

GENERAL DESCRIPTION

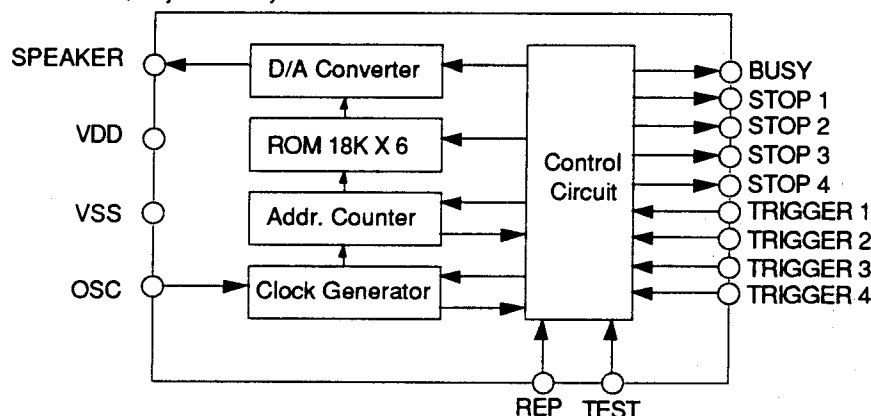
The C5209 is a speech synthesizer CMOS circuit. Speech data is mask programmable.

FEATURES

- 3 seconds speech capacity for typical sampling frequency 6KHz
- Stop pulse pin for every sentence
- Built-in D/A converter
- 3V power supply
- Level trigger for the first three sentences
- Mask options for :
 - max. 7 times of repeat
 - either level or edge trigger for the 4th sentence

BLOCK DIAGRAM

Built in RC oscillator, adjustable by external RC.



PIN DESCRIPTION

Symbol	Pin	Type	Description
Vss	1	In	Ground
TRIGGER4	2	In	Sentence 4 trigger input with built-in pull down resistor (mask option level or edge trigger)
Vdd	3	In	Positive power supply
REP	4	In	Repeated or single speech selection with built-in pull down resistor REP = 0 -- disable repeated speech REP = 1 -- enable repeated speech
TEST	5	In	Test input with built-in pull down resistor
TRIGGER3	6	In	Sentence 3 trigger input with built-in pull down resistor(level trigger)
TRIGGER1	7	In	Sentence 1 trigger input with built-in pull down resistor(level trigger)
TRIGGER2	8	In	Sentence 2 trigger input with built-in pull down resistor(level trigger)
OSC	9	In	External RC input for adjusting sampling frequency
STOP4	10	Out	Output = high when sentence 4 is finished
STOP3	11	Out	Output = high when sentence 3 is finished
STOP2	12	Out	Output = high when sentence 2 is finished
STOP1	13	Out	Output = high when sentence 1 is finished
BUSY	14	Out	Output = high during speech output
SPEAKER	15	Out	Output to drive speaker

ABSOLUTE MAXIMUM RATINGS

Parameter	Limits
Power supply voltage range	-0.3 to +4.5
Input voltage range	Vss -0.3 to VDD+0.6
Operating temperature range	-10 to +60°C
Storage temperature range	-10 to +125°C

DC ELECTRICAL CHARACTERISTICS

Unless otherwise specified, Ta = 25°C, VDD = 3V, VSS = 0V.

Characteristics	Symbol	Limits			Unit	Test Condition
		Min.	Typ.	Max.		
Standby current	IDD	-	-	0.5	µA	-
Input voltage	VIH	2.4	3.0	3.6	V	-
	VIL	-0.3	0	0.3	V	-
Input current	IiH	-	-	15	µA	1
	IiL	-	-	0.1	µA	2
Output current for SPEAKER when data = 63	IDA	-1.0	-3.0	-	mA	3
Output current	IOH	-1.0	-	-	mA	4
	IOL	1.0	-	-	mA	5
STOP1,STOP2,STOP3, STOP4 pulse width	TSTP	7.0	10.0	-	ms	6

