

TELEVISION ON WHEELS

*The purpose of this traveling showroom
is to stimulate television interest in
localities where there are no TV
transmitters in operation.*

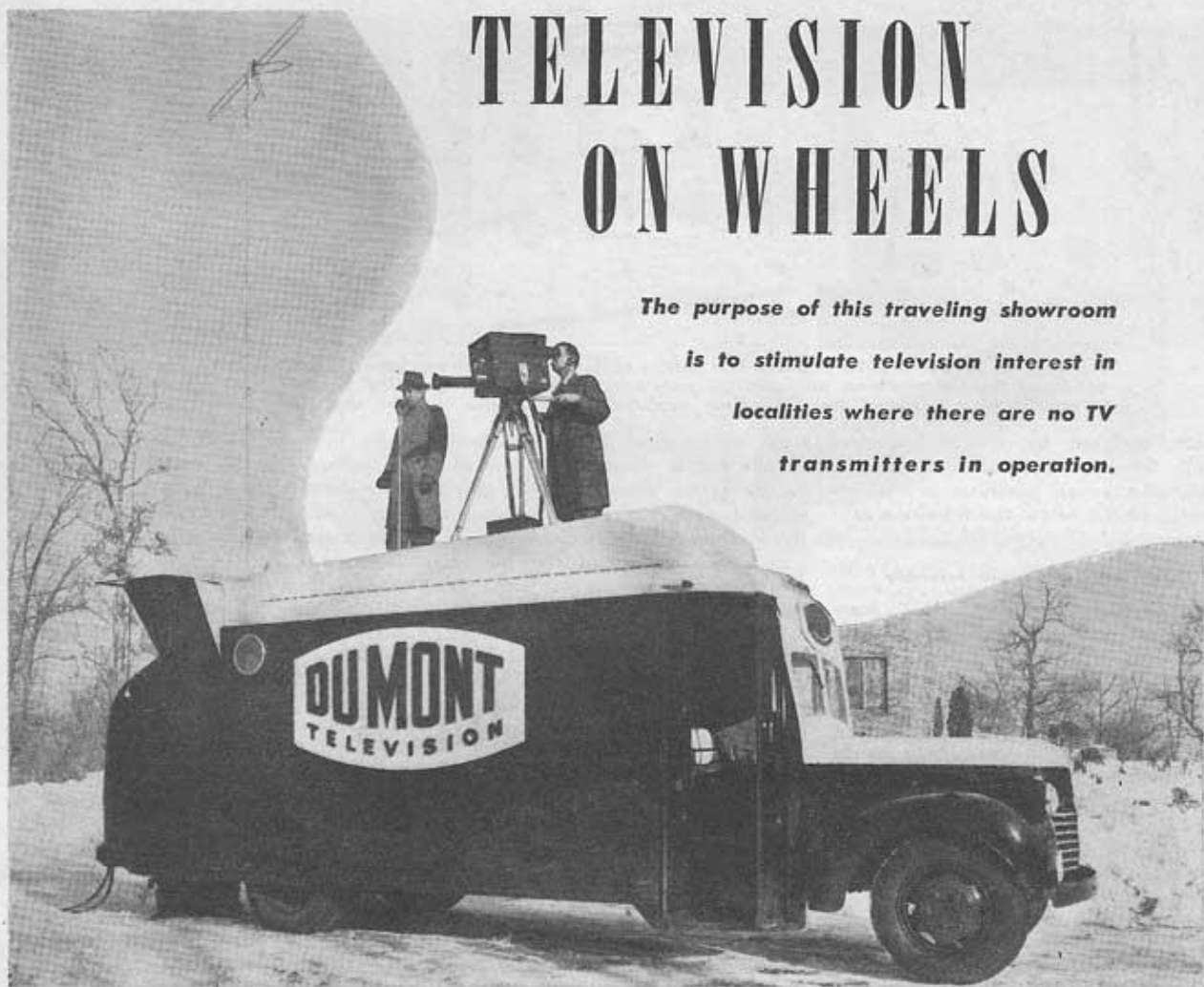


Fig. 1. Vehicle and equipment set up for local operation. Picture tube shield and speaker can be seen at left.

