

A. Applicant is:

STARSYS, Inc.  
2000 K Street, N.W.  
Suite 620  
Washington, D.C. 20006

B. Correspondence concerning this application may be addressed to:

Dr. Ashok Kaveeshwar  
President  
STARSYS, Inc.  
2000 K Street, N.W.  
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With a copy for Counsel:

Raul R. Rodriguez  
Stephen D. Baruch  
Leventhal, Senter & Lerman  
2000 K Street, N.W.  
Suite 600  
Washington, D.C. 20006-1809

C. The radio frequency plan is set forth in Tables 1 and 2.

TT&C frequency assignments are intraband.

VHF band frequencies (using spread spectrum techniques) are:

Earth-to-Space (Uplink) 148 to 149.0 MHz

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(In the event that a non-spread spectrum basis is selected by the Commission, the STARNET component spacecraft will operate in sub-bands of these frequencies.)

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1. Outbound uplink channels analysis (ground station to satellite):

Ground station transmitting/channel	12 dBW
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G/T	+16 dBi
Max range (3500 km)	-146.6 dB
G/T at 5 degree elevation angle	+5 dBi
Satellite receiver loss	-2.5 dB
Polarization loss	-3 dB
To receiver	-201 dBW/Hz
9600 bps	39.82 dBHz
C/No	80.20 dBHZ
Eb/No	+4.5 dB
Uplink Margin	> 30 dB

2. Outbound downlink channels analysis (satellite to users' terminals)

Satellite transmitting/channel	9 dBW (7.95 watts)
Satellite transmitter loss	-0.7 dB
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Eb/No with coding	+2.5 dB
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Power flux density at the ground (dBW/m <sup>2</sup> /4 KHz) (1300 km)	-141.50 dBW/m <sup>2</sup> /4 KHz

### 3. Inbound uplink channels analysis (terminal to satellite)

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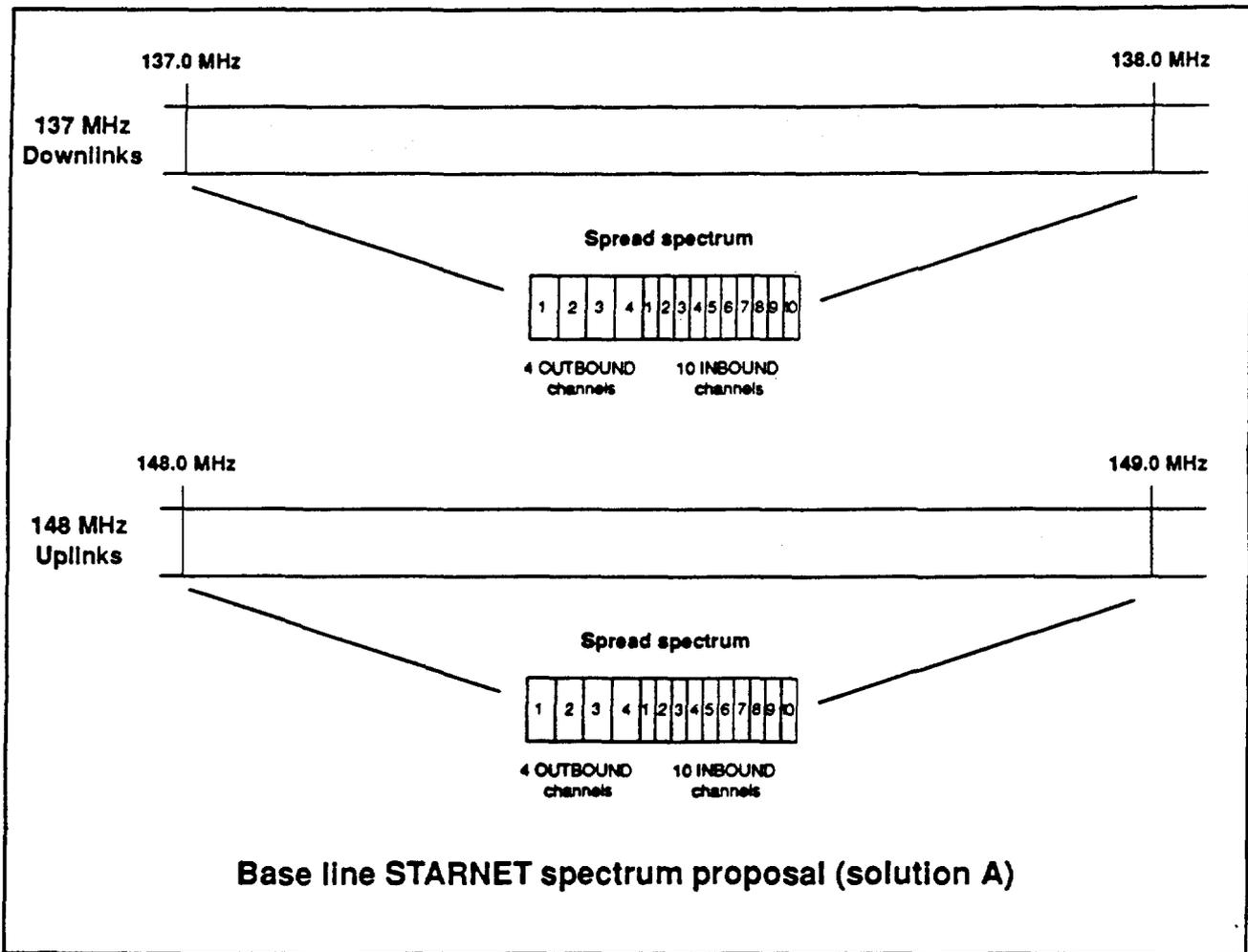
Date: May 4, 1990

