



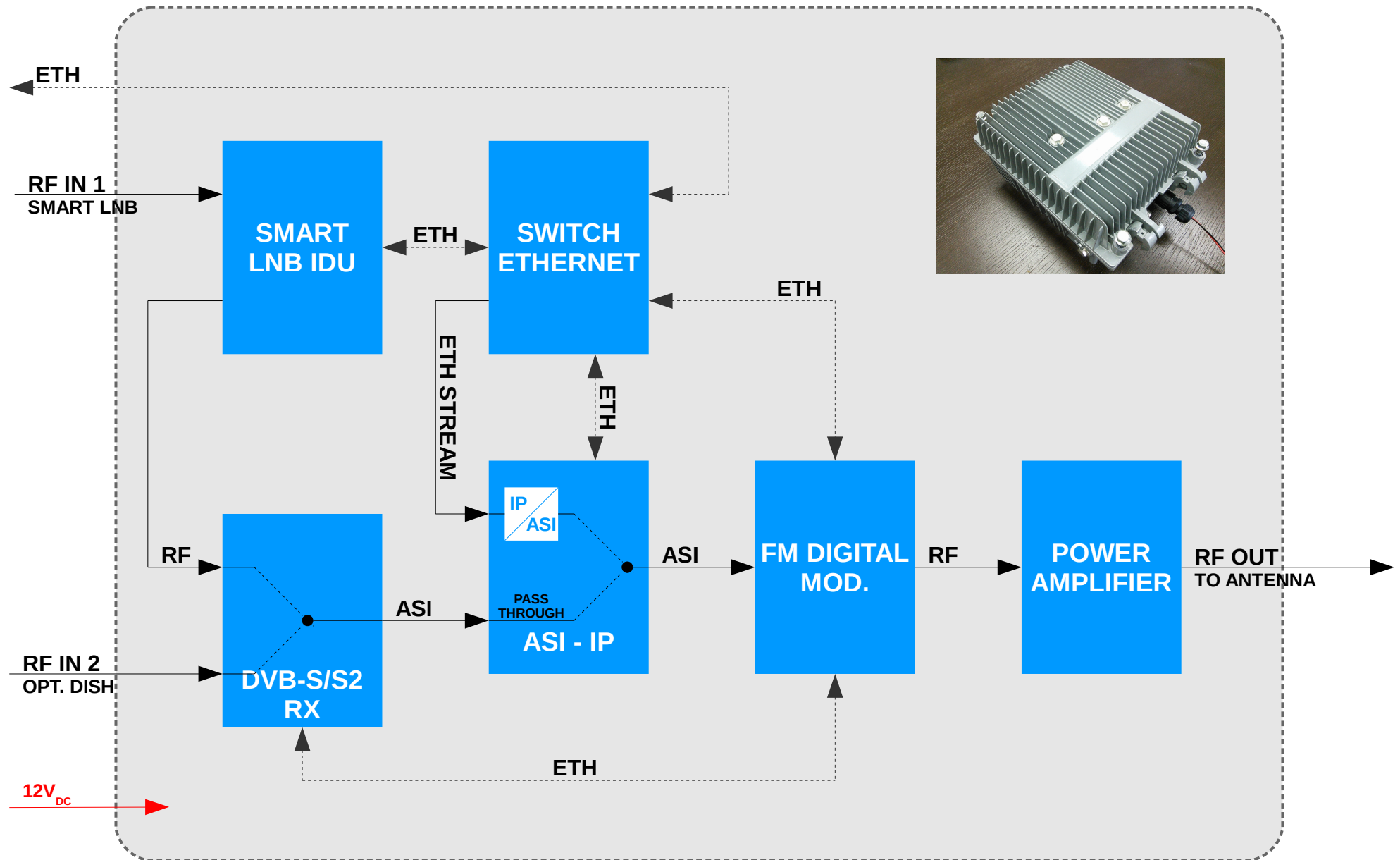
TECNOROLL BMB s.r.l.

