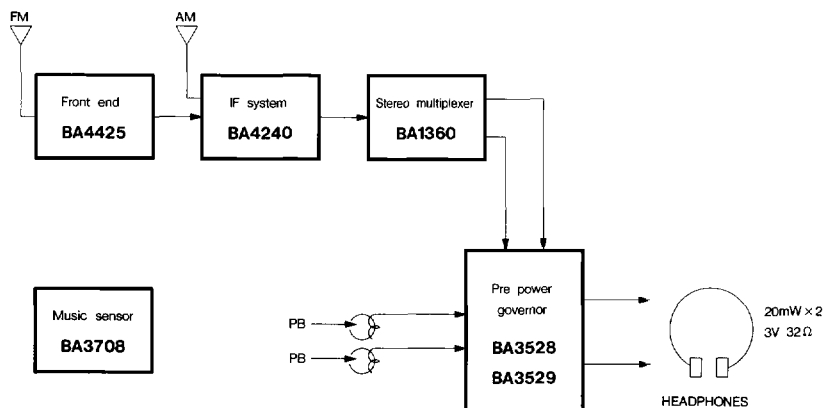


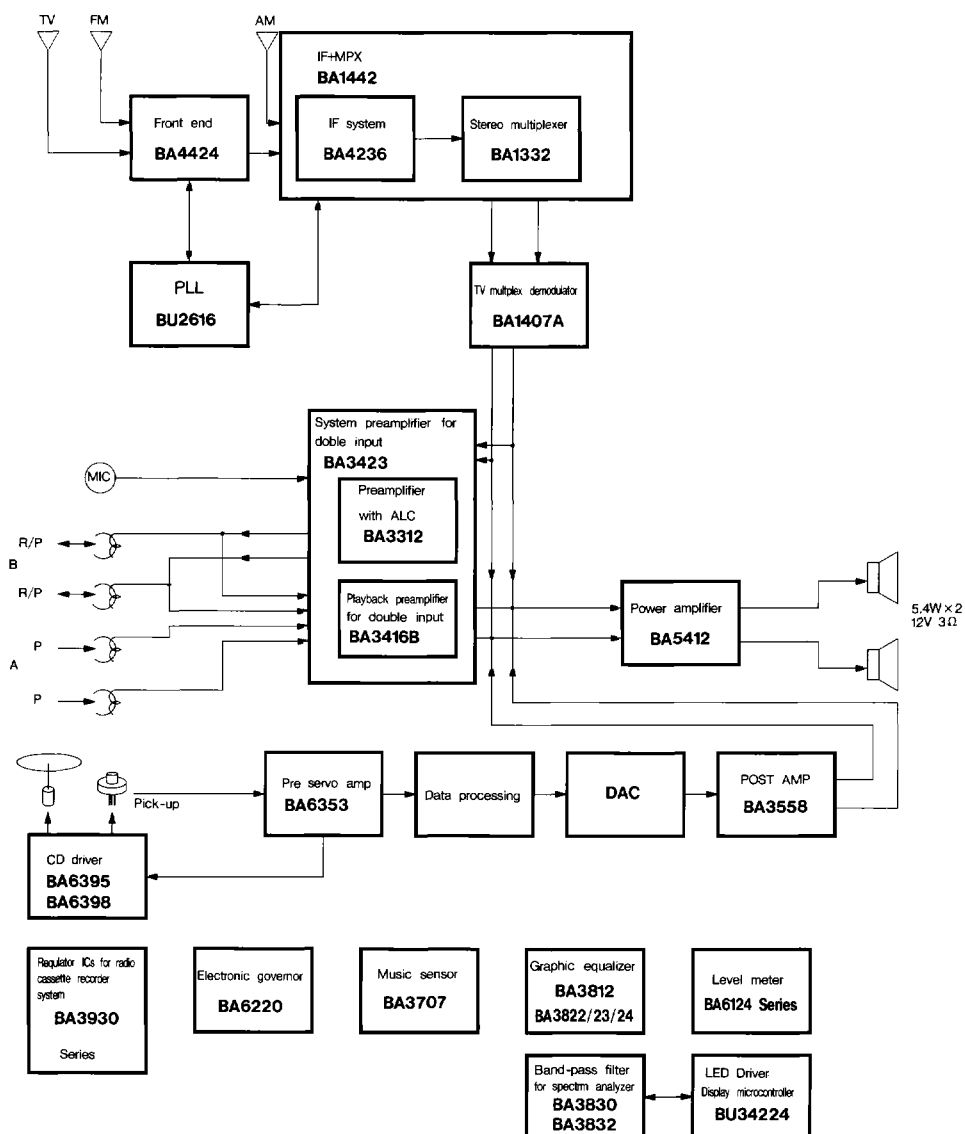
# ICs for Audio Applications

## Block Diagram of Typical Applications

### 3V FM/AM stereo headphone system



### Stereo double cassette recorder system with radio and CD player



# High frequency signal process

## ●Front end

Part No.	Application		Function			Gain (dB) f <sub>IN</sub> 100MHz	Feature	Supply voltage range (V)	Package
	Headphone stereo	Radio cassette recorder / car audio	F/E	IF	MPX				
BA4402	■3V	■	○			32	Built-in varicap diode for AFC. Low power consumption.	1.5~9	SIP9
BA4403	■3V	■	○			32	Low power consumption.	1.5~6	SIP7
BA4404	■3V	■	○			38	Built-in varicap diode for AFC. Low power consumption.	1.5~9	SIP9
BA4405	■3V	■	○			38	Low power consumption.	1.5~9	SIP7
BA4408F	■1.5V		○			39	Built-in varicap diode for AFC. Low operating voltage. Built-in IF amplifier.	0.9~2	SOP14
BA4412		■	○			28	Double balance mixing system. Built-in varicap diode for AFC Built-in IF amplifier.	2~8	SIP9
BA4413		■	○			32		2~8	SIP9
BA4424N	■3V	■	○			36	TV receiving is available (1~12) Built-in varicap diode for AFC. Excellent 2 signal characteristics Excellent 2 signal characteristics	1.7~6	SIP9
BA4425F	■3V	■	○			36		1.7~6	SOP8

## ●IF system

Part No.	Application		Function				Feature	Supply voltage range (V)	Package
	Headphone stereo	Radio cassette recorder / car audio	F/E	IF	MPX	AM			
BA402				○			Gain is high. G <sub>v</sub> =60dB (10.7MHz)	12	SIP7
BA403				○			FM peak detector system. Few external components.	8~15	SIP7
BA410		■		○			Sound soft muting function.	6~12	ZIP16
