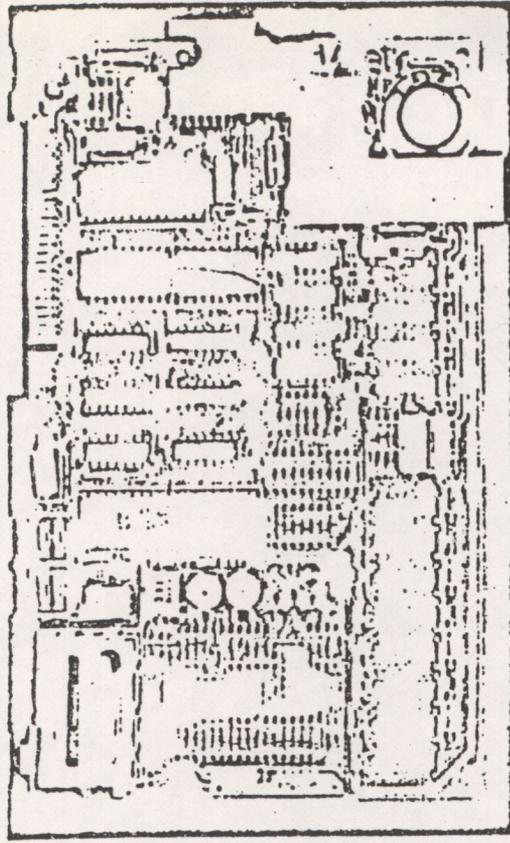


## 10. THE VIDEO CIRCUIT

The Spectrum video circuitry is based around the LM1889N integrated circuit produced by National Semiconductor. The full circuit diagram is illustrated in fig. 9a. This integrated circuit accepts two colour difference signals (U = blue-yellow, V = red-yellow) from the ULA, and produces a single colour output signal. It is more economic to use colour difference signals rather than separate red, green and blue signals. Only two sets of circuitry are required instead of three for RGB. The colour is mixed with the incoming composite video sync. and luminance (Y from the ULA) to produce the composite colour video signal. After being buffered by an emitter follower circuit using TR2, the video signal is fed into the video modulator. This enables the video information to be displayed on an ordinary television. It is unfortunate that RGB video was not used, because some colour monitors require these inputs. The rather poor quality of display obtained with a television can however be improved upon by using a colour monitor with a composite video input.

The two adjustment resistors VR1 and VR2 alter the relative amplification of the red-yellow and blue-yellow signals. By changing these adjustments you can vary the output colour quality or the grey scale. See the next chapter for details on how to accomplish this.

ISSUE 2 BOARD



ISSUE 1 BOARD

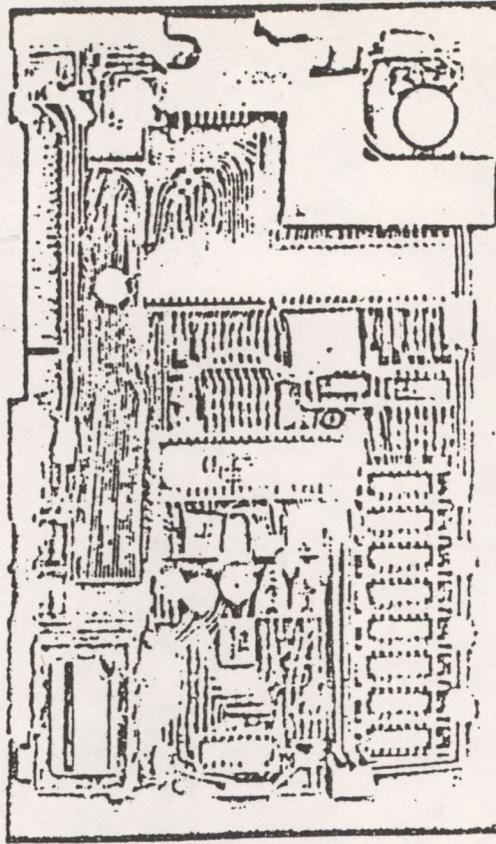


PLATE 9 - PHOTO OF MAIN SPECTRUM BOARD  
OUTLINED VIDEO CIRCUIT