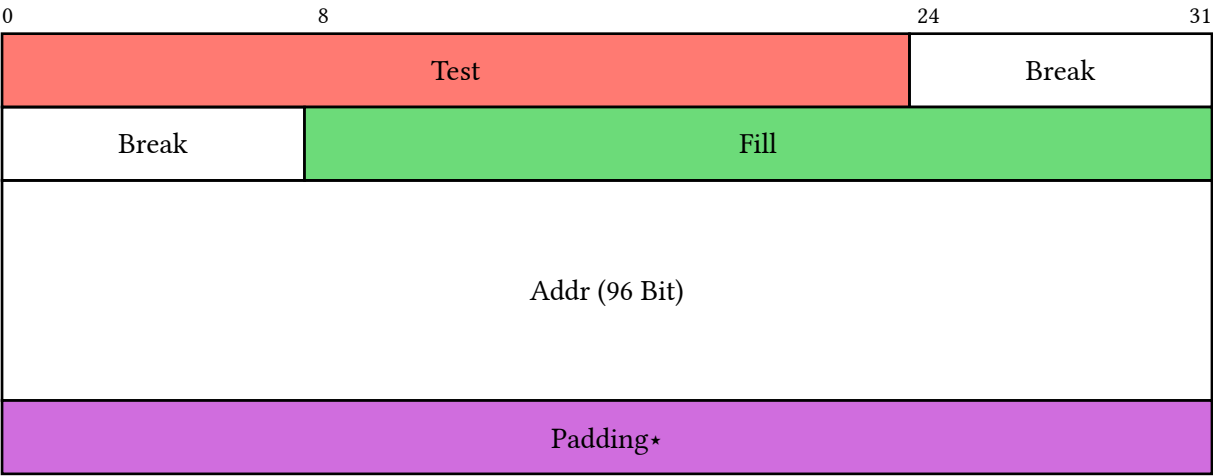


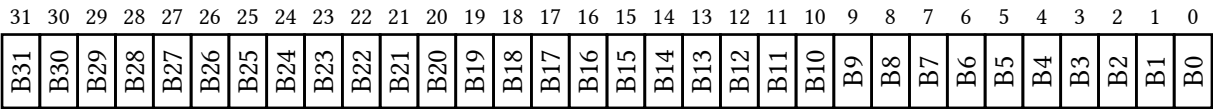
Bytefield

Colored Example



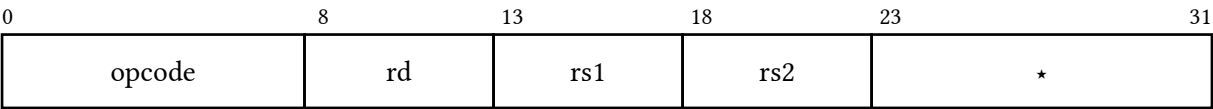
Show all bits in the bitheader

Show all bit headers with bitheader: "all"



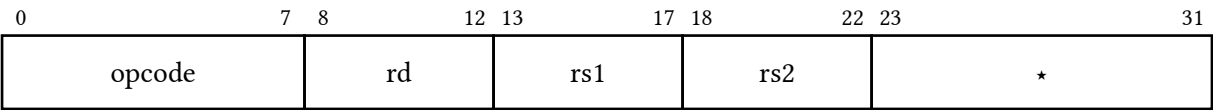
Smart bit header

Show start bit of each bitbox with bitheader: "smart".



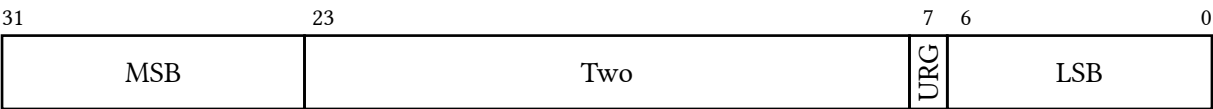
Bounds bit header

Show start bit of each bitbox with bitheader: "bounds".



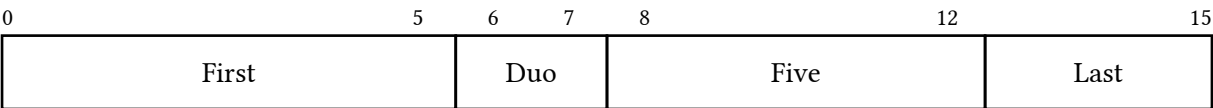
Reversed bit order

Select msb_first: true for a reversed bit order.



