

GRAPHICAL FACILITIES AT THE ROYAL NETHERLANDS METEOROLOGICAL
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An important part of the graphical facilities is used for plotting synoptic observations on preprinted maps. There are 5 almost identical systems available namely:

- two at De Bilt
- two at Schiphol Airport
- one at Zierikzee (hydro-meteorological service, especially for coastal constructions in the south-western part of the Netherlands).

Each system consists of a XYNETICS Automated Drafting System (type 1050). This is a flatbed plotter controlled by an HP mini-computer. The plotting equipment has a four-pen drafting head, which moves at a maximum speed of 100 cm/sec, with a maximum acceleration of 1.5 g.

It has a resolution of 0.025 mm and the working area is about 90 cm x 120 cm. The controller of each system is connected to the central computer system at De Bilt (Burroughs, B 6800). This implies that in general the plotting is done on line. Only both systems at De Bilt offer the opportunity for off-line plotting by using mag. tapes.

Furthermore, a VERSATEC electrostatic plotter was installed at De Bilt last year. This is type 8222 A, 22 inch width and 200 dots/inch. It has a PDP-11/34A as a controller. This PDP computer is also connected to the central computer system. The configurations of the three mentioned systems at De Bilt are given in figure 1. The operational procedure is as follows:

Within the B 6800 computer plotfiles are generated by using the standard software system of the XYNETICS. For off-line plotting these files can be written on mag. tape. For online plotting the operator of the plotting system can ask via the console of the controller whether a certain file is available at the B 6800. If the answer of the B 6800 is affirmative, paper must be put and justified on the plotting table. Next, again via the console, the B 6800 is ordered to transmit the file.

The plotfiles, which are based on GTS bulletins, are built up in subfiles. This offers the opportunity to start the plotting of a certain file at the moment that at least one subfile is available. This is to avoid that the plotting only can be started at the moment that the whole file is completed.

Off line plotting is applicable for non operational work. This can be carried out at a suitable time when there is no chance of interfering with the operational tasks. Besides the use for off-line plotting, the tape units are also used for loading the software of the controller. At the other stations the software of the controller is loaded via the datalink. In that case a simple program is loaded by a bootstrap. This program enables the connection with the B 6800 to be activated and the software to be transmitted. All datalinks are working at a transmission rate of 2400 bps.

At this moment the plotfiles are transparent to the XYNETICS and the VERSATEC. In the latter case, however, it will be clear that this works only for completed files. The concept of subfiles is of no use for an electrostatic plotter. See figure II.

When the operator at the VERSATEC system asks for a file and the file is available, it is transmitted to the PDP 11/34 A. There, the title of the file is checked to find out whether a background is needed. If so, the wanted background is merged with the data. Next the file is sorted and the vector to raster conversion takes place, after which the data are delivered to the VERSATEC.

As the sorting in the PDP 11 is rather time consuming, a new concept is being tested at this moment. In that concept the programmer can indicate by a special parameter that his program wants only to use the VERSATEC. In that case a special plotfile is created.

For this file the background (if needed) is added by the B 6800 and also the sorting is carried out by the B 6800. It will be clear that this saves a lot of time. Of course that is more important than the possibility to act as a back-up to the XYNETICS plotter.

However for Zierikzee the situation is different, as at that site there is only one XYNETICS plotter. They needed a small electrostatic plotter for the presentation of data for which such equipment was more adequate than a penplotter. It has now been decided to order a large electrostatic plotter (VERSATEC 8222A) to create a back-up to the XYNETICS.

The fact that at the beginning of this description the plotting of synoptic data is emphasized, does not mean that other applications are neglected. There is a lot of software available for many kinds of presentation data in graphical mode.

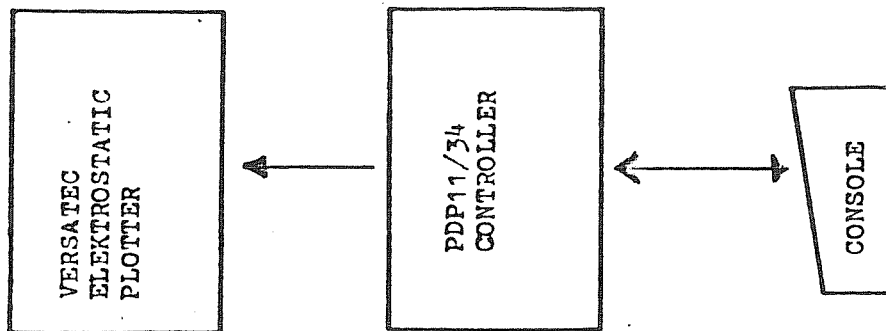
Furthermore there is a small electrostatic plotter (V 80) which is available for experiments. The quality of this apparatus is low. Failures occur rather frequently.

Finally it should be mentioned that a graphical display (Tektronix 4114) will be introduced soon.

