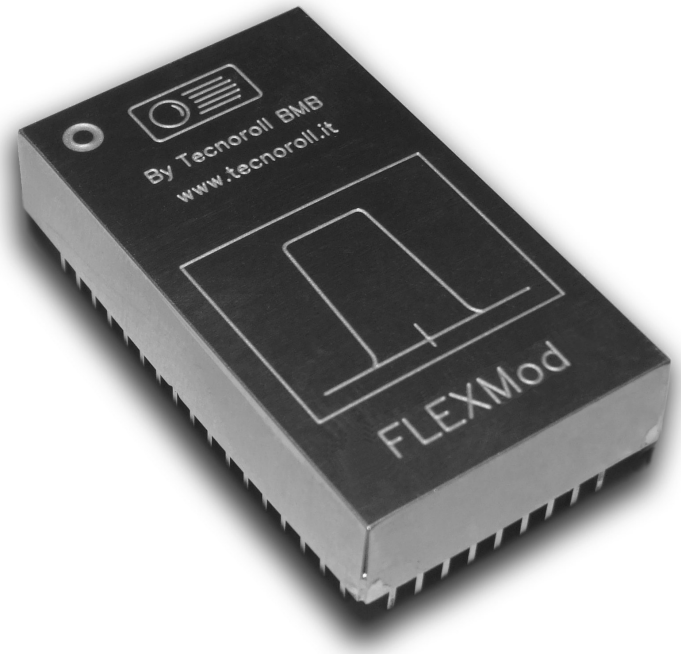
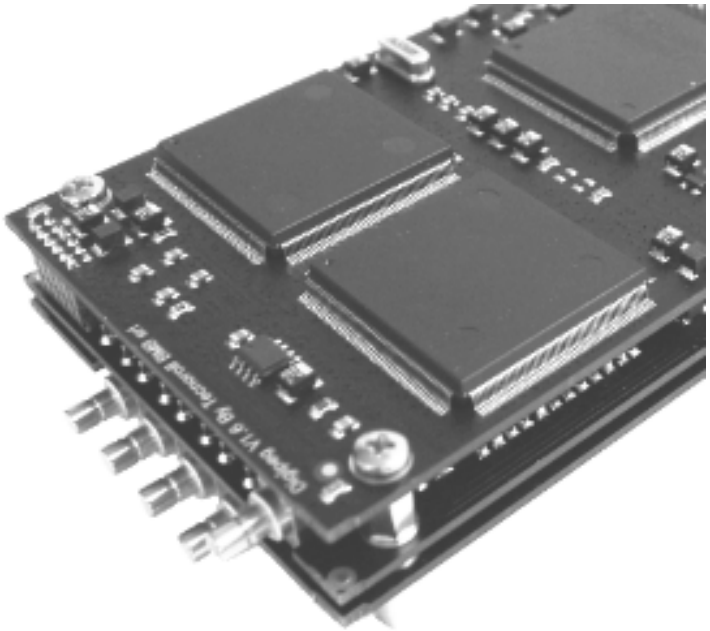
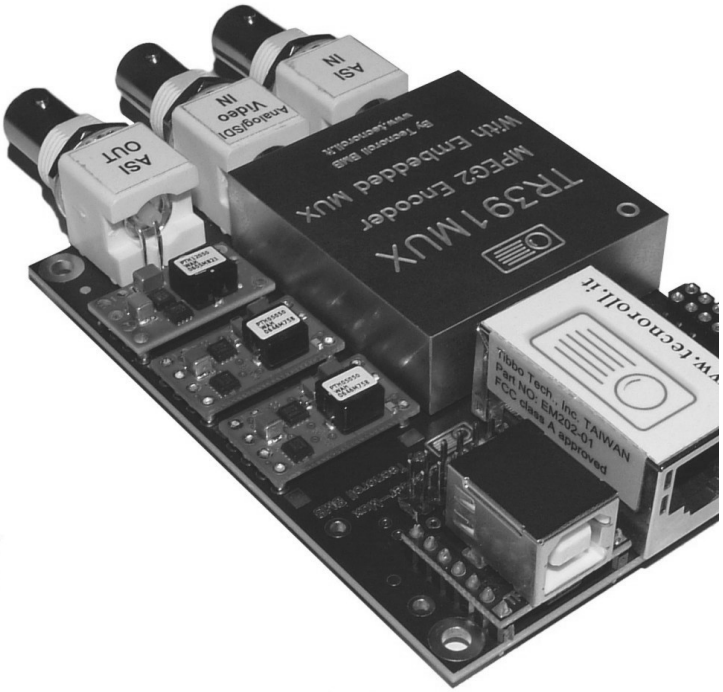






TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

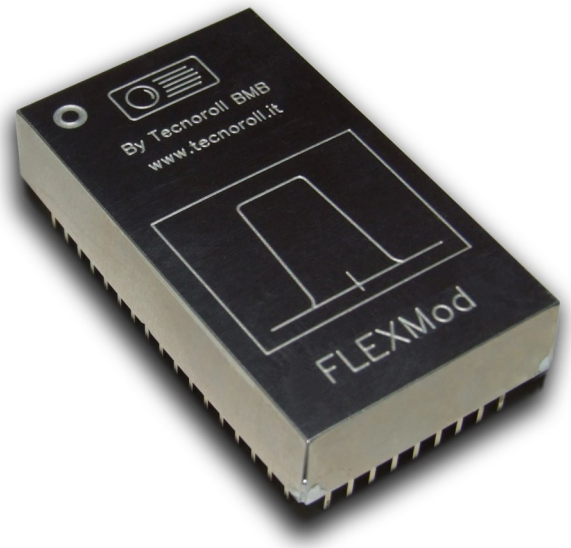
OEM Hardware Solutions


FUJITSU
Alliance Program


XILINX
ALLIANCE PROGRAM
MEMBER


melchioni

Modulators



TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 111

DVB-T Modulator + Remultiplexer

Integrated solution for the distribution/regeneration of DVB-T services. The system is composed by a demultiplexer/multiplexer and a COFDM modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

Technical Specifications

Remultiplexer:

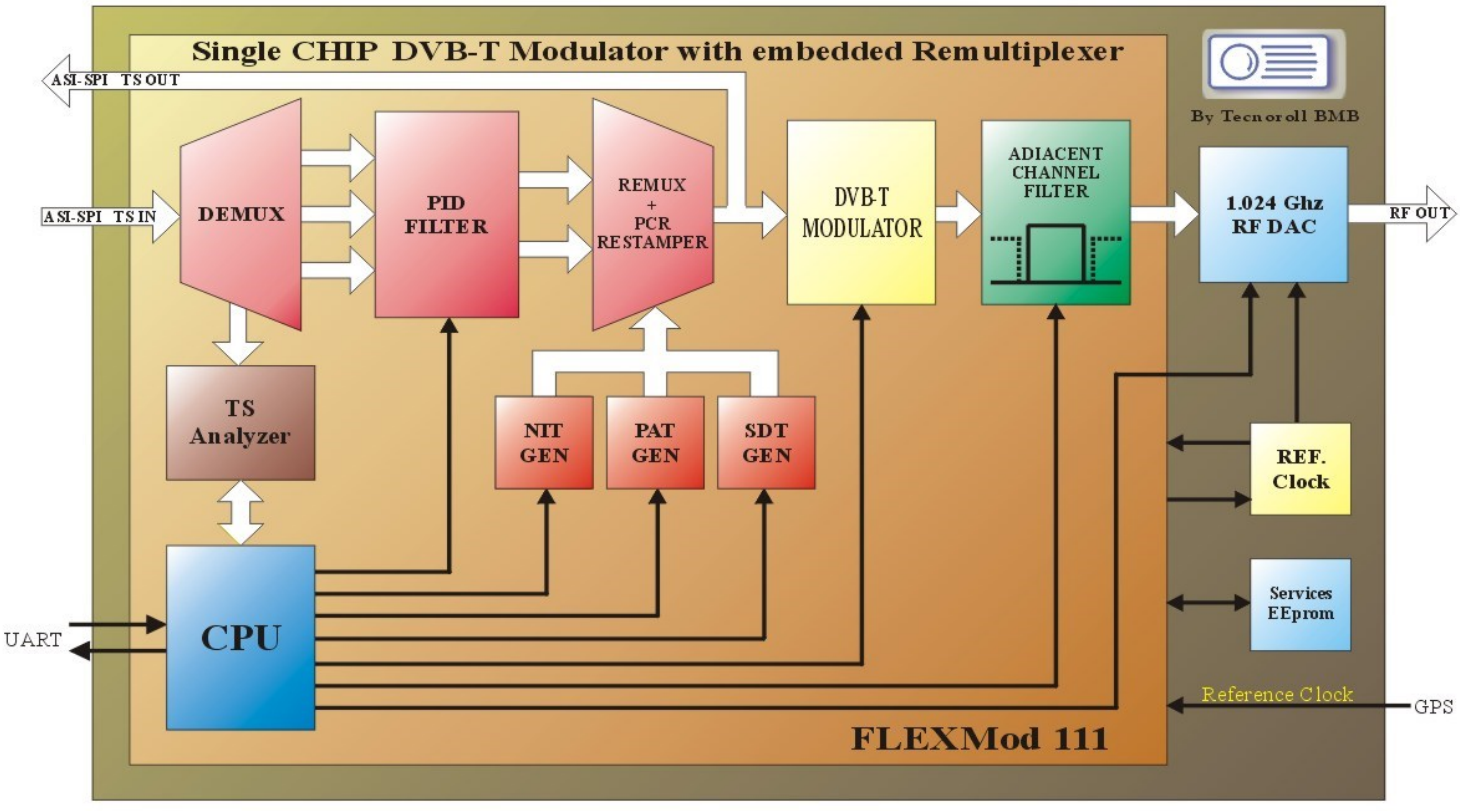
- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

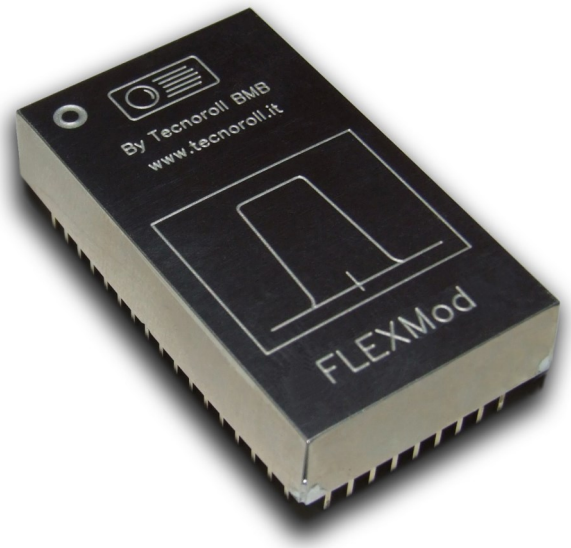
Modulator:

- COFDM Modulator: DVB-T/H ETSI EN 300 744 V1.5.1.
- Selectable RF power output up to -7dBm.
- Digital reprogrammable filters (Precorrector).
- Support of Hierarchical modulation.
- Programmable Cell-ID and other H-modes.
- The internal oscillator can be locked to an external arbitrary clock source or to a GPS pps reference clock.
- Support to SFN-Link (packet signature for compatibility with DVB-T SFN distribution networks).
- Frequency range 0 - 300 MHz RF out through internal 1 GHz DAC.

DVB-T Modulator

Modulation type:	COFDM DVB-T (ETSI EN 300 744)
Channel bandwidth:	6-7-8 MHz
Carriers:	2K-4K-8K
Hierarchy:	Alpha 0, 1, 2, 4
Constellation:	QPSK, 16QAM, 64QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval:	1/4, 1/8, 1/16, 1/32
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
SFN compatibility:	Selectable ON/OFF (packet signature for compatibility with DVB-T SFN distribution networks)
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>49 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 211

DVB-S Modulator + Remultiplexer

Integrated solution for the distribution/regeneration of DVB-S services. The system is composed by a demultiplexer/multiplexer and a DVB-S modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

Technical Specifications

Remultiplexer:

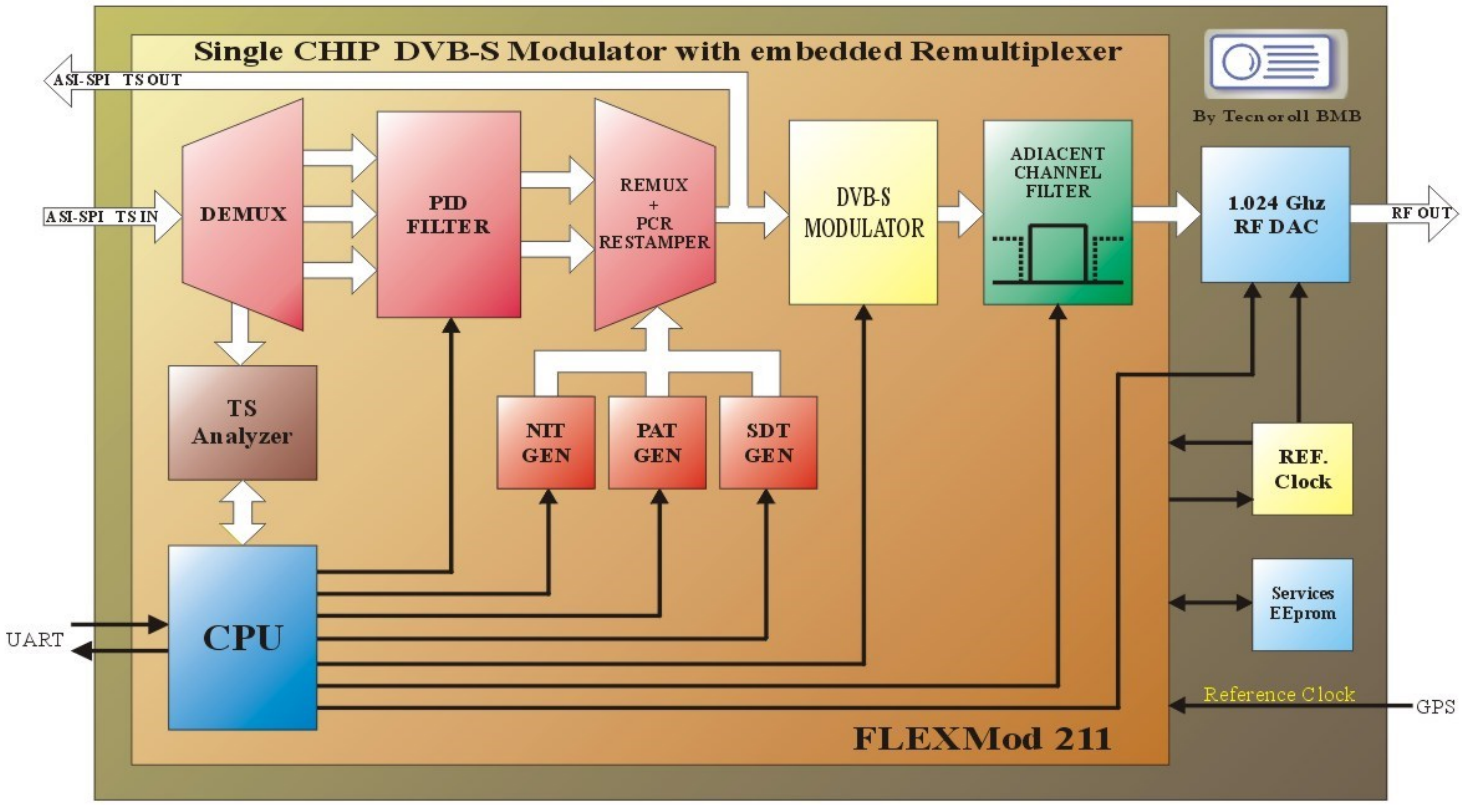
- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

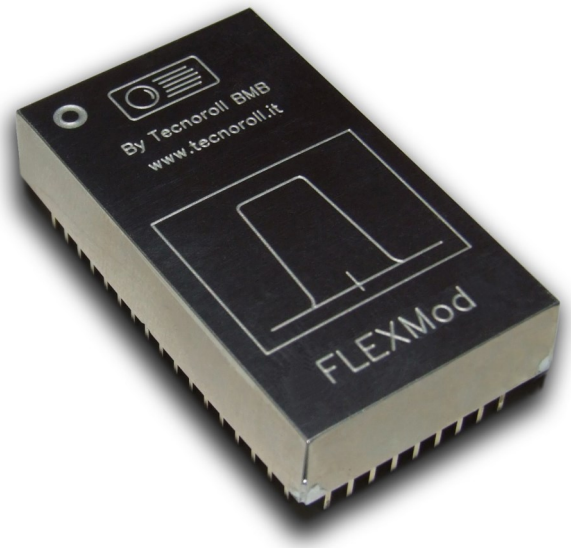
Modulator:

- QPSK Modulator, DVB-S (ETSI ETS 300 421).
- Selectable RF power output up to -7dBm.
- Enhanced digital filtering for improved adjacent channel packing.
- The internal oscillator can be locked to an external arbitrary clock source or to a GPS pps reference clock.
- Support to SFN-Link (packet signature for compatibility with DVB-T SFN distribution networks).
- Frequency range 0 - 500 MHz RF out through internal 1 GHz DAC.

DVB-S Modulator

Modulation type:	QPSK DVB-S (ETSI ETS 300 421)
Symbol rate:	1 - 32 Ms/s
Constellation:	QPSK
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
SFN compatibility:	Selectable ON/OFF (packet signature for compatibility with DVB-T SFN distribution networks)
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	›49 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 311

DVB-C Modulator + Remultiplexer

Integrated solution for the distribution/regeneration of DVB-C services. The system is composed by a demultiplexer/multiplexer and a DVB-C modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

Technical Specifications

Remultiplexer:

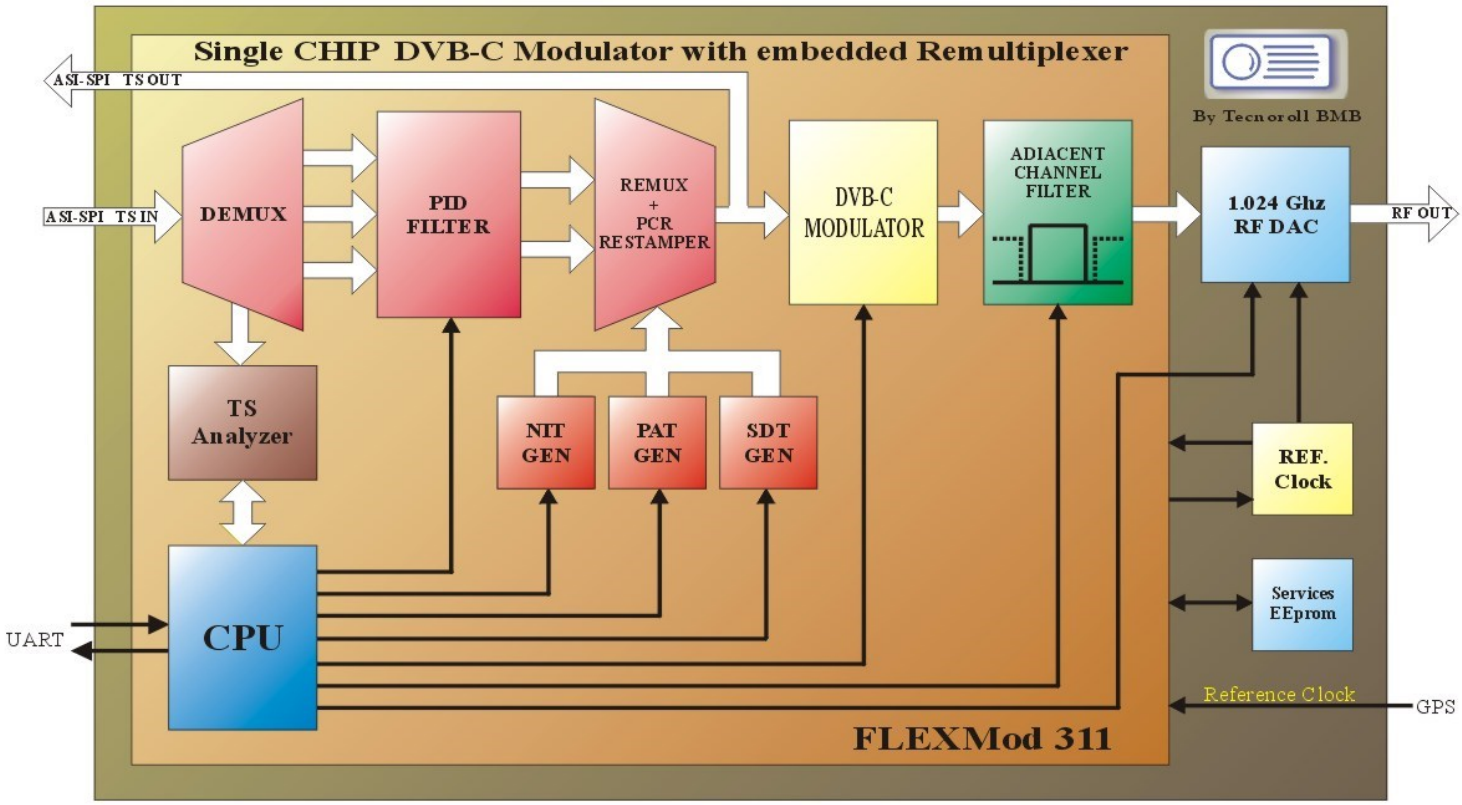
- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

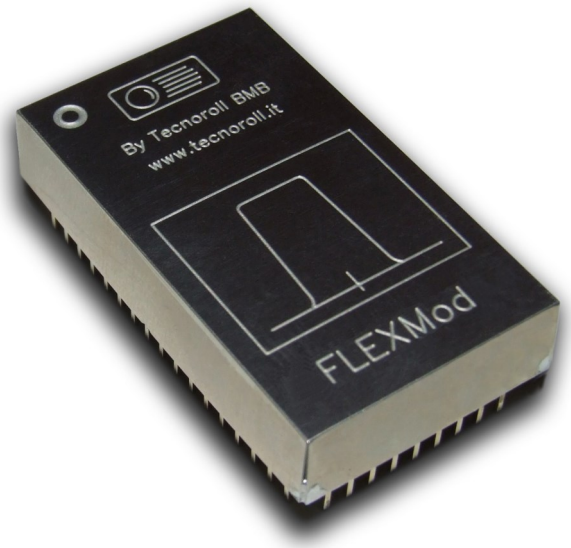
Modulator:

- QAM Modulator ITU-T J.83 Annex A/C, DVB-C (ETS 300 429).
- Selectable RF power output up to -7dBm.
- Enhanced digital filtering for improved adjacent channel packing.
- The internal oscillator can be locked to an external arbitrary clock source or to a GPS pps reference clock.
- Support to SFN-Link (packet signature for compatibility with DVB-T SFN distribution networks).
- Frequency range 0 - 500 MHz RF out through internal 1 GHz DAC.

