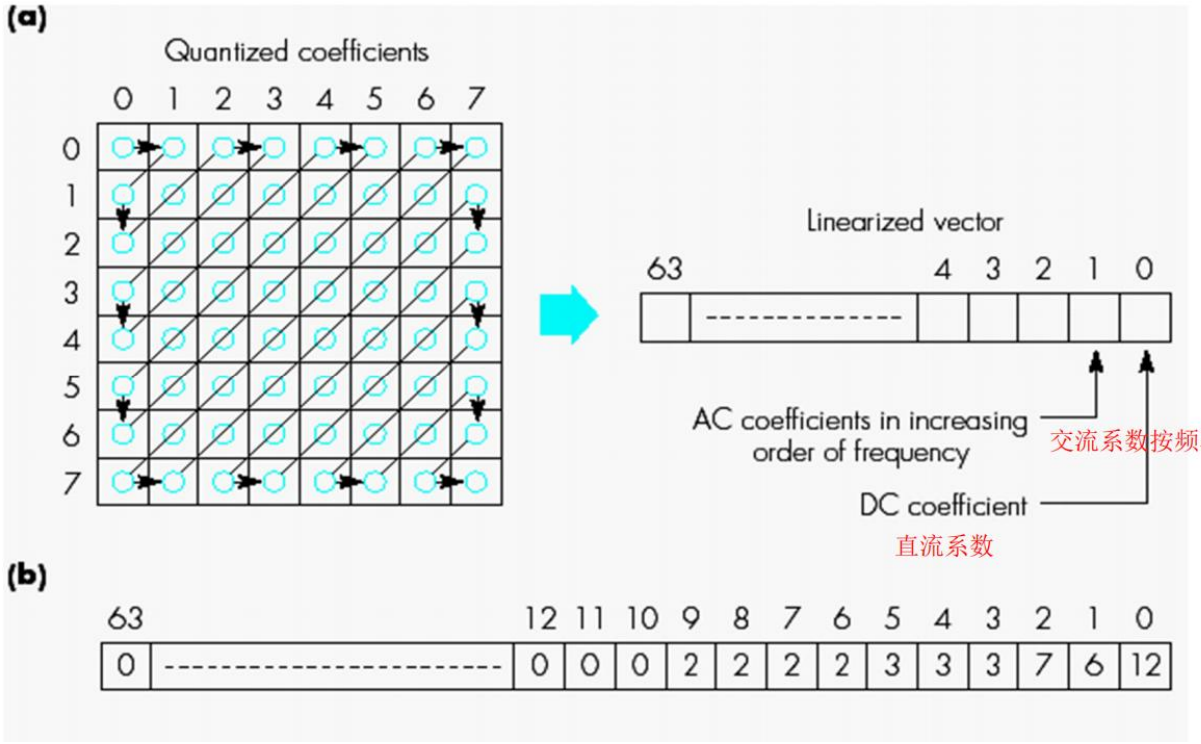
Zig-zag Scanning

锯齿形扫描



2.6.4JPEG编码器

JPEG Encoder

