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TFB-Disasm
The Flaming Bird Disassembler

C) Phœnix Corp. 1991,94
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HISTORY

Date	Version	Description
08/92	1.0b	First Draft
11/92	1.0b2	Things(Tricks) in more...
12/92	1.0b3	Improvements...
02/93	1.0b4	The legend continues
10/93	1.0b5	Assymptote
12/93	1.0	First release

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Intro

Yeah... Here is the very first Mega- production of the PHC completely under GS / BONE. Yes YesIt is good a file S16. To tell the truth, we like the good old BACK 3.3, but we judged that he(it) would not be adapted necessarily completely to this production. Then Here we are, we meet with a soft as Apple likes(loves) them except that we are on Apple II..

TFBD, as its name seems well to indicate it, is a désassembleur. (But attention: a désassembleur Merlin ™. Rare thing(matter)). This fact thus comes to be added to two others Courament Used: Orca™ and Sourceror. That makes three, and it was indispensable for those who wanted Merlin sources ™ with the power ofOrca™ and the user-friendliness(conviviality) of the mode text. In fact, originally, I had begun coding this thing(trick) to dismantle a file of which no désassembleur could take(bring) out a correct thing(trick): Start. GS.OS. Try, you will understand fast why. But and due to adding options Has A soft which had to be originally only one Sourceror Improved, we meet with a professional thing(trick) on arms, which goes as far as obliging us to write one doc... That here is.

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Considerations

" The Flaming Bird Disassembler" A shareware is.

Or almost. You are free to copy him(it) and to spread(broadcast) him(it), and it in his(her,its) complete version and of origin (only). You are also free to use him(it) as much as you want, and it during unlimited period. To you to consider the value of it soft and to send me that well seems to you: a check, one of your marketed software, either simply a letter to say to me that you find it soft great, even absolutely nothing if you find him anybody, or that your account is has zero, or that that would prevent you from sleeping to send 100 balls(bullets) to have Saved Some thousand hours of programming.

I answer as possible the letters that we send to me, classifying in an order of priority dependent on their contents. This last one also determines the privileges of each towards the future, maybe commercial versions.

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Majorities

Memory(Report): TFBD turns(shoots) without Nobody problems With Mo de RAM under system v6.0 and beyond. The maximal RAM taken by TFBD in the course of dismantling is at least of 300K by counting the soft He - memeThe code to be dismantled and the data which are relative to him(her). The load or the edition(publishing) of a file script sets more of 64k additional. The taken place by them Templates Depend Of their number but notÉxède That very rarely 60 Kb. All in all, to use(get) TFBD at most of its capacities, it is useful to have 400 in 500 Kb of free in the machine. Considering the fact that he(it) uses nobody Toolset "Ram", it is doable(playable) even with 1.2 Mb.

Speed: beyond a certain stage(stadium) of the dismantling (if the number of constants or labels becomes rather consequent), TFBD can undergo severe slowings down; so, an accelerating card(map) will be welcome if you dismantle a file of some hundreds of Kb.

Resources: TFBD keeps(preserves) some of its data (preferences, Pathnames) In sound Resource ForkBut can work without him. If Resource Fork Is absent (for example if was destroyed(annulled) by an ignorant utility of copy Resources) TFBD will take its options by default internal, but which will then be more modifiable.

Syntax: TFBD accepts as parameters of command(order) only numbers Hexadecimaux. An address can or not Being Precedée Of $, but it is not useful, so as the case where this one begins with a letter (FF69 by eg) for not not Be

confused(merged) with a label. A parameter not Representant No address does not have must to be preceded by $.

Bugs: not being every day a programmer absolutely completed and exempt from inattention, this version of TFBD can again receive some bugs which will have Escapee Has My attentiveness. In the course of dismantling, thus make frequent protections(savings) of Templates So as to avoid losing everything in case of definitive crash of the soft (I would not too much know how to recommend you to have it Memoire QuitCDA Of Phœnix Corp. Which(who) Résoud This small problem of the protection(saving) with TFBD).

If you find a bug (even minor), do not hesitate to take the feather and has to write me, indeed by indicating the circumstances of the bug, the way of reproducing him(it), on which file he(it) occurred (send him(it) I if need be), Etc.... Idem naturally if you have ideas, sous, soft or suggestions, everything can be interesting. My address and phone number(coordinates):

Philippe Savitch
19 street of her(it) Duée
75020 Paris - France

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Doc

When you enter TFBD, all that you can see is a small line of text at the top, and a cursor below, which flashes Nonchalament. It means simply that he(it) waits for a command(order) of your part. The screen empties in the middle, he, asks only to fill(perform), and we suspect with what. In the absence of file object in charge of(object loaded with), the possible commands(orders) are the following ones:

?	Pages of help(assistant)
$	Pages of shareware

PFX [Path] Selection of Prefix By default (0:)
CAT(ADULT TRAINING CENTER) [Path] Catalog Of the directory "Path" Or 0: if not Precisé

POP	Go back up(Raise) in him(it) Prefix
MD Name	Create a directory.

LOAD Filename	Load(Charge) a file object
RLOAD takes off [T, id]	Load(Charge) one Resource

CFG Name Load(Charge) a config
QUIT Leave TFB-Disasm

ROMA Dismantling of ROMA

SLOAD [Pathname] Load of a file Script
SEDIT Edition(Publishing) of the scripts
SSAVE [Pathname] Protection(Saving) of the scripts

DSK Access to the desktop
HIST History

Description

SLOAD, SEDIT, SSAVE: Cf Section " The scripts " farther.

