

3-inch Image Orthicon Camera Equipment



Features



CAMERA

- ★ Light yet strong, rigid construction.
- ★ Suitable for studio or field use.
- ★ Four-lens manually controlled turret.

- ★ Only one cable connection to camera required.
- ★ An "image orbiting" device is fitted which reduces the risk of target "burn-in" and greatly extends the useful life of the pick-up tube.
- ★ Pick-up tube may be withdrawn and replaced quickly through rear of camera.
- ★ Thermostatically controlled pick-up tube target heater with remote temperature indication.
- ★ Automatic protection of pick-up tube in the event of scanning field failure, with scan failure indication.
- ★ Built-in hour meter records pick-up tube running hours.
- ★ Electronic viewfinder with 7 inch (17 cm) diagonal rectangular tube.
- ★ Automatic registration facility for montage.
- ★ Detail emphasis in viewfinder picture to aid focusing.
- ★ Viewfinder always presents a picture which is perpendicular to the line of vision.
- ★ Turret will accept lens combination within the limits 39 mm to 40 inches (102 cm) focal length.
- ★ Any lens can be replaced in 15 seconds.
- ★ Turret design reduces risk of masking by lens hood of adjacent long-focus lens when wide-angle lens is in the operational position.
- ★ Provision for independent reversal of vertical and horizontal scans.
- ★ Manual focus control with cosine-law characteristic drives fully counterbalanced pick-up tube carriage.
- ★ Quick-release cover permits ready access to interior of camera.
- ★ All chassis of plug-in type, facilitating maintenance and replacement.

CONTROL UNIT

- ★ Controls include switching of a.c. and HT (B+) supplies for entire camera channel.

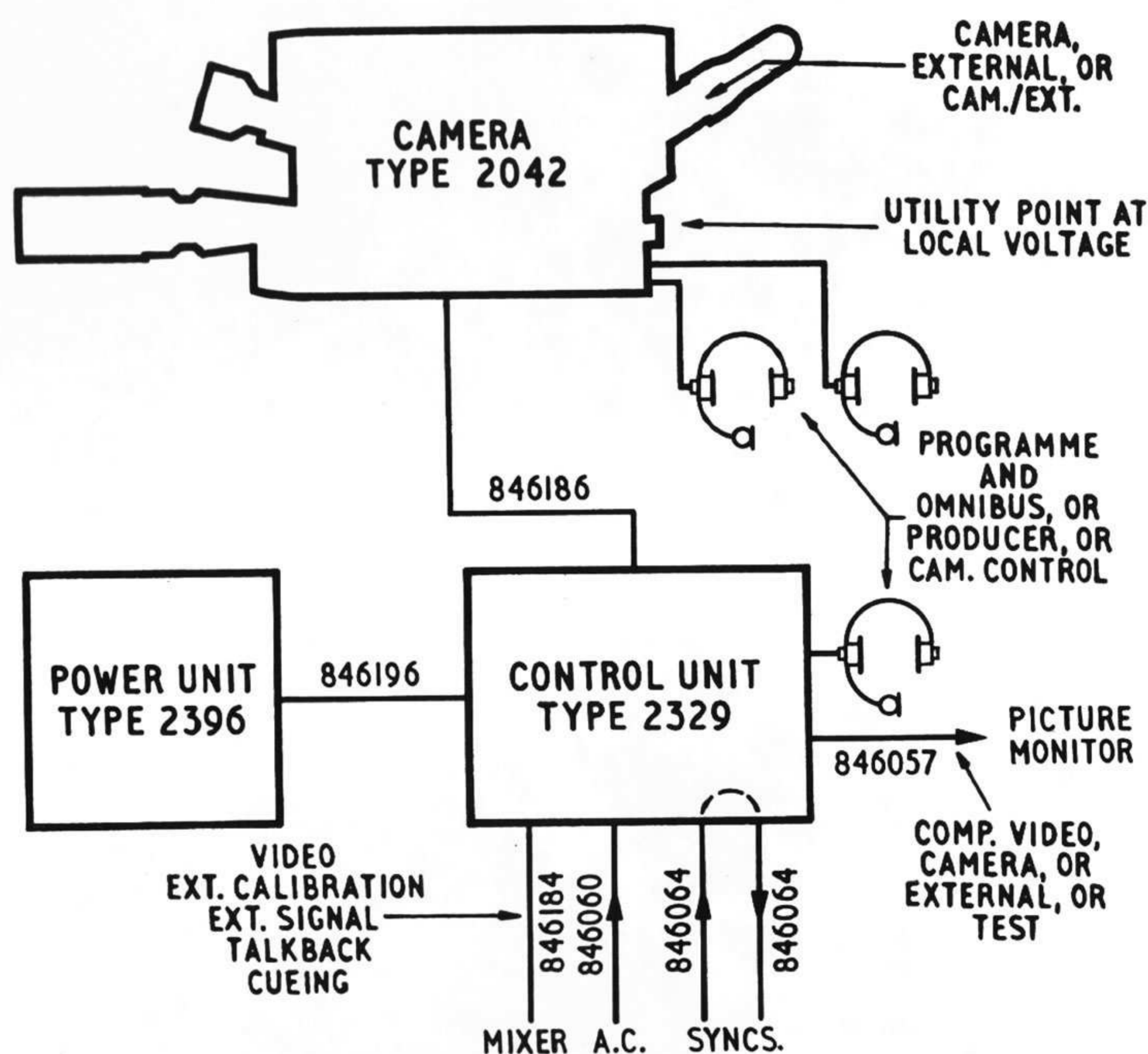


- ★ Internal calibration voltage available for checking levels.
- ★ Compensation for different lengths of camera cable.

