

# ADTS

Unlike the ADIF header, ADTS (Audio Data Transport Stream) headers are present before each AAC `raw_data_block` or block of 2 to 4 `raw_data_blocks`. Until the MPEG revision from Dec 2002 for MPEG-4 AAC ADTS headers, this was basically the same as a MP3 header, except that the emphasis field was not present for MPEG-2 AAC, only for MPEG-4 AAC.

Now the emphasis field (2 bits) has been abandoned completely, and thus MPEG-4 and MPEG-2 AAC ADTS headers are exactly the same except for the Object Type ID flag (MPEG-2 or MPEG-4). See also the Wiki page about MP4, because this is important when extracting MPEG-2 AAC files from a MP4 container with `mp4creator` or creating MP4 files from PsyTEL AAC encodings with this tool.

The ADTS header has the following fields:

**ADTS Fixed header:** these don't change from frame to frame

<i>Field name</i>	<i>Field size in bits</i>	<i>Comment</i>
Syncword	12	always: '111111111111'
ID	1	0: MPEG-4, 1: MPEG-2
Layer	2	always: '00'
protection_absent	1	
profile	2	
sampling_frequency_index	4	
private_bit	1	
channel_configuration	3	
original/copy	1	
home	1	

**ADTS Variable header:** these can change from frame to frame

<i>Field name</i>	<i>Field size in bits</i>	<i>Comment</i>
copyright_identification_bit	1	
copyright_identification_start	1	
aac_frame_length	13	length of the frame incl. header
adts_buffer_fullness	11	0x7FF indicates VBR
no_raw_data_blocks_in_frame	2	
ADTS Error check		
crc_check	16	only if protection_absent == 0

After that come (no\_raw\_data\_blocks\_in\_frame+1) raw\_data\_blocks.

**Some elaborations:**

profile

bits ID == 1 (MPEG-2 profile) ID == 0 (MPEG-4 Object type)

00 (0) Main profile AAC MAIN

01 (1) Low Complexity profile (LC) AAC LC

10 (2) Scalable Sample Rate profile (SSR) AAC SSR

11 (3) (reserved) AAC LTP