|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| FETCH | DECODE | EXECUTE | MEMORY | WRITEBACK | GEOMETRY | RASTERIZE | GPU |
| I\_CLOCK  I\_LOCK  I\_BracnAddrSelect  I\_BranchPC  I\_BranchPCSignal  I\_DepStallSignal | I\_CLOCK  I\_LOCK  I\_PC  I\_IR  I\_WriteBackEnable  I\_WriteBackIdx  I\_WriteBackData  I\_WriteBackEnableV  I\_WriteBackIdxV  I\_WriteBackIdxV\_Idx  I\_WriteBackDataV  I\_FetchStall | I\_CLOCK  I\_LOCK  I\_PC  I\_Opcode  I\_Imm  I\_DestRegIdx  I\_DestValue  I\_Src1Value  I\_Src2Value  I\_DestRegIdxV  I\_DestRegIdxV\_Idx  I\_DestValueV  I\_Src1ValueV  I\_Src2ValueV  I\_FetchStall  I\_DepStall | I\_CLOCK  I\_LOCK  I\_Opcode  I\_ALUOut  I\_DestRegIdx  I\_DestValue  I\_ALUOutV  I\_DestRegIdxV  I\_DestRegIdxV\_Idx  I\_DestValueV  I\_Type  I\_FetchStall  I\_DepStall | I\_CLOCK  I\_LOCK  I\_Opcode  I\_ALUOut  I\_DestRegIdx  I\_DestValue  I\_ALUOutV  I\_DestRegIdxV  I\_DestRegIdxV\_Idx  I\_DestValueV  I\_Type  I\_FetchStall  I\_DepStall | I\_CLOCK  I\_LOCK  I\_Opcode  I\_VR  I\_Type  I\_FetchStall  I\_DepStall | I\_CLOCK  I\_LOCK  I\_Opcode  I\_FetchStall  I\_DepStall | I\_CLK  I\_RST\_N  I\_VIDEO\_ON  I\_GPU\_DATA |
| O\_LOCK  O\_PC  O\_IR  O\_FetchStall | O\_LOCK  O\_PC  O\_Opcode  O\_Imm  O\_DestRegIdx  O\_DestValue  O\_Src1Value  O\_Src2Value  O\_DestRegIdxV  O\_DestRegIdxV\_Idx  O\_DestValueV  O\_Src1ValueV  O\_Src2ValueV  O\_FetchStall  O\_DepStall  O\_BranchStallSignal  O\_DepStallSignal | O\_LOCK  O\_Opcode  O\_ALUOut  O\_DestRegIdx  O\_DestValue  O\_ALUOutV  O\_DestRegIdxV  O\_DestRegIdxV\_Idx  O\_DestValueV  O\_Type  O\_FetchStall  O\_DepStall | O\_LOCK  O\_Opcode  O\_ALUOut  O\_MemOut  O\_DestRegIdx  O\_DestValue  O\_DestRegIdx  O\_ALUOutV  O\_DestRegIdxV  O\_DestRegIdxV\_Idx  O\_DestValueV  O\_Type  O\_BranchAddrSelect  O\_BranchPC  O\_LEDR  O\_LEDG  O\_HEX0  O\_HEX1  O\_HEX2  O\_HEX3  O\_FetchStall  O\_DepStall | O\_LOCK  O\_Opcode  O\_DestValueV  O\_WriteBackEnable  O\_WriteBackIdx  O\_WriteBackData  O\_WriteBackEnableV  O\_WriteBackIdxV  O\_WriteBackIdxV\_Idx  O\_WriteBackDataV  O\_FetchStall  O\_DepStall | O\_LOCK  O\_Opcode  O\_FetchStall  O\_DepStall | O\_LOCK | O\_GPU\_DATA  O\_GPU\_ADDR  O\_GPU\_READ  O\_GPU\_WRITE |