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## 6 CFITSIO Error Status Codes

The following table lists all the error status codes used by CFITSIO. Programmers are encouraged to use the symbolic mnemonics (defined in the file `fitsio.h`) rather than the actual integer status values to improve the readability of their code.

Symbolic Const	Value	Meaning	
-----	-----	-----	
	0	OK, no error	
SAME_FILE	101	input and output files are the same	
TOO_MANY_FILES	103	tried to open too many FITS files at once	
FILE_NOT_OPENED	104	could not open the named file	
FILE_NOT_CREATED	105	could not create the named file	
WRITE_ERROR	106	error writing to FITS file	
END_OF_FILE	107	tried to move past end of file	
READ_ERROR	108	error reading from FITS file	
FILE_NOT_CLOSED	110	could not close the file	
ARRAY_TOO_BIG	111	array dimensions exceed internal limit	
READONLY_FILE	112	Cannot write to readonly file	(+)

MEMORY\_ALLOCATION 113 Could not allocate  
memory

BAD\_FILEPTR 114 invalid fitsfile pointer

NULL\_INPUT\_PTR 115 NULL input pointer to  
routine

SEEK\_ERROR 116 error seeking position in file

BAD\_URL\_PREFIX 121 invalid URL prefix on file  
name

TOO\_MANY\_DRIVERS 122 tried to register too  
many IO drivers

DRIVER\_INIT\_FAILED 123 driver initialization failed

NO\_MATCHING\_DRIVER 124 matching driver is not  
registered

URL\_PARSE\_ERROR 125 failed to parse input file  
URL

SHARED\_BADARG 151 bad argument in shared  
memory driver

SHARED\_NULPTR 152 null pointer passed as an  
argument

SHARED\_TABFULL 153 no more free shared  
memory handles

SHARED\_NOTINIT 154 shared memory driver is not  
initialized

SHARED\_IPCERR 155 IPC error returned by a  
system call

SHARED\_NOMEM 156 no memory in shared  
memory driver

SHARED\_AGAIN 157 resource deadlock would  
occur

SHARED\_NOFILE 158 attempt to open/create lock  
file failed

SHARED\_NORESIZ 159 shared memory block  
cannot be resized at the moment

(+)

HEADER\_NOT\_EMPTY 201 header already contains  
 keywords  
 KEY\_NO\_EXIST 202 keyword not found in header  
 KEY\_OUT\_BOUNDS 203 keyword record number is  
 out of bounds  
 VALUE\_UNDEFINED 204 keyword value field is  
 blank  
 NO\_QUOTE 205 string is missing the closing  
 quote  
 BAD\_KEYCHAR 207 illegal character in keyword  
 name or card  
 BAD\_ORDER 208 required keywords out of order  
 NOT\_POS\_INT 209 keyword value is not a positive  
 integer  
 NO\_END 210 couldn't find END keyword  
 BAD\_BITPIX 211 illegal BITPIX keyword value  
 BAD\_NAXIS 212 illegal NAXIS keyword value  
 BAD\_NAXES 213 illegal NAXISn keyword value  
 BAD\_PCOUNT 214 illegal PCOUNT keyword  
 value  
 BAD\_GCOUNT 215 illegal GCOUNT keyword  
 value  
 BAD\_TFIELDS 216 illegal TFIELDS keyword  
 value  
 NEG\_WIDTH 217 negative table row size  
 NEG\_ROWS 218 negative number of rows in  
 table  
 COL\_NOT\_FOUND 219 column with this name not  
 found in table  
 BAD\_SIMPLE 220 illegal value of SIMPLE  
 keyword  
 NO\_SIMPLE 221 Primary array doesn't start with  
 SIMPLE  
 NO\_BITPIX 222 Second keyword not BITPIX

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NO_NAXIS	223	Third keyword not NAXIS
NO_NAXES	224	Couldn't find all the NAXISn keywords
NO_XTENSION	225	HDU doesn't start with XTENSION keyword
NOT_ATABLE	226	the CHDU is not an ASCII table extension
NOT_BTABLE	227	the CHDU is not a binary table extension
NO_PCOUNT	228	couldn't find PCOUNT keyword
NO_GCOUNT	229	couldn't find GCOUNT keyword
NO_TFIELDS	230	couldn't find TFIELDS keyword
NO_TBCOL	231	couldn't find TBCOLn keyword
NO_TFORM	232	couldn't find TFORMn keyword
NOT_IMAGE	233	the CHDU is not an IMAGE extension
BAD_TBCOL	234	TBCOLn keyword value < 0 or > rowlength
NOT_TABLE	235	the CHDU is not a table
COL_TOO_WIDE	236	column is too wide to fit in table
COL_NOT_UNIQUE	237	more than 1 column name matches template
BAD_ROW_WIDTH	241	sum of column widths not = NAXIS1
UNKNOWN_EXT	251	unrecognizable FITS extension type
UNKNOWN_REC	252	unknown record; 1st keyword not SIMPLE or XTENSION
END_JUNK	253	END keyword is not blank
BAD_HEADER_FILL	254	Header fill area contains non-blank chars
BAD_DATA_FILL	255	Illegal data fill bytes (not

