Digiboost

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COLLABORATORS			
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REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

Digiboost

1.1 DIGI-Booster

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            DIGI Booster professional 2.18 (02.03.1998)

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                           - SHAREWARE -

           by Tomasz&Waldemar Piasta. All rights reserved!

                 Official Digi Booster home page:
          http://www.amigaworld.com/support/digibooster/index.html


                 Official Digi Booster support BBS:
                  Magic Galaxy BBS +49 40 612 617


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1.2   Best sound card

Which music card is the best for DigiBoosterPro?

The best music card ever made for Amiga is Delfina. I give you some
examples why this card is so good for DigiBoosterPro.

Delfina DSP has very good stereo audio codec (Crystal CS4231A) and
signal processor (Motorola DSP56002) which gives you some wonderfull
possibilities while playing eveything :

- realtime graphic equalizer (10 band)
- effects like chorus, flanger, delay etc...
- realtime HD rendering while music is played/mixed from few sources

All this effects you can use while playing DigiBoosterPro modules and
not only...

You can connect Paula output to Delfina input and you will be hearing
all music from demos, games.

Having Delfina and DigiBoosterPro from version 2.18 you can run more
than one DigiBoosterPro and play, mix few modules at the same time !!!

It's the best solution for everybody who wants to have superb quality.

1.3   DSP Echo - realtime effect

```
   DSP Echo :
   ----------
```

If you want use this realtime effect you must set Echo "Fast" or
"Enabled" in advanced settings using AHI preferences program.

In DSP Echo window you can find some parameters:

DSP Delay is the delay in miliseconds.

DSP Feedback defines how much of the delayed signal should be feed back
to the delay stage. Setting this to 0 gives a delay effect, otherwise
echo.

DSP Mix tells how much of the delayed signal should be mixed with the
normal signal.   Setting this to 0 disables delay/echo, and setting it
to 255 outputs only the delay/echo signal.

DSP Cross only has effect of the current playback mode is stereo. It
tells how the delayed signal should be panned to the other channel. 0
means no cross echo, 255 means full cross echo.

For best performance set "Fast Echo" but even with "Fast Echo" turned
on, this effect slows down your computer.

1.4 "

```
   Composing modules in MOD and XM format
   --------------------------------------
```

Digi Booster Proffesional is able to export modules in three different
music formats, these are:

```
  - DBM - original Digi Booster Pro format - very flexible and
                most expanded

  - MOD - old Pro Tracker and Fast Tracker 1.x (pc) module format

  - XM - very popular Fast Tracker 2.x (pc) format
```

We advice to save modules in DBM because it's a very flexible and most
expanded music format.   It is supported by all most known players on
Amiga platform.

When you intend to export mods in MOD or XM format there are
restrictions you must obey.

```
        MOD format has following limitations:

        - max 32 channels
        - max 31 samples
        - max sample length is 128K
        - max number of patterns is 100
        - pattern length is 64 positions
        - only one command per line
        - no envelopes
        - no DSP effects
        - three octaves
        - no 16 bit samples
        - only one song
        - and more...
```

```
        XM format has following limitations:

        - max number of channels is 32
        - max number of song positions is 256
        - there's only two commands per line  and one of them is volume
          command only
        - you can't save DSP echo parameters
        - XM doesn't support following commands:
          Oxx (slide sample offset), Sxx (set real BPM), Vxx (activate
          echo on channel), and Wxx, Yxx, Zxx which are DSP echo params
        - only one song
        - envelopes consist only 12 points and there is 1 sustain point
        - and more...
```

Also we do not advice you to save your module in XM format while
composing, if you have to export your work in this format do it only
when the module is finished because there could be problems with
converting finetunes and envelopes.

1.5 Copyright

```
    Copyrights :
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```

The program Digi Booster Professional in this version and its documentation
files are (C)opyright 1997 by Tomasz & Waldemar Piasta. All rights
reserved.

The right of using full version of this program is granted to you by paying
the SHAREWARE-fee of 50 DEM (30 U$) to the authors.

You will receive a full personal version of program. See registration form
for details.

Digi Booster makes use of:

Ahi.device by Martin Blom (aminet/dev/misc/ahi.lha)
Reqtools.library by Nico Francois

```
    WARNING!!!
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```

Digi Booster Pro is protected in a special way.

Every registered user should know about personified number hidden
somewhere in DigiBoosterPro Installer and in main program too, so when
we will get cracked version we will know who is responsible for that.

So beware because you will take the criminal consequences of this !!!

