Adabas Review

Report Option Parameters

Version 4.3.2

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This document applies to Adabas Review Version 4.3.2 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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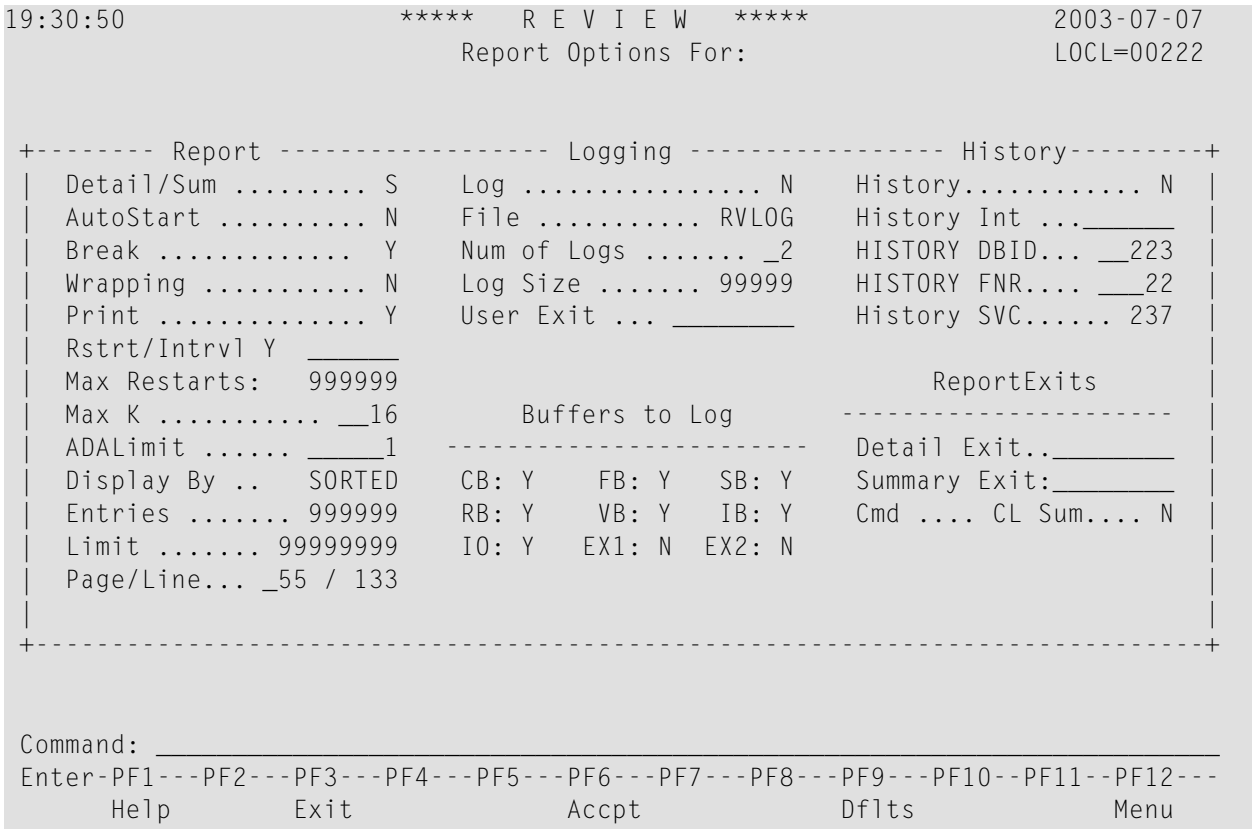
1 Report Option Parameters

This part of the documentation explains the Adabas Review report option parameters in detail:



Four categories of options appear on the Report Options screen:

Report Options	describe characteristics of the report
Logging Options	describe the type of information logged and how it is collected
Buffers to Log	lists buffers to select for report logging
History Options	describe the location of history information and the frequency with which it is collected
Report Exits	specify the report user exits: detail or summary

The Adabas Review Report Option Parameters documentation is organized in the following topics:

2 Report Options

The following table describes the report options that appear on the Report Options screen:

Option	Specify . . .	Possible Values	Default
Detail/Sum	whether the report will be detail or summary.	D | S	S

Detail report.

Data is collected continuously while the database is active. Such reports are straight recordings of commands processed. Detail reports cannot be viewed online. However, a display program is generated that may be used to view history data online if the report collects history data. Results of detailed reports are printed at database termination.

Summary report.

