



# THE BEST AUDIO SOLUTIONS

Touch People's Hearts!

## **Cmedia is Your Truthful Partner!**

Founded in 1991, Cmedia is the global leading IC/software solution provider. C-Media's goal has remained consistent over the years: to create and sustain mutually beneficial relationships with customers by providing innovative solutions that address their needs.

### **Cmedia's Solutions:**

- USB2.0 Full-Speed Audio Chips(UAC1.0)
- USB2.0 High-Speed Audio Chips (UAC2.0)
- Consumer Audio/Voice DSP Processors
- PCI/PCI Express Sound Chips
- Xear™ Sound Processing Algorithms/Technologies
- Software Audio Drivers and Applications

### **Applications:**

- PC/GameConsole USB Gaming Headset/Box
- USB MS Lync/UC VOIP Headset
- USB Gaming/Pro Microphone/Guitar Cable
- Notebook/Tablet/iDevice/Android Docking Stations
- Wi-Fi Audio/Speakers/Boom box
- Speakerphone/Smart TV/IP Camera/Home Appliances  
(with AEC/LDR)
- Mobile Phone/DECT Phone (with ENC/etc.)
- USB Multimedia/Hi-Fi Speakers
- USB Audio Box/Hi-Fi DAC/Amplifier
- PCI/PCI Express Sound Card

# USB Headset Solutions

Feature		HS-100B	CM108B	CM118B	CM119BN	CM6206/LX	
Hardware	USB2.0 Compliant	Full Speed	Full Speed	Full Speed	Full Speed	Full Speed	
	Codecs	•	•	•	•	•	
	HID Buttons	•	•	•	•	•	
	DAC	Channel	2	2	2	2	8/6
		SNR	≥93dB	≥93dB	≥93dB	≥93dB	≥95dB
		THD+N@1KHz	≤-70dB ≤0.0316%	≤-70dB ≤0.0316%	≤-70dB ≤0.0316%	≤-70dB ≤0.0316%	≤-85dB ≤0.0056%
	ADC	Channel	1	1	2	1	2
		SNR	≥90dB	≥90dB	≥90dB	≥90dB	≥95dB
		THD+N@1KHz	≤-84dB ≤0.006%	≤-84dB ≤0.006%	≤-84dB ≤0.006%	≤-84dB ≤0.006%	≤-82dB ≤0.008%
	I2S/HDA Interface	--	•/--	•/--	--	--	
	SPDIF In/Out	--	--/•	--/•	--/•	•/•	
	Sampling Rate @bit depth	44.1/48K@16bits	44.1/48K@16bits	44.1/48K@16bits	44.1/48K@16bits	44.1/48K@16bits	
	Firmware Customization	EEPROM 93C46	EEPROM 93C46	EEPROM 93C46	EEPROM 93C46	EEPROM 93C46	
	SPI/I2C Interface	•/--	•/--	•/•	•/•	•/--	
	GPIO PINS	--	3	3	8	1	
	Mic Preamp	•	•	•	•	--	
	Headphone Amp(32Ω)	•	•	•	•	•	
	Power Consumption	37.25mA/ Active/Suspend	37.25mA/ 1.58mA	37.25mA/ 1.58mA	37.25mA/ 1.58mA	155mA/ 250uA	
	MCU	--	--	--	--	--	
	Microsoft® Lync Compatible	--	--	--	--	--	
	Package Type (Include Pin Dimension)	LQFP-48(9x9mm)	LQFP-48(9x9mm)	LQFP-48(9x9mm)	QFN-48(5x5mm)	LQFP-48(9x9mm)	
	Audio/Voice Processing	--	--	--	--	--	
	Mic AGC	--	--	--	--	--	
Mic Clipping LED	--	--	--	--	--		
Line Input	--	--	--	--	•		
Software	Xear™ Features	--	•	--	--	•	
	Dolby® Options	--	--	--	--	• (CM6208/6209)	
	DTS® Connect	--	--	--	--	• (CM6208/6209)	