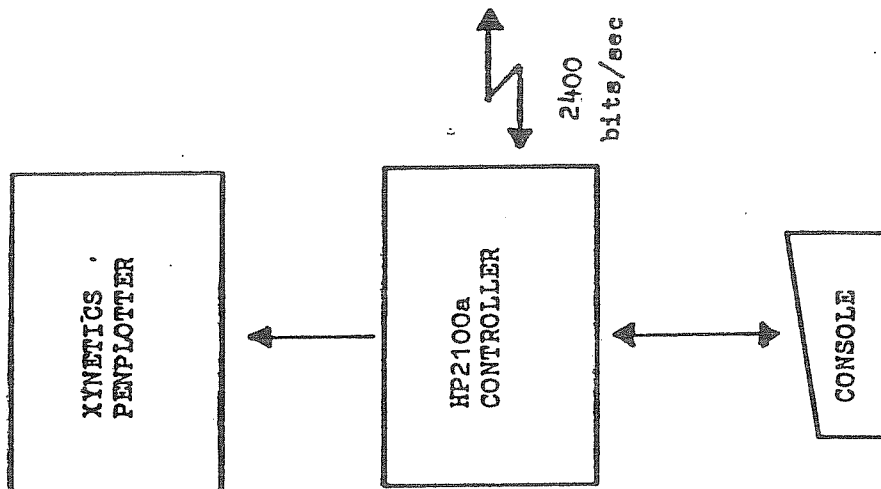
Delivery is expected early next year. It will be installed at De Bilt and connected to the same PDP-11/34 A as the 8222 A.

After a period of experiments it will be used by the forecasters as an interactive graphical system for which the 8222A can serve as a hard copy unit.

ON LINE VERSATEC PLOTTING SYSTEM



ON/OFF LINE XYNETICS PLOTTING SYSTEM



MAG. TAPE UNIT
(OFFLINE PLOTTING)

