

# Multiple Camera Control In TV Filming

The five cameras that photograph "People Are Funny" for TV are controlled by the director of photography from a central switching panel. The system not only cuts negative costs but affords greater freedom to Art Linkletter and his program participants.

By ALAN STENSVOLD, A.S.C.



ALL THE FREEDOM of a live TV show is afforded Art Linkletter (with microphone) through use of five remotely-controlled cameras in filming "People Are Funny." Cameras are strategically located to cover any action anywhere on stage or in the audience.

*? NBC  
Museum Archive  
- du ep.*

THE ART LINKLETTER television show, "People Are Funny," is one of several originating in Hollywood which are recorded on film as they unfold before a live audience. Five Mitchell 35mm cameras are employed in filming the Linkletter show and the edited result is televised to the nation's video audience several weeks later over the NBC network.

While this TV show is not the only one filmed with multiple cameras, it is the only one so recorded where control of each camera is maintained throughout the show by the director of photography. Making this possible is a camera sync control board from which power for each of the camera motors is switched on or off as desired, and signals are relayed to the various camera operators indicating the type of shot desired as filming of the show progresses. Thus is

provided what is probably the nearest approach yet to automation in cinematography.

Two important production factors led to design and construction of the camera panel: 1) it enables me as director of photography to exercise complete control of the pictorial recording of the show; and 2) it enables us to effect substantial savings in negative costs by running the various cameras only when they are recording usable takes, instead of having all cameras run continuously, as is the case with some other multiple camera systems. We have thus been successful in reducing the show's weekly consumption of negative from an average 22,000 feet to an average of 16,000 feet—a saving that not only includes film cost, but also the cost of handling the film, and developing and printing. We use the new DuPont No. 4 negative, which has given us excellent results.

For those who are not familiar with "People Are Funny," it is what we call a "stunt" show in which people chosen from the audience become competitors, undertake amusing and sometimes embarrassing tasks to win cash or merchandise, and otherwise prove that "people are funny." This format makes it necessary to photograph the show in much the same manner as in live television, with the cameras covering the activities continuously from various angles. The show is filmed each Tuesday evening at the Linkletter Playhouse on Vine street in Hollywood.

Five Mitchell 35mm cameras, augmented by a standby (making six in all) photograph the show, under the control

previously mentioned. Looking at the cameras from the back of the theatre auditorium, No. 1, mounted on a crab dolly, is on the stage at the left. No. 2 is the standby camera, mounted on a tripod, and ready to takeover should any one of the other five cameras develop trouble during filming. No. 3 and 4 cameras are mounted on a parallel erected in the middle center of the auditorium, over the heads of the audience. No. 5 is the floating camera, mounted on a hydraulic dolly, and situated in the orchestra pit. And No. 6, mounted on a crab dolly, operates from the right hand side of the stage.

In the beginning, we used only four cameras. I believed that we could gain additional flexibility and thereby cut down further on the amount of negative required by adding the fifth. This we did and effected a savings in production costs of \$240 per show. But the money saving was only a minor factor. The added flexibility the fifth camera gave us now permits the continuous filming of stunts running as long as twenty minutes. Each camera starts out with a 1000-foot film load, and by juggling between the different cameras—starting and stopping so as to spread out the available film during the shooting of each stunt—we can cover an incredibly lengthy piece of action before having to reload the cameras.

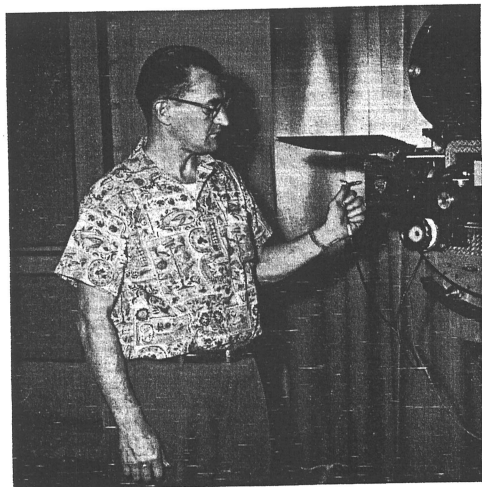
The camera sync control unit is located in a glass-windowed booth at the rear of the theatre, from where I observe the show as it progresses and direct the operation of the various cameras. Referring to the photo of the unit

on this page, the reader may observe the switches and indicator lights which control the various cameras. On top of the panel are five electronic footage counters which show the amount of film in each camera at any time. When a camera is switched on, the footage counter automatically starts to record, and ceases when the camera is stopped. In this way I can observe the film supply remaining in any and all cameras and, when any camera begins to run low, determine what camera to switch on in its place. Magazines are never reloaded until after the filming of a stunt ends, at which time a brief intermission takes place for this purpose.

