operations and data capture.

The three principal objectives of the WINDII experiment are as follow :

a. To mesure two dimensional vertical profiles of the horizontal wind velocity, Doppler temperature and intensity of various emission of the neutral atmosphere in the altitude range 80 to 320 kms and to determine these profiles as functions of latitude, time of day and time of year throughout the 18 month's mission of the UARS.

b. To mesure the global distribution of small scale structures.

c. To study dynamical and thermal aspects of the neutral atmospheric energy balance in the observed altitude range using these data.

2.1. THE WINDII-SDPPS TRANSFORMATIONS

The WINDII-SDPPS transforms Level 0 data (Instrument telemetry) into Level 3A data (scientific data) in three transformations also called JOB.

- First transformation called CALIBRATION depacks the telemetry, then applies on the raw data several conversions and systematic corrections which depend on the instrument characteristics and on the observation conditions (known by the calibration and Orbit-Attitude information).

    It transforms Level 0 data (scientific telemetry, quality and engineering data) into Level 1 data (Calibrated Measurements) using sequentially the three Fortran programs (described in the next chapters):

    - DA_DECOM   : Instrument mode extraction (or Depacking)
    - CI_CONTROL   : Correction of Instrument effects
    - CO_CONTROL   : Correction of Observatory effects

- The second transformation, called REDUCTION, takes a part of the Level 1 data (Calibrated Atmospheric Measurements) and produces Level 2 data (atmospheric parameters obtained either from apparent quantities or from deconvoluted quantities, and combined results) using sequentially the four Fortran programs (described in the next chapters):

    - RA_EXTRACT   : Apparent Quantities extraction
    - RD_DECONVOLUTE : Apparent Vectors deconvolution
    - RP_PRODUCE   : Atmospheric Parameters calculation
    - RC_COMBINE   : FOV's results combination

- The third transformation takes the Level 2 Combined Results and produces GRIDDED RESULTS at Level 3A, using UCSS write modules and the production program (described in the next chapters):

    - GR_CONTROL   : Gridding Function

Figure 2.1. WINDII-SDPPS Version 3 Stream

```
Level 0 Data    ----\
                     \
                      \----> DA_DECOM        \
                                              \
                             CI_CONTROL        >   JOB1 = CALIBRATION
                                              /
                     /----- CO_CONTROL       /
                    /
              <----/
Level 1 Data
              -----\
                    \
                     \----> RA_EXTRACT       \
                                              \
                            RD_DECONVOLUTE     \
                                                > JOB2 = REDUCTION
                            RP_PRODUCE         /
                     /----- RC_COMBINE        /
                    /
              <----/
Level 2 Data
              -----\
                    \
                     \---->
                            GR_CONTROL        >   JOB3 = GRIDDING
                     /-----
                    /
Level 3 Data  <----/
```
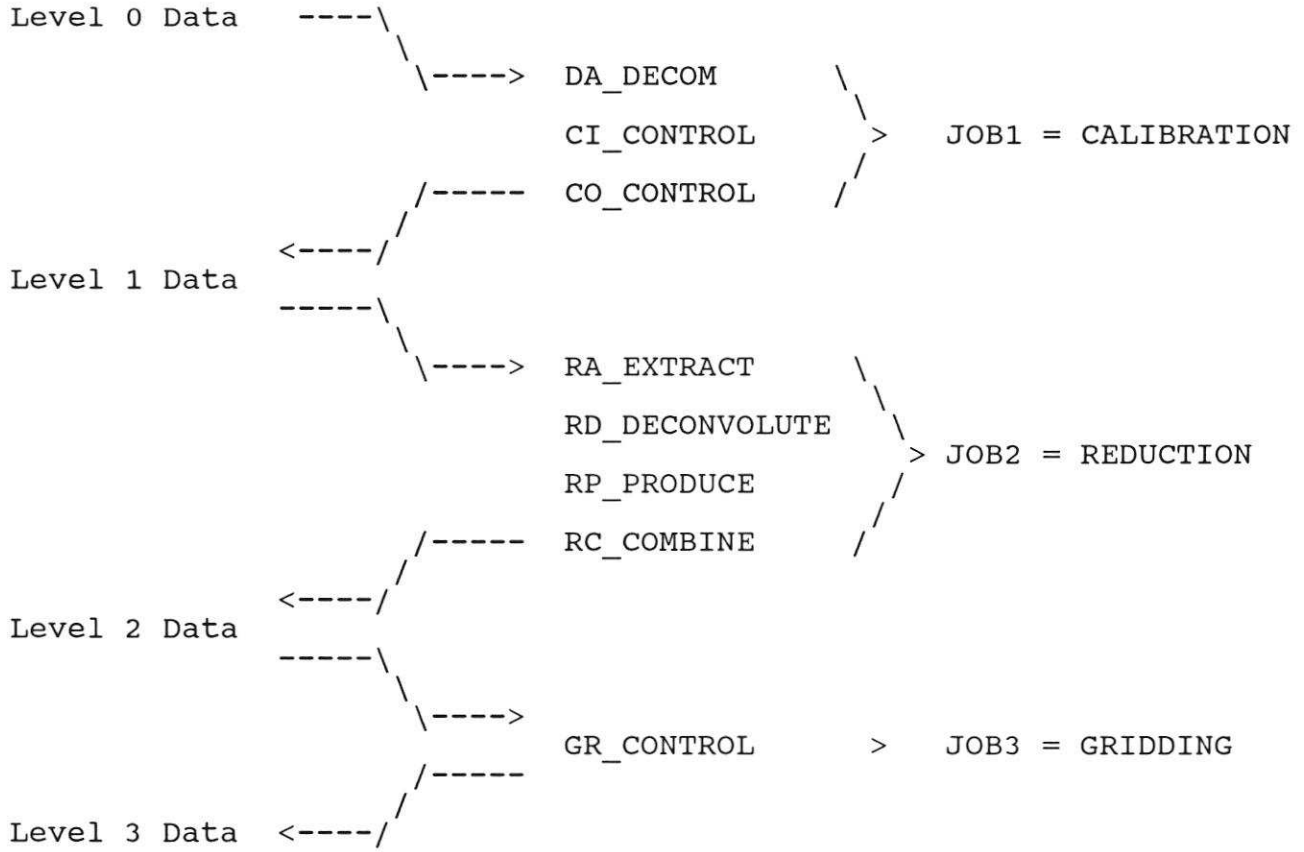
2.2. DATA MANAGEMENT

2.1. Classes

Seven classes of files can be distinguished in the system :

a) level 0 data files contain telemetry data, quality data and engineering data. Accesses and I/O services to these files are provided by UCSS modules (OPENL0, READL0, QUALRD, CLOSELF)

b) level 3A data files contain scientific data in UARS time grid or in UARS latitude grid. Accesses and I/O services to these files are provided by UCSS modules (OPENL3AT, OPENL3AL, OPENL3TP, OPENL3LP, WRITEL3AT, WRITEL3AL, WRITEL3TP, WRITEL3LP, CLOSELF)

c) level 1 and level 2 data files contain intermediate results between transformations. Accesses to these files are provided by UCSS modules (ASGCAT, DASLID). I/O services are provided by WINDII_SDPPS software.

d) calibration data files contain Characterization data base and constants for WINDII_SDPPS software. Accesses to these files are provided by UCSS modules (ASGCAL, DASLID). I/O services are provided by WINDII_SDPPS software.

e) user status files contain reports from each programme. Accesses to these files are provided by UCSS modules (ASGUSR, DASLID). I/O services are provided by WINDII_SDPPS software.

f) scratch files contain intermediate results between two fortran programs. Accesses to these files are provided by UCSS modules (ASGSCR, DASLID). I/O services are provided by WINDII_SDPPS software.

g) auxiliary files are composed of four categories :
   - engineering data
   - telemetry data with bad watchdog timer
   - memory dump data
   - report files that have been copied from user status file space

Accesses and I/O services are only provided by WINDII-SDPPS software.

CAUTION :

Nominal execution time for WINDII-SDPPS software is an entire day, but WINDII observation scenario is composed of sequences which last about 15 minutes. As a sequence can start at any time prior mid-night and end early next day, the best start time is 23:45:00.00 of the previous day and the stop time is 23:59:59:99 of the current day to be processed.

2.3. OPERATIONAL ASPECTS

This section deals with all the operational procedures which may be used either production mode, for any transformation JOB, or in test mode.

> To use efficiently the WINDII-SDPPS SOFTWARE you should create
> a file in the main directory named LOGIN.COM which contains
> the followed command :
>
> $ DEFINE WINDII_SDPPS_V3 DEVICE:[MAIN.<WIN_V3>]/TRANSL=CONCEALED

Before running any job the operator must be sure that all required logicals have been assigned to useful directories; these logicals are in the file WINDII_SETUP.COM which is described in the WINDII_SDPPS INSTALLATION MANUAL.

In particular, the operator must assign the logical AUX_DIRECTORY to the users directory. The WINDII USER'S Space at CDHF is :

WIN$DISK:[WINCAN.AUX]

Each transformation must be run in increasing order.
Each step of each transformation must be run in the order, defined in chapters 11 to 13.

Every production program uses run-time parameters which are defined in a PARAMS table. This table is provided to the program by the UCSS module PGINIT. If this table is empty or not complete, DEFAULT VALUES are used. But if this table updated,the operator must also update the corresponding VALUES table with one of the possible expected values. These parameters can be written in any order.

The WINDII-SDPP software is able to produce traces to help in error understanding. This possibility must be used with extremely caution because it generates a great amount of data in the auxiliary directory and can fail the JOB. So this option must be used only for a short time of processing.

The transformations are split into several steps in order to facilitate the restart of the transformation. After a failure of the system, the operator can resume the process from the last successful step.

Once a failure occurs during an execution, the operator must examine its cause, by looking at the UCSS summary report, and determine if the origine is neither the program nor the data in process; upon these conditions, and after removing the files currently being written, the operator restart the job using the same command as running the job.

Chapter 3 to 10 described only all run time parameters that can be changed by the operator.

In particular parameters LAUNCH_DATE and DATA_FILE_NAME are not described because they are given by UCSS project team.

The WINDII SDPPS SOFTWARE does not use any default values for required file parameters. So in the PROGRAM_PARAMS namelist, the operator must write the following line : DEF_EXISTS='T' and create an empty namelist as follow:

```
$DEFAULT_PARAMS
$END
```
Examples are given in chapters 11 to 13.

3. PRODUCTION PROGRAM DA_DECOM

3.1. REQUIRED RESOURCES

This program produces the following files :
```
        . 5 Level 1 data files   ( 10 KBytes)
        . 4 Scratch files        ( 60 MBytes)
        . 4 Auxiliary files      (  5 KBytes)
        . 3 User status files    ( 10 KBytes)
```

It uses, with nominal orbital sequence scenario :
```
        . 4000 seconds of CPU Time
        . 7200 direct IO count and 1500 buffered IO count
        . TBD KBytes of core memory
```

3.2. INPUT PARAMETERS DESCRIPTION

Parameter name   Parameter value (format)

- PROG_NAME   :   DA_DECOM
- PROCESSING_START_TIME :   date string of 23 characters
        Example :   '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME   :   date string of 23 characters
        Example :   '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :   string of 1 to 4 characters
        Example :   '125'
- PARAMS (I)   :   string giving a parameter name
- VALUES (I)   :   string giving the value of PARAM (I)
                            (see table 3.2)

Table 3.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		note 1
PRO_ENG	Create engineering data	'Y','N'	'N'	'N'
PRO_QUAL	Use of quality data	'Y','N'	'N'	'Y'

See example in chapter 11, section 11.3

note 1 : This is the last UARS day where calibration files, called CDB, were
         catalogued at CDHF. This value must match with the value of
         PRE_NXT_UARS_DAY of UCSS FILE_PARAMS calibration parameter.

