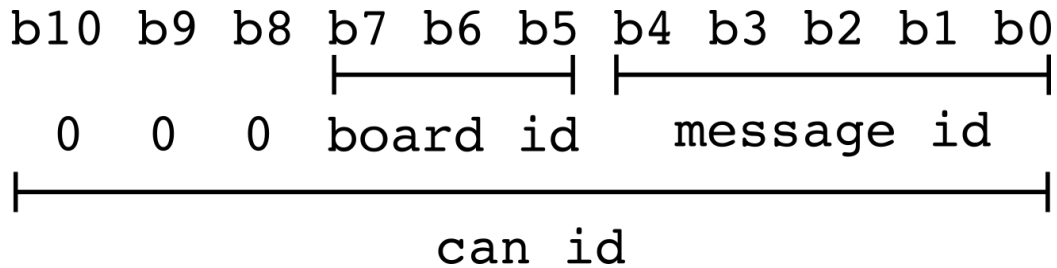


6 boards ==> 3 bits ==> $2^3 = 8$ values
 8 messages ==> 3 bits ==> $2^3 = 8$ values

BITS LAYOUT

In the CAN protocol the standard id is compound by 11 bits.



BOARD IDENTIFIERS

LEFT HIP	(LH)	=> 000 001 00000	=> BOARD ID 32 (0x020)
LEFT KNEE	(LK)	=> 000 010 00000	=> BOARD ID 64 (0x040)
LEFT ANKLE	(LA)	=> 000 011 00000	=> BOARD ID 96 (0x060)
RIGHT HIP	(RH)	=> 000 100 00000	=> BOARD ID 128 (0x080)
RIGHT KNEE	(RK)	=> 000 101 00000	=> BOARD ID 160 (0x0A0)
RIGHT ANKLE	(RA)	=> 000 110 00000	=> BOARD ID 192 (0x0C0)

MESSAGE IDENTIFIERS

BBB ==> DRIVER			
PID KP PACKET ID (KP)	=> 000 000 00001	=> 1 (0x001)	
PID KI PACKET ID (KI)	=> 000 000 00010	=> 2 (0x002)	
PID KD PACKET ID (KD)	=> 000 000 00011	=> 3 (0x003)	
PID SETPOINT PACKET ID (SS)	=> 000 000 00100	=> 4 (0x004)	
PRECOMPRESSION PACKET ID (PRE)	=> 000 000 00101	=> 5 (0x005)	
EVENT PACKET ID (EV)	=> 000 000 00110	=> 6 (0x006)	
REF ALPHA ANGLE ID (RAA)	=> 000 000 00111	=> 7 (0x007)	
REF FIX LINK ANGLE ID (RFLA)	=> 000 000 01000	=> 8 (0x008)	
AUX VAR ID (AUX)	=> 000 000 01001	=> 9 (0x009)	
BBB <== DRIVER			
SENSOR PACKET ID (SSP)	=> 000 000 11111	=> 31 (0x01F)	
JOINT STATE PACKET ID (JSP)	=> 000 000 11110	=> 30 (0x01E)	
PID PACKET ID (PDP)	=> 000 000 11101	=> 29 (0x01D)	

CAN IDENTIFIERS (EXAMPLES)

LH with KP => 000 001 00000 | 000 000 00001 => 000 001 00001
CAN ID 33 (0x021)

LH with KI => 000 001 00000 | 000 000 00010 => 000 001 00010
CAN ID 34 (0x022)

LH with KD => 000 001 00000 | 000 000 00011 => 000 001 00011
CAN ID 35 (0x023)

LH with SS => 000 001 00000 | 000 000 00100 => 000 001 00100
CAN ID 36 (0x024)

LH with PRE => 000 001 00000 | 000 000 00101 => 000 001 00101
CAN ID 37 (0x025)

LH with EV => 000 001 00000 | 000 000 00110 => 000 001 00110
CAN ID 38 (0x026)

LH with RAA => 000 001 00000 | 000 000 00111 => 000 001 00111
CAN ID 39 (0x027)

LH with RFLA => 000 001 00000 | 000 000 01000 => 000 001 01000
CAN ID 40 (0x028)

LH with AUX => 000 001 00000 | 000 000 01001 => 000 001 01001
CAN ID 41 (0x029)

LH with SSP => 000 001 00000 | 000 000 11111 => 000 001 11111
CAN ID 63 (0x03F)

LH with JSP => 000 001 00000 | 000 000 11110 => 000 001 11110
CAN ID 62 (0x03E)

