The invention relates to a method for the fading-in of test lines for the automatic adjustment of the cathode currents in a picture tube. Such a method is known from EP-A-0 093904 (published on 16.11.83).

Such test lines, which are invisible to the viewer, are faded-in during the first lines of the frame. By means of these test lines, levels are set with which the black level and the white level and the leakage currents can be automatically controlled. In a colour TV receiver with its three beam systems for red, green and blue, a test line for the levels that are to be faded-in is necessary for each one of them. Since these test lines are faded-in in the invisible parts of the frame, they are not normally intrusive. However, a disturbing echo effect at the upper edge of the picture may be observable if the brightness of the picture there is very low. As soon as the picture format, currently in the ratio 4 : 3, is reproduced for whatever reason with a ratio of e.g. 16 : 9 i.e. with reduced vertical deflection amplitude, the known method of fading-in test lines is no longer possible, since these lines are then visible and can be disturbing.

The object of the invention is to enable the fading-in of test lines at the upper edge of the reproduced picture despite reduced vertical deflection amplitude without these being visible. This object is achieved by the invention defined in the claim.

The invention will be explained hereinafter with the help of the drawing.

A fade-in generator 1 generates the levels for "cut-off", "drive" and leakage current. For the fading-in, a counter 2 cyclically switches through these levels. The cyclical switching takes place from frame to frame. In a three beam colour picture tube, that level for the colours red, green and blue reaches the picture tube after each six frames. This fading-in occurs however in dependence on a minimum level of the luminance of the picture which is to be reproduced. For this purpose, a level determined in the circuit 4 for the measurement of the average beam current is compared with a reference level in a comparator 3. If the value exceeds this level, the comparator 3 actuates a switch 5 for the fading-in of the test line. If the content of the picture is below the predefined level of a minimum luminance, the switch 5 is switched to the video output of the video amplifier so that no fading-in can then take place but rather the content of the picture of the line intended for the fading-in is reproduced.

The invention has the following advantages:
Due to the separation in time of the different fade-ins with frames lying therebetween, as well as to the spatial separation in that only a single line instead of a group of lines is faded-in, the effect of these lines on the picture which is to be reproduced is drastically reduced. Thus, there is no longer a risk of disturbing echos at the upper edge of the picture. Also, it is no longer necessary to reserve a particular line for the fading-in. The test line is no longer visible since the fading-in does not take place if the content of the picture itself does not have a sufficiently high luminance. The line which is faded-in is dispersed within the rest of the picture.

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Claims

1. Method for the fading-in of test lines for the automatic adjustment of the cathode currents in a picture tube, characterised in that, the test lines are faded-in during the visible part of a frame, each time, in the first line of successive frames one after the other.

2. Method in accordance with claim 1, characterised in that, the test lines are faded-in in dependence on a predetermined minimum value of the average beam current in the picture tube.