

# Yeni Esnek MIS Yayın Teknolojisi

■ In the 10-11/2011 issue of TELE-satellite we introduced a number of new PC cards from Tenow including the professional TBS6925 card. This card is also capable of receiving MIS satellite transmissions.

## Tenow Steps Up Product Rollout



- A world first: 4 tuner sensation on the TBS6984
- Extremely low threshold, therefore perfectly suited for blind scan: the TBS6925
- Pay TV on the PC with external USB box TBS5980
- The first PC card with external USB box TBS5980 standard
- Excellent build quality and top-notch components throughout



- Alıcı en optimal yayın alma modunu seçebiliyor
- Yayıncılar yayın maliyetlerini optimize edebiliyor
- Görüntü kalitesi kullanılabilen sinyale bağlı
- Kamusal Yayınlar Bireysel Oluyor

# DVB-S2 MIS Reception with VCM/ACM

Thomas Haring

With the change from DVB-S to DVB-S2, a more efficient method was created that permits more channels to be carried over one and the same transponder. This increase in efficiency is due in large part to the significant improvement in error correction so that fewer error correction bits need to be transmitted. From a mathematical point of view the increase in efficiency compared to DVB-S is roughly 30%, a value that in reality isn't quite reached, but it is definitely showing potential.

There are a variety of ways that programming can be transmitted. With DVB-S and for the moment also with DVB-S2, it's mostly CCM (Constant Coding and Modulation) that is used. In this process the programming organizer selects a fixed error correction and modulation process with which every receiver within a satellite's footprint can receive a usable signal with a reasonable amount of effort. If the programming organizer wants to also be able to reach as many viewers as possible at the edge of a satellite's footprint, he chooses an all around correction process so that these users can also obtain an acceptable signal. If the provider is looking to reach only those viewers in the heart of the footprint, he'd choose a less costly error correction.

The operator has to make some decisions. But how? It would be much more efficient and the operator could avoid having to make these technical decisions if the signal was transmitted in exactly the same way that it would be needed by the receiver.

This is precisely the strategy behind VCM (Variable Coding and Modulation) as well as ACM (Adaptive Coding and Modulation): the entire bandwidth of a transponder is split into multiple segments and through the use of various modulations and error correction processes, these bandwidth segments would be filled with different programming content corresponding to the available bandwidth. For receivers in the heart of the satellite's footprint, a very small error correction and high-

| EIRP (dBW)    | Modulation / Error Correction | Data Rate | Zone        | Amount of Bandwidth | Resulting Bandwidth |
|---------------|-------------------------------|-----------|-------------|---------------------|---------------------|
| 53            | 16-ASP 2/3                    | ~ 35 MB/s | 1           | 20%                 | ~ 7 Mbps            |
| 52            | 8-PSK 3/4                     | ~ 30 MB/s | 2           | 20%                 | ~ 6 Mbps            |
| 51            | 8-PSK 2/3                     | ~ 26 MB/s | 3           | 20%                 | ~ 5 Mbps            |
| 50            | QPSK 8/9                      | ~ 23 MB/s | 4           | 20%                 | ~ 4.5 Mbps          |
| 49            | QPSK 4/5                      | ~ 21 MB/s | 5 + further | 20%                 | ~ 4.2 Mbps          |
| <b>Total:</b> |                               |           |             |                     | <b>~ 27 Mbps</b>    |

■ Thanks to VCM technology, multiple transponder streams with different parameters can be made available on a single transponder

ly efficient modulation process could be used so that a relatively high data rate could be achieved. At the same time, the lower the signal level along the edge of the footprint, the better the error correction and more reliable modulation that could be used.

This all takes place within one transponder, that is, one and the same transponder transmits through VCM different modulation and error correction processes! We're referring in this case here to MIS (Multi Input Streams). With MIS a satellite receiver can receive multiple transponder streams from one transponder that are transmitted completely independent from each other with differing modulations and error correction. The idea behind all of this is that depending on the reception location, not every transponder stream from a transponder can be received. The end user can only receive signals that are strong enough at his location. This means that the receiver would automatically measure the signal and use these values to determine which transponder streams it could process and use.

