Understanding MP3

Addendum

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Crossreference of Identifiers

Crossreference of Code

⟨ f_i ⟩ Defined in section 126. Cited in section 127. Used in sections 127, 209, and 210.
⟨ 32 point CosDFT ⟩ Defined in section 411. Cited in section 6. Used in section 6.
⟨ IMDCT a long block ⟩ Defined in section 224. Used in section 235.
⟨ IMDCT a short block ⟩ Defined in section 231. Used in section 235.
⟨ IMDCT and overlap add ⟩ Defined in section 235. Cited in section 234.
Used in section 298.
⟨ adjust and check *bit_available* ⟩ Defined in section 319. Used in sections 303 and 304.
⟨ adjust frequency limits ⟩ Defined in section 286. Used in section 279.
⟨ adjust mode for short blocks ⟩ Defined in section 395. Used in section 389.
⟨ adjust sign of *value* ⟩ Defined in section 309. Used in sections 308 and 310.
⟨ adjust signs and store four small values ⟩ Defined in section 301.
Used in sections 300 and 302.
⟨ advance the stream to the next granule gr and channel ch ⟩ Defined in section 328.
Used in section 365.
⟨ allocate s ⟩ Defined in section 46. Cited in section 46. Used in section 39.
⟨ allocation mask ⟩ Defined in section 124. Used in section 125.
⟨ apply alias reduction ⟩ Defined in section 292. Used in section 298.
⟨ apply the scalefactor multiplier ⟩ Defined in section 257. Used in sections 262 and 266.
⟨ apply windowing ⟩ Defined in section 412. Cited in section 6. Used in section 6.
⟨ assign intensity stereo values ⟩ Defined in section 273. Used in sections 274 and 392.
⟨ assign scalefactor ⟩ Defined in section 115. Used in section 112.
⟨ auxiliary functions ⟩ Defined in section 69, 74, 78, 101, 122, 144, 157, 162, 167, 177, 218, 244,
269, 270, 271, 274, 303, 304, 311, 312, 392, 396, 406, and 439. Used in section 7.
⟨ bandwidth tables ⟩ Defined in section 432. Used in section 433.
⟨ boundary table ⟩ Defined in section 427. Used in sections 428 and 433.
⟨ call the *tag_handler* ⟩ Defined in section 175. Used in section 173.
⟨ callback exception ⟩ Defined in section 30. Cited in sections 61 and 62.
Used in sections 56 and 61.
⟨ check multiple syncwords ⟩ Defined in section 166. Used in section 165.
⟨ check parameters ⟩ Defined in section 56. Used in section 55.
⟨ check the scalefactors ⟩ Defined in section 215. Cited in section 215. Used in section 216.
⟨ compensate for frequency inversion ⟩ Defined in section 297. Used in section 298.
⟨ compute intensity stereo factor p ⟩ Defined in section 275. Used in section 276.
⟨ compute results ⟩ Defined in section 452. Used in section 451.

⟨ compute the CRC for layer II ⟩ Defined in section 216. Used in section 101.
⟨ compute the CRC for one byte ⟩ Defined in section 441. Cited in section 101.
Used in sections 100, 101, and 215.
⟨ compute the CRC for the header ⟩ Defined in section 100. Used in section 101.
⟨ compute the CRC for n bit ⟩ Defined in section 438. Used in sections 439 and 440.
⟨ compute version 2 f_L and f_R ⟩ Defined in section 391. Used in section 392.
⟨ compute p ⟩ Defined in section 278. Cited in section 275. Used in section 274.
⟨ conversion from **double** to **mp3_sample** ⟩ Defined in section 138. Used in section 6.
⟨ convert p to f_L and f_R ⟩ Defined in section 272. Used in section 274.
⟨ copy previous block ⟩ Defined in section 407. Used in section 408.
⟨ deal with missing main data ⟩ Defined in section 324. Used in section 323.
⟨ decode a *region* ⟩ Defined in section 371. Used in section 370.