**TABLE 1**

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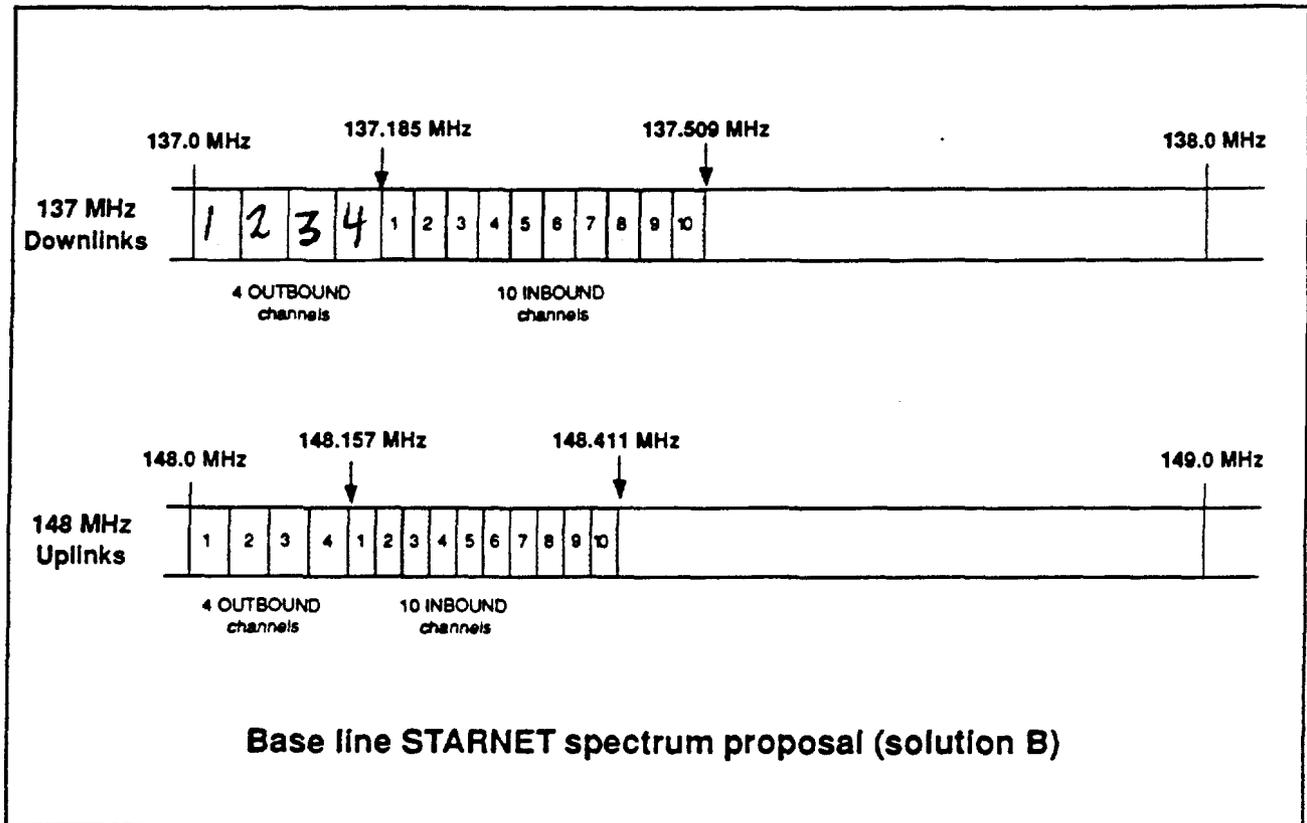
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Or alternatively without using spread spectrum techniques  
(Solution B)

