

**AMPEX**

## BC-100 Hand-Held Color Camera

Delivers on-the-spot, remote coverage  
that no other color camera can.





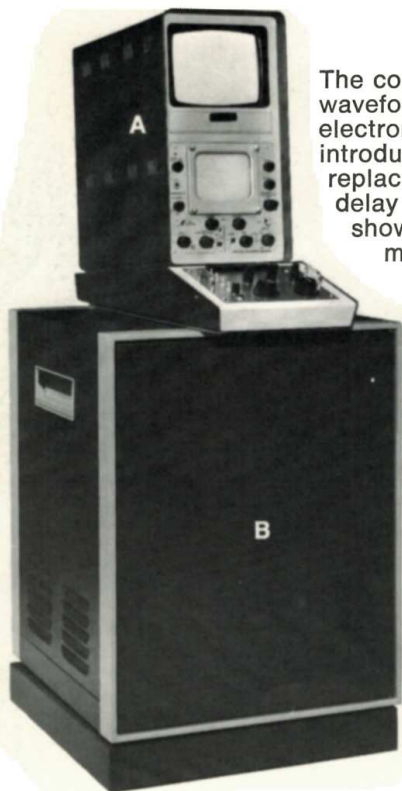
# BC-100 Lightweight, compact one-man F

The Ampex BC-100 broadcast color camera is a lightweight, highly maneuverable unit designed to go where other color cameras simply cannot go. It weighs approximately 35 pounds and can be operated without batteries on an extremely flexible and lightweight cable (up to 2000 feet from the base station) or as a battery-powered unit via a built-in microwave link. The BC-100's .47-inch thick cable weighs only one-tenth as much as other color camera cable. 2000 feet of BC-100 cable weighs only 250 pounds; 2000 feet of conventional color cable weighs 2000 pounds, or one ton. Result: the cameraman can run with the BC-100 in situations where other color cameras are anchored down.

The BC-100 color camera has a small head weighing 22 pounds including lens and viewfinder. It is mounted on a convenient shoulder harness to give the operator extra maneuverability in the field. All associated electronics are carried in a compact, rugged fiberglass

backpack connected to the camera by a short length of ½ inch cable.

The BC-100's small size and light weight are achieved through a new two-Plumbicon-tube design. Compared to three-tube cameras, there is one less tube and yoke, a third less tube electronics, one less preamplifier, one less coaxial cable and ten fewer set up controls. Set up time is drastically reduced since only one simple registration is required. Improved solid state circuitry cuts warm-up time to less than five minutes. Also, with fewer tubes and superior circuitry, maintenance is simplified and costs are reduced. Sharp, brilliant color is obtained at light levels as low as 100 foot candles. The camera has built-in provision for quickly changing color temperature and neutral density filters—making it easy to maintain consistent color indoors and out under rapidly changing conditions.



The compact base station includes remote control unit with picture and waveform monitor and a small portable rack which houses processing electronics, encoder, and sync generator. Since the BC-100 was first introduced this part of the system has been simplified and improved by replacing the disc recorder delay line with a much smaller all solid state delay line. In addition, all microwave signals are FM transmitted. Tests showed that FM transmission is much less subject to the effects of multipath reflections and produces a sharper color picture.

The base station includes facilities for remote control of camera iris, tally light, intercom, horizontal and vertical drive and sync locking signals.

NTSC output signals are locked to local sync generator, line field and subcarrier. Also, a unique sync-locking system automatically keeps the camera in sync during microwave operation no matter how much the cameraman changes his distance from the base. The video output level is adjusted by means of remote iris control. When the system is linked with the portable camera by cable the video signal can be equalized for more than 2000 feet.

**Accessories.** An accessory kit is provided which contains two spare batteries, two battery chargers and a battery eliminator for use when cable operation is more desirable than microwave.

A. Base station control panel with picture and waveform monitor.  
B. Complete base station electronics. C. Viewfinder tilt release/lock.  
D. Viewfinder forward and back adjustment. E. Twist grip zoom control. F. Viewfinder brightness and contrast controls. G. Tally light.  
H. Camera-to-backpack cable connector. I. Carrying handle.





