

Memory Allocation

02000 - 16FF SCROLLER & some data tables
 17000 - 41FF MAIN PROGRAM

5000 - 53FF COLOR MEMORY + SPRITE POINTERS

5400 - 55FF Sprite Def (0-7) Blocks (\$50, \$51, \$52, \$53, \$54, \$55, \$56, \$57)

5600 - 56FF	7000 UPPERCASE A-Z	CHARACTER 7000-7500 SET 01 = Brown 10 = Yellow 11 = Black
5700 -	7100 LOWERCASE a-z	
5800	7200 Nos 0-9 + ICON MASK	
5800 - 5AFF	7200 FACES	
	REVERSE TABLE	

5800 - 5BFF (Reverse)
 5C00 - 5CFF (Itemask)
 5D00 - 5DAF
 5E00 - 5EFF
 5EA3 - 5FFF
 6000 - 7F3F

ITEM AND TABLE (changes 11 to 10 codes)
 Disk Buffer
 Window Buffer
 BITMAP PAGE

7F40 - 7FBF SIB - Blank Sprite (FD/FE)

7FC0 - 9FFF

A000 - BFFF
 C000 - C2FF
 C300 - DFFF

E000 - FFFF

WORLD MAP ARRAY INFO (WMAP)
 WORLD MAPS
 TILE DATA
 TILE INFO DATA
 nDATA (SCENARIO DATA) <CONSTANT>
 PACKED SPRITES <CONSTANT>
 + INTERRUPT VECTOR

ACTORS

(C700-C85F)

TYPE	FA00	C700	- 32 ACTORS
WORD	FA20	C720	
XPOS0	FA40	C740	
XPOS1	FA60	C760	
YPOS0	FA80	C780	
MOBA	FAA0	C7A0	(1/1000 (1000))
MOBB	FACO	C7C0	(FF = not needed, else = 0)

INVENTORYA / NPCSTAT	FAE0	C7E0 C800 C820
INVENTORYB / WITHHOLD	FB00	
INVENTORYC / PHRASE	FB20	
REMARK	FB40	C840

Note FB60 - FB7F is <Reserved>

ITEM STRUCTURE (51 ITEMS MAX) (1 PAGE)

X, ITEM
Y, ITEM
W, ITEM

X Block Location
Y Block Location
WORLD #

PRICE

ID, ITEM

- Bit 7 = Item is HIDDEN
- Bit 6 = Item does not have a shape (Probably a TILE) CANNOT BE PICKED UP
- Item ID # (used to determine SHAPE to draw item to screen)
 - IF -ve, ITEM DOES NOT HAVE A SHAPE (item is probably represented as a TILE in world) <cannot be taken either>
- IF = 0, this element is FREE

SuperTypes
1 = Food
2 = KEY
3 = Object

SEARCH ITEM
- X or ACTOR
ACC = DISTANCE RANGE
+ve → Any item
-ve → Hidden ones ONLY (will UNHIDE IT)

- Searches list for an item
Returns: Y = Item No
BIII = FAIL

INFO ITEM (ID, ITEM)

ACC = ID, ITEM

Returns:

- SHAPE = Item supertype (1-3)
- ROUTINE = Routine # (FF = None) (0-n)
- IMAGE 0 = None
1-7 = IMAGE No.
- ITEXT 0 = None
1-FF = phrase to write when we TAKE (v.v. Down, etc)

- 0 → Element is FREE
1-31 → Item No.

{ Item No corresponds to your INVENTORY list

C000 - C0FF TILE HI/LO NIBBLE COLOR

C100 - C1FF - TILE D^{CO} (COLOR(LO))
#C0 [- Bit 7] 11 (CO) Tile is OPEN/LOCKED DOOR -
6] 01 (40) Tile is HIDDEN DOOR
#30 5 - Block ANIMATES
#0 4 - Block Is Solid

C200 - C2FF - ANIMATION POINTER

IF DOOR, ANIMATION POINTER WORKS AS FOLLOWS:

HIDDEN (if avail) → LOCKED → OPEN

or, IF DOOR NOT LOCKED after HIDING (Hence NOT lockable)

Hidden → OPEN

Note IF BLOCK ANIMATES, then bits 6-7 are animation speed (as follows)

- 0 - Every Frame
- 1 - Every 2nd Frame
- 3 - Every 4th Frame

Note World MAPS CONTAIN INITIAL condition of all doors.