Figure I
1.43

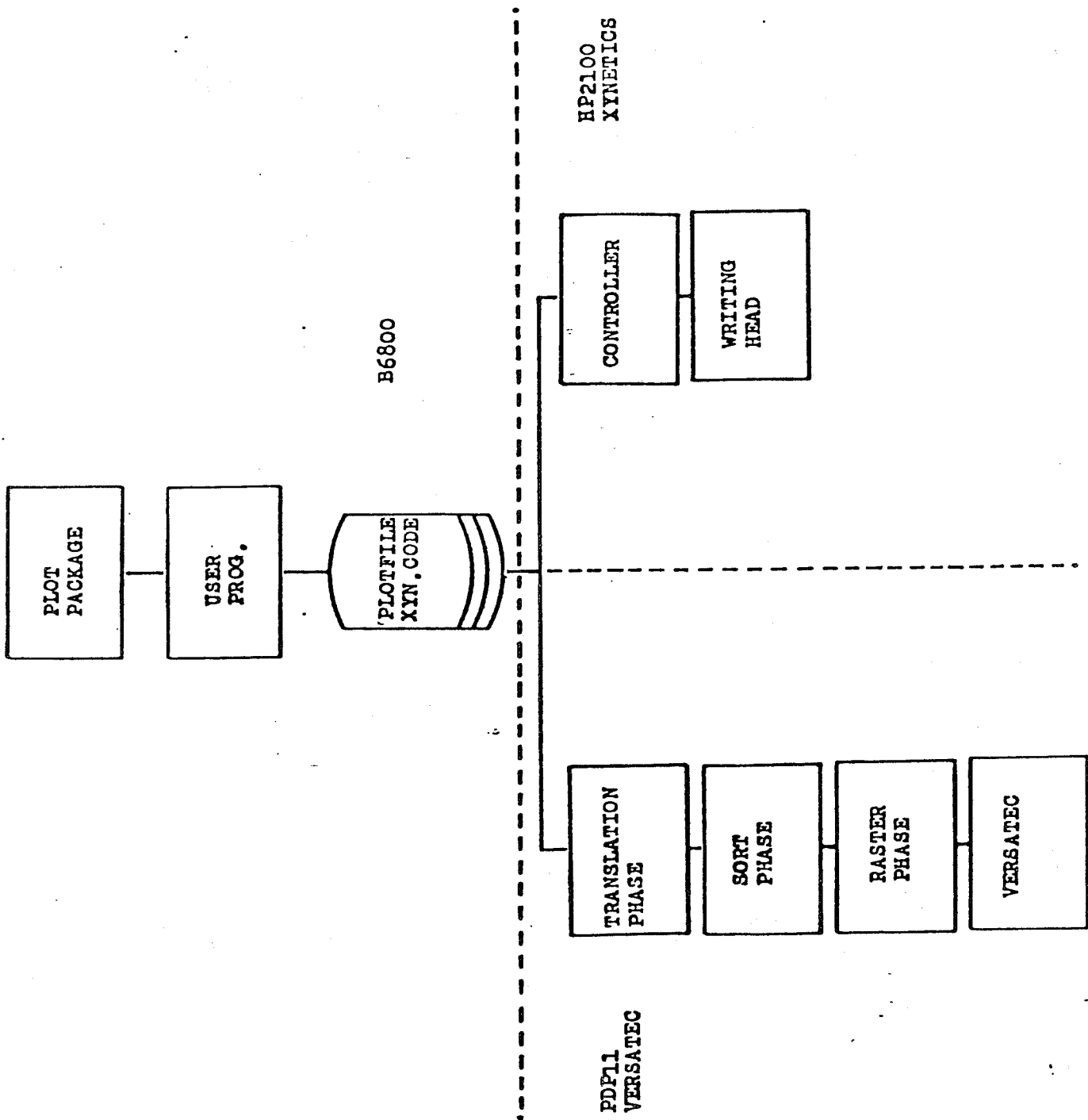


Figure II

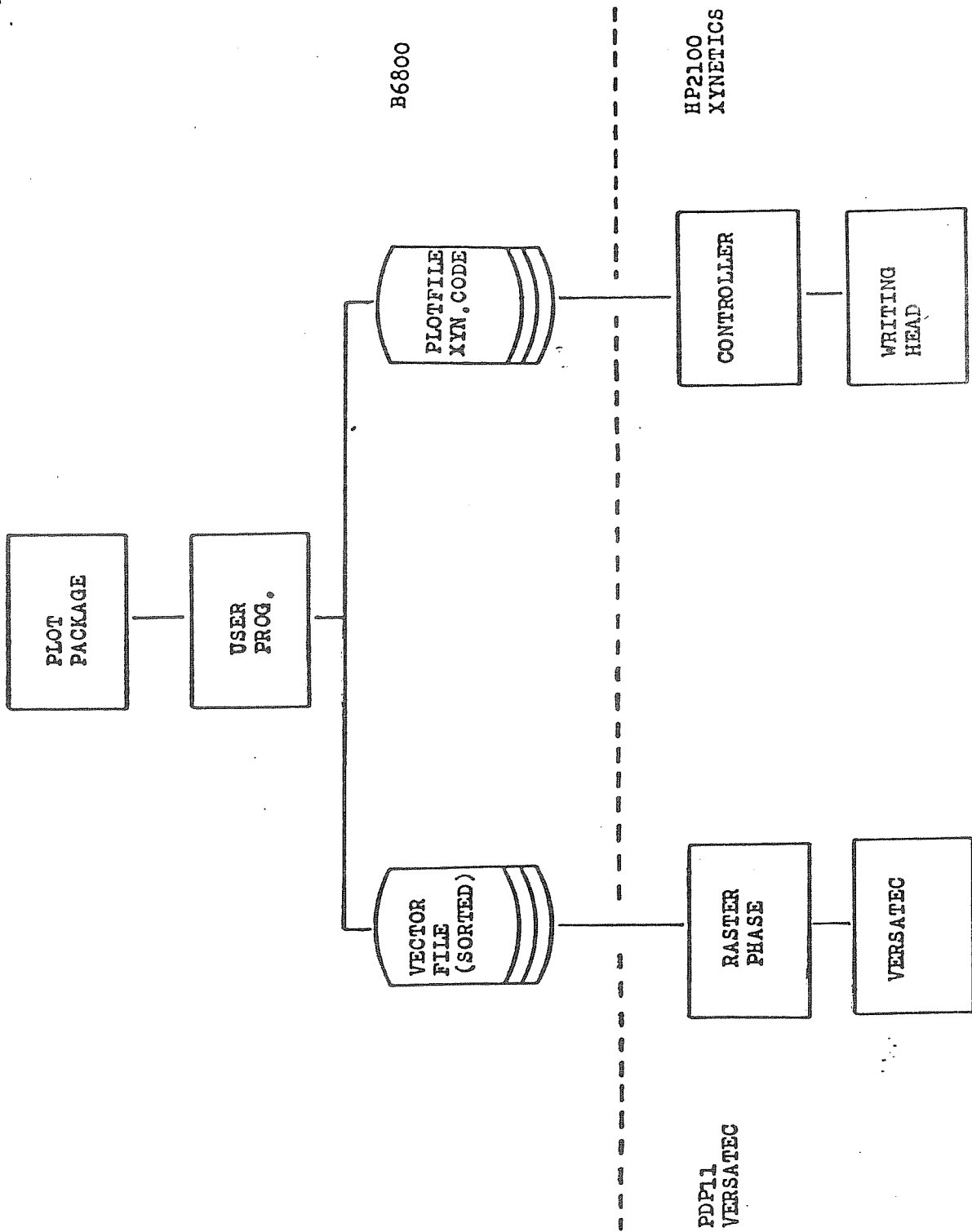


Figure III