An Exploratory Study of the Effects of

Radio Airplay and Advertising on Record Sales

A Thesis submitted by Peter Mensch In partial fulfillment

the requirements for a degree of Master of Arts In Social Sciences

For Bill Johnson,Dave Steffen and, of course, Harry Davis

Acknowledgements

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Introduction

During the past two decades, there has been a large increase in the number of studies which discuss a major marketing issue, namely the way advertising and other marketing expenditures affect sales. While it can be assumed that marketing activities are a major determinant of consumer buying, the empirical research bearing on their relationship is far from definitive.

The long history of empirical studies on the relationship between advertising expenditures and sales level is a case in point. For example, Clarke (1976) observed that there was significant data interval bias in models which used annual advertising and sales data. Studies which use yearly or monthly data consistently find longer advertising effects than studies based upon weekly data. Hence, conclusions are simply an artifact of the data used.[1]

Palda (1963) points out that there is "the difficulty of isolating the influence of advertising from the welter of other factors that also bear on sales".[2] Palda continues by questioning the use of sales as a criterion of effectiveness: "In situations in which there are frequent changes in the marketing mix of the brand, how can fluctuations in its sales be easily ascribed to a changing advertising appropriation? Or, indeed, how can the effect of a change in the advertising mix itself

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[1] Darral G. Clarke, "Econometric Measurement of Duration of Advertising Effect on Sales," Journal of Marketing Research 13 (Nov. 1976): 345-355

[2] Dristian S. Palda, The Measurement of Cumulative Advertising Effect (Englewood Cliffs, NJ: Prentice-Hall, 1963) p.3

be evaluated in terms of sales?"[3]

Additionally, much of the research of the advertising sales relationship has been on frequently purchased, low priced consumer nondurables. For products of this kind, repeat buying is absolutely critical for success. There has been little research which has focused on other product categories such as durable goods, or products with short life cycles, such as fashion items.

Thus, for these and other reasons the literature on the effect of advertising on sales provides very little consistent evidence of exactly how advertising is related to sales. There is considerable confusion over the possible duration of the effect as well as the effect on sales of other unmeasured variables.

This study will continue this tradition of research in a product category quite different from previous empirical work. A brief description of this product category and the specific research questions to be explained are contained in the next section.

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[3]Ibid, p.3

Chapter I

Effects of Advertising and Radio Airplay of Record Sales

Records are a frequently purchased consumer durable. Their low price, short "active" life cycle and marketing characteristics separate them from other durable goods like televisions, automobiles and appliances.

First, a record's low price makes it similar to most consumer consumer non-durables in that one can purchase numerous records over a certain period of time with no duplication. Many non-durables are repeatedly purchased over time.

Second, records have short "active" life cycles. This means that the majority of a particular album's total sales will be realized in a relatively short time. The sales of all records eventually taper off to a consistent low level. There are several reasons why this happens. First, there seems to be a finite market for any record. The highest selling album has been purchased by no more than one-twentieth of the American public (assuming no repeat buying). Second, most record companies allow each piece of product a limited "work" time due to consistent pressure generated from the desire to find a successful product. The average number of records released by major companies each year is approximately sixty (60). Theoretically each record is given an equal chance on day of release to prove itself, but, practically, if one falters or shows limited early promise, it is no longer actively marketed. Only occasionally will a record company continue to market an album which has not received some early attention either from the consumer or from the media.

The differences involved in marketing recorded product as compared to other consumer goods are very interesting. The only direct effect the record industry can have on product sales is through advertising. Most of the daily effort in marketing at a company goes into indirect effects such as promotion to stores and radio stations. While a company's influence at a particular radio station can be great, it is usually the station which makes the final decision to air the product.

The evolution of the radio medium into one which predominantly features music has provided record companies with a free form of advertising if it can be achieved. The most popular radio formats can air a certain piece of product more often during the day than it can be advertised given most companies' financial constraints.

Those constraints, too, become a problem. The average record company does approximately sixty to eighty million dollars a year with sixty different brands to advertise in hundreds of different markets. Quite simply the resources to match what can be gotten indirectly are not available.

This study was made inan effort to explore whether advertising, in the form of "free" radio airplay and "paid" media advertising, has an effect on sales in this most unique consumer industry.

Specifically, a hypothesis of this paper is that changes in radio airplay, a form of advertising, are associated with changes in sales. At the same time, we attempted to determine whether advertising had an effect on sales. An important question also deals with the directive of these relationships. That is, does airplay and advertising lead sales

or do sales lead advertising and airplay?

Chapter 3 describes the data which will be used to test the relationship between airplay/advertising and sales.

Chapter 4 will present the results of these analyses and discuss certain problems with the data which might interfere with the conclusions.

Finally, Chapter 5 suggests future avenues of study and makes certain general recommendations to the industry in an effort to direct marketing tactics more effectively.

The following chapter includes a general analysis of the music industry with a specific discussion of the various interrelationships hinted at earlier between reocord companies and radio stations, discussion of the procedures by which records get airplay and the introduction of the record outlet and its effect on sales. Other segments of that chapter include an examination of the types of music most often heard on radio.

Chapter 2

The Record Industry

Information on the record industry was obtained from interviews with seven radio stations, two distributors and five retailes in the Chicago Metropolitan Area. The material included in this chapter is based on these interviews and represents the popular wisdom within this industry relating to the factors influencing record sale.

Underlying all record company activity in the area of marketing and selling records is the dissemination of positive information about the product to consumers. There are a number of different methods of communication used in the record industry to sell product. The two most important methods used are radio airplay and concert appearances by the artist. Of lesser impact is paid advertising, point-of-purchase merchandising and other activities like parties sponsored by the record company.

The availability of a large amount of free advertising in the form of radio airplay is the critical difference between the record indus-try and other consumer-oriented industries. An entire industry has been built around the premise that radio airplay can sell the product.

There are a number of different ways used by the record firms to obtain radio airplay. The most direct and often used method is pro-motion. Most record companies employ large staffs of localized pro-motion men headed up by regional and national promotion people. The process involved is simple and repetitive: each week the local promotion person visits his assigned stations in the market he covers. During

each visit he will deliver the proper product to the proper radio station
and discuss with the station's program or music director what possibil-
ities for airplay his particular product has. The regional person often
repeats this activity in several markets or coordinates the activity of
several local promotion people. The national staff establishes the
various record priorities each week, coordinates all nationwide pro-
motion activity and remains in touch with various major market radio
stations.

While record companies would like all of their product played
on the most listened-to radio stations upon release, this almost
never happens. Music companies, like the media, have discovered that
the potential audience can be broken down into distinct demographic
segments. Attacking these segments with products specifically designed
to appeal to these audiences will maximize product acceptance..Faced
with the growing popularity of television and the expansion of the
music industry simultaneously, radio has expanded its coverage by aiming
its programming at these 'distinct demographic segments'. Stations
drawing from the vast amount of popular music available began to
channel sections of this music into specific formats. Thus all
country, all "black", and all progressive stations, for example, "are
a successful illustration of this strategy of slicing up the total
radio audience into subcultural groupings interested in a single
specialty broadcast format."[4]

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[4]Hirsch, Paul, "Sociological Approaches to the Popular Music
Phenomenon," American Behavioral Scientist(1971): 381

Discussion of Radio Formats

At least seven major radio formats follow this audience break-
down. They are classical, country and western (c & w), black, progres-
sive rock, adult/contemporary/mor, album-oriented radio and Top 40 radio.
Each format contributes to the marketing and selling of recorded product.
The weight of contribution is based on their listening audiences. For
popular music, the most important station or format is the "Top 40"
format. However, for a certain type of popular record, the progressive
or adult/contemporary format may be the only format which will play the
product and as mentioned elsewhere, radio play is the major factor in
generating sales. In an industry based on sales, all outlets contri-
bute. A MOR station or a series of MOR stations may generate enough sales
to fulfill the top 40 station's sales requirement. This process is
called "crossover" and it occurs on several levels. One level is the
intramarket crossover detailed above. Another is the intermarket cross-
over where a record might spread from one city to another. Both "spread-
ing" processes require product sales and promotion by the company.

Of the seven formats listed above, three do not draw upon the
mainstream of popular music for their programming. This is important
because the audience for non-popular music is smaller and thus, the
particular format is not as competitive. This is especially true
for classical and country and western stations. While the demographics
for these stations maybe perfect for some advertisers and music producers,
the size of the potential audience is small. A limited amount of product
will be released each year that is specifically directed for the hard-
core audience in these two music fields. This product will be promoted

by a limited number of people and will be promoted in a limited way.

In the markets where there is a large enough audience, there will be "black" oriented stations. In the last fifteen years, "black" music has been increasingly adopted into the "popular" music frame of reference. So, while "soul" music is not quite as popular as "rock" music, the potential for crossover and attraction of white listeners is greater for "black" formatted stations than for classical or country and western stations. This attraction has made one "black" station in New York city the most listened to FM station in the United States. In Chicago, black stations are second in number to pop stations in music programming. The competition for the audience is great, but, as we shall see, the behavior of the black program director does not follow his white counterpart completely.

Classical music stations are unique in that there is no repetition of play on one particular piece of product that characterizes the rest of music-formatted radio. While classical stations like to feature new product, at least half of the programming is drawn from their older records and tapes. Typically, a new album released in April may not get aired in its entirety until October. This usually happens because classical music is programmed months in advance in order to allow the highly selective classical listener an opportunity to chose what he will listen to. Since there is no guarantee that the scheduled release date of a classical record will be met, classical program directors will wait for the product to arrive before they schedule it in.

There are several exceptions to this advance programming. First, most stations usually feature new product during a special time set aside weekly for that purpose. While albums cannot be

featured in their entirety, the new releases time period serves the pur-
pose of announcing major new releases by airing a small segment of the
piece and appeasing the various record companies who send the station
free product. Another limited way of avoiding the long delay in pro-
gramming is by featuring product by local musicians and orchestras. This
tactic, designed by radio stations to increase their ties with the local
community, is helpful only to those record companies who record local
musicians. In Chicago, for instance, WFMT, the leading classical sta-
tion there, considers any new recordings by the Chicago Symphony
Orchestra as major programming priorities.

For the most part, the normal practice of pre-programming limits
the amount of airplay any particular piece of product is likely to have.
This, in turn, limits the impact the record has on the audience in
terms of influencing immediate sales. There are some sales due to
pre-airing publicity and the resultant audience, but usually sales are
achieved in conjunction with advertisements and retail aid.

Country and western stations are similar to classical stations
in that they feature one type of music. By the nature of the music
country and western stations, like "pop" and "black" stations, can play
numerous songs. The average time of a piece of "popular" music is
significantly lower than the average time of a "classical" piece of
music. Country and western stations are programmed along the tradi-
tional lines of Top 40 programming. The typical country and western sta-
tion will play the thiry-five or forty singles which are the top selling
throughout the station's coverage area.

For country and western stations, the accepted method of promotion

is to start the record at secondary and tertiary market radio stations.
Because these stations do not have to compete as intensely as major
market stations for advertising dollars and listeners, they can afford
to be less selective in what they play. A typical secondary station,
regardless of format, will play ten to fifteen more tracks on a regular
basis. It is at these stations where many of the area promotion people
begin to promote or "work" a record. Good secondary play and resultant
sales can spread a record to the major market station. This success
will force the major market program director to add the record to his
playlist in a limited play situation. This situation is often called
a "test" and if the test is successful, the station's weekly sales
report will reflect this. The record will proceed to move up the
playlist toward the highest positions.

Certain new records can obtain play in other ways. A new record
by an artist who has had several hits previous to the new release will
receive airplay on this new release earlier than he might have had he
been an unknown. Usually this airplay is in the form of a test, but
occasionally, if the artist is popular enough, the record will be played
in record company parlance: "out of the box". Out of the box play is
when a new record gets aired as soon as it is delivered to the station
by the promotion person. In the case of an established artist, there
is an established audience. There is little harm, then, in playing a
new record early, by one of these artists. The station will satisfy the
audience and, if, the record is not popular, play will fall off. Ob-
viously, an early "add" on an unknown artist, who shows potential, can
be more dangerous and is monitored very closely.

Each decision to play a record stems from the opinion of a particular radio station that the record will sell and that play on a particular record will not result in audience "tune-out". For country and western stations this sales popularity is the major criterion. The demographics of the country audience are tilted toward older men and women who are not active music listeners. Bob Pittman, program director of WNAQ, a country station, and WKQX, an album-oriented rock station, states "you're dealing with an adult audience, they're not really into music. They're much more passive". This passivity does not allow for unknown and untried artists.