⟨ decode granule information ⟩ Defined in section 339. Used in section 333.
⟨ decode layer I side information ⟩ Defined in section 104. Used in section 66.
⟨ decode layer II side information ⟩ Defined in section 211. Used in section 217.
⟨ decode layer III side information ⟩ Defined in section 333. Used in section 320.
⟨ decode scalefactor sharing ⟩ Defined in section 336. Used in section 333.
⟨ decode the granule ⟩ Defined in section 364. Used in sections 363 and 400.
⟨ decode the header ⟩ Defined in section 79, 81, 82, 83, 85, 87, 88, 92, 94, 95, and 98.
Used in section 78.
⟨ decode the main data ⟩ Defined in section 363. Used in section 320.
⟨ decode version 2 granule information ⟩ Defined in section 379. Used in section 378.
⟨ decode version 2 layer III side information ⟩ Defined in section 378. Used in section 399.
⟨ decode version 2 main data ⟩ Defined in section 400. Used in section 399.
⟨ definition of *input_read* ⟩ Defined in section 12. Used in sections 11 and 50.
⟨ definition of *mp3_close* ⟩ Defined in section 16. Used in sections 10 and 53.
⟨ definition of *mp3_open* ⟩ Defined in section 11. Used in sections 10 and 39.
⟨ definition of *mp3_read* ⟩ Defined in section 13. Used in sections 10 and 55.
⟨ definition of *option_pointer* ⟩ Defined in section 18. Used in section 11.
⟨ definition of *tag_handler* ⟩ Defined in section 37. Used in section 36.
⟨ degrouping c ⟩ Defined in section 201. Used in section 422.
⟨ derive further information ⟩ Defined in section 65, 155, 192, 398, and 430. Used in section 62.
⟨ detect changes ⟩ Defined in section 185. Used in section 187.
⟨ determine free format *bit_rate* ⟩ Defined in section 91 and 377. Used in section 172.
⟨ determine intensity stereo mode ⟩ Defined in section 288. Used in section 284.
⟨ determine number n of blocks per frame ⟩ Defined in section 404.
Used in sections 403, 405, and 409.
⟨ determine optimal distance ⟩ Defined in section 410. Used in section 409.
⟨ determine pairs ⟩ Defined in section 356. Used in section 355.
⟨ determine special pairs ⟩ Defined in section 358. Used in section 357.
⟨ determine the number n of non zero blocks in $\boldsymbol{v}$ ⟩ Defined in section 76. Used in section 72.
⟨ determine *first_short_band* ⟩ Defined in section 280. Used in section 279.
⟨ determine *frame_size* ⟩ Defined in section 90 and 376. Used in sections 78 and 172.
⟨ determine *sblimit* ⟩ Defined in section 293. Used in section 292.

⟨ determine *stereo_mode* and *band_limit* ⟩ Defined in section 284. Used in section 279.
⟨ equalize ⟩ Defined in section 445. Cited in section 71. Used in section 70.
⟨ `example.c` ⟩ Defined in section 17.
⟨ exponent for the scalefactor ⟩ Defined in section 262. Used in section 263.
⟨ exponent for *global_gain* ⟩ Defined in section 252. Used in sections 263 and 266.
⟨ extra fill the *huffman_cache* ⟩ Defined in section 318. Cited in section 311.
Used in section 312.
⟨ extract a big value from *code* ⟩ Defined in section 308. Used in section 311.
⟨ extract a very big value from *code* ⟩ Defined in section 310. Used in section 312.
⟨ finalize the *huffman_cache* ⟩ Defined in section 315. Used in sections 311 and 312.
⟨ find a matching header ⟩ Defined in section 170. Used in section 168.
⟨ flush the stream ⟩ Defined in section 72. Cited in section 77. Used in section 62.
⟨ functions ⟩ Defined in section 39, 53, and 55. Used in section 8.
⟨ generate output data ⟩ Defined in section 66, 217, 320, 399, 402, 403, 405, and 409.
Cited in sections 58 and 61. Used in section 55.