# Plumbicon\* color camera



## FEATURES

- Lightweight camera head weighs less than 22 pounds . . . mounted on shoulder harness, it is the most maneuverable hand-held Plumbicon color camera available.
- Extremely versatile . . . operates over miniature  $\frac{1}{2}$ " cable, or as battery-powered unit via built-in microwave link.
- Lightweight cabling (up to 2000 feet) weighs only 12½ pounds per 100 feet . . . can be easily moved by lone cameraman in the field.
- Small, compact design . . . only 18½" long (including 6 to 1 zoom lens), 13" high and 7½" wide.
- High-brightness, 400 line resolution, electronic viewfinder.
- Compact fiberglass backpack (23" x 13½" x 6") holds associated electronics . . . only 15 pounds when equipped for use with miniature cable.
- Two-tube Plumbicon design offers fast set-up time and excellent color fidelity . . . with performance comparable to that achieved with larger, more complex studio cameras. Only portable color camera that uses replaceable standard "off-the-shelf" Plumbicons.
- Camera can be locked to studio sync, permitting use of special effects, fades, supers, and other production techniques without disturbing basic picture quality.

\*T. M. N. V. Philips

# BC-100

## Color Camera System Specifications

**Dimensions and Weight. 1. Camera Head:** 18½" x 13" x 7½"; weight 22 lbs including 6 to 1 zoom lens with motorized iris and electronic viewfinder.

**2. Portable Camera Control Unit:** (Backpack) 23" x 13½" x 6" in fiberglass case; weight 15 lbs (cable operation) or 34 lbs (microwave operation including battery pack).

**3. Stationary Control Unit:** (camera control) single electronic rack (in mobile case); 27¾" x 22" x 23", weight 150 lbs. Portable remote control and monitor package; 19" x 9½" x 18", weight 65 lbs.

**Optics:** Manually operated f2.6 zoom lens with focal length of 22-132 mm; motorized iris from f2.6 to f22.

**Electrical System Specifications.** Inputs: 3.58mc, sync; black burst, composite video. Outputs: Three video outputs, NTSC encoded and vertically aperture corrected, lv p-p int 75 ohms. Scanning Standards: Camera output signals comply with FCC specifications for color TV broadcast, in accordance with NTSC standards. Resolution: Modulation at 320 lines is 100% (4.2mHz B.W.). Scan Linearity: Better than 1%. Registration: Registration errors not observable on NTSC monitor in circle of picture height diameter (within 0.4% elsewhere). Gamma: Correction 0.5. Warmup: Camera is normally ready for use after one minute warm-up, and will meet specs after no more than five minutes.

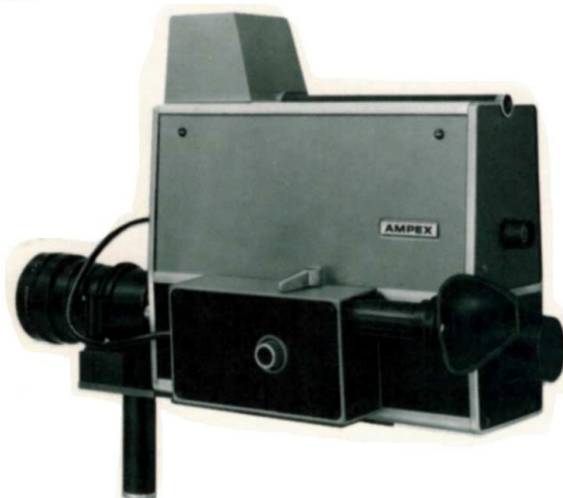
**Sensitivity and Signal to Noise Ratio:** Test condition: 200 ft-candles at 3200°K incident illumination on a 60% reflective gray scale chart lens aperture f4.

1. Signal to noise luminance = 41 db pk signal to rms noise measured in a flat 5mHz channel.

2. Signal to noise chroma channels = 34 db pk signal to rms noise measured in a flat 0.8mHz channel.

**Camera/Backpack Power:** Battery pack furnishes power for camera and portable processing electronics. The battery pack weighs approximately 6½ pounds; it operates from -20° to +45°C. Operating time from battery is two hours minimum, including a 15 watt drain for communications link.

**Base Station Control Unit Power:** 115V, 60Hz, 600VA



# AMPEX

[www.tvcameramuseum.org](http://www.tvcameramuseum.org)

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