

## DOCUMENT RESUME

ED 267 782

IR 012 150

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**TITLE** Descriptive Study of Noncommercial FM Radio Stations Affiliated with Colleges and Universities.

**PUB DATE** Jan 86

**NOTE** 15p.; Paper presented at the Annual Convention of the Association for Educational Communications and Technology (Las Vegas, NV, January 16-21, 1986). For entire proceedings, see IR 012 121; for a related paper, see IR 012 151.

**PUB TYPE** Reports - Research/Technical (143) --  
 Speeches/Conference Papers (150)

**EDRS PRICE** MF01/PC01 Plus Postage.

**DESCRIPTORS** Administrative Organization; Audio Equipment; Budgets; \*Financial Support; \*Higher Education; National Surveys; Operating Expenses; \*Programing (Broadcast); Questionnaires; \*Radio; Research Methodology; Resource Allocation; Resource Staff

**IDENTIFIERS** AECT Research and Theory Division Meeting; \*National Public Radio

**ABSTRACT**

Designed to establish a framework for current and future documentation of FM radio in institutions of higher education, this study examined the state of noncommercial FM radio stations affiliated with colleges and universities. Topics investigated included: (1) basic descriptions of institutions housing noncommercial radio stations; (2) operating budgets; (3) station organization and personnel; (4) station operating hours; (5) station programming; and (6) station philosophies. A survey was sent to 670 college and university stations throughout the United States; 268 were returned for a response rate of 40%. Of these, 243 (90.75%) were completed adequately, including 51 National Public Radio-affiliate (NPR) responses. Findings indicate that stations receive financing from a combination of sources--general college funds, student funds, departmental or school funds, and other sources such as underwriters. A wide range of operating budgets was reported; from \$600 to \$1.5 million per year, with the average NPR budget at \$345,000 per year. Of 239 stations reporting, 197 (45%) reported having full-time technicians versus 132 (55%) which had some type of part-time technical help; 88% of the NPR stations had full-time technicians compared with 33% for the non-NPR stations. NPR stations operate 364 days/year while non-NPR stations reflect the academic calendar, often closing down during summers and vacations. Programming is not standardized. While 179 (78%) indicated a specific sound or format, they covered the range of music from jazz to AOR (album oriented rock) to free form to fine arts. NPR stations broadcast more news and public affairs-oriented programming and tend to play classical music and jazz. Suggestions for future research are provided and a list of references completes the document. (JB)

DESCRIPTIVE STUDY OF NONCOMMERCIAL FM RADIO STATIONS  
AFFILIATED WITH COLLEGES AND UNIVERSITIES

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1986 AECT Annual Conference  
Las Vegas, Nevada Jan. 17, 1986  
Research and Theory Division  
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### Abstract

FM radio in higher education has been an under appreciated resource for programmatic development by sponsoring institutions. Radio, in general, has suffered from the introduction of newer technologies. The current status of noncommercial radio has been overlooked by most media researchers. This study examines variables surrounding noncommercial radio stations affiliated with colleges and universities as they are in the early 1980's.

## DESCRIPTIVE STUDY OF NONCOMMERCIAL FM RADIO STATIONS AFFILIATED WITH COLLEGES AND UNIVERSITIES

### Overview - Perspective

FM radio in higher education has long been the forgotten resource for programmatic development by sponsoring institutions. Radio has suffered from the introduction of alternative technologies and the waivering of visible support. The current status of these radio stations has been overlooked by most media researchers, creating a substantial void in the available descriptive and comparative literature.

It is hard to believe, but radio was riginally noncommercial and educational. The first radio station is generally accepted as being KDKA in Pittsburgh, Pennsylvania, which started regular broadcasts in 1920. Many colleges and universities, especially in the midwest, rushed to join the radio bandwagon in the early days, and have continued to do so in the post World War II era.

The complexities involved with noncommercial radio operation have been noted in the literature. Among these problems associated with educational radio at colleges and universities commonly cited in past studies include lack of adequate budgets and personnel (Aarnes, 1949; Halverson, 1947; Rashidpour, 1965; Note 1).