1.6 Disclaimer

```
   Disclaimer :
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```

The authors take no responsibility for any results of the use of this
program.

This software is provided "AS IS" and there is no warranty of any kind,
so that you use this software at your own risk.

But... you know: no risk no fun :-)

1.7 Distribution

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   Distribution :
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```

No profit must be made by distributing DigiBoosterPro, especially the
price of a disk containing DigiBoosterPro may not exceed US$ 5,- (or
equivalent amounts in other currencies). Please feel free to
distribute DigiBoosterPro over bulletin board systems and networks.

Important!!!
If you want distribute DigiBoosterPro as a part of shareware/freeware
CD-ROMs, PD DISKs you must send to authors one copy of product
containing DigiBoosterPro.

1.8 Requirements for work with Digiboost:

```
  Requirements:
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```

  - Any Amiga with 68020 or better

  - Kickstart 2.0 or higher (kick 3.1 is recomended)

  - ahi.device V4 (Audio Hardware Interface availaible on Aminet:
    dev/misc/ahi.lha) by Martin Blom

  - asl.library & iffparse.library (ahi.device makes use of this libs)

  - reqtools.library by Nico Francois

1.9 DigiBoost´ formats:

```
   Formats:
   --------
```

– Supported module formats from other editors and platforms:

  -S3M   (Screamtracker3 / PC)

  -XM   (Extended module / Fasttracker2 / PC)

  -Octamed   (MMD0,MMD1-MMD3 / Amiga)

  -MOD   (Protracker 3.15-4.0ß / 4-32Channels / Amiga)

  -Digi   (Digibooster 1.x / Amiga)

  -Oktalyzer (4-8 channels / Amiga)

– Supported sample formats from other platforms:

  -IFF8SVX (only mono / Amiga / 8 bit)

  -IFF16SV (only mono / Amiga / 16bit)

  -RIFFWAV (mono/stereo / PC / 8bit/16bit)

  -AIFF (mono/stereo / Amiga;PC;Mac / 8bit/16bit)

1.10 Features...

Features :

– supports following formats: XM, S3M, MMD0-MMD3 (Octamed/SS), MOD (4-32 CHN)
  OKTALYZER and DIGI (Digi Booster 1.x)

– mixer (HD rendering) option included which allow to render
  your module to AIFF or AIFC sample then you are able to convert these
  formats e.g. to CDDA or MPEG audio formats

– realtime DSP effects: echo, cross echo, delay, cross delay, hall and
  works on defined channels; it means that you are able to active DSP
  with selected tracks

– optional 32 bit HIFI mixing with linear interpolation in realtime

– 100% assembler code

– Export *.XM files (4-32 channels) – not in unregistered version

– Export *.MOD MOD.* files (4-32 channels) – not in unregistered version

– up to 128 channels (4/6/8/10/..../128)

– up to 7 octaves

– unlimited sample size

- AHI support (at this moment there's support for following sound card: Tocatta,Delfina,Wavetools,Prelude,Melody,Maestro,Concierto and of course for Paula)

- DeliTracker, EaglePlayer and Hippo player support

- source code of player included

- two different commands in one line and in same time. It means that you can use for example: sample offset command 9xx and vibrato 4xx

- 8 and 16 bit audio modes (so you can load to Digi Booster 16 bit samples) formats supported: IFF8SVX ; IFF16SV ; RIFFWAV 8BIT ; RIFFWAV 16BIT; AIFF 8/16BIT / STEREO/MONO

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1.11 More features...

```
Features (2):
-------------

- max. 256 samples (only in editor, but file format (DBM) supports max
  65535)

- max. 1024 patterns       -||-

- max. 1024 positions      -||-

- almost all key shorcuts and commands are Pro Tracker compatible

- ping pong loop and command E3x - backward play

- realtime instrument effects:  volume envelope
                                boost envelope
                                filter envelope
                                offsets
                                panning envelope and much more

        envelope consists of: 32 points
                              2 sustain points
                              1 loop

- instrument/sample mode; you can use the same sample a few times with
  other parameters e.g.  you have string sample no.  1 and you want use
  this sample a few time, each with different finetune, volume, loop and
  let's say one with volume envelope, second with boost envelope.  In
  normal  tracker  (like  Pro Tracker) you have to load the same sample
  two  times to memory.  In DB pro you have Instruments.  So you have to
  do following things:

- load  smaple to bank no.  1 ; so you have an instrument no.1 which use
  sample no.1
```

- in instrument no. 2 change sample bank to no. 1

- now you can set different effects and parameters to instrument no. 1
  and no. 2

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1.12 Digiboost-effect parameters

Digi Booster has almost fifty effects. All Pro Tracker effects are
supported (without EFx).

If you want to use pannings you must set audio mode with stereo++
in AudioModeConfig.

Here you are a full list of Digi Booster Pro II effects.

