



## Vidicon Camera Channel Type V 3020

THE Vidicon Camera Channel Type V 3020 comprises two units, Camera Type V 3021 and Camera Control Unit Type V 3022. The latest version of this camera channel incorporates a number of advanced features and particular attention has been paid to long-term reliability, to robustness and to flexibility of application.

Simplicity has been achieved without sacrificing performance, and pictures of sufficiently high quality for many broadcast applications may be obtained.

Composite video and modulated r.f. carrier output signals are provided.

### Features

Extremely compact cylindrical camera, particularly rugged in construction.

Multi-core cable connection between camera and control unit may be up to 1000 ft (300 m) in length.

Operation on 405, 525 or 625-line standards.

Operating control panel may be removed from the control unit and remoted on a cable up to 500 ft (150 m) long.

Optional automatic sensitivity control compensates for wide variations of scene illumination.

External sync. generator may be employed without modification of the channel.

### EQUIPMENT

#### The camera

Camera Type V 3021 is contained in a cylindrical dustproof case which, besides giving good mechanical protection, also acts as an electrostatic and magnetic shield.

Focusing is accomplished by moving the vidicon relative to the lens, and is normally manually controlled. If desired, a motorized focus unit, Type V 4011, may be attached to the rear of the camera and operated from the control unit. Further motorized accessories are available (see page 188).

#### The control unit

Control Unit Type V 3022 contains the video amplifier and time base units, on printed boards, and the power supply.

The small control panel, recessed into the front, can be removed for remote control.

### Data Summary

#### OUTPUTS

**Video:** 1.5 V p-p composite into 75  $\Omega$ , positive polarity.

**Modulated r.f.:** 100 mV, 60% negative modulation. Modulation negative, with conversion by link change to positive. Fixed frequency 20 Mc/s, or by coil change may be tunable over 55–80 Mc/s range.

**Line drive** (for synchronizing other channels): 2 V p-p (–25% +100%) negative pulses.

**R.F. carrier** (for synchronizing other channels): 0.5 V r.m.s. ( $\pm 25\%$ ).

#### INPUTS

**Mains:** 100–125, 200–250 V, 50–60 c/s, a.c.

**Line drive, blanking and sync., field drive** (not normally required): 2 V p-p (–25% +100%) negative pulses, for use with other channels or external driving source.

**R.F. drive** (for synchronizing to other channels): 0.5 V r.m.s. ( $\pm 25\%$ ).

#### PERFORMANCE

**Scanning standards:** 405-line, 50-field random interlace. 525-line, 60-field random interlace. 625-line, 50-field random interlace. 2:1 interlace obtainable by means of external driving source.

**Picture quality:** Limiting horizontal resolution (with suitable scene conditions), 600 lines. Positional error of scans does not exceed  $\pm 1\frac{1}{2}\%$  of picture height or width.

**Sensitivity:** With an industrial-grade vidicon, a scene with a highlight brightness of 10 ft lamberts will give a reasonable picture with a lens aperture of  $f/2$ . A highlight brightness of 25 ft lamberts will give an excellent picture at same aperture.

**Ambient conditions:** Components are rated for 70°C ambient temperature and class H.2 climatic conditions. (Inter-Services specification RCS11). Control unit 50°C free air. Camera, 45°C, or 55°C with reduced vidicon performance.

**Power consumption:** 220 VA.

#### Dimensions:

##### Camera

Diameter 4 in. (10 cm).

Length 11 in. (28 cm); 14 $\frac{1}{2}$  in. (36 cm) with motorized focus unit.

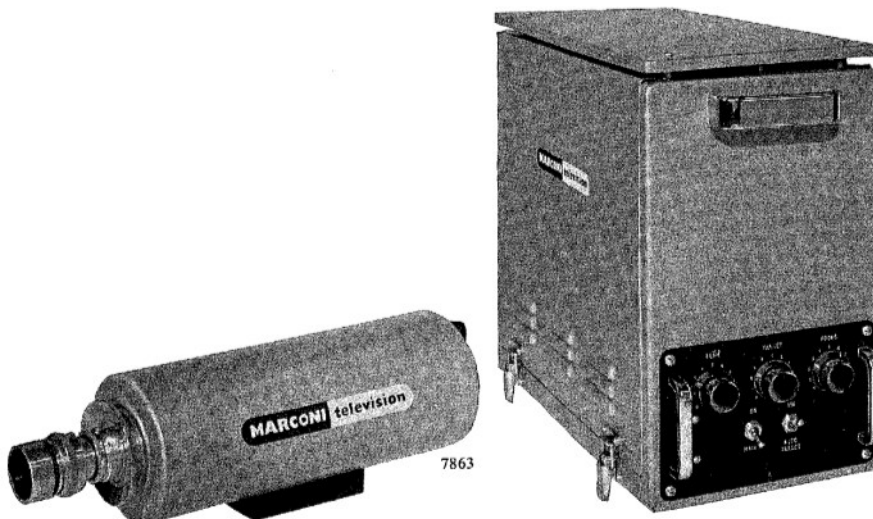
Weight 7 lb (3.2 kg); 8 $\frac{1}{2}$  lb (3.9 kg) with motorized focus unit.

