Author(s) : 
Wonseok Ahn (Samsung Electronics, Co., LTD., Korea) 
Jae-Seung Kim (Samsung Electronics, Co., LTD., Korea)

Abstract : 
Bit-depth reduction in digital displays results in false contours in the image. Moreover some of video enhancement processing in the digital TV display, such as histogram equalization, contrast enhancement, and increasing sharpness, etc., make false contours more visible. Bit-depth reduction comes from various display limitations such as video memory constraints, physical characteristics of the display, display drivers, and coarse MPEG quantization, etc [1]. We present an efficient method for detecting and segmenting flat-region in the image, and a technique for bit-depth extension to effectively remove false contours. We have simulated bit-depth reduction followed by video enhancement processing that cause false contours with various video image sequences including simple patterns. Our result shows that false contours are effectively removed in the flat-region in the image while the sharpness of object edges is preserved.