

FM+ Broadcast Band Converter Information

The FM+ is a 76÷90 MHz broadcast band converter expressly designed for the Perseus receiver.

It features a very good dynamic range which perfectly matches the Perseus receiver. The converter is equipped with a control software application suited for FM DXers needs.

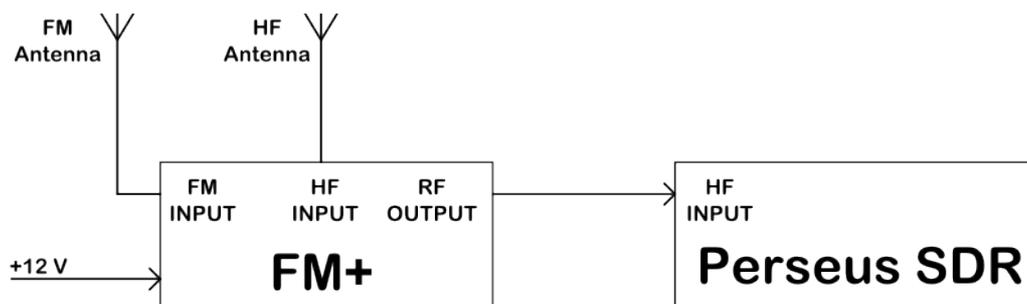
The FM+ is equipped with an internal antenna switch for direct connection to an HF antenna when the converter is not used.



Technical Specifications (*)

Tuning Range:	76 ÷ 90 MHz
Noise Figure:	9 dB
Gain Flatness:	± 1 dB typ. (converter only)
Image Rejection:	80 dB (110 ÷ 124 MHz)
Input P1:	-5 dBm typ.
Input IP3:	+8 dBm typ.
Clipping Level:	-17 dBm (Perseus attenuator set to 0 dB)
Voltage Supply:	+12 ÷ +13.6 VDC
Current Sink:	0.25 A
LO-FM Input Feedthrough:	better than -65 dBm
HF In to RF Out Isolation:	better than 90 dB (0 ÷ 30 MHz)
Operating Temperature Range:	+5 ÷ 40 °C

(*) All specifications refer to the overall receiving system (FM+ and Perseus SDR) if not specified otherwise.



FM+ Software V1.0c



IMPORTANT NOTICE

The FM+ software installation CD comes equipped with an *ACTIVATION CODE* printed on its envelope which will be required to install newer software versions.

Keep your your activation code in a safe place for future usage.

You won't be able to install newer FM+ software versions without it!

FM+ Software Registration

To use the FM+ software, please complete the following steps:

The screenshot shows the FM+ Software Registration dialog box. It contains the following text and fields:

In order to use this software either than in playback mode you need to register it and get a valid license file.
To obtain the license file, please fill the following form with your name and the FM+ Activation Code printed (and as written) on the FM+ Installation CD.

If this PC has an internet connection click the button "Request License". This will open your default web browser and let you obtain a license file from the Microtelecom web site.

If this PC has no internet connection, click the button "Save Request to File". This will save your registration data to the file regdata.txt in the folder where you have installed this software. You will need to copy this file and send it via email to swreg@microtelecom.it.

Once you will receive the license file you need to save it in the folder where you have installed the FM+ software and restart it. This will complete the registration process.

First Name:
Last Name:
FM+ Activation Code:

Buttons: Save Request To File, Request License, Continue in Playback

- 1) Install the Perseus WinUSB drivers (only if not installed on your system yet).
- 2) Copy the contents of the FM+ CD-ROM in a folder on your system.
- 3) Connect your Perseus receiver to an USB port on your PC – do NOT start the Perseus software application.
- 4) Run the *fmpplus.exe* application and follow instructions, as shown on the picture on the left.
- 5) If you are connected to the internet, click on "Request License"; your default browser will start and you will need to save your registration file in the FM+ folder.
- 6) Restart the application to complete the registration process.

Quick-start guide

The FM+ Software performs wide band stereo FM demodulation with RDS decoding of the tuned signal with overall features which are similar to the Perseus software application. In this software version, the selectivity filter operates at 500 kS/s with a maximum IF bandwidth of 400 kHz and can be narrowed down to 20 kHz for FM DX operations.

In the main spectrum display three spectral views can be selected with the buttons RF, MUX and RDS, the RF spectrum, the spectrum of the demodulated stereo multiplex (MUX) and the spectrum of the RDS signal if present.

The PI Code, the program station name, the program type and the RDS signal SNR are shown below the main spectrum display.

The S-Meter can be set to show the RF input power or the output audio level.

The Mono button forces the demodulator in mono-aural detection for improved reception of weak signals. Three buttons in the DEEN pane select the de-emphasis time constant according to local standards.

Among bandwidth options an auto-bandwidth button has been added. When the Auto button is enabled, the software attempts to set the selectivity filter to the best possible bandwidth; the secondary spectrum window average is locked and cannot be modified by the user. The selectivity of the filter is set within 2.5 seconds from any change in the tuning frequency.

When the software is tuned to a broadcasting station which carries RDS information, the software attempts to derive the PI code as fast as possible, avoiding a complete frame synchronization. A question mark is appended to a PI code which has not been confirmed by a full RDS frame synchronization, as a warning that it might be not valid. For further usage information, please refer to the Perseus User Manual.

This version does not support communication through the VCom port.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Minimum System Requirements

Genuine Intel 1.8 GHz Dual Core Intel CPU (*) with 2 GB RAM

1024 x 768 VGA Adapter

PS2 or USB Mouse

AC97 16 bit Soundboard

(*) A faster processor might be required when using the software at sampling rates greater than 500 kS/s.

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