

# BRINGING RADIO TO THE PUBLIC —1957 STYLE

THE PROBLEMS POSED BY THE  
REQUIREMENTS OF TODAY'S  
SUCCESSFUL FORMAT  
BRINGS MANY CHALLENGES  
TO THE STATION ENGINEER

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FIG. 1. Equipment once used for remote disc-jockey type pick ups. This included heavy, studio-type 70-D turntable, remote amplifier and other necessary equipment. It was a bulky lot, very inconvenient to move from place to place.

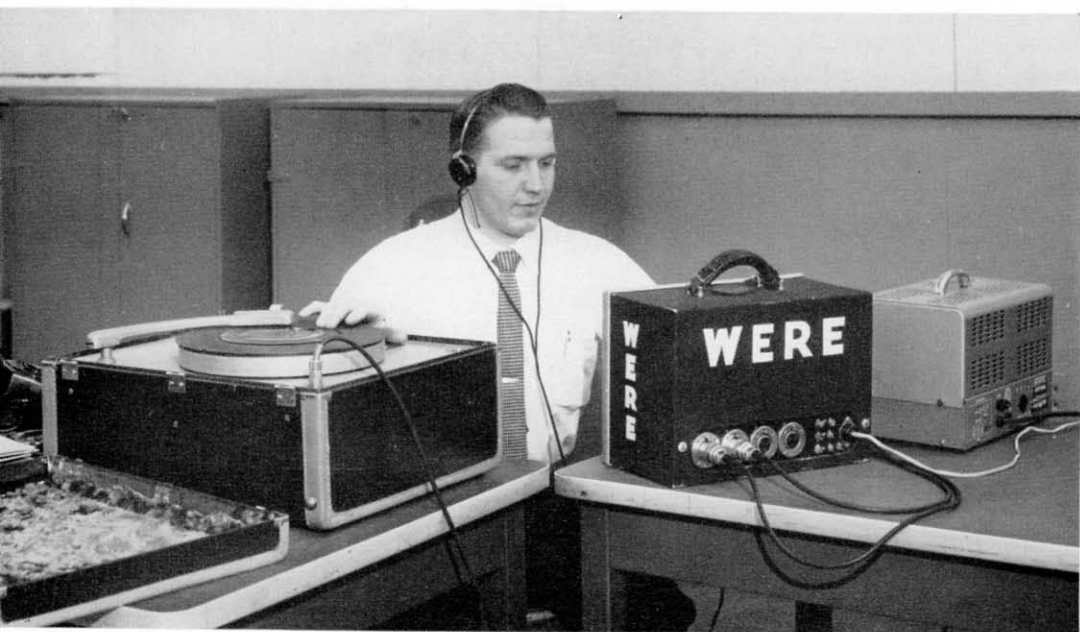


FIG. 2. The use of a portable turntable made the job of doing a remote d-j show somewhat more convenient.

While certainly not a new subject to radio broadcasters, bringing radio to the public in 1957 Style *is different*. Just a few short years ago we were concerned with the old, but not to be forgotten dance-band remote, or the Saturday morning Amateur Hour from the auditorium of the local department store. Today, it is not this but the disc jockey who now occupies five or more hours of air time daily. Those of us who are engineers are faced not only with technical problems of equipment but, more importantly, with the problems of how to adapt our tools to meet the challenges of a successful program format.

At WERE our programming structure is the block-programming style of a disc jockey around the clock. While many are not yet responsible for stations which use this style of programming, I will endeavor to demonstrate some of the types of equipment we use at WERE for disc-jockey remotes, lasting from a minimum of five hours to all-day operation. Perhaps we use something which might be of value to those who are interested in programs of this type from the field.

While all our engineering planning for this type of remote is based on the use of technical personnel assisting the disc jockey, our system might also be adapted to the "combo" type of operation.

## Rise of Remotes

Our original attempt at the disc-jockey remote came about in 1950 with the arrival, on the Cleveland scene, of our sister medium—Television. In my mind, I compare our first attempts at this type of remote back to the old days of the carbon microphone with its companion, the storage battery. We, like many others, went into the business of selling television sets with a real vengeance in 1950. A leading Cleveland dealer, with stores on both the east and west side of Cleveland, purchased sufficient amount of time to take our first five-hour, disc-jockey remote to the field and, I might add also, five days a week.



FIG. 3. Single-package remote unit designed by WERE Engineering Staff. It weighs only 70 lb., including two turntables, amplifiers, PA system and audio-console. Note handles for carrying. This is easily moved from one location to another.

