

# Mi folyik a DVB-T-ben

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2011.11.16.

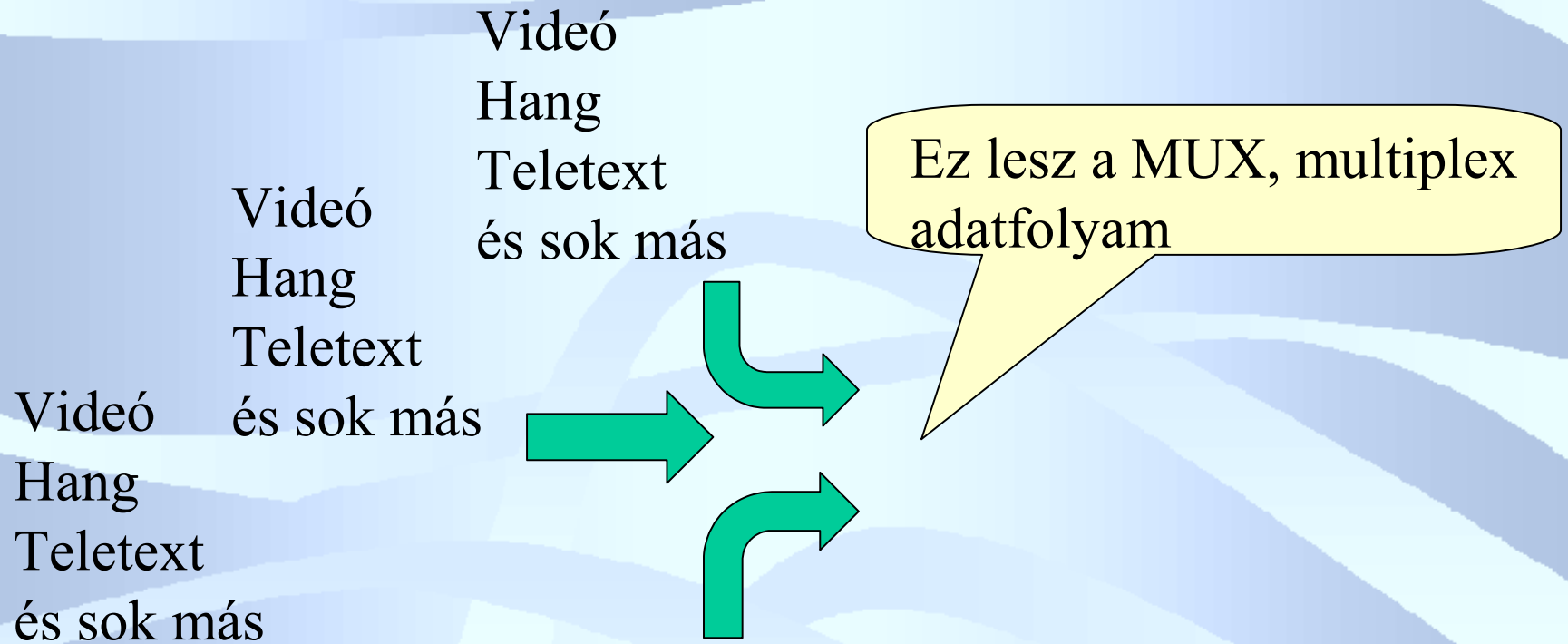
# A téma fontossága

2012

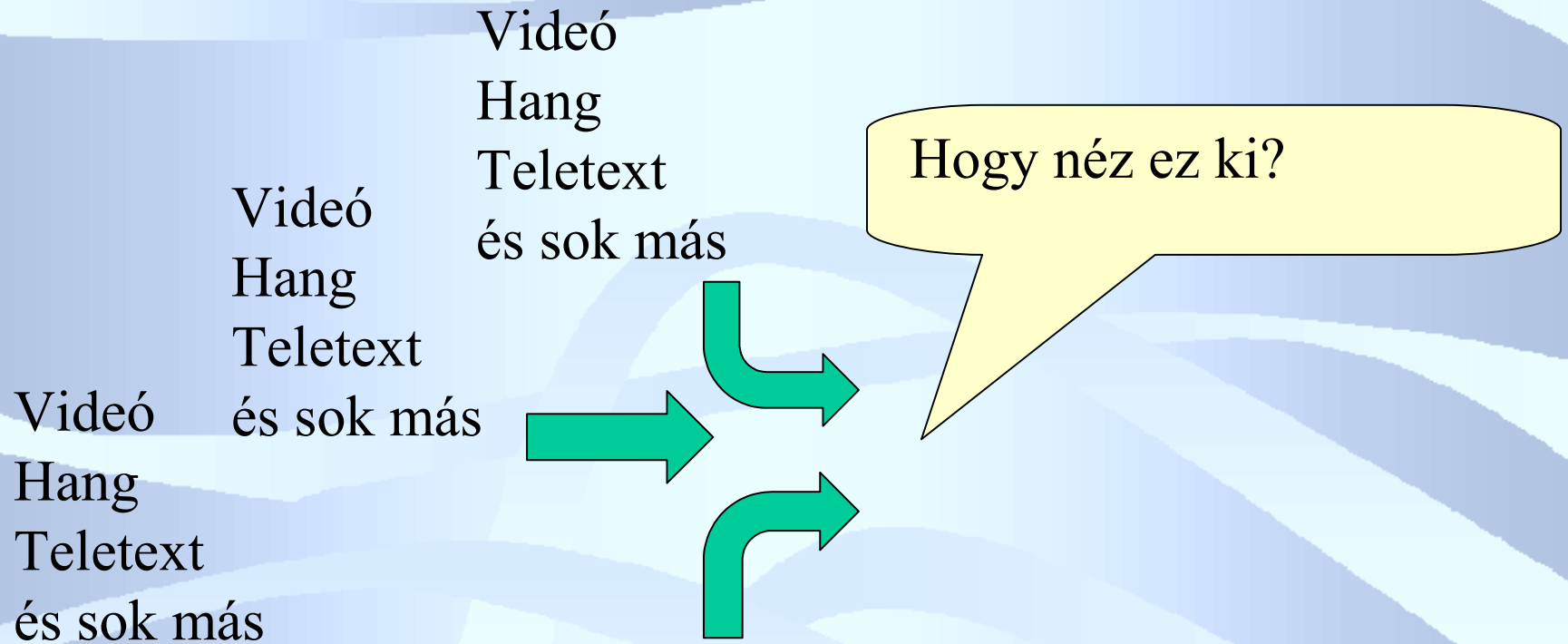
Analóg lekapcsolás

Digitális átállás

# MPEG jelfolyamok



# MPEG jelfolyamok



# MPEG jelfolyamok

```
Lister - [F:\Project\2011\Projektek Delphi7\Mpeg\MPEG\TS\802ts_2.ts]
Fájl Szerkesztés Beállítások Súgó 0 %
00000000: 47 08 17 91 41 E8 90 C2|DC B7 D5 3C 17 1B 17 BB | G## 'Ač#ĀŰ-Ű<###>
00000010: 6F B5 B3 7D 30 C2 5D FB|1B DC 41 C1 86 A4 CC 17 | oμx}θĀ]ŰŰAÁ†*Ĕ#
00000020: 63 A6 17 04 5A 5F 2B 74|94 7B 5B 40 0C C0 58 40 | c!##Z +t"}{[@#R#X@
00000030: 8A 6F FB 0E 58 EE BC 21|94 E2 F5 C1 A1 4E 0B A9 | ŠoŰ#XĪ!*"āōĀ~N#©
00000040: 6B 9C 95 53 3B 14 89 7D|26 15 05 F2 88 37 5B B6 | kś•S;#%}&##ñ#7[¶
00000050: 80 74 03 64 FC 25 CF B9|FB 05 3E B6 24 C0 20 B2 | #t#dű%Đāű#>¶$Ŕ
00000060: A7 8D DF 4D 44 0F 36 9C|EB B7 70 47 18 AA 2D 42 | ſŦ#MD#6śē-pG#ſ-B
00000070: 90 41 0F 38 34 62 5F 19|09 E9 A9 29 89 06 D5 72 | #A#84b_##é@)%ŰŦr
00000080: 37 7E 21 C9 88 EC 2C D7|87 F4 F1 48 A2 E8 50 71 | 7~!É#ē,x#ōńH~čPq
00000090: 20 53 B3 ED 5F E4 9A B8|E8 B8 48 93 53 5F 97 38 | Sxí_ăš_č_H"S_-8
000000A0: 69 7A 0B 82 54 3B 20 B8|6C B1 F6 39 70 D2 67 1E | iz#_Ŧ;_l±ō9pŦg#
000000B0: 65 7C EF 02 80 0C F1 2B|1C 85 5F 71 47 47 EF DC | e|d'###ń+#..._gGGdŰ
000000C0: D1 D1 60 51 5C DD AD CE|93 73 22 C8 27 99 32 09 | ŃŃ`Q\Ű-Ī"s"C'""2#
000000D0: 97 D1 1B 65 47 7C 60 14|99 04 4D EB 80 CC 10 D9 | -Ń#eG|`""#Mē°Ĕ#Ű
000000E0: 5B B1 9C 63 D5 85 90 64|31 56 22 F5 99 E5 28 B3 | [±ścŰ...#d1V"Ű"Ī(Ŧ
000000F0: 53 8B EE 88 B2 1D 41 42|11 9F A9 6C 76 AE 0A 9C | S<Ī#_#AB#Z@1v@#ś
00000100: 65 3D BD 12 55 94 85 3F|A5 93 60 DE 44 38 94 EE | e="ŰŰ"...?Ā" `ŦD8"Ī
00000110: 65 66 CC E8 3D 87 60 42|09 D7 96 4C 75 5A B0 8D | efĔč=Ŧ`B#x-LuZ°Ī
00000120: F7 FE E7 86 AA B9 05 4A|24 E7 60 4E C4 58 44 24 | ÷tç†šā#J$ç`NĀXD$
00000130: C1 34 FD DE 62 02 4B 20|91 E1 1B CD D2 DC 98 90 | Ā4ŷŦb#K 'ā#ĪŃŰ##
00000140: 07 BA 32 B5 9A 4B 88 22|73 50 15 AC A9 65 02 03 | #ś2μśK#'"sP#~@e##
00000150: F8 66 7D 3A A7 A4 51 BC|62 4C 53 B8 98 D2 35 DF | řf}:ſ#QLbLS_#Ń5Ŧ
00000160: 64 92 9E 16 1F FD E9 9A|4C 2A DF 98 CD 21 17 C2 | d'ž###ýéśL*#ŃĪ!#Ā
00000170: 4E 32 88 D7 63 0F C4 85|47 08 2B D5 C2 C1 A1 2B | N2#xc#Ā...G#+ŰĀĀ'+
00000180: D6 94 C9 59 79 1F BB FA|DA 50 A5 75 5C 1B 0F EB | Ű"Éy#»»úŰPĀu\##ē
