

ASwarm

COLLABORATORS

	<i>TITLE :</i> ASwarm		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		January 7, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

ASwarm

1.1 ASwarm

ASwarm II V1.1 - Manual

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1.2 ASwarm/Synopsis

```
Synopsis
ASwarm

CX_POPKEY
=<
Hot Key
>

CX_POPUP
=<YES | NO>

TIMEOUT
=<1 - 3600>

CLIENTTIMEOUT
=<1 - 60>

DISPLAY
=<Display Type>

WASPS
=<1 - 10>

BEES
=<1 - 500>

CYCLE
=<YES | NO>

AIM
=<YES | NO>

SPEED
=<1 -4>
```

1.3 ASwarm/Description

Description

Screenblanker with high security, does not burn in the graphic into the screen. Is funny to watch. Runs only under Release 2.0 of Workbench.

1.4 ASwarm/Source

Source

The source code is included, it can be compiled with SAC/S 5.10a or with Dice V2.06.37 (registered version only) (or newer).

1.5 ASwarm/Copyright

Copyright

ASwarm is free to be spread on public-domain and shareware disks, as long as they are sold for a reasonable charge that is less than \$6 or DM 8,-. For use in commercial products the permission of the author is required.

ASwarm may be copied and distributed via electronic networks such as the Internet, also it may be moved on anonymous ftp-servers, mail-boxes or BBS's.

1.6 Aswarm/Author & Support

Author & Support

Markus Illenseer # Graphic routines
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D-4800 Bielefeld 1 # Dice Support
Germany
INTERNET: markus@techfak.uni-bielefeld.de
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IRC: ill

Matthias Scheler # Server-Client modell
Alter Milchhof 10 # Source
D-4400 Münster # SAS/C Support
Germany
INTERNET: tron@uni-paderborn.de
ZERBERUS: tron%uni-paderborn.de@uucp.zer
IRC: Tron

SUPPORT FTP ADDRESS:
ftp.uni-paderborn.de (131.234.2.32) anonymous access.

Please first refer to '
KNOWN PROBLEMS
' below, before you contact
us for a Bug-report, any comment is welcomed.

1.7 ASwarm/Changes

Changes

For those who already know ASwarm II V1.0 just the changing points.
ASwarm II V1.1 has these new features:

AIM

- Mode added. Now the bees search for the nearest Wasp.

CYCLE

- Colorcycling of the bees can be disabled now.

SPEED

- 5 Speed modi added.
-

WASPS

- formerly SWARMS, both Tool Types are accepted.

There are no Swarms in the AIM mode and the Number of bees is been divided to the wasps.

BEES

- Now contains the COMPLETE Number of Bees.

HOT KEY

- If wrong, ASwarm shows that as '<NONE>' in the Edit-Window.

Speed improvement. New Gfx-Routines. Proper Messagehandling.

Smaller Code. New Docs.

1.8 ASwarm/Purpose & Theory

Purpose & Theory

ASwarm is a screenblanker. The graphic during blanking phase is based upon Jeff Butterworth's 'XSwarm' for X11-Windows.

A screenblankers goal should be to blank (disable) the screenoutput and to prevent burning in pixels or ghosted pictures on the Monitor.

As it is boring just to disable the screen, and as the Amiga can handle multitasking, we could also draw some funny stuff while blanking the screen. Only problem is that, when we draw something, we must take care that our drawing doesn't itself burns into the monitor.

This usually happens, when the screenblanker has not enough time to draw, so the graphics rest on the same place. When the screenblanker has not enough Cpu-time, it's because there is another cpu-greedy programm, such as a raytracer or C-compiler.

Well, as the screenblanker isn't important for the user, we found a way to manage both cases: Screenblanker has Cpu-Time or not. When he has Cpu-Time, the blanker draws the funny graphics, when he hasn't, the screenblanker-draw routine is disabled and the screen is really blanked (black) until he gains back Cpu-Time.

This is done with a simple server-client modell. The server runs with a normal priority, but just has a WaitPort()-loop (No real Cpu-use !) to detect the time-out and to detect the amount of Cpu-time. The client is started when the server reached the TIMEOUT, the client runs with a low priority. When the server reached the CLIENTTIMEOUT and remarks that the client wasn't able to draw anything, then the screen is really blanked.

There was a discussion on comp.sys.amiga.misc for Screenblankers, at all, i found that ASwarm completely fits on the demanded Features and Requirements.

1.9 ASwarm/Version

Version

To prevent a Version War, we renamed ASwarm to ASwarm II . There are some other versions of ASwarm or Swarm available, such as ASwarm as IPC-Port-Blanker for DMouse, written by Markus Illenseer (written in KickPascal, available with Source on demand), or Swarm by Nescum (sorry, dunno his real name), with assembler subroutines for the drawing, unfortunately not with the multiple-swarm option, and not based on the original routines.