This meant taking a 70D turntable, a remote amplifier, a PA system, speakers and other necessary items (see Fig. 1). In the few moments it takes to mention these items, it does not seem like a lot, but for those of us who have ever lifted a 70D turntable, know well what I mean, when I say those days remind one of the carbon-microphone and storage-battery era.

After a five-day period at one store all equipment had to be packed and taken across town. To those familiar with Cleveland, you know this was no simple task. A good half day's time was consumed in moving from east to west and vice versa. I might add at this point, all this effort was rewarded with success for both the sponsor and WERE.

We continued with the back-breaking struggle for a few years with the studio-type turntable. The popularity of this type of remote kept increasing until the need for more portable-type turntables was almost a necessity. This type of remote was more and more in demand from restaurants and night clubs as an entertainment feature to supplant live entertainment.



FIG. 4. Mobile studio-on-wheels proves to be the ultimate for doing traveling disc-jockey shows. This WERE unit is equipped to operate independently of outside facilities. The turret on top is used by the announcer at outdoor public events. It is raised and lowered by hydraulic operation, off the engine.



FIG. 4A. WERE mobile unit in use at the 1956 presidential political campaign meetings. Note that turret is in "recessed" position.

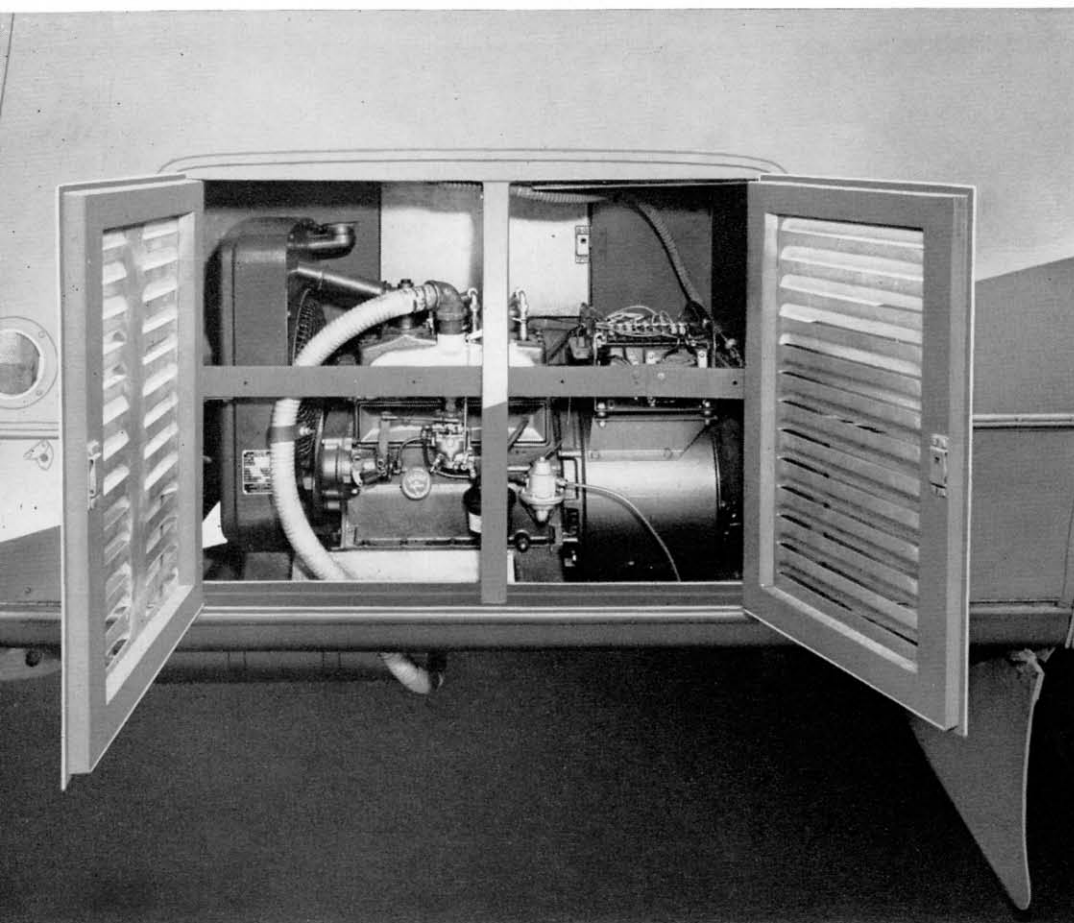


FIG. 5. A 5,000-watt generator is built into the mobile unit. It is used to supply power for equipment as well as for lighting the unit, inside and outside. (Included in lighting is a theatre marquee-type sign on each side and a revolving beacon in the turret).

