

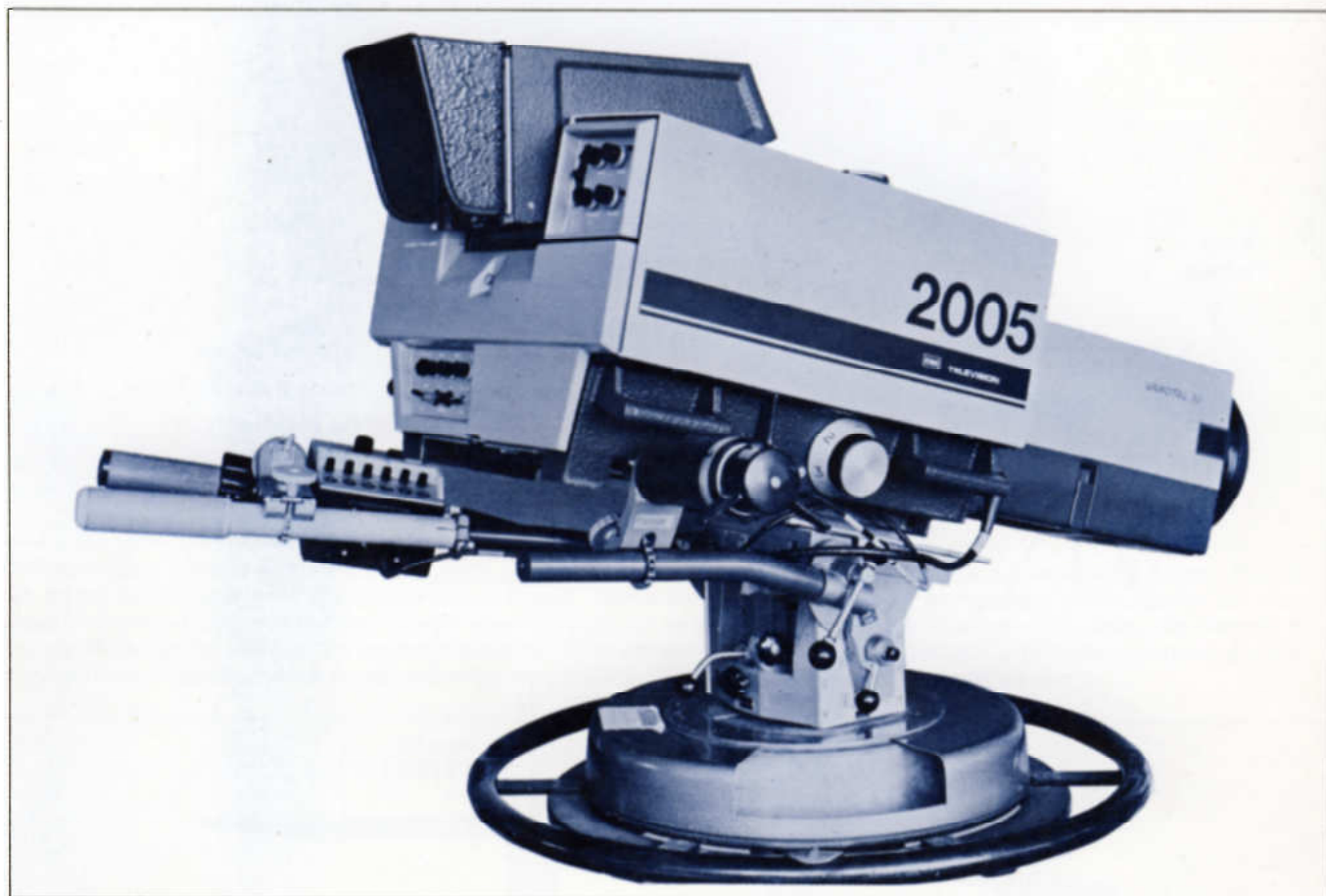


**Sound & Vision
Equipment Ltd.**

**Broadcast Equipment
Division**

T/2005 Issue 4

Colour Camera Type 2005



The Colour Television Camera Type 2005 is designed to provide optimum picture quality under a wide range of conditions. The ergonomic shape of the camera head and the convenient layout of controls allow the cameraman to devote the maximum attention to the artistic requirements of the programme. The 2005 camera has established a reputation for extreme reliability with a mechanical design and component layout such that it is very easy to carry out all necessary servicing and maintenance.

- Uses three 30 mm lead oxide vidicon tubes — HOP or standard
- Auto centering for excellent long term stability
- Bias lighting gives improved lag performance
- Remote capping
- Built in six position filter wheel
- White shading corrector extends useful pick-up tube life
- Manual or servo zoom lens option
- 7 inch tilting viewfinder
- Three isolated outputs of each of the R, G & B signals
- R, G, B chroma key outputs
- External viewfinder mixing input
- Viewfinder indication of lens focal length
- Showerproof construction
- Standby mode for tube economy

Construction

The basic units of the camera, which are interconnected as shown in figure 1, are:—

Colour Camera Type 2005
 Zoom Lens Package
 Camera Control Unit Type 2116
 Power Supply Unit Type 2201/1
 Operational Control Panel Type 2105/C
 Auto Centering Unit Type 2119 (optional)
 Colour Balance Panel Type 2110 (optional)