# USB Headset Solutions

Feature		CM6210	CM6533(N)	CM6533DH	CM6533X1	CM6536N	
Hardware	USB2.0 Compliant	High Speed (Audio Class 1.0)	Full Speed	Full Speed	Full Speed	Full Speed	
	Codecs	--	•	•	•	•	
	HID Buttons	•	•	•	•	•	
	DAC	Channel	3	2	2	2	2
		SNR	≥101dB(CM710x)	≥92dB	≥92dB	≥92dB	≥100dB
		THD+N@1KHz	≤-93dB ≤0.0022%(CM710x)	≤-87dB ≤0.0045%	≤-87dB ≤0.0045%	≤-87dB ≤0.0045%	≤-86dB ≤0.005%
	ADC	Channel	2	2	2	2	2
		SNR	≥102dB(CM7100)	≥87dB	≥87dB	≥87dB	≥94dB
		THD+N@1KHz	≤-95dB ≤0.0018%(CM710x)	≤-83dB ≤0.0079%	≤-83dB ≤0.0079%	≤-83dB ≤0.0079%	≤-83dB ≤0.007%
	I2S/HDA Interface	•/• (8CH I2S Out, 2CH I2S In)	--	--	--	•/--	
	SPDIF In/Out	--/•	--/•	--/•	--/•	--	
	Sampling Rate @bit depth	44.1/48K @16bits	8/11.025/16/22.05/3 2/44.1/48/88.2/ 96K@24bits	8/11.025/16/22.05/3 2/44.1/48/88.2/ 96K@24bits	8/11.025/16/22.05/3 2/44.1/48/88.2/ 96K@24bits	8/11.025/16/22.05/3 2/44.1/48/88.2/ 96K@24bits	
	Firmware Customization	Parallel Flash	Embedded Flash 32K Byte	Embedded Flash 32K Byte	Embedded Flash 32K Byte	Embedded Flash 512K Byte	
	SPI/I2C Interface	--/•	•/•	•/•	•/•	•/•	
	GPIO PINs	7	12 (3 PWM LED Control)	12 (3 PWM LED Control)	12 (3 PWM LED Control)	16 (3 PWM LED Control)	
	Mic Preamp	--	--	--	--	•	
	Headphone Amp(32Ω)	--	•	•	•	•	
	Power Consumption Active/Suspend	79.42mA/ 1.91mA	73mA/ 2mA	73mA/ 2mA	73mA/ 2mA	30mA/ 2mA	
	MCU	•	•	•	•	•	
	Microsoft® Lync Compatible	--	•	--	--	--	
Package Type (Include Pin Dimension)	LQFP-80 (12x12mm)	CM6533 LQFP-48(9x9mm) CM6533N QFN-48(7x7mm)	LQFP-48 (9x9mm)	LQFP-48(9x9mm)	AQFN-104 (5.5x7mm)		
Audio/Voice Processing	--	5-band Parametric EQ	5-band Parametric EQ	5-band Parametric EQ	5-band Parametric EQ		
Mic AGC	--	•	•	•	•		
Mic Clipping LED	--	•	•	•	--		
Line Input	--	--	--	--	•		
Software	Xear™ Features	--	--	•	•	--	
	Dolby® Options	--	--	•	--	--	
	DTSS® Connect	--	--	--	--	--	

# USB Headset Solutions

Feature		CM6571	CM6610A	CM6640	CM6642	CM6645X1	
Hardware	USB2.0 Compliant	Full Speed	High Speed	High Speed (Audio Class 1.0/2.0)	High Speed (Audio Class 1.0/2.0)	High Speed (Audio Class 1.0/2.0)	
	Codecs	•	--	•	•	•	
	HID Buttons	•	•	•	•	•	
	DAC	Channel	2	2	2	2	2
		SNR	≥94dB	≥100dB (CM9822A)	≥100dB	≥100dB	≥100dB
		THD+N@1KHz	≤-82dB ≤0.0079%	≤-93dB ≤0.0022%	≤-85dB ≤0.005%	≤-85dB ≤0.005%	≤-85dB ≤0.005%
	ADC	Channel	2	2	3	3	3
		SNR	≥91dB	≥90dB(CM9822A)	≥94dB	≥94dB	≥94dB
		THD+N@1KHz	≤-82dB ≤0.0079%	≤-84dB ≤0.0063%	≤-84dB ≤0.006%	≤-84dB ≤0.006%	≤-84dB ≤0.006%
	I2S/HDA Interface	•/--	--/•	--	--	•/--	
	SPDIF In/Out	--/•	•/•	--	--/•	--/•	
	Sampling Rate @bit depth	8/11.025/16/22.05/32/44.1/48/88.2/96K@24bits	44.1/48/96/192K@24bits	44.1/48/88.2/96/192K@24bits	44.1/48/88.2/96/192K@24bits	44.1/48/88.2/96/192K@24bits	
	Firmware Customization	EEPROM 24C02	Parallel Flash	Embedded OTP 16K Byte	Embedded OTP 16K Byte	Embedded OTP 16K Byte	
	SPI/I2C Interface	--/•	--/•(Slave)	--/•	•/•	•/•	
	GPIO PINs	15	6	2 (1 PWM LED Control)	12 (1 PWM LED Control)	12 (1 PWM LED Control)	
	Mic Preamp	--	--	•	•	•	
	Headphone Amp(32Ω)	•	--	•	•	•	
	Power Consumption Active/Suspend	76mA/ 1.65mA	69.52mA/ 0.449mA	33mA/ 0.45uA	33mA/ 0.45uA	33mA/ 0.45uA	
	MCU	•	--	•	•	•	
	Microsoft® Lync Compatible	•	--	--	--	--	
	Package Type (Include Pin Dimension)	VQFP-88 (10x10mm)	LQFP-64 (12x12mm)	WLCSP-30 (2.3x3.5mm)	QFN-48 (5x6.5mm)	QFN-48 (5x6.5mm)	
	Audio/Voice Processing	Xear™ Surround HP Xear™ Sound Expander Xear™ Sonic ENC, AEC, LDR, Array MIC	--	--	--	--	
	Mic AGC	•	--	--	--	--	
Mic Clipping LED	•	--	--	--	--		
Line Input	•	•	• (share with ANC Mic in)	• (share with ANC Mic in)	• (share with ANC Mic in)		
Software	Xear™ Features	--	•	--	--	•	
	Dolby® Options	--	--	--	--	--	
	DTS® Connect	--	--	--	--	--	