As ASwarm can be compiled with DICE `_and_` (or) SAS/C, you can detect the Version with:

```
(CLI) Version ASwarm full
```

It will show you the used compiler. Default is SAC/S.

Also the size of the binary should differ:

```
13176 Bytes for the DICE version.
10808 Bytes for the SAS/C version.
```

1.10 ASwarm/Starting

Starting

ASwarm is a COMMODITY, therefore it `_only_` runs under WB Release 2.0 (V37.175) and higher. A Commodity is normally started in the WBStartup-drawer. So it will be automatically started on the WB-start (LoadWB, usually in the startup-sequence).

So, just copy ASwarm and ASwarm.info to SYS:WBStartup.

To get ASwarm started without rebooting now, double-click the icon. If the Tool Types aren't yet changed, a window shows up.

```
This is the '
      Edit-window
      ' of ASwarm.
```

```
Now click on the Gadget '
      Hide
      ' or the '
      Close-Gadget
      ,
```

to close the window.

ASwarm is now started. After 60 seconds the screen will be blanked, of course only when the user doesn't touch the keyboard or the mouse.

You can start ASwarm from the CLI or another Shell.

For example you can start ASwarm in the S:User-Startup:

```
RUN >NIL: <NIL: ASwarm CX_POPUP=NO
```

The arguments for CLI-Start are exactly the same as the Tool Types for the WB-start.

1.11 ASwarm/Arguments

Arguments

As every good Commodity, ASwarm supports Tool Type entries. Click the ASwarm.info and press Right-Amiga and i to change or add a Tool Type entry.

In the Tool Type list there is (per default) entered:

```
CX_POPUP=YES      # Show up the window when starting
DONOTWAIT        # Tell WB to not wait on a return
STARTPRI=-120    # low priority for starting
```

These Tool Types are the normal way to give arguments for Commodities and pure WB-programms. Please refer also to your AmigaDOS Manual (Section Workbench Programms especially chapter The WBStartup Drawer) to get an idea of the Tool Types entries.

1.12 ASwarm/Tool Types

```

Tool Types
DONOTWAIT    When started from WBStartup, let
              WB know that it doesn't have to wait
              for ASwarm.

STARTPRI=-120  When started from WBStartup, this
               is the starting priority of ASwarm.

CX_POPKEY=<Hot Key> Please see below for the
                  Hot Keys
                  .
                  The Hot Key opens the
                  Edit-Window
                  of ASwarm.

CX_POPUP=<YES | NO> When ASwarm is started, the
                  Edit-Window
                  show up when set to 'YES' or any (!)
                  other String than 'NO'.

TIMEOUT=<1 - 3600> This is the timeout counter in
                  seconds. During this time NO input
                  from the user must recognize in order
                  to start the blanker. Usual time is
                  about 60 secs.

CLIENTTIMEOUT=<1 - 6> After this time, the server
                    disables the screen, he has then
                    remarked that the client can't draw
                    anything due of Cpu-time. Usual
                    time is about 5 secs.

DISPLAY=<Display Mode> Please see below for the
```

Display Modes

Here you can change the size of the screen on which ASwarms draws.

WASPS=<1 - 10> The number of drawn Wasps.
 BEES=<1 - 500> The number of bees.
 AIM=<YES | NO> Search-the-nearest-Wasp mode enabeld.
 SPEED=<1 - 4> Slow down ASwarm. 4 is maximum speed.
 CYLCE=<YES | NO> Disable the Colorcycling of the bees.

1.13 ASwarm/Hot Keys

Hot Keys

Refer to your AmigaDOS Manual (Section The Extras Programs, The Commodities Drawer) to get a valid list of the available hot keys, the following may obsolete on a new "commodities.library" version.

SYPNOSIS: [`<qualifier>` [`<qualifier>...`]] `<key>`

Qualifier keywords (Press and hold one or more qualifier)

alt	either Alt key
ralt	right Alt key
lalt	left Alt key
shift	either Shift key
rshift	right Shift key
lshift	left Shift key
capslock	Caps Lock key
rcommand	right Amiga key
lcommand	left Amiga key
control	Control key
numericpad	Enables the use of a key on the numeric keypad
rbutton	Click (and hold) the right mouse button
midbutton	Click (and hold) the middle mouse button (only avail for mice with a connected third button!)
leftbutton	Click (and hold) the left mouse button
newprefs	Preferences changed
diskremoved	Disk removed
diskinserted	Disk inserted

Keys (to be pressed and released, only ONE Key can be chosen)

a .. z, 0 .. 9, etc.	Normal keys
f1 .. f10	Function keys
up, down, left, right	Cursor keys
help	Help key
del	Delete key
return	Return key

```

enter                Enter key
                    (MUST be combined with 'numericpad'!)
backspace            Backspace key
esc                  Escape key
space                Space key
comma                Comma key
upstroke             Upstroke key

```

Examples

```

lalt ralt return
rcommand f10
alt x
lalt numericpad enter

```

NOTE: Choose your hotkeys CAREFULLY, because Commodities have a high priority in the input events chain (i.e. will override existing definitions). Also some hotkeys don't make sense or do collide with other tools or functions of the WB.

