这篇和 Arduino 没关系了，纯软件的事情，讲一下如何解读 EDID。

以上次 Dump 结果为例子分析：

Reading DDC...
Finished reading DDC.
(00) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
(10) 32 0E 01 03 6C 22 1B 78 - EA C4 F6 A3 57 4A 9C 23
(20) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
(30) 32 0E 01 03 6C 22 1B 78 - EA C4 F6 A3 57 4A 9C 23
(40) 20 20 50 00 00 00 00 00 - 00 00 00 00 00 00 00 00
(50) 00 00 00 00 00 00 00 00 - 00 00 00 00 00 00 00 00
(60) 00 00 00 00 00 00 E3 01 - 00 00 E8 03 00 00 00 00
(70) 00 00 00 A1 01 00 00 00 - 00 00 00 FF FF FF FF FF
****
(1) Read EDID and print.
(2) getInput()
(3) Item 3

Hearder 就是一个字段，固定死的【参考 1】

2.2.1 Version 1 Revision 0

This is the original EDID structure definition from the DDC standard Version 1.0, Revision 0.
The EDID structure is outlined in following table.

No.		Description
8	Bytes	Header
10	Bytes	Vendor / Product Identification
2	Bytes	EDID Structure Version / Revision Level : *Store as 01h / 00h*
15	Bytes	Basic Display Parameters / Features
19	Bytes	Established / Standard Timings
72	Bytes	Detailed Timing Descriptions (18 bytes each)
1	Byte	Extension Flag
1	Byte	Checksum

Table 2.1 - EDID Structure Version 1 Revision 0

(00) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00

接下来是一些 ID 信息

3.3 Vendor / Product ID : 10 bytes

The Vendor/Product ID block is made up of several fields used to uniquely identify the monitor. The size and order of the fields is shown in the table below.

10	Bytes	Vendor / Product Identification
	2	ID Manufacturer Name
	2	ID Product Code
	4	ID Serial Number
	1	Week of Manufacture
	1	Year of Manufacture

Table 3.3 - Vendor/Product ID

对于 ID Manufacturer Name　09 D1 6F 76 9C 05 00 00

具体根据下面【参考 2】解释比较好

Description	Byte	Bit							
		7	6	5	4	3	2	1	0
ID Manufacturer Name	1	0) *	(4	3	2	1	0)	(4	3
		Character 1						Char 2	
	2	2	1	0)	(4	3	2	1	0)
		Character 2			Character 3				

Table 3.4 - ID Manufacturer Name

09 ==　0) (00010) (01
D1 ==　110) (100001)

Chararcter1= “B”　Chararcter2= “N”　Chararcter3= “Q”　BNQ 是 Benq 的代号
接下来是 ID Product Code　09 D1 6F 76 9C 05 00 00
ID Seiral Number　09 D1 6F 76 9C 05 00 00
这些都是不同厂家自定义的，没什么意思。

Week of Manufacture　(10) 32 0E 01 03 6C 22 1B 78　意思是 50 周，12 月份
Year of Manufacture　(10) 32 0E 01 03 6C 22 1B 78　根据解释，起始年份是 1990，那么 1990+14=2004 就是 2004 年生产的，和显示器上标签相符

EDID version, usually 1 (for 1.3)　(10) 32 0E 01 03 6C 22 1B 78　EDID 版本号
EDID revision, usually 3 (for 1.3)　10) 32 0E 01 03 6C 22 1B 78　估计 1.3 是最通用的版本