⟨ get the next n header bit ⟩ Defined in section 80.
Used in sections 79, 81, 82, 83, 85, 87, 88, 92, 94, 95, and 98.
⟨ get n CRC bit ⟩ Defined in section 213. Used in sections 214 and 215.
⟨ get n bit ⟩ Defined in section 142, and 143. Cited in sections 123, 142, 148, and 213.
Used in sections 125, 144, 213, and 424.
⟨ global gain ⟩ Defined in section 344. Used in sections 339 and 379.
⟨ global variables ⟩ Defined in section 43, 63, 67, 102, 237, 242, 245, 247, 254, 258, 259, 264, 285,
341, 343, 349, 387, 390, 415, 416, 428, 435, and 436. Used in section 7.
⟨ globalize the bit stream ⟩ Defined in section 147. Cited in section 148.
Used in sections 122, 144, and 218.
⟨ handle negative n for grouped values ⟩ Defined in section 208. Used in section 207.
⟨ handle the *info_callback* ⟩ Defined in section 61. Used in section 55.
⟨ header files ⟩ Defined in section 9, 49, 128, and 305. Used in section 7.
⟨ `hex2hex.c` ⟩ Defined in section 450.
⟨ increase *sblimit* if needed ⟩ Defined in section 294. Used in section 292.
⟨ infos ⟩ Defined in section 31, 32, 33, 84, 86, 89, 96, 183, 283, and 431. Used in section 23.
⟨ initialize the *huffman_cache* ⟩ Defined in section 314.
Used in sections 303, 304, 311, and 312.
⟨ initialize s ⟩ Defined in section 25, 34, 51, 150, 152, and 184. Used in section 39.
⟨ inversion mask ⟩ Defined in section 123. Cited in section 125. Used in section 125.
⟨ issue *info_callback* ⟩ Defined in section 187. Used in section 61.
⟨ joint stereo processing ⟩ Defined in section 279. Used in section 291.
⟨ layer I subband samples loop ⟩ Defined in section 116. Cited in section 122.
Used in section 122.
⟨ layer II modified factor for $n = -10$ ⟩ Defined in section 209. Used in section 132.
⟨ layer II modified factor for $n = -7$ ⟩ Defined in section 210. Used in section 133.
⟨ layer II subband samples loop ⟩ Defined in section 219. Used in section 218.
⟨ load the entire frame ⟩ Defined in section 163. Used in sections 165 and 167.

⟨ localize the bit stream ⟩ Defined in section 146. Cited in section 148.
Used in sections 122, 144, and 218.
⟨ long exponent ⟩ Defined in section 263. Cited in section 267.
Used in sections 269, 289, and 393.
⟨ main data bit already used ⟩ Defined in section 329. Used in section 330.
⟨ matching free format header ⟩ Defined in section 169. Used in section 170.
⟨ maximum **mp3_sample** ⟩ Defined in section 140. Used in section 138.
⟨ `mktables.c` ⟩ Defined in section 129.
⟨ modified factor ⟩ Defined in section 127. Cited in sections 127, 136, 209, and 264.
Used in section 134.
⟨ move buffer content left ⟩ Defined in section 158. Used in sections 157 and 179.
⟨ `mp32pcm.h` ⟩ Defined in section 10.
⟨ number of big value pairs ⟩ Defined in section 342. Used in sections 339 and 379.
⟨ number of long subbands ⟩ Defined in section 429. Used in section 235.
⟨ options ⟩ Defined in section 20, 21, 22, 29, 35, 36, 73, 331, and 444. Used in section 19.
⟨ output a single block of samples ⟩ Defined in section 70. Cited in sections 70, 75, and 408.
Used in section 69.
⟨ output a single block of silence ⟩ Defined in section 75. Cited in section 75.
Used in section 74.
⟨ output scalefactor ⟩ Defined in section 136. Cited in sections 128, 136, and 264.
Used in sections 127, 138, 209, 210, and 410.
⟨ partial last frame ⟩ Defined in section 332. Used in section 164.