?

'?' Poster The pages of helps(assistants) of TFB-DisasmWhich are other one than the relatively exhaustive list of the possible commands(orders). In view of little room available on a screen and in a segment of code, they are not very Detaillées; It is more a reminder than the other thing(matter).

$

$" Poster The pages of shareware. He(it) is always good to have read them at least once, what...

PFX [Path]

Allows, in the same way as his(her,its) homonym that one Recontre Almost everywhere, to change Prefix By Defaut (ZeroAnd only Zero At the moment). If the directory is not SpecifiéShe allows to choose him(it) "in a ergonomic way, by having a walk with arrows.

Arrow Left: Comes down(Falls) from a level
" Right: Horsemanship of a level
" Bottom(Stocking,Bottoms,Stockings)...: Dir Following one
" Top..: Dir The precedent
< ESC > .....: Cancel

< CR > .....: Accept.

CAT(ADULT TRAINING CENTER) Path]

List the files of the common(current) directory or the directory "Path". Formattage Of the listing is a little bit particular in the sense that the sizes it blocks and Bytes Forks Dated and Resources Are separated (yes, I have Méchament Sacrificed the date of Creation Of the file for that, while waiting for screens text 160 columns).

POP

Made go back up(raise) the common(current) prefix (0:) of a level. Arrived at the main directory, this command(order) does not have effect anymore.

MD Filename

Crèe Under - directory " 0:Filename".
Not much to say furthermore.

LOAD [Path:] Filename

Ask the file to dismantle.

In the case of a file not relogeable (SYS, BIN, or even a file dated), code object is dismantled by default has to leave the zero address unless his(her) Type(Chap) specifies her(it) (for example $2000 for SYS,AuxTupe For BIN), Bank Zero.
In the case of one Load Line (Types(Chaps) B1 has BE), the first segment is loaded with and dismantled from 01/0000. The information OMF of the segment is loaded with too and TFBD uses it for the dismantling. If the file begins with a segment ExpressLoadIt is the second segment which is loaded with at first and dismantled in 02/0000 (it is always possible to load(charge) the segment ExpressLoadBut it is without big interest).

The command key(touch) (apple) pushed at the time of the order of load changes Status Of the file enter Load Line and Dated Line. That can be useful to load(charge) some Load Rows saved under a special type(chap) (he(it) exists for example in type(chap) BONE there, F9) or on the contrary to load(charge) one Load Spin

everything of a block, a header of segment and information OMF were understood(included) (attention on the verge of 64K).

RLOAD [Filename [RType, rID]]

Load(Charge) one Resource Has Dismantle.

Filename Is optional in the measure Or We want to load(charge) one Resource Of the file already in the course of dismantling. If we specify nothing either only Filename But not RType And RIDA window of selection opens, allowing to choose his(her,its) Resource In a list.

On a line of the list are indicated: if Resource His(Her) type(chap) (hexa and name) and sound ID needs a converter ("c"). We can load(charge) any type(chap) of ResourceCode or dated. TFBD bases himself on the fact that Resource Needs a converter to know if it is or not of the code. In case he(it) makes a mistake about type(chap) of datum, to make as with LOAD: apple Opened at the time of the selection changes the status of what is loaded with between OMF and Dated.

Some RTypes Code:	8017	RCodeResource
	8018	RCDEVcode
	801C	RCtlDefProc
	801th	RXCMD
	801F	RXFCN

Attention: TFBD is not DeRezAnd cannot make what makes DeRez (It is not its purpose). For TFBD, every Resource Is treated as a file to part, Indépendament Others ResourcesAnd Indépendament Of dated Fork. So, every Resource Has HIS(HER,ITS) file TemplateAnd in passing of one Resource In other one or of dated Fork In Resource ForkYou should not forget to save him(it).

CFG [/or / D] CfgName

Protection(Saving), deletion or load of a configuration. Files Configs Of TFBD are in the directory 1:Configs And are of type(chap) $5A / $8040. They contain the current state of TFBD: the common(current) prefix, Pathname Of the file in the course of dismantling as well as that of his(her,its) Templates And of the file script in charge of(script loaded with), the common(current) segment (including Resource) The common(current) position of the screen and the diverse flags, Notament The state of ^C, ^R and ^S (see the commands(orders) of control, farther).

Save the common(current) config:	CFG/ MyConfig
Load(Charge) a config:	CFG MyConfig

Eradicate a config: CFG / D MyConfig

The CFG command also serves to load(charge) and to save Resource Defining the preferences of TFBD (RType1 and RID=1) Namely the states of ^R, ^C, ^S and Tabulations. By default, ^R is active (Relocs In opposite in the dump hexa), ^C and ^S are inactive (not inverted constants and mnémoniques in capital letters). These preferences are automatically loaded with in the starting up.

Save the preferences: CFG/
Load(Charge) the preferences: CFG

QUIT or BYE

Leave TFBD and returns in Launcher. I do not think that there is much to say above.

ROMA

Command(Order) of dismantling of ROMA. At the moment, ROMA allows to dismantle only ROMA 01.

DSK

A small command(order) added after the pleas Repetées Of Bandit II who liked absolutely his(her) youngs NDAs. But let us not dream: the desktop version of TFBD is not for tomorrow(just around the corner); a désassembleur is exactly the kind(genre) of soft that "Human Interface " makes perfectly unusable... A faster equivalent of DSK is ^ * (Cf Commands(Orders) of controls). The access normal for the desktop is made in mode(fashion) 640; if we want to reach it in mode(fashion) 320, it is necessary to push the key(touch) apple at the time of the call(appeal) (DSK + apple-return or apple-ctrl-*).