3.3. INPUT/OUTPUT DATA FILE DESCRIPTION

3.1. Catalogued input files

```
- Logical file ID            : L0_TM
  this file contains         : telemetry data
        . DATA_LEVEL         : '0'
        . DATA_TYPE          : 'WINDII'
        . FILE_DISPOSITION:  'FREE'
this file is required

- Logical file ID            : L0_ENGINE
  this file contains         : engineering data
        . DATA_LEVEL         : '0'
        . DATA_TYPE          : 'ENGINEERING'
        . FILE_DISPOSITION:  'FREE'
  this file is optional, it depends on parameter PRO_ENG

- Logical file ID            : L0_QUALITY
  this file contains         : quality data
        . DATA_LEVEL         : '0'
        . DATA_TYPE          : 'QUALITY'
        . FILE_DISPOSITION:  'FREE'
  this file is optional, it depends on parameter PRO_QUAL
```

3.3.2. Calibration files

```
- Logical file ID            : C_CDBP
. this file contains         : scalars and small matrices among CDB parameters
        . CALIBRATION ID     : CDBP
        . CALIBRATION_MATCH  : 'PREV'
        . DATA_LEVEL         : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE            : 'WINDII'
        . UARS_DAY           : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
  parameters

- Logical file ID            : C_PARDECOM
. this file contains         : parameters for telemetry depacking function
        . CALIBRATION ID     : PARDECOM
        . CALIBRATION_MATCH  : 'PREV'
        . DATA_LEVEL         : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE            : 'WINDII'
        . UARS_DAY           : current uars_day
  this file is required
```

3.3.3. catalogued output files

```
- Logical file ID            : L1_CALINF
. this file contains         : infrequent calibration measurement
        . DATA_LEVEL         : '1'
        . DATA_TYPE          : 'WINDII'
        . OLD_NEW            : 'NEW'
        . SUBTYPE            : 'CALINF'
        . UARS_DAY           : current uars_day
        . FILE_DISPOSITION:  'FREE'
```

```
- Logical file ID        : L1_MIN
. this file contains      : UARS minutes
        . DATA_LEVEL      : '1'
        . DATA_TYPE       : 'WINDII'
        . OLD_NEW         : 'NEW'
        . SUBTYPE         : 'MIN'
        . UARS_DAY        : current uars_day
        . FILE_DISPOSITION: 'FREE'
```

```
- Logical file ID          : L1_MDO_O2
. this file contains        : atmospheric and background for O2 measurement
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'MDOO2'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'FREE'

- Logical file ID          : L1_MDFD_O2
. this file contains        : dark current calibration for O2 measurement
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'MDFDO2'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'FREE'

- Logical file ID          : L1_MDFP_O2
. this file contains        : phase calibration for O2 measurement
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'MDFPO2'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'FREE'
```

3.3.4. scratch output files

```
- Logical file ID          : T1_MDO (scratch file)
. this file contains        : atmospheric and background measurement
        . LOGICAL_FILE ID : 'T1_MDO'
        . OLD_NEW           : 'NEW'
        . FILE_DISPOSITION: 'HOLD'

- Logical file ID          : T1_MDFD (scratch file)
. this file contains        : dark current calibration measurement
        . LOGICAL_FILE ID : 'T1_MDFD'
        . OLD_NEW           : 'NEW'
        . FILE_DISPOSITION: 'HOLD'

- Logical file ID          : T1_MDFP (scratch file)
. this file contains        : phase calibration measurement
        . LOGICAL_FILE ID : 'T1_MDFP'
        . OLD_NEW           : 'NEW'
        . FILE_DISPOSITION: 'HOLD'

- Logical file ID          : T1_REJET (scratch file)
. this file contains        : rejected telemetry
        . LOGICAL_FILE ID : 'T1_REJET'
        . OLD_NEW           : 'NEW'
        . FILE_DISPOSITION: 'FREE'
```

3.3.5. Auxiliary output files

```
- Logical file ID      : A_ENGINE
. this file contains    : engineering data

- Logical file ID      : A_WATCHDOG
  this file contains    : emaf telemetry for which watchdog timer is bad
```

```
- Logical file ID        : A_MEMORY
. this file contains      : memory dump data

Logical file ID          : T1_TRAC11
. this file contains      : Historical for DA_DECOM
. this file exists only if parameter TRLEV is different from '0'
```

3.3.6. user status files

```
  Logical file ID                       : T1_OPE
  this file contains                    : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER       : 1
        . FILE_DISPOSITION              : 'HOLD'

- Logical file ID                       : T1_REP
. this file contains                    : errors occuring in DA_DECOM
        . USER_STATUS_FILE_NUMBER       : 2
        . FILE_DISPOSITION              : 'HOLD'

- Logical file ID                       : T1_MESLOG
. this file contains                    : measurements log file
        . USER_STATUS_FILE_NUMBER       : 7
        . FILE_DISPOSITION              : 'HOLD'
```

3.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program DA_DECOM, the operator must be sure that the auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions of no space overflow or no reaching the maximal number of allowed files.

This run depends on the availability of the level 0 data files.

3.5. "NORMAL" DCL PROCEDURE

see example chapter 11

6. SYSTEM MESSAGES

There are four different completion messages at the end of the programme.

If the step failed due to an I/O FORTRAN or UCSS problem the message is :

    PROGRAM COMPLETION COMMENTS: JOB 1 DA BAD TERMINATION; OPERATION ERROR,
    SEE REPORT FILE.

If the step failed due to the data that have been processed the message is :

    PROGRAM COMPLETION COMMENTS: JOB 1 DA BAD TERMINATION; SCIENTIFIC ERROR,
    SEE REPORT FILE.

When, for any reason, the programme has rejected all the data the message is :

    PROGRAM COMPLETION COMMENTS: JOB 1 DA NO GLOBAL SCIENCE DATA

but the programme status is "PASS" and all the other steps will give the same message.

If every thing runs as well as possible the programme status is "PASS" and the message is :

    PROGRAM COMPLETION COMMENTS: JOB 1 DA SUCCESSFULLY TERMINATED.

3.7. SPECIAL CONDITIONS

If any error occurs, the process must be resumed from the beginning since this step is the first one.

3.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

See 3.7 and 3.9.

3.9. REQUIRED ANALYST ACTIONS

In case of a failure due to I/O FORTRAN or UCSS problem, when the message reads an "OPERATION ERROR", the operator should take a look at the report user's status file number 2 (T1_REP) which should report the conditions of the problem. When it is an I/O FORTRAN error the report is as follow :

```
OPEN
CLOSE
READ      ERROR  ON FILE logical_id WITH STATUS io_status_number
WRITE
REWIND
REWRITE
```

When the problem is fixed, the process can be resumed at the beginning of that step after deleting the files created by itself.

If the problem cannot be fixed by the operator, he should look at the appendix 1 (list of errors and actions) and take the appropriate action.

In any case, a message should be sent to the PI representatives containing any information which could help to understand the problem.

10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T1_OPE contains all parameters which describe globally what has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
    * fields written by DA_DECOM program:
        - day number
        - job run date
        - job run time
        - program version number
        - start time
        - stop time
        - run-time parameters
        - number of background
        - number of measurements according to their types (O1S,
          O1D, O+, OH1, OH2, O2)
        - number of DC frequent calibration
        - number of phase calibration according to their lamp (557.0, 630.4,
          738.5, broadband laser)
        - number of infrequent calibrations with identification of
          their types
        - number of memory dump data sets

The report file T1_REP contains information about error occuring in DA_DECOM program. The information are:
        - module name
        - error number

- error message (40 characters)
        - list of calling module names
        - measurement identifier

11. TEST DATA GENERATION PROCEDURES

NONE

4. PRODUCTION PROGRAM CI_CONTROL

4.1. REQUIRED RESOURCES

This program produces the following files :
- . 3 Level 1 data files   (5000 KBytes)
- . 1 Scratch files   (130 MBytes)
- . 1 Auxiliary file   (5 KBytes)
- . 2 User status files   (10 KBytes)

It uses, with nominal orbital sequence scenario :
- . 6500 seconds of CPU Time
- . 10676 direct IO count and 1946 buffered IO count
- . TBD KBytes of core memory

4.2. INPUT PARAMETERS DESCRIPTION

Parameter name   Parameter value (format)

- PROG_NAME   :   CI_CONTROL
- PROCESSING_START_TIME :   date string of 23 characters
         Example :   '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME   :   date string of 23 characters
         Example :   '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :   string of 1 to 4 characters
         Example :   '125'
- PARAMS (I)   :   string giving a parameter name
- VALUES (I)   :   string giving the value of PARAM (I)
                                 (see table 4.2)

Table 4.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		note 1
LEVL1	Create L1_CVP file (See 4.8)	'Y','N'	'Y'	'Y'
O1S	Observation categories not to process	note 2		note 3
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 11, section 11.3

note 1 : This is the last UARS day where calibration files, called CDB, were
         catalogued at CDHF. This must match with the value of
         PRE_NXT_UARS_DAY, UCSS FILE_PARAMS parameter.

note 2 : WINDII scenario contains four observation categories for each
         line. The software is designed to process all these categories
         or a part of them. As the nominal processing is to process all of
         them the run time parameters indicate only the categories which
         will not be processed.
         The four categories are :
             L : local   G : global
             S : special   Z : global and special
         The VALUE is any combination of one letter or more from the four
         letters "LGZS". For example if we do not want to process categories
         "global and special" and "global" for the line O1S the expected
         VALUE of the PARAMS O1S is : O1S='ZG'.

note 3 : In production mode all the lines should be processed so none of
         the six PARAMS should be present in the run stream.

4.3. INPUT/OUTPUT DATA FILE DESCRIPTION

4.3.1. Scratch input files

- Logical file ID   : T1_MDO (scratch file)
. this file contains   : atmospheric and background measurement
        . ESTIMATED FILE SIZE : 120000 blocks
        . LOGICAL_FILE ID   : 'T1_MDO'
        . OLD_NEW   : 'HELD'
        . FILE_DISPOSITION   : 'FREE'

- Logical file ID   : T1_MDFD (scratch file)
. this file contains   : dark current calibration measurement
        . ESTIMATED FILE SIZE : 2500 blocks
        . LOGICAL_FILE ID   : 'T1_MDFD'
        . OLD_NEW   : 'HELD'
        . FILE_DISPOSITION   : 'FREE'

- Logical file ID   : T1_MDFP (scratch file)
. this file contains   : phase calibration measurement
        . ESTIMATED FILE SIZE : 10000 blocks
        . LOGICAL_FILE ID   : 'T1_MDFP'
        . OLD_NEW   : 'HELD'
        . FILE_DISPOSITION   : 'FREE'

4.3.2. Calibration files

- Logical file ID   : C_CONST
. this file contains   : constants, criteria and switches
        . CALIBRATION ID   : CONST
        . CALIBRATION_MATCH   : 'PREV'
        . DATA_LEVEL   : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE   : 'WINDII'
        . UARS_DAY   : current uars_day
. this file is required to know physical constants, execution switches and
  criteria

- Logical file ID   : C_CDBP
. this file contains   : scalars and small matrices among CDB parameters
        . CALIBRATION ID   : CDBP
        . CALIBRATION_MATCH   : 'PREV'
        . DATA_LEVEL   : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file

```
          . SUBTYPE              : 'WINDII'
          . UARS_DAY             : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
  parameters
```

```
- Logical file ID          : C_CDBI
. this file contains        : bin dependant parameters
        . CALIBRATION ID    : CDBI
        . CALIBRATION_MATCH : 'PREV'
        . DATA_LEVEL        : ' '
        . PRE_NXT_UARS_DAY  : uars day for calibration file
        . SUBTYPE           : 'WINDII'
        . UARS_DAY          : current uars_day
. this file is required to know bin dependant parameters but filter independant

- Logical file ID          : C_CDBIn (n= 1,8)
. these files contain       : filter dependant and bin dependant parameters
        . CALIBRATION ID    : CDBIn
        . CALIBRATION_MATCH : 'PREV'
        . DATA_LEVEL        : ' '
        . PRE_NXT_UARS_DAY  : uars day for calibration file
        . SUBTYPE           : 'WINDII'
        . UARS_DAY          : current uars_day
. these files are required to know bin and filter dependant parameters

4.3.3. catalogued output files

- Logical file ID          : L1_CVD
  this file contains        : dark current measurement
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'CVD'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'CAT'

 Logical file             : L1_CVP
. this file contains        : frequent calibration phases
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'CVP'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'CAT'

- Logical file             : L1_MESNOT
. this file contains        : depacked observation measurements
        . DATA_LEVEL        : '1'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'MESNOT'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION: 'CAT'

4.3.4. output scratch files

- Logical file ID          : T1_CMI
. this file contains        : measurements corrected for instrument effects
        . LOGICAL_FILE ID   : 'T1_CMI'
        . OLD_NEW           : 'NEW'
        . FILE_DISPOSITION: 'HOLD'

4.3.5. Auxiliary output files
```

```
- Logical file ID        : T1_TRAC21
. this file contains     : historical for CI_CONTROL program
. this file exists only if parameter TRLEV is different from '0'
```

4.3.6. user status files

- Logical file ID   : T1_OPE
  this file contains   : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 1
        . FILE_DISPOSITION   : 'HOLD'

- Logical file ID   : T1_REP
  . this file contains   : errors occuring in CI_CONTROL
        . USER_STATUS_FILE_NUMBER : 2
        . FILE_DISPOSITION   : 'HOLD'

4.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program CI_CONTROL, the operator must be sure that the auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the scratch file T1_MDO, T1_MDFP and T1_MDFD and the success of DA_DECOM program execution.

4.5. "NORMAL" DCL PROCEDURE

see example chapter 11

4.6. SYSTEM MESSAGES

There are four different completion messages at the end of the programme.

If the step failed due to an I/O FORTRAN or UCSS problem the message is :

PROGRAM COMPLETION COMMENTS: JOB 1 CI BAD TERMINATION; OPERATION ERROR, SEE REPORT FILE.

If the step failed due to the data that have been processed the message is :

PROGRAM COMPLETION COMMENTS: JOB 1 CI BAD TERMINATION; SCIENTIFIC ERROR, SEE REPORT FILE.

When, for any reason, the programme has rejected all the data the message is :

PROGRAM COMPLETION COMMENTS: JOB 1 CI NO GLOBAL SCIENCE DATA

but the programme status is "PASS" and all the other steps will give the same message.

If every thing runs as well as possible the programme status is "PASS" and the message is :

PROGRAM COMPLETION COMMENTS: JOB 1 CI SUCCESSFULLY TERMINATED.

4.7. SPECIAL CONDITIONS

If any error occurs, the process can be resumed from this step if all the conditions of the section 4.4 are met.

4.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

WINDII software is designed to select the lines to be processed and the ones which are not processed are written to the file L1_MESNOT in order to be processed later on with other specific calibration files. To handle this particular case the programme CI_CONTROL uses the parameter LEVL1='N' which indicates that the input files T1_MDO and T1_MDFD are replaced by L1_MESNOT and L1_CVD, and the file L1_CVP must not be created.