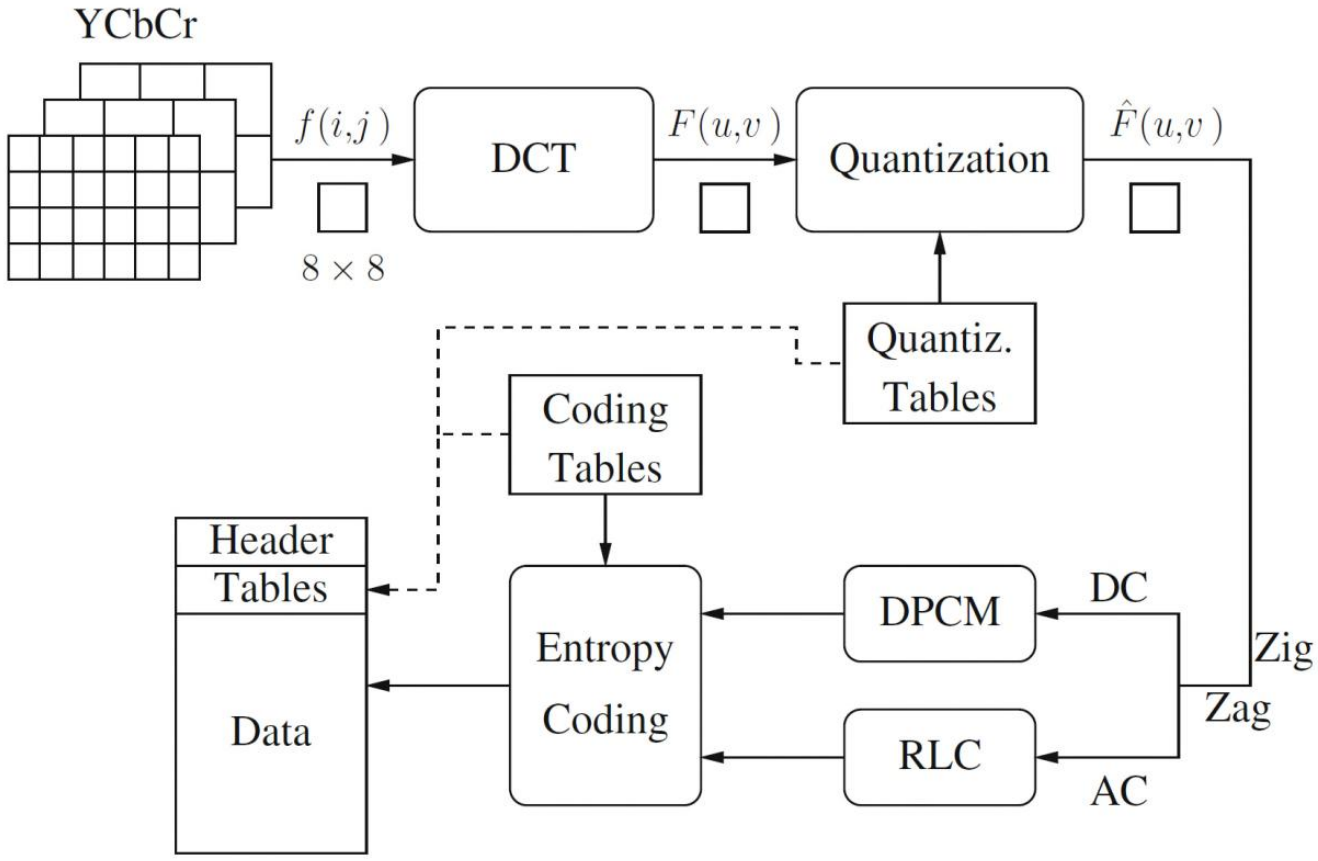
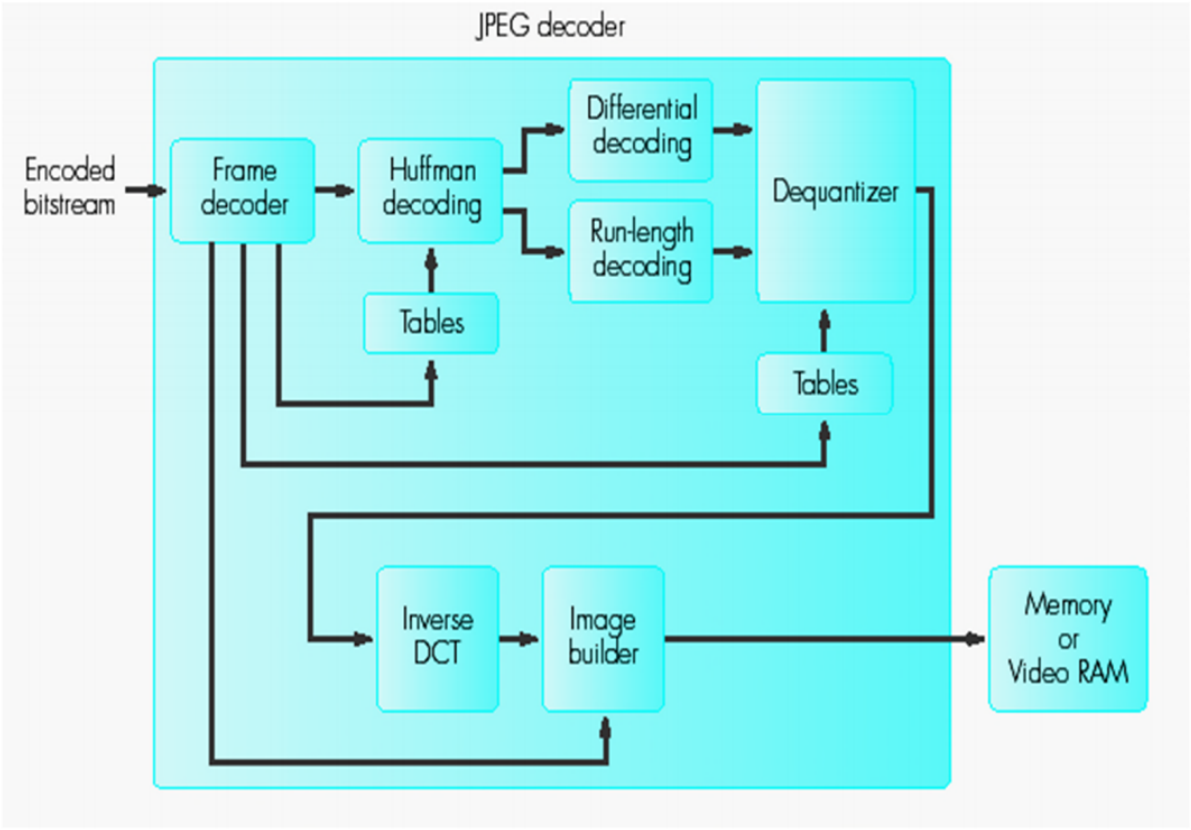


