



Audio Processing
RDS Encoding
Radio all in one
Mobile Metering
Monitoring



MODULATION ANALYZER

OVERVIEW

A complete Test and Measurement tool, gathering innovative features; including a digital FM demodulator, a RF spectrum analyzer, an oscilloscope, a duo channel audio generator, a distortion meter and MPx and RDS analyzers.

Useful to control transmitters, transmitter line or a dedicated FM equipment (receiver, encoder...)

Available in 2 versions; **Standard version** and **Lab version** with an optional Network Analyzer.

FEATURES

- All tools and functions necessary for the control and measurement of all the FM radio broadcasting networks.
- 100% digital technology.
- Possibility of simultaneous measurement
- Generates automatic measurement reports for post analysis.
- Main information on front touchscreen panel
- TCP/IP remote access.

BENEFITS

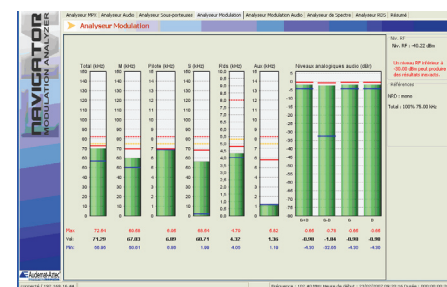
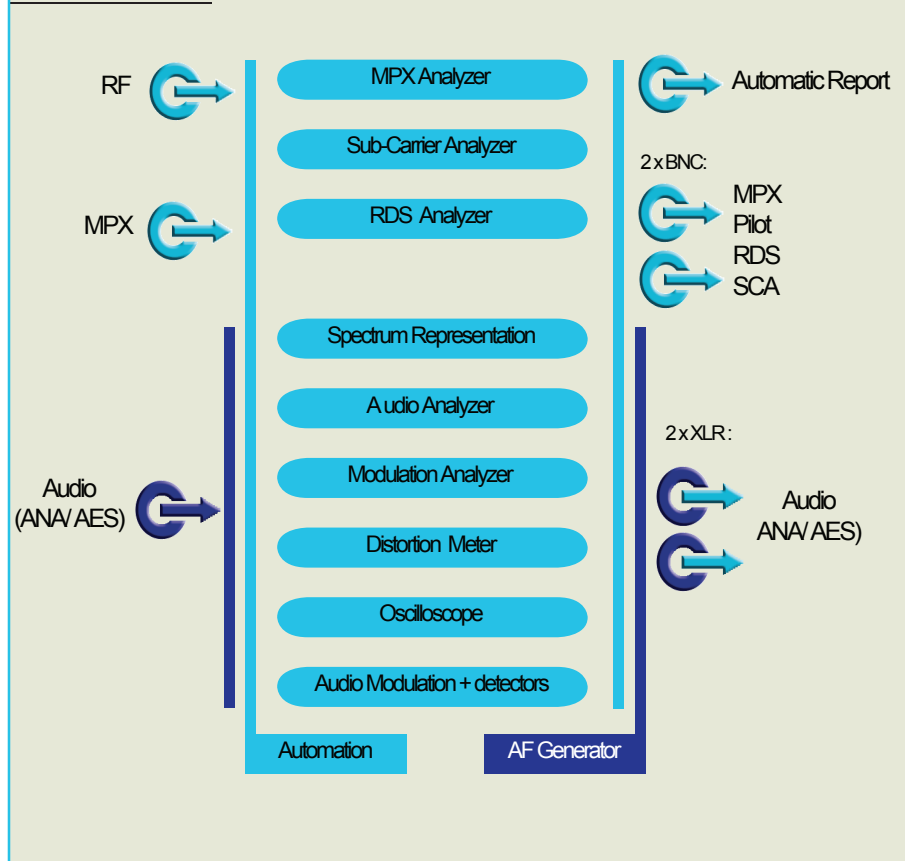
- Measure reproducibility
- Calibration every three years only
- Every required Input/Output interface.
- User-friendly graphic interface.
- All in one unit to reduce waste and electric consumption.