4.9. REQUIRED ANALYST ACTIONS

In case of a failure due to I/O FORTRAN or UCSS problem, when the message reads an "OPERATION ERROR", the operator should take a look at the report user's status file number 2 (T1_REP) which should report the conditions of the problem. When it is an I/O FORTRAN error the report is as follow :

```
OPEN
CLOSE
READ      ERROR   ON FILE logical_id WITH STATUS io_status_number
WRITE
REWIND
REWRITE
```

When the problem is fixed, the process can be resumed at the beginning of that step after deleting the files created by itself.

If the problem cannot be fixed by the operator, he should look at the appendix 1 (list of errors and actions) and take the appropriate action.

In any case, a message should be sent to the PI representatives containing any information which could help to understand the problem.

10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T1_OPE contains all parameters which globally describe what has been requested by the operator and some statistical results of the run.

Parameters, that are written in the file, are identified below:
* fields written by CI_CONTROL program:
- number of processed atmospheric measurements with their type (O1S, O1S, O1D, O+, OH1, OH2, O2)
- number of processed background measurements
- number of measurements that have been identified but not processed with their type and written to L1_MESNOT.

The report file T1_REP contains information about error occurring in CI_CONTROL program. The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

4.11. TEST DATA GENERATION PROCEDURES

NONE

5. PRODUCTION PROGRAM CO_CONTROL

5.1. REQUIRED RESOURCES

is program produces the following files:
- . 2 Level 1 data files (210 Mbytes)
- . 1 Auxiliary file (5 Kbytes)
- . 2 User'status files (10 Kbytes)

It uses, with nominal orbital sequence scenario:
- . 50000 seconds of CPU Time
- . 12456 direct IO count and 2282 buffered IO count
- . TBD Kbytes of core memory

5.2. INPUT PARAMETERS DESCRIPTION

Parameter name   Parameter value (format)

- PROG_NAME   :   CO_CONTROL
- PROCESSING_START_TIME :   date string of 23 characters
         Example :   '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME :   date string of 23 characters
         Example :   '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :   string of 1 to 4 characters
         Example :   '125'
- PARAMS (I)   :   string giving a parameter name
- VALUES (I)   :   string giving the value of PARAM (I)
                               (see table 5.2)

Table 5.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
ORB_TYP_VER	Orbit type version	'P','D',' '	' '	' '
ATT_TYP_VER	Attitude type version	'E','D',' '	' '	' '
TYP_VER	Orbit raw data version	'P','D',' '	' '	' '
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 11, section 11.3

5.3 INPUT/OUTPUT DATA-FILE DESCRIPTION

5.3.1 Scratch and catalogued input files

```
Logical file ID              : T1_CMI
. this file contains          : atmospheric and background measurements
        . ESTIMATED FILE SIZE : 250000 blocks
        . LOGICAL_FILE ID     : 'T1_CMI'
        . OLD_NEW             : 'HELD'
        . FILE_DISPOSITION    : 'FREE'
. this file is required to make orbital correction

- Logical file ID            : L1_CVP
. this file contains          : calibration phases
        . DATA_LEVEL         : '1'
        . DATA_TYPE          : 'WINDII'
        . ESTIMATED FILE SIZE : 20000 blocks
        . LOGICAL_FILE ID     : 'L1_CVP'
        . OLD_NEW             : 'HELD'
        . SUBTYPE            : 'CVP'
        . UARS_DAY           : current uars_day
        . FILE_DISPOSITION    : 'CAT'
. this file is required to make instrument phase correction.
```

5.3.2. Calibration files

```
- Logical file ID            : C_CONST
. this file contains          : constants, criteria and switches
        . CALIBRATION ID     : CONST
        . CALIBRATION_MATCH  : 'PREV'
        . DATA_LEVEL         : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE            : 'WINDII'
        . UARS_DAY           : current uars_day
. this file required to know physical constants, execution switches and criteria

- Logical file ID            : C_CDBP
. this file contains          : scalars and small matrices among CDB parameters
        . CALIBRATION ID     : CDBP
        . CALIBRATION_MATCH  : 'PREV'
        . DATA_LEVEL         : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE            : 'WINDII'
        . UARS_DAY           : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
  parameters

- Logical file ID            : C_CDBI
. this file contains          : bin parameters
        . CALIBRATION ID     : CDBI
        . CALIBRATION_MATCH  : 'PREV'
        . DATA_LEVEL         : ' '
        . PRE_NXT_UARS_DAY   : uars day for calibration file
        . SUBTYPE            : 'WINDII'
        . UARS_DAY           : current uars_day
. this file is required to know bin dependant parameters but filter independant
```

```
- Logical file ID              : C_CDBIn (n= 1,8)
. these files contain          : filter dependant and bin dependant parameters
        . CALIBRATION ID       : CDBIn
        . CALIBRATION_MATCH     : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. these files are required to know bin and filter dependant parameters
```

5.3.3. catalogued output files

```
- Logical file                 : 'L1_CVA'
. this file contains           : atmospheric calibration data
        . DATA_LEVEL           : '1'
        . DATA_TYPE            : 'WINDII'
        . OLD_NEW              : 'NEW'
        . SUBTYPE              : 'CVA'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION:    :'CAT'

- Logical file                 : L1_CVB
. this file contains           : background calibrated data
        . DATA_LEVEL           : '1'
        . DATA_TYPE            : 'WINDII'
        . OLD_NEW              : 'NEW'
        . SUBTYPE              : 'CVB'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION     : 'CAT'
```

5.3.4. output scratch files

ne

5.3.5. Auxiliary output files

```
- Logical file ID              : T1_TRAC22
. this file contains           : historical for CO_CONTROL program
. this file exists only if parameter TRLEV is different from '0'
```

5.3.6. user status files

```
- Logical file ID                   : T1_OPE
. this file contains                : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 1
        . FILE_DISPOSITION          : 'FREE'

- Logical file ID                   : T1_REP
. this file contains                : errors occuring in CO_CONTROL
        . USER_STATUS_FILE_NUMBER : 2
        . FILE_DISPOSITION          : 'FREE'
```

5.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program CO_CONTROL, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions
of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the scratch file T1_CMI and the success
of CI_CONTROL program execution.

5.5. "NORMAL" DCL PROCEDURE

see example chapter 11

5.6. SYSTEM MESSAGES

See section 4.6

5.7. SPECIAL CONDITIONS

See section 4.7

5.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

5.9. REQUIRED ANALYST ACTIONS

See section 4.9

5.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T1_OPE contains all parameters which describe globally what
has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
        * fields written by CO program:
        - number of processed measurements by type of line
        - level 1 transformation status ('Pass' or 'Fail')

The report file T1_REP contains information about error occurring in
CO_CONTROL program. The information are:
        - module name
        - error number
        - error message (40 characters)
        - list of calling module names
        - measurement identifier

5.11. TEST DATA GENERATION PROCEDURES

None

6. PRODUCTION PROGRAM RA_EXTRACT

6.1. REQUIRED RESOURCES

is program produces the following files :
- . 1 Scratch file   (21 MBytes)
- . 1 Auxiliary file   (5 KBytes)
- . 2 User'status files   (10 Kbytes)

It uses, with nominal orbital sequence scenario :
- . 19000 seconds of CPU Time
- . 6000 direct IO count and 500 buffered IO count
- . TBD KBytes of core memory

6.2. INPUT PARAMETERS DESCRIPTION

Parameter name   Parameter value (format)

- PROG_NAME   :   RA_EXTRACT
- PROCESSING_START_TIME :   date string of 23 characters
        Example :   '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME   :   date string of 23 characters
        Example :   '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :   string of 1 to 4 characters
        Example :   '125'
- PARAMS (I)   :   string giving a parameter name
- VALUES (I)   :   string giving the value of PARAM (I)
                              (see table 6.2)

Table 6.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 12, section 12.3

6.3. INPUT/OUTPUT DATA FILE DESCRIPTION

6.3.1. Catalogued input files

Logical file ID   : L1_CVA
. this file contains   : atmospheric calibrated values
   . DATA_LEVEL   : '1'
   . DATA_TYPE   : 'WINDII'
   . ESTIMATED FILE SIZE : 274000 blocks
   . LOGICAL_FILE ID   : 'L1_CVA'
   . OLD_NEW   : 'OLD'
   . SUBTYPE   : 'CVA'
   . UARS_DAY   : current uars_day
   . FILE_DISPOSITION   : 'FREE'
. This file is required for extracting apparent quantities

6.3.2. Calibration files

- Logical file ID   : C_CONST
. this file contains   : constants, criteria and switches
   . CALIBRATION ID   : CONST
   . CALIBRATION_MATCH   : 'PREV'
   . DATA_LEVEL   : ' '
   . PRE_NXT_UARS_DAY   : uars day for calibration file
   . SUBTYPE   : 'WINDII'
   . UARS_DAY   : current uars_day
. this file required to know physical constants, execution switches and criteria

- Logical file ID   : C_CDBP
. this file contains   : scalars and small matrices among CDB parameters
   . CALIBRATION ID   : CDBP
   . CALIBRATION_MATCH   : 'PREV'
   . DATA_LEVEL   : ' '
   . PRE_NXT_UARS_DAY   : uars day for calibration file
   . SUBTYPE   : 'WINDII'
   . UARS_DAY   : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
 parameters

- Logical file ID   : C_CDBIn (n= 1,8)
. this file contains   : filter n dependant and bin dependant parameters
   . CALIBRATION ID   : CDBIn
   . CALIBRATION_MATCH   : 'PREV'
   . DATA_LEVEL   : ' '
   . PRE_NXT_UARS_DAY   : uars day for calibration file
   . SUBTYPE   : 'WINDII'
   . UARS_DAY   : current uars_day
. these files are required to know bin and filter dependant parameters

6.3.3. catalogued output files

None

6.3.4. output scratch files

```
Logical file ID          : T2_AQ31
this file contains       : apparent quantity vectors
        . LOGICAL_FILE_ID : 'T2_AQ31'
        . OLD_NEW         : 'NEW'
        . FILE_DISPOSITION: 'HOLD'
```

6.3.5. Auxiliary output files

```
- Logical file ID        : T2_TRAC31
. this file contains     : historical for RA_EXTRACT program
. this file exists only if parameter TRLEV is different from '0'
```

6.3.6. user status files

```
- Logical file ID                       : T2_OPE
. this file contains                    : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 3
        . FILE_DISPOSITION        : 'HOLD'

- Logical file ID                       : T2_REP
. this file contains                    : errors occurring in RA_EXTRACT
        . USER_STATUS_FILE_NUMBER : 4
        . FILE_DISPOSITION        : 'HOLD'
```

6.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program RA_EXTRACT, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions
of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the level 1 data file.

6.5. "NORMAL" DCL PROCEDURE

see example chapter 12

6.6. SYSTEM MESSAGES

See section 4.6

6.7. SPECIAL CONDITIONS

See section 4.7

6.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

6.9. REQUIRED ANALYST ACTIONS

In case of a failure due to I/O FORTRAN or UCSS problem, when the message reads an "OPERATION ERROR", the operator should take a look at the report user's status file number 4 (T1_REP) which should report the conditions of the problem. When it is an I/O FORTRAN error the report is as follow :

```
OPEN
CLOSE
READ        ERROR   ON FILE logical_id WITH STATUS io_status_number
WRITE
REWIND
REWRITE
```

When the problem is fixed, the process can be resumed at the beginning of that step after deleting the files created by itself.

If the problem cannot be fixed by the operator, he should look at the appendix 1 (list of errors and actions) and take the appropriate action.

In any case, a message should be sent to the PI representatives containing any information which could help to understand the problem.