A VCM target area could look something like this: in the heart of the satellite's footprint the available TV channels would be receivable in HD or 3D while on the outer edge of the footprint these channels would only be available in SD; all of this would occur over one single transponder. The TV viewers in the center of the footprint would profit from the higher data transmission rates while the viewers on the footprint's edge could still receive the signal with smaller antennas thanks to the more complex error correction and the

more reliable modulation that would be used, it just wouldn't be HD or 3D. It's important to note that no return channel from the receiver is necessary with VCM while ACM is geared more towards studio transmissions (feeds) since here the reception quality of the return channel has to be taken into consideration and the modulation and error correction are matched from the transmitting end.

This transmission technology is so new that VCM or ACM transponders cannot be received by most DVB-S2 receivers. Once more PayTV providers have switched over to this new VCM method or have begun some intensive testing, we can assume that more and more receivers will support this clever system that optimizes a satellite's bandwidth use. There's already an exciting opportunity to receive this new transmission technology: the PC card manufacturer Tenow has already integrated this technology in its professional PC card TBS6925. An initial test report on the TBS6925 was presented in the 10-11/2011 edition of TELE-satellite. Now we can actually take a closer look at the MIS capabilities of this PC card.

If you try to look for ACM/VCM transponders in your favorite Internet satellite list, you won't have much luck. Most providers of this kind of information have not included this data in their lists simply because there's hardly any reception hardware available that can receive these transponders. So the first you would do is to search for ACM/VCM transponder using blindscan tools such as CrazyScan and TBS Blindscan - you may check this forum for