00000190: 56 2F 2F 3D C0 37 E4 B0|67 9D 93 95 FD 27 DB 14 | U//=Ŕ7ă°gt""•ý'Ű#
000001A0: 04 B4 0D 51 AD 3C E5 EC|0D 97 D5 2A FD 49 08 D1 | #'ŦQ-<Īē#-Ű*ýI##Ń
000001B0: 7A 74 2C B2 79 2E 3D CD|E9 20 99 28 32 A2 2D 4B | zt, y.=Īé ""(2~K
000001C0: 36 F5 48 C4 CA AE 71 25|35 AB 5B 62 7A 1B 62 09 | 6ŰHĀĔ@q%5«[bz#b#
000001D0: 9F 2C 80 3E B0 D0 0E BD|CF E1 88 DC 89 77 AC B0 | ž,#>°Đ#`ĐāŰŰ#w-°
000001E0: 83 7B 4E A6 81 D4 34 6F|14 1E 4F 8B 13 2E 98 46 | #ŦN!#Ű4o##Ű<#.#F
000001F0: E2 49 5F 58 33 75 26 47|39 83 55 58 1C 1F 7D 4D | âI_X3u&G9#UX##}M
```

# MPEG táblák PID azonosító

## PAT a táblák atyja

## PMT táblák PID azonosítói

TSReader Lite -- 2.8.46g - not for commercial use

File Export View Record Playback Plugins Settings Help

**Active PIDs**  Disabled  Sort Decending  Sort by Rate  Sort by PID

- 0x07dc (0.80% ~ 198.44 Kbps)
- 0x07d2 (0.80% ~ 198.44 Kbps)
- 0x07dd (0.91% ~ 225.59 Kbps)
- 0x082b (1.11% ~ 277.51 Kbps)
- 0x1fff (1.12% ~ 278.84 Kbps)
- 0x07fe (1.70% ~ 423.00 Kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0803 (4.94% ~ 1.23 Mbps)
- 0x07e5 (5.09% ~ 1.27 Mbps)
- 0x0821 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)

**PAT** PID 0x0000  
TOT PID 0x0014  
TDT PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>

PAT Version Number: 2  
Transport Stream ID: 2 (0x0002)  
NIT: 802.0 MHz

PMT PID 16 (0x0010) - Network  
PMT PID 2000 (0x07d0) - Program 5/200 DunaTV HD  
PMT PID 2010 (0x07da) - Program 6/201 Autonomia  
PMT PID 2020 (0x07e4) - Program 14/202 Cool  
PMT PID 2030 (0x07ee) - Program 13/203 Film+  
PMT PID 2040 (0x07f8) - Program 10/204 HBO  
PMT PID 2050 (0x0802) - Program 11/205 National Geographic  
PMT PID 2060 (0x080c) - Program 17/206 Disney Channel  
PMT PID 2070 (0x0816) - Program 12/207 AXN  
PMT PID 2080 (0x0820) - Program 16/208 FEM3  
PMT PID 2090 (0x082a) - Program 20/209 Private Spice  
PMT PID 2700 (0x0a8c) - Program 270 DataService\_C

**General Information**  
Source: Transport Stream File  
Tuner: 802ts\_2.ts  
Signal: n/a

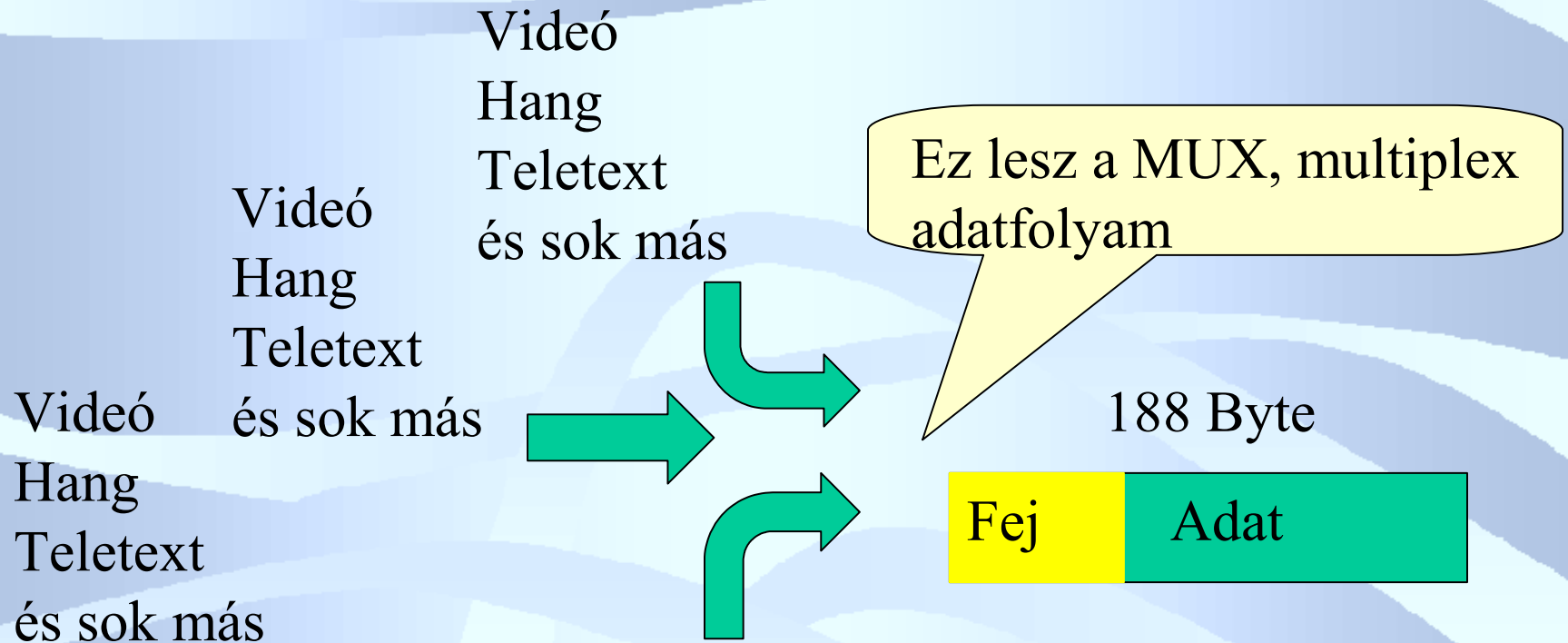
Network Type: DVB  
Run Time: 000:17:35

**MPEG-2 Statistics**

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

Video Decode

# MPEG jelfolyamok



$0x47 + 3 \text{ flag bit} + 13 \text{ PID bit} + 4 \text{ flag bit} + \text{CC számláló } 4 \text{ bit} = 32 \text{ bit}$   
+ igény esetén Adaptation Field Változó hosszúságban