(Doors are NOT solid blocks)

Door Structure (96 doors) - 3 PAGES

X.DOOOR - X Block F600 - BF
 Y.DOOOR - Y Block F6C0 - 17F
 W.DOOOR - WOrtel (=FF → Unused door element) (#100 - 1FF)

S.DOOOR (2AD)
F8A0

Door status

- FF Door is HIDDEN
- 00 Door is Accessable (Not HIDDEN)
- 01 Door is Accessable BUT NOT REALLY A DOOR
 - GIVE NO TEXT OUTPUT - (Its locked or key opens door --)
 - Automatically Go through door when you USE item n
 - Door is always UNLOCKED!

L.DOOOR (240) -ve - Door is OPENed
F840

1-n - Door is LOCKED (CANNOT PASS THROUGH)

→ To OPEN door, you must USE item n (when close to door.)
(if L.DOOOR = FF, then door is permanently opened)

To get info on door n (0-BF)

<u>Side A</u>	<u>Side B</u>
X	X EOR 1

L.DOOOR	at	n/2	(0-5F)
S.DOOOR	at	n/2	(0-5F)

At L.DOOOR (lock status) is EOR #100 whenever KEY is used!
Hence, it is possible to re-lock a door

SEARCH.DOOOR
 SEARCH FOR HIDDEN DOORS
 Ac = FF = ONLY UNHIDE ALSO
 00 → SEARCH FOR UNHIDDEN ONLY
 - Searches for a door.
 - If hidden, Jumps it.
 Return: DATA = Door No.
 1 = Door No/2
 BIII FAIL

USE.DOOOR
 - X is a person
 - DATA = Door No
 - Puts X at door
 side of door.

GO.DOOOR
 - X is object (ON DOOR BLOCK)
 - Moves ACOR through door (if open + NOT Hidden)
 - If locked + X is "OBJECT" reply
 "Its locked!"

65

ITEM DRAWING

- Done RIGHT AFTER scroll routine is called!

DRAWING PROCESS

- ① TAKE BACKGROUND & change all 11 color codes to 10
- ② Change D800 memory to ITEM COLOR
- ③ MASK ITEM to screen

NOTE ITEMS shapes contain

- ① Shape image
- ② Negative image (11's) with extended pixels to produce a BLACK outline around item

Note All ITEM shapes are CHAR shapes with $X = 16$ pixels $Y = 16$ pixels (BCHAR)

Note Some ITEMS will only be 1 CHAR (KEYS/SCOOBY SNACKS -- etc)

Note ITEMS will FLICKER a little. This cannot be prevented

TEXT ARRAYS

- 0 (C400) Actor names
- 1 (C402) Inventory items
- 2 (C404) Topics
- 3 (C406) Constant phrases

$NPC = \# \text{ of NPC's } (1-N)$

4 (C408) BRUSH OFF'S (16)

5 (C40A) NPC #1 (Actor #5)

6 NPC #2 (Actor #6)

TEXT ON DISK



4+NPC NPC #(NPC) Actor #(4+NPC)

5+NPC Dummy NPC #1 (Actor # 5+NPC) (4 RANDOM responses)

6+NPC Dummy NPC #2 (Actor # 6+NPC) " " "

REMARK > if avail in this NPC. (No DCG)

REMARK+1 S (Scooby is NEARBY)

Note If a NPC has PHRASES to speak (FROM WITHIN)
or a REMARK; its text is at.

PHRASE + TOPICS / REMARK (1-177)

(J-F) + TOPICS

NOTE Remark is ABSOLUTE phrase No!!