DVB-C Modulator

Modulation type:	ITU-T J.83 Annex A/C, DVB-C (ETS 300 429)
Symbol rate:	0-7000 Ms/s
Constellation:	16, 32, 64, 128 e 256 QAM
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>49 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 411

ATSC Modulator

Integrated solution for the modulation of ATSC services. The system is composed by an ATSC modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

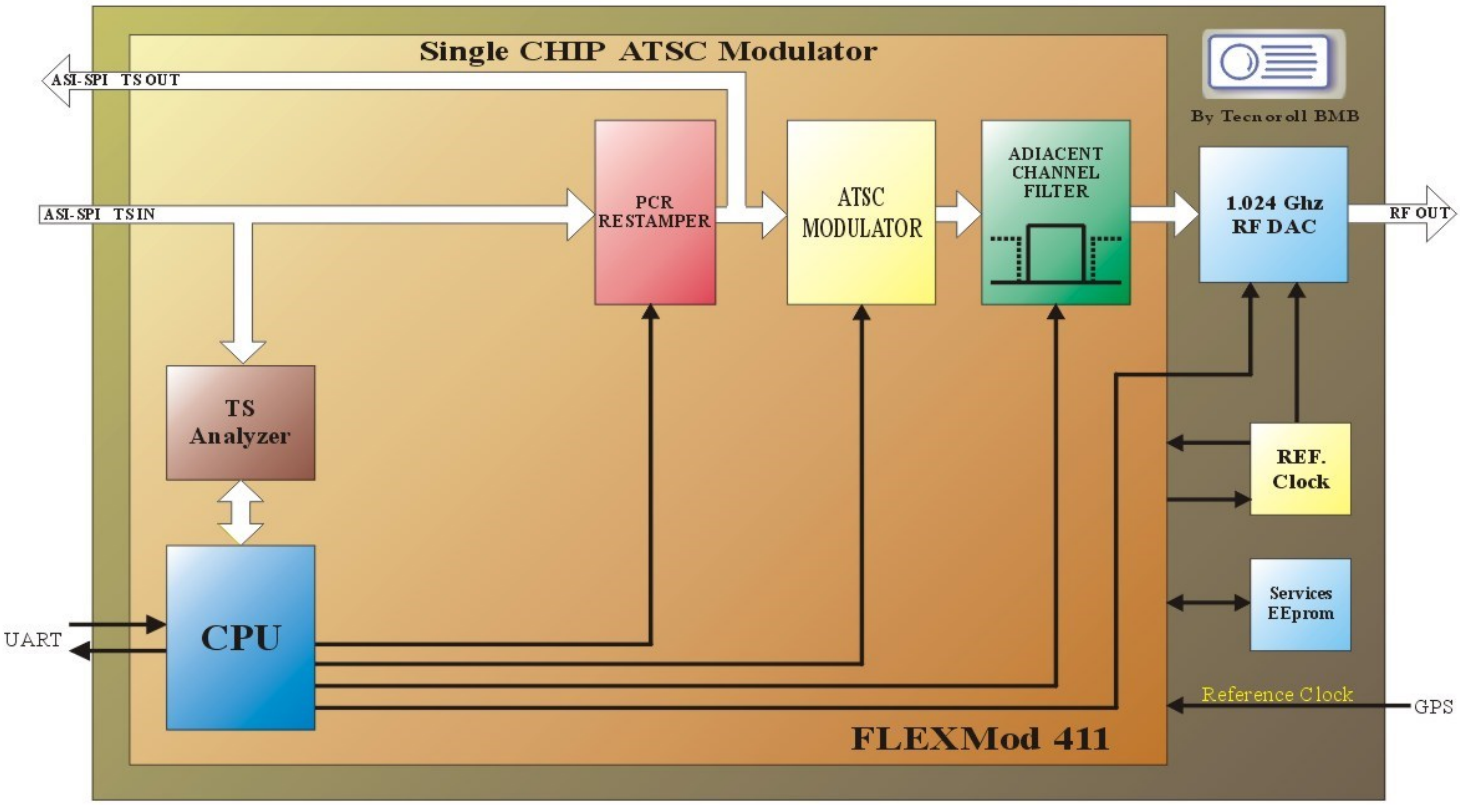
Technical Specifications

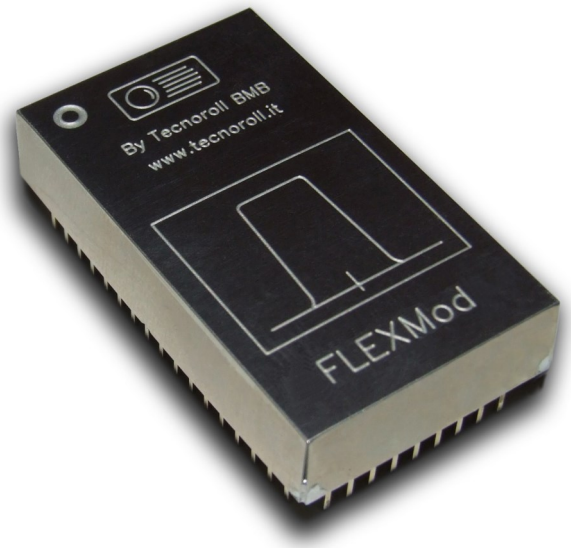
General:

- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Visualization of the Input/Output TS bandwidth.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

ATSC Modulator

Modulation type:	ATSC Digital Television Standard (A/53)
Symbol rate:	8 VSB
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
Output frequency:	0-300 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>45 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 511

DVB-S/S2 Modulator + Remultiplexer

Integrated solution for the distribution/regeneration of DVB-S/S2 services. The system is composed by a demultiplexer/multiplexer and a DVB-S/S2 modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

Technical Specifications

Remultiplexer:

- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

Modulator:

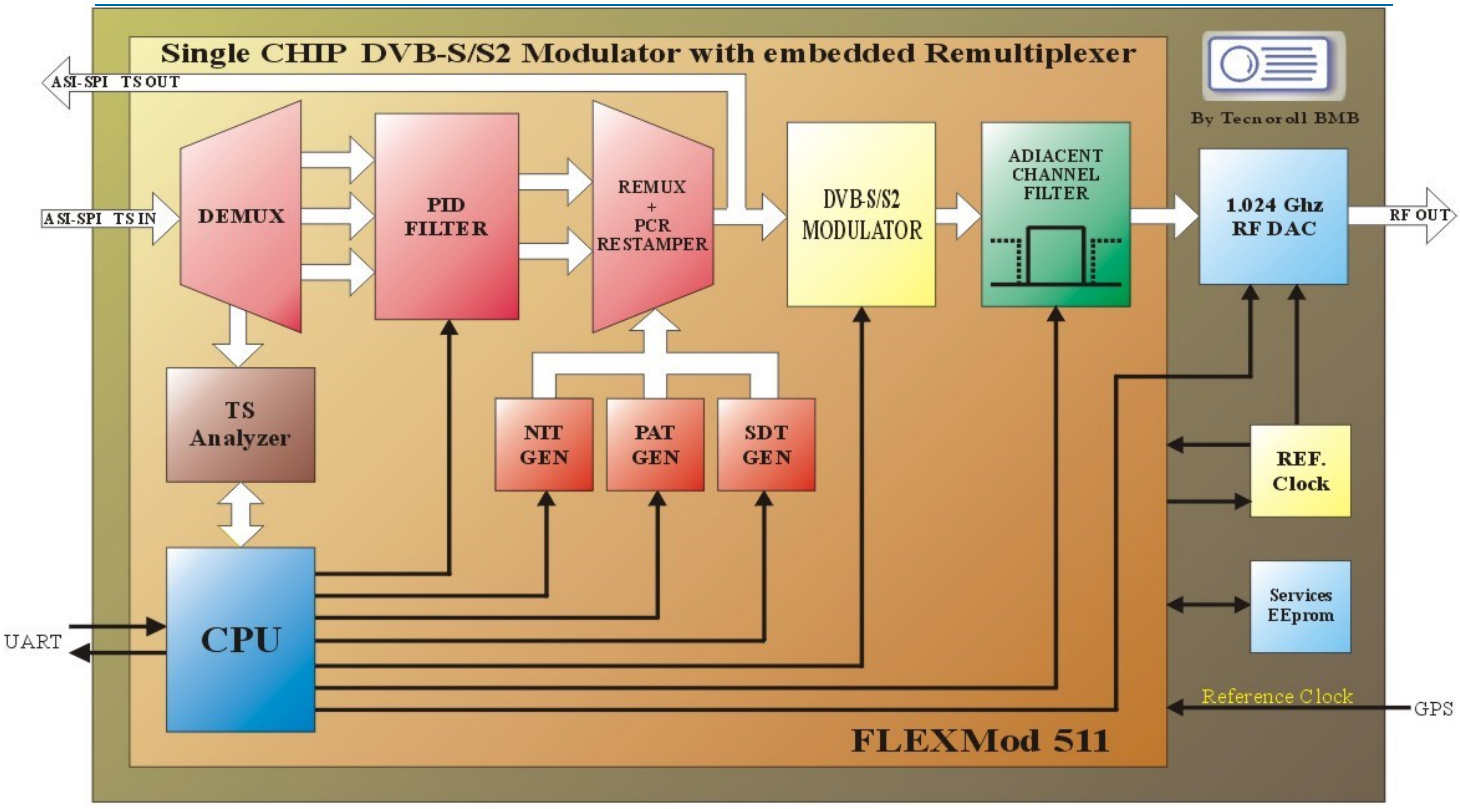
- QPSK DVB-S (ETSI ETS 300 421) & DVB-S2 (ETSI EN 302 307) Modulators.
- Selectable RF power output up to -7dBm.
- The internal oscillator can be locked to an external arbitrary clock source or to a GPS pps reference clock.
- Support to SFN-Link (packet signature for compatibility with DVB-T SFN distribution networks).
- Frequency range 0 - 500 MHz RF out through internal 1 GHz DAC.

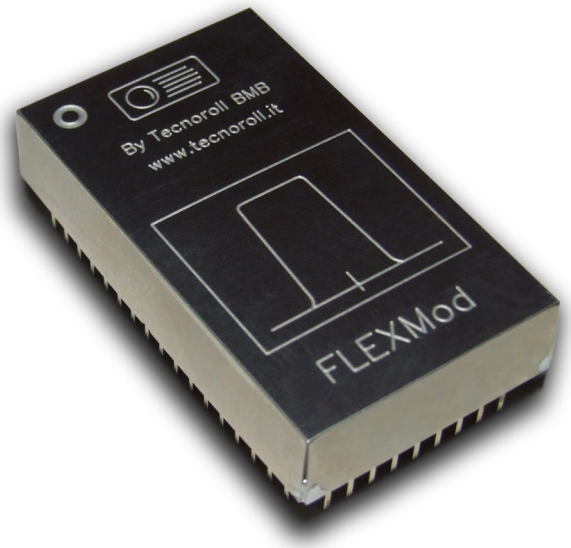
DVB-S Modulator

Modulation type:	QPSK DVB-S (ETSI ETS 300 421)
Symbol rate:	1 - 32 Ms/s
Constellation:	QPSK
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
SFN Compatibility:	Selectable ON/OFF (packet signature for compatibility with DVB-T SFN distribution networks)
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	›49 dB typical

DVB-S2 Modulator

Modulation type:	DVB-S2 (ETSI EN 302 307)
Symbol rate:	1 - 32 Ms/s
Constellation:	QPSK, 8PSK, 16APSK, 32APSK
FEC:	1/2, 1/3, 1/4, 2/3, 3/4, 3/5, 4/5, 5/6, 8/9, 9/10
Frame:	Long, short
Pilots:	On/Off
Roll-off:	0.20 / 0.25 / 0.35
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
SFN Compatibility:	Selectable ON/OFF (packet signature for compatibility with DVB-T SFN distribution networks)
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	›49 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 621

DVB-T SFN Modulator

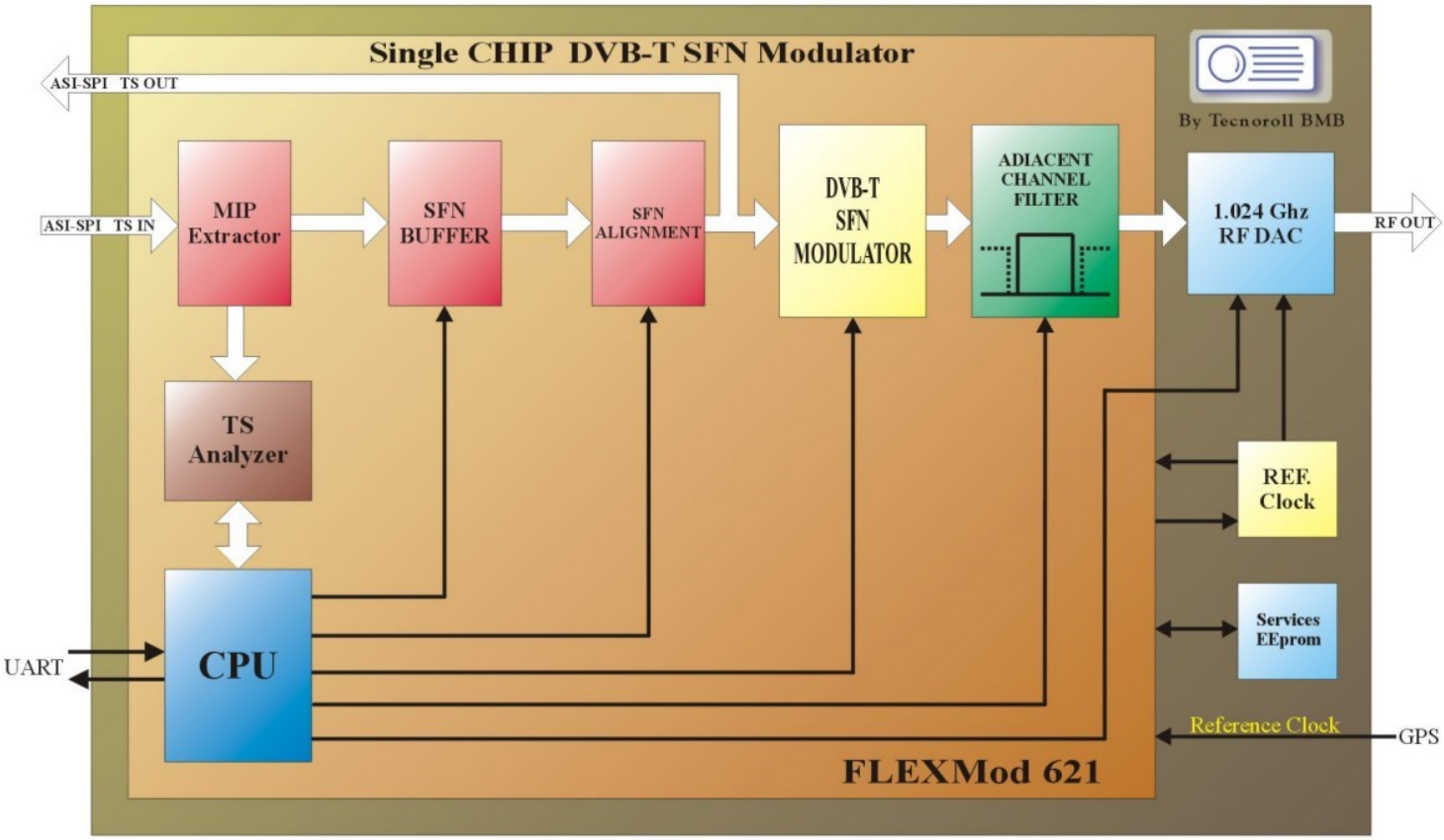
Integrated solution for the modulation of DVB-T/SFN services. The system is composed by a COFDM modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

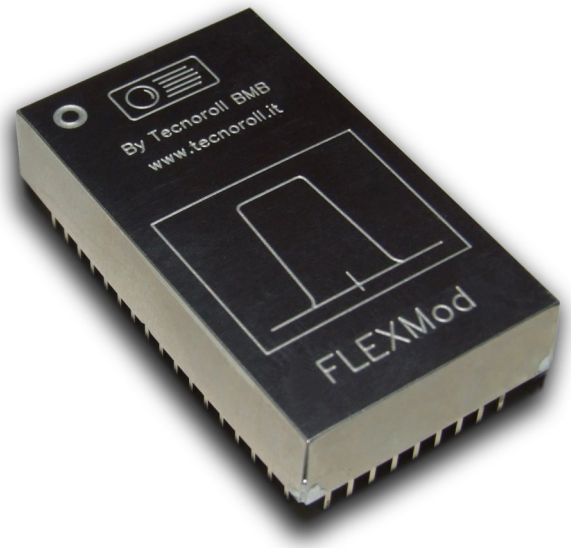
Technical Specifications

General:	• ASI and SPI TS inputs. • ASI and SPI TS outputs. • Automatic recognition, analysis and demultiplexing of the incoming services. • Visualization of the Input/Output TS bandwidth. • Non-volatile memory for system configuration. • Easy configuration through asynchronous serial port with high-level commands. • No need for additional programming on power-up.
Modulator:	• COFDM Modulator: DVB-T/H ETSI EN 300 744 V1.5.1. • Selectable RF power output up to -7dBm. • Digital reprogrammable filters (Precorrector). • Subnetwork mode for DVB-T to DVB-T Gap filler implementations. • Programmable Cell-ID and others H-modes. • Internal oscillator locked to a GPS pps reference clock. • Frequency Range 0 - 50 MHz RF out through internal 1 GHz DAC.

DVB-T SFN Modulator

Modulation type:	COFDM DVB-T (ETSI EN 300 744)
Channel bandwidth:	6-7-8 MHz
Carriers:	2K-4K-8K
Hierarchy:	Alpha 0, 1, 2, 4
Constellation:	QPSK, 16QAM, 64QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval:	1/4, 1/8, 1/16, 1/32
Spectrum mode:	Normal/Inverted
Output frequency:	0-50 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>45 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 133/633

DVB-T MFN/SFN Modulator

Integrated solution for the modulation of DVB-T MFN/SFN services. The system is composed by a COFDM modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact modulation system.

Technical Specifications

General:

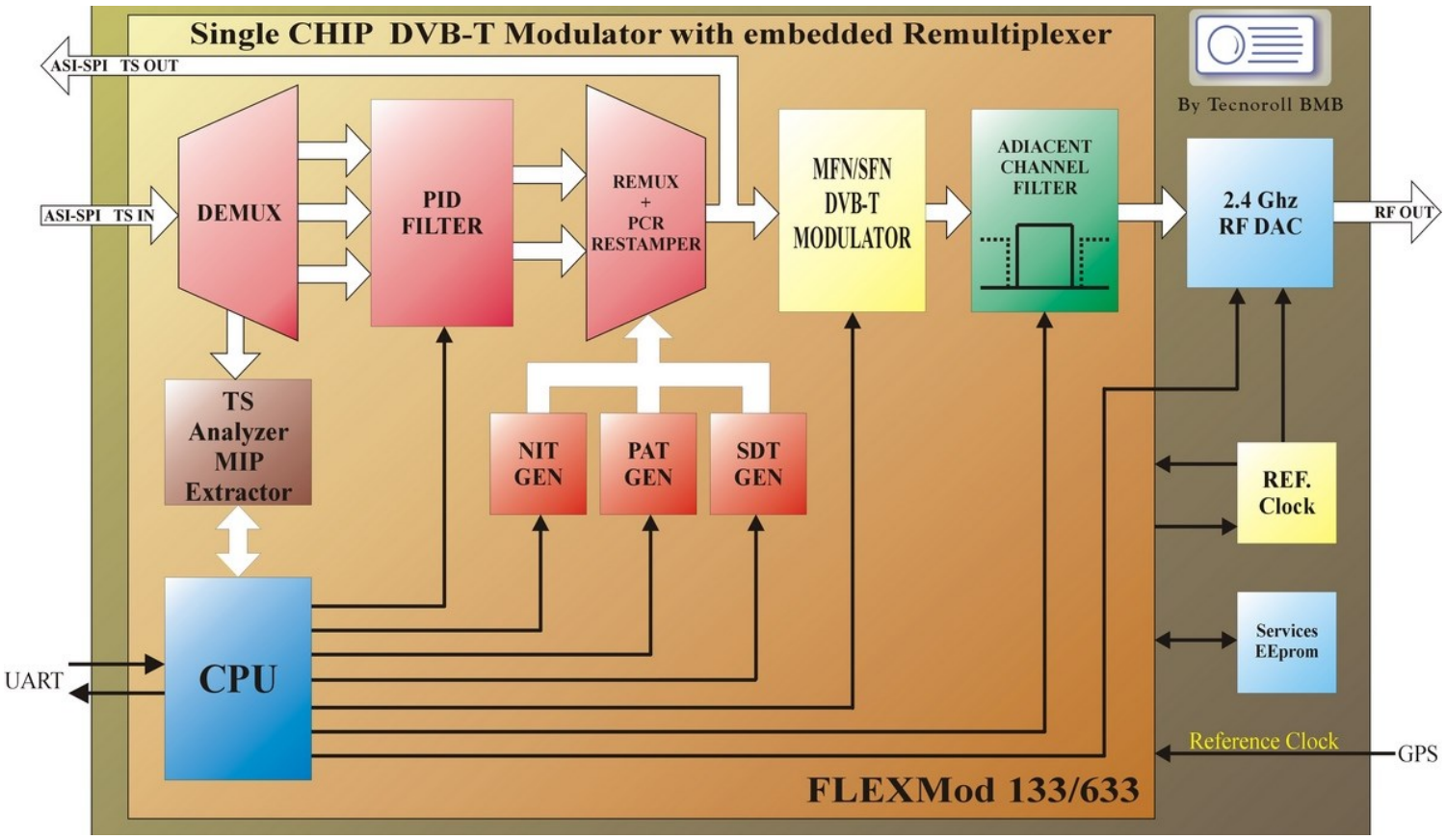
- ASI TS Inputs: primary and secondary.
- ASI TS Outputs: Remuxed/Passthrough.
- Automatic recognition, analysis and remultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Embedded DVB-Tables regeneration for a correct TS output reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for reconfiguration on power-up.

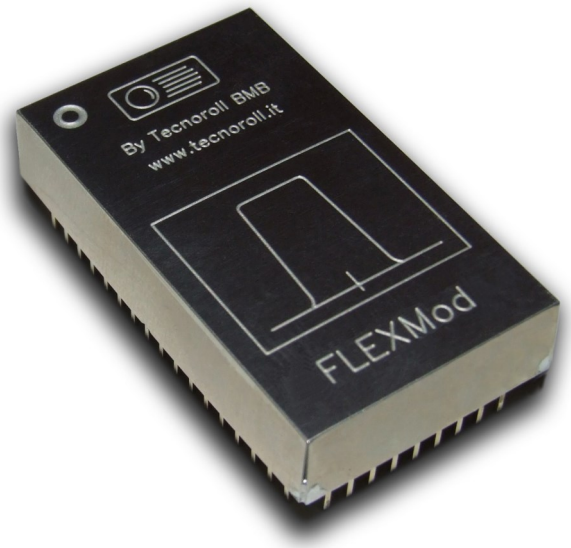
Modulator:

- COFDM Modulator: DVB-T/H ETSI EN 300 744 V1.5.1.
- Selectable RF power output up to -7dBm.
- Digital reprogrammable filters (Precorrector).
- Subnetwork mode for DVB-T to DVB-T Gap filler implementations.
- Internal oscillator locked to a GPS PPS reference clock.
- SFN operation with both PPS & 10 MHz or only through PPS.
- Frequency Range 0 - 3 GHz RF out through internal 2,4 GHz DAC.

DVB-T MFN/SFN Modulator

Modulation type:	COFDM DVB-T ETSI EN 300 744 V1.5.1 (2004-11)
Channel bandwidth:	6-7-8 MHz
Carriers:	2K-4K-8K
Hierarchy:	Alpha 0, 1, 2, 4
Constellation:	QPSK, 16QAM, 64QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval:	1/4, 1/8, 1/16, 1/32
Spectrum mode:	Normal/Inverted
Output frequency:	0-3 GHz 1 Hz Step (2.4GHz DAC in 1° 2° & 3° Nyquist)
Output level:	-7 dBm typical
MER:	›50 dB typical @ 36.15MHz





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 101

DVB-S/S2/C/C2 to DVB-T Transmodulator with embedded Remultiplexer

Integrated solution for the redistribution/regeneration of DVB-S/S2/C/C2 services into DVB-T. The system is composed by a demultiplexer/multiplexer and a COFDM modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact A/V distribution system.