(*) = If the command parameter is zero, the last nonzero parameter will
be used.

```
0xx     Arpeggio
1xx (*) Portamento up
1Fx (*) Fine Portamento up
2xx (*) Portamento down
2Fx (*) Fine Portamento down
3xx (*) Glissando
4xx (*) Vibrato
5xx (*) Tone portamento+Volume slide
5xF (*) Tone portamento+Fine Volume slide up
5Fx (*) Tone portamento+Fine Volume slide down
6xx (*) Vibrato+Volume slide
6xF (*) Vibrato+Fine Volume slide up
6Fx (*) Vibrato+Fine Volume slide down
8xx     Set panning
9xx (*) Sample offset
Axx (*) Volume slide
AxF (*) Fine volume slide up
AFx (*) Fine volume slide down
Bxx     Position jump
Cxx     Set volume
Dxx     Pattern break

E00     Low pass filter on
E01     Low pass filter off
E1x     Fine portamento up
E2x     Fine portamento down
E3x     Play from backward
E40     Turn off sound in channel
E5x     Turn on/off channel
E6x     Set loop begin/loop
E7x     Set offset
E8x     Set panning
E9x     Retrig note
EAx     Fine volume slide up
EBx     Fine volume slide down
```

```
    ECx     Note cut
    EDx     Note delay
    EEx     Pattern delay

    Fxx     Set tempo/BPM
    Gxx     Set global volume
    Hxx (*) Global volume slide
    K00     Key off
    Lxx     Set envelope position
    Oxx (*) Sample offset slide
    Pxx (*) Panning slide
    Sxx     Set Real BPM


    The  commands  listed  below  works  only if you have Echo option
    enabled in AHI preferences:

    V00     Turn DSP echo on in channel
    V01     Turn DSP echo off in channel
    V10     Turn DSP echo on in all channels
    V11     Turn DSP echo off in all channels
            Default is: echo turned off in all channels.

    Wxx     Echo delay. It is a value between 00 and ff, and defines
            time of delay. 01 means that sound will be delayed
            2 ms (0.02) of second.
            Default is: W40 - 128 miliseconds ; 0.128 sec.

    Xxx     Echo Feedback. It is a value between 00 and ff, and defines
            how much of the delayed signal should be feed back to the delay
            stage. Setting this to 0 gives a delay effect, otherwise echo.
            Default is: X80

    Yxx     Echo Mix. It tells how much of the delayed signal should be mixed
            with the normal signal. Setting this to 0 disables delay/echo,
            and setting it to ff outputs only the delay/echo signal.
            Default is: Y80

    Zxx     Echo Cross. It only has effect if the current playback mode is
            stereo. It tells how the delayed signal should be panned to
            the other channel. 0 means no cross echo, ff means full
            cross echo.
            Default is: ZFF - full cross echo.
```

1.13   What do you want us to do?

```
  Future:
  --------

- PowerPC plugins
- DelfinaDSP plugins
- realtime resonance filtering (tb303 like acids)
- more envelopes like boost, filter, pitch etc.
```

```
- your proposals :-)
```

1.14 Some hints for proper work with Digibooster

```
Some hints:
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If Digi Booster crashes while starting or selecting AHI audio mode we
suggest you to check if you have correct versions of folowing libraries:
 - asl.library
 - iffparse.library
 - reqtools.library
 - diskfont.library
You can also check AHI device and its AudioModes.


If you have slow machine you can increase speed by limiting
mixing frequency in a config option.


Also you can speed up the whole program by loading Kick3.1 into
a fastram (use BlizKick). Ahi.device works faster using Kick3.1.
It is very importand to run Digi Booster pro and AHI with Kickstart 3.1.
See ~Benchmarks~


For best quality of sound run CyberSound 14bit_calibration and then
select a tables/calibration audio mode in Digi Booster config window.


DigiBoosterPro doesn't like MCP & likewise - only sometimes :-)
 (Don't know why) so if you don't want to crash your machine change
MCP to MCX (it's better & more safety program).
```

1.15 Greetings fly to...

```
Greetings & thanks:
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- Martin Blom for ahi.device

- Patrick Beerhorst for documentation in guide format until version 2.17
  and HTML version of docs

- Yann Wissenbach, Dennis Lohr for documentation in guide format

- Claus Morell for support, bugs report and big interest

- T.F.A for ASM-one

- Nico Francois for reqtools.library
```

  – Jan van den Baard for GadToolsBox

  – K-P Koljonen

  – Peter Kunath

  – All registered users

1.16 "

Digi Booster Pro was developed using ASM'one V1.29, Amiga1200T,
Blizzard IV, 18MB ram, 1.7GB hd and Kickstart 3.1 & other stuff...

If there are some big firms which want to make DB a real commercial product
please contact us as soon as possible.

1.17 Digibooster module format:

 Digi Booster PRO – DBM0 file format by Tomasz Piasta

DBM is Iff like format. It means that module consists of hunks. Each hunk
has a 4 bytes identification and after that hunk length (LWORD – 4bytes).

If the module doesn't consist of any hunk, for example VENV – volume
envelope hunk that will mean this module doesn't use volume envelope
effect.

