



## GE Power Management Control System

[GE ED&C Home](#) | [Search ED&C](#) | [GE ED&C Power Management Home](#) | [GE ED&C PMCS Home](#)

### Technical Note #5

#### GE Power Management Control System

- [Description](#)

- Software
  - Hardware

- [Operation](#)

- [Product Support](#)

- [Operator Interfaces](#)

- [F A Q's](#)

- [App Notes](#)

- [Download Area](#)

- [Manuals](#)

#### Useful

#### Information

- [Glossary of Terms](#)

- [Useful Links](#)

- [Search Tech support](#)

#### We want to hear from you!

- [Service and Support locations](#) around the world .

### Time Synchronization Guidelines

**Subject:** Please use the following guidelines to optimize the time stamp resolution for devices in the PMCS system.

**Applies To:** PMCS systems.

### PMCS 5.0/5.1 Time Sync Resolution

The Network and Device Configurator periodically time synchronizes all time enabled devices on the network. Accurate time synchronization of devices ensures that events are properly sequenced which helps in studying the cause and effect behavior between devices.

The Network and Device Configurator supports different device types on the same line and as such does not use the Modbus broadcast command for time synchronization since the different devices have their time registers at different memory locations. The Network and Device Configurator, therefore, synchronizes each device on the network separately. Because of the PC timer resolution and individual device time synchronization, a devices' time is synchronized to a typical accuracy of 1 second. This will allow for 1 sec time-stamp accuracy on waveform, status, and event data.

The time accuracy among devices is more important than the actual time. All devices on the same GE Modbus Concentrator will be time synchronized with 10 ms accuracy but among concentrator boxes it will be accurate to 1 second only. Also the time difference between the concentrator and GE devices will be 50 ms, due to the propagation delay. It is therefore recommended that devices in which higher time accuracy ( 50msec) of the cause and effect behavior between devices be connected to the same concentrator. Otherwise, the time accuracy between devices connected to separate GE Modbus Concentrators shall be 1000 msec.

The time download frequency can be adjusted for each time enabled device type in the server \*.ini file (located in the NT directory). It is listed as the "TimeDownload Period = x" with units of milliseconds.

Note: The concentrator must be synchronized at least every 15 minutes (the reason for the 900000 ms default time synchronization time). This is because the trip units do not store hard time, but ticks since last time update. The field for "tick since last time synch" must be reset otherwise it will overflow.

The following devices are synchronized:

PLEPM, MVT, EMVTC, EMVTD, ECM, MDP, 565, PLM, 3710, 3720, 750,  
Modbus Monitor, 469, PQM, 745, 489.

**Keywords**

time synchronization, optimization, events, time stamp, time accuracy

**Related Notes**

none

last revised: 6/8/98

[GE home page](#)

[Search ED&C](#) | [GE home page](#) | [GE news](#) | [GE business finder](#) | [GE products & services](#)