# MPEG táblák PID azonosító

**PAT a táblák atyja PID = 0**

**PMT táblák PID azonosítói 802 MHz**

**TSReader Lite -- 2.8.46g - not for commercial use**

File Export View Record Playback Plugins Settings Help

**PAT PID 0x0000**  
TOT PID 0x0014  
TDT PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>

PAT Version Number: 2  
Transport Stream ID: 2 (0x0002)  
NIT: 802.0 MHz

PMT PID 16 (0x0010) - Network  
PMT PID 2000 (0x07d0) - Program 5/200 DunaTV HD  
PMT PID 2010 (0x07da) - Program 6/201 Autonomia  
PMT PID 2020 (0x07e4) - Program 14/202 Cool  
PMT PID 2030 (0x07ee) - Program 13/203 Film+  
PMT PID 2040 (0x07f8) - Program 10/204 HBO  
PMT PID 2050 (0x0802) - Program 11/205 National Geographic  
PMT PID 2060 (0x080c) - Program 17/206 Disney Channel  
PMT PID 2070 (0x0816) - Program 12/207 AXN  
PMT PID 2080 (0x0820) - Program 16/208 FEM3  
PMT PID 2090 (0x082a) - Program 20/209 Private Spice  
PMT PID 2700 (0x0a8c) - Program 270 DataService\_C

Active PIDs:  Disabled  Sort Decending  Sort by Rate  Sort by PID

- 0x07dc (0.80% ~ 198.44 Kbps)
- 0x07d2 (0.80% ~ 198.44 Kbps)
- 0x07dd (0.91% ~ 225.59 Kbps)
- 0x082b (1.11% ~ 277.61 Kbps)
- 0x1fff (1.12% ~ 278.84 Kbps)
- 0x07fe (1.70% ~ 423.00 Kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0803 (4.94% ~ 1.23 Mbps)
- 0x07e5 (5.09% ~ 1.27 Mbps)
- 0x0821 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)

General Information  
Source: Transport Stream File  
Tuner: 802ts\_2.ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:17:35

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

Video Decode





# MPEG táblák PID azonosító

**PAT a táblák atyja PID = 0**

**PMT táblák PID azonosítói 802 MHz**

**TSReader Lite -- 2.8.46g - not for commercial use**

File Export View Record Playback Plugins Settings Help

**Table of PID Types:**

Icon	Table Type	PID
PA	PAT	PAT PID 0x0000
TD	TOT	TOT PID 0x0014
TD	TDT	TDT PID 0x0014
CA	CAT	CAT PID 0x0001
SD	SDT	SDT PID 0x0011 <11>
NIT	NIT	NIT PID 0x0010 <2>

**Active PIDs:**

PID	Rate
0x07dc	0.80% ~ 198.44 Kbps
0x07d2	0.80% ~ 198.44 Kbps
0x07dd	0.91% ~ 225.59 Kbps
0x082b	1.11% ~ 277.61 Kbps
0x1fff	1.12% ~ 278.84 Kbps
0x07fe	1.70% ~ 423.00 Kbps
0x07f9	4.37% ~ 1.09 Mbps
0x080d	4.44% ~ 1.10 Mbps
0x0803	4.94% ~ 1.23 Mbps
0x07e5	5.09% ~ 1.27 Mbps
0x0821	5.26% ~ 1.31 Mbps
0x0012	6.72% ~ 1.67 Mbps
0x0817	7.39% ~ 1.84 Mbps
0x07db	8.70% ~ 2.17 Mbps
0x07ef	10.75% ~ 2.68 Mbps
0x07d1	30.25% ~ 7.53 Mbps

**MPEG-2 Statistics:**

Sections	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0				Mux. bitrate:	24882362 bps
TEI Errors:	0				Last sec.:	0.000 Mbit
					In buffer:	
					Out buffer:	

**General Information:**

Source: Transport Stream File  
Tuner: 802ts\_2.ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:17:35

**Video Decode:**

# MPEG táblák NIT

## Hálózati információ

D3 TSReader Lite -- 2.8.46g - not for commercial use

File Export View Record Playback Plugins Settings Help

PAT PID 0x0000  
TOT PID 0x0014  
TDT PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>  
746.0 MHz  
802.0 MHz

Network Name: DTT Hungary  
Network ID: 13313 (0x3401)  
Transport Stream ID: 1 (0x0001)  
Original Network ID: 8903 (0x22c7) Version: 1  
Descriptor: Network Name Descriptor  
DVB-T Frequency 746.000 MHz  
Bandwidth: 8 MHz Constellation: 64-QAM  
Hierarchy: non-hierarchical, native interleaver Guard Interval 1/8  
Code Rate: 3/4  
Current Network: True  
Descriptor: Frequency List Descriptor  
Terrestrial: 786.000 MHz  
Terrestrial: 818.000 MHz  
Terrestrial: 642.000 MHz  
Terrestrial: 498.000 MHz  
Terrestrial: 770.000 MHz

Video Decode

Active PIDs  Disabled  Sort Decending  Sort by Rate  Sort by PID

- 0x07dc (0.80% ~ 198.44 Kbps)
- 0x07d2 (0.80% ~ 198.44 Kbps)
- 0x07dd (0.91% ~ 225.59 Kbps)
- 0x082b (1.11% ~ 277.51 Kbps)
- 0x1fff (1.12% ~ 278.84 Kbps)
- 0x07fe (1.70% ~ 423.00 Kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0803 (4.94% ~ 1.23 Mbps)
- 0x07e5 (5.09% ~ 1.27 Mbps)
- 0x0821 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)

General Information  
Source: Transport Stream File  
Tuner: 802ts\_2.ts  
Signal: n/a  
Network Type: DVB  
Run Time: 000:20:24

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

# MPEG táblák NIT 746

Network Name: DTT Hungary

Network ID: 13313 (0x3401)

Transport Stream ID: 1 (0x0001)

Original Network ID: 8903 (0x22c7) Version:  
1

Descriptor: Network Name Descriptor

DVB-T Frequency 746.000 MHz

Bandwidth: 8 MHz Constellation: 64-QAM

Hierarchy: non-hierarchical, native interleaver

Guard Interval 1/8

Code Rate: 3/4

Current Network: True

Descriptor: Frequency List  
Descriptor

Terrestrial: 786.000 MHz

Terrestrial: 818.000 MHz

Terrestrial: 642.000 MHz

Terrestrial: 498.000 MHz

Terrestrial: 770.000 MHz

Terrestrial: 722.000 MHz

Terrestrial: 666.000 MHz

Terrestrial: 658.000 MHz

Terrestrial: 850.000 MHz

Terrestrial: 674.000 MHz

Terrestrial: 738.000 MHz

Descriptor: Service List Descriptor

# MPEG táblák NIT

Descriptor: Service List Descriptor

Service: 60 digital television service

Service: 80 digital television service

Service: 100 advanced codec HD digital television

Service: 101 advanced codec HD digital television

Service: 102 digital television service

Service: 103 digital television service

Service: 104 digital radio sound service

Service: 105 digital radio sound service

Service: 106 digital radio sound service

Service: 109 digital television service

Service: 110 digital television service

Service: 112 digital television service

Service: 113 digital radio sound service

Service: 170 data broadcast service

Descriptor: Private Data Specifier  
Descriptor

Private Data Specifier: Unknown

Descriptor: User Private Descriptor: 0x83

Logical channel 1 = MPEG service 60

Logical channel 2 = MPEG service 80

Logical channel 3 = MPEG service 100

Logical channel 4 = MPEG service 101

Logical channel 7 = MPEG service 109

Logical channel 9 = MPEG service 112

Logical channel 15 = MPEG service 110

Logical channel 18 = MPEG service 103

Logical channel 19 = MPEG service 102

Logical channel 1 = MPEG service 104

Logical channel 2 = MPEG service 105

Logical channel 3 = MPEG service 106

Logical channel 4 = MPEG service 113

# MPEG táblák SDT

The screenshot displays the TSReader Lite interface. The left sidebar shows a tree view of MPEG-2 tables, with 'SDT PID 0x0011 <11>' expanded to show a list of channels, including '200 DunaTV HD'. The main window is divided into several sections:

- Channel Information:** Channel 5/200, On Table\_ID: 0x42 (current mux), Service Name: DunaTV HD, Provider Name: Duna Televisio, Transport Stream ID: 2 (0x0002) 802.0 MHz.
- Active PIDs:** A list of PIDs with their respective bitrates and rates. The highest rate is 30.25% for PID 0x07d1 at 7.53 Mbps.
- General Information:** Source: Transport Stream File, Tuner: 802ts\_2.ts, Signal: n/a, Network Type: DVB, Run Time: 000:21:13.
- MPEG-2 Statistics:** A table showing the distribution of sections and errors across different PIDs.
- Video Decode:** A large black area intended for video playback.

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

# MPEG táblák CAT

The screenshot displays the TSReader Lite interface. The top menu bar includes File, Export, View, Record, Playback, Plugins, Settings, and Help. The left sidebar shows a tree view of transport stream elements: PAT PID 0x0000, TOT PID 0x0014, TDT PID 0x0014, CAT PID 0x0001 (selected), CA Descriptor - Conax, SDT PID 0x0011 <11>, and NIT PID 0x0010 <2>.

