EXHIBIT 1

EQUIPMENT DESCRIPTION

PROGRAM DESCRIPTION

Communication Satellite Corporation (COMSAT) will be operating two transportable Satcom pallets equipped with Racal Avionics at their Washington, DC office, GES's at Santa Paula, CA and Southbury, CN, and the COMSAT laboratory in Clarksburg, MD. These pallets will also be used at industry meetings, trade shows and customer facilities to demonstrate Satcom capability. The equipment will be operated for the purpose of;

a) Demonstrate operation of Satfone/Terrestrial phone system interface and WH-10 handset capability.

b) Test and demonstrate additional Satcom applications i.e., FlightNews, Fax and Computer interface.

c) Provide capability to monitor vendor changes, training capability for the Commissioning and Maintenance Terminal (CMT), monitoring of GES/Satfone interface and confirm AES preference programing specifications.

The equipment shall operate in the Marine and Aeronautical Mobile Satellite band of frequencies. Demonstration of the operational capability of this equipment requires transmitting. No "FOR HIRE" communications are to be provided during any use of this equipment.

DIGITAL VOICE AND DATA

The equipment shall transmit on channel of digital voice or high speed data using 21 Kb/sec (10.5) A-QPSK modulation. The system shall use a high gain stationary helix test antenna. In addition low speed data will be transmitted using a A-BPSK modulation. All modulation complies with aviation standards. Ground communication services shall be provided by COMSAT, British Telecom International and other INMARSAT signatories as required.

Modulation Methods

Type	Description
A-QPSK	Aviation Quadrature Phase Shift Keying uses a specific form of Offset QPSK where the modulation filtering is optimized for satellite communications with aviation applications (Reference: "Quaternary Transmission over Satellite Channels with Cascaded Non-Linear Elements and Adjacent channel interference" by Russel Fang in IEEE Transactions on communications, May 1981, Vol. COM-29, No. 5, pp. 567-581.)
A-BPSK	Aviation Binary Phase Shift Keying uses a specific form of differentially encoded BPSK where in-phase and quadrature channels are used to transmit alternate symbols. (Referenced: "Differential Detection With Intersymbol Interference and Frequency Uncertainty" by J.H. Wintore in IEEE Transactions on Communications, January 1984, Vol. Comm-32, No. 1, pp. 25-33.)

NECESSARY BANDWIDTH

Radiated bandwidth from the equipment is controlled by the use of raised cosine filters in the transmitter. The A-QPSK is signals are subjected to a 100% raised cosine filter. A 40% raised cosine filter is used for the A-BPSK signals.

The associated necessary bandwidth calculation is:

BW-1/T (1+r)

Where 1/T is the symbol transmission rate in symbols per second and r is the rolloff factor.

Symbol Rate (Baud)	Modulation Type	Rolloff (r)	Bandwidth (BW)
600	A-BPSK	0.4	0.840 KHz
1200	A-BPSK	0.4	1.680 KHz
2400	A-BPSK	0.4	3.300 KHz
2400	A-QPSK	1.0	4.800 KHz
3000	A-QPSK	1.0	6.000 KHz
5250	A-QPSK	1.0	10.5 KHz
10.5 k	A-QPSK	1.0	21.00 KHz

EXHIBIT 2

INSTALLATION AND OPERATION

Antenna Mounting

Primary Location: Washington, DC at 950 L'ENFANT PLAZA, SW Pointing 140 degrees true, 15 degrees elevation.

Primary Transmitter Location

Address:	950 L'ENFANT PLAZA, SW Washington, DC 20024
Coordinates:	Lat. 38° 53′ 01" North Long. 77° 01′ 32" West.

