



Lights that help put the color in color TV almost hide stage in this view of Victor Herbert scene.

How They 'Paint' Color TV Pictures

An artist who uses lights as pigments, a rheostat 'brush,' and an electronic tube as his canvas, will thrill you soon.

By John Lear

WHEN "Rod" Davis got his orders, he shook his head. It wasn't that he was plain contrary. He wasn't looking for an argument. He just knew he was right.

Davis was in charge of lights and cameras for experimental color TV at the National Broadcasting Co., and his orders were explicit:

"Only flat light," they said. "You can have all the color you want in costumes and settings. But use only flat white light."

Davis thought differently. He was confident he could produce some spectacular effects on color TV with colored lights.

It was months ago that Davis began



'Painter' at Keyboard Plays Up the Moon

LIGHTS MAKE THE SUN SET and the moon rise as Dorothy Wareskjold and Robert Bousneville sing the garet scene from *La Boheme*. Starting with red sky and blue interior (above left), colors were gradually reversed for moonlit ending (above right). Strip of pictures at far

left shows some of the roomfuls of machinery needed to achieve these and other effects. Lights are controlled from "organs" (second photo from bottom). Electrician plays its keys to adjust all lights, either singly or in groups, manually or through automatic time control.



his campaign of passive resistance to the standing orders. To see how right he was on lighting, watch one of NBC's beautiful color TV shows this fall. It's a product of a new kind of craftsman, the painter in lights.

The lights on TV stages today range through the rainbow's spectrum.

The big backdrop that serves as sky on video is a sheet of fabric, a dull and slightly dirty gray. It is lighted by lamps covered by colored gelatin filters. If the scene is set for a sunny afternoon, the gels are pale blue. For sunset, they are orange and red, for nighttime a deep blue-black.

The key to the light painter's power in color TV is that the enjoyment of color is an emotional—not an intellectual—experience. The light painter sets your mood by the hue he chooses. The villain in a play is fingerprinted for the viewer by trapping him in harsh lamplight. The light painter can even change the character of a hard-boiled harridan by dabbing a blush on her unresponsive cheeks.

Painting with light can give a scene new dimensions. Take, for example, a



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setting in Puccini's opera, *La Boheme*: It was the entrance to a street in Paris. With only a cardboard-and-canvas backdrop, the street looked flat to the eye of the camera.

To widen the space between the sidewalks, the light painters dropped pale blue light down the length of it. Then, at the far end, they cast an orange glow. On color video, the street looked broad and long, reaching right out to the sunset.

Davis's differences with the standing orders on lighting were actually differences with most of the texts on photography. They specified flat white light. It was the accepted method for holding down the contrast range between colors and staying within the latitude of the film.

The possibilities of light as an entertainment prop had fascinated Davis all his life. As a teen-age boy in the little town of Toccoa, Georgia, he and a neighbor lad entertained each other with blinking lights in their darkened bedroom windows. With the long and short flashes of the Morse telegraph code, they carried on conversations over the unsuspecting heads of less ingenious kids.

Since then the audience for Davis's light manipulations has zoomed from one lonely boy to millions of families.

When NBC hired Rod Davis (he was christened Reid, but always has preferred the nickname) soon after he received an electrical-engineering degree from Clemson College, he had never even seen a microphone. But when Graham McNamee rattled off the first sport report that traveled coast-to-coast, Rod got the famous voice onto the air. When a special amplifier was needed for White House broadcasts, Davis made the apparatus. When Radio City was dreamed

up, it was Rod who saw that there were plenty of mikes at the cornerstone. Later, when the City needed a master control board, he worked on the installation of the controls.

TV was a natural for Davis because he was a camera nut. He knew he was gone the first time he looked at a video



CAMERAS—naturally—are a favorite hobby of Rod Davis, whose pioneering lighting techniques paved the way for this fall's big color-TV season. Davis's official title at NBC is Operations Supervisor for Color TV.

screen in 1937 and saw the *Mauretania* moving down the river into New York harbor. By the time color TV came along, he was boss of 500 engineers doing black-and-white. Friends called him loony for giving up that prestige to undertake an experiment with a staff of only 20 men in 1952. He had studied painting as a boy, however, and he knew something about music. That, plus his knowledge of the camera, made him certain that color TV was the medium of future communication and entertainment.

"I have never regretted my decision," he says. "It's the emotional impact that matters in all human affairs, and color stirs the emotions."

The Colonial Theater on upper Broadway in New York City is as good a place as any to see Rod Davis in action. You enter by the stage door on 62nd St., persuade a pleasant policeman inside that you are not subversive, cross a brightly lit tangle of cameras and props and cables, and enter the darkness of a room banked on one side with TV screens. At a desk facing the screens at the right end of the bank, his hair loosely netted by a telephone headpiece, sits Rod.

He is noted for getting his work done without (a) moving very far or (b) saying very much. You can watch him all day and learn practically nothing. Yet, on the other side of the darkened door, out on the stage where the lights are bright

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and hot, his men achieve the effects he wants.

A crew of four climb high stepladders to hang the main pattern of lights on overhead pipes two or three days before a particular TV show is to be staged in color. Then the major details are blocked in to fit the requirements of the show's director. A pool of light is dropped on the floor here to bathe a dancer in pleasant warmth. At the back of the stage, decorative pillars are spotlighted to add depth. High on a balcony overlooking one side of the stage, the finer touches are rehearsed at an organ that pours forth light instead of music.

Mechanical Brain Adjusts Lights

The relative brightness of every lamp on the set is fixed in advance, scene by scene, on movable wheels in a rudimentary mechanical brain beside the organ console. The keys and stops on the organ are pushed as the play proceeds, and the lights go up and down, on and off, so precisely that you have to know where to look to see the individual changes.

Whole batteries of lights are made to perform with artful delicacy through a single rheostat on the light organ. Settings and moods are completely, though imperceptibly, shifted with this device over periods as long as half an hour.

Preparations Are Lengthy

For at least two days, and sometimes three or more, the "light painters" continue preparations. The lights on the overhanging pipes are moved fractions of an inch to enhance the action as rehearsals reveal it. "Barn doors" shading the larger lamps are tilted this way and that. New lights are introduced to eliminate shadows cast by earlier lights.

Lighting doesn't accomplish everything single-handedly, of course. Infinite care goes into the color combinations of scenery and costuming. Hours are spent on personal make-up, with special attention to complexion, the aspect of color

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TV that even the most inexpert of viewers can judge at a glance.

Often, after the colors are chosen, it is necessary to tone light down, to take "hot spots" off bright clothing, earrings, necklaces, and the shiny metal of orchestral instruments. The tone-down process is one of the world's few workable panaceas: a plastic spray.

But the problems that light creates are far fewer than those it solves. Altogether, 60 percent of the work of color-TV staging is done with light alone.

Lights Set Moods

Here, for instance, is a script that calls for a jazzy musical mood. Is that effect left to the musicians to accomplish? Not at all. The background lights establish the jazz theme long before the band strikes up. How? With strident yellows.

When there is waltz mood, the lights are pale, dream-cool blue.

If a backdrop, as the scene designer painted it, jars the slightest bit with a costume that will focus the drama, there's no need to hurry it back to the paint shop. Colored lights will bring the hue around to a perfect complement.

Suppose the leading lady's dress is pretty, but doesn't hold the eye? A light will bring out the color without putting too much bloom in the star's nose.

"Like a painter who is doing a portrait or a landscape," Rod Davis points out, "we make our finishing touches right up to the last minute."

That's when the painters of light perform their magic before your unwitting eyes, stealing about the stage while the TV show proceeds, daubing here and there with mellow glow. **END**