



FM-MC4

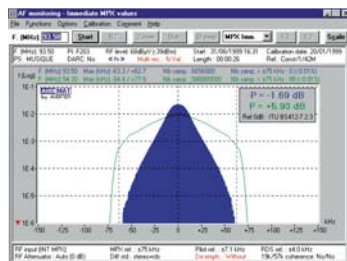
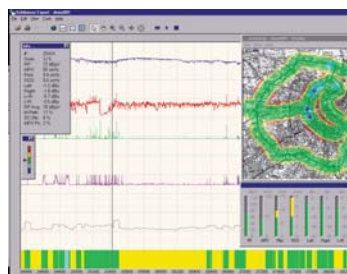
The reference for FM signal Metering

The FM-MC4 is the perfect solution For Precision FM signal analysis along the transmission chain.

This Mobile dynamic FM field-strength Meter and base-band Analyzer is the reference product for regulation authorities, broadcasters and radio stations worldwide.

A perfect blend of accuracy and ease of use:

- User-friendly and powerful PC control with software module flexibility and upgrade capability.
- Professional calibrated FM receiver for Metering class operation with exceptional certified performance (EC and FCC approved equipment supplied with a calibrated antenna).



Benefit 1:

RF readings

- To create a record of what the real-world contours of your stations look like
- To compare your main signal with your auxiliary and your competitors
- To check and adjust antenna patterns
- To correlate real field readings with predicted data
- To determine whether or not one station or transmitter site is worth buying by verifying published contours

Benefit 2:

Evaluation of audio reception Quality with GOLDENEAR

- To evaluate the reception quality of your stations
- To demonstrate signal to non technical people (maps, audio recording)
- To visualize areas with multipath
- To choose the best transmitter location on in your market

Benefit 3:

Audio and modulation analysis

- To check if levels comply with regulations
- To adjust your sound processing and establish sound identity all through your network
- To improve audio quality over your competition
- To check SCA and analyze SCA, RDS and DARC

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**More than 100 000 readings in 60 minutes ...
while driving your car !**

Broadcasters and major regulation authorities use Audemat-Aztec's method to perform field-strength measurements.

Installed in a car, the portable FM-MC4 enables "running" measurement campaigns. With the embedded GPS receiver, each value is automatically indexed to a geographical location.

The calibration of each element of the system (antenna, receiver, cable...) and its powerful processing capability allow the FM-MC4 to comply to with the most demanding clients requirements.



Mobile field-strength campaign

Up to 99 stations in one drive

Up to 4 kinds of representation: text, curve, geographical and cartographic

+overlay with Microsoft MapPoint™ cartographic software

Easy exportation of results (txt file) for comparison with simulation software

Automatic selection of the best received frequency (RDS retuning)

3 selectable IF Filters (narrow, medium, large).



Mobile audio reception Quality

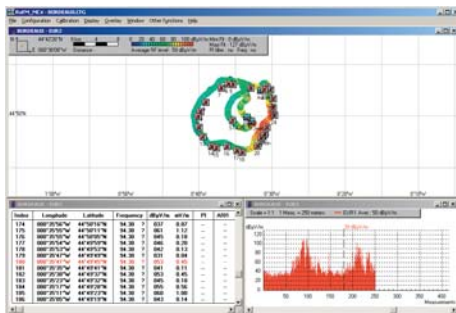
RF coverage measurement alone is insufficient for evaluating the real quality of reception. The GOLDENEAR module software is able to acquire simultaneously RF, modulation, audio, RDS, SCA, pilot, and multipath levels every 50 ms. A quality index from 1 to 5 is processed afterwards using a powerful algorithm which takes into consideration all acquired readings.

Audio reception quality can be clearly displayed on colorful maps.

The synchronized audio recording of the program measured makes the comprehension easy.

A free reader version is available for easy communication of the results.

Precise values are available for experts.



FM-MC4 : official metering system in Switzerland.

Upon demand of Switzerland Regulation Authority, AUDEMAT-AZTEC also developed a complete system, combination of 2 FM-MC4, master and slave units.

This solution is installed in a car and in addition to standard GOLDENEAR functions, it also performs :

- Co-channel interference analysis
- Complete multipath analysis
- Dynamic RDS bit-rate errors

Such a system offers a clear vision of whether interference occurs on a program.