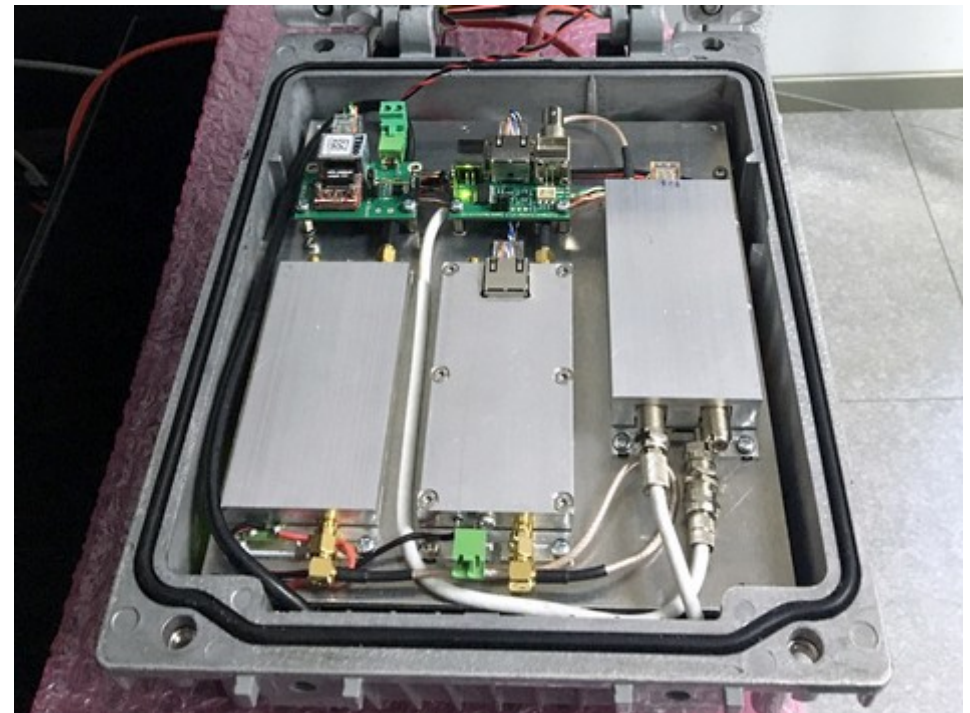
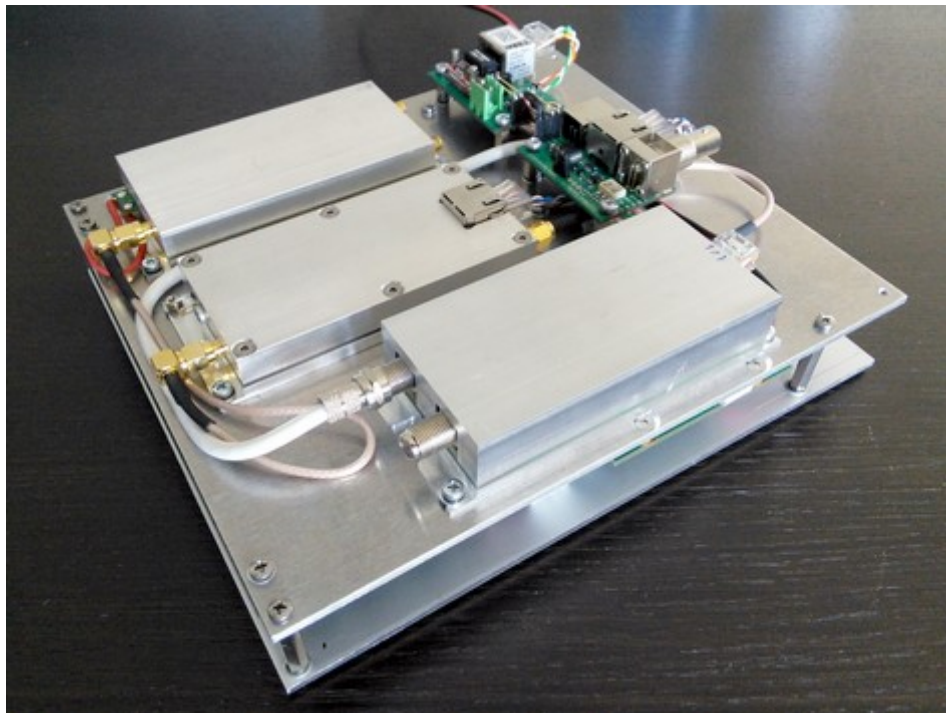
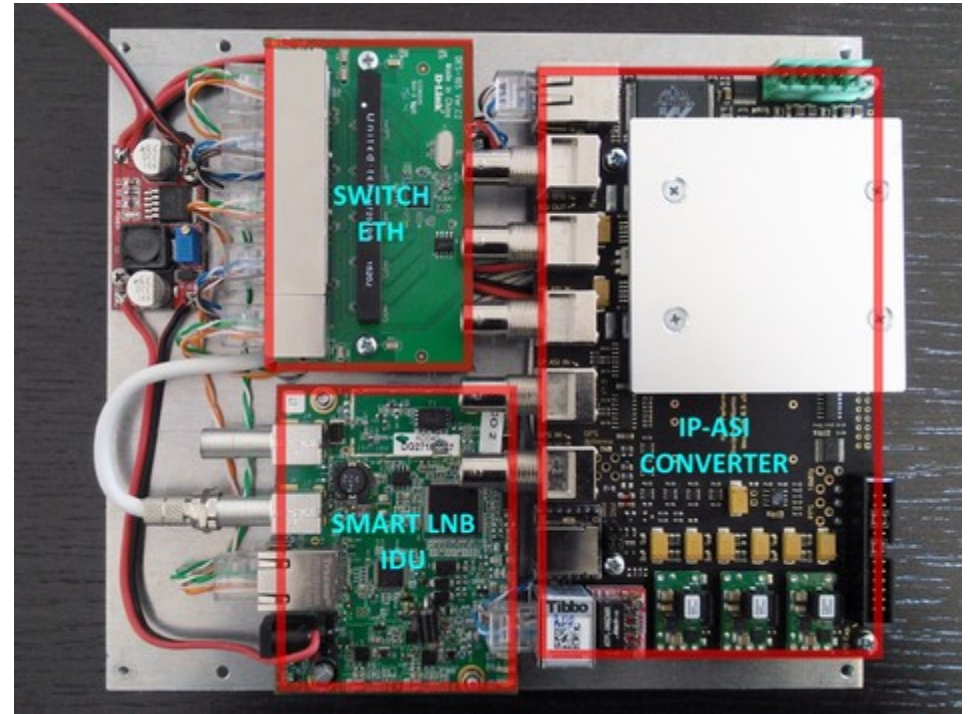
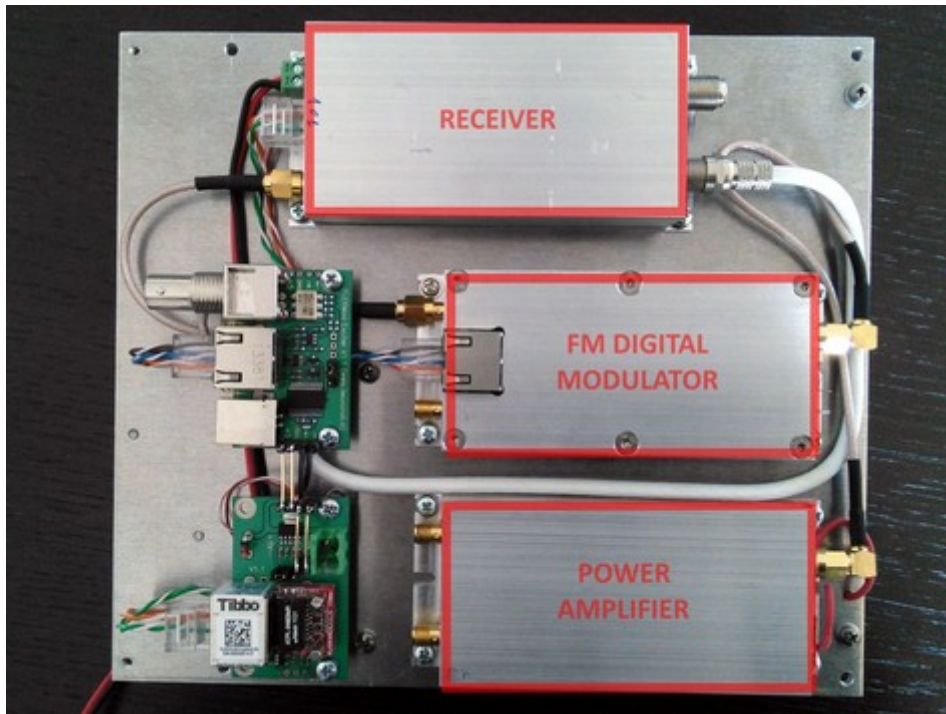
Clever FM