##### Camera control unit

Height	Width	Depth	Weight
14 $\frac{1}{2}$ in.	9 in.	19 $\frac{1}{2}$ in.	45 lb
(37 cm)	(23 cm)	(50 cm)	(20.25 kg)

### Marconi

The Marconi Company Limited  
Closed-circuit Television Division, Basildon, Essex  
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Telegrams: Expanse Basildon Telex





## Accessories for V 3020 Camera Channel

### Motorized Focus Unit Type V 4011

Allows optical focus of camera to be adjusted from viewing position.

**Diameter:** 4 in. (10 cm).

**Length:** 3½ in. (8 cm).

**Weight:** 1½ lb. (0.7 kg).

**Power supplies:** From camera control unit.

**Controls:** Switch on camera control panel.

**Mounting:** Attached to rear of camera.

### Remotely controlled Zoom Lens Type V 4023

Provides continuously variable focal length from 15 mm to 150 mm at  $f/2.5$ .

Provides remote control of zoom only or of zoom focus and iris if required.

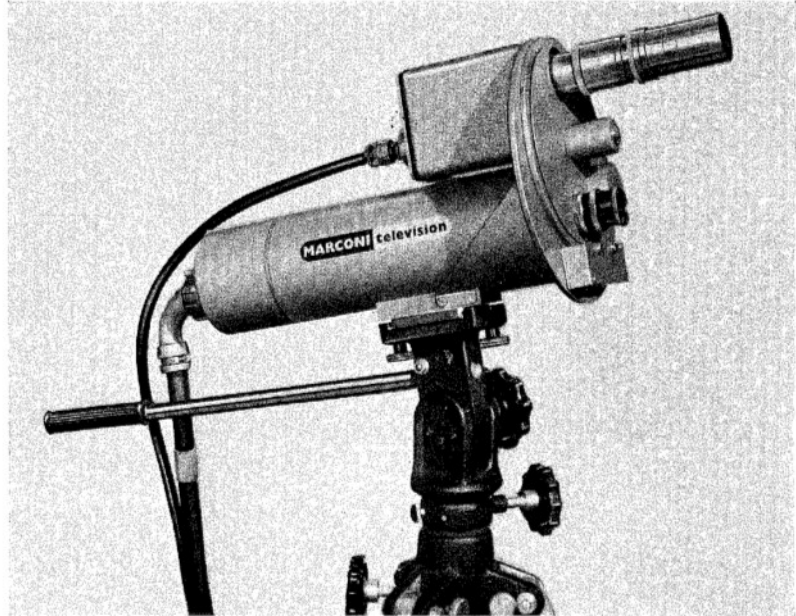
**Diameter:** 6 in. (17.1 cm).

**Length:** 8 in. (20.3 cm).

**Weight:** 7 lb. (3.2 kg).

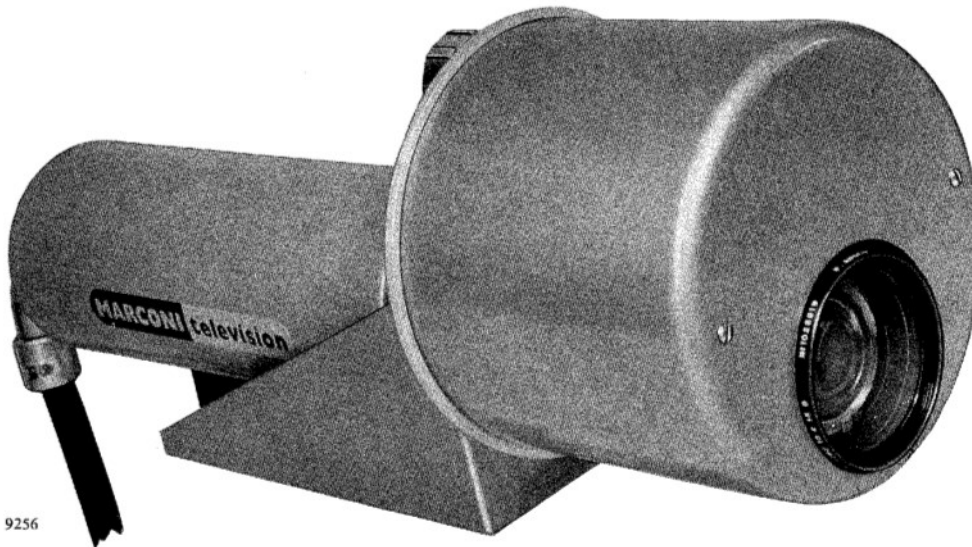
**Power supplies:** 100-125 V, 200-250 V, 50 or 60 c/s, a.c.

