EXHIBIT 1

EQUIPMENT DESCRIPTION

PROGRAM DESCRIPTION

Racal Avionincs Incorporated is in the process of establishing a North American / World support facility for performing Product Support of the Racal Avionics Limited Airborne Satellite Communications System (SATFONE). The equipment shall be used in a labority building for the purpose of system functional verification and equipment repair. The equipment shall operate in the Marine and Aeronautical Mobile Satellite band of frequencies. Repair and verification of correct operation of this equipment requires transmitting. No "for hire" communications are to be provided during any time by the corporation.

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.

OPERATING DETAILS

Transmitter Frequency Band

The bands comprising 1626.5 to 1660.5 MHz will be used. Specific frequencies and operating schedules will be coordinated with INMARSAT, in cooperation with COMSAT, British Telecom International and other INMARSAT signatories.

RF Power Output

The maximum RF power output of the equipment will be 60 Watts per carrier (17.8 dBW peak).

Antenna Gain

A high gain helix antenna shall be used to provide a gain of 12 dBic and half power beam width of 40 degrees.

EIRP

The maximum Equivalent Isotropic Radiated Power shall be 27.6 dBW (peak) (17.8 + 9.8).

Emission Types

Emission Type	Modulation Type	Symbol Rate	Rate 1/2 Convolutionally Encoded Rate
840HG1D	A-BPSK	600 baud	(600 b/sec)
1K68G1D	A-BPSK	1200 baud	(1200 b/sec)
3K36G1D	A-BPSK	2400 baud	(2400 b/sec)
4K80G1D	A-QPSK	2400 baud	(4800 b/sec)
6K00G1D	A-QPSK	3.00 kbaud	(6000 b/sec)
10K0G1D	A-QPSK	5.25 kbaud	(10.5 kb/sec)
21K0G1D	A-QPSK	10.5 kbaud	(21.0 kb/sec)
21K0G1E	A-QPSK	10.5 kbaud	(21.0 kb/sec)
21K0G1W	A-QPSK	10.5 kbaud	(21.0 kb/sec)

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 satelite 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 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 transmition 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 Mountings

One fixed location: Silver Spring, MD Roof of 8851 Monard Dr. Pointing 140 degrees true, 15 degrees elevation.

Fixed Transmitter Location

Address: 8851 Monard Drive
State: Maryland
County: Montgomery
City: Silver Spring
Coordinates: Lat. 39 00' 49" North Long. 77 03' 78" West

Station Identification

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: May 1, 1990

2. Duration: At least two years

EXHIBIT 2

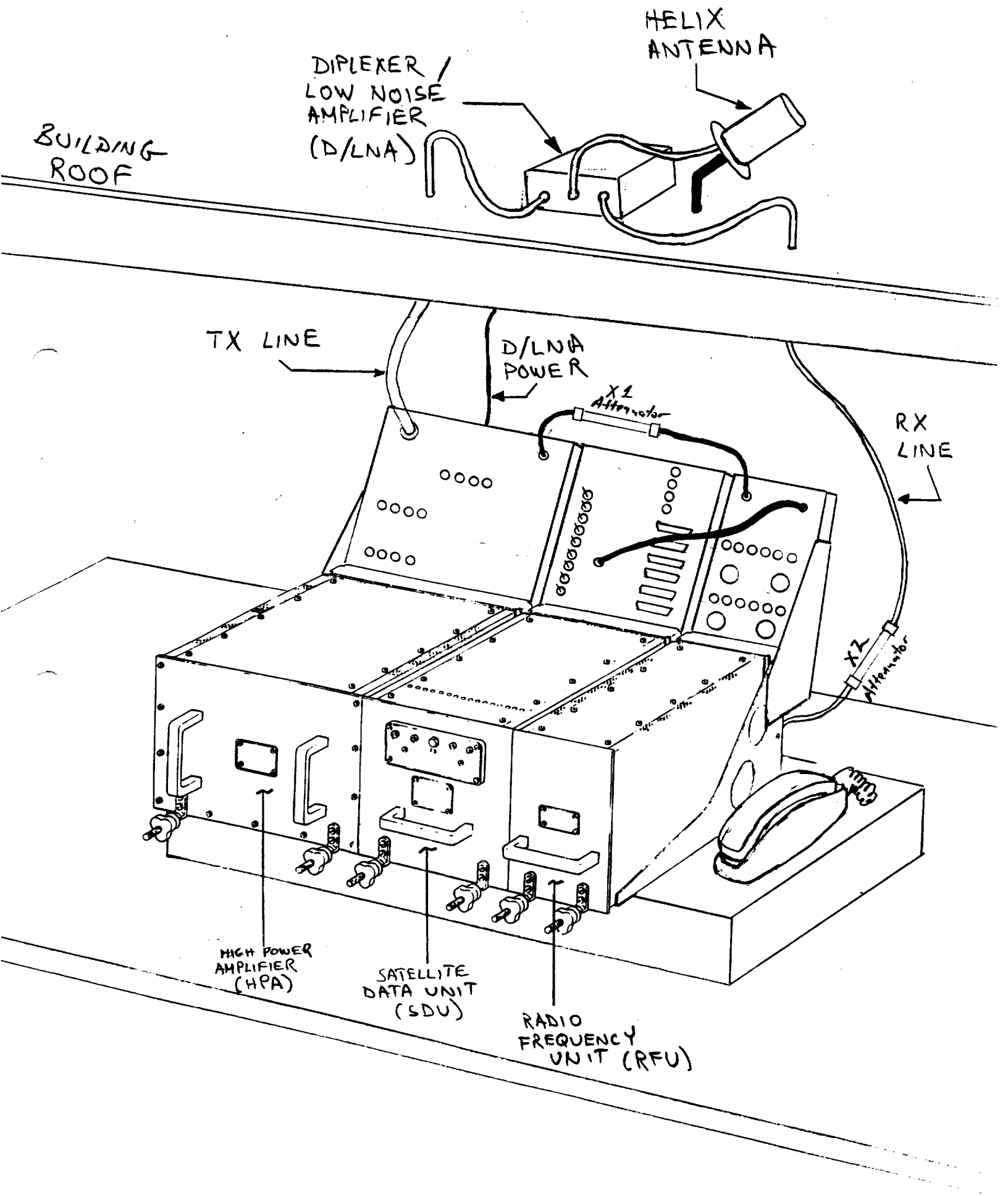

Figure 1