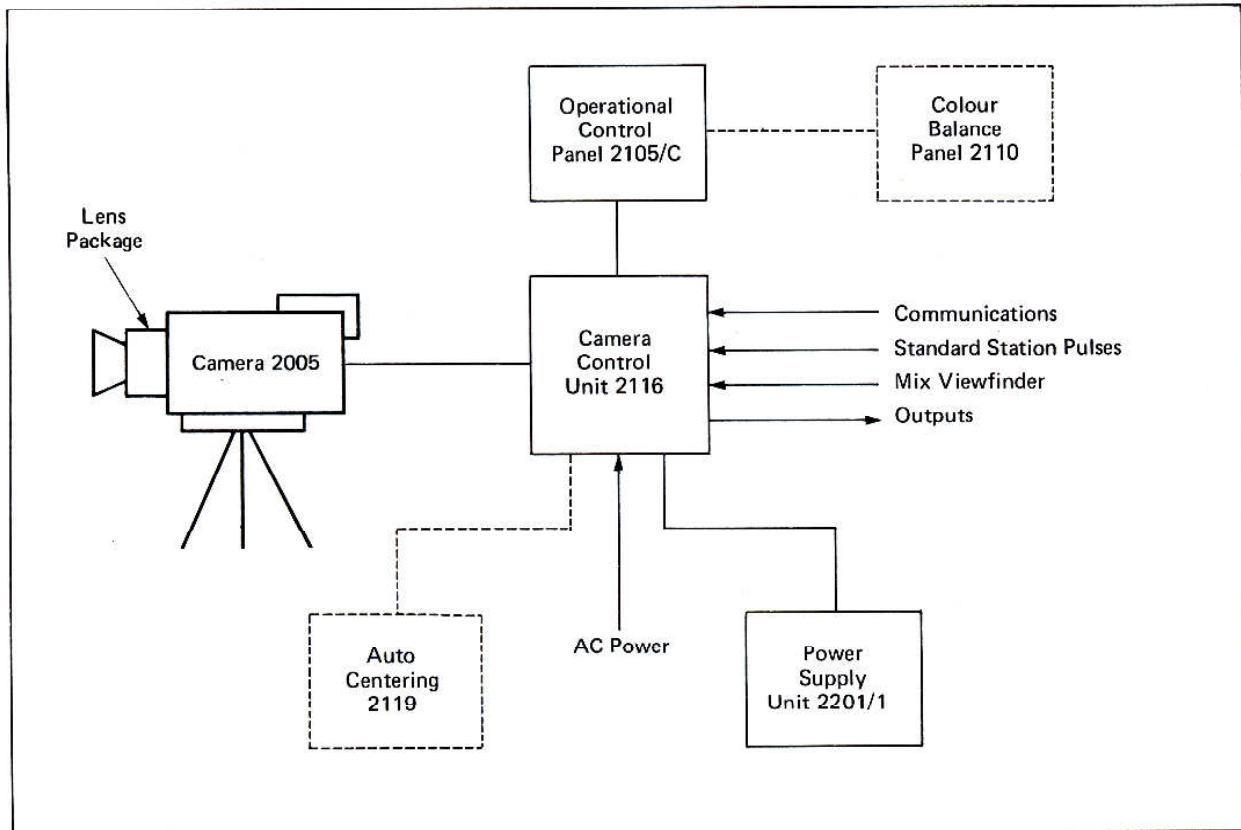


Figure 1. Block Schematic

Colour Camera Type 2005

The Colour Camera Type 2005 is the latest in the line of EMI broadcast colour cameras utilising three lead oxide vidicon pick-up tubes.

The framework is constructed of light alloy and has a high quality textured finish in tones of grey and black. Hinged side covers permit easy access to the sub-units. A wide range of zoom lenses can be easily mounted on the front of the camera. A red cue light is mounted on the top of the camera and is visible from all directions. Twin cue lamps are provided in the viewfinder. Space is available on the side of the camera for station identity and camera number signs. The camera can be mounted on a pan and tilt head by means of a standard Vinten wedge. The camera mounting assembly can be rocked backwards and forwards to achieve perfect camera balance

with various types of lens packages. A series of tapped holes (0.375 in dia) is provided in the wedge to facilitate the mounting of the camera on the U.S.A. types of tripod. Strong carrying handles are provided.

Provision is made for mounting a visual prompter and a cue card holder can be located at the rear of the camera head.

On the side of the camera are mounted several outlet sockets. One provides the viewfinder signal, another the camera talkback and on air cues for the tracker's monitor. An a.c. power utility output is included (up to 1.0 amp), this can be used for an 'eye light' and can be controlled from the lighting console as this outlet is fed via a separate connector on the rear of the Camera Control Unit Type 2116. The camera cable is connected to the camera on the left-hand side.

The tilting viewfinder is powered from the camera but is otherwise self-contained. It may be removed and operated up to 10 metres (33 ft) from the camera. The monochrome picture is produced on a flat faced 180 mm (7 in) diagonal, rectangular cathode ray tube. This gives a high resolution display with sufficient brightness to permit the use of an implosion and X-ray proof neutral density filter. The zoom lens

focal length is indicated by an electronically generated vertical marker which moves horizontally across the top edge of the viewfinder display.

An external video feed can be displayed independently of, or mixed with, the viewfinder signal. This can be used for engineering set up and production matte purposes.



The illustration shows a rear view of the 2005 camera head. The fibreglass cover on the rear of the camera hinges down to give access to the majority of the printed circuit boards. The various viewfinder controls are mounted to the right of the viewfinder and the graticule for the lens field of view indicator can be seen at the top of the viewfinder faceplate. The controls to be seen at the bottom left of the camera are mainly those associated with the camera talkback and communications circuits. It will be noted that the overall layout presents a functional but clean appearance to the camera operator.



The illustration shows the 2005 camera with the rear cover lowered and the side covers raised. Under these conditions easy access to all the camera head electronics is possible.