Common TEXT STATEMENTS

2

0 It's locked!
 1 unlocks the door
 2 locks the door
 3 and finds a secret door!
 4 The
 5 picks up
 6 drops
 7 sees nothing to take.
 8 cannot carry any more!"

9 searches around
 10 but discovers nothing
 11 and finds

12 There is nobody around!

13 does nothing."

14 "sees"

15 "nothing interesting"

16 a>

17 an>

18 cannot take that!

19 do (Forced end of line)

20 already has this item!

21 Whuff! whuff!

22 SUN,>

23 Mon,>

24 Tues,>

25 WED,>

26 THUR,>

27 FRI,>

28 SAT,>

29 "00:00pm"

30 "It is"

31 does not want

32 Points to text at \$9F00 For INTRO/WIN/LOSE sequences.

ITEM/INVENTORY RELATIONSHIP

ID.ITEM → Item ID No (1-n)

ONLY ITEMS 1-16 MAY BE PICKED AND WILL APPEAR WITHIN YOUR INVENTORY LIST!

(Pizzas, Scooby snacks ARE EATEN when they are picked up)

INVENTORY+0 → # Inventory Items you have.

INVENTORY+(1-16) → Flag for ITEM 1-16
(If 0, you don't have ITEM)

WITHHOLD → 0 → Actor will NOT withhold info
1-16 → Actor will withhold UNTIL given this ITEM

KNOWLEDGE(0-16) → Flags for all TOPICS
If 0, you do not know about said TOPIC
(0-n) other NPC'S

ITEMSELECT → (1-16) - Item Id # that you select.

CHARACTER SET 7

0-#19

A-Z
+ - ()

... =)

TD :

☐ \$

1A = 8

#20-#39

a-z

#00-#19

#3A

#3B

#3C

#3D

#3E

#3F

6

!

?

~

7

#1A

#1B

#1C

#1D

#1E

#1F

#40-#49

0-9

#20-#39

#4A #4B #4C #4D

┌ ─ ─ ┐

└ ─ ─ ┘

#4E #4F #50 #51

FACES

	SHAPE	COLOR
Scoby	59C0	FF90
Shaggy	5920	FF9C
Velma	5980	FFA8
Daphne	59E0	FFB4
Fred	5A40	FFC0
Empty	5AA0	FFCC - FFD7

- B. SOLID
- B. DOOR
- B. ITEM

AV: 15.00 = 32

Sprite Usage

Scoby	2
Shaggy	1
Daphne	1
Velma	1
Freddy	1
	<hr/>
	6

AVAIL FOR OTHER CHARACTERS: 2

* SPECIAL *

- +0 = Every Cycle Executed Code
- +3 = Arcade 1
- +6 = Arcade 2
- +9 = Arcade 3
- +12 = Arcade 4

- +15 = Use ternary routine #1
- +17 = #2
- +19 = #3
- +21 = #4

WORLD STORAGE (START AT \$8000)

	0	1	2	3	4	5
\$8000	-ID WORLD	WLO	WHI	XSIZE	YSIZE	TileSet/Argument
\$8006	"	"	"			
\$	WORLD	WLO	WHI			
	\$FF					

WORLDS ARE "GROUPED" according to BLOCKS required.

(ie. WORLD using COMMON blocks are GROUPED together)

MAX NUMBER OF WORLD MAPS IN MEMORY : 65 screens

MAX NUMBER OF WORLDS IN MEMORY : 17

VAR

IDWORLD :

WORLDDATA → INDEX with WORLDS# to get world Data No.
 WORLDCSET → INDEX with WORLDS# to get WORLD SET it is in.