Rythmn and Blues (soul) stations are programmed and promoted similarly to country and western stations. The same basic theory of programming on the basis of sales is followed with a few exceptions. In a market like Chicago, there may be four or five stations competing for the same audience, so, if anything, one would expect that these stations are likely to be less flexible in their programming than country and western stations. This is not entirely true. First, the "black" audience is younger and more musically active. This active audience is harder to please and less satisfied with the typical Top 40 type of programming. In addition, the "black" audience has a much greater demographic stread. While the audience is heavily black, the music appeals to enough whites to expand the market for this type of radio. What this type of audience means for a black radio station is that their program director has more flexibility than does his country and western counterpart. Another difference is that the black program director does not have "secondaries" to draw

from. This lack of a "proving ground" means that the program director has to take more chances with records in order to keep his audience satisfied. This lack of secondary black radio stations results from the lack of a large enough black audience in the smaller urban areas throughout the country.

A practice still prevalent in the record industry as regards black stations is the use of "payola" to obtain airplay. Payola can take several forms; direct monetary payments to the program director or music director, payments of goods to be turned into money at a later date or payments of expensive goods directly. While this practice has declined in usage since the early 1960's, there is usually one station in a market that will program by payola. "Legal" payola exists, also, and we will discuss that in another section of this paper.

While payola is one method of appealing to program directors flexibility, normally, record company promoters have to hope that their particular piece of product fits the format of the radio station they are promoting. Ernest James, program director of WBMX, states, "Basically, I don't go by the secondaries. If I'm not going to play a record, if I am going to play a record, I'm going to play it either because I believe that it is an important piece of product or because it is being played in the market...and it is selling". Convincing James that your piece of product is "an important piece of product" can shortcut the normal process.

The perception of what is good for a radio station or the audience it serves, does not necessarily mean it is selling or that the audience

is requesting it. Ernest James, again:

> "Body Heat by James Brown is a record that is selling
> very well in the market right now... The song does not
> have the sound that I am looking for on this station...
> selling well in the market, I'm not on it and I don't
> plan to go on it."

For a program director like Ernest James, that "sound" is
determined by what he might like and what he perceives of as what
his listeners want to hear. Determining what the listeners want to
hear can be done in several ways and depending on the method used
can be an important factor in what is played. For a station like
WBMX, its very presence in the radio market, demonstrates that it
knows what its audience wants to hear. WBMX was started as an
alternative to other black radio stations to appeal to the audience
that wanted an alternative. However, what starts as alternative still
needs the most direct method of audience communication; requests.

In general, the weight of actual listener requests differs
for each program director. For Rodney Jones of WVON, another black
formatted radio station, requests are an important factor: "definitely,
as as a barometer from the people you are reaching, what they prefer",
while Ernest James attaches less importance to them: "requests can
be hyped (activity of dubious legality by a record company) easily...
and requests are, if a person or two people really like a record,
especially, if they are in your active audience of teenagers, they are
going to call you over and over". There are instances where requests
can make the difference, but, in most cases, radio programmers sub-
scribe to Jame's theory.

There are two other methods used to determine audience reaction

to the music aired by a station. First, there is retail call-out.
As we have mentioned before, the primary criterion used by radio
stations to determine how well a piece of product is being accepted
by their audience is to determine that product's sales. Since record
companies are loath to provide sales statistics (except where it will
do some good), radio stations must rely on retail accounts. Every
week, radio stations call a rotating list of stores to determine what
is selling and if they are selling it. Black radio stations attempt
to call the stores that attract their listeners while other popular
music stations call enough stores to get a cross-section of their
audience. In general, of the formats which rely on sales figures,
black radio stations call far fewer stores than top 40 or album-
oriented radio stations do.

The newest method of measuring audience reaction is "call out".
Call out research is done by only a handful of radio stations and will
be discussed later in this paper.

Popular music stations draw their programming from music loosely
described as "pop". While "pop" music can be broken into hundreds of
different forms, its underlying interconnections allow "pop" stations
to duplicate artists and material regardless of basic format. The
four formats discussed above are adult/contemporary, progressive,
album-oriented radio, and top 40. This duplication allows for signi-
ficant "crossover" potential. This crossover potential is especially
important to record companies when one realizes that both the progres-
sive and adult/contemporary formatted radio stations do not use sales
as a major criteria for playing a record. Thus, a sales pattern can be
generated in the major market without having to rely on secondary play.

Adult/contemporary radio is the latest in a series of radio mutations. Like WBMX and album-oriented radio stations, adult/contemporary stations were designed to attract a disenchanted public. As the teenage audience grew out of the top 40 format (and loud music in general), adult/contemporary radio was created to appeal to those 25 plus year olds who still appreciated the softer parts of popular music. As Dick Bartley, program director of WBBM-FM, and a/c fromatted station, says of CBS research, "they concluded that the 25-49 segment of the audience will continue to grow from now until 1989... whereas the 18 to 24 or the upper teen (segment) which has flourished since the war will be shrinking". The format consists of softer records by known and unknown artists. Any up tempo music heard on an a/c will be an established song by an established artist.

The important factor at an adult/contemporary station is the overall sound. The station's sound consists of a mix of music of different tempoes andlengths. Records of the type necessary to an adult/contemporary "sound" are hard to locate and are not un-earthed by sales statistics. This means that the program director must select the material necessary and cannot wait until the audience selects it. Bartley sums it up like this:

> "I just cannot allow sales to force a record on this station, because we are trying to maintain consistent music policy and if the record doesn't sell any copies and it is right for us, there is no reason not to play it."

Under normal circumstances, a program director like Dick Bartley will listen to all the product available and make his decision accordingly, but there are circumstances where this is impossible.

Due to the relative newness of the format, there are few "secondary" stations doing similar things, but, there is a certain amount of consultation. Furthermore, promotion men are aware of the peculiarities of the adult/contemporary format and will only promote that product which they feel will be suitable. While the promotion man can't guarantee the airplay, he certainly has a greater chance by making the a/c program director aware of the product.

Progressive radio fromats are similar to adult/contemporary stations in that there is a particular "sound" established and all product is considered in terms of its suitability for that sound. However, the sound of progressive radio is radically different. Progressive radio was developed a decade ago as an alternative to top 40 radio and because there was a significant body of music that was not "popular" enough to merit top 40 airplay. Since that time, few of those stations remain as the majority have evolved into album oriented stations.

The major criteria applied by progressive stations to potential airplay albums is whether the staff of announcers likes the record and whether there are enough songs to play. Progressive radio is the only format in radio where the staff is hired specifically because of their taste in music and where the staff isallowed to program their individual shows based on that taste. The only limits, if any, are set by the program director.

Programming a progressive station is not difficult. Sine the music aired is based on station taste, there is little else that can be done. Record companies can hope that the station will like the

record and play it. Since there are hundreds of pieces of product
released every month and because so many people have programming
input, the progressive station sound is not concentrated on a
limited number of albums. The programming consists of songs from
hundreds of sources and the audience does not usually hear a specific
track very often. This is the problem with progressive radio from
a record company marketing standpoint. The airplay is not concentrated
on a specific segment of the album and, therefore, though the record
might be aired sooner than on a top 40 station, the sales that
sporadic and interrupted airplay will generate are limited. Progressive
stations have attempted to correct this sporadic airplay by only
playing album product with several songs worth airing. This procedure
not only attempts to increase progressive radio sales ability, but
also maintains audience trust. Audience trust is important to
radio which prides itself on "hipness" of style. Progressive radio
attempts to lead its audience to higher level of music appreciation
and while this may not lead to large sales, does, on occasion generate
enough sales to "cross" the record to stations whose more limited
airplay rotation will insure the record's acceptance.

Those stations with the more limited airplay rotation are
mutations of the progressive format. Once again, the subtle change
of audience preferences to a radio format which appeals to those
listeners who buy albums rather than singles caused the formation
of album-oriented radio (AOR). Perhaps the complete opposite, in
terms of program theory, of the "education" format of progressive
radio is the "follower" format adopted by album-oriented radio.

Both formats employ albums as the key to their programming, but
AOR concentrates on those albums which are selling the most units.
While programming by taste may be esthetically pleasing, programming
by what the listeners want achieve higher ratings. Bill Todd, of
WDAI, one of Chicago's two album-oriented radio stations, says "I
more or less wait for things to knock on my door". The criterion for
airplay used by AOR stations primarily consists of regional or
national sales followed by regional or national airplay on stations
which carry weight with the individual AOR program director.

The next factor which is involved in determining airpaly is
obtained via audience call-out. As mentioned above, only AOR stations
seemed to be involved in audience call out. In call-out research
questions are put to a general cross-section of AM and FM listeners
about their musical tastes. This question and answer gives the pro-
gram director immediate feedback on the new albums that his potential
audience is listening to, on new albums the program director has
missed, and on when the program director should discontinue play on
a particular piece of product.

A third input into the AOR decision to play a piece of
product comes from the taste of the program director and, conceivably,
favorable press and general industry excitement about an artist.
Bob Pittman of WKQX, the other AOR station in Chicago, says that his
"listeners have an interest in new product, feeling that they are not
followers, but rather setting a trend and they want to be close to
a product, so obviously we play a lot of things that appear to be
getting a good reaction in other places. Artists that appear to be

giving similar sounds to the ones who are very popular now. Some-
times we'll even test them out".

Pittman feels, like James of WBMX, that he has a good grasp
of what his audience likes. Usually, what his audience likes and
responds to does not come from his station except in the rare occasion
when he plays a record first. The secondary progression exists whenever
sales or an awareness are necessary for airplay. Certain times, all
it takes are the area progressive stations to play a piece of product
long enough to generate sales. Other times, and this increasingly
true, the only difference between an album oriented radio station and
a top 40 station is that the AOR station will play two ro three additional
songs besides the hit single already getting top 40 play. Furthermore
the single's success usually forces the album play if the group is an
unknown.

Established artists have two roads. The first and most desirable
for their record company is the process described above; the hit single
on AOR and top 40 and then a gradual discovery of other playable material
on the particular album. The important second single is a result of
heavy AOR and progressive radio play. There are certain groups which
don't need a single to obtain AOR play. These groups have large fol-
lowings due to live appearances, hit singles or albums from previous
releases, or a record of steady sales success.

In sum, the hit single is the key to record product success. If
the group is a relative unknown (at least to the top40 and AOR charts),
then the hit single can alert program directors to a hit album. Since
listeners dictate what they want to hear or will accept without
tuning the station out, AOR program directors can program several

songs without offending anybody. For the established act, AOR can be important in announcing a new album by the group and in justifying the group's popularity. The key to both types of artist success is the hit single. The hit single either signals an artist breakthrough or it maintains a career.

The radio format which offers the hit single to listeners is the mis-named top 40 format. This format takes AOR one step further, in that, any follow up material by a group with one hit single has to survive the same tests that the first single die. Top 40 stems from the time when radio stations played the top forty selling songs in the nation. As AOR features a tighter airplay rotation than does progressive, so does the top 25 station of today feature a tighter rotation than did the top 40 of the past. The name lives on. So does the sole criterion for obtaining airplay; good sale.

Top 40 radio is usually the most popular format in any given market. A limited number of songs played as frequently as once every 90 minutes will insure for top 40 stations the largest and broadest audience. Top 40 stations are "music blind". Since they will play only the top sellers in the market, they do not eliminate any record which meets the sales level necessary. Because of this, popular music has grown to include any music that is popular with enough people. Getting airplay on top 40 formatted radio stations is almost always the product of agressive record company promotion through the secondaries. Infrequently and only with a superstar, top 40 stations will play a record upon release. Usually, this is done to announce the artist's new record and to test it. The normal procedure is for the top 40

station to air the record for several weeks, then remove it and wait until its sales warrant being readded to the playlist. Sometimes the single will gain enough sales in the early weeks to stay on the chart. These singles, a record company dream, are scarce.

It usually happens the way Jim Smith of WLS, the major top 40 in Chicago, says it happens, "somebody plays it, somebody buys it (the secondary activity), then we play it and the people continue to buy it". A hit single on WLS or any other major market station of its ilk means the record is successful.

Concert Appearances

After radio airplay, the next factor in an unknown artist's success is the artist's live appearances. Live appearances will have both a direct and indirect effect on sales. The direct effect is fairly obvious; the audience will see the act and then purchase the product. The indirect effect is that more people will be made aware of the artist and this awareness will manifest itself in the call-out procedures of various radio stations.