These hunks DBM module should always consits of: NAME, INFO, SONG, INST, PATT,
SMPL

```
-----------------------------------------------------------------------------
 Offset   Length
-----------------------------------------------------------------------------
   0        4       |   ID "DBM0" – module identification
   4        2       |   tracker version:
                    |   eg. $0200 – version 2.00
   6        2       |   reserved
-----------------------------------------------------------------------------
   8        4       |   ID "NAME" – module name hunk identification
  +4        4       |   hunk length
  +8       44       |   mod name
-----------------------------------------------------------------------------
 ???        4       |   ID "INFO"
  +4        4       |   hunk length
  +8        2       |   number of instruments in module
 +10        2       |   number of samples in module
 +12        2       |   number of songs in module
 +14        2       |   number of patterns in module
 +16        2       |   number of channels
-----------------------------------------------------------------------------
```

```
  ???      4       |   ID "SONG" - songs hunk identification
  +4       4       |   hunk length
 +12      44       |   song name
 +56       2       |   number of orders for this song
 +58      ???      |   order list (words) NOTE: Each order list can use
                   |                         the same numbers of patterns.
-----------------------------------------------------------------------------
  ???      4       |   ID "INST" - instruments hunk identification
  +4       4       |   hunk length
  +8      30       |   instrument name
 +38       2       |   sample number used in this instrument
 +40       2       |   instrument volume
 +42       4       |   instrument finetune (stored in HZ)
 +46       4       |   instrument repeat start
 +50       4       |   instrument repeat length
 +54       2       |   general panning (0-256)
 +56       2       |   flags:
                   |                         bit 0 set - forward loop uesd
                   |                         bit 1 set - ping pong loop uesd
-----------------------------------------------------------------------------
  ???      4       |   ID "PATT" - patterns hunk identification
  +4       4       |   hunk length
  +8       2       |   number of positions (rows) in pattern
 +10       4       |   size of packed data
 +14      ???      |   packed pattern data
-----------------------------------------------------------------------------
  ???      4       |   ID "SMPL" - samples hunk identification
  +4       4       |   hunk length
  +8       4       |   flags:
                   |                         bit 0 set - 8 bit sample
                   |                         bit 1 set - 16 bit sample
                   |                         bit 2 set - 32 bit sample
 +12       4       |   sample length
 +16      ???      |   sample data (unsigned)
-----------------------------------------------------------------------------
  ???      4       |   ID "VENV" - volume envelopes hunk identification
  +4       4       |   hunk length
  +8       2       |   how many volume envelope tables does this hunk contain
 +10       2       |   to which instrument this volume envelope data belongs
 +12     134       |   volume envelope data
-----------------------------------------------------------------------------
```

```
                    -------------------------
                    Volume Envelope structure:
                    -------------------------
```

Each volume envelope table takes 134 bytes.
Max. number of points is 32.
Max. number of sustain points is 2.
Max. number of loops is 1.

```
  Offset    Length
-------------------------------------------------------------
  +0         1      |    type    bit 0: envelope on/off
                    |            bit 1: 1st sustain on/off
                    |            bit 2: envelope loop on/off
                    |            bit 3: 2nd sustain on/off
  +1         1      |    number of envelope points
  +2         1      |    1st sustain point
  +3         1      |    loop start point
  +4         1      |    loop end point
  +5         1      |    2nd sustain point
  +6         1      |    reserved
-------------------------------------------------------------
  +8         2      |    1st point time (in vblanks)
 +10         2      |    1st point volume (range: 0-64)
 +12         2      |    2nd point time (in vblanks)
 +14         2      |    2nd point volume (range: 0-64)
 +16         2      |    ...
-------------------------------------------------------------
```

```
                    ---------------------
                    Packed pattern format:
                    ---------------------
```

If the byte is zero it means that you must skip to next position (row).

If the byte is nonzero bits are interpreted as follows:

```
    bit 0 set: Note follows (byte)
    bit 1 set: Instrument number follows (byte)
    bit 2 set: 1st effect type follows (byte)
    bit 3 set: 1st effect parameter follows (byte)
    bit 4 set: 1st effect type follows (byte)
    bit 5 set: 1st effect parameter follows (byte)

    Next byte is a channel number to which this data belongs.
```

Example:

```
    00 - skip to next pattern position
    00 - skip to next pattern position
    03 - byte is nonzero; the bit 0 and 1 is set; take note and instrument
    24 - channel number to which following data belongs
    81 - note (hex: $51 - this is a 5th octave and 1st note)
    04 - instrument number
```

```
                    ---------
                    Last words
```

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                         ----------
```

I think these informations are enough at the moment – the format is rather
self – explaining. But if you have any problems you can always contact me.

1.18   Authors

```
    Programmers:
    ------------

      Tomasz & Waldemar Piasta
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     Tomasz Piasta 30.11.1977          Waldemar Piasta 19.10.1975
     studying Informatics              studying Sound Engineering



      ~How~to~register?~



    Amigaguide-Deutsch:
    -------------------

      Patrick Beerhorst

      E-mail:Syntec@Stardate.Westfalen.de
```


1.19   Registration

```
   Registration:
   -------------

   The right of using full version of this program is granted to you by paying
   the SHAREWARE-fee of 50 DEM (30 U$) to the authors.

   You will receive a full personal version of program.  See registration form
   for details.

   If you want to use DBM modules in commercial products you have to register.

   Please fill in the registration form included in this archive
   and send it to:
```