⟨ perform additional checks ⟩ Defined in section 99, and 323. Used in section 62.
⟨ `perform.c` ⟩ Defined in section 6, 413, and 414.
⟨ position the stream past the header ⟩ Defined in section 156. Used in section 62.
⟨ post-process single channel output ⟩ Defined in section 71. Cited in sections 70 and 71.
Used in sections 70, 75, and 408.
⟨ preemphasis flag ⟩ Defined in section 359. Used in section 339.
⟨ prepare the frame for decoding ⟩ Defined in section 62. Cited in section 156.
Used in section 55.
⟨ print element ⟩ Defined in section 132, 133, 134, 238, 249, 276, 295, 383, 384, 442, and 447.
Used in section 129.
⟨ print results ⟩ Defined in section 453. Used in section 451.
⟨ print table ⟩ Defined in section 135, 239, 250, 277, 296, 385, 421, 423, 434, 443, and 448.
Used in section 129.
⟨ printing prerequisites ⟩ Defined in section 130, 131, 422, 433, and 440. Cited in section 130.
Used in section 129.
⟨ private declarations ⟩ Defined in section 1, 5, 41, 59, 64, 68, 77, 109, 137, 148, 171, 176, 203, 212, 220, 226, 228, 236, 240, 241, 243, 248, 251, 265, 267, 268, 281, 287, 299, 313, 322, 335, 351, 388, 397, 401, 437, and 449. Used in sections 6, 7, and 130.
⟨ private types ⟩ Defined in section 42 and 103. Used in section 7.
⟨ process ancillary bit ⟩ Defined in section 141. Used in sections 363 and 400.
⟨ process band in version 2 intensity stereo ⟩ Defined in section 393. Used in section 289.
⟨ process callback exception ⟩ Defined in section 181. Used in section 61.

⟨ process callback result ⟩ Defined in section 188, 189, 190, and 191. Used in section 187.
⟨ process short band in version 2 intensity stereo ⟩ Defined in section 394.
Used in section 290.
⟨ process tags ⟩ Defined in section 173. Used in section 162.
⟨ process the mode extension bit ⟩ Defined in section 97 and 282. Used in section 95.
⟨ produce subband samples ⟩ Defined in section 298. Used in section 364.
⟨ public declarations ⟩ Defined in section 15, 26, 27, 28, 40, 45, 47, 54, 57, 114, and 446.
Used in sections 10 and 130.
⟨ push back tag ⟩ Defined in section 179. Used in section 177.
⟨ quantization and scaling for long blocks ⟩ Defined in section 289. Used in section 279.
⟨ quantization and scaling for short blocks ⟩ Defined in section 290. Used in section 279.
⟨ quantize and scale raw samples ⟩ Defined in section 291. Cited in section 284.
Used in section 364.
⟨ raw scalefactor ⟩ Defined in section 253. Cited in section 267. Used in sections 262 and 266.
⟨ read Huffman decoding information for normal block ⟩ Defined in section 352 and 355.
Used in section 350.
⟨ read Huffman decoding information for special block ⟩ Defined in section 357.
Used in section 350.
⟨ read a scaled sample group ⟩ Defined in section 202. Used in section 219.
⟨ read and check layer II *bit_allocation* ⟩ Defined in section 214. Used in section 216.
⟨ read and store single channel subband samples ⟩ Defined in section 117.
Used in section 116.
⟨ read and store two channel subband samples ⟩ Defined in section 120. Used in section 116.
⟨ read bit allocation n ⟩ Defined in section 108. Cited in section 108.
Used in sections 106 and 107.
⟨ read four small values with *htabA* ⟩ Defined in section 300. Used in section 303.
⟨ read four small values with *htabB* ⟩ Defined in section 302. Used in section 304.
⟨ read one scaled subband sample ⟩ Defined in section 118. Cited in section 118.
Used in sections 117 and 120.
⟨ read one scalefactor ⟩ Defined in section 112. Used in section 111.