The increasing popularity of better home-record-playing systems was a real blessing in disguise to us. Fairly decent turntables were available on the market. It did not take us long to locate something that would replace the extremely heavy, studio-type turntable. We still had the remote amplifier, plus an external PA system. (We found that the PA system was almost as important a requirement as was the remote amplifier.) I might add at this point, we were able to reduce overhead in doing this type of remote by utilizing WERE-FM to great advantage.

At WERE, we never take any spot commercials to the field. All spots are played during these remotes from either a studio control room or master control, depending upon the time of day. Good FM tuners became available on the open market. Instead of purchasing a cue circuit from the telephone company, we utilize our FM signal as a PA feed for the audience watching our broadcasts. This gives the audience a complete feed of whatever is on our air. There is no reason why an AM signal cannot be used to just as good advantage. We happen to duplicate all programming on FM and there have been times when we have done these remotes from outlying areas where our AM signal is subject to nighttime sky wave interference. Hence, the use of FM.

#### Lightweight Remote Unit

Since WERE is a very alert station when it comes to promotion, we found that the disc-jockey remote was one of the best promotional items we had. Not only were these remotes good for WERE, but these remotes were good for our advertisers. More and more of our disc jockeys were in demand to do their programs from the field. While we now had a lightweight turntable, the whole operation was still too cumbersome. We needed lightweight equipment. What we needed was something that one man could handle with ease.

We decided to build our own equipment. We endeavored to put it all into one package that was complete and still able to be handled by one man. After considerable deliberation and after many suggestions from the members of WERE Engineering Staff, we came up with a list of equipment that we felt would certainly fulfill all requirements for this type of operation. We combined all the necessary facilities in one complete package, weighing approximately 70 pounds (see Fig. 3).

This unit includes preamplifiers, line amplifier, turntables, PA system, and all necessary controls. We endeavored to make





FIG. 5A. Power panel inside WERE mobile unit.

the operating controls correspond to the studio controls so that the operating personnel would be as familiar with field as with studio equipment. This remote unit fulfilled our fondest desires. It was, by comparison, light in weight and easily moved from location to location. We are still making use of this equipment.

#### Studio on Wheels

For doing traveling d.j. shows, our Vice-President, Dick Klaus, felt that we needed something more adequate. Certainly the type of equipment we had was not suitable, for example, all day operation from shopping-center openings. We decided to purchase and equip a studio on wheels.

In this undertaking our biggest difficulty was to be in finding the right vehicle. We looked at all types of trucks, station wagons and trailers. For a long time we never could find what would really fill our needs.

One day, quite by accident, we came across an advertisement of a most unusual vehicle. I was dispatched to Illinois to look it over. When first I saw this truck, I knew we had found what we were looking for. This was one of those "once in a lifetime opportunities" to purchase a truck that would fulfill all our hopes and wishes for a studio on wheels. Many of our basic requirements were already in the truck. The interior construction of the truck, for example, made it possible to allow for a studio and control room. We decided to



FIG. 6. Control console inside WERE mobile unit. Three-speed turntables are used. An RCA Type BC-5A Audio-Console is employed. The complete control console can be removed as a unit for use in semipermanent remotes.



FIG. 7. Note directional antenna atop WERE remote unit. This is used with 25-watt FM mobile transmitter to send signal back to station. This feature enables WERE mobile unit to be used in places where it not possible to obtain wire lines.

FIG. 8. Complete equipment in WERE mobile unit includes a tape recorder. The equipments external to the console are rack-mounted. All switching is readily available to the operator. On location, it is only necessary to plug in the microphones.





FIG. 9. Typical use of WERE mobile unit for local parade. Unit is made available to Police Dept., Welfare Agencies and Civil Defense. It serves as an excellent promotion for WERE.

equip this truck in such a way as to permit complete mobile radio operation independent of any outside facilities (see Fig. 4).

While planning this truck to fulfill our own special requirements it became quite apparent to us that we could also do a service for the community. Here was an opportunity for WERE to do an excellent "public service" job by combining the efforts of our Engineering and Promotion Departments.

In planning the equipment for our studio on wheels, we decided to equip it as completely as possible, keeping in mind other uses besides actual broadcasting. We did not want to limit our application of this truck. As a result, we started out by equipping the truck with a 5000-watt generator to supply not only all the necessary power for equipment, but also to have sufficient power for lighting the truck on the inside and outside (see Fig. 5).