下面是显示器基本属性

(10) 32 0E 01 03 6C 22 1B 78

BYTE20:　6C= 0110 1100

Bit	Description	Detailed Description
7	Analog / Digital Signal Level	Defines usage of the rest of byte as “analog” or “digital” input. Analog = 0, Digital = 1. If input is defined as analog then following definitions apply to bits 6 - 0. Digital input requires use of the EDID structure Version 2.
6	Signal Level Standard [6:5]	Refer to following definitions. Format is ‘reference white above blank’, ’level of sync. tip below blank”. (volts) Bit 6 Bit 5 Operation 0 0 0.700 , 0.300 (1.000 V p-p) 0 1 0.714 , 0.286 (1.000 V p-p) 1 0 1.000 , 0.400 (1.400 V p-p) 1 1 0.700 , 0.000 (0.700 V p-p) : See EVC std.
5	Signal Level Standard [6:5]	See above entry for definition
4	Setup	If set = 1, the display expects a blank-to-black setup or pedestal per appropriate Signal Level Standard
3	Sync. Inputs Supported [3]	If set = 1, separate syncs. supported
2	Sync. Inputs Supported [2]	If set = 1, composite sync. (on Hsync line) supported
1	Sync. Inputs Supported [1]	If set = 1, sync. on green video supported
0	Sync. Inputs Supported [0]	If set = 1, serration of the Vsync. Pulse is required when composite sync. or sync-on-green video is used.

Table 3.8 - Video Input Definition

Bit7=0 说明是模拟输入（Analog input）。VGA 信号本质上是模拟的。用电平幅度来表示颜色。
Bit56= 11 white 和 sync 电平在+0.7/0 V
Bit 3 Separate sync supported
Bit 2 Composite sync (on HSync) supported

(10) 32 0E 01 03 6C 22 1B 78
Byte21= 0x22 水平尺寸是 34cm

(10) 32 0E 01 03 6C 22 1B 78
Byte22=0x18 垂直尺寸是 27cm

根据上面的值算一下 sqr(34^2+27^2)=43.4cm 十七寸，我的显示器标注是 17 寸，所以这个值是准确的

(10) 32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23
Display gamma, datavalue = (gamma*100)-100 (range 1.00–3.54)，没啥好说的

(10) 32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23

1	Byte	Bits	Feature Support	Description
	1	7	Stand-by	Refer to VESA DPMS Specification
		6	Suspend	Refer to VESA DPMS Specification
		5	Active Off	Refer to VESA DPMS Specification
		4-3	Display Type [4:3]	Bit 4 Bit 3 Interpretation 0 0 Monochrome / grayscale display 0 1 R/G/B color display 1 0 Non R/G/B multicolor display e.g. R/G/Y 1 1 Undefined
		2	Standard Default Color Space	If this bit is set to 1, the displays uses a standard default color space as its primary color space.
		1	Preferred Timing Mode	If this bit is set to 1, the display's preferred timing mode is indicated in the first detailed timing block.
		0	GTF supported	If this bit is set to 1, the display supports timings based on the GTF standard

Table 3.10 - Feature Support

关于一些省电之类的特性，没什么特别的

(10) 32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23
(20) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
这个地方和颜色设置有关系，没详细研究 具体请查阅【参考 3】

(20) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
这里给出的是是否支持内建的 VESA 通用时序，如果支持，对应位置就为 1

3	Bytes	Bit	Description	Source
	1		**Established Timing I**	
		7	720 x 400 @ 70Hz	IBM, VGA
		6	720 x 400 @ 88Hz	IBM, XGA2
		5	640 x 480 @ 60Hz	IBM, VGA
		4	640 x 480 @ 67Hz	Apple, Mac II
		3	640 x 480 @ 72Hz	VESA
		2	640 x 480 @ 75Hz	VESA
		1	800 x 600 @ 56Hz	VESA
		0	800 x 600 @ 60Hz	VESA
	1		**Established Timing II**	
		7	800 x 600 @ 72Hz	VESA
		6	800 x 600 @ 75Hz	VESA
		5	832 x 624 @ 75Hz	Apple, Mac II
		4	1024 x 768 @ 87Hz(I)	IBM
		3	1024 x 768 @ 60Hz	VESA
		2	1024 x 768 @ 70Hz	VESA
		1	1024 x 768 @ 75Hz	VESA
		0	1280 x 1024 @ 75Hz	VESA
	1		**Manufacturer's Timings**	
		7	1152 x 870 @ 75Hz	Apple, Mac II
		6-0	Reserved	