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THE traveling showroom was originally intended to be a medium for the introduction of "television" into new communities. This was to take the form of a very simple pickup with the camera atop the vehicle and a 20-inch direct view picture tube to be exposed for viewing on the curb side.

As early plans were developed and even after construction was actually under way, new ideas for its ultimate use were advanced. These schemes included the direct merchandising of television receivers, the recruiting of new talent at remote points, the operation of the camera and receivers at several hundred feet from the showroom and promotional work in cities where television stations had just come on the air for the first time.

It is probable that a fair sized train would be required to transport the equipment and personnel necessary to

carry out, ideally, all of the suggestions for the use of the showroom. The fact that it was finally decided to incorporate facilities to accomplish to some degree, all of the above listed schemes gives an idea of the magnitude of the packaging problem.

Fig. 1 is an external view of the completed vehicle. The original body, a conventional school bus, with no windows, was modified in the following manner:

A houdah (platform surrounded by a low parapet) was built into the bus top. This provides a convenient and advantageous location for the camera and microphone for local demonstrations, i.e., where none of the equipment is removed from the vehicle and operated at a remote point. The sloping parapet also helps to relieve the severity of the original lines. On the curb side of the vehicle, at the rear, and as high as

possible, the housing for the 20" tube was constructed. As can be seen from Fig. 1, this housing takes the form of a gable standing out from the natural rear and top curves of the bus. This construction has the dual advantage of providing adequate height and viewing angle for the external audience and occupying a minimum of space within the vehicle. The traveling cover for the 12" dynamic speaker can be seen at the lower right corner of the tube housing.

In order to meet all requirements most adequately, it was decided to divide the bus interior into two "rooms" with a sound insulating partition, part of which was readily removable. This latter section was removed when the photographs of Figs. 2 and 3 were taken. The room at the rear of the bus is used to house all the permanently installed equipment. The front room can be used to transport several receivers in the event that remote operation of receivers is desired, or it can be transformed to simulate a well draped and

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carpeted living room, complete with floor lamps, six comfortable chairs and a 15" console type television receiver.

The rear wheel wells provided a convenient approximate location for the partition. A dais about 12" high, and extending clear across the bus, was constructed to cover the wells. The actual partition was built on this dais and contains an alcove approximately 30" deep and wide enough to hold the console receiver. This construction permits the receiver (which is in the front room) to be located a reasonable distance from the audience and at the same time provides two very handy storage wells in the rear room. As previously noted, the rear wall of the alcove is removable and is not in position in the pictures.

The final major body work consisted of the installation of a PE-197 generator. This is a 115 volt, 60 cycle, gasoline-driven generator rated at 6.5 kva. and weighing approximately 800 lbs. The entire unit is rigidly mounted on a steel base, this base being isolated from the bus body with two shear-type rubber shock mounts each about four feet long. On the outside of the vehicle appropriate vents and louvers are provided for the circulation of air through the equipment. Within the bus an acoustically treated housing completely encloses it. Access is provided to the control panel, distribution panel, and all necessary parts of the gasoline engine through convenient doors and hinged covers.

In addition to the above major body conversions, other work consisted in the installation of side bumpers, rear wheel covers, spare tire rack, etc.