Fig. 9.1: Block diagram for JPEG encoder.

Source: Ze-Nian Li, Mark S. Drew, Jiangchuan Liu, Fundamental of Multimedia, Springer 2021

2.6.12 JPEG解码器

JPEG Decoder



3.2.2.3.4分层搜索

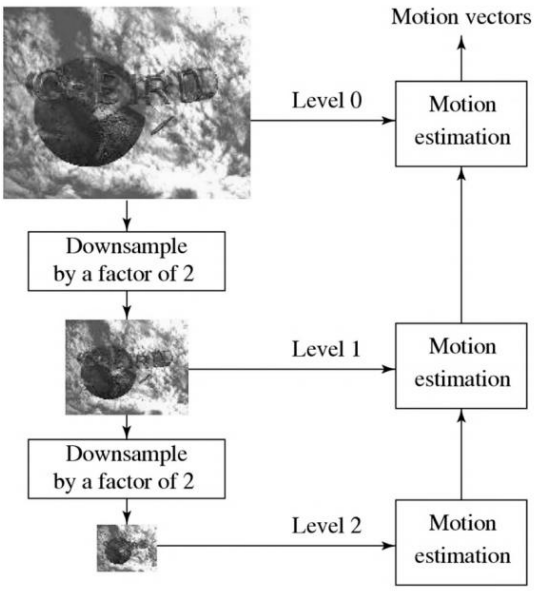
Hierarchical Search

分层搜索；阶层式搜寻

- A three-level hierarchical search, the original image is at Level 0.
- Images at Levels 1 and 2 are obtained by down-sampling from the previous levels by a factor of 2, and the initial search is conducted at Level 2.

