



## Digital Network Echo Cancellor

### SIGNALS+SOFTWARE

TI Third Party Network  
Member



#### Processor

Texas Instruments TMS320C6000 DSP range.

#### Background

A multi-channel digital network echo cancellers are used for echo control on international and mobile telephony circuits. They are voice-operated devices, which are placed in the 4-wire portion of a network and used for reducing the echo caused by impedance mismatches in the circuit. An echo estimate is generated, and subsequently subtracted from the circuit echo.

The software is compliant with ITU-T G.165 and G.168 recommendations, and includes a non-linear processor (NLP) and 2100 Hz tone detector.

#### Features and Performance

- TI eXpressDSP™ Compliant software available

RefleXion Digital Network Echo Cancellor	Echo Path Delay (ms)	Program Memory (Kbytes)	Data Memory (Kbytes)	Processing Load (MHz)
	4	5	n * 0.3	n * 2.2
	8	5	n * 0.4	n * 2.4
	16	5	n * 0.6	n * 2.9
	32	5	n * 1.2	n * 4.0
	64	5	n * 2.2	n * 6.2

**Table 1 : DSP Requirements for a Digital Network Echo Cancellor**

**Note:** Processing loads quote worst-case scenarios and n represents the number of channels.  
Program memory table values are initialisation values. Kbytes equals 1024 bytes.

#### Interface Details

For convenience the individual software functions are supplied as a single library module. The library contains all the object code that is required to link in to a user's top-level application code. The functions are either callable as C functions or as assembly functions.

#### Availability

The code is available now, for a one-off payment and/or royalties depending on the commercial application.

Software for the TMS320C6000 is available for a full range of vocoders and for other communication algorithms. Echo cancellation software is also available for the TMS320C5000.

**SIGNALS+SOFTWARE**

**SIGNALS+SOFTWARE** was founded in 1992 as a developer of high quality Digital Signal Processing application software for the communications industry. Supplying to a whole range of customers, including large blue chip corporations, **SIGNALS+SOFTWARE** has quickly established itself as the world leader in DSP software design and production.

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