Quad DVB-S2 BISS Key Descrambling – Quad DVB-T/DVB-C with double slot C.I. "all in one" Compact Headend
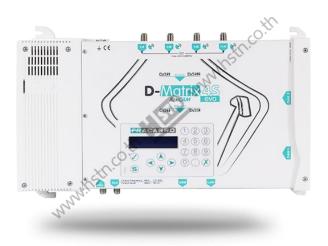
D-MATRIX-4S

The new **D-Matrix-4S EVO Quad DVB-S2 BISS Key Descrambling – Quad DVB-T with double slot C.I. "all in one" Compact Headend** will introduce many innovative features.

By using the **D-Matrix-4S EVO** is possible to tune up to 4 independent satellite HD or SD transponders coming from the four inputs, decrypt the contents through the Professional CAMs and re-modulate the programs on the four "customized" output digital multiplexes.

The digital output programs become twice!!
Now it's possible to create up to four DVB-T or DVB-C "ad-hoc" digital multiplexes. In this way the installer could deploy many digital contents through every MATV coaxial network.

NEW ABSOLUTE FEATURE: thanks to the new **FlexCAM** operation mode feature, it's possible to decrypt many programs coming from the different SAT inputs, by using the same CAM module *(i.e. Flexible CAM on the OUTPUT)*. **D-Matrix-4S EVO** is equipped with two universal slots Common Interface that can be both used **FlexCAM** operation mode.

D-Matrix-4S EVO: BISS descrambling programs supported

THE WEB INTERFACE MANAGEMENT HAS BEEN IMPROVED: now the main informations are available quickly !!

With the compact headend is always possible to manage the external Audio/Video file playback stored in the pendrive (**TS** file format).

D-MATRIX-4S EVO Fully manageable parameters for all the output muxes and for the individual programs (LCN, SID, PDSD, NIT, …).

Main Specifications

- **Multi SAT Input:** 4 independent SAT input (DVB-S2), 4 DVB-T or DVB-C output mux (two pairs of adjacent digital modulators), 2 Common Interface slots.
- **Optimized CAMs Management:** the new D-MATRIX-4S EVO allows to manage both CAMs modules in two different operation modes:
    - **FlexCAM mode:** it can be forwarded to the same CAM module the programs coming from any SAT input (i.e. Flexible CAM on the OUTPUT)
    - **STANDARD mode:** each CAM module can be associated with a SAT input SAT in order to decrypt the encoded programs coming only from this specific input.
- **BISS Key descrambling programs supported**
- **WEB interface based headend:** today is even more intuitive. The headend setup, and configuration must be done by using the improved web interface built-in; basic setup available by on board keyboard.
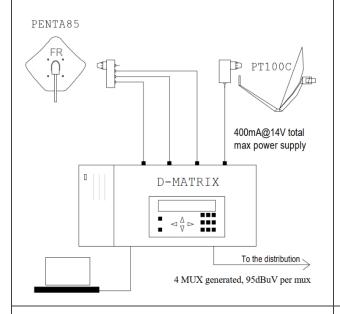
- **"Mux-ad-Hoc":** you can create all the muxes with the chosen programs tuned from up to 4 satellite transponders and manage all the descriptor parameters of each mux (ONID, TSID, NetID,…) and each program inside the mux (LCN, SID, PID, Program name..).
- **ARP 2.0 =** Automatic Recovery Procedure to save the higher priority programs and guarantee Continuity of Service when bit rate overflows occurred. All the program are sequentially restored when the global bit rate returns within the limits.
- **AUTO REMAPPING function:** you can change in real time the program inside the mux without rescanning all the TV set along the network.
- **USB Port** to upload/download pre-settled set up or for the firmware upgrade, video playback (TS file format).
- **DVB-T/DVB-C "agile output modulation" selectable via sw:** one product to fit every coax network distribution.

PRODUCT		D-Matrix-4S EVO (*)	
Fracarro code		283132	
Front-End			
N° input	N°	4	
Input frequency	MHz	950 - 2150	
Input leve	dBµV	50 - 80	
Input step tuning		1MHz	
LNB control		0/14/18VDC, 0/22KHz, DiSEqC 1.0	
Demodulation		DVB-S2 (8-PSK, QPSK), DVB-S (QPSK)	
FEC		1/2, 2/3, 3/4, 5/6, 7/8, AUTO	
Symbol rate	MS/sec	2 - 45 (DVB-S/ DVB-S2)	
AFC Range		-5 - +5MHz	
Output Modulation			
N° of generated mux	N°	4 (two pairs of adjacent digital multiplexes)	
Trasmission standard		DVB-T	DVB-C
Bandwidth	MHz	6, 7, 8	(depends on the output SR that was set)
Carriers		2k, 8k	
Modulation		QPSK, 16-QAM, 64-QAM	16QAM, 32 QAM, 64QAM, 128QAM, 256QAM
Guard interval		1/4, 1/8, 1/16, 1/32	-
FEC		1/2, 2/3, 3/4, 5/6, 7/8	Reed Solomon (204, 188)
Symbol Rate	Msymb	1000 to 6999	
Spectrum		Normal/Inverted	
Operating Mode		Normal, Single Carrier	
RF Output			
Output frequency	MHz	111 - 862	
Output channels		S2 - E69	
Output step tuning	KHz	250	
Typical RF output level	dBµV	95	
Output level adjustment	dB	0 - 20	
Flatness	dB	± 1.5	
Typical Output MER	dB	36	
Spurious rejection	dBc	< -50	

Data Sheet

General features

RF mix input	MHz	47 - 862
RF insertion loss	dB	2.5
Mains Supply	Vac, Hz	230, 50/60
Typical Power Consumption	W	42 (with two CAMs inserted)
Connectors	Type	F female (RF), RJ45 (programming via web interface), USB (fw upgrade, TS video file playback)
Common Interface		2 x PCMCIA (Standard EN50221, TS10169) , FlexCAM or STANDARD mode, BISS descrambling supported by using official CAM module
Dimensions (L.× W.× H)	mm	360x230x54 (without CAM inserted) – 385x230x54 (with CAM inserted)
Operating temperature	°C	5 - +55 (without CAM)
Compliant		EN50083-2, EN60065

Installation Examples

The new D-MATRIX-4S EVO headend can tune up to four different SAT transponders, decrypt the programs (through CAMs & Smart-Cards – NOT INCLUDED) and generate four separate full-band RF Digital Multiplex (DVB-T or DVB-C), 95dBµV each.

Remote supply for LNB is available (max 400mA@14V total).

All settings can easily be made using the integrated WEB INTERFACE.

The separate DVB-S2 inputs can be even set as a "RF loop" input during the programming procedure.

The USB pendrive can be use for:
• USB video file playback (TS file format only), for ex. INFOCHANNEL, etc.
• Firmware upgrade;
• Upload/download configuration.