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Space to earth (downlink)	137	to	138.0 MHz



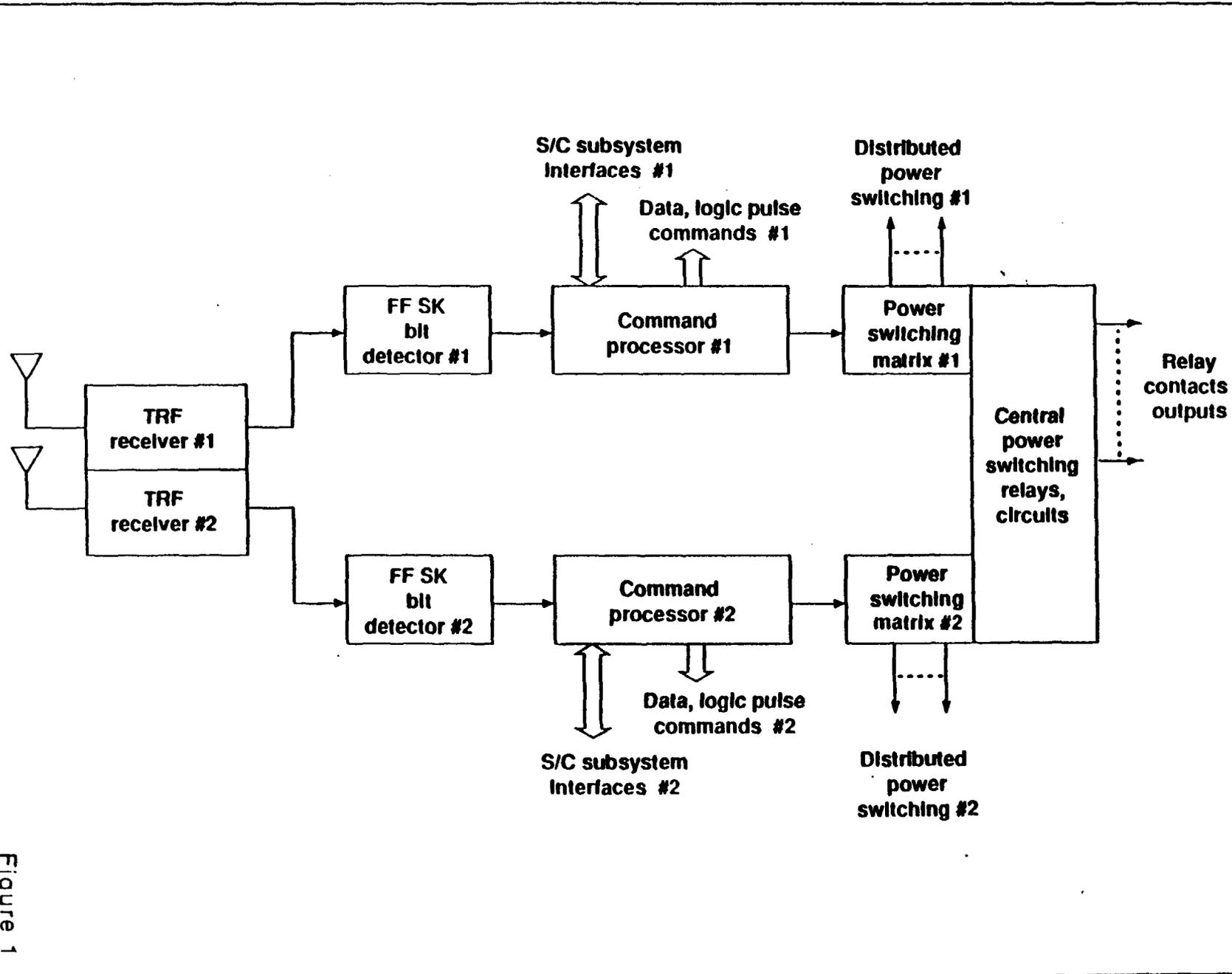


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