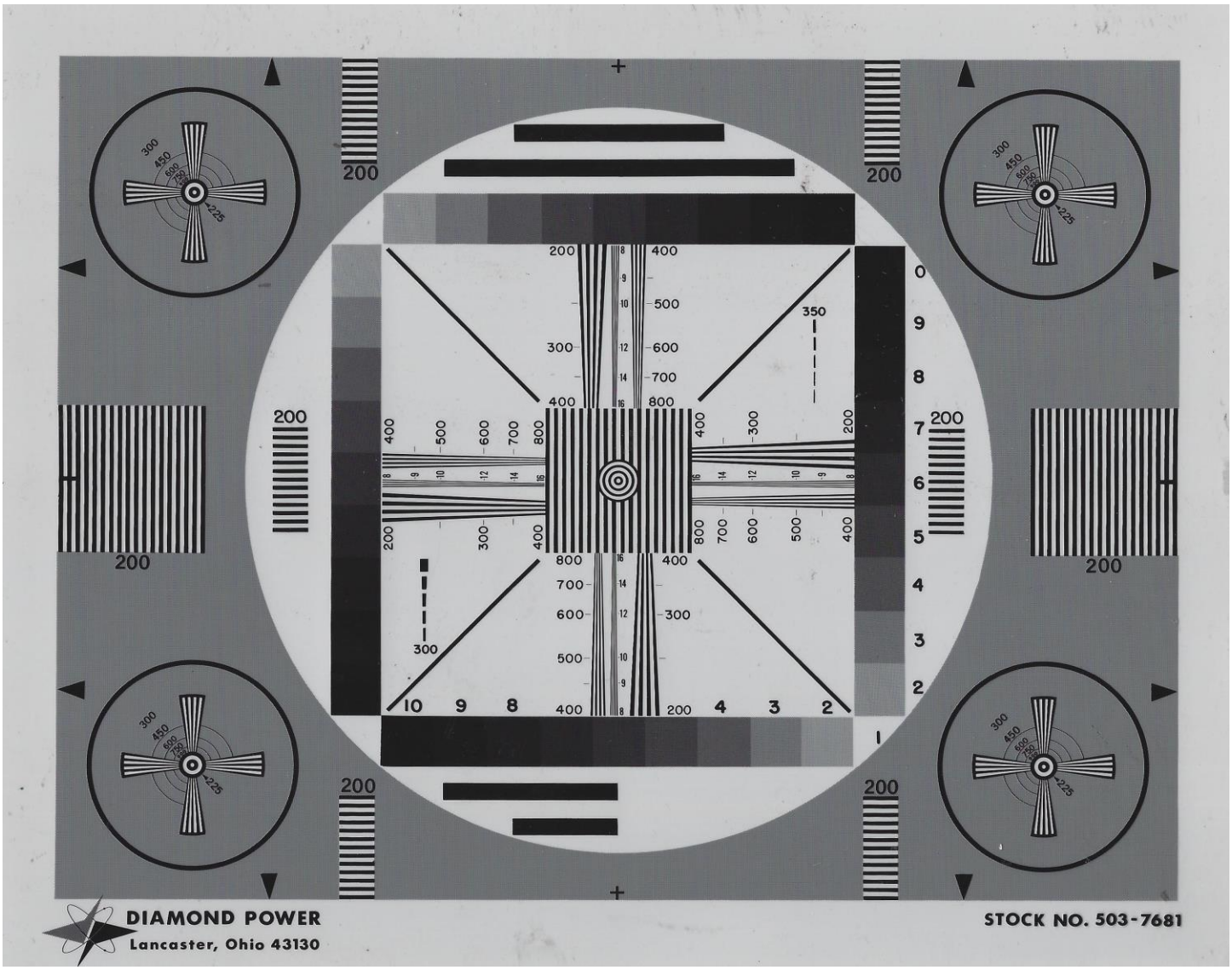
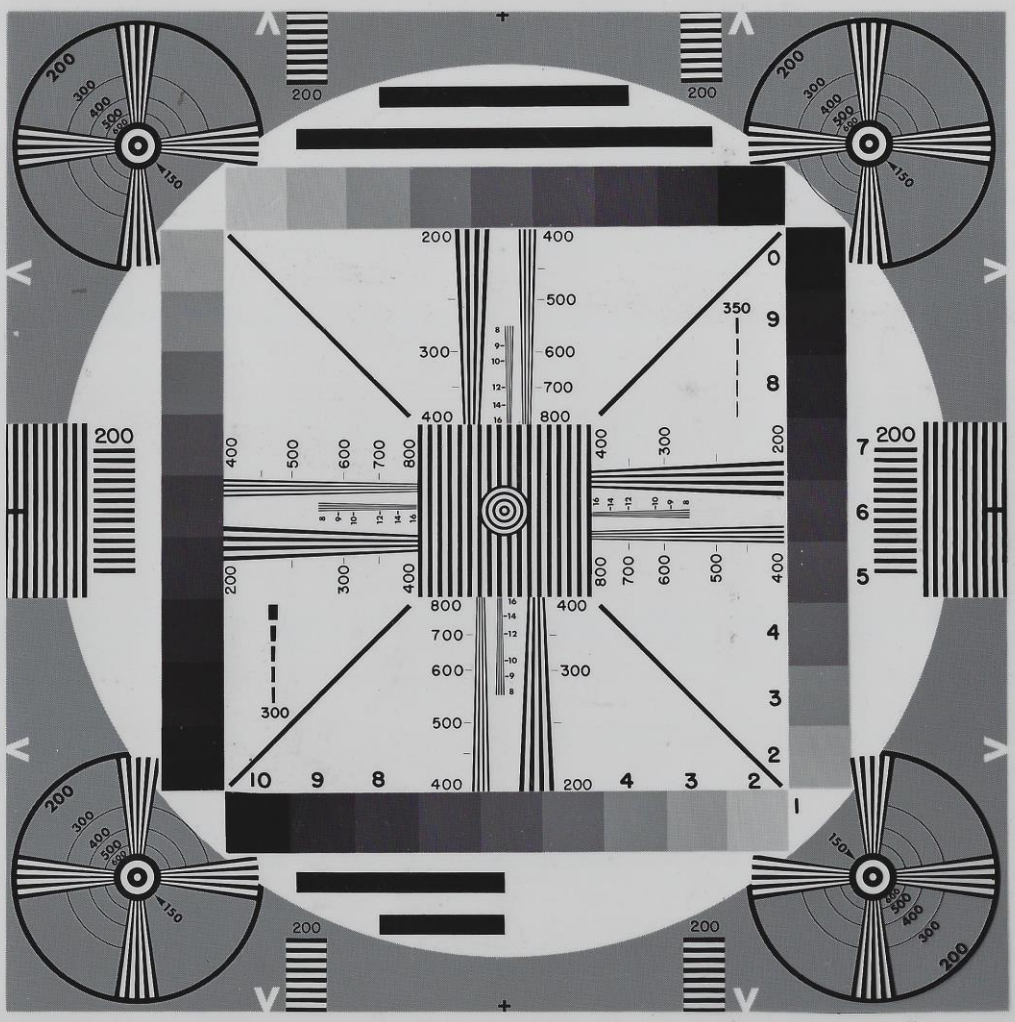