```
Tomasz & Waldemar Piasta
Poprzeczna 66/6
51-167 Wroclaw
Poland
```

The registration may lasts 2-4 weeks. So do not worry :) and be patient.
This is because of great snail-mail. The first registration is possible
only via standard mail.

After sending registraton form and money to us you will recive a
personified latest version of DIGI Booster Pro. If you are a registered
user of DIGI Booster Pro you can make an upgrade for free (via E-mail) or
for only $5 or 10DEM via snail-mail (cost of shipment) by sending us the
money and disk. The rules of upgrading may be changed in future!!!

                        Thanks a lot for your support!

1.20 Changes

    Changes in V2.18 (second release)

- fixed requesters and file requesters

- removed crashing while changing number of channels

    Changes in V2.18

- added MP support using (mpega.library) - loading samples encoded
  with MPEG into sampler, coming soon saving module with samples
  encoded as mp3 !!!

- removed CIA timers, if you have Delfina you can load more than one
  DigiBoosterPro and play, mix few modules at the same time !!!

- removed hardware hits so now you can run DigiBoosterPro even on DRACO

- changed showing SamplePos in sampler from dec to hex

- removed bug when looping sample, copying sample etc.

- added option : ctrl e (expand track), ctrl n (remark block), ctrl o
  (compact track)

- removed bug in EDx command

- improoved multikey (you can select now active tracks)

    Changes in V2.17a

- added continuing envelopes when note with 0-instrument was played

- fixed exporting of AFx and AxF commands in XM format

- removed bug which was freezing DB pro when there was no memory to load module

- fixed copying blocks in more that 22channels and 256 length pattern

- added plug in system for sampler - flanger, chorus, LP filter 1khz etc. (not in demo version)

  Changes in V2.17

- removed some bugs in ExportXM option

- fixed slider in ModuleInfo window

- fixed problems in sampler while using different sample types in module (8,16 bit)

- fixed problems with DMA paula audio mode

- improved XM loader (fixed loading of panning envelopes)

- fixed a bug in Kxx command (key off after x vblanks)

- added possibility to setting up the BPM, tracks number and pattern length using keyboard

- added export XM

- improved loader for iff8svx and iff16sv samples

- added new scopes routines especially for gfx boards

- added new pattern scroll routine especially for gfx boards

  Changes in V2.16

- new boost option (the last one was terrible)

- scopes work about 50% faster on Aga machines now and don't slow down player

- added a ping pong loop for volume and panning envelopes

- now you are able to save (with Save Ins option)/load sample together with parameters like: volume envelope, finetune, ping pong loop and panning envelope,

- added echo option in sampler window

- improved XM loader

- when you change a number of pattern while plaing DB pro doesn't change

datas in pattern editor; now it is fixed,

- added playing sample in volume/panning envelope and DSP window

- added normalize option in sampler (max volume without distortion)

- loader for DBMs is more intelligent (doesn't crash when after module is
  some data)

- added DSP echo window see DSP echo window

- added DSP echo commands: Vxx, Wxx, Xxx, Yxx, Zxx, for more details see
  list of effects~

- no system crash when you change instr. number to 0

- volume boost in mixer window works fine from now

  Changes in V2.15

- fixed bug which caused guru on kickstart 2.0

- fixed bug which caused enforcer hits while setting priority via rom function

- added some keyboard options like:
  alt + '+'
  alt + '-'
  alt + '\'
  for slide effect value up or down and copy value

  ctrl + '+' or '-' or '\' for selecting a number of command column (1st
  or 2nd) with which a slide effect value option will work

- the player works faster now (doesn't hang on kickstart 3.0 and lower), but
  we still strongly reccomend you to install a new kickstart 3.1, AHI
  works 100% faster!

- added panning envelopes (so... from now there are two realtime effects
  for instruments)

- removed bugs from deliplayer and made some improvements

- added panning slide command Pxx

- added playing notes from keyboard in envelope window

- added a set real bpm effect command: Sxx

- fixed playing patterns which take more than 64kb in memory

  Changes in V2.14

- fixed some bugs in Load/Save config

- made a Digi Booster pro deliplayer

- fixed some bugs in Oktalyzer module loader routine :)

- added a dealloc music channels option

- improoving requesters

- fixed bug while quitting from the program

- added an autoboost option, so now Digi Booster changes automaticly the
  volume boost depending on number of channels

- from now LP filter (low pass filter) works in %

- renamed 'cut bass' to 'HPfilter' (higs pass filter) and improved routine,
  now HPfilter works in %

- improved optimize routine: added possibility to remove unused channels
  in module and clear unused instruments' names

- fixed bug in showing range in sample editor

- fixed a bug in saving module in DBM format which appeard sometimes when
  you saved too much volume envelopes and then tryed to load it.

- improved xm converter: converting of commands EAx Axx and volume envelope

- added Master Volume slider

- added Real BPM slider

- added Sample Range slider

   Changes in V2.13

- added a blankzero option

- fixed a bug in selecting AHI audio mode

- removed a bug which caused a 'guru' while a number of channels was changing
  and music was played at the same time.

   Changes in V2.12

- added lalt + arrow left/right to change number of editing pattern

- added stop playing a sample with space in sampler

- added I O P [ ] 9 0 = keys to play sample and edit notes

- added some option visible at right side of pattern editor (CUT, COPY, PASTE,
  FLIP, INSERT POS, DELETE POS   PATT/TRACK/BLOCK   ALL/COMMANDS)

- added show repeatmarks in sampler while showing a range or zoom in a sample

- fixed bug in ZoomOut option

- added leaving sampler with ESC key

- fixed a bug in DIGI loader - some of left channels were played as right
  channels and vice versa

- made a faster procedure (we hope...) to print pattern scroll (visible
  only with GFX cards)

- improving protection :-)

- fixed an editing of command column in pattern editor (thanks Slaxx)

   Changes in V2.11

- fixed some bugs in allocating music channels and initializing ahi.device

- up to 256 (row skip) in quantize

- added some keyboard options missed in older versions

- added save instrument option; so now you are able to save/load sample
  together with parameters like: volume envelope, finetune, ping pong loop
  etc.

- added sample routine (make use of HardDiskRecord by Martin Blom)

   Changes in V2.10

- added a menu and some keyboard shortcuts see ~Keyboard~

- fixed a lot of small bugs like:

   -fixed playing of 256 position long patterns

   -fixed editing of commands in pattern editor

   -fixed e6x - loop command

   -fixed dxx pattern break (this command had limitation: you were able to
   skip to 63th position max. - now it's extended to 99)

   -fixed playing 256 pos long patterns by return key

   -when you change position when module is not played program does not skip
    to start of pattern now

   -fixed converting 'fade out' in XM's volume envelope

   -fixed EDx command when an instrument has vol envelope

   -when initializing sound there shouldn't be longer any system crashes

   -Digi Booster is now more user friendly

- added a second faster procedure to show samples in sampler window (works

only with AGA and ECS machines because this is a hack and will not work
with graphic cards)

- added highlighting of marked block in editor

   Changes in V2.01

- Made a loader for patch samples in XM converter and fixed some bugs. So
there shouldn't be longer any problems with converting XM modules.

- Fixed some bugs in envelope editor.

- Added a cut bass option in sampler.

- Fixed a bug in volume envelope procedure.

- Added some Pro Tracker keyboard options like:

 Drumpad

Use \ to toggle modes. One or more dots will appear to the right of the
8bit/16bit mode gadget.

 No dots: Normal keypad.
   1 dot: Drumpad.
  2 dots: Drumpad - Edit/Rec possible.

Use Alt + keypad key to set note. "Select note" text will appear then
select a note from keyboard. DIGI Booster will store a pressed note and
actual octave.

  lalt+o - open module
  lalt+s - save module
  lalt+l - load sample/instrument

  lalt+q - Quit from program
  lalt+r - Go to sampler screen
  lalt+d - Go to disk op.
  lalt+e - Go to edit option
  lalt+m - Go to mod info screen
  lalt+x - Go to mixer screen
  lalt+c - Go to configuration screen
  lalt+a - Turn On/Off spectrum analyzer
  lalt+v - Go to volume envelope editor
  lalt+p - Go to panning envelope editor
  lalt+b - Go to boost envelope editor
  lalt+f - Go to filter envelope editor

- removed a bug which appeared when samples with ping pong loop were played

- fixed Timer (vbl irq changed to cia 1/50 sec)

- added possibility to turn off/on scopes

- fixed bug in scopes

– fixed bug when allocating audio channels, cia interrupt

– added config

– added Export MOD option; so now you can create 4-32CHN .MOD files; this
  option will not be available in unregistered version

– added a loader for AIFF 8/16 bit / mono/stereo samples.

– removed a bug in mixer which appeared when you chose a cancel in file
  requester

– the volume boost in mixer window is showed in %

– fixed a playing notes from keyboard while module is played

– for now the volume envelopes are heard in realtime, it means that
  when you play notes on keyboard instruments are played with volume
  envelopes; if you want to turn off the sustain points or envelope loop
  press key above tab (in edit mode this key also places a key OFF note)

– removed a bug in ECx and Fxx commands; so the F00 should now work fine.

– added unfortunately missed in DB1.x and 2.0 PRO command EDx

– fixed a bug, BTW not mine; when you played samples with very short
  loops AHI device terrible slowed down; now there is a procedure which
  makes 1024 bytes buffers (both for ping pong and forward loops) in
  realtime and then gives it to AHI play :) so there shouldn't be longer
  any system freezes...

– when saving sample a file name is taken from a instrument's name list

1.21 Keyboard shortcuts

