Reference Application Software (RAS)

KEC offers application software for microcontroller units (MCU) used in typical application system in the consumer electronic appliance market. This software can be used to increase your software development productivity while reducing the development period.

When using our application software, please contact our sales representative for information on detailed conditions and precautions.

■ Application software for CD Player : CDS series

With the ever increasing variety and functions of audio systems, more and more microcontrollers are being used in the audio equipment field, especially in CD players. To meet this demand, KEC has standardized the basis of control software for advanced-function CD players so that the software can be used simply by combining it with CD-dedicated LSIs.

System structure

Series name	CDS-525	CDS-540	CDS-541	CDS-580	CDS-581	CDS-5C0	CDS-600
MCU	KMP47C202P-F124	KMP47C421ADF-VA11	KMP47C421ADF-VA37	KMP47P820DF	KMP47C820DF-NA21	KMP87PH20F	
1-chip processor for CD	KIC9236AF		KIC9236AF KIC9284BF	KIC9236AF	KIC9236AF/ KIC9284BF	KIC9236AF	KIC9263AF
Application system	Portable CD	Portable CD, CD radio cassette	Portable CD, CD radio cassette	Non-portable CD, CD radio cassette	Non-portable CD, CD radio cassette	Non-portable CD, CD radio cassette	Non-portable CD, CD radio cassette CD-ROM compatible
Front loading function					●		●
Search function	●	●	●	●	●	●	●
Fast forward/reverse	●	●	●	●	●	●	●
Random play function				●	●	●	●
Repeat function	1 track, all tracks	1 track, all tracks	1 track, all tracks	1 track, all tracks	1 track, all tracks	1 track, all tracks, between A-B	1 track, all tracks, between A-B
Memory function (maximum tracks)		20	20	20	20	30	30
Remaining time display				●	●	●	●
Introduction scanning function				●	●	●	●
Music calendar				●	●	●	●
Auto spacing function				●	●	●	●
Auto pause function				●	●	●	●
Index search function						●	●
Remote control function					●	●	●
Digital attenuate function							●
Variable pitch control function							●
Digital peak meter output							●

■ Application software for VCR (time control) : VTS series

KEC microcontrollers for VCR provide widely applicable control software for timers and tuning that is not affected by individual specifications, including those in timing mechanisms. System controller interfaces, etc., are controlled by special software. KEC also offers series with such additions as on-screen display (OSD), remote control reservation, and remaining time display to satisfy current customer requirements. The channel selection system can support areas where USA, DOC, and CCIRCH systems operate.

System structure

Series name	VTS-310	VTS-320	Series name	VTS-310	VTS-320
MCU	KMP47C475AN	KMP47C870N	Counter function	Available	Available
Channel selection system	FS		Counter display	4 digits	4 digits
PLL & prescaler	KID6359P	KID6359P	Remaining time display	Not available	Available
OSD	Not available	KIC9029P	Standard clock	AC	AC
Maximum reservation period	2 weeks	1 month	Remote control function	Available	Available
Maximum number of program settings	6	8	Runaway detection function	Available	Available
One-touch record function	Available	※ Available			

※ : Recording start time can be verified.

Reference Application Software (RAS)

■ Application Software for Multifunctional Telephones : RDS series, AMS series

With advancing technology, the telephone has changed from the conventional rotary dialing type to the modern touch-tone dialing phones. New functions such as small PBX, repertory dialers (one-touch memory dialing), answering phones, and cordless phones are also emerging. To satisfy these demands, KEC has incorporated a control software into the KLCS-47 series of microcontrollers to create microcontrollers that provide a variety of advanced telephone functions.