| Items | Satellite             | Frequency (MHz) | Symbol Rate (KSps) | Mode                       |
|-------|-----------------------|-----------------|--------------------|----------------------------|
| 1     | Astra 1G 31.5E        | 11914 H         | 27500              | 8PSK/VCM                   |
| 2     | Astra 1G 31.5E        | 11875H          | 29999              | 32APSK CCM                 |
| 3     | Astra 1G 31.5E        | 11895V          | 29999              | 32APSK CCM                 |
| 4     | Astra 1G 31.5E        | 11973V          | 29999              | 32APSK CCM                 |
| 5     | Astra 1G 31.5E        | 12051V          | 29999              | 32APSK CCM                 |
| 6     | Astra 1G 31.5E        | 12109H          | 29999              | 32APSK CCM                 |
| 7     | Astra 1G 31.5E        | 12187H          | 29999              | 16APSK CCM                 |
| 8     | Astra 1G 31.5E        | 12262H          | 3000               | 32APSK CCM                 |
| 9     | Astra 1G 31.5E        | 12284V          | 29999              | 16APSK CCM                 |
| 10    | Astra 1G 31.5E        | 12363V          | 29999              | 32APSK CCM                 |
| 11    | Astra2 28.2E          | 12708 H         | 5000               | ACM                        |
| 12    | Badr/Eurobird 26E     | 11566 H         | 5625               | ACM                        |
| 13    | Eutelsat W6 21.6E     | 10964 H         | 1000               | 16APSK                     |
| 14    | Eutelsat W6 21.6E     | 11413 V         | 18500              | ACM-FEC 8/9                |
| 15    | Eutelsat W6 21.6E     | 11327 V         | 22075              | 16APSK ACM/VCM             |
| 16    | Eutelsat W6 21.6E     | 11308V          | 5623               | 16APSK ACM                 |
| 17    | Eutelsat W6 21.6E     | 11186H          | 2000               | QPSK ACM                   |
| 18    | Eutelsat W6 21.6E     | 12647V          | 1283               | QPSK ACM                   |
| 19    | Eutelsat W6 21.6E     | 11628V          | 5000               | QPSK ACM                   |
| 20    | Eutelsat W6 21.6E     | 11509V          | 1644               | 8PSK ACM                   |
| 21    | Eutelsat W3 7E        | 11548 H         | 7200               | 32APSK-FEC 3/4 ACM/VCM     |
| 22    | Eurobird 4A 4E        | 11458 V         | 7570               |                            |
| 23    | Amos 2 Middle East 4W | 11746 H         | 27500              | 16APSK-CCM                 |
| 24    | Amos 2 Middle East 4W | 12053 H         | 27500              | 16APSK-CCM                 |
| 25    | Amos 2 Middle East 4W | 12168 H         | 27500              | 16APSK-CCM                 |
| 26    | Atlantic Bird 1 12.5W | 12528 H         | 1250               | 32APSK-CCM                 |
| 27    | Atlantic Bird 1 12.5W | 12712 V         | 1863               | 32APSK-CCM                 |
| 28    | Atlantic Bird 1 12.5W | 12718 H         | 36513              | ACM                        |
| 29    | Telestar12 15W        | 10996 H         | 5307               | 32APSK-FEC 3/4 ACM/VCM     |
| 30    | Telstar12 15W         | 11495 H         | 5750               | 16APSK                     |