# USB Sound Station Solutions

Feature		CM118B	CM6206/LX	CM6531N	CM6533(N)	CM6535	CM6571	
Hardware	USB2.0 Compliant	Full Speed	Full Speed	Full Speed	Full Speed	Full Speed	Full Speed	
	Codexcs	•	•	--	•	•	•	
	HID Buttons	•	•	•	•	•	•	
	DAC	Channel	2	8/6	2	2	2	2
		SNR	≥93dB	≥95dB	≥100dB (CM9600)	≥92dB	≥92dB	≥94dB
		THD+N@1KHz	≤-70dB ≤0.0316%	≤-85dB ≤0.0056%	≤-86dB ≤0.005%(CM9600)	≤-87dB ≤0.0045%	≤-87dB ≤0.0045%	≤-82dB ≤0.0079%
	ADC	Channel	2	2	2	2	2	2
		SNR	≥90dB	≥88dB	≥94dB (CM9600)	≥87dB	≥87dB	≥91dB
		THD+N@1KHz	≤-84dB ≤0.006%	≤-82dB ≤0.008%	≤-83dB ≤0.007% (CM9600)	≤-83dB ≤0.0079%	≤-83dB ≤0.0079%	≤-82dB ≤0.0079%
	I2S/HDA Interface	•/--	--	•/--	--	•/--	•/--	
	SPDIF In/Out	--/•	•/•	•/•	--/•	•/•	--/•	
	Sampling Rate @bit depth	44.1/48K@16bits	44.1/48K @16bbits	8/11.025/16/22.0 5/32/44.1/48/ 88.2/96K @24bits	8/11.025/16/22.0 5/32/44.1/48/ 88.2/96K @24bits	8/11.025/16/22.0 5/32/44.1/48/ 88.2/96K @24bits	8/11.025/16/22.0 5/32/44.1/48/ 88.2/96K@24bits	
	MCU	--	--	•	•	•	•	
	Firmware Customization	EEPROM 93C46	EEPROM 93C46	Embedded Flash 512K Byte	Embedded Flash 32K Byte	Embedded Flash 512K Byte	EEPROM 24C02	
	SPI/I2C Interface	•/•	•/--	•/•	•/•	•/•	--/•	
	GPIO PINs	3	1	12 (3 PWM LED Control)	12 (3 PWM LED Control)	12 (3 PWM LED Control)	15	
	Mic Preamp	•	--	--	--	--	--	
	Headphone Amp(32Ω)	•	•	--	•	•	•	
	Power Consumption Active/Suspend	37.25mA/ 1.58mA	155mA/250uA 120mA/250uA	30mA/ 2mA	73mA/ 2mA	73mA/ 2mA	76mA/ 1.65mA	
	Package Type (Include Pin Dimension)	LQFP-48 (9x9mm)	LQFP-48 (9x9mm)	QFN-48 (7x7mm)	CM6533 LQFP-48(9x9mm) CM6533N QFN-48(7x7mm)	LQFP-64 (9x9mm)	VQFP-88 (10x10mm)	
Line Input	--	•	•(CM9600)	--	•	•		
Apple MFi	--	--	•	--	--	--		
Software	Xear™ Features	--	•	--	--	--	•	
	Dolby® Options	--	•(CM6208/6209)	--	--	--	--	
	DTS® Connect	--	•(CM6208/6209)	--	--	--	--	