Custom bit header

Pass an array to specify each number.



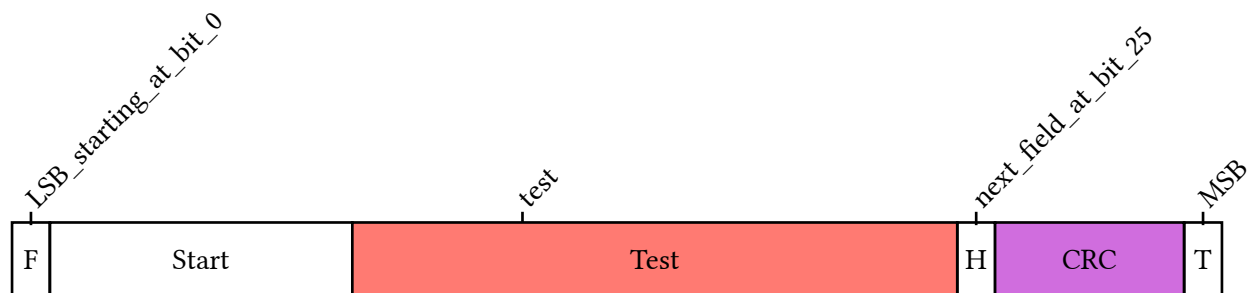
Pass an integer to show all multiples of this number.

0	3	6	9	12	15
First		Duo	Five		Last

Text header instead of numbers [WIP]

Pass an dictionary as bitheader. Example:

```
#let myCustomTextBitheader = (  
  "0": "LSB_starting_at_bit_0",  
  "13": "test",  
  "24": "next_field_at_bit_24",  
  "31": "MSB",  
  angle: -40deg,  
  marker: auto // or none  
)
```



Pre/Post columns

Define additional columns with before the bitfield with pre or behind the bitfield with post and pass any tablex object.

You can use the helpers `left_aligned` and `right_aligned` for left and right aligned text.

```
#bytefield(  
  bits:1,  
  pre:(auto,),  
  post:(auto,),  
  right_aligned[0x0],  
  bit[some thing],  
  left_aligned[first word],  
  right_aligned[0x10],  
  bit[some other thing],  
  left_aligned[second word],  
)
```

0x0	some thing	first word
0x10	some other thing	second word

Some predefined network protocols

IPv4

0	4	8	16	19	24	31
Version	TTL	TOS	Total Length			
Identification			Flags	Fragment Offset		
TTL		Protocol	Header Checksum			
Source Address						
Destination Address						
Options					Padding	

IPv6

0	4	12	16	24	31
Version	Traffic Class	Flowlabel			
Payload Length			Next Header	Hop Limit	
Source Address (128 Bit)					
Destination Address (128 Bit)					

ICMP

0		8	16	31
Type		Code	Checksum	
Identifier			Sequence Number	
Optional Data ★				

ICMPv6

0	8	16	31
Type	Code	Checksum	
Internet Header + 64 bits of Original Data Datagram *			

DNS

0	16	31
Identification		Flags
Number of Questions		Number of answer RRs
Number of authority RRs		Number of additional RRs
Questions (64 Bit)		
Answers (variable number of resource records) (64 Bit)		
Authority (variable number of resource records) (64 Bit)		
Additional information (variable number of resource records) (64 Bit)		

TCP

0	4	10	16	24	31
Source Port			Destinatino Port		
Sequence Number					
Acknowledgment Number					
Data Offset	Reserved		Flags	Window	
Checksum			Urgent Pointer		
Options				Padding	
...DATA...*					

0	4	10	11	12	13	14	15	16	24	31	
Source Port								Destinatino Port			
Sequence Number											
Acknowledgment Number											
Data Offset	Reserved		URG	ACK	PSH	RST	SYN	FIN	Window		
Checksum								Urgent Pointer			
Options									Padding		
...DATA...★											

UDP

0	16	31
Source Port		Destinatino Port
Length		Checksum
...DATA...*		