WLO : Lo address of WORLD MAP DATA

WHI : Hi address of WORLD MAP DATA

XSIZE : X WORLD SIZE

YSIZE : Y WORLD SIZE

TileSet : Block SET WORLD USES. (17-\$19)

Bit6 > 0-3. Amount of X motion when moving along Y
 Bit7 (NORMAL = \$40) (WATER = \$60)
 (mines = \$80)

Topic File Editor Format

#00 <Return> - Topic No (1 - n)

Response — 250 char MAX — (/ are inserted by CONVERT prog!) <Return>

To use repeat data (Previously stored)

#00 = 00.00 - Topic Data to use (no response data follows this)
Act Response
(Use Actor #00, Response #00)

#A00 <Return> - Start of Actor n's topic info
IF n=0, then it is BRUSHOFF'S (For all ACTORS)
IF n=1, then it is ACTOR #5

CONVERT DEED

C000 - C0FF # TABLE OF ACTOR Topic Responses

C100 - CFFF # TABLE OF TRACK/SEC/Byte

#A0N IF: n=0 ; following responses are COMMON BRUSH-OFFS

IF: n=1 ; Responses are for NON-IMPORTANT NPC'S
(INDEXED WITH TYPE - NPC'S)

IF n=2- ; Responses are for NPC X-5

TYPE

- Special Flag for Scooby effects

Bit 6 Set → NPC will only talk with SCOOBY only
(else NPC will respond "WUF WUF !!")

Bit 5 Set → NPC will speak Remark+1 if scooby is in party
when converse self.

Note if set & you try to CONVERSE, he will repeat
Remark+1 if scooby is in group

Bit 7 Set → Actor element is FREE

BIT 0-4 Actor ID No (0-1F)

Note Opening Remark. For ALL NPC's (who have an opening remark)

IF No scooby ; Reply "REMARK"

IF scooby ; Reply "REMARK+1"

Non Intelligent NPC'S (X-5 ≥ NPC)

These NPC's are different in following ways.

- ① When you CONVERSE, you cannot select a TOPIC
(NPC will just speak phrase 0-3 via (EXT.DUMMY))
- ② REMARK is VALID
- ③ WITHHOLD + PHRASE are VALID
(But PHRASE to speak is (PHRASE AND \$E) + 4)
NB All NPC's MUST clear WITHHOLD to 0 (since PHRASE will be used to index into converse (0-3))
- ④ when you GIVE correct item (+ WITHHOLD is cleared), JMP TRT.DUMMY right away, so NPC talks his info
- ⑤ Tolerance is VALID (But not necessary really since NPC will not have much to say !!)

NPCTYPE (set after we SEARCH.ACTOR)

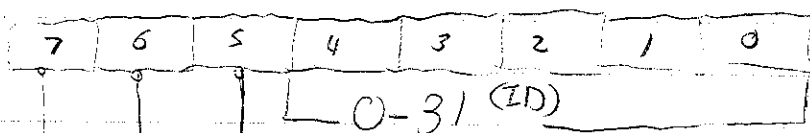
0 → Intelligent NPC

FF → Dumb NPC

DOGFLAG 0 → Scooby is NOT near current PARTY

FF → Scooby IS near active party

WITHHOLD: 0 → Ignore when conversing
 -ve → Ignore when conversing
 1-17 → Withhold info until NPC is given this ITEM
 (then MAKE -ve)



20 Set: Withhold. ID is a item SUPERTYPE (i.e. ANY FOOD)
 clear: Withhold ID is a specific ITEM ID (Blue Key)

40 Flag: SET: When NPC is given item, ORA WITHHOLD with 80 { will be reset
 clear: (When NPC is given item, move 0 → WITHHOLD a random time
 (- He will never need item again)

80 FLAG: SET: NPC has been given an item.
 Wait a few more minutes then CLEAR (so NPC will request
 ITEM again.)

Tolerance / TIMELAPSE CODE

For All NPC'S
100 (every cycle)



```
LDA TOLLERENCE, X  
AND #0F : BNE DONE
```

* Check Time lapse - Tolerance ran out!

```
LDA COUNTER : BNE DONE  
SEC  
LDA TIMELAPSE, X  
SBC #1  
STA TIMELAPSE, X  
AND #0F : BNE DONE
```

```
LDA TOLLERENCE, X  
LSR : LSR : LSR : LSR  
ORA TOLLERENCE, X  
STA TOLLERENCE, X
```

