

# SMBX-38A file formats

*Developed by Chinese developer named as 5438A38A for usage in re-developed SMBX 1.4.x  
(Unofficial implementation of SMBX Engine)*

All files are written as ASCII-text. Every header contains line “SMBXFile??”, where ?? is a version number of file generator standard (first version is 65, latest 66). Non-ASCII data is encoding into URI and BASE64 formats. Every line begins from a marker of element type, and parameters are going in strict order. Parameters are separating with “|” character, sub-parameters (extra parameters or array elements between one parent parameter cell) are splitting with “/” or “,” characters. Extra parameters are allowed on end of every line (extra parameters are can be added to end of every parameter chain, but replacing or appending into middle of this chain is not allowed). Entries of extra types are allowed too, but there are must not use busy markers!

**Note:** Red entries are introduced in updated SMBX66-38A

## LVL file specification

### Data type markers:

- A – Level header settings
- P1, P2 – Player spawn points
- M – Section settings
- B – blocks
- T – Background objects
- N – Non-playable characters
- Q – Liquid/Environment boxes
- W – Warp entries
- L – Layers
- E – Events
- V – Local level variables
- S – UTF-8 encoded local level scripts
- Su – ASCII-encoded local level scripts

line 1:

SMBXFile??

??=Version number

next line: level settings

A|param1|param2[|param3|param4]

[|=optional

param1=the number of stars on this level

param2=level title

param3=a filename, when player died, the player will be sent to this level.

param4=normal entrance / to warp [0-WARPMAX]

next line: player start points

P1|x1|y1

P2|x2|y2

x1=first player position x

y1=first player position y

x2=second player position x

y2=second player position y

next line: section properties

M|id|x|y|w|h|b1|b2|b3|b4|b5|b6|music|background|musicfile

id=[1-SectionMAX]

x=Left size[-left/+right]:render(

y=Top size[-down/+up]  
w=width of the section[if (w < 800) w = 800]  
h=height of the section[if (h < 600) h = 600]  
b1=under water?[0=false !0=true]  
b2=is x-level wrap[0=false !0=true]  
b3=enable off screen exit[0=false !0=true]  
b4=no turn back(x)[0=no x-scrolllock 1=scrolllock left 2=scrolllock right]  
b5=no turn back(y)[0=no y-scrolllock 1=scrolllock up 2=scrolllock down]  
b6=is y-level wrap[0=false !0=true]  
music=music number[same as smb1.3]  
background=background number[same as the filename in 'background2' folder]  
musicfile=custom music file[\*\*\*urlencode!\*\*\*]

next line: blocks

B|layer|id|x|y|contain|b1|b2|e1,e2,e3|w|h  
layer=layer name["" == "Default"][\*\*\*urlencode!\*\*\*]  
id=block id  
x=block position x  
y=block position y  
contain=containing npc number  
[1001-1000+NPCMAX] npc-id  
[1-999] coin number  
[0] nothing  
b1=slippery[0=false !0=true]  
b2=invisible[0=false !0=true]  
e1=block destory event name[\*\*\*urlencode!\*\*\*]  
e2=block hit event name[\*\*\*urlencode!\*\*\*]  
e3=no more object in layer event name[\*\*\*urlencode!\*\*\*]4  
w=width  
h=height

next line: backgrounds

T|layer|id|x|y  
layer=layer name["" == "Default"][\*\*\*urlencode!\*\*\*]  
id=background id  
x=background position x  
y=background position y

