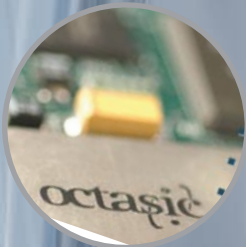


OCT6100 ^{series}

Voice Quality Enhancement/Echo Cancellation

The OCT6100 Series of voice processors performs high quality echo cancellation and Voice Quality Enhancements (VQE).

Now available in a lead-free option, the OCT6100 series also offers a full complement of tone and compression functions, all in a 16mm-square footprint - the smallest in the industry.



www.octasic.com

16 672 Channel G.168 2002 Echo Canceller

- o 128 ms tail/channel (on all channel densities)
- o Audio Conferencing
- o Extensive Signaling Tone Detection/Generation

Superior Voice Quality

Octasic's OCT6100 Series of voice processors supports densities from 16 to 672 channels on a single chip. Octasic's echo cancellation algorithm uses a Least Squares adaptive filter with frequency awareness providing superior performance for today's solutions. Independently or combined with other Octasic voice solutions, the OCT6100 Series can significantly increase density in voice gateways while offloading DSPs in order to maximize their use for other value added features.

Carrier-Grade Echo Cancellation

When tested by leading carrier labs, the Octasic algorithm received very high marks and was labeled a benchmark-algorithm for echo cancellation. Certified carrier grade, the solution is now deployed worldwide. The OCT6100 Series sets a new standard for voice quality in networks.

Extensive Monitoring and Debugging Features

OCT-VQM (voice quality monitoring system), the extensive monitoring and debugging system behind the OCT6100 Series, gives developers and field-support engineers the ability to monitor networks, record problems live and use Octasic services to ensure that the best voice quality possible is delivered to their clients. Devices are equipped with a software debugging port, available through an API socket, and providing complete access to VQM solutions.

octasic
semiconductor

Voice Quality Enhancement Features:

- Automatic Level Control
- Acoustic Echo Control
- Adaptive Noise Reduction

Product Family Matrix

	OCT610x	OCT611x	OCT612x
Echo Cancellation			
16-672 channel echo canceller	✓	✓	✓
Fully G.168 2002 compliant	✓	✓	✓
Algorithm may be upgraded through the software API	✓	✓	✓
Acoustic echo control	✓	✓	✓
128 ms tail per channel (for all channels)	4/6*	4/6*	4/6*
Voice Quality Improvements Suite			
Manual gain control	✓	✓	✓
G.169 automatic level control	✓	✓	✓
Automatic noise reduction	6**	6**	6**
Auxiliary Telephony Functions			
G.168 tone detection:			
2100 Hz (V.2x) w/phase reversal EC disabling as per G.168	✓	✓	✓
2100 Hz (V.2x) w/o phase reversal NLP disabling as per G.168	✓	✓ ✓	✓ ✓
Advanced array of programmable tone detectors		✓	✓
Tone generation		✓	✓
Large buffer playback for messages		✓	✓
Advanced Voice Features			
Audio conferencing for up to 448 channels N-way		✓	✓
Tone removal for conferencing applications		✓	✓
Background Music Solutions			
Music protection	✓	✓	✓
Colorful calling			✓
Compression			
ADPCM			✓

* Available with OCT61x4 and OCT61x6 only

** Available with OCT61x6 only

Note: OCT611x and OCT612x are not available in 64ms versions.

All parts are available in the following channel counts: 672, 512, 256, 128, 64, 32, 16



Carrier Grade Echo Cancellation

Features

- o 16-672 channels of G.168-2002 echo cancellation
- o 128 ms tail/channel (on all channel densities)
- o Adaptive noise reduction
- o Acoustic echo control
- o Automatic level control(G.169)
- o Field upgradable algorithm
- o Integrated debugging and monitoring
- o Audio conferencing
- o Large buffer playback capabilities
- o TFO solution available
- o Extensive signaling tone detection/generation:
 - V. 25/V. 8 answer tone (w/ & w/o Phase reversal)
 - Text telephone signals V18 Annex A
- SF signaling (2600 Hz)
 - SS7 COT tones
 - MF R1 as per Q.323
 - MF R2 as per Q.455
 - DTMF as per Q.24

