BTS

Broadcast Television Systems GmbH

A joint company of Bosch and Philips

KCM 318
The Portable Color Camera from the KCM Range For Joint Studio and OB Van Use

K 318.1 e

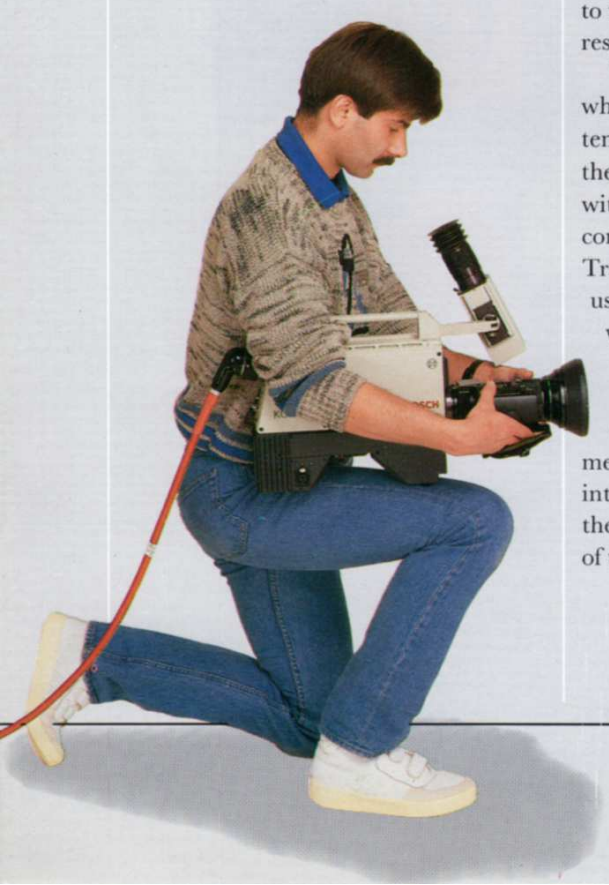
Design Concept

BTS has added a fully compatible, portable camera to its successful KCM range, the new KCM 318 color television camera. It has been developed for use as a compact production camera in the studio or outside broadcast vehicle, as a satellite camera in conjunction with the KCM 125 or as a high quality ENG camera.

The KCM 318 uses the same connectors as the KCM 125, whether as a multi-core or triax cable camera. The camera heads of both types can therefore easily be exchanged. There is no need for lengthy line-up procedures, as the required adjustment values remain stored in the microprocessor systems of the KCM 125 and KCM 318 even when they are exchanged.

Some of its specific technical features are as follows: Three 2/3 inch high stability (HS) Plumbicon pick-up tubes in the classic RGB configuration with electrostatic focussing and magnetic deflection ensure the best possible picture quality with minimum power consumption. Both cameras have comparable limiting sensitivity.

The well-proven digital, raster-aided correction system used in the KCM range also provides for optimum picture quality in the KCM 318. Integrated error diagnosis is similar to that used in the KCM 125; in some respects it is identical.