⟨ read one n bit *sample* ⟩ Defined in section 121. Cited in sections 118 and 121.
Used in sections 118 and 119.
⟨ read raw samples ⟩ Defined in section 370. Used in section 365.
⟨ read scalefactor index ⟩ Defined in section 113. Used in sections 112 and 206.
⟨ read scalefactors and raw samples ⟩ Defined in section 365. Used in section 364.
⟨ read scalefactors for granule *gr* and channel *ch* ⟩ Defined in section 366.
Used in section 365.
⟨ read scalefactors with sharing ⟩ Defined in section 338. Used in section 366.
⟨ read scalefactors without sharing ⟩ Defined in section 368. Used in section 366.
⟨ read shared scalefactors ⟩ Defined in section 206. Cited in section 206. Used in section 207.
⟨ read single scalefactor ⟩ Defined in section 369. Used in sections 338 and 368.
⟨ read tag ⟩ Defined in section 178. Used in section 177.
⟨ read the layer II scalefactors ⟩ Defined in section 207. Used in section 211.
⟨ read the layer II *bit_allocation* ⟩ Defined in section 196. Used in section 211.

⟨ read the scalefactor selection information ⟩ Defined in section 204. Used in section 211.
⟨ read the scalefactors ⟩ Defined in section 111. Cited in section 127. Used in section 104.
⟨ read the second scaled subband sample ⟩ Defined in section 119. Used in section 120.
⟨ read the *bit_allocation* ⟩ Defined in section 106 and 107. Used in section 104.
⟨ read the *sample* ⟩ Defined in section 125. Cited in sections 122 and 123.
Used in sections 121 and 202.
⟨ read three grouped samples ⟩ Defined in section 424, 425, and 426.
Cited in sections 202 and 203. Used in section 202.
⟨ read two big values with *htab* ⟩ Defined in section 306 and 307. Used in sections 311 and 312.
⟨ read *reservoir_size* ⟩ Defined in section 321 and 374. Used in section 323.
⟨ reduce layer II *bound* ⟩ Defined in section 195. Used in section 192.
⟨ refill the *huffman_cache* ⟩ Defined in section 317. Cited in sections 300 and 311.
Used in sections 303, 304, 311, and 312.
⟨ release the *buffer* for current frame ⟩ Defined in section 159, and 161. Used in section 167.
⟨ release the *buffer* up to the current position ⟩ Defined in section 160. Used in section 141.
⟨ remove fixed part of frame from *buffer* ⟩ Defined in section 326.
Used in sections 327, 402, 403, 405, and 409.
⟨ remove padding ⟩ Defined in section 334. Used in section 333.
⟨ remove the tag from the input ⟩ Defined in section 180. Used in section 175.
⟨ remove version 2 padding ⟩ Defined in section 375. Used in section 378.
⟨ repeat a single block of samples ⟩ Defined in section 408. Cited in section 408.
Used in section 406.
⟨ retrieve the stream ⟩ Defined in section 52. Used in sections 53, 55, and 177.
⟨ retrieve the *bit_allocation* ⟩ Defined in section 199. Cited in section 199.
Used in section 196.
⟨ `rms.c` ⟩ Defined in section 451.
⟨ scalefactor bit allocation ⟩ Defined in section 345. Used in section 339.
⟨ scalefactor limits ⟩ Defined in section 346. Used in section 339.
⟨ select coarse scalefactor quantization ⟩ Defined in section 256. Used in section 360.
⟨ select fine scalefactor quantization ⟩ Defined in section 255. Used in section 360.
⟨ select layer II bit allocation table ⟩ Defined in section 193, and 373. Used in section 192.
⟨ select layer III band *width* ⟩ Defined in section 246. Used in sections 352 and 357.
⟨ select scalefactor quantization ⟩ Defined in section 360. Used in sections 339 and 379.
⟨ select small values table ⟩ Defined in section 361. Used in sections 339 and 379.
⟨ select table a ⟩ Defined in section 417. Used in section 193.
