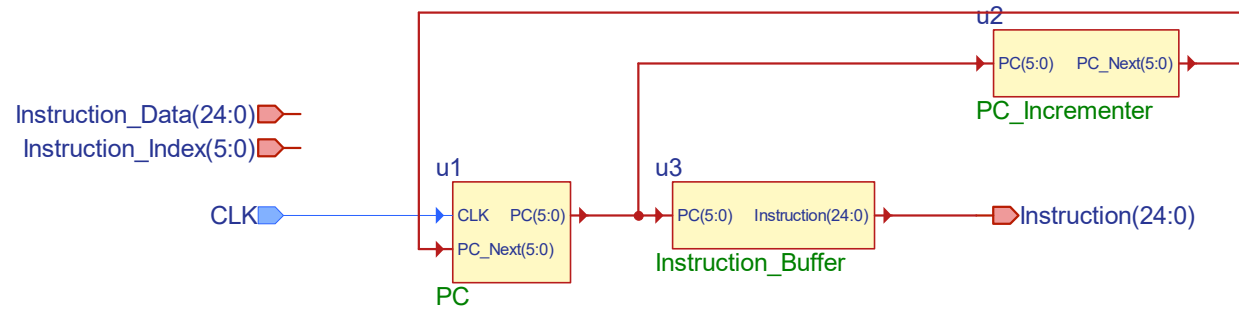



# IF Stage

## Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

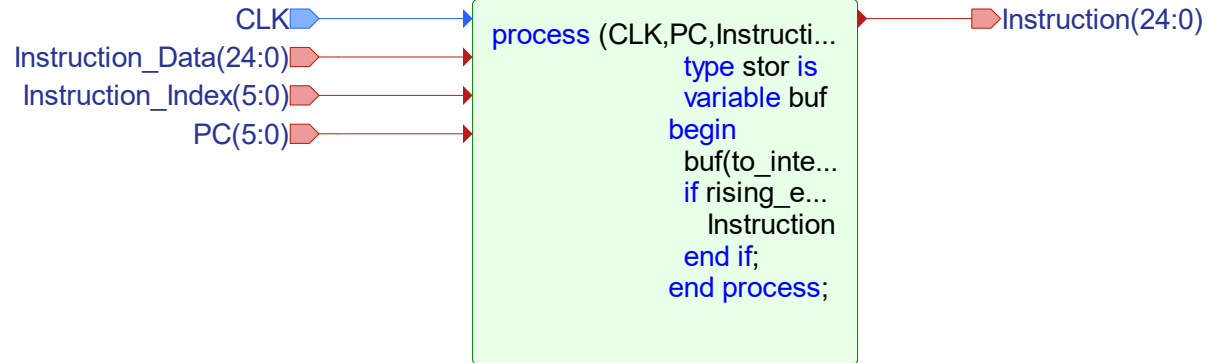


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# Instruction Buffer

## Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```



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# PC Adder

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```

PC(5:0)

process (PC)

```
begin  
  PC_Next ...  
end process;
```

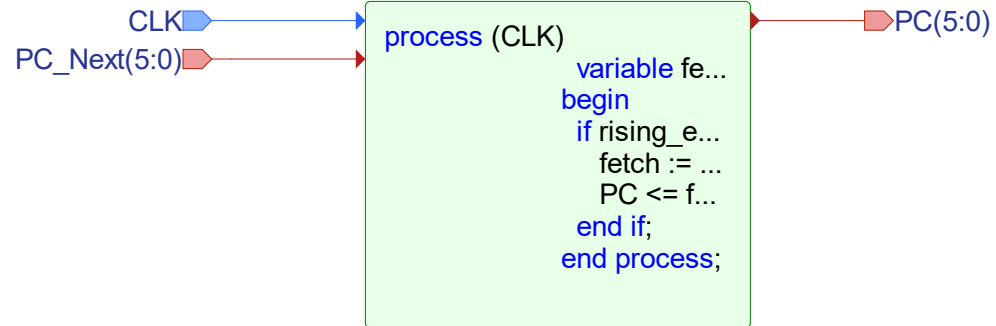
PC\_Next(5:0)