- ★ Peak-white limiter prevents overloading of circuits and distortion of waveforms.



- ★ All chassis mounted on a slide-out frame, giving quick access for servicing even though case is surrounded by other units.
- ★ 4-inch (10 cm) post-deflection accelerator tube for waveform monitoring.
- ★ Readily replaceable dust-extraction filters at rear of unit.



General arrangement of units, showing part numbers of interconnecting cables, and operational facilities.

POWER UNIT

- ★ Comprehensive metering of essential voltages and currents.
- ★ Switching effected remotely from the camera control unit.
- ★ Thermal delay device allows all heaters in channel to reach operating temperature before HT (B+) can be switched on.
- ★ Safety device energises buzzer in camera control unit if chassis temperature exceeds 60°C.
- ★ Relay cuts all HT (B+) supplies if negative bias line fails.
- ★ Readily replaceable dust-extraction filters at rear of unit.
- ★ Silicon rectifiers used for main rectification.



Uses

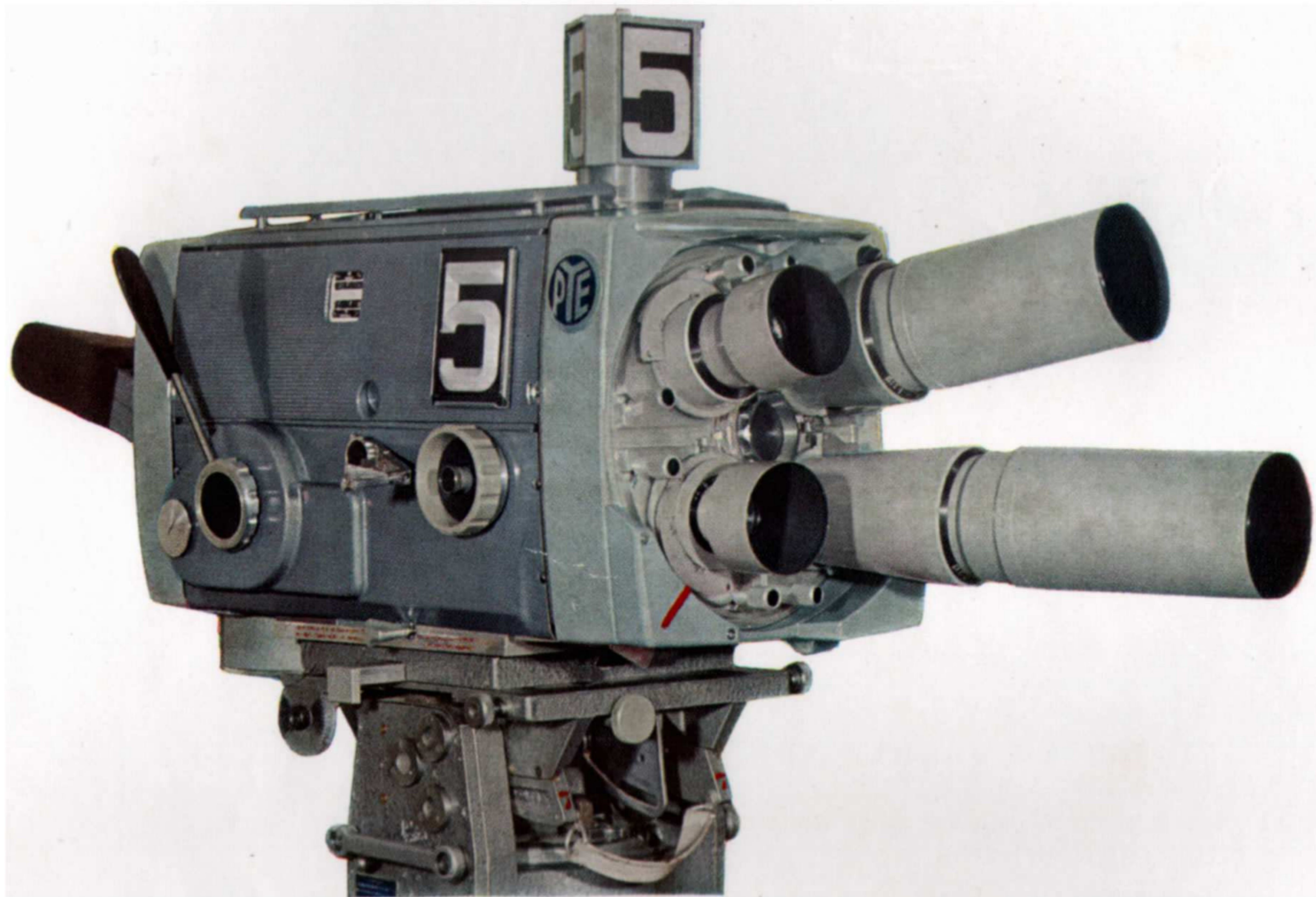
Exacting standards of design have resulted in a camera which is light and strong, making it suitable for field use, and which is at the same time of such high engineering precision that it is capable of the fine picture quality demanded in studio work.

