GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF RESEARCH ADMINISTRATION
Sponsored Instruction
RESEARCH PROJECT INITIATION

Date: 7-17-74

Project Title: Acquisition of Instructional Scientific Equipment

Project No: E-21-511

Principal Investigator: Dr. W. M. Leach

Sponsor: National Science Foundation

Agreement Period: From 6-15-74 Until 6-30-76 (Grant Period)

Type Agreement: Grant No. GZ-3196

Amount: $19,900 NSF Funds (E-21-511)
19,941 GIT Contrib. (E-21-215)
$39,841 Total

Reports Required: Final Technical Report; Grant Fiscal Report.

Sponsor Contact Person (s): (Individual not named)

Instructional Scientific Equipment Program
National Science Foundation
Washington, D. C. 20550

Assigned to: School of Electrical Engineering

COPIES TO:

Principal Investigator	Library
School Director	Rich Electronic Computer Center
Dean of the College	Photographic Laboratory
Director, Research Administration	Project File
Director, Financial Affairs (2)	
Security-Reports-Property Office ✓	
Patent Coordinator	Other

RA-3 (6-71)

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION

Date: January 24, 1977

Project Title: Acquisition of Instructional Scientific Equipment

Project No: E-21-511

Project Director: Dr. W. M. Leach

Sponsor: National Science Foundation

Effective Termination Date: 6/30/76

Clearance of Accounting Charges: 6/30/76

Grant/Contract Closeout Actions Remaining:

_ Final Invoice and Closing Documents
_ Final Fiscal Report
_ Final Report of Inventions
_ Govt. Property Inventory & Related Certificate
_ Classified Material Certificate
_ Other _____

Assigned to: Electrical Engineering (School/Laboratory)

COPIES TO:

Project Director
Division Chief (EES)
School/Laboratory Director
Dean/Director–EES
Accounting Office
Procurement Office
Security Coordinator (OCA)
Reports Coordinator (OCA)
Library, Technical Reports Section
Office of Computing Services
Director, Physical Plant
EES Information Office
Project File (OCA)
Project Code (GTRI)
Other _____

CA–4 (3/76)

E-21-511

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

OFFICE OF
THE DIRECTOR OF
FINANCIAL AFFAIRS

January 19, 1977

Grants & Contracts Office
National Science Foundation
Washington, D. C. 20550

Gentlemen:

Enclosed is the original and two copies of the final fiscal report for grant number EAR72-01711 (formerly GZ-3196).

If you have any questions or desire additional information, please let me know.

Sincerely yours,

C. Evar[illegible]by
Associate Director or
Financial Affairs

CEC/bs
enclosures:
cc: Dr. W. M. Leach
Mr. E. E. Renfro
Mr. A. H. Becker
File E-21-511/E-21-215

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D. C. 20550

Budget Bureau No. 99-R168.2
Approval Expires December 31, 1967

GRANT FISCAL REPORT

INSTRUCTIONAL SCIENTIFIC EQUIPMENT PROGRAM

READ INSTRUCTIONS BELOW BEFORE COMPLETING THIS FORM

NAME AND ADDRESS OF GRANTEE	GRANT NO.	STATE & INST. CODE (*leave blank*)
Georgia Institute of Technology Atlanta, Georgia 30332	~~7417428~~EAR72-01711 (formerly GZ-3196	
	PROPOSAL NO. 4/03926	GRANT AMOUNT $ 19,900.00
	DATES OF EXPENDITURES FROM 6/15/74 TO 1/13/77*	

ITEM	GRANTEE MATCHING FUND	NSF FUND
Amount Awarded and Matching Funds	$ 20,075.77	$ 19,900.00
Expenditures for Purchases	20,075.77	19,893.81
Balance	$ .00	$ 6.19

REMARKS (may be continued on reverse)

*No obligations were incurred outside the grant period of 6/1/74 through 6/30/76.

INSTRUCTIONS *(See program announcement for details)*:
This grant does NOT provide an indirect cost allowance. Costs may NOT be charged to the grant fund beyond the termination date of the grant stated in the letter of award.
A final fiscal report should be forwarded, in triplicate, when the project is completed, but not later than two months after the termination date of the grant. These reports should be addressed to the Grants Office, NATIONAL SCIENCE FOUNDATION, Washington, D. C. 20550.
The submission of a Grant Balance Adjustment Notice (NSF Form 4-53) with the final fiscal report is no longer necessary. For those institutions with other active grants, the unexpended balance indicated on the final fiscal report will be debited by NSF against their open account. Those institutions not holding other active grants, with open accounts, should remit any unexpended funds by check made payable to National Science Foundation together with the final fiscal report.