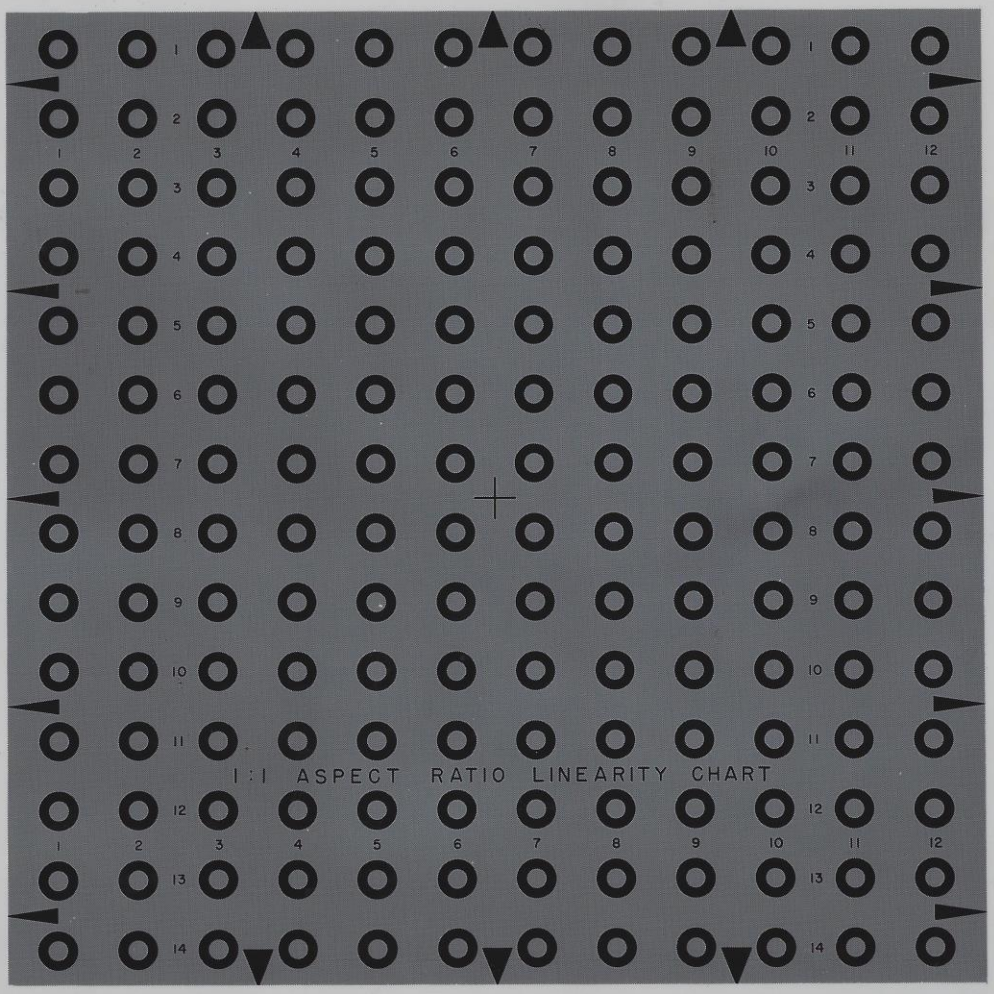

