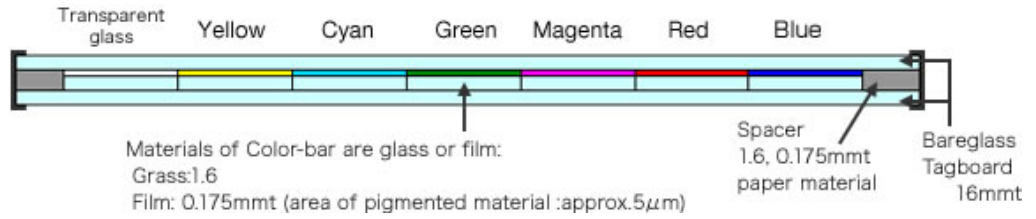
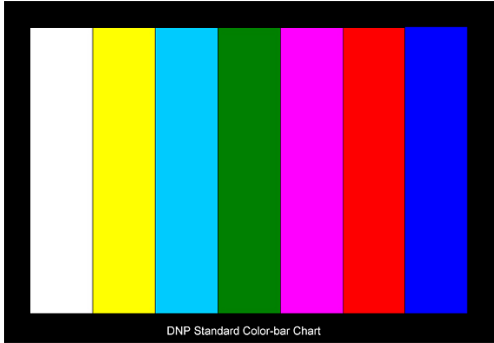


# DNP ELECTRONIC DEVICE

DNP Dai Nippon Printing Electronic Device Operations

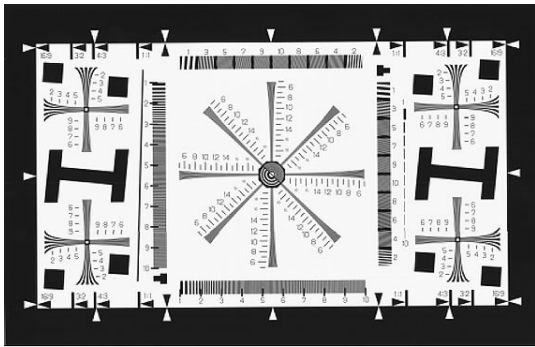
## Other Test Charts

### DNP Standard Color-bar Chart



| Color   | Transparent | Yellow  | Cyan           | Green     | Magenta | Red     | Blue        |
|---------|-------------|---------|----------------|-----------|---------|---------|-------------|
| Density | 0.08~1.0    | 1.4~2.0 | 0.9~1.3        | 1.95~2.35 | 1.1~1.5 | 1.8~3.0 | 0.8~1.2     |
|         |             |         | Effective area |           |         |         | Outer shape |
| 4 : 3   |             |         | 245×175        |           |         |         | 320×290     |
| 16 : 9  |             |         | 272×153        |           |         |         | 310×200     |

### Resolution Chart for Digital Steel Camera



1. This chart is used to evaluate resolution of digital steel camera. It is created from ISO 12233 chart. 500-2000 wedge-shaped fringes are arranged toward 0°, 45°, 90°, and 135°.
2. For sizes, please see the right side table.
3. This chart is available in both transparent and opaque types. It is also adjustable for scale changes.

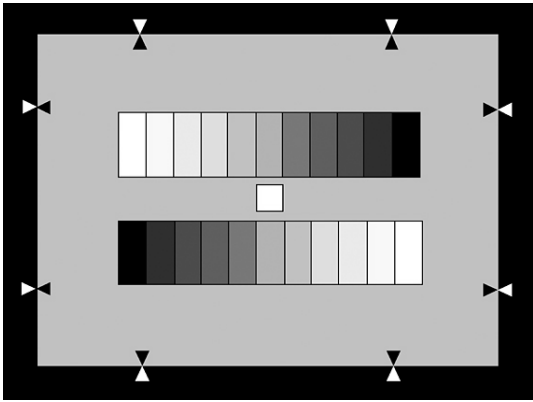
| Aspect Ratio | Width  | Height |
|--------------|--------|--------|
| 16 : 9       | 355.56 | 200.00 |
| 3 : 2        | 300.00 | 200.00 |
| 4 : 3        | 266.67 | 200.00 |
| 1 : 1        | 200.00 | 200.00 |
| Outer Cycle  | 395.56 | 240.00 |



宇宏企業股份有限公司  
 RADIOTEK CORPORATION  
 三重 重新路 5 段 609 巷 16 號 5 樓之 7

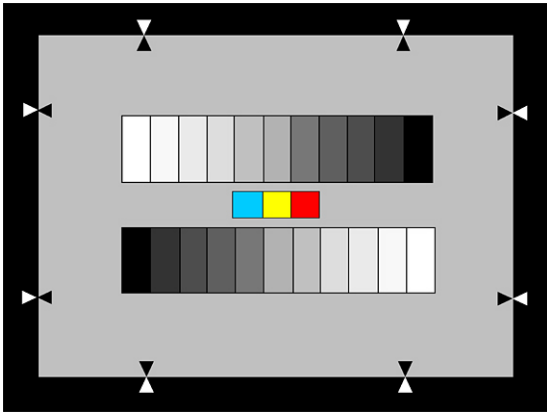
聯絡人：蔡明坤(0935159204)  
 TEL : 02-22782269 FAX : 02-22782059  
 Email : dickysai@rdtmail.com.tw

