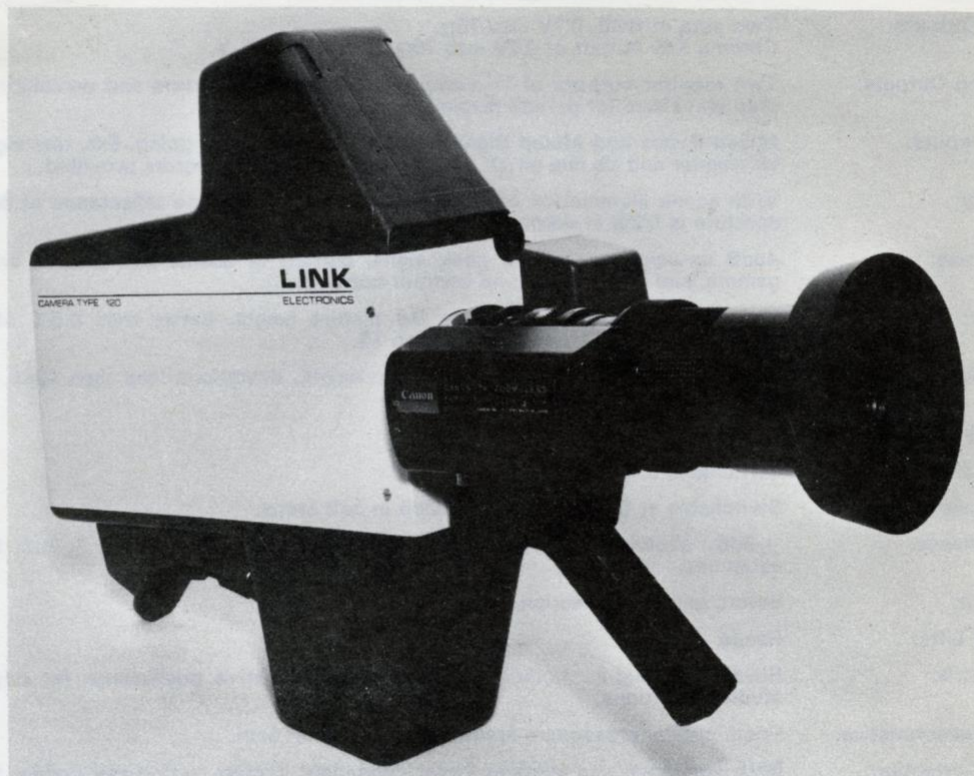


PORTABLE COLOUR CAMERA Type 120



The type 120 is a broadcast quality 3 tube colour camera suitable for both tripod and hand-held use. The camera uses three of the latest high performance lead oxide camera tubes including extended red type, with anti-comet tail and light bias facilities. These facilities ensure that the camera is free from coloured lag and can also handle overload signals of at least five lens stops without producing highlight comet tails during camera panning. The optical performance is identical to the type 110 studio camera.

The channel consists of the camera head, back-pack and CCU. The head will operate up to 100 metres from the back-pack. The CCU is identical to that of the type 110 studio camera. A choice of viewfinder is available, either a one inch monocular type or three inch direct view version. The 3" viewfinder may be mounted on the side or at the rear of the camera head.

The camera electronics employ many original techniques to achieve a level of stability that eliminates the need for automatic registration or set-up circuitry. The camera has built in comprehensive monitoring facilities for fast and accurate line up, enabling the camera to be rapidly coloured balanced under changing light conditions.

Comprehensive communications facilities are included. Communication between the back-pack and the camera head is available with outputs for the floor manager, tracker, etc. Also two programme microphone channels are provided from the back-pack to the CCU (option) together with a spare vision tie line in the opposite direction for feeding commentators' monitors, available at the back-pack and camera head.