6.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T2_OPE contains all parameters which describe globally what has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
- day number
- job run date
- job run time
- CDB version number
- identification of requested type of measurement to be processed (O1S, O1D, O+, OH1, OH2)
- number of processed measurement per type

The report file T2_REP contains information about error occuring in RA_EXTRACT program.
The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

6.11. TEST DATA GENERATION PROCEDURES

None

7. PRODUCTION PROGRAM RD_DECONVOLUTE

7.1. REQUIRED RESOURCES

is program produces the following files :
```
        . 1 catalogued file    (10   KBytes)
        . 1 Scratch file       (14.5 MBytes)
        . 1 Auxiliary file     ( 5   KBytes)
        . 2 User'status files  (10   Kbytes)
```

It uses, with nominal orbital sequence scenario :
```
        . 15000 seconds of CPU Time
        . 1000 direct IO count and 300 buffered IO count
        . TBD KBytes of core memory
```

7.2. INPUT PARAMETERS DESCRIPTION

```
Parameter name                  Parameter value (format)

- PROG_NAME             :       RD_DECONVOLUTE
- PROCESSING_START_TIME :       date string of 23 characters
        Example :               '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME  :       date string of 23 characters
        Example :               '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :       string of 1 to 4 characters
        Example :               '125'
- PARAMS (I)            :       string giving a parameter name
- VALUES (I)            :       string giving the value of PARAM (I)
                                (see table 7.2)
```

Table 7.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 12, section 12.3

7.3. INPUT/OUTPUT DATA FILE DESCRIPTION

7.3.1. Scratch input files

```
- Logical file ID              : T2_AQ31
. this file contains           : apparent quantity vectors
        . ESTIMATED FILE SIZE  : 40000 blocks
        . LOGICAL_FILE_ID      : 'T2_AQ31'
        . OLD_NEW              : 'HELD'
        . FILE_DISPOSITION     : 'FREE'
```

7.3.2. Calibration files

```
- Logical file ID              : C_CONST
. this file contains           : constants, criteria and switches
        . CALIBRATION ID       : CONST
        . CALIBRATION_MATCH    : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. this file required to know physical constants, execution switches and criteria

- Logical file ID              : C_CDBP
. this file contains           : scalars and small matrices among CDB parameters
        . CALIBRATION ID       : CDBP
        . CALIBRATION_MATCH    : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
parameters
```

7.3.3. catalogued output files

```
- Logical file ID              : L2_DS
. this file contains           : Deconvolved scenario informations
        . DATA_LEVEL           : '2'
        . DATA_TYPE            : 'WINDII'
        . OLD_NEW              : 'NEW'
        . SUBTYPE              : 'DS'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION:    'FREE'
```

7.3.4. output scratch files

```
- Logical file ID              : T2_FDG32
. this file contains           : Deconvolved quantity vectors
        . LOGICAL_FILE_ID      : 'T2_FDG32'
        . OLD_NEW              : 'NEW'
        . FILE_DISPOSITION:    'HOLD'
```

7.3.5. Auxiliary output files

Logical file ID   : T2_TRAC32
. this file contains   : historical for RD_DECONVOLUTE program
. this file exists only if parameter TRLEV is different from '0'

7.3.6. user status files

- Logical file ID   : T2_OPE
. this file contains   : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 3
        . FILE_DISPOSITION   : 'HOLD'

- Logical file ID   : T2_REP
. this file contains   : errors occurring in RD_DECONVOLUTE
        . USER_STATUS_FILE_NUMBER : 4
        . FILE_DISPOSITION   : 'HOLD'

7.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program RD_DECONVOLUTE, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions
of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the scratch file T2_AQ31 and on the
succes of RA_EXTRACT program execution.

7.5. "NORMAL" DCL PROCEDURE

e example chapter 12

7.6. SYSTEM MESSAGES

See section 4.6

7.7. SPECIAL CONDITIONS

See section 4.7

7.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

None

7.9. REQUIRED ANALYST ACTIONS

See section 6.9

7.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T2_OPE contains all parameters which describe globally what has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
- day number
- job run date
- job run time
- CDB version number
- identification of requested type of measurement to be processed (O1S, O1D, O+, OH1, OH2)
- number of processed measurement per type
- number of deconvolved measurement per type

The report file T2_REP contains information about error occuring in RD_DECONVOLUTE program.

The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

7.11. TEST DATA GENERATION PROCEDURES

None

8. PRODUCTION PROGRAM RP_PRODUCE

8.1. REQUIRED RESOURCES

is program produces the following files :
```
        . 3 Level 2 data files   (31 MBytes)
        . 2 Scratch files        (20 MBytes)
        . 1 Auxiliary file       ( 5 KBytes)
        . 2 User'status files    (10 Kbytes)
```

It uses, with nominal orbital sequence scenario :
```
        . 2000 seconds of CPU Time
        . 3000 direct IO count and 700 buffered IO count
        . TBD KBytes of core memory
```

8.2. INPUT PARAMETERS DESCRIPTION

Parameter name   Parameter value (format)

```
- PROG_NAME                 :   RP_PRODUCE
- PROCESSING_START_TIME :   date string of 23 characters
        Example :               '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME  :   date string of 23 characters
        Example :               '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY       :   string of 1 to 4 characters
        Example :               '125'
- PARAMS (I)                :   string giving a parameter name
- VALUES (I)                :   string giving the value of PARAM (I)
                                (see table 8.2)
```

Table 8.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 12, section 12.3

8.3. INPUT/OUTPUT DATA FILE DESCRIPTION

8.3.1. Scratch input files

```
- Logical file ID              : T2_FDG32
. this file contains           : deconvolved quantity vectors
        . ESTIMATED FILE SIZE  : 30000 blocks
        . LOGICAL_FILE ID      : 'T2_FDG32'
        . OLD_NEW              : 'HELD'
        . FILE_DISPOSITION     : 'FREE'

- Logical file ID              : T2_AQ31
. this file contains           : apparent quantity vectors
        . ESTIMATED FILE SIZE  : 40000 blocks
        . LOGICAL_FILE_ID      : 'T2_AQ31'
        . OLD_NEW              : 'HELD'
        . FILE_DISPOSITION     : 'FREE'
```

8.3.2. Calibration files

```
- Logical file ID              : C_CONST
. this file contains           : constants, criteria and switches
        . CALIBRATION ID       : CONST
        . CALIBRATION_MATCH    : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. this file required to know physical constants, execution switches and criteria

- Logical file ID              : C_CDBP
. this file contains           : scalars and small matrices among CDB parameters
        . CALIBRATION ID       : CDBP
        . CALIBRATION_MATCH    : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
  parameters
```

8.3.3. catalogued output files

```
- Logical file                 : L2_AQ
. This file contains           : apparent quantity vectors
        . DATA_LEVEL           : '2'
        . DATA_TYPE            : 'WINDII'
        . OLD_NEW              : 'NEW'
        . SUBTYPE              : 'AQ'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION:    'HOLD'
```

```
- Logical file           : L2_FD1
. This file contains      : deconvolved quantity for forward FOV
        . DATA_LEVEL      : '2'
        . DATA_TYPE       : 'WINDII'
        . OLD_NEW         : 'NEW'
        . SUBTYPE         : 'FD1'
        . UARS_DAY        : current uars_day
        . FILE_DISPOSITION: 'HOLD'

- Logical file           : L2_FD2
. This file contains      : deconvolved quantity for rear FOV
        . DATA_LEVEL      : '2'
        . DATA_TYPE       : 'WINDII'
        . OLD_NEW         : 'NEW'
        . SUBTYPE         : 'FD2'
        . UARS_DAY        : current uars_day
        . FILE_DISPOSITION: 'HOLD'
```

8.3.4. output scratch files

```
- Logical file ID        : T2_AQ1
. this file contains      : apparent quantity for forward FOV
        . LOGICAL_FILE_ID : 'T2_AQ1'
        . OLD_NEW         : 'NEW'
        . FILE_DISPOSITION: 'HOLD'

- Logical file ID        : T2_AQ2
. this file contains      : apparent quantity for rear FOV
        . LOGICAL_FILE_ID : 'T2_AQ2'
        . OLD_NEW         : 'NEW'
        . FILE_DISPOSITION: 'HOLD'
```

8.3.5. Auxiliary output files

```
- Logical file ID     : T2_TRAC33
. this file contains  : historical for RP_PRODUCE program
. this file exists only if parameter TRLEV is different from '0'
```

8.3.6. user status files

```
- Logical file ID                    : T2_REP
. this file contains                  : errors occurring in RP_PRODUCE
        . USER_STATUS_FILE_NUMBER     : 4
        . FILE_DISPOSITION            : 'HOLD'

- Logical file ID                    : T2_OPE
. this file contains                  : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER     : 3
        . FILE_DISPOSITION            : 'HOLD'
```

8.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program RP_PRODUCE, the operator must be sure that the auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the scratch file T2_FDG32 and on the succes of RD_DECONVOLUTE program execution.

8.5. "NORMAL" DCL PROCEDURE

see example chapter 12

8.6. SYSTEM MESSAGES

See section 4.6

8.7. SPECIAL CONDITIONS

See section 4.7

8.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

None

8.9. REQUIRED ANALYST ACTIONS

See section 6.9

10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T2_OPE contains all parameters which describe globally what has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
- day number
- job run date
- job run time
- CDB version number
- identification of requested type of measurement to be processed (O1S, O1D, O+, OH1, OH2)
- number of processed measurement per type

The report file T2_REP contains information about error occuring in RP_PRODUCT program.

The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

8.11. TEST DATA GENERATION PROCEDURES

None

9. PRODUCTION PROGRAM RC_COMBINE

9.1. REQUIRED RESOURCES

is program produces the following files :
- 1 level 2 data files   (5 MBytes
- 1 Auxiliary file   (5 KBytes)
- 2 User'status files   (10 Kbytes)

It uses, with nominal orbital sequence scenario :
- 2000 seconds of CPU Time
- 1000 direct IO count and 200 buffered IO count
- TBD KBytes of core memory

9.2. INPUT PARAMETERS DESCRIPTION

Parameter name		Parameter value (format)
- PROG_NAME	:	RC_COMBINE
- PROCESSING_START_TIME	:	date string of 23 characters
Example :		'02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME	:	date string of 23 characters
Example :		'02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY	:	string of 1 to 4 characters
Example :		'125'
- PARAMS (I)	:	string giving a parameter name
- VALUES (I)	:	string giving the value of PARAM (I) (see table 9.2)

Table 9.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 12, section 12.3

9.3. INPUT/OUTPUT DATA FILE DESCRIPTION

9.3.1. Scratch and Catalogued input files

```
- Logical file ID              : L2_FD1
. this file contains           : deconvolved quantity for the forward FOV
        . DATA_LEVEL           : '2'
        . DATA_TYPE            : 'WINDII'
        . ESTIMATED FILE SIZE  : 15000 blocks
        . LOGICAL_FILE ID      : 'L2_FD1'
        . OLD_NEW              : 'HELD'
        . SUBTYPE              : 'FD1'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION     : 'CAT'
. This file is required to combine deconvolved quantities

- Logical file ID              : L2_FD2
. this file contains           : deconvolved quantity for the rear FOV
        . DATA_LEVEL           : '2'
        . DATA_TYPE            : 'WINDII'
        . ESTIMATED FILE SIZE  : 15000 blocks
        . LOGICAL_FILE ID      : 'L2_FD2'
        . OLD_NEW              : 'HELD'
        . SUBTYPE              : 'FD2'
        . UARS_DAY             : current uars_day
        . FILE_DISPOSITION     : 'CAT'
. This file is required to combine deconvolved quantities

- Logical file ID              : T2_AQ1
. this file contains           : apparent quantity for forward FOV
        . ESTIMATED FILE SIZE  : 20000 blocks
        . LOGICAL_FILE_ID      : 'T2_AQ1'
        . OLD_NEW              : 'HELD'
        . FILE_DISPOSITION     : 'FREE'

- Logical file ID              : T2_AQ2
. this file contains           : apparent quantity for rear FOV
        . ESTIMATED FILE SIZE  : 20000 blocks
        . LOGICAL_FILE_ID      : 'T2_AQ2'
        . OLD_NEW              : 'HELD'
        . FILE_DISPOSITION     : 'FREE'
```

9.3.2. Calibration files

```
- Logical file ID              : C_CONST
. this file contains           : constants, criteria and switches
        . CALIBRATION ID       : CONST
        . CALIBRATION_MATCH    : 'PREV'
        . DATA_LEVEL           : ' '
        . PRE_NXT_UARS_DAY     : uars day for calibration file
        . SUBTYPE              : 'WINDII'
        . UARS_DAY             : current uars_day
. this file required to know physical constants, execution switches and criteria
```

```
- Logical file ID          : C_CDBP
. this file contains       : scalars and small matrices among CDB parameters
        . CALIBRATION ID    : CDBP
        . CALIBRATION_MATCH : 'PREV'
        . DATA_LEVEL        : ' '
        . PRE_NXT_UARS_DAY  : uars day for calibration file
        . SUBTYPE           : 'WINDII'
        . UARS_DAY          : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
 parameters
```

9.3.3. catalogued output files

```
- Logical file ID          : L2_CD
. this file contains       : combinated results
        . DATA_LEVEL        : '2'
        . DATA_TYPE         : 'WINDII'
        . OLD_NEW           : 'NEW'
        . SUBTYPE           : 'CD'
        . UARS_DAY          : current uars_day
        . FILE_DISPOSITION  : 'CAT'
```

9.3.4. output scratch files
None

9.3.5. Auxiliary output files

```
- Logical file ID      : T2_TRAC33
. this file contains   : historical for RC_COMBINE program
. this file exists only if parameter TRLEV is different from '0'
```

9.3.6. user status files

```
- Logical file ID                    : T2_OPE
. this file contains                 : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 3
        . FILE_DISPOSITION           : 'FREE'

- Logical file ID                    : T2_REP
. this file contains                 : errors occurring in RC_COMBINE
        . USER_STATUS_FILE_NUMBER : 4
        . FILE_DISPOSITION           : 'FREE'
```

9.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program RC_COMBINE, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions
of no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the level 2 files and on the
success of RP_PRODUCE program execution.

9.5. "NORMAL" DCL PROCEDURE

see example chapter 12

9.6. SYSTEM MESSAGES

See section 4.6

9.7. SPECIAL CONDITIONS

See section 4.7

9.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

None

9.9. REQUIRED ANALYST ACTIONS

See section 6.9

9.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T2_OPE contains all parameters which describe globally what
has been requested by the operator and some statistical results of the run.