HIST

History of the commands(orders). Post(show) the last 18 entered commands(orders).

Now that a magnificent code object for which we are eager to extirpate entrails(depths) is in charge of(is loaded with), we have access Has All the commands(orders) of TFBD. Here they are, described by section.

Command(Order) Control-.

The Control-commandsQqchose Are accessible(approachable) at any time, even while typing a command(order) line. Here they are:

^S: Dismantling of Opcodes In capital letter / small letter.

^H: Pass of the display(posting) Opcode In the display(posting) hexa.
In hexa mode(fashion):
^R: Poster in opposite Video The zones of relocations (OMF or REL). That allows to locate(localize) rather fast the tables ofAddresse
In A file OMF, or to see if we forgot of REL
In A file not relogeable.
^C: Poster in opposite Video Zone where were defined of Constants.

^ +: Pile the common(current) position of the screen to return there later.
^-: Depilate the last position piled by ^ +.
16 positions at most are empilables.

^B: Change(Jump) in Debut Of the code
^N: Change(Jump) at the end of the code

^ *: Access to the desktop (idem commands(orders) DSK)
Apple ^*: desktop 320

Top Flèche: Go back up(Raise) the history of the commands(orders)
Flèche low: Lowers(Goes down) the history of the commands(orders)
(50 commands(orders) Memorisées)

The commands(orders) changing a state of the désassembleur, Càd ^H (dump hexa), ^S (Maj/ min), ^R (Relocs Opposite) and ^C (Csts Opposite) in the absence of file object sound registered(recorded) and effectively come into effect at the time of the dismantling.

General commands(orders)

LIST $Adr Or LIST label

Dismantle the code object from $Adr Or Label. By default, the address is automatically réalignée over the beginning of the instruction or the constant if $Adr Grave right in the middle. That allows to meet there. If on the other hand we voluntarily want to cut an instruction (it is rather frequent), it is necessary to add "*" behind the address. Ex: LIST 2543*

SEG [n]

Load(Responsibility) then dismantles the segment n. The address of dismantling by default is $n / 0000. (Serves évidement in nothing for a file SYS or BIN)...

If Numero Of segment does not appear, it is the list of selection that appears, containing the numbers and the names of the segments of the file. Yes, this command(order) also walks(works) for them Resources Multi-segments (it is moreover rather funny to see Orca/Disasm™ persist in dismantling only their segment ExpressLoad. Meuh not, I do not criticize).

SRC [tidies up] Line

Generate the file source(spring) Line. Of the common(current) segment. If this one becomes too long, are generated sources(springs) File.2. Take off 3. Etc. If the segment uses Equates Or ExternalsFiles Line. E.S And Line. X.S Are created.

The optional parameter [tidies up] serves to generate only Source(Spring) partial Of the zone which he(it) specifies. His(her,its) syntax is a little bit particular:

[Adr1.adr2] (compulsory hooks): zone of adr1 Has Adr2 understood(included).
[Adr1.] : Of Adr1 has the end of the code.
[.adr2] : Of Debut Of the code has adr2.

All in all, SRC Genere Three types(chaps) of files:

- Line. [File2. File3.] .... Source(spring) of the segment
- Line. E.S ..... Equates Of TFBD.Data
- Line. X.S ..... EXTs And use(wear out) EQUs

PS: saddened for the slowness of this function(office), but I have not looked still too much for the optimization. And then we don't care. If you leave a code object of 50K, you go Make pour(sink) a bath. The time(weather) is never lost.

INFORMATION

Post(Show) information on the segment in the course of dismantling. In fact, nothing more that the dump commented by the Segment Header, but he(it) sometimes conceals interesting information.

Constants

TFBD manages at the moment 15 constants (one or two are missing it, but it is necessary to wait that I need it, question of laziness):

DB	Byte	1 byte (s)
DW	Word	2
DDB	Double Byte	2
DA	Address	2
ADR	Address	3
ADRL	Length address	4
FLO	IEEE extended	10
HEX	Hexa	-
DS	Define Space	-
ASC	ASCII	-
REV	ASC Turning	-
DCI	Asc Msb-ended	-
STR	G-string	-
STRL	C1 String	-
CHK	Checksum Byte	1

The syntax used to place a constant Has A place of the code object is the following one:

Cst Addr [Num] For a constant with length Determinée

And:

Cst Addr [Len]
Or Cst Addr [.addr2] For a constant with length Indeterminée

"Cst" The pen name isOpcode Of the constant, Càd DW, ADR, STR, Etc....
"Addr" The place is where we place her(it) (address hexa or label).

"Num" The number is which we put in the tail-leu-leu. Marche for:
DB, DW, DA, DDB, ADR, ADRL, FLO, STR, STRL, DCI and CHK.

"Len" His(Her,Its) length is.
"Addr2" His(Her,Its) stop point (included in the constant) is. For:
HEX, DS, ASC and REV.

If alone the address of the beginning is indicated for a constant of length IndeterminéeThe length by default will be 1 byte for DS and HEX, and up to the next zero for ASC (practice for them CStrings). But attention: if ASC does not meet zéros, he(it) will go to the end of the code object...

During the mass generation of DCIsTFBD considers that they are all of the same type(chap) (that all the characters of purposes have the same bit of strong weight), what allows to manage DCIs Of 1 character.

Given that I had nobody doc on the SANE, constant FLO couté me all the same a wild dismantling of "Run-time " of a compiler about the name of which I shall keep silent. The routine of conversion ASCII tries to make things IntelligementThat is that the things(tricks) of the kind(genre) "0.00000000000000000e+0" are as possible Avoided...