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BRIEF SPECIFICATION

System:	625 or 525 lines. PAL, NTSC or SECAM coders available.
Pick-up Tubes:	Three 25mm Lead Oxide Vidicon tubes, incorporating Anti-Comet Tail guns and light bias. Philips type XQ1080 series or equivalent.
Power Input:	115V \pm 10% or 230V \pm 10% — 300VA.
Channel Outputs:	Two sets of RGB, 0.7V into 75 Ω . Chroma Key output of 0.7V into 75 Ω , B-Y, G-Y or R-Y.
Monitoring Outputs:	Two monitor outputs of 1V composite into 75 Ω for picture and waveform. Colour step waveform for parade display on waveform monitor.
Channel Inputs:	Mixed Syncs and Mixed Blanking 0.5V to 6V negative going. Ext. test signal, Ext. viewfinder and tie line all 1V composite. Bridging connectors provided.
Sensitivity:	With scene illumination of 750 lux and peak white scene reflectance of 60%, lens aperture is f/2.8 at normal gain.
Signal/Noise:	48dB unweighted w.r.t. a peak signal current of 300nA per channel with unity gamma, and linear matrix; no contour correction.
Geometry:	Inside a circle having diameter 0.8 picture height, better than 0.5% of picture height. Outside this circle better than 1%.
Registration:	Inside a circle of diameter 0.9 picture height, deviations less than 40nS. Outside this circle deviations less than 100nS.
Frequency Response:	\pm 0.5dB to 5MHz.
Gamma Laws:	Switchable 0.4, 0.5, 0.6 and unity.
Master Gain:	Switchable at CCU from 0 to +12dB in 3dB steps.
Colour Balance:	\pm 8dB, allowing 6dB for colour temperature variations and \pm 2dB for tube variations.
Master Lift:	Before gamma correction, range +10% to —30%.
Individual Lifts:	Range \pm 5%.
Linear Matrix:	Reversible plug-in module provides two alternative coefficients for daylight or studio conditions.
Taking Characteristics:	Prism optical crossovers are matched to within 5nm.
Contour Correction:	Both horizontal and vertical. Level dependent circuits with noise coring. Separate controls for horizontal/vertical mix and gain. Anti black edge circuits operate if excessive correction is used.
Flare Correction:	Switchable in-out.
Shading Correction:	Additive and multiplicative compensation with sawtooth and parabolic waveforms.
Monitoring Facilities:	Selection of the following signals at CCU input or output: Y; R; G; B; R-G; B-G; R/G or B/G; CLUE on at $\frac{1}{4}$ field; line parade, ext. test minus green, local sawtooth injected at CCU input or head amp input. Bridging out of green facilities provided.
Linear Looped Output:	1.0V, 75 Ω non-comp, clamped R, G and B signals looped through rear of CCU.
Camera Cable:	
Back-pack to CCU	Diameter 13mm F and G 753-5, or BICC 5677, or equivalent. Max. length usable is 800m F and G 753-6 (7mm) max. length 100m. Auto length correction. No volts above 12 on cable with head disconnected.
Head to back-pack	$\frac{1}{2}$ " dia. special cable using waterproof bayonet connector. Max. length 100m.
Remote Control:	Lift and Iris and colour balance.
Standby Facilities:	Switch at CCU turns off tubes only.
Communications:	4 circuits provided to the head, together with two headphone sockets. Full communications facilities on multiway socket for tracker, etc. Communications interface with channel at zero level, balanced. Call keys at camera, and Call Camera Key at CCU.
Programme Microphones:	Two Programme Microphone circuits provided between back-pack and CCU, with individual gain control facilities. Input —60dB, balanced, low impedance. Output—zero level, balanced.
Camera Rig Facility:	Switch on back-pack allows only comms to the CCU and utility mains socket to be powered.
Filter Wheel:	Takes up to 3 filters. Visual indication of filter position at camera.
Viewfinder:	3" tube. Detachable and can be operated up to 3 metres from the camera. Normal /mix/ext. switch provided. Electronic zoom angle indicator. On-air lights visible inside viewing hood. 1" monocular view finder also available as illustrated.
On-Air Lamps:	Dual, recessed at camera front, also in viewfinder hood, CCU, OCP, colour balance and tracker output.
Auxiliary Video:	An output of viewfinder provided at back-pack. A second video link is provided from CCU to camera head.
Environment:	Camera will operate between —10°C and +40°C up to 95° RH. Negligible drift will occur for variations of \pm 10°C within this temperature range.
Lenses:	A full range of lenses will operate with the camera including Rank Taylor Hobson, Angenieux, Schneider and Cannon. Large studio lenses may be used with special tripod attachment.
Weight:	Camera head with 1" viewfinder (less lens) less than 6 kgms.