## CHAPTER IV

# THE DRUM STORE

1. The drum is mounted on runners at the bottom of bay 1 between baffle plates that channel the cooling air stream into the monitor unit. It can be withdrawn for servicing by releasing two catches at the rear end of the runners, the unit being normally held against these catches by compression springs. A mechanical drawing of the drum assembly appears in fig. 4.1. The drum is fitted with ten stacks of ten heads each. These are removable, and can be adjusted for lateral position and separation from the drum surface. Details of adjustment procedure will be found in Volume IV of the handbook. The heads are connected to twelve Plessey sockets, which are mounted in a ring at the motor end of the assembly; ten of these are 25-way sockets, and are concerned with the information tracks: the other two are 6-way sockets, and are concerned with clock and address tracks.

2. Two stacks of heads, and the twenty tracks under them, are referred to as the 'upper' store: of these twenty tracks, sixteen (eight pairs) are used for the permanent record (Initial Orders and Test Programmes), one pair is used for addresses, one track for 'clock', and one track is spare. The remaining eight stacks of heads, and the eighty tracks under them, are referred to as the 'lower' store. Sixty-four tracks and heads (thirty-two pairs) are used for normal storage, two for a second address-track pair, one for a second clock track, and one for a master clock track, the remaining twelve tracks and heads being spare. The reason for having address tracks and a clock track on the lower store is to avoid the necessity for reading and writing with the same stack of heads when the permanent record is being written. The master clock track is used to control the writing of the other two clock tracks, it being impossible to synchronise these two if one is written under the control of the other.

3. The drum-store packages are described, and the system is explained, in Chapter IV of Volume 5. The complete switching matrix used in Pegasus is shown in figs. 4.2 and 4.3 of Volume 3a. In general there is a one-to-one correspondence between the write-read switches, the 25-way Plessey connectors and the head stacks, the chief exception being the isolated part of the store (stacks 9 and 10). As there are two leads to each head, sixteen pins on each socket are used. Leads from the spare heads terminate near the Plessey sockets so that these heads can easily be brought into circuit as replacements. The switch, socket and head connections are originally specified as shown in fig. 4.4 of Volume 3a. (See also Volume 4a).

4. The figure shows where the clock and address heads are situated. The leads from the master-clock head (stack 4) are brought to a terminal block fixed to the drum unit. The leads from the lower-store clock and address heads (stacks 5 and 6) are brought to six-way Plessey socket SK6, and those from the upper-store clock and address heads (stack 9) to six-way Plessey socket SK12. The pins on these sockets are connected to earth through 100K resistors to prevent the build-up of static charges