Compact low-power FM radio broadcasting system
Digital FM exciter for existing high-power TXs



CLEVER FM BOX - INTERNAL BLOCK DIAGRAM





REMOTE MANAGEMENT SOFTWARE

Audio
 Status: **LOCKED**
 Sample rate: **48000 Hz**
 PreEmphasis: **50 µS**
 Gain: **1.24**

Modulator
 Frequency Domain Mask Limiter:
 RF Frequency: **0.0** MHz
 Modulation type: **0. MPX with RDS**

PCM Audio Input
 Left:
 Right:

Pre-emphasis OUT
 Left:
 Right:

Deviation
11.375 kHz
 Maximum FM deviation: **135,000** kHz
 Peak: **91.029 kHz** **Peak reset**

Spectrum Analyzer
 Graph showing frequency response from 0 to 90 kHz. Labels include L+R, 19KHz, L-R, and RDS.

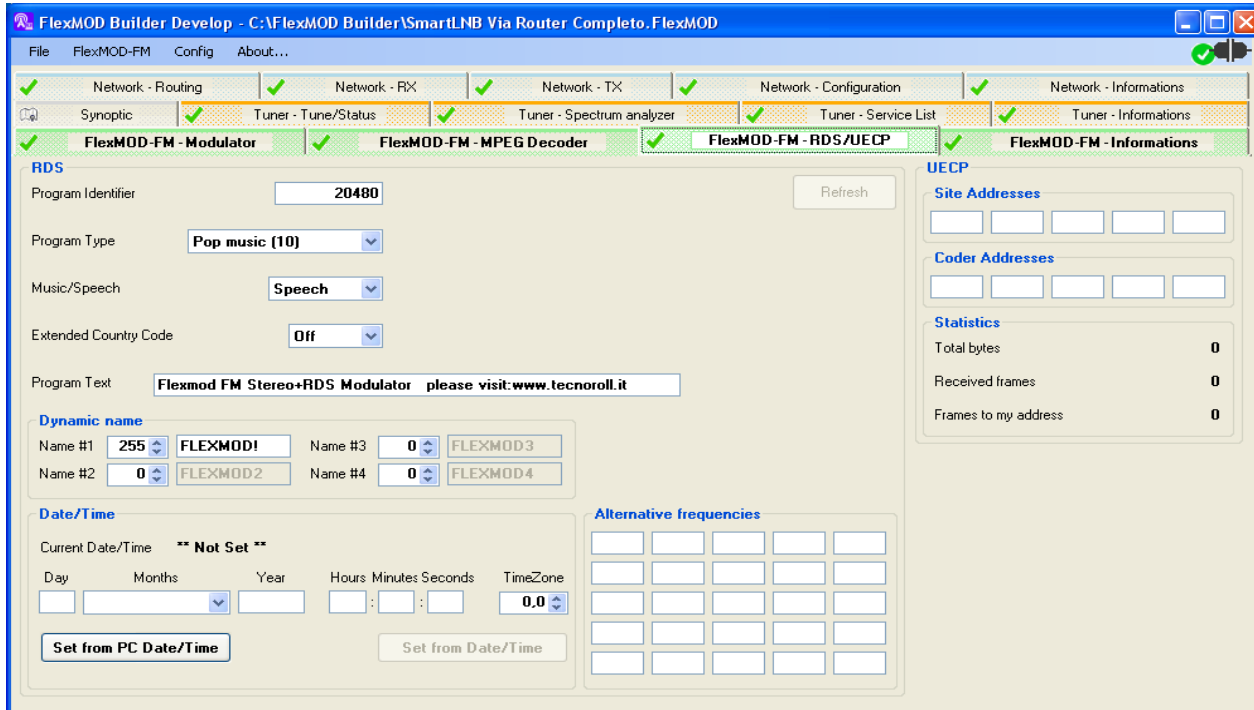
Screenshot 1 - Tuner status tab

Screenshot 2 - MPEG decoder tab

Type	SID	Service Name	PID	Language
📻	8215	WRN Russkij	2231	fre
📻	8216	WRN English	2232	eng
📻	8227	Service 8227	2233	ger
📻	8229	Radio Jahani	2234	ita
📻	8237	WRN Events	2235	spa
📻	8240	WRN Sawt Al Alam	2236	por
📺	8204	BBC World News	2237	rus
📺	8208	1TVRUS Europe	2238	ara
📺	8209	CNNi	2239	tur
📺	8211	Euronews	2240	per
📺	8213	JSTV 1	2241	ukr
📺	8214	JSTV 2	2242	gre
📺	8293	1TVRUS Europa	2243	hun
📺	8294	KICC	2246	zul
📺	8295	RT Doc		
📺	8292	Quadriga		

Decoding status
 Service ID: **8211**
 Audio PID: **2231**
 PCR PID: **2221**
 UECP PID: **768**
 Status: **RUNNING**
 TS rate: **35,942 Mbit/s of 38,018 Mbit/s**

