

# Rage 128 Register Reference Supplement

## Rage 128 Bus Master Registers

BM_FRAME_BUF_OFFSET [R] 32-bits Access: 32		MMR: 0A00, MMR_1: 0A00, IND: 0A00	
Field Name	Bits	Default	Description
FRAME_BUF_OFFSET	26:0	0	<No Description>
(reserved)	31:27		

BM_SYSTEM_MEM_ADDR [R] 32-bits Access: 32		MMR: 0A04, MMR_1: 0A04, IND: 0A04	
Field Name	Bits	Default	Description
SYSTEM_MEM_ADDR	31:0	0	<No Description>

BM_COMMAND [R] 32-bits Access: 32		MMR: 0A08, MMR_1: 0A08, IND: 0A08	
Field Name	Bits	Default	Description
BYTE_COUNT	20:0	0	<No Description>
(reserved)	26:21		
INTERRUPT_DIS	27	0	<No Description> 0=Normal 1=Disable the end of list interrupt
TRANSFER_DEST	28	0	<No Description> 0=Transfer to/from frame buffer memory 1=Transfer to/from registers
FORCE_TO_PCI	29	0	<No Description> 0=Transfer on AGP, if bus type is AGP, otherwise transfer on PCI bus 1=Force transfer to be on PCI bus, regardless of bus type
FRAME_OFFSET_HOLD	30	0	<No Description> 0=Increment 1=Hold
END_OF_LIST_STATUS	31	0	<No Description> 0=Normal 1=End of Descriptor List

BM_STATUS [R] 32-bits Access: 32		MMR: 0A0C, MMR_1: 0A0C, IND: 0A0C	
Field Name	Bits	Default	Description
BUS_MASTER_STATUS	31:0	0	<No Description>

BM_QUEUE_STATUS [R] 32-bits Access: 32		MMR: 0A10, MMR_1: 0A10, IND: 0A10	
Field Name	Bits	Default	Description
BM_VIP0_EMPTY	3:0	2	<No Description>
BM_VIP1_EMPTY	7:4	2	<No Description>
BM_VIP2_EMPTY	11:8	2	<No Description>
BM_VIP3_EMPTY	15:12	2	<No Description>
(reserved)	19:16		
BM_VIDCAP_EMPTY	23:20	8	<No Description>

<b>BM_QUEUE_STATUS</b> [R] 32-bits Access: 32		<b>MMR: 0A10, MMR_1: 0A10, IND: 0A10</b>	
BM_VIP0_ACTIVE	24	0	<No Description> 0=All VIP0 queue transfers are all done 1=A VIP0 queue transfer is active
BM_VIP1_ACTIVE	25	0	<No Description> 0=All VIP1 queue transfers are all done 1=A VIP1 queue transfer is active
BM_VIP2_ACTIVE	26	0	<No Description> 0=All VIP2 queue transfers are all done 1=A VIP2 queue transfer is active
BM_VIP3_ACTIVE	27	0	<No Description> 0=All VIP3 queue transfers are all done 1=A VIP3 queue transfer is active
(reserved)	29:28		
BM_GUI_ACTIVE	30	0	<No Description> 0=All GUI queue transfers are all done 1=A GUI queue transfer is active
BM_VIDCAP_ACTIVE	31	0	<No Description> 0=All video capture queue transfers are all done 1=A video capture queue transfer is active

<b>BM_QUEUE_FREE_STATUS</b> [R] 32-bits Access: 32		<b>MMR: 0A14, MMR_1: 0A14, IND: 0A14</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_VIP0_FREE	3:0	2	<No Description>
BM_VIP1_FREE	7:4	2	<No Description>
BM_VIP2_FREE	11:8	2	<No Description>
BM_VIP3_FREE	15:12	2	<No Description>
(reserved)	19:16		
BM_VIDCAP_FREE	23:20	8	<No Description>
BM_VIP0_ACTIVE	24	0	<No Description> 0=All VIP0 queue transfers are all done 1=A VIP0 queue transfer is active
BM_VIP1_ACTIVE	25	0	<No Description> 0=All VIP1 queue transfers are all done 1=A VIP1 queue transfer is active
BM_VIP2_ACTIVE	26	0	<No Description> 0=All VIP2 queue transfers are all done 1=A VIP2 queue transfer is active
BM_VIP3_ACTIVE	27	0	<No Description> 0=All VIP3 queue transfers are all done 1=A VIP3 queue transfer is active
(reserved)	29:28		
BM_GUI_ACTIVE	30	0	<No Description> 0=All GUI queue transfers are all done 1=A GUI queue transfer is active
BM_VIDCAP_ACTIVE	31	0	<No Description> 0=All video capture queue transfers are all done 1=A video capture queue transfer is active