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# PC

## Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

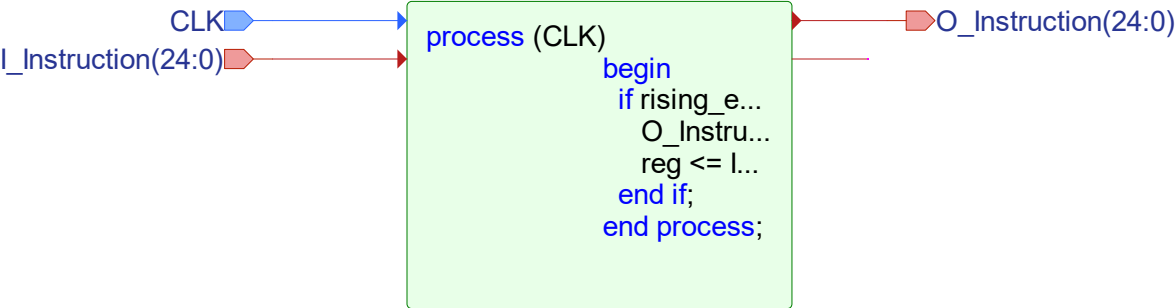



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# IF/ID Register

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

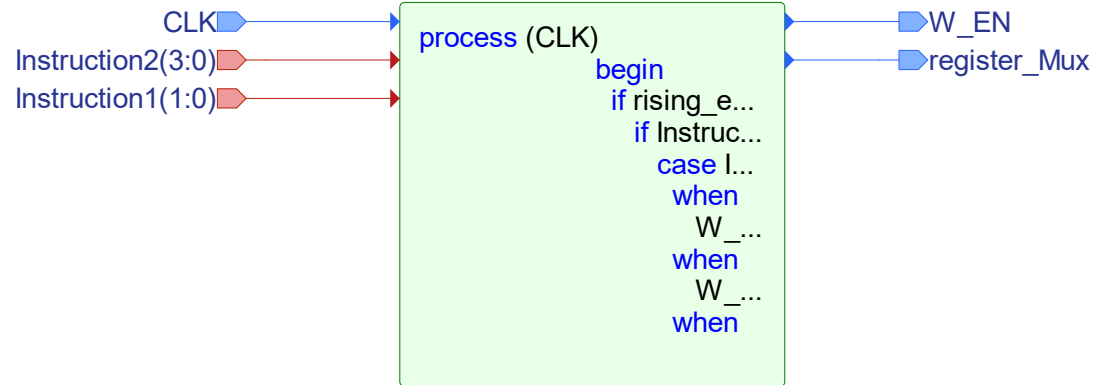



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# Control Unit

## Design Unit Header

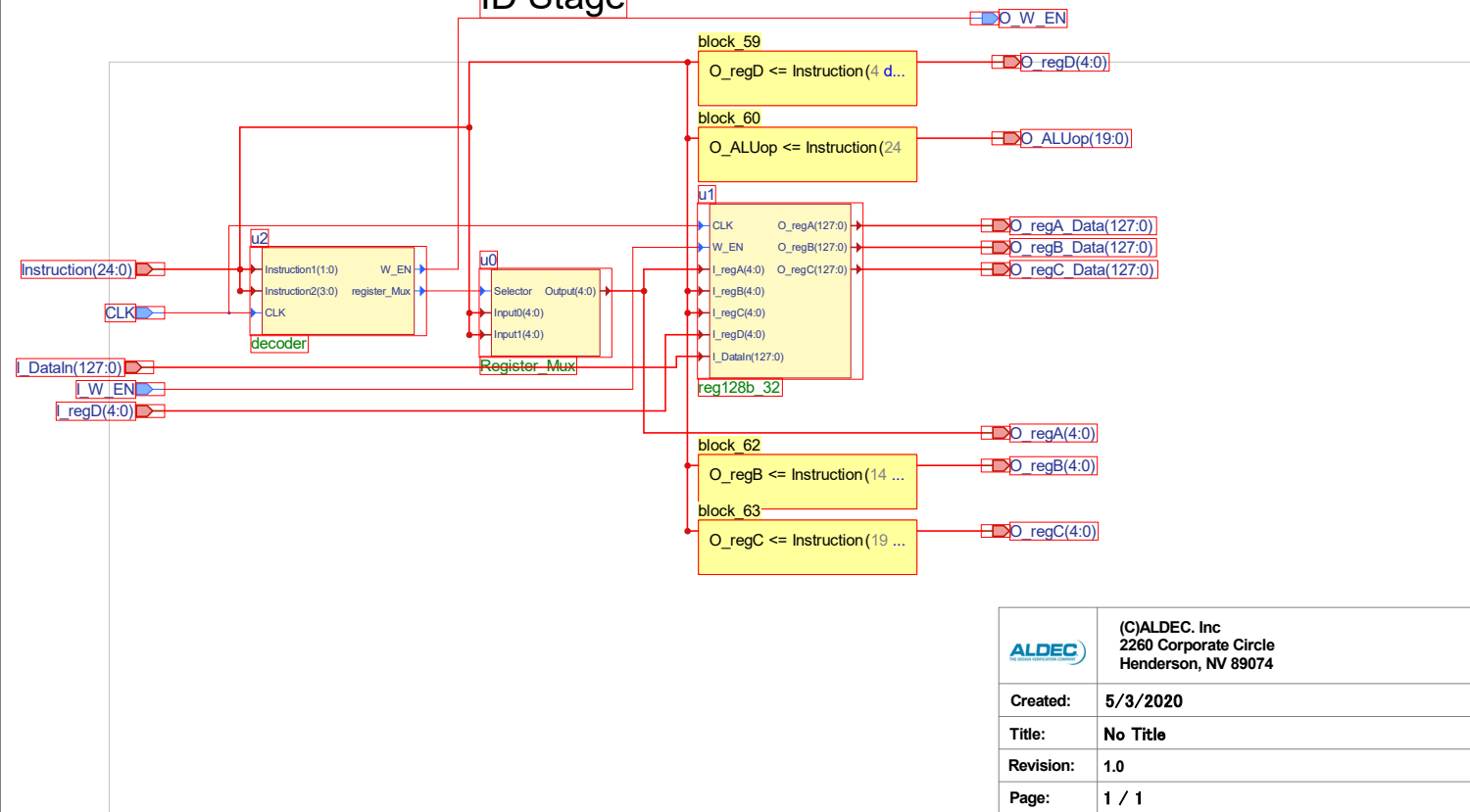
```
library ieee;  
use ieee.std_logic_1164.all;
```




