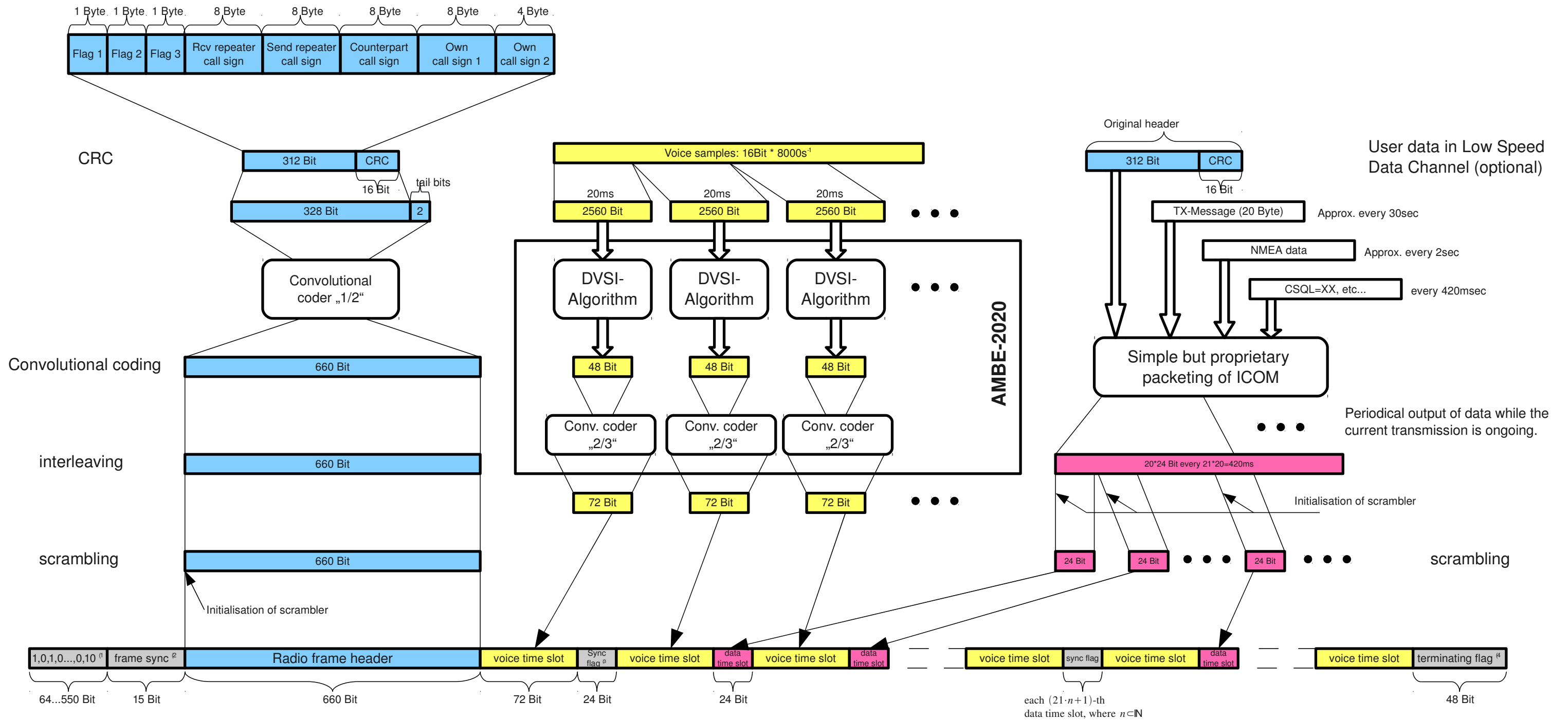


# D-STAR radio frame structure in DV mode



1) The preamble of radio frame according [shogen] consists of 64 bits (alternating 1 und 0). Based on the fact, that conventional amateur transmitter needs more time to lock its PLL after the PTT was activated, the preamble is transmitted up to 550bits (and longer), before the "frame sync" will be started.

The „frame sync“ is following bit pattern: {1,1,1,0,1,1,0,0,1,0,1,0,0,0,0}.

2) The "sync flag" consists of following bit pattern: {1,0,1,0,1,0,1,0,1,0} + {1,1,0,1,0,0,0} + {1,1,0,1,0,0,0}. The „sync flag“ is transmitted in the 1<sup>st</sup> and than in each 21<sup>th</sup> data time slot. The „sync flag“ is used in the receiver for correction of time synchronization to the transmitter as well it is used as preamble in case if the receiver was switched on during an ongoing transmission and missed the regular header.

3) The "terminating flag" is send at the end of the ongoing transmission in order to indicate a regular end of it. The "terminating flag" consists of {1,0,1,0,...,1,0,1,0}<sub>32 Bit</sub> + {0,0,0,1,0,0,1,1,0,1,0,1,1,1,1,0}<sub>16 Bit</sub>. After that approximately 20 Zeros or Ones are send. The

Transmitter is switched of (PTT deactivation) after 10<sup>th</sup> such Zero or One.