BA4230AF/AFS	■1.5V			○		○	FM mute, Tuning indicator, Low operating voltage.	1~2	SOP16/SSOP-A20
BA4236L		■		○		○	Quadrature detector system. AM audio control pin. Built-in tuning	2.7~12	ZIP18
BA4237L		■		○		○		2.7~12	ZIP18
BA4240L/F	■3V			○		○	FM mute. AM audio control pin. Built-in tuning indicator.	1.7~4.5	ZIP18/SOP18

## ●Stereo multiplexer

Part No.	Application		Function			Feature	Supply voltage range (V)	Package	
	Headphone stereo	Radio cassette recorder / car audio	F/E	IF	MPX				
BA1320		■			○	Muting pin. Separation control pin.	4.5~15	DIP16	
BA1332/L/F		■			○	Forced monaural pin. Soft muting Built-in function	3~14	DIP16/ZIP16/SOP16	
BA1335		■			○		Low power consumption.	3.3~9	DIP16
BA1350		■			○		Internal power supply muting function.	6~12	ZIP16
BA1351		■			○		Wide dynamic range.	6~12	DIP16
BA1355/F		■			○		Low distortion.	5~12	DIP16/SOP16
BA1356		■			○			5~12	ZIP16
BA1360/F	■3V				○		Wide dynamic range. Low distortion.	1.8~4	ZIP16/SOP16
BA1362F/FS	■1.5V				○		Low operating voltage.	1~2.5	SOP16/SSOP-A16

## ●IF + MPX

Part No.	Application		Function				Feature	Supply voltage range (V)	Package
	Headphone stereo	Radio cassette recorder / car audio	F/E	IF	MPX	AM			
BA1402	■3V			○	○		Low power consuming. Sound muting by IF level.	1.8~4.5	DIP22
BA1440		■		○	○	○	No AM. IFT required. Adjustment-free FM quadrature detector. Few external components.	3.5~7.0	DIP18
BA1441		■		○	○	○		3.5~7.0	DIP18
BA1442		■		○	○	○	Adjustment-free VCO Less external components	3.8~8.0	DIP20
BA1443		■		○	○	○		3.8~8.0	DIP20

