RCA

catalog CA.1555

TK-761
Studio/Field Camera

TK-761—THE "ONE-FOR-ALL" CAMERA

- Total versatility for studio, remote, and newsgathering use
- Broadcast quality performance
- Unique Automatic Cable Equalization and Timing
- Automatic Comet Tail Suppression (CTS)
- Compact and lightweight
- Optional Chroma Keyer
- Types for NTSC, PAL-B, PAL-M, or SECAM III B color standards

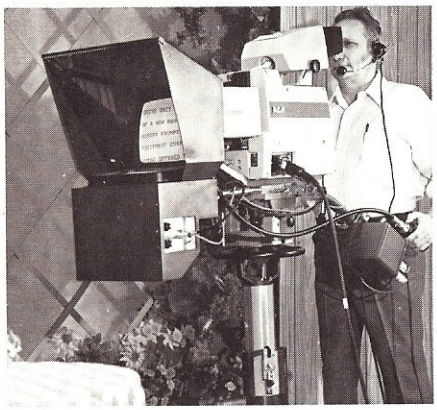
The TK-761 incorporates the key features of its popular predecessor—the TK-760—and adds several new features for improved performance and reliability. The new "all-for-one" camera, the TK-761 is a medium-priced camera designed for optimum performance in any of three configurations—studio, field and Electronic Field Production (EFP). Operational flexibility and maximum versatility simplify production of programming, video training, on-site documentaries and commercials and coverage of news and sports.

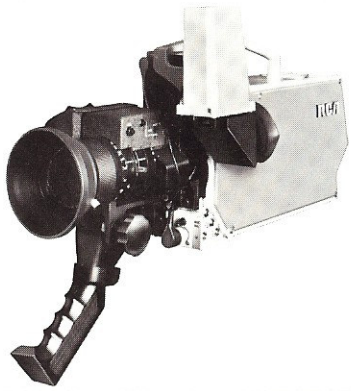
NEW TK-761 FEATURES

Enhanced reliability and performance of the TK-761 camera result from several new features and design improvements:

- Redesigned preamp circuitry provides improved low light performance
- Redesigned camera head circuitry for lower power consumption
- A two-speed switchable fan for positive cooling when the camera is used in extreme temperature conditions

The ease of operation, sturdy construction, sparkling picture quality and versatility of the TK-760 are retained in the TK-761.



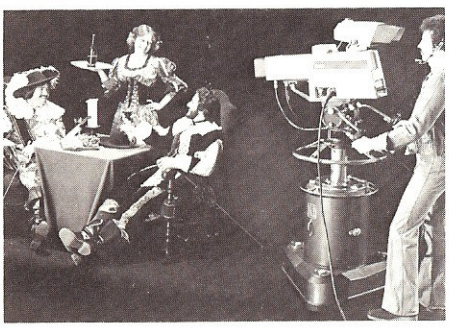


In the studio . . . in the field . . . or for Electronic Field Production

The Medium-Priced Camera That Covers Every Production Need

From "On" to "Action" in Seconds

In less than ten seconds from a cold start, the TK-761 delivers a bright, useable picture. Once operating, the TK-761 color prism system produces full video level at 65 footcandles (650 lux). For extra low-light conditions, a switch selectable gain boost of 9 dB can be achieved, while a special filtering system holds noise to a minimum.



Automatic Functions

For simple, convenient operation, the TK-761 features a wide-range of built-in automatic systems:

- Automatic white balance control
- Automatic iris control
- Automatic flare control
- Automatic Comet Tail Suppression

An for the first time in a medium-price camera . . .

