Abstract

TEMPORAL AND RESOLUTION LAYERING IN ADVANCED TELEVISION

A method and apparatus for image compression which demonstrably achieves better than 1000-line resolution image compression at high frame rates with high quality. An MPEG-2 data stream is then generated, comprising: (1) a base layer (100), preferably encoded using only MPEG-2 P frames, comprising a low resolution (e.g., 1024 x 512 pixels), low frame rate (24 or 36 Hz) bitstream; (2) an optional base resolution temporal enhancement layer (102), encoded using only MPEG-2 B frames, comprising a low resolution (e.g., 1024 x 512 pixels), high frame rate (72 Hz) bitstream; (3) an optional base temporal high resolution enhancement layer (104), preferably encoded using only MPEG-2 P frames, comprising a high resolution (e.g., 2kxlk pixels), low frame rate (24 or 36 Hz) bitstream; (4) an optional high resolution temporal enhancement layer (106), encoded using only MPEG-2 B frames, comprising a high resolution (e.g., 2kxlk pixels), high frame rate (72 Hz) bitstream.

Fig. 10