Any group of organization that has expanded as rapidly as has college and university radio cannot have done so without some growing pains. Like many such phenomena, the history of college and university radio reflects a multitude of developments, relationships, and interdependencies. It is filled with many successes as well as failures. College and university radio has never been stagnant, yet its path has rarely been smooth. It is therefore necessary and helpful to conduct periodic re-examinations of this organization. This project presents various aspects of, and observations on, the operation of college and university radio broadcast facilities.

### The Study

The study the investigators wish to report, serves to establish a framework for current and future documentation of FM radio affiliated with institutions of higher education. The study examines the current state of college- and university-affiliated noncommercial FM radio stations. The research presents data in that describes the organizational attributes of college- and university-affiliated stations as it applies to the following areas:

1. Basic description of institutions housing noncommercial radio stations
2. Operating budgets

3. Stations organization and personnel, professional involvement, technical support, student involvement
4. Station operating hours
5. Station programming
6. Station philosophies.

In this way it is possible to develop a description of college and university FM operations today.

### Population

Because of the broadcasting's movement toward general deregulation, coupled with the FCC edict banning 10 watt stations, it is somewhat difficult to arrive at an exact count of FM stations owned by colleges which are in operation today.

The organization which attempts to make accurate yearly compilations of radio and television stations is Broadcasting Publications, Inc., which first started publishing in the 1920s. Their Broadcasting Yearbook points out that there are 670 stations which are housed on a college or university campus or are licensed to one.

After consulting with several experts in the field of educational radio, it was concluded that the best, most available and authoritative source which would identify the wanted population most accurately was indeed Broadcasting Yearbook. Therefore, a total population was identified and derived from information in the 1982 Broadcasting Yearbook that met the following criteria: (1) that it carried a noncommercial designation; (2) that it was either licensed to a post high school organization or, according to its address, was housed on a college or university campus. Some met all criteria, others were licensed to a college or university but carried post box number addresses. The working universal population for this work was determined at 670.

### Limitations and Assumptions

#### LIMITATIONS

1. This study does not explore:
  - a. Station equipment
  - b. Salaries paid personnel
  - c. Physical size of station and physical plant

- d. Detailed lists of actual policies and procedures of individual stations
  - e. Specifics describing student personnel as it relates to academic major, year in college, year in college as compared with position, and time actually spent working at station
  - f. The personnel section confines itself to examining gross numbers reflecting those involved and station groupings
2. Due to the size and complexity of radio operations it is impossible to collect all data within the confines of a fairly concise questionnaire. To have increased the size of the questionnaire would have decreased the amount of responses.
  3. There are actually two distinctive categories of college and university stations identifiable at the outset of this study. NPR affiliates all meet certain specific minimum standards of personnel, operating times, budget, and operating power. They are considered together. The non-NPR affiliates have no formal restrictions on them as to budget, personnel, operating power, and broadcasting times. These stations are considered statistically in one category and two subcategories: 10 watt stations (10WS) and stations whose operating power is greater than 10 watts (Gr10WS).

#### DISTRIBUTION OF THE INSTRUMENT

After a pilot study was conducted at the 1987 Broadcast Education Association Annual Convention and refinements were made, the survey was sent out in April, 1982 and seven weeks was allowed for responses.

The survey was sent to 670 college and university stations throughout the United States. Of the 670 sent out, 268 (40%) were returned. Of these, 243 (90.7%) were completed adequately. The information contained was entered into a Honeywell Level 66 Computer housed on the campus of Indiana University of Pennsylvania (IUP) for analyses utilizing the SPSS program which generated descriptive data as they related to mean, median, mode, and range of specific items and sections (see Leidman & Lamberski, 1986 for a detail methodology presentation).

#### Findings and Conclusions

The all inclusive findings of the survey are too lengthy to fully report within the confines of this particular discussion (see Leidman, 1985). However, some of the major areas of interest including financing, technical personnel, staffing operating hours, and programming are discussed herein.

All statistics and descriptions contained here have been derived from the 243 completed questionnaires. NPR responses equaled 5'. They represent

7.9% of the population and 21% of the replies. Non-NPR stations participating numbered 192, or 28.65%, of the population, or 79% of the respondents. Of the 192 non-NPR stations, 42 were 10 watt stations. They represent 6.27% of the population, 17.28% of those replying, and 23% of the non-NPR stations participating in this study. Non-NPR stations with power greater than 10 watts numbered 150 representing 22.38% of the population and 61.72% of the respondents, and 78% of non-NPR stations participating in this study.

