

TRIP TO ZENITH AND RAULAND; 8-30-51  
(Concerning their color tube work)

Zenith: J. E. Brown, John Rennick

Rauland: W. Phillips, Dr. Szegho, M. Amdursky

Judging from trip report of Dr. W. E. Good (8-16-51), quite an improvement has been made in either the Rauland tube or its associated circuitry. At Zenith, a 3 color tube was demonstrated with the simultaneous system, and at Rauland a similar tube was demonstrated using the CBS field sequential system. Microscopic screen examination of both tubes and each of the primary color rasters showed them to be excellent from the standpoint of color purity and convergence. Dynamic convergence circuitry had not been added and consequently convergence was good only in one portion of the screen. Neither of the color pictures I saw were particularly good - the system at Zenith had a defective modulator at the time, and that at Rauland was adjusted for the color filter wheel of the CBS system. The pictures on these tubes were streaked. This could have been due to either variable aperture mask transmission or poor phosphor printing - probably the latter. Aside from this difficulty which could easily be cleared up with better printing technique, the tubes looked fundamentally good.

Rauland was extremely cooperative in showing their manufacturing process for the tricolor tube in as much detail as desired. Some interesting observations concerning their process are:

Alignment pins are not used in the aperture mask-screen assembly - the phosphor dot screen after having been printed and aluminized is optically aligned in the lighthouse and then clamped in place.

The phosphor dot plate is printed by Dearbon Glass Co. Rauland makes the kodolith exposure, sends it to Dearbon and within 10 days or so gets back the printed screen. Because of the delay involved, they eventually plan to set up their own printing facilities. When the tube is not operating, the screen appears inferior to the RCA screen. This is primarily due to a less dense phosphor coating and also to the fact that the dots are smaller than those of the RCA screen.

In connection with the screen, the phosphor dots are smaller and are not tangent to one another as with the RCA screen. This makes for closer tolerance requirements in the aperture mask-screen alignment operation.

Rauland is starting work on a 21" tube and has the various parts on order.

In connection with stretching the aperture mask on the spacer frame, they use the same hot blocking technique as RCA, but have tried a mechanical arrangement similar to the two hoop method for holding fabric for needlework. This apparently was satisfactory, but required circular hoops and a circular aperture mask.

*C H Lob*

CGL/mg

cc: IC Abrahams	HA Samulon	LT DeVore
LR Fink	VC Campbell ✓	W Hausz
WE Good	IJ Karr	RB Dome
LE Record	BR Lester	JF Wilcox

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