

27.4.2 Timer/Capture Registers

Registers TIM0 to TIM6 provide 32-bit views at varying resolutions of the underlying STM counter.

Timer Register 0

Register TIMOSV address the STM[31:0] bits at a second optional address as TIMO.

TIMO

Timer	Registe	er O				(0010 _H)				Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	
							STM	_31_0								
				I	l	I		r	I	I			I			
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	1	ı ı	ı ı	i	,	i	STM_	_31_0	i	i	ı	ı	i			
1	1							r								

Field	Bits	Туре	Description
STM_31_0	31:0	r	System Timer Bits [31:0] - STM[31:0] This bit field contains bits [31:0] of the 64-bit STM.

Timer Register 0 Second View

Register TIMOSV address the STM[31:0] bits at a second optional address as TIMO.

TIMOSV

Timer	Regist	er 0 Se	cond V	iew		(0050 _H)					Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		
	'	•				'	STM	_31_0	1			•			"		
	1	1	I	I	l	I .	1	r	I	I	I .	1	l	I			
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
	'	•	1	1			STM	_31_0	ı.	ı				1	'		
	1	1	l	<u> </u>	1	1	1	r	<u> </u>	l	I	1	1	l			

Field	Bits	Туре	Description
STM_31_0	31:0	r	System Timer Bits [31:0] - STM[31:0]
			This bit field contains bits [31:0] of the 64-bit STM.



Timer Register 1

TIM1

Timer	Registe	er 1					(0014 _H) Application Reset Value: 0000 0000							0000 _H	
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
							STM	_35_4							
<u>I</u>						1	1	r					II.		
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
							STM	_35_4							
	1	1	1	1	1	1	1	r	1	1	1	1	1		

Field	Bits	Туре	Description
STM_35_4	31:0	r	System Timer Bits [35:4] - STM[35:4] This bit field contains bits [35:4] of the 64-bit STM.

Timer Register 2

TIM2

Timer	Registe	er 2				(0018 _H)				Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	
							STM_	_39_8								
	1		II.		II.	II.		r	II.		II.	II.	II.	<u>I</u>		
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	1	ı	ı	1	ı	ı	STM_	_39_8	ı		ı	ı	ı	1	1	
1	1		1	1	1	1	1	r	1		1	1	1			

Field	Bits	Type	Description
STM_39_8	31:0	r	System Timer Bits [39:8] - STM[39:8]
			This bit field contains bits [39:8] of the 64-bit STM.

Timer Register 3

TIM3

Timer	Regist	er 3				(001C _H)				Application Reset Value: 0000 0000 _H							
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		
	•	•	•	•		ı	STM_	43_12	1	1		1	1	1			
<u> </u>	1	1	1	1	1	1		r	I	I	1	I	I	I			
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
							STM_	43_12									
1	Į.	Į.	1	1	1	1	·	r	1	1	1	1	1	1			



Field	Bits	Туре	Description
STM_43_12	31:0	r	System Timer Bits [43:12] - STM[43:12] This bit field contains bits [43:12] of the 64-bit STM.

Timer Register 4

TIM4

Timer	Regist	er 4				(0020 _H)					Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		
	•	ı	,	,	,	ļ.	STM_	47_16	Į.	ļ	ı	ı	ı	ļ.	'		
	1	I	1	1	1	I	1	r	I	I	I	I	I	I			
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
	1	ı	ı	ı	ı	ı	STM_	47_16	I	ı	ı	ı	ı	ı	ı		
L	1	1				1		r			1	1	1	1			

Field	Bits	Туре	Description
STM_47_16	31:0	r	System Timer Bits [47:16] - STM[47:16]
			This bit field contains bits [47:16] of the 64-bit STM.

Timer Register 5

TIM5

Timer Register 5							(0024 _H)				Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		
	ı	ı	1	!	!	!	STM_	51_20	Į.		!	!					
		1	1	1	1	1	-	r			1	1					
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
							STM_	51_20									
1		1	1	II	II		1	r			II	II					

Field	Bits	Туре	Description
STM_51_20	31:0	r	System Timer Bits [51:20] - STM[51:20] This bit field contains bits [51:20] of the 64-bit STM.



Timer Register 6

TIM6

Timer Register 6							(0028 _H)				Application Reset Value: 0000 0000 _H						
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		
	ı.	ļ.	ļ.	i	ļ.	ŗ	STM_	63_32				ļ	i.				
<u> </u>	r																
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
	STM_63_32																
<u> </u>	1	1	1	1	1	1		r				ļ	1				

Field	Bits	Туре	Description
STM_63_32	31:0	r	System Timer Bits [63:32] - STM[63:32] This bit field contains bits [63:32] of the 64-bit STM.

Timer Capture Register

CAP

Timer Capture Register							(002C _H)				Application Reset Value: 0000 0000 _H						
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	
		•	•	ı.	ı	'	!	STMCA	P_63_32	2		1		1	!	'	
	rh																
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	STMCAP_63_32																
j				<u> </u>	1			r	·h	1	1	<u> </u>	1				

Field	Bits	Туре	Description					
STMCAP_63_3 2	31:0	rh	Captured System Timer Bits [63:32] - STMCAP[63:32] The capture register STMCAP always captures the STM bits [63:32] when one of the registers TIM0 to TIM6 or TIM0SV is read. This capture operation is performed in order to enable software to operate with a coherent value of all the 64 STM bits at one time stamp. This bit field contains bits [63:32] of the 64-bit STM.					
		register	Note: Reading register TIMOSV captures also the read value for register TIM6. In this way reading TIMOSV followed by CAPSV delivers the timer values for the first read request.					