The 2005 Optical System and Pick-up Tubes

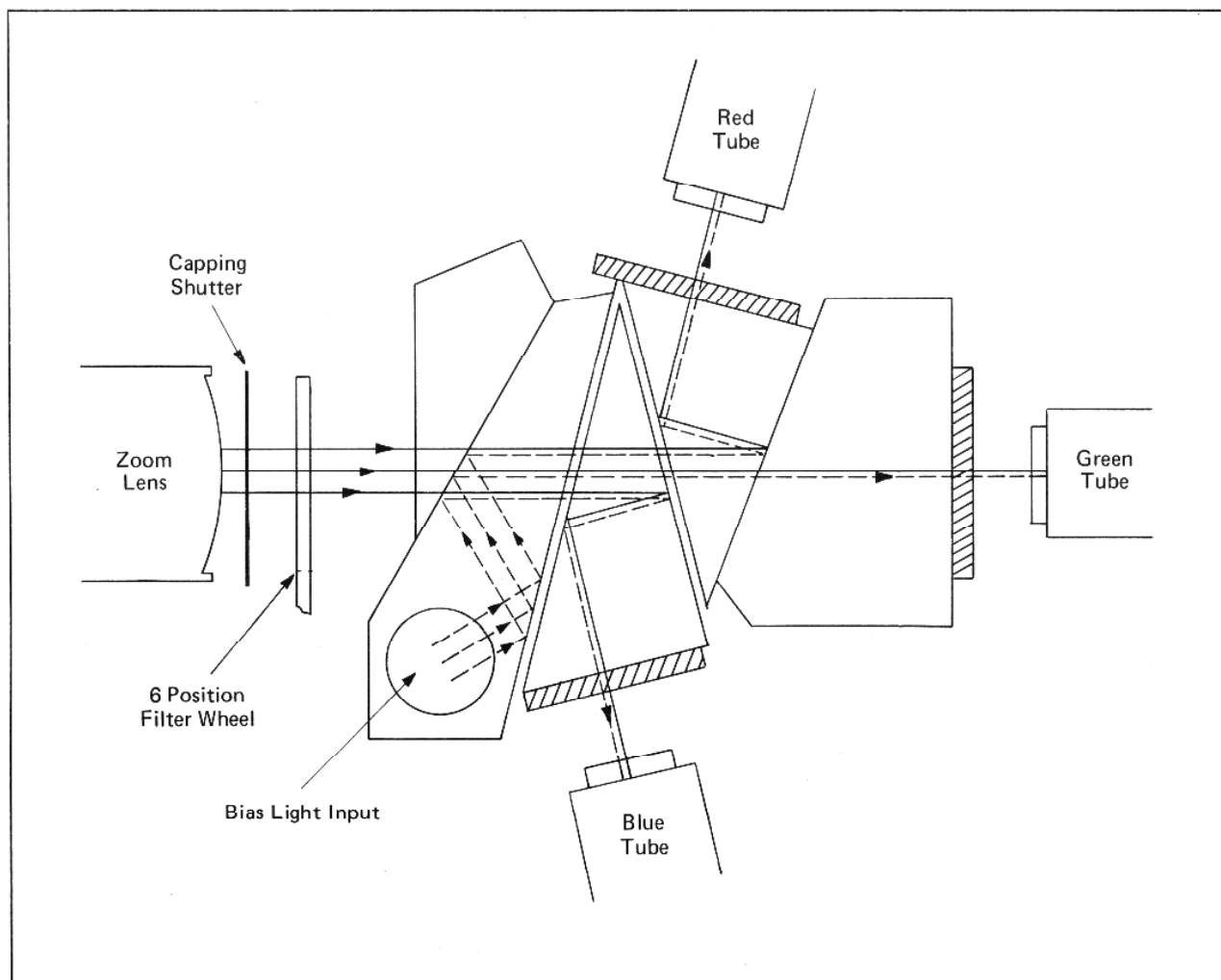


Figure 2. Optical system schematic

Figure 2 shows the schematic of the optical system employed in the 2005 camera. The light enters the system, via the lens, at the left. Behind the lens is located the remotely operated capping shutter, behind which is the six position filter wheel, which may include neutral density or coloured filter discs. The light then enters the prism assembly where it is analysed into separate R, G and B components which are directed to the appropriate pick-up tube. Bias lighting is applied to a further input as received by each pick-up tube. This bias lighting arrangement provides even illumination of the pick-up tube targets and allows standard 30 mm pick-up tubes to be used. Although the method of providing bias lighting produces very little shading, black level (additive) parabola and tilt and individual black level controls are provided to ensure a uniform black signal, this preset black correction is switched out when the bias light is switched off.

The major dimensions of the prism and scanning yoke assembly are placed on the diagonal of the camera to produce a low profile unit without excessive width. This also has the advantage of reducing shading due to polarisation by horizontal and vertical surfaces. To compensate for white shading errors due to the prism assembly and pick-up tubes, the red and blue signals are modulated by parabolic and sawtooth shading correction waveforms to match the green signal. The controls to achieve this are located in the

CCU and will be adjusted, as part of the line up procedure, when new pick-up tubes are installed, and they may be used to correct for any changes in white shading as these tubes age.

Integral or separate mesh pick-up tubes can be used in the 2005 and links within the camera head permit easy interchange between the two. The separate mesh tubes gives better corner resolution than the integral mesh type. In addition, "thin layer" type tubes can be used to give an overall improvement in resolution. This results in quieter pictures when the aperture corrector is operated at a lower level.

The 2005, as standard, is supplied to have optimum colourimetry characteristics when used with "normal" pick-up tubes. However, the exchange of a plug-in linear matrix in the CCU ensures that the excellent colourimetry performance of the camera is maintained when extended red tubes are used.

The camera head may be modified to permit the use of Highlight Overload Protection pick-up tubes. With HOP tubes overloads due to highlights are discharged in the flyback time so minimising smearing or "comet tailing". Up to five stops of light overload can be tolerated without experiencing multicoloured "tails" due to overload lag if HOP tubes are used.

Lenses

A range of manually or servo controlled zoom lens packages may be easily attached to the front of the camera. When a lens package is removed from the camera an electrical circuit is broken. This causes the capping shutter to close, thus protecting the camera optics. A catch located inside the camera cover allows this shutter to be manually fixed in the open position if required.

Lenses manufactured by Angenieux, Canon, Rank Taylor Hobson and Schneider may be fitted to the 2005 camera. Table below gives the characteristics of those lenses most generally used.