三级分层搜索，原始图像处于o级。

1级和2级的图像是通过对前两级进行2倍的降采样获得的，初始搜索在2级进行。

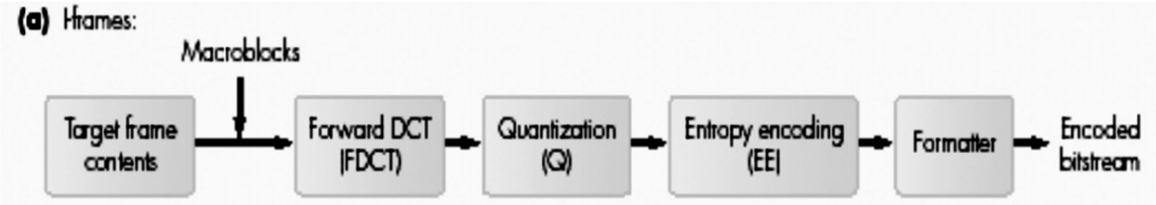


A Three-level Hierarchical Search

3.2.4.2.1 I帧编码流程图

MPEG-1: I-Frame Encoding

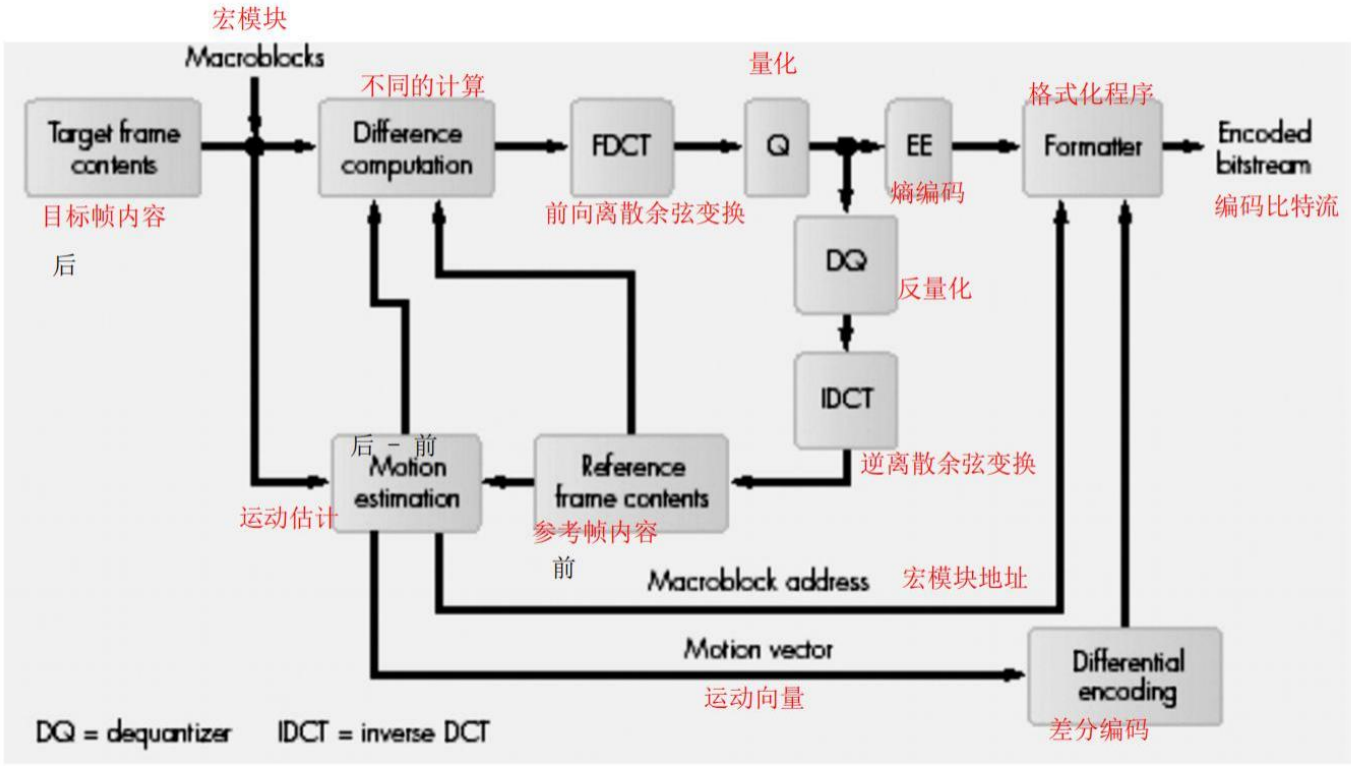
I帧编码



3.2.4.2.2p帧编码流程图