- Automatic cable equalizing
- Automatic cable timing

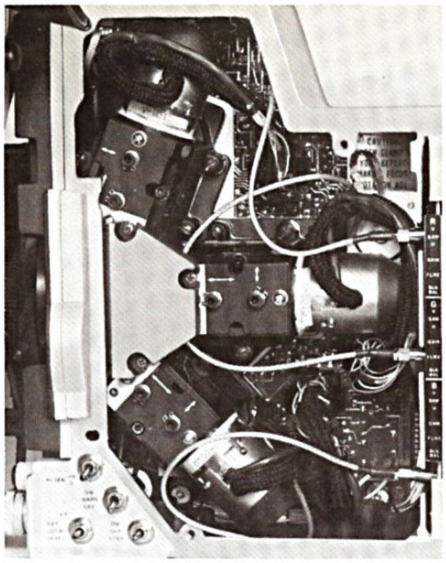
These features allow for automatic cable equalization up to 3,000 feet (900 m) regardless of cable non-uniformity or temperature effects, and provide correct picture timing independent of cable length.

Automatic Comet Tail Suppression

In many types of shooting, particularly outdoors, lighting cannot be precisely controlled. Strong backlighting, high contrast light sources in the field of view, or specular reflections can degrade the picture.

The TK-761 has an automatic highlight overload circuit (CTS) which considerably reduces the well-known comet tail effect, thus improving the overall subjective quality of the picture. CTS does not affect tube life.

Shock-mounted optical system for registration stability.



Chroma Key option is easily added to TK-761 Camera.

Rugged, All Environment Construction

Both the studio and portable configurations are highly resistant to the rigors of constant daily use. For long-term registration stability, the lens, prism, yokes, tubes, pre-amps and filter wheel assembly are shock-mounted as a unit, separatge from the case.

Full-Feature Versatility

The TK-761 features a wide range of innovative design advancements.

Contour Enhancement

Built-in "contours from green" image enhancer, along with coring and combing.

RF Immunity

Silver-impregnated gaskets, set into a gold iridite surface are used to ward off the effects of strong RF fields.

Smaller, Lighter Cable

Only one video cable is required, one-half inch (13mm) in diameter. Simply plug in the cable and the TK-761 automatically compensates for video roll-off and adjusts the timing.

Versatile Viewfinder

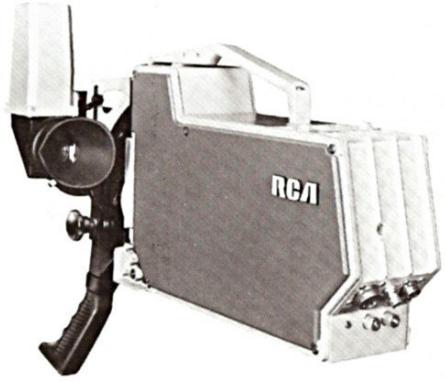
The five inch (127mm), diagonal viewfinder is tiltable for convenient maneuvering of the TK-761 to the most favorable angle in any shooting situation. It also accepts an external feed for shot matching and houses a Video Level indicator for easier one-person Operation. Variable controls are provided for Brightness, Contrast and Peaking.

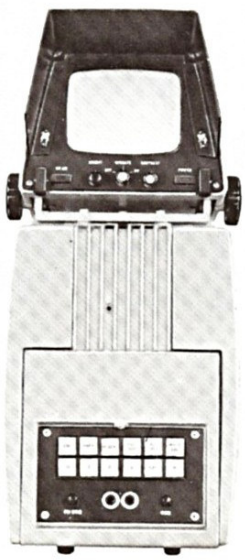
Chroma Keyer

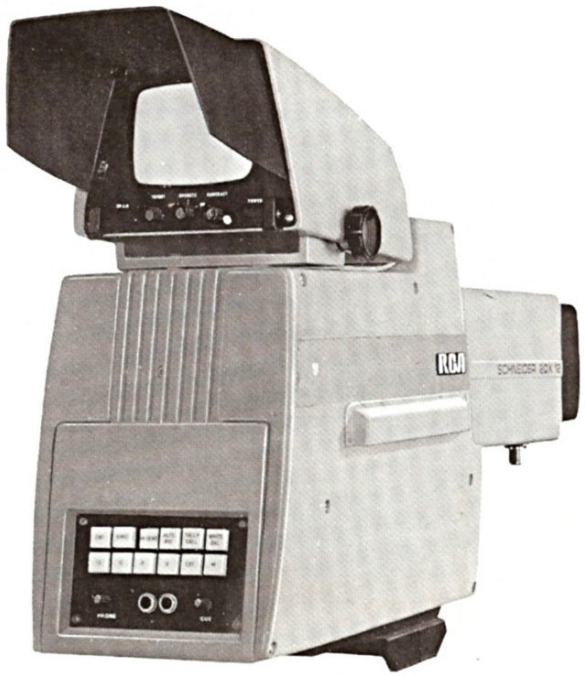
To make the TK-761 even more versatile in the studio or field, an RGB chroma key option is available. Chroma key is achieved simply by adding a plug-in circuit to the camera head and installing the operational controls in the CCU.

