

Editing Ambarella Firmware Tools

Tools

name	description	URL	
AFT	Firmware editor. Allow to change bitrates, exposure map, translations, resources (logo, sound).	http://dc.p-mc.eu/tools/a7tool	AFT133.jar
DirectUSB	Firmware backup/restore software that allow to flash .elf firmware (restore bricked devices)	http://dc.p-mc.eu/tools/directusb/download	
FWVD	Firmware version detector	http://dc.p-mc.eu/tools/fwvd	FWVD.jar
AE	Amba Extractor. AFT like software.	http://videoregforum.ru/threads/amba-extractor-redaktor-proshivok-ambarella.1601 https://yadi.sk/d/N_HFuUKyqCbgt	AE.exe
bitmap editor			amba_bitmaps.exe

AFT

Ambarella Firmware Toolbox 1.3.3

Open Partitions ROM/RFS Build Editors ? [Commercial use is prohibited]

Firmware information

	BST	BLD	HAL	PRI	RFS	DSP
Start	00000800	00001800	00023800	00036000	00720000	00DF1800
End	00001100	000235C4	000359A8	0071F104	00DF1100	011F2100
CRC32	DF0B0A9E	59108B13	ED301718	02356012	6D4F4128	6F99EACB
Version	1.3	1.3	5.1	0.1	2.0	0.1
Date	15.3.2016	15.3.2016	15.3.2016	15.3.2016	15.3.2016	15.3.2016
Length	00000800	00021CC4	000120A8	006E9004	006D1000	00400800
Memory	00000000	C0000000	C00A0000	C0100000	00000000	C82FFFB0
Flag	01	00	00	00	01	00
Magic	A324EB92	A324EB92	A324EB92	A324EB92	A324EB92	A324EB92

Log

```
[DEBUG] 15.03.2016
[DEBUG] 00400800
[DEBUG] C82FFFB0
[DEBUG] 00
[DEBUG] A324EB92
[DEBUG] 00
[DEBUG] --- SECTION 7---
[DEBUG] --- SECTION 8---
```

Ready to serve you!