Table 3.13 - Established Timings

(20) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
(30) 32 0E 01 03 6C 22 1B 78 - EA C4 F6 A3 57 4A 9C 23
(20) 00 FF FF FF FF FF FF 00 - 09 D1 6F 76 9C 05 00 00
(30) 32 0E 01 03 6C 22 1B 78 - EA C4 F6 A3 57 4A 9C 23

这里给出本显示器支持的一些非上面标准的比例和刷新率（根据资料上理解是那种已经成为 VESA 标准的，但是制定 EDID 时候还没有普及的。所以只要标记出来水平分辨率，比例和刷新率剩下的都是通用的固定参数。）

(30) 32 0E 01 03 6C 22 1B 78 - EA C4 F6 A3 57 4A 9C 23
(40) 20 20 50 00 00 00 00 00 - 00 00 00 00 00 00 00 00
这个就是我们在调整 VBT.BIN 的时候经常看到的 DTD (全称 Detailed Timing Descriptor)。 特别是如果你使用没有 EDID 信息的 LVDS/MIPI 屏幕时，这个是必须的。它是用来告诉系统当前屏幕的全部时序信息。有了它，理论上屏幕应该是可以显示的（当然，一些时候还需要更多的工作，比如点亮 LVDS 的背光调整亮度之类的）

看得出来，我这个显示器支持了一组 DTD。下面就分析一下。

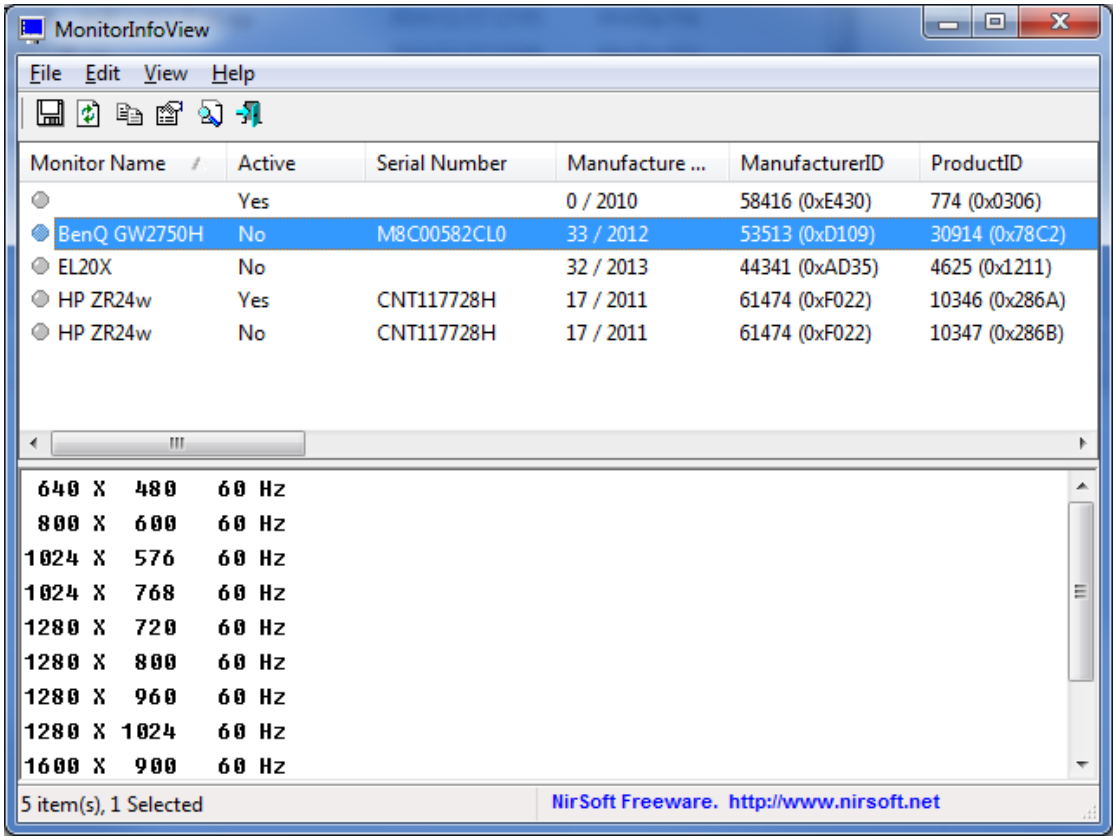
1B 78 0x781B=30747 就是频率是 307.47Mhz 【参考 4】
EA Horizontal Active 和后面的 F6 的高 4 位，联合给出 0xFEA=4074
C4 Horizontal Blank 和后面的 F6 的低 4 位，联合给出 0x6C4=1732
A3 Vertical Active 和后面的 4A 的高 4 位，联合给出 0x4A3= 1187
57 Vertical Blank 和后面的 4A 的低 4 位，联合给出 0xA57 =2647
9C Horizontal Sync Offset 和后面的 20 8-7 位，联合给出 0x9C=156
23 Horizontal Sync Pulse width 和后面的 6-5 位，联合给出 0x223=547