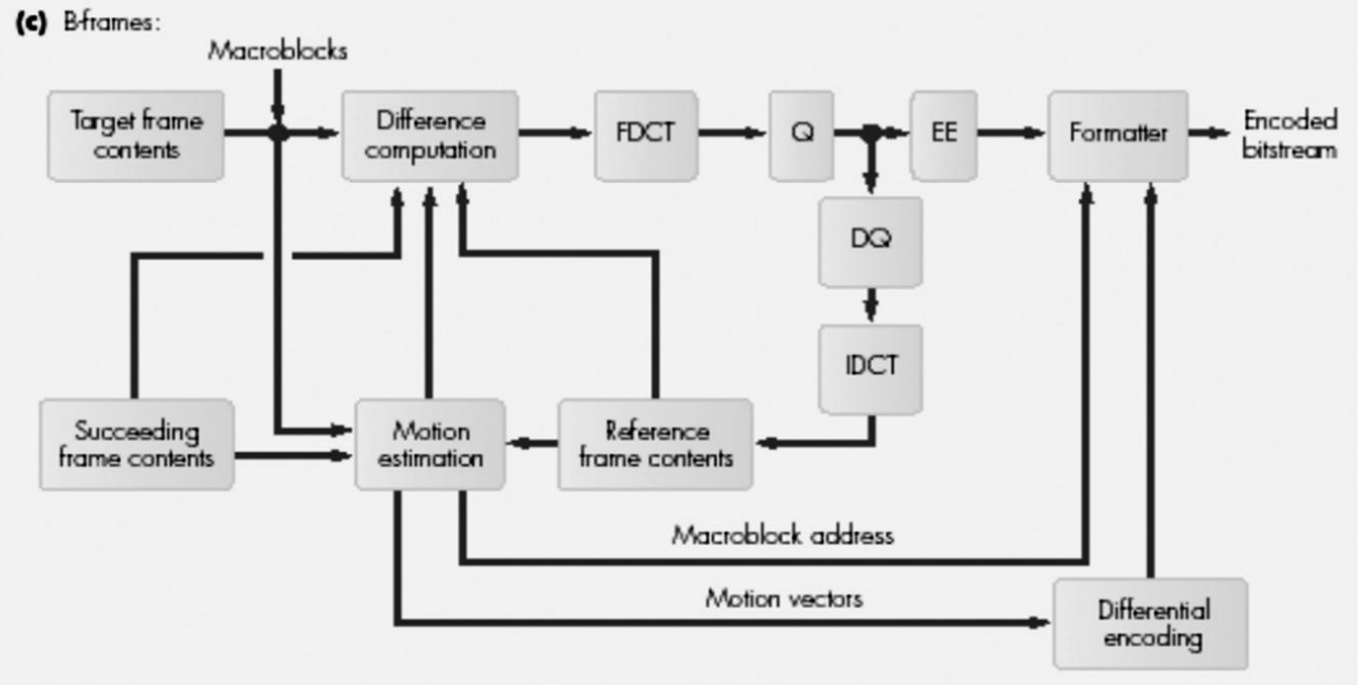
MPEG-1: P-Frame Encoding Flowchart

p帧编码流程图



3.2.4.2.3 B帧编码流程图

MPEG-1: B-Frame Encoding Flowchart

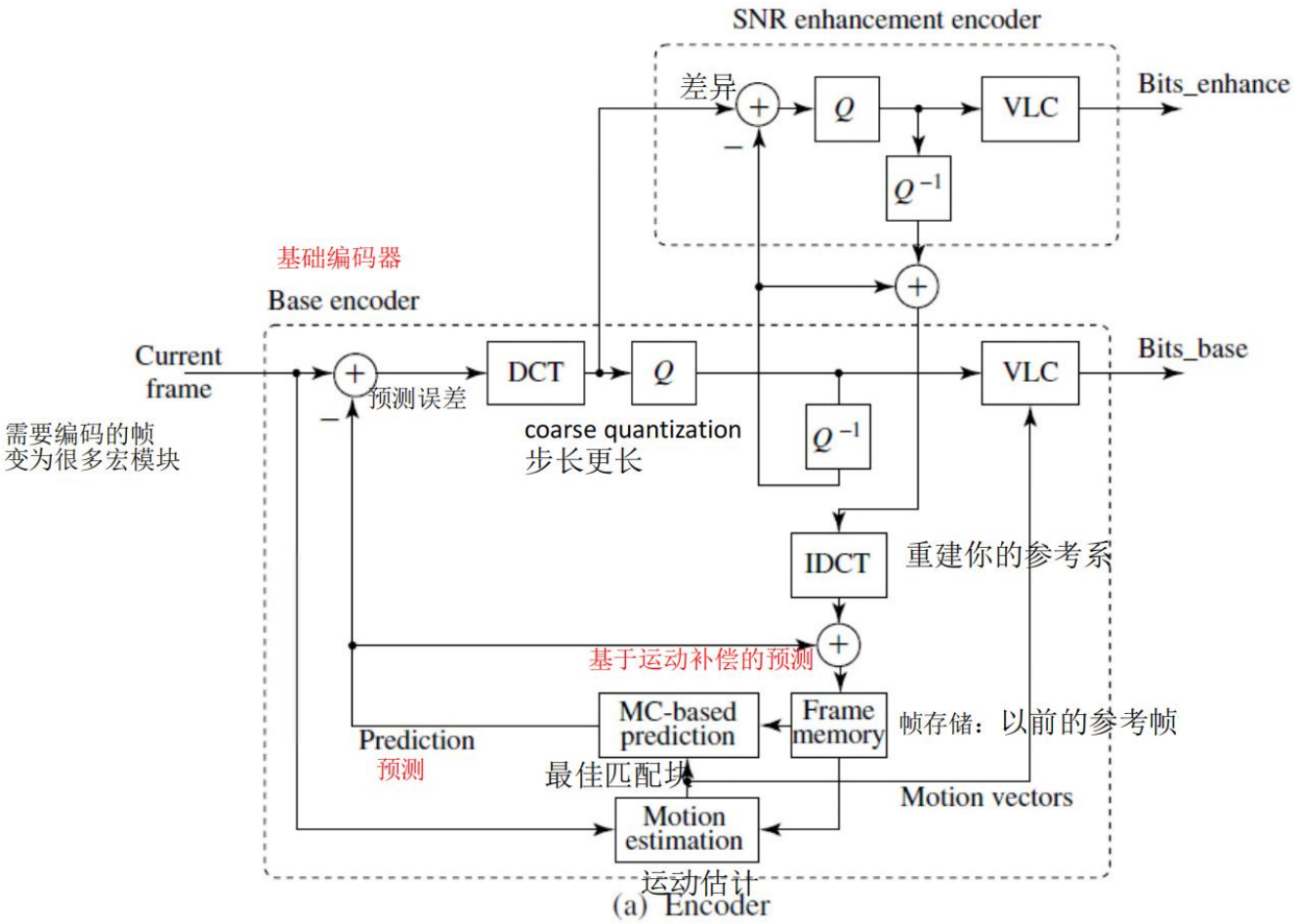


3.2.5.3.1.信噪比可扩展

3.2.5.3.1.信噪比可扩展

MPEG-2: SNR Scalability 2:13:41