# ICs for Audio Applications

## High frequency signal processor

### ●PLL frequency synthesizer

Part No.	Supply voltage range (V)		Maximum operating frequency(MHz)	Standard frequency (KHz)				Feature	Package
	V <sub>DD1</sub>	V <sub>DD2</sub>		100	50	25	10		
BU2611/F	4.0~6.0	3.5~6.0	130	9	5	1	10	Easier interfacing to microcomputer 3 ports	DIP16/SOP16
New BU2614/F/FS	2.7~6.0	4.0~6.0	130	25	125	6.25	3.25	Low spurious output, 75KHZ X'tal, w/lh counts 7 ports 3 ports	DIP16/SOP16/SSOP16
New BU2615/F/FS	2.7~6.0	4.0~6.0	130	25	12.5	6.25	3.25	Low spurious output, 75KHZ X'tal, w/lh counts, 7 ports	DIP16/SOP16/SSOP16
BU2616/F	4.0~6.0		130	25	12.5	10	9	Internal IF count detector 4 ports	DIP18/SOP18
BU2619/F	2.7~6.0	4.0~6.0	130	25	12.5	10	9	With IF counts 7 ports	DIP20/SOP20
☆BU2620/F	2.7~6.0	4.0~6.0	130	25	12.5	10	9	With IF counts 6 ports, 8Hz output	DIP20/SOP20

Note : 1. ☆ Under development

### ●TV multiplex

Part No.	Supply voltage range (V)	Function	Feature	Package
BA1407AL/AF	4~11	TV multiplex demodulator IC	On-chip mode selector(STEREO, MAIN, SUB, MAIN/SUB).Built-in display driver.	ZIP18/SOP20

### ●FM transmitter

Part No.	Supply voltage range (V)	Function	Feature	Package
BA1404/F	1~2	IC for FM stereo transmitter	Built-in stereo modulator and RF oscillator. Constant voltage output for frequency adjustment.	DIP18/SOP18
BA1405F	4~6	FM stereo modulator	Stereo modulator can be easily fabricated.	SOP18

## Low frequency amplifier

### ●Pre amplifier

Part No.	Application			Function								Feature	Supply voltage range (V)	Package
	Radio cassette recorder	Car audio	Headphone stereo	Circuits	Microphone amplifier	Line amplifier	ALC Circuit	Input switch	AUX SW	Equalizer switch	Muting			
BA301	■	■		1								Low distortion.	6~20	SIP7
BA311	■			1								Low distortion.	20~42	SIP7
BA313	■			1			○						3~12	SIP9
BA328/F	■	■		2									6~16	SIP8/SOP8
BA3304/F			■	2			○						1.2~4	ZIP16/SOP16
BA3306	■			2			○						4.5~14	SIP9
BA3308/F	■			2			○					Built-in rectifier diode.	4.5~14	SIP9/SOP14
BA3310N	■			2			○						4~12	SIP10
BA3312N	■			2			○					Built-in rectifier diode.	4~12	SIP10
BA333	■			1			○						2.5~16	SIP9
BA3402		■		2				○				For auto-reverse.	6~13	ZIP16
BA3404F/FS/L			■	2				○			○	Built-in LED driver for display.	1.8~4	SOP16/SSOP-A16/ZIP18
BA3406AL/AF		■		2						○	○		6~14	ZIP16/SOP16
BA3408/F		■		2				○				For auto-reverse.Built-in LED driver.	6~14	DIP16/SOP16
BA3410AF	■			1	○	○	○						1.8~3.5	SOP16
BA3412K			■	2		○	○	○				Built-in LED driver for display.	1.8~3.3	QFP32
BA3413F/FS			■	2				○		○			0.9~2.0	SOP16/SSOP-A16
BA3416BL	■			2				○		○		For double cassette.	3.5~12	ZIP18
BA3420AL	■			2	○	○		○		○			5~16	ZIP18
BA3423S	■			2	○	○	○	○	○	○		For double cassette.	4.5~7	SDIP32
BA3424F/FS/S		■		2				○		○	○	For auto-reverse L/R MIX OUT.	7~18	SOP20/SSOP-A24/SDIP22
BA3430F/FS/S		■		2				○		○	○	Blank detection. Sensitivity switching circuit	7~18	SOP24/SSOP-A24/SDIP24
BA343	■			2			○						4.5~10	DIP16