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# ID Stage

## Project ID\_Stage



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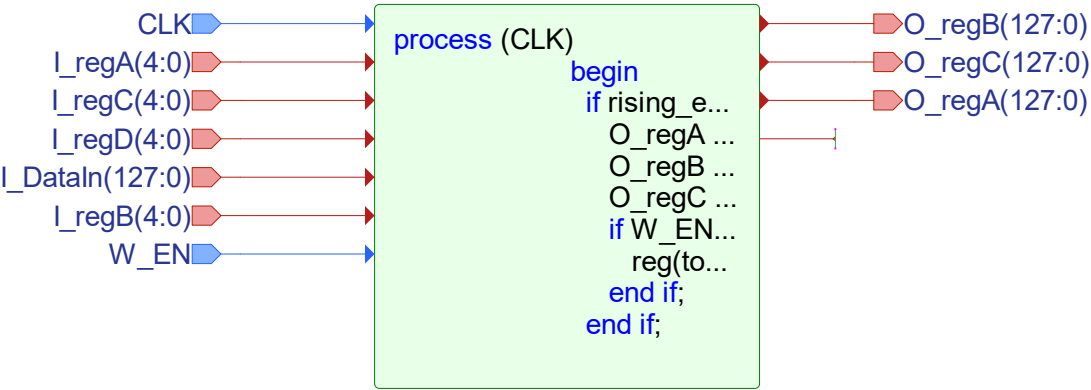
# 32 128 bits Register File

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```

Architecture Declaration

```
--Added by Active-HDL. D...  
type stor is array (0 to 31)  
--End of extra code.
```



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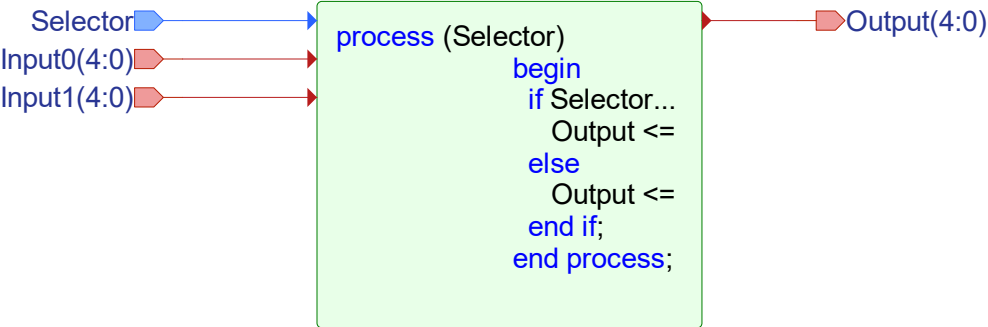
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# Register Mux