The camera may be supplied for use on 405, 525, or 625 line systems. Equipment to special order can be supplied for operation on the 819-line systems. The 4-lens turret will accept combinations of lenses within the Pye standard range (focal lengths 39 mm to 40 inches), thus meeting all the requirements of the different distances and viewing angles encountered in the studio and in outside broadcast applications. The sensitivity of the pick-up

tube is such that with a lens aperture of f2 or larger, satisfactory operation can be obtained at an illumination as low as 0.5 foot candle.

The camera can be set up in a few moments, and any lens can be removed from the turret and another lens secured in its place in 15 seconds, making the equipment highly adaptable for use under rapidly changing production conditions.

The equipment is suitable for use in tropical locations, but air-conditioning is advised in studios and vehicles where these or any other items of television equipment are housed.



The Pye Camera Type 2042 complete with set of lenses, periscope viewfinder, focusing handle, identification plates, and cueing and identification lantern which can be seen easily from all angles.

Description

The Pye Image Orthicon Camera, Type 2042, employs a standard 3-inch Image Orthicon pick-up tube. The camera is light in weight and compact, and is built upon a cast Elektron frame of great strength and rigidity. A quick-release cover may be lifted off giving access to the interior.

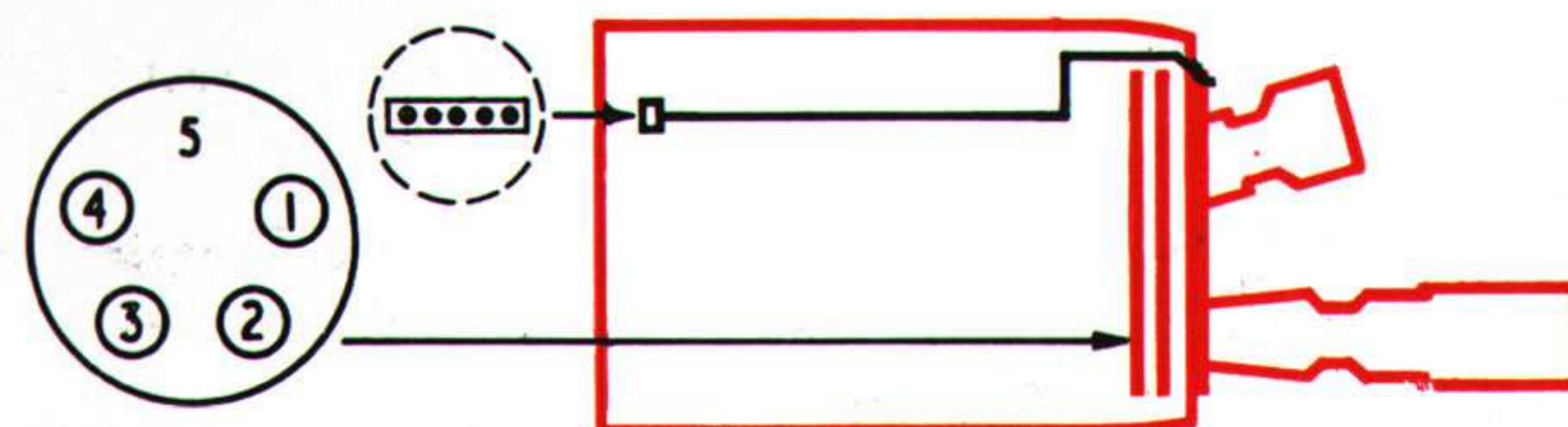
TURRET AND LENSES

A 4-lens turret is operated by simple mechanical linkage, and is turned by means of a handle at the right-hand side of the camera (from the camera operator's viewpoint), one complete revolution of the handle effecting a change from one lens position to the next. The movement is silent and the locking in position is positive, turret-position accuracy being within ± 1 degree of arc for any position of the handle within about 10° of its rest position; thus no great precision of operation is required when completing a lens change, and the change can be made very quickly. The lens position which is in line with the optical axis is shown to

the camera operator by means of an illuminated numbered indicator situated immediately above the viewfinder screen.

The turret is of the "skew" type, being provided with facets for holding the lens mounting plates, and is so inclined that only the lens in the operational position is in line with the optical axis. The remaining lenses are directed away from the optical axis, thus permitting both wide-angle and narrow-angle lenses to be mounted adjacent to one another without the longer lens

- 1 OPEN HOLE.
- 2 MINUS BLUE.
- 3 10% NEUTRAL.
- 4 1% NEUTRAL.
- 5 TUBE COVER.