The main window is divided into several sections:

- CAT Information:** CAT Version Number: 2, Descriptor: CA Descriptor, CA System ID: 2816 (0x0b00) Conax, CA PID 5000 (0x1388).
- Active PIDs:** A list of active PIDs with their respective rates and bitrates, sorted by rate in descending order. The selected PID is 0x07d1 (30.25% - 7.53 Mbps).
- General Information:** Source: Transport Stream File, Tuner: 802ts\_2.ts, Signal: n/a, Network Type: DVB, Run Time: 000:23:42.
- MPEG-2 Statistics:** A table showing statistics for various sections and errors.

The right side of the window features a 'Video Decode' window, which is currently blank.

Active PIDs	Rate	Bitrate
0x07dc	0.80%	~ 198.44 Kbps
0x07d2	0.80%	~ 198.44 Kbps
0x07dd	0.91%	~ 225.59 Kbps
0x082b	1.11%	~ 277.51 Kbps
0x1fff	1.12%	~ 278.84 Kbps
0x07fe	1.70%	~ 423.00 Kbps
0x07f9	4.37%	~ 1.09 Mbps
0x080d	4.44%	~ 1.10 Mbps
0x0803	4.94%	~ 1.23 Mbps
0x07e5	5.09%	~ 1.27 Mbps
0x0821	5.26%	~ 1.31 Mbps
0x0012	6.72%	~ 1.67 Mbps
0x0817	7.39%	~ 1.84 Mbps
0x07db	8.70%	~ 2.17 Mbps
0x07ef	10.75%	~ 2.68 Mbps
0x07d1	30.25%	~ 7.53 Mbps

MPEG-2 Statistics	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

# MPEG táblák TDT

The screenshot shows the TSReader Lite interface. The top-left pane displays a tree view of transport stream tables, with TDT PID 0x0014 selected. The bottom-left pane shows general information: Source: Transport Stream File, Tuner: 802ts\_2.ts, Signal: n/a, Network Type: DVB, Run Time: 000:24:30. The bottom-middle pane displays MPEG-2 statistics in a table format. The bottom-right pane shows a video decode window which is currently black.

General Information

Source: Transport Stream File  
Tuner: 802ts\_2.ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:24:30

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

Active PIDs

- 0x07dc (0.80% ~ 198.44 Kbps)
- 0x07d2 (0.80% ~ 198.44 Kbps)
- 0x07dd (0.91% ~ 225.59 Kbps)
- 0x082b (1.11% ~ 277.51 Kbps)
- 0x1fff (1.12% ~ 278.84 Kbps)
- 0x07fe (1.70% ~ 423.00 Kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0803 (4.94% ~ 1.23 Mbps)
- 0x07e5 (5.09% ~ 1.27 Mbps)
- 0x0821 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)



# MPEG táblák TOT

The screenshot shows the D3TSReader Lite interface. The main window displays the following information:

- File List:** PAT PID 0x0000, TOT PID 0x0014 (highlighted with date 2011/08/29 13:45:13), TDT PID 0x0014, CAT PID 0x0001, SDT PID 0x0011 <11>, NIT PID 0x0010 <2>
- TOT Descriptors:** Local Time Offset Descriptor, Country Code HUN, Region Not used, Local Time Offset Polarity: 0, Local Time Offset 02:00, Time of change: 2011.10.30. 1:00:00, Next Time Offset: 01:00
- Active PIDs:** A list of PIDs with their respective rates and bitrates, sorted by rate. The highest rate is 30.25% for PID 0x07d1 at 7.53 Mbps.
- General Information:** Source: Transport Stream File, Tuner: 802ts\_2.ts, Signal: n/a, Network Type: DVB, Run Time: 000:26:14
- MPEG-2 Statistics:** A table showing statistics for various sections and errors.
- Video Decode:** A large black area on the right side of the interface.

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0			Mux. bitrate:	24882362 bps	
TEI Errors:	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

# MPEG táblák PAT PMT SDT

**TSReader Lite -- 2.8.46g - not for commercial use**

File Export View Record Playback Plugins Settings Help

**Tree View:**

- PAT PID 0x0000
  - PMT PID 0x0010 - Network
  - PMT PID 0x07d0 - Program 200
    - SDT: DunaTV HD
      - ES PID 0x07d1
        - STD Descriptor
        - ES PID 0x07d2
          - ISO639 Language Descriptor
          - ES PID 0x07dd
            - VBI Data Descriptor
            - Teletext Descriptor
            - PCR PID 0x07d1
  - PMT PID 0x07da - Program 201
  - PMT PID 0x07e4 - Program 202
  - PMT PID 0x07ee - Program 203
  - PMT PID 0x07f8 - Program 204
  - PMT PID 0x0802 - Program 205
  - PMT PID 0x080c - Program 206
  - PMT PID 0x0816 - Program 207
  - PMT PID 0x0820 - Program 208
  - PMT PID 0x082a - Program 209
  - PMT PID 0x0a8c - Program 270
- TOT PID 0x0014
- TDT PID 0x0014
- CAT PID 0x0001
- SDT PID 0x0011 <11>
- NIT PID 0x0010 <2>

**Program Information:**

Program Number: 5/200  
 PCR on PID 2001 (0x07d1)  
 PMT Version: 14  
 Service name: DunaTV HD  
 Logical channel number: 5

**Stream Information:**

- Stream Type: 0x1b H.264 Video  
Elementary Stream PID 2001 (0x07d1)
- Stream Type: 0x03 MPEG-1 Audio  
Elementary Stream PID 2002 (0x07d2)
- Stream Type: 0x06 Teletext/VBI  
Elementary Stream PID 2013 (0x07dd)

**Active PIDs:**  Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07dc (0.80% ~ 198.44 Kbps)
- 0x07d2 (0.80% ~ 198.44 Kbps)
- 0x07dd (0.91% ~ 225.59 Kbps)
- 0x082b (1.11% ~ 277.51 Kbps)
- 0x1fff (1.12% ~ 278.84 Kbps)
- 0x07fe (1.70% ~ 423.00 Kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0803 (4.94% ~ 1.23 Mbps)
- 0x07e5 (5.09% ~ 1.27 Mbps)
- 0x0821 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)

**General Information:**

Source: Transport Stream File  
 Tuner: 802ts\_2.ts  
 Signal: n/a

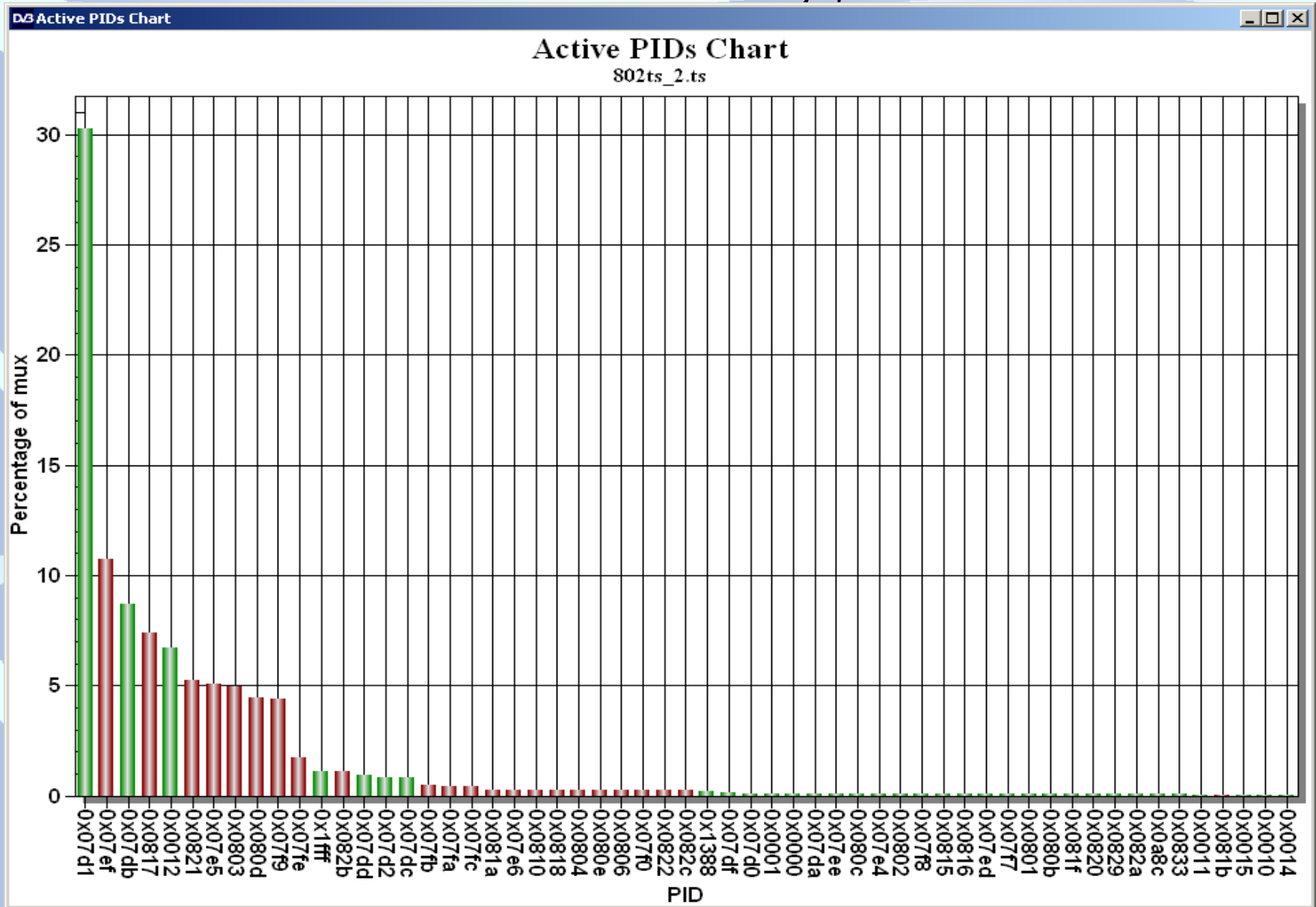
Network Type: DVB  
 Run Time: 000:28:45