### ●ALC

Part No.	Supply voltage range (V)	Feature	Package
New BA8221AN	12	2ch transistor array of level control with desable pin.	SIP8

●Line amplifier

Part No.	Application		Number of circuit	Gvc (dB)	Remarks	Supply voltage range (V)	Package
	Radio cassette recorder	Car audio					
BA3112	■	■	2	10	Fixed gain type. Low cross talk : 65dB. THD : 0.07%	6~16	SIP8
BA3113	■	■	2	15			
BA3114	■	■	2	20			
BA3118L	■	■	2	6~20	Gain setting without external resister.	4~16	ZIP18

●Pre power amplifier for headphone stereo

Part No.	Application	Pre amplifier	Function					Feature	Supply voltage range (V)	Package	
			Power amplifier			EVR	Input switch				Equalizer switch
			Output (RL=16Ω)	Output (RL=32Ω)	GAIN (dB)						
BA3506A/AF	3V headphone stereo	2ch	69mW × 2	—	36				1.8~3.8	DIP16/SOP18	
BA3513AF/AFS			40mW × 2	—	26.7		○	○	Noise reduction.	1.8~3.6	SOP24/SSOP-A24
BA3514AF			40mW × 2	—	36		○	○		1.8~3.6	SOP24
BA3516/F			40mW × 2	—	36					1.8~3.6	DIP16/SOP18
BA3518/F			31mW × 2	18mW × 2	30				Output coupling cap. is not required.	1.8~4.0	DIP16/SOP16
BA3519F/FS			31mW × 2	18mW × 2	30		○		Output coupling cap. is not required.	1.8~4.0	SOP22/SSOP-A24
BA3520/F			30mW × 2	18mW × 2	36		○		Output coupling cap. is not required.	1.8~4.0	DIP18/SOP18
BA3521			30mW × 2	18mW × 2	65 (Pre+Power)		○		In/out coupling cap. are not required.	1.8~4.0	DIP18

●Headphone stereo pre power governor

Part No.	Application	Pre amplifier	Function						Feature	Supply voltage range (V)	Package	
			Power amplifier			EVR	Input switch	Equalizer switch				Governor
			Output (RL=16Ω)	Output (RL=32Ω)	GAIN (dB)							
BA3528FP	3V headphone stereo	2ch	34mW × 2	20mW × 2	36			○	○	1.8~6.0	HSOP28	
BA3529FP			34mW × 2	20mW × 2	27			○	○	Applying noise reduction.	1.8~6.0	HSOP28

●Power amplifier

Part No.	Application		Number of circuit	Output power	Vcc (V)	Function					Feature	Supply voltage range (V)	Package
	Radio cassette recorder	Headphone stereo				RL (Ω)	TSD	Stand-by switch	Muting				
BA5152F	■	1.5V	2	15mW	1.5	16			○	○	Gain 21dB. Built-in power switch circuit.	1~1.8	SOP16
BA5204/F	■	3.0V	2	35mW	3	32					Gain 35dB.	1.8~6	ZIP16/SOP16
BA5214	■	3.0V	2	35mW	3	32					Gain 35dB.	1.8~6	DIP16
BA5206BF	■	3.0V	2	64mW	3	16			○		Gain 35dB.	1.8~4.5	SOP16
BA526	■		1	0.43W	6	8					Low noise.	2~9	SIP9
BA527	■		1	0.8W	6	4					High ripple rejection.	2.8~9	SIP9
BA534	■		1	2.3W	9	4						4.5~14	HSIP10
				2.8W		3							
BA5404	■		1	0.36W	12	32			○		Low power ON/OFF noise.	7~15	SIP9
BA5406	■		2	5W	12	3					Built-in capacitor for phase adjustment.	5~15	SIP-M12
BA5410	■		2	2.9W	9	3	○	○			Fixed gain 4.75dB	6~14	HSIP10
				5.2W									
BA5412	■		2	2.5W	9	4	○	○				5~18	SIP-M12
				5.4W									
BA5413	■		2	5.4W	12	3	○	○				5~15	HSIP-B12
BA546	■		1	0.33W	6	8					Low power consumption.	2~9	SIP9