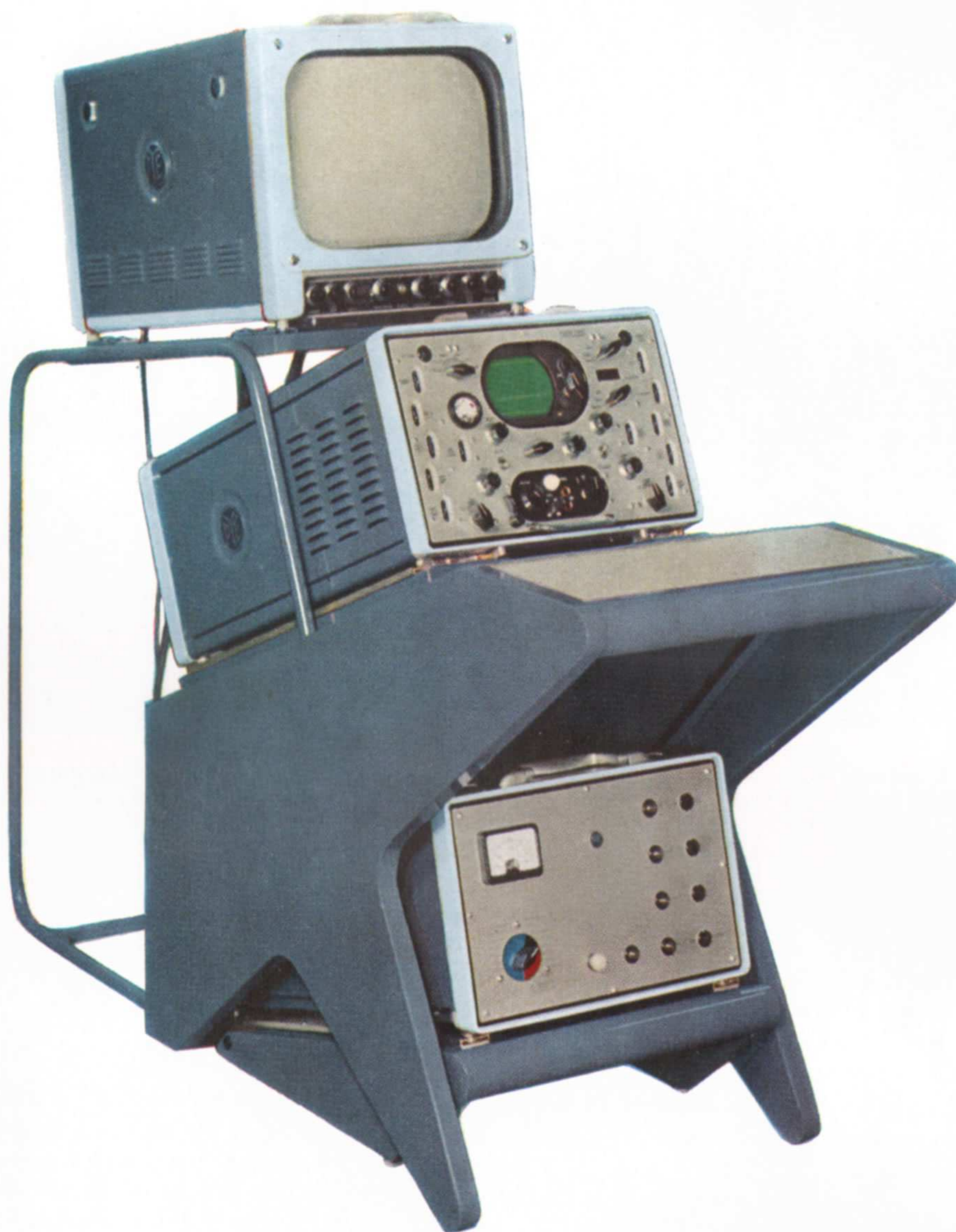


TURRET INDICATOR

hood appearing in the field of view of the wide-angle lens when the latter is in use.

Lenses of 39 mm to 40 inches (102 cm) focal length can be used on the turret in wide combinations. Each lens is fitted to the turret by two captive knurled screws, and any lens can be changed in 15 seconds. The iris setting for each lens may be preset by means of an iris ring individual to each lens.