Both the 10 watt stations as well as those with power greater than 10 watts are included in the general category of non-NPR stations as well as the component parts.

In summary, for the purposes of this section, the following will equal the relative frequencies (percentages) of 100%:

N = 243--All stations

N = 51--NPR stations

N = 192--All non-NPR stations

N = 150--Non-NPR stations with power greater than 10 watts

N = 42--Non-NPR 10 watt stations

#### COLLEGE AND UNIVERSITY FINANCING--SUMMARY

This section examined the gross amount of money reported by the 219 stations responding to this section. It also considered the sources of station funding and the percentages derived from specific sources.

A limitation to this section concerned itself with how stations interpreted what "operating budget" involved. There is some question as to whether or not managers included such line items as student Federal Work Study money, release time salary equivalent for professionals, and standing costs such as rent, electricity, etc.

The total amount reported by the college and university stations responding to the item regarding operating budgets was \$22,383,990. The range was from \$600 to \$1.5 million with the average for NPR standing at \$345,228, for Gr10WS at \$42,462, and for 10WS at \$10,649.

Although stations tend to receive funding from any number of different sources, when examining this variable as a whole, indications are that less than 50% receive any substantial amount from any particular source with the exception of NPR and their receiving 50% of funding from general college funds.

Findings indicate that with the exceptions of donations and grants, college and university station groupings receive some of their financing from a combination of the following sources. These include: general college funds, funds administered by a particular school or department, student funds

(activity fees, etc.), and other sources such as underwriters. Though a category for endowment was included in the original list of possible funding sources only two schools received any funding in this way.

NPR-affiliated stations reported receiving smaller amounts of monies from schools, departments and student funds than do the non-NPR group. This is also true of student funds. However, they do receive more of their funding from grants and donations. Only 8% of the non-NPR stations receive grant money and 40% receive donations. However, 74% and 85% of the NPR stations receive these funds, respectively.

Almost 50% of the non-NPR stations derive an average of 77% of their funding from student-generated funds vs. only about 66% of the NPR stations that do so.

While 83% of the NPR stations receive about 50% of their monies from general operating funds, 47% of the non-NPR facilities receive money in this way. However, the amount of this funding for those non-NPR stations averages 67%.

While almost 27% of non-NPR stations report receiving 6% of their funding from funds administered by specific schools or departments, only 14% of the NPR affiliates do so. These stations receive approximately one-half of their funding in this way.

Other sources of income such as underwriters were reported by 80 stations (36.5%). When breaking down recipients, one observes that 35 (74.5%) of the NPR stations receive "other" funding as compared with 45 (26.1%) of those who are not. Somewhat surprisingly, the 10 watt stations reported the highest mean percentage in this category, however, only six 10 watt stations total reported funding of this type. Also, the 10 watt stations showed a considerable number (23) receiving a majority (78%) of their funding from student funds.

It is important to note that most stations (approximately 85%) received funding from at least two sources. None received funding from all sources.

#### STATION FUNDING—CONCLUSION

Although percentages can be deceiving, dollar amounts are real. Therefore, even though a 10 watt station might receive 100% of its operating budget through underwriters, this amount might only be \$1,000. In the interest of greater participation, this study chose not to delve into the exact dollar amounts generated by particular sources. However, certain things are evident.

A higher percentage of NPR stations receive a greater amount of their money from general college funds. The non-NPR stations show a closer fiscal

relationship to school or department funds. That this is so would seem to emphasize the fact that colleges and universities provide a substantial amount of backing to high expense NPR operations. Furthermore, schools and departments hold the purse strings for many of the other stations. This can be interpreted to mean that closer academic and educational ties exist between the non-NPR stations and curriculum.

The actual range of operating budgets is in itself somewhat astounding. To even begin to compare a facility that subsists on \$600 per year with one that has the resources of \$1.5 million can provide seems ludicrous. Yet both of these facilities work under the same set of FCC guidelines.