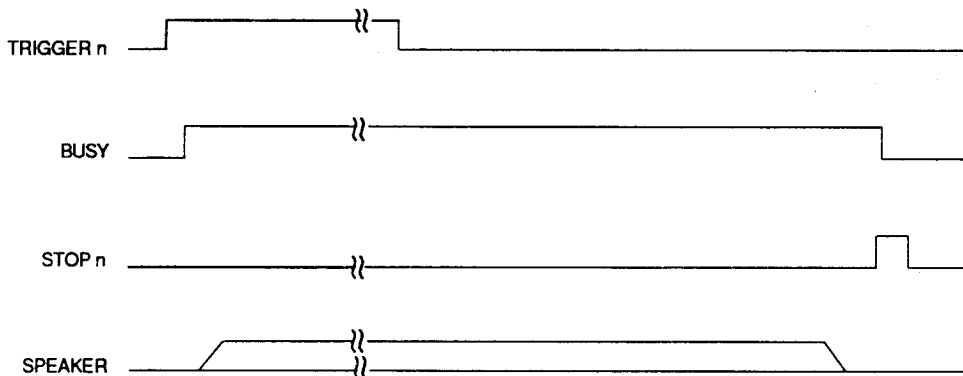
Note: 1 : Vi = 3.0V 4 : Vo = 2.0V
 2 : Vi = 0.0V 5 : Vo = 0.8V
 3 : Vo = 0.7V 6 : Vo = 3.0V and fosc = 72KHz

AC ELECTRICAL CHARACTERISTICS

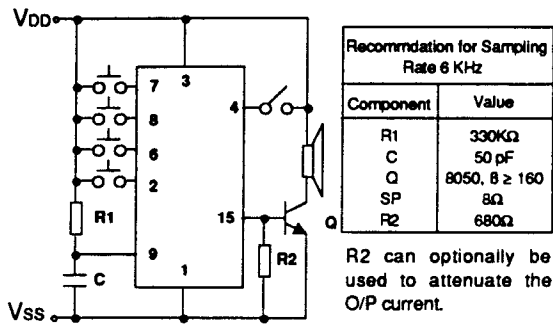
Unless otherwise specified, Ta = 25°C, VDD = 3V, VSS = 0V.

Characteristics	Symbol	Limits			Unit
		Min.	Typ.	Max.	
Oscillation frequency	fosc	-	72.0	-	KHz
Operating current (no load)	IOP	-	0.5	0.8	mA
Operating voltage	VDD	2.6	3.0	3.4	V