NOTE: The Workbench screen will be moved to front before starting the tool via HotKey.

NOTE: When a combination of qualifiers and keys is illegal, ASwarm will start, but the Hot Key won't work.

Example for illegal combinations:

```

lalt a b            # Two keys specified
control rcommand lcommand # trivial :-)
lbutton             # No key specified

```

1.14 ASwarm/Edit Window

Edit Window

When the CX_POPUP is set to 'YES' and ASwarm is being started or when the hot key was pressed, a window shows up on the Workbench. Normally, the workbench is moved to the front.

We've tested ASwarm's Edit Window under many circumstances, please give us a short note when you have a problem with it.

You will see some Gadgets and a Scroll-List. In the Titlebar of the window you'll see the hot key definition (may not complete).

The values inside the Text-Gadgets are via default set to the supplied Arguments in the

```

Tool Types
or CLI-Parameters.

```

On a wrong Enter, the value will be reset to the old value.

TIMER: The specified value for the timeout of the blanker. After this time (in seconds) the ASwarm shows up. Value may between 1 and 3600.

CLIENT TIMEOUT: The time the server gives to the client for not being able to draw anything, then the screen will be blanked really to prevent burn-ins.

WASPS: The number of the flying Wasps.

BEEES: The number of the bees.

HIDE: (click or press 'h') Hide the window. All then new entered values will be stored and activated on the next blank.

BLANK: (click or press 'b') Blank immediately. All then new entered values will be stored and activated.

QUIT: (click or press 'q')

DISPLAY MODE: Choose a desired
Display Mode
during blank-time.
Use the scroll-bar to show up other available
modes. This depends on the used system.

AIM: Checkbox. If checker is shown, the aim-mode is enabled.

SPEED: Enter value between 1 and 4. 4 is maximum speed.

CYCLE: Disable the colorcycling for the bees.

1.15 ASwarm/Commodities Exchange

Commodities Exchange

With the Exchange Tool, you can temporarily stop ASwarm with DISABLE, restart it with ENABLE, remove ASwarm with KILL (as would do a Quit in the Edit-Window), SHOW up the Edit-Window, and HIDE the Edit-Window.

The Exchange Tool is a comfort way to remove or dis/enable ASwarm.

Please refer to the AmigaDOS Manual (Section AmigaDOS Reference and Workbench Programms) for further docs on Exchange Tool.

1.16 ASwarm/Display Modes

Display Modes

Please, please, please have care here !!!! We are NOT responsible for ANY user-error. The given list depends on the used System. All newer Amigas, such as A500+ , A3000 do have the ECS Denise

for extended Screen Modes (Not all Amiga's with Kick 2.0 on ROM do have a ECS Denise..). Of course you can start the desired Modes, but not all modes are available on all MONITORS ! Please do refer to your Manual of the Monitor and to the AmigaDOS Manual (Section Workbench Programms, AddMonitor) for more informations.

Why ? Simply because you can DESTROY your Monitor!

Here is a list of the (normally given) ECS Display Modes:

```

NTSC:Lores
NTSC:Hires
    Tron`s
        preferred Mode
NTSC:SuperHires
NTSC:Lores-Interlaced
NTSC:Hires-Interlaced
NTSC:SuperHires-Interlaced
PAL:Lores
PAL:Hires
PAL:SuperHires
    Ill`s
        preferred Mode
PAL:Lores-Interlaced
PAL:Hires-Interlaced
PAL:SuperHires-Interlaced
VGA-ExtraLores                # -
VGA-ExtraLores-Interlaced #
VGA-Lores                      #
VGA-Lores-Interlaced          # Multiscan Monitor needed
Productivity                   #
Productivity-Interlaced       # -
A2024_10Hz                     #
A2024_15Hz                     # A2024 needed.

```

Other Modes are available, but not mentioned.

Overscan is used for all modes, adjust your Overscan-size with the ScreenMode Preference Tool.

This list will only be available if the icon called "Mode_Names" supplied with Workbench 2.0 is in the WBStartup directory of your boot drive.