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

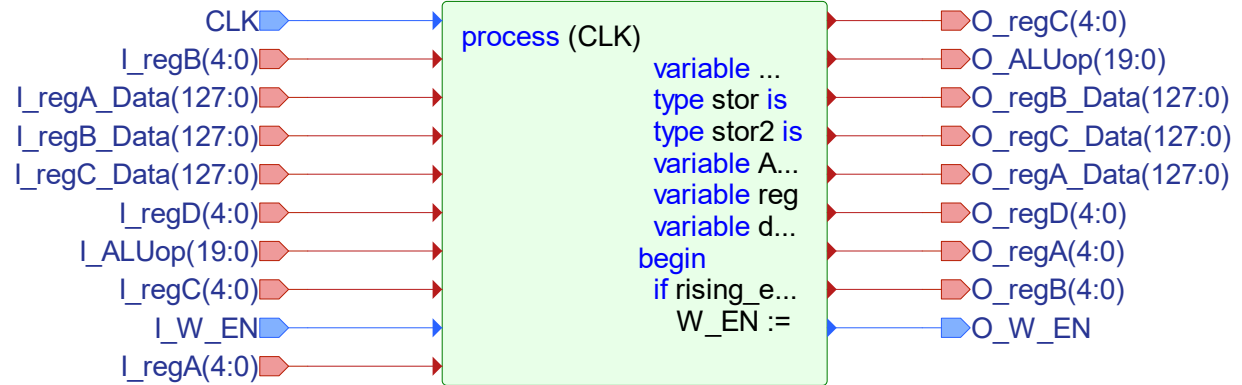



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# ID/EX Register

## Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```



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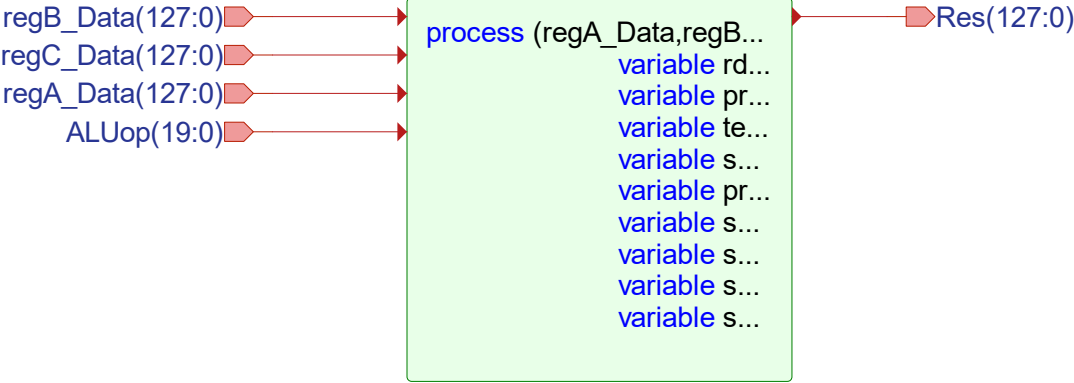
# ALU

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```

Architecture Declaration

```
constant sat_low_int : std...  
constant sat_high_int : st...  
constant sat_high : std_lo...  
constant sat_low : std_log...  
constant sat_low_long : st...  
constant sat_high_long : ...
```

