AddMem

COLLABORATORS

	TITLE : AddMem		
ACTION	NAME	DATE	SIGNATURE
WRITTEN BY		August 2, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

AddMem

1.1 AddMem.doc

```
                                          AddMem

                     Version 3.01 written on 8/29/1994
                              by Martin Schlodder

      This is version 3.01 of AddMem, a bugfix for version 3.0.
```

This program only runs with OS 2.0 or higher. It behaves like a typical CLI
command through the use of ReadArgs(). If run with OS 2.1 or higher, it prints
all messages in the preferred language if a suitable catalog is installed. The
installation is rather quick: Just copy the program to any directory in the
path of the shell, preferably "SYS:C", and the suitable catalog (in the moment
there is only a german catalog available, english texts are built in) to
"LOCALE:Catalogs/<language>". The documentation will not be really neccessary,
because AddMem has a help text built in.

```
                Copyright

                Description

                History

                Address
                                         //
                    Thanks to \X/ Amiga for being the best computer ever !
```

1.2 AddMem.doc - Description

```
                AddMem adds expansion memory that  is  not  auto configuring to  ←
                    the system's
```
memory list. The required flags for the memory type will be set automatically
as far as possible. If these precalculated flags are not ok, they might be
changed through the arguments to the program call. The start and end addresses
will be validated (certain areas of the Amiga's memory range are reserved) and

the program will look if there really is RAM at this position (reset proof
programs and data will not be affected by this). If required, AddMem can do a
bitwise memory check wich will take some time (about one minute per MByte) and
wich destroys any data in this area. AddMem requires at least OS 2.0 (better
OS 2.1) and of course a non autoconfig memory board.


```
 Usage: AddMem startadress endadress [CheckMem] [A1000Fast] [32Bit]
                [LOCAL] [!PUBLIC] [CHIP] [FAST] [!24BITDMA]
                [priority] [RESIDENT]
```

startaddress, endaddress:
    Start and end addresses of the memory area as hexadecimal numbers. Both of
    them must be a multiple of eight. The numbers may begin with a '$'. The
    endaddress might be either the last byte of the memory area or the first
    byte after it (e.g. $200000 to $3fffff or $200000 to $400000).
CheckMem:
    Memory will be checked before being added to the system's memory list.
A1000Fast:
    The memory range will become PUBLIC|FAST|LOCAL|24BITDMA with a priority of
    0, if it is located between $200000 and $A00000.
32Bit:
    The memory range will become PUBLIC|FAST with a priority of +5 and depen-
    ding on it's position 24BITDMAable (if it is located below $1000000).
LOCAL:
    This argument should only be set, if the memoy is directly connected to
    the CPU, i.e. not on the Zorro bus.
!PUBLIC, CHIP, FAST, !24BITDMA:
    Memory attributes to override the precalculated type. Seldom needed.
priority:
    Priority of the memory area. Defaults to 0.
RESIDENT:
    An AddMem program will be placed in the boot process (to be exact, in the
    CoolCapture). It can be removed by pressing the left mouse button for some
    seconds after a reset or by switching the computer off and on again or by
    doing a reboot wich removes Exec, such as my program Reset does. The Cool-
    Capture program checks for double enrties of the memory range, and in that
    case removes any program that used the CoolCapture and thus any boot pro-
    gram initialized by AddMem. You can of course add several memory areas
    with this option set. They will all be added after a Reset with the chosen
    flags.

                Memory attributes
                 - A more precise description

This program was written completely in assembly language (OMA 2.05).

1.3 AddMem.doc - Memory attributes

In Kickstart 1.3 the following memory flags were defined:

 - PUBLIC   Was nearly always set and therefor had no meaning. Today it's
               used by virtual memory managers to determine which memory may be
               swapped. It is always set in the memory list.

```
  - CHIP       CHIP memory is accessible by  the Amiga's custom chips  (who are
               responsible for graphics, sound, diskdrive etc.).  It was origi-
               located in the lowest  512 KBytes  of  the Amiga's memory range,
               then 1 MByte and now 2 MBytes.
  - FAST       FAST memory is  all  memory  except  CHIP memory.  It is usually
               faster than CHIP memory, as the processor can access it directly
               and is not slowed down by custom chip DMA. The only exception is
               is the Ranger Memory of the Amiga 500 and the Amiga 2000A, which
               is not accessible by the  custom  chip DMA and still slowed down
               by it.
```

In OS 2.0 the following flags were added:

```
  - LOCAL      This is memory, that is direktly accessible by the CPU and which
               is not connected through the Zorro  bus.  This memory will still
               be accessible after a RESET  CPU  instruction while Zorro memory
               might vanish.
  - 24BITDMA   Memory which is located in the address range of the Zorro II bus
               (this is the address range  of  the MC68000, $000000 to $FFFFFF)
               has this flag set.
```

This flag is defined since OS 3.0:

```
  - KICK       Memory which is added  to  the  system's  memory list before the
               KickTags are processed will be of this type.
```

AddMem uses all these flags. PUBLIC will always be set if the argument !PUBLIC
was not set. CHIP is set if the memory range is located below $200000 or if
the argument CHIP is given. If the memory is located above $200000 or if the
argument FAST was given, the flag FAST will be set. The flag 24BITDMA is set
if the memory is located below $1000000 and if the argument !24BITDMA is not
given. According to the Autodocs, KICK should not be set when adding memory.
But when the memory is added by the RESIDENT CoolCapture program, it is added
early enough so that KICK can be set.

1.4 AddMem.doc - Address

For questions or suggestions you may reach me:

via EMail (internet):
   schlodder@student.uni-tuebingen.de

Or write me:
   Martin Schlodder
   Uhlandstr. 18
   D-72336 Balingen

1.5 AddMem.doc - Copyright

AddMem is FreeWare. You may use it and copy it, as long as you leave it un-
changed.

```
DISCLAIMER:

I am not responsible for loss of data,  damage or other problems resulting di-
rectly or indirectly from the use of this program.
```

1.6 AddMem.doc - History

```
V0.5:    First Version.  Uses the OS2.0 type PUBLIC|FAST|LOCAL|24BITDMA for the
         new memory.
V0.6:    Now checks for the option 'CheckMem' before testing the memory.
V1.0:    Works now with Kick 1.3 and  earlier versions by using the memory type
         PUBLIC|FAST for them.
V2.0:    This version, again, runs only with OS 2.0 and higher, for is uses now
         the new commandline parsing function of DOS.  Any type of memory might
         now be added,  since  any combination of memory flags can be specified
         (except CHIP|FAST).
V2.01:   FPuts replaced by PutStr.
V2.1:    Accepts now the OS 3.0 memory flag KICK.
V3.0:    Localized and RESIDENT  option  introduced.  PUBLIC is now always set,
         CHIP, FAST and 24BITDMA are  set  according to the memory area's loca-
         tion. The parameter format has been changed severely.
V3.01:   Bug removed wich prevented AddMem from accepting memory above $100000.
```