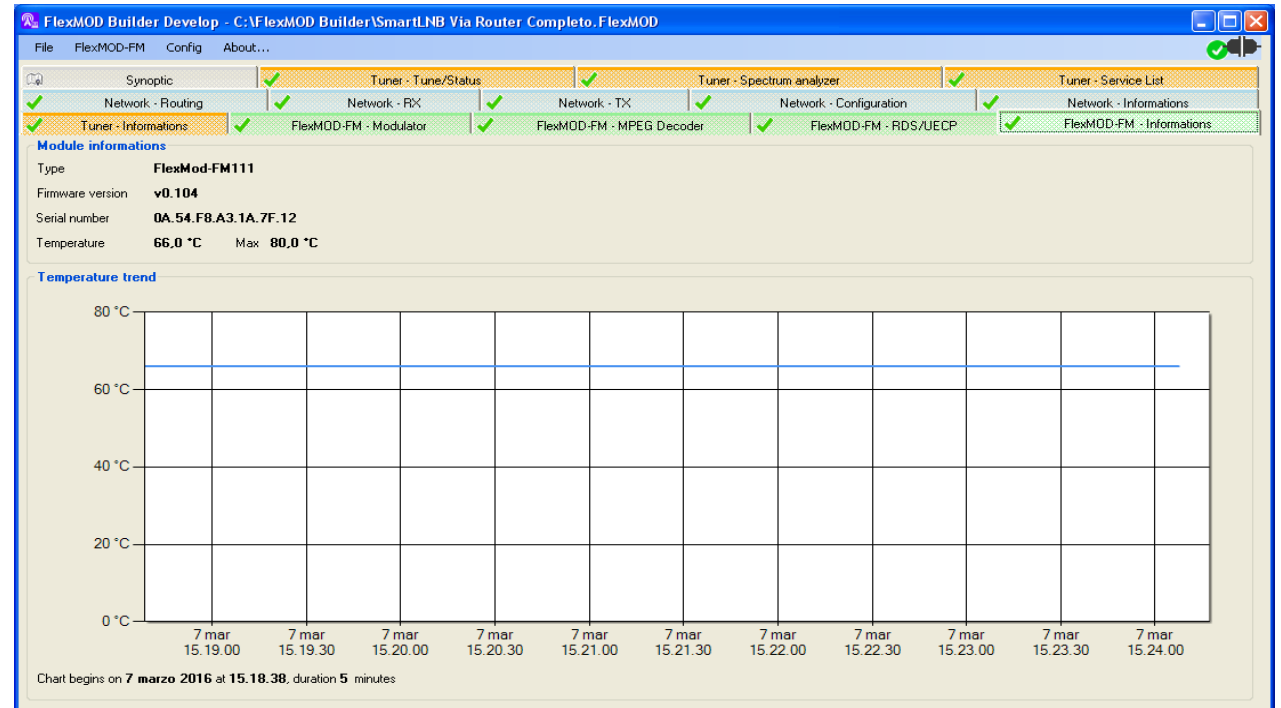
Rescan

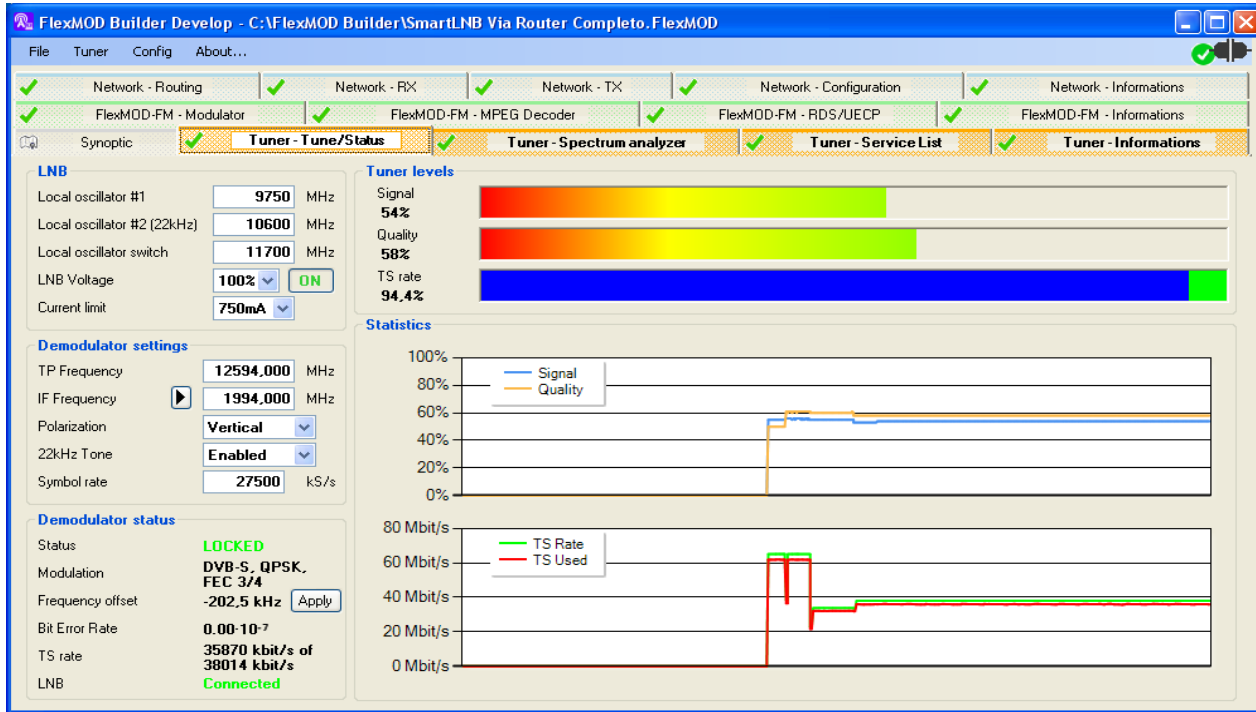


Screenshot 3 - RDS/UECP tab

REMOTE MANAGEMENT SOFTWARE

Screenshot 4 - Modulator info tab

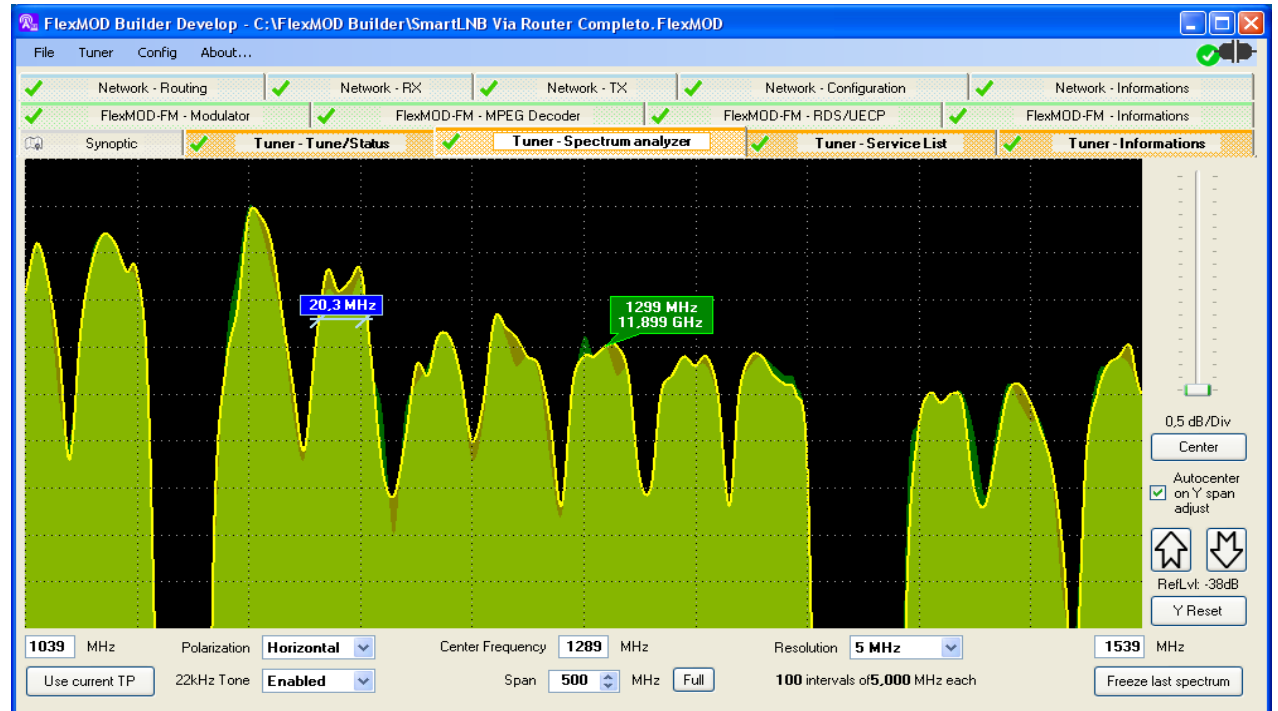




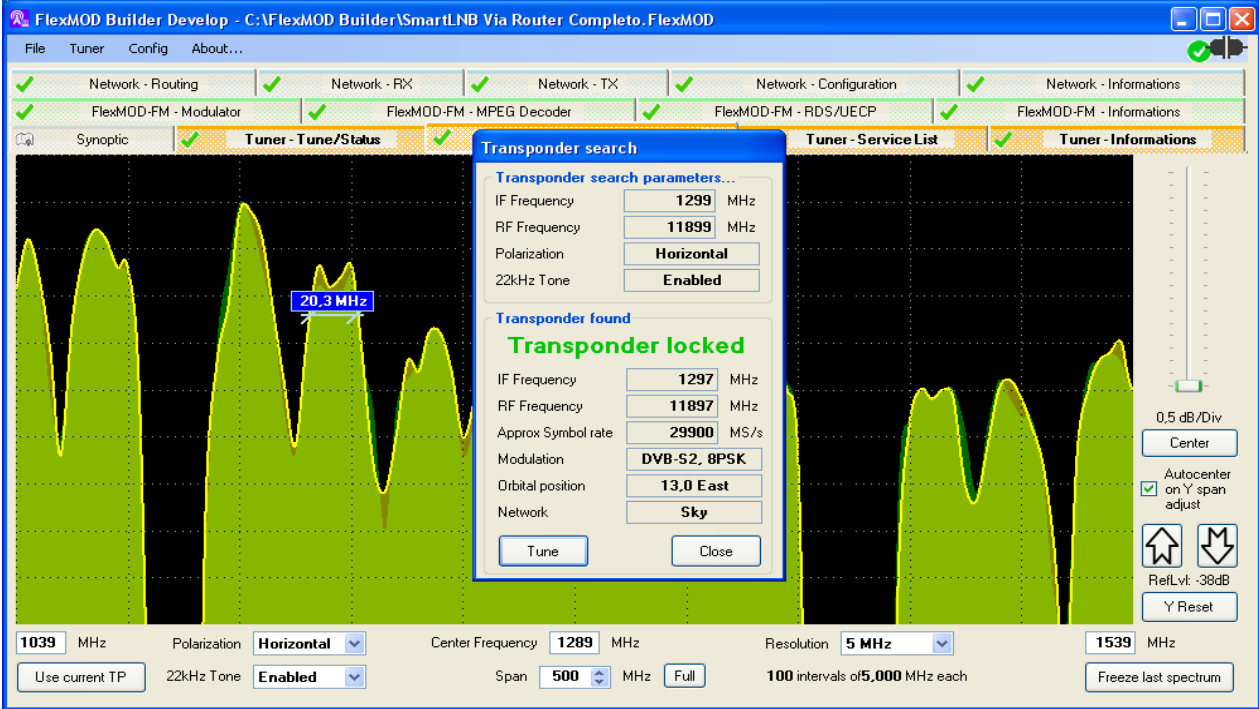
Screenshot 5 - Tuner status tab

REMOTE MANAGEMENT SOFTWARE

Screenshot 6 - Spectrum analyzer tab



REMOTE MANAGEMENT SOFTWARE



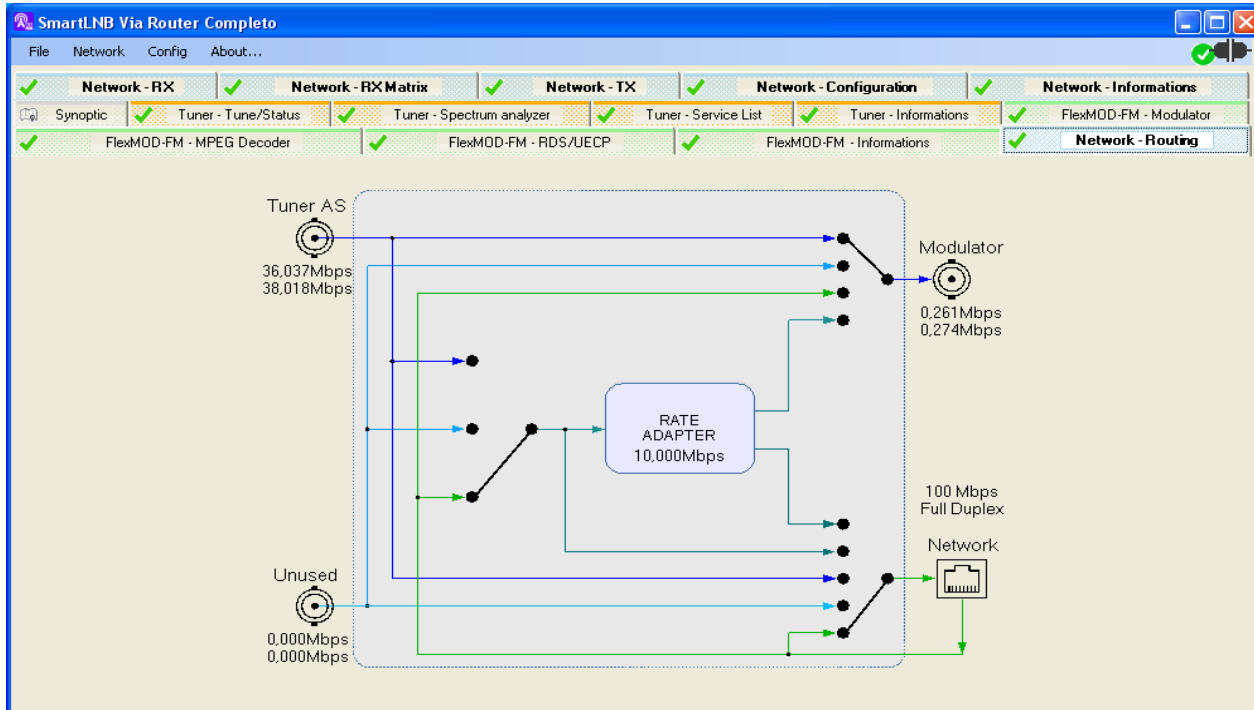