(+)

zero or blank)

BAD\_TFORM 261 illegal TFORM format code  
 BAD\_TFORM\_DTYPE 262 unrecognizable TFORM  
 datatype code

BAD\_TDIM 263 illegal TDIMn keyword value  
 BAD\_HEAP\_PTR 264 invalid BINTABLE heap  
 pointer is out of range

BAD\_HDU\_NUM 301 HDU number < 1 or >  
 MAXHDU

BAD\_COL\_NUM 302 column number < 1 or >  
 tfields

NEG\_FILE\_POS 304 tried to move to negative byte  
 location in file

NEG\_BYTES 306 tried to read or write negative  
 number of bytes

BAD\_ROW\_NUM 307 illegal starting row number  
 in table

BAD\_ELEM\_NUM 308 illegal starting element  
 number in vector

NOT\_ASCII\_COL 309 this is not an ASCII string  
 column

NOT\_LOGICAL\_COL 310 this is not a logical  
 datatype column

BAD\_atable\_FORMAT 311 ASCII table column has  
 wrong format

BAD\_Btable\_FORMAT 312 Binary table column  
 has wrong format

NO\_NULL 314 null value has not been defined

NOT\_VARI\_LEN 317 this is not a variable length  
 column

BAD\_DIMEN 320 illegal number of dimensions  
 in array

BAD\_PIX\_NUM 321 first pixel number greater  
 than last pixel

(+)

ZERO\_SCALE      322    illegal BSCALE or TSCALn  
 keyword = 0  
 NEG\_AXIS        323    illegal axis length < 1  
  
 NOT\_GROUP\_TABLE    340    Grouping function error  
 HDU\_ALREADY\_MEMBER   341  
 MEMBER\_NOT\_FOUND    342  
 GROUP\_NOT\_FOUND    343  
 BAD\_GROUP\_ID        344  
 TOO\_MANY\_HDUS\_TRACKED 345  
 HDU\_ALREADY\_TRACKED   346  
 BAD\_OPTION         347  
 IDENTICAL\_POINTERS   348  
 BAD\_GROUP\_ATTACH    349  
 BAD\_GROUP\_DETACH    350  
  
 NGP\_NO\_MEMORY      360    malloc failed  
 NGP\_READ\_ERR        361    read error from file  
 NGP\_NUL\_PTR        362    null pointer passed as an  
 argument.  
  
                     Passing null pointer as a name of  
                     template file raises this error  
 NGP\_EMPTY\_CURLINE   363    line read seems to be  
 empty (used  
                     internally)  
 NGP\_UNREAD\_QUEUE\_FULL 364    cannot unread  
 more than 1 line (or single  
                     line twice)  
 NGP\_INC\_NESTING     365    too deep include file  
 nesting (infinite  
                     loop, template includes itself ?)  
 NGP\_ERR\_FOPEN       366    fopen() failed, cannot  
 open template file  
 NGP\_EOF            367    end of file encountered and not  
 expected

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NGP\_BAD\_ARG 368 bad arguments passed.

Usually means

internal parser error. Should not  
happen

NGP\_TOKEN\_NOT\_EXPECT 369 token not  
expected here

BAD\_I2C 401 bad int to formatted string  
conversion

BAD\_F2C 402 bad float to formatted string  
conversion

BAD\_INTKEY 403 can't interpret keyword value  
as integer

BAD\_LOGICALKEY 404 can't interpret keyword  
value as logical

BAD\_FLOATKEY 405 can't interpret keyword  
value as float

BAD\_DOUBLEKEY 406 can't interpret keyword  
value as double

BAD\_C2I 407 bad formatted string to int  
conversion

BAD\_C2F 408 bad formatted string to float  
conversion

BAD\_C2D 409 bad formatted string to double  
conversion

BAD\_DATATYPE 410 illegal datatype code value

BAD\_DECIM 411 bad number of decimal places  
specified

NUM\_OVERFLOW 412 overflow during datatype  
conversion

DATA\_COMPRESSION\_ERR 413 error compressing  
image

DATA\_DECOMPRESSION\_ERR 414 error  
uncompressing image

(+)

BAD\_DATE 420 error in date or time conversion

PARSE\_SYNTAX\_ERR 431 syntax error in parser  
expression

PARSE\_BAD\_TYPE 432 expression did not evaluate  
to desired type

PARSE\_LRG\_VECTOR 433 vector result too large to  
return in array

PARSE\_NO\_OUTPUT 434 data parser failed not sent  
an out column

PARSE\_BAD\_COL 435 bad data encounter while  
parsing column

PARSE\_BAD\_OUTPUT 436 Output file not of proper  
type

ANGLE\_TOO\_BIG 501 celestial angle too large for  
projection

BAD\_WCS\_VAL 502 bad celestial coordinate or  
pixel value

WCS\_ERROR 503 error in celestial coordinate  
calculation

BAD\_WCS\_PROJ 504 unsupported type of celestial  
projection

NO\_WCS\_KEY 505 celestial coordinate keywords  
not found

APPROX\_WCS\_KEY 506 approximate wcs keyword  
values were returned

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