Technical Specifications

Remultiplexer:

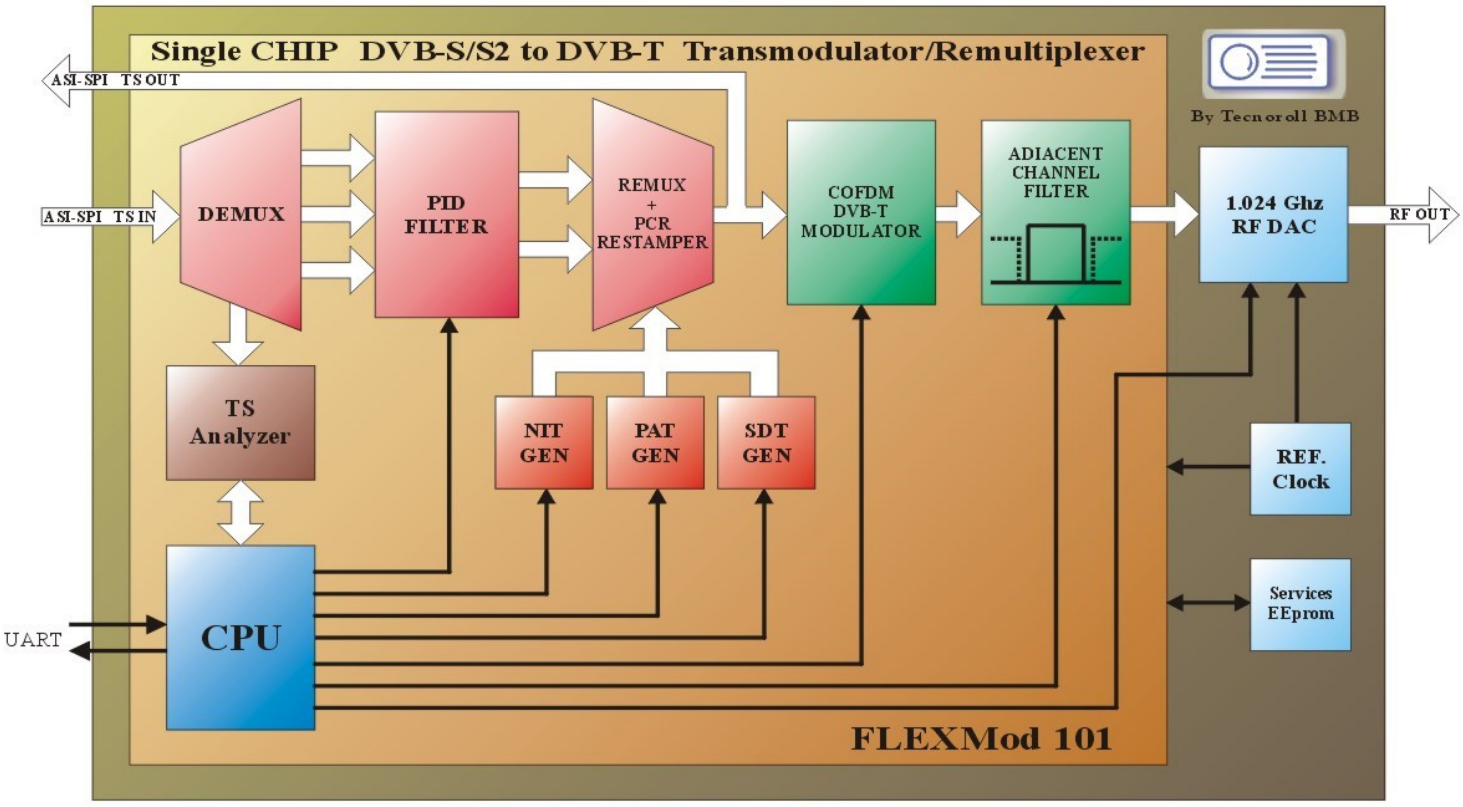
- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- REmbedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

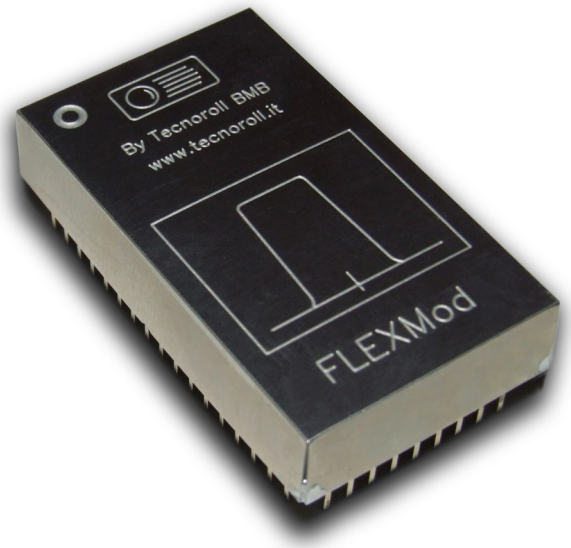
Modulator:

- COFDM Modulator: DVB-T/H ETSI EN 300 744 V1.5.1 (2004-11).
- Selectable RF power output up to -7dBm.
- Enhanced digital filtering for improved adjacent channel packing.
- Frequency range 0 - 500 MHz RF out through internal 1 GHz DAC.
- Image signal 500 -850 MHz still usable for many applications.

DVB-T Modulator

Modulation type:	COFDM DVB-T (ETSI EN 300 744)
Channel bandwidth:	6-7-8 MHz
Carriers:	2K-4K-8K
Hierarchy:	Alpha 0, 1, 2, 4
Constellation:	QPSK, 16QAM, 64QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval:	1/4, 1/8, 1/16, 1/32
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>45 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 301

DVB-S/S2/T/T2 to DVB-C Transmodulator with embedded Remultiplexer

Integrated solution for the redistribution/regeneration of DVB-T/S/S2/C2 services into DVB-C. The system is composed by a demultiplexer/multiplexer and a DVB-C modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact A/V distribution system.

Technical Specifications

Remultiplexer:

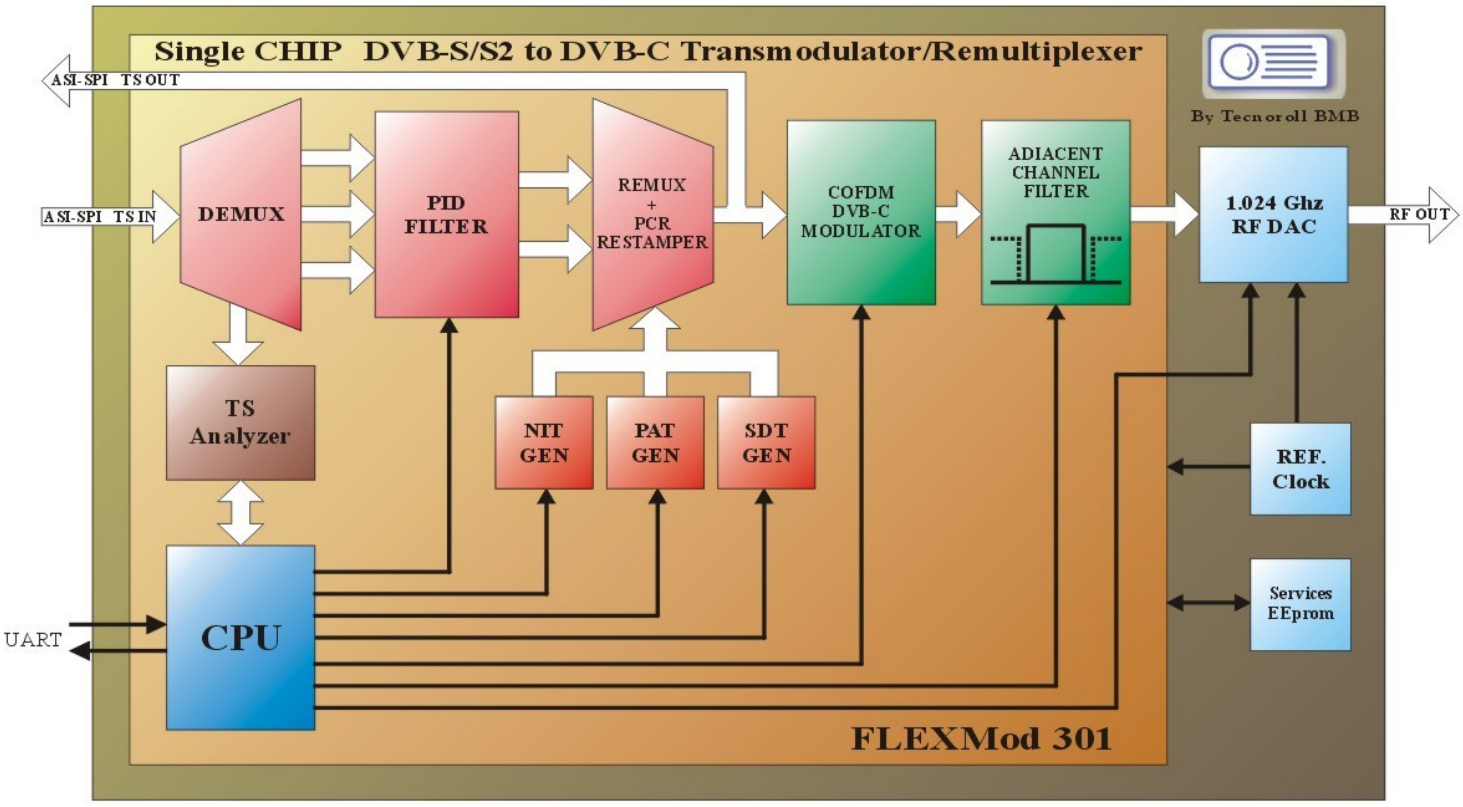
- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

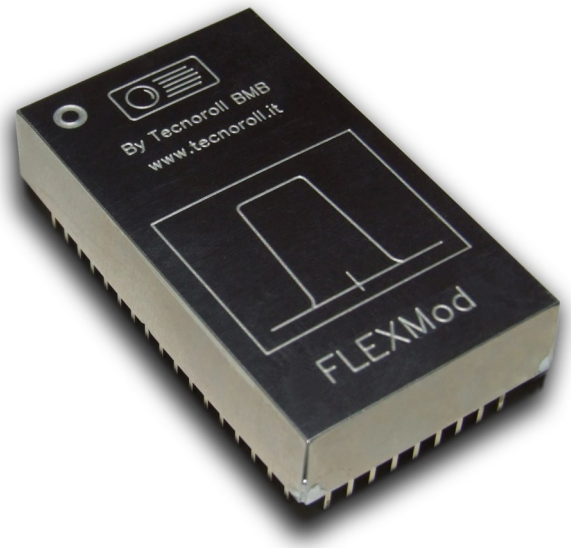
Modulator:

- QAM Modulator ITU-T J.83 Annex A/C, DVB-C (ETS 300 429).
- Selectable RF power output up to -7dBm.
- Enhanced digital filtering for improved adjacent channel packing.
- Frequency range 0 - 500 MHz RF out through internal 1 GHz DAC.
- Image signal 500 -850 MHz still usable for many applications.

DVB-C Modulator

Modulation type:	ITU-T J.83 Annex A/C, DVB-C (ETS 300 429)
Symbol rate:	0-7000 Ms/s
Constellation:	16, 32, 64, 128 e 256 QAM
Spectrum mode:	Normal/Inverted
PCR restamper:	Selectable ON/OFF
Output frequency:	0-500 MHz 1 Hz Step (Internal 1Ghz DAC)
Output level:	-7 dBm typical
MER:	>45 dB typical





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod QT033

Four channels DVB-T modulator

Integrated solution for the redistribution/regeneration of DVB-T/S/S2/C2 services into DVB-C. The system is composed by a demultiplexer/multiplexer and a DVB-C modulator with RF output. Easily configurable through a UART serial port, allows the development of a complete and very compact A/V distribution system.

Technical Specifications

General:

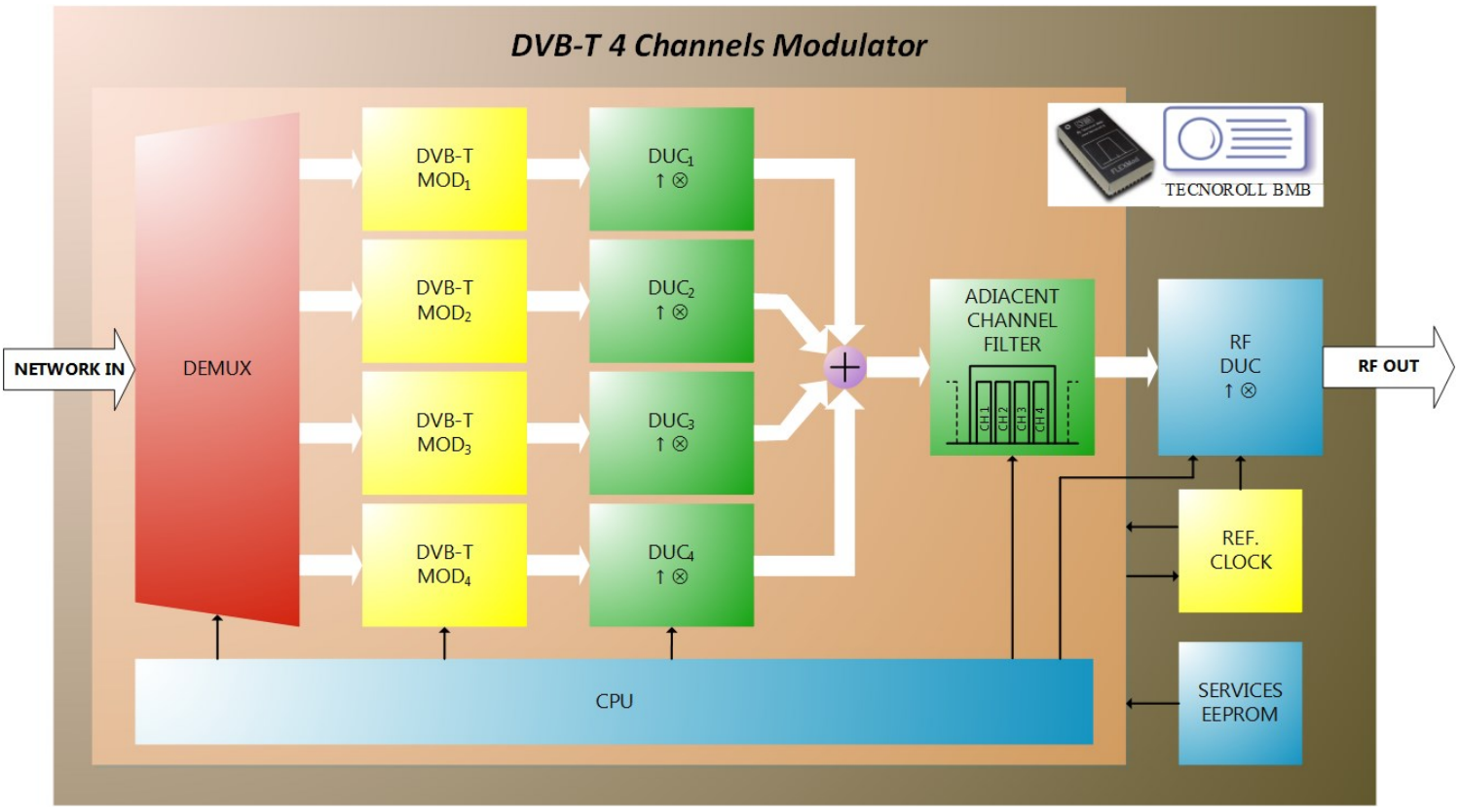
- Network input.
- RF output.
- Automatic recognition, analysis and remultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Embedded DVB-Tables regeneration for a correct TS output reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for reconfiguration on power-up.

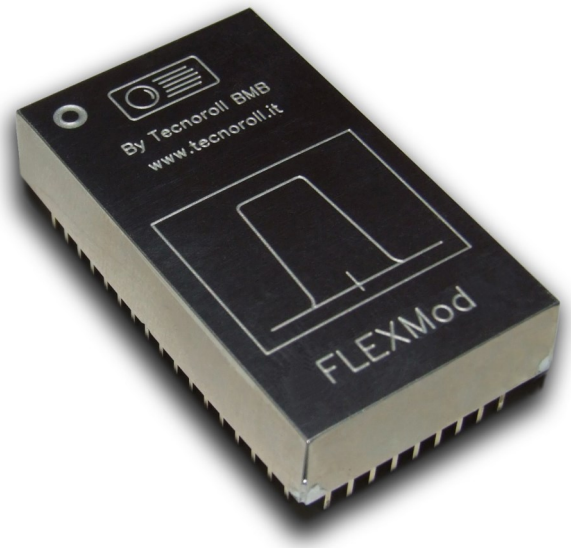
Modulator:

- COFDM Modulator: DVB-T/H ETSI EN 300 744 V1.5.1.
- Selectable RF power output up to -7dBm.
- Digital reprogrammable filters (Precorrector).
- Subnetwork mode for DVB-T to DVB-T Gap filler implementations.
- Internal oscillator locked to a GPS PPS reference clock.
- SFN operation with both PPS & 10 MHz or only through PPS.
- Frequency Range 0 - 3 GHz RF out through internal 2,4 GHz DAC.

DVB-T Modulator

Modulation type:	COFDM DVB-T ETSI EN 300 744 V1.5.1 (2004-11)
Channel bandwidth:	6-7-8 MHz
Carriers:	2K-4K-8K
Hierarchy:	Alpha 0, 1, 2, 4
Constellation:	QPSK, 16QAM, 64QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval:	1/4, 1/8, 1/16, 1/32
Spectrum mode:	Normal/Inverted
Output frequency:	0-3 GHz 1 Hz Step (2.4GHz DAC in 1° 2° & 3° Nyquist)
Output level:	-7 dBm typical
MER:	›50 dB typical @ 36.15MHz





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod FM011

Digital FM Modulator

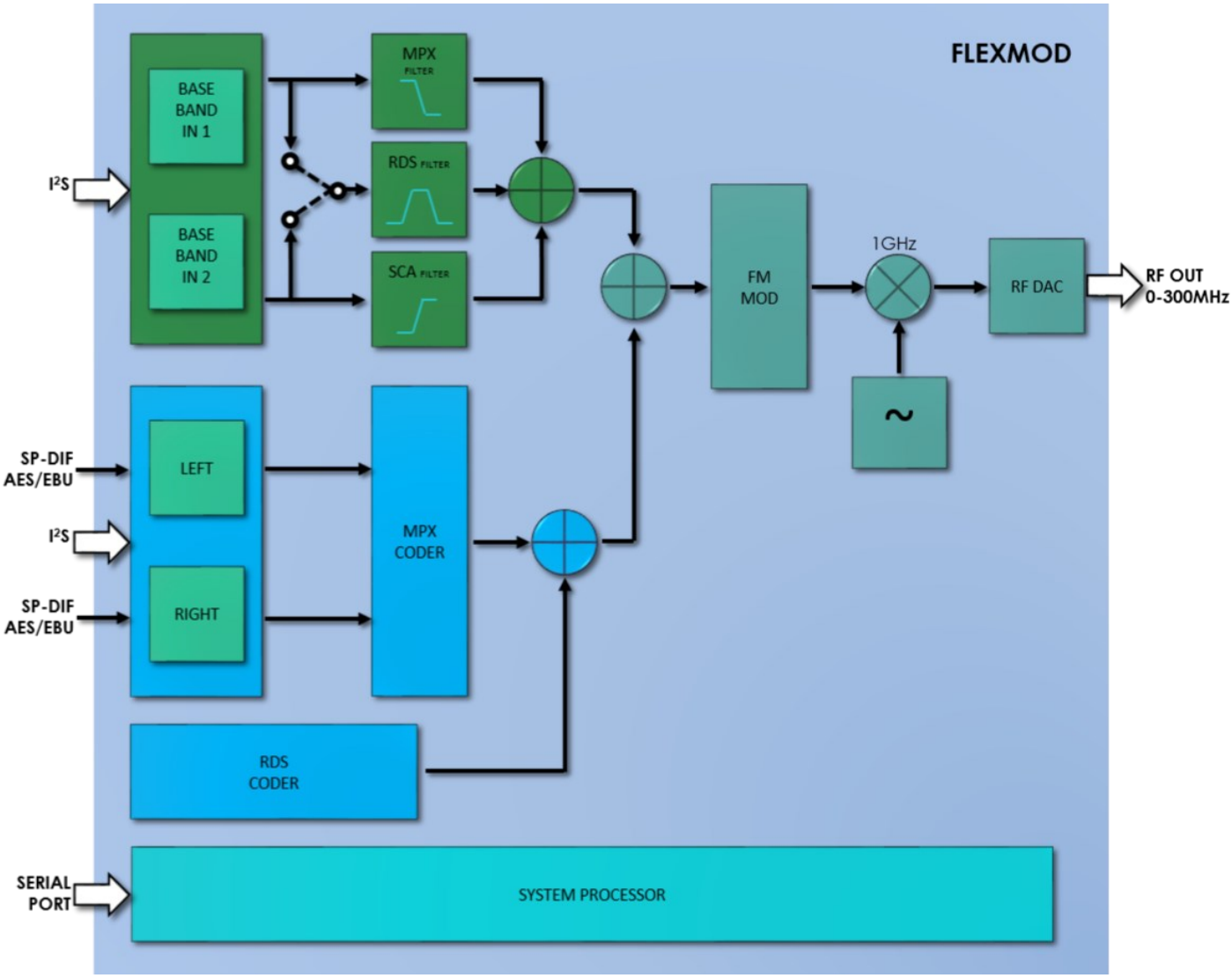
Integrated solution for the modulation of FM signals. The system is composed by a FM modulator with RF output and embedded MPD coder and RDS coder. Easily configurable through a UART serial port, allows the development of a complete and very compact exciter for FM transmitters.

Technical Specifications

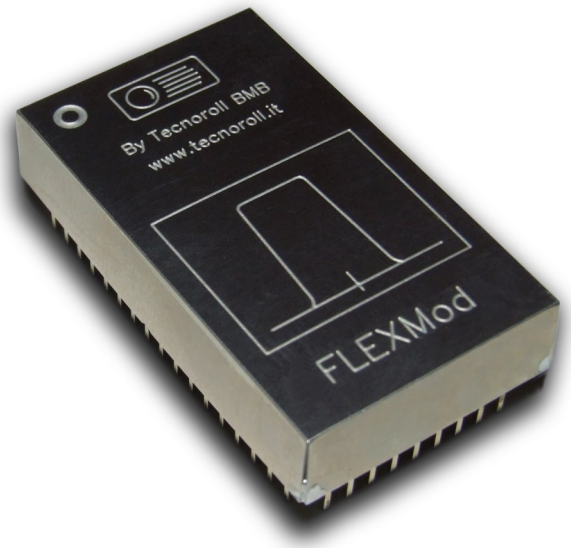
IN/OUT:	• AES/EBU IN. • SP-DIF IN. • I2S IN. • RF OUT. • MPX IN. • SCA IN.
MPX Coder:	• “Full broadcast” 24 bit audio processing. • Embedded base band low-pass digital audio filter (-0dB @ 0-14KHz, -90dB @ 16KHz).
RDS Coder:	• Program name (max. 8 characters). • Text message (max. 64 characters). • Enable/disable traffic program. • Traffic Alert. • Alternative frequencies list (max. 25). • Program mode (music/speech). • Station Id. • Program type.
FM Modulator:	• Direct RF out (88-108MHz). • Output level up to 0dBm. • Pre-enphasis selectable filter (50uS, 75uS or none).
User interface:	• Non-volatile memory for system configuration. • Easy configuration through asynchronous serial port with high-level commands. • No need for reconfiguration on power-up.

Available versions

Basic:	FM modulator with embedded MPX coder and RDS coder.
Full:	FM modulator with embedded MPX coder and RDS coder. Inputs for external coders and enhnced filters.
DAB Ready:	FM modulator with embedded MPX coder and RDS coder. Inputs for external coders and enhnced filters. Hardware ready to switch to DAB modulator.
Board:	OEM motherboard with FM modulator chipset, input ADC, power supplies and connectors.



TS Processors



TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 711

SFN Adapter

Integrated solution to adapt a generic Transport Stream to a stream ready to be sent to a DVB-T modulator for synchronous networks compliant with the ETSI TS 101 191 standard.
Using the FLEXMod 711 the Transport stream rate will be synchronized to a GPS and to an optional external frequency reference.
The FLEXMod will also add all the necessary informations for trasmission synchronization (MIP) and the so called "MIP functions" to configure specific modulators in the network.
Easily configurable through a UART serial port, allows the development of a complete and very compact remultiplexing system.