# USB Sound Station Solutions

Feature		CM6610A	CM6620A	CM6631A	CM6632A	CM6642	CM6645	
Hard ware	USB2.0 Compliant	High Speed	High Speed	High Speed	High Speed	High Speed (Audio Class 1.0/2.0)	High Speed (Audio Class 1.0/2.0)	
	Codecs	--	--	--	--	•	•	
	HID Buttons	•	•	•	•	•	•	
	DAC	Channel	2	8	2	8+2	2	2
		SNR	≥100dB (CM9822A)	≥106dB (CM9882A)	≥120dB External DAC	≥120dB External DAC	≥100dB	≥100dB
		THD+N@1KHz	≤-93dB ≤0.0022%	≤-87dB ≤0.0045%	≤-105dB ≤0.0005%	≤-105dB ≤0.0005%	≤-85dB ≤0.005%	≤-85dB ≤0.005%
	ADC	Channel	2	2	2	2+2	3	3
		SNR	≥90dB (CM9822A)	≥101dB (CM9882A)	≥118dB External ADC	≥118dB External ADC	≥94dB	≥94dB
		THD+N@1KHz	≤-84dB ≤0.0063%	≤-96dB ≤0.0016%	≤-105dB ≤0.0005%	≤-105dB ≤0.0005%	≤-84dB ≤0.006%	≤-84dB ≤0.006%
	DSD bit stream output	--	--	--	•	--	--	
	I2S/HDA Interface	--/•	--/•	•/•	•/•	--	•/--	
	SPDIF In/Out	•/•	•/•	•/•	•/•	--/•	--/•	
	Sampling Rate @bit depth	44.1/48/96/192K @24bits	44.1/48/96/192K @24bits	44.1/48/88.2/96/ 176.4/192/352.8/ 384K@32bits	44.1/48/88.2/96/ 176.4/192/352.8/ 384K@32bits,DSD	44.1/48/88.2/96/ 192K@24bits	44.1/48/88.2/96/ 192K@24bits	
	MCU	•	•	•	•	•	•	
	Firmware Customization	Parallel Flash	Parallel Flash	Parallel Flash	Parallel Flash	Embedded OTP 16K Byte	Embedded OTP 16K Byte	
	SPI/I2C Interface	--/•(Slave)	--/•(Slave)	--/•(Master, Slave)	--/•(Master, Slave)	•/•	•/•	
	GPIO PINs	6	6	9	9	12 (1 PWM LED Control)	12 (1 PWM LED Control)	
	Mic Preamp	--	--	--	--	•	•	
	Headphone Amp(32Ω)	--	--	--	--	•	•	
	Power Consumption Active/Suspend	69.52mA/ 0.449mA	70.08mA/ 0.452mA	79.8mA/ 1.91mA	86.7mA/ 1.91mA	33mA/ 0.45uA	33mA/ 0.45uA	
	Package Type (Include Pin Dimension)	LQFP-64 (12x12mm)	LQFP-64 (12x12mm)	LQFP-100 (16x16mm)	LQFP-100 (16x16mm)	QFN-48 (5x6.5mm)	QFN-48 (5x6.5mm)	
IR Remote Control	--	--	--	--	--	--		
Line Input	•	•	--	--	•	• (share with ANC Mic in)		
Apple MFi	--	--	--	• (external power)	--	--		
Soft ware	Xear™ Features	•	•	--	--	--	--	
	Dolby® Options	--	--	--	--	--	--	
	DTS® Connect	--	--	--	--	--	--	
	ASIO 2.2 Driver	•	•	•	•	--	--	

# USB Microphone Solutions

Feature		CM118B	CM6317A	CM6327A	CM6400	
Hardware	USB2.0 Compliant	Full Speed	Full Speed	Full Speed	Full Speed	
	Codecs	•	•	•	•	
	HID Buttons	•	•	•	•	
	DAC	Channel	2	--	--	2
		SNR	≥93dB	--	--	≥96dB
		THD+N@1KHz	≤-70dB ≤0.0316%	--	--	≤-86dB/ ≤0.005% (@1K Hz)
	ADC	Channel	2	2	1	2
		SNR	≥90dB	≥95dB	≥95dB	≥96dB
		THD+N@1KHz	≤-84dB ≤0.006%	-92dB 0.0025%	-92dB 0.0025%	-85dB/ 0.005%(@1K Hz)
	I2S/HDA Interface	•/--	--	--	--	
	Sampling Rate @bit depth	44.1/48K @16bits	8/11.025/16/ 22.05/32/44.1/48K @16bits	8/11.025/16/ 22.05/32/44.1/48K @16bits	8/11.025/16/ 22.05/32/44.1/48K @16bit	
	Embedded MCU	--	--	--	--	
	Firmware Customization	EEPROM 93C46	EEPROM 24C02	EEPROM 24C02	EEPROM 24C02	
	SPI/I2C Interface	•/•	--/•	--/•	--/•	
	GPIO PINS	3	8	8	8	
Power Consumption Active/ Suspend	37.25mA/ 1.58mA	33mA/ 410uA	33mA/ 410uA	68mA/ 800uA		
Package Type (Include Pin Dimension)	LQFP-48(9x9mm)	LQFP-48(9x9mm)	LQFP-48(9x9mm)	LQFP-48		
Apple MFi	--	--	--	--		
Software	ASIO 2.2 Driver	--	--	--	--	
Hardware Technology	Xear™ VoClear BF	--	--	--	--	