20　　Horizontal Image Size 水平尺寸 0x20=32mm

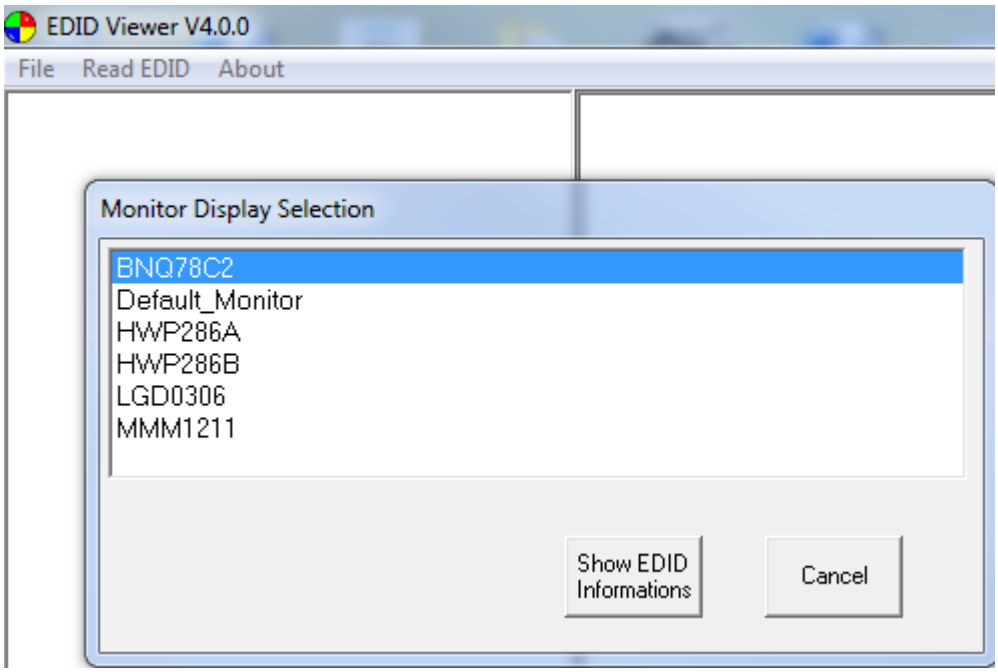
50　　Vertical Image Size 垂直尺寸 0x50=80mm

分析的结果很诡异啊，感觉我这个显示器写的这个值根本就是骗人的……