步长要小得多，因为你希望它覆盖 更多细节

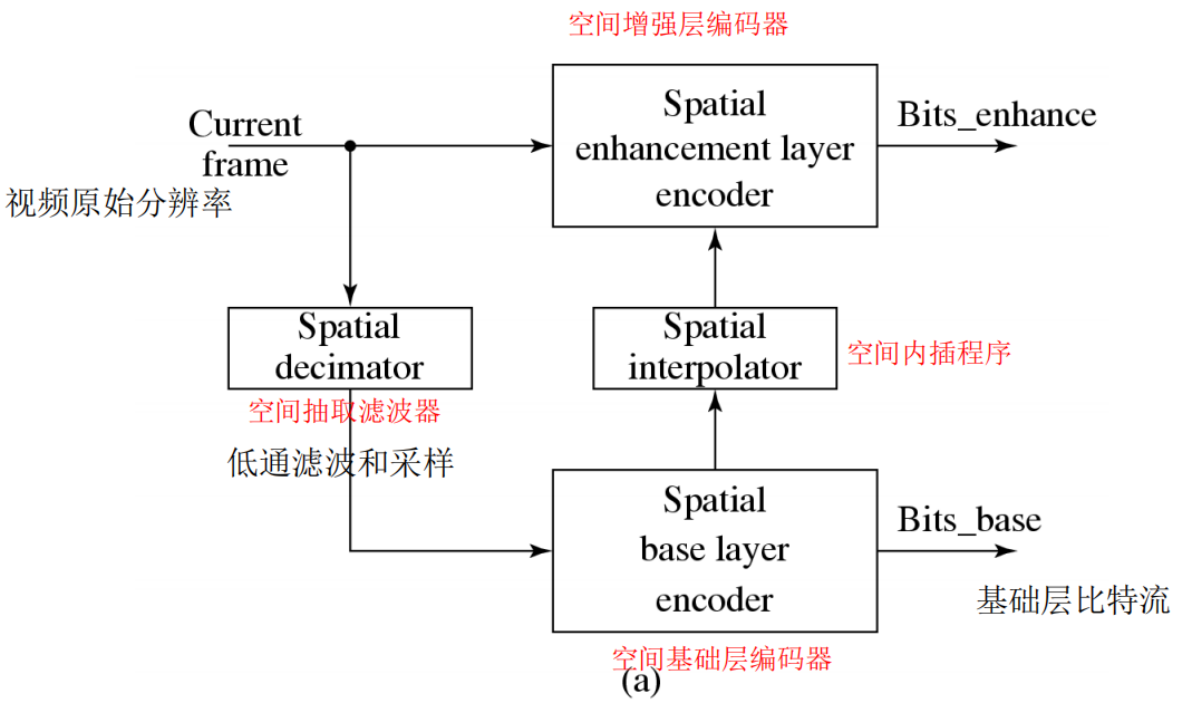


(a) Encoder

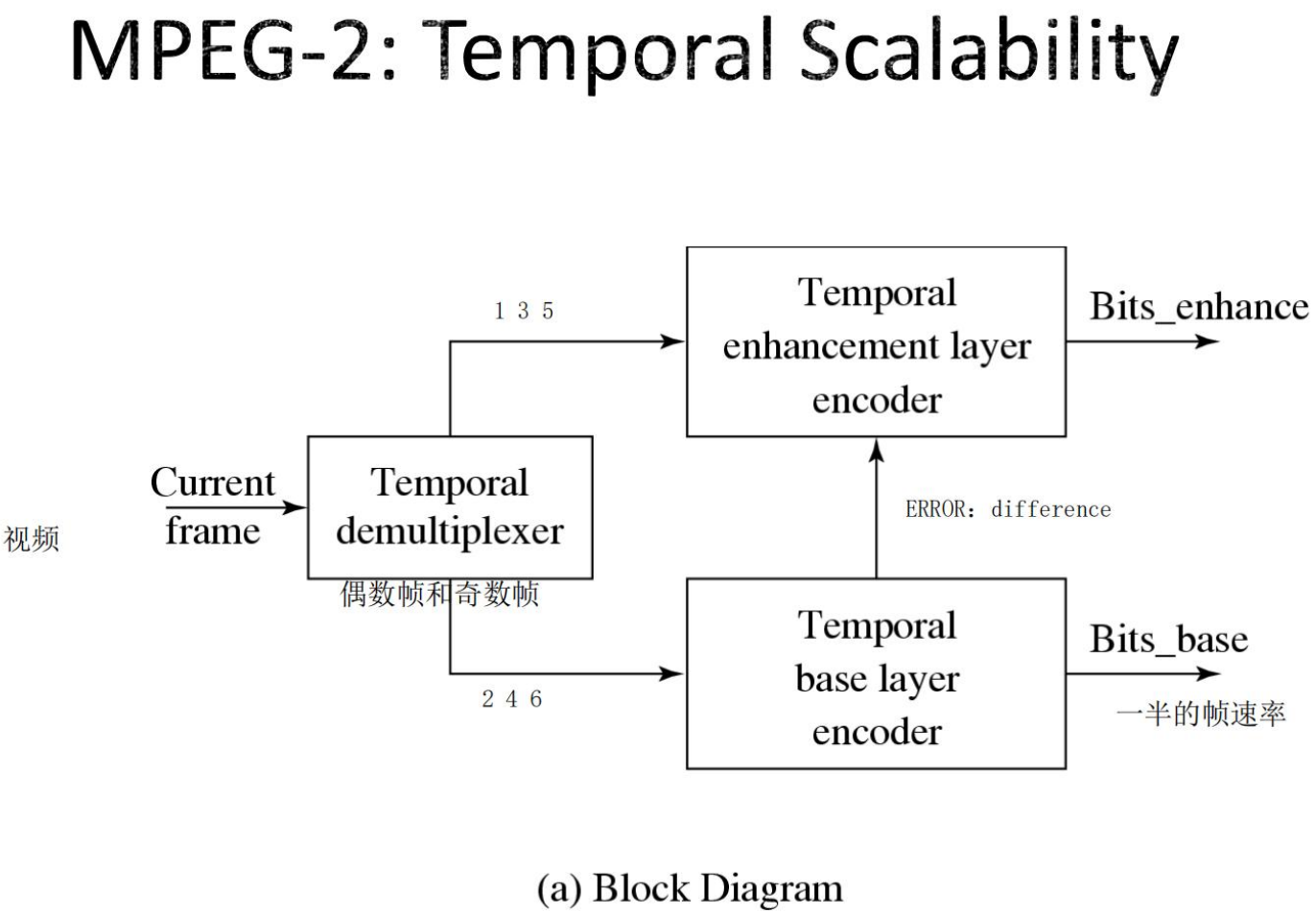
3.2.5.3.2.空间可扩展性

MPEG-2: Spatial Scalability 2:13:41

MPEG-2:空间可扩展性



3.2.5.3.3.时间可伸缩性



(a) Block Diagram

H.261: I-frame Coding

