



Available Hard Disk Recording Times

Sample Rate (FS)	Quantization (bits)	Bytes / min (per track)	RECORDING TIME							
			Min / GB	1 Tk / GB	4 Tk / GB	8 Tk / GB	12 Tk / GB	16 Tk / GB	24 Tk / GB	32 Tk / GB
32 kHz	16 bit	3.66 MB / min	279.78	4hr 39 min	1hr 10 min	34 min	22 min	17 min	11 min	9 min
44.1 kHz	16 bit	5.05 MB / min	202.77	3hr 22 min	50 min	25 min	16 min	12 min	8 min	6 min
	20 bit	6.31 MB / min	162.28	2 hr 42 min	40 min	20 min	13 min	10 min	6 min	4 min
	24 bit	7.57 MB / min	135.27	2hr 15 min	33 min	16 min	11 min	8 min	5 min	4 min
48 kHz	16 bit	5.49 MB / min	186.52	3hr 6 min	46 min	23 min	15 min	11 min	7 min	5 min
	20 bit	6.87 MB / min	149.05	2hr 28 min	37 min	18 min	12 min	9 min	6 min	4 min
	24 bit	8.24 MB / min	124.27	2hr 4 min	31 min	15 min	10 min	7 min	5 min	3 min
96 kHz	24 bit	16.48 MB / min	62.14	1hr 1min	15 min	7 min	5 min	3 min	2 min	1 min

Formula to Calculate MB / min:

$$B = Q \times FS \times 60 \text{ seconds}$$

B = Bytes required for 1 minute of recording

Q = quantization (in bytes)

FS = Sample frequency (in Hz)

Remember: 16 bits = 2 bytes

24 bits = 3 bytes

1 MB = 1,048,576 bytes

1GB = 1024 MB

Example:

How much recording time will I get when recording 16 tracks on a 9GB hard drive at 24 bits with a 48 kHz sampling rate?

Answer:

$$124.27 \text{ (Min/GB)} \times 9 \text{ (GB)} = 1118.43 \text{ track minutes}$$

$$1118.43 / 16 \text{ (tracks)} = 69.90 \text{ min} / 60 \text{ (minutes)} = 1.17 \text{ hrs}$$

$$1.17 \text{ hrs} = 1 \text{ hr } 10 \text{ min}$$

Note: Of course this assumes the user is recording and filling all tracks simultaneously. In reality disk space is dynamically allocated, meaning that if you don't record on all tracks for the full 1 hr 10 min on every track additional space will be available for other tracks.

*Recording times shown here are approximate values. Actual recording times may vary slightly.
All calculations are rounded down to the next minute.*