Suggested Lenses

Type	Manufacturer	Range of Horizontal Viewing Angle	Minimum Focus Distance	Maximum Aperture
10 x 18L31	Angenieux	5°-50°	0.9 m (3 ft)	f/2.5
15 x 18L71	Angenieux	2° 40'-39°	0.55 m (21.7 in)	f/2.4-f/3.4
Varotal 30	R.T.H.	6°-56°*	0.45 m (18 in)	f/2.2

*3°-30° with range extender

x 1.5, x 2 and x 3 range extenders are available for use with the 10 x 18L31 lens. If range extenders are required for the 10 x 18L31 this must be stated at the time of ordering. The

15 x 18L71 lens includes x 1.5, x 2 and x 2.5 range extenders as standard and the Varotal 30 includes a x 2 range extender as standard.

2005 Camera Head Circuit Details

The electronic sub-units in the camera, including scanning circuits, pulse circuits and F.E.T. pre-amplifiers, are of plug-in design and are readily accessible for replacement.

A standby switch at the CCU reduces the pick-up tube heater supply to 4 V, switches off the tube beams, the viewfinder and the bias light and applies the mechanical cap. On "switch on", the heater voltage is instantaneously restored to normal but the beam currents are held off for approximately one minute.

The channel amplifiers in the camera carry out the following functions:

- Low noise pre-amplification
- Low pass band filtering to reduce noise
- Individual R & B channel gain controls (controlled from CCU) for equality balance
- Master Gain Control. Range 18 dB with tracking accurate to 0.1 dB (controlled from CCU)
- Clamping and limiting
- Outputs to camera cable

Built-in test and bridging facilities are included and are remotely operated from the CCU, so that test signals can be passed through the entire video processing chain of the channel.

Bias lighting is applied to the camera pick-up tubes. When this is switched in, preset black level compensation is automatically applied.

Precision scanning and focus yokes in conjunction with highly stabilized scanning and pick-up tube supplies ensure maximum stability and accuracy of geometrical registration. Also, dynamic focussing is employed to give an improve-

ment in the corner resolution of the picture.

Comprehensive screening is provided which ensures that the camera can be operated in magnetic fields without significant deterioration in picture quality. Principal registration adjustments are remotely controlled from the CCU.

Voltage sensing circuits are provided to maintain stable supply voltages at the camera independent of cable length. Extensive use is made of stage-by-stage and overall negative feedback techniques, together with high quality components, to ensure long term stability.

The camera includes a stabilized d.c. supply for the heaters of the pick-up tubes.

When the camera is modified to work with HOP pick-up tubes a HOP/Standard Link is included which is set to allow either HOP or conventional tubes to be used. Also, a HOP ON/OFF switch is provided for setting up purposes.

The viewfinder provides a brilliant, sharply focused, high contrast picture. This is achieved by the use of a stable 15 kV final anode supply derived from the horizontal deflection circuit and by a high output level from the video amplifier. The scanning yoke is designed for excellent picture geometry and the tube is fully screened against high external magnetic fields. H.F. loss correction for up to 600 metres (2,000 ft) of camera cable is provided on the viewfinder. Height and width controls are included. Contrast, brightness and peaking controls are easily accessible.

The viewfinder signal that may be selected by the camera operator is as selected at the CCU or an external viewfinder signal or a mixture of both.

