

## Advanced DVB-S2 to DVB-S trans-modulator

### TM1- PRO

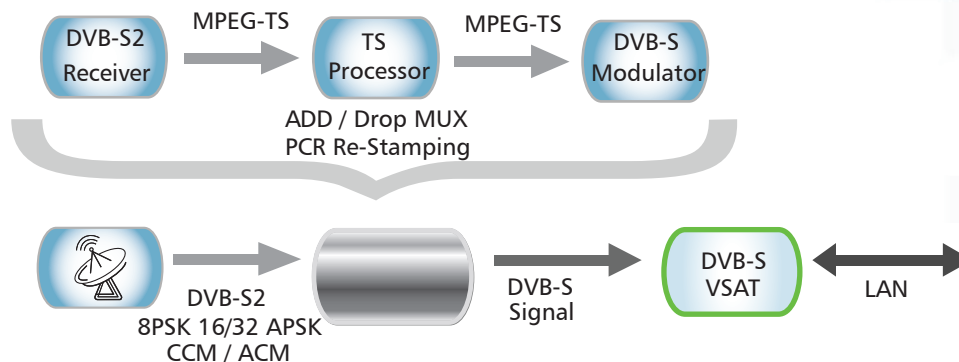
- Converts DVB-S2 signal to DVB-S
- Advanced DVB-S2 front end – 16 APSK
- 30% saving with CCM and up to 70% with ACM
- Ideal for VCM (C-Band ) and ACM ( Ku-Band)
- Rx symbol rate from 150ksps to 45Mps
- Ayecka patent for SNMP MIB for Uni-Directional device



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### TM1- PRO Integration



The TM1-Pro converts DVB-S2 signals to DVB-S allowing use of DVB-S receivers with DVB-S2 links.

Integration of the TM1-Pro with existing receivers (VSAT or one way) is quick and simple.

An operator need only configure the IRD to receive an L-Band input of 1Ghz at 27Mps.

The TM1Pro is configured according to the satellite signals parameters.

Tm1 Pro is the optimal solution for upgrading existing 8PSK DVB-S2 networks to 16APSK, or existing CCM DVB-S2 to **ACM** or **VCM**.

The TM1 Pro was designed to simplify the upgrade process – both in cost and time.

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### Why DVB-S2 ?

DVB-S2 is the second-generation standard for satellite broadcasting, which has been widely adopted by the broadcasting industry. The new standard benefits from recent developments in channel coding (LDPC codes) combined with a variety of modulation formats (QPSK, 8PSK and 16APSK). This more efficient technology yields increased transmission capacity along with an approximately 30% improvement in space segment utilization.

DVB-S2 provide **VCM** and **ACM** mode to optimize channel utilization by variable coding per packet.

### The DVB-S2 Migration challenge

Companies which have invested in **DVB-S** based VSATs are facing a situation where that technology may become obsolete due to the onslaught of the new DVB-S2 technology. The new-generation DVB-S2 technology offers several advantages over DVB-S, the main ones are **30% savings** in bandwidth and support for multi stream. From a technical perspective, existing DVB-S VSATs can continue to provide most of the services like Return channel and Routing, It is the receiver that has to be upgraded.

### The TM1 Pro Solution

Thanks to the Ayecka TM1-Pro, operators of existing DVB-S based VSAT networks can now easily migrate to DVB-S2 and take advantage of savings in operational costs. Rather than replacing the VSAT itself, a simple and cost-effective upgrade can solve the DVB-S2 compliance requirement.

The new TM1-Pro trans-modulation solution from Ayecka enables a smooth, quick, economical migration path to improve existing VSAT assets.

Minimal logistic efforts are required to implement the TM1-Pro upgrade, and the **ROI payback is estimated at 5-7 months**.

The Ayecka TM1-Pro is a unique trans-modulation device designed as a practical and trouble-free way to migrate existing VSAT and one way networks to DVB-S2. The TM1-Pro is an indoor unit easily installed by the end user between the LNB and the VSAT.

The TM1 operates as a transparent and integral upgrade to the network. The TM1 makes it simple and cost effective to migrate to the more efficient DVB-S2 standard, thus protecting the current investment in the VSAT network.

## TM1 Pro Specifications

|                                 |  |
|---------------------------------|--|
| <b>Receiver DVB-S2 mode</b>     |  |
|                                 | QPSK, 8PSK, 16APSK   |
|                                 | up to 120 Mbps   |
|                                 | 0.2, 0.25, 0.35  |
|                                 | LDPC and BCH decoder as for DVB-S2 requirements                    |
|                                 | 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10                            |
|                                 | DVB-S2 framing   |
|                                 | CCM, ACM and VCM   |
| <b>Receiver RF</b>              |  |
|                                 | 950-2150MHz  |
|                                 | -35 to -65 dBm   |
|                                 | 1 to 45 Msps   |
|                                 | Type F, 75 Ohms  |
| <b>SNMP MIB</b>                 |  |
|                                 | TM1 Pro MIB  |
|                                 | Ayecka Patent Pending Message Injection technology                 |
| <b>Receiver DVB-S mode</b>      |  |
|                                 | QPSK   |
|                                 | up to 72.7 Mbps  |
|                                 | 0.35   |
|                                 | Convolution with Reed Solomon                                      |
|                                 | 1/2, 2/3, 3/4, 5/6, 6/7, 7/8                                       |
| <b>Control &amp; Monitor</b>    |  |
|                                 | Dsub9 Female   |
|                                 | CLI  |
|                                 | RS232, 8,n,1, 9600   |
|                                 | Power on/signal detect/TX state                                    |
| <b>Power</b>                    |  |
|                                 | 6VDC, 5W   |
| <b>Environmental Conditions</b> |  |
|                                 | 0° to 50° C.   |
|                                 | -25° to +85° C   |
| <b>Humidity</b>                 | 5% to 95% non-condensing   |
| <b>Transmit</b>                 |  |
|                                 | 1GHz   |
|                                 | 27Msps   |
|                                 | 5/6, 3/5 or 7/8  |
|                                 | -55 dBm +/- 5 dB   |
|                                 | DVB-S  |
|                                 | Type F, 75 Ohms  |
| <b>Physical Characteristics</b> |  |
|                                 | 3 cm x 8 cm x 14 cm (HxWxD)  |
|                                 | 0.5 Kg   |
| <b>Standard Compliance</b>      |  |
|                                 | TUV/CTUVus; CE   |
|                                 | FCC part 15, Class B, EN 55022, EN 55024, EN61000, AS/NZS CISPR 22 |