

Some Characteristics of DFH-1, SJ-1 and KMS-1

DFH-1 (Dong Fang Hong-1 (East is Red-1)), China's first successful satellite, was a communications technology test satellite launched on 24 April 1970. It was a spin-stabilized 72-face polyhedron, 1 m in diameter, with a mass of 173 kg, similar in shape to Telstar. Powered by on-board batteries, it had a design life of 15 days. It used a tune generator to broadcast the song *East is Red* from orbit every 45 sec. That song was the de facto national anthem of the People's Republic of China during the Cultural Revolution of the 1960s, so the DFH-1 mission was also in part for propaganda. There are many Chinese stamps and launch covers that depict DFH-1.

SJ-1 (Shi Jian-1 (Practice-1)) was the second in the DFH-1 series, launched on 3 March 1971. The only real visual difference is that SJ-1 was covered with solar cells. It included a magnetometer and cosmic ray and X-ray detectors in place of DFH-1's tune generator and was heavier than DFH-1, with a mass of 221 kg. SJ-1 was able to continually transmit scientific and telemetry data during its 8-year lifetime, even though it had a design lifetime of only one year. One lone stamp (Albania Scott 1362, issued in 1971) is known to refer to SJ-1, but it does not depict the satellite.

KMS-1 (Kwangmyongsong-1 (Bright Star-1)) was a mysterious communications technology test satellite. North Korea claimed that the 31 August 1998 launch was successful but Western intelligence agencies could find no evidence that the satellite did reach orbit, and therefore consider that the launch failed. If KMS-1 had reached orbit, it would have beamed propaganda songs back to Earth. Available photographs show that the KMS-1 design was probably copied from DFH-1. The exterior differences appear to be cosmetic: KMS-1 has fewer polyhedral panels, and they are alternately dark and light in a sort of checkerboard pattern. Only North Korea has issued philatelic items for KMS-1, which is generally shown in a tiny size, with its booster still attached, and without the checkerboard panels. However, a few of its stamps do include more detail. The best example is probably North Korea Scott 3888, which was issued in 1999.