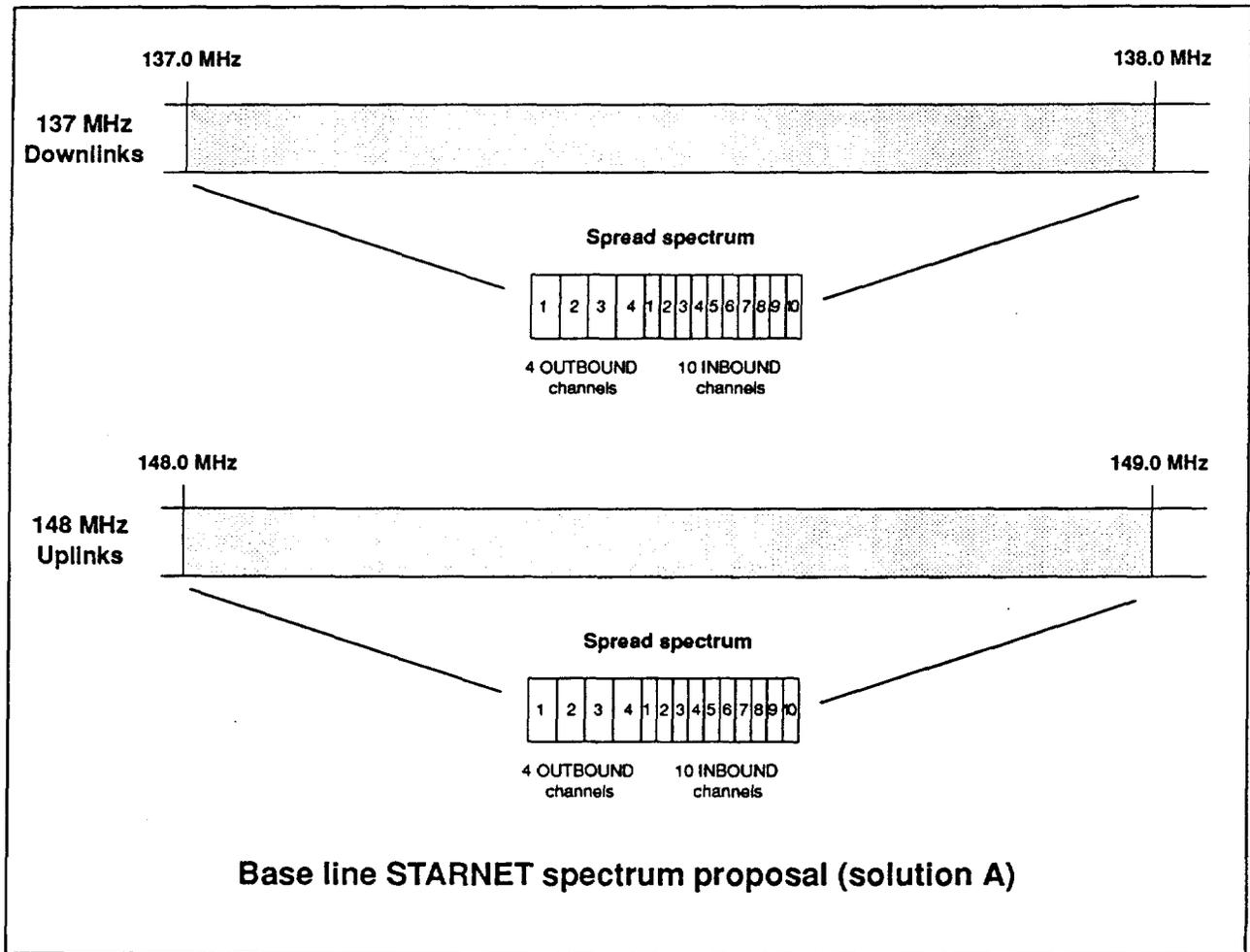
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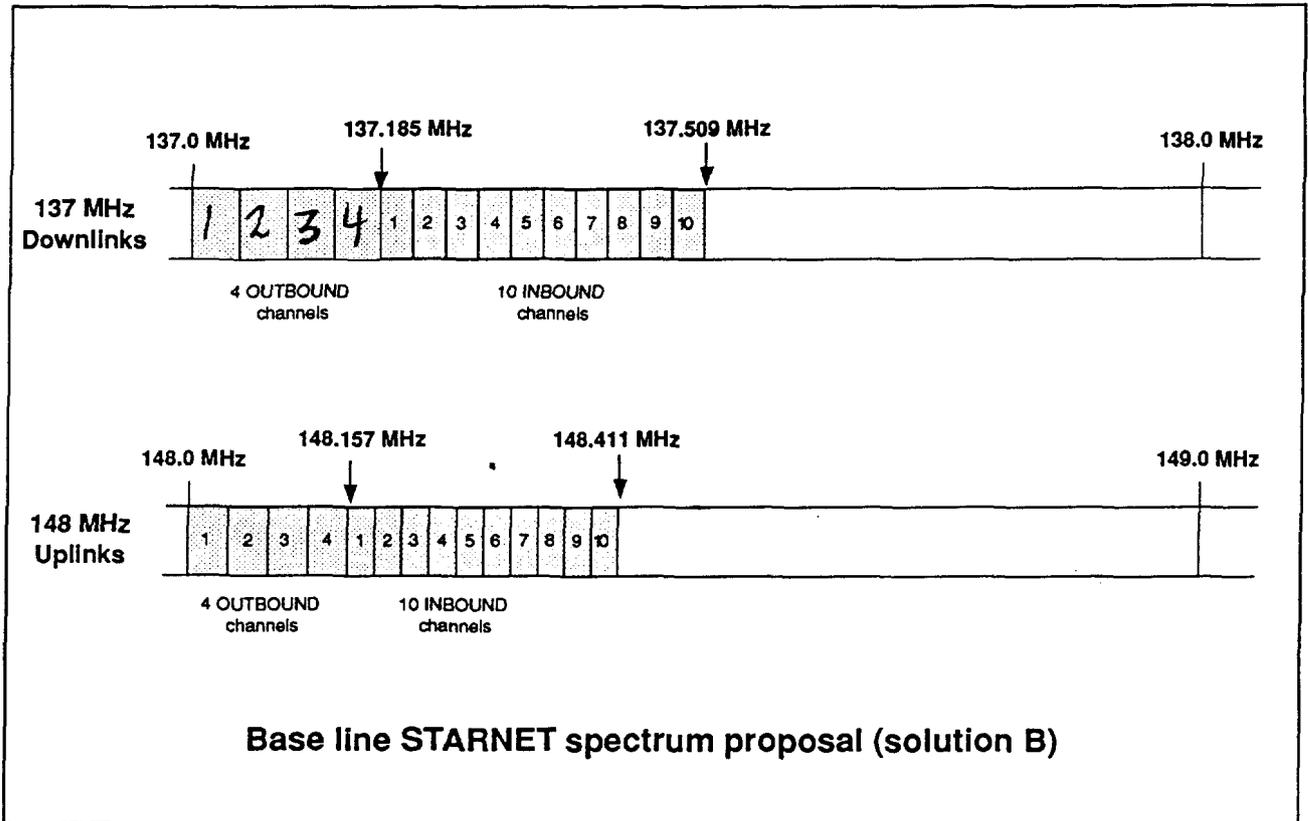