**MPEG-2 Statistics:**

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0	0			Mux. bitrate:	24882362 bps
TEI Errors:	0	0			Last sec.:	0.000 Mbit
					In buffer:	
					Out buffer:	

**Video Decode:**

# MPEG PID sebességek MUX %



# MPEG jelfolyamok

## **7d1 8 Mbit/s**

Elementary Stream PID 2001 (0x07d1) H.264 Video

Descriptor: STD Descriptor

Leak Valid Flag: 1

## **7d2 198 Kbit/s**

Elementary Stream PID 2002 (0x07d2) MPEG-1 Audio

MPEG1 Audio: Bitrate 192 Kbps Sample Rate 48 KHz

MPEG1 Audio: Layer II Mode Stereo

Descriptor: ISO639 Language Descriptor

Language: hun

Audio type: undefined

## **7dd 225 Kbit/s**

Elementary Stream PID 2013 (0x07dd) Teletext/VBI

Descriptor: VBI Data Descriptor

EBU teletext Line Offset: 19 Field parity: 0

Descriptor: Teletext Descriptor

Language: hun Type: Initial Teletext page Magazine: 0x01 Page: 0x00

# Most jöjjön egy kis elemzés

TS reader Lite

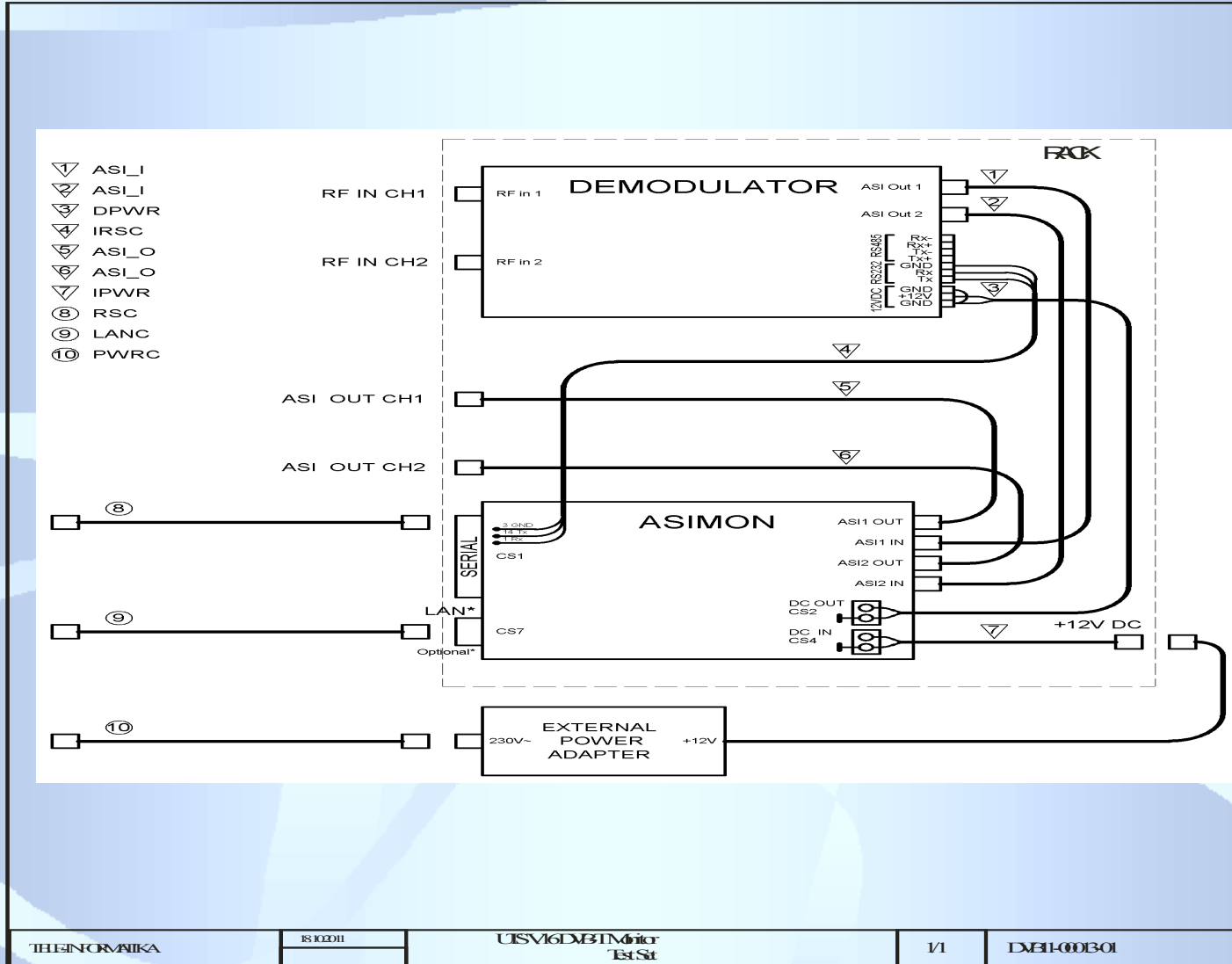


Majd nézzük meg, hogy milyen  
DVB-T vételi lehetőségek  
vannak a teremben!

# UTS v.16 DVB-T Monitor



# UTS v.16 DVB-T Monitor / adatlap



TELEKOMNIKA

IS 102011

UISV6DVB-T Monitor  
Est. St.

V1

DM1-00B01

# Mi folyik a DVB-T-ben

2011.11.16.

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# A téma fontossága

2012

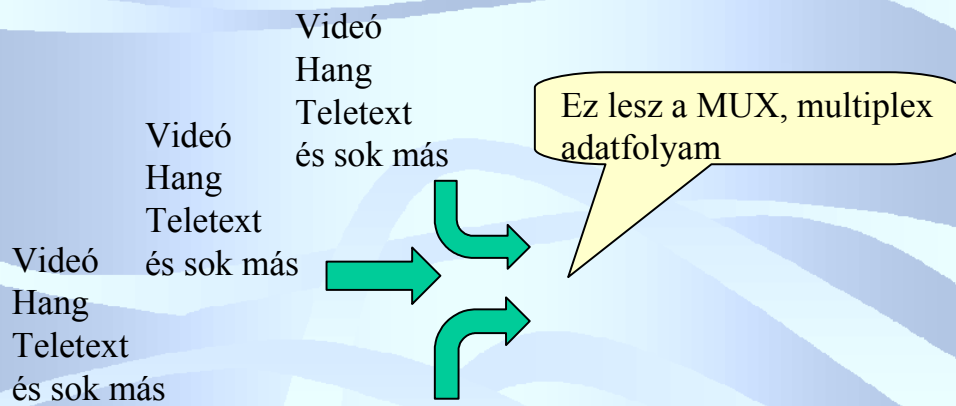
Analóg lekapcsolás

Digitális átállás

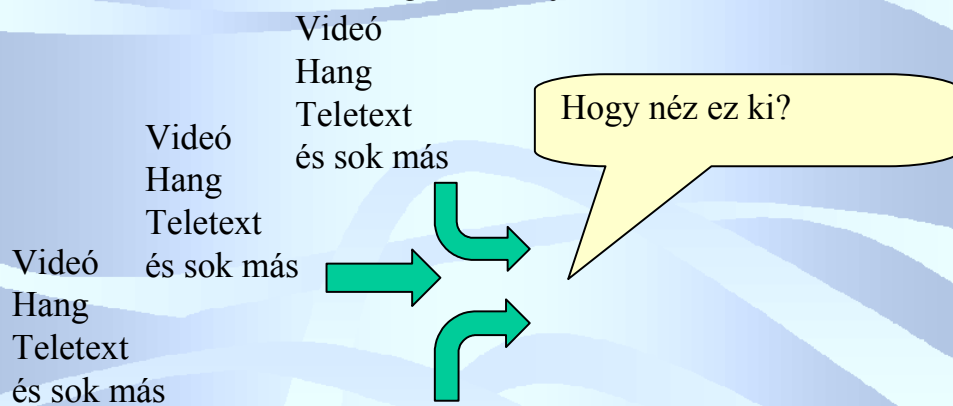
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# MPEG jelfolyamok



