

- Bright picture viewfinder—stays at eye level
- Built in pan and tilt—no cradle head required
- Built in zoom lens controls
- Broadcast camera features
- Easy to operate and maintain
- Solid state circuits

Vidicon Viewfinder Camera, Type PK-315

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Description

The PK-315 Vidicon Viewfinder Camera is the newest addition to the RCA PK-300 series of field proven cameras. Designed for teaching and training applications, the PK-315 employs compact, power saving solid state circuits, built-in electric zoom lens controls, a unique cost-saving pan and tilt mechanism, plus many broadcast camera features. There is a PK-315 model available for each of three synchronizing options: 525 line positive interlace requiring no external sync; EIA/CCIR sync drive—an exclusive Professional Television type sync which meets broadcast specifications but requires a sync-only drive signal; and EIA/CCIR sync and blanking drive, where the camera will be used in a system with other types of cameras.

Imaginative Design

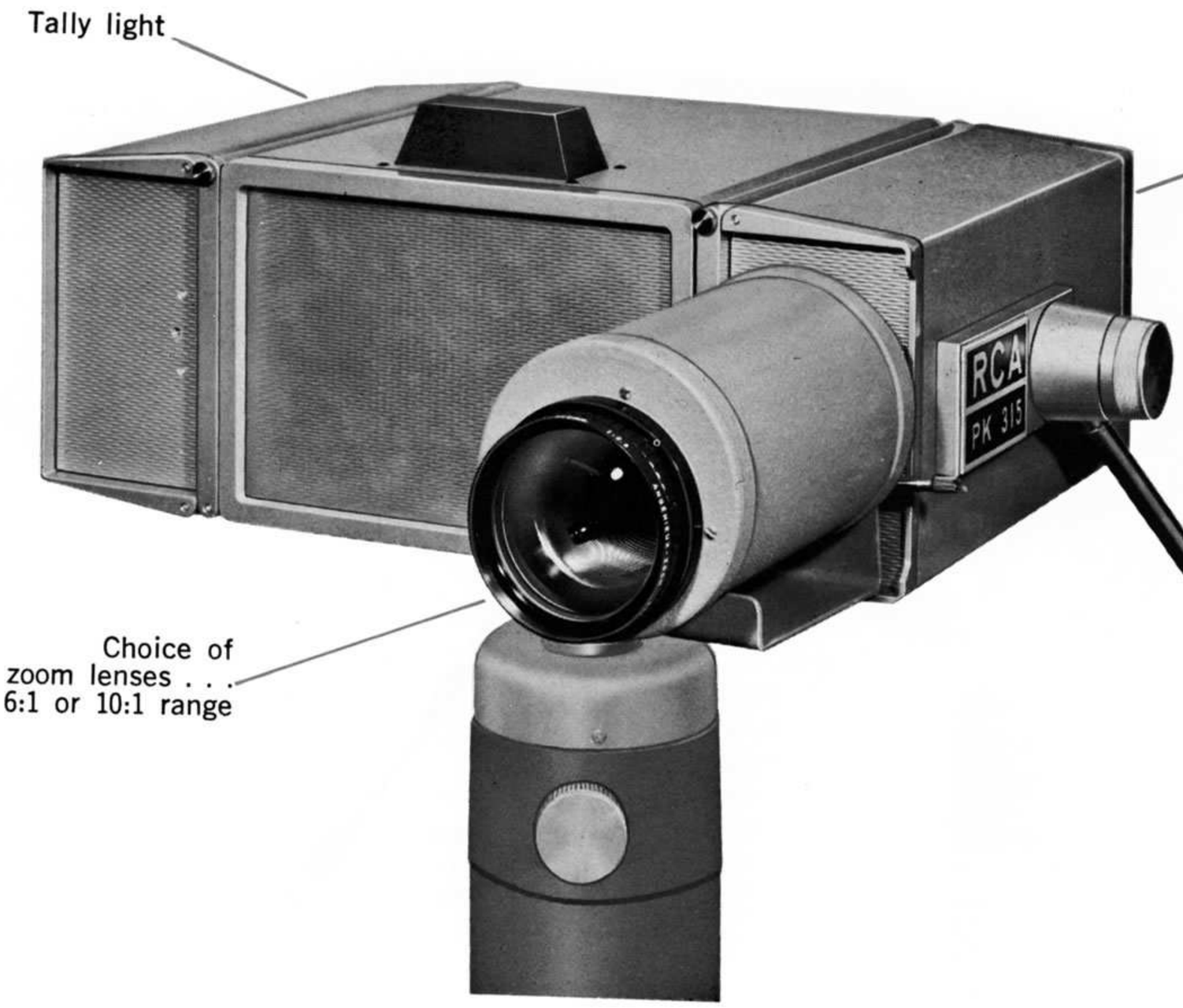
Several cost-saving innovations are offered by the PK-315. For example, a built-in pan and tilt mechanism provides the tripod-mounted camera with a 70-degree tilt range and 360-degree pan. This feature eliminates any need for the cradle or friction head normally required. Other conveniences not usually found in cameras in this price range include built-in zoom lens controls and power supply. Also available is a choice of optional motor driven zoom lenses for 4:1, 5:1 or 10:1 ranges.