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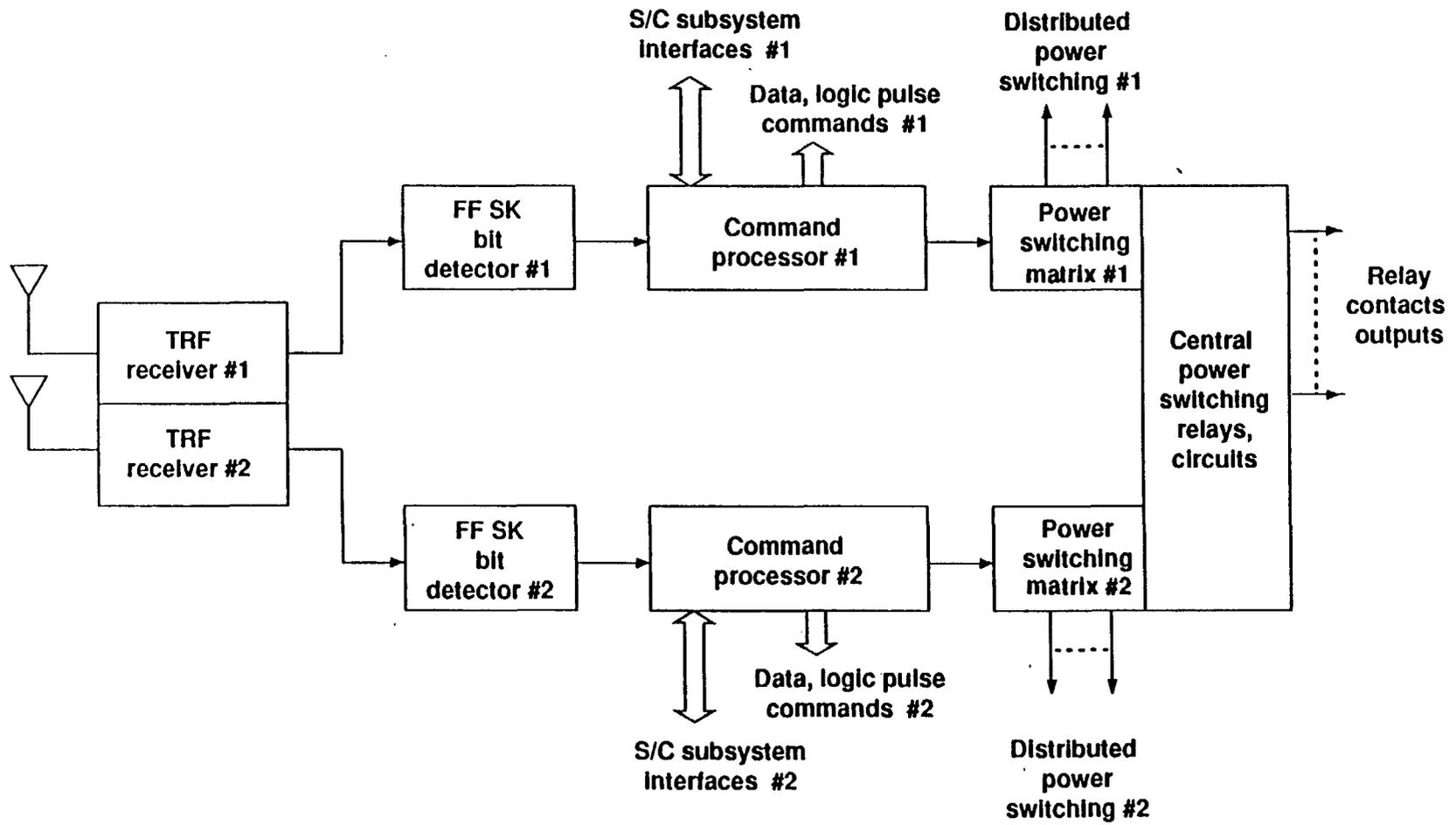