next line: npcs

N|layer|id|x|y|b1,b2,b3,b4|sp|e1,e2,e3,e4,e5,e6,e7|a1,a2|c1[,c2,c3,c4,c5,c6,c7]|msg|  
layer=layer name["" == "Default"][\*\*\*urlencode!\*\*\*]  
id=npc id  
x=npc position x  
y=npc position y  
b1=[1]left [0]random [-1]right  
b2=friendly npc  
b3=don't move npc  
b4=[1=npc91][2=npc96][3=npc283][4=npc284][5=npc300]  
sp=special option  
[\*\*\*urlencode!\*\*\*]  
e1=death event  
e2=talk event  
e3=activate event  
e4=no more object in layer event  
e5=grabed event  
e6=next frame event  
e7=touch event  
a1=layer name to attach

```

        a2=variable name to send
c1=generator enable
    [if c1!=0]
        c2=generator period[1 frame]
        c3=generator effect
            c3-1[1=warp][0=projective][4=no effect]
            c3-2[0=center][1=up][2=left][3=down][4=right][9=up+left][10=left+down][11=down+right]
[12=right+up]
            if (c3-2)!=0
                c3=4*(c3-1)+(c3-2)
            else
                c3=0
        c4=generator direction[angle][when c3=0]
        c5=batch[when c3=0][MAX=32]
        c6=angle range[when c3=0]
        c7=speed[when c3=0][float]
    msg=message by this npc talkative[***urlencode!***]
next line: waters
    Q|layer|x|y|w|h|b1,b2,b3,b4,b5|event
    layer=layer name["" == "Default"] [***urlencode!***]
    x=position x
    y=position y
    w=width
    h=height
    b1=liquid type
        01-Water[friction=0.5]
        02-Quicksand[friction=0.1]
        03-Custom Water
        04-Gravitational Field
        05-Event Once
        06-Event Always
        07-NPC Event Once
        08-NPC Event Always
        09-Click Event
        10-Collision Script
        11-Click Script
        12-Collision Event
        13-Air
    b2=friction
    b3=Acceleration Direction
    b4=Acceleration
    b5=Maximum Velocity
    event=touch event
next line: warps
    W|layer|x|y|ex|ey|type|enterd|exitd|sn,msg,hide|locked,noyoshi,canpick,bomb,hidex,anpc,mini,size|lik|liid|noexit|wx|wy|
le|we
    layer=layer name["" == "Default"] [***urlencode!***]
    x=entrance position x
    y=entrance position y
    ex=exit position x
    ey=exit position y
    type=[1=pipe][2=door][0=instant]
    enterd=entrance direction[1=up 2=left 3=down 4=right]
    exitd=exit direction[1=up 2=left 3=down 4=right]
    sn=need stars for enter