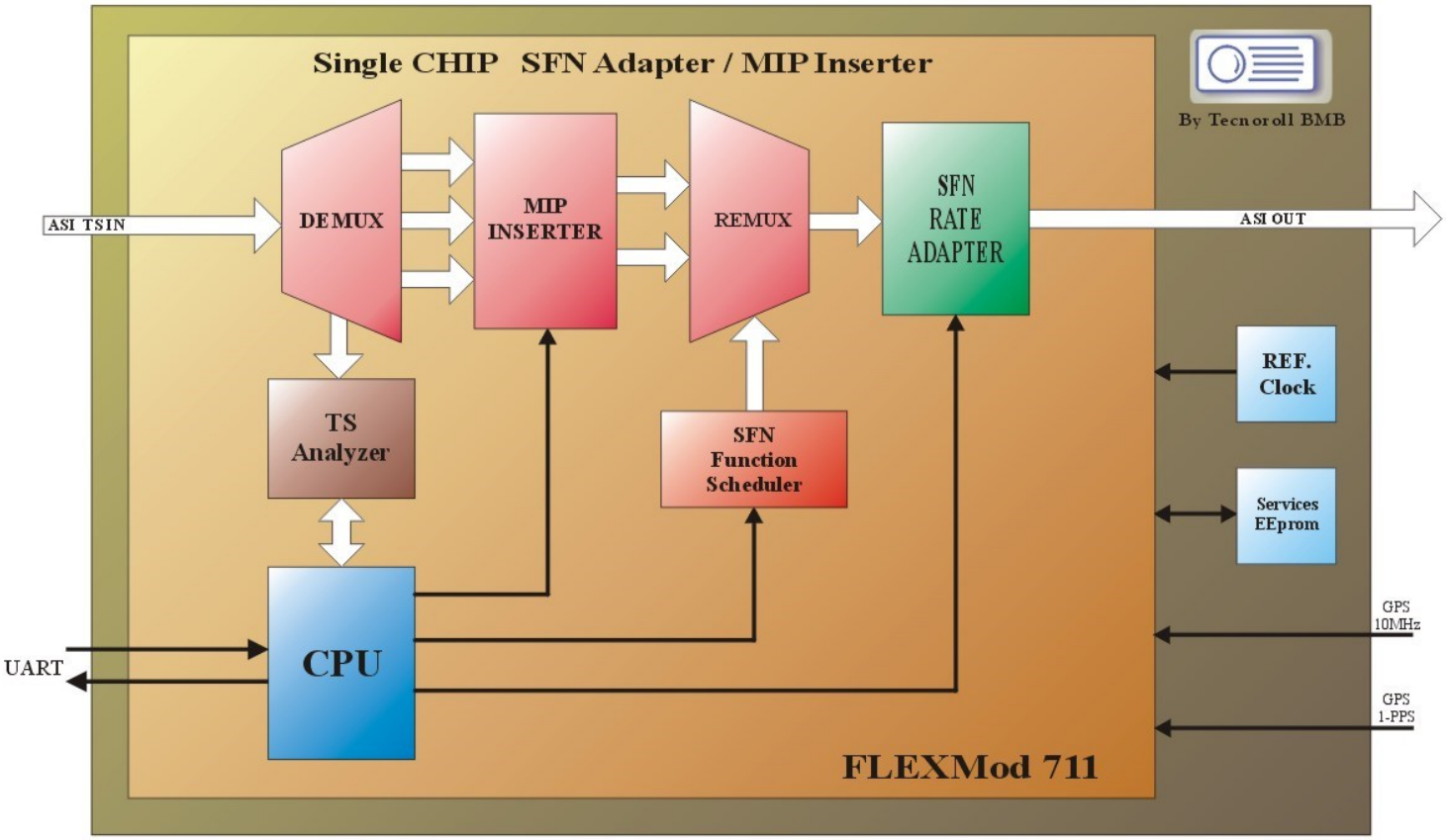
Technical Specifications

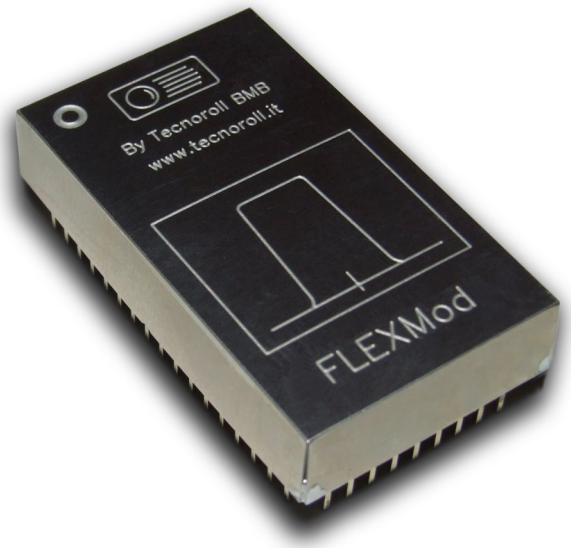
General:

- ASI TS inputs.
- ASI TS outputs.
- Visualization of the Input/Output TS bandwidth.
- Arbitrary selection of the Output TS rate.
- Embedded Remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

SFN Adapter

Data input:	ASI
Power supply:	1.2V, 1.8V, 3.3V
Power consumption:	< 3W
Operating temperature:	0-70 °C
Storage temperature:	-20 +85 °C
Dimension:	29 x 49,5 x 9,5 mm
Weight:	20 gr





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 811

EPG inserter And Aspect ratio corrector (16:9 - 4:3)

Integrated solution for EPG and Date/Time information insertion and Aspect ratio (4:3, 16:9) correction.
Using the FLEXMod 811 it is possible to add Date/Time, Time offset and DST informations in the Transport Stream. It is also possible to add the Event Information Table (EIT) for the "current" and "following" event for the services present in the Transport Stream. The FLEXMod 811 can also correct the Aspect Ratio descriptor for MPEG2 SD services.
Easily configurable through a UART serial port, allows the development of a complete and very compact remultiplexing system.

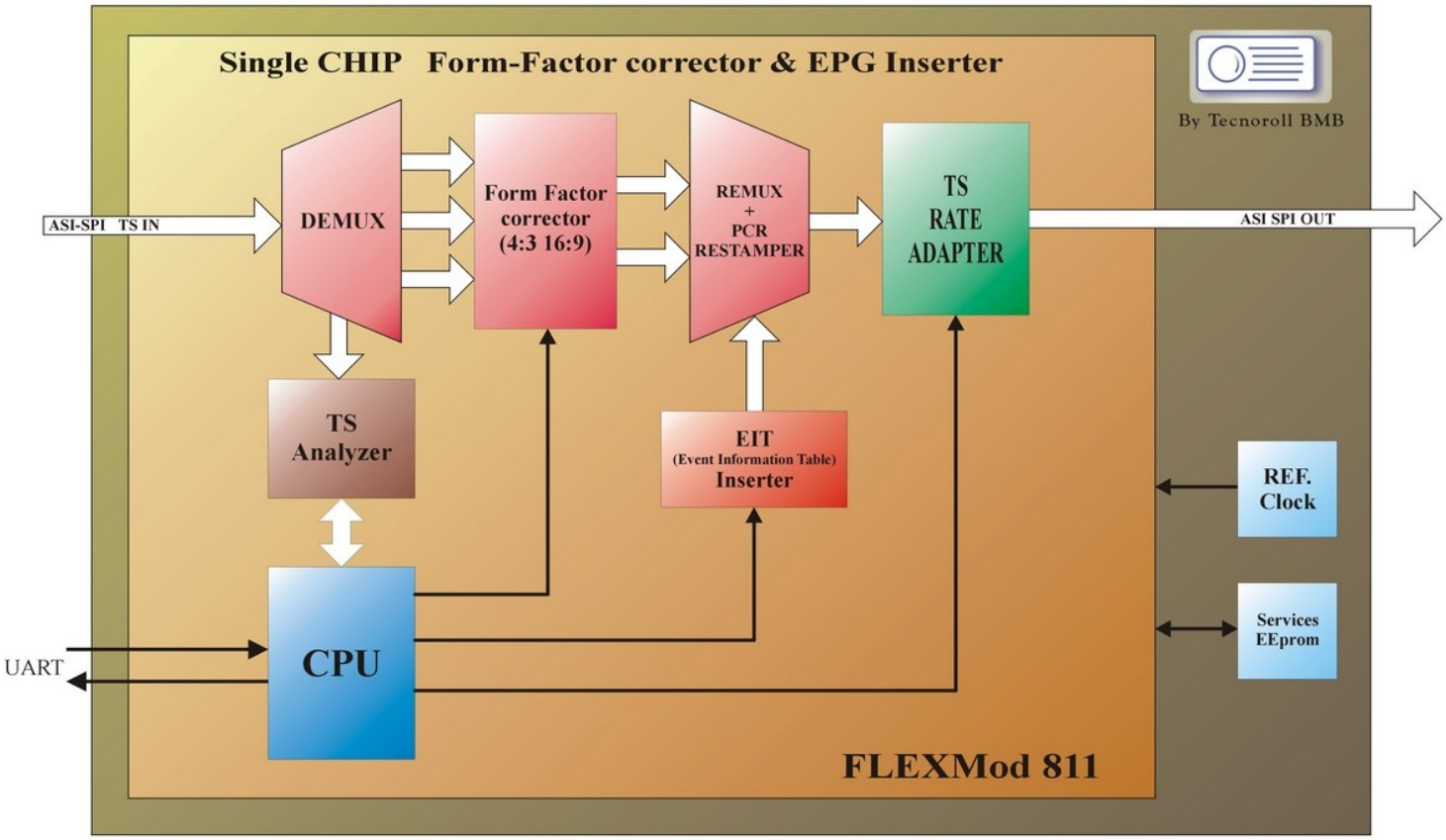
Technical Specifications

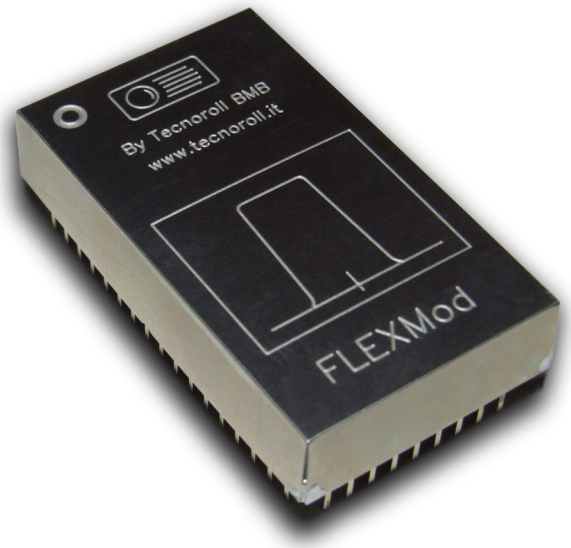
General:

- ASI TS inputs.
- ASI TS outputs.
- Visualization of the Input/Output TS bandwidth.
- Arbitrary selection of the Output TS rate.
- Embedded Remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

EPG Inserter

Data input:	ASI
Power supply:	1.2V, 1.8V, 3.3V
Power consumption:	< 3W
Operating temperature:	0-70 °C
Storage temperature:	-20 +85 °C
Dimension:	29 x 49,5 x 9,5 mm
Weight:	20 gr





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod 901

Transport Stream Converter/Remultiplexer

Integrated solution for the conversion of DVB-T/C/S services. The system is composed by a demultiplexer/multiplexer and an output TS rate adapter. Any incoming TS (cable/satellite/terrestrial) can be converted into any outgoing TS (cable/satellite/terrestrial). Output services can be easily selected, remultiplexed and set to high or low priority. TS output rate can be set to any value. Easily configurable through a UART serial port, allows the development of a complete and very compact remultiplexing system.

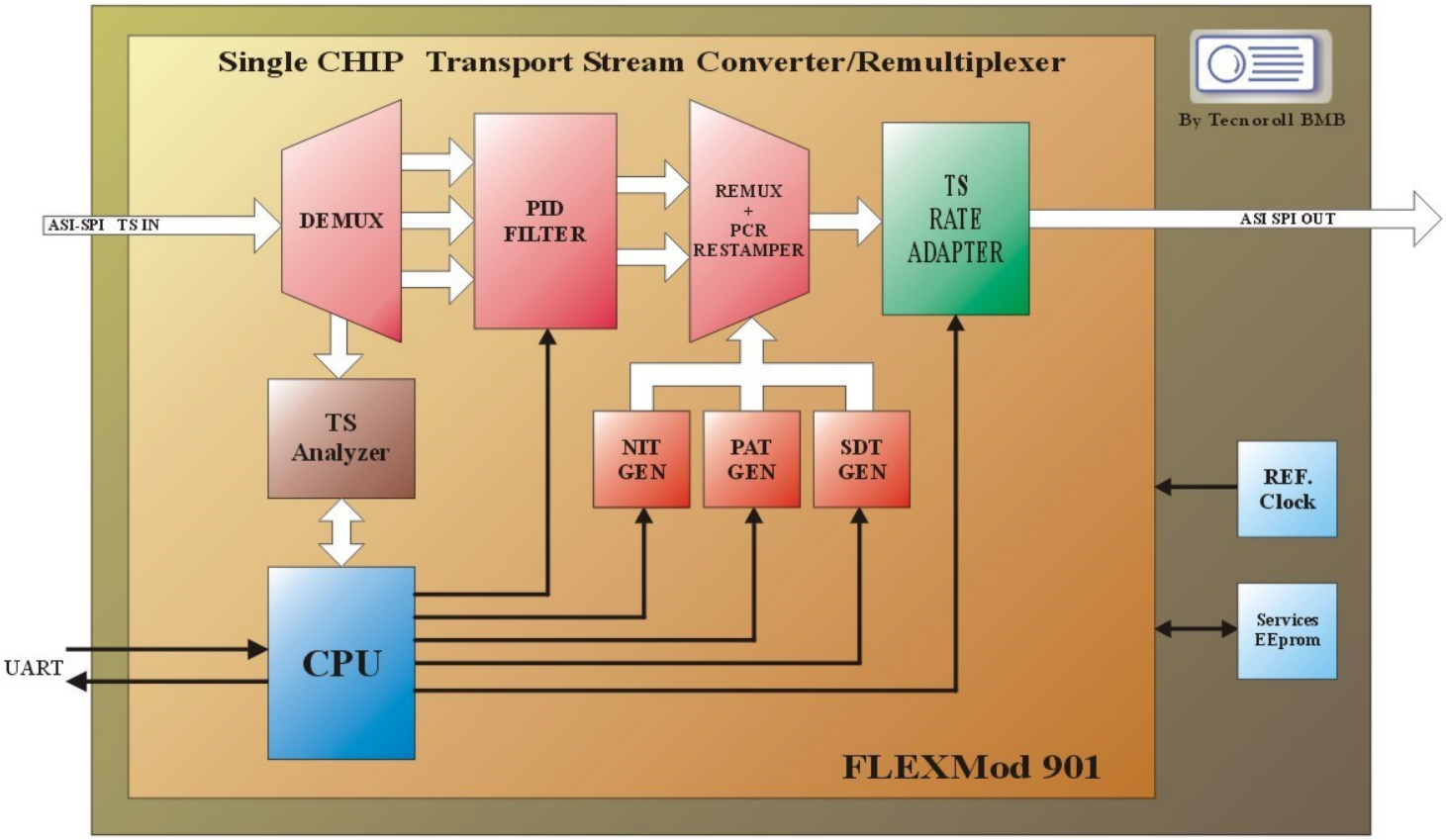
Technical Specifications

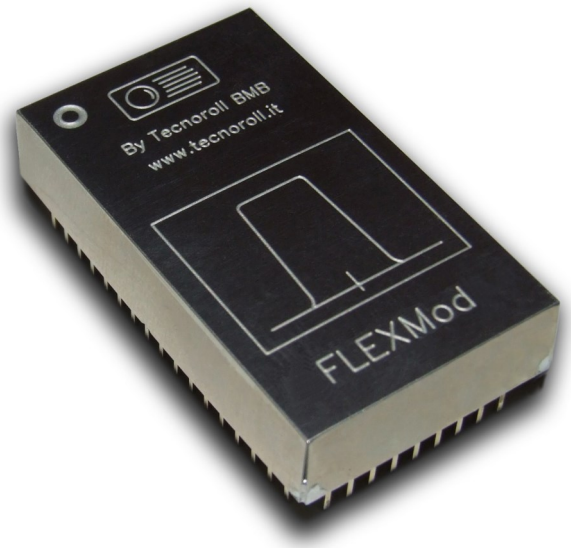
General:

- ASI and SPI TS inputs.
- ASI and SPI TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Arbitrary selection of the Output TS rate.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Supports Service-ID remapping.
- Supports Transport-Stream-ID remapping.
- Supports Original-Network-ID remapping.
- Supports Control-Access flags & descriptors removal in the de-encrypted services.
- Automatic service monitoring and PID tracking for the desired services.
- Embedded DVB-Tables regeneration.
- Embedded Remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Support to SFN-Link (signed packet removal for compatibility with DVB-T SFN distribution networks).
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

Remultiplexer

Data input:	ASI
Power supply:	1.2V, 1.8V, 3.3V
Power consumption:	< 3W
Operating temperature:	0-70 °C
Storage temperature:	-20 +85 °C
Dimension:	29 x 49,5 x 9,5 mm
Weight:	20 gr





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod CM011

Transport Stream Combiner

Integrated solution to transfer two independent Transport Streams using a single RF channel. Two configured modules are needed in order to mix the Transport Streams. Easily configurable through a UART serial port, the module allows to develop a complete and very compact system.

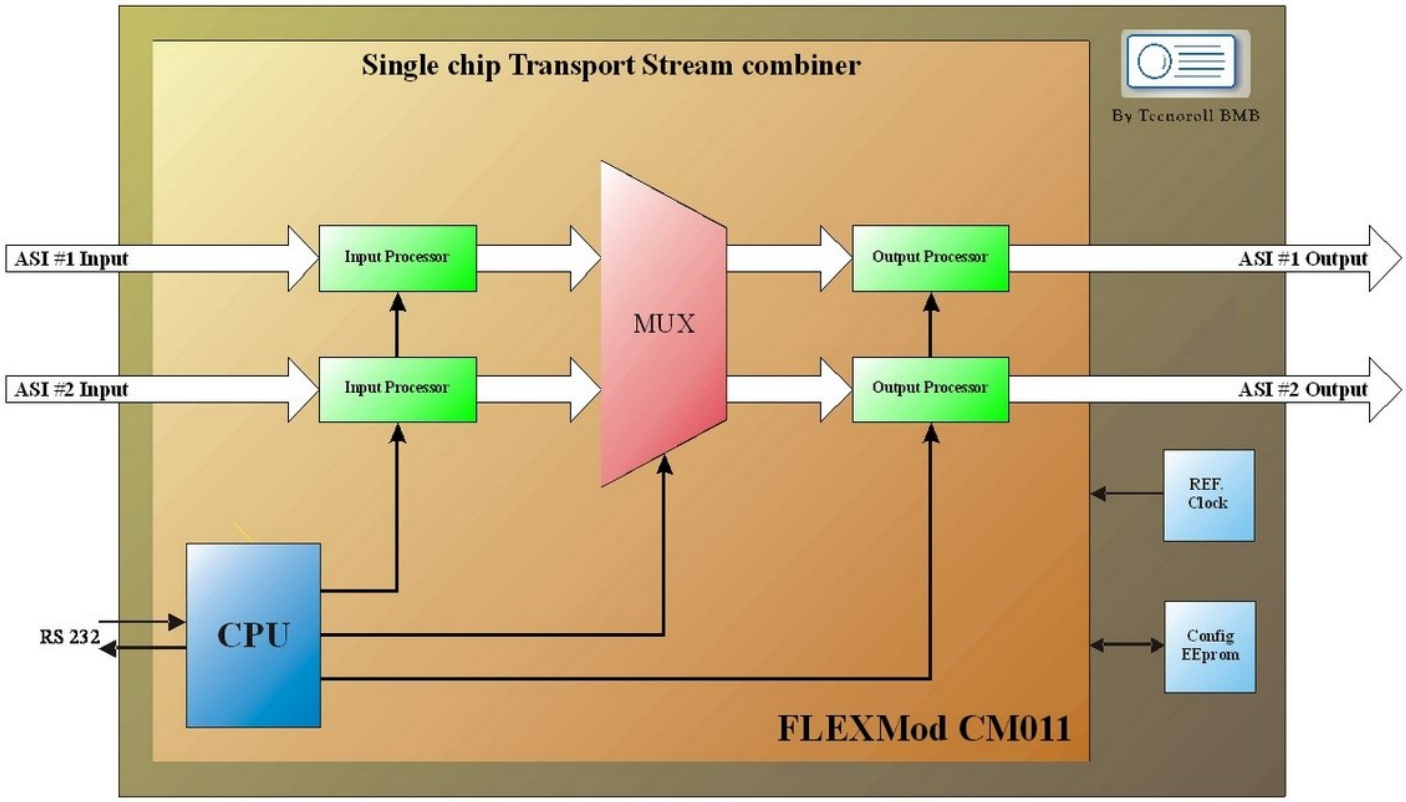
Technical Specifications

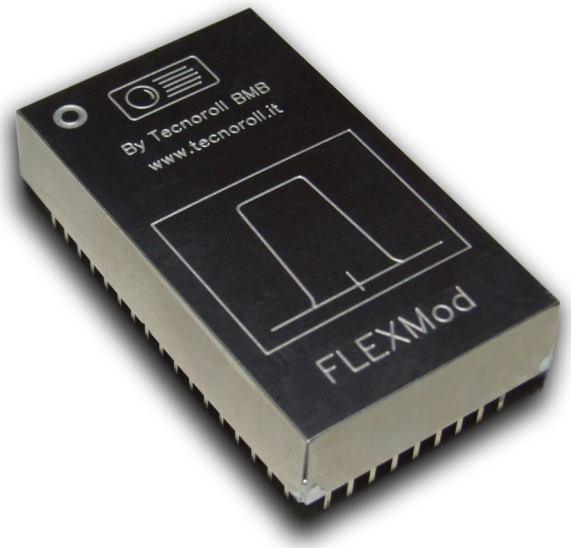
General:

- ASI inputs.
- ASI outputs.
- Visualization of the input/output occupied bandwidth.
- Arbitrary selection of the output TS rate.
- Embedded multiplexer for output TS reconstruction.
- PCR restamper for a correct timing reconstruction (only for MFN streams).
- Non-volatile memory to save the current system configuration.
- Easy configuration through an asynchronous serial port with high-level commands.
- No need for reconfiguration on power-up.

