

## **Design of Deterministic Task Scheduling Software for MSC**

**Haeng-Pal Heo, Sang-Soon Yong, Jong-Pil Kong, Young Sun Kim,  
and Heong-Sik Youn**

Korea Aerospace Research Institute, Eun-Dong 45, Yuseong-Gu, Taejeon, Korea  
Tel : 82-42-860-2383, Fax : 82-42-860-2605  
E-mail: [hpyoung@kari.re.kr](mailto:hpyoung@kari.re.kr)

MSC(Multi-Spectral Camera) is a main payload of KOMPSAT(Korea Multi-Purpose Satellite)- II which will be launched in 2004. MSC will perform his mission with the GSD(Ground Sample Distance) of 1m, swath width of 15km and spectral range of 450nm~900nm at the altitude of 685km. MSC consists of three main subsystems. One is EOS(Electro-Optics Subsystem), another is PMU(Payload Management Unit) and the other is PDTS(Payload Data Transmission Subsystem). There is an SBC(Single Board Computer) in the PMU to control all the other units and SBC software performs the interface with spacecraft and control all MSC sub-units. SBC software consists of a lot of tasks and manages them with the time criticalness. All tasks are designed to be scheduled and executed at the predetermined time in order to make sure that the mission of MSC system is achieved successfully. In this paper, the real-time task scheduling of the SBC software will be described and analyzed.