} Reset
Tolerance Done RTS

Done RTS

CONVERSING (After a Response is Given)

```
SEC  
LDA TOLLERENCE, X  
SBC #1  
STA TOLLERENCE, X  
AND #0F : BNE DONE
```

* Has reached Tolerance level!
+ Set TIMELAPSE

```
LDA TIMELAPSE, X  
LSR : LSR : LSR : LSR  
ORA TIMELAPSE, X  
STA TIMELAPSE, X
```

RTS

REMARK:

0 = No Remark;

Else 1-n = Phrase No. actor says when "OBJECT" comes within ϵ blocks of His position

Ex) Peter Pours "Hi kids, what can I get you?"
if -ve, he has already said remark

WITHHOLD:
+
PARASE

0 = Don't withhold info.

1-n = Item No. actor needs before he will converse normally.

TOLERANCE:

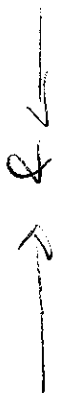
Lo nibble: # Questions you may ask before "Brush-off" responses come out.

if 0; then respond with BRUSH-OFF

else 1-F - Decrement after a question is responded.

; if Decrement moves it to ZERO, set TIMELAPSE Lo = Hi

Hi nibble: Lo nibble reset #



TIMELAPSE:

Lo nibble: Time lapse counter. (1-n)

Decrement when counter = 0 (every 16 seconds)

if TIMELAPSE AND F = 0 then: 0 Reset TOLERANCE (Hi \rightarrow Lo)

ONLY ACTIVE
WHEN
TOLERANCE AND F = 0

Note Only act on TIMELAPSE if TOLERANCE AND F = 0

Each TIMELAPSE No is Approx: 16 seconds

WITHHOLD *

IF Bit 7 is set, then they don't withhold info
IF Bit 6 is set, then reset after a few minutes
0 = Don't withhold Info
1-17 = WITHHOLD INFO UNTIL NPC IS GIVEN THIS ITEM (THEN MAKE IT ZERO OR -ve)

PHRASE *

Active when WITHHOLD ≠ 0 ONLY

L0 nibble : Phrase # to speak when CONVERSED with.
(INCREMENT AFTER EACH CONVERSE)

- ACTUAL PHRASE # IS (MAX TOPIC NO.) + (PHRASE AMDF) + 1

H0 nibble : Highest legal value for L0-nibble.

Ex. PHRASE = \$00 means PHRASES go 0-0
PHRASE = \$10 means PHRASES go 0-1-0-1 etc.

Ex For Torressa Testy.

PHRASE = \$40

- Phrases are 0 : Boy am I hungry
- 1 : I sure could go for a pizza
- 2 : - - -
- 3 : - - -
- 0 : A sandwich would hit the spot

These PHRASES are cycled through everytime you converse UNTIL you give her "WITHHOLD" item