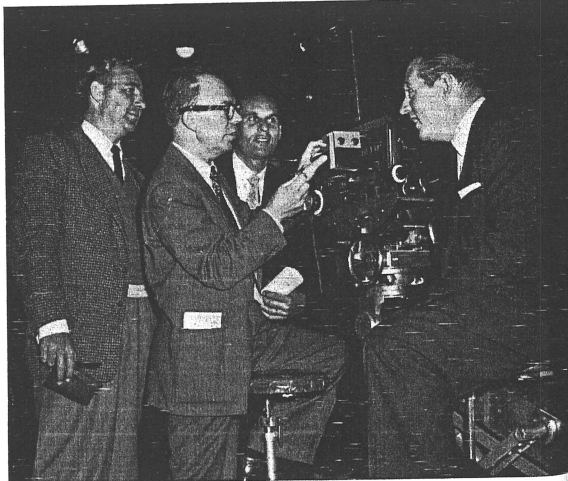
In addition to providing me with the means of starting and stopping the cameras, the panel also has switches and indicator lights which enable me to signal each of the camera operators whenever I wish a change made in a camera position or a lens. Mounted above the viewfinder of each of the cameras is a small box having three signal lights—red, green and yellow—which are observable by the operator, his assistant, and the grip at all times from their positions behind the camera.

The red light flashes on whenever I throw the switch that starts the camera motor, and remains on as long as the camera is turning. When I flash the green light, this indicates to get in closer to subject or subjects being filmed either by dollying in or switching to a different lens. When I flash the green light twice, it means to go into a two-shot. Any good operator, of course,

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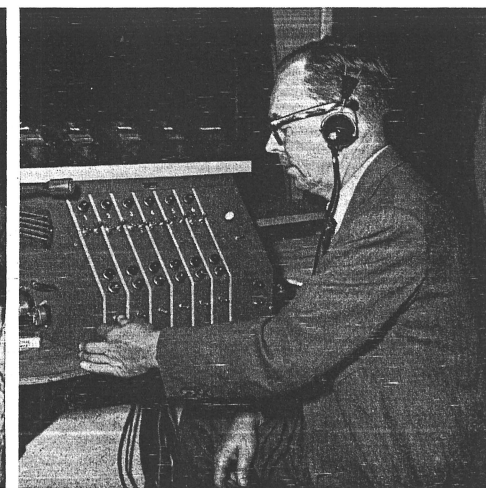
AS EACH camera is started, cue light shown here in hand of assistant cameraman, flashes a sync mark on the picture film to aid cutter in matching picture with sound track.



ALAN STENSVOLD, A.S.C., (center) who directs photography of show, explains operation of signal lights to Art Linkletter. At left is John Guedel, producer of "People Are Funny," at Stensvold's left, director Irv Atkins.



APPROXIMATE WORKING positions of the five Mitchell 35mm cameras used in filming "People Are Funny" are shown here. Cameras are switched on and off by Stensvold who directs photography from booth at rear of playhouse.



CAMERA SYNC CONTROL panel, designed and built by Alan Stensvold especially for Art Linkletter TV show, enables him to stop and start camera and signal for camera and lens changes.

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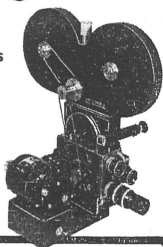
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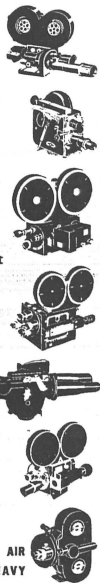
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Were it necessary to use daylight type color film for night effect scenes, then the light blue filter recommended for converting interior color film to daylight use would be employed without making any allowance for filter factor to gain underexposure. As incandescent light photographs white with incandescent type color film, I prefer to use MT2 gelatin filters over the lamps; this renders a soft orange color generally associated with lamp light. This same color gelatin can be used to filter the side lights and any back lights used on the actors. Unfiltered incandescent light is used for fill or key light on actors' faces. This creates a suitable color harmony that further enhances the illusion of night in the scene. The MT2 gelatin filters referred to are obtainable in large sizes from the Mole-Richardson Company, Hollywood.

As may be seen from the foregoing, there is no one set method of photographing "day for night" scenes. The one factor common with any method, however, is that all depend upon underexposure to some degree. Successful

photography of "day for night" scenes will result from a combination of the methods suggested above, applying the best method to each individual scene problem. At best such scenes are only illusions, for in actual night, detail is far less discernible than commonly seen in motion pictures, where some detail is necessary in order to maintain continuity of action or theme.