Combiner

Data input:	ASI
Power supply:	1.2V, 1.8V, 3.3V
Power consumption:	< 3W
Operating temperature:	0-70 °C
Storage temperature:	-20 +85 °C
Dimension:	29 x 49,5 x 9,5 mm
Weight:	20 gr





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod NT033

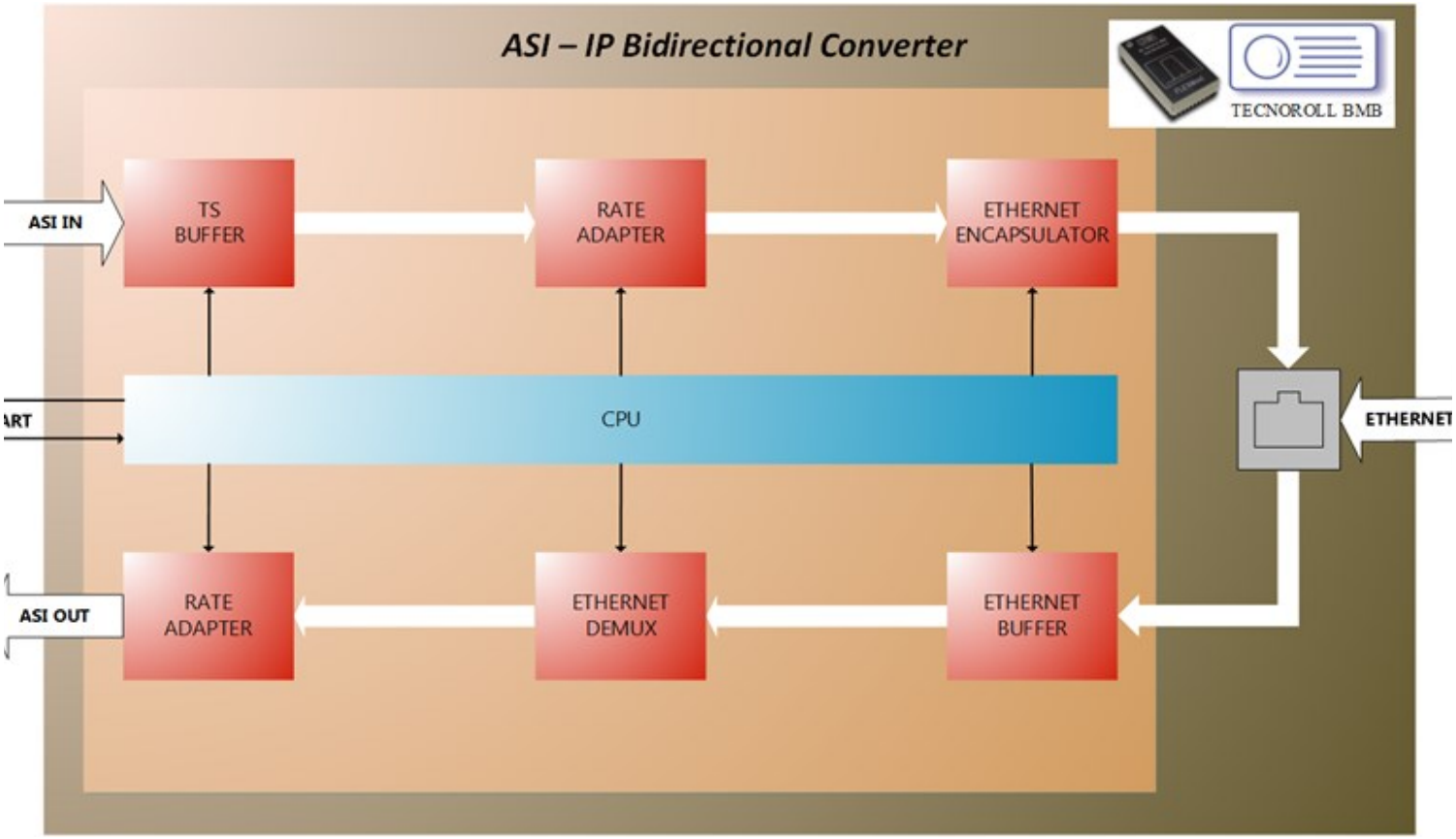
ASI-IP IP-ASI full duplex transport stream converter

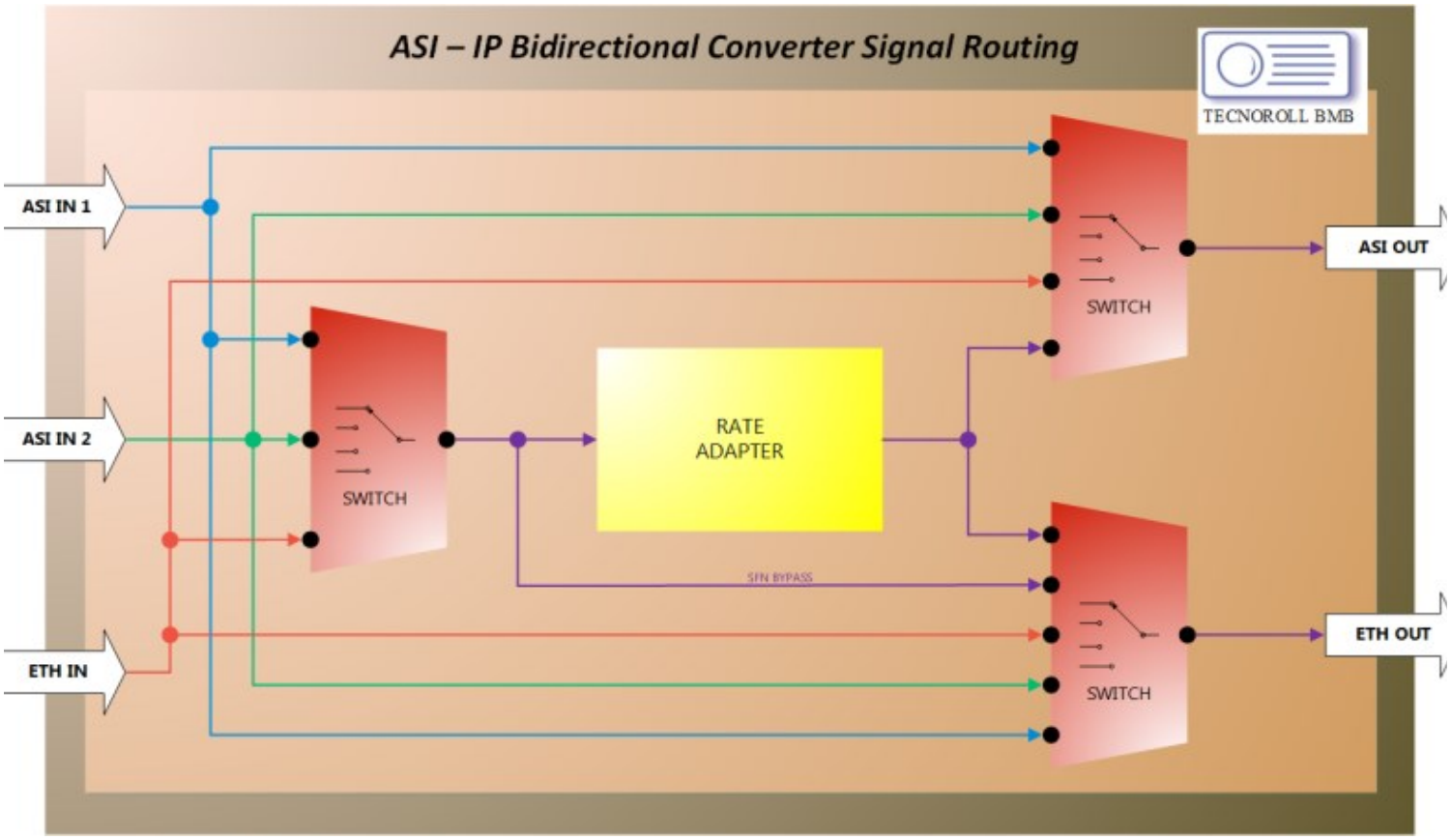
Integrated solution to transfer one Transport Stream through an ethernet network in UNICAST UDP mode. Easily configurable through a UART serial port, the module allows to develop a complete and very compact system.

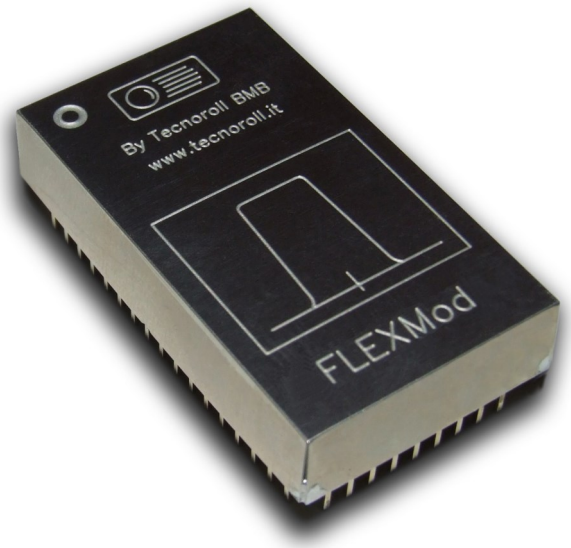
Technical Specifications

General:

- ASI inputs.
- ASI output.
- Network input (full duplex).
- Network output.
- Network configuration parameters: ip address, subnet mask, default gateway, mac address.
- Jitter control: low latency, adjustable buffering.
- Receiver mode selection: MFN or SFN.
- Arbitrary selection of the output TS rate.
- Embedded multiplexer for output TS reconstruction.
- Non-volatile memory to save the current system configuration.
- Easy configuration through an asynchronous serial port via high-level commands.
- No need for reconfiguration on power-up.


ASI – IP Bidirectional Converter
TECNOROLL BMB
ASI IN
TS BUFFER
RATE ADAPTER
ETHERNET ENCAPSULATOR
CPU
ETHERNET
ASI OUT
RATE ADAPTER
ETHERNET DEMUX
ETHERNET BUFFER


ASI – IP Bidirectional Converter Signal Routing
TECNOROLL BMB
ASI IN 1
ASI IN 2
ETH IN
SWITCH
RATE ADAPTER
SFN BYPASS
SWITCH
SWITCH
ASI OUT
ETH OUT



TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod MX001

TS Matrix and multiplexer

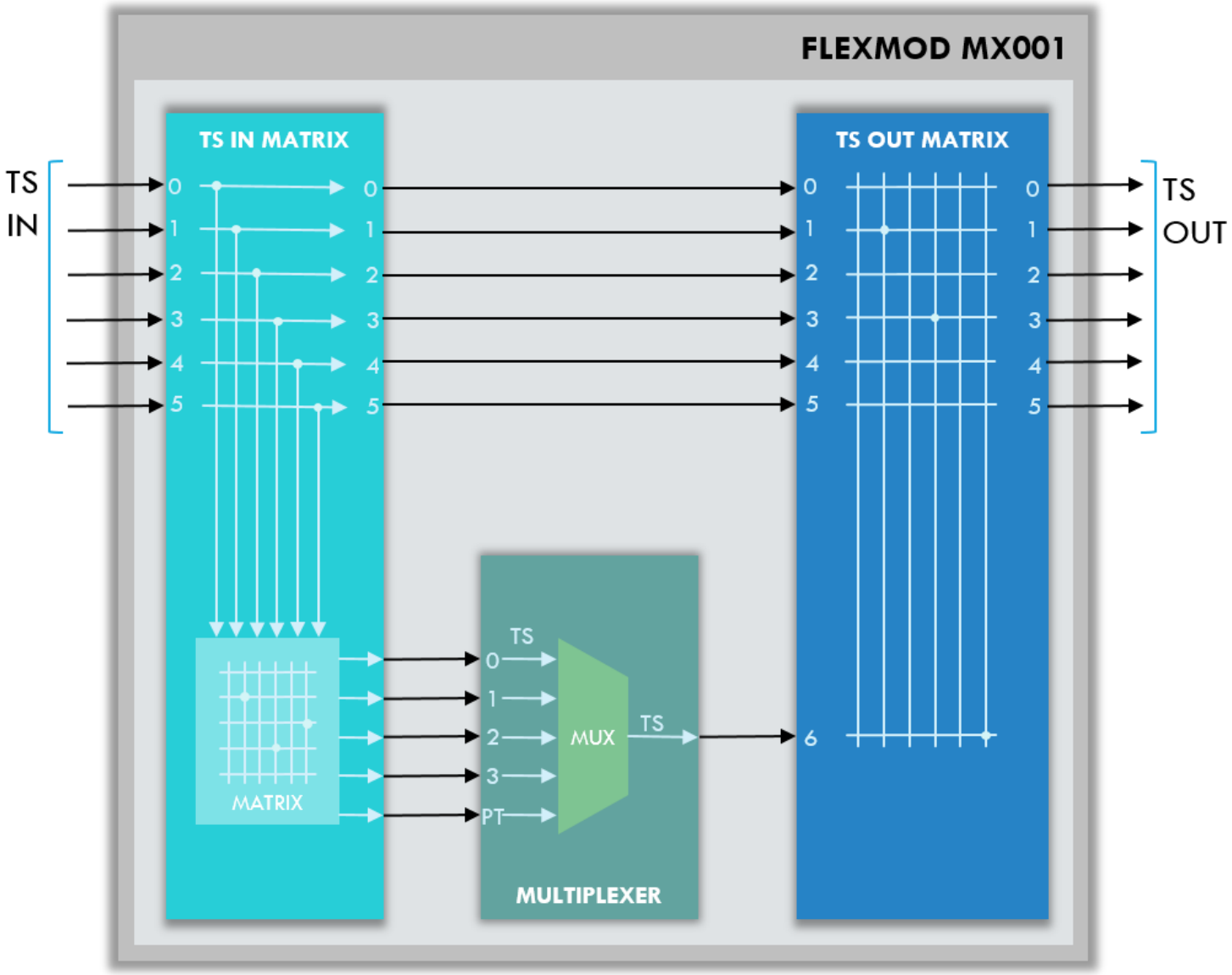
Integrated solution for the multiplexing and the routing of up to six transport stream. The signal routing matrix allow to select up to four input transport stream to remux (plus one transport stream only muxed).

Easily configurable through a UART serial port, the module allows to develop a complete and very compact system.

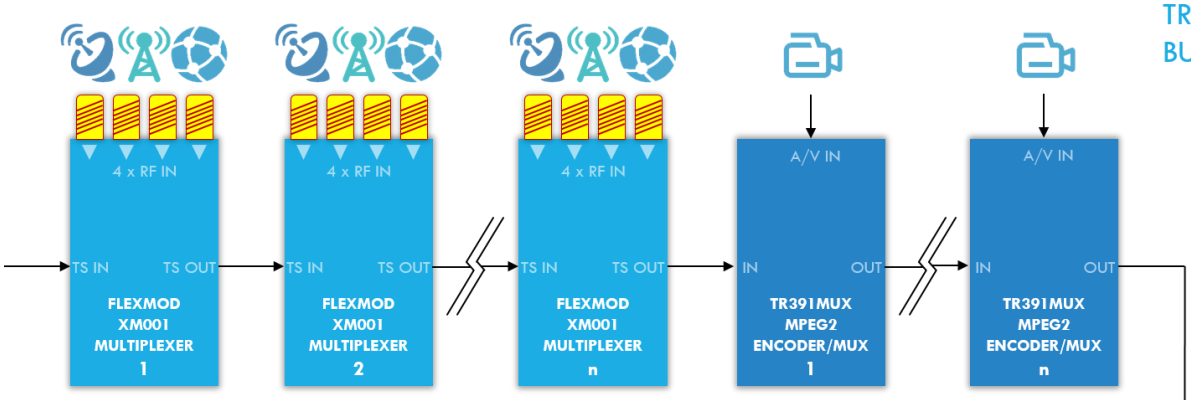
Technical Specifications

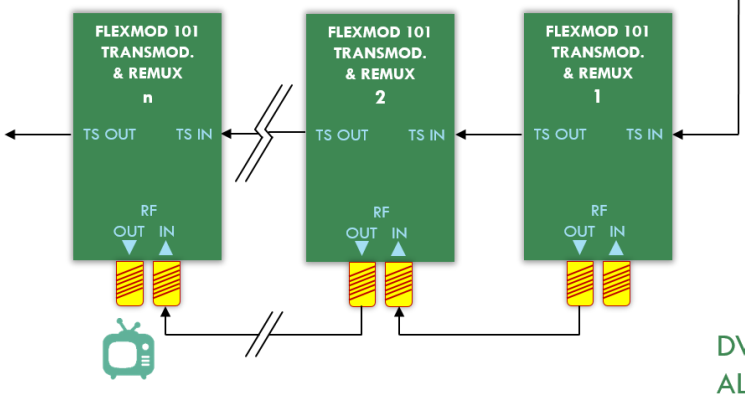
General:

- 6 TS inputs.
- 6 TS outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

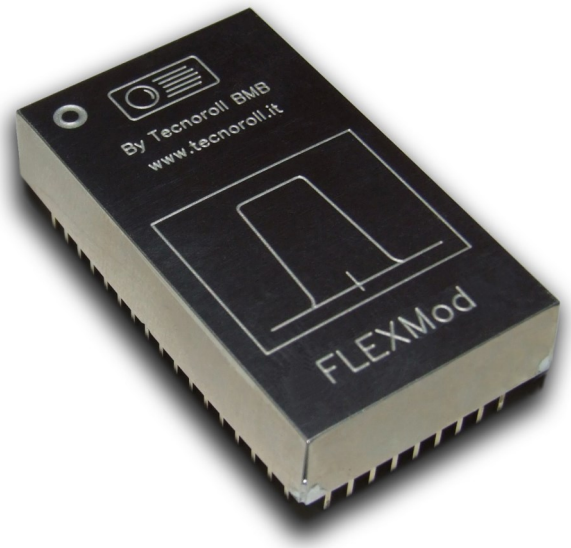


TRANSPORT STREAM BUILDING BLOCKS





DVB-T/C TRANSPONDER ALLOCATION BLOCKS



TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod MX011

ASI Matrix and multiplexer

integrated solution for the multiplexing and the routing of up to six transport stream. The signal routing matrix allow to select up to four input transport stream to remux (plus one transport stream only muxed).

Easily configurable through a UART serial port, the module allows to develop a complete and very compact system.

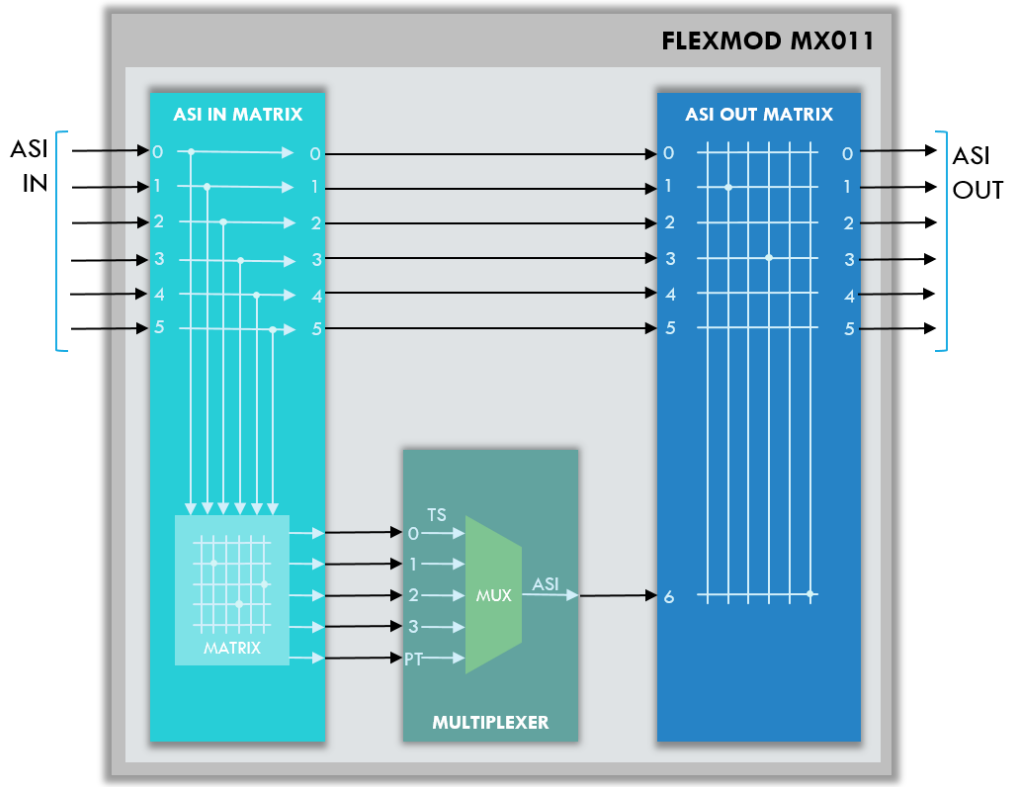
Technical Specifications

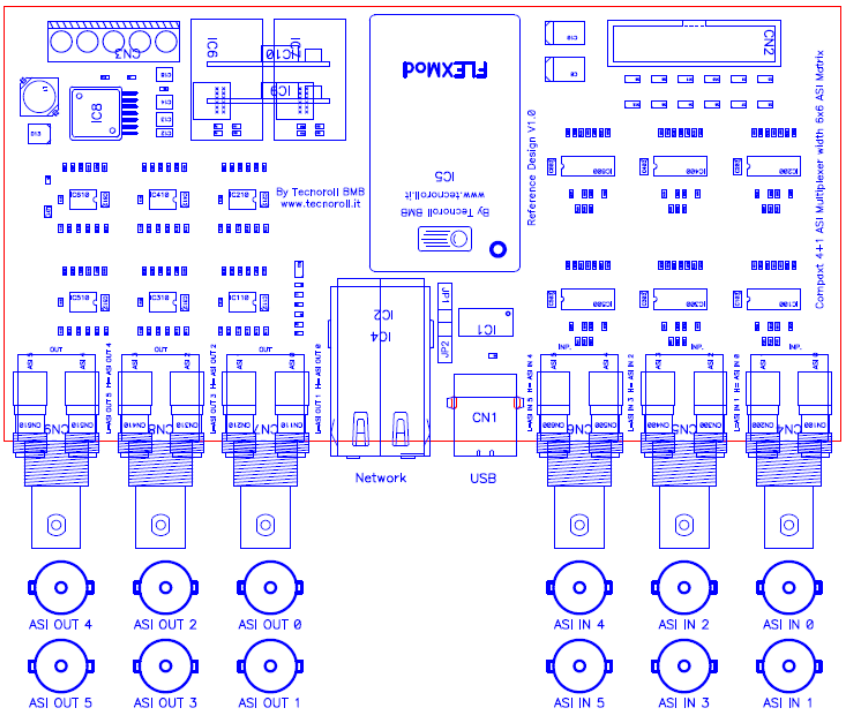
General:

- 6 ASI inputs.
- 6 ASI outputs.
- Automatic recognition, analysis and demultiplexing of the incoming services.
- Visualization of the Input/Output TS bandwidth.
- Selection and removal of unwanted services.
- QoS (Quality of Service) function for the selected services.
- LCN (Logical Channel Number) insertion for the selected services.
- NIT (Network Information Table) insertion for a correct Bouquet generation.
- Automatic service monitoring and PID tracking for the desired services.
- Supports Service-ID remapping.
- Embedded DVB-Tables regeneration.
- Embedded remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- No need for additional programming on power-up.

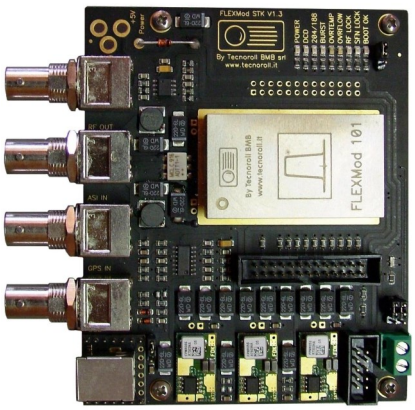
ASI Matrix

Data input:	ASI
Power supply:	1.2V, 1.8V, 3.3V
Power consumption:	< 3W
Operating temperature:	0-70 °C
Storage temperature:	-20 +85 °C
Dimension:	29 x 49,5 x 9,5 mm
Weight:	20 gr





FLEXMod Starter Kits



TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

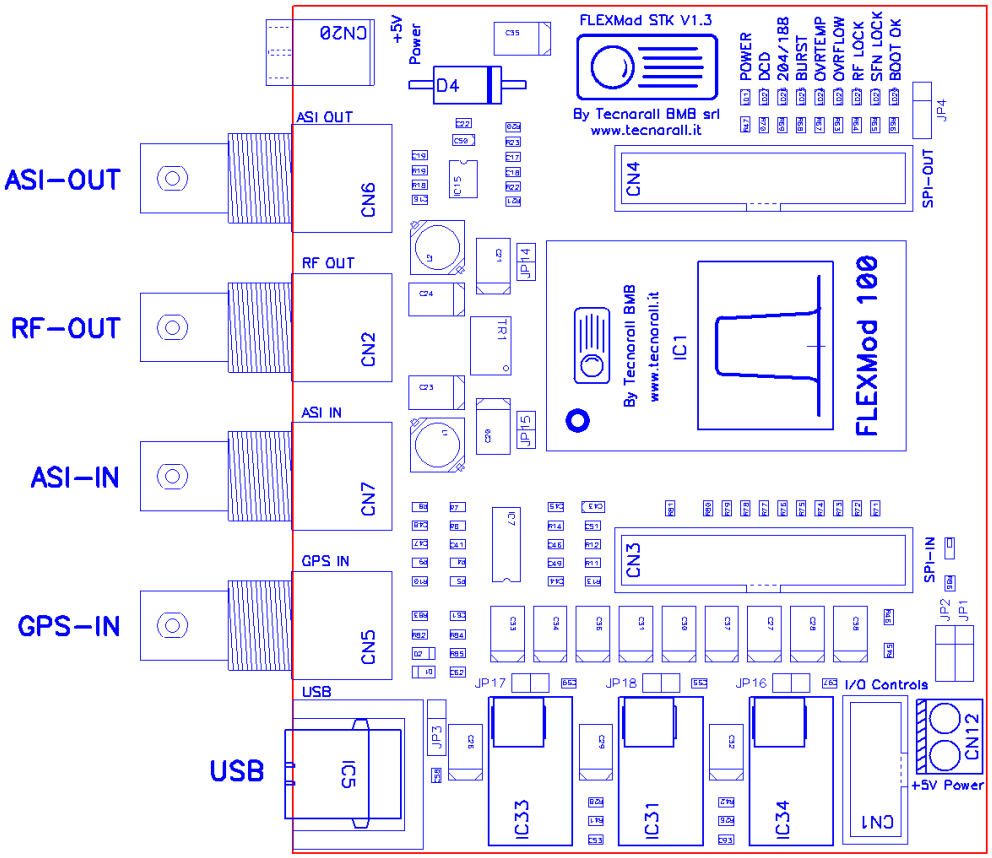
FLEXMod STK v1.4

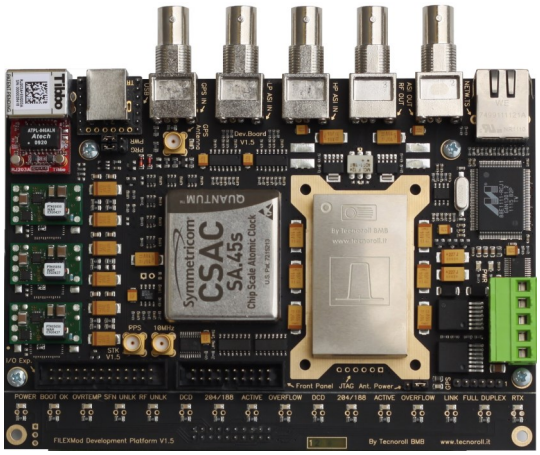
Starter Kit FLEXMod V1.4 (x11/x21)

Technical Specifications

General:

- 1 BNC for the input TS.
- 1 BNC for the output TS.
- 1 BNC for the GPS pps reference clock.
- 1 BNC for the RF output.
- 1 connector for the Parallel-TS input.
- 1 connector for the Parallel-TS output.
- 9 status Flag LEDs.
- 1 connector for an external microcontroller.
- 1 Power Connector.
- 1 USB port for management/power-supply of the starterKIT.