Power Requirements

At certain locations, and especially when the camera chain is being used, it is desirable to operate the entire equipment from a remote power source, e.g., the standard commercial a.c. line. Also in some cases it may be necessary to operate receivers and other equipment at a remote point using power from the local source. The first condition requires the transfer of power from an external source to the vehicle, while the second condition requires power transmission in the opposite direction. In order to obviate the use of a second cable, and at the same time insure that the local and external sources would not be applied to the distribution panel at the same time, a special switch was made up. This consists of two double-pole, single-throw switches having double break contacts. The two levers are mechanically linked together in such a manner that the closed switch always operates before the open one. This arrangement permits the distribution panel to



Fig. 2. Front interior view shows traveling accommodations for driver and the two operating personnel. TV receivers are at right, camera at left.

be supplied from either the local or remote power source. In the event that power must be supplied from the local generator to the local equipment and at the same time the remote receivers, the link may be easily removed and both switches closed. The various circuit breakers provide additional protection and a voltmeter is permanently connected to the external source side of the switch so that the external voltage may be monitored before connecting it to the distribution panel and equipment. From this master switch, power is fed to the distribution panel. This consists of ten 20-ampere circuit breakers which, in turn, feed all of

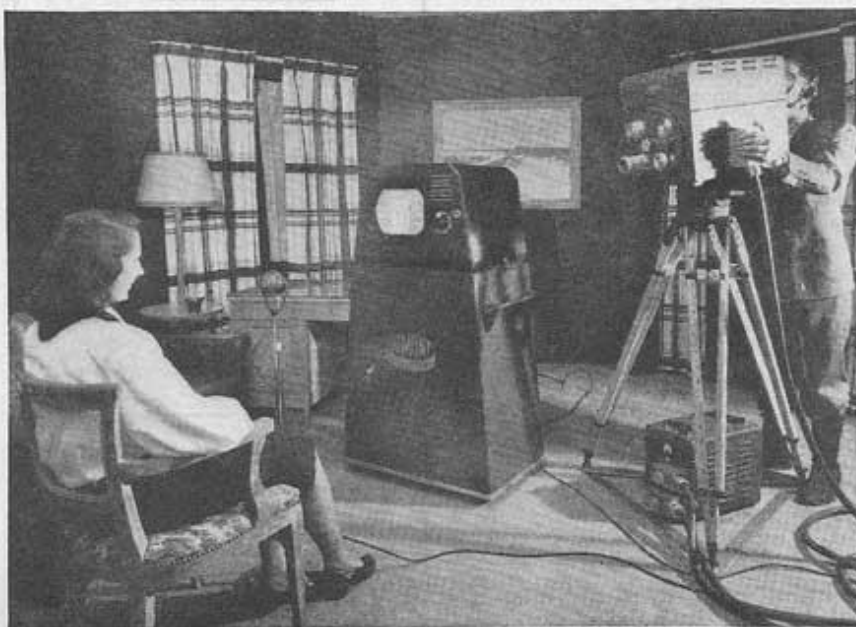
the showroom equipment. Two of the circuits supply service outlets which are conveniently placed throughout the vehicle.

Camera Chain

A complete *Du Mont* single camera, image orthicon chain is included in the permanent showroom equipment. For local operation, i.e., using the camera to televise the audience watching the 20" picture tube or receivers within the showroom, the camera, tripod, and camera auxiliary are operated from the houdah as shown in Fig. 1.

Fig. 4 shows the permanent location (Continued on page 103)

Fig. 3. View of remote position showing camera and receiver operating.



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of the other three units of the chain. This view was taken through the rear door of the showroom. Beneath the table is located the low voltage power supply. The bracket at the lower right normally holds this unit in position. However, removal of two screws permits the power supply to be rolled out for servicing. Above the power supply at the right is a sync generator and the camera control unit is located immediately to the left of the latter. These three pieces remain in this position both when the showroom is traveling and when the exhibition is in progress. The camera, microphone, and accessories are stored within the vehicle during transit.

Fig. 2 illustrates the front room with all equipment stored for traveling. The large cable in the foreground is used to couple the camera to the low voltage power supply and camera control unit in the bus thus permitting operation of the camera up to a distance of 250 ft. from the vehicle. This cable is coiled on a large reel having a vertical spindle. This permits the cable to be unrolled without having to carry the heavy reel around. At the left center is shown the camera head strapped in position for transit. As shown in the photograph, two comfortable chairs are provided for operating personnel in addition to the driver. During operation, one of these chairs is moved to the operating position before the camera control unit.