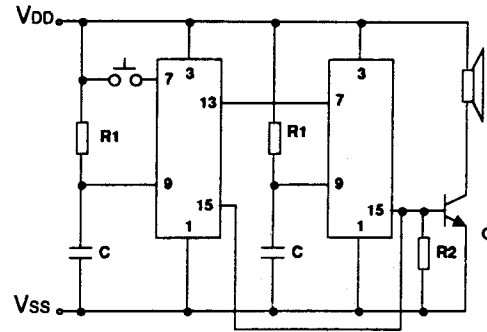
TIMING CHART



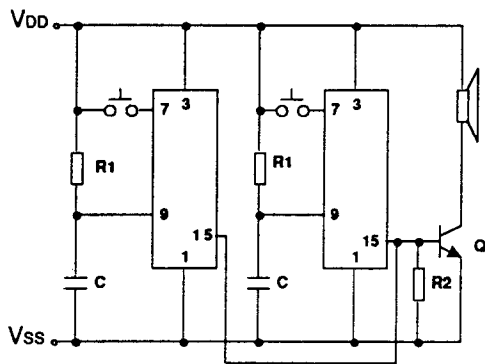
APPLICATION 1



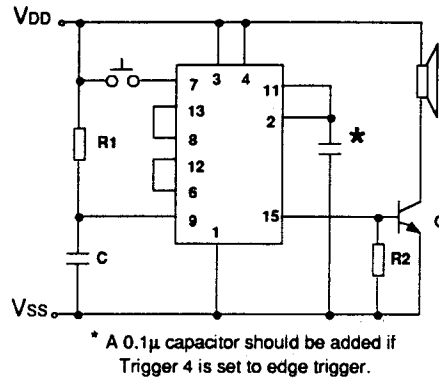
APPLICATION 2



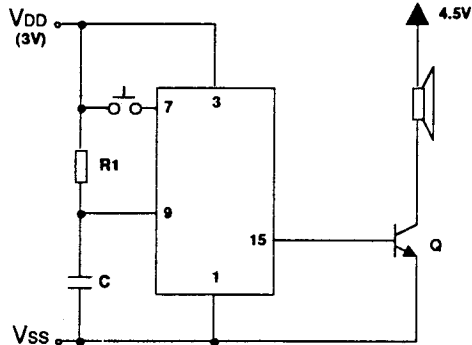
APPLICATION 3



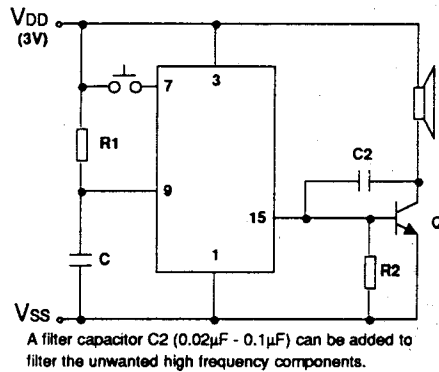
APPLICATION 4



APPLICATION 5

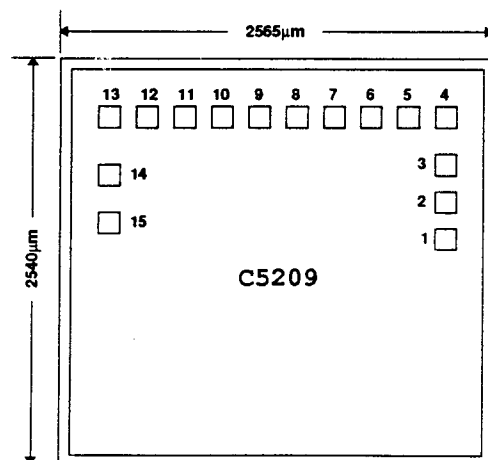


APPLICATION 6



Note : For all application circuit, beware of the speaker noise affecting the power supply of the chip.

PAD ASSIGNMENT



- 1. Vss (2367 , 1653)
- 2. TRIGGER4 (2355 , 1897)
- 3. VDD (2354 , 2140)
- 4. REP (2354 , 2361)
- 5. TEST (2077 , 2316)
- 6. TRIGGER3 (1846 , 2316)
- 7. TRIGGER1 (1568 , 2316)
- 8. TRIGGER2 (1388 , 2316)
- 9. OSC (1111 , 2316)
- 10. STOP4 (886 , 2316)
- 11. STOP3 (663 , 2316)
- 12. STOP2 (439 , 2316)
- 13. STOP1 (216 , 2316)
- 14. BUSY (216 , 2071)
- 15. SPEAKER (216 , 1668)

C5209 PROGRAMMING DETAILS

C5209 is a sound effect generating IC. The audio output of the chip is a quantized analog current source which is to be amplified. The typical sampling rate of the chip is 6kHz, while the oscillator input frequency is 12 times the sampling rate.

There are four hardware triggers. Each trigger starts an individual 'sentence', which may consist of up to 16 'phrases'. The total number of phrases of all triggers is at most 16. Each phrase consists of a block of sound data and an optional mute period. In each phrase, the number of sound data is a multiple of 128. The length of a mute period is equal to the play time of the same number of sound data and it must also be a multiple of 128.

The internal ROM size of C5209 is 18,432 6-bit words. Data are coded in simple Pulse Code

Modulation (PCM). Since the length of a phrase is a multiple of 128, the starting address of each phrase must also be a multiple of 128 while the ending address must be a multiple of 128 minus 1. Within this limitation, each phrase can use data anywhere in the ROM. And the data can be used by other phrases without limitation. The maximum allowable length of each mute period is equal to the play time of 32,640 data.

The whole sentence can be programmed to play from 1 to 7 times continuously. If the REP pad is not connected to VDD, this repeat function will be disabled and the whole sentence will be played once even though it is programmed to play more than once. At the end of the play a stop pulse is output at the STP pin corresponding to the trigger, which can be used to trigger another sentence.