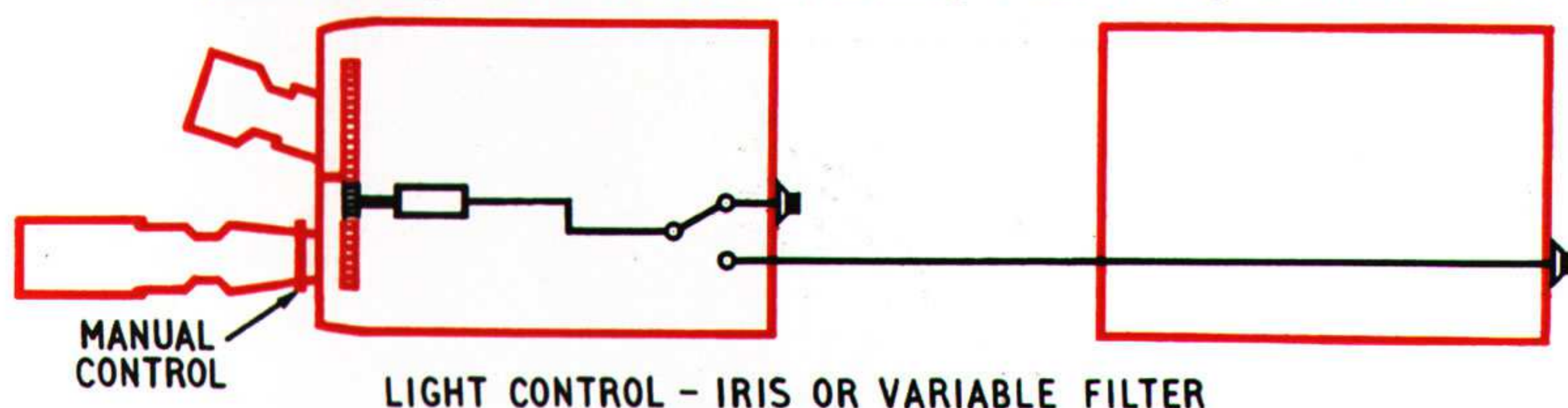
of the iris of the lens in use. Control of the filter can be carried out from either the camera or the camera control unit, and a calibrated light-control knob on the unit to which the control has been assigned indicates the setting of the filter. The continuously variable filter is located immediately behind the turret and comes away as part of the turret assembly when released by the single captive screw at the centre. A switch on the camera permits the position of control to be determined.



Control unit and power unit with a precision picture monitor mounted on a standard desk unit. Several such assemblies may be installed side by side, without any space between the desks, as the servicing arrangements for the units make this unnecessary. Alternatively, single desk units are available for housing two or three control positions.

LIGHT CONTROL

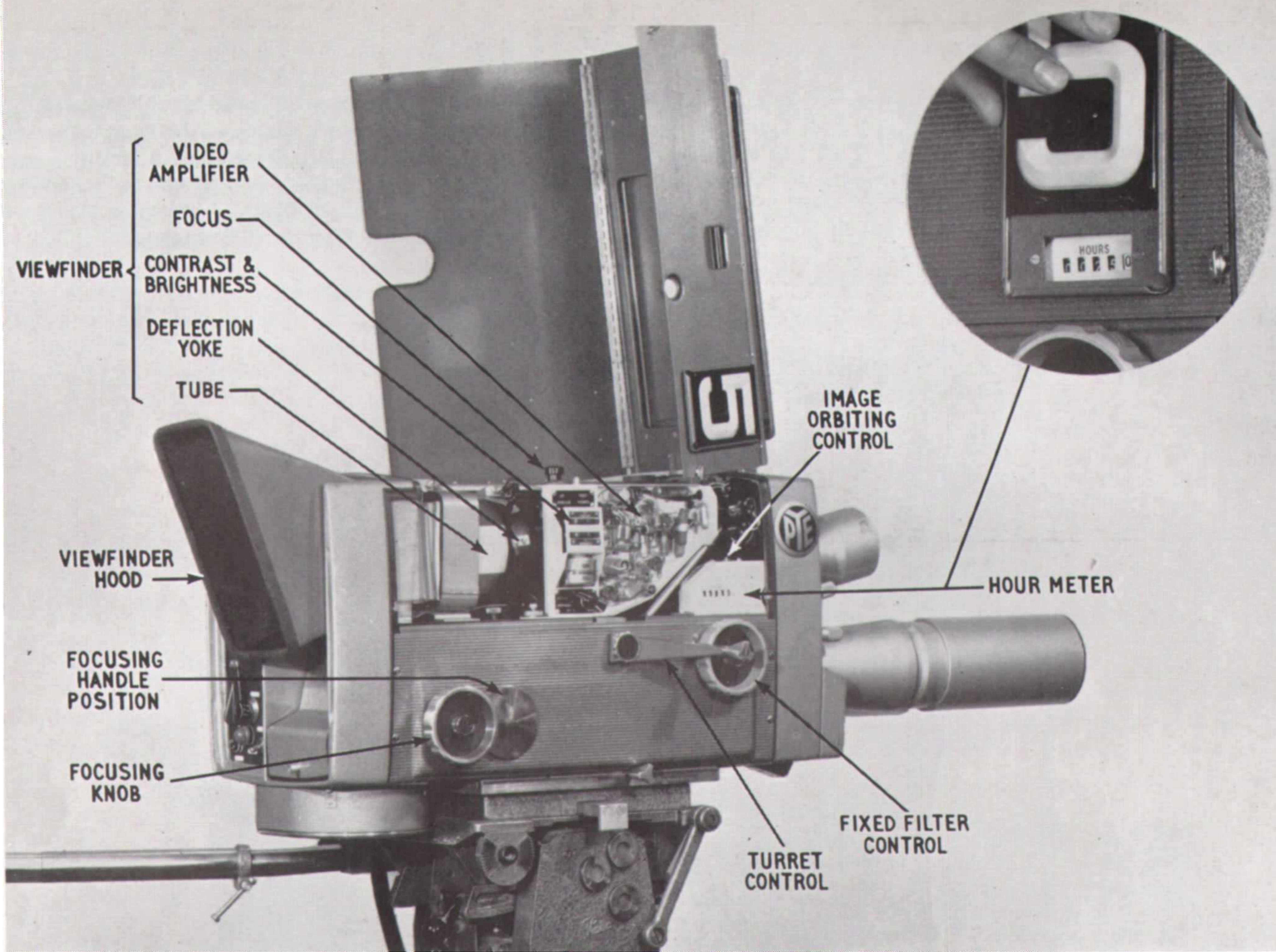
Light control is effected by means of a servo-driven 100:1 continuously variable neutral density filter or by manual-control



In addition to the continuously variable filter, there is also a filter ring with five positions, bringing into use—

1. An open hole.
2. A minus-blue filter.
3. A 10% transmission neutral density filter.
4. A 1% transmission neutral density filter.
5. A cover for capping the pick-up tube.