System Structure

Application	Multifunction telephone				Answering Phone	Cordless Phone
Series name	RDS-8	RDS-9	RDS-100	RDS-200	AMS-100	
MCU	KMP47P451VN	KMP47P451VN	KMP47C456ADF	KMP47P855VF	KMP47P453VN KMP47P850N	KMP47P203N KMP47P454VN
Dial memory	● (Variable length)	●	●	●	●	●
Low-voltage detection		●	●	●	●	● (Extension hand set)
On-hook memory		●	●	●	●	●
Flash	●	●	●	●	●	●
On-hook dialing		●	●	●	●	
Hold function		●	●	●	●	
LCD display *1				●	●	
Other functions				※2 ABR function	Remote control function Remote control password Talk mute Message recording Timestamp In-coming call indicator Cassette operation	46/49MHz 16-bit ID code 10ch MCA Page function Intercom
Common functions	Pause, redial (32 digits), Dial speed selection (10PPS/20PPS), Make rate selection (33%/40%), Pulse/tone mode selection, Key tone					

* 1 : Clock, call timer, phone number, etc. 16digits   * 2 : Auto Busy Redialing, up to 16 times

■ Application Software for TV (tuning components) : CTS series

Recently, television has been used as a medium for all kinds of information. The conventional rotary tuners are not capable of tuning into all available channels in areas where a large number of channels are available. Microcontroller technology, however, in the shape of the CTS series, a family of MPU with built-in TV tuner control software, can solve these problems. This series can be used together with PLL IC, etc. as a kit.

System Structure

Series name	CTS-171	CTS-191	CTS-760	CTS-664	CTS-856
MCU	KMP47C837N-U402 42-pin SDIP 4.19MHz	KMP47C834N 42-pin SDIP 4MHz	KMP87CK36N 42-pin SDIP 8MHz	KMP87CK34AN 42-pin SDIP 8MHz	KMP87CK34AN 42-pin SDIP 8MHz
Tuning method	VS	VS	VS	FS (USA) 155, 181ch	FS (USA) 155, 181ch
Channel selection system	Direct, Search UP/DOWN, Position UP/DOWN, Manual UP/DOWN	Direct, Search UP/DOWN, Position UP/DOWN, Manual UP/DOWN	Direct, Search UP/DOWN, Position UP/DOWN Manual UP/DOWN	Direct, Search UP/DOWN, Position UP/DOWN, Manual UP/DOWN	Direct, Search UP/DOWN, Skip UP/DOWN
Auto memory	●	●	●	●	●
Channel memory	Maximum 50 position	Maximum 100 position	Maximum 60 position	All channels	All channels
Analog control	VOLUME+6	VOLUME+4	KIA8880AN control	VOLUME+5	KIA1201AN control
Number of video inputs	1	1	3	3	3
Clock	●	–	●	●	●
Timer	ON/OFF, SLEEP	SLEEP	ON/OFF, SLEEP	ON/OFF, SLEEP	ON/OFF, SLEEP
Display	Built-in on-screen	Built-in on-screen	Built-in on-screen	Built-in on-screen	Built-in on-screen
Other functions	Multi color system (PAL, SECAM, NTSC), Karaoke	Teletext, Multi color system (PAL, SECAM, NTSC)	Sound multiplex, Surround BUS control Multi color system (PAL, SECAM, NTSC)	Sound multiplex, Closed captions	Sound multiplex, Surround, BUS control, Closed captions
Data backup	E^2 PROM	E^2 PROM	E^2 PROM	MCU	E^2 PROM
System kit IC	Remote control : KIC9012F/28F E^2 PROM : KIC89101P	Remote control : KIC9012F/28F E^2 PROM : I^{2}C bus type Teletext : CF70200	Remote control IC : KIC9012F/28F E^2 PROM : I^{2}C bus type V/C/D : KIA8880AN other BUS LSI	Remote control IC : KIC9012F/28F PLL : KID6359, 6380, 6382	Remote control IC : KIC9012F/28F PLL : KID6359, 6380, 7603 E^2 PROM : I^{2}C bus type V/C/D : KIA1201AN Sound MPX : KIA8622P Surround : KIA8776N

* : Under development