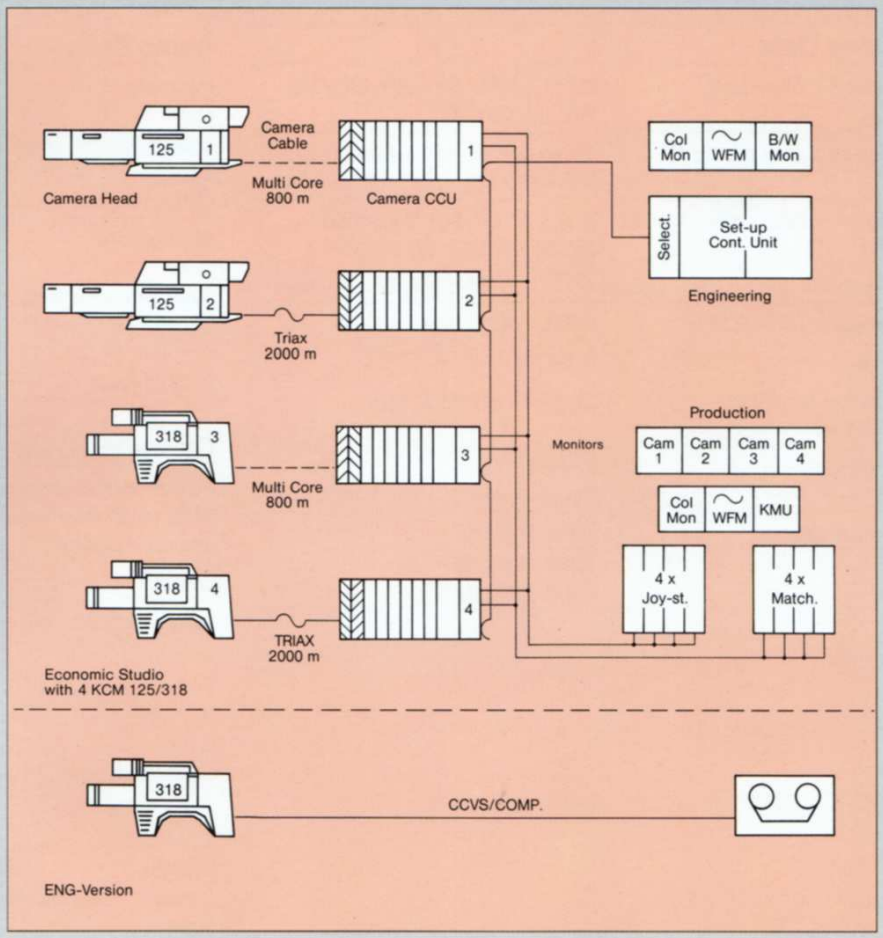


Two remotely controllable filter wheels, each with four settings (color temperature, grey filter, effects) provide the cameraman and engineering staff with considerable scope in picture composition.

Transmission of the RGB signals using the full bandwith, combined with the components processor used in the KCM control unit, enable genuine analog component output signals to be produced. This means that the KCM 318 can also be integrated as a production camera into the analog or digital compnent studios of the future.

- Automatic black and white balance
- Automatic iris:
  During operation with the CCU, the CCU's automatic systems are used simultaneously. In ENG applications the automatic iris is computer controlled.
- Scene-dependent auto-centering
- Geometry/convergence:
  In all operating modes only the convergence (G/B, G/R) is automatically dynamically corrected using $16_H \times 16_V$ (32) sampled values. Superimposed by auto-centering. Geometry is manually adjustable.
- Shading correction:
  Multiplicative shading is manually adjustable. Switch-over of the range extender at the lens is taken into account. Additive shading is corrected automatically dynamically over $16_H \times 16_V$ sampled values.

Performance Features, Automatic Functions, Accessories



- Gamma and flare:
  Automatic line-up in conjunction with CCU. In ENG mode line-up is manual.
- Correction of lateral aberration of the lens:
  Automatic re-adjustment of the picture size (with the range extender as well)
- Knee function:
  Present in all operating modes
- Cable length compensation:
  Automatic line-up in conjunction with CCU (for multi-core as well as triax cable)
- Subsequent gain stages are switched on automatically:
  This function can be disabled in conjunction with white balance.

- Error diagnosis:
  Extends down to individual PCB level
- Adjustment of tube operating function:
  Manual in all operating modes
- Audio monitoring facilities for the cameraman integrated into the camera head
- Indication of the battery capacity (in ENG mode):
  Shown in the viewfinder as a trend indication (bar diagram for battery voltage)
- Zebra pattern displayed in viewfinder to indicate level
- Clear text displays for various signals in viewfinder
- Two filter wheels, each with four settings

Options

- Weather-proof cover for camera
- Battery charging and maintenance system
- Carrying device (belt)
- Stable, compact transport case
- Bauer lamp with mechanical connector
- Tripod adapter for quick change-over between tripod and shoulder operation
- Large viewfinder
- Test charts
- Flexible VTR cable

Technical Specifications

Video Data

Color TV Standard	NTSC, PAL, SECAM 625/50, PAL-M 525/60
Pick-up tubes (R, G, B)	Three 2/3 inch Plumbicons XQ 4187 HS, LOC, diode gun.
Signal-to-noise ratio, typical S/N	I_S = 200 nA, R + S method 58 dB (NTSC), 56 dB (PAL)
Resolution (XQ 4187), typical	40 % at 5 MHz in green channel
Sensitivity (f = 2.8)	800 Lx 90 % rem.
Gain	9,18 dB
Limiting sensitivity (f = 1.4)	25 Lx 18 dB 90 % rem.
Geometry	Zone 1: 0.5 % Zones 2 and 3: 1 %
Convergence	Zone 1: 20 ns Zone 2: 40 ns Zone 3: 80 ns

Audio Data

Intercom	300 Hz – 3 kHz (– 3 dB)
S/N	⩾ 40 dB (CCIR peak)
Total harmonic distortion	⩽ 2 %
Input level	– 10 dBm
Output level	+ 6 dB
Microphone	20 Hz – 15 kHz (– 3 dB)
S/N	⩾ 50 dB (CCIR peak)
Total harmonic distortion	⩽ 1 %
Input level	dyn.: – 65 dBm cond.: – 40 dBm
Output level	+ 6 dBm

Operating Data

Power consumption (with small viewfinder and standard optics)	KCM 318: approx. 25 W ENG version: approx. 25 W
Cable	Multi-core KA 64/triax
Power supply:	KCM 318 with CCU: 300 V DC via camera cable ENG version: 12 V nominal from external power supply/ battery/VTR cable
Camera dimensions:	Height: 271 mm Length: 385 mm Width: 118 mm
Weight (camera + viewfinder + optics)	Connected by multi-core cable: approx. 8 kg ENG version: approx. 9 kg incl. battery

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