

Mark VII Colour Camera Channel Type B3205

The B3205 Colour Camera Channel uses four Plumbicon* tubes. The head amplifiers use field effect transistors and the remainder of the channel contains only two thermionic devices, in supply circuits.

Very high stability and simplified operational controls make 'hands-off' working standard practice. Progressive development ensures the highest performance which the latest techniques can provide.

Features

- Four tubes with fully screened yokes.
- Field effect transistor head amplifiers.
- Wide choice of zoom or fixed lenses with 40mm (1.6in.) picture diagonal.
- Level dependent aperture correction for optimum picture sharpness with minimum noise.
- Full sensitivity black and white operation quickly obtained.
- Operation with up to 600 metres (2000 ft) of camera cable, choice of cable types.
- Tilting viewfinder with 2150 lumen/metre² (200ft Lamberts) highlight brightness.
- Automatic light scatter compensation.
- 625/50 or 525/60 standard operation, by local or remote switching.

Equipment

The Channel consists of :

- Camera with tilting viewfinder and zoom lens mount.
- Camera control unit, including control panel.
- Channel power supply.
- Operational control panel.
- Set of interconnecting cables.

Optional

- Colour balance control system.
- Aperture corrector.

Camera

The camera uses any standard television zoom lens designed for use with Image Orthicon cameras. It can also be adapted to take a single fixed focus lens, focus

adjustment being available to accommodate a near object distance of under 0.6m (2ft) for all fixed lenses of up to 7.6cm (3in.) focal length. The camera is provided with two filter wheels, one enabling three neutral density filters to be fitted, the second permitting the choice of three colour filters. Each wheel has an open position.

The camera can be operated as a black-and-white only camera ; an optical switch enables the full sensitivity of the camera tube to be obtained when operating in this mode.

The whole of the optical system is mounted on a fixed plate and is enclosed by a dust-proof cover. The optical plate also carries the four yokes and the whole plate is arranged on a simple yet rigid mechanism which can be used to obtain focus.

Circuits are built on plug-in printed boards or units.

Camera Control

The Camera Control Unit is suitable for mounting in a 48cm (19in.) rack or console. Video and pulse processing circuits are built on printed-wiring boards, which slide into a rack mounting frame.

After the controls on the camera control unit are adjusted, this channel is controlled from a simple panel containing only the operational controls.

The engineering control panel is fitted to the c.c.u. Controls for operational use include a local/remote switch enabling the following controls to be switched to a remote position, normally the Operational Control Panel.

Iris	Camera on/off
Master black	Beams on/off
Master gain	'On air' cue
Normal/stand-by	

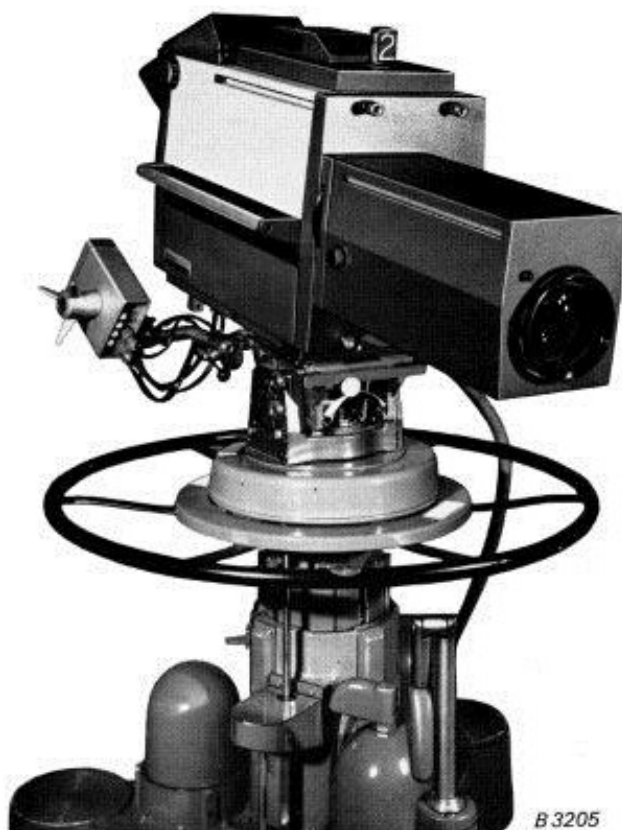
Provision is also made to remote additional facilities such as :

Talk-back levels ; talk-back and call-camera key switch ; scan reversal ; colour/black and white ; and gamma laws one or two.