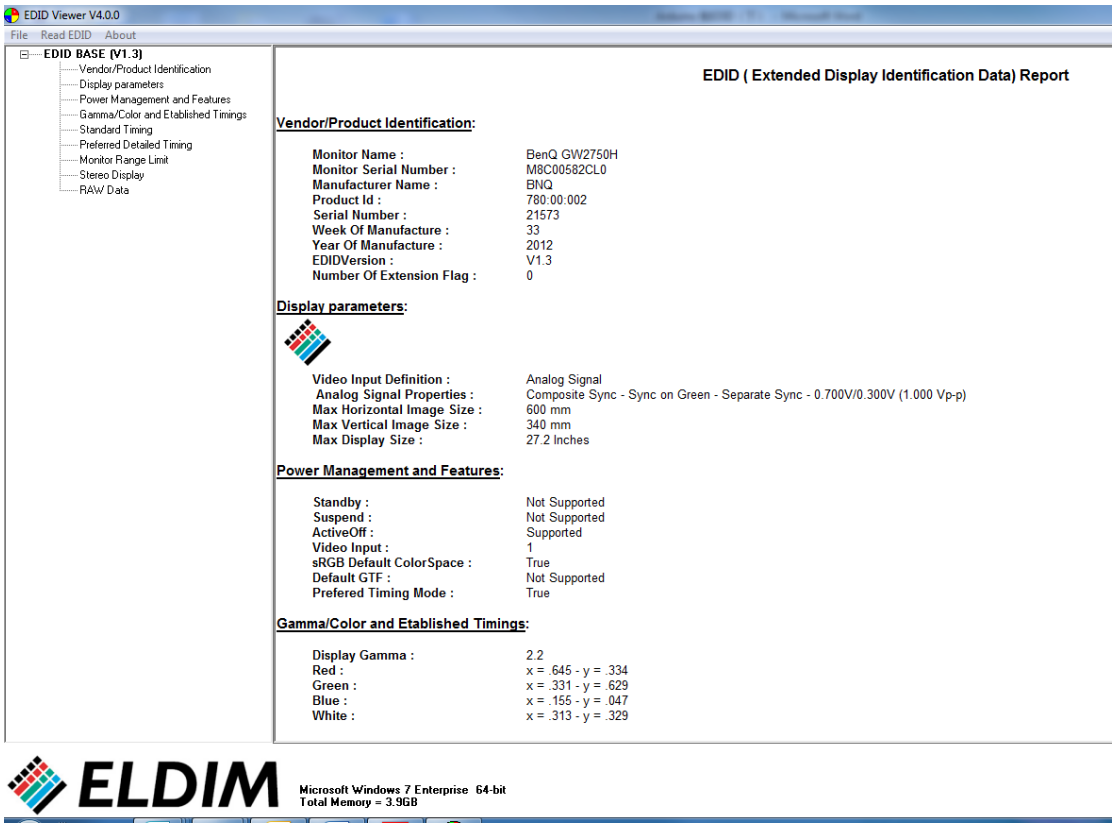
基本上手工分析的内容就是上面这些。此外，软件读取的方法就简单多了。我搜了一下，有 MonitorInforView 界面如下，能够看到当前系统曾经用过的显示器的 EDID 信息（这个信息存放在注册表中）