STR and STRL has to clock(point,stick), naturally, at the byte or the word of length of the chain(channel), otherwise small surprises!

Pen nameConstants:

CS Addr[Num]

A variant has ASC to generate C-Strings. The advantage of this command(order) is to be able to generate them in series. Yes Num Is not specified, CS generates only one (as ASC).

C1 Addr[Num]

A variant of STRL, but for too long C1-Strings to like on a line. C1 dismantles a DW for the length of the text then dismantle the text via ASC.

CS and C1 can Being Placed in structures, in the same way as all other constants. Ex: " [DW C1] c1out ". (See Section " The structures ", farther).

Remark: In house, TFBD manages constant of fixed length (DA) in a single block when they are generated in series with the parameter "Num". That allows to limit the taken place by its recording and to accelerate the dismantling. So, when it is possible, always generate constants by big blocks.

Labels

Well, yes, has labels there. That would be unfortunate for a désassembleur all the same... I give you the bulk commands(orders):

LAB $AdrLabel
: Deck out the address $Adr Of the label "Label".

LAB LabelLabel2
: Reappoint the label " Label1 " in "Label2".

LAB $Adr Or LAB label
: Erase the defined label has $Adr Or the label "Label".

ENT $AdrLabel
: Crèe A label Intersegment

ENT label
: Transform the label normal "Label" into label Entry.

EQU $AdrEquate
: Defines one Equate (Equate = $Adr).

GENLAB

Generate labels from information OMF, Relocs (Cf Farther), and of the code hatch. The generated labels are always aligned over the beginning of the instructions and the constants. If the code draws an information from the nth byte of a constant, the opérande will be the shape " Label+n ". See the MATCH command for more information.

Labels are the usual shape; they begin with a letter either by ~"" or and can contain all this except ":" and figures.

Directives

Three directives are at present managed: MX, ORG and DBR.

MX $Adr%xx (xx = 00, 01, 10 or 11)

Add In Source(Spring) the directive of change of size(cutting) of registers processor, then Re-dismantle The code object has to leave this address to has that the sizes Re-correspond.

MX $Adr

Remove the directive; puts back(hands) the size(cutting) of registers ready(in position) by basing on their size(cutting) it itself ($Adr - 1).

ORG AdrXxxxxx

Exchange, to leave Of AdrThe address of assembly of the code object.

ORG $Adr

Return has the main origin has to leave of AdrOr cancellation of the directive if a change of origin was defined Has Adr.

DBR $AdrXx (Xx = Bank *)

Indicate to the désassembleur that Data Bank Register (Register B) is different of Bank Current; it allows the generator of labels (see GENLAB) to generate labels correctly.

DBR $Adr

Puts back(Hands) the value of B to the register K or cancels the DBR xx if it was Précédement Defined has $Adr. The directive DBR is posted(shown) only in the désassembleur; she(it) seems good on step in the file source(spring), this directive being of use only to the generator of labels.

Comments

COM AddrText Of the comment
Place a comment Has Addr

COM Addr
Remove the comment Of Addr

The comment does not have to be between quotation marks, and a space is automatically added after the semicolon (aestheticism, let us see). We cannot put of comments of the beginning of line (*).

Relocations / offsets

REL $Adr [Size [,Shift, Ref [±Disp]]]

Add a recording of relocation to $AdrDefined on Size bytes, who references $Ref±Disp With a gap of Shift bits. This command(order) is generally useful only for Files not relogeableRelocations being defined in information OMF.

For example, we have:
```
Adr1 PEA $0000
Adr2   PEA 7DD1
```

Which(Who) Corresponds in fact has one PushLong *Label, with Label = 007DD1. So that Source(Spring) generated Is correct, it should be the shape:

```
Adr1   PEA ^Label
Adr2   PEA label
```

For To make it, it is necessary to indicate has TFBD (who cannot know him(it)!) that $0000 is the high part(party) of Label and 7DD1 the low part(party):

REL Adr1+1210, Label
REL Adr2+12,0, Label

10 (hexa!) indicate that the address is moved by 16 bits towards the right, and that we thus meet with his(her,its) high part(party). One 8, for example, would indicate a gap of 8 bits towards the right and one 8 a gap of so much towards the left.

But for this example PrecisHe(It) is Suffisament Frequent to have his(her,its) special command(order): PHL Adr1, who fetches herself both parts(parties) of the address and to make the relocation.

Let us imagine now the following case:

```
Adr     ADRL 00007DD1
```

In this case, it is enough to type:

REL $Adr

Then The line becomes:

```
Adr     ADRL label
```

The routine was Look Herself(Itself) sends him(it) of reference $(7DD1 and the size(cutting) (that of the constant, here 4). The gap and the movement are put by default Has 0.

And ca also walk(work) in that case:

```
Adr     LDX $*7DD1
```

REL $Adr Is Equivalent Has: REL Adr+1,2,0,007DD1

Thus: Adr LDX *Label

The REL command allows another funny thing(matter), Evoked Higher: the movements. If we have:

```
Adr  ADRL 00007DD1
```

Type:

REL $Adr4,07DD2-1

Will give(look): Adr ADRL 00007DD2-1
Or: Adr ADRL Label-1 If Label = 007DD2

All the movements are possible between +-80 and 7F.