Superior Picture Quality

These systems produce sharp, crisp, attention-getting pictures with high response to important scene detail, low noise, and faithful tonal rendition. Phaseless, adjustable aperture correction adds "snap" to images by restoring sharp black-to-white transitions. Gamma correction circuits establish pleasing gray scale and faithful tones with high response to low-light scene detail. High-definition performance is a result of careful circuit design and balancing of all parameters. It has not been artificially inflated with excessive high peaking and improper aperture correction which is often the cause of objectionable noise. A third distinguishing feature is the automatic target control (ATC) circuit which maintains picture quality despite variations in scene lighting. Scene brightness changes of up to 4000:1 can be accommodated by the PK-315, and lighting changes of 2000:1 are easily handled with less than a 50% change in video output level.

A keyed clamp circuit provides a stable DC reference. A peak white "soft" clipper prevents system overload from speculars or other excessive scene highlights and permits sending considerably more "picture power" to television tape recording systems without risk of tape overmodulation resulting in a "lost" program. Adjustable shading correction assures uniform picture luminance.

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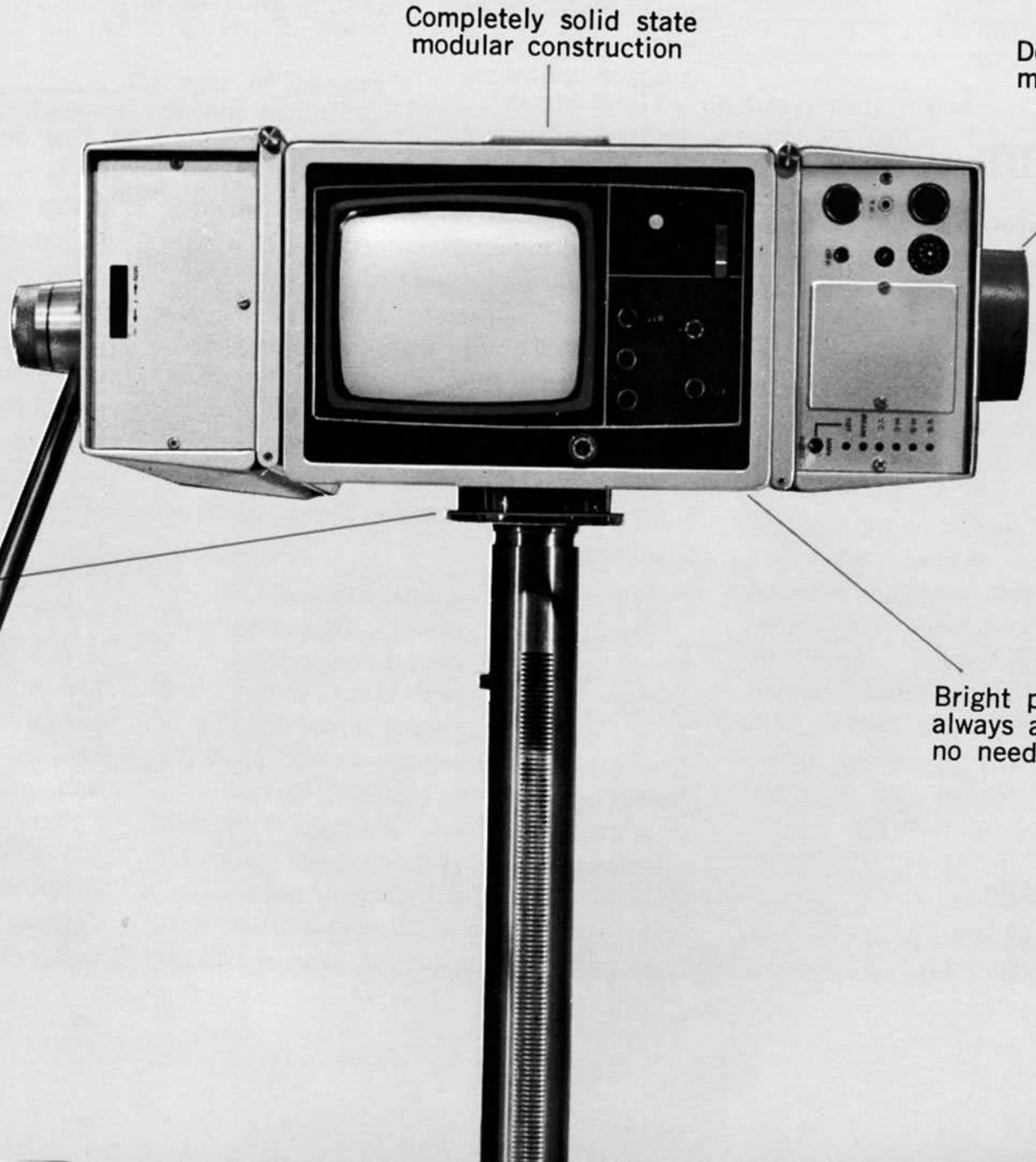