# ICs for Audio Applications

## CD/CD-ROM

### ●CD driver

Part No.	Supply voltage range (V)	Power dissipation (W)	Output		Output system	Number of circuit	TSD	Muting pin	Operation amplifier	Regulator	Feature	Package	
			Condition										
BA6280AF	5.5~12	0.55	io=0.5A		PWM	2	○	○			Low power consumption	SOP22	
BA6290A	5~16	3.0					2	○	○			Large package power	SIP-M12
BA6292	5~16	3.0					2	○	○			Large package power	SIP-M12
BA6294	5~16	2.0					2	○	○			Large package power	HSIP10
BA6295AFP	7.5~18	1.7★	6.2Vpp	10V,8Ω	BTL	2	○	○			Few external components. Suitable for car audio.	HSOP28	
BA6296FP	6~9※1	1.7★	3.8Vpp			4	○	○	○		Few external components.	HSOP28	
BA6297AFP	6~9	1.7★	4.5Vpp			4	○	○			Applicable digital servo.	HSOP28	
BA6298FP	6~9※1	1.7★	4.5Vpp			4	○	○	○	○	Few external components.	HSOP28	
BA6299FP	6~9	1.7★	6.0Vpp		H bridge	4	○	○	○	○	Few external components. Suitable for car audio.	HSOP28	
New BA6392FP	6~9	1.7★	4.5Vpp		BTL	4	○	○			Applicable digital servo. Few external components.	HSOP28	
New BA6394FP	3.1~11	1.7★	4.5Vpp		H bridge	4	○	○	○		Low operating voltage: 3.5V	HSOP28	
New BA6395FP	4.8~9	1.7★	4.5Vpp	8V 8Ω	BTL	5	○	○		○	5-CH driver. Loading capability	HSOP28	
New BA6396FP	6~9	1.7★	4.5Vpp		BTL	4	○	○	○	○	Independent muting	HSOP28	
New BA6397FP	5~9※2	1.7★	4.5Vpp		BTL	4	○	○	○		BA6398FP w/o VCC muting	HSOP28	
New BA6398FP	6~9	1.7★	4.5Vpp		BTL	4	○	○	○	○	General purpose	HSOP28	
New BA6399FP	4~11	1.7★	4.5Vpp		H bridge	4	○	○		○	Few external components	HSOP28	
New BA6790FP	6~9	1.7★	5.4Vpp		BTL	4	○	○	○	○	Wide dynamic range	HSOP28	
New BA6890FP	1.5~9	1.7★	6Vpp		BTL	4	○	○	○		Low voltage, Brake mode	HSOP28	

Notes: 1.※1.Driver can operate at 5.5V.  
2.※2.Driver can operate at 4.5V.  
3.★:Value measured under actual operating condition.

### ●CD-ROM driver

Part No.	Supply voltage range (V)	Power dissipation (W)	Output		Output system	Number of circuit	TSD	Muting pin	Operation amplifier	Regulator	Feature	Package
			Condition									
New BA6799	6~9	3.1	4.5	8V 8Ω	BTL	4	○	○		○	Large package power	SDIP24

### ●Loading motor driver

Part No.	Supply voltage range (V)	Power dissipation (W)	Output		Output system	Number of circuit	TSD	Muting pin	Operation amplifier	Regulator	Feature	Package
			Condition									
New BA6191	-7~-16	2.2	6	8V 8Ω	BTL	2	○	○			2 CH independent FWD/REV Negative supply	HSIP-B12
BA6192	7~16	2.2	6	8V 8Ω	BTL	2	○	○			2 CH independent FWD/REV Positive supply	HSIP-B12

### ●Pre servo amplifier

Part No.	Supply voltage range (V)	Drive amplifier				Servo circuit		Feature	Package
		Focus	Feed	Disk	Tracking		SW		
BA6353S	±5	○	○	○	○	○	○	Built-in all amplifiers and switches for CD servo system	SDIP42

### ●Post amplifier

Part No.	Supply voltage range (V)	Function	Function			Feature	Package
			Ripple filter of power supply	Muting	LPF		
BA3558K	1.8~6.0 5.5~7.5	Amplifier for CD which has built-in de-emphasis and headphone amplifier.	○	○	○	Auto ON/OFF. Stand-by supply system.	QFP32