There are also very useful variants Has The PHL command. To begin, this one does not verify the presence of the PEA, that is that it also walks(works) for:

```
Adr     LDY 0000
        LDX $*7DD1
```

The RPHL command takes care of the case or the word of low(weak) weight comes in the first one:

```
Adr     LDX $*7DD1
        LDY 0000
```

The PHL2 command allows Meme Thing(Matter) in the case or both parts(parties) of an address are Eloignees:

```
Adr1    LDA $*7DD1
        STAL To clock(Point,Stick)
Adr2    LDA 0000
        STAL Pointer+2
$PHL2 Adr2+1,Adr1+1
Adr1    LDA   *Label
        STAL  Pointer
Adr2    LDA   * Label
        STAL  Pointer+2
```

(Premiere Address Donnee Has PHL2 has to clock(point,stick) at the word of strong weight of the address Referencee)

Voila about of what to generate quickly and correctly the exact labels of the applications not relogeables. More this:

OFF $Adr

Condidère The stored word has $Adr As an offset has to leave its position. Example:

```
Adr     DA      $0068
OFF $Adr
Adr     DA      Label-*
```

With Label = Adr + $68

Very practical to dismantle segments ExpressLoadWhat is perfectly useless...

MREL [+-Disp] AdrN [,Ref]

MREL allows to generate recordings of relocation in series. That makes gain(win) a few hours in the tables of addresses. MREL references n addresses to leave Of Adr Undergoing a movement of Disp (Optional). Ref Is used only to cross(spend) to MREL the high part(party) of the reference if this one is not specified in

the code object (for example a table of DA who reference another bench memory(report)). For a table of ADR or ADRL, the parameter Ref Is ignored. The specification of a movement begins necessarily by + or-.

Example:

```
            Adr     DA XXXX
                    DA YYYY
                    DA ZZZZ
```

MREL 1Adr, 3,020000

```
= >         Adr     DA 02xxxx-1
                    DA 02yyyy-1
                    DA 02zzzz-1
```

The powerful, no?

Correctives

Various commands(orders) allow to correct Imperfection Of dismantlings without having to cheat during hours. The first one(night) is simple, even evident:

```
            REM C|L|DAddr1.addr2
Or          REM C|L ¦DAddr, len
Or          REM C|L ¦DAddr
```

Remove Constants / Labels / directives between two addresses.

Example:

```
            REM CL, 7DD14
```

Remove the definitions of constants and labels of 7DD1 has 7DD4.

If the address of the end or the length are not SpecifiéesObjects will be deprived of the only address. If nothing is specified, objects are removed by all the segment.

MATCH C|L|D

Align the directives on the debuts of instructions and eliminates labels and not aligned constants, and it on the whole file.

```
Example:        LDA   * ^Addr
                STA   Label2
                LDA   *Addr
                STA   Label
                RTS
Label       DS  2
Label2          DS    2
```

Label and Label2 being a member(part) of the same timekeeper, we type:

DS label4

```
And:            LDA   * ^Addr
                STA   Label2
                LDA   *Addr
                STA   Label
                RTS
Label       DS  4
```

And we notice with horror that (certain times, but it is the case in our example) Label2 is always defined and used instead of Label+2.

Well MATCH L will correct this by eliminating Label2 and by giving(looking) Has Label a radius of action of 4 bytes instead of 2 Précédement.

```
Resultat:   LDA   * ^Addr
                STA   Label+2
                LDA   *Addr
                STA   Label
                RTS
Label       DS  4
```

One Impeccable source(spring), and without rubbing.

It is recommended to use the MATCH L command before any generation of labels and MATCH CL before a TSAVE (although it is not indispensable in this last case). Generally speaking, when you see Quelquechose Which(Who) seems abnormal in the dismantling at the level of the arrangement(measure) of labels for example, try the MATCH command, then if that does not really walk(work), see that with the command TC (correction of Templates Cf Farther).

Attention: for the commands REM and the MATCH, comments and relocations are treated as directives.

BUG [$Adr] [/n]

Search(Research) Defauts Of dismantling. If no parameter is specified, BUG looks for all the defects in all the file. Otherwise, he(it) looks for from $Adr The defects of type(chap) n, and then leaves(restarts) the beginning of the file for the type(chap) n+1, till the end.

N=0: BRK. Look for breaks(break dances), which generally do not have to be In A code (or rarely).

N=1: ever taken Connections. Look for the sequences of the DRY / BCC type(chap), CLV / BVS, etc. Can be very useful in certain cases. If one Dismantle The ROMA, for example: often, the opérande of Connection Corresponds to the inverse location of the condition. (CLC, Etc.). Ex: CLC, BCS * 38: 38=SEC.

N=2: Bad connections. Detect connections on opérandes Or On constants. Often corresponds Has Zones badly Dismantled (Forgotten constants or too).

When a bug is detected, its description displays on the line of bottom(stocking); at this moment, we can resume(take back) the hand with Return, or continue the search(research) with Strange. To type "BUG" again without parameters will resume(take back) the search(research) there where she(it) was interrupted. Type " BUG Addr" Will resume(take back) the search(research) in Addr With the same n.

Templates

A file Templates Of TFBD is a file of type(chap) 5E, in the $8002 which contains all the recordings Éffectués On a code object (constants, directives, labels, comments, relocations, offsets, finally in brief everything) and who allows to protect the dismantling and to resume(to take back) him(it) in the point or we left him(it). Here are the commands(orders):

TLOAD FileName. T Or TLOAD

Load(Charge) the file FileName. T Or the last file Template Loaded(Charged) or saved if no name is Specifié. The ".T" is OptionelBut it is better to put him(it) to meet there later.

