

## Audio Converters

### • Audio CODEC Series - Mono CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8810</b>	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8810-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
<b>NAU88C10</b>	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C10-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
<b>NAU88U10</b>	Mono Audio CODEC (*AEC-Q100)	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C10-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
<b>NAU8812</b>	Mono Audio CODEC with Speaker Driver	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8812-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5) SSOP-28
<b>NAU8814</b>	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8814-DEMO	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)
<b>NAU88C14</b>	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C14-DEMO	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)

### • Audio CODEC Series - Stereo CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8820</b>	Stereo Audio CODEC	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8820-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
<b>NAU8822A</b>	Stereo Audio CODEC with Speaker Driver	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8822A-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
<b>NAU88U22A</b>	Stereo Audio CODEC with Speaker Driver (*AEC-Q100)	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8822A-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
<b>NAU88C22</b>	Stereo Audio CODEC with Speaker Driver	2	2	89	89	-78	-84	8 ~ 192	I2S PCM(TDM)	NAU88C22-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)

Contact us: [AudioConverter@nuvoton.com](mailto:AudioConverter@nuvoton.com)

### • Audio CODEC Series - ULP (Ultra Low Power) CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU88L11	ULP Mono Audio CODEC with Class-G Headphone Driver	1	1	103	105	-93	-85	8 ~ 96	I2S PCM(TDM)	NAU88L11-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN20 (4x4)
*NAU88L20	ULP Stereo CODEC with Stereo Differential Lineout Driver	2	2	98	100	-91	-85	8 ~ 96	I2S PCM(TDM)		2-Wire	2.5 ~ 3.6 2.5 ~ 3.6	QFN32 (4x4)
NAU88L21	ULP Stereo Audio CODEC with Class-G Headphone Driver	2	2	103	105	-91	-80	8 ~ 192	I2S PCM(TDM)	NAU88L21-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)
NAU88L24	ULP Stereo Audio CODEC with Advanced Headset Feature Class-D Amp	2	2	100	103	-85	-77	8 ~ 96	I2S PCM(TDM)	NAU88L24I-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN48 (6x6) QFN48 (7x7) WLCSP56
NAU88L25B	ULP Stereo Audio CODEC with Advanced Headset Feature & Detection Class-G Headphone Driver	1	2	101	124	-91	-89	8 ~ 192	I2S PCM(TDM)	NAU88L25-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (5x5) WLCSP42

\* Under Development

### • Audio ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8501	Stereo Audio ADC with Line Input Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	NAU8501-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4)
NAU8502	Stereo Audio ADC with Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	NAU8502-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU85L20	ULP Stereo Audio ADC with Integrated FLL Microphone Preampfier	2	-	101	-	-91	-	8~96	I2S PCM(TDM)	NAU85L20-DEMO	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)
NAU85L40	ULP Quad Audio ADC with Integrated FLL Microphone Preampfier	4	-	101	-	-91	-	8~96	I2S PCM(TDM)	NAU85L40-DEMO	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)

### • Audio DAC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8401	Stereo Audio DAC with Speaker Driver	-	2	-	94	-	-84	8 ~ 48	I2S PCM(TDM)	NAU8401-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU8402	Stereo Audio DAC with 2Vrms Line Output	-	2	-	98	-	-82	24 ~ 96	I2S PCM(TDM)	NAU8402-DEMO	-	3.0 ~ 3.6 1.6 ~ 3.6	TSSOP 16

### • Precision ADC Series

Part No.	Description	# of		Resolution Bits	ADC Type	ENOB (Gain=1, 10SPS)	RMS Noise (PGA=128)	Sample Rate Max (Hz)	Gain	Development Tools	CTRL IF	Analog/Digital (V)
		ADC	DAC									
NAU7802	Precision Audio ADC	2	-	24	Sigma-Delta	23	50nV in 10 SPS 150nV in 80 SPS	10, 20, 40, 80 & 320	1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x	NAU7802-EVB	2-Wire	2.7 ~ 5.5 2.7 ~ 5.5

Contact us: [AudioConverter@nuvoton.com](mailto:AudioConverter@nuvoton.com)

## Audio Amplifiers

### • 2Vrms Line Driver Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise ( $\mu$ Vrms)	Gain (dB)	Standby Current ( $\mu$ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU8220	2Vrms Line Driver	-	<0.1	108	-	-	-	3.0 ~ 3.6	NAU8220WG-EVB	SOP14 TSSOP14