| 31    | Telstar12 15W         | 11497 V         | 5595               | 32APSK                     |
| 32    | NSS 7 22W             | 11571 H         | 5108               | 32APSK-ACM/VCM             |
| 33    | NSS 7 22 W            | 11574 H         | 5108               | 8PSK-FEC 3/4-ACM/VCM       |
| 34    | NSS 7 22 W            | 10968 H         | 1033               | 8PSK-FEC 3/4-ACM/VCM       |
| 35    | NSS 7 22 W            | 11654 H         | 3671               | 32APSK-FEC 3/4-ACM/VCM     |
| 36    | Hispasat 1C/1D/1E 30W | 10889 H         | 29999              | 16APSK-ACM/VCM             |
| 37    | Hispasat 1C/1D/1E 30W | 11789 V         | 3750               | 8PSK - FEC 2/3 - ACM/VCM   |
| 38    | Hispasat 1C/1D/1E 30W | 11800 V         | 5236               | 16APSK - FEC 2/3 - ACM/VCM |
| 39    | Hispasat 1C/1D/1E 30W | 11853 V         | 8947               | 8PSK - FEC 2/3 - ACM/VCM   |
| 40    | Hispasat 1C/1D/1E 30W | 11909 V         | 7199               | 8PSK - FEC 3/5 - CCM       |
| 41    | Hispasat 1C/1D/1E 30W | 11924 V         | 5667               | 32APSK - FEC 3/4 - ACM/VCM |
| 42    | Hispasat 1C/1D/1E 30W | 12013 V         | 30000              | QPSK - FEC ?/? - ACM/VCM   |
| 43    | Hispasat 1C/1D/1E 30W | 12151 V         | 3700               | QPSK - FEC5/6 - ACM/VCM    |
| 44    | Hispasat 1C/1D/1E 30W | 12591 H         | 30000              | ACM/VCM?                   |
| 45    | Telstar 11N 37.5W     | 11019 V         | 8229               | 32APSK                     |
| 46    | Telstar 11N 37.5W     | 11065 V         | 2060               | ?                          |
| 47    | Telstar 11N 37.5 W    | 11499 H         | 2316               | 16APSK-ACM/CCM             |
| 48    | Telstar 11N 37.5W     | 11507 H         | 2640               | ACM                        |
| 49    | Telstar 11N 37.5 W    | 11646 H         | 3846               | 8PSK-ACM/VCM               |
| 50    | Telstar 11N 37.5 W    | 12349 H         | 2316               | 16APSK-ACM/CCM             |
| 51    | Telstar 11N 37.5 W    | 12496 H         | 3846               | 8PSK-ACM/CCM               |
| 52    | Telstar 11N 37.5W     | 12549 H         | 1034               | 32APSK                     |
| 53    | Intelsat 14 45W       | 11523 H         | 9800               | ACM                        |
| 54    | Intelsat 805 55.5W    | 4162 H          | 7200               | 8PSK - FEC 3/5 - ACM/VCM   |
| 55    | AMC 6 72W             | 11628 H         | 15166              | 16APSK - FEC 4/5 - ACM/VCM |
| 56    | AMC 6 72W             | 11644 H         | 10425              | QPSK - FEC: 3/4 - ACM/VCM  |
| 57    | AMC 6 72W             | 11674 H         | 11500              | 8PSK - FEC: 3/4 - ACM/VCM  |
| 58    | AMC 2 79W             | 11792 V         | 1000               | 32APSK                     |
| 59    | Galaxy 28 89.0W       | 11760 H         | 30000              | 8APSK/ACM/VCM              |
| 60    | SES-1 101W            | 3996 V          | 15120              | 2/3 FEC VCM                |
| 61    | Galaxy 13 127W        | 11720 H         | 20330              | 32APSK                     |