Ambarella Firmware Toolbox 1.3.3

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	BST	BLD			RFS	DSP
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[DEBUG] 15.03.2016
[DEBUG] 00400800
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[DEBUG] 00
[DEBUG] A324EB92
[DEBUG] 00
[DEBUG] --- SECTION 7---
[DEBUG] --- SECTION 8---
```

Ready to serve you!

Bitrate Table View

	Bitrate	Range[min]	Range[max]	Type
0	18.0	1.0	1.0	3
1	15.0	1.0	1.0	3
2	12.0	1.0	1.0	3
3	18.0	1.0	1.0	3
4	15.0	1.0	1.0	3
5	12.0	1.0	1.0	3
6	18.0	1.0	1.0	3
7	15.0	1.0	1.0	3
8	12.0	1.0	1.0	3
9	18.0	1.0	1.0	3
10	15.0	1.0	1.0	3
11	12.0	1.0	1.0	3
12	15.0	1.0	1.0	3
13	12.0	1.0	1.0	3
14	10.0	1.0	1.0	3
15	15.0	1.0	1.0	3
16	12.0	1.0	1.0	3
17	10.0	1.0	1.0	3
18	15.0	1.0	1.0	3
19	12.0	1.0	1.0	3

Custom offset (dec):

Custom length (dec):

Load from PRI

Apply changes

AE

AE (ver. 3.0.2.0)						
Firmware Editor Tools Settings Help						
Sections FW info						
Name / Sections	Bst	Bld	Hal	Pri	Rom	Dsp
Start Address	0x00000800	0x00001800	0x00023800	0x00036000	0x00720000	0x00DF1800
End Address	0x00001100	0x000235C4	0x000359A8	0x0071F104	0x00DF1100	0x011F2100
Crc32	0xDF0B0A9E	0x59108B13	0xED301718	0x02356012	0x6D4F4128	0x6F99EACB
Version	1.3	1.3	5.1	0.1	2.0	0.1
Date	15.3.2016	15.3.2016	15.3.2016	15.3.2016	15.3.2016	15.3.2016
Length	0x00000800	0x00021CC4	0x000120A8	0x006E9004	0x006D1000	0x00400800
Memory Address	0x00000000	0xC0000000	0xC00A0000	0xC0100000	0x00000000	0xC82FFF80
Flag	0x00000001	0x00000000	0x00000000	0x00000000	0x00000001	0x00000000
Magic Constant	0xA324EB92	0xA324EB92	0xA324EB92	0xA324EB92	0xA324EB92	0xA324EB92
Verify Crc32	Ok !	Ok !	Ok !	Ok !	Ok !	Ok !
Compression	no	no	no	no	no	no
< >						
Found 6 sections						

Rom.bin Editor (ver. 2.0)

File

Exit

Section files

Num	File Name	Offset	Length	Sel
1	dec_cc_3D	0x00004800	0x00004000	☒
2	dec_cc_in	0x00009000	0x00000900	☒
3	icn_logo.a	0x0000A000	0x00001C00	☒
4	icn_logo.Y	0x0000C000	0x00001C00	☒
5	icn_logo.UV	0x0000E000	0x00001C00	☒
6	bitmaps.bin	0x00010000	0x0023F424	☒
7	strings.bin	0x0024F800	0x000514D8	☒
8	gpsdb.txt	0x002A1000	0x0003C550	☒
9	invalid.jpg	0x002DD800	0x000037C9	☒
10	plist_effect_cut.jpg	0x002E1000	0x00000A40	☒
11	plist_effect_fade_black.jpg	0x002E2000	0x00000656	☒
12	plist_effect_fade_gray.jpg	0x002E2800	0x00000659	☒

Found 114 files

AE (ver. 3.0.2.0)

Firmware Editor Tools Settings Help

Sections FW info

Name / Section	Hal	Pri	Rom	Dsp
Start Address	0x00023800	0x00036000	0x00720000	0x00DF1800
End Address	0x000359A8	0x0071F104	0x00DF1100	0x011F2100
Crc32	0xED301718	0x02356012	0x6D4F4128	0x6F99EACB
Version	1.3	1.3	5.1	0.1
Date	15.3.2016	15.3.2016	15.3.2016	15.3.2016