# MPEG jelfolyamok



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# MPEG táblák PID azonosító

PAT a táblák atyja

PMT táblák PID azonosítói

**DTSReader Lite -- 2.9.46g -- not for commercial use**

File Export View Record Playback Plugins Settings Help

PAT Version Number: 2  
Transport Stream ID: 2 [0x0002]  
NIT: 002.0 MHz

PAT PID 0x0000  
TDT PID 0x0014  
TOD PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>

PMT PID 16 [0x0010] - Network  
PMT PID 2000 [0x07d0] - Program 5/200 DunaTV HD  
PMT PID 2010 [0x07da] - Program 6/201 Autonomia  
PMT PID 2020 [0x07e4] - Program 14/202 Cool  
PMT PID 2030 [0x07ee] - Program 13/203 Film+  
PMT PID 2040 [0x07f8] - Program 10/204 HBO  
PMT PID 2050 [0x0802] - Program 11/205 National Geographic  
PMT PID 2060 [0x080c] - Program 17/206 Disney Channel  
PMT PID 2070 [0x0816] - Program 12/207 60N  
PMT PID 2080 [0x0820] - Program 16/208 FEM3  
PMT PID 2090 [0x082a] - Program 20/209 Private Spice  
PMT PID 2700 [0x0a8c] - Program 270 DataService\_C

Active PID: Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07d0 (0.80% - 198.44 kbps)
- 0x07d2 (0.80% - 198.44 kbps)
- 0x07d8 (0.81% - 225.66 kbps)
- 0x092b (1.11% - 277.61 kbps)
- 0x11ff (1.12% - 279.84 kbps)
- 0x071e (1.78% - 422.00 kbps)
- 0x0719 (4.37% - 1.00 Mbps)
- 0x080d (4.44% - 1.10 Mbps)
- 0x0803 (4.64% - 1.23 Mbps)
- 0x07a5 (5.09% - 1.27 Mbps)
- 0x0821 (5.26% - 1.31 Mbps)
- 0x0812 (8.72% - 1.87 Mbps)
- 0x0817 (7.39% - 1.84 Mbps)
- 0x07db (8.70% - 2.17 Mbps)
- 0x07ef (10.75% - 2.68 Mbps)
- 0x07d1 (0.25% - 7.53 kbps)

General Information  
Source: Transport Stream File  
Format: 30215\_2.ts  
Signal: n/a  
Network Type: DVB  
Run Time: 000:17:36

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors	0	0	0	0	0	0
TEI Errors	0	0	0	0	0	0

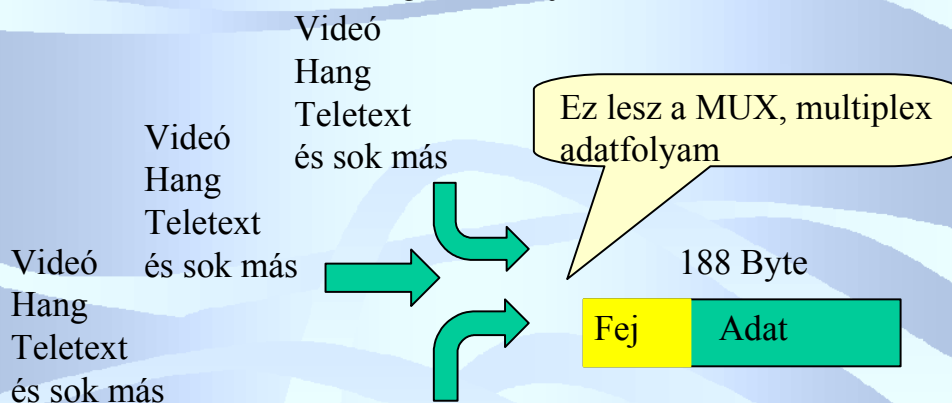
Mux. bitrate: 24882362 bps  
Last sec.: 0.000 Mbit  
In buffer:  
Out buffer:

Video Decode

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# MPEG jelfolyamok



$0x47 + 3 \text{ flag bit} + 13 \text{ PID bit} + 4 \text{ flag bit} + \text{CC számláló } 4 \text{ bit} = 32 \text{ bit}$   
+ igény esetén Adaptation Field Változó hosszúságban

# MPEG táblák PID azonosító

**PAT a táblák atyja PID = 0**

**PMT táblák PID azonosítói 802 MHz**

**DTSReader Lite -- 2.9.46g -- not for commercial use**

File Export View Record Playback Plugins Settings Help

PAT Version Number: 2  
Transport Stream ID: 2 [0x0002]  
NIT: 002.0 MHz

PAT PID 0x0000  
TDT PID 0x0014  
TDT PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>

PAT PID 16 [0x0010] - Network  
PMT PID 2000 [0x07d0] - Program 5/200 DunaTV HD  
PMT PID 2010 [0x07da] - Program 6/201 Autonomia  
PMT PID 2020 [0x07e4] - Program 14/202 Cool  
PMT PID 2030 [0x07ee] - Program 13/203 Film+  
PMT PID 2040 [0x07f8] - Program 10/204 HBO  
PMT PID 2050 [0x0802] - Program 11/205 National Geographic  
PMT PID 2060 [0x080c] - Program 17/206 Disney Channel  
PMT PID 2070 [0x0816] - Program 15/207 60N  
PMT PID 2080 [0x0820] - Program 16/208 FEM3  
PMT PID 2090 [0x082a] - Program 20/209 Private Spice  
PMT PID 2700 [0x0a8c] - Program 270 DataService\_C

Active PID: Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07d0 (0.80% - 198.44 kbps)
- 0x07d2 (0.80% - 198.44 kbps)
- 0x07d8 (0.81% - 225.66 kbps)
- 0x092b (1.11% - 277.61 kbps)
- 0x11ff (1.12% - 279.84 kbps)
- 0x071e (1.78% - 422.00 kbps)
- 0x0719 (4.37% - 1.00 Mbps)
- 0x080d (4.44% - 1.10 Mbps)
- 0x0803 (4.64% - 1.23 Mbps)
- 0x07a5 (5.09% - 1.27 Mbps)
- 0x0821 (5.26% - 1.31 Mbps)
- 0x0812 (8.72% - 1.87 Mbps)
- 0x0817 (7.39% - 1.84 Mbps)
- 0x07db (8.70% - 2.17 Mbps)
- 0x07ef (10.75% - 2.68 Mbps)
- 0x07d1 (0.25% - 7.53 Mbps)

General Information  
Source: Transport Stream File  
Format: 80215\_2.ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:17:36

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors	0	0	0	0	0	0
TEI Errors	0	0	0	0	0	0

Mux. bitrate: 24882362 bps  
Last sec.: 0.000 Mbit  
In buffer:  
Out buffer:

Video Decode

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# MPEG táblák PID azonosító

**PAT a táblák atyja PID = 0**

**PMT táblák PID azonosítói 802 MHz**

**DTSReader Lite -- 2.9.46g -- not for commercial use**

File Export View Record Playback Plugins Settings Help

PAT Version Number: 2  
Transport Stream ID: 2 [0x0002]  
NIT: 002.0 MHz

PAT PID 0x0000  
TDT PID 0x0014  
CAT PID 0x0001  
SDT PID 0x0011 <11>  
NIT PID 0x0010 <2>

PMT PID 16 [0x0010] - Network  
PMT PID 2000 [0x07d0] - Program 5/200 DunaTV HD  
PMT PID 2010 [0x07da] - Program 6/201 Autonomia  
PMT PID 2020 [0x07e4] - Program 14/202 Cool  
PMT PID 2030 [0x07ee] - Program 13/203 Film+  
PMT PID 2040 [0x07f8] - Program 10/204 HBO  
PMT PID 2050 [0x0802] - Program 11/205 National Geographic  
PMT PID 2060 [0x080c] - Program 17/206 Disney Channel  
PMT PID 2070 [0x0816] - Program 15/207 60N  
PMT PID 2080 [0x0820] - Program 16/208 FEM3  
PMT PID 2090 [0x082a] - Program 20/209 Private Spice  
PMT PID 2700 [0x0a8c] - Program 270 DataService\_C

Active PID: Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07d0 (0.80% - 198.44 kbps)
- 0x07d2 (0.80% - 198.44 kbps)
- 0x07d8 (0.81% - 225.66 kbps)
- 0x092b (1.11% - 277.61 kbps)
- 0x11ff (1.12% - 279.84 kbps)
- 0x071e (1.78% - 422.00 kbps)
- 0x0719 (4.37% - 1.00 Mbps)
- 0x080d (4.44% - 1.10 Mbps)
- 0x0803 (4.64% - 1.23 Mbps)
- 0x07a5 (5.09% - 1.27 Mbps)
- 0x0821 (5.26% - 1.31 Mbps)
- 0x0812 (8.72% - 1.87 Mbps)
- 0x0817 (7.39% - 1.84 Mbps)
- 0x07db (8.70% - 2.17 Mbps)
- 0x07ef (10.75% - 2.68 Mbps)
- 0x07d1 (0.25% - 7.53 Mbps)

