Noise Suppression

PRODUCT DESCRIPTION

The Adaptive Digital noise suppression software reduces background noise that is present in speech signals during periods between speech periods, but **not during the actual speech periods**. This is a low-MIPS, low-complexity alternative to noise reduction, which reduces noise during speech periods also.

Algorithm Version	CPU Utilization	Memory	Delay	SNR Improvement	Frequency / Time Based
Noise Reduction	High	High	Moderate	Yes	Frequency
Noise Suppression	**Low**	**Low**	**None**	**No**	**Time**

The user can configure either version's cancellation settings to be more or less aggressive. Less aggressive settings reduce noise by a moderate amount while more aggressive settings reduce noise by a greater degree.

One might wonder why a system would be configured with a less aggressive setting. There are a few reasons. One reason is that a very aggressive setting can result in loss of desired signal. Another reason is that, in the case of the low complexity version, an aggressive setting will cause an accentuated difference between the noise level during speech and the noise level when speech is not present. The transitions between speech and no speech may become more objectionable with the more aggressive setting.

APPLICATIONS

Applications include traditional, mobile, and hands-free telephone systems, conferencing, speech recognition, and alarm systems.

FEATURES

- Functions are C-callable.
- Multi-channel capable
- Completely re-entrant (Channel can interrupt any Channel, any time)
- Can be integrated with echo cancellers, VOX, and tone detection/regeneration.
- Programmable parameters

AVAILABILITY

ADT Noise Reduction is available on the TMS320™ DSP Family

C54x™DSP, C55x™DSP, & C64x™DSP Generations

ARM Processor

SPECIFICATIONS

Coding Rate: 13.2 kbps
Sampling Rate: 8 kHz

C54x

All Memory usage is given in units of 16-bit word.

Function	MIPS (Peak)	Program Memory	Data Memory	Per-Channel Data Memory
NS	0.3	400	42	12

Last update: 05/01/2004

C55x

All Memory usage is given in units of byte.

Function	MIPS (Peak)	Program Memory	Data Memory	Tables	Per-Channel Data Memory
NS	0.35	1012	384	4332	108

Last update: 01/21/2009

C64x

All Memory usage is given in units of byte.

Function	MIPS (Peak)	Program Memory	Data Memory	Per-Channel Data Memory
NS	0.2	2400	84	24

Last update: 05/01/2004

ARM

Function	MIPS (Peak)	Program Memory	Data Memory	Per-Channel Data Memory
NS	1.0	2400	84	24

Last update: 05/10/2008

FUNCTIONS

API function call summary

`NS_ADT_init( . . .)`	`Initiates a channel of Noise Suppression`
`NS_ADT_reduce( . . . )`	`Executes Noise Suppression`

CONTACT INFORMATION

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