# USB Microphone Solutions

Feature		CM6531N	CM6533(N)	CM6535	CM6536N	
Hardware	USB2.0 Compliant	Full Speed	Full Speed	Full Speed	Full Speed	
	Codecs	--	•	--	•	
	HID Buttons	•	•	•	•	
	DAC	Channel	2	2	2	2
		SNR	≥100dB (CM9600)	≥92dB	≥100dB (CM9600)	≥100dB
		THD+N@1KHz	≤-86dB ≤0.005%(CM9600)	≤-87dB ≤0.0045%	≤-86dB ≤0.005%(CM9600)	≤-86dB ≤0.005%
	ADC	Channel	2	2	2	2
		SNR	≥94dB (CM9600)	≥87dB	≥94dB (CM9600)	≥94dB
		THD+N@1KHz	≤-83dB ≤0.007%(CM9600)	≤-83dB ≤0.0079%	≤-83dB ≤0.007%(CM9600)	≤-83dB ≤0.007%
	I2S/HDA Interface	•/--	--	•/--	•/--	
	Sampling Rate @bit depth	8/11.025/16/22.05/32/4 4.1/48/88.2/96K @24bits	8/11.025/16/22.05/32/4 4.1/48/88.2/96K @24bits	8/11.025/16/22.05/32/4 4.1/48/88.2/96K @24bits	8/11.025/16/22.05/32/4 4.1/48/88.2/96K @24bits	
	Embedded MCU	•	•	•	•	
	Firmware Customization	Embedded Flash 512K Byte	Embedded Flash 32K Byte	Embedded Flash 512K Byte	Embedded Flash 512K Byte	
	SPI/I2C Interface	•/•	•/•	•/•	•/•	
	GPIO PINs	12	12	12 (3 PWM LED Control)	16 (3 PWM LED Control)	
Power Consumption Active/ Suspend	30mA/ 2mA	73mA/ 2mA	73mA/ 2mA	30mA/ 2mA		
Package Type (Include Pin Dimension)	QFN-48(7x7mm)	CM6533 LQFP-48(9x9mm) CM6533N QFN-48(7x7mm)	LQFP-64(9x9mm)	AQFN-104(5.5x7mm)		
Apple MFi	•	--	--	--		
Software	ASIO 2.2 Driver	--	--	--	--	
Hardware Technology	Xear™ VoClear BF	--	--	--	--	



# USB Microphone Solutions

Feature		CM6571	CM6610A	CM6631A	CM6642	
Hardware	USB2.0 Compliant	Full Speed	High Speed	High Speed	High Speed (Audio Class 1.0/2.0)	
	Codecs	•	--	--	•	
	HID Buttons	•	•	•	•	
	DAC	Channel	2	2	2	2
		SNR	94dB	≥106dB (CM9882A)	≥120dB External DAC	≥100dB
		THD+N@1KHz	≤-82dB ≤0.0079%	≤-87dB ≤0.0045%(CM9882A)	≤-105dB ≤0.0005%	≤-85dB ≤0.005%
	ADC	Channel	2	2	2	3
		SNR	≥91dB	≥101dB (CM9882A)	≥118dB External ADC	≥94dB
		THD+N@1KHz	≤-82dB ≤0.0079%	≤-86dB ≤0.0005%(CM9882A)	≤-105dB ≤0.0005%	≤-84dB ≤0.006%
	I2S/HDA Interface	•/--	--/•	•/•	--	
	Sampling Rate @bit depth	8/11.025/16/22.05/32/4 4.1/48/88.2/96K @24bits	44.1/48/96/192K @24bits	44.1/48/88.2/96/ 176.4/192/352.8/ 384K@32bits	44.1/48/88.2/96/192K @24bits	
	Embedded MCU	•	•	•	•	
	Firmware Customization	EEPROM 24C02	Parallel Flash	Parallel Flash	Embedded OTP 16K Byte	
	SPI/I2C Interface	--/•	--/•	•/•	•/•	
	GPIO PINs	15	6	9	12 (1 PWM LED Control)	
Power Consumption Active/ Suspend	76mA/ 1.65mA	69.52mA/ 0.449mA	79.8mA/ 1.91mA	33mA/ 0.45uA		
Package Type (Include Pin Dimension)	VQFP-88(10x10mm)	LQFP-64(12x12mm)	LQFP-100(16x16mm)	QFN-48(5x6.5mm)		
Apple MFi	--	--	• (external power)	--		
Software	ASIO 2.2 Driver	--	•	•	--	
Hardware Technology	Xear™ VoClear BF	•	--	--	--	