Parameters, that are written to the file, are identified below:
- day number
- job run date
- job run time
- CDB version number
- identification of requested type of measurement to be processed (O1s,
  O1D, O+, OH1, OH2)
- number of processed measurements per type

The report file contains information about error occuring in RC_COMBINE program.
The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

9.11. TEST DATA GENERATION PROCEDURES

None

10. PRODUCTION PROGRAM GR_CONTROL

10.1. REQUIRED RESOURCES

This program produces the following files :
```
        . 8 Level 3A data files (8000 KBytes)
        . 1 Auxiliary file      (5    KBytes)
        . 2 User'status files    (10   Kbytes)
```

It uses, with nominal orbital sequence scenario :
```
        . 2000 seconds of CPU Time
        . 1000 KBytes of I/O
        . 2500 KBytes of core memory
```

10.2. INPUT PARAMETERS DESCRIPTION

```
Parameter name                     Parameter value (format)

- PROG_NAME                 :      GR_CONTROL
- PROCESSING_START_TIME :          date string of 23 characters
        Example :                  '02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME  :          date string of 23 characters
        Example :                  '02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY   :          string of 1 to 4 characters
        Example :                  '125'
- PARAMS (I)                :      string giving a parameter name
- VALUES (I)                :      string giving the value of PARAM (I)
                                   (see table 10.2)
```

Table 10.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		see 3.2
TYPE_GRID	Type of grid to produce	'TIME', 'LATITUDE', 'BOTH'	'BOTH'	'BOTH'
O1S	Observation categories not to process	see 4.2		see 4.2
O1D	idem	"		"
OII	idem	"		"
OH1	idem	"		"
OH2	idem	"		"
O2B	idem	"		"

See example in chapter 13, section 13.3

10.3. INPUT/OUTPUT DATA FILE DESCRIPTION

10.3.1. Catalogued input files

```
- Logical file ID                  : L2_CD
. this file contains               : combined measurements
        . DATA_LEVEL               : '2'
        . DATA_TYPE                : 'WINDII'
        . OLD_NEW                  : 'OLD'
        . SUBTYPE                  : 'CD'
        . UARS_DAY                 : current uars_day
        . FILE_DISPOSITION         : 'FREE'

- Logical file ID                  : L1_MIN
. this file contains               : Times for UARS grid
        . DATA_LEVEL               : '1'
        . DATA_TYPE                : 'WINDII'
        . OLD_NEW                  : 'OLD'
        . SUBTYPE                  : 'MIN'
        . UARS_DAY                 : current uars_day
        . FILE_DISPOSITION         : 'FREE'
```

10.3.2. Calibration files

```
- Logical file ID                  : C_CONST
. this file contains               : constants, criteria and switches
        . CALIBRATION_ID           : CONST
        . CALIBRATION_MATCH        : 'PREV'
        . DATA_LEVEL               : ' '
        . PRE_NXT_UARS_DAY         : uars day for calibration file
        . SUBTYPE                  : 'WINDII'
        . UARS_DAY                 : current uars_day
. this file is required to know physical constants, execution switches and
  criteria
```

10.3.3. catalogued output files

```
- Logical file ID                  : L3AT_TEMP
. this file contains               : temperature for level 3A time
        . DATA_LEVEL               : '3AT'
        . DATA_TYPE                : 'WINDII'
        . FILE_VERSION_NUMBER(1)   : '1'
        . FILE_VERSION_NUMBER(2)   : '1'
        . OLD_NEW                  : 'NEW'
        . SUBTYPE                  : read in calibration file C_CONST
        . UARS_DAY                 : current uars_day
        . FILE_DISPOSITION         : 'CAT'
```

```
- Logical file ID                       : L3AT_ZONAL
. this file contains                     : zonal wind for level 3A time
        . DATA_LEVEL                     : '3AT'
        . DATA_TYPE                      : 'WINDII'
        . FILE_VERSION_NUMBER(1)         : '1'
        . FILE_VERSION_NUMBER(2)         : '1'
        . OLD_NEW                        : 'NEW'
        . SUBTYPE                        : read in calibration file C_CONST
        . UARS_DAY                       : current uars_day
        . FILE_DISPOSITION               : 'CAT'

- Logical file ID                       : L3AT_MERID
. this file contains                     : meridian wind for level 3A time
        . DATA_LEVEL                     : '3AT'
        . DATA_TYPE                      : 'WINDII'
        . FILE_VERSION_NUMBER(1)         : '1'
        . FILE_VERSION_NUMBER(2)         : '1'
        . OLD_NEW                        : 'NEW'
        . SUBTYPE                        : read in calibration file C_CONST
        . UARS_DAY                       : current uars_day
        . FILE_DISPOSITION               : 'CAT'

- Logical file ID                       : L3TP_PARAM
. this file contains                     : Quality information about grid point
        . DATA_LEVEL                     : '3TP'
        . DATA_TYPE                      : 'WINDII'
        . FILE_VERSION_NUMBER(1)         : '1'
        . FILE_VERSION_NUMBER(2)         : '1'
        . OLD_NEW                        : 'NEW'
        . SUBTYPE                        : read in calibration file C_CONST
        . UARS_DAY                       : current uars_day
        . FILE_DISPOSITION               : 'CAT'

- Logical file ID                       : L3AL_TEMP
. this file contains                     : temperature for level 3A latitude
        . DATA_LEVEL                     : '3AL'
        . DATA_TYPE                      : 'WINDII'
        . FILE_VERSION_NUMBER(1)         : '1'
        . FILE_VERSION_NUMBER(2)         : '1'
        . OLD_NEW                        : 'NEW'
        . SUBTYPE                        : read in calibration file C_CONST
        . UARS_DAY                       : current uars_day
        . FILE_DISPOSITION               : 'CAT'

- Logical file ID                       : L3AL_ZONAL
. this file contains                     : zonal wind for level 3A latitude
        . DATA_LEVEL                     : '3AL'
        . DATA_TYPE                      : 'WINDII'
        . FILE_VERSION_NUMBER(1)         : '1'
        . FILE_VERSION_NUMBER(2)         : '1'
        . OLD_NEW                        : 'NEW'
        . SUBTYPE                        : read in calibration file C_CONST
        . UARS_DAY                       : current uars_day
        . FILE_DISPOSITION               : 'CAT'
```

```
- Logical file ID                          : L3AL_MERID
. this file contains                        : meridian wind for level 3A latitude
        . DATA_LEVEL                        : '3AL'
        . DATA_TYPE                         : 'WINDII'
        . FILE_VERSION_NUMBER(1)  : '1'
        . FILE_VERSION_NUMBER(2)  : '1'
        . OLD_NEW                           : 'NEW'
        . SUBTYPE                           : read in calibration file C_CONST
        . UARS_DAY                          : current uars_day
        . FILE_DISPOSITION                  : 'CAT'

- Logical file ID                          : L3LP_PARAM
. this file contains                        : Quality information about grid point
        . DATA_LEVEL                        : '3LP'
        . DATA_TYPE                         : 'WINDII'
        . FILE_VERSION_NUMBER(1)  : '1'
        . FILE_VERSION_NUMBER(2)  : '1'
        . OLD_NEW                           : 'NEW'
        . SUBTYPE                           : read in calibration file C_CONST
        . UARS_DAY                          : current uars_day
        . FILE_DISPOSITION                  : 'CAT'
```

10.3.4. output scratch files

No scratch file.

10.3.5. Auxiliary output files

```
- Logical file ID         : T3_TRAC4
. this file contains      : historical for GR_CONTROL program
. this file exists only if parameter TRLEV is different from '0'
```

10.3.6. user status files

```
- Logical file ID                          : T3_REP
. this file contains                        : errors occurring in GR_CONTROL
        . USER_STATUS_FILE_NUMBER : 6
        . FILE_DISPOSITION                  : 'FREE'

- Logical file ID                          : T3_OPE
. this file contains                        : parameters requested by the operator
        . USER_STATUS_FILE_NUMBER : 5
        . FILE_DISPOSITION                  : 'FREE'
```

10.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program GR_CONTROL, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions of
no space overflow or not reaching the maximal number of allowed files.

This run depends on the availability of the level 2 data file.

10.5. "NORMAL" DCL PROCEDURE

~~e example chapter 13

10.6. SYSTEM MESSAGES

See section 4.6

10.7. SPECIAL CONDITIONS

See section 4.7

10.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

None

10.9. REQUIRED ANALYST ACTIONS

In case of a failure due to I/O FORTRAN or UCSS problem, when the message
reads an "OPERATION ERROR", the operator should take a look at the report
user's status file number 6 (T1_REP) which should report the conditions of
the problem. When it is an I/O FORTRAN error the report is as follow :

```
OPEN
CLOSE
READ      ERROR  ON FILE logical_id WITH STATUS io_status_number
WRITE
REWIND
REWRITE
```

When the problem is fixed, the process can be resumed at the beginning of that
ep after deleting the files created by itself.

If the problem cannot be fixed by the operator, he should look at the appendix
1 (list of errors and actions) and take the appropriate action.

In any case, a message should be sent to the PI representatives containing
any information which could help to understand the problem.

10.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The log file T3_OPE contains all parameters which describe globally what
has been requested by the operator and what is the result of the run.

Parameters, that are written to the file, are identified below:
- day number
- job run date
- job run time
- CDB version number
- identification of requested type of measurement to be processed
- type of grid (time, latitude)

The report file T3_REP contains information about error occuring in the job3.
The information are:
- module name
- error number
- error message (40 characters)
- measurement identifier

10.11. TEST DATA GENERATION PROCEDURES

None

11. PRODUCTION JOB '1' OVERVIEW

11.1 DEFINITION JOB 1

is job transforms Level 0 data into Level 1 data.

It executes sequentially the three programs :

      - DA_DECOM   (see chapter 3)
      - CI_CONTROL (see chapter 4)
      - CO_CONTROL (see chapter 5)

All output versions are system default.

Program parameters values are set up by the operator.

11.2 PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Orbit/attitude data are used via ORBIT/ATTITUDE DATA SERVICES.

Directory of auxiliary files is AUX_DIRECTORY.

Each step can be used as a restart point if all the files needed by the step are present.

At the RAC, using Rac Simulated Services (RSS) the environment which precedes the restart point must be simulated : input files must be assignated, opened, closed and deassignated in a program using RSS modules. This is done with the specific programmes called INIT_CI, INIT_CO which must be run before respectively steps CI_CONTROL, CO_CONTROL.

