

# EBU Colour Bar Generation.

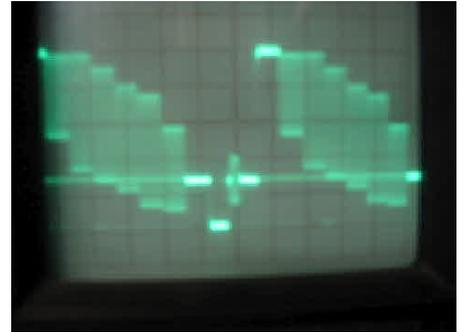
RICHARD L. CARDEN VK4XRL

While experimenting with digital television I required a source of EBU bars. Most colour bar generators as presented in CQ-TV produce full bars that is 100% colour bars. These types of bars are normally used as an in house test source and give a complete check of system performance. EBU bars produce a 100% luminance white bar and 75% chrominance. A couple of circuits have appeared in past issues of CQ-TV that have produced EBU bars, some have had elaborate diode matrix's to achieve the desired effect. Let's now have a look at the required waveforms of Red, Green and Blue.

## EBU bar generation.

From the following drawing you will notice that white is only produced when all three outputs are positive.

If we now feed these inputs to a NAND gate say a 74LS20 then the resultant output is a negative pulse that represents the white flag. If we now in turn feed this signal into the spare gate, we now have a positive pulse representing the white flag. For those circuits that have gates used as outputs with resistive dividers then the adaptation is relative easy. It could be used for those using the PIC as a bar generator such as the PICdream etc. By adjusting the resistor matrix values you can produce a Red, Green and Blue output waveform with 100% white pulse and 75% pulse representing chroma. For those circuits that have an internal load resistor on the colour bar generator side then the resistor matrix values will have to be re-determined.



The Photo shows the output obtained from a BATC colour coder fed with the modified colour bar generator output.

## Reference:

1. Colour Bar Generator COX 222
2. CQ-TV 158 Circuit Note Book No.46 John Lawrence GW3JGA
3. Amateur Eye Dec 93 Simple colour bar generator.
4. CQ-TV 185 TELETEXT Pattern Generator Improvements. ZL1TOF