LH with PDP => 000 001 00000 | 000 000 11101 => 000 001 11101
CAN ID 61 (0x03D)

LK with KP => CAN ID 65 (0x041)

LK with KI => CAN ID 66 (0x042)

LK with KD => CAN ID 67 (0x043)

LK with SS => CAN ID 68 (0x044)

LK with PRE => CAN ID 69 (0x045)

LK with EV => CAN ID 70 (0x046)

LK with RAA => CAN ID 71 (0x047)

LK with RFLA => CAN ID 72 (0x048)

LK with AUX => CAN ID 73 (0x049)

LK with SSP => CAN ID 95 (0x05F)

LK with JSP => CAN ID 94 (0x05E)

LK with PDP => CAN ID 93 (0x05D)

LA with KP => CAN ID 97 (0x061)

LA with KI => CAN ID 98 (0x062)

LA with KD => CAN ID 99 (0x063)

LA with SS => CAN ID 100 (0x064)

LA with PRE => CAN ID 101 (0x065)

LA with EV => CAN ID 102 (0x066)

LA with RAA => CAN ID 103 (0x067)
 LA with RFLA => CAN ID 104 (0x068)
 LA with AUX => CAN ID 105 (0x069)
 LA with SSP => CAN ID 127 (0x07F)
 LA with JSP => CAN ID 126 (0x07E)
 LA with PDP => CAN ID 125 (0x07D)

RH with KP => CAN ID 129 (0x081)
 RH with KI => CAN ID 130 (0x082)
 RH with KD => CAN ID 131 (0x083)
 RH with SS => CAN ID 132 (0x084)
 RH with PRE => CAN ID 133 (0x085)
 RH with EV => CAN ID 134 (0x086)
 RH with RAA => CAN ID 135 (0x087)
 RH with RFLA => CAN ID 136 (0x088)
 RH with AUX => CAN ID 137 (0x089)
 RH with SSP => CAN ID 159 (0x09F)
 RH with JSP => CAN ID 158 (0x09E)
 RH with PDP => CAN ID 157 (0x09D)

RK with KP => CAN ID 161 (0x0A1)
 RK with KI => CAN ID 162 (0x0A2)
 RK with KD => CAN ID 163 (0x0A3)
 RK with SS => CAN ID 164 (0x0A4)
 RK with PRE => CAN ID 165 (0x0A5)
 RK with EV => CAN ID 166 (0x0A6)
 RK with RAA => CAN ID 167 (0x0A7)
 RK with RFLA => CAN ID 168 (0x0A8)
 RK with AUX => CAN ID 169 (0x0A9)
 RK with SSP => CAN ID 191 (0x0BF)
 RK with JSP => CAN ID 190 (0x0BE)
 RK with PDP => CAN ID 189 (0x0BD)

RA with KP => CAN ID 193 (0x0C1)
 RA with KI => CAN ID 194 (0x0C2)
 RA with KD => CAN ID 195 (0x0C3)
 RA with SS => CAN ID 196 (0x0C4)
 RA with PRE => CAN ID 197 (0x0C5)
 RA with EV => CAN ID 198 (0x0C6)
 RA with RAA => CAN ID 199 (0x0C7)
 RA with RFLA => CAN ID 200 (0x0C8)
 RA with AUX => CAN ID 201 (0x0C9)
 RA with SSP => CAN ID 223 (0x0DF)
 RA with JSP => CAN ID 222 (0x0DE)
 RA with PDP => CAN ID 221 (0x0DD)

CAN FILERS AND CAN MASKS

Can mask for LH board => 111 111 10000
 Can filter for LH board => 000 001 00000

 Received id's 000 001 0XXXX
 From 32 (0x020) to 47 (0x02F)

Can mask for LK board => 111 111 10000
Can filter for LK board => 000 010 00000

Received id's 000 010 0XXXX
From 64 (0x040) to 79 (0x04F)

Can mask for LA board => 111 111 10000
Can filter for LA board => 000 011 00000

Received id's 000 011 0XXXX
From 96 (0x060) to 111 (0x06F)

Can mask for RH board => 111 111 10000
Can filter for RH board => 000 100 00000

Received id's 000 100 0XXXX
From 128 (0x080) to 143 (0x08F)

Can mask for RK board => 111 111 10000
Can filter for RK board => 000 101 00000

Received id's 000 101 0XXXX
From 160 (0x0A0) to 175 (0x0AF)

Can mask for RA board => 111 111 10000
Can filter for RA board => 000 110 00000

Received id's 000 110 0XXXX
From 192 (0x0C0) to 207 (0x0CF)