BlizzMagic

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COLLABORATORS

	TITLE : BlizzMagic		
ACTION	NAME	DATE	SIGNATURE
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

BlizzMagic

1.1   Welcome

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                          BlizzMagic V3.3

  Kickstart ROM remapper for A1200 & all Blizzards i know :-)

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1.2   What's new?

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This release is only a small bugfix, making BlizzMagic work
on 1240 too... silly lea<>move bug :-)
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1.3   What it does

What it does? Well, almost the same as many other #?kick ↩
programs –
allows use of different Kickstart ROM than your computer actually has.
But – it has some other features, that make this program more than just
a softkicker. One of the most interesting features is moving exec.library
(which is one of the most heavily used libraries in system) base into
fastram. Because Blizzard's expansion RAM stays on the bus all the time,
the only reason why system doesn't use it from the very start of system
initialization is, that fastram is added into free memory list at "diag
init" time, when "exec.library" is already fully initialized and can't be
easily moved into fastram (although it IS possible – I did such a patch
before). So, BlizzMagic patches loaded ROM (since it's in RAM, and can be
patched easily) and adds Blizzard's memory into free memory list BEFORE the
final initialization of "exec.library". Exec then uses fastram for
everything automatically.

  Another feature of this "fastram" patch is that it changes memory
attributes of Blizzard's RAM to reflect it's real behaviour. This results in
ability to store reset–surviving objects such as "RAD:" devices into this
fastram. You can for example have four RAD: units now! This wasn't possible
before because RAD: disk images had to be stored in chip–ram, which was the
only memory available with required attributes. That's history now!
You may even move CPU interrupt vectors to fastram using MOVEVBR option.
If you need to use "prepareemul" or similar tool, you can stop using it now,
because BlizzMagic can do even this for you :-)

  There are also functions that affect behaviour of Blizzard Turbo board
itself. You can skip that flashing pause on reset when Blizzard says "I'm
here" – this is nice when you reboot often. You can also disable SCSI kit.
This is good when you have SCSI kit with SIMM installed, but no SCSI devices
connected. You can skip "1230scsi.device" initialization, saving few seconds
of searching SCSI bus for devices on every reboot.

  Most attractive use of BlizzMagic will probably be using a new 3.1 ROM
on an old Commodore A1200 with 3.0 ROM. There is a
tool
 for grabbing ROM
image from CD32 or A1200 Magic provided in BlizzMagic distribution archive.
Warning! Don't use A4000 3.1 ROM's – these don't work in A1200! Also note
that using a grabbed rom may be illegal, since it's copyrighted. I warned you.
Maybe when you grab it from your own CD32 and don't use both at once... I'm
not a lawyer but a programmer... do what you want with BlizzMagic, but YOU
are responsible for that. Don't blame me!

  You can even softkick a old–style 256k 1.3 ROM, but BlizzMagic can't
patch such a ROM without having to know it exactly. This is because
"exec.library" is not a real "resident module" in these old–style ROM's.
This means you can't use any of the advanced features of BlizzMagic –
exec->fast, flash skipping... Maybe I'll support this in future, but who
wants to use 1.3 these days anyway? I deleted all software that doesn't
work on 3.0 years ago... These were poorly programmed and thus weren't
worth it anyway...

  You can use all the features even when you don't want to softkick any
ROM (when you already have 3.1 ROM, for example). Just use "*" as filename
and BlizzMagic will use your original ROM. No problem!

For detailed instructions on usage of BlizzMagic, see
                  Usage
                  chapter.

1.4   What do you need

To be able to use "BlizzMagic", you need an Amiga 1200 with OS 2.0+
equipped with phase5's Blizzard 1230, 1240 or 1260 and some FAST memory
installed (4MB should be fine, I have 8MB). Blizzard should be configured
via jumpers to enable its ROM->RAM remapping feature (MAPROM jumper) – see
Blizzard's manual for this.

Of course you need some ROM image too.. If you have an old A1200 with
OS3.0, you can visit your friend who has a newer A1200 with OS3.1, and use
provided "rom grabber" to grab his ROM when he has left for a while :-).
CD32 is a good target for grabbing too. So far I've tested these
Kickstarts:

40.68 (my machine's own ROM)
39.106 (normal old A1200)
37.175 (A500 version? no IDE)   __ these didn't work on 1260
37.350 (A600 one – IDE WORKS!!) /
34.5 (??? I don't know much about this one)

WARNING: DO NOT GRAB ROM on computer with BlizzMagic in use –
BlizzMagic patches the ROM. Such ROM would be unusable! (As it
jumps to RAM address, where resident part of BlizzMagic was
located). This is not a real problem, since one who uses BlizzMagic
already has that ROM in a file :-)

1.5   How to use it

Brief overview of usage:

BlizzMagic <filename> <options>

<filename> is a filename of your ROM file, or * when you don't
want to load any ROM.

<options> is one or more of following:

STARTUP – specify this when you're putting BlizzMagic into
startup-sequence. When this switch is specified, BlizzMagic will only
load a new ROM when there's NO ROM loaded already. This means it will
work only first time after power-on. Technically, BlizzMagic will only
act when the ROM installed is equal to your original ROM.