Example**Trigger #1**

Phrase #1	Starting address	:	0	Hex.	(multiple of 128)
	Ending address	:	97F	Hex.	(multiple of 128 minus 1)
	Mute length	:	780	Hex.	(multiple of 128)
No. of play(s): 1					(play once)

Trigger #2

Phrase #1	Start address	:	980	Hex.	(multi-phrase)
	End address	:	157F	Hex.	
	Mute length	:	300	Hex.	
Phrase #2	Starting address	:	1580	Hex.	
	Ending address	:	1AFF	Hex.	
	Mute length	:	400	Hex.	
Phrase #3	Start address	:	1B00	Hex.	
	End address	:	22FF	Hex.	
	Mute length	:	800	Hex.	
No. of play(s): 7					(play 7 times)

Trigger #3

Phrase #1	Start address	:	2400	Hex.	
	End address	:	33FF	Hex.	
	Mute length	:	0	Hex.	(no mute period)
Phrase #2	Starting address	:	1580	Hex.	(share data with Phrase #2
	Ending address	:	1AFF	Hex.	in Trigger #2)
	Mute length	:	480	Hex.	
Phrase #3	Start address	:	3400	Hex.	
	End address	:	36FF	Hex.	
	Mute length	:	400	Hex.	
No. of play(s): 1					

Trigger #4

Phrase #1	Start address	:	3700	Hex.	
	End address	:	3EFF	Hex.	
	Mute length	:	580	Hex.	
Phrase #2	Starting address	:	3A00	Hex.	(Phrase #1 and Phrase #2
	Ending address	:	41FF	Hex.	overlap each other)
	Mute length	:	380	Hex.	
Phrase #3	Start address	:	4200	Hex.	
	End address	:	47FF	Hex.	
	Mute length	:	400	Hex.	
Phrase #4	Start address	:	4200	Hex.	(Phrase #3 and Phrase #4
	End address	:	47FF	Hex.	are same)
	Mute length	:	400	Hex.	
No. of play(s): 1					

Total No. of phrases: 11

C5209 Sound Option List

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-3 (25C/DEP3)	6KHz	1	Tibetan's Pray sound	3	
		2	Tibetan's Pray sound	2	
		3	Tibetan's Pray sound	4	
		4	Tibetan's Pray sound	7	
C5209-4 (25D/DEP4)	9KHz	1	"Be Bo Dao Che"	2	"Be Bo" is horn sound.
		2	"Be Bo Dao Che"	3	"Dao Che" is in Mandarin, female voice.
		3	"Be Bo Dao Che"	4	
		4	"Be Bo Dao Che"	7	
C5209-5 (25E/DEP5)	6KHz	1	Laughing sound	3	Witch's laughing sound.
		2	Laughing sound	2	
		3	Laughing sound	4	
		4	Laughing sound	7	Sentence 4 edge-triggered.
C5209-8 (25H/DEP8)	6KHz	1	Dog's barking	3	5 different bark sounds in a play.
		2	Cat's cry sound	3	
		3	Cock's cry sound	3	
		4	Mixed sound	3	Mixed dog, cat and cock cry sounds.
C5209-9 (25I/DEP9)	9KHz	1	Foul language #1	1	The foul language is in English.
		2	Foul language #2	1	
		3	Foul language #3	1	
		4	Foul language #4	1	
C5209-10 (25J/DEP10)	9KHz	1	Foul language #5	1	The foul language is in English.
		2	Foul language #6	1	
		3	Foul language #7	1	
		4	Foul language #8	1	
C5209-11 (25K/DEP11)	6KHz	1		1	Reserved for testing.
		2	Motorcycle #1	1	Sentence 3 & 4 are triggered by the STOP pulses of Sentence 2 & 3 respectively to form a continuous sound.
		3	Motorcycle #2	6	
		4	Motorcycle #3	7	Sentence 4 edge-triggered.

