



2019 Fort Stockton Drive
 San Diego CA 92103-1511
 Phone 619-247-3319
 Fax 800-861-3474
 service@2mainstreet.com

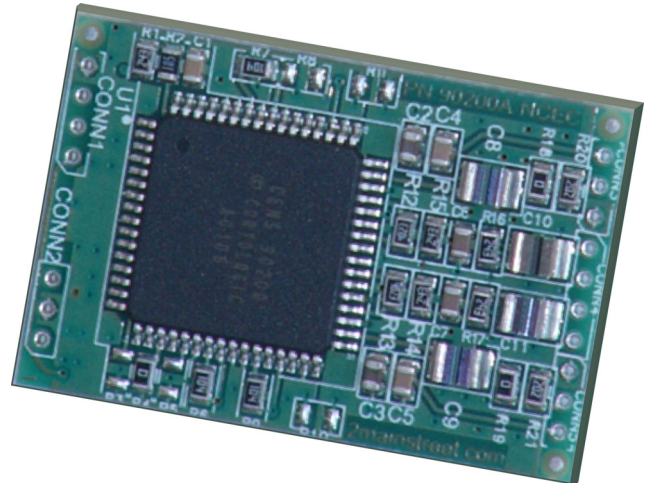
Electronic Voice & Echo Processing Module

90200A-NCEC

Clear Voice through Background Noise and Feedback Cancellation

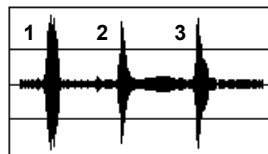
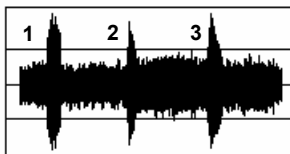
Product Features:

- Intercom and speaker phone applications
- Up to 20 dB of voice to noise cancellation
- Up to 20 dB of acoustic feedback cancellation
- Optional environmental sound cancellation
- Direct electret or dynamic mic connection
- Select from 8 noise cancellation levels
- Power standby and audio pass through modes
- Low battery drain plus standby mode



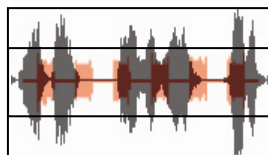
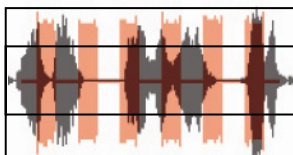
Before 90200A-NCEC

After 90200A-NCEC



Voice audio before noise cancellation

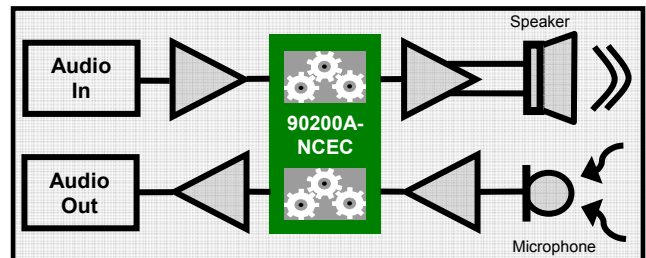
Voice audio after noise cancellation



Voice & feedback audio before echo cancellation

Voice & feedback audio after echo cancellation

Typical Circuit Configurations



Compatibility:

Voice processing module 90200A-NCEC performs noise and echo cancellation with any analog voice band audio signal. The inputs provides direct connection to either low level microphone or high level line out sources. The output creates a signal range from microphone to standard audio line in levels. The module features power supply regulation and control pins for standby and pass through operation. Designed for either wire attach soldered installation or available with terminal strips for daughter card assembly. Shielding is also available for a difficult RF environment installation.

User Applications

Intercom
 Siren Elimination
 Bullhorn

UHF / VHF Radio
 Ham Radio
 Amplified Headsets

Hands Free Phone
 Skype Phone
 Cellular Phone

Description:

The 90200A-NCEC uses electronic digital signal processing to cancel background audio noise from the desired voice signal thereby improving the speech intelligibility. Connecting the internal reference signal path allows users to reduce speaker / microphone acoustic feedback and eliminate a environment reference signal from the microphone processing path.

With the 90200A-NCEC voice processor module installed in your equipment you will be able to increase the system volume with out feedback and hear speech improvements no matter the acoustic level of the noise or wind the microphone is picking up.

The 90200A-NCEC will enhance the safety of users by:

- Noise Cancellation Improving Message Understanding
- Hands Free Talk Reducing Communication Effort
- Combined Functions Removing Operator Frustration

Specifications:

Parameter	Notes	Minimum	Typical	Maximum	Unit
Audio Bandwidth	3dB	0.30		11.0	KHz
Total Harmonic Distortion	< 1.5V p-p output level, 2K ohm Load	1	1.5	2	%
NC System Delay	Input to Output		25	33	mSec
Noise Suppression (Level 8)	Voice Audio to White Noise Ratio (1)			20	dB
	Voice Audio to Momentary Noise Ratio (1)			20	dB
	Voice Audio to Hum or CW Tone Ratio (1)			20	dB
Suppression Convergence	Suppression Level and Noise Dependent		500	1000	mSec
Audio Signal Level Gain	Input to Output (user configurable NC & EC)	1.0		8.0	A
Audio Reference Delay	Input to Output		1.54		mSec
Echo Path Delay	Speaker to Microphone		92		mSec
Supply Voltage		+4.5		+14	Volts
Supply Current	Supply Voltage = 4.5 V		28	40	mAmps
Standby Mode Current	Supply Voltage Range		50	100	µAmps
Operating Temperature	Weakest Component Specification	-20		+85	Deg C
Shock	Installation Dependent				
Vibration	Installation Dependent				
Length	PCB Assembly		1.475		in
Width	PCB Assembly		0.975		in
Height	PCB Assembly		0.175		in

Notes: (1) Suppression levels are configuration dependent. Default setting is typical 15dB suppression
Noise figure and distortion events of electronic components affect measurements.

Installation:

The 90200A-NCEC is designed for a user to simply attach power, ground, input and output signals. The default configuration is for direct attachment of an electret microphone with the internal gain set for line out signal levels. With a couple component changes input / output and processing levels can be will tailored for virtually any audio processing application. A 2 watt headset speaker amplifier is also available in this same form factor.

Availability:

Direct purchase from Main Street Technology or ask your local communications equipment provider to become a certified distributor and installer.

Technical Support:

Call or email Main Street Technology support staff for answers regarding equipment integration or operational settings of the 90200A-NCEC voice processor module. Call today and discuss your application.