

## BTRV EDITION

Supported functions, operations, data types, file types, and file flags as of Dec. 5, 2024.

FairCom's drop-in replacement for the Btrieve™ database, FairCom RTG—BTRV Edition, supports most functionalities of the Btrieve v6 product line. The following tables detail the extent of this support. If your application requires items that are not fully supported, contact FairCom to discuss our development roadmap.

### Btrieve API Functions

	Function	Operating Systems
●	BTRV	All
●	BTRVID	All
●	BTRCALL	Windows NT, 9X, ME only
●	BTRCALLID	Windows NT, 9X, ME only
●	WBRQSHELLINIT	Legacy <sup>1</sup>
●	WBTRVINIT	Legacy <sup>1</sup>
●	WBTRVSTOP	Legacy <sup>1</sup>
●	WBSHELLINIT	Legacy <sup>1</sup>
●	WBTRVIDSTOP	Legacy <sup>1</sup>
∅	BTRCALL32	32-bit legacy platforms only
∅	BTRCALLID32	32-bit legacy platforms only
∅	BTRCALLBACK	Legacy <sup>1</sup>
∅	BTRVINIT	Legacy <sup>1</sup>
∅	BTRVSTOP	Legacy <sup>1</sup>
∅	RQSHELLINIT	Legacy <sup>1</sup>
∅	BRQSHELLINIT	Legacy <sup>1</sup>

<sup>1</sup> Obsolete according to Btrieve

### BTRV File Types

	Functions
●	Standard Files
●	Data-Only Files
○	Key-Only Files

### Index-Based (Logical)

#### Data Retrieval

	Operation
●	5 Get Equal
●	6 Get Next
●	7 Get Previous
●	8 Get Greater Than
●	9 Get Greater Than or Equal
●	10 Get Less Than
●	11 Get Less Than or Equal
●	12 Get First
●	13 Get Last
●	36 Get Next Extended <sup>1</sup>
●	37 Get Previous Extended <sup>1</sup>
●	44 Get By Percentage
●	45 Find Percentage <sup>2</sup>
●	50 Get Key

<sup>1</sup> FairCom RTG does not support Alternate Collating Sequence and/or or other special sorting (ISR, ICU, etc.) to specify filter expressions LIKE and NOT LIKE operators are also not supported for filtering.

<sup>2</sup> Find percentage supported - only when using available index.

### Legend

- Fully supported
- ◐ Partially supported
- Not supported
- ∅ Not applicable

### Data Manipulation

	Operation
●	2 Insert
●	3 Update
●	4 Delete
●	40 Insert Extended
●	53 Update Chunk
●	Current Record logical and physical position ("Currency") is compatible with Btrieve.

### Concurrency Control Biases (Add to Op Code)

	Operation
●	100 Single-record wait read lock
●	200 Single-record no-wait read lock
●	300 Multiple-record wait read lock
●	400 Multiple-record no-wait read lock
∅	500 No-wait page write lock

### Non-Index-Based (Physical)

#### Data Retrieval

	Operation
●	22 Get Position
●	23 Get Direct/Record
●	23 Get Direct/Chunk
●	24 Step Next
●	33 Step First
●	34 Step Last
●	35 Step Previous
●	38 Step Next Extended <sup>1</sup>
●	39 Step Previous Extended <sup>1</sup>
●	44 Get By Percentage
●	45 Find Percentage
◐	44 Get By Percentage
●	45 Find Percentage <sup>2</sup>
●	50 Get Key

<sup>1</sup> FairCom RTG does not support Alternate Collating Sequence and/or or other special sorting (ISR, ICU, etc.) to specify filter expressions LIKE and NOT LIKE operators are also not supported for filtering.

<sup>2</sup> Find percentage supported - only when using available index.

## Legend

- Fully supported
- Partially supported
- Not supported
- Not applicable

## File-Specific

	Operation
<input checked="" type="radio"/>	0 Open
<input checked="" type="radio"/>	1 Close
<input checked="" type="radio"/>	14 Create
<input checked="" type="radio"/>	15 Stat
<input checked="" type="radio"/>	27 Unlock
<input checked="" type="radio"/>	29 Set Owner <sup>1</sup>
<input checked="" type="radio"/>	30 Clear Owner <sup>2</sup>
<input checked="" type="radio"/>	31 Create Index
<input type="radio"/>	32 Drop Index
<input type="radio"/>	42 Continuous Operation <sup>3</sup>
<input type="radio"/>	65 Stat Extended <sup>4</sup>
<input checked="" type="radio"/>	-127 Create/Rename
<input checked="" type="radio"/>	-127 Create/Delete

<sup>1</sup> Limitation of 9 characters

<sup>2</sup> Limitation of 9 characters

<sup>3</sup> For use in system backups and "data snapshot." We provide sophisticated backup alternatives. File Versioning is not supported.

<sup>4</sup> RTG provides alternate views of much of the information from Extended Stat subfunctions. Contact FairCom for specific details if using these utility functions. Subfunction support:

1 - Segmented files not supported

2 - Only transaction mode query is available.