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-12 (25L/DEP12)	8KHz	1	Sword Crash sound	1	Sentence 3 & 4 are triggered by the STOP pulses of Sentence 2 & 3 respectively to form a continuous sound. Sentence 4 edge-triggered.
		2	Thunder #1	2	
		3	Thunder #2	2	
		4	Thunder #3	3	
C5209-13 (25M/DEP13)	6KHz	1	Foul language #1	1	The foul language is in French
		2	Foul language #2	1	
		3	Foul language #3	1	
		4	Foul language #4	1	
C5209-14 (25N/DEP14)	6KHz	1	Crowd cheer	1	All sentences are same
		2	Crowd cheer	1	
		3	Crowd cheer	1	
		4	Crowd cheer	1	
C5209-15 (25O/DEP15)	6KHz	1	Police car siren	7	Sight and Sound story book
		2	Train whistle	3	
		3	Helicopter	6	
		4	Ship whistle	3	
C5209-16 (25P/DEP16)	6KHz	1	"I'm thirsty"	1	All sentences are baby voice
		2	"Pa pa"	1	
		3	"Bye bye"	1	
		4	-	1	
C5209-17 (25Q/DEP17)	6KHz	1	"I love you"	1	All sentences are baby voice
		2	"Ma mi"	1	
		3	Baby laugh	1	
		4	-	1	
C5209-18 (25R/DEP18)	6KHz	1	Ding-dong	1	Sounds in boxing competition
		2	"... Oh!"	1	
		3	Cheer	1	
		4	"Break it up"	1	
C5209-19 (25S/DEP19)	6KHz	1	"... Ah!"	1	Sounds in boxing competition
		2	"One, two, three"	1	
		3	"The winner"	1	
		4	-	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-20 (25T/DEP20)	6kHz	1	Jaws theme	1	A heavy base sound
		2	Scream	1	A woman voice
		3	-	1	Reserved for testing
		4	-	1	Reserved for testing
C5209-21 (25U/DEP21)	6kHz	1	"...Ah!"	1	Same as C5209-19 except addition of siren
		2	Siren	1	Replace C5209-19
		3	"The winner"	1	
		4	"One, two, three"	1	
C5209-22 (DEP22)	6kHz	1	Pig sounds	1	Speech: "More money, more money."
		2	Pig sounds & speech	1	
		3	Speech	1	
		4	-	1	Reserved
C5209-23 (DEP23)	6kHz	1	"Be Be Dao Che"	1	
		2	"Be Be Dao Che"	1	
		3	"Be Be"	1	
		4	-	1	Reserved
C5209-24 (DEP24)	6kHz	1	"Snausage, snausage"	1	
		2	"Snausage"	2	
		3	"Snaugage"	2	
		4	"Snausage, snausage"	1	
C5209-25 (DEP25)	6kHz	1	Music 1 & "Gradaland"	1	
		2	Music 2 & "Gradaland"	1	
		3	-	1	Reserved
		4	Music 1 & "Gradaland"	1	
C5209-26 (DEP26)	6kHz	1	Speech 1 + sonar beeps	1	Spanish MPACT, William Sadler
		2	Speech 2 + explosion	1	Speech 1: "CURANME"
		3	-	1	Speech 2: "CUIDADO..."
		4	-	1	
C5209-27 (DEP27)	6kHz	1	Speech1	1	Spanish MPACT, Sgt. Ken Knight
		2	Speech 2 + 4 gun shots	1	Speech 1: "OK AVANCIEN"
		3	-	1	Speech 2: "ALTO AL FUEGO"
		4	-	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-28 (DEP28)	6kHz	1	Speech 1 + electronic wave	1	Spanish MPACT, Tom Adams Speech 1: "CHECA TU EQUIPO" Speech 2: "CUIDADO... ES TOXICA"
		2	Speech 2 + air horn	1	
		3	-	1	
		4	-	1	
C5209-29 (DEP29)	6kHz	1	Speech 1 + 2 rifle shots	1	Spanish MPACT, Pete Tolimor Speech 1: "ARARIBA LAS MANOS" Speech 2: "AXABALOS YA"
		2	Speech 2 + punch groan	1	
		3	-	1	
		4	-	1	
C5209-30 (DEP30)	6kHz	1	Speech 1 + slap, slap, agh	1	Spanish MPACT, Dimitri Greco Speech 1: "QUE NADIE SE MUEVA" Speech 2: "ELIMINALO"
		2	Speech 2 + 2 gun shots	1	
		3	-	1	
		4	-	1	
C5209-31 (DEP31)	6kHz	1	Speech 1 + 4 gun shots	1	Spanish MPACT, Andrew Ness Speech 1: "ENEMIGO A LFA VISTA" Speech 2: "SENSOR ACTIVADO"
		2	Speech 2 + sonar	1	
		3	-	1	
		4	-	1	
C5209-32 (DEP32)	6kHz	1	Speech 1 + electronic wave	1	Spanish MPACT, Sir George Goodwill Speech 1: "PALN COMPLETO" Speech 2: "TE ESCUCHO, CAMBIO"
		2	Speech 2 + computer	1	
		3	-	1	
		4	-	1	
C5209-33 (DEP33)	6kHz	1	Speech 1 + car screech	1	Spanish MPACT, Professor Varga Tolstoy Speech 1: "FUERA DE AQUÍ" Speech 2: "ENCIERRALO YA"
		2	Speech 2 + door slam	1	
		3	-	1	
		4	-	1	
C5209-34 (DEP34)	6kHz	1	Speech 1 + machine gun firing	1	Spanish MPACT, Kelly Nightwing Speech 1: "DESTRUYELO" Speech 2: "DETONA LA BOMBA"
		2	Speech 2 + explosion	1	
		3	-	1	
		4	-	1	
C5209-35 (DEP35)	6kHz	1	Speech 1 + punch groan	1	Spanish MPACT, Ivan Krinski Speech 1: "QUIEN ANDA AHI" Speech 2: "VE POR EL"