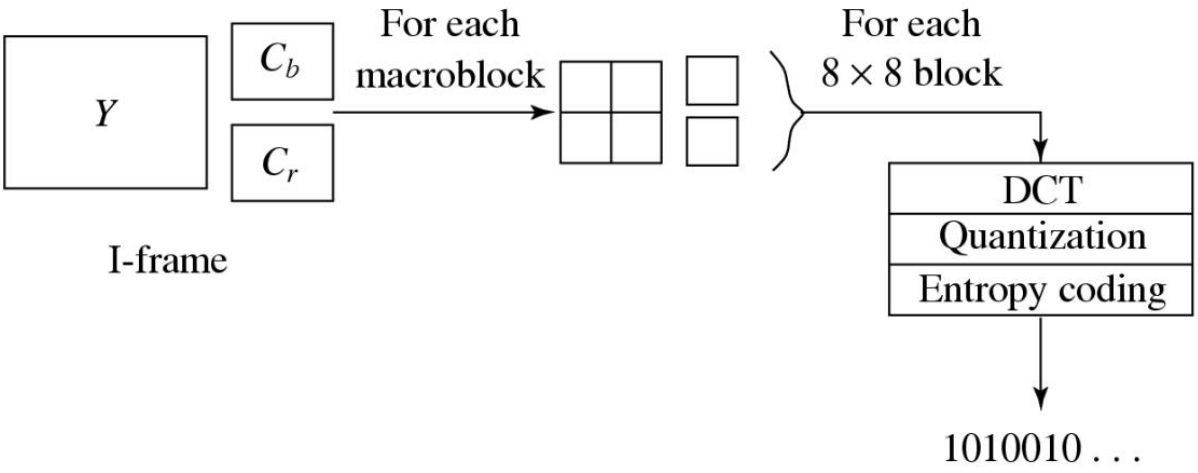
宏块包含4Y, 1Cb和1Cr的8 x 8像素块，用于4:2:0色度子采样

- A macroblock contains 4Y, 1Cb, and 1Cr of 8 x 8 pixel blocks for 4:2:0 chroma subsampling.
- Macroblocks are of size 16 x 16 pixels for the Y frame, and 8 x 8 for Cb and Cr frames.