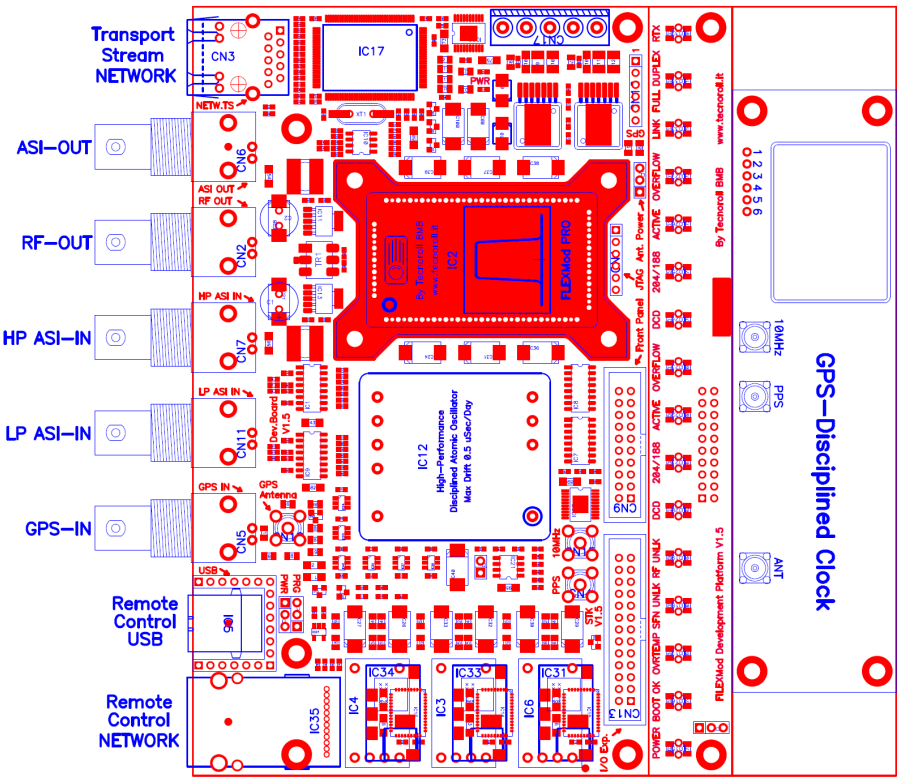
TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

FLEXMod STK v3

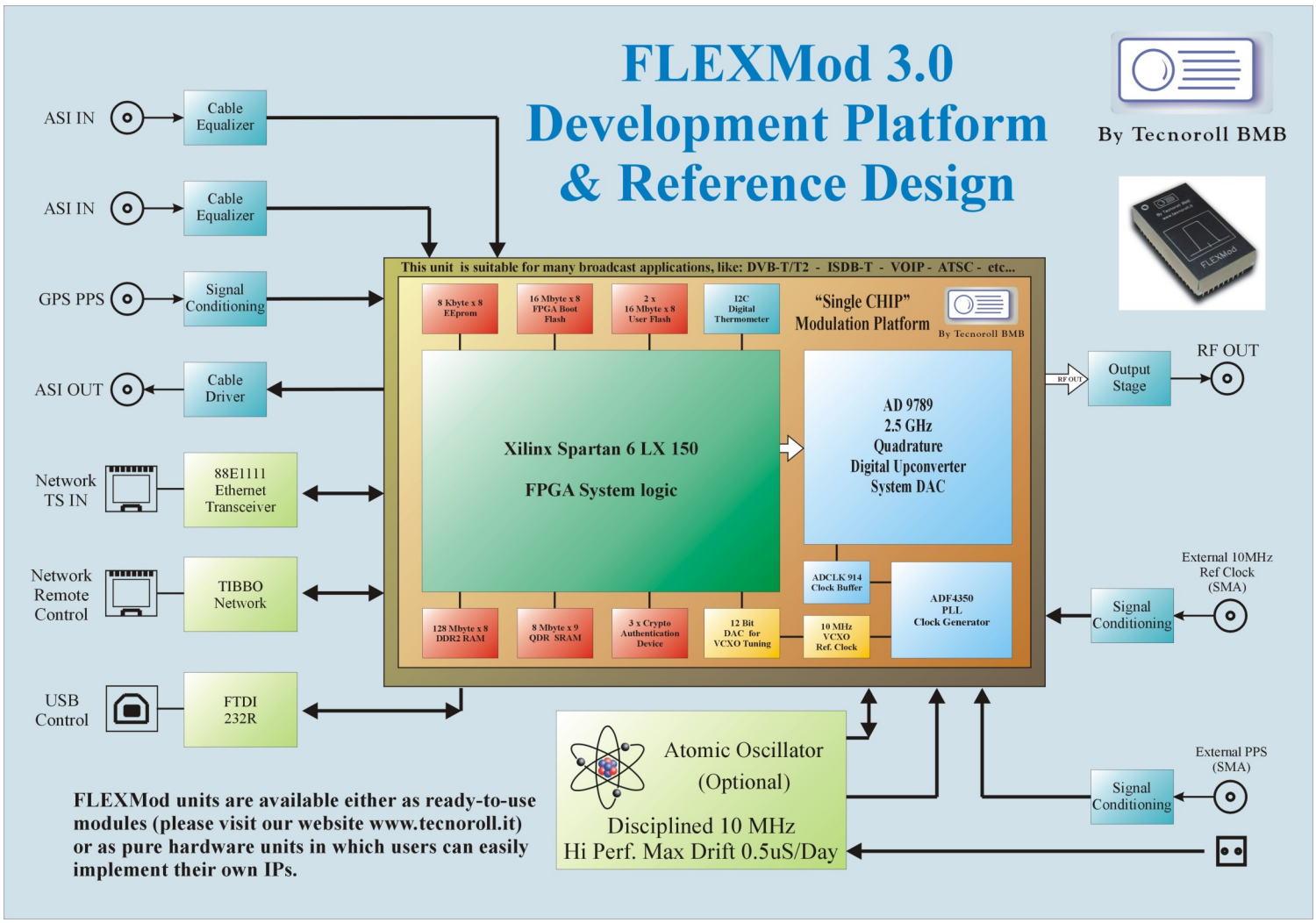
Starter Kit FLEXMod V3

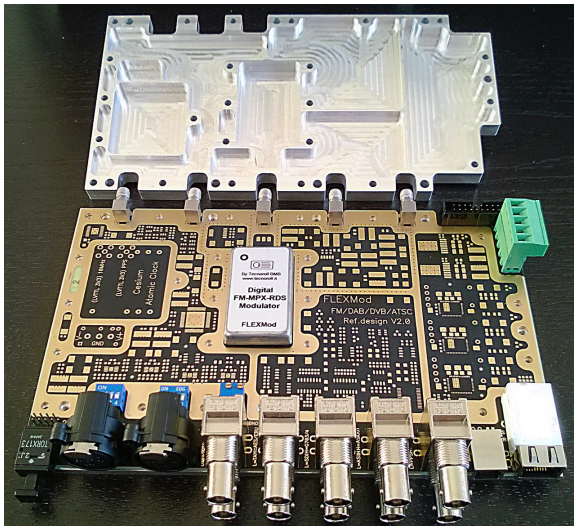
Using the starter kit is the easiest and safest way of knowing and testing the full potential of FLEXMod 3.
The module comes with the bootloader and several Tecnoroll's IP pre-loaded, and mounted, through socket, on a motherboard that already has the necessary power conversions, the input and output ports, the user interfaces and, optionally, a reference oscillator, based on cesioum technology, and the GPS module.
As well as evaluation board, FLEXMod 3 STK is also ideal if you have the need to go on the market in a very near-to-zero time: FLEXMod 3 STK is in fact a ready to use device, requiring only a box and an AC power supply to be full operative.
Tecnoroll provides the starter kit as a full-OEM product, and the customer has the opportunity to respond to the immediate needs of the market and, at the same time, if deemed appropriate, create their own design.
The reference design is made available by Tecnoroll as open-source project



Technical specifications

System FPGA:	SPARTAN 6 LX 150
RF DAC converter:	Analog Devices AD9789 QDUC
Clock management:	Internal PLL (ADF4350) to generate any DAC clock frequency
Clock reference:	Internal 10MHz or external reference clock capability
Clock tuning:	12-bit DAC to control the internal VCXO clock reference source
IP management:	Up to 3 crypto autentication devices to manage 3rd party IP cores
FPGA boot flash:	One 128-Mbit (16Mbyte x 8) serial flash
User flash:	Two 128-Mbit (16Mbyte x 8) serial flash for user applications and storage
First RAM bank:	-128Mbyte x 8 DDRII for system processor and TS buffering
Second RAM bank:	8Mbyte x 9 QDR for fast random access (time and frequency interleaving)
First RAM bank:	internal thermometer for system monitoring functions
Thermometer:	29 x 49,5 x 9,5 mm
Weight:	30 gr





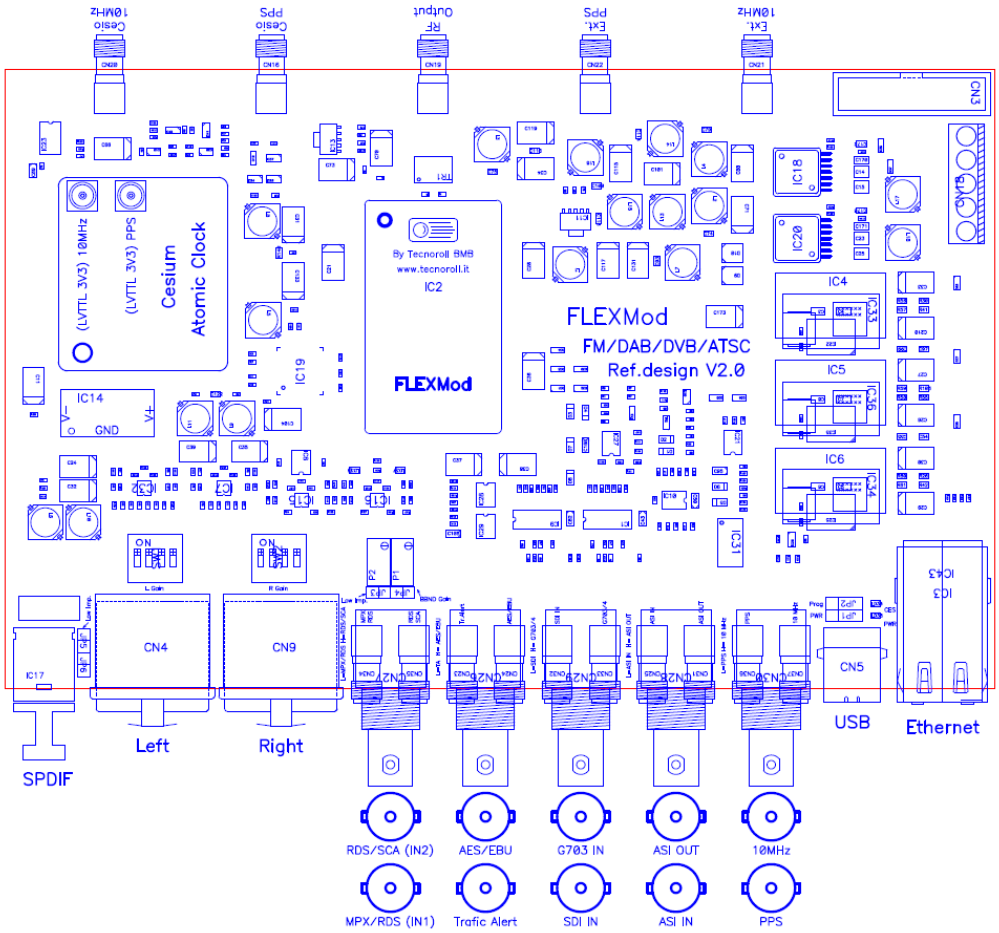
TECNOROLL BMB s.r.l.

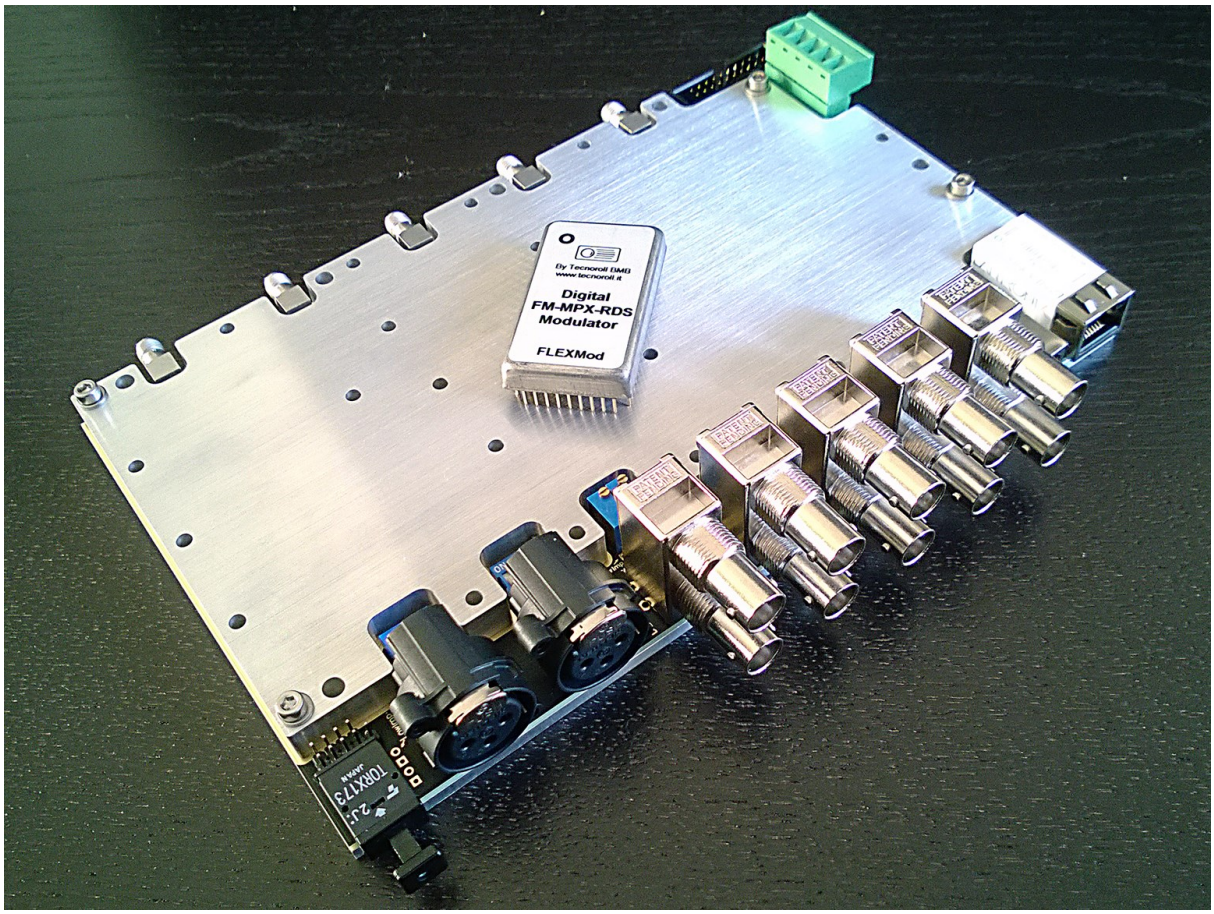
Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

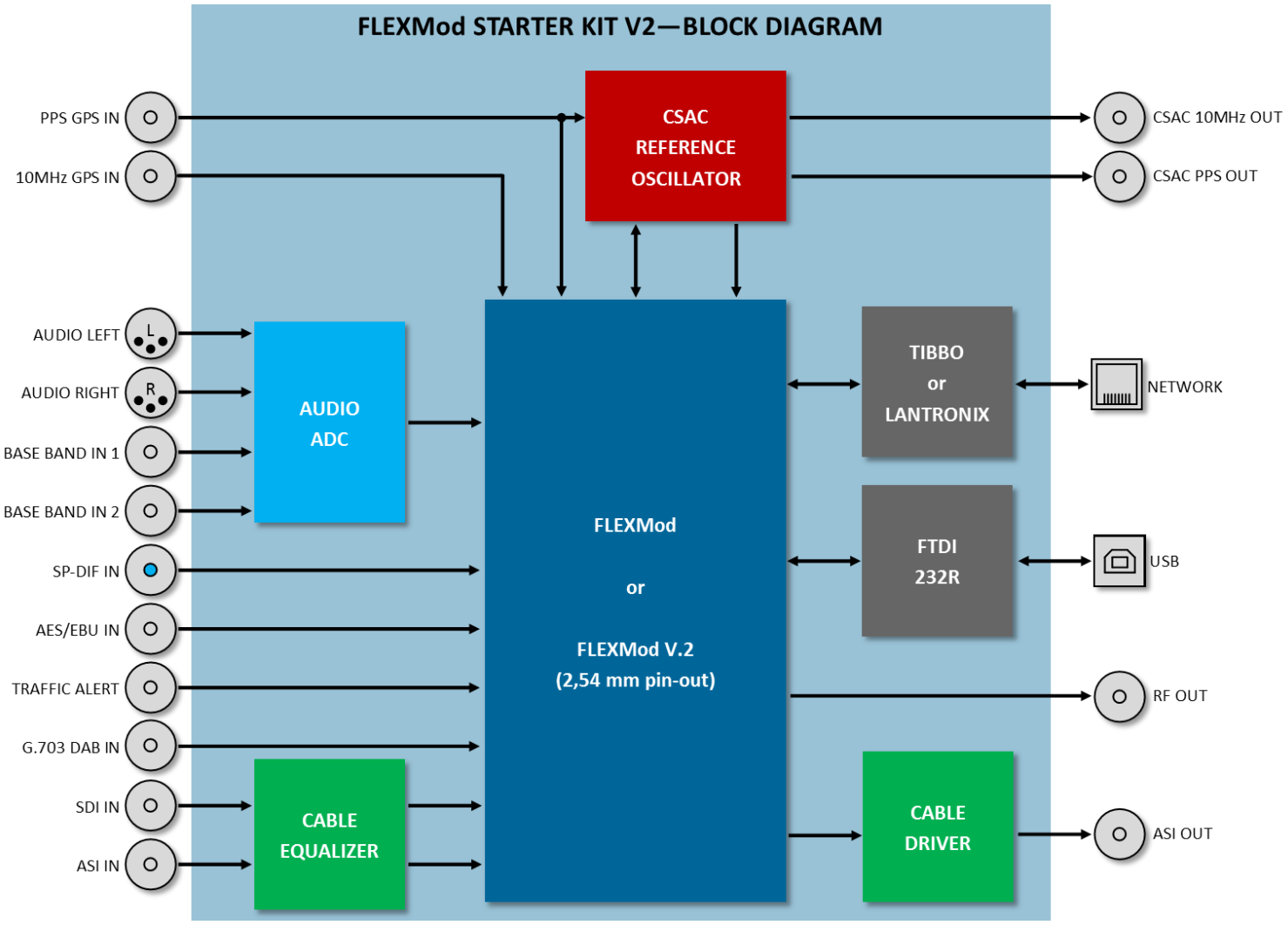
FLEXMod STK FM

Starter Kit FLEXMod V4

The new FLEXMod starter kit is designed and optimized for FM radio and TV broadcast applications. The starter kit includes all the needed connectors, communication ports, input ADC's and the generation of the supply voltages.
The board is designed to mount an optional cesium reference oscillator for SFN and timing applications.
The starter kit is also designed to be fitted ona metallic carrier and closed with a shielding cover.




Digital
FM-MPX-RDS
Modulator
FLEXMod


FLEXMod STARTER KIT V2—BLOCK DIAGRAM
PPS GPS IN
10MHz GPS IN
CSAC
REFERENCE
OSCILLATOR
CSAC 10MHz OUT
CSAC PPS OUT
AUDIO LEFT
AUDIO RIGHT
L
R
AUDIO
ADC
BASE BAND IN 1
BASE BAND IN 2
SP-DIF IN
AES/EBU IN
TRAFFIC ALERT
G.703 DAB IN
SDI IN
ASI IN
CABLE
EQUALIZER
FLEXMod
or
FLEXMod V.2
(2,54 mm pin-out)
TIBBO
or
LANTRONIX
NETWORK
FTDI
232R
USB
RF OUT
CABLE
DRIVER
ASI OUT

Encoders

TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

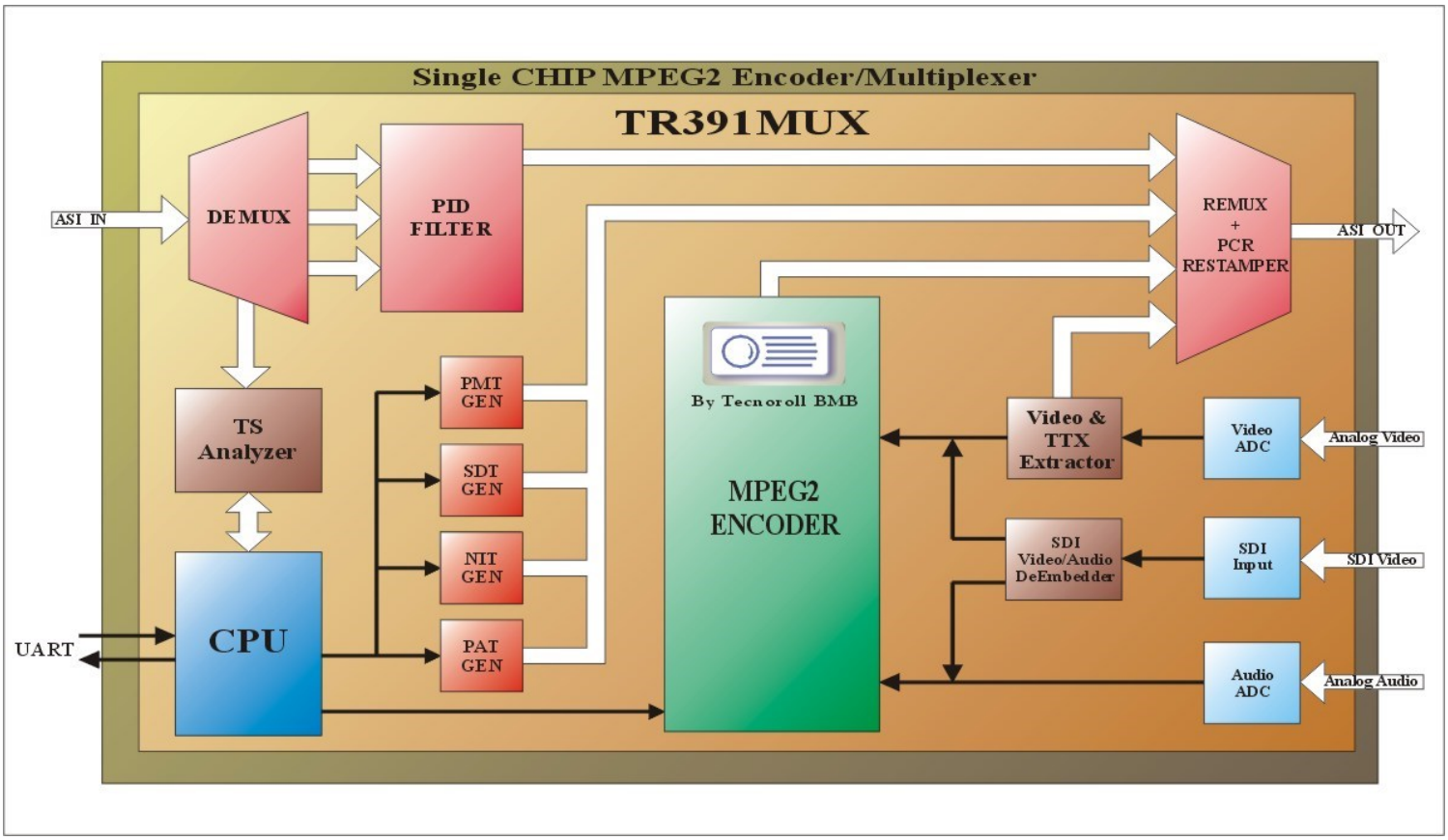
TR391MUX

MPEG-2 encoder with embedded multiplexer

Integrated solution for the compression and multiplexing of DVB services. The system is composed by a demultiplexer/multiplexer and an MPEG2 encoder. Easily configurable through a UART serial port, allows the development of a complete and very compact encoding system.