Although it is understood that NPR stations must have a minimum budget of \$100,000 per year in order to remain affiliated, the fact that their average budget is \$345,000 is indicative of the kind of support these stations receive. Comparing this with the average 10 watt station with a budget of some \$10,000 cannot help but lead one to certain conclusions about availability of resources, equipment, and personnel. NPR stations have all three.

It can be argued that institutions which heavily fund NPR stations do so out of a sense of mission related to community service. Yet, the 10 watt stations also supply such service, or at least try to do so.

In the world of college and university radio there are stations with greater than 10 watts of power that have substantial operating budgets. The \$42,000 average reported by these stations carries with it availability of broadcasting resources. Yet, the mode and median of \$20,000 are probably more accurate in this case. At least in terms of finances, it can be concluded that the larger non-NPR stations are viable.

Finally, it would appear that college and university stations do receive at least some money from a variety of different sources. They take it where it can be found. The level of commitment toward college and university radio, based on interest and availability of funds, varies from institution to institution. The fact remains, however, that college and university stations do receive money.

#### TECHNICAL HELP--SUMMARY

Of 98%, or 239 stations reporting, 197 (45%) reported having full-time technicians vs. 132 (55%) which had some type of part-time technical help. Of NPR stations, 88% had full-time technicians as compared with 33% for the non-NPR stations. Only 16.7 (7) 10 watt stations reported employing a full-time technician. Furthermore, 229 (96%) of all stations answered that they did have access to someone with a First Class FCC license.

#### TECHNICAL HELP--CONCLUSION

Once again, it appears that 10 watt stations are definitely on the bottom of the college and university radio pile. Their lack of full-time technical help is evident. This is just another indication of the problems confronting such operations. NPR stations are well established in this area and Gr1OWs, although not having complete technical help, at least show that there is some attention being paid to this phase of operations.

#### ACTUAL STAFFING OF THE COLLEGE AND UNIVERSITY STATION

There were several areas of staffing analyzed by this research. They ranged from staff totals and students involved in station operations to which students were paid, received academic credit, or were volunteers.

The gross number of individuals involved in the operations of the 236 stations reporting totaled 11,886. Of these, 1,388 were associated with NPR stations as compare with 10,498 for the non-NPR. Furthermore, the average for the non-NPR station was much higher, 56 people vs. 29 for the NPR stations.

Stations definitively reporting student involvement (SRSI) numbered 225. This measurement shows some 9,540 students involved. In NPR stations there were 767 vs. 8,772 in non-NPR stations. The percentages of student involvement are much higher in non-NPR stations than in NPR stations. Also, indications that 10 watt stations are the most dependent on student help is apparent.

#### STAFFING CONCLUSION

Volunteerism seems to be a backbone of non-NPR stations. Most (88%) of the people involved receive no remuneration. This is to be expected within an educational setting, yet the dependence of any organization on such a high level of young volunteers cannot help but have a marked effect on the organization's performance.

College and university radio stations strive for a competitive "professional" sound. However, indications are that realization of this goal is made more difficult because of staffing patterns.

#### COLLEGE AND UNIVERSITY OPERATING HOURS--SUMMARY

College and university stations generally broadcast for long hours during the academic year. NPR stations, bound by contractual agreement with a network average between 18 and 21 hours per day (hpd) year round. The findings bear this out. This is not the case with non-NPR college and

university stations. Two hundred and forty-one stations reported on operating hours.

There is a change apparent in operating hours among non-NPR stations. While they average 18 hours per day during weekdays when classes are in session, the mode reflects an actual increase of stations broadcasting around the clock on weekends, 40 stations for weekday operations versus 48 stations on weekends. However, the actual average decreases by approximately 1 hpd.

Non-NPR stations show some tendency to close down in the summer months. Sixteen (9%) of the Gr10WS do so as compared with 48% (20) of the 10 watt stations. However, those remaining on the air average about 16 hpd.

During winter and spring recesses the non-NPR stations also close down at an even higher rate than they do in the summer. Thirty-eight percent of the 10 watt stations cease operations and 33 (22%) of the Gr10WS do so. However, those continuing operating average close to 18 hpd.

#### OPERATING HOURS--CONCLUSION

If broadcast hours can in some way be equated with level of commitment to community service and professionalism, it might be concluded that at least during the months when school is in session all college and university stations show a high degree of both.