# USB Speaker Solutions

Feature		CM102A+/S+	CM6571	
Hardware	USB2.0 Compliant	Full Speed	Full Speed	
	Codecs	•	•	
	HID Buttons	•	•	
	DAC	Channel	2	2
		SNR	≥97dB	≥94dB
		THD+N@1KHz	≤-53dB ≤0.224%	≤-82dB ≤0.0079%
	I2S/HDA Interface	--	•/--	
	SPDIF Out	•	•	
	Sampling Rate@bit depth	44.1/48K @16 bits	8/11.025/16/22.05/32/44.1/48/88.2/96K @24 bits	
	Firmware Customization	--	EEPROM 24C02	
	SPI/I2C Interface	--/--	--/•	
	GPIO PINs	1	15	
	High Efficiency Amp	Class AB 0.5W/ch @4Ω	External	
	Power Consumption Active/Suspend	500mA/ 320uA	76mA/ 1.65mA	
	Package Type (Include Pin Dimension)	PDIP-18/SOIC-18	VQFP-88(10x10mm)	
	IR Remote Control	--	•	
	Play/Stop/Prev/Next HID	--	•	
	Line Input	--	•	
	Audio Processing	--	Xear™ Sound Expander Xear™ Sonic	
Software	Xear™ Features	•	--	

# Audio Processor

Feature		CM7001/CM7001N	CM7100	CM7104	CM7105	
Technologies/ Algorithms	Xear™ VoClear ENC	●	Option	Option	--	
	Xear™ VoClear AEC	●	Option	Option	--	
	Xear™ VoClear NR	●	Option	Option	--	
	FW Upgradable	●	●	●	●	
	Xear™ Surround Headphone	●	●	●	--	
	Xear™ Surround Max	--	Option	Option	--	
	Xear™ Sound Expander	●	Option	Option	--	
	Xear™ Parametric EQ	●	●	●	●	
	Xear™ Sonic	Dynamic Bass	●	●	●	Option
		Voice Clarity	--	Option	Option	Option
		Audio Brilliant	●	Option	Option	Option
		Smart Volume	●	Option	Option	Option
	Dolby® Digital Decoder	--	--	--	--	
Dolby® Headphone + Dolby® Prologic IIX	--	--	--	●		
DTS® Headphone: X	--	--	--	--		
Hardware	32-bit DSP		●	●	●	●
	DAC	Channel	1	3	2	3
		SNR	90dB	101dB	101dB	101dB
		THD+N@1KHz	-67.5dB	-93dB	-93dB	-93dB
	ADC	Channel	2	2	2	2
		SNR	90 dB	102 dB	102 dB	102 dB
		THD+N@1KHz	-60dB	-95dB	-95dB	-95dB
	Mic Bias/Pre-amp		●/PGA Gain(0~31dB)	●/20~52dB	●/20~52dB	●/20~52dB
	Differential Analog I/O		●	●	●	●
	DMIC		1 stereo	3 stereo	2 stereo	3 stereo
	I2S I/O		2/2	4 stereo/4 stereo	2 stereo/2 stereo	4 stereo/4 stereo
	DAC/ADC Sampling Rate @bit depth		16KHz@16bits	44.1~192KHz@16, 24bits	44.1~192KHz@16, 24bits	44.1~192KHz@16, 24bits
	Firmware Customization		EEPROM(24C32 or above)	SPI Interface	SPI Interface	SPI Interface
	HW Mode_ Select Pins		●	Programmable	Programmable	Programmable
	I <sup>2</sup> C/UART/SPI Interface		●/●/--	●/--/SPI	●/--/SPI	●/--/SPI
	GPIO PINS		Max. 8 (shared pins)	Max. 4 (shared pins)	1	Max. 4 (shared pins)
	Power consumption	DSP: mW/MIPS codec: mW	1.378mW 13mW	0.36mW 6mW	0.36mW 6mW	0.36mW 6mW
		Power Supply Voltage		1.75-3.6V for DVDD 2.4-3.6V for AVDD	1.71-3.63V for DVDD 1.71-3.63V for AVDD	1.71-3.63V for DVDD 1.71-3.63V for AVDD
	Package Type (Include Pin Dimension)		CM7001: WLCSP-30(3x2.6mm) CM7001N: QFN-32(5x5mm)	LQFP-80(12x12mm)	LQFP-48(9x9mm)	LQFP-80(12x12mm)