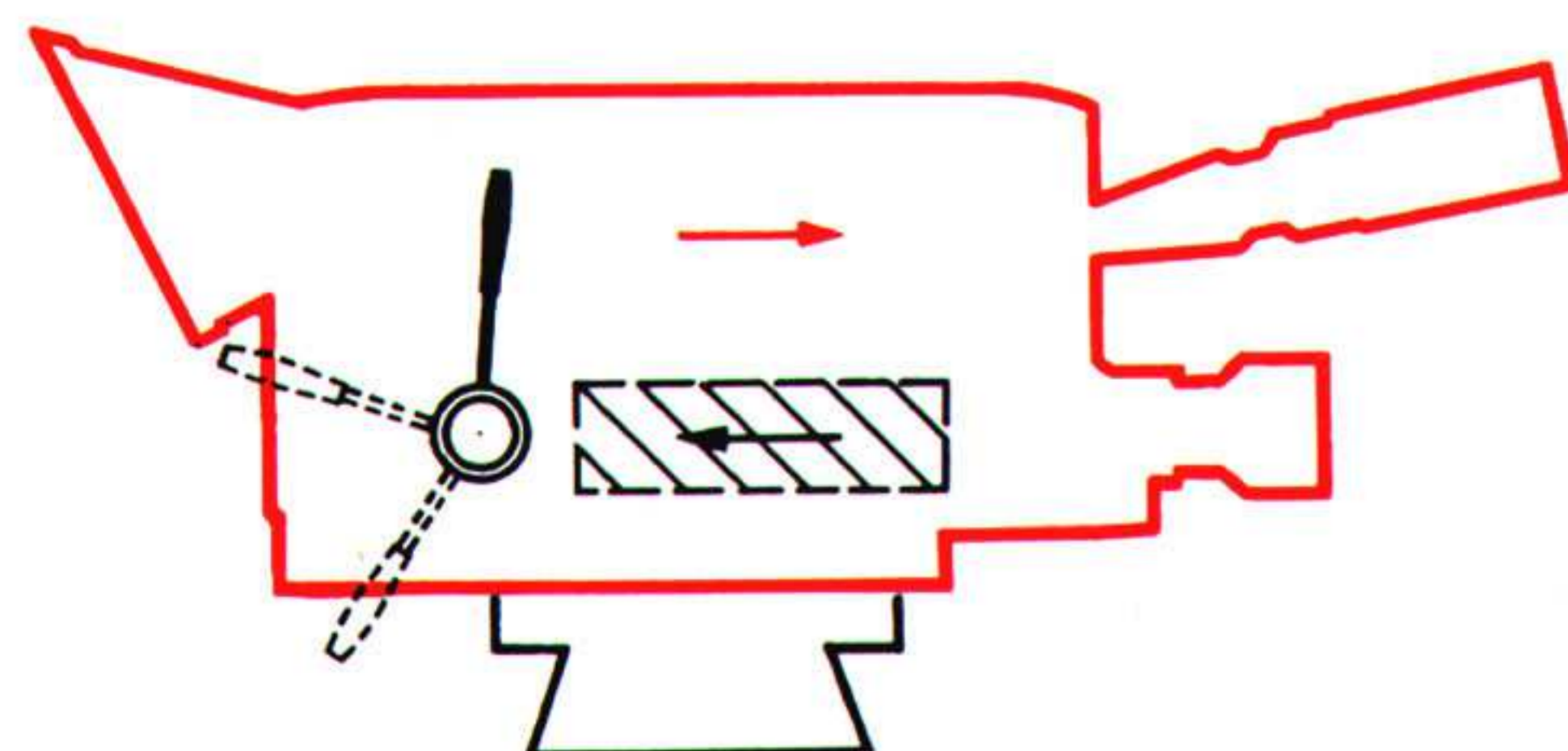
When control of light is effected solely by means of the lens iris, the continuously variable filter can be switched out so that it adds no extra air-to-glass surfaces.



The cover may be lifted and removed after turning four quick-release type fasteners. The viewfinder brightness and contrast controls are turned by edge-type knobs which are accessible through a slot in the cover, and the inset shows how the hour-meter may easily be read by lifting the camera identification plate. The cameraman may very easily set the disengaged position of the turret handle to any position he prefers.