Sales through appearances can be a major factor in an unknown artist's success. Since radio airplay is not readily available for most unknown artists, concerts serve as a direct audience appeal. An act with a good live show will be asked back often by promoters who are looking to sell tickets to concerts. Audience word of mouth is helpful in assuring the promoter of concert success. The process is gradual as the artist proceeds from being an opening act to a second level act and finally, to a headliner. There are a growing number of groups whose continued success is based on effective live appearances. Groups with a strong following from their concerts are often close to

having radio success. Record companies realize that consistent touring will make these artists more aware of what pleases the audience and that this will be translated into a possible "hit single". So, for unknown artists, live appearances can establish a base of support to force album-oriented stations to play a particular piece of product or, in some cases, produce a piece of product suitable for top 40 stations.

Artists established through airplay use concert appearances as a reaffirmation of popularity. These artists' dependance on appearances is nowhere as great as for the unknown artists discussed above. Often successful artists will limit live appearances to the minimum in order to concentrate on producing new product or simply to enjoy success. With few exceptions, neither new artists nor those whose music pre-cludes serious radio airplay can afford not to appear in concert.

Those artists who can avoid appearances are usually the artists whose product has won immediate acceptance on the mass-appeal radio formats like AOR or top 40. Immediate acceptance by those stations is rare and does not repeat itself, so inevitably, artists must perform to maintain popularity.

For various reasons record companies actively encourage their artists to tour. We've mentioned elsewhere the possible effects that touring have on songwriting and poise, There are other reasons. Sup-port of a tour by a record company will demonstrate to radio program directors that the artist is important to the company and thus might have something to offer their audeinces. In reference to an unknown artist whom he had just begun to play on WKQX, Bob Pittman offered the following justification: "The record company was really behind it.

Which would lead me to believe that they are not purposely trying to lay a "stiff" (a poor piece of product) on me." Tour support together with other paid advertising and promotion will be the chief indecators of that support to a program director who shares Pittman's philosophy.

Discussion of Product Advertising

Paid advertising, then, can be an important aid in obtaining airplay on a particular product. Since radio airplay is the major form of advertising due to its completeness of coverage, the paid advertising must help assure and maintain consistent airplay. Radio stations rely on advertising dollars in order to survive. Manufacturers rely on radio airpaly to survive and have significant advertising budgets to announce and exploit new releases. Although it is denied by all involved, the use of advertising to obtain airplay is prevalent. Record companies will often "show their faith" in a station which has just added a piece of their product to the rotation by advertising. Radio stations are aware of this practice and will solicit record company support for a new addition.

In addition to demonstrating support for a new artist or one that has just been added to a particular station, record company advertising also supports the concert promoter. Concert promoters rely on radio and print advertising to sell tickets to concerts. Often, promoters are not financially able to advertise a particular concert as well as they would like, and so they ask for record company support. Company support of concert promoters helps sell tickets to the particular concert involved and demonstrates to the promoter the willingness of the company to spend money on acts. This willingness has

the long range effect of influencing promoters to book the company's acts.

In recent years, the influence that paid advertising has had on sales directly has diminished. The limited playlists of radio stations have mirrored the taste of the average consumer. Consumers can no longer afford to purchase an album without hearing parts of it. By law, record advertising cannot entirely be music, so the amount of music featured in an advertisement is limited. Although repeated advertising over a short duration may create a "barrage" effect, normally, the spot will serve to announce and bring to the consumer's attention certain product. A well-written advertisement might take that process further by piquing consumer interest, but, with so much air time devoted to record advertisements, time buys often fall on deaf ears.

The Record Retailer

Another major beneficiary of record company advertising support are the retailers. There are two types of retailers involved in the actual sales of product. First, there is the area retailer who may operate several stores and who buys his product directly from the manufacturer's distributors. The other retailer is more of a middle man. These are the "one-stops" and the "rack-jobbers". One-stops serve the function of a general clearing-house for recorded product. Small record stores often find it simpler to buy all their product at one place rather than dealing with each manufacturer seperately. This practice costs the individual account more per record and does not provide many advertising dollars. Rack-jobbers provide essentially the same function that one-stops do. The rack-jobbers supply large

quantities of product to chain stores, like Sears or K-Mart, in a multi-state area. Rack-jobbers will also own chains of stores themselves and will provide their customers with advertising dollars.

The philosophy underlying the purchase ofproduct by these two types of retailers is vastly different. The area retailer will purchase product on a limited basis knowing that he can re-order more if necessary or employ the one hundred percent return policy, instituted by the manufacturers, to return unsold goods. The area retailer, also, is more likely to purchase unknown product because his customer is more knowledgeable and is not just interested in the top selling records. Record stores of this type can sell product via in-store airplay. A store operated by knowledgeable sales personnel will result in increased sales by inspiring consumer trust and the proper selection of product to be aired by the store. In the area of classical sales, a knowledgeable and trustworthy sales staff will sell the majority of records. Since airplay is limited, the classical buyer is dependant on opinions of reviewers and sales people to help make a decision. Record companies are aware of store potential and will flood retail accounts with point-of-purchase merchandising materials like displays and posters. Companies will also send the accounts product to be aired and give them tickets to any performances by their acts.

The importance of retail accounts is felt in other ways. Radio stations receive their sales information from retail accounts. The national trade publications, like Billboard, Cashbox and Record World, use national retail information to determine the national sales charts. Like the advertising "wedge" used at radio stations, retail accounts

are often the victims of similar tactics. Record companies will trade
cooperative print and radio advertising for "reports" to local stations
or national trades. They will use the free records and tickets as
barely disguised bribes to achieve the same "reports". While radio
stations can adjust for these practices, the national trades can't,
and successful reports to these magazines can have the same results
as reports to area stations; airplay.

The Wholesaler: One-stops and Rack-jobbers

The purchase of product by the one-stop and rack jobber is done
in a more conservative way than the local retailer. The rack-jobbers
and one-stops are mass purchasers. This means that they supply only
the most popular product to their accounts. Due to the lack of ware-
house space, these two retail operations cannot afford to stock pro-
duct which will not sell immediately. The one-stops will special or-
der product if there is demand, but the rack-jobbers, mirroring the
taste of the stores they supply, will not stock any product until it is
selling and being played by the important stations in the market. Usu-
ally these stations are the top 40 and album-oriented radio stations.

Stores will select rack-jobbers for several reasons. First,
large retail accounts are aware that a record department will generate
consumer flow. The rack-jobber will run the entire operation and
will train the store-provided sales person in the intricacies of
record keeping. The rack-jobbers will only stock the major sellers
thus attracting the type of customer the retailer prefers. Rack-jobbers
can also obtain advertising dollars which will insure additional cus-
tomer flow.

In general, record company attempts to sell product via retail merchandising are unsuccessful. In store play and merchandising tools serve to make customers aware of new product. The actual sales generated by these tools are a small percentage of those generated by airplay and appearances. The record company considers activity like this as giving their product an "edge" in the market place.

The company also employs other "edges" in their effort to obtain airpaly and sales. The use of "exclusives" guarantees airplay on the station to which the exclusive was given. The exclusive is granted to a station which was particularly supportive of previous releases with airplay. Unfortunately, there are always stations which are innored in an exclusive and, thus, airplay is harder to obtain at that station until the balance of favors is corrected.

Another tactic employed by record companies to help obtain play on product is the media "party". Using an act's appearance in town, companies will have a party and invite all the important radio, press and retail to attend. While a party cannot, in and of itself, guarantee airplay, the event will fix a favorable impression of the pary-giver and his product in the minds of those attending. These cumulative impressions are the promotion person's most important asset in obtaining airplay. When favors are necessary, it is the positive impression that program director has about a company, that will grant the favor.

The interrelationships between record company activity, radio station programming and retail accounts are difficult to pinpoint. Every activity draws upon another activity. Unless the product is pro-

moted by the record company, it won't get airplay, yet, in some cases

airplay is not obtained until sales are at a certain level. In the

following chapter, we will attempt to prove which of these activities

contributes to record sales.

Chapter 3

Methodology

In order to test the hypothesis that retail sales of albums are correlated with either radio airplay or media advertising or both, eleven records were selected covering varing musical styles. For each record, unit shipments either to stores or distributors were obtained from the time of release until April 1,1977. In addition to units shipped, we obtained weekly radio airplay information consisting of the name of the station, the particular song or songs aired and the number of times any song from the album was heard. The number of airings was broken down into the following categories; heavy airplay medium airplay and light airplay, and must be considered an approximate measure of airplay. Finally, we received a list of advertising expenditures for each album broken down by week and medium used.

There are certain limitations implicit in the use of record sales/ shipment data. First, we have chosen the "active" life of the record to test the hypothesis. The active life of the record is the period in which it will show the highest weekly airplay and/or sales. It will also most likely be the time during which most, if not all, of the advertising is run. The relationship among the three variables during this period should be more strongly related than at a less "active" time where all three variables remain at a consistently low level. Besides this reason, it is next to impossible to obtain advertising, sales and airplay statistics for albums which are no longer being actively promoted or have been discontinued.

The Sample of Records

The eleven records chosen to test the hypothesis were picked because of the diversity of the musical styles they represent. Table 1 details the breakdown of the product into these diverse styles and, also, includes other information pertinent to this study. In short, the table lists the group's name, company, style (as reported in Chapter 2), previous records released, any appearances and the most important stations in the Chicago market on which each was aired.

In addition to these identifying characteristics, another important piece of information stems from the way each record is distributed. As has been mentioned before, the "sales" information which was received was not actually sales to consumers, but, rather shipments to distributors and stores. Depending on the type of distribution, one can assume a "lag" in the time it takes for shipments to translate into sales. This time difference between distributors and stores obtaining the record and the actual sales to consumers can be estimated between one and two weeks.

Company "A" uses independent distributors. They do not own their own distribution nor do they employ their own sales personnel. While they are the single largest company which uses this distribution method, they must rely on the distributor for a number of things and are subject to distributor whims. The totals we received from "A" were shipments from "A"'s pressing plant to the distributor. The distributor is responsible for selling the product to the various retail accounts in the area they cover. Company "A" only has direct control over promotion and merchandising. While distributor reorders are not totally

TABLE 1

Characteristics of Records Used in Study

Record Name	Company	Type of Group[1]	Previous Records[2]	Any Concerts	Aired on Which Stations[3]
BJ	A	R&B/Soul	0	1	All R&B plus WLS
BK	P	R&B/Soul	5	1	ALL R&B
TL	P	Top 40/Progressive	4	2	WXRT,WDAI,WLS
PF	A	Top 40/Progressive	7	1	WXRT,WDAI,WLS
GL	A	Progressive	3	1	WXRT,WSDM,WBBM
JA	A	Progressive	2	3	WXRT,WSDM,WBBM
NL	A	Progressive	5	2	WXRT,WSDM
S	A	Progressive/AOR	2	1	WXRT,WSDM,WDAI
LH	A	Middle of the Road	2	1	WGN,WBBM
TM	A	Jazz	?[4]	1	Jazz Stations
R	P	Heavy Metal	3	2	No Airplay

1. This is an imprecise title for the type of music each group features. Lines are crossed very often. It also takes into account the general audience appealed to.

2. This is the number of albums released previous to the one under discussion. This figure includes albums recorded earlier as part of another group if the artist's visibility was high enough to have an effect on the sales of the current product.

3. This is a listing of the major stations the product was aired on.

4. These group has been performing and recording for years. There is no accurate account of the records released during that period.

indicative of actual consumer purchases, one assumes that warehouse
space is limited and that the distributor will purchase wisely. Since
retail accounts have a hundred percent (100%) return policy which allows
them to return any and all product, distributors do not like to over-
sell either accidently or on purpose.

Company "P" owns its own distributor organization. This means
that the sales statistics provided are sales to retail accounts. In
addition, "P"'s sales figures are more accurate and readily available
(daily, if necessary) than "A"'s because of the self-distribution.
Since we have eliminated one step, the figures from "P" are closer to
true sales.

Measure of Sales

Shipments, then, not sales are what will be compared to advertis-
ing and airplay. While the accuracy of the totals is suspect if one
wants to consider them actual consumer sales, the similarity for a
study of this nature is quite close. In addition, one can assume no
more than two weeks difference between actual sales and shipments. In
sum, it must be assumed that the information is accurate enough for
our purposes.