# Audio Processor

Feature		CM7106	CM7107	CM7108	
Technologies /Algorithms	Xear™ VoClear ENC		--	--	--
	Xear™ VoClear AEC		--	--	--
	Xear™ VoClear NR		--	--	--
	FW Upgradable		•	•	•
	Xear™ Surround Headphone		--	--	--
	Xear™ Surround Max		--	--	--
	Xear™ Sound Expander		--	--	--
	Xear™ Parametric EQ		•	•	•
	Xear™ Sonic	Dynamic Bass	Option	Option	Option
		Voice Clarity	Option	Option	Option
		Audio Brilliant	Option	Option	Option
		Smart Volume	Option	Option	Option
	Dolby® Digital Decoder		--	•	•
	Dolby® Headphone + Dolby® Prologic IIX		--	•	--
DTS® Headphone: X		•	--	•	
Hardware	32-bit DSP		•	•	•
	DAC	Channel	3	3	3
		SNR	101dB	101dB	101dB
		THD+N@1KHz	-93dB	-93dB	-93dB
	ADC	Channel	2	2	2
		SNR	102 dB	102 dB	102 dB
		THD+N@1KHz	-95dB	-95dB	-95dB
	Mic Bias/Pre-amp		•/20~52dB	•/20~52dB	•/20~52dB
	Differential Analog I/O		•	•	•
	DMIC		3 stereo	3 stereo	3 stereo
	I2S I/O		4 stereo/4 stereo	4 stereo/4 stereo	4 stereo/4 stereo
	DAC/ADC Sampling Rate @bit depth		44.1~192KHz@16, 24bits	44.1~192KHz@16, 24bits	44.1~192KHz@16, 24bits
	Firmware Customization		SPI Interface	SPI Interface	SPI Interface
	HW Mode_Select Pins		Programmable	Programmable	Programmable
	I <sup>2</sup> C/UART/SPI Interface		•/--/SPI	•/--/SPI	•/--/SPI
	GPIO PINS		Max. 4 (shared pins)	Max. 4 (shared pins)	Max. 4 (shared pins)
	Power consumption	DSP: mW/MIPS codec: mW	0.36mW 6mW	0.36mW 6mW	0.36mW 6mW
		Power Supply Voltage	1.71-3.63V for DVDD	1.71-3.63V for DVDD	1.71-3.63V for DVDD
			1.71-3.63V for AVDD	1.71-3.63V for AVDD	1.71-3.63V for AVDD
	Package Type (Include Pin Dimension)		LQFP-80(12x12mm)	LQFP-80(12x12mm)	LQFP-80(12x12mm)

# Audio Processor

Feature	CM7072	CM7077
ANC Topology	Feed-Forward or Feed-back	Hybrid
Microphone Gain Range	-9~9dB, 0.33dB/step	-9~9dB, 0.33dB/step
Line in Gain Range	0~-45dB, -1dB/step	0~-45dB, -1dB/step
HP Driver	Cap-less	Cap-less
Driving Capability	34 mW, 0.1% THD + N @32Ω, 4.3 V	34 mW, 0.1% THD + N @32Ω, 4.3 V
SNR	0dB gain, 94dB	0dB gain, 94dB
EQ	2 OP stage	2 OP stage
Monitoring Mode	• Share with 1 EQ path	• Share with 1 EQ path
Build DC-DC	•	•
Operating Voltage Range	3.3~4.3V	3.3~4.3V
OTP Programming	3 times	3 times
Differential Input	•	•
ANC Mode	2 Modes	2 Modes
Power Consumption	< 8mA @ 4.3V, FF/FB	< 12mA @4.3V, hybrid
Package Type (Include Pin Dimension)	QFN-48(5x5mm)	QFN-48(5x5mm)