General Information  
Source: Transport Stream File  
Format: 80215\_2.ts  
Signal: n/a  
Network Type: DVB  
Run Time: 000:17:36

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors	0	0	0	0	0	0
TEI Errors	0	0	0	0	0	0

Mux. bitrate: 24882362 bps  
Last sec.: 0.000 Mbit  
In buffer:  
Out buffer:

Video Decode

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# MPEG táblák NIT

## Hálózati információ

The screenshot displays the TSReader Lite interface. The top-left pane shows a tree view of PIDs: PAT (0x0000), TOT (0x0014), TDT (0x0014), CAT (0x0001), SDT (0x0011), NIT (0x0010), and two frequency options (745.0 MHz and 802.0 MHz). The top-right pane shows network details for DTT Hungary, including Network ID (13313), Transport Stream ID (1), and various descriptors like Network Name and Frequency List. The middle-right pane lists active PIDs with their respective bitrates, such as 0x074c (188.44 Mbps) and 0x07d1 (7.53 Mbps). The bottom-left pane provides general information like source, tuner, and network type (DVB). The bottom-right pane shows MPEG-2 statistics, including sections, CRC errors, and mux bitrate.

Network Name: DTT Hungary  
Network ID: 13313 (0x3401)  
Transport Stream ID: 1 (0x0001)  
Original Network ID: 6803 (0x22c7) Version: 1  
Descriptor: Network Name Descriptor  
DVB-T Frequency: 745.000 MHz  
Bandwidth: 8 MHz Constellation: 64-QAM  
Hierarchy: non-hierarchical, native interleaver Guard Interval 1/8  
Code Rate: 3/4  
Current Network: True  
Descriptor: Frequency List Descriptor  
Terrestrial: 785.000 MHz  
Terrestrial: 615.000 MHz  
Terrestrial: 642.000 MHz  
Terrestrial: 455.000 MHz  
Terrestrial: 770.000 MHz

Active PIDs: Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x074c (0.80% - 188.44 Mbps)
- 0x0752 (0.80% - 188.44 Mbps)
- 0x074d (0.81% - 225.59 Mbps)
- 0x082b (1.11% - 277.51 Mbps)
- 0x11ff (1.12% - 276.04 Mbps)
- 0x071e (1.70% - 423.00 Mbps)
- 0x0719 (4.37% - 1.09 Mbps)
- 0x0804 (4.44% - 1.10 Mbps)
- 0x0803 (4.94% - 1.23 Mbps)
- 0x07e5 (5.09% - 1.27 Mbps)
- 0x0821 (5.26% - 1.31 Mbps)
- 0x0812 (6.72% - 1.67 Mbps)
- 0x0817 (7.39% - 1.84 Mbps)
- 0x07db (8.70% - 2.17 Mbps)
- 0x07ef (9.75% - 2.50 Mbps)
- 0x07d1 (30.25% - 7.53 Mbps)

General Information  
Source: Transport Stream File  
Tuner: 802tc\_21s  
Signal: n/a  
Network Type: DVB  
Run Time: 000:20:24

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	590	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0				Mux bitrate: 24882362 bps	
TEI Errors:	0				Last see...: 0.000 Mbit	
					In buffer:	
					Out buffer:	

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# MPEG táblák NIT 746

Network Name: DTT Hungary  
Network ID: 13313 (0x3401)  
Transport Stream ID: 1 (0x0001)  
Original Network ID: 8903 (0x22c7) Version:  
1  
Descriptor: Network Name Descriptor  
DVB-T Frequency 746.000 MHz  
Bandwidth: 8 MHz Constellation: 64-QAM  
Hierarchy: non-hierarchical, native interleaver  
Guard Interval 1/8  
Code Rate: 3/4  
Current Network: True

Descriptor: Frequency List  
Descriptor  
Terrestrial: 786.000 MHz  
Terrestrial: 818.000 MHz  
Terrestrial: 642.000 MHz  
Terrestrial: 498.000 MHz  
Terrestrial: 770.000 MHz  
Terrestrial: 722.000 MHz  
Terrestrial: 666.000 MHz  
Terrestrial: 658.000 MHz  
Terrestrial: 850.000 MHz  
Terrestrial: 674.000 MHz  
Terrestrial: 738.000 MHz  
Descriptor: Service List Descriptor

# MPEG táblák NIT

Descriptor: Service List Descriptor  
Service: 60 digital television service  
Service: 80 digital television service  
Service: 100 advanced codec HD digital television  
Service: 101 advanced codec HD digital television  
Service: 102 digital television service  
Service: 103 digital television service  
Service: 104 digital radio sound service  
Service: 105 digital radio sound service  
Service: 106 digital radio sound service  
Service: 109 digital television service  
Service: 110 digital television service  
Service: 112 digital television service  
Service: 113 digital radio sound service  
Service: 170 data broadcast service

Descriptor: Private Data Specifier  
Descriptor  
Private Data Specifier: Unknown  
Descriptor: User Private Descriptor: 0x83  
Logical channel 1 = MPEG service 60  
Logical channel 2 = MPEG service 80  
Logical channel 3 = MPEG service 100  
Logical channel 4 = MPEG service 101  
Logical channel 7 = MPEG service 109  
Logical channel 9 = MPEG service 112  
Logical channel 15 = MPEG service 110  
Logical channel 18 = MPEG service 103  
Logical channel 19 = MPEG service 102  
Logical channel 1 = MPEG service 104  
Logical channel 2 = MPEG service 105  
Logical channel 3 = MPEG service 106  
Logical channel 4 = MPEG service 113

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# MPEG táblák SDT

TSReader Lite -- 2.8.46g - not for commercial use

File Export View Record Playback Plugins Settings Help

Channel 5/200  
On Table ID: 0x42 (current mux)  
Service Name: DunaTV HD  
Provider Name: Duna Televizio  
Transport Stream ID: 2 (0x0002) 802.0 MHz

Video Decode

Active PIDs  Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07dc (0.80% - 198.44 kbps)
- 0x07d2 (0.80% - 198.44 kbps)
- 0x07d4 (0.91% - 225.59 kbps)
- 0x082b (1.11% - 277.51 kbps)
- 0x1f1f (1.12% - 278.84 kbps)
- 0x071e (1.70% - 423.00 kbps)
- 0x0719 (4.37% - 1.09 Mbps)
- 0x080d (4.44% - 1.10 Mbps)
- 0x0803 (4.94% - 1.23 Mbps)
- 0x0745 (5.06% - 1.27 Mbps)
- 0x0821 (5.20% - 1.31 Mbps)
- 0x0812 (6.72% - 1.67 Mbps)
- 0x07db (8.70% - 2.17 Mbps)
- 0x07af (10.75% - 2.68 Mbps)
- 0x0761 (30.25% - 7.53 Mbps)

General Information

Source: Transport Stream File  
Tuner: 80Zts 2ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:21:13

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0					Max bitrate: 24882382 bps
TEI Errors:	0					Last sec.: 0.000 Mbit
						In buffer:
						Out buffer:

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# MPEG táblák CAT

The screenshot shows the DATSReader Lite interface. The main window is titled "DATSReader Lite -- 2.8.46g - not for commercial use". The interface is divided into several sections:

- Left Panel:** A tree view showing the structure of the transport stream. The selected item is "CAT PID 0x0001". Other visible items include PAT PID 0x0000, TOT PID 0x0014, TDT PID 0x0014, CA Descriptor - Conax, SDT PID 0x0011 <11>, and NIT PID 0x0010 <2>.
- Top Right Panel:** Displays CAT metadata: "CAT Version Number: 2", "Descriptor: CA Descriptor", "CA System ID: 2616 (0x0b00) Conax", and "CA PID: 5000 (0x1388)".
- Bottom Left Panel:** "General Information" section showing: "Source: Transport Stream File", "Tuner: 802ts\_2.ts", "Signal: n/a", "Network Type: DVB", and "Run Time: 000:23:42".
- Bottom Center Panel:** "MPEG-2 Statistics" table:

	PAT	FMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors	0					Mux. bitrate: 24882362 bps
TEI Errors	0					Last sec.: 0.000 Mbit
						in buffer:
						Out buffer:
- Bottom Right Panel:** "Active PIDs" list, sorted by rate in descending order:
  - 0x07dc (0.80% - 198.44 Kbps)
  - 0x07d2 (0.80% - 198.44 Kbps)
  - 0x07dd (0.91% - 226.59 Kbps)
  - 0x082b (1.11% - 277.61 Kbps)
  - 0x1fff (1.12% - 278.84 Kbps)
  - 0x07fe (1.70% - 423.00 Kbps)
  - 0x07f9 (4.37% - 1.09 Mbps)
  - 0x050d (4.44% - 1.10 Mbps)
  - 0x0803 (4.94% - 1.23 Mbps)
  - 0x07e5 (5.09% - 1.27 Mbps)
  - 0x0821 (5.26% - 1.31 Mbps)
  - 0x0812 (6.72% - 1.67 Mbps)
  - 0x0817 (7.39% - 1.84 Mbps)
  - 0x07db (8.70% - 2.17 Mbps)
  - 0x07ef (10.75% - 2.68 Mbps)
  - 0x07d1 (30.25% - 7.53 Mbps)
- Right Panel:** "Video Decode" area, currently showing a black screen.