Screenshot 7 - Spectrum analyzer tab

Screenshot 8 - Service list tab

TS/Network information

Network: **Globecast** Orbital position: 13,0 East TS ID: 9400 Network ID: 318 Original network ID: 318 Rescan

9 TV Services		6 Radio Services		1 Other Service	
SID	Service Name	SID	Service Name	SID	Service Name
8204	BBC World News	8215	WRN Russkij	8292	Quadriga
8208	1TVRUS Europe	8216	WRN English		
8209	CNNi	8227	Service 8227		
8211	Euronews	8229	Radio Jahani		
8213	JSTV 1	8237	WRN Events		
8214	JSTV 2	8240	WRN Sawt Al Alam		
8293	1TVRUS Europa				
8294	KICC				
8295	RT Doc				



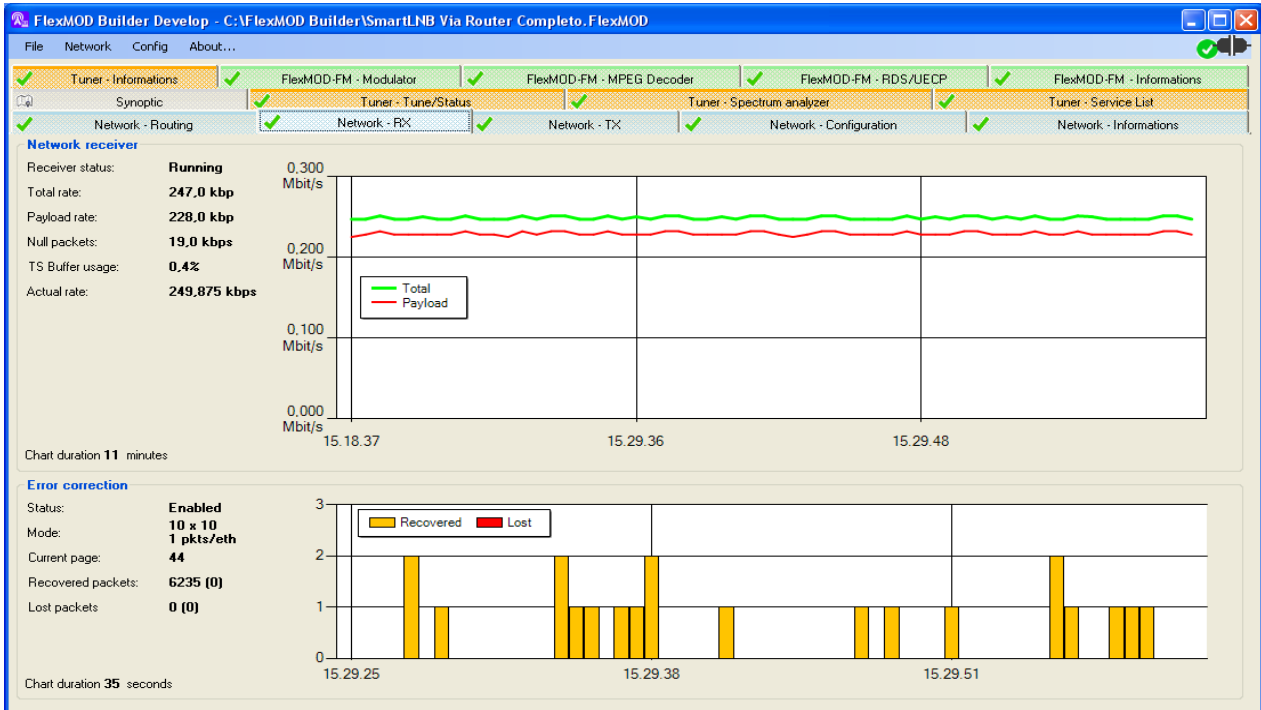
Screenshot 9 - Network routing tab

REMOTE MANAGEMENT SOFTWARE

Screenshot 10 - Network configuration tab

The screenshot shows the 'Network - Configuration' tab in the FlexMOD Builder Develop software. The interface is divided into several sections for configuring the network interface:

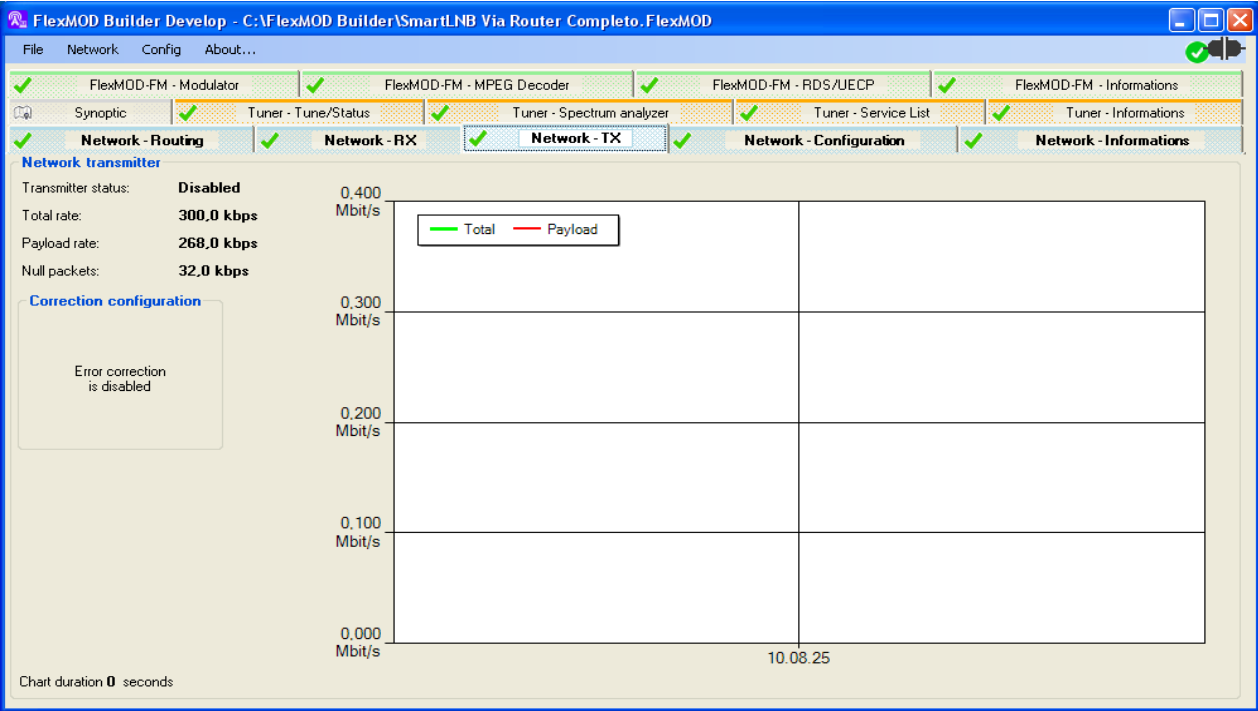
- Network configuration (Streaming interface):**
 - IP: 192.168.2.13
 - Netmask: 255.255.255.0
 - Gateway: 192.168.2.100
 - VLAN Tag: (empty)
 - MAC Address: 00-05-98-33-66-66
- Network receiver:**
 - Receiver: Enabled
 - Reception: Unicast (selected), Multicast on (disabled)
 - Reception port: 1234
 - TS Rate: 300000 bps
 - Mode: MFN
 - TS Packets per Ethernet packet: 1
 - Target buffer usage: 1 %
- Network transmitter:**
 - Transmitter: Disabled
 - Destination IP: 192.168.0.1
 - Destination port: 1234
 - Mode: MFN
 - TS Packets per Ethernet packet: 7
- Rate Adapter:**
 - TS Rate: 10000000 bps
 - PCR restamper: Enabled
- Error Correction:**
 - Enabled on: Receiver