### ●Peripheral IC of portable CD

Part No.	Supply voltage range (V)	Function	Feature	Package
New BA3124F	1.7~7.0	Line output muting	4 channels, 63dB muting attenuation	SOP8
New BA3890F	2.9~3.6	Pulse width control	Controls pulse width in proportion to battery voltage	SOP8
New BA3990F	2.5~4.5	Ripple filter	Io=0~18mA RR=38dB	SOP8
New BA9709F	1.7~4.5	Power switch	Power transmission efficiency 83%	SOP8

## Accessories

### ●Electronic volume

Part No.	Supply voltage range (V)	Function	Number of circuits	Built-in reference voltage	PRE IN/OUT	Feature	Package
BA3852FP	7.0~9.5	Electronic volume control for car audio. Volume, Balance, Fader, Tone (bass, treble, ) Loudness	2	○	—	Control by DC voltage.	HSOP28
BA3853FS	7.0~9.5		2	○	○		SSOP-A24

### ●IC for graphic equalizer

Part No.	Supply voltage range (V)	Format	Number of band	Circuit current(mA)	Control range (dB)	THD (%)	Output noise voltage ( $\mu$ Vrms)	Ripple rejection	Input buffer	Output buffer	Package
BA3812L/F	3.5~16	monaural	5	5.0	$\pm 12$	0.01	5	—	○	○	ZIP18/SOP18
BA3822LS/FS	3.5~14	stereo	5	7.0	$\pm 11$	0.1	10	—			SZIP24/SSOP-A24
BA3823LS	3.5~14	stereo	5	6.7	$\pm 10$	0.01	3	50			SZIP24
BA3824LS	3.5~14	stereo	5	7.0	$\pm 8.5$	0.1	10	—			SZIP24

### ●Preset graphic equalizer

Part No.	Supply voltage range (V)	Format	Circuit current(mA)	No. of positions	Feature	Package
<b>New</b> BA3840KV	1.7~3.6	stereo	2.2	4	Prevention sound leak from head set. Auto boost control.	VQFP48

### ●Bass boost system

Part No.	Supply voltage range (V)	Function		Driver Output		Power muting switch	Bias amplifier	Center amp	Feature	Package
		Boost circuit		Condition RL=16 $\Omega$						
		Bass	Treble		Vcc					
BA3570F/FS	2.0~7.2	25dB.Max.	4dB Fixed	30mW	3.0	○	○	—	Built-in 30mW power amplifier	SOP22/SSOP-A24
<b>New</b> BA3572FS	1.8~3.6	25dB.Max.	4dB Fixed	18mW	2.4	—	○	○(OCL)	On-chip S-BBS and AVC	SSOP-A24
BA3870	3.0~7.0	20dB.Max.	4dB Fixed	—	—	—	—	—	Low switching noise at BBS ON/OFF	DIP20

### ●Band-pass filter for spectrum analyzer

Part No.	Supply voltage range (V)	Format	Number of band	Input MIX AMP	Input mix. amp	Feature	Package
BA3826S	$\pm 4.0 \sim \pm 6.5$	Stereo	7			Built-in capacitor for time constant and filter	SDIP18
BA3830S/F	4.5~8.0	Monaural	6	○	○		SDIP18/SOP18
BA3832F	4.5~8.0	Monaural	6	○	○		SOP18

### ●Display microcontroller for spectrum analyzer

Part No.	Supply voltage range (V)	ROM	RAM	Function/Feature	MTP icon	Package
☆BU34424	4.5~5.5	4K $\times$ 8	256 $\times$ 4	24-seg $\times$ 4-com LCD driver, 24 $\times$ 4 LCD display RAM, SI, PIO Makes an audio spectrum analyzer when used with BA3830 series.	BU36824	QFP64