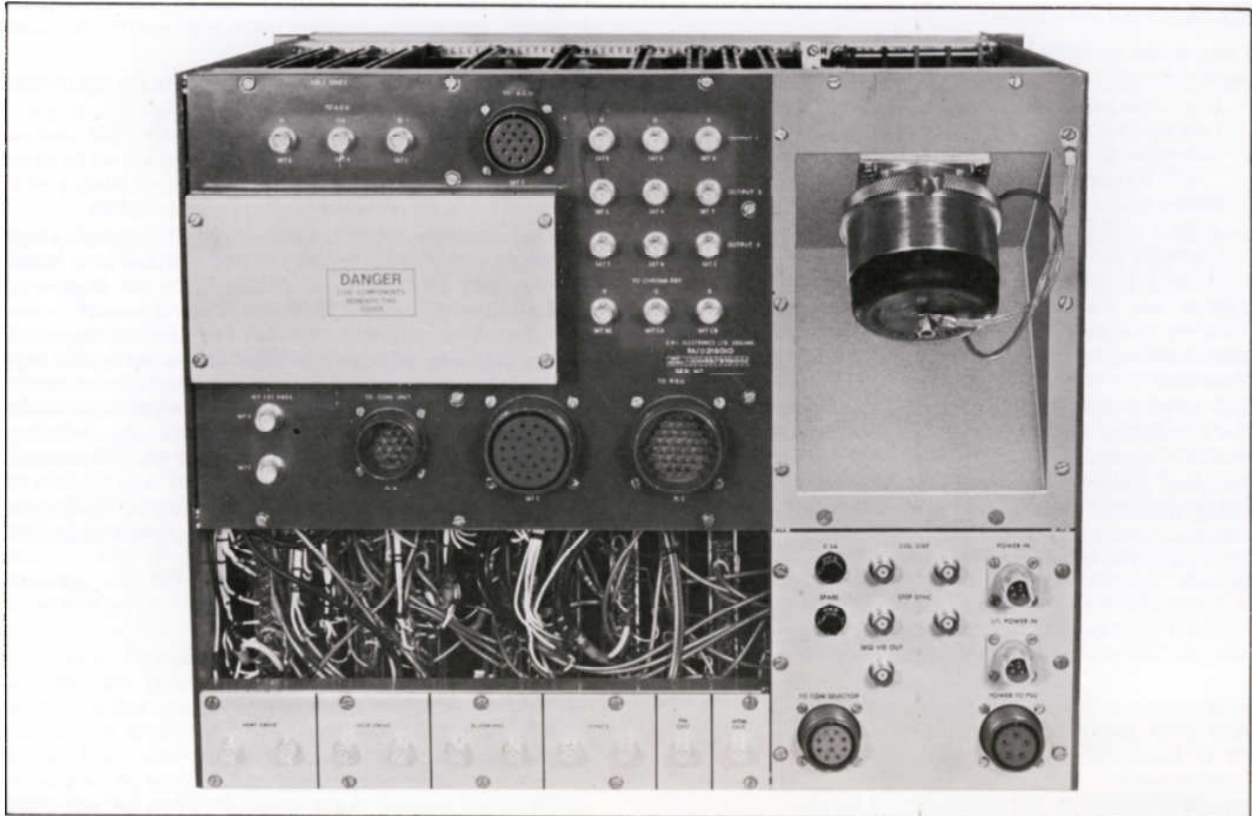
Camera Control Unit Type 2116

The Camera Control Unit 2116 is designed for standard 48.3 mm (19 in) rack mounting. It has a control panel hinged at the left-hand side; this permits easy access to the rear of the panel and to the plug-in circuit boards. The printed circuit boards are mounted vertically, giving

excellent convection cooling. Board extenders ease servicing of these boards and the unit is designed so that all normal servicing can be done from the front. The camera cable and other interconnections enter the unit from the rear.



Front view of CCU.



Rear view of CCU, showing connectors.

Circuits within the 2116 CCU perform the following functions:—

- Cable loss correction
- Flare correction
- White shading correction
- Chroma key output amplification
- Variable and level dependent horizontal aperture correction on all signals
- Gamma correction
- 3 x 3 matrixing
- Horizontal and vertical contouring
- Signal amplification
- Black level clamping
- Peak limiting and blanking
- Low impedance output isolating amplification
- Monitor signal switching
- Field scan generation
- Alignment current stabilization

Special circuit design techniques have been employed to ensure long term operational stability. The three signals from the camera, R (red), G (green) and B (blue) enter the CCU at 0.7 V level and pass through the processing stages for camera cable loss correction, amplification and black level clamping.

The black levels are then automatically adjusted by flare correction circuits to compensate for scattered light effects.

At this point signals from the three channels are split off and fed into separate amplifiers; these amplifiers each have two 75 ohm outputs which are used to drive the auto centering unit and provide chroma key input facilities.

The three main signals are further processed as follows: the green signal passes through the contour generator, from which is derived horizontal and vertical contouring signals. The red and blue signals pass through white shading correction circuits, which permit these signals to be matched to the green signal with respect to the multiplicative shading introduced by the pick-up tubes and prism assembly.

The three signals are then processed in a 3 x 3 matrix providing colourimetry correction, then pass through gamma correction circuits before being combined with the output from the aperture corrector, the amount of applied aperture correction being adjustable to give the required improvement in resolution. After blanking and limiting, three independent non-composite outputs of each of the three signals are provided at 0.7 V standard picture level into 75 ohms.

Monitor points permit inspection of the signals at various stages of the processing. A comprehensive switching arrangement allows a variety of signals to be fed to a picture monitor, a waveform monitor and the camera viewfinder. Separate waveform and picture monitor outputs are provided. For registration checking purposes an inverted green signal may be added to the picture monitor output so that if registration is perfect the pictures will cancel. Very small errors will produce clearly visible black and white

edges which allow any registration errors to be easily seen.

When adjusting grey scale tracking, a 12.5 Hz or 15 Hz switch alternates the waveform monitor signal between green and the signal selected. When this is observed at the horizontal scanning rate, the two signals appear superimposed. If the signals are identical a single waveform is seen, whereas any differences between the signals produces a noticeable flicker effect.

A separate monitoring facility provides a sequential, side-by-side, display of the red, green and blue output signals.

A staircase waveform, generated in the camera, can be switched to the head amplifier or the inputs of the master gain control amplifiers. In the latter case the three channel inputs are commoned to ensure equal signals at all master gain stage inputs, so facilitating the setting up of the gain control stages and subsequent amplifiers.

The front of the CCU carries controls enabling the entire setting up of the channel from this position. Once these have been adjusted the only controls which may require attention during a programme are: Lens Iris and Master Black Level.

The controls on the panel are as follows:—

For pick-up tube supplies (G, R, B):

Beam Current, Focus, Alignment 1, Alignment 2, Beams On/Off, Normal/Standby, Focus Rock On/Off.

For pick-up tube registration:

R, B & Master Scan Height; R, B & Master Scan Width; Overscan On/Off; G, R, B Vertical Centre & Horizontal Centre.

For signal circuits:

G, R & B Black Levels (Cam); G, R & B Black Levels (CCU) R, B & Master Gains; Switch for Set Blacks, Normal, Calibrate & Test; Switch for Cap & Normal; Test and Calibration Level (nanoamps); Bridging for Gamma In and Output 2; Bias Light On/Off.

For talkback:

Headset Jack; Producer Gain Control; Camera Operator Gain Control; Call Camera Operator Button with Camera Operator Calling/On Air Indicator Lamp.

For viewfinder and monitors:

Viewfinder; Normal/as Picture Monitor.

Select Signal: G, R, B, G', R', B', Y' and Off.

Picture Monitor Reference: —G/Off.

Waveform Monitor Reference: G/Off.

Waveform Monitor: As selected/Highest Output.

For programme operation: For power:

Local/Remote Switch.

Iris.

Master Black Level.

Gamma: Linear 1, 2, 3.

Power: On/Off with Indicator lamp.

Camera Power: On/Off.

D.C. Supplies: On/Off with indicator lamp.

