



## How to accelerate JPEG compression and decompression

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It is possible to accelerate JPEG compression and decompression by replacing the default libjpeg<sup>[1]</sup> library with the libjpeg-turbo<sup>[2]</sup> library that uses the Arm<sup>®</sup> NEON<sup>™</sup> technology.



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## 1 How to check the libjpeg-turbo installation

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```
Board $> dpkg -l | grep jpeg  
...  
Hardware accelerated JPEG compression/decompression library  
...
```



## 2 How to add the libjpeg-turbo in your distribution

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Please refer to the OpenEmbedded libjpeg-turbo recipe documentation<sup>[3]</sup>



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### 3 References

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- <http://libjpeg.sourceforge.net/> libjpeg official web site
- <https://libjpeg-turbo.org/> libjpeg-turbo official web site
- <https://layers.openembedded.org/rrs/recipe/OE-Core/45003/> OpenEmbedded libjpeg-turbo recipe documentation

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Arm® NEON™ technology is an advanced single instruction multiple data (SIMD <sup>[1]</sup>) architecture extension for the Arm®Cortex®-A Series.

*NEON technology is intended to improve the multimedia user experience by accelerating audio and video encoding/decoding, user interface, 2D/3D graphics or gaming. NEON can also accelerate signal processing algorithms and functions to speed up applications such as audio and video processing, voice and facial recognition, computer vision and deep learning <sup>[2]</sup>.*

Start reading the useful information and presentations on NEON technology available from Arm NEON technology official web site.


The article [How to accelerate JPEG compression and decompression](#) presents an use case accelerated thanks to the Arm NEON technology.



## References

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- Single instruction, multiple data (SIMD) on Wikipedia
- Arm NEON technology official web site

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