200
300
450
600
750
225
350
DIAMOND POWER
Lancaster, Ohio 43130
STOCK NO. 503-7681



DIAMOND POWER
Lancaster, Ohio 43130

Stock No. 503-7781

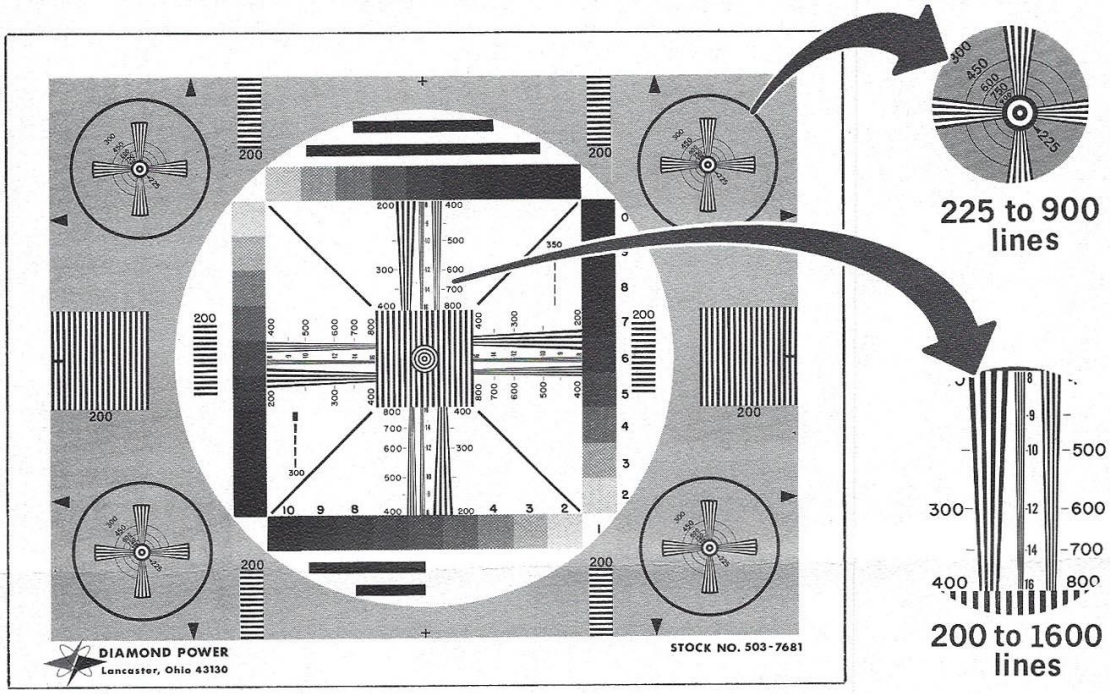


DIAMOND POWER
Lancaster, Ohio 43130

Stock No. 503-7761

Designed for Tomorrow - Available NOW!

The NEW 503-7681



Diamond's advanced technology in the manufacture of High Resolution Closed Circuit Television Systems required an advanced quality test pattern to measure the increased picture quality.

Our Photo-Test Materials Lab developed this pattern because of the numerous requests we have had from our customers.

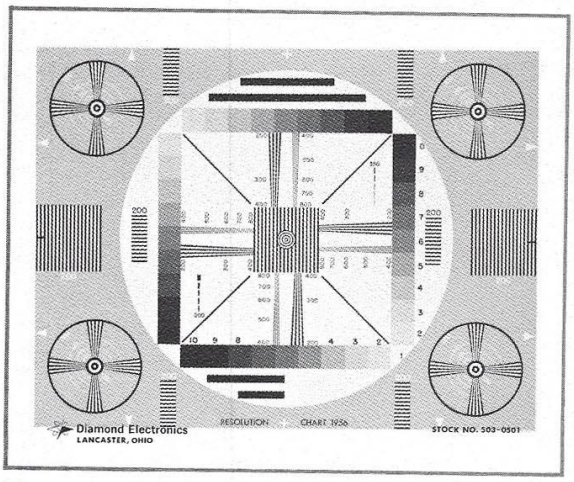
Now you can obtain this high resolution test pattern in an 8" x 10" transparency from stock.