NOTE:

DON'T use VGA-Modes on a NON-Multisync or NON-VGA-Monitor
 DON'T even test Modes if you aren't sure about your
 Monitor-capacibilities.

As the original XSwarm runs on a X11-Workstation, and as those ones have high graphics resolutions, I prefer SuperHires, as this Mode comes near to them.

1.17 ASwarm/Known Problems

Known Problems

We do know of some problems and strange behaviours, some of them aren't strange anymore, when you read this:

- Are you running ARQ 1.66 or below ?
(A replacement Tool for the system requestors).
Then you may try this:

```
Change the timeout to a low value, e.g. 5 secs, then type in
the CLI: wait 10 <RETURN>          (do not wait for the prompt)
        dir bafasel: <RETURN> (device blafasel: nonexistent)
```

ASwarm will blank as usual, but then ARQ pops up a requester ON the ASwarm-Screen !! You can't close the Screen until you click on 'Abort'. And ASwarm can't blank the screen either anymore ! (It's ScreenClose() Command waits for the successful return...)

This is a BUG in ARQ ! It's dangerous in some cases. It may burn in the requestor... (Martin Laubach, author of ARQ is being contacted.. and promised to add a switch in a new version)

- You are running a C-Compiler or a raytracer. ASwarm goes blank, but doesn't show any swarm, and during disk-access ASwarm comes up for a while.

This is not a Bug, this is the FEATURE of ASwarm !! This is the way ASwarm blanks when high Cpu-use happens on the startup. And during disk-access the Cpu-time is usually less, so ASwarm may find time to draw something.

- Collision with other Blankers. Well, in fact you can run as many Blankers as you want. Such as DMouse, Spliner, FracBlanc. ASwarm does always try to move it's screen to front, when it detects to be behind some other screens.
- When a disk is inserted, ASwarm closes the screen (dis-blanks). This is normal. Disk-replacement is detected as an input Event. As all input events shall disable the Blanker this one should, too.
- The window doesn't open if the hotkey is pressed. Perhaps you have supplied a wrong hotkey description. Use Exchange to open the window if the windowtitle is like "HotKey=<NONE>" it is the hotkey description.
- ASwarm shows up the window though the Tool Type CX_POPUP is set to 'NO'. This happens when ASwarm is started twice.
(Double-click (or call from CLI) = start, another double-click (or call from CLI) opens the window)
- ASwarm is damn slow. Huh .. sorry :-) The Authors have fast machines.. Try to reduce the swarm-size (BEES) and the amount

of swarms. Or use another, less big screen.

- ASwarm makes noise when it blanks the screen. This may happen when a Display Mode is chosen, which is not of the size of the since then active screen. Nothing dangerous.
- ASwarm makes flickers on the Monitor when it blanks the Screen. This happens when ASwarm blanks on a PAL-Screen, but the since then or then active Screen is or was NTSC. (Or vice versa) The Monitor needs a bit time to synchronize again. Nothing dangerous.
- There is a 70Hz hack. This hack has problems with the productivity Environment. No Bug of ASwarm.

1.18 ASwarm/Credits

Credits

Jeff Butterworth for his xswarm routine available for X11-Workstations as a xlock mode or a stand-alone program.

Matt Dillon for Dice. So we could make ASwarm be compilable in the most common low-cost C-Compiler. (Only registered version) Ah, yes. Greetings to Stefan Becker! :-)

SAS/C group for well done work. As yet the SAS version of ASwarm is faster and shorter...

Maybe we should try to give support for other C-Compiler, I'll try Maxon C++ (yet in Beta-State) ..

IRC-guys in Oulu to make world-wide communication easy and to be able to chat about programmings ideas. (And Schlamm-Bugs :-)

Roger 'Budda' Westlund, who told me about 70Hz Problem.

Willi 'Amico' Raeckers, always sitting on my nerves, asking for a new version.

Jörg 'Skull' Bublath, having the idea for the Aim-Mode.

Markus 'Corwin' Stipp, for helping us with DICE.

AUGUP, Amiga Group of Uni Paderborn, for their testings. (ASwarm wasn't very long in Beta-state)

Fred Fish

, Mr. Public Domain, hope you like this enough to place it onto one of your new 'Fishes'. Permission hereby given. (Grnbl.. We're on FF590 and i still have no streamer device :^)

Commodore Amiga group for this great system. Hope to see some great new stuff this year ! (I'm already collecting my bucks..)

Dire Straits for the background music :-)

Final

Ever seen 'After Dark' ?

Combine several screenblankers on the SAME screen (Warp, Spliner, ASwarm on the same screen :-) Change the graphic routine and the so given blanker via random or time-table.

We want to work on this... I have MANY ideas for screenblankers.

Oh yes, there is already 'Shadowmaster', but don't like it.