Figure 1

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of the Application of )  
 )  
STARSYS, INC. ) File No. \_\_\_\_\_  
 )  
For Authority to Construct a Low Earth )  
Orbit Communications Satellite to be )  
Stationed in an Inclined )  
Non-Geostationary Orbit )

APPLICATION

STARSYS, Inc. ("STARSYS" or "Applicant"), pursuant to Sections 308, 309, and 319 of the Communications Act of 1934, as amended, hereby applies for authority to construct a low earth orbit communications satellite ("STARNET F24") that will operate in the 137-138 MHz frequency band for Space-to-Earth transmissions, and in the 148-149 MHz band for Earth-to-Space transmissions, or in sub-bands thereof, depending on frequency modulation selected by the Commission. STARSYS requests the Commission to allow STARNET F24 to be randomly deployed in a low earth, non-geostationary inclined orbit between 50 and 60 degrees.

The satellite for which construction authority is requested herein is an integral component of the STARNET system that is being developed by STARSYS. STARNET F24 is one of 24 in-orbit components of the STARNET system for which STARSYS is requesting Commission construction approval.

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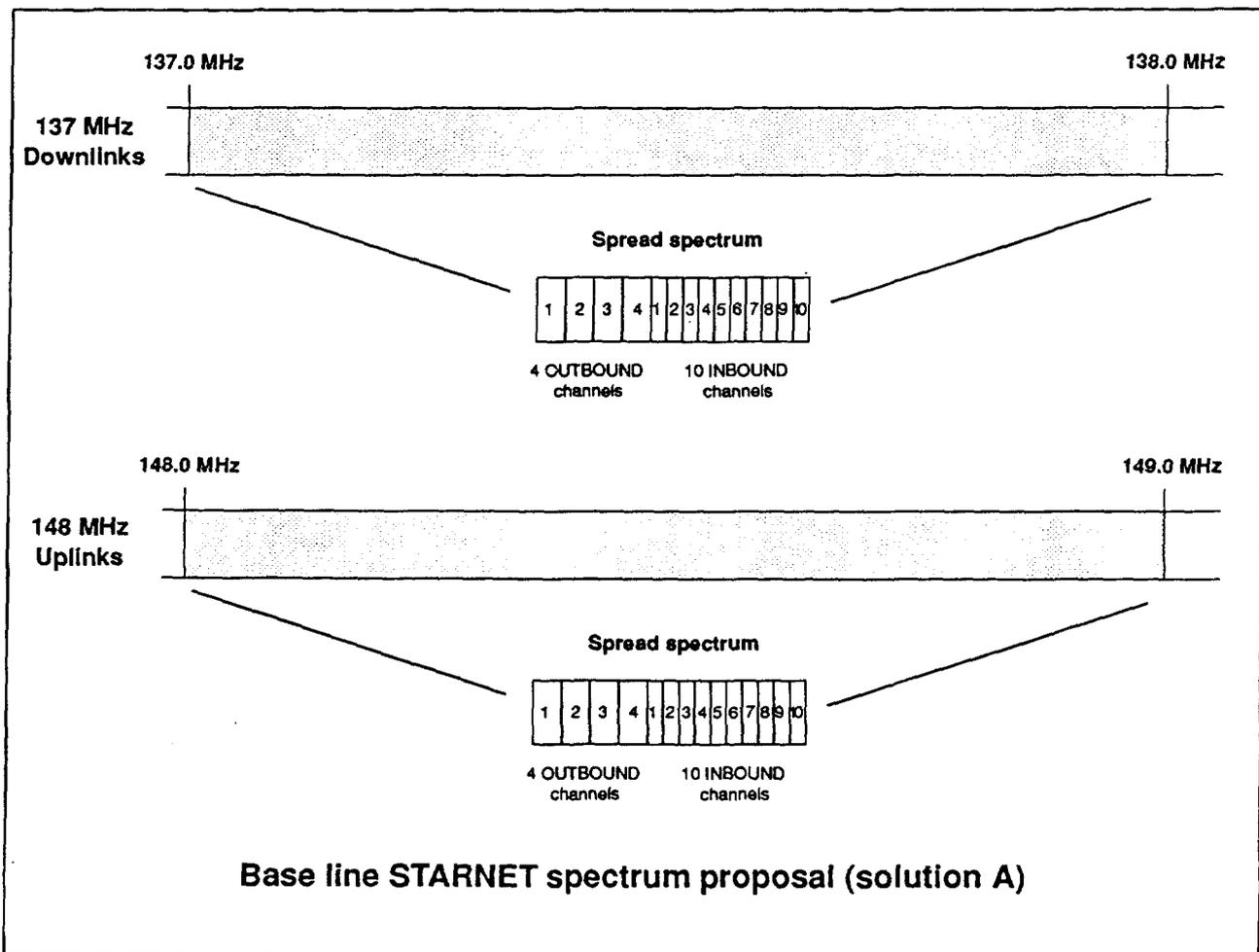
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