Power Supply Unit Type 2201/1

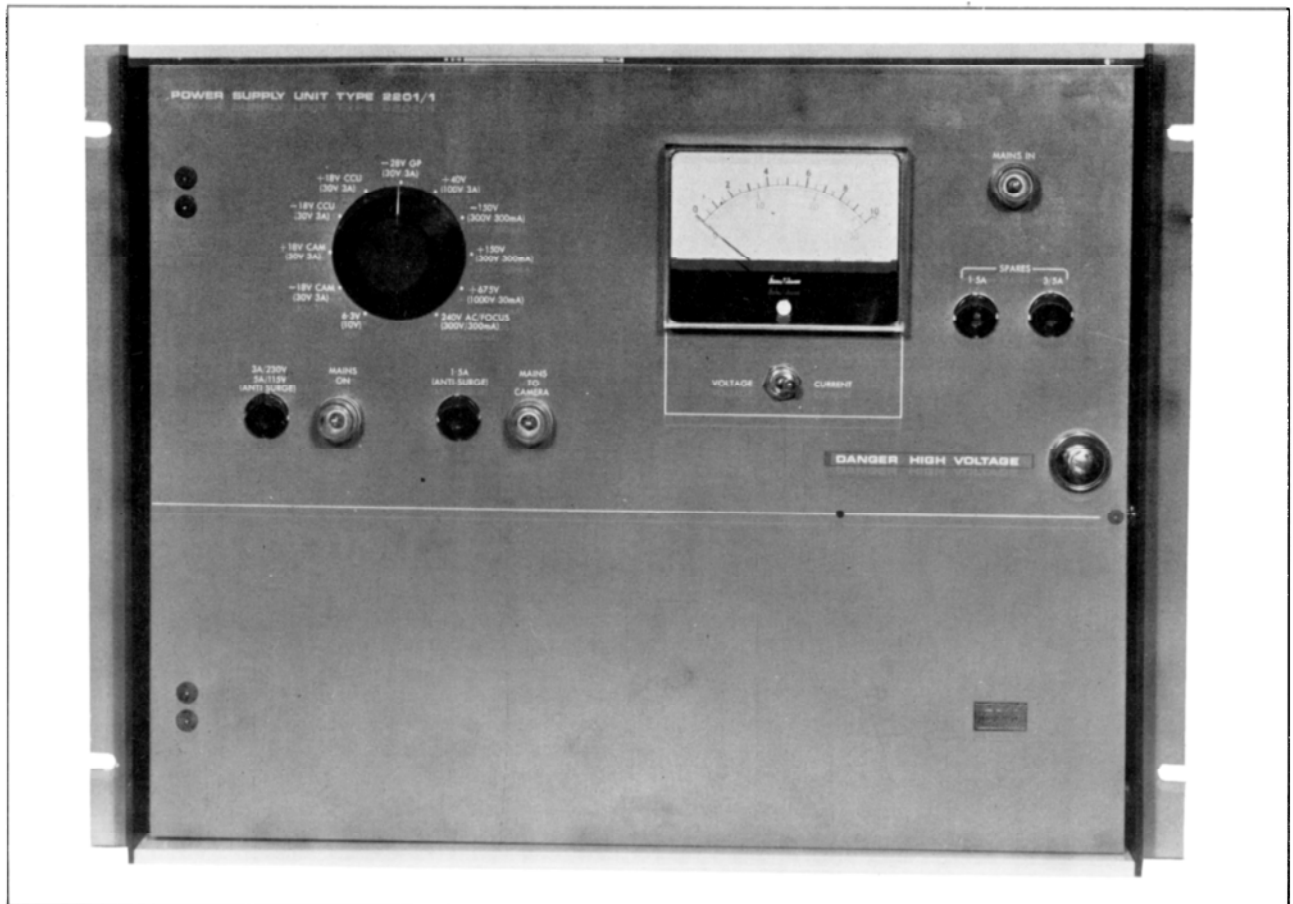
The 483 mm (19 in) rack mounting Power Supply Unit 2201/1 provides the nine stabilized voltage supplies and one stabilized current supply required by the channel.

Two printed boards are used for the high voltage and the constant current supplies.

The six remaining supply boards are identical. Their individual function is determined by the socket into which each is plugged. Depending on the function required, these boards

can provide 18 V, 28 V or 40 V at currents ranging up to 2 A and stabilities better than 0.1%. They incorporate remote sensing to handle PSU-CCU connecting cables up to 30 metres (100 ft) and camera cables up to 600 metres (2,000 ft) in length, without readjustment.

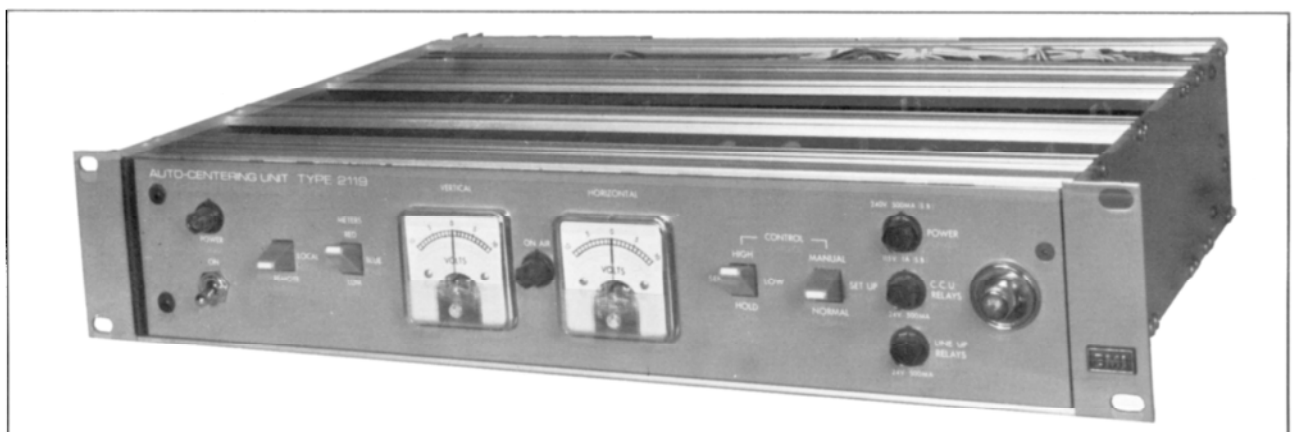
All the supplies are fully protected against inadvertent overloads and short circuits; the voltages returning to their normal value on removal of the fault condition.