**Power consumption:** 10 VA.



V 4011 (at rear of camera).

8936B



9256

Motorized Zoom Lens Type V 4023.



8937A

V 4030/V 4031.

## Motorized Filter Units Types V 4030 and V 4031

Inserts one (V 4030) or two (V 4031) filters between lens and vidicon.

When neutral-density filters are used the range of automatic sensitivity control may be considerably extended.

An opaque blade may be used, with optional photocell actuation, to protect the vidicon from exposure to the sun.

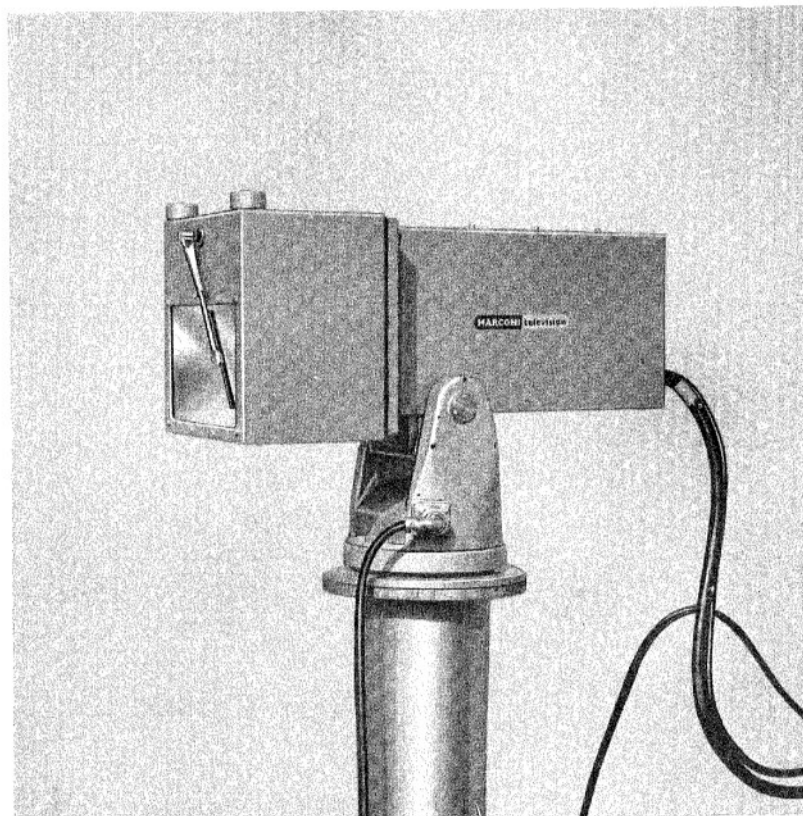
### Dimensions:

Height 1½ in. (3.9 cm)  
Width 4 in. (10.2 cm)  
Depth ¾ in. (2.2 cm)  
Weight 1¼ lb. (0.6 kg)

**Power supplies:** From camera control unit.

**Controls:** Manual control on camera control panel. Automatic actuation by photocell if required.

**Mounting:** Filter unit on front of camera (or lens change unit, if fitted). Photocell on bracket alongside camera.



8938B

V 4211.

## Weatherproof Camera Housing Type V 4211

Completely sealed.

Thermostatic control and overheat warning available.

Windscreen wiper fitted.

Demister/heater available.

Accommodates remote lens change unit.

Extended front end available to accommodate lenses of focal length greater than 6 in. (15 cm).

Sun shield available.

May be used in conjunction with pan and tilt head.

**Height:** 11¼ in. (29 cm)

**Width:** 10½ in. (26.7 cm)

**Depth:** 33 in. (84 cm)

**Weight:** 24 lb. (11 kg)

**Power supplies:** 100–125 V, 200–250 V, 50 or 60 c/s. 40 VA for wiper, 150 VA for demister/heater.

**Mounting:** By ¼ in. —20 U.N.C screw.

**Controls:** Switches for wiper and demister/heater arranged as required.

**Ambient temperature range:** —20°C to 45°C. (Heater available for operation at lower end of this range.)

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