# PCI Sound Chip

Feature		CMI8786	CMI8787	CMI8788	
Hardware	Interface	PCI	PCI	PCI	
	I2S Output	X4 (up to 96K/24bits)	X4 (up to 192K/32bits)	X4 (up to 192K/32bits)	
	I2S Input	X4 (up to 96K/24bits)	X4 (up to 192K/32bits)	X4 (up to 192K/32bits)	
	SPDIF In	up to 96K/24bits	up to 192K/24bits	up to 192K/24bits	
	SPDIF Out	up to 96K/24bits	up to 192K/24bits	up to 192K/24bits	
	AC97/intel® HDA Controller	AC97	AC97	AC97	
	Firmware Customization	EEPROM 93C46	EEPROM 93C46	EEPROM 93C46	
	I2C Master/Slave	●/●	●/●	●/●	
	SPI Master	●	●	●	
	MIDI I/O	●/●	●/●	●/●	
	GPI	6	6	6	
	GPIO PINs	9	9	9	
	Mic Preamp	External	External	External	
	Headphone Amp(32Ω)	External	External	External	
	Power Consumption Active/Suspend	40mA/ 10uA	40mA/ 10uA	40mA/ 10uA	
	Package Type (Include Pin Dimension)	LQFP-128(22x16mm)	LQFP-128(22x16mm)	LQFP-128(22x16mm)	
	Software	Xear™ Features	●	●	●
		Dolby® Options	●	--	●
DTS® Connect		--	--	●	
ASIO2.2 Driver		--	--	--	

\*Drivers Support Windows® 7/8/8.1/10

# PCIe Audio Controller

Feature		CM8826	CM8828	CM8888/DMS/DHT	
Hardware	Interface	PCIe	PCIe	PCIe	
	I2S Output	--	--	X4 (up to 192k/32bit)	
	I2S Input	--	--	X4 (up to 192k/32bit)	
	SPDIF In	up to 96k/24bits	up to 192k/24bits	up to 192k/24bits	
	SPDIF Out	up to 96k/24bits	up to 192k/24bits	up to 192k/24bits	
	AC97/intel® HDA Controller	HDA	HDA	HDA	
	Firmware Customization	EEPROM 24C64	EEPROM 24C64	EEPROM 24C64	
	I2C Master/Slave	●/●	●/●	●/●	
	SPI Master	●	●	●	
	MIDI I/O	--	--	--	
	GPI	--	--	8	
	GPIO PINs	9	9	16	
	Mic Preamp	CM9862A	CM9882A	External	
	Headphone Amp(32Ω)	CM9862A	CM9882A	External	
	Power Consumption Active/Suspend	203mA/ 0.2uA	203mA/ 0.2uA	203mA/ 0.2uA	
	Package Type (Include Pin Dimension)	LQFP-80(12x12mm)	LQFP-80(12x12mm)	LQFP-128(22x16mm)	
	Software	Xear™ Features	●	●	●
		Dolby® Options	--	--	--/●/●
DTS® Connect		--	--	--/●/●	
ASIO2.2 Driver		--	●	●	

\*Drivers Support Windows® 7/8/8.1/10



- **Xear™ Living 1.1**
  - ◆ Environmental Effects
  - ◆ Equalizer (EQ)
  - ◆ 7.1 Virtual Speaker Shifter
  - ◆ Smart Volume Normalizer (SVN)
  - ◆ FlexBass II (Bass Management and Enhancement)
- **Xear™ SingFx**
  - ◆ Pitch Shifting
  - ◆ Singing Echo
  - ◆ Vocal Fading
  - ◆ Magic Voice
- **Xear™ 3D (EX)**
  - ◆ EAX 2.0/3D support on Win XP
  - ◆ EAX 2.0/support on Win 7/8 (EX)
- **Xear™ Audio Center New Driver/GUI**
  - ◆ Matching 7/8 APO driver architecture
  - ◆ User profile setting
  - ◆ Customizable graphics and layout
- **Xear™ VoClear**
  - ◆ Environmental Noise Cancellation (ENC)
  - ◆ Mic Array (Broad-Side)
  - ◆ Mic Array (End-Fire)
  - ◆ Acoustic Echo Cancellation (AEC) /Noise Reduction (NR)/Long Distance Recording (LDR)
- **Xear™ Surround**
  - ◆ Surround Max (transform 2 CH into 7.1 surround sound, enrich full range surround sound)
  - ◆ Surround Headphone (virtual 5.1 surround and 3D positional sounds, natural stereo music out-of-head to reduce fatigue)
  - ◆ Surround Speaker (virtual 5.1 surround and 3D positional sounds, widening stereo 3D sound stage)
- **Xear™ Pro**
  - ◆ ASIO 2.2 w/ultra low latency/bit-perfect streaming
- **Xear™ Sonic**
  - ◆ Dynamic Bass
  - ◆ Audio Brilliant
  - ◆ Voice Clarity
  - ◆ Smart Volume II (Adaptive Volume)
- **3<sup>rd</sup> –party Technologies**
  - ◆ Dolby® Options (Dolby Digital Live, Dolby Headphone, Dolby Virtual Speaker, Dolby Pro-Logic IIX, Dolby PCEEv4)
  - ◆ DTS® Options (DTS Connect, DTS Ultra PC II)

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