Auto Centering Unit Type 2119

The inherently high centering stability of the camera is further enhanced by the inclusion of an Auto Centering Unit Type 2119. After the camera horizontal and vertical centering controls have been optimised the Auto Centering

Unit will maintain the camera centering over extended periods of operation. For more complete details of this unit please refer to the brochure T/2119.



Operational Control Panel Type 2105/C

The Operational Control Panel 2105/C is a compact unit designed for remote "hands off" operation of the camera. It includes only those controls necessary for programme operation. A number of these panels may be mounted side-by-side on a vision control desk for control by one operator. Iris and Master Black controls are combined in a "joystick". Rotation of the joystick knob controls Master Black. When the joystick is depressed a micro switch is actuated. This switch can be used for preview monitor selection. Coarse iris adjustment is made by a knurled edge control, located at the side of the joystick. Movement of the joystick in the quadrant mode gives fine iris control, the range of which is indicated by the engraving on the coarse control.

Simultaneous movement of the coarse and fine iris controls enables the centre of the fine iris range to be reset without causing any picture disturbance.

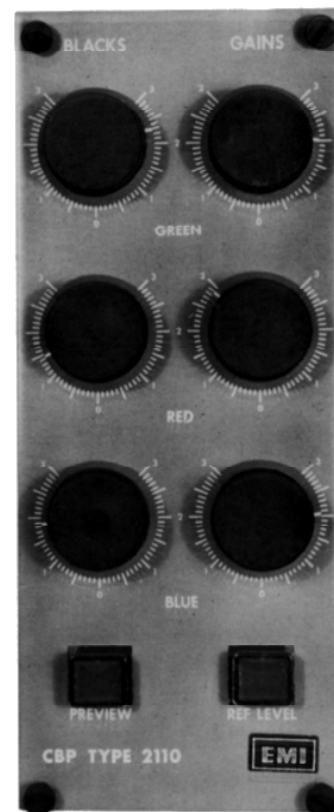


Colour Balance Panel Type 2110

The Colour Balance Panel Type 2110 permits the red, green and blue gains and black levels to be adjusted independently over a 6 dB range.

A push button is included, which provides a reference colour balance. When this control is operated the gain and level potentiometers are isolated and fixed potentials, equivalent to the zero position of these controls, are substituted.

A second push button may be used for preview source selection. The panel is supplied as standard fitted with an integral cable 500 mm long which provides a direct connection to the 2105/C operational control panel.



Data Summary

Systems

625 lines (CCIR/OIRT*), 50 fields
525 lines (IRE/EIA), 60 fields.

Pick-up Tubes

Three 30 mm lead oxide vidicon tubes separate or integral mesh.

"Thin layer" or standard layer tubes may also be used and HOP tubes can be operated in a modified camera head. An easily changed linear matrix in the CCU permits the use of extended red tubes.

Power Input

100 to 125 or 200 to 250 V, 50 to 60 Hz.

Permitted Variation

±5%.

Consumption

500 VA (excluding utility outlet) 0.9 p.f.

Hour Counter

Compatible with supply frequency.

Channel Outputs

Three independent non-composite outputs of each of R, G & B of 0.7 V at 75 ohms.

Isolation Between Outputs

Better than 48 dB at 1.0 MHz.

Better than 40 dB at 3.5 MHz.

Better than 30 dB at 5.0 MHz.

Pulse Inputs

Horizontal and Vertical Drives Blanking & Sync. High impedance looping inputs will accept levels of -1.5 V to -6.0 V p-p.

External Viewfinder Input

Standard level composite or non-composite signal. High impedance looping input.

Sensitivity

Using Type XQ1020 R, G and B lead oxide vidicon pick-up tubes, and with incident illumination at 2854°K of 1200 lux and 60% reflectance, lens aperture T/4, then the peak-to-peak signal to r.m.s. noise ratio, for a peak white signal, for the luminance channel equivalent, is 47 dB measured within the band 100 kHz to 5 MHz, excluding gamma and aperture correction.

Amplitude/Frequency Response (R, G & B)

With zero aperture correction.

For 60 metres (200 ft) of camera cable.

Flat within ±0.25 dB to 5.5 MHz.

For 600 metres (2,000 ft) of camera cable.

Flat within ±1.5 dB to 5.5 MHz.

Resolution

Depth of Modulation at 5 MHz, 100% at the centre of the picture with aperture correction. This correction may be applied to all three colour channels.

Lag

Excellent performance due to the incorporation of bias lighting.

Colour Registration

Geometrical deviations between green and any other picture. Less than 0.05% of the picture height within a circle having a diameter of 0.8x picture height. Less than 0.2% outside this area.

Gamma Correction

4 position switch selects gamma:

Linear, 0.55, 0.45, 0.35.

Operating Temperature

-10°C to +50°C.

Magnetic Interference

A change of orientation of the camera axis with respect to the earth's magnetic field will cause negligible change of registration

Viewfinder

At a highlight brightness of 685 nits, fine picture detail and scan raster lines are clearly visible over the whole picture. The viewfinder is normally supplied with a 35% neutral density filter. This will reduce the highlight brightness to approximately 242 nits. The 15 kV final anode supply is so regulated that there is negligible change in picture and scanning spot size over the full range of modulation. Geometry errors are less than 1.5% within a circle equal to the picture width, and less than 2% outside that circle.

Communications

Producer (input) 0.4 to 1.5 V into greater than 2,000 ohms, balanced.

Program Sound (input) 0.4 to 1.5 V into greater than 2,000 ohms, balanced.

Camera Talkback (output) 750 mV into 600 ohms, balanced.

*Note: Amplitude/Frequency specification.