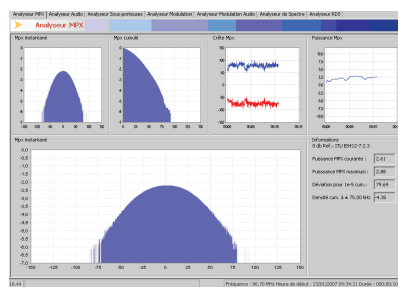
APPLICATIONS

- Broadcasters for installation, setting, maintenance and commissioning for transmitters and sound processing.
- Transmitter manufacturers on assembly line for quality control.
- R&D department on new equipment design.

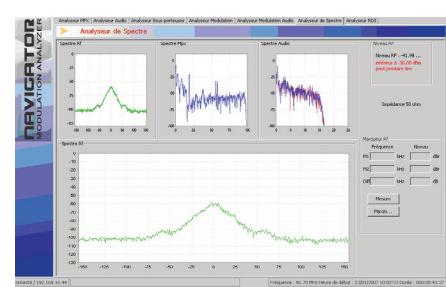
Global architecture:



Modulation Analyzer



MPX Analyzer



Spectrum Analyzer

MODULATION ANALYZER

FUNCTIONS - COMPARISON TABLE

	Standard	LAB
MPX Analyzer		
MPX instantaneous	x	x
MPX Cumulated	x	x
MPX peak deviation	x	x
MPX power time evolution	x	x
Cumulated density @ +/- 75 kHz	x	x
Deviation for 1e-5 cumulated	x	x
Audio Analyzer		
Time evolution: M; S; Left; Right	x	x
Max negative & positive deviation	x	x
Sub-Carrier Analyzer		
Time evolution: Pilot; RDS; SCA	x	x
Max negative & positive deviation	x	x
Modulation Analyzer		
Bargraph representation: MPX, M, pilote, S, RDS, SCA, L+R, L-R, Left, Right	x	x
Spectrum representation		
RF	x	x
MX	x	x
Audio	x	x

TECHNICAL SPECIFICATIONS

RF Input	Z = 50 Ohms
RF power range	- 35 dBm to +10 dBm
RF power measurement In < -10 dBm	± 1,5 dB ± 1,2 dB typical
RF power measurement In > -10 dBm	0,5 dB 0,25 dB typical
Measurement of max deviation	± 10 Hz to ± 150 kHz
Measurement of total deviation accuracy Fmod = 30 Hz to 15 kHz	< 1,0 % < 0,5 %
Stereo response Fmod = 30 Hz to 12 kHz Fmod = 12 kHz to 15 kHz	Max ± 0,08 dB Max + 0 / - 0,6 dB
Difference max L & R	< 0,07 dB (analogic) < 0,05 dB (AES)
Signal/noise CCIR Wght output L & R RF input > - 15 dBm	> 73 dB
Signal/noise CCIR Wght output L & R RF input > 0 dBm	> 80 dB (Analogic) > 86 dB (AES)
Crosstalk L to R, R to L RF input > 0 dBm Fmod = 1 kHz Fmod = 30 Hz to 15 kHz	> 60 dB > 55 dB
Distorsion AF (L & R) Fmod = 30 Hz à 20 kHz & Deviation = ±75 kHz	> 0,03% (Analogic) > 0,01 % (AES)

	Standard	LAB
RDS Analyzer		
General description	x	x
AF List	x	x
EON AF	x	x
Group sequence	x	x
Percentage repartition	x	x
Groups decoding	x	x
Radiopaging	x	x
TMC	x	x
Extra		
Automatic report	x	x
Oscilloscope		
MPX		x
«Audio Left Right Min, Max, PP, RMF, Frequency , period»		x
AF Generator		
0-90 kHz double Sine wave		x
Distortion meter		
Left Right THD and THD+N		x
Af frequency		x
Automation		
text command template		x
Audio Modulation + detectors		
CCIR		x
RMS		x
Peak-Peak/2		x
Pilot Frequency		x
Rf frequency		x
Signal comparison		x

ORDER INFORMATION

Standard version	
TF00208	Navigator FM Modulation Analyzer - Standard version
TF00208-A0	Navigator FM Modulation Analyzer - Lab test version
Software Option	
SOFT02	Software upgrade from Standard to Lab test version
Hardware options	
NET001	Network analyzer for Standard or Lab version FRN* (Availability end of 2008)
Accessories	
SP00563	Lithium-Ion battery pack

*FRN: Factory Return Needed

Ref: Modulation Analyzer - Datasheet 03/2008

Technical specifications are subject to change without prior notice