Order it by stock number 503-7681 at $15., F.O.B. Lancaster, Ohio.

DIAMOND POWER

Diamond Power Specialty Corporation Post Office Box 415 Lancaster, Ohio 43130 · Telephone: 653-6540

STANDARD RESOLUTION TEST PATTERN



Purpose:

The Diamond Resolution Chart was designed to provide a standard reference for measuring resolution of television cameras and as an aid in testing for streaking, ringing, interlace, shading, scanning linearity, aspect ratio, and gray scale reproduction.

The horizontal resolution which may be obtained from many camera chains could be limited by the resolving capabilities of the camera tube, or by the bandwidth of the video amplifiers employed. Therefore, much useful information concerning the limiting resolution, percent response at various line numbers and degradation of resolution with aging of camera tubes can be obtained from a test chart containing a high number of lines. For these reasons the horizontal and vertical wedges of the resolution chart have been arranged to permit resolution measurements from 200 to 800 lines for the standard chart and from 200 to 1600 for the high resolution chart (not shown).

Description:

The center horizontal and vertical wedges are composed of four black lines separated by three equal width white lines. The numbers printed alongside the wedges correspond to the total number of lines (black and white) of the indicated thickness that may be placed adjacent to one another in the height of the chart. For example, if black and white lines having the same thickness as those indicated at the 320 position were placed adjacent to one another, a total of 320 (black and white) lines could be fitted into the height of the chart. Since the aspect ratio of the chart is 4 to 3, a total of (320 x 4/3) or 426.7 of these same thickness lines could be placed in the width of the chart. The fundamental video frequencies generated in scanning through various parts of the vertical wedges are tabulated in Table 1.

Diamond Electronics
Diamond Power Specialty Corporation Post Office Box 415 Lancaster, Ohio 43130 · Telephone: 653-6540

Table 1. Fundamental video frequencies generated in scanning through various parts of vertical wedges (EIA television standards.)

Line No. on Vertical Wedge	Fundamental Video Frequency
200	2.5 MHz
240	3.0 MHz
280	3.5 MHz
320	4.0 MHz
400	5.0 MHz
480	6.0 MHz
560	7.0 MHz
640	8.0 MHz
720	9.0 MHz
800	10.0 MHz
880	11.0 MHz
960	12.0 MHz
1040	13.0 MHz
1120	14.0 MHz
1200	15.0 MHz
1280	16.0 MHz
1360	17.0 MHz
1440	18.0 MHz
1520	19.0 MHz
1600	20.0 MHz

SHADING

Shading may be checked by visual inspection of the picture monitor to determine if the background is an even gray, and if the same number of gray steps are discernible on all four gray scales. A waveform monitor may also be used to determine if the average picture signal axis is parallel to the blanking level line at both line and field frequencies.

STREAKING

Streaking of the horizontal black bars at the top or bottom of the large circle is an indication of low frequency phase shift or of poor dc restoration. The black bars are also very useful for adjusting the high peaking circuits which are used in camera chains to compensate for the high frequency roll off of the coupling network between the camera tube and first video amplifier.

INTERLACE

The four diagonal black lines inside the square formed by the gray scales may be used to check interlace. A jagged line indicates pairing of the interlaced lines.

GRAY SCALE REPRODUCTION

The transfer characteristic of the camera, for given operating conditions, may be determined by using an oscilloscope with a line selector.

The gray scale reproduction achieved will depend on the amount of gamma correction employed, the manner in which the camera tube is operated, and the adjustment of the picture monitor. The user will have to standardize these operating conditions if comparative subjective measurements are to be made.

RINGING

The two sections of single line widths located in the upper right hand portion, and lower left hand portion of the square formed by the gray scale may be used to check ringing. These lines are included because the multiple lines in the wedges are confusing for checks of this type. The lines in the upper right hand section have widths from 350-550 (350, 400, 450, 500, 550) and the lines in the lower left hand section have widths from 100-300 (100, 150, 200, 250, 300).

Availability:

	Size	Stock No.
Slides	2" x 2" maximum detail contrast	503-0121
	2" x 2" extended gray scale	503-0131
	2" x 2" extended gray scale with wedge to 1600 lines	503-7691
Transparencies	8" x 10" standard	503-0501
	8" x 10" with wedge to 1600 lines	503-7681
	36 inch for 40" light box	503-0671
Opaques	4" x 5"	503-0381
	8" x 10"	503-0431
	18" x 24"	503-0481