11.3 DCL PROCEDURES

This section presents an example of run stream of the WINDII_SDPPS.

```
$ !
$ !  assign usefull logicals to execute the WINDII process
$ !
$ @WINDII_SDPPS_V3:[000000]WINDII_SETUP
$ !
$ DEFINE/PROCESS UCSS_JOB_ID WINDII10001000
$ !
$ !    First program is UCSS Job  Initialization
$ !
$ run WINDII$UCSS:RSS_JOB_INIT
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_1
$ !
$ !                  STEP 1
$ !
$ JOB_STEP_1:
$     define/process JOB_STEP 1
$     run WINDII_L1_OBE:DA_DECOM
 $PROGRAM_PARAMS
   PROG_NAME='DA_DECOM'
   PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
   PROCESSING_STOP_TIME='02-OCT-1991 23:00:00.00'
   UARS_PROCESSING_DAY=1
   LAUNCH_DATE='01-OCT-1991 00:00:00.00'
   DEF_EXISTS='T'
   PARAMS(1)='TRLEV'
```

```
      VALUES(1)='0      '
      PARAMS(2)='CAL_MATCH'
      VALUES(2)='PREV'
      PARAMS(3)='CAL_UARS_DAY'
      VALUES(3)='1'
      PARAMS(4)='PRO_ENG'
      VALUES(4)='N'
      PARAMS(5)='PRO_QUAL'
      VALUES(5)='N'
   $END
   $DEFAULT_PARAMS
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L0:L0_TM1.DAT'
      DATA_LEVEL='0'
      DATA_TYPE='WINDII'
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L0:L0_ENGINE1.DAT'
      DATA_LEVEL='0'
      DATA_TYPE='ENGINEERING'
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L0:L0_QUALITY1.DAT'
      DATA_LEVEL='0'
      DATA_TYPE='QUALITY'
   $END
   $FILE_PARAMS
      CALIBRATION_ID='PARDECOM'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_PARDECOM.DAT'
      DATA_LEVEL='  '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
   $END
   $FILE_PARAMS
      CALIBRATION_ID='CDBP'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
      DATA_LEVEL='  '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L1:L1_CALINF1.DAT'
      DATA_LEVEL='1'
      DATA_TYPE='WINDII'
      OLD_NEW='NEW'
      SUBTYPE='CALINF'
      UARS_DAY=1
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L1:L1_MIN1.DAT'
      DATA_LEVEL='1'
      DATA_TYPE='WINDII'
      OLD_NEW='NEW'
      SUBTYPE='MIN'
      UARS_DAY=1
```

```
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_DAT_L1:L1_MDO_O21.DAT'
     DATA_LEVEL='1'
     DATA_TYPE='WINDII'
     OLD_NEW='NEW'
     SUBTYPE='MDOO2'
     UARS_DAY=1
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_DAT_L1:L1_MDFD_O21.DAT'
     DATA_LEVEL='1'
     DATA_TYPE='WINDII'
     OLD_NEW='NEW'
     SUBTYPE='MDFDO2'
     UARS_DAY=1
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_DAT_L1:L1_MDFP_O21.DAT'
     DATA_LEVEL='1'
     DATA_TYPE='WINDII'
     OLD_NEW='NEW'
     SUBTYPE='MDFPO2'
     UARS_DAY=1
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_SCRATCH:T1_MDO1.DAT'
     LOGICAL_FILE_ID='T1_MDO'
     OLD_NEW='NEW'
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_SCRATCH:T1_MDFP1.DAT'
     LOGICAL_FILE_ID='T1_MDFP'
     OLD_NEW='NEW'
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_SCRATCH:T1_MDFD1.DAT'
     LOGICAL_FILE_ID='T1_MDFD'
     OLD_NEW='NEW'
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_SCRATCH:T1_REJET1.DAT'
     LOGICAL_FILE_ID='T1_REJET'
     OLD_NEW='NEW'
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_USR:T1_OPE1.DAT'
     USER_STATUS_FILE_NUMBER=1
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_USR:T1_REP1.DAT'
     USER_STATUS_FILE_NUMBER=2
   $END
   $FILE_PARAMS
     DATA_FILE_NAME='WINDII_USR:T1_MESLOG1.DAT'
     USER_STATUS_FILE_NUMBER=7
   $END
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_1
$ !
$ !                   STEP 2
```

```
$ !
$ JOB_STEP_2:
$     define/process JOB_STEP_2
^     run WINDII_L1_OBE:CI_CONTROL
$PROGRAM_PARAMS
  PROG_NAME='CI_CONTROL'
  PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
  PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
  UARS_PROCESSING_DAY=1
  LAUNCH_DATE='01-OCT-1991 00:00:00.00'
  DEF_EXISTS='T'
  PARAMS(1)='TRLEV'
  VALUES(1)='0     '
  PARAMS(2)='CAL_MATCH'
  VALUES(2)='PREV'
  PARAMS(3)='CAL_UARS_DAY'
  VALUES(3)='1'
  PARAMS(4)='LEVL1'
  VALUES(4)='N'
  PARAMS(5)='O2B'
  VALUES(5)='SLGZ'
$END
$DEFAULT_PARAMS
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_SCRATCH:T1_MDO1.DAT'
  ESTIMATED_FILE_SIZE=120000
  LOGICAL_FILE_ID='T1_MDO'
  OLD_NEW='HELD'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_SCRATCH:T1_MDFP1.DAT'
  ESTIMATED_FILE_SIZE=10000
  LOGICAL_FILE_ID='T1_MDFP'
  OLD_NEW='HELD'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_SCRATCH:T1_MDFD1.DAT'
  ESTIMATED_FILE_SIZE=2500
  LOGICAL_FILE_ID='T1_MDFD'
  OLD_NEW='HELD'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_SCRATCH:T1_CMI1.DAT'
  LOGICAL_FILE_ID='T1_CMI'
  OLD_NEW='NEW'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_CVP1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='CVP'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_CVD1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
```

```
       SUBTYPE='CVD'
       UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_MESNOT1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='MESNOT'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CONST'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBP'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBI'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBI.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBI1'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBI1.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBI2'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBI2.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBI3'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBI3.DAT'
```

```
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      CALIBRATION_ID='CDBI4'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBI4.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      CALIBRATION_ID='CDBI5'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBI5.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      CALIBRATION_ID='CDBI6'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBI6.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      CALIBRATION_ID='CDBI7'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBI7.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      CALIBRATION_ID='CDBI8'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBI8.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
  $END
  $FILE_PARAMS
      DATA_FILE_NAME='WINDII_USR:T1_OPE1.DAT'
      USER_STATUS_FILE_NUMBER=1
  $END
  $FILE_PARAMS
      DATA_FILE_NAME='WINDII_USR:T1_REP1.DAT'
      USER_STATUS_FILE_NUMBER=2
  $END
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_1
$ !
```

```
$ !                         STEP 3
$ !
$ JOB_STEP_3:
      define/process JOB_STEP_3
      run WINDII_L1_OBE:CO_CONTROL
$PROGRAM_PARAMS
  PROG_NAME='CO_CONTROL'
  PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
  PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
  UARS_PROCESSING_DAY=1
  LAUNCH_DATE='01-OCT-1991 00:00:00.00'
  DEF_EXISTS='T'
  PARAMS(1)='TRLEV'
  VALUES(1)='0    '
  PARAMS(2)='CAL_MATCH'
  VALUES(2)='PREV'
  PARAMS(3)='CAL_UARS_DAY'
  VALUES(3)='1'
  PARAMS(4)='ATT_TYP_VER'
  VALUES(4)='E   '
  PARAMS(5)='ORB_TYP_VER'
  VALUES(5)='D   '
  PARAMS(6)='TYP_VER'
  VALUES(6)='D   '
$END
$DEFAULT_PARAMS
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_SCRATCH:T1_CMI1.DAT'
  ESTIMATED_FILE_SIZE=250000
  LOGICAL_FILE_ID='T1_CMI'
  OLD_NEW='HELD'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_CVP1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  ESTIMATED_FILE_SIZE=20000
  OLD_NEW='HELD'
  SUBTYPE='CVP'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_CVA1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='CVA'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_CVB1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='CVB'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CONST'
```

```
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBP'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBI'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBI.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBI1'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBI1.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBI2'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBI2.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBI3'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBI3.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          CALIBRATION_ID='CDBI4'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CDBI4.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
```

```
  $END
  $FILE_PARAMS
    CALIBRATION_ID='CDBI5'
    CALIBRATION_MATCH='PREV'
    DATA_FILE_NAME='WINDII_CAL:C_CDBI5.DAT'
    DATA_LEVEL=' '
    PRE_NXT_UARS_DAY=1
    SUBTYPE='WINDII'
    UARS_DAY=1
  $END
  $FILE_PARAMS
    CALIBRATION_ID='CDBI6'
    CALIBRATION_MATCH='PREV'
    DATA_FILE_NAME='WINDII_CAL:C_CDBI6.DAT'
    DATA_LEVEL=' '
    PRE_NXT_UARS_DAY=1
    SUBTYPE='WINDII'
    UARS_DAY=1
  $END
  $FILE_PARAMS
    CALIBRATION_ID='CDBI7'
    CALIBRATION_MATCH='PREV'
    DATA_FILE_NAME='WINDII_CAL:C_CDBI7.DAT'
    DATA_LEVEL=' '
    PRE_NXT_UARS_DAY=1
    SUBTYPE='WINDII'
    UARS_DAY=1
  $END
  $FILE_PARAMS
    CALIBRATION_ID='CDBI8'
    CALIBRATION_MATCH='PREV'
    DATA_FILE_NAME='WINDII_CAL:C_CDBI8.DAT'
    DATA_LEVEL=' '
    PRE_NXT_UARS_DAY=1
    SUBTYPE='WINDII'
    UARS_DAY=1
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_USR:T1_OPE1.DAT'
    USER_STATUS_FILE_NUMBER=1
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_USR:T1_REP1.DAT'
    USER_STATUS_FILE_NUMBER=2
  $END
$ !
$ !      Last program is UCSS Job Termination
$ !
$JOBTERM_1:
$ !
$ !-------------------------------------------------------------!
$ !    COPY OF USER STATUS FILES IN WINDII AUX_DIRECTORY         !
$ !-------------------------------------------------------------!
$  COPY WINDII_DAT_USR:T1_REP1.DAT AUX_DIRECTORY:*.*
$  COPY WINDII_DAT_USR:T1_OPE1.DAT AUX_DIRECTORY:*.*
$  COPY WINDII_DAT_USR:T1_MESLOG1.DAT AUX_DIRECTORY:*.*
$ !
$ !
$ run WINDII$UCSS:RSS_JOB_TERM
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM
```

```
$JOBTERM:
$ exit
```

12. PRODUCTION JOB '2' OVERVIEW

12.1 DEFINITION JOB 2

is job transforms Level 1 data into Level 2 data.

It executes sequentially the four programs :

```
        - RA_EXTRACT      (see chapter 6)
        - RD_DECONVOLUTE  (see chapter 7)
        - RP_PRODUCE      (see chapter 8)
        - RC_COMBINE      (see chapter 9)
```

All output versions are system default.

Program parameters values are set up by the operator.

12.2 PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

NO Orbit/attitude data is used.

Directory of auxiliary files is AUX_DIRECTORY.

Each step can be used as a restart point if all the files needed by the step are present.

At the RAC, using Rac Simulated Services (RSS) the environment which precedes the restart point must be simulated : input files must be assignated, opened, closed and deassignated in a program using RSS modules. This is done with the specific programmes called INIT_RD, INIT_RP, INIT_RC which must be run before respectively steps RD_DECONVOLUTE, RP_PRODUCE, RC_COMBINE.

