TM1

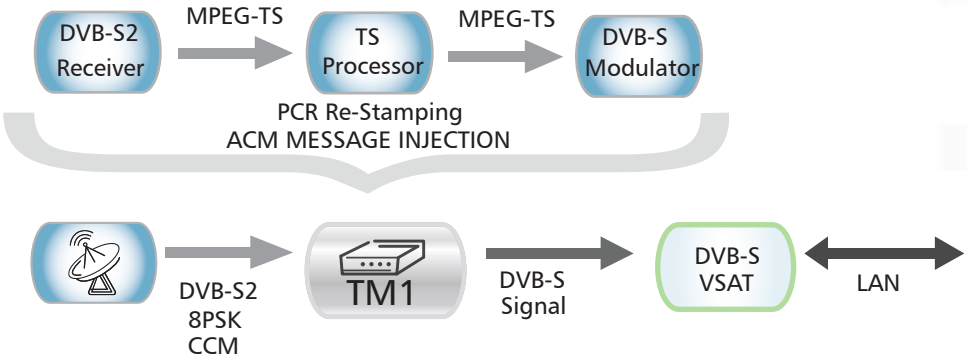
AYECKA COMMUNICATION SYSTEMS LTD.

DVB-S2 to DVB-S trans-modulator

TM1

- Converts DVB-S2 signal to DVB-S
- **Support DVB-S2 CCM / 8PSK**
- Ideal for VCM (C-Band) and ACM (Ku-Band)
- Rx symbol rate from **1Msps** to 45Msps
- Ayecka patent for SNMP MIB for Uni-Directional device

TM1



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

Integration of the TM1 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 27Msps.
The TM1 is configured according to the satellite signals parameters.

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

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Advanced DVB-S2 to DVB-S trans-modulator

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 Solution

Thanks to the Ayecka TM1, 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 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 upgrade, and the **ROI payback is estimated at 5-7 months**.

The Ayecka TM1 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 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

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TM1 Specifications

Receiver DVB-S2 mode	
Modulation	QPSK, 8PSK
Channel Rate	up to 120 Mbps . DVB-S output max bit rate 43Mbps
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
Receiver RF	
Input Freq	950-2150MHz
Signal Level	-35 to -65 dBm
Symbol Rates	1 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 43 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

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