While discussing the photography of night effects with black-and-white film, I did not go into the matter of using infra-red film because its use is restricted to very exceptional long shots where the change in color tone of trees, shrubs and other scene components is unimportant. Use of infra-red film for "day for night" shots, where actors are employed has not proven satisfactory because of its adverse effect on the rendition of makeup, wardrobe, etc.

In my estimation, the revival of blue toning or tinting of the film in black-and-white "day for night" scenes would enhance the effect and prove a novelty to the present generation of theatre-goers.

## MULTIPLE CAMERA CONTROL IN TV FILMING

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knows what a two-shot is as does the grip and the assistant; so I don't have to see what the camera is getting. I rely on the camera crew to accomplish it properly.

When I flash the orange light, this means to do just the opposite from what I require when the green light is flashed, i.e., to pull back for wider coverage as in a three-shot. The operator can dolly back or switch to another lens, according to his best judgment. All lenses on the cameras, incidentally, are set at the same stops and taped to prevent accidental change during filming—the exposure having been determined beforehand through meter readings.

At this point it is readily seen that, except for any oral instructions given the camera crews before the show starts, all instructions issued to them thereafter are silent—by means of the control lights. I maintain a single intercom contact, and that is with my dimmer board operator. In addition there is a PA system, which I use in talking to Art Linkletter or others during the breaks between stunts or during the show in those rare instances when something goes wrong—like a film jam.

There is another important function of the camera sync control panel and that is putting the necessary sync marks on the camera films and the sound track. Sync marks are placed on the camera film by means of a small cue light which is positioned before the lens during the

time the camera is inactive, and is flashed by me as the camera starts by means of a switch on the panel. At the same time, a cue mark is recorded on the magnetic sound track on which is recorded all the dialogue of the show.

The small cue light is snapped in place before the camera lens by the assistant as soon as the red light goes off, indicating the camera is stopped; and it remains in place until the camera is re-started and the cue light flashed. Immediately, the cue light is removed from in front of the lens by the assistant.

Purpose of cueing the picture films and the sound film is to give the film cutter positive, visible marks that will enable him to accurately match up the picture with the track. This is the only system I know of that is employed in multiple camera photography where "exact frame" sync is provided; most other systems have a "coast by" of 8 to 10 frames, making it necessary for the editor to search for the exact point where picture matches the sound track.

To further aid the film editor, there is recorded on the sound tape (on a separate track) data which I give orally through a multi-purpose microphone located in my booth. This does not interfere with the show's sound track.

For example, when we start the show — say with cameras 1, 3 and 5 rolling — I call out "Cameras 1, 3, and 5," and this is recorded on the sound track.

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When it comes time for the editor to cut the picture, he gets the films from these three cameras, looks for the mark made by the cue light and matches them up with his sound track.

Sitting alongside me in the control booth is the script girl who keeps a log on all the cameras. The log shows graphically how long each camera runs on a given take—where it started and where it stopped. She keeps watch on the electronic footage counters above the control panel, checks the footage of each camera. The log goes to the film editor. When he starts to cut the film, it shows him which cameras were "on" at a given point and what lens was being used. This information, plus the information given him on the sound track, enables him to prepare a rough cut of the show in half the time ordinarily required, following other methods.

As the show is being photographed the film editor also sits in the control booth. Any discussion that takes place between him and myself is recorded on the sound track. This further aids him when it comes time to cut the film.

During rehearsal, which takes place several hours before the show is photographed, the director, film editor and I discuss and make notes of any special photographic procedure to be followed. The program is scripted and broken down into sections or "stunts." During

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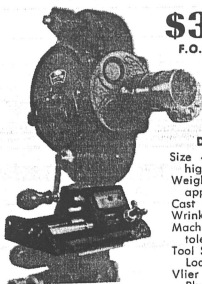
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rehearsal, the cutter makes pencil notes as a further guide to shooting and editing.

One of the advantages of shooting "People Are Funny" with five cameras is that it frees Art Linkletter and others from any limitation of movement. It is unnecessary to put chalk marks or tapes on the floor to restrict their movements, because the five cameras provide a flexibility of coverage to meet any contingency. Linkletter is given greater freedom, too, enabling him to work more naturally with his contestants and show participants.

Furthermore, Art Linkletter is always properly lit, no matter to what part of the stage he moves, because all lighting is from overhead. Flat lighting has been carefully avoided, and we have worked out a pleasing pattern of cross-lighting plus a nice front fill—two 2000-watt lamps with spun-glass diffusers. All lighting units are controlled from a dimmer board, and each one has a number. I have these memorized so that I can order a light change over the intercom phone simply by referring to the lamp by number.