TSAVE FileName. T Or TSAVE

Exactly the same thing(matter) as TLOAD, but to save.

TCLR

Erase all the present recordings in memory (Idem that REM CLD, but for all the file and not only for the common(current) segment).

TC

Templates Correction. Eliminate the defects of the present recordings ram. This command(order) was especially useful for me during Debugging Of TFBD, but she can also serve Has Get back the possible largest number of recordings in a file Templates Which(Who) was damaged. She(it) eliminates recording who(which) correspond to nothing, or who(which) make reference Has Addresses outside the code object. She(it) revives Also Recordings which would have been eliminated "virtually" from the dismantling by successive reorganizations of the same zone.

Searches(Researches)

FIND [tidies up] [Hexs] ["Text"] [>Adr] [> >Adr] [^Adr] [:Cst]

This command(order) walks(works) as about every "Finds" That we can find almost everywhere, except for one or two specificities. When she(it) found one Case(Occurrence) Of the chaine, she(it) lets him(it) know by listing the concerned place (that she(it) places about in the middle of the screen) whose precise address appears below. At this moment, to strike < ESC > or < CR > returns the hand, another continuous key(touch) look for. To resume(to take back) the search(research) there where she(it) was interrupted or to begin again the same search(research), to type FIND without more parameters.

Tidy up The space of search(research) is. If he(it) is not specified, it is

The set(group) Of the object. His(her,its) syntax is the same that for SRC:

[Adr1.adr2] (compulsory hooks): zone of adr1 Has Adr2 understood(included).

[Adr1.] : Of Adr1 has the end of the code.

[.adr2] : Of Debut Of the code has adr2.

Hexs Is some hexadecimal chaine of words of 1 has 8 figures. Any word of more than 8 figures is truncated has his(her,its) long word of Weight Weak(Weakness).

"Text" A chaine ASCII is accommodateInsensitive (Càd " Z "" = "z") and also Hi-bit-Insensitive ("Z" = ' Z '). All the not special characters Are Accepted, although "?" Has a little bit particular function(office).

>Adr Represent an instruction of jump or connection long verse Adr (Who can Being A label): JMP, JSR, JSL, BRL or JMPL Adr.

> >Adr Represent all the instructions of jump or connection Court Or long verse Adr (Conditional connections Etc.).

^Adr Represent a reference in AdrWhatever she(it) is (opérande, Constant, Etc.) And whatever is its size(cutting) and its gap (Shift Count).

:Cst A supposed constant is to be in this place, which can be there Or Not at the time of the search(research). If the entered chaine contains Constants, FIND suggests setting up them when he(it) Find A chaine which seems to stick.

? Is One "Wild Nibble" In a number hexa or one "Wild Tank " in Of Text. Cannot be used in a reference (^>, > >).

Examples of chaines confirm:

```
FIND A2 0902 22 E10000
FIND C9 " M.K. "
FIND   [Start.] in? 2000
FIND [.Label] A9???? > routine
FIND   >Print:CS
FIND 22 E100A8 20?? ^Parms
```

Etc....

Attention: FIND looks for the chaine in the code object and not in Source(Spring) equivalent. So, the whims of the genre " FIND " LDA 0005 " "Do not walk(work).

Remark 1: The calculation of a reference in the code sets a lot of time(weather). Look for him(it) " as FIND ^Adr" Can (sometimes often) be very slow. Therefore, when we know a little more Précisement For what we look, it is better to let it know. If we look for a connection, the " FIND >Adr", of less general nature, will be fast already much more. And if we know that we want a JSR, then " FIND 20 ^Adr" Is quasi-immediate.
Furthermore, mostly, a reference corresponds to its exact value in him(it) Code. When it is possible, replace " ^Adr"By"Adr", quite silly. That accelerates.

Remark 2: FIND estimates(esteems) sometimes badly the real size(cutting) of a reference, as for example in the case or one Reference On 3 bytes is Divisee In two Relocs Of 16 and 8 successive bits in the OMF: FIND will see both references separately; that can raise problems at the level of the investment(placement) of constants. Reason furthermore to indicate(appoint) when it is possible (and being enough) a reference by its exact value.

Remark 3: Sytaxe Names of constants is Meme That for the structures (the trainait routine there), Càd That we can very well enter things of the kind(genre): FIND *[Things]* :DW2 *[Things]*:HEX 10) 3...
But let us not deceive(abuse), all the same. A constant also can apparaitre in first position.

SCAN [tidies up] [Kinds]

This one allows to look for a particular type(chap) of data in all or any of the code object.

Tidy up In the same syntax as for FIND.
If not SpecifiéSearch(Research) in all the segment.

Kinds Representing characters the type(chap) of data has to look.
If not SpecifiésLook for all the types(chaps).
At the moment:
A: Tables of addresses
S: P-G-strings

When SCAN found a zone corresponding to one of the types(chaps) to look, she(it) lets him(it) know it Dumpant The zone the address of which appears at the bottom of the screen (in the dumping, Debut Of the zone is in the 3è line, just to be able to see what takes place a little above and below). If the interpretation(performance) of the zone is correct (advice(council): always to verify!), type Y to set up constants. < ESC

> and < CR > allows to resume(to take back) the hand, and another key(touch) to continue the search(research).

Remark: SCAN does not look for to p-G-strings too short (less than 5 characters) and does not accept as characters of there Controles That CR, LF and BELL. We are More or less forced to put such limitations, otherwise the routine would see everywhere G-strings which are everything except G-strings (we can really allow himself here of Considerer A zero as One G-string empties?).