Overall Dimensions and Weight

	Height	Width	Length	Weight
Camera 2005	381 mm 15 in	467 mm 18.375 in	484 mm 19 in	38.6 kg excl. Zoom 85 lb lens package
Zoom lens package 10 x 18L31			324 mm 12.75 in	18.1 kg servo 40 lb
Zoom lens package 15 x 18L71			432 mm 17 in	15.5 kg manual 34 lb
Zoom lens package Varotal 30			492 mm 19.5 in	18 kg manual 40 lb
Camera Control Unit 2116	355 mm 14 in	484 mm 19 in	432 mm 17 in	22.5 kg 50 lb
Power Supply Unit 2201/1	355 mm 14 in	484 mm 19 in	355 mm 14 in	31.5 kg 70 lb
Operational Control Panel 2105/C	155 mm 6.125 in	83 mm 3.25 in	127 mm 5 in	2.7 kg 6 lb
Colour Balance Panel 2110	205 mm 8.06 in	83 mm 3.25 in	127 mm 5 in	0.7 kg 1.55 lb
Auto Centering Unit Type 2119	90 mm 3.5 in	484 mm 19 in	397 mm 15.625 in	7.7 kg 17 lb

Connectors

	Fixed	Mating	
Camera			
Camera Cable Plug	TV-85C	BIW	
Auxiliary a.c.	EP-4-17S	Cannon	EPCG-4-16
Tracker outlet	62-GB-12E-12/10S	Amphenol	62-GB-16F-12/10P
Viewfinder Output	BNC/31-221	Amphenol	BNC/31-322

Camera Control Unit

Stabilized mains input	DO3/EC/32/M/TG	Smiths	DO3/P/32/F/TG
Auxiliary mains input	DO3/EC/32/M/TG	Smiths	DO3/P/32/F/TG
Communications selector	MS 3102A-18-1S	Cannon	MS3106B-18-1P
Communications	MS 3102A-20-27P	Cannon	MS3108B-20-27S
Operational Control Panel	MS 3102A-28-12S	Cannon	MS3108B-28-12P
Power Supply Unit	MS 3102A-18-11S	Cannon	MS3106B-18-11P
Power Supply Unit	MS 3102A-28-21P	Cannon	MS3108B-28-21S
Auto Centering Unit	MS 3102A-20-27S	Cannon	MS3106B-20-27P
Coaxial Connectors	BNC/31-221	Amphenol	BNC/31-322
Camera Cable Socket	TV 85C	BIW	

Power Supply Unit

CCU	MS 3102A-18-11P	Cannon	MS3108B-18-11S
CCU	MS 3102A-28-21S	Cannon	MS3108B-28-21P

Operational Control Panel

CCU	MP 134	McMurdo	MS134
Colour Balance Panel	MS 118	McMurdo	MP118

A complete set of mating connectors, except those required for the camera cable, is supplied as standard.

Schedule of Equipment

1 Basic camera, comprising:			3 Optional items:		
a Colour Camera Type 2005	1		a Auto Centering Unit Type 2119	1	
b Camera Control Unit Type 2116	1		b ACU-CCU interconnecting cables	1 set	
c Power Supply Unit Type 2201/1	1			1.5 m (5 ft)	
d CCU-PSU interconnecting cables 7.6 m	set of 2		c Colour Balance Panel Type 2110	1	
(25 ft)			d BIW cable TV-8IN Mod. 2B	up to 610 m	
e Operational Control Panel 2105/C	1			(2000 ft)	
f OCP-CCU interconnecting cable 7.6 m	1		e Lead oxide vidicon pick-up tubes	as required	
(25 ft)			(integral mesh, thin layer, extended	and available	
g Bias light assembly	1		red, HOP(ACT)).		
h Service manual TL.1797, vols. 1 and 2	1 each		f Linear matrix for use with extended	1	
i Module extender 2001890	1		red tube		
j Module extender 2113095	1		g 2005 modified for use with HOP tubes	1	
k 50 Hz Hour meter assembly	1		h x1.5 range extender for 10 x 18L31 lens	1	
			i x2 range extender for 10 x 18L31 lens	1	
			j x3 range extender for 10 x 18L31 lens	1	
			k Close-up lens for 15 x 18L71 lens	1	
2 Ancillary items:			l Lens hood	1	
a Lead oxide vidicon pick-up tubes	set of 3		m Lens carrying case	1	
(separate mesh)			n Camera protective case	1	
b BIW camera cable TV-8IN MINI-B	Up to 488m		o Camera head shield	1	
	(1600 ft)		p Camera waterproof cover	1	
c 10 x 18L31 Lens package	1		q Viewfinder shade 2003109 (studio)	1	
or			r Viewfinder hood 2003117 (O.B.)	1	
15 x 18L71 Lens package	1		s Cue-card holder 2005376	1	
incl x1.5 x 2 and x2.5 range extenders.			t Tube simulator 2001720/A	1	
or			u Degaussing coil 2001704	1	
Varotal 30 Lens package	1		v 60 Hz Hour meter assembly	1	
incl. x2 range extender.					

Ordering Information

When ordering please state:

- 1 Your equipment requirements by quoting from the Schedule of Equipment. Specify either manual or servo zoom lens package. If servo state if shot box is required.
- 2 The supply voltage and frequency from which the equipment will be run.
- 3 Camera cable requirements.
- 4 The distance between the camera control unit and the power supply if the inter unit cable required is longer than 7.6 metres (25 ft).

- 5 The distance between the camera control unit and operational control panel if the inter unit cable required is longer than 7.6 metres (25 ft).
- 6 The distance between the camera control unit and auto centering unit if the cable required is longer than 1.5 metres (5 ft), max. 10 m.
- 7 The distance between the 2105/C operational control panel and the 2110 colour balance panel if these two panels are not to be mounted side by side.

The Company reserves the right to modify the design or specification without notice. No warranty or guarantee, expressed or implied, is made regarding the accuracy of information supplied or capacity, performance or suitability of any product or service since the manner of use is beyond our control.



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