

EM60000 RAM DEFINE TABLE :

2000/6/27

RAM register :		b7	b6	b5	b4	b3	b2	b1	b0
R0	IAR	Indirect RAM data							
R1	TCC	Timer up Counter							
R2	PC	Program Counter, 13bit 8K ROM max.							
R3	SF	PS2	PS1	PS0	T	P	Z	DC	C
R4	RSR	RAM Bank 0-3		Indirect RAM address 00-3F for R0					
R5	INTC	ENI	-	-	-	MIE	TCIE	MIF	TCIF
R6	MTC	Melody Time down Counter							
R7									
R8	WDT	-	PL1	PL2H	PL2L	-	WAKEH	WAKEL	WTE
R9	Mapping	-	-	-	DA SEL	DA SET	CH2	CH1	CH0
RA	MODE	Speech Melody interface Register							
RB	Port 1	Port 1 Read data							
RC	Port 2	Port 2 R/W data							
RD	Port 3	Port 3 R/W data							
RE	Port 4	Port 4 R/W data							
RF	Port 5	Port 5 Write data							
R10	MULT	Multiplier							
R11	PRODL	Multiplication result Low							
R12	PRODH	Multiplication result High							
R13	<i>Acc_BUF</i>								
R14	<i>SF_BUF</i>								
R15	<i>RSR_BUF</i>								
R16	<i>R9_BUF</i>								
R17	<i>CH_Flag</i>	<i>FMCH4 FMCH3 FMCH2 FMCH1 FSCH2 FSCH1</i>							
R18									
R19									
R1A									
R1B									
R1C									
R1D									
R1E									
R1F									

Bank 0 (RSR=00xx-xxxx)

Bank 1 (RSR=01xx-xxxx)

R20		
R21		
R22		
R23		
R24		
R25		
R26		
R27		
R28		
R29		
R2A		
R2B		
R2C		
R2D		
R2E		
R2F		
R30		
R31		
R32		
R33		
R34		
R35		
R36		
R37		
R38		
R39		
R3A		
R3B		
R3C		
R3D		
R3E		
R3F		

Bank 2
(RSR=10xx-xxxx)

Bank 3
(RSR=11xx-xxxx)

R20	M1Status	S1Status						
			FSign	FMark	FAct	FSil		
R21	M1Inst		S1Temp		S1Temp		S1code	
R22	M1Beat0	S1Beat0			S1SegCode		S1Next	
R23	M1Beat1	S1Beat1			S1SegCount		S1Xn	
R24	M1Envelope	S1Buf			S1PreXn		S1Delta	
R25	M1Volume						S1Dp	
R26	M1EnvDptr						S1SilCount	
R27		S1Volume						
R28	M2Status	S2Status						
R29	M2Inst		S2Temp		S2Temp		S2code	
R2A	M2Beat0	S2Beat0			S2SegCode		S2Next	
R2B	M2Beat1	S2Beat1			S2SegCount		S2Xn	
R2C	M2Envelope	S2Buf			S2PreXn		S2Delta	
R2D	M2Volume						S2Dp	
R2E	M2EnvDptr						S2SilCount	
R2F		S2Volume						
R30	M3Status	MchCtrl						
		FChInst				FSpouse	Spouse 0-7	
R31	M3Inst	MchStatus						
		Fpause	FNoteon	EnvType	EnvType	InstStep	InstStep	-
R32	M3Beat0	Inst 0~64 = 0 0 w w w w w w w						
R33	M3Beat1	Beat0						
R34	M3Envelope	Beat1						
R35	M3Volume	Envelope (init.=0x7Fh)						
R36	M3EnvDptr	Volume (init.=0x7Fh) * Envelope => ENV						
R37		EnvDptr						
R38	M4Status	NoteBuf = 0 N N N N N						
R39	M4Inst	Mtemp = w w w w w w						
R3A	M4Beat0	MchNumber = R9						
R3B	M4Beat1	OrgInst						
R3C	M4Envelope	NewInst						
R3D	M4Volume							
R3E	M4EnvDptr							
R3F								

EM60000 I/O Register List :

		b7	b6	b5	b4	b3	b2	b1	b0
IOC 5	Prescaler	Melody Precaler 1/2-1/256 MSR2 MSR1 MSR0			TCC Precaler 1/2- 1/256 TSR2 TSR1 TSR0			WDT rate 1:1-1:8 WSR1 WSR0	
IOC 6 ..IOC C		Speech /Melody interface Register							
IOC D	P2 I/O	Port 2 Input/Output set. 1=input, 0=output (init = 0xFFh)							
IOC E	P3 I/O	Port 3 Input/Output set. 1=input, 0=output (init = 0xFFh)							
IOC F	P4 I/O	Port 4 Input/Output set. 1=input, 0=output (init = 0xFFh)							

EM60000 Speech/Melody Register List :

R9 Mapped Type		RA MODE								IOC 6	IOC 7	IOC 8	IOC 9	IOC A	IOC B	IOC C	
		b7	b6	b5	b4	b3	b2	b1	b0								
0	S ch1	-	-	-	-	-	-	SENA	SENT	ADD L	ADD M	ADD H (4bit 1M)	DATA Wave data	RATE Sample rate	DA 1	DA2	
1	S ch2							Speech En Active	Speech En Int.								
4	M ch1	-	-	-	-	-	-	-	MENA	ADD L	ADD M	ADD H (2bit 256K)	-	ENV Envelop (b6-b0)	F1 Frequency Fractional (b7-b2)	F2 Frequency Integer (b7-b0)	
5	M ch2							Melody									
6	M ch3							Enable									
7	M ch4							Active									
8	DAC 1	-	Volume 0-7 step		DA range 0=b7-b0 1=b8-b1 2=b9-b2 3=b7-b0			-	DAC_ON	DA mixer Ch En b0=S ch1, b1=S ch2 b2=M ch1, b3=M ch2 b4=M ch3, b5=M ch4	-	-	-	-	-	-	
18	DAC 2																
2	read ROM data	-	-	-	-	-	-	-	-	ADD L	ADD M	ADD H (4bit 1M)	DATA ROM data	-	-	-	