Our planning called for two turntables. We decided to use 3-speed turntables so that we could play all types of records.

Our next problem was a console. One of our problems encountered in the field has been feedback. Therefore, it was deemed

necessary that by using a small console we could take advantage of speaker relays to help beat this problem. We selected the RCA Type BC-5A Audio-Consolette (see Fig. 6).

At the same time space was a problem. We designed a special console table that would fit into the available space in the truck. The size of this console was such that we can remove it from the truck and use it also in the field as a semipermanent setup, such as an auto show where we might do a week of broadcasting.

Some of our field pickups have come from areas where lines were hard to obtain. We added a 25-watt mobile FM transmitter so that we could go any place. This, together with our portable power plants, enables us to make remote pickups at out-of-the-way places.

We chose to use a directional antenna with our transmitter, figuring it was simpler to orient the antenna at the pickup point toward the receiver. So far this has proved a satisfactory way of doing mobile pickups from a fixed location (see Fig. 7).

It might be interesting to recount a mobile pickup we did from a ship on the





FIG. 10. This is the "studio" portion of the WERE mobile unit, used also as the "clients' lounge."

Great Lakes. A new cruise ship called the SS Aquarama was brought to Cleveland last summer. The first night that this ship sailed from Cleveland was "WERE Night." It was decided to do our night disc-jockey show while the ship cruised Lake Erie. In this instance we installed our transmitter and antenna on the bridge of the ship, and did the actual broadcasting from one of the lounge areas. We did not attempt to play records aboard the ship, but used only a voice channel from the ship. Our FM signal was utilized to feed the ship's PA system. Although we worked a range of 30 miles over water to our receiver it proved to be a very successful mobile pickup. A man was stationed on the bridge to rotate our transmitting antenna as the ship turned, and thus our broadcast was accomplished.

In addition to the console, turntables and transmitter, we also equipped our truck with a tape recorder. We rack-mounted all our equipment that was external to the console (Fig. 8). The truck also has a 20-watt PA system with speakers mounted outside on the four corners.

All necessary switching equipment is readily available to the operator so that

no connecting is necessary other than plugging in the microphones on location.

All equipment is set up to feed the studio by line or off the air and at the same time feed the truck PA, external PA systems and a tape recorder. The tape machine can also be used to feed the console or the truck PA while the truck is in motion. This is frequently done in public-service operations.

In putting radio on wheels, we of the Engineering Department have been able to serve two and even three masters. Not only do we provide the necessary technical equipment, but also a useful means to serve our Promotion Department, and provide a real service to the public.

In addition to the technical equipment installed within the truck, we installed a theater marquee-type sign on each side. We can advertise WERE or a civic venture. We use the same type of plastic lettering, with back-lighting as used by theaters on their marquees. This permits nighttime displays as well as daytime signs. (See Fig. 4.)

#### Public Service

We have made this unit available to Cleveland's Police Department, Welfare

Agencies and Civil Defense Officials. Last year, for example, a severe windstorm struck the west side of Cleveland. Within an hour the unit was on the streets where severe wind damage took place, urging citizens off the streets because of fallen live wires. We were even requested to go and help supply power from our generators to light a police station.

We cruise this unit through the downtown area supporting all civic drives such as the Red Cross, March of Dimes and Community Fund. In these instances we make a tape of our air personalities urging citizens to support these worth-while civic affairs. This is interspersed with music. Not only do we help the community, but we are helping WERE at the same time.

I would like to quote you an example of how a unit of this type can help a station. The city of Cleveland was in dire need of

having a tax levy passed. All media was striving to have this levy passed at a special election. I was sitting in an office of an advertising agency, going over some problems in connection with our baseball network, and suddenly the sound of music came up from the street. The agency man said to me, "I hear you are out trying to get the levy passed." Cleveland has come to expect WERE out on the streets to aid any worth-while civic venture. This typifies how we use our generators, tape recorder and PA system while in motion.

### Conclusion

The evolution of our equipment has followed closely the evolution of the engineer's role in Bringing Radio to the Public—1957 *Style*. Our job today is not only transmitters, antennas, control rooms, but how we can best adapt our tools to today's changing needs.

FIG. 11. Harry Dennis, Chief Engineer, at control desk in transmitter room. In background is John Geczi, Transmitter Engineer, at RCA Type BTA-5F 5-KW Transmitter. To the left are the audio racks. (Not seen at extreme left, is RCA Type BTF-10B 10KW FM Transmitter.)