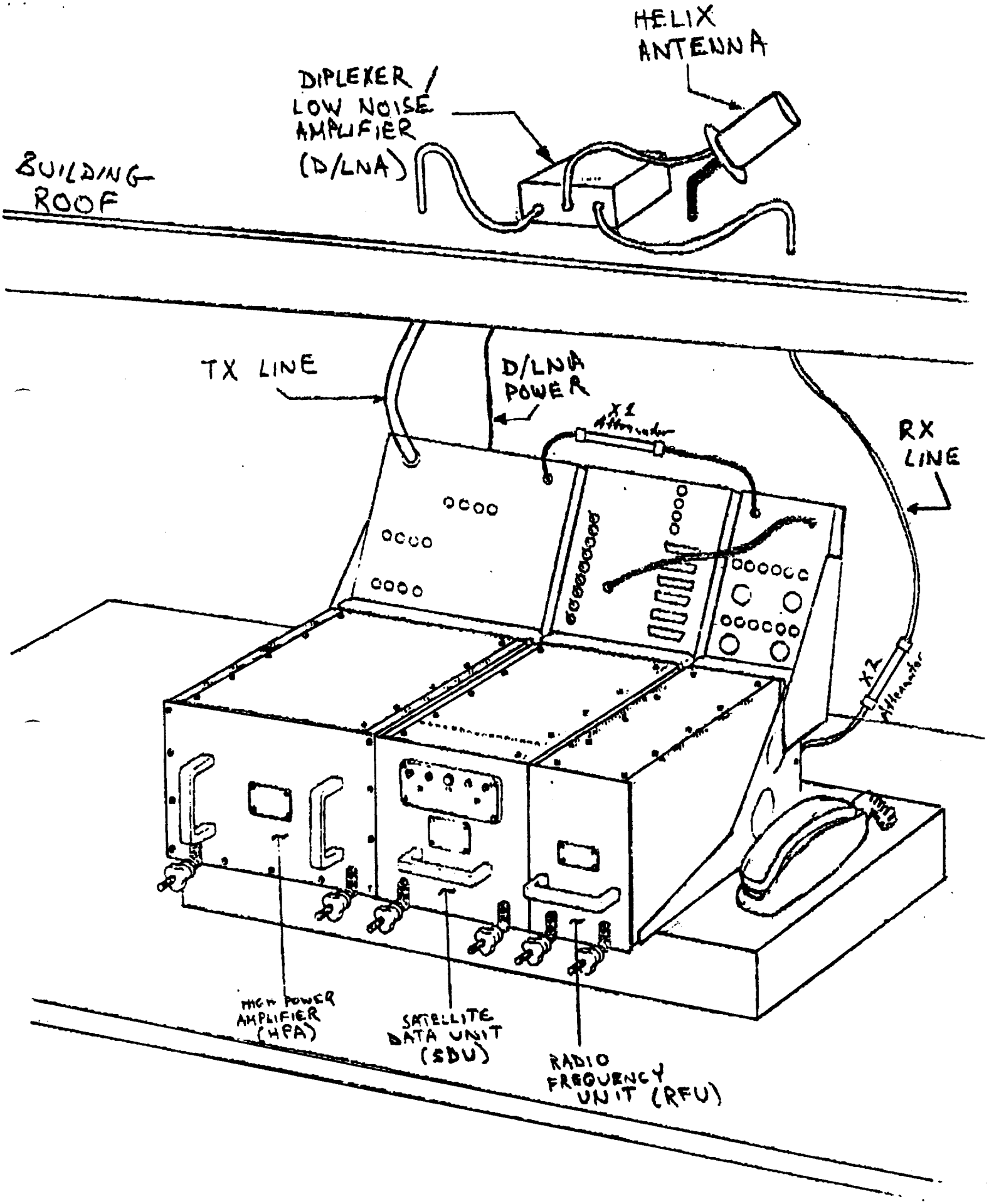
Station Indentification

The FAA assigned ICAO Aircraft Identification (24 BIT code which is unique for each aircraft/AES) will be contained in each transmission.

Schedule

1. Initial Operation: September 15, 1992
2. Duration: At least two years.

EXHIBIT 2


HELIX ANTENNA
DIPLEXER / LOW NOISE AMPLIFIER (D/LNA)
BUILDING ROOF
TX LINE
D/LNA POWER
X1 Attenuator
RX LINE
X2 Attenuator
HIGH POWER AMPLIFIER (HPA)
SATELLITE DATA UNIT (SDU)
RADIO FREQUENCY UNIT (RFU)