Technical Specifications

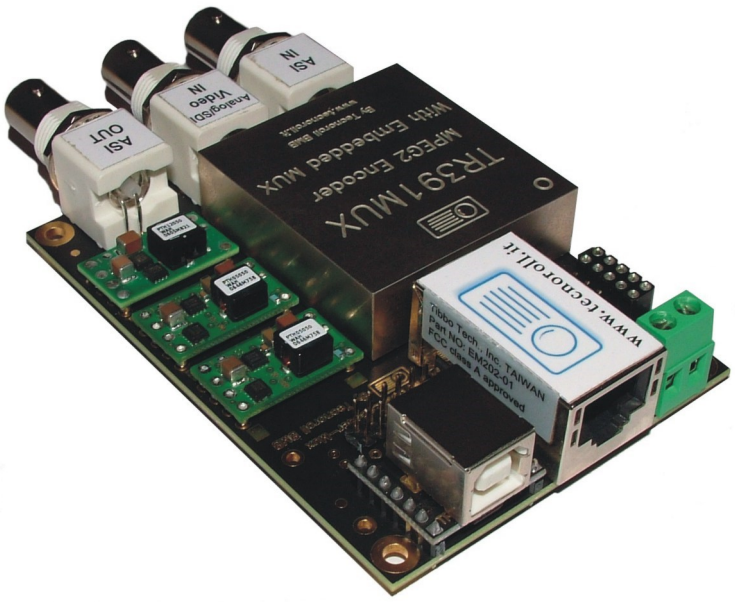
Encoder:	• SDI video input with embedded audio. • Analog video input. • Analog audio input. • ideo encoding: ISO/IEC 13818-2 (MPEG-2) MP@ML ed ISO/IEC 11172-2 (MPEG-1). • Encoder bitrate up a 15Mbps. • Video resolution up to a 720x576. • Audio encoding: ISO/IEC 11172-3 (MPEG-1) layer 1/2. • Audio selectable in Single/Dual/Joint Stereo/Stereo mode.
Remultiplexer:	• ASI TS input up to 216 Mbit/s. • ASI TS output up to 216 Mbit/s. • Automatic recognition, analysis and demultiplexing of the incoming services. • Visualization of the input/output TS bandwidth. • Selection and removal of unwanted services. • Embedded DVB tables regeneration. • Non-volatile memory for the system configuration. • Easy configuration through asynchronous serial port with high level commands. • No need for additional programming on power-up.



Starter Kit

General:

- One BNC for the input TS.
- One BNC for the output TS.
- One BNC for the SDI analog input.
- One connector for an external microcontroller.
- One Power Connector.
- One USB port for management/power-supply of the starterKIT

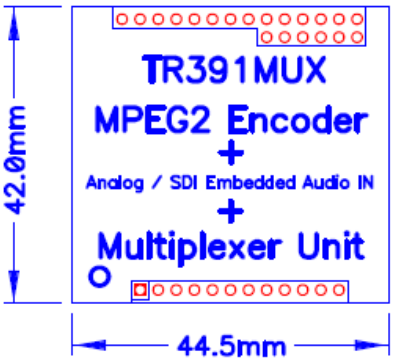


TR391MUX

All Inclusive MPEG2 platform

By Tecnoroll BMB

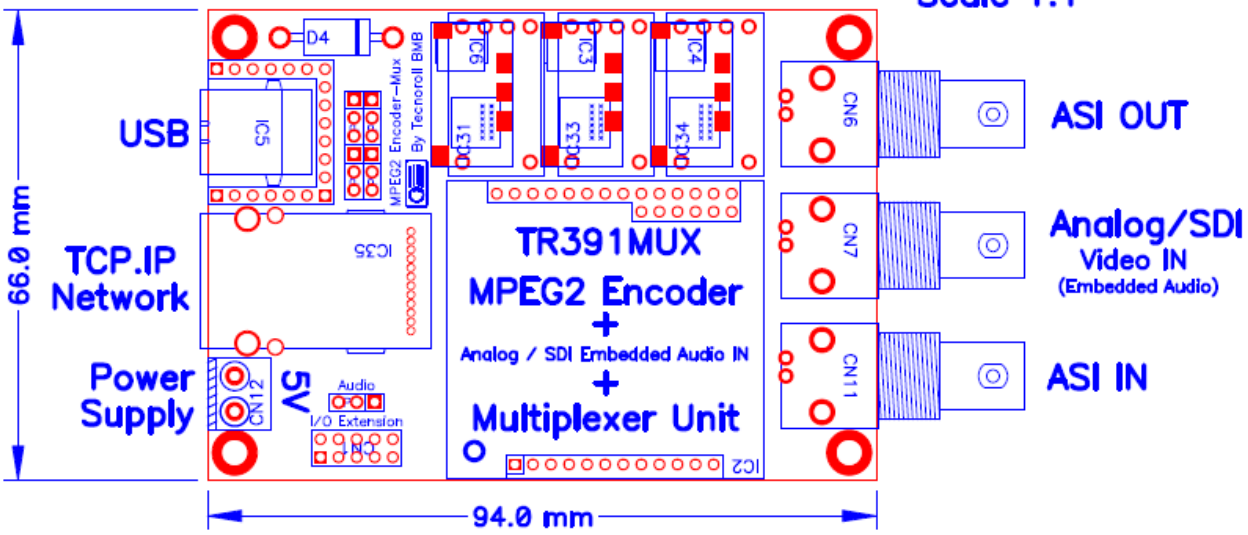
MPEG2 System Core



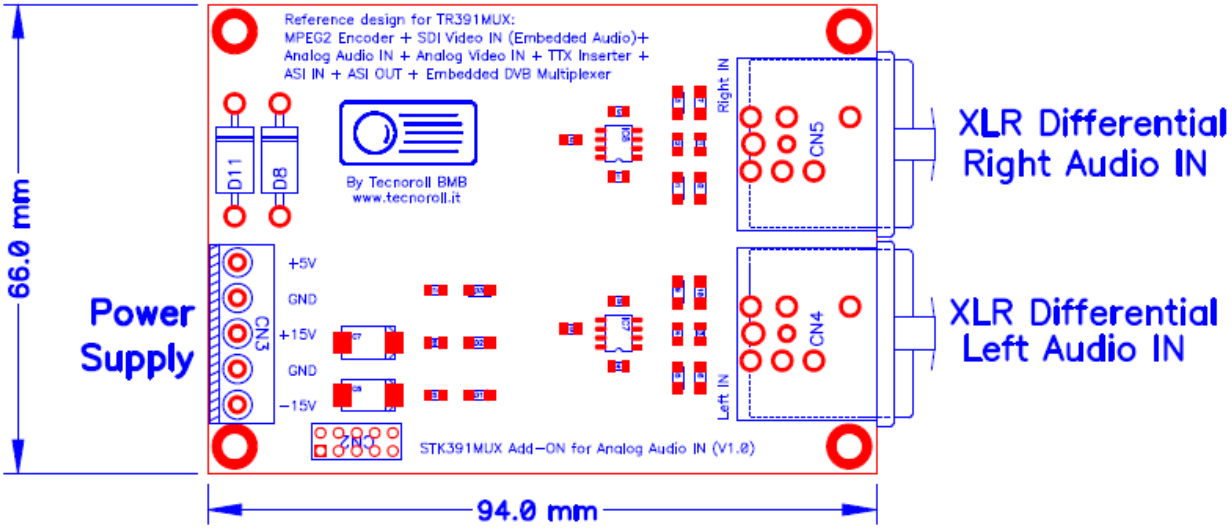
Scale 1:1

TR391MUX Starter KIT Main Board

Scale 1:1



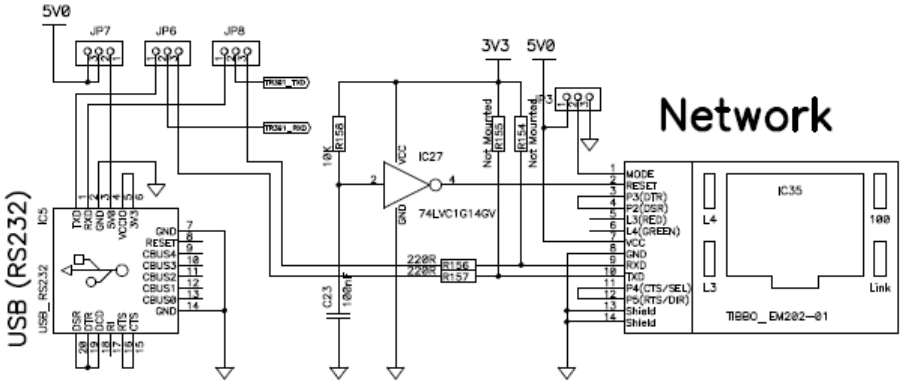
Audio Board Starter KIT (Optional plugin)

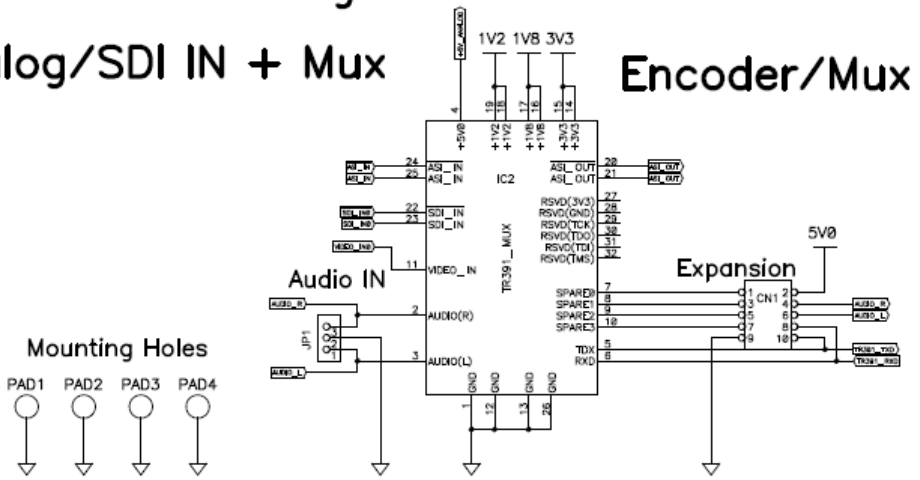


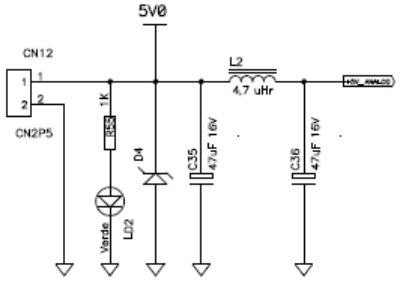
Project Name: TR391MUX Evaluation Board		By Tecnoroll BMB srl
Number:	Rev: 1.0	Via Olona 9 Vedano Olona (VA) www.tecnoroll.it
Date: 14-08-2009	Sheet: 1:1	Author: Lorenzo Bolla
Note:		

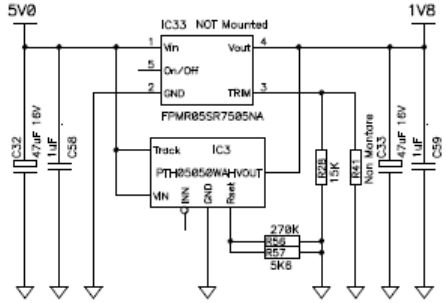
TR391MUX nanoMPEG Reference design

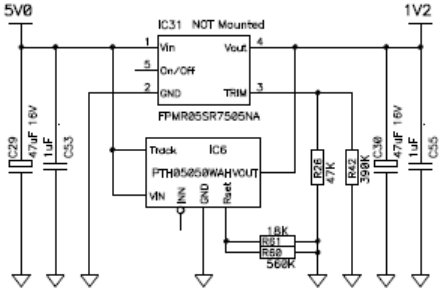
MPEG2 Encoder + Analog/SDI IN + Mux

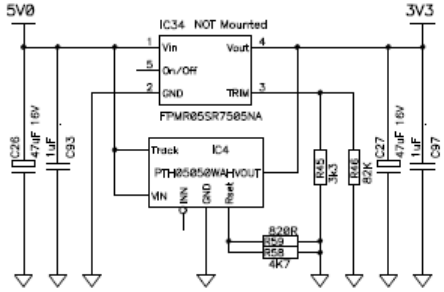


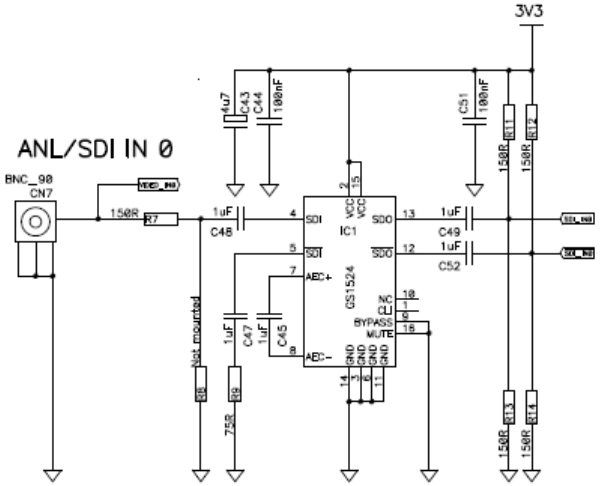


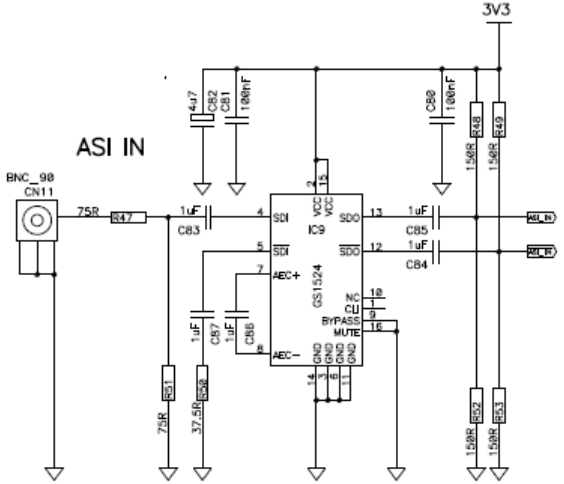


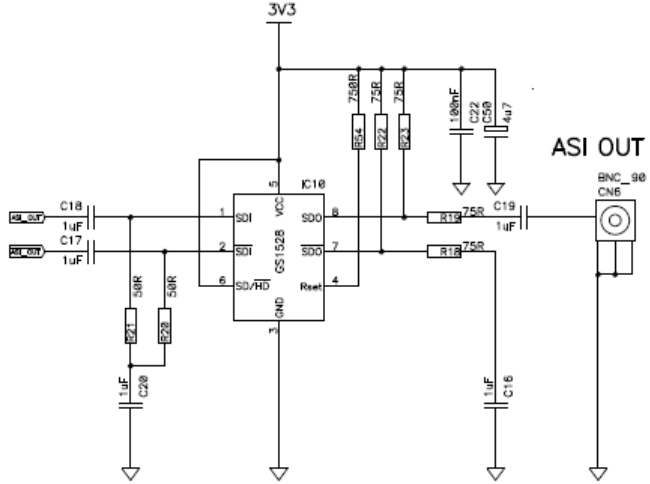




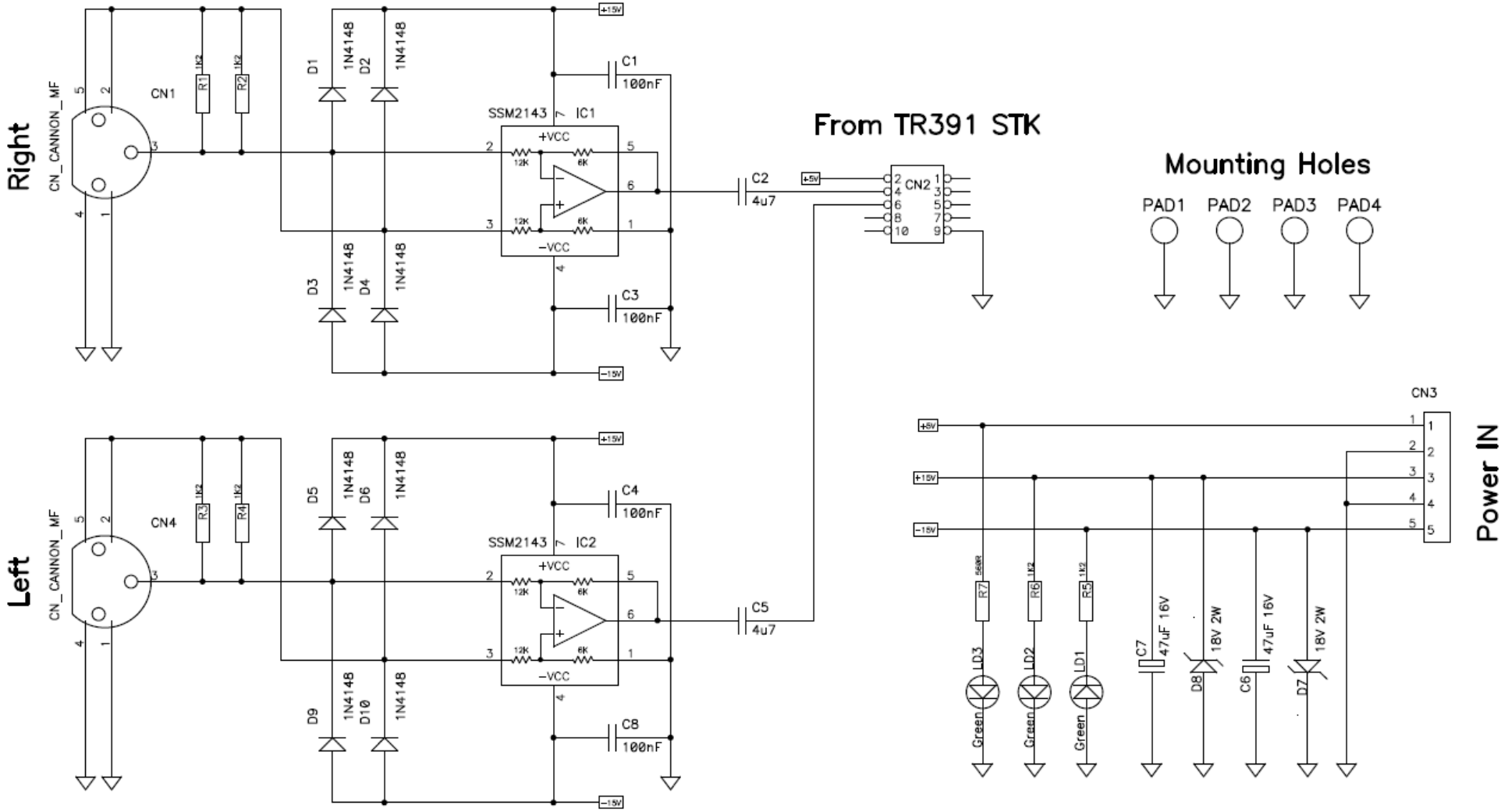


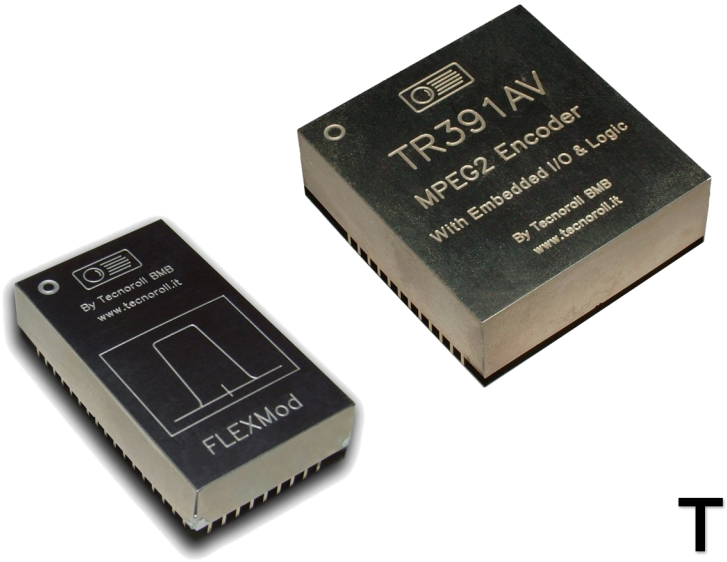






Project Name: TR391MUX Evaluation Board		By Tecnoroll BMB srl Via Olona 9 Vedano Olona (VA) www.tecnoroll.it
Number:	Rev: 1.0	
Date: 14-08-2009	Sheet: 1:1	Author: Lorenzo Bolla
Note: Example of Audio Interface		





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

TR391AV+FLEXMod

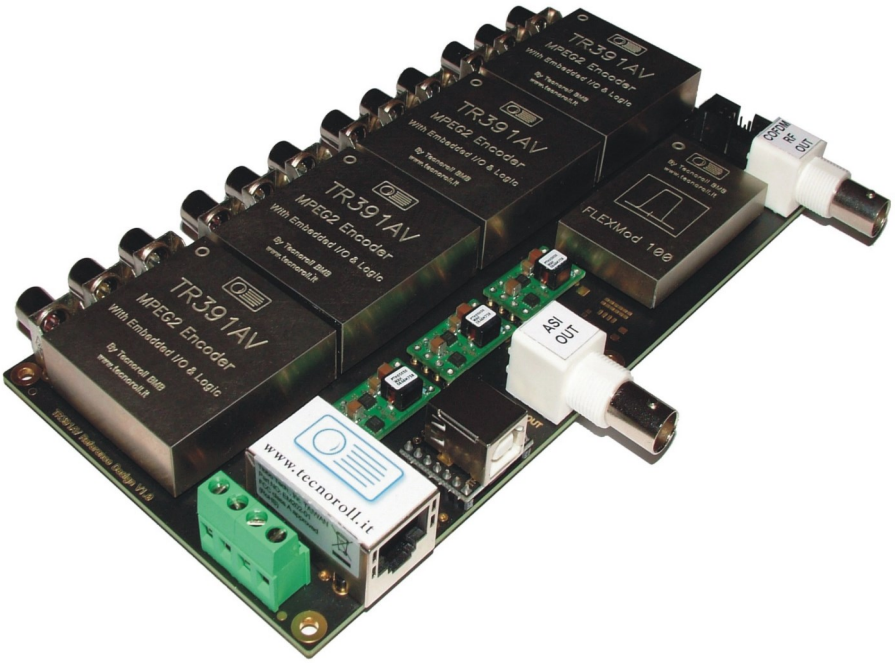
4 channell MPEG-2 encoder + multiplexer + DVB modulator

Integrated solution for the compression and multiplexing of DVB services.
The system is composed by 4 MPEG2 encoders + 1 multiplexer/modulator. Easily configurable through a UART serial port, allows the development of a complete and very compact encoding system

