

World's Largest Color Prints

They just roll 'em on—no paste, no glue. Air pressure holds them there

By Bob Hering

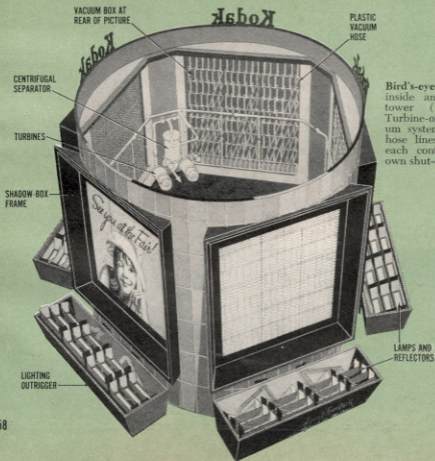
LIKE hanging giant rolls of wallpaper, workmen high on Kodak's pavilion at the New York World's Fair began slowly unrolling the first 12'-wide strip of a 30'-by-35' color picture. A few minutes before, they had hoisted the Paul Bunyan-sized roll into position for mounting in one of the five mammoth shadow-box frames

on the Picture Tower. Then, working from scaffolding, the crew carefully adjusted and "stuck" the print to the mounting board—without adhesive.

What holds it up? Literally nothing—a vacuum. The big board is divided into 4'-by-12' vacuum sections; as the print is unrolled, each section is "turned on."

Sandwiches of plywood form the mounting boards, the inner and outer sheets

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Bird's-eye view shows inside and outside of tower (minus cap). Turbine-operated vacuum system includes 24 hose lines per picture, each controlled by its own shut-off valve.



Mounting board is divided into 12'-wide sections. Lengths of 2" tape with adhesive on both sides are put down first to seal the edges of each strip of a giant color print.



Print goes up, center 12'-wide strip first. As it unrolls, workman in tower turns on 4'-by-12' vacuum board behind it. Acetate overlay protects print from the weather and cuts glare.

Lining up the image and registering print edges, workmen drop second of three strips into position. Note temporary crosspieces of tape to keep

first strip from shifting. Preliminary matching in Rochester makes mounting job comparatively easy for workmen at the Fair site.



sealed to maintain a vacuum. Air, exhausted by a turbine, travels along grooves that act as ducts, then out through holes to vacuum boxes on the back of the mounting boards. From there, hoses carry the air to a centrifugal separator (for trapping dust and drawing off condensation) and back to the turbine. Each of the three 4'-by-12' vacuum sections has its own shut-off valves.

One 15-hp. turbine creates the vacuum needed behind the five gigantic color pictures. There's a second standby turbine and dual power lines. Why such elaborate gear when paste would be so simple? Moisture under paste-ups would expand the paper, raising and wrinkling its surface. And why prints instead of transparencies? Mostly, because far more light would be needed for transparencies to compete with

intense outside light during the summer.

Brighter than sunlight. The Xenon gas-discharge lamps that illuminate the five pictures shed light equal to 15,000 foot candles—a greater concentration than that used to light up a football stadium. The giant color prints resemble brilliant photographic transparencies, even with the sun shining directly on them.

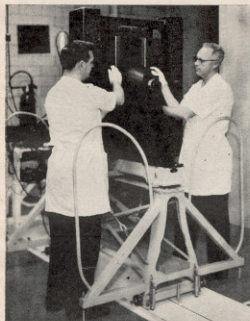
At night, illumination is cut back considerably without affecting appearance of the prints. Unlike tungsten lamps, which tend to glow red when cut back, brightness of the new German-made Xenon lamps can be varied with no change in color temperature. Since the lamps have a color quality similar to sunlight, the prints look the same at night and even on cloudy days. A big advantage: You can use normal daylight film for night shots of the pavilion.

Outriggers at the base of the pictures conceal the 6½' quartz tubes used for lighting. Every outrigger holds three rows of four lamps each—12 per picture, each tubular lamp rated at 20,000 watts. One tube casts a half-million lumens. (A 25-watt bulb casts about 300.) With 60 tubes in all, that's a total of 30 million lumens lighting the five color prints.

Electrodes in the Xenon-filled tubes are solid tungsten, the size of your finger. It takes 80,000 volts to start them, but afterwards they run on 460 volts.

The electric bill? An estimated \$500 a day just to light the five pictures.

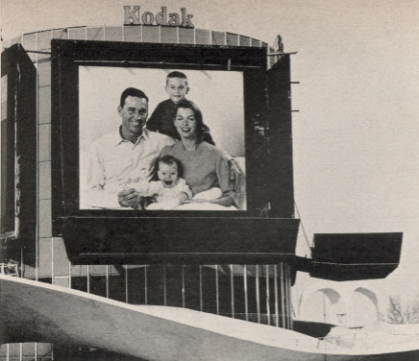
The tangle of circuits controlling the 60



How technicians enlarge and

Enormous horizontal enlarger (left), mounted on tracks, enlarges the huge color prints for the Eastman pavilion. Twelve overlapping strips of the 8"-by-10" negative are each printed on Ektacolor paper 43" wide by 30' long. The print paper (below) is held by vacuum against one





Like a floating carpet pierced by the 80' picture tower, the pavilion's upper-level walkway encircles the building. The white undulating concrete provides a gently sloping surface for pedestrians viewing the color pictures, and for garden and fountain background settings for camera fans.

lights is in three switching and relay stations, each a 10' cube. The intensity of the light can be remote-controlled.

Every conceivable test was run to make sure the lighting system would operate properly. Last summer an entomologist was called in to take an insect census of the Flushing Meadows region to see if the bugs would come winging in from miles around to the powerful lamps. His decision:

The problem of bugs would be negligible.

What about fading? If you left an ordinary color print out in bright sunlight, even for a few days, it would fade rapidly. But, says Eastman, these big fellows will remain up for about four weeks without fading. They have worked out a combination of techniques to keep the prints bright and fresh. Right now, they're not telling how they do it. ■ ■

assemble color prints only a Paul Bunyan could hold

wall of the enlarging room. (Normally, of course, it would be positioned while the room is dark.) This strip of paper makes up one-twelfth of the color print. On a vacuum table approximately 15'-by-36' (below), technician prepares to splice and assemble a one-third strip of the color print.

In last photo, he trims printed strip to close tolerance with a razor-edged cutter guided in a groove. Aluminum-backed tape is used on the reverse side to splice the portions into a 12'-wide strip. Assembled strips go to the fair rolled on aluminum cores 12' wide and 8" around.