		2	Speech 2	1	
		3	-	1	
		4	-	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-36 (DEP36)	6kHz	1	Speech 1 + glass breaking	1	Spanish MPACT, Dantial Lee Crane Speech 1: "SOBRE ELLOS" Speech 2: "CONFIESEN"
		2	Speech 2	1	
		3	-	1	
		4	-	1	
C5209-37 (DEP37)	6kHz	1	Speech 1 + fast gun firing	1	Spanish MPACT, Victor Savage Speech 1: "DE PRISA... HUYAMOS" Speech 2: "ARRANCATE"
		2	Speech 2 + screeching	1	
		3	-	1	
		4	-	1	
C5209-38 (DEP38)	6kHz	1	Siren	7	Sight and Sound story book - click removed, replace C5209-15
		2	Trian whistle	3	
		3	Helicopter	6	
		4	Ship whistle (uga)	3	
C5209-39 (DEP39)	6kHz	1	Dog barks	1	Eight sounds
		2	-	2	
		3	-	1	
		4	Same as Sentence 1	1	
C5209-40 (DEP40)	6kHz	1	Bird sounds	1	Four short sounds and a long sound
		2	Same as Sentence 1	1	
		3	-	1	
		4	Same as Sentence 1	1	
C5209-41 (DEP41)	7kHz	1	Pig sounds	1	Three short sounds and a long sound
		2	Same as Sentence 1	1	
		3	-	1	
		4	Same as Sentence 1	1	
C5209-42 (DEP42)	9kHz	1	3 beeps + speech	1	Speech: "Attention please, car reverses." in Mandarin, female voice
		2	2 beeps + speech	1	
		3	2 beeps	1	
		4	Speech only	1	
C5209-43 (DEP43)	6kHz	1	Speech 1	1	Four Japanese pupet speeches.
		2	Speech 2	1	
		3	Speech 3	1	
		4	Speech 4	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-44 (DEP44)	6kHz	1	Speech 1	1	Four Japanese puppet speeches.
		2	Speech 2	1	
		3	Speech 3	1	
		4	Speech 4	1	
C5209-45 (DEP45)	9kHz	1	"Left turn."	1	Mandarin, female voice. Reserved for testing of playing 0 time.
		2	"Right turn."	1	
		3	"Left turn"	0	
		4	-	0	
C5209-46 (DEP46)	6kHz	1	"Be Bo turn around"	1	Mandarin, female voice. Sentence 4 level-triggered.
		2	"Start thinking"	1	
		3	"Catch the thief!"	1	
		4	"Be bo car reverses"	1	
C5209-47 (DEP47)	9kHz	1	"Pay attention to air pressure"	4	Mandarin, female voice.
		2	"Be Bo car reverses"	1	
		3	-	0	
		4	-	0	
C5209-48 (DEP48)	7.5kHz	1	"Hey farm boy, milk the moo"	1	English, male voice. Sentence 4 edge-triggered.
		2	-	0	
		3	-	0	
		4	Same as Sentence 1	1	
C5209-49 (DEP49)	4.8kHz	1	Train engine and bell	6	Sentence 4 level-triggered.
		2	Track (diesel)	7	
		3	Track (steam)	7	
		4	Whistle	2	
C5209-50 (DEP50)	9kHz	1	Ma ma	3	The maximum number of phrases of the chip is made up to 16 by adding dummy phrases in Sentence 4 which is level-triggered. Sentence 3 is not required by customer, reserved for future market.
		2	Da da	3	
		3	Baby laugh	3	
		4	(Reserved for testing)	1	
C5209-51 (DEP51)	6kHz	1	Drum sound 1	1	Sentence 4 level-triggered.
		2	Drum sound 2	1	
		3	Drum sound 3	1	
		4	Hi hat	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-52 (DEP52)	6kHz	1	Hi hat and drum	1	Sequential play of Sentence 1, 2 and 3. Level-triggered.
		2	Drums	1	
		3	Drum, on hit	1	
		4	RAP	1	
C5209-53 (DEP53)	4.8kHz	1	Cat	2	Sentence 4 level-triggered.
		2	Dog	1	
		3	Cock	2	
		4	Cow	2	
C5209-54 (DEP54)	4.8kHz	1	Horse	1	Sentence 4 level-triggered.
		2	Pig	2	
		3	Duck	1	
		4	Goat	2	
C5209-55 (DEP55)	6kHz	1	Speech	1	Speech: "Please enter your access code now." English, male voice.
		2	Short telephone tone	1	Reserved for testing. Same as Sentence 2 except play 4 times. Reserved for testing. 4 identical phrases. Level-triggered.
		3	Long telephone tone	4	
		4	Long telephone tone	1	
C5209-56 (DEP-56)	6kHz	1	"Turn around"	1	
		2	"Pay attention to air pressure"	1	
		3	"Lack of lubrication oil"	1	
		4	-	0	Sentence 4 level-triggered.
C5209-57 (DEP-57)	9kHz	1	Cat meowing 1	3	Sentence 2 & 3 not required by customer, reserved for future market. Sampling frequency 8kHz. Sentence 4 edge-triggered.
		2	Cat meowing 2	1	
		3	Cat meowing 2	2	
		4	Same as Sentence 1	3	
C5209-58 (DEP-58)	6kHz	1	Crowd cheer	1	Phrase1- S:18432, E:22527, M:4096, Phrase2- S:0, E:18431, M:2048. Sentence 4 edge-triggered.
