COMPUTATION CENTER
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SUBJECT New Storage Algorithm for the 7320A High Speed Drum

On the high speed drum each user will be assigned a block of 1024 words for dumping his machine conditions and disk file status. In addition, user core images will be dumped directly on the high speed drum in blocks of 2048 words (Sectors), as memory space is needed. Since high speed drum storage is assigned by sectors rather than groups (blocks of 1024 words), continuous reading and writing of random blocks of information is assured. Whenever a new user is to be brought into memory, only the memory that this new user will occupy will be dumped (up to the next block of 2048 words). With this scheme it is possible to have up to 16 partial user core images in memory at the same time.

Since the reading and writing of the drum is always done in blocks of 1024 or 2048 words, no buffer storage is required. As a result, over 3000 words (decimal) of valuable core "A" memory will be made available for other uses. The current storage algorithm dumps entire core images for users not in working status. With the new storage algorithm, all users will have the benefit of partial dumps regardless of their status.

Due to the high data rate of the high speed drum, it is necessary to shut down all other channels during its operation. For this reason the following additions have been made available in the current version of CTSS.

1. In the ESL scope adapter (KLUD08) the entry STOPD has been provided to shut down the operation of channel D and the entry STARTD has been provided to resume normal operation of the channel.

2. The 7750 channel adapter (CHNE08) has been modified to provide the entries STOPE and STARTE. These entries will be used to stop and restart the operation of channel E.

It should be noted that the longest time any channel will be shut down is approximatly 270 milliseconds.

To implement the new storage algorithm upon the arrival of the IBM 7320A drum, it is necessary only to replace the current module (STOR08) with the new module (DUMP08).