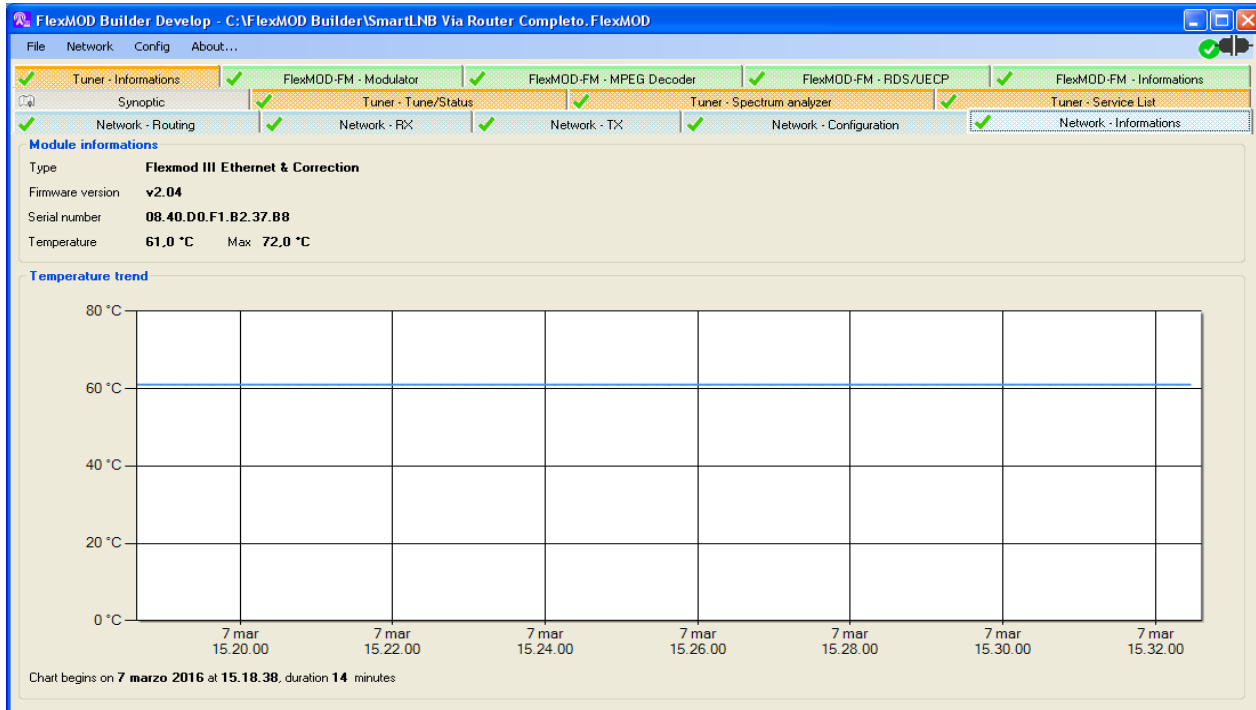


Screenshot 11 - Network rx status tab

REMOTE MANAGEMENT SOFTWARE

Screenshot 12 - Network tx status tab

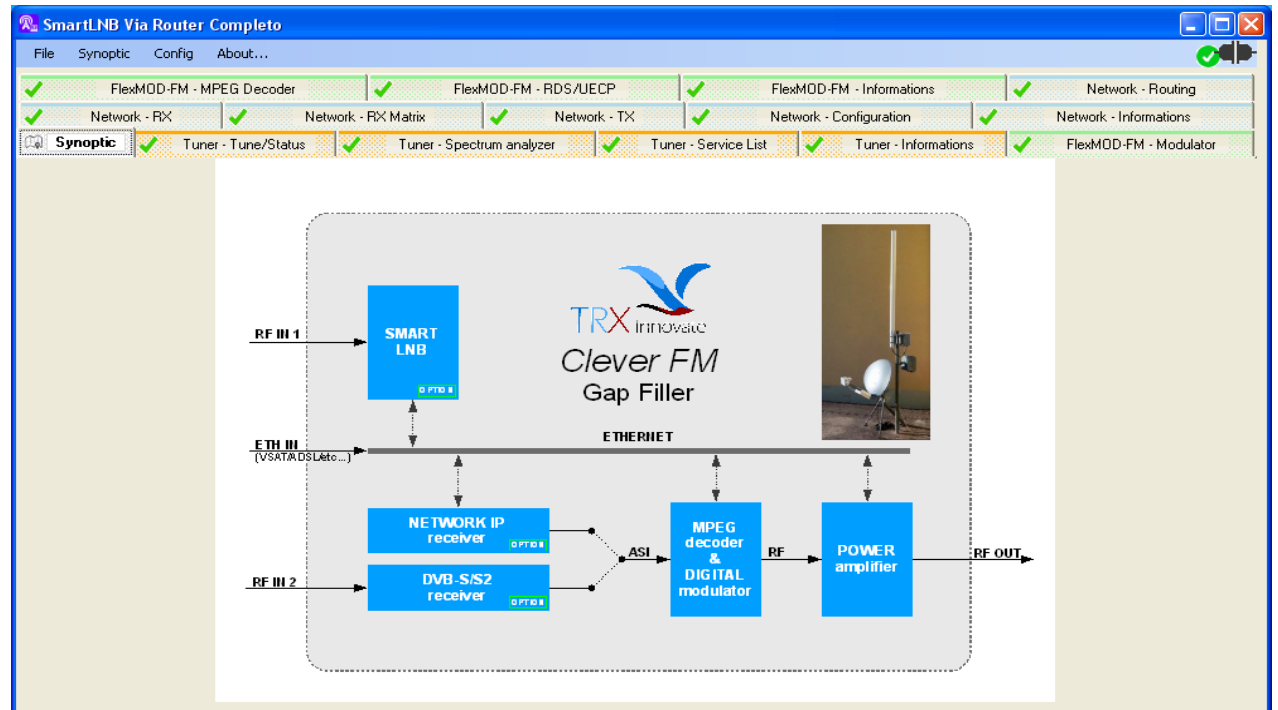




Screenshot 13 - Network info tab

REMOTE MANAGEMENT SOFTWARE

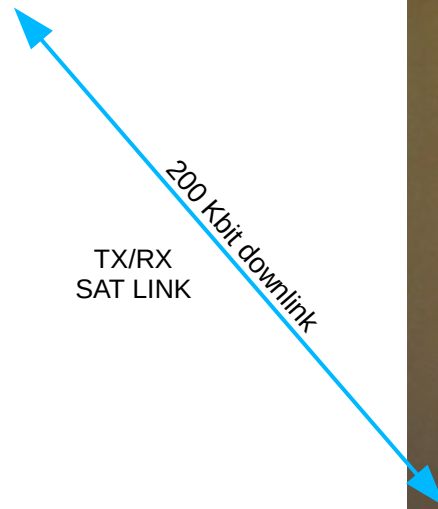
Screenshot 14 - Synoptic tab



**CLEVER FM as a complete mast-mounted solution.
Allows to easily create, expand or gap-fill a digital FM network.**

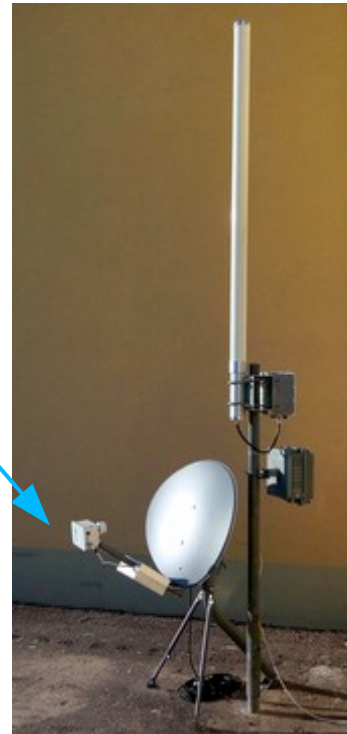


CLEVER FM
COMPLETE LOW-POWER
BROADCASTING STATION



TX/RX
SAT LINK

200 Kbit downlink



CLEVER FM as a digital upgrade.

Allows to re-use existing high-power TXs and convert them for digital FM distribution.

