G.722.1
Coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss

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VOCAL Technologies, Ltd. software libraries include a complete range of ETSI / ITU / IEEE compliant and other standard and proprietary vocoders algorithms, optimized for execution on ANSI C and leading DSP architectures (ADI, AMD, ARM, DSP Group, LSI Logic ZSP, MIPS and TI)

G.722.1 describes a digital wideband coder algorithm that provides an audio bandwidth of 50 Hz to 7 kHz, operating at a bit rate of 24 kbit/s or 32 kbit/s. The digital input to the coder may be 14, 15 or 16 bit 2's complement format at a sample rate of 16 kHz (handled in the same way as in Recommendation G.722). The analogue and digital interface circuitry at the encoder input and decoder output conforms to the same specifications described in Recommendation G.722.

he algorithm is based on transform technology, using a Modulated Lapped Transform (MLT). It operates on 20 ms frames (320 samples) of audio. Because the transform window (basis function length) is 640 samples and a 50 per cent (320 samples) overlap is used between frames, the effective look-ahead buffer size is 20 ms. Hence the total algorithmic delay of 40 ms is the sum of the frame size plus look-ahead. All other delays are due to computational and network transmission delays.

Applications:

- WIFI phones VoWLAN
- Wireless GPRS EDGE systems.
- Personal Communications
- Wideband IP telephony
- Audio and Video Conferencing

Features:

- Full and half duplex modes of operation.
- Passes ITU test vectors.
- Common compressed speech frame stream interface to support systems with multiple speech coders (G.729, G.728, G.726 et al).
- Optimized for high performance on leading edge DSP architectures.
- Multi-tasking environment compatible.
- Can be integrated with G.168 and G.165 echo cancellers, and tone detection/regeneration.
- Supports Voice Activity detection and Comfort Noise Generation.
- Multi channel implementation.
- Complain with G.722.1 specification.
- Optimized implementation.

Custom Product Design Division
200 John James Audubon Parkway
Buffalo, New York 14228
716-688-4675

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