BM_CHUNK_0_VAL [RW] 32-bits Access: 32		MMR: 0A18, MMR_1: 0A18, IND: 0A18	
Field Name	Bits	Default	Description
BM_VIDCAP_CHUNK	20:0	FFh	<No Description>
BM_PTR_FORCE_TO_PCI	21	0	<No Description> 0=Transfer on AGP, if bus type is AGP, otherwise transfer on PCI bus 1=Force transfer to be on PCI bus, regardless of bus type
BM_PM4_RD_FORCE_TO_PCI	22	0	<No Description> 0=Transfer on AGP, if bus type is AGP, otherwise transfer on PCI bus 1=Force transfer to be on PCI bus, regardless of bus type
BM_GLOBAL_FORCE_TO_PCI	23	0	<No Description> 0=Transfer on AGP, if bus type is AGP, otherwise transfer on PCI bus 1=Force transfer to be on PCI bus, regardless of bus type
(reserved)	27:24		
BM_VIP3_NOCHUNK	28	0	<No Description> 0=Use chunk value 1=Use infinity for the chunk value
BM_VIP2_NOCHUNK	29	0	<No Description> 0=Use chunk value 1=Use infinity for the chunk value
BM_VIP1_NOCHUNK	30	0	<No Description> 0=Use chunk value 1=Use infinity for the chunk value
BM_VIP0_NOCHUNK	31	0	<No Description> 0=Use chunk value 1=Use infinity for the chunk value

BM_CHUNK_1_VAL [RW] 32-bits Access: 32		MMR: 0A1C, MMR_1: 0A1C, IND: 0A1C	
Field Name	Bits	Default	Description
BM_VIP0_CHUNK	7:0	0Fh	<No Description>
BM_VIP1_CHUNK	15:8	0Fh	<No Description>
BM_VIP2_CHUNK	23:16	0Fh	<No Description>
BM_VIP3_CHUNK	31:24	0Fh	<No Description>

BM_VIP0_BUF [RW] 32-bits Access: 32		MMR: 0A20, MMR_1: 0A20, IND: 0A20	
Field Name	Bits	Default	Description
BM_TRIGGER_VIPBUF0	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPBUF0	31:4	0	<No Description>

BM_VIP1_BUF [RW] 32-bits Access: 32			MMR: 0A30, MMR_1: 0A30, IND: 0A30
Field Name	Bits	Default	Description
BM_TRIGGER_VIPBUF1	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPBUF1	31:4	0	<No Description>

BM_VIP2_BUF [RW] 32-bits Access: 32			MMR: 0A40, MMR_1: 0A40, IND: 0A40
Field Name	Bits	Default	Description
BM_TRIGGER_VIPBUF2	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPBUF2	31:4	0	<No Description>

BM_VIP3_BUF [RW] 32-bits Access: 32			MMR: 0A50, MMR_1: 0A50, IND: 0A50
Field Name	Bits	Default	Description
BM_TRIGGER_VIPBUF3	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPBUF3	31:4	0	<No Description>

<b>BM_VIP0_ACTIVE</b> [R] 32-bits Access: 32		<b>MMR: 0A24, MMR_1: 0A24, IND: 0A24</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIPACT0	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPACT0	31:4	0	<No Description>

<b>BM_VIP1_ACTIVE</b> [R] 32-bits Access: 32		<b>MMR: 0A34, MMR_1: 0A34, IND: 0A34</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIPACT1	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPACT1	31:4	0	<No Description>

<b>BM_VIP2_ACTIVE</b> [R] 32-bits Access: 32		<b>MMR: 0A44, MMR_1: 0A44, IND: 0A44</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIPACT2	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPACT2	31:4	0	<No Description>

<b>BM_VIP3_ACTIVE</b> [R] 32-bits Access: 32		<b>MMR: 0A54, MMR_1: 0A54, IND: 0A54</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIPACT3	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIPACT3	31:4	0	<No Description>

<b>BM_VIDCAP_BUF0</b> [RW] 32-bits Access: 32		<b>MMR: 0A60, MMR_1: 0A60, IND: 0A60</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIDBUF0	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIDBUF0	31:4	0	<No Description>

<b>BM_VIDCAP_BUF1</b> [RW] 32-bits Access: 32		<b>MMR: 0A64, MMR_1: 0A64, IND: 0A64</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIDBUF1	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIDBUF1	31:4	0	<No Description>

<b>BM_VIDCAP_BUF2</b> [RW] 32-bits Access: 32		<b>MMR: 0A68, MMR_1: 0A68, IND: 0A68</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIDBUF2	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIDBUF2	31:4	0	<No Description>

<b>BM_VIDCAP_ACTIVE</b> [RW] 32-bits Access: 32		<b>MMR: 0A6C, MMR_1: 0A6C, IND: 0A6C</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_VIDACT	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_VIDACT	31:4	0	<No Description>

<b>BM_GUI</b> [RW] 32-bits Access: 32		<b>MMR: 0A80, MMR_1: 0A80, IND: 0A80</b>	
<b>Field Name</b>	<b>Bits</b>	<b>Default</b>	<b>Description</b>
BM_TRIGGER_GUI	3:0	0	<No Description> 0=System->Frame immediately 1=Frame->System immediately 6=System->MPP immediately 7=MPP->System immediately 8=VIP0->System on VIP read buf trig 9=VIP1->System on VIP read buf trig 10=VIP2->System on VIP read buf trig 11=VIP3->System on VIP read buf trig 12=System->VPI0 on VIP write buf trig 13=System->VPI1 on VIP write buf trig 14=System->VPI2 on VIP write buf trig 15=System->VPI3 on VIP write buf trig
BM_TABLE_ADDR_GUI	31:4	0	<No Description>

BM_ABORT		MMR: 0A88, MMR_1: 0A88, IND: 0A88	
[RW] 32-bits Access: 32			
Field Name	Bits	Default	Description
BM_ABORT_QUE	2:0	0	<No Description> 0=queue number to abort
(reserved)	3		
BM_ABORT_EN	4	0	<No Description> 0=Normal 1=Enable queue abort
(reserved)	31:5		