Application Examples

- o Wireless mobile services switching centers
- o Echo and voice quality-processing network elements
- o Voice conferencing systems
- o Voice over Packet (VoP) enabled network elements:
 - Media Gateway
 - IP/PSTN Gateway
 - Voice/media Applications Server
 - Multi-service Switch
 - IP/PBX or IP enabled PBX
 - VoP Integrated Access Device

Physical Specifications

- o 280 BGA package
- o 1 DDR or 2 SDRAM parts required
 - 64 MB at 672 channels
 - 8MB at 32 channels
- o Power
 - 3.3V and 1.8V power supply
 - Standard OCT6100, 1.8V
 - 2W at 672 channels
 - 0.7W at 16 channels
 - Requires 2.5V when used with DDR SDRAM

Interfaces

- o TDM interface
 - 32 streams supporting 4,096 timeslots
 - 4-16 MHz clock
 - H.100/H.110 slave compatible
 - μ -Law/A-Law per channel support
- o Asynchronous 16 bit interface for Motorola/Intel processors
- o JTAG support

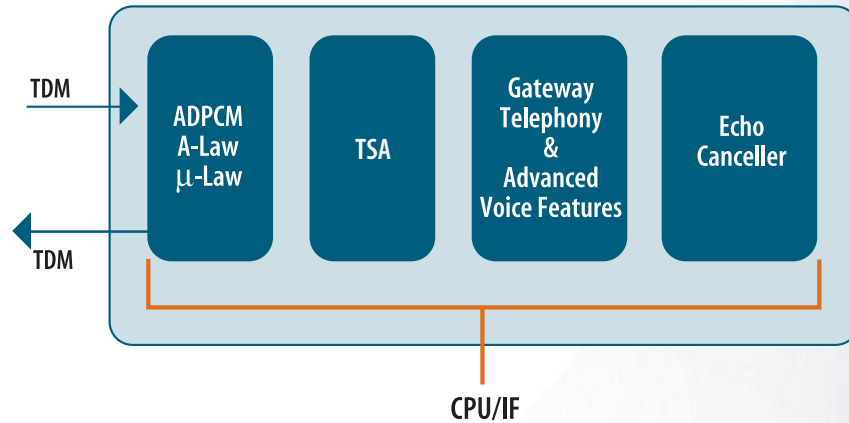
Octasic Inc. develops silicon and software solutions that deliver exceptional sound quality for network and end-point equipment manufacturers within the wireless, VoP, and TDM segments of the telecommunications industry. Octasic's innovative algorithms, processors and modules are optimized to perform three key functions: echo cancellation, packetization, and compression.

OctWare is a subsidiary of Octasic that provides software solutions for VoIP end-user communication equipment.

Its flagship product, **SoftEcho**, is optimized for softphones, Asterisk IP PBXs, IP & speaker phones, hand-held devices, and internet access devices.

With Octasic's specialized scalable solutions, next-generation communication equipment manufacturers benefit from optimal flexibility and unmatched performance in terms of density, cost and power consumption.

OCT6100 Series Functional Block Diagram



Find out more about Octasic's products

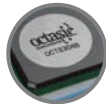
Echo Cancellation

OCT6100, OCT9600



Packetization

OCT8304



Media Gateway Designs

OCT9320, OCT9400



OCT6100 ORDERING INFORMATION

The OCT6100 Series can be ordered with various features. Please contact Octasic to determine which part best fits your requirements.

OCT61XXE-XXXX

Feature content

(see table of features)
0, 1 or 2

Tail length

2 = 64ms tail, Noise Reduction Not Included
4 = 128ms tail, Noise Reduction Not Included
6 = 128ms tail, Noise Reduction Included

RAM interface

S = SDR SDRAM
D = DDR SDRAM

Channel Capacity

672, 512, 256, 128, 064, 032, or 016

E is added to part number when Lead-Free part is required



Octasic Inc.

4101 Molson St., Suite 300
Montreal, QC, H1Y 3L1 Canada
Tel.: +1 514.282.8858
Fax: +1 514.282.7672
www.octasic.com

All brand and product names are trademarks of their respective holders. Information in this document is proprietary to Octasic.

Octasic has made every effort to ensure that the information contained in this product brief is accurate. However we accept no responsibility for errors or omissions and we reserve the right to modify the design, characteristics and products at any time without notification or obligation. For the most recent version of this document or product specifications, please contact Octasic.

© Copyright 2007, Octasic Inc. All Rights Reserved.
OCT6100pb2000-052