Low Power Consumption

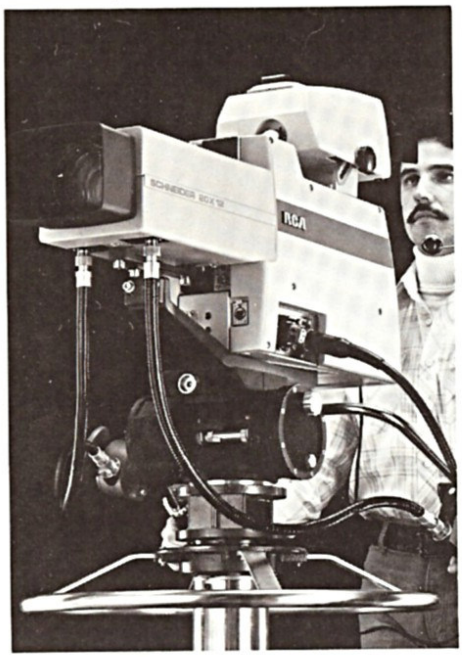
In spite of its many special circuits and operating benefits, the TK-761 uses scarcely more power than a 100-watt light bulb. Plus, it is operable over a wide range of the line voltages without the need to change power taps.







TK-761 Versatile Compact, Ready-to-Go

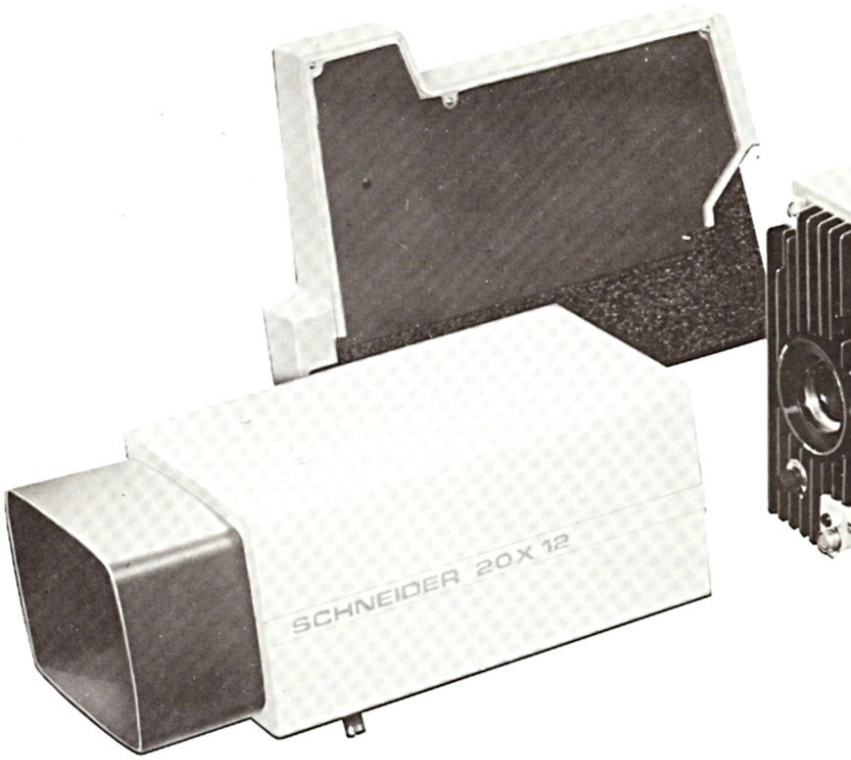


The TK-761 is a moderate-price camera with the necessary picture control and range of automatics to make it a primary studio camera.

