AYECKA
Communication Systems Ltd.

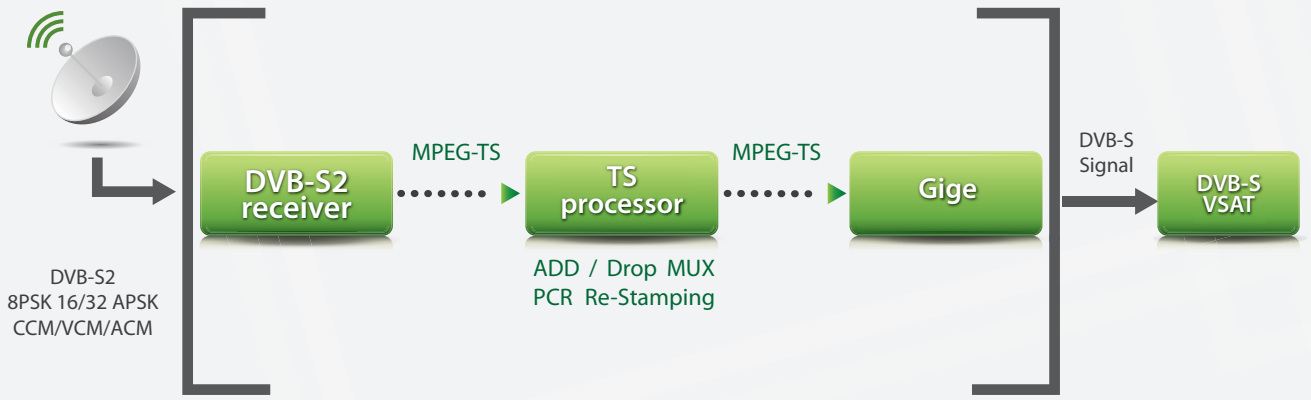
TM1-PRO - Advanced DVB-S2 to DVB-S trans-modulator

TM1-Pro converts DVB-S2 signals to DVB-S and solves the dilemma between the benefits of the DVB-S2 and the cost of migration. As an optimized and reliable device, the integration of TM1-Pro with existing receivers (DVB-S VSAT or IRDs) is quick and simple both for data and video networks.

TM1 - PRO

- Converts DVB-S2 signal to DVB-S
- Advanced DVB-S2 front end – 16/32 APSK
- 30% saving with CCM and up to 70% with ACM
- Ideal for VCM (C-Band) and ACM (Ku-Band)
- Rx symbol rate from 400 ksps to 45Msps
- Ayecka patent for SNMP MIB for Uni-Directional device

TM1- PRO Integration



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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.

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Front View

Back View

Receiver DVB-S2 mode

Modulation	QPSK, 8PSK,16APSK, 32APSK
Channel Rate	up to 120 Mbps
Roll-off Factors	0.2, 0.25, 0.35
Coding	LDPC and BCH decoder as for DVB-S2 requirements
Code rates	½, 3/5, 2/3, ¾, 4/5, 5/6, 8/9,9/10
Framing	DVB-S2 framing
Modes	CCM, ACM and VCM

Receiver RF

Input Freq	950-2150MHz
Signal Level	-35 to -75 dBm
Symbol Rates	0.4 to 45 Msps
Input Connector	Type F, 75 Ohms.

SNMP MIB

Implementation	TM1 Pro MIB
Interface	Ayecka Patent Pending Message Injection technology

Receiver DVB-S mode

Modulation	QPSK
Channel Rate	up to 72.7 Mbps
Roll-off factors	0.35
Coding	Convolution with Reed Solomon
Code Rates	½, 2/3, ¾, 5/6, 6/7, 7/8

Control & Monitor

Connector	Dsub9 Female
Protocol	CLI
Physical	RS232, 8,n,1, 9600
LED	Power on/signal detect/TX state

Power

Power	6VDC, 5W

Environmental Conditions

Operating Temp	0° to 50° C.
Storage Temp	-25° to +85° C
Humidity	5% to 95% non-condensing

Transmit

IF Freq	1GHz
Symbol rate	27Msps
Code Rate	5/6, 3/5 or 7/8
Signal level	-55 dBm +/- 5 dB
Standard	DVB-S
Connector	Type F, 75 Ohms

Physical Characteristics

Dimensions	3 cm x 8 cm x 14 cm (HxWxD)
Weight	0.5 Kg

Standard Compliance

Safety	TUV/cTUVus; CE
EMI/EMC	FCC part 15, Class B,EN 55022, EN 55024, EN61000,AS/NZS CISPR 22

For more information please contact sales@ayecka.com | www.ayecka.com