Opportunities

The commands(orders) which follow are more commands(orders) of comfort which serve in rather particular cases. I placed them to have needed it once or two, and She(It) are Stayed in case you too...

STOOL AddrTsnum

Dismantle a header of Toolset System. Sets up the table ofADRLsWith their movement of 1, and puts labels corresponding to the names of the functions(offices). Names are taken by the file TFBD.Data.

"Addr" Point(Headland) over the beginning of intoxicates him(it) (number of functions(offices)).
"Tsnum" Is the number of Toolset.

MLABS

In the course of dismantling of ROMASets up the labels of the instructor(monitor) taken in TFBD.Data.

The scripts

What was the nec in dismantling. In fact, an interpreted mini-language which allows the user to generate his own algorithms of dismantling.

A file script has to be of type(chap) text (TXT or SRC), and can be written with the publisher(editor) of Merlin. He(it) takes care as follows:

SLOAD FileName Or SLOAD :Path:FileName

If no name of file is specified, the name by default is: 1:ScriptFile. (Or the last file script in charge of(script loaded with)). This name by default is in them Resources Of TFBD and can be modified.

A call(appeal) of script is made in the following way:

\ ScrName Addr Or \ * Addr

If the character * is used on the place(square) of the name of the script, a small window opens and we choose his(her,its) script in the list (practice). If no address is specified, sends him(her,it) by Defaut Sent to the script will be the one of the first line of code of the common(current) window.

\ + Control

Type ^ - < CR > at the time of 'Éxécuter A script allows to draw this one step by step by visualizing(displaying) the state of its variables. Rather useful for debugger the scripts. If we choose his(her,its) script in the list, it is necessary to type ^ - < CR > after him(it) " \ * Adr" And not by choosing him(it). In the course of drawing, whatever touches (except shift, control, CapslockOption, apple, reset and ^C) Éxécute The common(current) line and the pass in the following line. ^C stopÉxécution Of the script. Moreover, yes We are Not drawing, we can stopÉxécution Of the script by the same way.

Programation Scripts is about made of the same Way that those ofOrca/DisasmAnd these can be enough Aisement Transferred towards TFBD.

More precision in next one doc...

SEDIT

(In the course of Developpement)

A publisher(editor) height-screen allowing to write its scripts "in the air". Very practical, although still not very fast and not allowing to save the new file scripts. The publisher(editor) is of the same type(chap) as that of the Merlin, but decreased enough.

SSAVE [Pathname]

Protection(Saving) of a file script. If no name of file is specifé, it is the last past name has SLOAD or SSAVE who is used. The file is saved in the size(format) TXT ($04) in ASCII inferieur. The Merlin software having a rather particular management of spaces, it is mandatory to type in the “FIXS” command in the command-editor to fix the tabulations The suffix “.S” is not automatically added.

The files of extension

A new step towards the omnipotence... The files of extention of TFBD are type(chap) TLK's files $(BC, placed in the directory 1:Expand. They allow an automatic dismantling much more powerful and faster than the scripts, which are rather made for the small-sized(short) simple structures. They are planned to be able to be scheduled(programmed) by whoever according to the needs, and have for that purpose a point of entrance(entry) to TFBD allowing to call the various functions(offices) of dismantlings in the style of toolsets (macro and supermacro understood(included)!) as well as of information general on the file or the segment in the course of dismantling (type / auxtype, information OMF, segment header).

A file of extention is simply called by typing its name, either via the command(order) "-" followed by the name. Example:-" TOOLS " and "TOOLS" calls both the file of extention TOOLS. The command(order) "-" is really useful only as far as a file of extention can carry(wear) a name identical to an internal command(order) or to a structure (cf section " the structures ", farther).

If for a some reason we want to stop the éxécution of an extention, we type the order of stop(ruling) apple-point (.); TFBD asks then if we really want to stop the éxécution; type Y to confirm.

Attention: the order of stop(ruling) works only as far as the extention calls TFBD; if for example she(it) turns(shoots) in infinite buckle in herself(itself), we cannot stop(arrest) him(it) like that.

For more information on the structure and the programming of the files of extentions, to read the documentation which is dedicated to them (Expand. Doc, in theory).

The files of extention at present delivered with TFBD are:

- BACK (Dismantling of the tables of parameters GSOS)
- Tools (Dismantling of the tables of parameters ToolBox)
- FTypes (Files of types(chaps) of the Finder)
- Express (Segments ExpressLoad)

The structures

Another card(map) in the family " Gagnons des heures ". The structures are simple assemblies of constants, generally fixed sizes. In the measure Or A program contains rather often boring repeated structures to be manually dismantled and that a script does not still agree, this level Intermediaire Between the basic commands(orders) and the scripts was add.

The definition of a structure is relatively simple: a list of constants between hooks followed by a name. Example: [DW ADRL] BONE, which Definit The structure "BONE" as Being A word 16 bits follow-up of an address 32 bits.

To place a structure in a precise place of the code, it is even simpler: it is enough to type the name of the structure followed by the address or we place her(it) more Optionellement Of a comma and a number of times when we repeat her(it). Example: BONE $2000, which will place a DW 2000 $ and an ADRL 2002 $. In fact the syntax is strictly the same that Définiton Of a quite stupid constant.

Other example: if we have 1234 $ a table of 8 addresses with an ascii character between every address, we define the structure "Chrad" By: [ASC (1) DA] ChradThen we make: Chrad $1234,8.

As illustrates him(it) the previous example, we specify the number of bytes taken by a constant with indefinite length by a word in brackets. For example HEX (20) indicates a table of 32 bytes Hexas. Specify the length of a constant such as DA or STR has no effect. The length by default is 1 byte.

