THE MODERN NEWS REEL

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Nineteen years ago the first news reel was issued. This granddaddy's children have kept pace with the balance of the motion picture industry through its many stages of progress; never behind and usually a few jumps ahead, finally becoming a national, even an international, institution. It has been and still is an important part of every well presented theater program. But little credit is allotted to it as an attraction, and yet it has a personal appeal to every theater patron young or old. Primarily, because it covers every major event in all activities and allows the eye to see those things of interest of which one reads. It also brings to those not fortunate enough to have traveled extensively, places and personages of international fame, and to those who have traveled and seen for themselves it revives many memories. To borrow the slogan of one of the oldest, it "sees all, knows all."

The original news reel was issued weekly as compared to present day activities of a reel a day. Subject matter differs but little, if any. The real comparison is in the equipment used in its making. Contrast the news cameraman of a few years ago with his camera case draped over one shoulder and his tripod across his back, with the ultra-modern equipment of the modern news reel forces. When something happened under the old system, if a cameraman was close at hand he got his story, or perhaps the free lance saved the day or else everyone lost sleep and temper trying to get someone on the spot. Today fast mobile units are scattered throughout the country, always ready for whatever may occur.

Many types of equipment have been developed for news gathering, each having its special place and usage. May I ask your indulgence at this point if I seem a little partial in my descriptions, but being a member of RCA Photophone and having devoted the major portion of the past year to its field recording equipment, I prefer to speak of that with which I am most familiar.

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The first RCA Photophone news truck was designed for a dual purpose, news reel work, and a rolling studio—mostly the studio. Trying to coax it into performing all the tricks a news cameraman could think up was no sinecure. Two Bell and Howell cameras, two variable area recorders, all four driven by synchronous motors, necessitated power equipment of an unusual size, that is, heavy duty storage batteries and a rotary converter. The necessary charging equipment to keep the batteries in condition added to the weight. Add to all this the recording amplifiers, microphones, *etc.*, a motor generator set for plate supply and you have a good idea of what we were transporting. A few days' experience taught us the motor generator set couldn't stand road shocks, so out it came in favor of "B" batteries. Next we shed one camera and one recorder in the interest of space. In this condition, a news reel a week was turned out for nearly five months—quite a record. This truck gave us our first real test of the durability of our variable area recorders. Although the recording machine was solidly mounted, to the best of my knowledge a mirror has never been shaken from the suspension strips by road shock. The optical system will stay in adjustment for months at a time and the balance of the mechanism has needed little servicing in spite of dirt, grit, and climatical changes.

A real test for an amplifier is to bounce it around a hundred miles or so on choppy roads and find tubes and connections in usable condition on arrival. And may I also add a good word here for the Bell and Howell cameras.

A news cameraman's creed is "get your story" and usually he does. At all principal events provision is made for a camera stand, but the microphone placement man is not always so fortunate and must use dexterity, skill, and, many times, real ingenuity.

The advantages in two-machine recording systems for the news reel are identical to their use for studio work and far overbalance the additional equipment necessary for their operation.

For use in those places where a recording could not be made within four or five hundred feet of a truck an equipment with portable amplifier and power supply was next adapted to field work, and, within a limited scope, proved satisfactory.

Later, trucks were built after the style of the modified first truck. Then came a change; the trucks looked the same but things inside were different. A new and better recorder replaced the old, ampli-

fiers were simplified, a power take-off for battery charging was added as was also an outside pick-up amplifier and mixer panel.

The power take-off added greatly to the mobility of the outfits in that charging was done while the truck was *en route*, or on the scene if necessary, thereby insuring a constant power supply. The outside pick-up amplifier was an even greater improvement. By its use an operator could take this portable equipment away from the truck to the scenes of action and there monitor more advantageously on either or all of the three microphone circuits available. By an intercommunicating system the operator was in contact with both cameraman and machine operator in the truck, and was often able to get worthwhile shots that might otherwise be missed where operation is solely from within the truck.

The demand again came for lighter and more portable equipment and this time the RCA Photophone laboratories produced a Mitchell camera equipped with a variable area recorder built as an integral part. A light amplifier accompanied the Mitchell and with only 6 volts for power supply the whole made a real portable outfit. The equipment fits nicely in the new business body sedan of a light and fast car, so the operators now tour in style. There are several improvements on this outfit worthy of mention. A dry galvanometer replaces the oil damped model in general use. For portability the advantage of this absence of oil is very apparent, and the current needed to drive it is considerably less than the oil damped type. An optical system requiring much less space and using a focused filament image in place of a mechanical slit is among the newest additions.