■ Currently active MIS Satellite Transponders

more background information: <http://www.tbsdtv.com/forum/viewtopic.php?f=25&t=447>

Once you know transponders available with your reception setup, you have to start the TBS6925 TS recorder. This program, that we also introduced to you in the 10-11/2011 issue of TELE-satellite, can be used as an aid in selecting the desired transport streams. After entering the parameters of the MIS transponder (frequency, polarization and symbol rate), you then simply need to click on the „Lock TP“ button after which the software reads the desired transponder.

In the lower most lines of Tools, one or more numbers appear in the field „Input Stream Identify“ that highlight the available transponder streams in the transponder. Here you simply make a choice and click on one of the entries. You can now stop the TBS6925 TS recorder and start any of the popular TBS6925 compatible TV viewers. For our tests we opted to use DVViewer. Simply start a scan on the frequency of the MIS transponder, the software will then read in the available channels and store them. With that you've read in the first of multiple transponder streams on that transponder. Now you would repeat these steps as often as necessary until all the streams in the „Input Stream Identify“ field have been selected and read in. You'll be amazed! With each newly selected stream the TV software will recognize an entirely new set of channels, all on the same frequency!

For our tests we used the 12718 MHz transponder on ATLANTIC BIRD 1 at 12.5° west on which are four fully independent transponder streams that each carry their own set of programming. The bandwidth is enough for 11 channels in SD resolution or up to three in HD or 3D. Naturally, all of the typical features, such as EPG or language selection, are available with MIS reception. The only difference with CCM is the number of available transponder streams per transponder.

The abbreviation MIS is something we'll all have to start getting used to seeing more often. Gradually, more and more programming providers will begin taking advantage of this new technology and once this happens the need for compatible satellite receivers will naturally grow.

# DVB-S2 MIS Reception

Thomas Haring

Three of the four transponderstreams transmitted by ATLANTIC BIRD 1. MIS compatible receivers or PC cards will choose the streams best suited in the circumstance, depending on the signal level at the reception site. In this example, viewers in the center of beam with the maximum level of signal quality can watch LA7's 3D test transmissions, whilst viewers in fringe areas of beam with a less good signal level can only view the HD channels and viewers outside beam will only get channels in SD. MIS compatible satellite receivers will choose the stream according to the signal level available. Special softwares as the TBS6925 TS Recorder from Tenov allows the viewer to choose individually the desired stream.

**DVBS 352.5°E** Network Name **TIMB4** Recording **Thomas Haring**  
**MIS**  
 Transmitter **ATLANTIC BIRD 1 12.718H** Remark