.3 DCL PROCEDURES

This section presents an example of the WINDII_SDPPS run stream.

```
$ !
$ ! assign usefull logicals to execute the WINDII process
$ !
$ @WINDII_SDPPS_V3:[000000]WINDII_SETUP
$ !
$ DEFINE/PROCESS UCSS_JOB_ID WINDII10001000
$ !
$ !    First program is UCSS Job  Initialization
$ !
$ run WINDII$UCSS:RSS_JOB_INIT
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_2
$ !
$ !                 STEP 1
$ !
$ JOB_STEP_1:
$      define/process JOB_STEP 1
$      run WINDII_L2_OBE:RA_EXTRACT
 $PROGRAM_PARAMS
   PROG_NAME='RA_EXTRACT'
   PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
   PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
   UARS_PROCESSING_DAY=1
   LAUNCH_DATE='01-OCT-1991 00:00:00.00'
   DEF_EXISTS='T'
```

```
      PARAMS(1)='TRLEV'
      VALUES(1)='0     '
      PARAMS(2)='CAL_MATCH'
      VALUES(2)='PREV'
      PARAMS(3)='CAL_UARS_DAY'
      VALUES(3)='1'
$END
$DEFAULT_PARAMS
$END
$FILE_PARAMS
   DATA_FILE_NAME='WINDII_DAT_L1:L1_CVA1.DAT'
   DATA_LEVEL='1'
   DATA_TYPE='WINDII'
   OLD_NEW='OLD'
   SUBTYPE='CVA'
   UARS_DAY=1
$END
$FILE_PARAMS
   DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ311.DAT'
   LOGICAL_FILE_ID='T2_AQ31'
   OLD_NEW='NEW'
$END
$FILE_PARAMS
   CALIBRATION_ID='CONST'
   CALIBRATION_MATCH='PREV'
   DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
   DATA_LEVEL=' '
   PRE_NXT_UARS_DAY=1
   SUBTYPE='WINDII'
   UARS_DAY=1
$END
$FILE_PARAMS
   CALIBRATION_ID='CDBP'
   CALIBRATION_MATCH='PREV'
   DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
   DATA_LEVEL=' '
   PRE_NXT_UARS_DAY=1
   SUBTYPE='WINDII'
   UARS_DAY=1
$END
$FILE_PARAMS
   CALIBRATION_ID='CDBI'
   CALIBRATION_MATCH='PREV'
   DATA_FILE_NAME='WINDII_CAL:C_CDBI.DAT'
   DATA_LEVEL=' '
   PRE_NXT_UARS_DAY=1
   SUBTYPE='WINDII'
   UARS_DAY=1
$END
$FILE_PARAMS
   CALIBRATION_ID='CDBI1'
   CALIBRATION_MATCH='PREV'
   DATA_FILE_NAME='WINDII_CAL:C_CDBI1.DAT'
   DATA_LEVEL=' '
   PRE_NXT_UARS_DAY=1
   SUBTYPE='WINDII'
   UARS_DAY=1
$END
$FILE_PARAMS
   CALIBRATION_ID='CDBI2'
```

```
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI2.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI3'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI3.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI4'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI4.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI5'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI5.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI6'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI6.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI7'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI7.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
  $END
  $FILE_PARAMS
     CALIBRATION_ID='CDBI8'
     CALIBRATION_MATCH='PREV'
     DATA_FILE_NAME='WINDII_CAL:C_CDBI8.DAT'
     DATA_LEVEL=' '
     PRE_NXT_UARS_DAY=1
     SUBTYPE='WINDII'
     UARS_DAY=1
```

```
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_USR:T2_OPE1.DAT'
    USER_STATUS_FILE_NUMBER=3
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_USR:T2_REP1.DAT'
    USER_STATUS_FILE_NUMBER=4
  $END
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_2
$ !
$ !                  STEP 2
$ !
$ JOB_STEP_2:
$       define/process JOB_STEP_2
$       run WINDII_L2_OBE:RD_DECONVOLUTE
  $PROGRAM_PARAMS
    PROG_NAME='RD_DECONVOLUTE'
    PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
    PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
    UARS_PROCESSING_DAY=1
    LAUNCH_DATE='01-OCT-1991 00:00:00.00'
    DEF_EXISTS='T'
    PARAMS(1)='TRLEV'
    VALUES(1)='0      '
    PARAMS(2)='CAL_MATCH'
    VALUES(2)='PREV'
    PARAMS(3)='CAL_UARS_DAY'
    VALUES(3)='1'
  $END
  $DEFAULT_PARAMS
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ311.DAT'
    ESTIMATED_FILE_SIZE=40000
    LOGICAL_FILE_ID='T2_AQ31'
    OLD_NEW='HELD'
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='L2_DS1.DAT'
    DATA_LEVEL='2'
    DATA_TYPE='WINDII'
    OLD_NEW='NEW'
    SUBTYPE='DS'
    UARS_DAY=1
  $END
  $FILE_PARAMS
    DATA_FILE_NAME='WINDII_SCRATCH:T2_FDG321.DAT'
    LOGICAL_FILE_ID='T2_FDG32'
    OLD_NEW='NEW'
  $END
  $FILE_PARAMS
    CALIBRATION_ID='CONST'
    CALIBRATION_MATCH='PREV'
    DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
    DATA_LEVEL=' '
    PRE_NXT_UARS_DAY=1
    SUBTYPE='WINDII'
    UARS_DAY=1
  $END
```

```
$FILE_PARAMS
  CALIBRATION_ID='CDBP'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_USR:T2_OPE1.DAT'
  USER_STATUS_FILE_NUMBER=3
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_USR:T2_REP1.DAT'
  USER_STATUS_FILE_NUMBER=4
$END
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_2
$ !
$ !                   STEP 3
$ !
$ JOB_STEP_3:
$     define/process JOB_STEP_3
$     run WINDII_L2_OBE:RP_PRODUCE
$PROGRAM_PARAMS
  PROG_NAME='RP_PRODUCE'
  PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
  PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
  UARS_PROCESSING_DAY=1
  LAUNCH_DATE='01-OCT-1991 00:00:00.00'
  DEF_EXISTS='T'
  PARAMS(1)='TRLEV'
  VALUES(1)='0    '
  PARAMS(2)='CAL_MATCH'
  VALUES(2)='PREV'
  PARAMS(3)='CAL_UARS_DAY'
  VALUES(3)='1'
$END
$DEFAULT_PARAMS
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L2:L2_AQ1.DAT'
  DATA_LEVEL='2'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='AQ'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L2:L2_FD11.DAT'
  DATA_LEVEL='2'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='FD1'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L2:L2_FD21.DAT'
  DATA_LEVEL='2'
  DATA_TYPE='WINDII'
```

```
         OLD_NEW='NEW'
         SUBTYPE='FD2'
         UARS_DAY=1
       $END
       FILE_PARAMS
         DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ311.DAT'
         ESTIMATED_FILE_SIZE=40000
         LOGICAL_FILE_ID='T2_AQ31'
         OLD_NEW='HELD'
       $END
       $FILE_PARAMS
         DATA_FILE_NAME='WINDII_SCRATCH:T2_FDG321.DAT'
         ESTIMATED_FILE_SIZE=30000
         LOGICAL_FILE_ID='T2_FDG32'
         OLD_NEW='HELD'
       $END
       $FILE_PARAMS
         DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ11.DAT'
         LOGICAL_FILE_ID='T2_AQ1'
         OLD_NEW='NEW'
       $END
       $FILE_PARAMS
         DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ21.DAT'
         LOGICAL_FILE_ID='T2_AQ2'
         OLD_NEW='NEW'
       $END
       $FILE_PARAMS
         CALIBRATION_ID='CONST'
         CALIBRATION_MATCH='PREV'
         DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
         DATA_LEVEL=' '
         PRE_NXT_UARS_DAY=1
         SUBTYPE='WINDII'
         UARS_DAY=1
       $END
       $FILE_PARAMS
         CALIBRATION_ID='CDBP'
         CALIBRATION_MATCH='PREV'
         DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
         DATA_LEVEL=' '
         PRE_NXT_UARS_DAY=1
         SUBTYPE='WINDII'
         UARS_DAY=1
       $END
       $FILE_PARAMS
         DATA_FILE_NAME='WINDII_USR:T2_OPE1.DAT'
         USER_STATUS_FILE_NUMBER=3
       $END
       $FILE_PARAMS
         DATA_FILE_NAME='WINDII_USR:T2_REP1.DAT'
         USER_STATUS_FILE_NUMBER=4
       $END
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_2
$ !
$ !                   STEP 4
$ !
$ JOB_STEP_4:
$       define/process JOB_STEP_4
$       run WINDII_L2_OBE:RC_COMBINE
 $PROGRAM_PARAMS
```

```
      PROG NAME='RC_COMBINE'
      PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
      PROCESSING_STOP_TIME='02-OCT-1991 00:00:00.00'
      UARS_PROCESSING_DAY=1
      LAUNCH_DATE='01-OCT-1991 00:00:00.00'
      DEF_EXISTS='T'
      PARAMS(1)='TRLEV'
      VALUES(1)='0        '
      PARAMS(2)='CAL_MATCH'
      VALUES(2)='PREV'
      PARAMS(3)='CAL_UARS_DAY'
      VALUES(3)='1'
$END
$DEFAULT_PARAMS
$END
$FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L2:L2_CD1.DAT'
      DATA_LEVEL='2'
      DATA_TYPE='WINDII'
      OLD_NEW='NEW'
      SUBTYPE='CD'
      UARS_DAY=1
$END
$FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L2:L2_FD11.DAT'
      DATA_LEVEL='2'
      DATA_TYPE='WINDII'
      ESTIMATED_FILE_SIZE=15000
      LOGICAL_FILE_ID='L2_FD1'
      OLD_NEW='HELD'
      SUBTYPE='FD1'
      UARS_DAY=1
$END
$FILE_PARAMS
      DATA_FILE_NAME='WINDII_DAT_L2:L2_FD21.DAT'
      DATA_LEVEL='2'
      DATA_TYPE='WINDII'
      ESTIMATED_FILE_SIZE=15000
      LOGICAL_FILE_ID='L2_FD2'
      OLD_NEW='HELD'
      SUBTYPE='FD2'
      UARS_DAY=1
$END
$FILE_PARAMS
      DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ11.DAT'
      ESTIMATED_FILE_SIZE=20000
      LOGICAL_FILE_ID='T2_AQ1'
      OLD_NEW='HELD'
$END
$FILE_PARAMS
      DATA_FILE_NAME='WINDII_SCRATCH:T2_AQ21.DAT'
      ESTIMATED_FILE_SIZE=20000
      LOGICAL_FILE_ID='T2_AQ2'
      OLD_NEW='HELD'
$END
$FILE_PARAMS
      CALIBRATION_ID='CONST'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
      DATA_LEVEL='  '
```

```
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
   $END
   $FILE_PARAMS
      CALIBRATION_ID='CDBP'
      CALIBRATION_MATCH='PREV'
      DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
      DATA_LEVEL=' '
      PRE_NXT_UARS_DAY=1
      SUBTYPE='WINDII'
      UARS_DAY=1
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_USR:T2_OPE1.DAT'
      USER_STATUS_FILE_NUMBER=3
   $END
   $FILE_PARAMS
      DATA_FILE_NAME='WINDII_USR:T2_REP1.DAT'
      USER_STATUS_FILE_NUMBER=4
   $END
$ !
$ !    Last program is UCSS Job Termination
$ !
$JOBTERM_2:
$ !
$ run WINDII$UCSS:RSS_JOB_TERM
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM
$JOBTERM:
$ exit
```

13. PRODUCTION JOB '3' OVERVIEW

13.1 DEFINITION JOB 3

is job transforms Level 2 data into Level 3A data.

It will execute the program :

        - GR_CONTROL (see chapter 10)

All output versions are system default.

Program parameters values are set up by the operator.

13.2 PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Directory of auxiliary files is AUX_DIRECTORY.

13.3 DCL PROCEDURES

This section presents an example of the WINDII_SDPPS run stream for Level 3.

```
$ !
$ ! assign usefull logicals to execute the WINDII process
$ !
$ @WINDII_SDPPS_V3:[000000]WINDII_SETUP
$ !
$ SET DEFAULT WINDII$SCRATCH
$ DEFINE/PROCESS UCSS_JOB_ID WINDII10001000
$ !
$ !     First program is UCSS Job  Initialization
$ !
  run WINDII$UCSS:RSS_JOB_INIT
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_3
$ !
$ !                 STEP 1
$ !
$ JOB_STEP_1:
$      define/process JOB_STEP_1
$      run WINDII_L3_OBE:GR_CONTROL
 $PROGRAM_PARAMS
   PROG_NAME='GR_CONTROL'
   PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
   PROCESSING_STOP_TIME='02-OCT-1991 23:00:00.00'
   UARS_PROCESSING_DAY=1
   LAUNCH_DATE='01-OCT-1991 00:00:00.00'
   DEF_EXISTS='T'
   PARAMS(1)='TRLEV'
   VALUES(1)='0    '
   PARAMS(2)='TYPE_GRID'
   VALUES(2)='BOTH'
   PARAMS(3)='CAL_MATCH'
   VALUES(3)='PREV'
   PARAMS(4)='CAL_UARS_DAY'
   VALUES(4)='1'
 $END
 $DEFAULT_PARAMS
 $END
 $FILE_PARAMS
   DATA_FILE_NAME='WINDII_DAT_L3:L3AT_TEMP1.DAT'
```

```
          DATA_LEVEL='3AT'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='TEMP'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AT_ZONAL1.DAT'
          DATA_LEVEL='3AT'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='ZONWIN1'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AT_MERID1.DAT'
          DATA_LEVEL='3AT'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='MERWIN1'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AT_PARAM1.DAT'
          DATA_LEVEL='3TP'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='PARAM'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AL_TEMP1.DAT'
          DATA_LEVEL='3AL'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='TEMP'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AL_ZONAL1.DAT'
          DATA_LEVEL='3AL'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='ZONWIN1'
          UARS_DAY=1
        $END
        $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AL_MERID1.DAT'
```

```
          DATA_LEVEL='3AL'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
   ⃝      OLD_NEW='NEW'
          SUBTYPE='MERWIN1'
          UARS_DAY=1
     $END
     $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L3:L3AL_PARAM1.DAT'
          DATA_LEVEL='3LP'
          DATA_TYPE='WINDII'
          FILE_VERSION_NUMBER(1)=1
          FILE_VERSION_NUMBER(2)=1
          OLD_NEW='NEW'
          SUBTYPE='PARAM'
          UARS_DAY=1
     $END
     $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L2:L2_CD1.DAT
          DATA_LEVEL='2'
          DATA_TYPE='WINDII'
          OLD_NEW='OLD'
          SUBTYPE='CD'
          UARS_DAY=1
     $END
     $FILE_PARAMS
          DATA_FILE_NAME='WINDII_DAT_L1:L1_MIN1.DAT
          DATA_LEVEL='1'
          DATA_TYPE='WINDII'
          OLD_NEW='OLD'
          SUBTYPE='MIN'
   ⃝      UARS_DAY=1
    $END
     $FILE_PARAMS
          CALIBRATION_ID='CONST'
          CALIBRATION_MATCH='PREV'
          DATA_FILE_NAME='WINDII_CAL:C_CONST.DAT'
          DATA_LEVEL=' '
          PRE_NXT_UARS_DAY=1
          SUBTYPE='WINDII'
          UARS_DAY=1
     $END
     $FILE_PARAMS
          DATA_FILE_NAME='WINDII_USER:T3_REP1.DAT
          USER_STATUS_FILE_NUMBER='6'
     $END
     $FILE_PARAMS
          DATA_FILE_NAME='WINDII_USER:T3_OPE1.DAT
          USER_STATUS_FILE_NUMBER='5'
     $END
$ !
$ !      Last program is UCSS Job Termination
$ !
$JOBTERM_3:
$ !
$ run WINDII$UCSS:RSS_JOB_TERM
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM
$JOBTERM:
$ exit
```

14. PRODUCTION PROGRAM WINDII_LOG

14.1. REQUIRED RESOURCES

This program produces the following files :
- . 1 Level 1 data files   (5 KBytes)
- . 1 User status files   (5 KBytes)

It uses, with nominal orbital sequence scenario :
- . 2000 seconds of CPU Time
- . 7200 direct IO count and 1500 buffered IO count
- . TBD KBytes of core memory

14.2. INPUT PARAMETERS DESCRIPTION

Parameter name		Parameter value (format)
- PROG_NAME	:	WINDII_LOG
- PROCESSING_START_TIME	:	date string of 23 characters
Example :		'02-FEB-1992 00:00:00.00'
- PROCESSING_STOP_TIME	:	date string of 23 characters
Example :		'02-FEB-1992 23:59:00.00'
- UARS-PROCESSING-DAY	:	string of 1 to 4 characters
Example :		'125'
- PARAMS (I)	:	string giving a parameter name
- VALUES (I)	:	string giving the value of PARAM (I)
		(see table 3.2)

Table 3.2 : PARAMS names and VALUES

Parameter name	Comments	Possible values	Default value	Prod. value
TRLEV	Trace level	'0','1' '2','3'	'0'	'0'
CAL_MATCH	Calibration data version	'EXCT', 'PREV', 'NEXT'	'PREV'	'PREV'
CAL_UARS_DAY	Uars day for cal. files	integer		note 1
PRO_ENG	Create engineering data	'Y','N'	'N'	'N'
PRO_QUAL	Use of quality data	'Y','N'	'N'	'Y'

See example in section 14.5

note 1 : This is the last UARS day where calibration files, called CDB, were
catalogued at CDHF. This value must match with the value of
PRE_NXT_UARS_DAY of UCSS FILE_PARAMS calibration parameter.