The TK-761 Camera Head is rugged, yet light-weight enough to become instantly transportable to afford studio quality in field production.

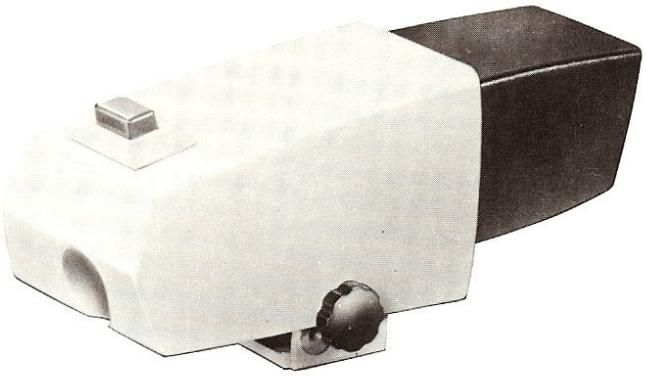
Removal of the TK-761 main frame produces a stand-alone portable camera (TK-76) with film camera freedom and full broadcast quality.

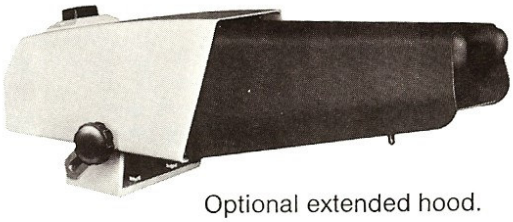
THE TK-761
THE CONVERTIBLE CAMERA



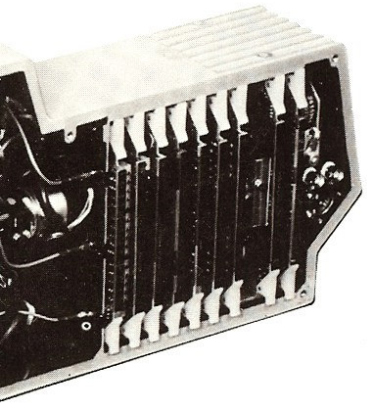
Modular Accessibility

The TK-761's modular design and construction make it easier to use and maintain. It can be quickly and easily converted from a studio or remote camera to a portable camera, and back again. The interior of the camera head is clean and uncluttered, with PC back planes virtually replacing all of the conventional cumbersome wiring harnesses.