NPR operations are not an issue here. They operate 365 days per year. The consistency with which the non-NPR stations broadcast reflect an essential difference between them and the NPR group. Either through choice or necessity born of inadequacies of whatever sort many average college and university stations leave the airwaves when school closes. This fact can lead one to the conclusion that such stations have yet to completely come of age in regard to realization of fully professional schedules.

#### PROGRAMMING--SUMMARY

College and university radio programming is not standardized. There is a wide range of programming types to be heard throughout the cross section of American college stations.

Of 229 respondents, 179 (78%) reported that they did have a specific sound or format. These covered the range of music from jazz to AOR to free form to fine arts.

Unlike past studies, this one found that although classical music is still carried by many (167) college and university stations, jazz, with 170, has surpassed it in popularity. However, in terms of gross hours per week (hpw), indications are that rock supersedes both jazz and classical. Yet, the broadcasting of rock was reported by only 147 stations as compared with

classical and jazz. Indications are that those stations which do air rock devote a great deal of time to it. For the purposes of this summary all rock types have been grouped together, although within the study rock subgroups such as Progressive, AOR, Heavy Metal, New Wave, Punk, Retrospective, and Top 40 were examined. Very few (10) NPR stations broadcast any rock. This represents only 21% as compared with 78% of the non-NPR stations. No NPR station reported playing any heavy metal or punk rock.

Other types of music on college and university airwaves include blues, country and western, bluegrass, Broadway, MOR, adult contemporary, Christian religious, reggae, and urban contemporary. With the exceptions of MOR-adult contemporary and Christian religious, the other types of music average under 10 hpw in each category throughout the station subgrouping types.

The MOR-adult contemporary statistics indicate that although comparatively few (49) play this music, those that do average between 19 and 28 hpd with an overall mean of 26 hpw. The 10 watt stations play the least.

Only one NPR station reported broadcasting any Christian religious music. Sixty-three of the non-NPR stations do so averaging 24 hpw with a range from 1 to 168 hpw. This indicates that wholly Christian religious college and university stations exist. Format types reported support this indication.

In regard to news-public affairs programming, 208 (93.7%) of all stations air such programming in varying amounts ranging from an average 10 hpw for 10 watt stations to 12 hpw for larger non-NPR stations to 30 for NPR affiliates. Included in this category are news, sports, public affairs, and talk.

Some type of specific news was reported as being broadcast by 179 (80.6%) of the respondents. NPR stations were again first with an average of 22 hpw for 41 (87.2%) of their affiliates as compared with 6 hpw for the 138 (79%) for the non-NPR stations. The other subcategories of new-public affairs were similarly weighted.

#### PROGRAMMING--CONCLUSION

It is evident from the findings of this study that substantial changes within the realm of college and university program fare have taken place. However, it would be irresponsible and inaccurate to draw universal conclusions to an absolute nature. These findings may be judged to be indicative rather than chiseled in marble.

It would appear that college and university stations in their programming are moving away from their traditional role as the bastion for preservation of classical music. Programming is much more mainstreamed, and so broadens the base of appeal, not only for the listener but also for those

involved with the actual broadcasting. In the case of most non-NPR stations this means that students, like most young adults, exhibit taste in music which reflects the times. For the early 1980s, the most popular genre of music heard on the air is some type of rock. This thought is easily supported by turning the radio dial down its length as well as checking best-selling record lists in Billboard, Variety, etc.

The rock element is undeniable. Several college and university stations are solely rock-oriented in content. This development represents a great change from previous times. The trend will most likely continue but probably never totally dominate the college and university radio scene. Current music will always be available through commercial outlets. This may not be true for either jazz or classical.

The upsurge of jazz may be judged as resulting from a search for the least offensive common denominator. Very few people are offended by jazz. Many are devotees. But jazz commercial stations have yet to appear in any numbers, therefore, jazz on noncommercial radio offers a real alternative.

Young adults prefer to listen and broadcast their own type of music, but jazz proves to be a palatable alternative for them as well. Classical music listeners generally find jazz appealing. Supporting this view is the fact that the classical music commercial station WGMS-FM, Washington, D.C., features jazz every Saturday evening. The program is very well-received by its listeners.