Measure of Airplay

Airplay was obtained by asking record company representatives
to list how many weeks at which stations with what frequency of air-
ing each record received. Every record company in the country breaks
airplay down into three categories: heavy airplay, medium airplay and
light airplay. Each company has an approximate understanding of what
"heavy" airplay means at a particular station. The same is true for

"medium" and "light". In order to get an approximate weighting for each station's effectiveness as a communications device, we averaged over five periods, their Arbitron (Arb) rating. This rating is the most effective approximation of reach the radio industry has. We then multiplied the average rating by the frequency of airings each category indicated for a particular station. This is shown in Table 2. With these systems we could translate "heavy, medium and light" into actual numerical weightings. While the system does not correct for listenings spread over several stations, it does give us an approximation of the worth of each station's airplay. Unlike shipment data, airplay information was similar for both companies' product.

Advertising information was supplied by each company for respective product. Company "A"'s advertising outlays were given to us for the same territory covered by their shipment data. The territory includes Illinois, Indiana and much of Wisconsin. Company "P"'s data for both advertising and shipment covered only the greater Chicago area. Since advertising is not a constant factor like airplay (is for the most part), we discounted advertising's direct selling capabilities. This randomness does not make enough of an impact of the potential new buyer to induce him to buy, but it does serve as an announcement for the group's previous purchasers.

TABLE 2

AIRPLAY RATING CHART

Station	Type of Format[1]	Average ARB Ratings[2]	Number of Spins[3]			Number of Airplay Units[4]		
			Heavy	Medium	Light	Heavy	Medium	Light
WJKL	Progressive	.6	20	15	10	12	9	6
WXRT	Progressive	1.3	15	10	5	19.5	13	6.5
WDAI	Album Oriented	3.8	25	15	10	95	57	38
WBBM	Soft Album Oriented	2.5	20	17	10	50	37.5	25
WSDM	Album Oriented	1.3	20	15	10	26	19.5	13
WLS	Top 40	8.8	112	42	21	985.6	369.6	484.8
WGCI	Soul/Rhythm and Blues	1.4	28	15	8	39.2	21	11.2
WBMX	Soul/Rhythm and Blues	1.8	28	15	8	50.4	27	14.4
WJPC	Soul/Rhythm and Blues	1.6	21	10	5	33.6	16	8
WVON	Soul/Rhythm and Blues	3.6	28	16	8	100.8	57.6	28.8
WGN	Jazz[5]	12.6	9	6	3	113.4	75.6	37.8
WBEE	Jazz[5]	.7	11	8	4	7.7	5.6	2.8
WGN	(MOR)[5]	12.6	15	10	5	189	126	63
WYEN	MOR	.7	30	15	10	21	10.5	7
WNIB	Mixed	.7	11	8	4	7.7	5.4	2.8

1. The type of format means type of music most often aired on the particular station.

2. Average ARB ratings—Since the ratings of radio stations tend to move—an average was made of five ratings periods from October/November 1975 to October/November 1976.

3. Number of spins is the approximate number of times each album was aired.

4. The number of airplay units is the product of Average ARB Ratings and Number of Spins.

5. WGN has a limited music rotation. Jazz is only played on two shows while middle of the road (MOR) music is aired on three shows. Hence the difference.

Chapter 4

Results

The different methods were employed to examine the telation-
ships between the sales, advertising and airplay variables. Initially
weekly plots over time were made of the shipments, airplay and adver-
tising in order to examine visually whether the three series were re-
lated. A constant was added to both the airplay and advertising var-
iables in order to make the visual analysis clearer. The plots for
each album can be seen in Tables 1-11. We then employed time series
analysis to systematically explore for each record the relationships
between the variables. Finally, using the same method we divided each
record's "active" life cycle in half and examined the data in each
period.

Visual Analysis

As the reader can see, the visual plots for each product do not
show a systematic tendency for the series to move together over time.
A description of the various sales, airplay and advertising plots taken
as a group would not indicate anything more than random pattern.

An analysis of the eleven sales patterns over time demonstrates
the unpredictability of record sales in general. Since the sales data
that has been obtained is really shipments to various distributors and
stores, the only pattern that can be observed is that once inventories
are high, shipments drop off. For most of the records, the sales curve
is a descending one with high initial shipments and low on going reorders.
Occasionally, the record's reorders begin to come in quickly and a sales
peak is reached further into the album's life. An example of this can

TABLE 3   -38-

Group TL

Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                         SCALED BY 10** -1
        0,00  100.00  200,00  300,00  400.00  500,00  600.00  700.00  800,00
       :------:------:------:------:------:------:------:------:
01- 1  :      +      #                        *
  - 2  :*     +      #
  - 3  :*     +       #
  - 4  :      +*     #
  - 5  :  *   +      #
  - 6  :      +      #       *
  - 7  :      X              #
  - 8  :  *   +           #
  - 9  :   *  +                   #
  -10  :  *   +   #
  -11  :      +            *          #
  -12  :      +   #        *
  -13  :      +   #            *
  -14  :      X       #
  -15  :      +  #
  -16  :      +*#
  -17  :  *       + #
  -18  :          X*
  -19  :  *       #     +
  -20  :          #.    +   *
  -21  :*         #     +
  -22  :          #*   +
  -23  :*         #     +
  -24  :  *      +#
  -25  :*        +#
  -26  :  *.   + #
  -27  :*      + #
  -28  :  * +            #
  -29  *    +     #
  -30  :    X    #
  -31  :    *+   #
  -32  *    +    #
  -33  *    +     #
  -34  *    +     #
       :------:------:------:------:------:------:------:------:
        0,00  100.00  200,00  300,00  400.00  500,00  600.00  700.00  800,00
```
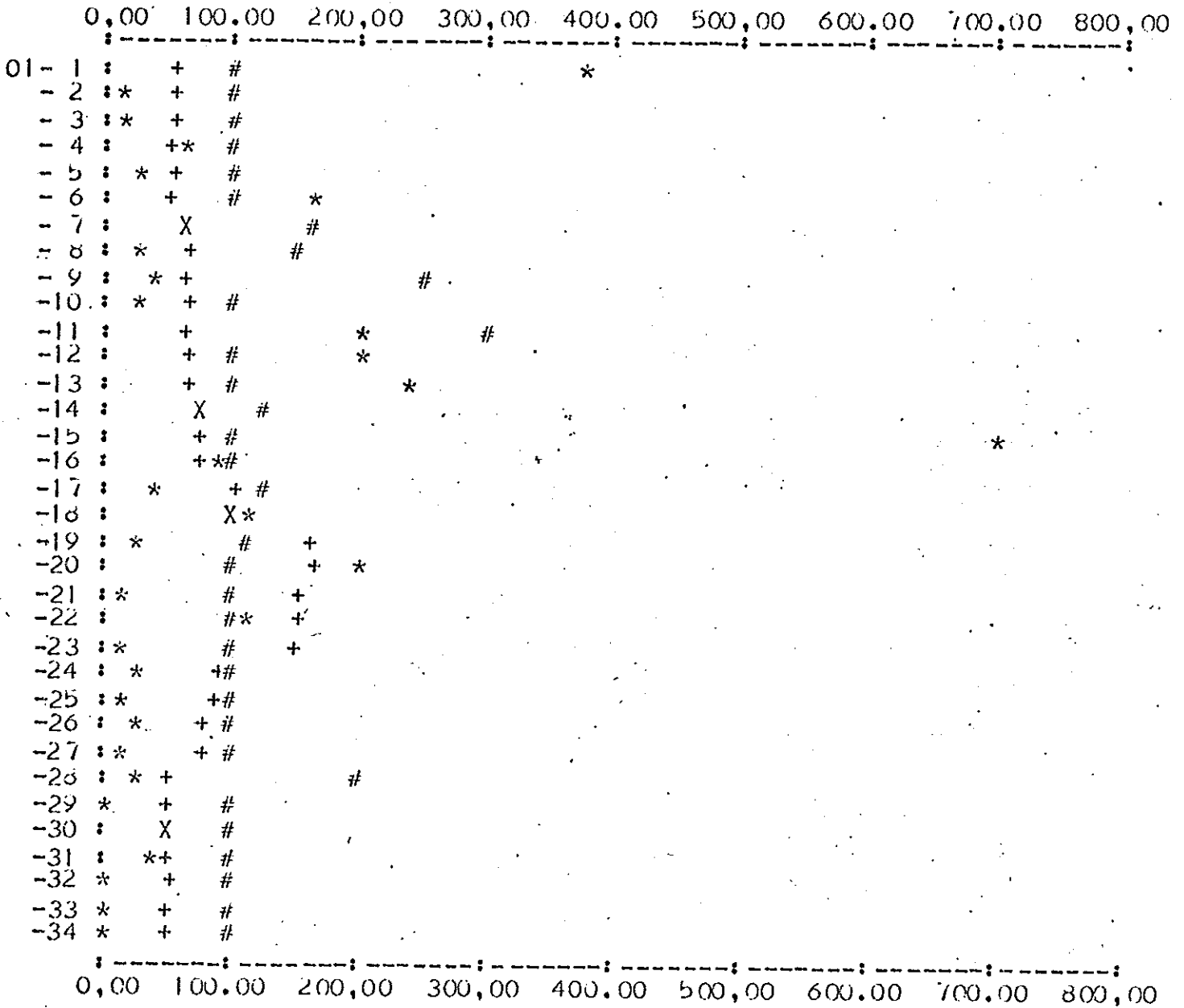
= Sales   + = Airplay   // = Advertising

TABLE 4

Group BJ
Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                        SCALED BY 10** -2
   -15.79      4.21    24.21    44.21    64.21    84.21   104.21   124.21   144.21
        :--------:--------:--------:--------:--------:--------:--------:--------:
01- 1 :       *                    +                   #
  - 2 :         *                  +                   #
  - 3 :        *                   +                   #
  - 4 :          *                 +                   #
  - 5 :       *                    +                       #
  - 6 :             *              +.                                 #
  - 7 :         *                  +                   #
  - 8 :           *                +                   #
  - 9 :             *              +                     #
  -10 :           *                +                   #.
  -11 :          *                 +                   #
  -12 :         *                  +                   #
  -13 :           *                +                     #
  -14 :                            + *                 #
  -15 :         *         .        +                   #.
  -16 :              *             +  *                #
  -17 :             *              +                        #
  -18 :                  *         +                   #
  -19 :                            +      *              #
  -20 :          *                 +                   #
  -21 :               *            +                   #
  -22 :              *             +                   #
  -23 :             *              +                           #
  -24 :         *                  +                   #
  -25 :         *                  +                   #
  -26 :                 *          +                   #
  -27 :              *             +                        #
  -28 :              *             +                   #
  -29 :       *                    +                   #
  -30 :       *                    +                   #
  -31 :        *                   +                   #
  -32 :        *                   +                   #
  -33 :           *                +                    #
  -34 :        *                   +                   #
  -35 :        *                   +                   #
  -36 :       *                    +                   #
  -37 :          *                 +                   #
  -38 :      *                     +                   #
  -39 :       *                    +                   #
  -40 :       *                    +                    #
  -41 :         *                  +                   #
  -42 :      *                     +                   #
  -43 :        *                   +                   #
  -44 :         *                  +                   #
  -45 :         *                  +                   #
  -46 :      *                     +                   #
  -47 :      *                     +                   #
  -48 :      *                     +                   #
  -49 :       *                    +                   #
  -50 :      *                     +                   #
  -51 :      *                     +                   #
  -52 :     *                      +                   #
  -53 :      *                     +                   #
  -54 :     x                      +                   #
  -55 :     *                      +                   #
  -56 :      *                     +                   #
  -57 :    *                       +                   #
  -58 :    *                       +                   #
  -59 :    *                       +                   #
  -60 :        *                   +                   #
        :--------:--------:--------:--------:--------:--------:--------:--------:
   -15.79      4.21    24.21    44.21    64.21    84.21   104.21   124.21   144.21
```
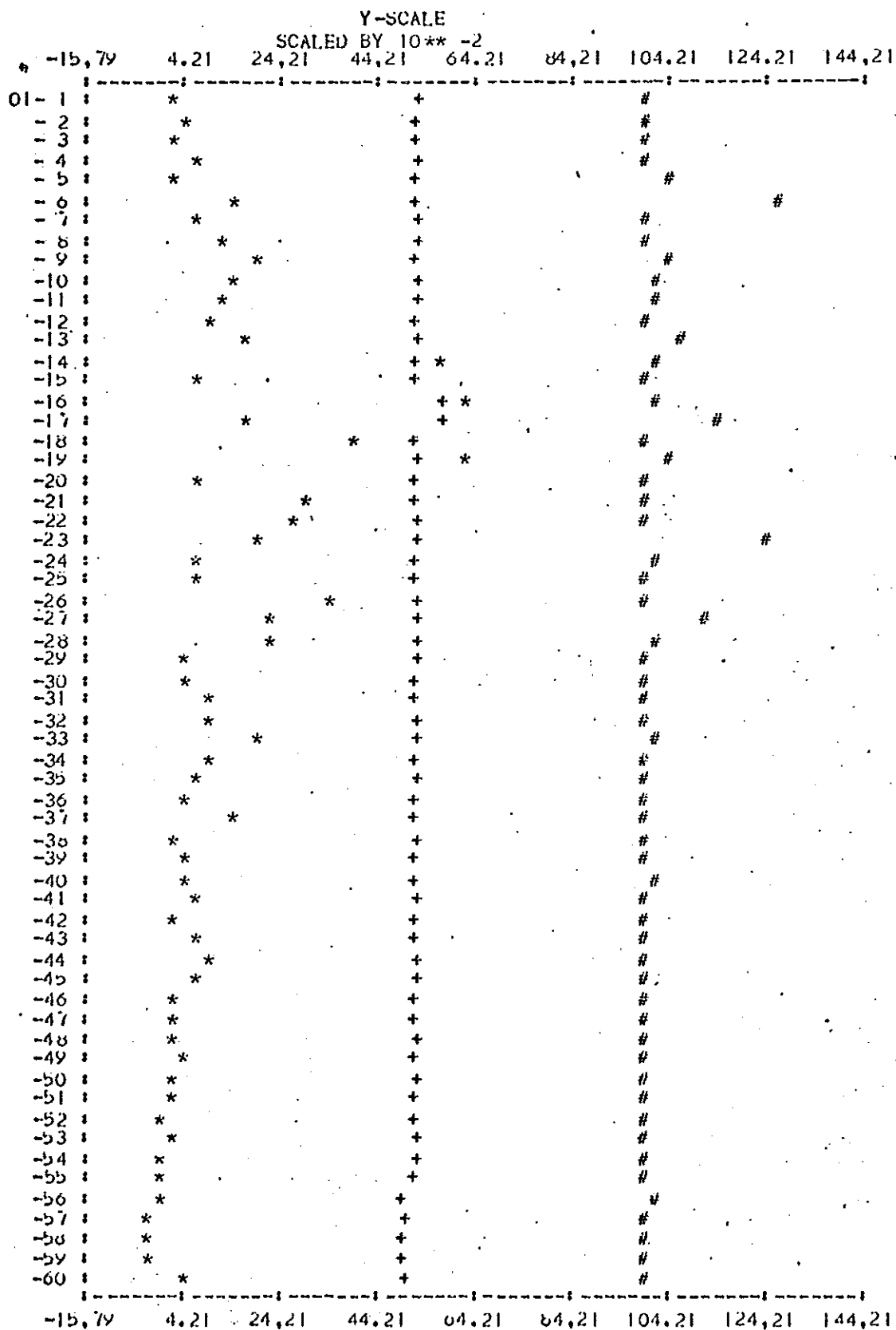
* = Sales   + = Airplay   # = Advertising