Encoder Specifications

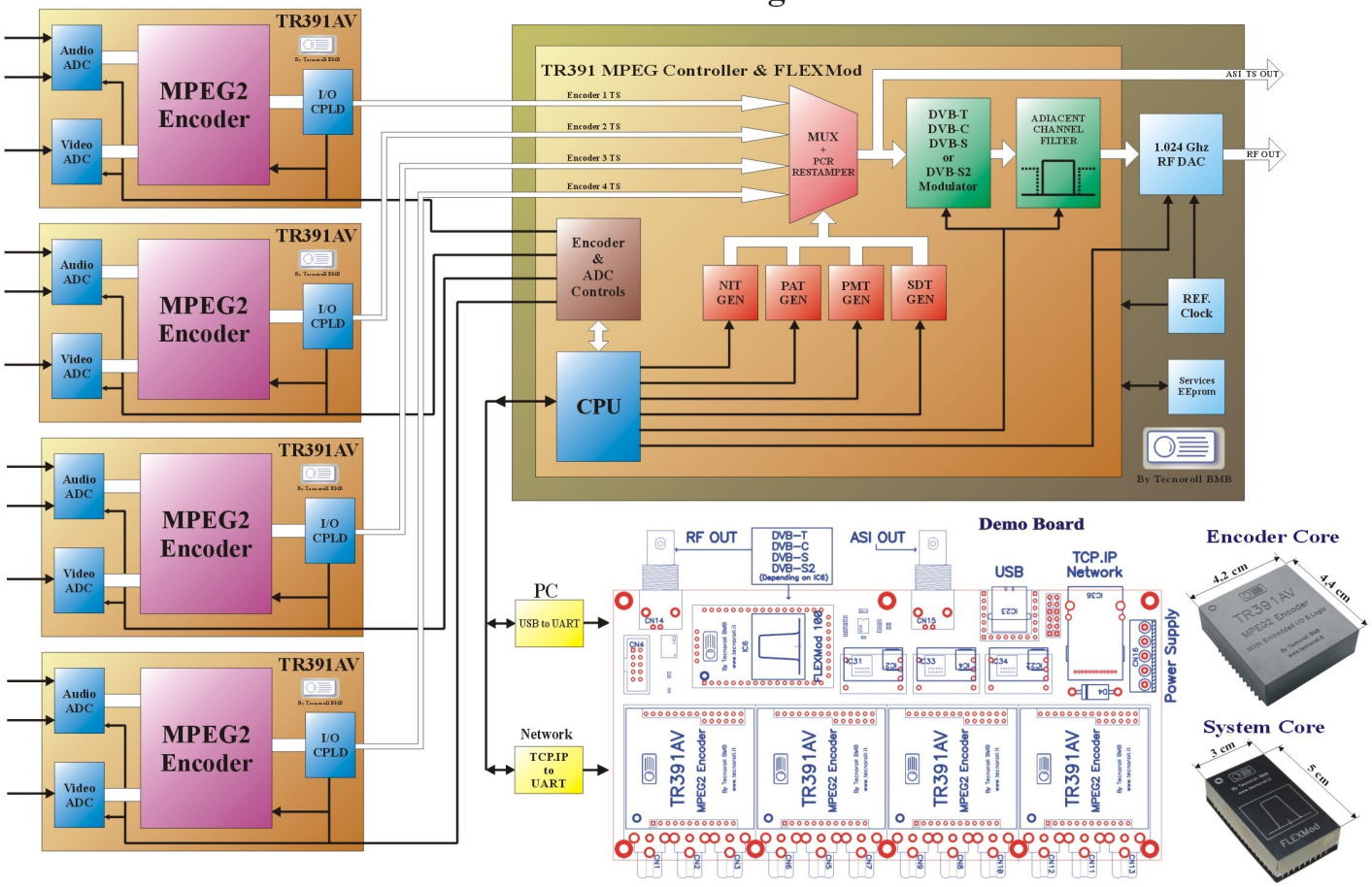
Encoder:

- Video encoding: ISO/IEC 13818-2 (MPEG-2) MP@ML and ISO/IEC 11172-2 (MPEG-1).
- Encoder bitrate up 15Mbps.
- Video resolution up to 720x576.
- Audio encoding: ISO/IEC 11172-3 (MPEG-1) layer 1/2.
- Audio selectable in Single/Dual/Joint Stereo/Stereo mode.



TR391AV + FlexMOD: 4 Mpeg2 Encoder + Mux + DVB/T, DVB/C, DVB/S or DVB/SS2 Modulator

Reference Design

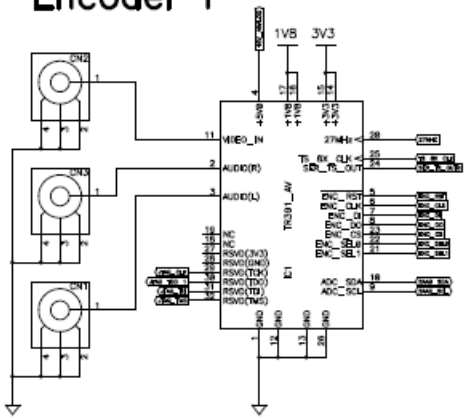


Starter Kit

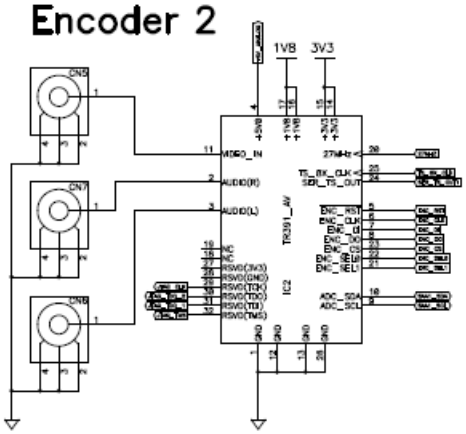
General:

- 1 Multiplexer/Modulator.
- 4 MPEG2 encoders.
- 4 AV RCA inputs.
- 1 USB port for the system management.
- 1 Ethernet port for LAN management.
- 1 ASI output for the generated TS.
- 1 RF output for the modulated signal.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high level commands.
- No need for additional programming on power-up.

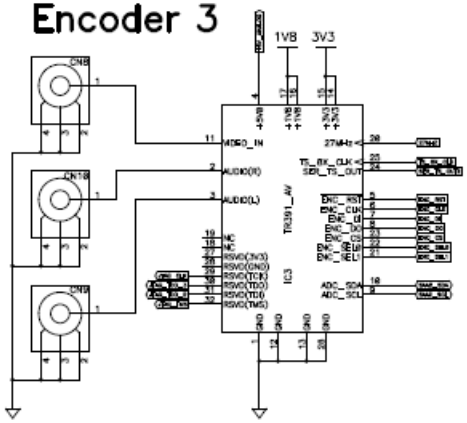
Encoder 1



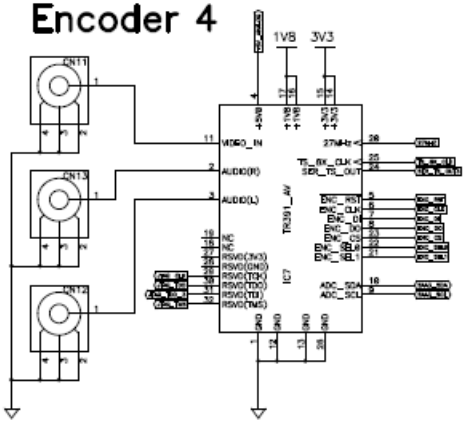
Encoder 2



Encoder 3

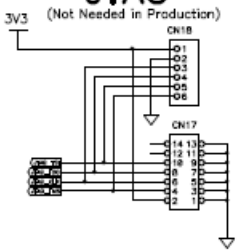


Encoder 4

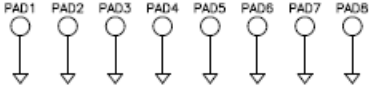


JTAG

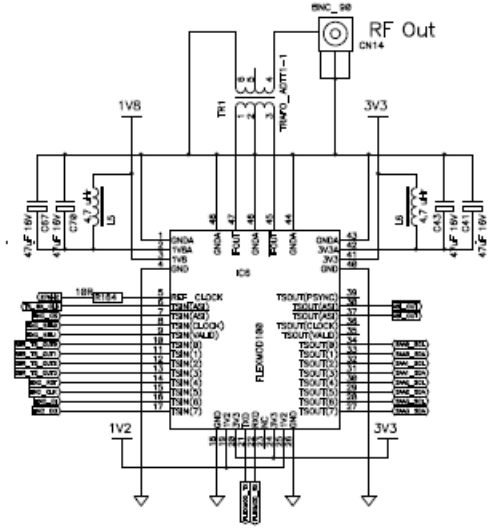
(Not Needed in Production)



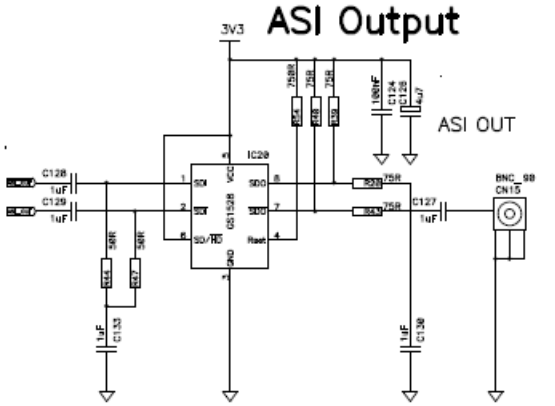
Mounting Holes



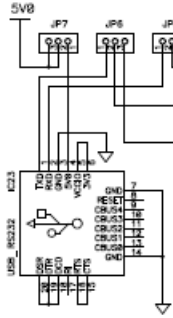
Mux & Modulator



ASI Output

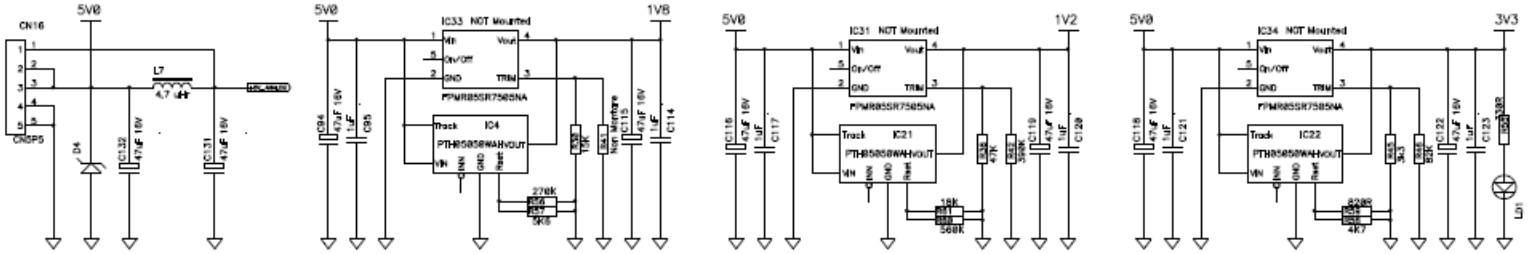


USB



Network

Power Supply

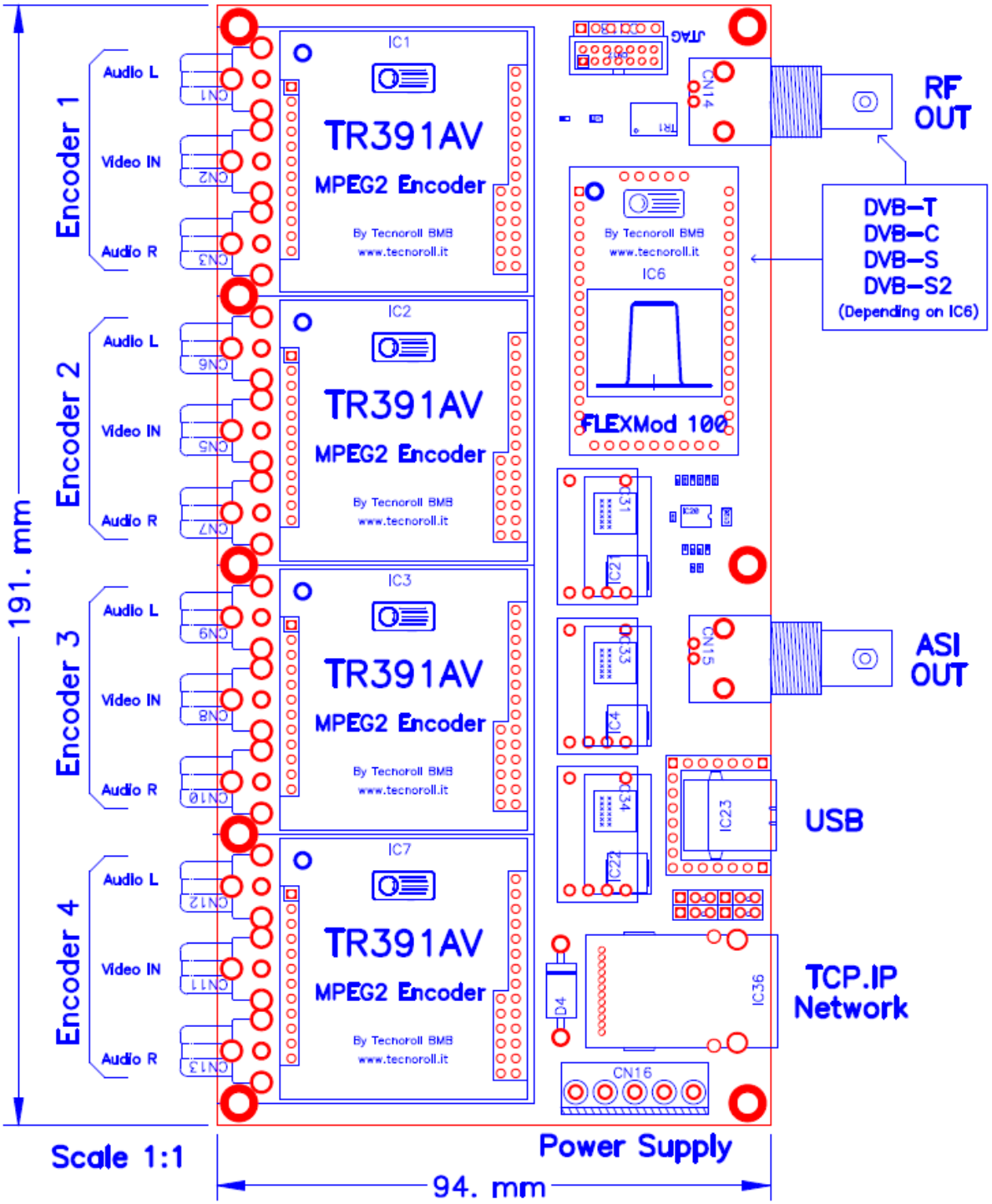


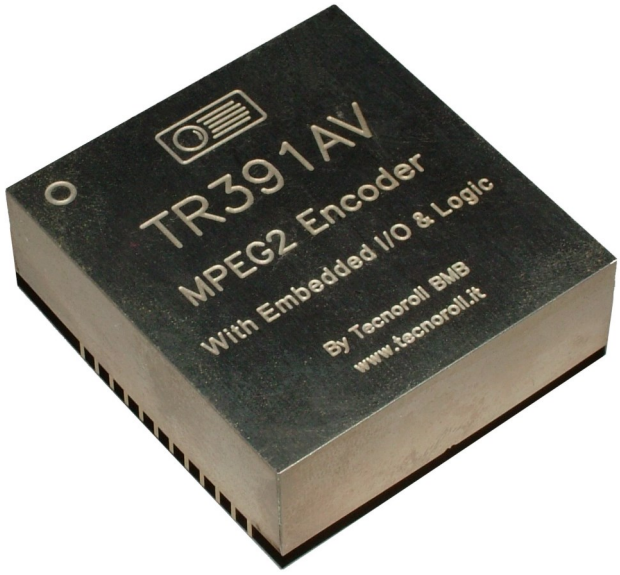
Project Name: TR391AV Reference Design			By Tecnoroll BMB srl Via Olona 9 21048 Vedano Olona (VA) www.tecnoroll.it
Number:		Rev: 1.1	
Date: 12-07-2009		Sheet: 1:1	Author: Lorenzo Bolla
Note: TR391AV Four Encoder + FlexMOD MUX&Modulator Version			

TR391AV + FlexMOD:

4 Muxed MPEG2 Encoder Reference Design

By Tecnoroll BMB





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

TR391AV

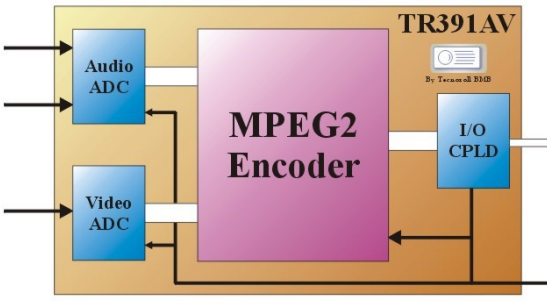
MPEG-2 encoder with embedded multiplexer

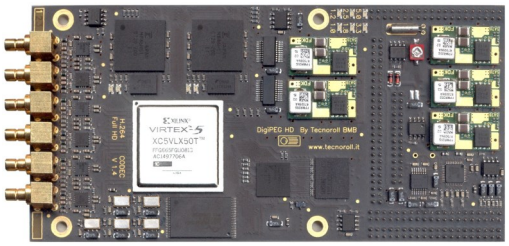
Integrated solution for the compression and multiplexing of DVB services. The system is composed byan MPEG2 encoder. Easily configurable through a UART serial port, allows the development of a complete and very compact encoding system.

Technical Specifications

Encoder:

- Video encoding: ISO/IEC 13818-2 (MPEG-2) MP@ML and ISO/IEC 11172-2 (MPEG-1).
- Encoder bitrate up 15Mbps.
- Video resolution up to 720x576.
- Audio encoding: ISO/IEC 11172-3 (MPEG-1) layer 1/2.
- Audio selectable in Single/Dual/Joint Stereo/Stereo mode.





TECNOROLL BMB s.r.l.

Via Olona, 9 - 21040 Vedano Olona (VA)
Tel: +39 0332 866544 - Fax: +39 0332 404581
www.tecnoroll.it info@tecnoroll.it

DigiPEG HD

Double H.264 video encoder + remultiplexer

This board can be used to encode two H.264/AVC High Profile Level 4.0 signals and multiplex them.
All functions are remotely controlled via RS232 or trought OnScreenDisplay, and therefore no special knowledge of programming languages is needed.
Extremely versatile and easy to use even for non-experts of MPEG technology, the board allows to develop and test your own products with a multitude of possible applications.

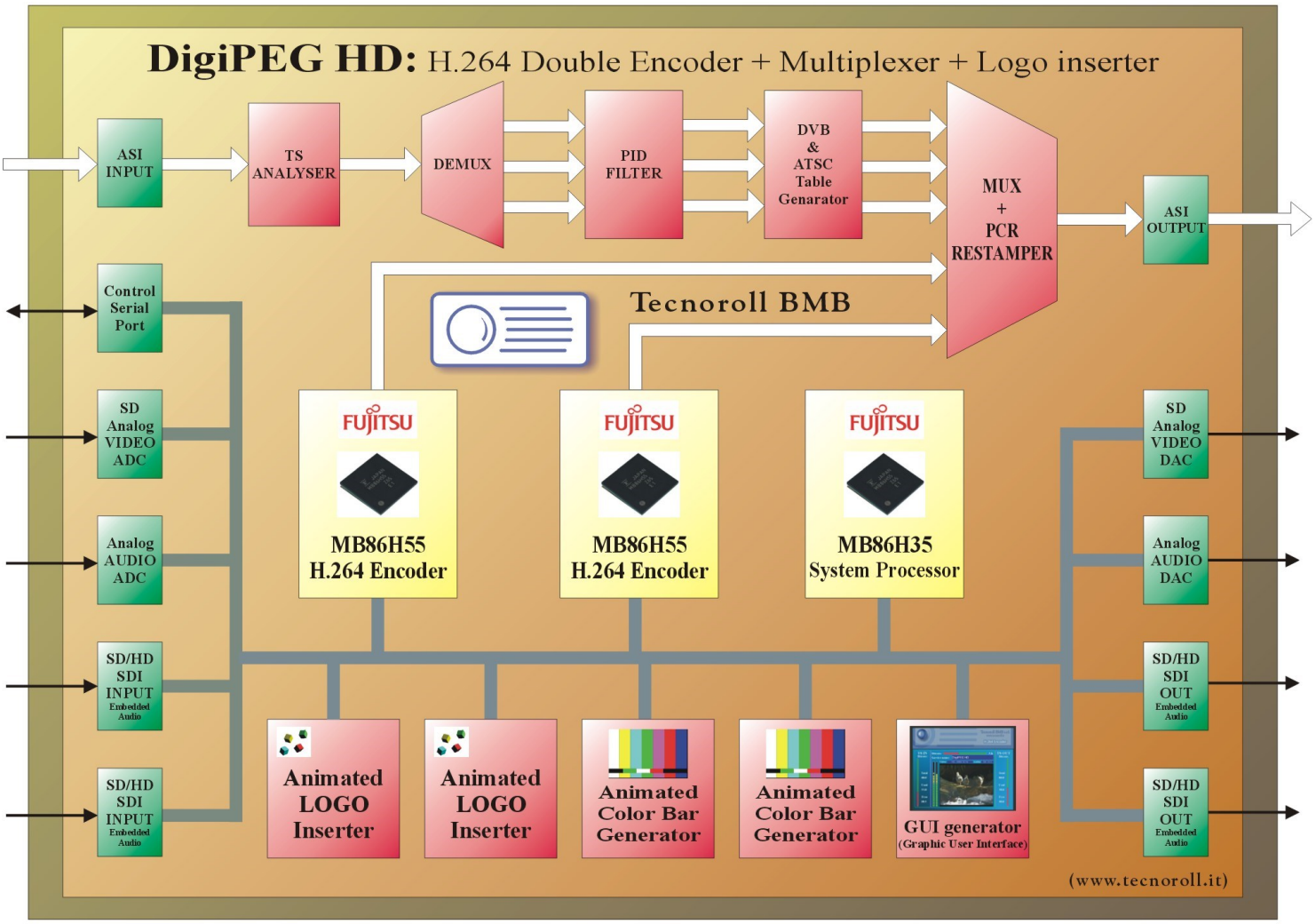
Specifications

General:

- Automatic recognition, analysis and demultiplexing of the incoming DVB services.
- Visualization of the input/output TS bandwidth.
- Arbitrary selection of the Output TS rate.
- Selection and removal of unwanted services.
- LCN (Logical Channel Number) insertion for the selected services.
- DVB Tables generation.
- ATSC Tables generation.
- Automatic service monitoring and PID tracking for the desired services.
- Embedded Remultiplexer for TS reconstruction.
- PCR restamper for a correct timing reconstruction.
- Non-volatile memory for system configuration.
- Easy configuration through asynchronous serial port with high-level commands.
- Easy configuration through On-Screen-Display and graphic user interface.
- Graphic user interface object oriented, totally customizable through a text file and image files.
- Static or Animated LOGO inserter (gif image).
- Automatic animated Color Bar generator in case of absence of the video input signal.
- Easily cascadable boards for multi-channel transport stream. Each board accepts one TS-IN and provides one TS-OUT with its added channel (multiplexing).
- Firmware upgradable through user serial port.
- No need for additional programming on power-up.

Features

I/O:	• PIN-to-PIN compatible with the DigiPEG MPEG2 board. • 1 ASI TS input up to 216 Mbit/s. • 1 ASI TS output up to 216 Mbit/s. • 1 Analog SD video input. • 1 Analog Audio input. • 1 Analog video output for monitoring & Graphic User Interface. • 1 Analog audio output for monitoring. • 2 Multirate SDI SD/HD video input with embedded audio. • 1 SD/SDI with embedded audio output for video monitoring and Graphic User Interface. • 1 HD/SDI with embedded audio output for video monitoring post Logo-Inserter.
Encoder video:	• Compliant with ISO/IEC 14496-10 (H.264/AVC) High Profile Level 4.0. • Up to 20 Mbps Encoder bitrate. • Up to 1920x1080i Video Resolution.
Encoder audio:	• Compliant with ISO/IEC 11172-3 (MPEG-1 audio) layer 1/2. • Single/Dual/Joint Stereo/Stereo. • Up to 448 Kbit audio bitrate.



DigiPEG HD Starterkit By Tecnoroll BMB