20-Inch Custom Receiver

Referring again to Fig. 4 the *Du Mont* custom receiver can be seen in the recess near the center of the photograph. The control panel is at the top just behind the cathode-ray oscilloscope with the sweep circuits and power supply beneath it. At the top of the photograph, the rear part of the 20-inch tube housing is shown.

Remote Set-Up

Fig. 3 illustrates a remote setup such as might be arranged in a store, theater lobby, or similar public place. For this type of demonstration, the front room of the showroom is employed to carry the receivers, stands, and auxiliary equipment. Such a receiver and stand is shown in the center of the photograph. In a larger room up to four of these units can be placed at appropriate spots. The camera is shown being operated at the right of the photo and the subject-audience at the left, seated before the microphone. At the time this photograph was taken, the operation was as follows:

The subject is viewed through the electronic viewfinder, the image orthicon converts the received image to a

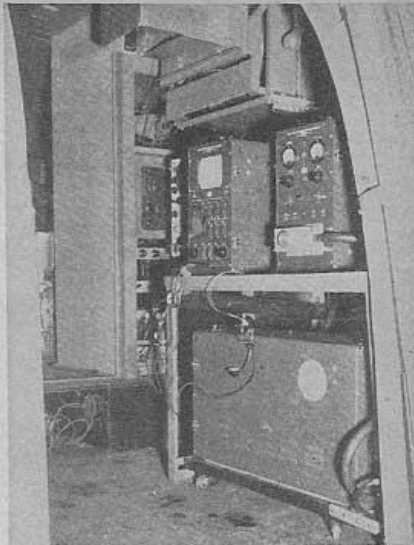


Fig. 4. Rear right interior view shows camera control equipment and synchronizing generator on table; camera low voltage supply is shown beneath table.

video signal, this signal being transmitted to the showroom outside the building via the 300 ft. camera chain cable. At this point the blanking and synchronizing information is incorporated into the video signal and the operator observes the composite video signal and the reproduced picture on the camera control unit (see Fig. 4). Manipulation of the various controls on this unit provides proper sync level, focus, beam current, target voltage, pedestal level, and video gain for the picture being delivered from the camera chain. Additional controls permit the operator to adjust his own picture and signal monitors for optimum operation. The composite video signal is fed to the distribution amplifier and after amplification, through coaxial cable back to the receiver shown in the photo. It should be noted that the distribution amplifier is equipped with eight outputs, four of which provide a sync negative signal and four, a sync positive signal. This permits operation of a picture monitor receiving either positive or negative input.

Television Antenna

The antenna used for picking up signals from neighboring television stations is the *Du Mont* type 72 duo-band receiving antenna. The supporting mast is hinged at the rear of the bus using an offset hinge so that it is in stable equilibrium when either in a vertical or horizontal position. As an additional precaution, clamps are provided at these two extreme positions. The mast is enclosed in a sleeve approximately four feet long at the hinge. A hand wheel is secured to the lower end of the mast to permit orientation of the antenna. With the mast in a vertical position, a normally closed switch

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causes a red light to appear on the dashboard and another in the rear compartment of the showroom. Lowering and latching the mast in its horizontal position causes this switch to open, the absence of the red light indicating that the vehicle may be moved.

Preliminary Tour

During the first two weeks in February, the showroom was shown in several small Pennsylvania and Ohio cities. The general nature of these demonstrations was as follows:

The vehicle was parked outside a local theater with the camera and four table model receivers strategically placed in the theater lobby. This permitted the persons entering the theater to see themselves on the several receivers or to observe the lobby activity at any one of the receivers. The trick of showing people their own faces on a television receiver still proves to be an excellent interest creating stunt. Most of these people had never seen television of any kind and the tour was extremely successful in arousing enthusiasm. In addition to the theater demonstrations, receivers were set up in prominent show windows. These demonstrations also were highly successful in attracting the public.