| PID  | Hex PID | Stream Type  | Encrypted | kbps    | %     | Service Name     | Transmitter | ATLANTIC BIRD 1 | 12.718H   | Remark                                  |
|------|---------|--------------|-----------|---------|-------|------------------|-------------|-----------------|-----------|---|
| 757  | 0x02F5  | H.264 Video  | -         | 9232.66 | 41.14 | LA7 HD           | 104         | 0x0068          | AAC Audio | 26.64 0.12                              |
| 762  | 0x02FA  | H.264 Video  | -         | 9232.39 | 41.14 | LA7 test 3D      | 102         | 0x0066          | AAC Audio | 26.64 0.12                              |
| 101  | 0x0065  | H.264 Video  | -         | 1801.87 | 8.03  | LA7 test MOSAICO | 105         | 0x0069          | AAC Audio | 26.55 0.12                              |
| 8191 | 0x1FFF  | Null Packets | -         | 1158.70 | 5.16  | N/A              | 103         | 0x0067          | AAC Audio | 26.55 0.12                              |
| 763  | 0x02FB  | MPEG Audio   | -         | 394.77  | 1.76  | LA7 test 3D      | 1           | 0x0001          | CAT       | 15.13 0.07                              |
| 758  | 0x02F6  | MPEG Audio   | -         | 394.68  | 1.76  | LA7 HD           | 771         | 0x0303          | PMT       | 15.04 0.07                              |
|      |         |              |           |         |       |                  |             |                 |           | 761 0x02F9 PMT - 15.04 0.07 LA7 test 3D |
|      |         |              |           |         |       |                  |             |                 |           | 756 0x02F4 PMT - 15.04 0.07 LA7 HD      |
|      |         |              |           |         |       |                  |             |                 |           | 0 0x0000 PAT - 15.04 0.07 N/A           |
|      |         |              |           |         |       |                  |             |                 |           | 21 0x0015 Network Sync - 2.51 0.01 N/A  |
|      |         |              |           |         |       |                  |             |                 |           | 17 0x0011 SDT - 1.58 0.01 N/A           |
|      |         |              |           |         |       |                  |             |                 |           | 16 0x0010 NIT - 0.28 0.00 N/A           |
|      |         |              |           |         |       |                  |             |                 |           | 20 0x0014 TOT - 0.09 0.00 N/A           |

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**Transponderstream Technical Service File Download for Clients Only**  
 Duration: 5 Min, File Size: 925 MB [www.transponderstream.com/DVB-S/352/ATLANTICBIRD-12718H-11101.ts](http://www.transponderstream.com/DVB-S/352/ATLANTICBIRD-12718H-11101.ts)

**DVBS 352.5°E** Network Name **TIMB2** Recording **Thomas Haring**  
**MIS**  
 Transmitter **ATLANTIC BIRD 1 12.718H** Remark

| PID | Hex PID | Stream Type | Encrypted | kbps    | %     | Service Name | Transmitter | ATLANTIC BIRD 1 | 12.718H    | Remark                                   |
|-----|---------|-------------|-----------|---------|-------|--------------|-------------|-----------------|------------|--|
| 757 | 0x02F5  | H.264 Video | -         | 8717.97 | 38.86 | LA7 HD       | 791         | 0x0317          | MPEG Audio | 198.71 0.89                              |
| 770 | 0x0302  | H.264 Video | -         | 4112.51 | 18.33 | LA7D HD      | 651         | 0x028B          | MPEG Audio | 135.94 0.61                              |
| 766 | 0x02FE  | H.264 Video | -         | 3089.98 | 13.77 | MTV HD       | 7094        | 0x1BB6          | Data       | 35.05 0.16                               |
| 790 | 0x0316  | MPEG2 Video | -         | 2567.23 | 11.44 | RTL 102.5 TV | 7041        | 0x1B81          | Data       | 23.86 0.11                               |
| 650 | 0x028A  | MPEG2 Video | -         | 1465.59 | 6.53  | Padre Pio TV | 33          | 0x0021          | PMT        | 15.15 0.07                               |
| 772 | 0x0304  | AC3 Audio   | -         | 423.75  | 1.89  | LA7D HD      | 1           | 0x0001          | CAT        | 15.15 0.07                               |
| 759 | 0x02F7  | AC3 Audio   | -         | 423.75  | 1.89  | LA7 HD       | 769         | 0x0301          | PMT        | 15.05 0.07                               |
| 768 | 0x0300  | AC3 Audio   | -         | 423.65  | 1.89  | MTV HD       | 765         | 0x02FD          | PMT        | 15.05 0.07                               |
| 18  | 0x0012  | EIT         | -         | 259.40  | 1.16  | N/A          | 756         | 0x02F4          | PMT        | 15.05 0.07                               |
| 792 | 0x0318  | MPEG Audio  | -         | 200.78  | 0.90  | RTL 102.5    | 549         | 0x0225          | PMT        | 15.05 0.07                               |
|     |         |             |           |         |       |              |             |                 |            | 490 0x01EA PMT - 15.05 0.07 RTL 102.5 TV |
|     |         |             |           |         |       |              |             |                 |            | 290 0x0122 PMT - 15.05 0.07 RTL 102.5 TV |
|     |         |             |           |         |       |              |             |                 |            | 269 0x010D PMT - 15.05 0.07 ROVI         |
|     |         |             |           |         |       |              |             |                 |            | 0 0x0000 PAT - 15.05 0.07 N/A            |
|     |         |             |           |         |       |              |             |                 |            | 7040 0x1B80 Data - 4.65 0.02 ROVI        |
|     |         |             |           |         |       |              |             |                 |            | 17 0x0011 SDT - 2.97 0.01 N/A            |
|     |         |             |           |         |       |              |             |                 |            | 21 0x0015 Network Sync - 2.48 0.01 N/A   |
|     |         |             |           |         |       |              |             |                 |            | 16 0x0010 NIT - 0.30 0.00 N/A            |
|     |         |             |           |         |       |              |             |                 |            | 20 0x0014 TOT - 0.20 0.00 N/A            |