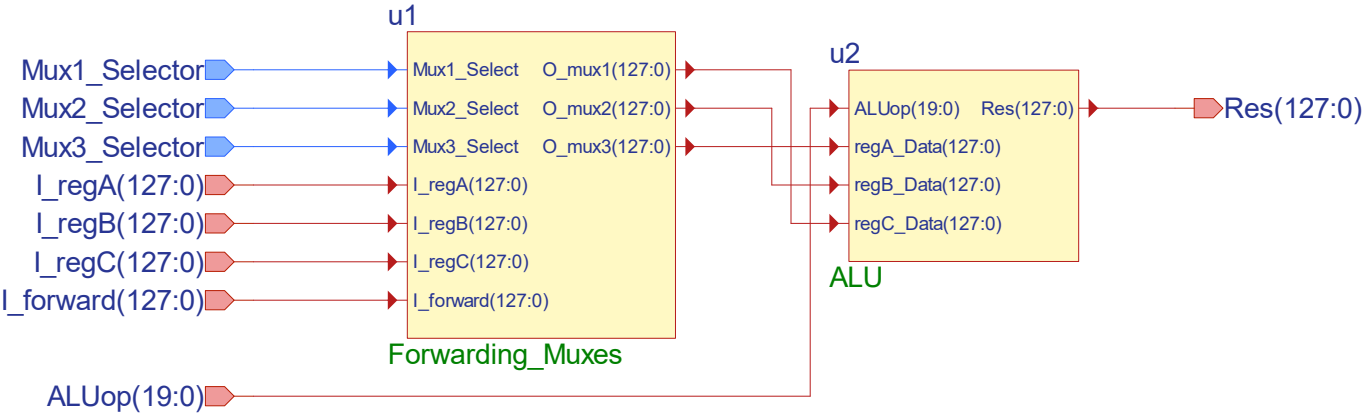


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# EX Stage

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```



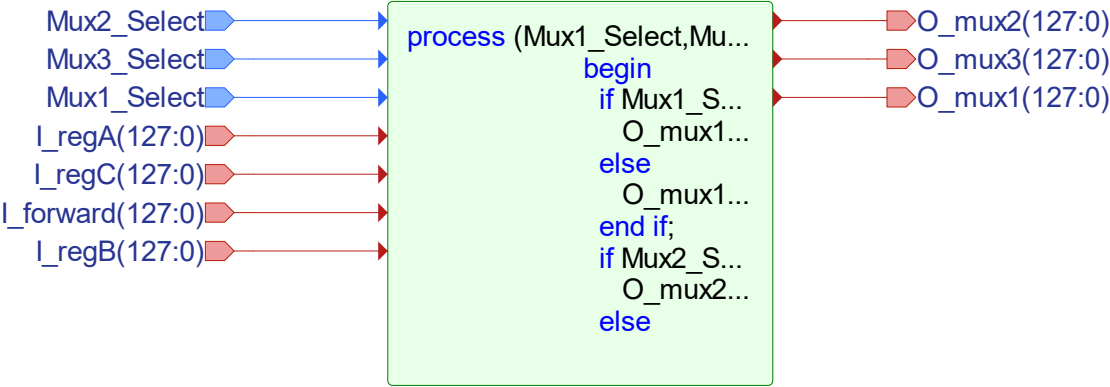
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# Forwarding Muxes