此外，还有 EDID Viewer，功能更强大一些。能够将 EDID 信息保存在文件中。



下面就是他生成的一个报告，可以看到它能够完整的解析 EDID 信息【参考 2】。



这个软件有保存当前 EDID 的功能，从菜单可以将 EDID 保存成他定义的 EDD 格式。比如：

EDID DATA

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

```
-------------------------------------------------------
  00: 00 FF FF FF FF FF FF 00 09 D1 C2 78 45 54 00 00
  10: 21 16 01 03 0E 3C 22 78 2E 2C C5 A5 55 54 A1 27
  20: 0C 50 54 21 08 00 61 C0 81 00 81 C0 81 40 81 80
  30: A9 C0 B3 00 D1 C0 02 3A 80 18 71 38 2D 40 58 2C
  40: 45 00 56 50 21 00 00 1E 00 00 00 FF 00 4D 38 43
  50: 30 30 35 38 32 43 4C 30 0A 20 00 00 00 FD 00 32
  60: 4C 1E 53 11 00 0A 20 20 20 20 20 20 00 00 00 FC
  70: 00 42 65 6E 51 20 47 57 32 37 35 30 48 0A 00 8C
  80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

PixelClock = 148.5

HorizontalActive = 1920
HorizontalFrontPorch = 88
HorizontalBlanking = 280
HorizontalSyncPulseWidth = 44
HorizontalPolarity = True

VerticalActive = 1080
VerticalFrontPorch = 4
VerticalBlanking = 45
VerticalSyncPulseWidth = 5
VerticalPolarity = True
```

还有读取 EDD 文件的功能，所以我们可以在额外的编辑器中打开，改写为我们期望的数值。比如，改写成我的那个显示器的信息：

```
EDID DATA

     00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
-------------------------------------------------------
  00: 00 FF FF FF FF FF FF 00 09 D1 6F 76 9C 05 00 00
  10: 32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23

  20: 00 FF FF FF FF FF FF 00 09 D1 6F 76 9C 05 00 00
  30: 32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23
  40: 20 20 50 00 00 00 00 00 00 00 00 00 00 00 00 00
```

50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
60: 00 00 00 00 00 00 E3 01 00 00 E8 03 00 00 00 00
70: 00 00 00 A1 01 00 00 00 00 00 00 FF FF FF FF FF
80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

分析的结果如下：

EDID (Extended Display Identification Data) Report

Vendor/Product Identification:

Monitor Name :	
Monitor Serial Number :	
Manufacturer Name :	BNQ
Product Id :	766F
Serial Number :	1436
Week Of Manufacture :	50
Year Of Manufacture :	2004
EDIDVersion :	V1.3
Number Of Extension Flag :	255

Display parameters:

Video Input Definition :	Analog Signal
Analog Signal Properties :	Sync on Green - Separate Sync - 0.700V/0.000V (0.700 Vp-p)
Max Horizontal Image Size :	340 mm
Max Vertical Image Size :	270 mm
Max Display Size :	17.1 Inches

Power Management and Features:

Standby :	Supported

Suspend :	Supported
ActiveOff :	Supported
Video Input :	1
sRGB Default ColorSpace :	False
Default GTF :	Not Supported
Prefered Timing Mode :	True

Gamma/Color and Etablished Timings:

Display Gamma :	2.2
Red :	x = .64 - y = .34
Green :	x = .29 - y = .609
Blue :	x = .14 - y = .003
White :	x = .997 - y = .998

Etablished Timings :

800 x 600 @ 60Hz (VESA)
800 x 600 @ 56Hz (VESA)
640 x 480 @ 75Hz (VESA)
640 x 480 @ 72Hz (VESA)
640 x 480 @ 67Hz (Apple, Mac II)
640 x 480 @ 60Hz (IBM, VGA)
720 x 400 @ 88Hz (IBM, XGA2)
720 x 400 @ 70Hz (IBM, VGA)
1280 x 1024 @ 75Hz (VESA)
1024 x 768 @ 75Hz (VESA)
1024 x 768 @ 70Hz (VESA)
1024 x 768 @ 60Hz (VESA)
1024 x 768 @ 87Hz(I) IBM)
832 x 624 @ 75Hz (Apple, Mac II)
800 x 600 @ 75Hz (VESA)
800 x 600 @ 72Hz (VESA)
1152 x 870 @ 75Hz (Apple, Mac II)

Display Type :	RGB Color Display

Standard Timing:

Standard Timings n¡ã	2
X Resolution :	320
Y Resolution :	180
Vertical Frequency :	77

Standard Timings n¡ã	3
X Resolution :	1136
Y Resolution :	852
Vertical Frequency :	114