Colour Balance Controls :

GRB Gains	GRB Black Level
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* Registered Trade Mark, Philips
Gloeilampenfabrieken



B 3205

Data summary

Inputs:

Mains: 100–125V and 200–250V, in 5% steps. 50–60Hz. Consumption 600–800VA (depends on cable length).

Pulses: Bridging input for line drive, field drive, mixed blanking and mixed syncs., between the limits of 1.5 and 8V.

Video: Inputs for test waveforms and external viewfinder feed.

Communications: Programme sound, producer and control zoom talk-back, 'On-air' cue.

Control: Remote control with multi-way socket mounted at the rear of the c.c.u.

Outputs

Video: Isolated standard level signals of each luminance, red, green and blue.

Resolution: Modulation depth at 400 lines per picture height, 100% with aperture correction.

Gamma correction: Adjustable between 0.4 and 1.

General stability: The outputs are stable with constant illumination with mains surges of $\pm 6\%$ nominal value, at temperatures $\pm 10^\circ\text{C}$ between -10°C and $+40^\circ\text{C}$.

Registration and colour balance are maintained with sufficient accuracy to permit 'hands off' operation of the Engineering Control Panel under normal studio conditions.

Dimensions:

Camera

Height	50.8cm	(20in.)
Width	34cm	(13.3in.)
Length	67cm	(26.4in.)
Weight	74.8kg	(165lb)
		(including viewfinder)

Camera Control Unit

Height	49cm	(19.25in.)
Width	48cm	(19in.)
Length	56cm	(22in.)
Weight	53.1kg	(117lb)

Operational control panel

Height	20.5cm	(8.1in.)
Width	8.3cm	(3.25in.)
Depth	14cm	(5.5in.)
		(overall)
Weight	0.9kg	(2lb)

Power Supply

Height	22cm	(8.75in.)
Width	48cm	(19in.)
Length	54cm	(21in.)
Weight	49kg	(108lb)

Monitoring of signals is by two independent groups of switches on the c.c.u.

panel: one for picture, and one for waveform display. The desired signals are selected and fed-out to a Picture-and-Waveform-Monitor, Type B 3901. Monitoring facilities include independent signal reversal to facilitate registration. The check meter scale and switch are colour coded for quick and easy reading.

An internal calibration waveform generator is also provided in the camera for use in setting the head amplifier gains for the desired tube signal current. This is also controlled by the c.c.u.-test switch.

Rapid setting-up of equal gains and amplitude characteristics in the four channels is facilitated by the provision of 'bridging' switches. Used with a grey scale, the corresponding circuit points in the four channels are joined together, and any difference in signal levels can be easily seen on the waveform monitor or on a colour monitor. Aperture and cable length correction are provided as preset controls.

A tube hour meter is fitted at the rear of the camera.

Power Supply Unit Type B 3210

The power supply unit is designed to mount in a 48cm (19in.) rack at a distance of up to 30m (100ft) from the c.c.u. The construction is of a hybrid form with the transformers mounted on a 48cm (19in.) pan chassis and the circuit modules arranged to plug into a sub-frame, forming part of the whole assembly. A switch is provided which compensates for voltage drop when varying lengths of camera cable are used up to 600 metres (2000ft).

OPTIONAL EXTRAS Colour Balance control system B 3209

A single joystick gives automatically balanced, simultaneous adjustment of GRB gains. The system enables small corrections for set lighting errors to be made 'on air'. Instantaneous return to initial settings is always possible.

Aperture corrector B 3371

A compact, rack mounted unit 13.3cm (5.25in.) high, which gives variable vertical/horizontal and aperture correction, to the luminance signal of a colour camera, is described elsewhere in this catalogue.

Full details are given in TD-2-B 3205.