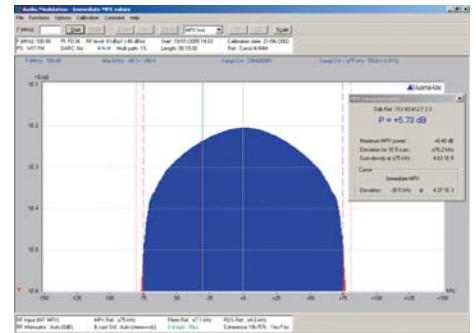
Graphical representation to see the "color" of sound

The accuracy of the FM-MC4 hardware, its L, R, modulation (MPX) and RF inputs make measurement in the studio, on the transmitter site and on a reception antenna possible.

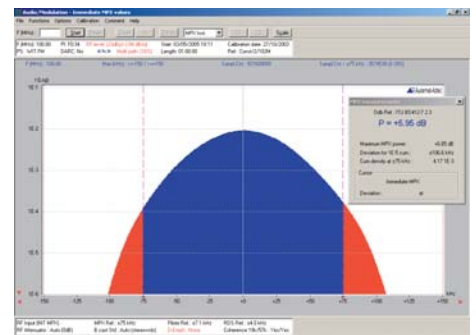
Sound processors can be easily adjusted by displaying the 2D representation of the modulation energy : each adjustment of sound processor corresponds to a specific shape and over-modulation is automatically displayed in red.

Short or transitory events can be tracked with the 72 hours peak recorder.

e.g.: Modulation power representation
Green curve : high processed signal
Blue curve : low processed signal



In red : Over-modulation



Portable audio and modulation analyzer

To check the signal all along the transmission chain : L&R balanced and unbalanced inputs, modulation (MPX) input, RF input, 10.7 MHz input.

To measure modulation (MPX) level, audio level, pilot and SCA level (RDS, DARC) to be fully compliant with official recommendations

To measure modulation (MPX) power: 256K samples per second according to ITU BS 412-7 2.3 recommendation

Representations : bargraph, peak/time, density, envelope, multiple reception.

Measurement log for tracking and automatic reports after expertise.



Sequencer

To be used with the Audio and Modulation module software

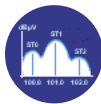
Enables the measurement session to be scheduled at given time and launched automatically.

For example, technical support is no longer necessary for night or weekend sessions.

Automatic reports can still be carried out and printed.

New version available in 2006

Additional module software for local FM band scanning and RDS & DARC analysis



Local FM band scanning

To quickly and easily identify local transmitted programs and their main features.



RDS and DARC analyzers

Enables a deep analysis of the sub-carriers

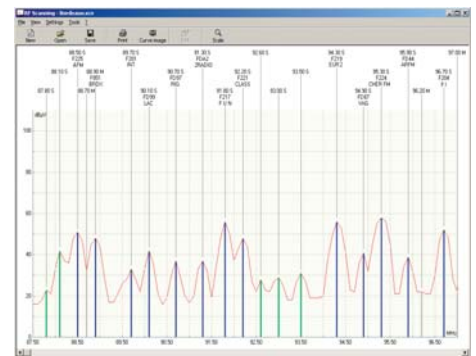
Complete RDS data decoding

Bit error Rate processing

Possibility to record and replay RDS sequences.