Standard Timings n¡ã	4
X Resolution :	1496
Y Resolution :	0
Vertical Frequency :	65

Standard Timings n¡ã	6
X Resolution :	648
Y Resolution :	0
Vertical Frequency :	74

Standard Timings n¡ã	8
X Resolution :	1112
Y Resolution :	0
Vertical Frequency :	94

Preferred Detailed Timing:

Pixel Clock :	307.47 Mhz

Horizontal Active :	4074 pixels
Horizontal Blanking :	1732 pixels
Horizontal Sync Offset :	156 pixels
Horizontal Sync Pulse Width :	547 pixels
Horizontal Border :	0 pixels
Horizontal Size :	80 mm

Vertical Active :	1187 lines
Vertical Blanking :	2647 lines
Vertical Sync Offset :	2 lines
Vertical Sync Pulse Width :	0 lines
Vertical Border :	0 lines
Vertical Size :	0 mm

Input Type :	Analog Composite
Interlaced :	False
VerticalPolarity :	False
HorizontalPolarity :	False

Monitor Range Limit:

Maximum Vertical Frequency :	0 Hz
Minimum Vertical Frequency :	0 Hz
Maximum Horizontal Frequency :	0 KHz
Minimum Horizontal Frequency :	0 KHz
Maximum Pixel Clock :	0 MHz

Stereo Display:

Stereo Display :	Normal display (no stereo)

RAW Data:

```
0x00    00 FF FF FF FF FF FF 00 09 D1 6F 76 9C 05 00 00
0x10    32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23
0x20    00 FF FF FF FF FF FF 00 09 D1 6F 76 9C 05 00 00
0x30    32 0E 01 03 6C 22 1B 78 EA C4 F6 A3 57 4A 9C 23
0x40    20 20 50 00 00 00 00 00 00 00 00 00 00 00 00 00
0x50    00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x60    00 00 00 00 00 00 E3 01 00 00 E8 03 00 00 00 00
0x70    00 00 00 A1 01 00 00 00 00 00 00 FF FF FF FF FF
```

EDID 能够提供显示器的信息，因此，还有一种产品是 EDID 模拟器。比如一些投影仪，因为线缆太长，无法正确得到分辨率信息，就需要用这种产品在中间模拟提供需要的信号。等等。

本文只是学习显示方面知识的一点记录，希望能对后来者有帮助。很多时候让你获益匪浅的未必是明确的目标，而是追求这个目标路径上偶然获得的其他成果。

参考：

1. http://en.wikipedia.org/wiki/Extended_display_identification_data
2. http://wenku.baidu.com/view/62e23b8a680203d8ce2f240d.html EDID 数据格式解析
3. 对于这个值的计算水平总点数（Active 和 Blank 之和）乘以垂直总线数（Active 和 Blank 之和）乘以 Refresh Rate.、

   比如，我们计算下面这个来自（ http://tinyvga.com/vga-timing/640x350@70Hz ）的配置，计算如下 800×449×70=25.114MHz 和标称相同

VGA Signal 640 x 350 @ 70 Hz timing

General timing

Screen refresh rate	70 Hz
Vertical refresh	31.46875 kHz
Pixel freq.	25.175 MHz

Horizontal timing (line)

Polarity of horizontal sync pulse is positive.

Scanline part	Pixels	Time [µs]
Visible area	640	25.422045680238
Front porch	16	0.63555114200596
Sync pulse	96	3.8133068520357
Back porch	48	1.9066534260179
Whole line	800	31.777557100298

Vertical timing (frame)

Polarity of vertical sync pulse is negative.

