

SPR ROBUST™ 1200 bps VOCODER RELIABLE COMMUNICATION



Supply

SPR Robust 1200 bps vocoder can be supplied as object code for any DSP, RISC or general purpose platform or in-chip.

The product delivery package includes object libraries, test environment (in C-code and executable files), test and reference samples and User Guide document, which describes vocoder algorithm, API and examples of the vocoder usage.

Availability

- DSP object code for TMS320C55xx
- DLL for MS Windows

• Any DSP, RISC or general purpose platform within 2-3 months

Applications

- Digital Voice over HF
- Wireless communications



SPR Robust 1200 bps vocoder is based on Sinusoidal Pulsed Representation (SPR) model, providing high quality and other superior characteristics inherent to this model.

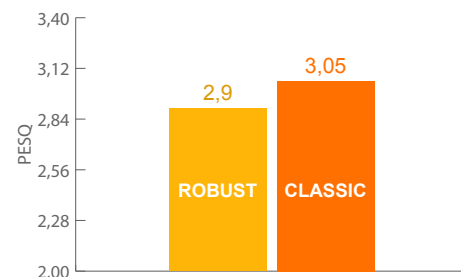
Moreover, the vocoder contains Forward Error Correction (FEC) scheme, which is integrated into vocoder on base of "source-channel coding" approach and provides high robustness of the vocoder to channel errors.

Features

Compared with Classic version of the vocoder

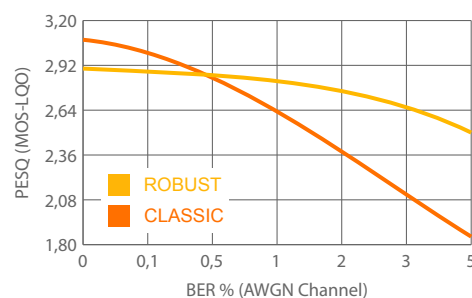
Speech Quality

We used ITU-T P.50 multilanguage speech base and ITU-T P.862 utility to estimate speech quality. In clear channel SPR Robust 1200 bps vocoder provides speech quality near to SPR Classic 800 bps vocoder, conseding to SPR Classic 1200 bps and even SPR Classic 1000 bps. However, the vocoder keeps the speech quality in noisy channel, providing high robustness to errors at high BER.



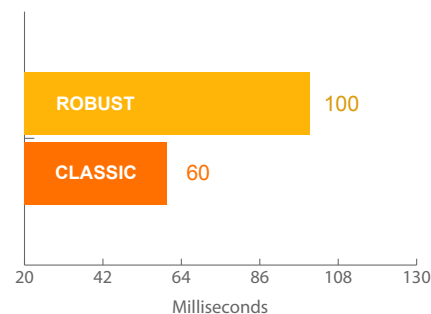
Robustness

We passed encoded bit streams through AWGN channel simulator with various SNR and estimated quality of decoded speech. SPR Robust 1200 bps vocoder shows very high robustness to errors, keeping high speech quality in noisy channel with BER up to 5% and even higher.



Algorithmic Delay

Time delay is very important characteristic of communication system. Algorithmic delay of vocoder does play determinative role in total delay. Well known, the delay more than 100 ms is not acceptable for normal conversation. SPR Robust 1200 bps vocoder provides 100 ms delay. It is better in comparison with well-known vocoders for the same bit rate.



See more features on next page

Customization

To provide you the best solution, we are ready to customize vocoder according to your specific environment and requirements.

For example, bit rate and speech quality can be changed to any direction, error control coding can be added to increase robustness. Noise cancelling and/or echo cancelling can be added to vocoder; facilities of signaling (such as DTMF and single tone) can be implemented also.

To download demo wav-samples of SPR Robust 1200 bps vocoder, visit www.dspini.com/dspini_spr1200r.htm

To evaluate PC-application of our vocoder, contact us: request@dspini.com



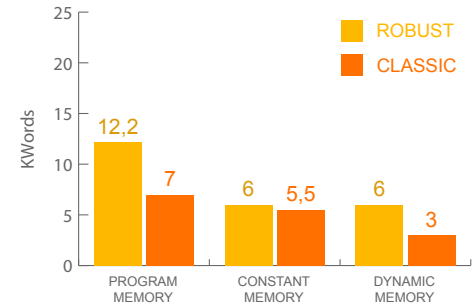
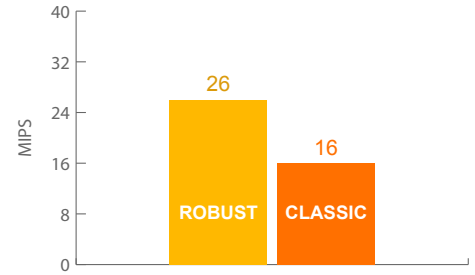
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Computing Complexity

SPR Robust 1200 bps is very effective vocoder and requires very little of the computing resources.
Less than 26 MIPS for TI's C55xx.

Memory Usage

SPR Robust 1200 bps vocoder needs uniquely little memory, providing high rate of the quality/cost.



Performance for TI's C55xx DSP

	Encoder	Decoder	Encoder + Decoder
MIPS (max)	8.5	17.5	26
Program Memory, KWords	-	-	12,2
Constant Memory, KWords	-	-	6
Dynamic Memory, KWords	-	-	6
Stack, KWords	-	-	0.5

Reliability and Support

We continuously test and improve the vocoder.
We guarantee complete support for each version of the product.

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