NOSKIPFLASH – Turns off flash-skipping, which is ON by default.
This has no effect on SCSI.

NOSKIPOFF – Turns off "2" key detection on 1230IV and also
screen flashing on 1260. You won't be able to turn Blizzard off
until power-off.

MOVEVBR – This does the same as similar option in FastExec –
moves VBR vectors into fastram, resulting in slight speedup of interrupts.

PREPAREEMUL – This option replaces "prepareemul" tool from
ShapeShifter. It moves start of chip-ram to $2000, so Mac emulators
can use low memory for their system. This option automatically
implies MOVEVBR.

NOSCSI – Turns off SCSI initialization. This means Z3/1230scsi.device
won't appear at all and SCSI bus won't be searched for devices. Speeds
up booting when no SCSI devices are connected.

NORESIDENT – Turns off resident part of BlizzMagic. This disables
all other features (flash/off skipping, NOSCSI, exec->fastram, fastram
attribute correction). Specified ROM is simply loaded over the currently
installed one without any patching. This is also the case for old-style
(1.3) ROMs, which can't be currently patched by BlizzMagic.

FORCE – Forces ROM replacement, even when both ROMs have
the same version and revision. Mainly for debug purposes, but can be
used for loading patched version of your normal ROM. Note that STARTUP
switch overpowers FORCE – when both are specified, ROM won't be replaced
when there is already some ROM installed, even with FORCE switch.

Using BlizzMagic:

When you want to use a new (maybe 3.1) ROM all the time, you may want
to put BlizzMagic into your startup-sequence. It should be put
as a first command (even before SetPatch) in s:startup-sequence, not
in user-startup! Enter this at start of your s:startup-sequence:

BlizzMagic <filename> STARTUP

This will load a specified ROM when there's no rom installed already.
STARTUP switch enables loading any rom later using BlizzMagic from Shell –
It won't be replaced back when you have BlizzMagic in startup-sequence.

When you don't want to load any ROM but still want to use BlizzMagic's
features, put this at start of startup-sequence:

BlizzMagic * STARTUP

This doesn't load any ROM, but moves exec to fast, fixes fast memory
attributes and skips flashing.

BlizzMagic * STARTUP NOSCSI

This does the same as the previous one, but also disables SCSI.

When you want to restore your original ROM, use this from Shell:

BlizzMagic * NORESIDENT

Note that in this case STARTUP switch won't keep BlizzMagic from loading
ROM when it's in startup-sequence, as it sees there's no ROM installed.
Also, you won't be able to restore ROM this way when you softkicked
1.3, since BlizzMagic requires OS2.0+ for parsing arguments. Maybe
I'll add a functionality on 1.3 for restoring ROM only (* NORESIDENT)
in future.

1.6   Who cares about me, anyway?

Well, seems I've definitely decided to become a famous Amiga programmer,
so take a note of my e-mail address. It hasz changed recently, because
I changed to real ISP.

                     mamlason@tnet.cz

I'm also reachable at this address, but prefer above:

                     hlavaty@amiga.cz

The "Real" world address:

                     Jan Hlavaty
                    Tadzicka 1424
                      Praha 10
                       10100
                    Czech Republic
             (It's in central Europe, you dumb :-)

I'm on IRC sometimes as "Mamlason"... I like giving away cookies :-)

I would like to thank the following people:

- Christer Bjarnemo for his ideas, opinions and moral support as well as
other things I didn't mention here :-)

- Stephen Evans ("Mr_Q") for launching suspicious code I DCC'ed him on his
machine to provide me with essential information about Blizzard 1230III
(it was not a virus - this time :-), and for being the first happy user of
BlizzMagic on 1230III. He aslo bought 1240 recently and had to make
tons of reboots when we were looking for that silly bug.

- Helmut Kroeber, Rorderick (? that's all I know about you),
Luke Osbaldeston, Alessandro Zummo and all other people who emailed me
(and will email me) for their comments and showing interest in my work.

- "BillRiker" on IRC for the same as "Mr_Q", but on 1230 II

- Harry Sintonen (author of BlizKick) for cloning BlizzMagic (Yeah! I was
first :-), thus making me believe it's worth it :-). Isn't it nice many
Amiga programs exist in pairs, making each other want to be better than the
other? Well, rivalry is a strong motivation, thanks for that :-) (as this

is the only motivation that works on ME - I'm very lazy otherwise)

- Any other persons/entities I forgot that exist on IRC or in general
cyberspace, that helped me by discussing and/or beta-testing BlizzMagic.

- Michal Suk from Atlantida for borrowing me Blizzard 1260 for a weekend,
thus allowing me to make BlizzMagic work perfectly on 1260.

1.7   Possible trouble with BlizzMagic

There are some tips for using blizzmagic:

- When putting BlizzMagic into startup-sequence, always put it
at the very first line, before SetPatch. Specify STARTUP switch there.

