

FM+ Broadcast Band Converter Information

The FM+ is a 87.5÷108 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.

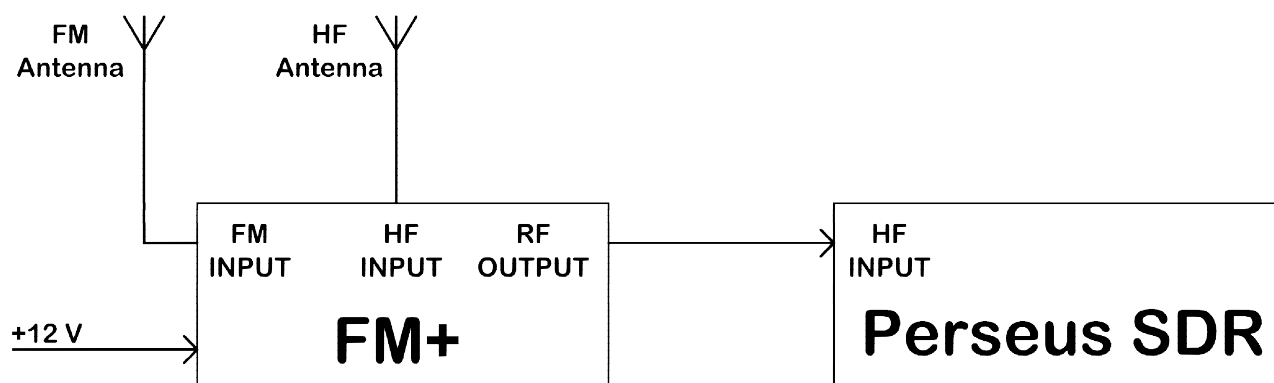
The FM+ is equipped with an internal antenna switch for direct connection to an HF antenna when the converter is not used.



Technical Specifications (*)

Tuning Range:	87.5 ÷ 108 MHz
Noise Figure:	9 dB
Gain Flatness:	± 1 dB typ. (converter only)
Image Rejection:	80 dB (52 ÷ 70 MHz) > 60 dB (70 ÷ 72.5 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 V _{DC}
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 V1.0b



IMPORTANT NOTICES

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 Installation

- 1) Install the Perseus WinUSB drivers if not installed on your system yet.
- 2) Copy the content of the FM+ CD-ROM in a folder of your system.
- 3) Connect your Perseus receiver to an USB port on your PC, as it will be required for software registration.
- 4) Run the *fmplus.exe* application and follow instructions.

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.

Minimum System Requirements

Genuine Intel 1.8 GHz Dual Core Intel CPU(*) with 2 GB RAM
1024 x 728 VGA Adapter
PS2 or USB Mouse
AC97 16 bit Soundboard

(*) A faster CPU may be required if the selected sampling rate is greater than 500 kS/s.

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