



Digital Network Echo Cancellor

SIGNALS+SOFTWARE



Processor

Motorola StarCore™ MSC8101 DSP.

Background

SIGNALS+SOFTWARE are developing a complete suite of communication software for the Motorola MSC8100 family of DSPs. The initial development platform, the MSC8101, utilizes the StarCore™ 140 four ALU (Algorithmic Logic Unit) DSP core. This device also has 512kb memory and a Communications Processor Module (CPM) making it a versatile device for communication applications.

A multi-channel digital network echo canceller is 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 will be compliant with ITU-T G.165 and G.168 recommendations and includes non-linear processor (NLP) and 2100 Hz tone detector.

Features and Performance

RefleXion Network Echo Canceller	Echo Path Delay (ms)	Program Memory (Kbytes)	Tables (Kbytes)	Stack Memory (Kbytes)	Static Memory (Kbytes)	Processing Load (MHz)
	32	2.5	0	10	n*1.3	n *4
	64	2.5	0	10	n*2.3	n *7

Table 1 : DSP Requirements for a Digital Network Echo Canceller

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 will be supplied as a single library module. The library will contain all the object code that is required to link in to a user's top- level application code. The functions will either be callable as C functions or as assembly functions.

Availability

Fully optimised code will be available for a one-off payment and/or royalties depending on the commercial application.

Also available for StarCore™ are a range of vocoders, DTMF and other communication algorithms.

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.

For further information please contact:

SIGNALS+SOFTWARE Ltd.
The Heights,
Lowlands Road,
Harrow,
HA1 3AW
United Kingdom

Tel: +44 (0) 20 8872 9000
Fax: +44 (0) 20 8872 9001

www.signalsandsoftware.com

sales@signalsandsoftware.com