```
   Keyboard :
   ----------


note: lalt means left alt
      lshift means left shift
      lamiga means left amiga


 High notekeys:  2 3   5 6 7   9 0   =
               Q W E R T Y U I O P [ ]

 Low notekeys:    S D   G H J   L ;
               Z X C V B N M , . /

 F1 - Octave up  (there are 7 octaves; from note C-1 to B-7; 84 notes)
 F2 - Octave down

 lalt+F3 - Cut whole pattern (notes+commands) to buffer
 lalt+F4 - Copy whole pattern (notes+commands) to buffer
```

```
 lalt+F5 - Paste patt-buffer (notes+commands) to pattern

 lshift+F3 - Cut track (notes+commands) to buffer
 lshift+F4 - Copy track (notes+commands) to buffer
 lshift+F5 - Paste track-buffer (notes+commands) to track

 ctrl+F3 - Cut commands in track to buffer
 ctrl+F4 - Copy commands in track to buffer
 ctrl+F5 - Paste cmd-buffer to track

 lamiga+F3 - Cut commands in pattern to buffer
 lamiga+F4 - Copy commands in pattern to buffer
 lamiga+F5 - Paste cmd-buffer to pattern

 F6 - Go to patternposition 0
 F7 - Go to patternposition 16
 F8 - Go to patternposition 32
 F9 - Go to patternposition 48
 F10- Go to patternposition 63

lshift+F6-F10 - Store current patternposition on selected F-key
  lalt+F6-F10 - Play pattern from the stored patternposition
```

```
 lshift+Return -  Insert  blank note at cursorposition and move the others
down.  Notes beyond last patternposition will be lost!

 lshift+Backspce - Delete note above cursorposition and move the others up.
You can NOT do this if you're at patternposition 0!