Other queries do not apply to RTG

3 - Partially supported with only index number

4 - Owner encryption flag not supported

5 - Supported

6 - Supported

7 - Most information is not applicable to RTG

8 - Unsupported

## Session-Specific

	Operations
<input type="radio"/>	17 Set Directory
<input type="radio"/>	18 Get Directory <sup>1</sup>
<input checked="" type="radio"/>	19 Begin Transaction
<input checked="" type="radio"/>	20 End Transaction
<input checked="" type="radio"/>	21 Abort Transaction
<input checked="" type="radio"/>	25 Stop
<input checked="" type="radio"/>	26 Version
<input checked="" type="radio"/>	28 Reset
<input checked="" type="radio"/>	78 Login/Logout <sup>2</sup>
<input checked="" type="radio"/>	1019 Begin Transaction

<sup>1</sup> RTG has a "static" concept of LOCAL\_DIRECTORY.

<sup>2</sup> RTG login/logout are by default automatic. At file open, the file name is located in the RTG configuration file to match the <file> rule and its relative <instance> that contains the c-treeACE credentials for locating this specific file. With RTG, a distributed architecture can be built so this support includes which c-tree database Server is controlling this file.

## File Flags

	Attribute	Constant
<input checked="" type="radio"/>	Use Default ACS	ALT <sup>1</sup>
<input type="radio"/>	Balanced Index	BALANCED_KEYS <sup>2</sup>
<input type="radio"/>	Blank Truncation	BLANK_TRUNC <sup>3</sup>
<input checked="" type="radio"/>	Use Old Style BINARY Data Type	BIN
<input checked="" type="radio"/>	Data Compression	DATA_COMP
<input checked="" type="radio"/>	Descending Sort Order	DESC_KEY
<input checked="" type="radio"/>	Duplicates allowed	DUP
<input type="radio"/>	Reserve Duplicate Pointers	DUP_PTRS <sup>4</sup>
<input type="radio"/>	Use Extended Data Type	EXTTYPE_KEY <sup>5</sup>
<input type="radio"/>	Include System Data	INCLUDE_SYSTEM_DATA <sup>6</sup>
<input type="radio"/>	Key-Only File	KEY_ONLY
<input checked="" type="radio"/>	Modifiable Key Values	MOD
<input checked="" type="radio"/>	Old-style STRING (bits 2 & 8 are 0)	
<input type="radio"/>	Null Key (Any Segment)	MANUAL_KEY
<input type="radio"/>	Use Named ACS	NAMED_ACS
<input checked="" type="radio"/>	Case Insensitive Key	NOCASE_KEY
<input type="radio"/>	Do not Include System Data	NO_INCLUDE_SYSTEM_DATA <sup>6</sup>
<input checked="" type="radio"/>	Null Key (All Segments)	NUL
<input type="radio"/>	Use Numbered ACS in File	NUMBERED_ACS <sup>1</sup>
<input type="radio"/>	Page Preallocation	PRE_ALLOC
<input checked="" type="radio"/>	Repeating Duplicates (use with DUP)	REPEAT_DUPS_KEY
<input checked="" type="radio"/>	Segmented Key	SEG
<input type="radio"/>	Key Number	SPECIFY_KEY_NUMS
<input checked="" type="radio"/>	Variable Length Records	VAR_RECS
<input type="radio"/>	Use VATs	VATS_SUPPORT
<input type="radio"/>	10% Free Space	FREE_10 <sup>7</sup>
<input type="radio"/>	20% Free Space	FREE_20 <sup>7</sup>
<input type="radio"/>	30% Free Space	FREE_30 <sup>7</sup>

<sup>1</sup> Can be set to ALT or NUMBERED\_ACS: only one ACS allowed per table (acsNumber = 0).

<sup>2</sup> RTG always keeps keys balanced.

<sup>3</sup> Applicable only to files that allow variable-length records and do not use data compression.

<sup>4</sup> Btrieve and RTG store duplicate keys differently, so this is not needed with RTG.

<sup>5</sup> See Data Types for EXTTYPE\_KEY.

<sup>6</sup> Not needed because Btrieve and RTG transactional systems are different.

<sup>7</sup> RTG reuses deleted space unless deleted-space management is disabled (using ctADD2END file creation mode) to turn off automatic reuse of deleted space, causing new records to be appended to end of file.

Legend	
●	Fully supported
◐	Partially supported
○	Not supported
∅	Not applicable

## Indices over Data Types

Index creation through SQL supported on fields that do not have null indicator.

Data Type	BTRV Index	SQL uses BTRV Index	SQL Index
0 CHAR	●	●	●
1 INTEGER	●	●	●
2 FLOAT	●	●	●
3 DATE	●	●	●
4 TIME	●	●	●
5 DECIMAL	●	●	●
6 MONEY	●	●	●
7 LOGICAL	○	○	○
8 NUMERIC	●	●	●
9 BFLOAT	○	○	○
10 LSTRING	●	●	○
11 ZSTRING	●	●	●
14 UNSIGNED BINARY	●	●	●
15 AUTOINCREMENT	●	●	●
17 NUMERICSTS	●	●	●
18 NUMERICSA	●	●	●
19 CURRENCY	●	●	●
20 TIMESTAMP	●	●	●
25 WSTRING	○	○	○
26 WZSTRING	●	●	●
27 GUID	○	○	○
28 NUMERICSLB	●	●	●
29 NUMERICSLS	●	●	●
30 DATETIME	○	○	○
31 NUMERICSTB	●	●	●
255 NULL INDICATOR SEGMENT	●	◐ <sup>1</sup>	○

<sup>1</sup> Hidden