⟨ select table b ⟩ Defined in section 418. Used in section 193.
⟨ select table c ⟩ Defined in section 200. Cited in sections 194, 197, and 198.
Used in section 193.
⟨ select table d ⟩ Defined in section 419. Used in section 193.
⟨ select version 2 table ⟩ Defined in section 420. Used in section 373.
⟨ set *id* to the next available id ⟩ Defined in section 44. Used in section 39.
⟨ shift vector $\boldsymbol{v}$ ⟩ Defined in section 4. Used in sections 70, 75, and 408.
⟨ short exponent ⟩ Defined in section 266. Cited in section 267.
Used in sections 270, 290, and 394.

⟨ side information ⟩ Defined in section 105, 110, and 205. Cited in sections 103 and 206.
Used in section 103.
⟨ size of main data ⟩ Defined in section 340. Used in sections 339 and 379.
⟨ slimit index ⟩ Defined in section 382. Cited in section 386. Used in section 386.
⟨ still available main data bit ⟩ Defined in section 330. Used in section 370.
⟨ store a long block for subband *sb* ⟩ Defined in section 222. Used in sections 224 and 235.
⟨ store a short block for subband *sb* ⟩ Defined in section 229. Used in section 231.
⟨ store a start block for subband *sb* ⟩ Defined in section 232. Used in section 235.
⟨ stream data ⟩ Defined in section 2, 3, 24, 50, 58, 145, 149, 151, 153, 154, 174, 186, 194, 197, 198, 221, 227, 234, 325, 337, 347, 353, 354, 362, and 367. Cited in section 3. Used in section 42.
⟨ switch to the bit reservoir ⟩ Defined in section 327. Used in sections 363 and 400.
⟨ switch *preemphasis* off ⟩ Defined in section 261. Used in sections 359 and 381.
⟨ switch *preemphasis* on ⟩ Defined in section 260. Used in sections 359 and 381.
⟨ terminate decoding ⟩ Defined in section 60. Cited in section 61. Used in section 62.
⟨ the *huffman_cache* needs bit ⟩ Defined in section 316.
Used in sections 303, 304, 311, and 312.
⟨ type definition of **mp3_info** ⟩ Defined in section 23. Used in section 10.
⟨ type definition of **mp3_options** ⟩ Defined in section 19. Used in section 10.
⟨ type definition of **mp3_sample** ⟩ Defined in section 14. Used in section 10.
⟨ unexpected end of input ⟩ Defined in section 164. Used in section 163.
⟨ update *flags* ⟩ Defined in section 182. Used in sections 181 and 189.
⟨ use table 0 ⟩ Defined in section 372. Used in section 371.
⟨ verify free format frame ⟩ Defined in section 168. Used in section 165.
⟨ verify the frame ⟩ Defined in section 165. Cited in section 162. Used in section 162.
⟨ verify the matching header ⟩ Defined in section 172. Used in section 168.
⟨ version 2 determine intensity stereo mode ⟩ Defined in section 389. Used in section 288.
⟨ version 2 preemphasis flag ⟩ Defined in section 381. Used in section 379.
⟨ version 2 scalefactor bit allocation ⟩ Defined in section 380. Used in section 379.
⟨ version 2 scalefactor limits ⟩ Defined in section 386. Used in section 379.
⟨ window dependent layout ⟩ Defined in section 348, and 350. Used in sections 339 and 379.
⟨ window, overlap, and add a long block for subband *sb* ⟩ Defined in section 223.
Used in sections 224 and 235.
⟨ window, overlap, and add a short block for subband *sb* ⟩ Defined in section 230.
Used in section 231.
⟨ window, overlap, and add a stop block for subband *sb* ⟩ Defined in section 233.
Used in section 235.
⟨ zero *s* ⟩ Defined in section 48. Used in section 39.
⟨ zero ***t*** ⟩ Defined in section 225. Used in sections 224, 231, and 235.
⟨ *tag_read* function ⟩ Defined in section 38. Cited in section 38.
Used in sections 37, 176, and 177.