FairCom ISAM

Compatibility List

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 ISAM, 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, please contact FairCom to discuss our development roadmap for FairCom ISAM.

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

Btrieve API Functions

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

[1] Obsolete according to Btrieve

ISAM 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 [1]
●	37 Get Previous Extended [1]
●	44 Get By Percentage
●	45 Find Percentage [2]
●	50 Get Key

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

[2] Find percentage supported - only when using available index.

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 Btreive.

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 [1]
●	39 Step Previous Extended [1]
●	44 Get By Percentage
●	45 Find Percentage
◒	44 Get By Percentage
●	45 Find Percentage [2]
●	50 Get Key

[1] FairCom ISAM 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.

[2] Find percentage supported - only when using available index.

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File-Specific

	Operation
●	0 Open
●	1 Close
●	14 Create
●	15 Stat
●	27 Unlock
●	29 Set Owner [1]
●	30 Clear Owner [2]
●	31 Create Index
○	32 Drop Index
○	42 Continuous Operation [3]
◒	65 Stat Extended [4]
●	-127 Create/Rename
●	-127 Create/Delete

[1] Limitation of 9 characters

[2] Limitation of 9 characters

[3] For use in system backups and "data snapshot." We provide sophisticated backup alternatives. File Versioning is not supported.

[4] ISAM 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 ISAM
3 - Partially supported with only index number
4 - Owner encryption flag not supported
5 - Supported
6 - Supported
7 - Most information is not applicable to ISAM
8 - Unsupported

Session-Specific

	Operations
○	17 Set Directory
○	18 Get Directory [1]
●	19 Begin Transaction
●	20 End Transaction
●	21 Abort Transaction
●	25 Stop
●	26 Version
●	28 Reset
●	78 Login/Logout [2]
●	1019 Begin Transaction

[1] ISAM has a "static" concept of LOCAL_DIRECTORY.

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

File Flags

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

[1] Can be set to ALT or NUMBERED_ACS: only one ACS allowed per table (acsNumber = 0).

[2] ISAM always keeps keys balanced.

[3] Applicable only to files that allow variable-length records and do not use data compression.

[4] Btrieve and ISAM store duplicate keys differently, so this is not needed with ISAM.

[5] See Data Types for EXTTYPE_KEY.

[6] Not needed because Btrieve and ISAM transactional systems are different.

[7] ISAM 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.

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● Fully supported
◒ Partially supported
○ Not supported
∅ Not applicable[1]

Indices over Data Types

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

Data Type	ISAM Index	SQL uses ISAM 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	●	◒[1]	○

[1] *Hidden*