FM band scanning



RDS analyzer



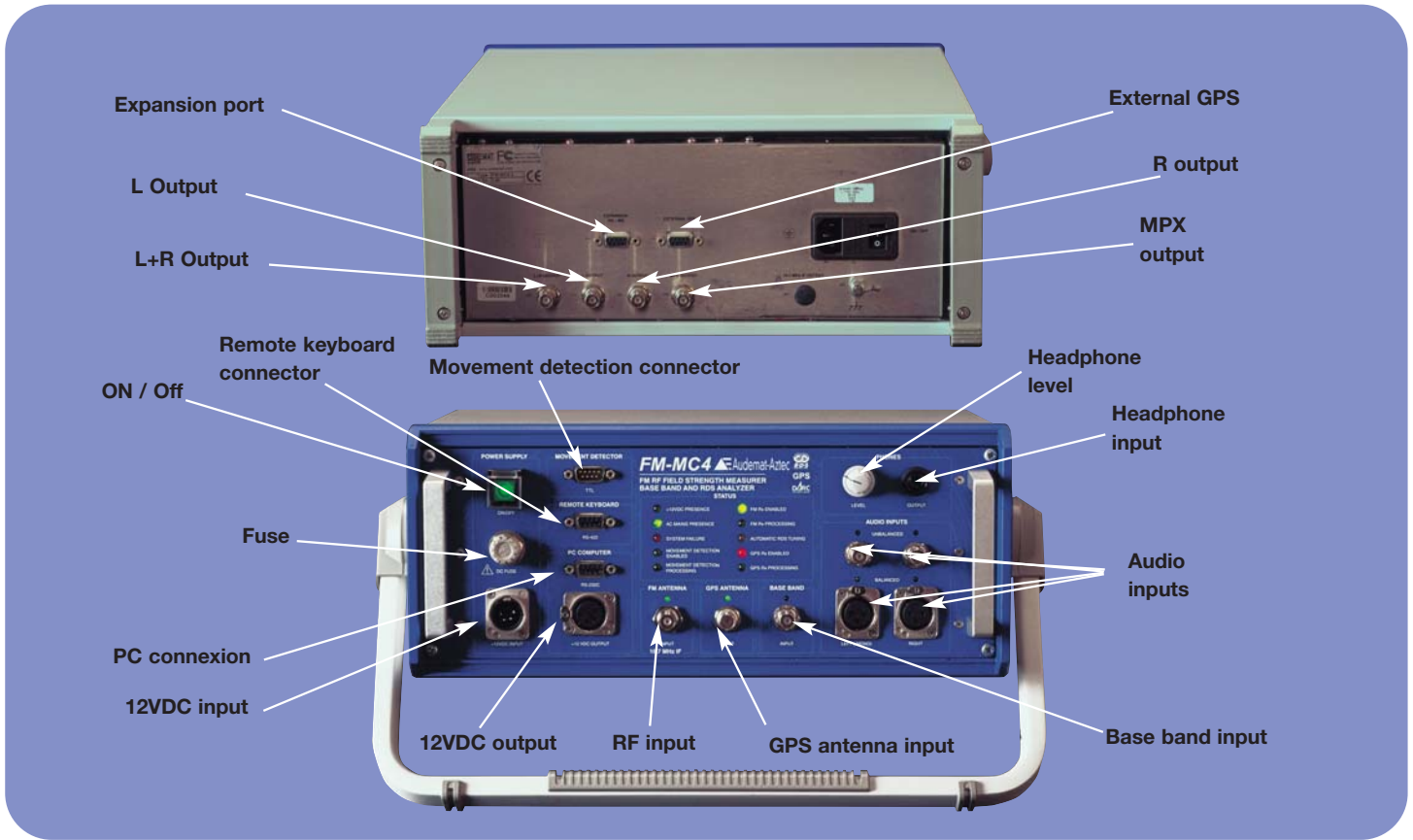
Product Information

Technical product information about characteristics, philosophy, applications and performances of the FM-MC4 is easily accessible through the portal.

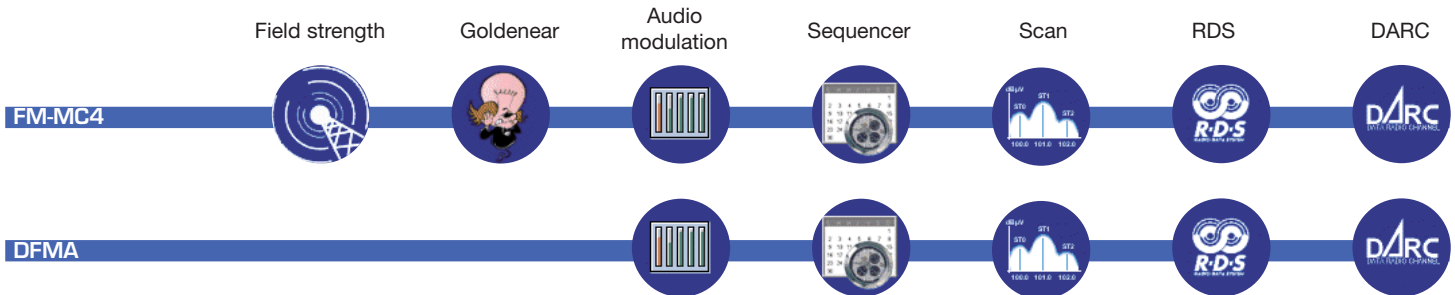
This literature illustrates Audemat-Aztecs commitment to providing the highest level support to broadcast engineers.

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FM-MC4 and DFMA main functions



Technical characteristics and others products available in Audemat-Aztec Metering range are available upon request or on our web site.

Audemat-Aztec Metering solutions won the prestigious "Cool Stuff Award" delivered by Radio World and the Pick hit award delivered by BE Radio at NAB 2000



Audemat-Aztec
Broadcasting **Innovation**

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