

**TM20-90RH/RP TM20-80RH/RP TM14-80RH/RP****Specifications****Input Voltage:** 100~120, 200~240VAC±10% (Auto Select) 50/60Hz**Input Power:** 160W**Standard Accessories:** Remote Connector, Power Cable, Operation Manual, Service Manual**Input Facilities:****●Input Signals**

\*Encoded Video  
NTSC or PAL-B  
TM20/14-80RH, TM20-90RH....NTSC Decoder standard  
TM20/14-80RP, TM20-90RP ....PAL Decoder standard  
Other decoders are options.

\*RGB or Y, R-Y, B-Y  
(MII or BETA switchable internally) 1 CHANNEL

\*D1(4:2:2), D2 (D3) (Option)  
SERIAL input 2 CHANNELS  
SERIAL output 1 CHANNEL (MONITOR OUT)

**●Input Level**

\*Encoded Video  
Composite 1Vp-p  
Non Composite 0.7Vp-p  
\*RGB  
0.7Vp-p Non Composite  
Sync on Green  
No Sync on Red + Blue or Sync Red Green Blue or External Sync  
\*Analog Composite (Y, R-Y, B-Y)

MII Y Signal White Level 700mVp-p  
(N10) Setup Level 0mVp-p  
(SMPTE) Sync Level 300mVp-p

R-Y Signal p-p Level 525mVp-p  
B-Y Signal p-p Level 525mVp-p  
(100/0/75/0 Color Bar)

Beta Y Signal White Level 714mVp-p  
Setup Level 53.6mVp-p  
Sync Level 286mVp-p

R-Y Signal p-p Level 700mVp-p  
B-Y Signal p-p Level 700mVp-p  
(100/7.5/75/7.5 Color Bar)

\*Y/C Y Signal 1Vp-p  
C Signal 0.286Vp-p (burst level)

**●Connection**

Bridging BNC Connectors, high impedance,  
isolated from chassis ground

**●Return Loss**

Analog more than 46dB (up to 10MHz/  
Digital more than 15dB (up to 270MHz)

**●Remote Control (via 15pin D-sub connector)**

Input Selector (A/B/C/RGB/Y, P<sub>s</sub>, P<sub>r</sub>/DIGITAL A/DIGITAL B)  
4:3/16:9

COLOR/MONO

R.Tally (ON/OFF), Marker ON, Shadow ON, EXT SYNC ON

**Display Device:**

In-line gun, shadow mask high resolution CRT

TM14-80RH/RP 0.31mm

TM20-80RH/RP 0.43mm

TM20-90RH/RP 0.28mm

**●Chromaticity**

*ASP Standard	X	Y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070
*EBU Standard	X	Y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

\*Tolerance R,G: ±0.010  
B: ±0.007

**●Brightness/Contrast**

\*Preset Contrast  
35Ft-L at Factory setting(100% Window Signal)

\*Max Brightness

TM14-80RH/RP: more than 70Ft-L with Window Signal

TM20-80RH/RP: more than 50Ft-L with Window Signal

TM20-90RH/RP: more than 50Ft-L with Window Signal

**●Resolution(at 35Ft-L)**

TM14-80RH/RP: 700TV lines (at center)

TM20-80RH/RP: 700TV lines (at center)

TM20-90RH/RP: 900TV lines (at center)

**Video Signal System:**

●RGB Response 50Hz~10MHz+1, -3dB

●Linearity Differential Gain ≤2%

●Back Level Varies <1%(APL 10%~90%)

●Color Temperature Stability <1% for 500HRS, +10°C~+40°C

**●Noise (at each RGB in Active Scanperiod)**

Coherent Noise ≤-46dB

Hum Noise ≤-55dB

Other ≤-55dB

**●Chroma Signal Response**

NTSC 3.58MHz±1MHz: +1, -3dB

PAL-B 4.43MHz±1MHz: +1, -3dB

**●Demodulator Axis**

R-Y VS B-Y 90°±1°

**●Oscillator Performance Subcarrier Lock-in**

±200Hz (NTSC/PAL-M)

±300Hz (PAL-B)

**●Phase Error** Less than 2°for each of following individual conditions:

a) Burst frequency ±10Hz

b) Burst level change +6dB, -12dB

c) Ambient temperature change by +10°C

d) Sync-blanking within FCC requirement

**●Color Killer** Automatic operation when burst level is less than 5±1 IRE**●Adjustments** \*Chroma amplitude: ±6dB

\*Subcarrier phase: ±15°

**Raster + Deflection****●Scan** \*Normal Scan (4:3)

Aspect ratio 4:3 with blanked raster 1%

\*Under Scan (4:3)

Aspect ratio 4:3 approx. -7.5% (Adjustable 90% of Normal Scan)

\*Normal Scan (16:9)

(Width is the same as 4:3 Normal Scan and the aspect ratio is 16:9)

\*Under Scan (16:9)

(Width is the same as 4:3 Under Scan and the aspect ratio is 16:9)

**●Stability of Raster Size**

1% of picture height 0-100% APL at 35Ft-L reference

**●Linearity H + V line**

0.5% of picture height

**●Geometry Entire Screen**

0.5% of height center

**●Retrace Time** Horizontal 9 μ sec.

Vertical 0.8msec.

**●High Voltage** \*Tolerance

TM14-80RH/RP: 25kV±0.5kV

TM20-80RH/RP: 25kV±0.5kV

TM20-90RH/RP: 25kV±0.5kV

\*Regulation with ±1% at 0 to 450 μ

**●Convergence**

Center: <0.3mm (within circle of 80% of picture height)

Corners: <0.5mm (outside area of picture center)

**Functions:****●Adaptive Comb Decoder (option)****●Safe Title Generator****●Auto Setup (with an optional probe)****●Infrared Remote Control (with an optional remote box)****●Serial Remote Control (with an optional remote controller SRC-301/A)****●Test Signals** \*Cross Hatch

\*Flat Field (50%) \*10 step stair signal with plugs as standard

\*Window (100%) \*Character

**●Color/Mono Split (vertical position)****●Beam Feedback System**

**Dimensions:** TM14-80RH/RP: 450 (W)×265 (H)×515 (D) mm

17.72 (W)×10.43 (H)×20.28 (D) inches

TM20-80RH/RP: 450(W)×399 (H)×515 (D) mm

17.72 (W)×15.71 (H)×20.28 (D) inches

TM20-90RH/RP: 450 (W)×399 (H)×515 (D) mm

17.72 (W)×15.71 (H)×20.28 (D) inches

**Weight:**

TM14-80RH/RP: 26kg (57.32 lbs) approx.

TM20-80RH/RP: 38kg (83.77 lbs) approx.

TM20-90RH/RP: 38kg (83.77 lbs) approx.

**Options**

- \* DK-801 SDSDI D1 Input Module
- \* DK-802N SDSDI D2/D3 (NTSC) Input Module
- \* DK-8012 SDSDI D1, D2/D3 (NTSC) 2 Format Input Module
- \* DE-802 PAL Comb Decoder Module
- \* SRC-301/A Serial Remote Controller
- \* ASP-15 Auto Setup Probe
- \* ASP-80 Auto Setup Probe
- \* RCT-20A IR Remote Controller
- \* DC-801 Dual Component Module
- \* EX-801 Test Extender Board

\* Commonly used for HDTV/SDTV Multi-Format Color Monitors

Design and specifications are subject to change without notice.

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