OPTICAL FOCUS

Optical focus is controlled mechanically via cosine-law linkage to the Image Orthicon carriage, and is operated by means of either a lever or a knob situated at the rear on the right-hand side of the camera, convenient to the cameraman's hand. An adjustment is provided so that focus to infinity may be achieved by either



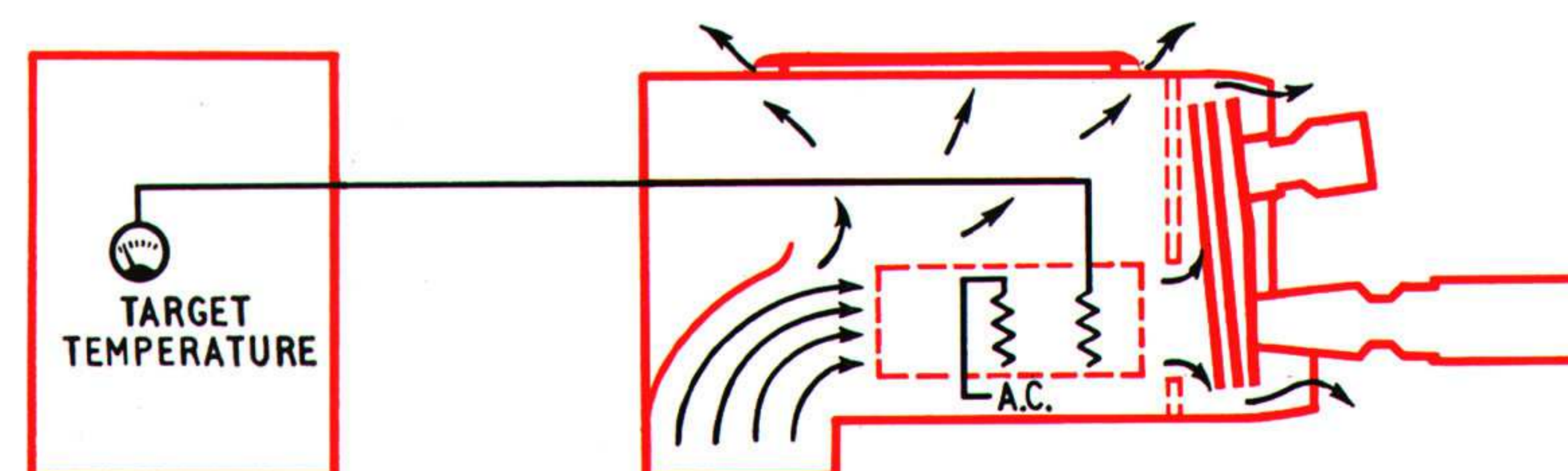
MAINTENANCE OF BALANCE DURING FOCUSING

of gravity of the complete unit remains fixed in relation to its mounting.

PICK-UP TUBE

The Image Orthicon tube may be fitted or withdrawn through a door in the rear of the camera without disturbing the turret or removing the camera cover, and a change of pick-up tube may be effected in one minute or less. The tube is fitted with a thermostatically controlled heater around the target. The heater is of high wattage for a fast warming up and shuts off at 42°C.

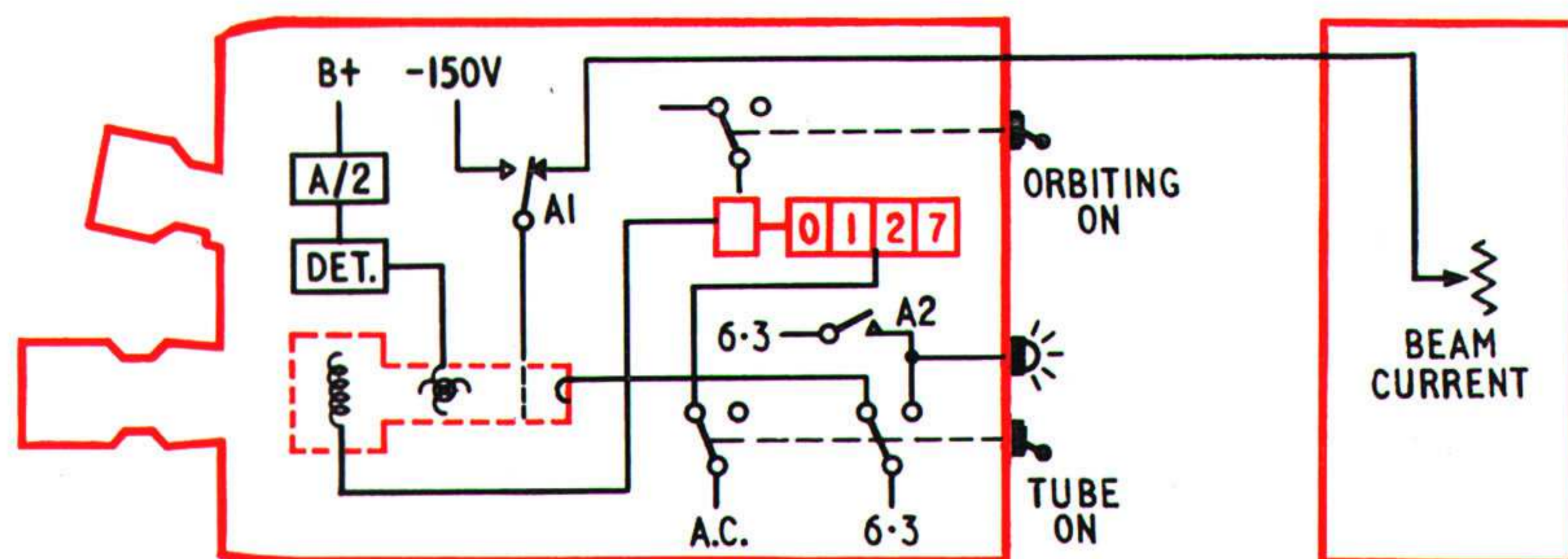
Air is blown continuously by a fan along the tube from the rear, and this very gradually reduces the temperature to a level where the thermostat again operates to energise the heater. In