Tally light

Camera head
tilts 70 degrees

Convenient handle
for pan and tilt operation

Choice of
motor driven zoom lenses . . .
4:1, 6:1 or 10:1 range



Completely solid state
modular construction

Double action
motorized zoom focus control

Built-in 360 degree pan—
no cradle or friction head required

Bright picture viewfinder
always at eye-level—
no need to tip-toe or squat

PROFESSIONAL CAMERA FEATURES

Some bonus values of the moderately priced PK-315 normally found only in broadcast cameras are listed below. These and other features enable this professional camera to provide the ultimate in picture quality and to operate continuously with minimum attention:

- **Tally lights**
- **Phaseless adjustable aperture correction for pictures with "snap"**
- **Selectable gamma correction of 0.7 and 1.0 for faithful tonal response—even under poor lighting**
- **Keyed clamp circuit for a stable DC reference**
- **A peak white clipper prevents system overload**
- **Adjustable shading correction assures uniform picture luminance**
- **A dynamic automatic target circuit maintains picture quality over light variations up to 4000:1**
- **A synchronous power supply for efficient high voltage generation.**
- **Optional interphone**



Operational Simplicity

There are only five operating controls aside from those for the zoom lens: "auto-manual target," "day-night" (gamma), "brightness" (pedestal), "electrical focus" and "optical focus." A double-action knob on the right side of the camera provides finger tip control of both zoom and lens focus. Speed of the zoom lens may be controlled with a thumbwheel. A pushbutton-controlled iris assures correct exposure under all conditions. The viewfinder always stays at eye level regardless of the position of the camera lens. No need for cameramen to tip-toe and squat to keep the picture in view. The camera control panel can be located remotely, if desired, by the addition of a control panel extender kit. Also available is an optional remote control panel designed for console mounting.

The PK-315 camera is ready to use when removed from the shipping container. All adjustments are performed during the production test cycle for optimum operation, and the cameras are shipped with the vidicon tube installed. Simplified controls and factory adjustment make it possible to place the cameras in operation with a minimum of technical knowledge.

Solid State, Modular Construction

The PK-315 is self contained and completely solid state, the only tubes being the vidicon in the camera, and the high-voltage rectifier and kinescope in the viewfinder. Plug-in, modular construction simplifies inspection and service, and all circuit modules are interchangeable with other PK-300 Series cameras. Hinged sections open to provide instant and easy access to circuit board modules. An "extender" is available for testing modules while operating in camera.

High Performance Vidicon

The reliability and performance capabilities of the PK-315 are enhanced by a one-inch electrostatic focus, magnetic deflection vidicon tube developed by RCA especially for spacecraft television systems. This tube provides several significant advantages:

Improved stability

The bulky focus yoke and power supply are eliminated

Lower deflection power

Greatly reduced heat dissipation —0.6 Watt heater

Improved uniformity in center-to-edge focus

Optional Interphone

Two kits are available as accessories to add interphone capability to the PK-315. The MI-48192 kit provides one standard interphone, and the MI-48193 kit also permits the camera to be controlled from an MI-47842 remote control panel.