Thus, for the college and university station in quest of a compromise, jazz works. NPR stations continue to carry a lot of classical music but they, too, have jazz.

Those stations which air Christian-religious or Christian-contemporary music are, in all cases, connected with a religiously-based institution. This interdependence is not only absolute but it is also exclusionary. If such institutions continue to find that it is in their interest and that of their select listenership to broadcast this type of programming, they will do so and will remain a minority factor in the college radio picture.

The seeming lack of news-public affairs-oriented programming is apparent. Does noncommercial college and university radio operate in the public interest? Whatever one's particular interpretation of same, the answer cannot be final.

That sector of college and university radio which has the greatest resources produces the most public affairs-news programming. NPR stations cover the issues and looks at the world more than most.

It is easy to criticize non-NPR college and university stations for not airing more news and public affairs. It is also easy to accuse these facilities of not operating in the public interest. Yet, without adequate backing and resources, realization of this directed charge becomes very difficult, if not impossible.

College and university programming has undergone changes. There continue to be many stations using a block programming technique which tries to appeal to many audiences but there are also many which commit themselves to a specific format.

One basic question that remains is that concerning itself with mainstreaming noncommercial radio. Is it a good idea to have this sector of radio also appeal to the majority or should college and university radio still cater to the minority audience of its traditional appeal? The question has no single answer and this study would indicate that college radio itself has yet to decide in a unified fashion.

### Directions

While in the course of this study certain other related projects which could be of use to the field of college-and university-affiliated radio became apparent.

Some are listed below:

1. To survey the 10 watt stations existing in 1983 and ascertain how many made the transition, joined cable systems, or ceased operation altogether
2. To examine overall college operating budgets and learn what percentage is appropriated to FM radio operations
3. A study to ascertain the following: Do college and university stations feel the need to compete with commercial stations? Do they now program in this direction?

Certain other interesting trends also surfaced. One in particular deals with the basic character of noncommercial radio, specifically the amount of rock and roll of all types currently being broadcast.

If the statistics of this study are truly indicative then they show a kind of "loss of identity" for traditional college and university stations. Furthermore, it would seem that such facilities are programming competitively with commercial stations. It is possible that this will be the direction in the future for all but those select few NPR stations.

Another disturbing result of the programming reported by college and university stations concerned the small amounts of news-public affairs programming produced. Granted that such programming is difficult to create and sustain at a high level. However, the entertainment-oriented radio which was reported by most stations comprises only part of the mission originally set forth by the FCC when noncommercial radio was created.

It seems that the issues surrounding college and university stations as training grounds for future broadcasters and the predominance of rock on many stations cause a conflict of purpose. If an ultimate mission of a college and university station is to compete and train competitors for the world of broadcasting, does it not seem that many are losing an excellent opportunity to improve the caliber of offerings on the airwaves not only for the present but for the future as well. Yet there is no question that college- and university-affiliated radio is a viable, dynamic entity in the broadcasting picture today.

#### REFERENCE NOTES

1. Hidden medium. Prepared for NER, a division of National Association of Educational Foundation. Washington, DC: NAEB, 1968. (Originally printed, 1967).

#### REFERENCES

Aarnes, H. The organization and administration of radio stations owned and operated by educational institutions. W.p.: 1949. (Library of Congress Microfilm Collections No. 00-01360)

Broadcasting Yearbook. New York: AF Broadcasting Services, 1982

Halverson, W.F. A survey of the radio instructional organizations in American colleges and universities offering degrees with majors in radio. Unpublished master's thesis, University of Denver, 1947.

Leidman, M.B. At the crossroads: A descriptive study of noncommercial FM radio stations affiliated with colleges and universities of the early 1980's. Doctoral dissertation, Peabody College, Vanderbilt University, 1985.

Leidman, M.B. & Lamberski, R.J. A methodology in studying noncommercial FM radio stations - A case study. A paper presentation at the Annual Conference of the Association for Educational Communications and Technology, Las Vegas, Nevada, January 20, 1986.

Rashidpour, E. A survey of the present functions and some aspects of organization of educational radio in the United States. Dissertation Abstracts International, 1965, 65, 5138. (University Microfilms No. 65-14, 061)