TABLE 5

Group PF

Plots by Weekly Period for Sales, Airplay and Advertising

```
                          SCALED BY 10** -2
      -110.00   -35.00    40.00  115.00  190.00   265.00   340.00   415.00   490.00
      !----!---------!--------!-------!-------!----------!--------!--------!----!
01 - 1  !         *      4      #
   - 2  !         *      +      #
   - 3  !          *    4        #
   - 4  !         *     +        #
   - 5  !           *   4          #
   - 6  !          *    4       #
   - 7  !              +  *     #
   - 8  !         *     +        #
   - 9  !         *     +      #
  -10   !              X       #
  -11   !           *   +       #
  -12   !           *   4       #
  -13   !            * +        #
  -14   !           *   4       #
  -15   !             * +       #
  -16   !             * 4       #
  -17   !          *    +       #
  -18   !               4    * #
  -19   !            *  +       #
  -20   !           *   4       #
  -21   !           *   +       #
  -22   !           *   4      #
  -23   !               +        X
  -24   !            *  4       #
  -25   !           *   +       #
  -26   !           *   4       #
  -27   !         *     4        #
  -28   !         *     4        #
  -29   !              X        #
  -30   !           *   4        #
  -31   !           *   +        #
  -32   !           *   4       #
  -33   !         #:    4        #
  -34   !           *   +        #
  -35   !           *   +       #
  -36   !             *+        #
  -37   !               4       X
  -38   !          *    +       #
  -39   !            *  4       #
  -40   !               +       #    *
  -41   !             *+        #
  -42   !             *+        #
  -43   !               4       X
  -44   !           *   +       #
  -45   !           *   4        #
  -46   !               +  *    #
  -47   !               4  *     #
  -48   !             *+        #
  -49   !               4       #   *
  -50   !               +       #           *
  -51   !           *   4        #
  -52   !               +        #     *
  -53   !               +       #              *
  -54   !               4      #         *
  -55   !               + *    #
  -56   !               4*     #
  -57   !            *  +        #
  -58   !            *  4        #
  -59   !           *   +       #
  -60   !         *     4        #
  -61   !             *+        #
  -62   !               4      #     *
  -63   !           *   +       #
  -64   !          *    4       #
  -65   !           *   +       #
  -66   !           *   4       #
  -67   !           *   +       #
  -68   !           *   +       #
  -69   !      *        4       #
  -70   !           *   +       #
  -71   !           *   +       #
  -72   !          *    4       #
  -73   !           *   +       #
  -74   !           *   4       #
      !----!---------!--------!-------!-------!----------!--------!--------!----!
      -110.00   -35.00    40.00  115.00  120.00   265.00   340.00   415.00   490.00
```

* = Sales   + = Airplay   # = Advertising

TABLE 6

Group BK

Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                        SCALED BY  10 ** -2
      0.00      12.50    25.00    37.50    50.00    62.50    75.00    87.50   100.00
       :--------:--------:--------:--------:--------:--------:--------:--------:
01 - 1  *        +                          #
   - 2  *        +                          #
   - 3  *        +                          #
   - 4  *        +                          #
   - 5  *        +                          #
   - 6  *        +                          #
   - 7  *          +                        #
   - 8  *          +                        #
   - 9  *          +                        #
   - 10 :          +                        #                              *
   - 11 :        * +                             #
   - 12 :     *    +                     *   #
   - 13 : .        +               *       #
   - 14 :        * +                        #
   - 15 :          +                         X
   - 16 : *        +                        .#
   - 17 *          +                              #
   - 18 *          +                        #
   - 19 *          +                        #
   - 20 *          +                        #
   - 21 :   *      +                        #
   - 22 : *        +                        #
   - 23 : *        +                        #
   - 24 *          +                        #
   - 25 *          +                        #
   - 26 *          +                        #
   - 27 *          +                        #
   - 28 *          +                        #
   - 29 *          +                        #
   - 30 : *        +                        #
   - 31 *          +                       #
   - 32 *          +                       #
   - 33 *        +                         #
       :--------:--------:--------:--------:--------:--------:--------:--------:
      0.00      12.50    25.00    37.50    50.00    62.50    75.00    87.50   100.00
```

--------:

* = Sales   + = Airplay   # = Advertising

TABLE 7
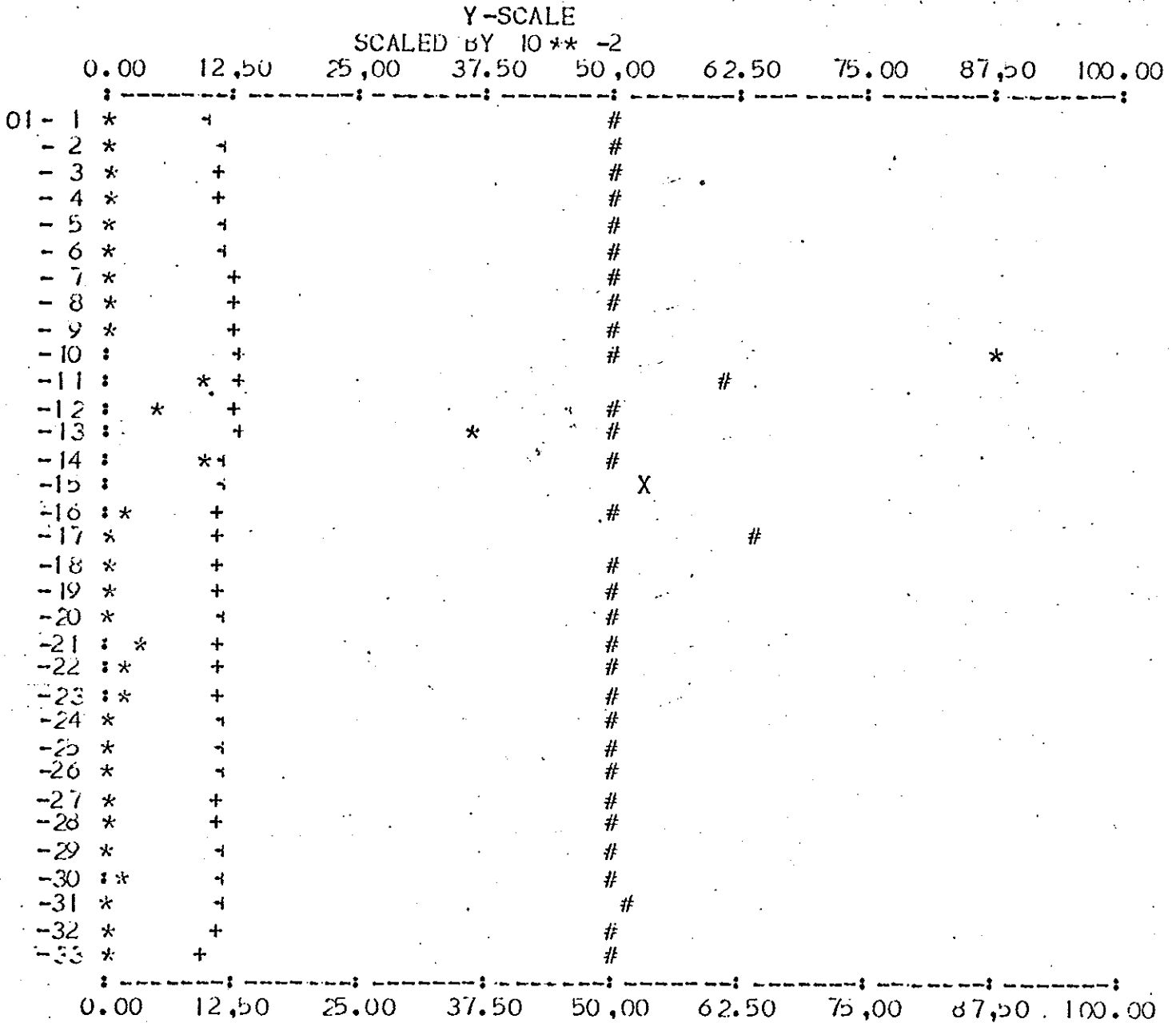
Group JA

Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                        SCALED BY 10 ** -1
       0.00   100,00   200.00   300.00   400,00   500.00   600,00   700,00   800.00
         :-------:--------:--------:--------:--------:--------:--------:--------:
01- 1    :*        +                                       #
  - 2    :*        +                                       #
  - 3    :*          +                                              #
  - 4    *            +                                    #
  - 5    :  *          +                                   #
  - 6    :*           +                                    #
  - 7    :*           +                                    #
  - 8    *            +                                    #
  - 9    *            +                                    #
  -10    :       *     +                                   #
  -11    *             +                                   #
  -12    :*            +                                   #
  -13    :    *        +                                        #
  -14    :    *        +                                   #
  -15    :    *        +                                   #
  -16    :    *         +                                  #
  -17    *              +                                       #
  -18    :   *        +                                  #
  -19    *            +.                                 #
  -20    *            +                                  #
  -21    *            +                                  #
  -22    *            +                                           #
  -23    :     *      +                                     #
  -24    :         *  +                               #
  -25    :    *       +                               #
  -26    :    *       +                                #
  -27    :    *        .+                             #
  -28    *            +                               #
  -29    :*           +                                  #
  -30    :*           +                             #
  -31    *            +                             #
  -32    :   *        +                             #
  -33    *            +                             #
  -34    :   *        +                             #
         :-------:--------:--------:--------:--------:--------:--------:--------:
       0.00   100,00   200,00   300.00   400,00   500.00   600.00   700,00   800.00
```

