

Mechanical characteristics

- ◆ Dimensions
 - 9"2 x 6"3 x 3/4"
 - (233 x 160 x 19 mm)
 - (double Europe 6U, 1 slot)

Interfaces

- ◆ Inputs
 - IF 2 SMA female
 - 10 MHz 1 SMA female
- ◆ Outputs
 - I,Q 4 SMA female
 - 10 MHz 1 SMA female
 - 45 MHz 2 SMA female (option)
 - RS485 synchronous serial link connector 12 pins male
 - VME connector P1
 - Ethernet RJ45 (option)

Software

- ◆ C source drivers yes



VME-IF2B-x

VME IF to Baseband boards

70 or 140 MHz



Ordering information

- Model references **SM01004725A**



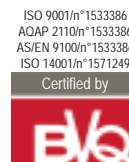
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Applications

- Satellite communications
- Base stations
- Modems

Main features

- The VME IF to baseband boards are single slot boards that features two down-conversion channels from 140 MHz or 70MHz with 30 MHz bandwidth to narrowband base band.
- They are designed to interface directly with the 8 channels VME-Baseband over IP- board (ref SM01003822A)

Technical characteristics

Analog inputs

◆ IF input quantity	2
◆ Output quantity	4 (2 x I,Q)
◆ IF Frequency	140 or 70 MHz
◆ Bandwidth	40 MHz
◆ Max input level	- 40 dBm
◆ 10 MHz	0 dBm ± 3 dB
◆ Input return loss	1.5

Frequency conversion

◆ Gain max	≥ 90 dB
◆ Attenuation	0 to 31 dB (0.5 dB step)
◆ Synthesizer step	250 Hz
◆ Noise figure	< 15 dB
◆ Spurious	≥ 60 dBc
◆ Image frequency rejection	≥ 80 dBc
◆ Crosstalk	≥ 60 dB
◆ Filter bandwidth	7,5 kHz ; 15 kHz ; 60 kHz switchable (other values in option)

Analog outputs

◆ 10 MHz	0 dBm ± 3 dB
◆ I,Q	± 1,25 Vcc for S/N0 = 55 dB.Hz, noise : -120 dBm/Hz ; attenuation = 30 dB
◆ Internal IF signals	
● 45 MHz outputs	2 (in option) -
▶ gain	25dB
▶ noise figure	13 dB typical,
▶ IP3	18 dBm,
▶ PS1	+10 dBm
▶ BW 3 dB	30 MHz

Data interfaces

◆ RS485, Synchronous serial link	
◆ Ethernet 10 baseT	TCP/IP protocole, mono port, mono client (option)
◆ VME :	software configurable address

Communication

◆ Ethernet 10 Base T	TCP/IP protocole, mono port, mono client (option)
◆ RS485	
◆ Synchronous serial link	
◆ VME	software configurable address

Description

Frequency conversion

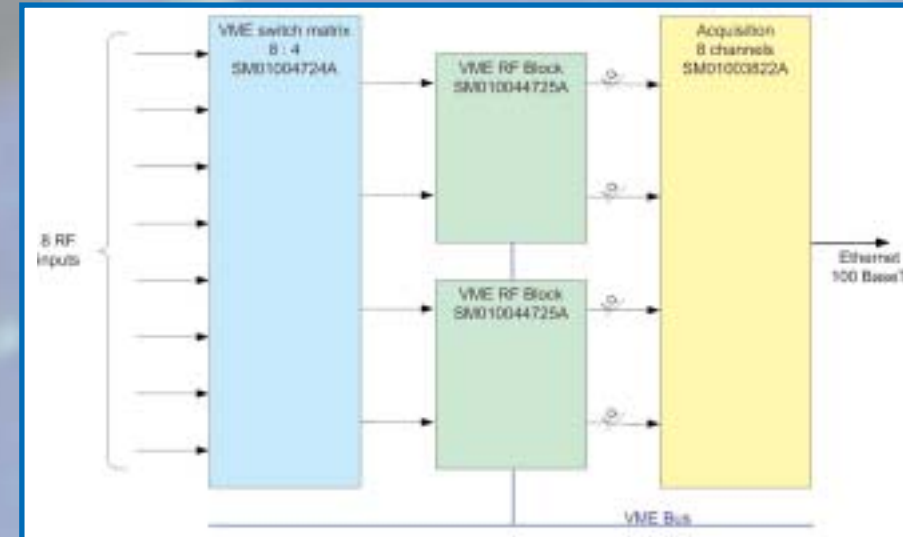
The frequency down-conversion from IF 140 MHz or 70 MHz to base band is realized by a double transposition towards the intermediate frequencies IF-1 at 836 MHz and IF-2 at 45 MHz. The quartz filter at 45 MHz can be selected dynamically among 4 values available, then choosing the best bandwidth according to the signals to be processed. A I-Q demodulator at 45 MHz finally realizes the transposition to base band. Maximum gain of the transposition is 90 dB with possible attenuation of 31 dB.

Processor

An embedded HC12 micro-controller allows various control and command modes such as synchronous or asynchronous serial links, VME bus and also Ethernet 10BaseT as an option.

User Interface

The use of the board is easy thanks to the complete delivery of C source code drivers.



4 narrow band channels