```

msg=a message when you have not enough stars  
 hide=hide the star number in this warp  
 locked=locked  
 noyoshi=no yoshi  
 canpick=allow npc  
 bomb=need a bomb  
 hide=hide the entry scene  
 anpc=allow npc interlevel  
 mini=Mini-Only  
 size=Warp Size(pixel)  
 lik=warp to level[\*\*\*urlencode!\*\*\*]  
 liid=normal entrance / to warp[0-WARPMAX]  
 noexit=level entrance  
 wx=warp to x on world map  
 wy=warp to y on world map  
 le=level exit  
 we=warp event[\*\*\*urlencode!\*\*\*]  
 next line: layers  
 L|name|status  
 name=layer name[\*\*\*urlencode!\*\*\*]  
 status=is hidden layer  
 next line: events  
 E|name|msg|ea|el|elm|epy|eps|eef|ecn|evc|ene  
 name=event name[\*\*\*urlencode!\*\*\*]  
 msg=show message after start event[\*\*\*urlencode!\*\*\*]  
 ea=val,syntax  
 val=[0=not auto start][1=auto start when level start][2=auto start when match all condition][3=start when  
 called and match all condition]  
 syntax=condition expression[\*\*\*urlencode!\*\*\*]  
 el=b/s1,s2...sn/h1,h2...hn/t1,t2...tn  
 b=no smoke[0=false !0=true]  
 [\*\*\*urlencode!\*\*\*]  
 s(n)=show layer  
 l(n)=hide layer  
 t(n)=toggle layer  
 elm=elm1/elm2...elmn  
 elm(n)=layername,horizontal syntax,vertical syntax,way  
 layername=layer name for movement[\*\*\*urlencode!\*\*\*]  
 horizontal syntax,vertical syntax[\*\*\*urlencode!\*\*\*][syntax]  
 way=[0=by speed][1=by Coordinate]  
 epy=b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11,b12  
 b1=enable player controls  
 b2=drop  
 b3=alt run  
 b4=run  
 b5=jump  
 b6=alt jump  
 b7=up  
 b8=down  
 b9=left  
 b10=right  
 b11=start  
 b12=lock keyboard  
 eps=esection/ebackground/emusic  
 esection=es1:es2...esn

```

ebbackground=eb1:eb2...ebn
emusic=em1:em2...emn
    es=id,stype,x,y,w,h,auto,sx,sy
        id=section id
        stype=[0=don't change][1=default][2=custom]
        x=left x coordinates for section [id][***urlencode!***][syntax]
        y=top y coordinates for section [id][***urlencode!***][syntax]
        w=width for section [id][***urlencode!***][syntax]
        h=height for section [id][***urlencode!***][syntax]
        auto=enable autoscroll controls[0=false !0=true]
        sx=move screen horizontal syntax[***urlencode!***][syntax]
        sy=move screen vertical syntax[***urlencode!***][syntax]
    eb=id,btype,backgroundid
        id=section id
        btype=[0=don't change][1=default][2=custom]
        backgroundid=[when btype=2]custom background id
    em=id,mtype,musicid,customfile
        id=section id
        mtype=[0=don't change][1=default][2=custom]
        musicid=[when mtype=2]custom music id
        customfile=[when mtype=3]custom music file name[***urlencode!***]
eef=sound/endgame/ce1/ce2...cen
    sound=play sound number
    endgame=[0=none][1=browser defeat]
    ce(n)=id,x,y,sx,sy,grv,fsp,life
        id=effect id
        x=effect position x[***urlencode!***][syntax]
        y=effect position y[***urlencode!***][syntax]
        sx=effect horizontal speed[***urlencode!***][syntax]
        sy=effect vertical speed[***urlencode!***][syntax]
        grv=to decide whether the effects are affected by gravity[0=false !0=true]
        fsp=frame speed of effect generated
        life=effect existed over this time will be destroyed.
ecn=cn1/cn2...cnn
    cn(n)=id,x,y,sx,sy,sp
        id=npce id
        x=npce position x[***urlencode!***][syntax]
        y=npce position y[***urlencode!***][syntax]
        sx=npce horizontal speed[***urlencode!***][syntax]
        sy=npce vertical speed[***urlencode!***][syntax]
        sp=advanced settings of generated npce
evc=vc1/vc2...vcn
    vc(n)=name,newvalue
        name=variable name[***urlencode!***]
        newvalue=new value[***urlencode!***][syntax]
ene=nextevent/timer/apievent/scriptname
    nextevent=name,delay
        name=trigger event name[***urlencode!***]
        delay=trigger delay[1 frame]
    timer=enable,count,interval,type,show
        enable=enable the game timer controlling[0=false !0=true]
        count=set the time left of the game timer
        interval=set the time count interval of the game timer
        type=to choose the way timer counts[0=counting down][1=counting up]
        show=to choose whether the game timer is showed in hud[0=false !0=true]

```

apievent=the id of apievent  
scriptname=script name[\*\*\*urlencode!\*\*\*]

next line: variables

V|name|value  
name=variable name[\*\*\*urlencode!\*\*\*]  
value=initial value of the variable

next line: scripts

S|name|script  
Su|name|scriptu  
name=name of script[\*\*\*urlencode!\*\*\*]  
script=script[\*\*\*base64encode!\*\*\*][utf-8]  
scriptu=script[\*\*\*base64encode!\*\*\*][**ASCII**]

## WLD file description

### Data type markers:

ws1 – World settings header  
ws2 – Credits  
ws3 – List of additional strings  
ws4 – Saving locker setup  
T – Terrain tiles  
S – Sceneries  
P – Paths  
M – Areas – Music boxes, viewports, etc.  
L – Level entrances  
WL – Layers  
WE – Events

line 1:

SMBXFile??