Note : 1☆Under Development

# ICs for Audio Applications

## Accessories

### ●Level meter

Part No.	Supply voltage range (V)	Display	Dot	Function	Scale	Feature			Package					
BA6104	9~15	LED	5	Bar	Linear	Built-in rectifier amplifier and reference regulator. Low current consumption of LED.	Operating voltage range 9~15V.		SIP9					
BA6125	3.5~16						Wide operating voltage range 3.5~16V.		SIP9					
BA6124/F	3.5~16						For red LED driver.		SIP9/SOP14					
BA6137	3.5~16				VU		Wide compare level -13~+13 dB		SIP9					
BA6144	3.5~16						High amplifier gain.		SIP9					
BA6154	3.5~16								SIP9					
BA684A	6.5~14	LED	8	Bar	Linear	Built-in two half wave rectifier amps. The level of the largest one of the two inputs is displayed.			DIP16					
BA682A/AF	10~14					VU	12	Dot/Bar	Built-in half wave rectifier amplifier. LED direct drive.	External setting of LED current.	Turn on and off periods of LED can be controlled by adjusting external resistor and capacitor.		DIP18/SOP18	
BA681A	10~14										Power			DIP18
BA683A	10~14													DIP18
BA689	10~14					Linear					DIP18			
BA6820F	4.5~5.5								12×2		Bar/Peak hold	VU	2ch display by dynamic drive system. 2 mode display by independent AC and DC display. Peak hold function -7 ~10dB and cancel function. Muting function.	
BA6822S/F	4.5~5.5			R <sub>IN</sub> =300Ω	SDIP22/SOP22									
BA668A	15~17	FL	12	Peak hold	VU	Built-in rectifier circuit. Peak hold function -1~8 dB. High input impedance.			DIP18					
BA6146	7.5~20			Bar		Built in input rectifier amplifier meeting both AC and DC input signals.			DIP16					
BA6148	7.5~20				Wide operating voltage range 7.5 to 20 V. Built-in power supply muting function.			DIP16						
BA6810S/F	4.5~5.5			12×2	Bar/Peak hold	VU	Level adj. pin		SDIP30/SOP28					
BA6800A/AS/AF	4.5~5.8						Available to 2 mode display by independent AC and DC display		Duty cycle : 1/8	DIP28/SDIP30/SOP28				
BA6803S	4.5~5.8			16×2	Bar/Peak hold	VU	2ch display by dynamic drive system. Peak hold function -7 ~10 dB. Muting function Square - law compression amplifier.		Duty cycle : 1/4	SDIP30				
BA6805A	4.5~5.8						Duty cycle : 1/16	DIP28						
BA6806S	4.5~5.8						Duty cycle : 1/16	SDIP30						

### ●Ground isolation amplifier for car stereo

Part No.	Supply voltage range (V)	Number of circuits	CMRR (dB)	THD (%)	Output noise voltage (μVrms)	Feature	Package
BA3121/F/N	4~18	2	57	0.002	3.5	High CMRR. Small external capacitor.	DIP8/SOP8/SIP8

### ●High voltage head switch

Part No.	Supply voltage range (V)	Function/Feature	Package
BA3126F/N	4.5~15	2 high voltage head switches for play back and 2 switches for record.	SOP14/SIP9

### ●Auto scan meter

Part No.	Supply voltage range (V)	Display	Dot	Function		Feature	Package
				FM	AM		
BA695	4.5~14	LED	3	Tuning/detuning	Level meter	Bar display at AM receiving. High drive current 25 mA/dot.	SIP9
BA685	6.5~15	LED	5	direction indicator			DIP16

### ●Square-law compression amplifier

Part No.	Supply voltage range (V)	Circuit	Function	Feature	Package
BA6138/F	8.5~16	2ch	1/2 square-law compression amplifier with good linearity.	Built-in stabilized power supply muting.	SIP9/SOP14

## Sensor amplifiers

### ●Tape end detector

Part No.	Supply voltage range (V)	Output current (mA)	Plunger drive	Input amplifier Built-in	Output regulator	Remarks	Package
BA337	4.2~16.0	200	Direct	○		Direct connection with magnetic/electric conversion element.	SIP9
BA3712	7.0~16.0	20	Direct	○	○		SIP9

### ●Blank detector

Part No.	Supply voltage range (V)	Output current (mA)	Number of tune	Blank detection time	Output pulse width	Forced stop	Protection circuit	Plunger drive	Package	
BA335	4.5~14.5	600	-	Settable	Settable	○	○	Direct	SIP9	
BA336	4.2~12.0	150	-					Pow Tr needed	SIP9	
BA338/L	4.2~12.0	150	-					Pow Tr needed	SIP9/ZIP9	
BA3702	4.5~14.0	120	5					Pow Tr needed	DIP16	
BA3707	3.0~14.0	300	-					○	Direct	SIP9
BA3708F	2.0~5.0	100	-					○	Direct	SOP8
BA3714F	0.8~4.5	7	-		Direct	SOP8				

## Control

### ●Deck key control

Part No.	Supply voltage range (V)	Function	Feature	Package
BA843	5	Key control of tape deck	Control through non lock input. All functions that are necessary for control of tape deck are on-chip.	DIP16

## VSC processor

Part No.	Supply voltage range (V)	Function	Feature	Package
BA1701	4.5~14.0	VSC system processor IC	Capable of compress play rate by ratio of 1/1 to 1/2.5. Built-in motor speed control PLL circuit.	DIP16

Note : 1."VSC" is a trademark of the Variable speech Control Company. This product has been specially manufactured for use in the VSC system under licence of VSC Ltd.

