

11 March 2010

Federal Aviation Administration  
 Office of Spectrum Policy and Management  
 ASR-1  
 800 Independence Avenue, SW  
 Washington D.C. 20591

Reference: FAA Notification of FCC Equipment under FCC Part 87  
**HSD-440, HSD-400, HSD-128, HSD-X, HSD-Xi Aeronautical  
 Satellite Communications Transceivers**  
**FCC I.D.'s K6KHSD-440, K6KHSD-400, K6KHSD-128, K6KHSD-X, K6KHSD-Xi**

Dear Sir,

In accordance with Federal Communications Commission (FCC) Rules and Regulations, Part 87.147(d), EMS Technologies Canada, Ltd. hereby notifies the Federal Aviation Administration of its filing with the FCC of an application for Certification of the HSD Aeronautical Satellite Communications Transceiver models referenced above.

Please find below the information required pursuant to Part 87.147(d)(1);

**1) Description of Equipment**

The High Speed Data (HSD) unit is a line replaceable unit (LRU) of the SATCOM earth station. It is packaged in an 8 Modular Concept Unit (MCU) footprint and mounted in accordance with ARINC 600.

Depending on the model configuration, the HSD supports Flight Deck Navigation and Mission Systems Access to the Internet by providing connectivity to the following INMARSAT communication services:

- INMARSAT ISDN SCPC (Single Channel Per Carrier) Service
- INMARSAT MPDS (Mobile Packet Data Services)
- INMARSAT Aero P, R, T channel data
- INMARSAT Aero C channel H+ voice
- INMARSAT SwiftBroadband (BGAN) Service

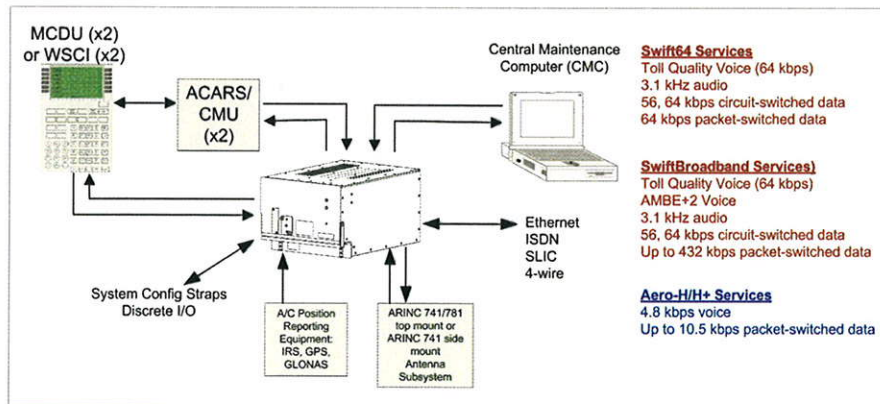


Fig 1. Sample configuration that illustrates the relationship of the HSD to other elements of the Aircraft Earth Station system

**2) Manufacturer's Identification**

	Input	
Product Description	Power	Service Type
HSD-128	DC	2xSW-64
HSD-400	AC	4xSW-64;2xSBB
HSD-440	Dual	2xClassic;2xSW64;1xSBB
HSD-X	AC	1xSW-64
HSD-Xi	AC	2xSW-64;1xSBB

**3) Antenna Characteristics**

The HSD is designed to operate with Inmarsat approved Satcom aeronautical antenna systems. These antennas meet the requirements of ARINC characteristics 741 and/or 781 and RTCA/DO-210.

**4) Rated Output Power**

60W

**5) Emission Types and Characteristics**

Service	Data Rate (kbps)	Symbol Rate ksym/sec	Modulation Type	FCC DESIG	Auth BW
Classic RT	0.6	0.6	P/2 BPSK	840HG1D	25
Classic RT	1.2	1.2	P/2 BPSK	1K68G1D	25
Classic RT	10.5	5.25	Aviation QPSK	10K5G1D	25
Classic C	8.4	4.2	Aviation QPSK	6K80G1E	25
Sw ift64: TDM Signaling	3	3	BPSK	21K0G1D	25
Sw ift64: Mini M AMBE Voice	5.6	2.8	Offset QPSK	7K20G1E	45
Sw ift64	134.4	33.6	QAM16	40K0G1E	45
Sw ift64 MPDS	134.4	33.6	QAM16	40K0G1D	45
Sw iftbroadband	33.6	16.8	QPSK	25K0G7W	225
Sw iftbroadband	67.2	33.6	QPSK	50K0G7W	225
Sw iftbroadband	134.4	67.2	QPSK	100KG7W	225
Sw iftbroadband	302.4	151.2	QPSK	200KG7W	225
Sw iftbroadband	134.4	33.6	QAM	50K0D7W	225
Sw iftbroadband	268.8	67.2	QAM	100KD7W	225
Sw iftbroadband	604.8	151.2	QAM	200KD7W	225



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**6) Frequencies of Operation**

1626.5 to 1660.5 MHz transmitting  
1525 to 1559 MHz receiving

**7) Receiver Characteristics**

As defined in the Inmarsat System Definition Manuals (SDMs) and RTCA/DO-210 as applicable.

If this information meets with your approval, EMS herein requests that your office notify the FCC's Office of Engineering and Technology Laboratory, Authorization and Evaluation Division, in order to indicate that, pursuant to Section 87.147(d)(2) of the FCC's rules, the FAA does not have an objection to the certification of the equipment described in this letter. If you have any questions on the above information, please feel free to contact me directly.

Sincerely,

A handwritten signature in blue ink that reads "R. Halka".

Ron Halka  
Director of Business Process Improvement and Quality  
EMS Aviation Ottawa