While positions of the lights overhead are more or less fixed, they can be tilted or re-directed with little trouble. During rehearsal, the gaffer and I go over the lighting and make any necessary changes, and determine at what points certain lights are to be raised or lowered in intensity. This information is subsequently passed on to the dimmer board operator. I keep an eye on the lighting as filming proceeds and order certain lights to be raised or lowered whenever the situation requires it.

After the show has been rehearsed and declared ready for filming, the active function of the director and others practically ceases. From there on it is a matter of recording it on film—to illustrate the show photographically to the best advantage. We provide the editor with the pictures necessary to go with his sound track. The "People Are Funny" television program you see each Saturday evening over most of the NBC network stations is the result of this cooperative effort.

**UNIV. FILM PRODUCTION**

(Continued From Page 726)

ment, mostly Colortran, and can secure additional lights from the television studio when needed.

Students have six editing tables. Each is equipped with splicer, rewinds, viewer, bin, light box, scissors, and film cement.

We have eliminated the need for workprints by using a unique cueing

system. Attached to the Auricon sound track exposure lamp is a battery which is controlled by a switch on a line about 15 feet long. The director of the show operates the switch. When he "takes" the Auricon, he closes the switch, and the lamp exposes a stripe down the edge of the film. When the director "takes" the other camera he opens the switch. The processed picture negatives are synchronized, and the editor cuts to the Auricon negative when the stripe appears, and to the other negative when the stripe is not present.

One difficulty is that the director cannot talk to the cameramen, but rehearsal largely takes care of this. We are installing tally lights on each camera. They will be operated by the director's switch also. These lights will enable the cameramen to know when they are not being "taken," and they can change camera position when they are free to break.

We have just completed a film on cosmic rays, about two thirds of which was multicam. This film, incidentally, is the first in a series on those departments in the University which are over 100 years old. Also in production are a series on aerodynamics and one on textile design. We hope eventually to secure two Auricon Supers for this work.

We understand that Precision Film Laboratory is now printing alternate sections from three negative rolls using no spliced-in leader. This will eliminate the need for cutting the multicam negatives.

Funds have been provided for the purchase of a television film and slide projection chain. Since the film projector will be synchronously-driven, we will be able to record film narration with ease. We expect that as more students become interested in film our workshop activities will increase. END.

**JACK CARDIFF**

(Continued From Page 734)

I was lucky enough to be the only journalist allowed onto the closed set at Pinewood. The precautions and restrictions made me feel as if I'd pierced the Iron Curtain.

The lavish ballroom set was one of the most impressive I've seen in a British studio. Cardiff had used yellow filters to give a glow to the rows of glass wall lights, which despite appearances were not switched on. Along with three hundred gowned and coroneted extras, I watched Cardiff shoot a brief duologue between Monroe and young British star Jeremy Spenser. Collaboration between Cardiff and Olivier, the director, seemed very close.

"Yes," Cardiff told me. "Olivier knows exactly what he wants from his cameramen, right down to the finest detail. I've a tremendous admiration for the way in which he manages to cope simultaneously with all the problems of acting without losing his grasp as a director."

Apart from Hitchcock's "Under Capricorn," with its involved ten-minute takes, Cardiff considers "The Sleeping Prince" his most challenging film to date—largely because of the lighting problems which the dolly presents. Of his own past work his favorite films are "Black Narcissus" and "The Red Shoes."

His next film, at present untitled, will be with director Henry Hathaway, starring Sophia Loren and John Wayne. Locations will include Libya, Tripoli and Rome. But to Cardiff the most exciting aspect of the film is that it is to be shot in Technirama, the potentialities of which aroused his intense enthusiasm during his last visit to Hollywood.

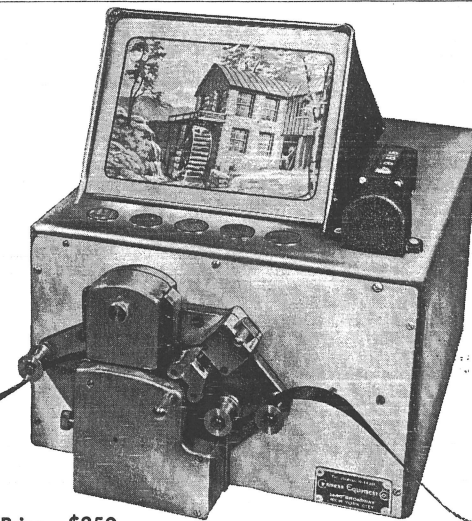
Early next year Jack Cardiff will turn director. "Death of a Doll" and "Deep Freeze" are already lined up as his first two films. He won't attempt to tackle the photography as well, but he has very definite ideas on the cameraman he wants. END

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