## System power supply

### ●System power supply for radio cassette recorder system

Part No.	Supply voltage range (V)	Standard supply voltage (V)	Output voltage (V)						Stand-by function	Reference voltage	Mode switch	Reset output	Package
			A	B	C	D	E	F					
BA3920	6.5~22	16	15	5	—	5	8	5	○		○	○	SIP-M12
BA3922	5.0~22	15	12	5	7.5	—	7.5	—	○	○	○	○	SIP-M12
BA3924	5.0~22	12	9	5	7.5	—	7.5	—	○	○	○	○	SIP-M12
BA3926	5.0~22	15	13.5	5.6	8	—	12	—	○	○	○	○	SIP-M12
BA3928	6.5~22	16	9	5	—	5	8.5	6.5	○		○	○	SIP-M12
BA3930	6.5~22	16	14.5	5	9	5	8	5	○		○		SIP-M12
BA3932	6.5~22	16	15	5	9	5	8	5	○		○		SIP-M12
BA3933	6.5~22	16	9	5	7.5	5	7.5	5	○		○		SIP-M12
BA3935	6.5~22	16	9.5	5	9	5	7.5	5	○		○		SIP-M12
☆BA3936	6.5~22	12	—	5	8	5	8	5	○		○		SIP-M12
☆BA3938	6.5~22	15	11	5	9	14.7	8.5	—	○	○			HSIP-B12
☆BA3962	6.5~22	12	17	5	—	—	—	—	○	○	○	○	HSIP-10

Note : 1.When operated from lower voltage than output voltages listed above,the output is the input supply voltage minus the drop voltage across output transistors.

2.☆:Under development

### ●System power supply for car audio system

Part No.	Supply voltage BACK UP (V)	Standard supply voltage BACK UP (V)	Output voltage (V)						Stand-by current(mA)	Muting	Output switch pin	Chip enable output	Package
			A	B	C	D	E	F					
BA3900	10~16	13.2	5.6	9.0	8.8	8.8	—	—	2.7	○	○	○	SIP-M12
BA3902	10~16	13.2	5.0	9.0	8.5	8.5	—	—	0.7	○	○	○	SIP-M12
BA3904A	10~16	13.2	5.6	9.0	8.55	8.55	—	—	0.7	○	○	○	SIP-M12
BA3906	9.2~16	13.2	5.6	8.3	8.3	8.3	—	—	0.7	○	○	○	SIP-M12
BA3908B	10~16	15	5.6	12.5	14.5	8.2	8.2	8.4	0.65		○		SIP-M12
BA3910A	9.6~24	13.2	5.6	8.7	8.7	8.7	12.8	12.8	0.65		○		SIP-M12
BA3912	9.6~24	13.2	5.6	9.0	8.55	8.55	12.7	12.7	0.65		○		SIP-M12
<b>New</b> BA3913	9.6~24	13.2	5.6	8.3	8.3	8.3	12.7	12.7	0.65		○		SIP-M12
<b>New</b> BA3914A	9.6~24	13.2	5.7	8.5	8.5	8.5	12.7	—	0.8	○	○		SIP-M12
<b>New</b> BA3916	9.6~24	13.2	5.2	8.7	8.3	8.3	12.7	—	0.4		○	○	SIP-M12

Notes : 1.When operated from lower voltage than output voltages listed above,the output is the input supply voltage minus the drop voltage across output transistors

### ●Variable output supply voltage

Part No.	Supply voltage range (V)	Number of circuit	Output voltage (V)	Stand-by function	Output voltage switch pin	Feature	Package
<b>New</b> BA3960	4.5~22	2	1.5~21	○	○	Output voltage can be set by external resistor. Built-in output current control circuit and temperature protect circuit. Low saturation PNP output.	HSIP-B12