		2	Reserved for testing	1	
		3	-	0	
		4	Same as Sentence 1	1	
C5209-59 (DEP-59)	6kHz	1	Hammer	2	Sentence 4 level-triggered.
		2	Drill	1	
		3	Handsaw	3	
		4	Circular saw	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-61 (DEP61)	7.5KHz	1	"Attention please"	1	DEP-60 is cancelled since sentence 2 of DEP-60 can be replaced by sentence 2 of DEP-61. All sentences are in Mandarin and female voice. Sentence 4 level-triggered.
		2	"Short-sighted"	1	
		3	"Sit up right quickly"	1	
		4	Reserved -- All ROM data	1	
C5209-62 (DEP62)	6KHz	1	Speech	1	"Not good, the thief steals things, come quickly to catch the thief!" Female, Mandarin. Sentence 4 edge-triggered.
		2	Same as Sentence 1	1	
		3	Same as Sentence 1	1	
		4	Same as Sentence 1	1	
C5209-63 (DEP63)	9KHz	1	Cat meow	1	Sentence 4 edge-triggered.
		2	-	0	
		3	-	0	
		4	Same as Sentence 1	1	
C5209-64 (DEP64)	6KHz	1	Cow	1	Sentence 4 edge-triggered.
		2	-	0	
		3	-	0	
		4	Same as Sentence 1	1	
C5209-65 (DEP65)	9KHz	1	Electronic music	3	Sentence 4 edge-triggered.
		2	-	0	
		3	-	0	
		4	Same as Sentence 1	4	
C5209-66 (DEP66)	6KHz	1	"Don't drive after drinking wine."	1	Female, Mandarin. Sentence 4 edge-triggered.
		2	"Wish you a safe trip."	1	
		3	Same as Sentence 1	1	
		4	Reserved for testing	1	
C5209-67 (DEP67)	18KHz	1	Birds sound (PB-1) part one	1	Sentence 4 edge-triggered.
		2	Same as Sentence 1	1	
		3	Same as Sentence 1	1	
		4	Same as Sentence 1	1	
C5209-68 (DEP68)	18KHz	1	Birds sound (PB-1) part two	1	Content of the sentences are the same but with different mute length. Sentence 4 edge-triggered.
		2	Same as Sentence 1	1	
		3	Same as Sentence 1	1	
		4	Same as Sentence 1	1	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-69 (DEP69)	18KHz	1	Birds sound (PB-3) part one	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-70 (DEP70)	18KHz	1	Birds sound (PB-3) part two	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-71 (DEP71)	6KHz	1	"Levis introduces the 517"	1	English, male voice.
		2	"Levis introduces the 537"	1	
		3	-	-	
		4	-	-	
C5209-73 (DEP73)	18KHz	1	Birds sound (PB-2) part one	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-74 (DEP74)	18KHz	1	Birds sound (PB-2) part two	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-75 (DEP75)	12KHz	1	Birds sound (PB-4) part one	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-76 (DEP76)	12KHz	1	Birds sound (PB-4) part two	1	Content of the sentences are the same but with different mute length. Sentence 4 is edge-triggered.
		2	Same as Sentence 1	1	
		3	-	-	
		4	Same as Sentence 1	1	
C5209-77 (DEP77)	6KHz	1	-	-	"How are you, the master is out, please leave your message in simple and shortened form!" Mandarin, female voice, edge-triggered.
		2	-	-	
		3	-	-	
		4	Speech	2	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-78 (DEP78)	7.5KHz	1	Long dog sound	1	Sentence 4 is edge-triggered.
		2	Short dog sound	2	
		3	-	-	
		4	same as sentence 1	1	
C5209-80 (DEP80)	7.5KHz	1	Please check!	1	Sentence 4 is level-triggered.
		2	Please check the light!	1	
		3	Please check the circuit!	1	
		4	Please check the machine oil !	1	
C5209-81 (DEP81)	6.0KHz	1	Bird sound (USO#1)	1	Sentence 4 is edge-triggered.
		2			
		3			
		4	Bird sound (USO#1)	1	
C5209-82 (DEP82)	9.0KHz	1	Bird sound (UGU1su#3)	2	Sentence 4 is edge-triggered.
		2			
		3			
		4	Bird sound (UGU1su#3)	2	
C5209-83 (DEP83)	6.0KHz	1	Right turn	1	Three Russian speeches. Sentence 4 is level-triggered.
		2	Left turn	1	
		3			
		4	Attention please,car reverses	1	
C5209-84 (DEP84)	7.5KHz	1			Sentence 4 is edge-triggered.
		2			
		3			
		4	Gong xi fa cai,xin xiang shi cheng	3	
C5209-85 (DEP85)	6.0KHz	1	Horn sound	3	Sentence 4 is edge-triggered.
		2			
		3			
		4	Horn sound	3	