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**DVBS 352.5°E** Network Name **TIMB3** Recording **Thomas Haring**  
**MIS**  
 Transmitter **ATLANTIC BIRD 1 12.718H** Remark

| PID  | Hex PID | Stream Type  | Encrypted | kbps    | %     | Service Name | Transmitter | ATLANTIC BIRD 1 | 12.718H    | Remark                                       |
|------|---------|--------------|-----------|---------|-------|--------------|-------------|-----------------|------------|--|
| 6112 | 0x17E0  | MPEG2 Video  | -         | 5023.91 | 22.39 | LA7          | 1458        | 0x05B2          | MPEG Audio | 132.51 0.59                                  |
| 6122 | 0x17EA  | MPEG2 Video  | -         | 2874.71 | 12.81 | LA7D         | 982         | 0x03D6          | MPEG Audio | 132.51 0.59                                  |
| 6132 | 0x17F4  | MPEG2 Video  | -         | 2567.58 | 11.44 | MTV MUSIC    | 6111        | 0x17DF          | PMT        | 30.16 0.13                                   |
| 6117 | 0x17E5  | MPEG2 Video  | -         | 2465.31 | 10.99 | MTV          | 6160        | 0x1810          | PMT        | 15.08 0.07                                   |
| 1457 | 0x05B1  | MPEG2 Video  | -         | 2362.96 | 10.53 | frisbee      | 6157        | 0x180D          | PMT        | 15.08 0.07                                   |
| 981  | 0x03D5  | MPEG2 Video  | -         | 2362.88 | 10.53 | K2           | 6152        | 0x1808          | PMT        | 15.08 0.07                                   |
| 8191 | 0x1FFF  | Null Packets | -         | 1262.97 | 5.63  | N/A          | 6141        | 0x17FD          | PMT        | 15.08 0.07                                   |
| 2039 | 0x07F7  | MPEG2 Video  | -         | 433.78  | 1.93  | La7ondemand  | 6131        | 0x17F3          | PMT        | 15.08 0.07                                   |
| 6133 | 0x17F5  | MPEG Audio   | -         | 394.71  | 1.76  | MTV MUSIC    | 6116        | 0x17E4          | PMT        | 15.08 0.07                                   |
| 6118 | 0x17E6  | MPEG Audio   | -         | 394.71  | 1.76  | MTV          | 6106        | 0x17DA          | PMT        | 15.08 0.07                                   |
| 6113 | 0x17E1  | MPEG Audio   | -         | 263.61  | 1.17  | LA7          | 1551        | 0x060F          | PMT        | 15.08 0.07                                   |
| 18   | 0x0012  | EIT          | -         | 259.63  | 1.16  | N/A          | 1546        | 0x060A          | PMT        | 15.08 0.07                                   |
| 7011 | 0x1B63  | MHP          | -         | 244.39  | 1.09  | LA7          | 1541        | 0x0605          | PMT        | 15.08 0.07                                   |
| 6120 | 0x17E8  | Teletext     | -         | 188.37  | 0.84  | MTV          | 1536        | 0x0600          | PMT        | 15.08 0.07                                   |
| 6115 | 0x17E3  | Teletext     | -         | 150.71  | 0.67  | LA7          | 1531        | 0x05FB          | PMT        | 15.08 0.07                                   |
| 7001 | 0x1B59  | MHP          | -         | 144.31  | 0.64  | LA7          | 1526        | 0x05F6          | PMT        | 15.08 0.07                                   |
| 7081 | 0x1BA9  | MHP          | -         | 144.23  | 0.64  | LA7          | 1521        | 0x05F1          | PMT        | 15.08 0.07                                   |
| 6123 | 0x17E8  | MPEG Audio   | -         | 132.51  | 0.59  | LA7D         | 1516        | 0x05EC          | PMT        | 15.08 0.07                                   |
|      |         |              |           |         |       |              |             |                 |            | 1512 0x05E8 PMT - 15.08 0.07 frisbee         |
|      |         |              |           |         |       |              |             |                 |            | 1461 0x05B5 PMT - 15.08 0.07 frisbee         |
|      |         |              |           |         |       |              |             |                 |            | 0 0x0000 PAT - 15.08 0.07 N/A                |
|      |         |              |           |         |       |              |             |                 |            | 6151 0x1807 PMT - 15.00 0.07 LA7D            |
|      |         |              |           |         |       |              |             |                 |            | 6150 0x1806 PMT - 15.00 0.07 LA7             |
|      |         |              |           |         |       |              |             |                 |            | 1511 0x05E7 PMT - 15.00 0.07 K2              |
|      |         |              |           |         |       |              |             |                 |            | 1 0x0001 CAT - 15.00 0.07 N/A                |
|      |         |              |           |         |       |              |             |                 |            | 590 0x024E Private Sections - 6.09 0.03 N/A  |
|      |         |              |           |         |       |              |             |                 |            | 7080 0x1BA8 Private Sections - 6.02 0.03 N/A |
|      |         |              |           |         |       |              |             |                 |            | 7010 0x1B62 Private Sections - 6.02 0.03 N/A |
|      |         |              |           |         |       |              |             |                 |            | 7000 0x1B58 Private Sections - 6.02 0.03 N/A |
|      |         |              |           |         |       |              |             |                 |            | 577 0x0241 Private Sections - 6.02 0.03 N/A  |
|      |         |              |           |         |       |              |             |                 |            | 400 0x0190 Private Sections - 6.02 0.03 N/A  |
|      |         |              |           |         |       |              |             |                 |            | 17 0x0011 SDT - 4.45 0.02 N/A                |
|      |         |              |           |         |       |              |             |                 |            | 21 0x0015 Network Sync - 2.42 0.01 N/A       |
|      |         |              |           |         |       |              |             |                 |            | 16 0x0010 NIT - 0.63 0.00 N/A                |
|      |         |              |           |         |       |              |             |                 |            | 20 0x0014 TOT - 0.23 0.00 N/A                |

**TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only**  
 Duration: 30 Sec, File Size: 92 MB [ts.TELE-satellite.com/DVB-S/352/ATLANTICBIRD-12718H-11103.ts](http://ts.TELE-satellite.com/DVB-S/352/ATLANTICBIRD-12718H-11103.ts)  
**Transponderstream Technical Service File Download for Clients Only**  
 Duration: 5 Min, File Size: 926 MB [www.transponderstream.com/DVB-S/352/ATLANTICBIRD-12718H-11103.ts](http://www.transponderstream.com/DVB-S/352/ATLANTICBIRD-12718H-11103.ts)