These reports present a summary of information for a particular field (e.g., command, user ID, program, etc.). Results may be viewed online or printed at database termination.

Option	Specify . . .	Possible Values	Default
Autostart	whether a saved report is started by issuing a `START` command (N) or automatically when Adabas Review is activated (Y).	Y | N	N
Break	for a summary report, whether subtotals are printed at control breaks (Y) or suppressed (N).	Y | N	Y
Wrapping	whether the data collected for a report that has SEQUENCE as the first ORDER (control break) field can reuse data elements (i.e., wrap) once the total number of ENTRIES specified have been filled.	Y | N	N
Print	for a summary report, whether it is printed at database termination or when its refresh/history interval is reached.	Y | N	Y

Option	Specify . . .	Possible Values	Default
Restart	for a summary report, whether it is restarted after the specified refresh/history interval. If (Y) and an interval is specified, the report is refreshed automatically when the interval is reached.	Y | N	Y
Interval	for a summary report, the time interval (in minutes) for refreshing the report. At each interval, the report prints its output if PRINT=Y and stores any history data. The report is then deleted.		
Max Restarts	the maximum number of times a report will be restarted due to Max K		
Max K	the maximum amount of storage available for the report.	amount in 8K increments	8
ADALimit	for a summary report, a minimum command count for printing. If ADALIMIT=100, only entries with a command count of 100 or higher are printed. The default value (1) means that all entries are printed.	count	1
Display By	the order is which the data is to be displayed. Possible display types are SORTED: ascending order by control break; USAGE: descending order by command count; SUMFIELD: descending order by the first field marked as a summary field; or SORTEDDE: descending order by control break.	SORTED | USAGE | SUMFIELD | SORTEDDE	SORTED
Entries	for a summary report, the maximum number of entries (that is, unique control breaks) that the report can maintain. This option is used to restrict the amount of data collected.	number of entries	999999
Limit	the maximum number of entries that the report can print. The default value allows all entries to be printed.	number of entries	99999999
Page / Line	the length of a report page in lines and the length of the report width in characters.		
	The default page length value (55) provides a top and bottom margin for standard printer spacing on a total page size of 66 lines.	10 - *nnn*	55
	The default line length value is 133. The appropriate value depends on the paper size and the point size and style of the typeface.	72 - 160	133

3 Command Logging

Command logging is used to capture information about all Adabas commands issued by users. The information contained in the logs includes

- the user identification;
- the time of day;
- the command issued;
- the file that was accessed;
- the record that was accessed;
- the Adabas response code received; and
- the amount of time it took for the command to complete.

Command logging may be performed by Adabas or Adabas Review

This chapter covers the following topics:

Logging Option Parameters

Logging options determine whether command logging is performed, what information is logged, and where the command log is written.

The following describes the Logging option parameters for Adabas Review reports.

LOG Parameter

Parameter	Use	Possible Values	Default
LOG	Determine whether Adabas Review will write command logs for a particular report (Y), or whether command logging and all other logging options will be ignored (N).	Y | N	N

FILE and NUM OF LOGS Parameters

Parameter	Use	Possible Values	Default
FILE	Specify the DD/file name prefix to identify the file to which Adabas Review will write the command log data. Each report that specifies command logging must have its own file name prefix.	5-byte name	RVLOG
NUM OF LOGS	Specify the number of command log files to be used by a report.	1-99*	2

For every command log file specified in the NUM OF LOGS parameter, a file name is created by appending a number to the end of the file name prefix specified in the FILE parameter. Each log file name must be coded in the Adabas startup.

For example, if FILE=RVLOG and NUM OF LOGS=2, command log data will be written to files RVLOG01 and RVLOG02.

* Up to 99 command log datasets can exist for each report under z/OS; 9 under VSE/ESA.

USER EXIT Parameter

Parameter	Use	Possible Values	Default
USER EXIT	Specify the name of the user exit that is called when a command log is filled.	*name*	none

Adabas Review writes to the command log files in sequential order. When a command log file is filled, the following actions occur: the file is closed; the exit specified in the USER EXIT parameter is called; and the next command log file is opened to receive data.

The user exit is provided so that the data contained in the command log file may be copied to another device before the file is overwritten with new command log data. Sample code is provided for this exit in the Adabas Review source library member LOGUEXIT. Also provided is the command log copy job, source library member REVCLCOP.

If an exit is not specified, Adabas Review closes the filled command log file and opens the next file; no provision is made for copying the data.