### • Class-AB Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise ( $\mu$ Vrms)	Gain (dB)	Standby Current ( $\mu$ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
ISD8101	1.5W Class-AB Audio Amplifier with Chip Enable, Differential/Single-Ended Inputs, Low Pop and Click	0.5 (5V,8 $\Omega$ )	<0.1	100	-	0 ~ 26	<1	2.4 ~ 5.5	ISD-DEMO8101	SOP8
		0.825 (5V,8 $\Omega$ )	<1							
		1.1 (5V,8 $\Omega$ )	<10							
ISD8102	2W Class-AB Audio Amplifier with Chip Enable, Single-Ended Inputs, Low Pop and Click	2 (5V,4 $\Omega$ )	<10	100	-	0 ~ 26	<1	2.0 ~ 5.5	ISD-DEMO8102	SOP8
ISD8104	2W Class-AB Audio Amplifier with Chip Enable, Differential Inputs, Low Pop and Click	2 (5V,4 $\Omega$ )	<10	100	-	0 ~ 26	<1	2.0 ~ 6.8	ISD-DEMO8104	SOP8

### • Class D Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise ( $\mu$ Vrms)	Gain (dB)	Standby Current ( $\mu$ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU82011	2.9W Mono Class-D Audio Amplifier with Variable Gain, Differential/Single-Ended Inputs	2.9 (5.0V,4 $\Omega$ )	<10	-	20	Variable	<1	2.5 ~ 5.5	NAU82011Y-EVB NAU82011V-EVB	QFN16 WLCSP9
NAU82039	3.2W Mono Class-D Audio Amplifier with Variable Gain, Differential/Single-Ended Inputs	3.2 (5.0V,4 $\Omega$ )	<10	-	27	6, 12	<1	2.5 ~ 5.5	-	QFN16 WLCSP9
NAU8223	3.1W Stereo Filer-Free Class-D Audio Amplifier with Differential/Single-Ended Inputs	3.1 (5.0V,4 $\Omega$ )	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NAU8223-EVB	QFN20
NAU8224	3.1W Stereo Filer-Free Class-D Audio Amplifier with 2-Wire Interface, Differential/Single-Ended Inputs	3.1 (5.0V,4 $\Omega$ )	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NAU8224-EVB	QFN20
NAU8315	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S	3.1 (5.0V,4 $\Omega$ )	<10	-	12	3, 6, 9, 12	<1	2.5 ~ 5.5	NAU8315-DEMO	QFN20 WLCSP9 WLCSP12
NAU8325	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S, 2-Wire Interface	3.1 (5.0V,4 $\Omega$ )	<10	-	18	3, 6, 9, 12	<2	2.5 ~ 5.5	NAU8325-DEMO	QFN20
NAU83P20	20W High-Efficiency Class-D Audio Power Stage for Driving Stereo Bridge-Tied Speakers	20W (18.0V,8 $\Omega$ )	<10	105	-	-	<1	4.5 ~ 24	-	QFN48

### • Smart Amp Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise ( $\mu$ Vrms)	Speaker Protection	Standby Current ( $\mu$ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU83G10	12W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	8 (5.0V,4 $\Omega$ ) 6.5 (5.0V,8 $\Omega$ )	<10	101	55	Integrated DSP	<13	2.9 ~ 5.5	NAD-NAU83G10	WLCSP50
NAU83G20	20W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	20 (12.6V,4 $\Omega$ ) 11 (12.6V,8 $\Omega$ )	<10	101	65	Integrated DSP	<16	14 (MAX)	NAD-NAU83G20	WLCSP50
*NAU83G60	30W Stereo / 60W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	30 (18V,4 $\Omega$ )	<10	-	-	Integrated DSP	-	6 ~ 18	-	QFN56

\* Under Development

Contact us: [AudioAmp@nuvoton.com](mailto:AudioAmp@nuvoton.com)

## Audio Enhancement

Part No.	Description	HW Configuration					Algorithms									
		I <sup>2</sup> S Stereo Inputs	ADC Stereo Inputs	I <sup>2</sup> S Stereo Output	DAC Single Output	Power Output	Bass	Pro. Eq.	3D	Treble	Volume	Level	Dialog	DRC	V3D	Package
<b>NPCP215F</b>	MaxxAudio	4	0	3	0	20W (8R)	Y	Y	Y	Y	Y	Y	Y	-	-	QFN48
<b>NPCA112D</b>	MaxxAudio	4	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
<b>NPCA110P</b>	MaxxAudio	2	3	3	4	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN40
<b>NPCA110T</b>	MaxxAudio	3	0	3	3	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
<b>NPCA110D</b>	MaxxAudio	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
<b>NPCA110B</b>	MaxxAudio	1	2	1	2	-	Y	Y	-	-	Y	-	-	-	-	QFN32
<b>NPCA120D</b>	DPS	2	0	2	0	-	Y	Y	Y	Y	Y	Y	Y	Y	-	LQFP64
<b>NPCA121D</b>	DPS	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	LQFP64

Contact us: [AudioEnhancement@nuvoton.com](mailto:AudioEnhancement@nuvoton.com)