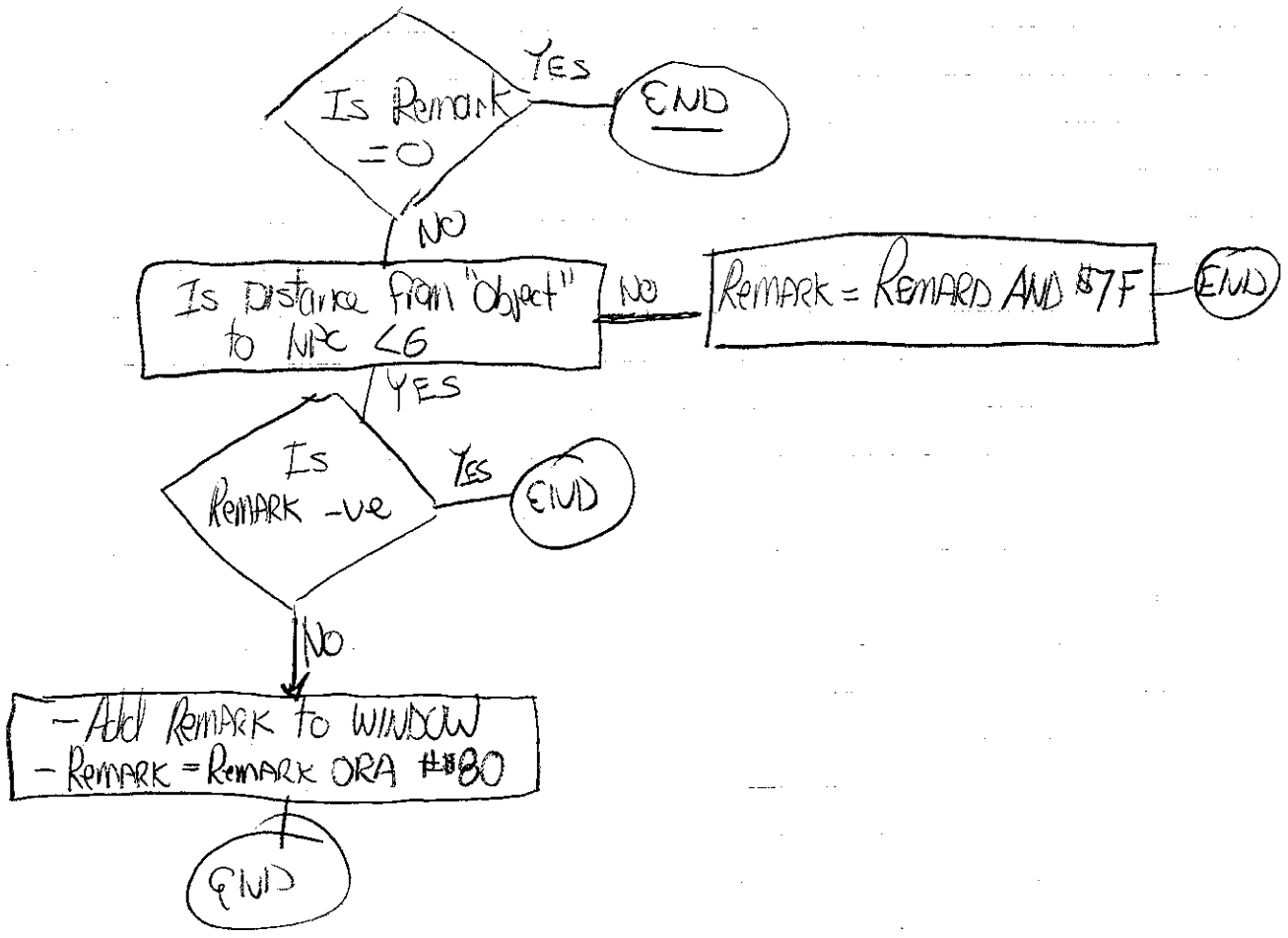
Extra Variable (related to scenario)

TOPICS & # of TOPICS (1-N)

NPC & # of intelligent NPC's (1-N)

REMARK Flow

(Done for all NPC's whose REMARK $\neq 0$)



Item SuperTypes -

1. Food
2. Key
3. object (Misc)
- 4.

VARIABLES IN nDATA File. (12)

TYPE
WORLD
XPOSE
XPOS1
YPOS

WITHHOLD / INVENTORYA
PHRASE / INVENTORYB

REMARK

TOLERANCE
TIME LAPSE

} For NPC'S ONLY - For CHARS these are UNUSED

MOBA
MOBB

0 = Empty ; 1-8 using sprite 1-8 (CAN NEVER be FF - (ACTOR NEEDS AT LEAST 1 SPRITE !!)
- FF Not needed ; 0 = Empty 1-8 using sprite 1-8

MISC VARIABLES (INITIALLY ZERO)

ACTION
SEQ

KOLOR

Set in NEWLIST : MOBA = COLOR initially ;
LDA MOBA : STA KOLOR
LDA #0 : STA MOBA