Other detail: to place in the continuation(suite) one Quirielle Of identical constants, we type his(her,its) name then *Nbrdefoikonlaplace. Ex: [HEX (8) 5 DB*2].

SKP (n) in a structure 'change'('jump') n bytes. It is the pseudo-constant which represents in fact an absence of constants.

At the moment, the process of definition of structures is not Recursif C-à-d That we cannot place of structures in a structure. But it will be made as soon as I shall need it.

END OF doc FEROX, Clermont-Fd12/11/92

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Updates

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This part(party) of doc is useful only if you have already received a version of TFBD. She(it) contains the successive updates since the version 1.0b, what is rather former(ancient)...

Things(Tricks) in more - v1.0b2

Additions:

- Commands(Orders) RLOAD RTypeRID, Filename
- Pages of help(assistant))
- Command(Order) Control-.
- Commands(Orders) BUG [Addr] [/n]
- Commands(Orders) BACK

Modifs/ improvements:

- LOAD: opened Apple
- Generation of mass constants

Improvements - v1.0b3

Debugging:

- Relocation des Supers $(F7-01
- Cuts of constants
- Scrolling Of Source(Spring)
- correct Management of 64Ko
- Generation of labels via offsets
- Commands(Orders) of control in absence of file object
- TC: correct recognized offsets

Additions:

- Dismantlings of "Imbedded Chains" Of GS-Bug
- Files ofExtention
- Constant REV
- ^S: dismantling in small letters

- POP: Go back up(Raise) in him(it) Prefix
- DSK: Desktop
- INFORMATION: Information segment
- SEDIT: Publisher(Editor) of script
- SSAVE: Protection(Saving) of the scripts
- MREL: Relocs Multiple
- HIST: History of the commands(orders)

Modifs/ improvements:

- LOAD: Partial management of files OBJ $(B1
- RLOAD / SEG: Management of Resources Multi-segment
- BACK: Comments
- SEG: List of Selection

- Command(Order) keyboard accommodateInsensitives
- Errors GS / BONE common(current) unambiguously

The legend continues - v1.0b4

Additions:

· Resources RVersion RComment And Preferences
· Pseudo-constants CS and C1
· Structure

Modifs/ improvements:

· Readings keyboard by _GetNextEvent
· DCI, STR and STRL Généres Serie.
· DS on a zone < > 0

· CFG:Preferences

Assymptote - V1.0b5

Debugging:

I have still made a success Has Pick up(Dislodge) small bugs of the random(unpredictable) and well hidden kind(genre). Crushed, the naughty cockroaches(sneaks)...

The routines of load of segments were little débuguées also, so that segments have their real size(cutting), Meme If the header of segment does not specify it (that arrives, for Segment " Library Dictionary" Notament).

Modifs/ improvements:

· SRC: Source(Spring) partial + EXTs
· BACK: Passage in file ofExtention (Cf Below)
· RLOAD: Change of syntax - list
· CAT(ADULT TRAINING CENTER): Sizes Resource Fork
· LOAD: Seg 2 yes ExpressLoad

· Treatment of Csts By (internal) block
· Load OMF v1

As a result of a small limitation of Merlin ™ (this moron Crèe Files LNK furthermore of 64Ko than it is incapable to linker), commands(orders) BACK is crossed(spent) in file ofExtention To relieve the main segment. It is neither less fast nor less successful for all that and that allows to have one Sample OfExtention Additional. Not unimportant.

Additions:

- Constant FLO (Extended IEEE)
- Directive ORG of files not relogeables (Cf LOAD)
- Back up QuitCDA (Cf Below)
- Functions(Offices) files ofExtentions (Cf Below)
- Resources Paths By Defaut (Cf Below)

- MD: Creation of a directory
- FIND: Explicit search(research)
- SCAN: Search(Research) for types(chaps) of dated

In case of crash, if we purge TFBD with QuitCDAA file " TMP.BAK " is create in the common(current) directory (0:), containing a protection(saving) of the current dismantling. This protection(saving) is not created if we call QuitCDA With the key(touch) pushed Apple.

Pathnames By default of TFBD are now there Resource; They are RWString $8022) OfIDs $00001001 has $00001006 . They contain access paths(roads) in files config and in the extensions, the name of the file ofEquatesFiles script and Template By default, and the name of the file Template Of backup (Cf QuitCDA This - cessous).

Some calls(appeals) were added to the files ofExtention. See doc a correspondent. Furthermore "-" in front of a name of file ofExtention Is not necessary any more. To type his(her,its) name simply is enough, unless he(it) carries(wears) the same name as an internal command(order) or on the condition that a structure. In fact, now, when a command(order) entered, TFBD looks for a possible interpretation(performance) in the following chaine:

Commands(Orders) Intern
|
Structures
|
Extentions

First release - v1.0

At last, drank not at least...

The first one(night) " Release " which(who) will have been waiting about sixteen months, all the same... But you know what that is, we see a thingummyjig or two to add, yours I could put a thing(trick) there, this girl commands(orders) in more that would be not bad... And then These damned options which we are lazy to code but which(who) are nevertheless indispensable to a désassembleur worthy of the name.
Well, it is necessary to put itself to it a day, and Here we are, this day came.

On a cold day of December, Ferox Phœnix Corp. Put One more time at your disposal a powerful and effective tool to cross(spend) pleasantly these inevitable nights or we manage to light(to switch on) that Apple II..

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FeroxClermont-Fd

Decembre 1993.

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