??=Version number

next line: world settings

ws1|wn|bp1,bp2,bp3,bp4,bp5|asn|dtp,nwm,rsd,dcp,sc,sm,asg,smb3|sn,mis|acm|sc

ws2|credits

ws3|list

ws4|se|msg

wn=episode name[\*\*\*urlencode!\*\*\*]

bp(n)=don't use player(n) as player's character

asn=auto start level file name[\*\*\*urlencode!\*\*\*]

dtp=disable two player[0=false !0=true]

nwm=no world map[0=false !0=true]

rsd=restart last level on player's character death[0=false !0=true]

dcp=disable change player[0=false !0=true]

sc=save machine code to sav file[0=false !0=true]

sm=save mode

-1=Restart at auto start level

0=Restart at the world map where we saved last time

1=Restart at the level where we saved last time

asg=auto save game[0=false !0=true]

smb3=smb3 style world map[0=false !0=true]

sn=star number

mis=max item number in world inventory

acm=anti cheat mode[0=don't allow in list !0=allow in list]

sc=enable save locker[0=false !0=true]

credits=[1]

#DEFT#xxxxxx[\*\*\*base64encode!\*\*\*]

xxxxxx=name1 /n name2 /n ...

[2]

#CUST#xxxxxx[\*\*\*base64encode!\*\*\*]

xxxxxx=any string

list=xxxxxx[\*\*\*base64encode!\*\*\*]

xxxxxx=string1,string2...stringn

se=save locker syntax[\*\*\*urlencode!\*\*\*][syntax]

msg=message when save was locked[\*\*\*urlencode!\*\*\*]

next line: tiles

T|id|x|y|layer

id=tile id

```

x=tile position x
y=tile position y
layer=layer name["" == "Default"][***urlencode!***]
next line: scenery
S|id|x|y|layer
id=scenery id
x=scenery position x
y=scenery position y
layer=layer name["" == "Default"][***urlencode!***]
next line: paths
P|id|x|y|layer
id=path id
x=path position x
y=path position y
layer=layer name["" == "Default"][***urlencode!***]
next line: Areas
M|id|x|y|name|layer|w|h|flag|te,eflag|ie1,ie2,ie3
id=music id
x=Area position x
y=Area position y
name=custom music name[***urlencode!***]
layer=layer name["" == "Default"][***urlencode!***]
w=width
h=height
flag=area settings[***Bitwise operation***]
    0=False !0=True
    b1=(flag & 1) World Music
    b2=(flag & 2) Set Viewport
    b3=(flag & 4) Ship Route
    b4=(flag & 8) Forced Walking
    b5=(flag & 16) Item-triggered events
te:Touch Event[***urlencode!***]
    eflag:0=Triggered every time entering
        1=Triggered on entrance and level completion
        2=Triggered only once
ie1=Hammer Event[***urlencode!***]
ie2=Warp Whistle Event[***urlencode!***]
ie3=Anchor Event[***urlencode!***]
next line: levels
L|id|x|y|fn|n|eu\el\ed\er|wx|wy|wlz|bg,pb,av,ls,f,nsc,otl,li,lcm|s|Layer|Lmt
id=level id
x=level position x
y=level position y
fn=level file name[***urlencode!***]
n=level name[***urlencode!***]
eu,el,ed,er=e[up,left,down,right]
    e=c1,c2,c3,c4
    c1,c2,c3=level exit type
    c4=condition expression[***urlencode!***][syntax]
    exit = (c1 || c2 || c3) && c4
wx=go to world map position x
wy=go to world map position y
wlz=number of doors to warp
bg=big background
pb=path background