对于Y帧，macroblock的大小为16 x 16像素，对于badcrres为8 x 8像素。

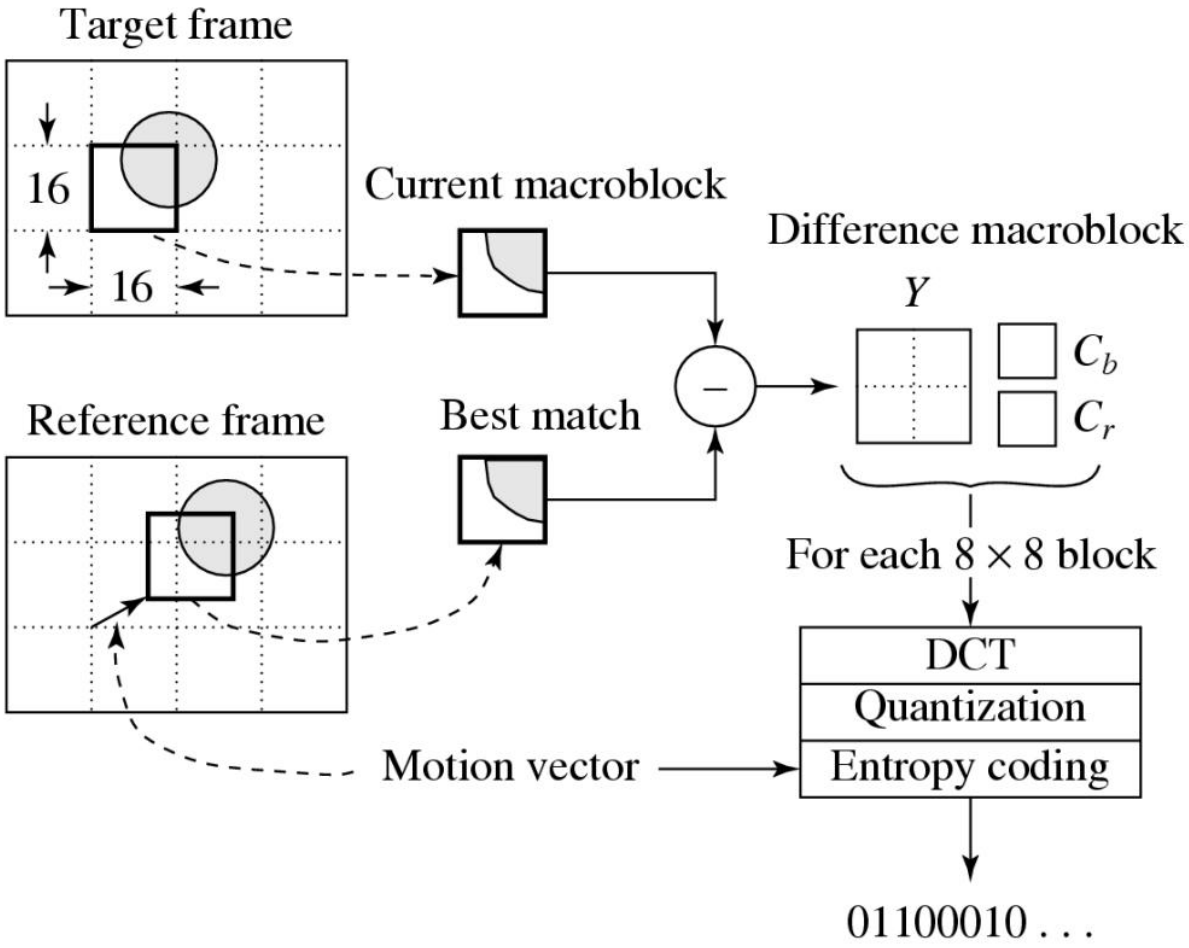
- For each 8 x 8 block, a DCT transform is applied, the DCT coefficients then go through quantization, zigzag scanning, and entropy coding.

对于每个8 x 8块，应用DCT变换，DCT系数然后经过量化，之字形扫描和熵编码。



I-frame Coding

H.261: P-frame Coding



H.261 P-frame Coding Based on Motion Compensation

3.3.4.1 H264编码器

6427 week6
38:14 / 2:59:48

H.264: Encoder