LOG SIZE Parameter

Parameter	Use	Possible Values	Default
LOG SIZE	Specify the number of blocks to be allocated to each command log file.	*nnnnn*	99999

Because command log records vary in length, it is important to carefully determine the LOG SIZE parameter value. The maximum length of a command log record written by Adabas Review is 8 kilobytes.

Log size is determined using the following formula:

```
number of tracks  *   ( (bytes per track/9996)  -1)
```

For Adabas Review command logs, the blocking factor is 10,000 bytes per block.

The following table provides approximate values for tracks per cylinder and bytes per track for 3350, 3380, and 3390 devices:

Device Type	Tracks per Cylinder	Bytes per Track
3380	15	47,000
3390	15	57,000

Example

The log size for 10 cylinders of a 3380 device is determined as follows:

- Number of tracks is 15x10, or 150 tracks;
- Bytes per track/blocking factor is 47,000/10,000 = 4.7, or 4 blocks;
- Log size is 150x4, or 600 blocks.

Required Parameters

The following report option parameters are required and must be set as indicated for reports that will log commands:

Option	Setting	Explanation
Detail/Sum	D	Detailed report; command logging is performed only for detailed reports.
Log	Y	Yes indicates that the report performs command logging.
File	name	The five-character prefix of the DD/file name.
Num of Logs	number	The total number of command log files allocated for the report.
Log Size	number	Number of blocks per dataset. Datasets for a particular report must be the same size.

Recommended Parameters

The following report option parameters and settings are suggested for efficient command logging operation:

Option	Setting	Explanation
AutoStart	Y	Starts the command logging report when the database is initialized.
Print	N	Prevents each detail data line from being printed; eliminates redundant recording of data and waste of spool space.
User Exit	exit name	Filled command logs are copied to another device before they are overwritten with new command log data.

Command Logging Guidelines

- A command log report must be a detailed report so that it produces a straight recording of each command processed by Adabas. Detailed reports cannot be viewed online.
- By using the report option parameter `PRINT=N`, the printed detail report may be suppressed for a command logging report.
- Processing rules may be used to restrict the collection of data to certain values; e.g., all commands that return a nonzero response code.
- Before starting a report that performs command logging, command log datasets must be allocated and the corresponding job control statements must be added to the Adabas startup JCL.
- If you use the user exit to copy a filled command log to another device, refer to the sample user exit code in the source library member LOGUEXIT. The command log copy job is provided in source library member REVCLCOP.

4 Buffers to Log Options

The Buffers to Log options specify which command log information will be included on the report. Options include

- Adabas buffers;
- Adabas control block logging;
- logging of I/O information; and
- command log extension (CLEX), parts 1 and 2.

This chapter covers the following topics:

Parameters Corresponding to ADARUN Parameters

You may determine whether data is logged by your report by setting the Adabas Review logging parameter that corresponds to a particular buffer (or set of buffers) or the basic control block.

The names of the ADARUN parameters used to send all command logging information and the Adabas Review logging parameters that correspond to the ADARUN parameters are listed in the following table:

ADARUN Parameter	Review Parameter	For logging . . .
LOGCB=YES	LOG CB=YES	the Adabas control block
LOGFB=YES	LOG FB=YES	the format buffer
LOGRB=YES	LOG RB=YES	the record buffer
LOGSB=YES	LOG SB=YES	the search buffer
LOGVB=YES	LOG VB=YES	the value buffer
LOGIB=YES	LOG IB=YES	the ISN buffer
LOGIO=YES	LOG IO=YES	I/O information

Command Log Extension (CLEX) Parameters

The Review command log extension (CLEX) comprises two parts:

- Part 1 contains TP monitor data, such as NATAPPL, NATPROG, and TPUSERID.
- Part 2 contains Adabas nucleus fields and any data fields that have been modified by the Adabas Review processor.

To log CLEX

- For part 1 only, set the parameter `EX1` to "Y".

  Or:

  For parts 1 and 2, set the parameter `EX2` to "Y".

Note: Setting `EX2` causes both parts 1 and 2 to be logged.

