hold this value for one of two reasons; either because the byte was loaded with 1 as EXPRESS itself was loaded from the SHARP monitor; or because the EXPRESS monitor S command has been used (this, for some curious reason. is programmed to insert 1 into the file type byte automatically).

For those who understand hexadecimal numbers and RAM addresses, EXPRESS makes the ideal vehicle to bridge that gap into machine code and assembler programming. It has bugs, but armed with my newly labelled source listing, they are all capable of cure. Unlike FDOS and the German SA-5510 compiler which have floating point arithmetic, full trignometrical functions and string handling, the runtime files for EXPRESS are small, and will be made smaller if I get my way.

80-COLUMN TAPE BASICS COMPARED (SA-5510+Kuma mod)/(Hippo SA-5580)

In an effort to bring my Library tapes up to date I asked Ian to send me a copy of the program shown in the Vol.10 No.1 Library list as BASIC.SA-5510/80. My copy, which came on disk, proved to have the standard filename BASIC SA-5510.

My immediate assumption, later proved correct, was that it was created by incorporating the patch given in the documentation that comes with the Club (KUMA) 80-column Kit. All this does is to allow you to toggle between 40-column and 80-column modes with the command USR(13208). This can be done either as a direct command or within a program. With this BASIC, in 80-column mode, the SET, RESET and COPY/P1 commands do not work and the CURSOR command still has the 0-39 column limit.

One of the tapes I acquired when I obtained my MZ-80A with the HIPPO 80-column mod, was an original master which contained a file called BASIC SA-5580. It is a far better 80-column tape BASIC than the KUMA version, with similar features to the KUMA SA-6510 patch. It toggles between 40/80 columns with USR(4977), and in 80-column mode the SET, RESET, CURSOR and COPY/P1 commands all work. The CURSOR and COPY/P1 commands also work in 40 columns, and SET and RESET only require POKE $2AE9,40 for them to work as well (POKE$2AE9,80 re-enables SET and RESET in 80-column mode).

Recently, I swapped my HIPPO ROM for a KUMA ROM, and discovered SA-5580 requires only three changes to allow it to run correctly on the KUMA machine. By the time you read this, there will be a KUMA version of SA-5580 in the Club Library.

COPYING BASIC.SA-5510

While working on the above I realised that new members may not be aware of the command USR($11FD). This allows a copy to be made from an SA-5510 master tape, but the copy does not incorporate the same facility. You cannot, therefore, make further copies from a copy of SA-5510 made by USR($11FD). It is easy to tell a copy from a master; a copy will not include the full stop after the word BASIC in the message that appears as the file loads. A BASIC.SA-5510 master tape can be copied AS A MASTER with the double command USR(33):USR(36), if this is issued immediately after loading the master tape from the SHARP Monitor. ***