

APPENDIX III

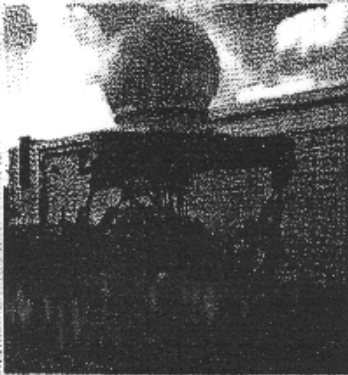
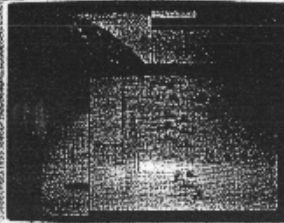
OCEANNET PRESENTATION



Buoy Communications Enabling Technologies

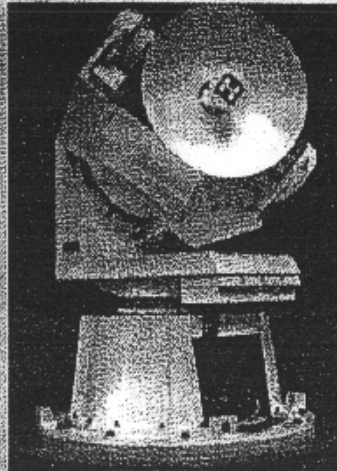
Buoy Modeling

- Buoy design
- Environmental and platform response
- Antenna positioner response
- RF link calculator



Motion Simulator

- 6 degree of freedom simulator
- Driven by model or collected parametric data
- Motions to > Sea State 6



Positioner and Antennas

- High dynamic positioner
- Simple K-band reflector
- Tested on motion simulator to Sea State 6



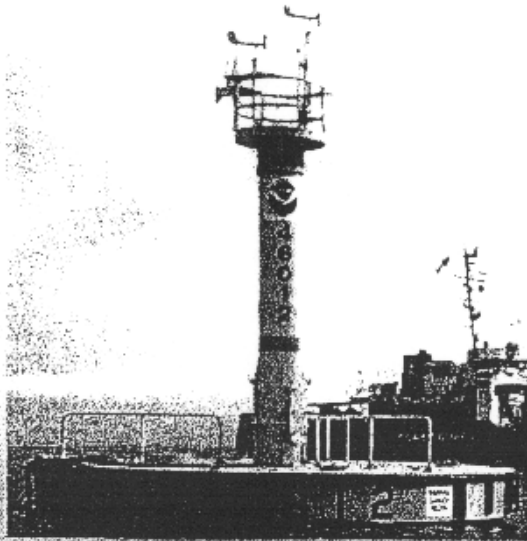
Tuned 2.3 meter buoy

- Dampened "wave following" platform
- Light payload capacity (~2 tons)



An Example of Buoy Data Communications: the FAA Gulf of Mexico Buoy Communications System

The BCS allows for more frequent and safer flights over waterways by providing seamless air to ground communications between pilots and controllers



- First system developed for FAA in the Gulf of Mexico
- VHF/AM A/G communications system
- Redundant Ku-band satellite links
- 0.99999 system availability
- High-dynamics antenna pedestal
- Extensive redundancy and remote monitoring capability
- INMARSAT emergency control capability
- More direct routes over waterways reduce flight time and fuel consumption

The Future of Buoy Data Communications

- WIDEBAND DATA VIA INTELSAT
- HIGH AVAILABILITY

- VSAT INTELSAT TERMINAL
- USES SPREAD SPECTRUM MULTIPLE ACCESS TECHNIQUE
- DIAL UP COMMAND & STATUS FOR EXPERIMENT INTERACTION (INTELSAT-B)