NHK 11 Steps Grayscale Chart( $\gamma=0.45$ )



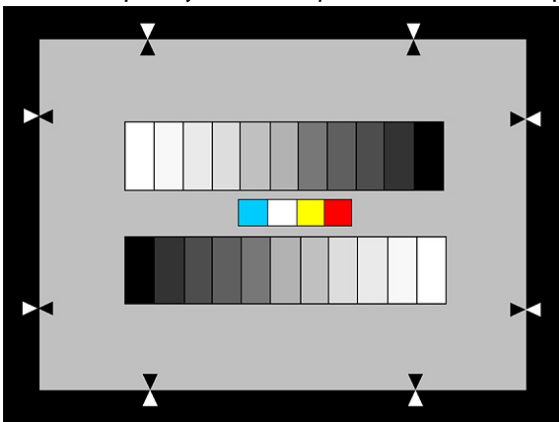
| Step Number         | 1       | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11             | Back ground |
|---------------------|---------|------|------|------|------|------|------|------|------|------|----------------|-------------|
|                     | (white) |      |      |      |      |      |      |      |      |      | (black)        | ground      |
| Reflection ratio(%) | 74.0    | 61.4 | 50.0 | 40.5 | 31.4 | 23.7 | 16.6 | 12.0 | 7.6  | 4.5  | 1.9            | 18.0        |
| density             | 0.13    | 0.21 | 0.30 | 0.39 | 0.50 | 0.63 | 0.78 | 0.92 | 1.12 | 1.35 | 1.70           | 0.74        |
| Transparent type    |         |      |      |      |      |      |      |      |      |      | Effective area | Outer shape |
| Reflection type     |         |      |      |      |      |      |      |      |      |      | 240×180        | 280×220     |
|                     |         |      |      |      |      |      |      |      |      |      | 240×180        | 320×290     |

NHK 11 Steps Grayscale Chart( $\gamma=0.45$ ) with Color Chips(3 Colors)



| Step Number         | 1       | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11             | Back ground |           |
|---------------------|---------|------|------|------|------|------|------|------|------|------|----------------|-------------|-----------|
|                     | (white) |      |      |      |      |      |      |      |      |      | (black)        | ground      |           |
| Reflection ratio(%) | 74.0    | 61.4 | 50.0 | 40.5 | 31.4 | 23.7 | 16.6 | 12.0 | 7.6  | 4.5  | 1.9            | 18.0        |           |
| density             | 0.13    | 0.21 | 0.30 | 0.39 | 0.50 | 0.63 | 0.78 | 0.92 | 1.12 | 1.35 | 1.70           | 0.74        |           |
| Color               |         |      |      |      |      |      |      |      |      |      | Cyan           | Yellow      | Red       |
| Density             |         |      |      |      |      |      |      |      |      |      | 1.00~1.20      | 1.60~1.80   | 1.65~1.85 |
| ND filter           |         |      |      |      |      |      |      |      |      |      | 70%            | 50%         |           |
| Transparent type    |         |      |      |      |      |      |      |      |      |      | Effective area | Outer shape |           |
|                     |         |      |      |      |      |      |      |      |      |      | 240×180        | 320×290     |           |

NHK 11 Steps Grayscale Chart( $\gamma=0.45$ ) with Color Chips(4 Colors)



| Step Number         | 1       | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11             | Back ground |           |           |
|---------------------|---------|------|------|------|------|------|------|------|------|------|----------------|-------------|-----------|-----------|
|                     | (white) |      |      |      |      |      |      |      |      |      | (black)        | ground      |           |           |
| Reflection ratio(%) | 74.0    | 61.4 | 50.0 | 40.5 | 31.4 | 23.7 | 16.6 | 12.0 | 7.6  | 4.5  | 1.9            | 18.0        |           |           |
| Density             | 0.13    | 0.21 | 0.30 | 0.39 | 0.50 | 0.63 | 0.78 | 0.92 | 1.12 | 1.35 | 1.70           | 0.74        |           |           |
| Color               |         |      |      |      |      |      |      |      |      |      | Cyan           | Transparent | Yellow    | Red       |
| Density             |         |      |      |      |      |      |      |      |      |      | 1.00~1.20      | 0.08~1.00   | 1.60~1.80 | 1.65~1.85 |
| ND filter           |         |      |      |      |      |      |      |      |      |      | 70%            | 50%         |           |           |
| Transparent type    |         |      |      |      |      |      |      |      |      |      | Effective area | Outer shape |           |           |
|                     |         |      |      |      |      |      |      |      |      |      | 240×180        | 320×290     |           |           |