 lalt+Return - As above, but with all tracks

 lalt+Backspace - As above, but with all tracks

 ctrl+Return    - Push cmds in track one down

 ctrl+Backspace - Drag cmds in track one up

 lamiga+Return    - Push cmds in pattern one down

 lamiga+Backspace - Drag cmds in pattern one up
```

```
 ctrl+0-9  -  (quantize)  Select how many slots PT will jump down each time
you insert a note (this is only in Edit-mode)
```

```
 Space - Toggle between Stop/Edit-mode

 < (beside Z) - All channel's volumes to 0
  right Amiga - Play Pattern
  right Shift - Record
    right Alt - Play Song

        Del - Delete note under cursor
```

```
   lalt+Del - Delete command only
 lshift+Del - Delete note and command


 left shift+1 - turn on/off a first visible channel from left
 left shift+2 - turn on/off a second visible channel from left
 left shift+3 - turn on/off a third visible channel from left
 left shift+4 - turn on/off a fourth visible channel from left
 left shift+5 - turn on/off a fifth visible channel from left
 left shift+6 - turn on/off a sixth visible channel from left
 left shift+9 - turn off all channels
 left shift+0 - turn on all channels

 On Numeric pad:

         0 - Select instrument $0
   1st row - Select instrument $1-$4
   2nd row - Select instrument $5-$8
   3rd row - Select instrument $9-$c
   4th row - Select instrument $d-$f
    Just . - Select instrument $10

     Enter + select instruments $11-$1f

 lamiga (Plus keys below) - Transposing like in Edit Option

   Instrument/Track    Instrument/Pattern
   -------------------------------
   1 - Note Up         2 - Note Up
   q - Note Down       w - Note Down
   a - Octave Up       s - Octave Up
   z - Octave Down     x - Octave Down

   All/Track           All/Pattern
   -------------------------------
   3 - Note Up         4 - Note Up
   e - Note Down       r - Note Down
   d - Octave Up       f - Octave Up
   c - Octave Down     v - Octave Down

       Tab - Move cursor to next track
 lshift+Tab - Move cursor to prev track


 NOTE: (-) means that this option is not implemented yet


 ctrl+a - Toggle channel on/off

 ctrl+b - Mark block

 ctrl+c - Copy notes + commands to buffer
 lalt+ctrl+c - Copy commands only to buffer

 ctrl+d - Delete notes + commands, drag notes & commands up
 lalt+ctrl+d - Delete commands, drag commands up
```

```
-ctrl+e - expand track

 ctrl+f - toggle filter on/off

 ctrl+h - Transpose block up

 ctrl+i - Insert notes + commands, push notes + commands down
 lalt+ctrl+i - Insert commands, push  commands down

 ctrl+j - Join-paste notes + commands
 lalt+ctrl+j - Join-paste commands

 ctrl+k - Kill to end of track notes + commands
 lalt+ctrl+k - Kill to end of track commands only

 ctrl+l - Transpose block down

 ctrl+m - Toggle multikeyboard on/off

-ctrl+n - Re-mark last block

-ctrl+o - Contract track

 ctrl+p - Paste commands+notes
 lalt+ctrl+p - Paste commands only

 ctrl+r - Restore F6-F10 positions

 ctrl+t - swap tracks

-ctrl+u - undo last change

 ctrl+x - Cut notes + commands to buffer
 lalt+ctrl+x - Cut commands to buffer

 ctrl+y - Backwards notes+commands
 lalt+ctrl+y - Backwards commands only

  lalt+o - open module
  lalt+s - save module
  lalt+l - load sample/instrument

  lalt+q - Quit from program
  lalt+r - Go to sampler screen
  lalt+d - Go to disk op.
  lalt+e - Go to edit option
  lalt+m - Go to mod info screen
  lalt+x - Go to mixer screen
  lalt+c - Go to configuration screen
  lalt+a - Turn On/Off spectrum analyzer
  lalt+v - Go to volume envelope editor
  lalt+p - Go to panning envelope editor
  lalt+b - Go to boost envelope editor
  lalt+f - Go to filter envelope editor

 Return - Step one note forward
 Backspc- Step one note backward
```

```
cursor up/down - change position of cursor
lshift+cursor up/down - change position of cursor (faster)
lalt+cursor up/down - change position of cursor (fastest)

ctrl+arrows right - instrument up
ctrl+arrows left - instrument down
lalt+cursor right - patternnumber up
lalt+cursor left  - patternnumber down
lshift + cursor right - song-position up
lshift + cursor left  - song-position down



 Drumpad
 -------
Use  \  to  toggle modes.  One or more dots will appear to the right of the
8bit/16bit mode gadget.

 No dots: Normal keypad.
   1 dot: Drumpad.
  2 dots: Drumpad - Edit/Rec possible.

Use  lalt +  keypad  key  to set note.  "Select note" text will appear then
select  a  note  from keyboard.  DIGI Booster will store a pressed note and
actual octave.
```

1.22   some infos about sampler...

```
    About Sampler:
    --------------

 If  you  want  to  sample  some  sound,  copy  file  HardDiskRecord to C:
 directory. You can find it in AhiDev.lha archive:

 "Developer/Examples/Low-level/HardDiskRecord"
 or in our archive in C: directory
```

1.23   Some infos about envelope editor...