**1** TBS6925 TS Recorder

Tuner Setting | Capture Control | Motor/Positioner

Frequency: 12718 MHz SymbolRate: 36510 KSpS  
 LNBLow: 9750 MHz LNBHi: 10600 MHz  
 Polarity: Horizontal Diseqc: Diseqc NULL  
 OutPutStream: TS

Motor [0x00] [0x31] [0x00] [0x00] [0x00] Set Motor

Lock TP

Strength: 56 LockStatus: LOCKED  
 Quality: 53

IF: 2118004 KHz SymbolRate: 36513151 Bds

MATYPE

StreamType: TRANSPORT\_STREAM Modulation Type: 8PSK  
 InputStream: MULTIPLE\_INPUT\_STREAM CodingModulation: ACM  
 InputSynchro: ISSYI\_DISABLED NullPacketDeletion: NPD\_DISABLED  
 Roll Off: 0.35 FEC: 5/6  
 MATYPE: C0 22

Input Stream Identify: 35 34 35 36 Apply

**3** TV Viewer

3522 - LA7 HD Montag 25. Juli 21:32

21:10 DOTTORI IN PRIMA LINEA  
 Il team di quattro medici accompagnato dall'assistente Carolina Di Domenico, condurrà...

23:35 TG LA7

**4** TV Viewer

3520 - MTV HD Montag 25. Juli 21:32

21:30 Nitro Circus  
 Ecco il nuovo show di MTV prodotto da Travis Pastrana e dal suo folle team di stuntmen. Puro divertimento e scarso senso del pericolo vi attendono su Nitro Circus.

22:00 Megadrive

1. To identify MIS (Multiple Input Stream) transmissions, you enter in the reception parameters in the TBS Recorder program. This program is included with the Tenov TBS6925 PC card. The Input Stream Identifiers recognized by the software are listed in the lower-most drop-down menu.

2. The channels that were found can be viewed in a TV Viewer such as DVbViewer; for example, LA7 on ATLANTIC BIRD 1 at 12.5° west.

**2** Channellist

Allows to apply several filters to the channel list and tune channels.

Search 3520

- SPORTITALIA24
- Tivitalia test 4
- Tivitalia test 5
- Tivitalia test 6
- Tivitalia test 7
- Tivitalia test 9
- VCM/ACM TEST 12,5° W (33)
  - Video
    - TIMB
      - CanalOne
      - MEDIASET EXTRA
      - HSE24
      - Real Time
      - QVC
      - LA5
    - unknown
      - QVC Replica
  - VCM/ACM TEST 12,5° W (34)
    - Video
      - TIMB
        - RTL 102.5 TV
        - MTV HD
        - LA7D HD
        - LA7 HD
        - LA7 HD (AC3)
  - VCM/ACM TEST 12,5° W (35)
    - Video
      - TIMB
        - MTV MUSIC
        - MTV MUSIC
        - LA7
        - frisbee
        - MTV
        - K2
        - LA7
        - MTV
        - LA7D
        - LA7D
        - La7ondemand
  - VCM/ACM TEST 12,5° W (36)
    - Video
      - TIMB

3537 channel(s)

Channel editor Ok

**5** Scan channels

Allows to search for new television and radio channels.

Target Root: VCM/ACM TEST Reception Type: Satellite  
 Transponder List: none Group: A

LOF 1: 9750 LOF 2: 10600 LOF SW: 11700 DiSEqC: Pos A/Opt A SymbolRate: 36510

Frequency (MHz): 12718  
 End Frequency (MHz): 12718  
 Step Size (MHz): 5

Free To Air only  
 Only active Channels  
 In-depth Search (takes long)  
 Update only  
 Update channel names

Scan Frequency Scan Range

Satellite Transponder 12718 Mhz, 36510, HOR

0 new channel(s) found. 22 channel(s) updated.

Current Device: TBS 6925 DVBS/S2 Tuner (1)

Close

3,4. The TBS6925 can receive the channels that were found.

5. The Tenov software's scan function finds the corresponding channels.