We certify that the expenditures are properly chargeable to the grant.

SIGNATURE (*Administrative Official*)	TYPED NAME AND TITLE	DATE
	C. Evan Crosby, Associate Director of Financial Affairs	
SIGNATURE (*Project Director*)	TYPED NAME AND TITLE	DATE
	W. M. Leach Assistant Professor	JAN 17 1977

NSF Form 6-34g. Oct. 1966

E 21 011

GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332

TELEPHONE: (404) 894-2901

September 28, 1976

Instructional Scientific Equipment Program
Division of Higher Education in Science
National Science Foundation
Washington, D. C. 20550

SUBJECT: Final Report on Grant No. GZ-3196

Gentlemen:

This final report letter is submitted in fullfillment of contract requirements on the above named grant. Attached is an equipment substitutions and additions list as required for the report.

This instructional equipment grant was for the establishment of an Audio Engineering Laboratory in the School of Electrical Engineering at the Georgia Institute of Technology. The laboratory is essentially completed and experiments are now being prepared to offer the laboratory on an instructional basis as a special topics laboratory in the winter of 1977. The laboratory has been installed in room E386 of the Electrical Engineering Building. The room has been divided by the installation of a sound absorbing wall to create a two room facility. The front room is equipped with four laboratory benches and serves as an instrumentation laboratory. The rear room has been carpeted and has sound absorbing panels installed on its walls. This room is equipped as a four-channel recording studio and listening room. In addition, it serves as a "poor man's" anechoic chamber for making loudspeaker frequency response measurements.

Most of the equipment for the laboratory was ordered after a tremendous price inflation which occurred after the proposal was written. Many equipment items had increased in price by as much as 25%. This caused me to compromise somewhat by consolidating several equipment items into single, multi-purpose instruments, by buying lower priced items, and by economizing in any way possible. However, the quality of the laboratory was not effected by this.

The facility has had a big impact in the School of Electrical Engineering. It has become very popular among special project students who are involved in construction of audio equipment. The popularity has certainly affected the rate at which the lab could be completed, for many students elect to build audio equipment to satisfy their senior project requirement. In addition, many freshman, sophomore, and junior students have performed special project research in the laboratory. One development which has been of interest to me is the use of the laboratory by students from other laboratories who find the Audio Laboratory better equipped for their experiments.

The formation of this laboratory at Georgia Tech has been a gratifying task for me. The School now has a first class audio and electroacoustic instrumentation facility which has been the reason that several MS and BS students have elected to come to Georgia Tech from other schools. I hope that the educational impact that the laboratory will have on our school will match the satisfaction I have received from establishing it.

Yours truly,

W. Marshall Leach
Assistant Professor

WML/nsk

INSTRUCTIONAL SCIENTIFIC EQUIPMENT PROGRAM

SUMMARY REPORT FORM

Proposal number 4/03926

Grant number GZ-3196

Discipline Engineering (Electrical)

Date: September 28, 1976

TO: Division of Higher Education in Science
National Science Foundation

FROM: Dr. W. M. Leach, Jr.
Project Director

Georgia Institute of Technology Atlanta Georgia

EQUIPMENT SUBSTITUTIONS AND ADDITIONS

Requested Equipment as Listed in Original Proposal		Cost and Description of Actual Purchases	
Estimated Cost	Description	Actual Cost	Description
$ 4249	B&K 3508 Sound Level Meter	$ 6188	B&K 2120 Analyzer
1473	B&K 2608C Measuring Amplifier	4803	B&K 2020 Slave Filter
5416	B&K 2113C Spectrometer	2510	B&K 1022 Generator
1938	B&K 4420 Analyzer	2657	B&K 4440 Gating System
3310	B&K 1024C Generator	218	B&K 4230 Sound Calibrator
279	B&K ZR0004 Potentiometer		
380	B&K KQ0036 Cabinet		
797	B&K 4219 Artificial Voice		
2400	AR LST Loudspeakers	1800	Crown ES212 Loudspeakers
395	HK 14 FM Tuner	177	Dynaco AF-6 Tuner
625	General Radio 1192 Frequency Counter	252	HP 5381A Frequency Counter
355	HP 209/A Oscillator	297	HP 3311A Function Generator
		469	HP 200CD Oscillator
		839	HP 1220A Oscilloscope
		395	Sound Technology 1100A Signal Conditioner
		1555	Sound Technology 1000A Generator
		432	HP 6205B Power Supply
		280	(2) HP 6216A Power Supplies
		102	HK 44 Demodulator
		251	Jensen JTK-27 Tool Kit
		39	Crown Tape Counter
		280	(2) Crown Trac Sync Modules
		770	Crown SX724 Tape Deck