```
    Envelope Editor v1.0:
    ---------------------------
```

An instrument's volume or panning may be defined by it's envelope
curve.   An envelope curve consists of envelope points (in Digi Booster
max. number of points is 32, max. number of sustain points is 2 and
max. number of loops is 1).

Each envelope point has two informations. The vertical position of
point corresponds to volume value (the range is: 0-64) - (in panning
envelope window corresponds to paning value ; range -127 to 128).
Horizontal position corresponds to a time (The range is: 0-350 ticks ;

0-6 seconds).

One pixel in the envelope window corresponds to one player-tick. If
the BPM is 125, you'll consume 50 pixel/second. The window's "size" is
about 6 seconds.

If the instrument has a sustain point, the envelope will stop at the
that point until a key-off note has been played. If instrument has two
sustain points the envelope will stop two times (it means you have to
play a key-off note two times). Envelope loop works in the same way
(to turn off loop you have to play a key off note).

The volume envelope window is the same like panning envelope, only one
difference is a special new parameter in panning envelope window. It's
a GENERAL PAN. This parameter sets the general position in channel
(-127 far left and 128 far right).

Example:
If you have a panning envelope which starts at down of the window and
ends at far up the sound will slide from left to right. Horizontal
position of first point is 0 (BTW horizontal pos of 1st point is always
0). The time of slide from left to right is defined by horizontal
positon of second point.

If you want to use panning envelope you must set audio mode with
stereo++ in AudioModeConfig !!!

1.24   some infos about protection...

    Protection:

    WARNING!!!

Digi Booster Pro is protected in a special way.

Every registered user should know about personified number hidden
somewhere in DigiBoosterPro Installer and in main program too, so when
we will get cracked version we will know who is responsible for that.

So beware because you will take the criminal consequences of this !!!

Also if you are using cracked version, we aren't responsible for any
damages made by our program !!!

1.25   Some problems with protection

    Some problems:

If you hear while playing module heavy clicks when an autoboost
in config window is activated you have to run AHI configuration (available
in full AHI package) and set the option "MASTER VOULME" as "WITH CLIPPING".

        If Digi Booster Pro (registered version) quits after 5 minutes. It
means that you have broken some rules (read below) & you must to install
it once again. Sorry for it but it's caused by our protection.

 Here follows text taken directly from the last page of DBpro installer.

 There are some rules after installing Digi Booster on HD:

 – you can't rename file Digi Booster !!!
 – you can't rename dir where Digi Booster was installed !!!
 – you can't copy Digi Booster because it won't be run !!!

 If you won't treat this rules serious Digi Booster Pro will always quits
 after some time !!!

1.26 Benchmarks

    Benchmarks

MC030/50MHZ
Kick 3.1, freq 44khz, ahi.device 4.164

Paula Fast 14 bit mono calibrated   = 30 chn
Paula Fast 14 bit stereo calibrated   = 25 chn
Paula Fast 14 bit stereo++ calibrated = 20 chn

MC030/50MHZ
Kick 3.0, freq 44khz

Paula Fast 14 bit mono calibrated   = 27 chn
Paula Fast 14 bit stereo calibrated   = 22 chn
Paula Fast 14 bit stereo++ calibrated = 18 chn

MC030/50MHZ
Kick 3.1, freq 44khz, ahi.device 4.164

Delfina Fast 16 bit mono calibrated   = 32 chn
Delfina Fast 16 bit stereo++ calibrated = 18 chn
Delfina 16 bit mono calibrated   = 16 chn
Delfina 16 bit stereo++ calibrated   = 8 chn

Tester: Tap&Walt

digi@kki.net.pl

Amiga1200: MC68040/40Mhz
CybergraphX V3, OS3.1,Freq.44.1Khz., AHI 4.164

Paula fast 14bit mono calibrated   =62
Paula fast 14bit stereo calibrated   =50
Paula fast 14bit stereo++ calibrated =32
Paula fast 8bit mono calibrated   =64
Paula fast 8bit stereo calibrated   =52
Paula fast 8bit stereo++ calibrated =34

Tester: Patrick Beerhorst
Syntec@Stardate.Westfalen.de

MC060/50MHZ with CyberGfx Screen
Kick 3.0, freq 44khz

toccata mono cpu   = 86 chn
toccata mono tables   = 82 chn
toccata stereo++ cpu   = 50 chn
toccata stereo++ tables = 48 chn
toccata stereo cpu   = 68 chn
toccata stere tables   = 54 chn

Toccata Stereo ++ HIFI 16bit = 30chn
Toccata Stereo   HIFI 16bit = 32chn
Toccata Mono   HIFI 16bit = 38chn

Toccata Stereo ++ HIFI 8bit = 32chn
Toccata Stereo   HIFI 8bit = 34chn
Toccata Mono   HIFI 8bit = 40chn

Tester: Claus Morell

CMORELL@VOSSNET.DE / http://user.vossnet.de/cmorell
or call my BBS : MAGIC GALAXY BBS / +49 (0)40 612 617

How to do a benchmark test ?

1. Run DigiBoosterPro and load from directory test/ file test.dbm
2. Make sure that mixing frequency is set to 44.1 kHz
3. If DBpro slows down, reduce number of channels and check again.
4. If DBpro doesn't slow down, increase number of channels, copy note
   to new tracks and check again.
5. Test all audio modes available with your music card and send
   results with your name to us: digi@kki.net.pl – thanks in advance.