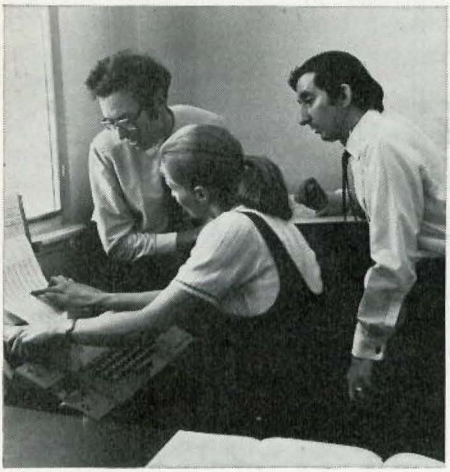
during development and exists on record either as a reel of punched paper tape or as a recording on a magnetic tape cassette. When a newly manufactured system is ready for testing, the program instructions are fed into the computer



Program store using either a paper-tape or magnetic-tape-cassette reader as appropriate.

However, program entry will normally be a once-and-for-all operation carried out during works testing. A special keyswitch has to be operated on the computer to allow the program to be entered. Once having accomplished this the switch is returned to the Off position and the key is removed. All the panel switches on the computer (used only for maintenance purposes) now become completely inoperative and the program will now be retained permanently inside the computer.

The bare computer without its program is a standard, but highly ingenious, "black box" capable of carrying out a wide variety of operations. By entering the program, we convert it into a special purpose machine able to perform the control functions specific to DDM. From this point on, the mechanism of how the system came into being can be forgotten and the computer can be regarded as any other piece of electronic equipment with electrical input and output terminals.

In fact, the self-same magnetic tape unit as is required for the Dump store for recorded cue levels can be used to enter the computer program as well. Thus, the magnetic tape unit can be regarded as the general purpose "letterbox" for getting any information in and out of the system. The computer will route recorded cues to the Main Store, whereas the Program is routed to the Program Store inside the computer. The man who prepares the program (the programmer) would not normally be involved with the user other than to check any special functions which may have been requested.

The sophistication of DDM operation is such that a conventional hardware design to meet the same specification would have been phenomenally difficult and costly. This is illustrated by the large number of Local stores required which would have been extremely difficult to manipulate by means of conventional electronics. However, there are a number of very important additional advantages which the design of DDM brings to the user.

Firstly, the computer and the Main Store (which form the heart of the DDM

system) are both proprietary items, manufactured in large quantity under stringent conditions of quality control. Although they have both achieved an excellent reliability record, spares and maintenance facilities are available from the manufac-