14.3. INPUT/OUTPUT DATA FILE DESCRIPTION

14.3.1. Catalogued input files

```
- Logical file ID          : L0_TM
 this file contains        : telemetry data
        . DATA_LEVEL       : '0'
        . DATA_TYPE        : 'WINDII'
        . FILE_DISPOSITION : 'FREE'
this file is required

- Logical file ID          : L0_ENGINE
 this file contains        : engineering data
        . DATA_LEVEL       : '0'
        . DATA_TYPE        : 'ENGINEERING'
        . FILE_DISPOSITION : 'FREE'
 this file is optional, it depends on parameter PRO_ENG

- Logical file ID          : L0_QUALITY
 this file contains        : quality data
        . DATA_LEVEL       : '0'
        . DATA_TYPE        : 'QUALITY'
        . FILE_DISPOSITION : 'FREE'
 this file is optional, it depends on parameter PRO_QUAL
```

14.3.2. Calibration files

```
- Logical file ID          : C_CDBP
. this file contains       : scalars and small matrices among CDB parameters
        . CALIBRATION_ID   : CDBP
        . CALIBRATION_MATCH : 'PREV'
        . DATA_LEVEL       : ' '
        . PRE_NXT_UARS_DAY : uars day for calibration file
        . SUBTYPE          : 'WINDII'
        . UARS_DAY         : current uars_day
. this file is required to know some 'bin independant' and 'filter independant'
  parameters

- Logical file ID          : C_PARDECOM
. this file contains       : parameters for telemetry depacking function
        . CALIBRATION_ID   : PARDECOM
        . CALIBRATION_MATCH : 'PREV'
        . DATA_LEVEL       : ' '
        . PRE_NXT_UARS_DAY : uars day for calibration file
        . SUBTYPE          : 'WINDII'
        . UARS_DAY         : current uars_day
  this file is required
```

14.3.3. catalogued output files

```
- Logical file ID          : L1_WINLOG
. this file contains       : windii log file
        . DATA_LEVEL       : '1'
        . DATA_TYPE        : 'WINDII'
        . OLD_NEW          : 'NEW'
        . SUBTYPE          : 'LOG'
        . UARS_DAY         : current uars_day
        . FILE_DISPOSITION : 'FREE'
```

14.3.4. user status files

```
- Logical file ID                      : T1_REP
  this file contains                   : errors occuring in DA_DECOM
          . USER_STATUS_FILE_NUMBER    : 2
          . FILE_DISPOSITION           : 'FREE'
```

14.4. PROCESSING ASSUMPTIONS, RESTRICTIONS OR LIMITATIONS

Before running the program DA_DECOM, the operator must be sure that the
auxiliary directory is assigned to logical AUX_DIRECTORY.

The auxiliary files may be produced in the USER'S SPACE under the conditions
of no space overflow or no reaching the maximal number of allowed files.

This run depends on the availability of the level 0 data files.

14.5. "NORMAL" DCL PROCEDURE

```
$ !
$ ! assign usefull logicals to execute the WINDII process
$ !
$ @WINDII_SDPPS_V3:[000000]WINDII_SETUP
$ !
$ DEFINE/PROCESS UCSS_JOB_ID WINDII10001000
$ !
$ !    First program is UCSS Job  Initialization
$ !
$ run WINDII$UCSS:RSS_JOB_INIT
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM_1
$ !
$ !                  STEP 1
$ !
$ JOB_STEP_1:
$     define/process JOB_STEP_1
$     run WINDII_L1_OBE:WINDII_WINLOG
 $PROGRAM_PARAMS
   PROG_NAME='WINDII_WINLOG'
   PROCESSING_START_TIME='02-OCT-1991 00:00:00.00'
   PROCESSING_STOP_TIME='02-OCT-1991 23:00:00.00'
   UARS_PROCESSING_DAY=1
   LAUNCH_DATE='01-OCT-1991 00:00:00.00'
   DEF_EXISTS='T'
   PARAMS(1)='TRLEV'
   VALUES(1)='0    '
   PARAMS(2)='CAL_MATCH'
   VALUES(2)='PREV'
   PARAMS(3)='CAL_UARS_DAY'
   VALUES(3)='1'
   PARAMS(4)='PRO_ENG'
   VALUES(4)='N'
   PARAMS(5)='PRO_QUAL'
   VALUES(5)='N'
 $END
 $DEFAULT_PARAMS
 $END
 $FILE_PARAMS
   DATA_FILE_NAME='WINDII_DAT_L0:L0_TM1.DAT'
   DATA_LEVEL='0'
   DATA_TYPE='WINDII'
```

```
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L0:L0_ENGINE1.DAT'
  DATA_LEVEL='0'
  DATA_TYPE='ENGINEERING'
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L0:L0_QUALITY1.DAT'
  DATA_LEVEL='0'
  DATA_TYPE='QUALITY'
$END
$FILE_PARAMS
  CALIBRATION_ID='PARDECOM'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_PARDECOM.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  CALIBRATION_ID='CDBP'
  CALIBRATION_MATCH='PREV'
  DATA_FILE_NAME='WINDII_CAL:C_CDBP.DAT'
  DATA_LEVEL=' '
  PRE_NXT_UARS_DAY=1
  SUBTYPE='WINDII'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_DAT_L1:L1_WINLOG1.DAT'
  DATA_LEVEL='1'
  DATA_TYPE='WINDII'
  OLD_NEW='NEW'
  SUBTYPE='LOG'
  UARS_DAY=1
$END
$FILE_PARAMS
  DATA_FILE_NAME='WINDII_USR:T1_REP1.DAT'
  USER_STATUS_FILE_NUMBER=2
$END
$ !
$ !    Last program is UCSS Job Termination
$ !
$JOBTERM_1:
$ run WINDII$UCSS:RSS_JOB_TERM
$ if (UARS_PASS_FLAG .EQS. "FAIL") then goto JOBTERM
$JOBTERM:
$ exit
```

14.6. SYSTEM MESSAGES

See section 3.6

14.7. SPECIAL CONDITIONS

If any error occurs, the operator must reexecute the program entirely.

14.8. DATA ACCOUNTABILITY CRITERIA, PROCEDURES AND TECHNIQUES

14.9. REQUIRED ANALYST ACTIONS

e section 3.9

14.10. SAMPLE PRINTOUTS WITH FIELD DESCRIPTIONS

The report file T1_REP contains information about error occuring in WINDII_LOG
program. The information are:
- module name
- error number
- error message (40 characters)
- list of calling module names
- measurement identifier

14.11. TEST DATA GENERATION PROCEDURES

None

GLOSSARY

Here we only explain the specific terms of WINDII-SDPPS operating point of view.
All the common concepts of the CDHF and UCSS are not mentionned.

.Program names and attributes :

```
DA_DECOM         STEP 1 of JOB1  :    extract instrument mode (depacking)
CI_CONTROL       STEP 2 of JOB1  :    Correct Instrumental effects
CO_CONTROL       STEP 3 of JOB1  :    Correct Observatory effects

RA_EXTRACT       STEP 1 of JOB2  :    extract Apparent Quantities
RD_DECONVOLUTE   STEP 2 of JOB2  :    Deconvolute
RP_PRODUCE       STEP 3 of JOB2  :    Produce Atmospheric Parameters
RC_COMBINE       STEP 4 of JOB2  :    Combine the FOVs

GR_CONTROL       STEP 1 of JOB3  :    produce Gridded data

WINDII_LOG       SPECIFIC JOB    :    produce instrument log file
```

.Transformations :

Calibration   :   Transformation including telemetry depacking and
                      measurement systematic corrections.

Reduction   :   Transformation which extracts the atmospheric parameters
                      from the measurements.

Gridding   :   Last transformation which places the results in both
                      UARS-TIME GRID and UARS-LATITUDE GRID.

Other Concepts :

Summary report   :   Reporting of a job intended for the OPERATOR concerning
                      resource consumption, error and status information.

Report-file   :   Reporting of a step (or a job) intended for the USERS,
                      and created as USERS_STATUS file. It gives detailed
                      processing report and detailed error conditions, if any.
                      This file may be copied at the end of the job in the
                      auxiliary directory.

Run-Parameters   :   information given or selected by the OPERATOR before he
                      runs a Job and concerning the execution of each step
                      of this job.

Characterization: Files containing instrument parameters which are
Data base   tied to the geometrical, optical or electronical
                      properties of the WINDII instrument and will be updated
                      according to the infrequent or frequent calibration
                      measurements giving the evolution of some parameters.

SFDU   :   Standard File Data Unit.

TBD   :   To Be Defined.

Operator log   :   Users-status file which contains values of used
                      run parameters and some statistical results obtained
                      during job processing.

This file may be copied at the end of the job in the auxiliary directory.

Measurement log :   Users-status file which contains changes in WINDII sequence scenario obtained during job 1 step 1 processing.
This file may be copied at the end of the job in the auxiliary directory.

APPENDIX 1: LIST OF ERRORS AND ACTIONS

This chapter describes all the error messages which can be written in report user's status files number 2, 4 and 6 during the processing of WINDII SDPPS.

Those messages are gathered by themes. Some possible causes and required operator action are given each time it is possible.

The following list reports the general abbreviations used in the tables :

    SCI : error for scientific analysis
    OPE : error for operator analysis
    I   : informative error
    F   : fatal error
    R   : the current measurement is rejected

For error described in table A.1 and A.2 the message includes the date and time of the concerned measurement, the type and filter number as well.

Each message also contains the name of the module where the error has been detected.

Messages from UCSS and OASIM are also written to report files. These messages are those of UCSS Programmer's Guide and UARS Programmer's Guide for Orbit Attitude Services documents.

Table A.1 : error relevant to mathematic problem

severity	message	possible causes	operator action
SCI,I	Logarithm of negative number		none
SCI,I	Square root of negative number		none
SCI,I	Division by zero		none
SCI,I	Linear interpolation failure		none
SCI,I,R	Only one altitude for the interpolation calculation		none
SCI,I,R	Sigma interpolation error		none
SCI,I,R	Satellite turns during current measure	Yaw around during the measurement	none
OPE,I	Saturation of ACTUAL arrays	WINDII operation scenario non consistant with the version of the software	create an WINDII problem report
OPE,I	Saturation of ACTIV arrays		
OPE,I	Saturation of SET arrays		

Table A.2 : error relevant to measurement processing

severity	message	possible causes	operator action
SCI,I	Searched measure not found	a measurement might has been rejected during the process and the association is not possible.	none
SCI,I,R	OH1 line not followed by an OH2 line		none
SCI,I,R	Background of current atmospheric measurement not found		none
SCI,I,R	Rejected measure because of the quality		none
SCI,I	Only first measurement is kept	one of the two measurements has been rejected	none
SCI,I	Only second measurement is kept		none
SCI,I,R	The 2 FOVs of measurement are contamined by the moon		none
SCI,I,R	Measurement not observable in this aperture condition	TM quality or onboard s/w error	none
SCI,I	OH measurement not corrected for background		none
SCI,I,R	No background correction because bad bin in background	CDB bad bin or star contamination	none
SCI,I	Different exp. time between phase and calibration windows		none
SCI,I	No overlap interval calculation		none
SCI,I,R	reference tangent point not calculated	too few column in the fov	none
SCI,I,R	Different proc. FOV for atm. meas. and its background	bad fov either in atmospheric or Background meas.	none
SCI,I,R	Row number of measurement is too small		none
SCI,I	Acceptation interval failure for dec. mes.		none
SCI,I	Acceptation interval failure for app. mes.		none
SCI,I	Forward apparent measure missing		none
SCI,I	Phases interpolation made with only one value	one calibration is 15mn far away from the measurement or is missing	none
SCI,I	Dark current interpolation made with only one value		none

SCI,I	Estimate diffuse back. computed with 2nd row	bad first row	none
SCI,I	Continuum profile can not be computed		none
SCI,I,R	One row filled with bad bin, no possible calculation		none

Table A.3 : error relevant to file access

severity	message	possible causes	operator action
OPE,F	Incoherence in CDB files	versions of CDB files are not not consistant	verify version of cdb
OPE,F	End of file reached		Create a WINDII problem report
OPE,F	Error in file header		
OPE,F	open error on file		Check if the file exists or if is the good one to be used
OPE,F	close error on file		
OPE,F	read error on file		
OPE,F	write error on file		
OPE,F	rewind error on file		
OPE,F	rewrite error on file		
OPE,I	Date difference between L2_CD and L1_MIN files	Files used might be from different UARS days	Check the files
OPE,F	Time interval error	bad value in C_CONST for param KR_DELTA_T	check other version of the file C_CONST
OPE,F	Latitude interval error	bad value in C_CONST for param KR_DELTA_L	
OPE,F	No desired line to process from input file	the input file does not contain the desired line	request other line or time range
OPE,F	No line to process from run parameters	Idem in the time range	
OPE,I	Start/stop time r.p. do not match with file dates	Bad value or name in run time parameters	Check name and value
OPE,I	Unexistent run parameter		
OPE,F	Calibration data base window not found	bad CDB file	check other version for cdb

Table A.4 : error relevant to the depacking function

severity	message	possible causes	operator action
I,R	Rejection of an invalid calibration header packet	bad parity flag	none
I,R	Rejection of an invalid measurement header packet	idem	none
I,R	Rejection of invalid memory packet	idem	none
I,R	Rejection of an unexpected image header packet	idem	none none
I,R	Rejection of a calibration header packet and of 4 calibration images	idem	none
I,R	Rejection of a measurement header packet and of 4 calibration images	idem	none
I	Memory dump packet interrupted		none
I	Calibration header packet interrupted		none
I	Measurement header packet interrupted		none
I	Calibration image header packet interrupted		none
I	Measurement image header packet interrupted		none
I	Image data packet interrupted		none
I,R	Rejection of an unfinished measurement image	bad filter wheel status	none
I,R	Rejection of an unfinished calibration image	idem	none
I,R	Rejection of an unfinished measurement header packet	idem	none
I,R	Rejection of an unfinished calibration header packet	idem	none
I,R	Rejection of an unfinished mempry dump packet	idem	none