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Specifications

General

Camera Packaging ..... Single Unit
Camera Construction ..... Plug-in Modules
Vidicon ..... 1″ electrostatic focus, electromagnetic deflection, Type 8134
Scanning Standards ..... 525 lines, 60 fields, 30 frames or 625 lines, 50 fields, 25 frames
Interlace Modes:
  Standard ..... 2:1 Positive Interlace
  Optional ..... EIA/CCIR Sync or Sync and Blanking Drives
Vidicon Alignment ..... Electromagnetic

Picture Quality

Horizontal Resolution ..... 700 lines in picture center 500 lines in corners (all at same control settings)
Video Amplifier Response ..... 10 MHz ±1 dB
Aperture Correction ..... Phaseless aperture correction adjustable from 0-12 dB
Gamma Correction (Day-Night Switch) ..... Choice of 1.0 or 0.7 local or remote control
Gray Scale ..... Reproduces 10 shades of gray from standard test chart (Gamma 1:0)
Signal-to-Noise Ratio ..... Nominal 40 dB, p-p signal to rms noise
High Peaking ..... Adjustable for optimum compensation
Total Scan Distortion ..... Within 2% at any point on raster
Automatic Light Compensation ..... 4000:1—Handles range of over 2000:1 with less than 50% change in video level
Recommended Scene Illumination ..... 100 foot-candles

Electrical

Video Output ..... 0.7 Volt non-composite or 1.0 Volt composite
Output Impedance ..... 75 Ohms, source terminated
Power Input ..... 105-130 Volts, 47-63 Hz
Power Dissipation ..... 35 Watts
Control Panel:
  Standard ..... Mounted on rear of camera
  Optional ..... Up to 10,000 ft. from camera
Video Signal Distribution ..... Up to 1,500 ft. on RG-11A/U without equalization
Viewfinder Kinescope ..... 5″
Viewfinder Brightness (highlights) ..... 50 foot-lamberts
Viewfinder Resolution ..... 400 lines horizontal, 300 lines vertical

Environmental

Temperature ..... –20°C to 50°C
Relative Humidity ..... Up to 95%
Altitude ..... Up to 10,000 ft.

Mechanical

Lens Mount ..... Standard 16mm C-Mount (1″-32 thread)
Camera Mounting ..... ¼″-20 tapped mounting hole
Camera Case ..... Dust and Splash-proof Formed steel covers
Dimensions and Weight (overall, camera and viewfinder):
  Height ..... 7″ (18 cm)
  Width ..... 17″ (43 cm)
  Length ..... 10¼″ (26 cm)
  Weight ..... 30 lbs. (13.6 kg)

Ordering Information

PK-315 Camera System
  EIA/CCIR Sync Drive MI-47735-A
  525 Line Positive Interlace (EIA Standards only) MI-47734-A
  EIA/CCIR Sync and Blanking Drive MI-47733-A

PK-315 Zoom Lenses—motorized
  4:1 Zoom Range, 17-70mm f2.0 ..... TV4-315
  5:1 Zoom Range, 20-100mm f2.5 ..... MI-48056
  10:1 Zoom Range, 15-150mm f2.5 ..... TV-10-315

ACCESSORIES

PK-315 Camera Cable and Connectors MI-47915*
Console Remote Control Panel (occupies ¼ of MI-47792 Rack Adapter) MI-47842
Rack Mounting Adapter for above panels MI-47792
Pair of Quarter Panels to fill unused space in MI-47792 Rack Adapter MI-47794
Remote Control Cable Assembly ..... MI-48194-50 (50 ft.—for use with MI-48193 interphone kit and MI-47842 remote control panel)
Control Panel Extender Kit ..... MI-48146-* (Required with remote control panel)
Tripod Mount for PK-315 ..... PT-2
Standard Interphone Kit MI-48192
Interphone and Remote Control Kit MI-48193
Dolly for above PD-2
Adapter to Mount PK-315 directly on PT-2 or PPD-2 ..... PTA-2
Vidicon Deflection Gauge MI-48123-A

(* add to MI- number to indicate cable length in feet)

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