Summary of Buffers to Log Options

The following table briefly summarizes the Buffers to Log options:

Parameter	Specify whether . . .	Possible Values	Default
`LOG CB`	the Adabas control block is logged.	Y | N	Y
`LOG FB`	the format buffer is logged.	Y | N	Y
`LOG SB`	the search buffer is logged.	Y | N	Y
`LOG RB`	the record buffer is logged.	Y | N	Y
`LOG VB`	the value buffer is logged.	Y | N	Y
`LOG IB`	the ISN buffer is logged.	Y | N	Y
`LOG IO`	Adabas I/O information is logged.	Y | N	Y
`LOG EX1`	the Adabas Review command log extension (CLEX) Part 1 is logged.	Y | N	N
`LOG EX2`	the Adabas Review command log extension (CLEX) Part 2 is logged. **Note:** Selecting EX2 will cause both command log extension parts 1 and 2 to be logged.	Y | N	N

5 History Options

History data is useful for monitoring database performance for a given period of time and for performing trend analysis. History options specify whether history data is collected, when it is collected, and where (that is, in which Adabas Review repository) it is stored.

This chapter covers the following topics:

History Data for Summary and Detail Reports

Although history data may be written for both detailed and summary reports, the report type plays a key role in determining how Adabas Review processes history data.

- A *detail report* maintains a one-to-one correspondence between a command log record read or passed to ADARVU and an output record produced by Adabas Review. When the command processed by Adabas Review satisfies the report processing rules, Adabas Review builds the required format and record buffer using the current report definition and immediately stores a record in the Adabas Review repository.
- A *summary report* has a many-to-one relationship between multiple records processed (i.e., summarized) to produce one output record. When the Adabas Review interactive processor is running, information is written out to the Adabas Review repository at Adabas termination, when an interval is reached, or when the report is closed. If the Adabas Review batch processor is being executed, the data is written during end of file (EOF) processing.
- For both types of reports, Adabas Review generates a Natural display program so that history data may be viewed online.

History Parameters

The parameters that determine whether Adabas Review writes history data are set when you create or edit the report definition. These history parameters appear on the Report Options screen of the `Edit Report (ER)` function.

If history data is to be written by a report running in batch mode, the history parameters make up the COPY statement.

The history options are briefly described in the following tables:

Parameter	Specify . . .	Possible Values	Default
HISTORY	whether the data collected by the report is to be written to an Adabas Review repository and stored as history data. If (N), all other history options are ignored.	Y | N	N
HISTORY INT	the history interval; that is, the time interval during which history data is collected by the report. At each interval, the report prints its output if PRINT=Y and stores any history data. The report is then deleted. If RESTART=Y, the report is then restarted.	time duration in minutes	none

If the HISTORY INT parameter is used, history data is written to the Adabas Review repository at the interval specified, provided the database containing the Adabas Review repository is active.

To write history data at regular intervals (e.g., every hour), you must also specify RESTART=Y, so that the report is restarted after the interval has been reached. This parameter is listed on the Report Options screen of the Edit Report (ER) function.

Note: If the report option RESTART=Y is specified, all history data for the report is written to the Adabas Review repository file if the MAXK value for the report is exceeded.

If the HISTORY INT parameter is *not* used, history data is written to the Adabas Review repository at Adabas termination.

The history parameters DBID, FNR, and SVC specify the database ID and file number of the Adabas Review repository, and the SVC used to communicate with it. This information is obtained from the target definition for the database you are using.

You may change these parameters, provided that they specify another Adabas Review repository.

Parameter	Specify . . .	Value	Default
HISTORY DBID	the ID number for the database that is to store the history data; that is, the Adabas Review repository. * The default is the database ID of the Adabas Review repository to which you currently have access.	*dbid*	*
HISTORY FNR	the ID number of the file in the Adabas Review repository that is to contain the history data. ** The default is the file number in the Adabas Review repository to which you currently have access.	*fnr*	**
HISTORY SVC	the Adabas SVC number used to write the history data to the Adabas Review repository. *** The default is the SVC number of the Adabas Review repository that you are currently accessing, if that database appears on the Target Definitions screen (LT function). Otherwise, the default is the SVC number of the default database listed on the Target Definitions screen.	*svc*	***

6 Report Exits

Adabas Review provides two report user exits: one for detail reports and one for summary reports.

- A detail report user exit is driven when a command log record is selected for the report. Only records that pass the processing rules are provided to the user exit. This exit may be used to create SMF records, accounting records, or for any other purpose.
- A summary report user exit is driven when a specified Adabas command is selected for the report; and/or a report is summarized. You may control the conditions that trigger the exit.

When creating a report, the user exit name (1-8 characters) is specified on the Report Options screen or in the batch REPORT statement. The actual report user exit must be provided in an executable library accessible to Adabas Review.