Length	0x00000800	0x00021CC4	0x000120A8	0x006E9004
Memory Address	0x00000000	0xC0000000	0xC00A0000	0xC0100000
Flag	0x00000001	0x00000000	0x00000000	0x00000000
Magic Constant	0xA324EB92	0xA324EB92	0xA324EB92	0xA324EB92
Verify Crc32	Ok !	Ok !	Ok !	Ok !
Compression	no	no	no	no

Extracted 6 sections

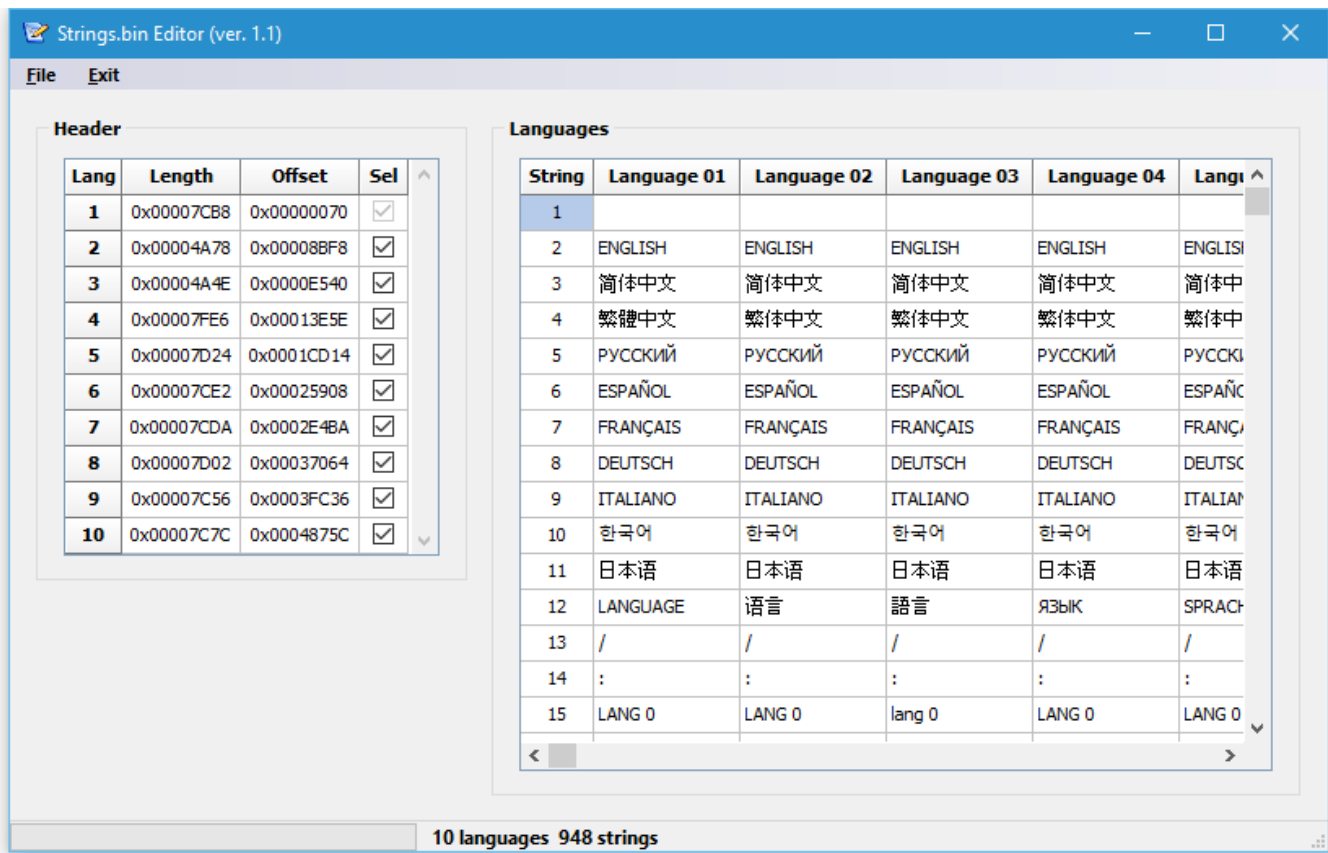
Calculator Crc32 (ver. 1.0)

Select

00000000 Start adress

012FE6F5 End adress

Result Crc = 0xCD2D7BBF



File Exit

Header Bitmaps

Name	FileConst	LenHdrBmp	LenHdrPict	Groups	Pictures	Format Bmp
Value	0x03002345	0x0020	0x0010	1	464	0x03

Group Pictures

Group #1 Group #2 Group #3 Group #4 Group #5 Group #6

Num	Offset	Length	Flags	Pixel	Width	Heigth	Format	Tr.Color	LenPicture
183	0x000EB348	0x00000C1C	0x01	0x10	60	40	0x03	0x00000000	0x00000C0C
184	0x000EBF64	0x00001B3C	0x01	0x10	180	40	0x03	0x00000000	0x00001B2C
185	0x000EDAA0	0x00000C88	0x01	0x10	60	40	0x03	0x00000000	0x00000C78
186	0x000EE728	0x00001AE0	0x01	0x10	180	40	0x03	0x00000000	0x00001AD0
187	0x000F0208	0x00000C0C	0x01	0x10	60	40	0x03	0x00000000	0x00000BFC
188	0x000F0E14	0x00001238	0x01	0x10	48	40	0x03	0x00000000	0x00001228
189	0x000F204C	0x000004A4	0x01	0x10	40	40	0x03	0x00000000	0x00000494
190	0x000F24F0	0x00000390	0x01	0x10	40	40	0x03	0x00000000	0x00000380
191	0x000F2880	0x00000414	0x01	0x10	40	40	0x03	0x00000000	0x00000404
192	0x000F2C94	0x000007B0	0x01	0x10	60	40	0x03	0x00000000	0x000007A0
193	0x000F3444	0x000007E8	0x01	0x10	60	40	0x03	0x00000000	0x000007D8
194	0x000E3C2C	0x000011D0	0x01	0x10	80	54	0x03	0x00000000	0x000011C0

File unpacked ...

Bitrate Editor (ver. 1.0 test)

FileExit

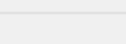
Bitrate Table

Start Address0046ADC8

Quality	Type	Mbps	Low Range	High Range
High	3	18,0	1,000	1,000
Medium	3	15,0	1,000	1,000
Low	3	12,0	1,000	1,000
High	3	18,0	1,000	1,000
Medium	3	15,0	1,000	1,000
Low	3	12,0	1,000	1,000
High	3	18,0	1,000	1,000
Medium	3	15,0	1,000	1,000
Low	3	12,0	1,000	1,000
High	3	18,0	1,000	1,000
Medium	3	15,0	1,000	1,000
Low	3	12,0	1,000	1,000
High	3	18,0	1,000	1,000
Medium	3	15,0	1,000	1,000
Low	3	12,0	1,000	1,000
High	3	15,0	1,000	1,000

Found 162 values.

Color Table 8 bit

Num	R G B	Color	Trans	Foreg	Backg	Alpha	
0	#050403		☐	☐	☐	0	▲▼
1	#FD0026		☐	☐	☐	0	▲▼
2	#00BF00		☐	☐	☐	0	▲▼
3	#BFBF00		☐	☐	☐	0	▲▼
4	#0071A7		☐	☐	☐	0	▲▼
5	#BF00BF		☐	☐	☐	0	▲▼
6	#00BFBF		☐	☐	☐	0	▲▼
7	#C0C0C0		☐	☐	☐	0	▲▼
8	#808080		☐	☐	☐	0	▲▼
9	#FF0000		☐	☐	☐	0	▲▼
10	#00FF00		☐	☐	☐	0	▲▼
11	#FFDA00		☐	☐	☐	0	▲▼
12	#0000FF		☐	☐	☐	0	▲▼
13	#FF00FF		☒	☐	☐	0	▲▼
14	#00FFFF		☐	☐	☐	0	▲▼
15	#FFFFFF		☐	☐	☒	0	▲▼

Transparent



Foreground



Background



Palette

Import

Export

Upload

Reset

Ok