--------!-----

| * = Sales | + = Airplay | # = Advertising |

TABLE 8

Group GL

Plots by Weekly Period for Sales, Airplay and Advertising

Y-SCALE

```
      -61,00      39.00    139,00    239.00    339.00    439,00    539.00    639,00    739,00
       :---------:---------:---------:---------:---------:---------:---------:---------:
01 - 1 :                              *                                              +
   - 2 :                    *                                                         +
   - 3 :                    *                                                          +
   - 4 :           *                                                                  +
   - 5 :              *                                                                +
   - 6 :             *                                                                +
   - 7 :              *                                                        +
   - 8 :            *                                                   +
   - 9 :          *                                              +
   -10 :          *                                              +
   -11 : *                                        ':            +
   -12 :         *                                              +
   -13 :         *                                              +
   -14 :            *                                           +
   -15 :           *                                            +
   -16 :             *                                          +
   -17 : *                                                      +
   -18 :          *                                             +
   -19 : *                                                      +
   -20 :         *                                              +
   -21 :          *                                             +
   -22 :          *                                             +
   -23 :        *                                               +
   -24 :        *                                               +
   -25 :        *                                            +
   -26 :    *                                                +
   -27 :        *                                            +
       :---------:---------:---------:---------:---------:---------:---------:---------:
      -61,00      39.00    139,00    239.00    339.00    439,00    539.00    639,00    739,00
```

- - - - - - -! - -

* = Sales   + = Airplay   // = Advertising

TABLE 9

Group S

Plots by Weekly Period for Sales, Airplay and Advertising

```
                        SCALED BY 10** -1
   -73,20      1.80    76,80  151,80  226,80  301,80  376,80  451,80  526,80
        :--------:--------:--------:--------:--------:--------:--------:-------:
 1- 1 :.              +        #                                    *
   - 2 :         *    +        #
   - 3 :          *      +     #
   - 4 :         *  .      +    #
   - 5 :           *   +       #
   - 6 :        *       +      #
   - 7 :        *       +      #
   - 8 :            *  +       #
   - 9 :             +*        #
  -10 :           *     +      #
  -11 :          * +           #
  -12 :        *       +              #
  -13 :             *+         #
  -14 :         *   +                 #
  -15 :         *     +        #
  -16 :            *+          #
  -17 :          *   +         #
  -18 :            *+                    #
  -19 :          * +                  #
  -20 :        *      +        #
  -21 :         *   +          #
  -22 :        *      +        #
  -23 :               X        #
  -24 :           *  +         #
  -25 :            *+          #
  -26 :               X        #
  -27 :            *+          #
  -28 :        *       +        #
  -29 :         *      +        #
  -30 :         *      +        #
  -31 :               X        #
  -32 :        *       +        #
  -33 :          *   +          #
  -34 :          *   +          #
  -35 :        *       +       #
  -36 :         *      +       #
  -37 :         *      +       #
  -38 :            *+          #
  -39 :          *  +          #
  -40 :          * +           #
  -41 :     *         +        #
  -42 :               +*       #
  -43 :               +        #*
  -44 :         *    +         #
  -45 :             +*         #
  -46 :         *    +         #
  -47 :         *    +         #
  -48 :        *      +        #
  -49 :          *  +          #
  -50 :        *      +        #
  -51 :               X        #
  -52 :            *+          #
        :--------:--------:--------:--------:--------:--------:--------:-------:
   -73.20     1,80    76.80  151,80  226,80  301,80  376,80  451,80  526,80
```

```
                    --------:----
```

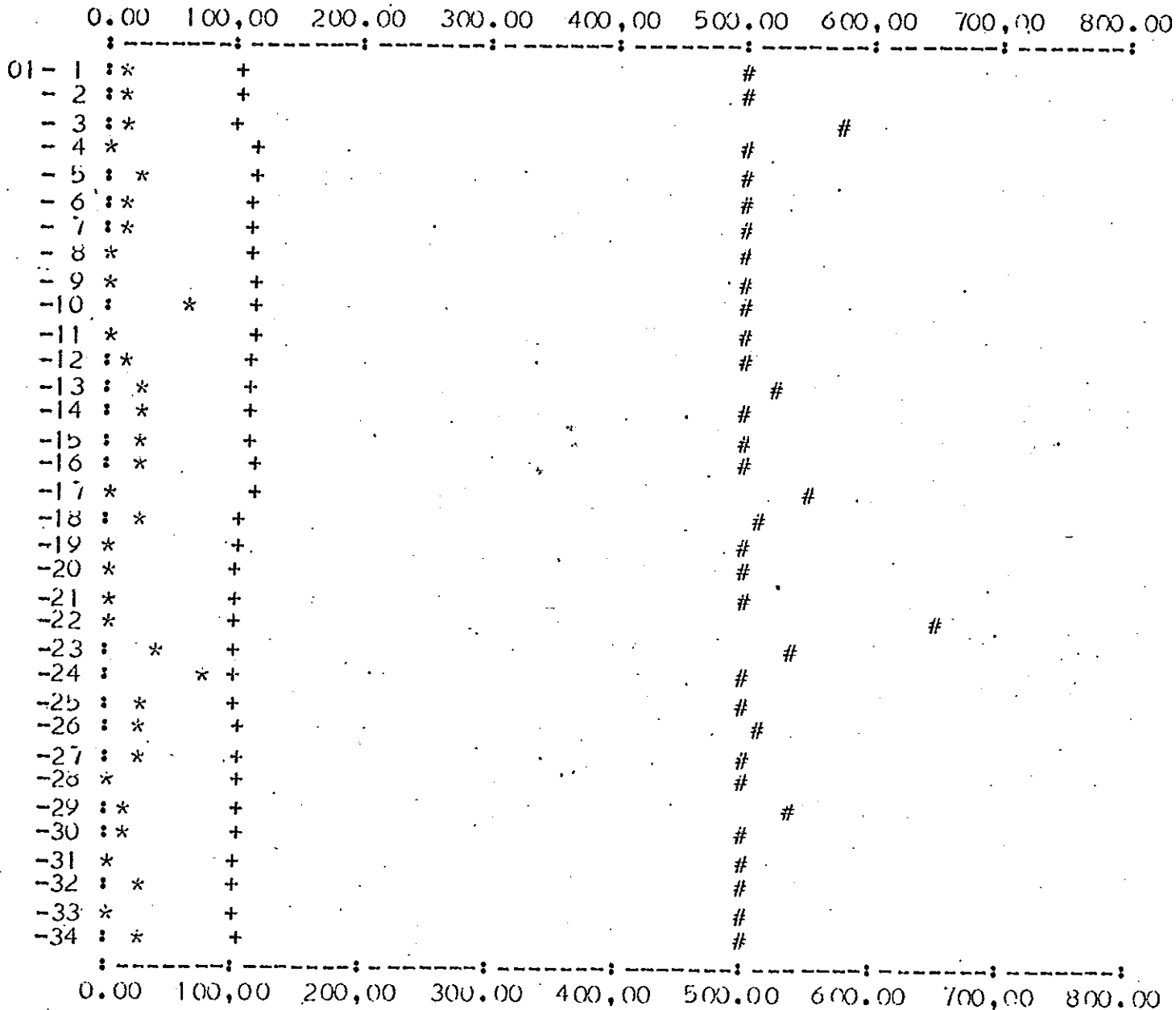* = Sales   + = Airplay   # = Advertising