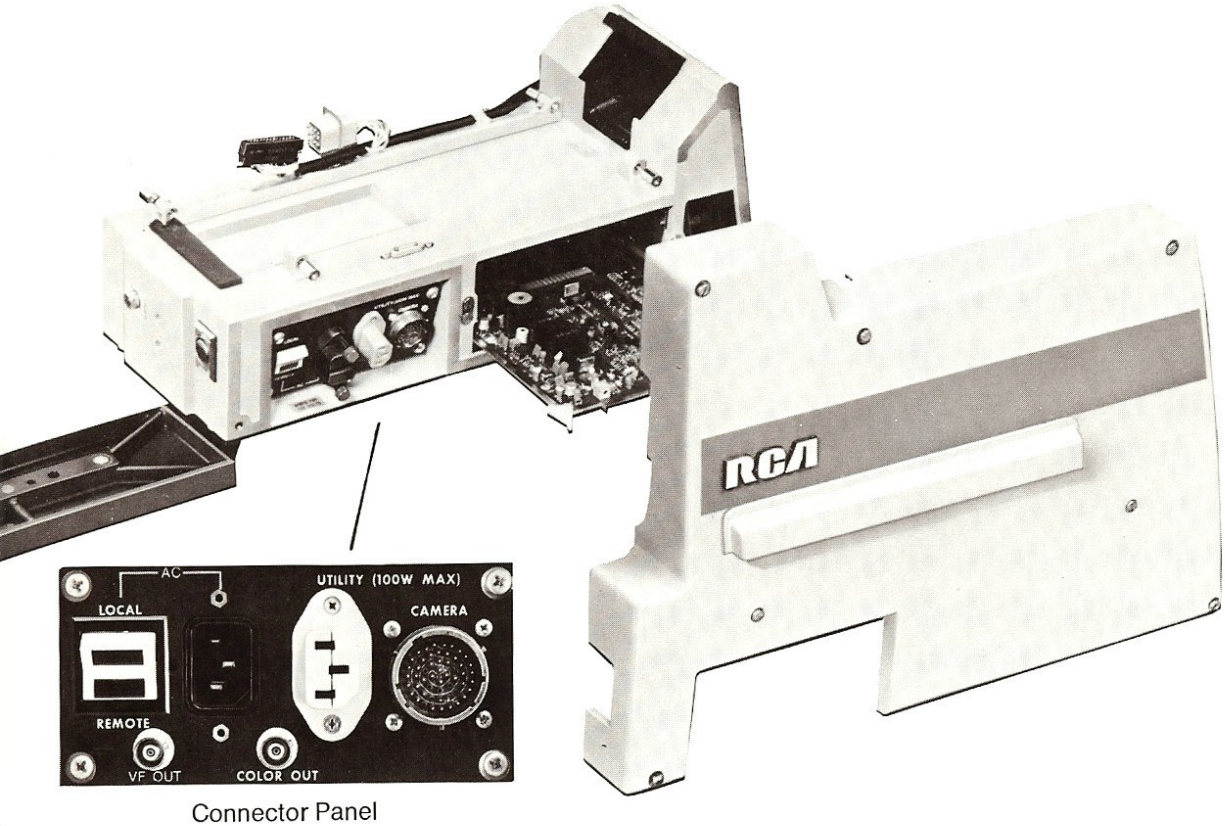
Optional extended hood.



Advanced Electronics

The microtechnology design of the highly successful TK-76, the heart of every TK-761, contributes greatly to the camera's outstanding performance and reliability. Weight and size have been reduced and reliability increased with the use of Integrated Circuits and LSI (Large Scale Integration). Unique thermal design and compartmentalization have been employed to efficiently handle heat dissipation. The addition of a switchable two-speed fan further enhances the flexibility of the camera, ensuring trouble-free operation in the extreme environments typically encountered in field and sports production applications.

Camera circuits, encoder, sync generator, pre-amps, and processor are mounted on plug-in boards which add to the camera's overall reliability. Such modularization allows automated factory assembly for higher quality control and precision. Computer testing and design maintain stringent tolerance standards for each electronic component.



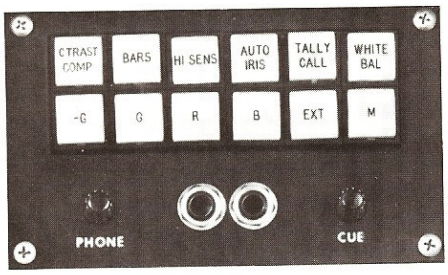
Connector Panel

Total Versatility With Technical Quality

TK-761
Control Flexibility

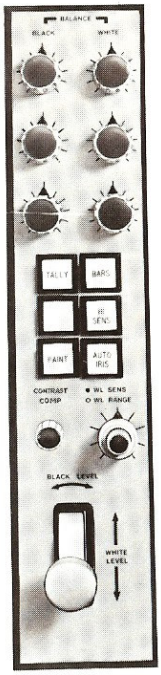
The TK-761's camera functions can be controlled at the Camera Head or at the Camera Control Unit, depending on particular operational needs.

