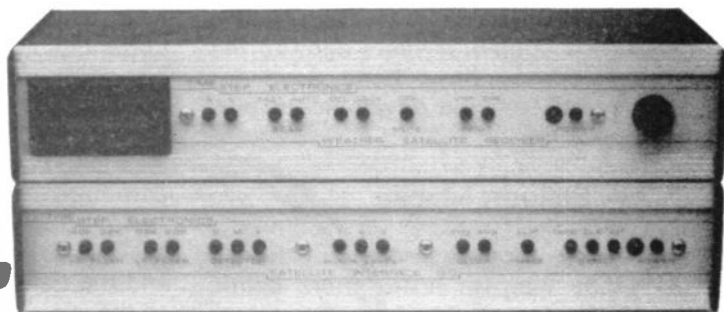


Weather Satellite Pictures:

Timestep Electronics System



For the past ten years, I have been interested in weather forecasting having started out decoding the five figure weather codes transmitted from Bracknell. The only bother with this method is that the codes require decoding, into so many tenths cloud or so many kilometres per hour for the wind, etc — all very in-

teresting but rather time consuming. So when I went to the National Exhibition Centre for the RSGB exhibition this year and saw the stand run by Timestep Electronics Ltd, I thought to myself, this is for me!

satellite's data to pictures is called 'Slow Scan Imaging'. There are three satellites in orbit at the moment sent up by USA in the frequency range of 137-138MHz, called NOAA 6, NOAA 8 and NOAA 9. (The letters 'NOAA' stand for National Oceanic and Atmosphere Administration). There are also a number of Russian satellites which transmit pictures. They all use the same type of equipment, APT, which stands for automatic picture transmission. So a single receiver can accept signals from them all.

I understand at the time of going to press that NOAA 6 is being switched off and NOAA 8 being activated. The failure of NOAA 6 was due to an internal oscillator problem which prevented proper operation of the attitude controls. Because the failure was intermittent, the back-up oscillator would not switch on. However, the primary oscillator has now ceased operation completely, allowing the back-up to be activated. At present both NOAA 6 and NOAA 8 operate on a frequency of 137.50MHz and NOAA 9 on 137.62MHz.

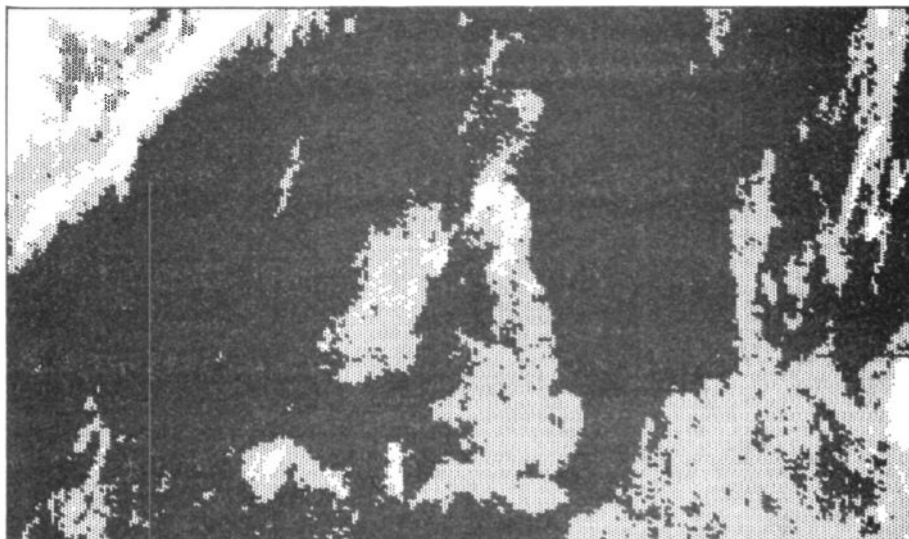
The orbits of the NOAA satellites pass almost directly over the north and south poles, taking about 102 minutes for each orbit — during which time the Earth turns about 25.5 degrees. This means that each time the satellite orbits, it looks at a different part of the world. Gradually a complete picture of the Earth is built up in strips, each one slightly overlapping the previous one. Two pictures are taken at a time, one of visible light and the other with infra-red.

Having become interested in weather satellites, the next step is the receiving equipment. Ken Michaelson, G3RDG, evaluates one system, from Timestep Electronics Ltd, which runs with a BBC 'B' micro computer.

JUNE 1985 NOAA 9		
Listen for Sat.	Heading	
1 June 1985		
120	67	
230	29	
420	7	
620	3.1	
1240	117	
1420	104	
1600	207	
2 June 1985		
110	73	
240	36	
420	10	
610	347	
1290	111	
1410	189	
1550	208	
3 June 1985		
230	43	
410	13	
600	342	
1220	104	
1400	180	
1540	197	

Fig. 1 Where you would have found NOAA9 in June.

Fig. 2 A print out of a picture of the UK received from NOAA9.



Timestep Electronics market a complete system for the reception of weather satellite data with the exception of the BBC computer. The pictures on Timestep's stand showed the sort of thing one used to see on BBC 1 TV before the weather forecasting went over to the latest method.

The conversion of the