TABLE 10

Group NL
Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                        SCALED BY 10** -1
     -34,10      5,90    45.90    85,90   125.90   165.90   205,90   245.90   285,90
      :--------:--------:--------:--------:--------:--------:--------:--------:
01- 1 :         *        +                 #
  - 2 :         *        +           #
  - 3 :                  +                                      #                *
  - 4 :                  +         * #
  - 5 :                  *+           #
  - 6 :            *     +          #
  - 7 :            *     +            #
  - 8 :               *+                                   #
  - 9 :              *  +                               #
  -10 :        *        +           #
  -11 :          *      +             #
  -12 :         *       +             #
  -13 :        *        +          #
  -14 :          *      +          #
  -15 :           *     +                               #
  -16 :       *         +           #
  -17 :       *         +           #
  -18 :       *         +           #
  -19 :       *         +           #
  -20 :      *          +           #
  -21 :        *        +           #
  -22 :         *       +           #
  -23 :     *           +           #
  -24 :      *          +           #
  -25 :     *           +                   #
  -26 :     *           +           #
  -27 :     *           +           #
  -28 :       *         +           #
  -29 :      *          +           #
  -30 :     *           +           #
  -31 :      *          +           #
  -32 :      *          +           #
  -33 :     *           +           #
  -34 :      *          +           #
  -35 :      *          +           #
  -36 :      *          +           #
      :--------:--------:--------:--------:--------:--------:--------:--------:
     -34.10      5,90    45.90    85.90   125,90   165.90   205,90   245,90   285.90
```
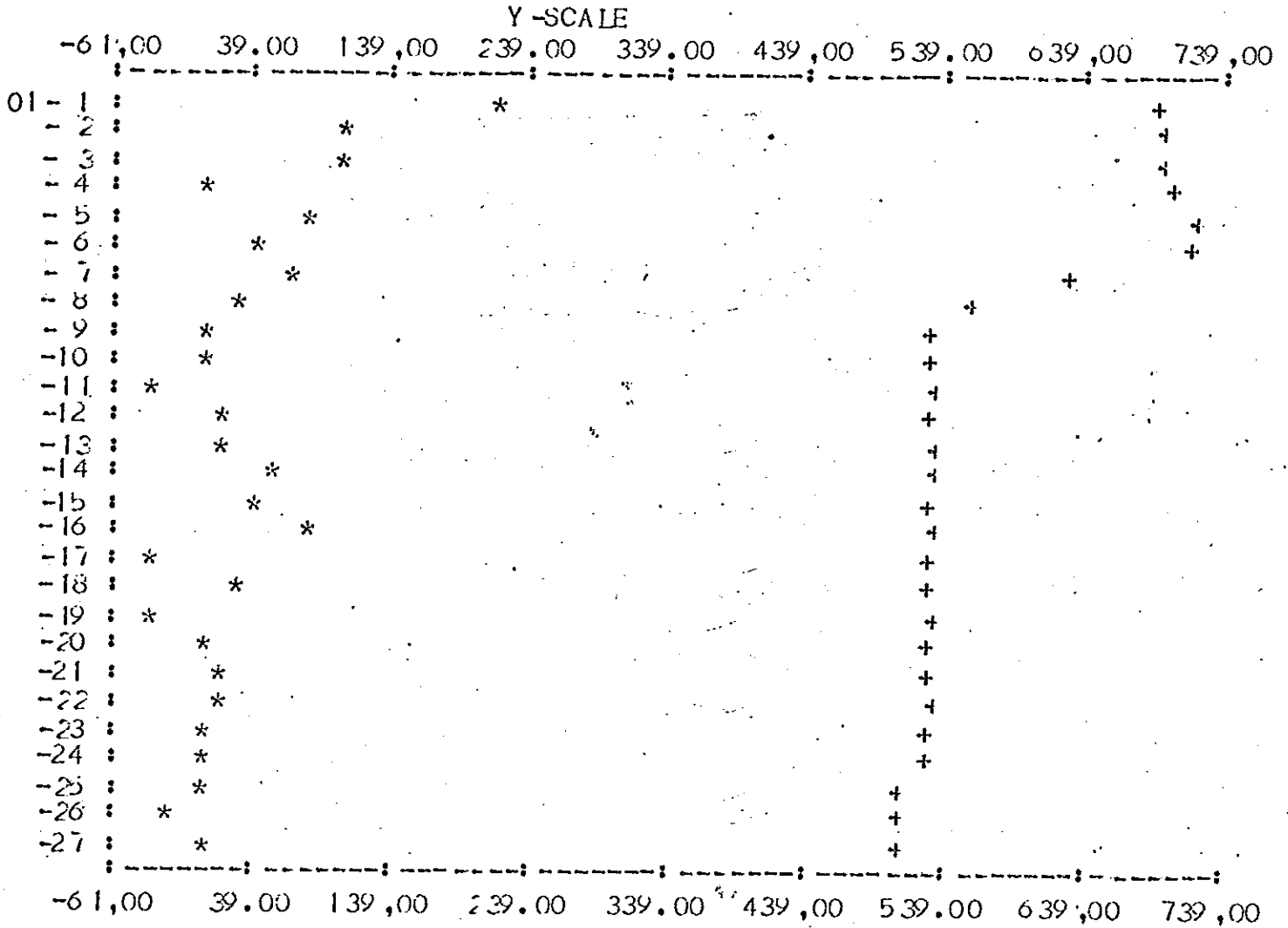
--------:---

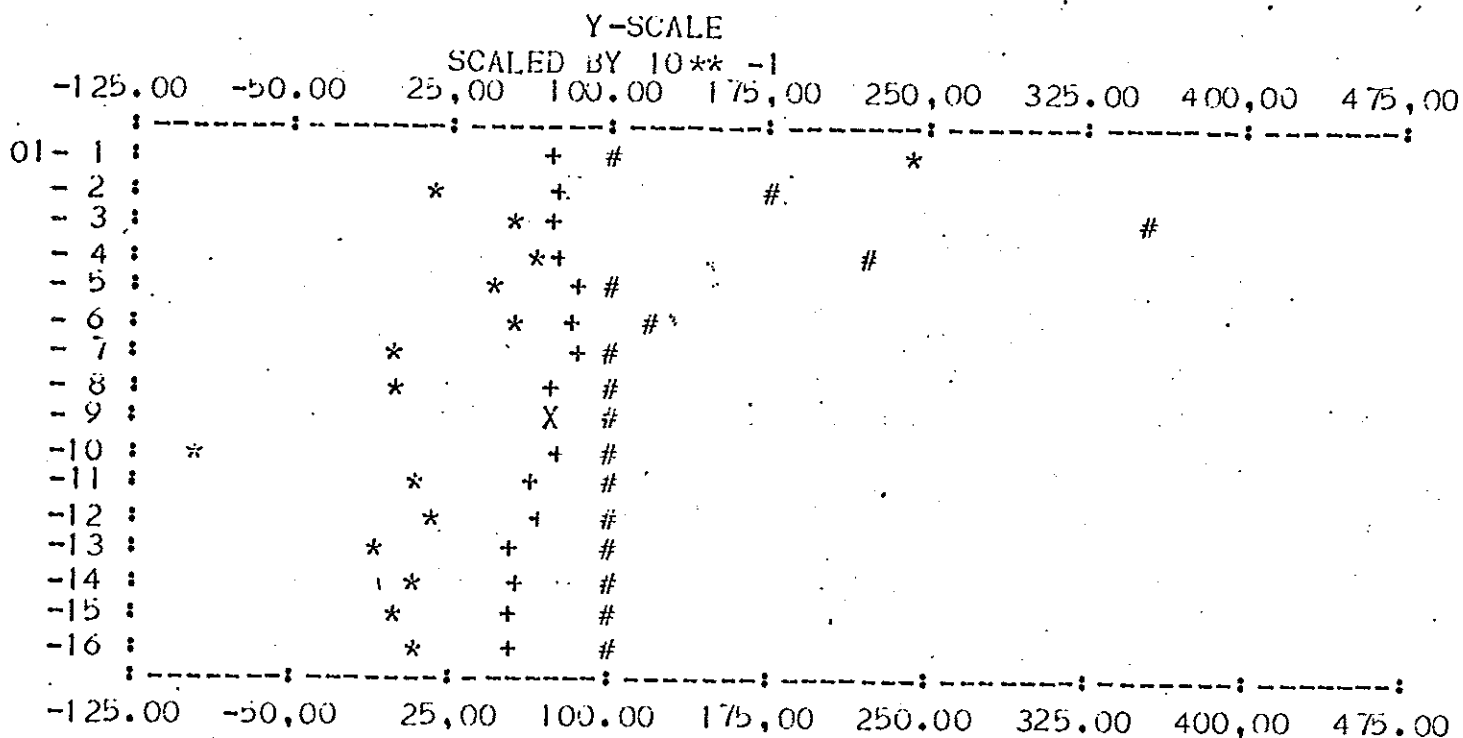   * = Sales   + = Airplay   # = Advertising

TABLE 11

Group LH

Plots by Weekly Period for Sales, Airplay and Advertising
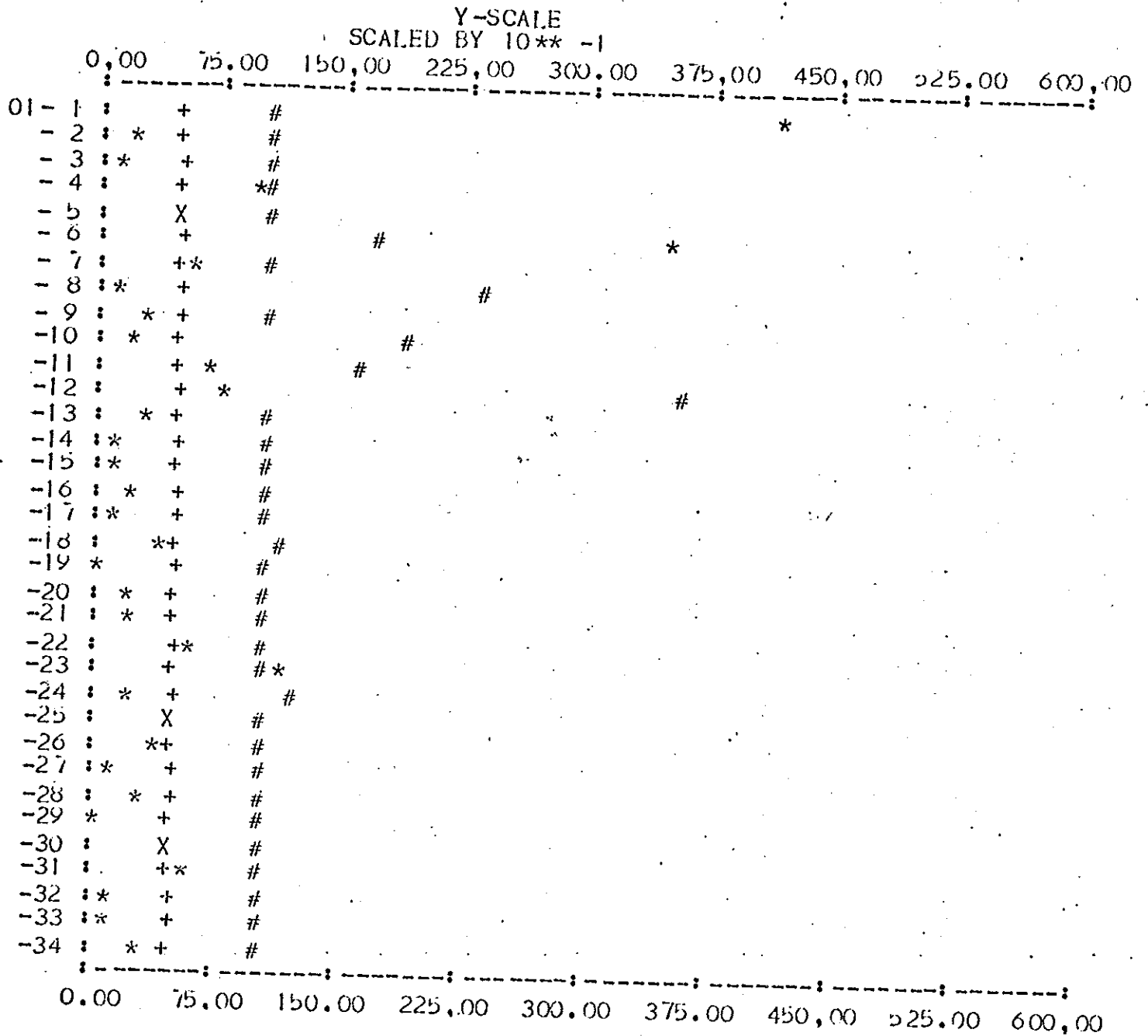
```
                          Y-SCALE
                    SCALED BY 10** -1
   -125.00    -50.00    25.00   100.00   175.00   250.00   325.00   400.00   475.00
       :-------:-------:-------:-------:-------:-------:-------:-------:
01- 1  :                       +    #              *
  - 2  :              *       +.              #.
  - 3  :                    * +                              #
  - 4  :                   *+          ·         #
  - 5  :                 *      + #
  - 6  :                 *    +      # ·
  - 7  :          *          + #
  - 8  :          *            +    #
  - 9  :                       X    #
  -10  :    *                +    #
  -11  :           *        +    #
  -12  :          *        -|    #
  -13  :       *         +      #
  -14  :     \ *         +  ··  #
  -15  :         *       +      #
  -16  :             *   +      #
       :-------:-------:-------:-------:-------:-------:-------:-------:
   -125.00    -50.00    25.00   100.00   175.00   250.00   325.00   400.00   475.00
```

* = Sales   + = Airplay   # = Advertising

TABLE 12

Group R
Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                         SCALED BY 10** -1
      0.00      75.00   150.00   225.00   300.00   375.00   450.00   525.00   600.00
      :-------:-------:-------:-------:-------:-------:-------:-------:
01- 1 :       +       #                                     *
  - 2 :   *   +       #                                 *
  - 3 : *     +       #
  - 4 :       +      *#
  - 5 :       X       #
  - 6 :       +                    #              *
  - 7 :       +*      #
  - 8 :*      +
  - 9 :    *  +       #
 -10 :   *   +            #
 -11 :       +   *            #
 -12 :       +     *
 -13 :     * +       #                    #
 -14 :*      +       #
 -15 :*      +       #
 -16 :  *    +       #
 -17 :*      +       #
 -18 :      *+        #
 -19 *       +       #
 -20 :   *   +       #
 -21 :   *   +       #
 -22 :       +*      #
 -23 :       +       # *
 -24 :   *   +         #
 -25 :       X       #
 -26 :     *+        #
 -27 :*      +       #
 -28 :   *   +       #
 -29 *       +       #
 -30 :       X       #
 -31 :.     +*      #
 -32 :*      +      #
 -33 :*      +      #
 -34 :    * +      #
      :-------:-------:-------:-------:-------:-------:-------:-------:
      0.00    75.00   150.00   225.00   300.00   375.00   450.00   525.00  600.00
```

* = Sales   + = Airplay   # = Advertising

TABLE 13

Group TM

Plots by Weekly Period for Sales, Airplay and Advertising

```
                              Y-SCALE
                         SCALED bY 10 ** -1
    -17.80      2.20    22.20    42.20    62.20    82.20   102.20   122.20   142.20
         :-------:-------:-------:-------:-------:-------:-------:-------:
01 - 1   :                             +              *       #
   - 2   :      ·   *                  +                      #
   - 3   :              *               +                     #
   - 4   :          *                      +                       #
   - 5   :                     *           +                #
   - 6   :            *                   +                              #
   - 7   :          *                    +                         #
   - 8   :           *                   +                   #
   - 9   :          *                   +                    ·#
   -10   :          *                   +                    #
   -11   :           *                  +                    #
   -12   :       *                      +,                   #
   -13   :          *                   +                          #
   -14   :           *                  +                    #
   -15   :          *                   +                    #
   -16   :         *                    +                    #
   -17   :            *                 +                    #
   -18   :       *                      +                    #
   -19   :          *                   +                    #
         :-------:-------:-------:-------:-------:-------:-------:-------:
    -17.80      2.20    22.20    42.20    62.20    82.20   102.20   122.20   142.20
```

* = Sales   + = Airplay   # = Advertising

be seen in the chart "PF" where its peak sales came a year after it was released. This traditional bell curve almost never occurs in the record industry.

The airplay patterns for the eleven records are similar to those of sales. As it was with sales, the curve for airplay is a descending one. Initial airplay for most records, except for those whose quality is lacking, is high and tapers off to negligible levels by the middle of their "active" life. The exceptions to this can be seen in tables PF and TL, where the airplay peaks are later in the record's life.

Finally, the pattern for advertising seems to match those of the previous two variables. Advertising outlays are greatest in the early life of the record. The function of advertising is to "announce" to the public that a new record has been released. Advertising is also used as a wedge to obtain more airplay on a specific record. It stands to reason that advertising in the later period would not be as effective as advertising in the earlier crucial periods.

Despite these oveall trends, either airplay, advertising, or sales seems to follow one another on a weekly basis.

Time Series Analysis

With the failure of the visual examination to uncover any inter-relationships between variables, it bacame necessary to use series analysis to discover any relationships between sales, airplay and advertising. Time series analysis is used to discover the correlations (if any) between two series at different times. Since it has been established that an increase in sales, for example, cannot immediately affect those stations whose programming depends on sales due to time lag in-

volved in station research, an analysis of the effect of current sales on future airplay might be valuable.

Time series analysis is helpful in dealing with the aforementioned difference between shipments of product to distributors and stores and actual consumer sales. One can assume a one to two week "lag" between shipments and actual sales if one assumes that store and distributor reorders are indicative of sales. Obviously, one does not reorder product if one doesn't need it.