- Do not use conflicting programs at once with BlizzMagic in
startup-sequence. These may be "FastExec", "PrepareEmul" or similar tools
which change something and then reboot. Such programs can get into fight
with BlizzMagic easily and there is NO need to run them now, as BlizzMagic
can do the same :-)

- Check that ROM you're going to use is for A1200. Couple of people reported
problems using A4000's one.

- I had problems with some <3.0 ROMs on 1260. I think these won't
work at all and shouldn't be used.

- Someone reported that BlizzMagic doesn't work with his old shitty
harddrive. HDD just disappeared and screen requesting bootdisk popped up.
This is because Amiga initializes too fast, so silly harddrive used
to PeeCee's several-minutes-selftest just isn't responding at this
time. If this is the case, try cutting RESET line (1, usually pained red)
to hdd. If that fails, try not to skip flashing pause (NOSKIPFLASH).
If that fails too, throw HDD out thru window and get a real one :-)

1.8   What happened since...

V1.0: First public release, for Blizzard 1230 IV only...
       Used overlay trick which confused most programs patching
       LoadSeg(). Not bad, but...

V2.0: Complete rewrite and concept change, now supports 256k ROMs
       and checks for ROM loaded. Still for Blizzard 1230IV only... :-(
       Released on coverdisk of Czech magazine for Amiga users "AMIGA Review"

V2.1: I catched a 1230III owner on IRC finally (hi Mr_Q) and adapted
       BlizzMagic to use 1230III too. Now supports versions III and IV.
       Still no bugs found.

V2.2: Someone wrote to me it could be very nice feature to make BlizzMagic
       copy exec to fast ram, since using "fastexec" and "BlizzMagic"

      together results in two reboots. I was surprised that the first
      attempt I made was successful – one evening work :-). Only 1.3
      seems to dislike my way using romtags, so no fast exec on v34...

V2.3: I discovered that Blizzard's RAM (at least on IV) doesn't go
      away after reset – It's only unknown to the system until
      diag init phase adds it to the free memory list. I changed the
      FASTEXEC mechanism and corrected fastram attributes to reflect
      this – BlizzMagic adds fastram just before exec.library gets
      initialized, thus effectively moves exec and system stack to fastram.
      FASTEXEC doesn't use the KickMemPtr/KickTagPtr/KickCheckSum vectors
      so that RAD: can be used and doesn't have to be in chip-ram.
      Also "boot with no startup-sequence" can be used again.
      Now you can have more than two RAD: units due to large amount
      of suitable memory available.
      Also added a feature to skip the one-second flashing pause
      in Blizzard's initialization – BlizzMagic adds the memory
      on its own and bypasses Blizzard's initialization. If you have
      "scsi kit" installed, disable this using "NOSKIP" option.
      Added a nice effect on reboot.

V2.4: I got my hands on unguarded 1260. BlizzMagic should work
      on that too! I was surprised that 1260 has the same
      product number as 1230IV... and it works the same way!
      Unfortunately, there is still something wrong – i'll get this

V2.5: Found someone with 1230 II finally. BlizzMagic now supports
      that too! Now there's only one left... and maybe 1260.
      This is second public release on Aminet.

V3.0: Complete rewrite. Changed way of patching ROM – now there are
      two patches: "exec.library" and "diag init" init vectors.
      Now supports all models of Blizzard 1230. Added option
      for skipping SCSI initialization. Added support for easy launching
      of BlizzMagic from startup-sequence. Third Aminet release.

V3.1: BlizzMagic now fully works on 1260. Also added skipping
      of "2" key detection on 1230IV and 1260. Now skips flashing
      on 1260. Added checks of options of currently resident
      BlizzMagic. BlizzMagic WILL reboot now when ROM's are same
      but selected options are different. Should be another Aminet
      release, but progress went too fast this time...

V3.2: Added option for moving VBR vectors into fastram. Added replacement
      for "prepareemul" tool. Another Aminet release.

V3.3: Bugfix release – now should work on 1240 also.

1.9   Back to... no, that was another story.

My future plans with BlizzMagic

I'll continue to develop BlizzMagic as long as someone wants it.
So far, none requested this, so why should i bother :-)
There are some possible improvements of BlizzMagic:

- Support for rekicking back from 1.3 ROM

- Add patch for 1230 I and II similar to "patch1230scsi"

I also work on other assembly projects, but they're small
(since it's too much work with assembler to make big projects,
and as I said - I'm too lazy) and won't be probably released
on Aminet.

I'm also learning C/C++ to be ready for A/Box, so I'm developing
a small game "FiveInLineTCP". It works already in 2player local
mode, but i plan TCP/IP playing and won't release the game until
I finish this. AmiTCP/Miami compatible.

I hope you'll hear of me in the future :-)

1.10   These small usable thingies

There are three little pig- err... tools provided with BlizzMagic:

FixSum - can be used to fix checksum of 512k ROM. Such
(patched) rom can be used with NORESIDENT then.

StealROM - saves ROM of computer it's executed on into
file named "GrabbedROM".

ReconnectModules - run this on ROM file - makes
(very-very-little) speedup of ROM resident modules recognition.