

**FCC FORM 442 - FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR NEW OR MODIFIED RADIO STATION UNDER PART 5 OF FCC RULES -
EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)**

Applicant's Name (company):

File No.:

Mailing Address

Attention: Dr. Thomas J. Talley P.E.

Street Address: Spacecraft Technology Center

Texas A&M University - MS 3118

3380 University Drive East, Ste 102,

P.O. Box:

City: College Station

State: TX

Country: USA

Zip Code: 77845-3118

E-Mail Address: talley@tamu.edu

Application Purpose

Application is for: NEW LICENSE

For Modification indicate below

File No.:

Call Sign:

Government Contract

Is this authorization to be used for fulfilling the requirement of a government contract with an agency of the United States Government? YES

If "YES", include as an exhibit a narrative statement describing the government project, agency and contract number.

Foreign Government Use

Is this authorization to be used for the exclusive purpose of developing radio equipment for export to be employed by stations under the jurisdiction of a foreign government? If "YES", include the contract number and the name of the foreign government concerned as an exhibit. No

Research Project

Is this authorization to be used for providing communications essential to a research project? YES (The radio communication is not the objective of the research project)? If "YES", include as an exhibit the following information:

- a. A description of the nature of the research project being conducted. See [Exhibit 1](#)
- b. A showing that the communications facilities requested are necessary for the research project involved. See [Exhibit 2](#)
- c. A showing that existing communications facilities are inadequate. See [Exhibit 3](#)

Exhibit Information

If all the answers to Items 4, 5, 6 are "NO", include as an exhibit a narrative statement describing in detail the following items:

- a. The complete program of research and experimentation proposed including description of equipment and theory of operation.
- b. The specific objectives sought to be accomplished.
- c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated.

Estimated Duration

Give an estimate of the length of time that will be required to complete the program of experimentation proposed in this application:

24 Months

Environmental Impact

Would a commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant by Section 1.1311. No

Manufacturer

List below transmitting equipment to be installed (if experimental, so state) if additional rows are required, please submit equipment list as an exhibit :

UDC digital radio with integral controller and modem. See also [Exhibit 4](#)

Manufacturer Model	Model Number	No. of Units	Experimental
Kantronics TALON	UDC 001-0009-xx	10	

Station ID

Is the equipment listed in Item 10 capable of station identification pursuant to Section 5.115? YES (Bill let me check this but I believe the answer is yes)

Applicant Type

Applicant is: State of Texas, Agency (Texas Engineering Experiment Station)

Foreign Government

Is applicant a foreign government or a representative of a foreign government? No

License Denied or Revoked

Has applicant or any party to this application had any FCC station license or permit revoked or any application for permit, license or renewal denied by this Commission?

If "YES", include as an exhibit a statement giving call sign of license or permit revoked and relate circumstances. No

Owner and Operator

Will applicant be owner and operator of the station? Yes

Contact Information

Give the following information of person who can best handle inquiries pertaining to this application: First

Name: Dr. Thomas J. Talley P.E.
Last Name: Talley
Title: Research Engineer
Phone Number: 979-845-8768
E-Mail Address: talley@tamu.edu

Drug Abuse Question

APPLICANT ANTI-DRUG ABUSE CERTIFICATION: By checking "YES", the individual applicant certifies that he or she is eligible for this license. This requires that he or she is not subject to a denial of federal benefits, including FCC benefits, as a result of a drug offense conviction pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862. A non-individual applicant, e.g., corporation, partnership or other unincorporated association, certifies that no party to the application is subject to a denial of federal benefits, pursuant to that section. For definition of a "party" for these purposes, see 47CFR 1.2002(b). Yes

Certification

THE APPLICANT CERTIFIES THAT:

- Copies of the FCC Rule Parts 2 and 5 are on hand; and
- Adequate financial appropriations have been made to carry on the program of experimentation which will be conducted by qualified personnel; and
- All operations will be on an experimental basis in accordance with Part 5 and other applicable rules, and will be conducted in such a manner and at such a time as to preclude harmful interference to any authorized station; and
- Grant of the authorization requested herein will not be construed as a finding on the part of the Commission:
 - that the frequencies and other technical parameters specified in the authorization are the best suited for the proposed program of experimentation, and
 - that the applicant will be authorized to operate on any basis other than experimental, and
 - that the Commission is obligated by the results of the experimental program to make provision in its rules including its table of frequency allocations for applicant's type of operation on a regularly licensed basis.

THE APPLICANT FURTHER CERTIFIES THAT:

Page 2 of 4 FCC FORM 442

- e. All the statements in the application and attached exhibits are true, complete and correct to the best of the applicant's knowledge; and
- f. The applicant is willing to finance and conduct the experimental program with full knowledge and understanding of the above limitations; and
- g. The applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the USA.

Name of Applicant: **Spacecraft Technology Center of TEES**

Signature (Authorized person filing form):

Signature Date (Authorized person filing form):

Title of Person Signing Application:

Classification:

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(A) (1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

NOTIFICATION TO INDIVIDUALS UNDER PRIVACY ACT OF 1974 AND THE PAPERWORK REDUCTION ACT OF 1980

Information requested through this form is authorized by the Communications Act of 1934, as amended, and specified by Section 308 therein. The information will be used by Federal Communications Commission staff to determine eligibility for issuing authorizations in the use of the frequency spectrum and to effect the provisions of regulatory responsibilities rendered by the Commission by the Act. Information requested by this form will be available to the public unless otherwise requested pursuant to 47 CFR 0.459 of the FCC Rules and Regulations. Your response is required to obtain this authorization.

Public reporting burden for this collection of information is estimated to average four (4) hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0065), Washington DC 20554. DO NOT send completed applications to this address. Individuals are not required to respond to this collection unless it displays a currently valid OMD control number.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

Exhibit 2

A balloon will be launched in compliance with FAA regulations which will contain a camera/s system, a control computer, GPS receivers, Sensors and communications equipment. The communications equipment (which this request anticipates) is necessary to enable ground personnel control and to track the location of the balloon. It is necessary to track the balloon in order to recover the equipment and data which are stored onboard the craft. The data includes hundreds of images of star fields and orbiting satellites which would require large amounts of bandwidth to send to the ground, even if recovery of the expensive system could be disregarded, making recovery of the system vital.

A ground crew will “chase” the balloon using the telemetry signals giving time and location information as well as control release and operational parameters of the research instrumentation package.