For several reasons, therefore, time series analysis can be helpful in determining relationships between variables. If the reader examines the table labelled "Time Series Analysis", he will see that that the number of "lags" used is small and that the differences in sales airplay and advertising were used. Two week lags, past and future, were chosen as the optimal period for two reasons. First, statistically it makes sense. As the number of lagged time periods increases, the accuracy of results is decreased because of the loss of degrees of freedom. Secondly, two lags will cover both examples discussed above. Both airplay and actual consumer sales should have occurred two periods after shipments are made. Thus, the use of two lags makes sense if taken together with what we know about the behavior of radio research and wholesale and retail reorders.

First differences of sales and airplay were used rather than in order to reduce the standard error of any calculation performed.[5]

Before the results of the cross-correlation are discussed, it

---

[5]Box & Jenkins, Time Series Analysis (Holden-Day, 1976) p.376-7 If the reader would like to read further on Time Series analysis, these pages explain the statistical basis behind the use of cross-correlations and differences in the examination of time series data.

is important to note that a correlation does not necessarily mean causation. That is to say, if, for example, it appears that present sales will correlate with future airplay, one cannot assume that those sales have caused that airplay, merely that there is a relationship between the two. There are a number of other factors which must be taken into consideration before one can assume that airplay causes sales or that sales will cause airplay.

Briefly, the cross-correlation table (Table 12) can be explained as follows. The correlations at "o" measures the relationship between the two variables during the same time period. The positive or negative numbers are the past or future lags. For example, the correlation coefficient listed under +2 is a measure of the relationship between current sales and two weeks future advertising or airplay. The coefficient for -1 measures the relationship between current airplay or advertising and future sales. The cross-correlation table also indicates the strength and direction of the relationship between the two series. This is indicated by the positive and negative signs which preceed each correlation coefficient. A correlation of +.50 between airplay and sales indicates that the two are positively related, as one increases in value the other increases as well. A negative sign means an inverse relationship.

When the cross-correlation table was examined, no consistent relationships were found. In examining the chart, the first thing that should be done is to ignore all values between -.25 and +.25 since they are not significantly different from zero. There are few values over .25 and those that do appear consistently-- i.e., at a particular lag. I would appear that the data does not support the theory

TABLE 14

Cross-Correlation Between Sales and Airplay[1]

ARTIST NAME	Number of Lags[2]:	-2	-1	0	1	2
PF		-.128[3]	-.062	-.071	-.108	-.142
NL		-.338	+.390	+.119	-.171	+.307
BJ		+.378	-.316	+.168	-.035	-.063
BK		+.067	+.023	-.070	+.041	-.064
LH		+.312	-.170	-.032	-.315	+.060
GL		+.020	-.179	+.515	+.017	-.074
S		+.006	-.013	+.012	-.689	-.017
R		-.105	-.310	+.364	-.072	+.142
TL		-.291	+.275	-.106	+.012	+.019
JA		-.100	+.084	+.060	-.151	+.202
TM		-.167	+.270	-.019	-.011	-.795

1. The values used here are the first differences of sales and airplay units.

2. The number of lags is two. This is done for both the past(-2,-1) and the future (1,2) correlations

3. The actual cross-correlation coefficient is given as a decimal with the positive or negative sign indicating the relationship; either direct or inverse.

TABLE 15

Cross-Correlation Between Sales and Advertising[1]

ARTIST NAMES	Number of Lags[2]:	-2	-1	0	1	0
PF		+.304[3]	-.183	-.066	+.080	+.018
NL		-.030	-.262	+.609	-.334	-.018
BJ		-.043	-.068	+.011	+.172	-.162
BK		+.167	-.154	-.124	+.212	+.180
LH		.000	+.045	-.080	-.581	+.271
GL		There was no advertising. Operation not Performed				
S		-.003	-.009	-.022	+.087	-.115
R		-.058	-.047	+.163	-.180	+.281
TL		+.089	+.015	+.004	-.098	+.064
JA		+.380	+.035	-.157	-.054	+.003
TM		+.010	+.053	-.196	+.286	-.228

1. The values used here are the first differences of sales and advertising units.

2. The number of lags is two. This is done for both the past(-2,-1) and the future (1,2) correlations.

3. The actual cross-correlation coefficient is given as a decimal with the positive or negative sign indicating the relationship; either direct or inverse.

that large sales will follow heavy airplay when examined over all the data.

There is a possibility that if the data were split into segments that a stronger correlation might be found. Since the airplay and sales for most albums seems to be strongest in the first few weeks after release, one might expect to find a higher correlation over the first half of the period rather than the second. Table 13 and 14 show the coefficients for each album over each half of the active cycle. Similar to Table 12, there is no pattern either for the first half or the second half of the cycle. The values are random and what correlations are significant are often negative indicating an inverse relationship.

In conclusion, the examination of the data visually and statistically demonstrated no systematic relationship between changes in weekly sales, airplay and advertising.

TABLE 16

Cross-Correlation Between Sales and Airplay for the First Half of the Time Period[1]

ARTIST NAME	Number of Lags[2]:	-2	-1	0	1	2
PF (1-25)[3]		-.280[4]	+.460	+.147	-.205	-.017
NL (1-18)		-.340	+.393	+.119	-.175	+.310
BJ (1-30)		+.417	-.368	+.182	-.026	-.079
BK (1-17)		+.077	+.027	-.082	+.019	-.085
LH (1-8)		+.047	+.155	+.020	-.229	-.222
GL (1-14)		+.035	-.209	+.593	+.022	-.086
S (1-26)		+.006	-.140	+.008	-.750	-.038
R (1-17)		-.091	-.510	+.578	-.041	+.211
TL (1-17)		-.526	+.507	-.135	-.346	+.404
JA (1-17)		+.014	+.080	+.242	-.366	+.146
TM (1-10)		-.172	+.280	-.018	-.014	-.832

1. The values used here are the first differences of sales and airplay units.

2. The number of lags is two. This is done for both the past(-2,-1) and the future (1,2) correlations.

3. This represents the period of weeks over which the cross-correlation was run. For "PF" the period was divided into thirds because of the sample size.

4. The actual cross-correlation coefficient is given as a decimal with the positive or negative sign indicating the relationship; either direct or inverse.

.TABLE 17

Cross-Correlation Between Sales and Airplay for the Second Half of the Time Period[1]

ARTIST NAME	Number of Lags[2]:	-2	-1	0	1	2
PF (26-50)[3]		+.028[4]	+.047	-.008	-.017	-.083
NL (19-36)		Airplay was a Constant. Operation not Performed				
BJ (31-60)		+.029	+.167	+.059	-.156	+.076
BK (18-34)		+.188	-.061	-.336	+.008	+.243
LH (9-16)		+.085	-.102	+.014	-.363	+.583
GL (15-28)		-.167	-.093	+.002	-.010	+.050
S (27-52)		Airplay was a Constant. Operation not Performed				
R (18-34)		-.260	-.160	+.320	-.183	+.214
TL (18-34)		-.465	+.398	-.207	+.393	-.272
JA (18-34)		-.147	+.139	-.085	-.110	+.204
TM (11-19)		Airplay was a Constant. Operation not Performed				

1. The values used here are the first diffences of sales and airplay units.

2. The number of lags is two. This is done for both the past(-2,-1) and the future (1,2) correlations.

3. This represents the period of weeks over which the cross-correlation was run. For "PF" the period was divided into thirds because of the sample size.

4. The actual cross-correlation coefficient is given as a decimal with the positive or negative sign indicating the relationship; either direct or inverse.

Chapter 5

Conclusions and Recommendations

Before a discussion of the results of the data collection and
analysis can begin, some brief comments about the data should be made.

Comments on the Data

A major characteristic of the data has been alluded to earlier.
The time span which the data covers is only part of the total life of
the record. A longer period would have undoubtedly produced a stron-
ger statistical association between the time series given, the fact
that all three time series are higher in the early weeks than they are
in the later weeks. However, from a managerial perspective, the results
in the early period are clearly the more important.

A concern with the data is the inability to include other fac-
tors that could have impacted on record sales. For example, neither
an accurate measure of concert appearances nor a measure of the impact
of previous releases was developed. The lack of these measures is
very apparent when the sales group "R" are considered. "R"'s release
sold 20,000+ units in Chicago with no airplay. They made two appear-
ances in Chicago in support of this particular record, but, more impor-
tantly, had supported their precious three releases with at least eight
other appearances in two years.

In addition to those artists who have had success without air-
play, there is the problem of weighing the initial effect of the ar-
tist's previous track record, both with the consumer and the media.
First, the artist's previous releases will usually mandate automatic
sales upon release. Perhaps the major use of advertising in the record

industry is to announce to these old fans that new product by an artist has been released. In some cases, these early album buyers are the only album buyers. The media involvement with an artist's new release often stems from their perception of the artist's precious albums. This initial involvement can make the difference in the continual success of a particular artist. In an industry which considers albums two months old as "dead" product, an early media campaign on an artist can make a significant difference in prolonging an album's active period.

Other limitations with the data should be mentioned. Airplay statistics were obtained via the memory of various personnel from the two record companies involved. Obviously, then there might be problems of accuracy with this data. Another problem concerns the specific albums selected for the study. Many did very poorly both in the sales and airplay. Once again, for statistical reasons, a study of eleven successful albums might have provided more support for the hypothesis. Instead, a number of records could not be tested effectively due to these early airplay and sales drops.

Conclusions

While there were several problems with the data which could have affected the findings, the results are clear and consistent accross the eleven albums. Neither changes in weekly airplay nor advertising affect weekly changes in sales in the early life of albums. The same is true of the reverse; record sales will not affect a change in airplay.

When the results of this study are compared to the assumptions upon which the music industry gages its operations, a problem arises.

Simply stated, the results of this study run contrary to the popular
wisdom which motivates the entire industry. The industry has built
extensive organizations based on the conclusion that airplay _does_ af-
fect sales. In fact most record company personnel say that airplay is
the _major_ factor involved.

Do these results suggest that other aspects of the industry's pop-
ular wisdom are in doubt? For example, live concert appearances are
assumed to generate sales. Would an empirical study demonstrate this
to be the case?

Another industry tenet that could not be measured in the study is
the word-of-mouth factor involved in the sale of records. Many albums
are thought to be sold through word-of-mouth because initial airplay on
new releases by veteran artists is not necessarily automatic. Many ar-
tists retain a following who will purchase albums by their favorite per-
formers without waiting to hear the album on the radio. One of the ways
fans do hear new albums is through in-store airplay. Stores have dis-
continued using the radio and have begun to program _their_ favorite music
in the store. Another method used to make fans aware is in-store mer-
chandising. Both word-of-mouth and in-store airplay/merchandising cir-
cumvent the effect that airplay and advertising, the two variables cho-
sen to be tested in this paper, have on sales. To what extent do these
factors impact album sales?

Other accepted industry beliefs deal with the way certain types of
music sell. While this study did attempt to seperate the records used
into different musical categories, it could not delve into "gut" theo-
ries that motivate an industry. For example, it would be difficult in

a paper of this nature, to include, as a variable, the fact that Rhythm and Blues records sell strongly through discotheques and by word-of mouth. Would a study breaking down the sample into categories of re-cord types succeed in finding a relationship between airplay, adver-tising and sales?

Recommendations

Additional research on the subject of the causes of record sales should be carried out. Since the results arrived at in this study run contrary to accepted industry practices, further examination of all of the poential factors involved in record sales is necessary.

This examination would have to begin on the day the album is re-leased and continued week by week through the album's complete sales history whether it stops selling or establishes a predictable weekly pattern. The examination would have to include a more accurate account of the weekly airplay each record abtained.

In addition to a complete sales and airplay history, a system of weighing other variables such as concert appearance, word-of-mouth, in-store airplay and the previous track record of the artist must be included in the examination of cause and effect.

In conclusion, several recommendations to the industry can be made based on the results of the study. While the data analyzed has not shown any systematic relationship between sales and airplay or sales and advertising, it has documented that airplay and sales do exist to-gether.

However, this relationship may not be as strong as many repre-sentatives of the industry believe. It is apparent that there are mul-

tiple determinants of record sales. These determinants include concert appearance, in-store airplay and merchandising, and other media-directed efforts. Based on group "R"'s sales success with limited airplay, the industry would do well to direct their efforts in directions other than radio promotion in order to generate maximun sales. Dependence on one factor, such as airplay, limits the possible sales universe for many record companies. Since the boundaries of what is programmable on radio are shrinking yearly, an increasing number of artists will be forced to find other venues to promote their product.

Groups must be promoted through live appearances, albums must be aired in stores and extensive advertising must be employed to announce the release of popular new artists. As radio formats become increasingly limited to those artist whose popularity spans many audiences, it is necessary that those artists, who cannot obtain airplay in large amounts, be worked with in as many different ways as possible.

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