GLOBAL TELEPHONE SYSTEM

- STABILIZED TUNED PLATFORM
- OPERATION TO SEA STATE 6

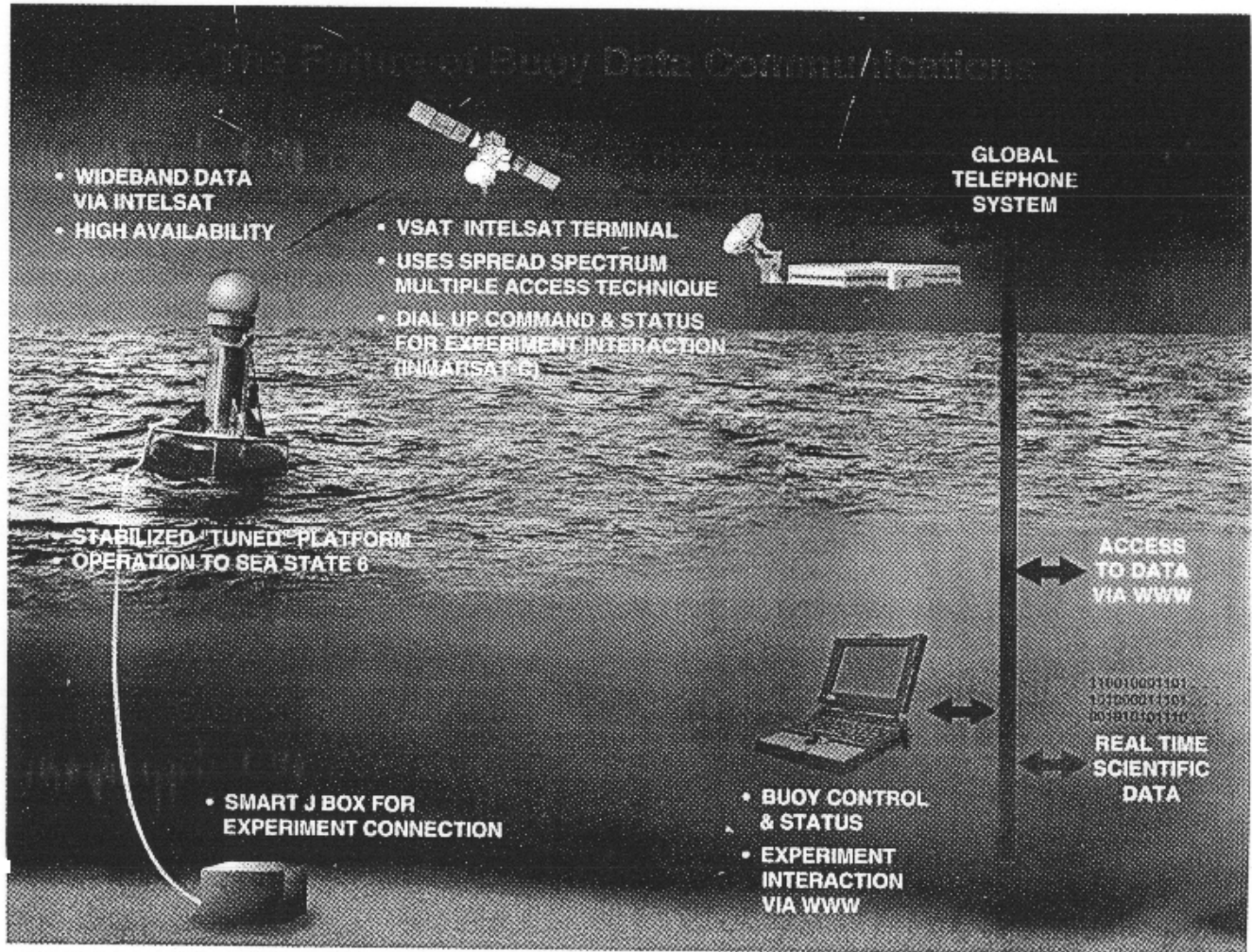
- SMART J BOX FOR EXPERIMENT CONNECTION

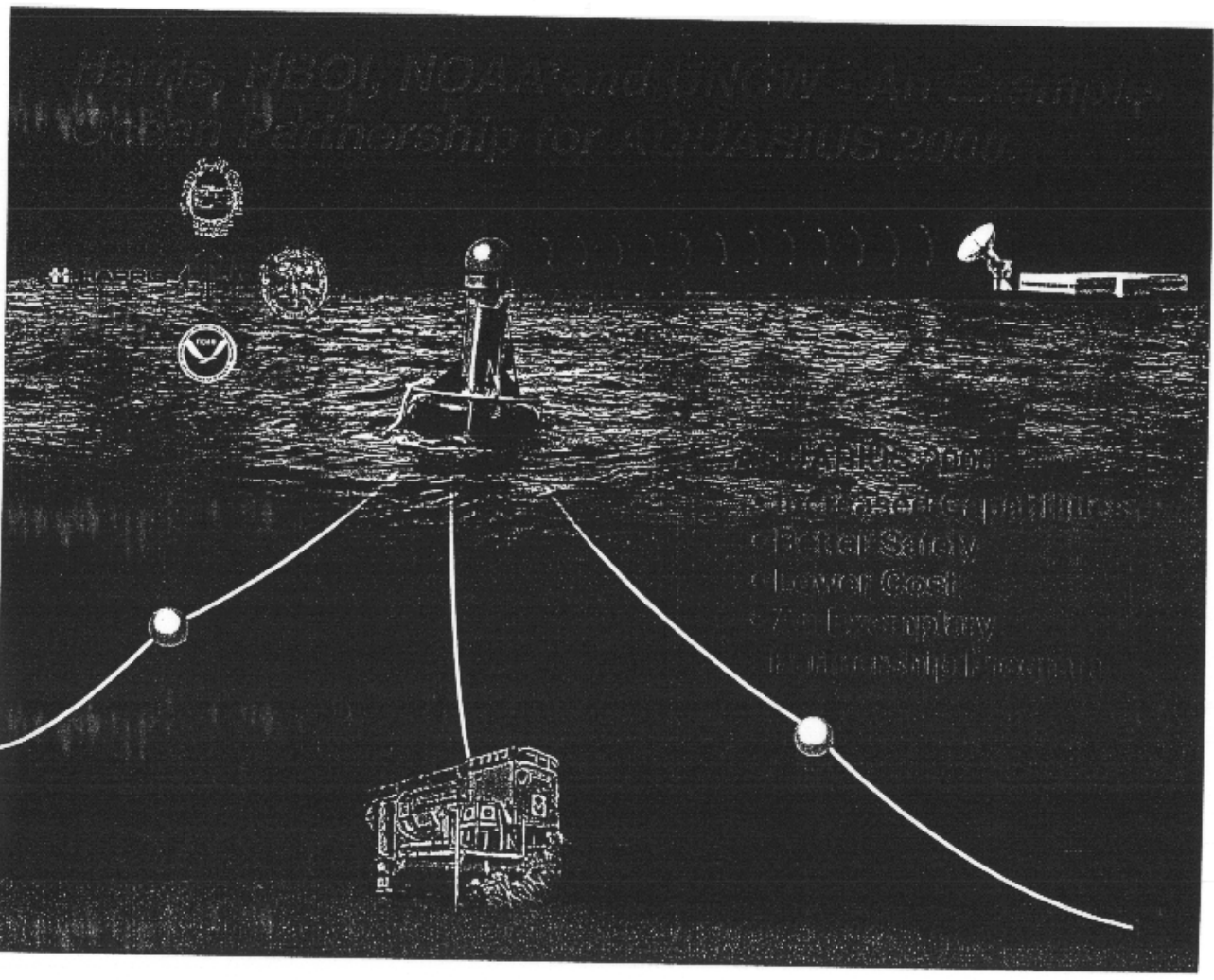
- BUOY CONTROL & STATUS
- EXPERIMENT INTERACTION VIA WWW

ACCESS TO DATA VIA WWW

110010001101
10100011101
0010101110

REAL TIME SCIENTIFIC DATA





U.S. BOAT, NOAA, and the U.S. Coast Guard Partnership for AQUARIUS 2001



AQUARIUS 2001
U.S. BOAT, NOAA, and the U.S. Coast Guard Partnership for AQUARIUS 2001
Lower Cost
7th Exemplary Partnership Program