```



av=always visible  
ls=is game start point  
f=forced  
nsc=no star coin count  
otl=destory after clear  
li=level ID  
lcm=Affected by Music Box  
s=entrance syntax  
    s=ds1/ds2...dsn  
    ds=ds1,ds2[\*\*\*urlencode!\*\*\*][syntax]  
    ds1=condidtion expression  
    ds2=index

layer=layer name["" == "Default"][\*\*\*urlencode!\*\*\*]

Lmt=Level Movement Command

    lmt=NodeInfo\PathInfo  
        NodeInfo=Node1:Node2:...:NodeN  
            Node=x,y,chance  
        PathInfo=Path1:Path2:...:PathN  
            Path=NodeID1,NodeID2

next line: layers

WL|name|status  
name=layer name[\*\*\*urlencode!\*\*\*]  
status=is hidden layer

next line: events

WE|name|layer|layerm|world|other  
name=event name[\*\*\*urlencode!\*\*\*]  
layer=way/hidelist/showlist/toggelist  
    list=name1,name2,name3...namen  
        name[\*\*\*urlencode!\*\*\*]  
    if (way % 10 == 1) nosmoke = true;  
    if (way > 10) object\_state = true; else layer\_state = true;  
layerm=movementcommand1\movementcommand2\...\movementcommandn  
    movementcommand=way,layer,hp,vp,ap  
        way:0=speed,1=coordinate,2=moveto,4=spin  
        layer=layer name[\*\*\*urlencode!\*\*\*]  
        hp=Horizontal Parameter[\*\*\*urlencode!\*\*\*]  
        vp=Vertical Parameter[\*\*\*urlencode!\*\*\*]  
        ap=Additional Parameter[\*\*\*urlencode!\*\*\*]

world=aw/cs,le,inpc,msgc,syntax,msg  
    aw=AutoStart Settings  
        0=Not Auto Start  
        1=Triggered on loading the world the first time.  
        2=Triggered every time loading the world.  
        3=Triggered on level exit.  
    cs=Start when match all condition[0=false !0=true]  
    le:0=This is a Normal Event.  
        1=This is a Level Enter/Exit Event.  
    inpc=Interrupt the process if 'false' returned  
    msgc=Show a message if 'false' returned  
    syntax=Condition expression[\*\*\*urlencode!\*\*\*]  
    msg=message[\*\*\*urlencode!\*\*\*]  
other=sd/ld/event,delay/script/msg/www,lockl  
    sd=play sound number  
    ld=lock keyboard (frames)  
    event=trigger event name[\*\*\*urlencode!\*\*\*]

```
delay=trigger delay[1 frame]
script=script name[***urlencode!***]
msg=show message after start event[***urlencode!***]
wwx=Warp Whistle: Map Warp Location x
wwy=Warp Whistle: Map Warp Location y
    if (wwx == -1 && wwy == -1) [means not moving]
lockl=[Level ID]Affected by Anchor
```

## WLS file description(world settings)

### Data type markers:

- G – Global variables
- GS – Global script UTF-8 Encoded
- GSu – Global script ASCII-encoded
- CW – Custom sounds entires (alternate implementation of sounds.ini from PGE and LunaLUA)

line 1:

SMBXFile??

??=Version number

next line: global variables

G|name|value

name=variable name[\*\*\*urlencode!\*\*\*]

value=initial value of the variable

next line: global scripts

GS|name|script

GSu|name|scriptu

name=name of script[\*\*\*urlencode!\*\*\*]

script=script[\*\*\*base64encode!\*\*\*][utf-8]

scriptu=script[\*\*\*base64encode!\*\*\*][**ASCII**]

next line: custom sounds

CW|cdata1|cdata2|...|cdataN

cdata=sound-id,sound-filename

sound-filename:[\*\*\*urlencode!\*\*\*]