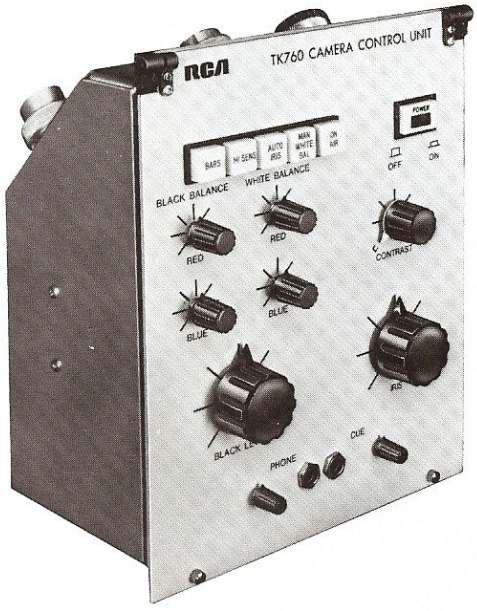
In a single camera set-up, no CCU is necessary. Controls conveniently located on the back of the camera give the operator complete control of camera operations, as shown below.



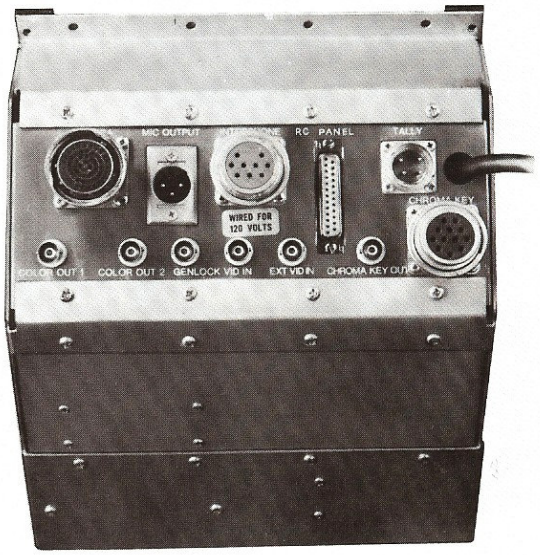
Multi-camera operations and more precise control of a single camera are accomplished with the TK-761 Camera Control Unit. The CCU weighs only seven pounds (3.2 kg) and is 8½ × 10½ × 3¾ inches (210mm × 260mm × 95mm). The TK-761 CCU contains the same controls as on the Camera Head plus: Automatic Cable Equalization, Manual Control of Iris, and Red and Blue-Channel Paint Controls, making the TK-761 a sophisticated on-line camera.

Another option for multiple camera installations is the Joystick Remote Control Panel which combines black level and iris control in a single handle. Dimensions: 14 inches high × 3 inches wide. Six Remote Control Panels will fit side-by-side in a standard rack-width console mount.





Front and rear views of compact CCU for TK-761.



Weighing 38 pounds (17 kg) and measuring 18 × 13½ × 8⅜ inches (457mm × 213mm × 343mm), the TK-761 Camera Head is extremely manageable. It is easily transferred from one supporting base to another by one person, or transported in a small vehicle or mobile van. Despite its compactness, the TK-761 has the mass and weight balance necessary for smooth movement on a pedestal or tripod.

The Indoor-Outdoor Camera

While complementing any existing studio camera system, the TK-761 adds a field-production capability as a portable.

The TK-761 goes from indoors to outdoors with the same speed and ease as the operator. The use of 2/3 inch (17mm) pick-up tubes along with advanced engineering design has resulted in the lightest camera head in its class.

In only 10 to 15 minutes, the TK-761 converts to the TK-76, allowing rapid access to shots only a portable can make. Programming and production flow are enhanced by the versatility of the TK-761.

When converted for use as a TK-76 Portable, the camera is connected to the Camera Control Unit via a belt-worn interface unit (photo). This unit provides power supply; intercom; an amplifier for an announcer's microphone, and equalization for return video to the 1½-inch viewfinder. The CCU provides automatic timing and automatic equalization for up to 3,000 feet.

TK-761

THE ONE—FOR—ALL CAMERA

SPECIFICATIONS (Preliminary)

SCAN STANDARDS
EIA .....525/60 fields
CCIR .....625/50 fields

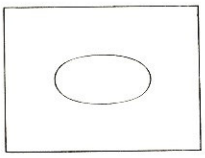
COLOR STANDARDS
Type available for NTSC, PAL-B, PAL-M, or SECAM

POWER REQUIREMENTS
95-130 or 190-260 V, 47-63 Hz, approximately 100 watts

CONTOUR ENHANCEMENT
Horizontal and vertical aperture equalization with comb filter to minimize noise and luminance-chrominance interference. Coring minimizes noise on base line. In-band peaking of the horizontal correction signal is used.