Sound on this Mitchell portable equipment is recorded at projector spacing, or the standard 14.5 inches ahead of the picture. As recording is done by the variable area method, development and printing can be done in virtually any laboratory on the road even though not equipped with sound printer, so rushes or quick news releases may be made almost anywhere. Quality compares favorably with the two-machine method and the total equipment weighs less than four hundred pounds.

DISCUSSION

MR. HAMMOND: May I ask why more even sound level is not maintained in making the positive?

Subjects are cut off very abruptly, in the middle of a word often, and instantly it goes into music accompanying the title.

MR. JONES: We regulate sound level to the best of our ability, but the record is made under such varying conditions that it is very difficult to get an even level.

There is bound to be some variation although we are doing our best to overcome it.

An explanation of abrupt cut-offs is the fact that the news reel is 10,000 feet long and only 500 feet are shown.

MR. RICHARDSON: This puts the projectionist in an embarrassing position. When level changes occur, the audience instantly blames the projectionist. Audiences have no means of knowing such faults are out of the projectionist's control.

MR. JONES: You must remember that news reels are taken every day, and we haven't the time to cut or record sound as it is done in the studio. We get a story at noon, it may be something very "hot" and it's on the screen that night. We are getting better and not worse, however.

MR. C. L. GREENE: The rapid improvement in sound film is certain evidence that the men in the production field are doing the best they can to eliminate faults. The projectionist who has passed through the hectic time of conversion from silent to sound basis can well appreciate what the news-reel man is facing. We know we cannot expect perfect recording, but perhaps those in production work don't realize the seriousness of some of these faults when the film gets into the theater. No recording can be good recording if it cannot be well reproduced. The audience, remember, doesn't know or care what the source of the disturbance is, but is prone to blame everything on the projection staff.

We run Photophone recorded news reels on Photophone equipment, and I make a detailed volume cue sheet for each reel. It is not unusual to have this sheet call for amplifier gain control settings ranging all the way from 6 to 30 T.U., but this condition is not serious provided we have time to rehearse the reel and have a second or two of silence between the portions requiring greatly different amplification.

The other day, however, we had a typical case that was serious. Essential dialog was recorded at such a low level that the maximum double amplitude of the sound track was only 0.005 in. Following within 0.05 in. or less than 0.003 second came the cheering of a large crowd recorded with a double amplitude of 0.065 in. The gain control had to be held at over 30 T.U. to render the dialog intelligible, whereas 10 was ample for the cheering. The result when the cheering started was that for one- or two-tenths of a second the amplifier probably delivered in excess of 150 watts to the speakers, and they in turn sent forth a volume of sound which was extremely unpleasant all over the house. In the case of the patrons in the first few rows it was quite possibly painful. This was not a news reel, but a studio production. Run through one type of very high grade reproducing equipment it would probably have wrecked the speaker units.

One speaker questioned the possibility of an amplifier delivering enough power to "blow people out of their seats." Scientifically speaking, of course, he is right, but when immediately following such a disturbance patrons leave the theater and are not seen in the theater again, it perhaps is not far wrong to say that they have been "blown out of their seats."

MR. CRABTREE: I notice that one large manufacturer of radio receivers has an automatic control device so that the volume output is constant. I think the solution of the problem would be to install a similar apparatus in the projection booth.

MR. RICHARDSON: I am doubtful whether that could be done owing to varying conditions in theater auditoriums. What is right now is not so in fifteen minutes from now in the house when the audience has changed.

MR. CRABTREE: It could be set, and once set at a certain level, it will continue to give you the sound at that level. Of course, the level could be changed occasionally to take care of the varying audience.

MR. JONES: In recording, the volume level control is comparatively simple. We have accumulated trucks more rapidly than we can train the personnel needed, and men went out on the jobs who have not had sufficient training. They accumulate knowledge as they go along and iron out the troubles.

MR. RICHARDSON: Let us assume this condition: Fifteen minutes after eight, when the audience is in, you must have a certain volume setting, and then fifteen minutes later you have more audience and must take care of that.

MR. CUTHBERTSON: An automatic control device would be out of the question on the news reel system. It is not needed, in fact. One of the greatest users puts out a news reel with no cue sheet. It is run at one fader setting, and the operator should not change it; it runs through without variations in level.