Option ID	Sampling Frequency	Sentence	Content	Play	Remark
C5209-86 (DEP86)	7.5KHz	1	Carbon monoxide is excessive, it is dangerous, please escape quickly!	1	Mute=0.5 seconds.
		2	Carbon monoxide is excessive	1	
		3	it is dangerous, please escape quickly!	1	
		4			
C5209-87 (DEP87)	7.5KHz	1	Dan!	1	Mute=0.5 seconds.
		2	Dan! No smoking!	1	
		3	Dan! Attention fireworks!	1	
		4	Dan! No smoking! Attention fireworks!	1	
C5209-88 (DEP88)	6.0KHz	1	Big fireworks	3	Mute=0
		2	Small fireworks	6	
		3			
		4	Big and small fireworks	6	
C5209-89 (DEP89)	6.0KHz	1	Rooster	1	Mute=0.5 seconds.
		2			
		3			
		4	Rooster	1	
C5209-90 (DEP90)	7.5KHz	1	Horse	1	Mute=0.5 seconds.
		2			
		3			
		4	Horse	1	
C5209-91 (DEP91)	7.5KHz	1	De de, attention please, car reverses!	1	Mute=0.5 seconds.
		2			
		3			
		4			
C5209-92 (DEP92)	7.5KHz	1	Pay attention the temperature.	2	Mute=0.5 seconds. ALL of them are level-trigger
		2		2	
		3	"DI,DI,DI",Attention please.	1	
		4	"DI,DI",Attention please.	1	