Frame part	Lines	Time [ms]
Visible area	350	11.122144985104
Front porch	37	1.175769612711
Sync pulse	2	0.063555114200596
Back porch	60	1.9066534260179
Whole frame	449	14.268123138034

4. 附上该软件生成报告的完整例子

EDID (Extended Display Identification Data) Report

Vendor/Product Identification:

Monitor Name : BenQ GW2750H
Monitor Serial Number : M8C00582CL0
Manufacturer Name : BNQ
Product Id : 780:00:002
Serial Number : 21573
Week Of Manufacture : 33
Year Of Manufacture : 2012
EDIDVersion : V1.3
Number Of Extension Flag : 0

Display parameters:

Video Input Definition : Analog Signal
Analog Signal Properties : Composite Sync - Sync on Green - Separate Sync - 0.700V/0.300V (1.000 Vp-p)
Max Horizontal Image Size : 600 mm
Max Vertical Image Size : 340 mm
Max Display Size : 27.2 Inches

Power Management and Features:

Standby : Not Supported
Suspend : Not Supported
ActiveOff : Supported

Video Input :	1
sRGB Default ColorSpace :	True
Default GTF :	Not Supported
Prefered Timing Mode :	True

Gamma/Color and Etablished Timings:

Display Gamma :	2.2
Red :	x = .645 - y = .334
Green :	x = .331 - y = .629
Blue :	x = .155 - y = .047
White :	x = .313 - y = .329

Etablished Timings :

800 x 600 @ 60Hz (VESA)
640 x 480 @ 60Hz (IBM, VGA)
1024 x 768 @ 60Hz (VESA)

Display Type :	RGB Color Display

Standard Timing:

Standard Timings n¡ã	1
X Resolution :	1024
Y Resolution :	576
Vertical Frequency :	60
Standard Timings n¡ã	3
X Resolution :	1280
Y Resolution :	720
Vertical Frequency :	60
Standard Timings n¡ã	4
X Resolution :	1280
Y Resolution :	960
Vertical Frequency :	60
Standard Timings n¡ã	5
X Resolution :	1280
Y Resolution :	1024
Vertical Frequency :	60
Standard Timings n¡ã	6

X Resolution :	1600
Y Resolution :	900
Vertical Frequency :	60
Standard Timings n¡ã	8
X Resolution :	1920
Y Resolution :	1080
Vertical Frequency :	60

Preferred Detailed Timing:

Pixel Clock :	148.5 Mhz
Horizontal Active :	1920 pixels
Horizontal Blanking :	280 pixels
Horizontal Sync Offset :	88 pixels
Horizontal Sync Pulse Width :	44 pixels
Horizontal Border :	0 pixels
Horizontal Size :	598 mm
Vertical Active :	1080 lines
Vertical Blanking :	45 lines
Vertical Sync Offset :	4 lines
Vertical Sync Pulse Width :	5 lines
Vertical Border :	0 lines
Vertical Size :	336 mm
Input Type :	Digital Separate
Interlaced :	False
VerticalPolarity :	True
HorizontalPolarity :	True

Monitor Range Limit:

Maximum Vertical Frequency :	76 Hz
Minimum Vertical Frequency :	50 Hz
Maximum Horizontal Frequency :	83 KHz
Minimum Horizontal Frequency :	30 KHz
Maximum Pixel Clock :	170 MHz

Stereo Display:

Stereo Display :	Normal display (no stereo)

RAW Data:

```
0x00    00 FF FF FF FF FF FF 00 09 D1 C2 78 45 54 00 00
0x10    21 16 01 03 0E 3C 22 78 2E 2C C5 A5 55 54 A1 27
0x20    0C 50 54 21 08 00 61 C0 81 00 81 C0 81 40 81 80
0x30    A9 C0 B3 00 D1 C0 02 3A 80 18 71 38 2D 40 58 2C
0x40    45 00 56 50 21 00 00 1E 00 00 00 FF 00 4D 38 43
0x50    30 30 35 38 32 43 4C 30 0A 20 00 00 00 FD 00 32
0x60    4C 1E 53 11 00 0A 20 20 20 20 20 20 00 00 00 FC
0x70    00 42 65 6E 51 20 47 57 32 37 35 30 48 0A 00 8C
```

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