This chapter covers the following topics:

Detail Report User Exit

Adabas Review provides a detailed report user exit that is driven when a command log record is selected for the report. Only records that pass the processing rules are provided to the user exit.

This exit may be used to create SMF records, accounting records, or for any other purpose.

To invoke the user exit

1 Specify the name of the user exit when creating the report.

For an online report, enter the exit name in the `Detail Exit` field of the Report Options screen.

When defining batch parameters, specify TYPE=DETAIL and the REPORT-EXIT= keyword of the REPORT statement. See the section *REPORT Statement* in *Using Batch Facilities* for more information.

2 Provide the detail report user exit in an executable library accessible to Adabas Review.

The detail report user exit receives control using standard linkage:

R1	Address of the parameter list
R13	18 fullword savearea address
R14	Return address
R15	Entry-point address of the user exit

The parameter list contains two entries:

A(0)	Reserved for future use
A(LOGREC)	Address of the command log record

Summary Report User Exit

Adabas Review provides a summary report user exit that is driven when

- a specified Adabas command is selected for the report; and/or
- a report is summarized.

A report is summarized when it is

- closed or purged from the LS screen;
- closed by an interval event;
- deactivated because the MAXSTOR limit was exceeded; or
- running when Adabas Review is terminated.

You may control the conditions that trigger the exit.

A report calling a summary exit is limited to one account (`Order`) field. If a summary report exit is specified and the report has multiple account fields, syntax error message REV00408 is issued.

Invoking the Summary Exit

To invoke the user exit

1 Specify the name of the user exit when creating the report.

For an online report, enter the exit name in the `Summary Exit` field of the Report Options screen.

To control the conditions that drive the exit, the Report Options screen allows you to enter an Adabas command (`Cmd` field) and specify whether to call the exit at summarization time (`Sum` field). If the Adabas command field is left blank, the exit is only called when the report is summarized. If `SUM` is set to "N" and the Adabas command field is blank, the exit is never called.

When defining batch parameters, specify TYPE=SUMMARY and the SUMMARY-EXIT= keyword of the REPORT statement. See the section *REPORT Statement* in *Using Batch Facilities* for more information.

2 Provide the summary report user exit in an executable library accessible to Adabas Review.

The summary report user exit receives control using standard linkage:

R1	Address of the parameter list
R13	18 fullword savearea address
R14	Return address
R15	Entry-point address of the user exit / Return code upon return

The parameter list contains the following entries:

Offset	Address of . . .	
0	the reason for being called. This is a one-byte binary bit map.	
	X'80'	The exit was called because the specified command was selected.
	X'40'	The exit was called during summary processing.
	X'01'	If this bit is on in addition to one of the above, it indicates that this is the last account entry for the report.
4	the Adabas command. This is a two-byte character field. If the exit was called with X'80', the field indicates the Adabas command that is used as a trigger.	
8	the report name. This is a 32-byte character field.	
12	the summary record.	

Summary Record

The summary record is a variable length record that contains the field names and values for the report. It has a fixed portion and a variable portion. The record layout is as follows (see also *Summary Record Layout*:

```
************************************************************
*   FIXED PORTION OF SUMMARY RECORD                        *
************************************************************
RECLEN   DS   H              TOTAL RECORD LENTH (INCLUSIVE)
         DS   H              UNUSED
SUMCOUNT DS   H              NUMBER OF SUMMARY ENTRIES
SOFFSET  DS   H              OFFSET OF SUMMARY PORTION
ACCLEN   DS   H              LENGTH OF ACCOUNT DATA
ACCTNAME DS   CL8            NAME OF ACCOUNT FIELD
*
************************************************************
*   VARIABLE PORTION OF SUMMARY RECORD                     *
************************************************************
ACCTDATA DS   OCL1           START OF ACCOUNT DATA
```

```
ACCTPAD  DS   0CL1           PADS OUT TO DOUBLEWORD
SUMFLD   DS   0CL8           NAME OF SUMMARY FIELD
SUMVAL   DS   0XL8           VALUE OF SUMMARY FIELD
```

The exit is called for each account entry (`Order` Field) in the report.

The last two fields above repeat for each summary field in the report.

All fields names are 8-byte character fields.

All summary data values are 8-byte binary fields.

The `ACCTDATA` field above always starts at the same offset, but its length is variable.

Return Code

Upon returning from the exit, the user is responsible for setting a return code in R15:

R15 = 0	A zero return code indicates a normal return.
R15 # 0	A nonzero return codes indicates that the user requested the system to zero all summary data for this account entry.

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