

TS-LIB: FAQ

Questions:

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Q: What is TS-Lib?

TS-Lib is the most extensive, hand optimized, floating-point, signal and image processing C-library for the TigerSHARC DSP.

Q: What functions are included?

TS-Lib contains over 400 mathematical and signal and image processing functions and is designed to extend the functionality contained within the VisualDSP++ run-time library.

Q: What makes TS-Lib Important?

The run-time library included within VisualDSP++ covers approximately 100 signal and image processing functions. In a great many cases, a library of this size is too small for high-performance operation. For example, the run-time library uses generic functions for various length FFTs, etc. This imposes an additional overhead, whereas TS-Lib has ranges of functions with different parameters which provide an optimal choice of library functions.

Q: How does TS-Lib compare with the Run-Time Library included with the VisualDSP++?

TS-Lib is not intended to compete with the run-time library, but offer a more extensive, higher performance solution. Having said that TS-Lib provides a performance boost of up to 700% on some similar functions.

Q: What is required to use TS-Lib?

TS-Lib is a C-library. Therefore the VisualDSP++ tool-chain is required as a minimum.

Q: Can the TS-Lib be used on any TigerSHARC DSP design?

Yes. The TS-Lib is targeted specifically at the TigerSHARC DSP and is operating system and platform independent. The first releases will be validated with Transtech DSP's TigerSHARC DSP cards, but can be used with any TigerSHARC DSP design.

Q: Is TS-Lib subject to licensing?

Yes. TS-lib is supplied in three parts:

1. Developer License

This includes the library itself. 10 free run-time licenses are also included. A developer's license is based on a per seat basis.

2. Run-Time License

This is required for each TigerSHARC DSP running code that uses TS-Lib. Additional run-time licenses can be purchased separately as required.

3. Maintenance License

An annual license that provides free updates and support.

Q: What other special features does TS-Lib contain?

TS-Lib contains many features of note including:

Uses latest algorithm theory	A development team of highly qualified engineers and mathematicians have produced the library. The extended features of the TigerSHARC have been fully utilized to maximize the performance and efficiency of these algorithms.
Uses a logical naming convention	This makes TS-Lib easy to use.
Consistent calling interface	Simplifies development. No code overhead for sequential functions because the data structures passed from one function to another do not need to be altered – therefore functions can be called immediately after the previous one has been issued.
Memory sensitive functions	Multiple versions of routines are provided that allow for more efficient data management within the three memory blocks.
Execution flag indicators	Simplify debugging by passing by meaningful return codes (for example incorrect array size, etc) and as a result speeds up development.

Q: What if TS-Lib does not contain the required functions?

Even though TS-Lib contains a great many functions, there might be ones that are not included. For these functions, the TS-Lib development team at EZ DSP offers a consultancy service. Contact Transtech or EZ DSP for details. It is also worth checking on the latest release of TS-Lib - it might be that these functions have subsequently been included.

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