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# MPEG táblák TDT

The screenshot shows the DOTSReader Lite interface with the following components:

- Left Panel:** A tree view showing the stream structure:
  - PAT PID 0x0000
  - TOT PID 0x0014
  - TDT PID 0x0014** (highlighted)
  - 2011/08/29 13:45:23
  - CAT PID 0x0001
  - SDT PID 0x0011 <11>
  - NIT PID 0x0010 <2>
- Active PIDs List:** A list of active PIDs with their respective bitrates:
  - 0x074c (0.80% - 198.44 kbps)
  - 0x0742 (0.80% - 198.44 kbps)
  - 0x078d (0.91% - 225.59 kbps)
  - 0x082b (1.11% - 277.51 kbps)
  - 0x1fff (1.12% - 278.84 kbps)
  - 0x077e (1.70% - 423.00 kbps)
  - 0x0719 (4.37% - 1.09 Mbps)
  - 0x0804 (4.44% - 1.10 Mbps)
  - 0x0803 (4.94% - 1.23 Mbps)
  - 0x07e5 (5.00% - 1.27 Mbps)
  - 0x0821 (5.20% - 1.31 Mbps)
  - 0x0012 (6.72% - 1.67 Mbps)
  - 0x0817 (7.90% - 1.94 Mbps)
  - 0x07db (8.70% - 2.17 Mbps)
  - 0x07ef (10.75% - 2.68 Mbps)
  - 0x07d1 (30.25% - 7.53 Mbps)
- General Information:**
  - Source: ITransport Stream File
  - Tuner: 8021s\_21s
  - Signal: n/a
  - Network Type: DVB
  - Run Time: 000:24:30
- MPEG-2 Statistics:**

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0				Mux. bitrate: 24882362 bps	
TEI Errors:	0				Last sec.: 0.000 Mbit	
					in buffer	
					Out buffer:	
- Right Panel:** A 'Video Decode' window showing a black screen.

2011.11.16.

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# MPEG táblák TOT

TSReader Lite -- 2.8.46g - not for commercial use

File Export View Record Playback Plugins Settings Help

TOT Descriptors:

Descriptor: Local Time Offset Descriptor  
 Country Code HUN Region Not used  
 Local Time Offset Polarity: 0 Local Time Offset: 02:00  
 Time of change: 2011.10.30. 1:00:00 Next Time Offset: 01:00

Active PIDs:  Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07dc (0.80% ~ 198.44 kbps)
- 0x07d2 (0.80% ~ 198.44 kbps)
- 0x07dd (0.91% ~ 225.59 kbps)
- 0x092b (1.11% ~ 277.51 kbps)
- 0x1fff (1.12% ~ 278.94 kbps)
- 0x077e (1.70% ~ 423.00 kbps)
- 0x07f9 (4.37% ~ 1.09 Mbps)
- 0x080d (4.44% ~ 1.10 Mbps)
- 0x0903 (4.94% ~ 1.23 Mbps)
- 0x07d5 (5.99% ~ 1.27 Mbps)
- 0x0921 (5.26% ~ 1.31 Mbps)
- 0x0012 (6.72% ~ 1.67 Mbps)
- 0x0817 (7.39% ~ 1.84 Mbps)
- 0x07db (8.70% ~ 2.17 Mbps)
- 0x07ef (10.75% ~ 2.68 Mbps)
- 0x07d1 (30.25% ~ 7.53 Mbps)

General Information

Source: Transport Stream File  
 Tuner: 802ts\_2.ts  
 Signal: n/a

Network Type: DVB  
 Run Time: 000:26:14

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	EIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors	0			Max. bitrate:	24882362 bps	
TEI Errors	0			Last sec.:	0.000 Mbit	
				In buffer:		
				Out buffer:		

Video Decode

2011.11.16.

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# MPEG táblák PAT PMT SDT

**D9TSReader Lite -- 2.8.46g - not for commercial use**

File Export View Record Playback Plugins Settings Help

Program Number: 5/200  
PCR on PID 2001 (0x07d1)  
PMT Version: 14  
Service name: DunaTV HD  
Logical channel number: 5

Stream Type: 0x1b H.264 Video  
Elementary Stream PID: 2001 (0x07d1)

Stream Type: 0x03 MPEG-1 Audio  
Elementary Stream PID: 2002 (0x07d2)

Stream Type: 0x06 Teletext/VBI  
Elementary Stream PID: 2013 (0x07dd)

Active PIDs:  Disabled  Sort Descending  Sort by Rate  Sort by PID

- 0x07d0 (0.80% - 199.44 kbps)
- 0x07d2 (0.80% - 199.44 kbps)
- 0x07d4 (0.91% - 225.59 kbps)
- 0x082b (1.11% - 277.51 kbps)
- 0x1fff (1.12% - 278.84 kbps)
- 0x07fe (1.70% - 423.00 kbps)
- 0x07f0 (4.37% - 1,09 kbps)
- 0x0803 (4.94% - 1.23 Mbps)
- 0x07e5 (5.09% - 1.27 Mbps)
- 0x0821 (5.26% - 1.31 Mbps)
- 0x0012 (8.72% - 1.87 Mbps)
- 0x0017 (7.29% - 1.84 Mbps)
- 0x07d6 (8.70% - 2.17 Mbps)
- 0x07ef (10.75% - 2.68 Mbps)
- 0x07d1 (30.25% - 7.63 Mbps)

General Information

Source: Transport Stream File  
Tuner: 802ts\_21ts  
Signal: n/a

Network Type: DVB  
Run Time: 000:28:45

MPEG-2 Statistics

	PAT	PMT	CAT	NIT	SDT	BIT
Sections	598	22	614	11	60	10.7k
CRC Errors	0	0	0	0	0	0
Continuity Errors:	0					Mux. bitrate: 24882362 bps
TEI Errors:	0					Last sec.: 0.000 Mbit
						In buffer:
						Out buffer:

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# MPEG jelfolyamok

## **7d1 8 Mbit/s**

Elementary Stream PID 2001 (0x07d1) H.264 Video

Descriptor: STD Descriptor

Leak Valid Flag: 1

## **7d2 198 Kbit/s**

Elementary Stream PID 2002 (0x07d2) MPEG-1 Audio

MPEG1 Audio: Bitrate 192 Kbps Sample Rate 48 KHz

MPEG1 Audio: Layer II Mode Stereo

Descriptor: ISO639 Language Descriptor

Language: hun

Audio type: undefined

## **7dd 225 Kbit/s**

Elementary Stream PID 2013 (0x07dd) Teletext/VBI

Descriptor: VBI Data Descriptor


EBU teletext Line Offset: 19 Field parity: 0

Descriptor: Teletext Descriptor

Language: hun Type: Initial Teletext page Magazine: 0x01 Page: 0x00

# Most jöjjön egy kis elemzés

TS reader Lite



Majd nézzük meg, hogy milyen  
DVB-T vételi lehetőségek  
vannak a teremben!

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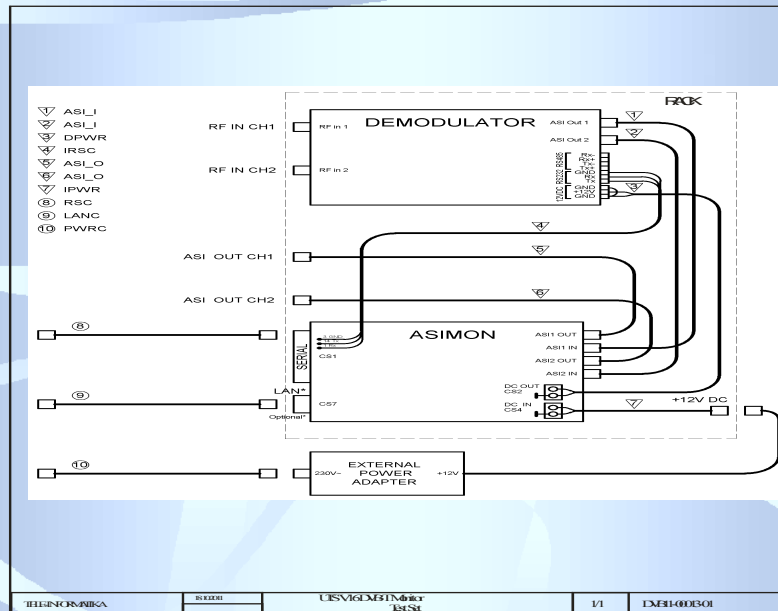
# UTS v.16 DVB-T Monitor



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# UTS v.16 DVB-T Monitor / adatlap



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