SHADING CORRECTION
Horizontal and vertical sawtooth axis shading for each video channel, as well as horizontal parabola shading.

VIEWFINDER
Screen Diagonal Dimension .....5" (127 mm)
Controls ....."Contrast", "Brightness" and "Peaking"
Exposure Indicators (internally adjustable) ...100% Inversion
Automatic Iris Window .....Centered Ellipse



AUTO TIMING & AUTO EQUALIZATION
Maximum Camera Cable Length .....3000 ft. (900 m)
Genlock (Input at CCU) .....Black burst or composite video
External System Phasing .....Sync +1.0 µs, −0.5 µs subcarrier 360°

Complies with EIA RS-170A, SC-H phasing.

CHROMA KEYER
(Built-In) .....Optional
RGB-Type
Soft Edges
Remote Control: Hue (coarse & fine)
Sensitivity
Edge Softness

MICROPHONE CHANNEL
Line level outpur connector at CCU

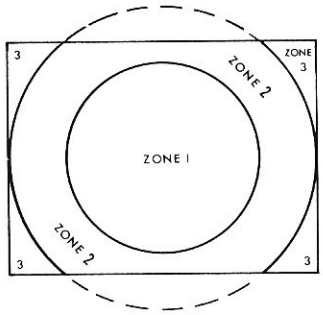
Interphone
Engineering and production. 2-wire balance or 4-wire, carbon or dynamic microphone.

GAMMA .....0.45 and 1.0

SENSITIVITY
125 footcandles (1250 lux) @ f/2.8 (with camera viewing a 60% reflectance Munsell white with 3200°K illuminant)

SIGNAL-TO-NOISE RATIO
NTSC/PAL-M .....54 dB
PAL-B/SECAM .....52 dB
(all standards measured at 1.0 gamma, aperture correction off, with camera capped after adjusting to above-defined sensitivity)

REGISTRATION ACCURACY
Zone 1 (circle in center = 0.8 picture height) 0.1%
Zone 2 (circle in center = 1.0 picture width) 0.2%
Zone 3 (area outside Zone 2) 0.5%
(Excludes registration deviation in lens.)



PICTURE GEOMETRY
Zone 1 (see Registration Accuracy) 0.5%
Zone 2 .....1.0%
Zone 3 .....2.0%
(Excludes geometry deviation in lens.)

ENVIRONMENTAL
Ambient Temperature Limits .....−4° to +122°F (−20 to +50°C)
Ambient Relative Humidity .....0 to 90% RH
Operational Altitude .....to 10,000 ft. (3048 m) ASL
Stability .....Specifications are met over a range of ±36°F (±20°) from the set-up ambient temperature
RFI Immunity (approximate) ....Up to 10v/meter, 100 kHz to 600 MHz, everywhere on camera surface except at lens port

MECHANICAL
Camera (less lens):
Height .....13½" (343 mm)
Width .....8⅜" (213 mm)
Length (w/o lens) .....18" (457 mm)
Weight .....38 lb. (17 kg)
Camera Control Unit:
Height .....10½" (267 mm)
Width .....8½" (216 mm)
Depth .....3¾" (95 mm)
Weight .....7 lb. (3.2 kg)
Joystick Panel:
Height .....14" (356 mm)
Width .....3" (76 mm)
Depth .....3" (76 mm)
Weight .....3.3 lbs. (1.5 kg)
Power provided from CCU

RCA reserves the right to modify the design or change specifications without notice.

www.tvcameramuseum.or

Front and Cooper Streets, Camden, New Jersey 08102, U.S.A.

RCA Broadcast Systems

TRADEMARK(S) ® REGISTERED
MARCA(S) REGISTRADA(S)

9045 BC