TROUBLESHOOTING OF USB FLASH MEMORY RELATED AUDIO DROPOUTS

For most users USB audio is the major source of personal music playback on the road. MP3 playback of MP3 files is intended to be a matter of simple plug & play. In some cases however, several factors may affect the stability of the MP3 data transmission via the USB flash memory, to result in audio dropouts during playback. Some of the USB or MP3 related audio problems have technical reasons that may be determined and addressed.

USB memory device related limitations and remedies

■ USB sticks can offer different performance levels, based on the embedded memory controller. Higher priced USB sticks may offer higher data bandwidth compared to "giveaway" pieces.

■ USB flash drives: different memory controllers may find use in manufacturing of even identical flash memory devices. Some controllers offer better performance by higher data throughput, but worse compatibility with the USB controller hardware of device and vice versa.

Recommendation: Simply try different memory brands and sticks and chose a model that offers best data communication and reliable function.

Requirements for USB playback stability

■ USB sticks must be formatted in FAT32 prior to use. Full formatting of USB memory is mandatory to be performed before use, because Quick formatting will erase headers only.

■ The USB flash memory device must only contain files with compatible file extensions. Consult the compatibility list on the ZENEC homepage. Device compatible files mixed up with other non-compliant files (such as .pdf, .doc, .xls, .m3u etc.) will inevitably cause audio interrupts and will also have a strong negative impact on the file header read-in speed of track lists!

■ Watch out for the total path length and file names (song title) to become too long. Max. allowable path length, including a song/track in the lowest subfolder, is 200 alphanumeric letters.

■ The content of the memory device may not exceed 400 folders incl. subfolders in the root directory. Since track listing of MP3 files on device HMI requires file parsing with header read-out, a high count of subfolders will inevitably cause higher parsing latency and – for complex subfolder structures – cause parsing errors due to header retrieval time outs.

■ MP3 files downloaded from P2P networks or other "dubious sources" may also not play correctly because encoding of wav data was done with outdated and non compliant ("hacked") encoding codecs. MP3 tracks created with non compliant encoders may still list and play as normal, but on the long run cause audio dropouts (media player will drop non compliant bits).

■ ID3 tag compatibility is of importance as well, since ID tags created or headers edited and saved in non compliant formats are proven to cause hiccups during playback. For more info consult the compatibility list on the ZENEC homepage.

■ High speed USB data transfer requires interconnect cables of sufficiently good health. Cables that qualify have not been subject to cuts, crimps, squashes or other mechanical damages.

Recommendation: Buy MP3 tracks from official sources like iTunes or encode your CDs using EAC and Lame encoder. Do NOT expect MP3 P2P files from external sources to play perfectly.

A/V file and ID3 tag playback compatibility list on the ZENEC home:

www.zenec.com/uploads/media/ZENEC_UserInfo_C9D_playback_compatibility_list_V1.9.pdf

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