



GPS180AMC

AdvancedMC™ Clock Module



- Stable and highly accurate Frequency and Time Base for your MicroTCA and AdvancedTCA systems
- Meinberg built-in GPS receiver
- Ultra stable OCXO (several options)
- Driver software included for Linux and Windows (32bit and 64bit) and others, including SDK for own applications
- High Res access to time base via PCIe bus for time synchronization and in-application timestamping
- Synchronization based on GPS or external 10MHz reference
- Programmable output frequencies (8Khz, 1.544MHz, 2.048MHz, 19.44MHz) on backplane (TCLK A and TCLK C) and front panel connector
- USB 2.0 Micro USB connector
- Single Lane (x1) PCIe
- PCI Express interface r1.0a compatible, Fat Pipe Region, Port 4

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AdvancedMC

The GPS180AMC is the perfect choice for all time and frequency requirements of your AMC based systems. Its extensive featureset enables you to use this versatile card for various purposes:

- time synchronization of the operating system clock on your CPU module
- generating stable reference frequencies for other modules or externally connected equipment
- adding high res timestamping capabilities to your own data acquisition applications



Meinbergs built-in MRS system can handle a wide range of reference sources like GPS, Time of Day, 1PPS, 10 MHz in a configurable, user-prioritized way. This improves flexibility and reliability, allowing you to set up a primary reference source and back up references.

The GPS180AMC comes with an ultra stable oscillator, offering a fantastic holdover performance in case the external reference is lost. This avoids losing acquired data (measurements for example) due to inaccurate time stamps and adds an unbeatable level of robustness to your applications.

As one of the worlds leading synchronization experts, Meinberg created a world-class synchronization module for AdvancedMC based solutions. If you want to learn more about the GPS180AMC or other Meinberg solutions, please do not hesitate to contact us:

Email: sales@meinberg.de

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Technical Specifications

External references:	GPS (built-in receiver with MMCX antenna connector) 10MHz (female MMCX), max 5Vpp, AC coupling Time of Day (ToD) String + 1PPS (RJ45 COM connector)
Type of receiver:	12 channel GPS C/A-code receiver
Type of antenna:	Remote powered GPS antenna / converter unit, up to 300m distance to antenna with RG58 and up to 700m distance with RG213 cable
Frequency outputs:	1 x TTL into 50 Ohm, female MMCX connector in the front panel default: 2.048MHz; programmable: 8kHz, 1.544MHz, 2.048MHz, 10MHz, 19.44MHz
Precision of time base:	Accuracy of time: better than +/- 100 nsec
Interface:	Terminal Interface: USB 1.1 / USB 2.0 full-speed, Micro USB connector
Serial Interface:	Asynchronous serial interface (RS-232) COM1, I/O RJ45 jack
Electrical connectors:	Female SMA Antenna connector Clock input: female MMCX connector in the front panel Clock output: female MMCX connector in the front panel
Computer interface:	Single lane (x1) PCI Express (PCIe) interface PCI Express r1.0a compatible, Fat Pipe Region, Port 4
Power supply:	12 V Payload Power, 3.3 V Management Power, 8 W typ.
Backup battery type:	When main power supply fails, hardware clock runs free on quartz basis, almanac data is stored in RAM Life time of lithium battery min. 10 years
Board type:	Single, Mid-Size AMC Module, 181.5 mm x 73.5 mm x 18.96 mm
Ambient temperature:	0 ... 55° C
Humidity:	Max. 85%
Options:	Oscillator upgrade: OCXO-MQ, -HQ or -DHQ (instead of OCXO-SQ) for extended Holdover capabilities