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

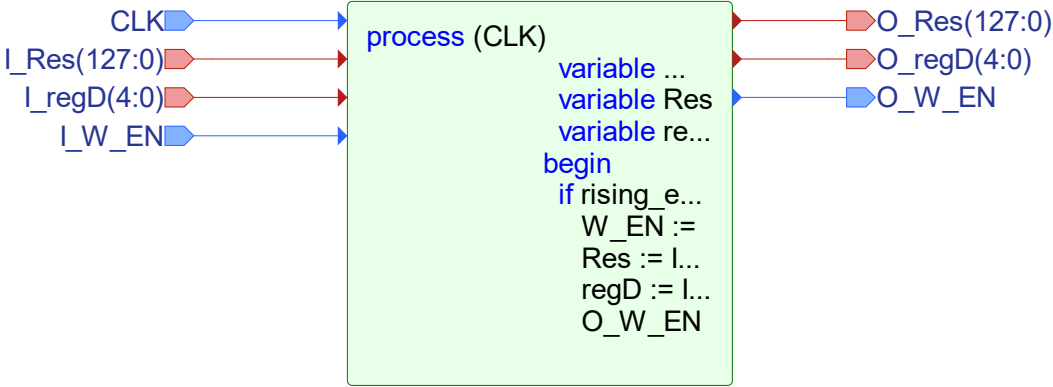


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# EX/WB Register

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```

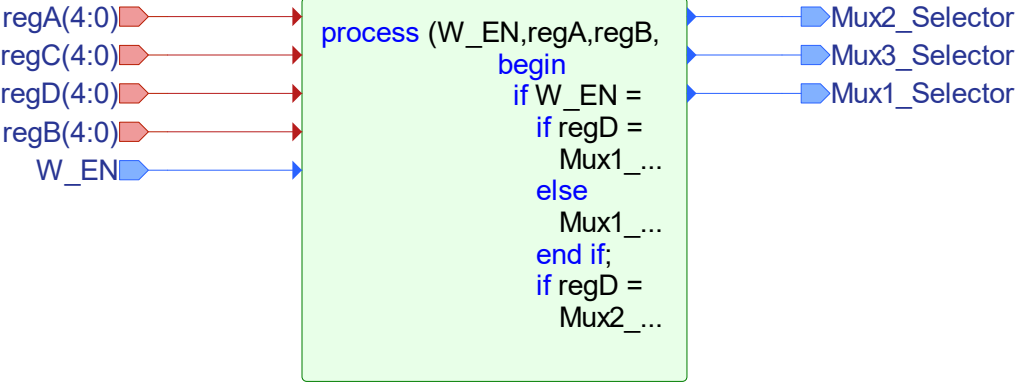


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# Forwarding Unit

Design Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;
```



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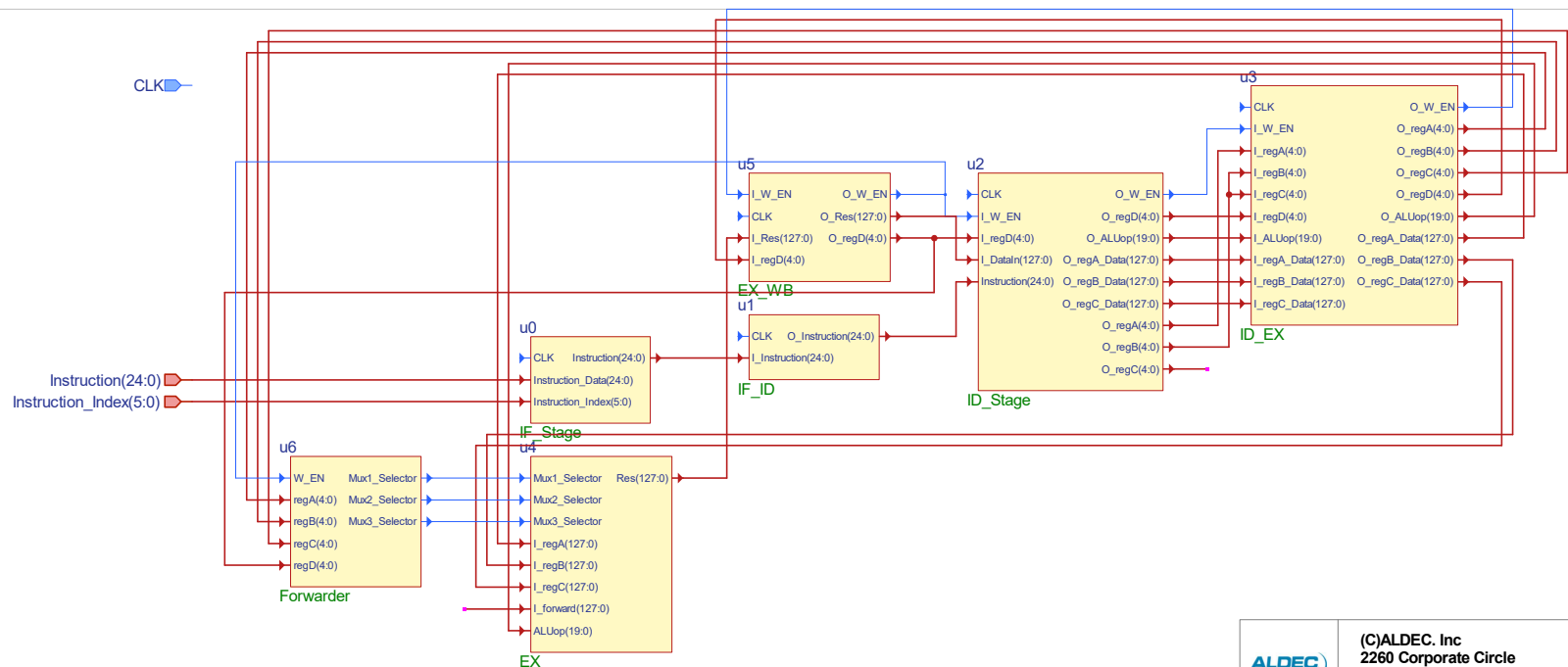



Project Pipeline

# 4-Stage Pipelined Multimedia Unit

CLK  
esign Unit Header

```
library ieee;  
use ieee.std_logic_1164.all;  
use ieee.NUMERIC_STD....
```



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