TEMPERATURE CONTROL

clockwise or anticlockwise movement of the focus control, as desired by the operator. The lever may be mounted in any position.

The carriage is linked to a unique counterbalance mechanism by means of which the weight of the carriage and pick-up tube is completely offset by the weight of the rest of the camera, which moves by a small amount in the opposite direction to the carriage when the focus control is operated. By this means, no gravitational loading is transferred to the focus control, and the centre



PICK-UP TUBE PROTECTION, AND TIMING.

this manner the temperature gradient along the tube is maintained within the manufacturer's specification, and the target temperature is maintained between the limits of 40° and 45°C. A thermistor in a separate circuit monitors target temperature, which is indicated at the camera control unit, thus providing a check on the heater thermostat accuracy.

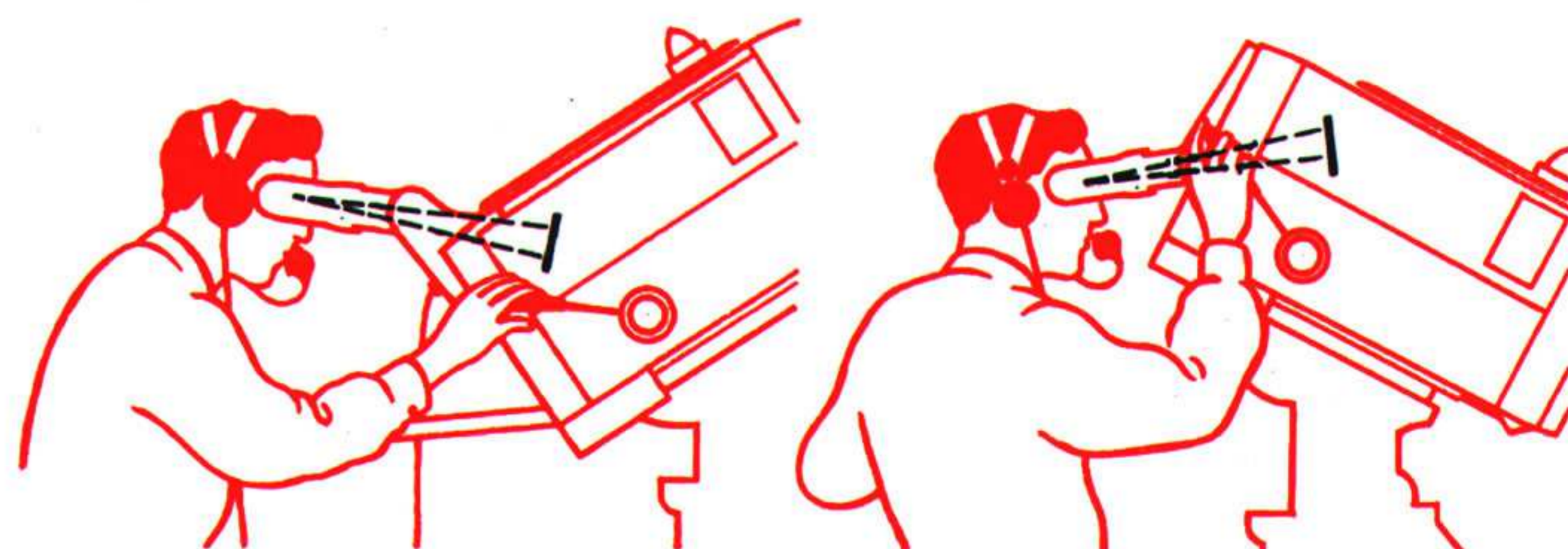
The pick-up tube is protected against scan failure by a device which detects the presence of a deflecting field. Collapse of the field, or a failure of the protective device, causes the beam to be cut off and a warning lamp on the rear control panel of the camera to be energised.

An hour meter indicates the pick-up tube running hours. A separate switch is provided which cuts the gun heater of the tube and renders the hour meter inoperative. Servicing may thus be carried out on the camera circuitry without adding to the total operating hours of the tube; also the tube need not be operated during stand-by and warming-up periods.

Protection of the pick-up tube target from the effects of "picture sticking" is provided by incorporating "image orbiting," which may be brought into operation by means of a switch on the rear panel of the camera. The image orbiting facility consists of changing, slightly and continuously, by electrical means, the position of the image on the target. The movement is a rotary one, and functions at the rate of one complete "orbit" per minute. It is imperceptible to the viewer.

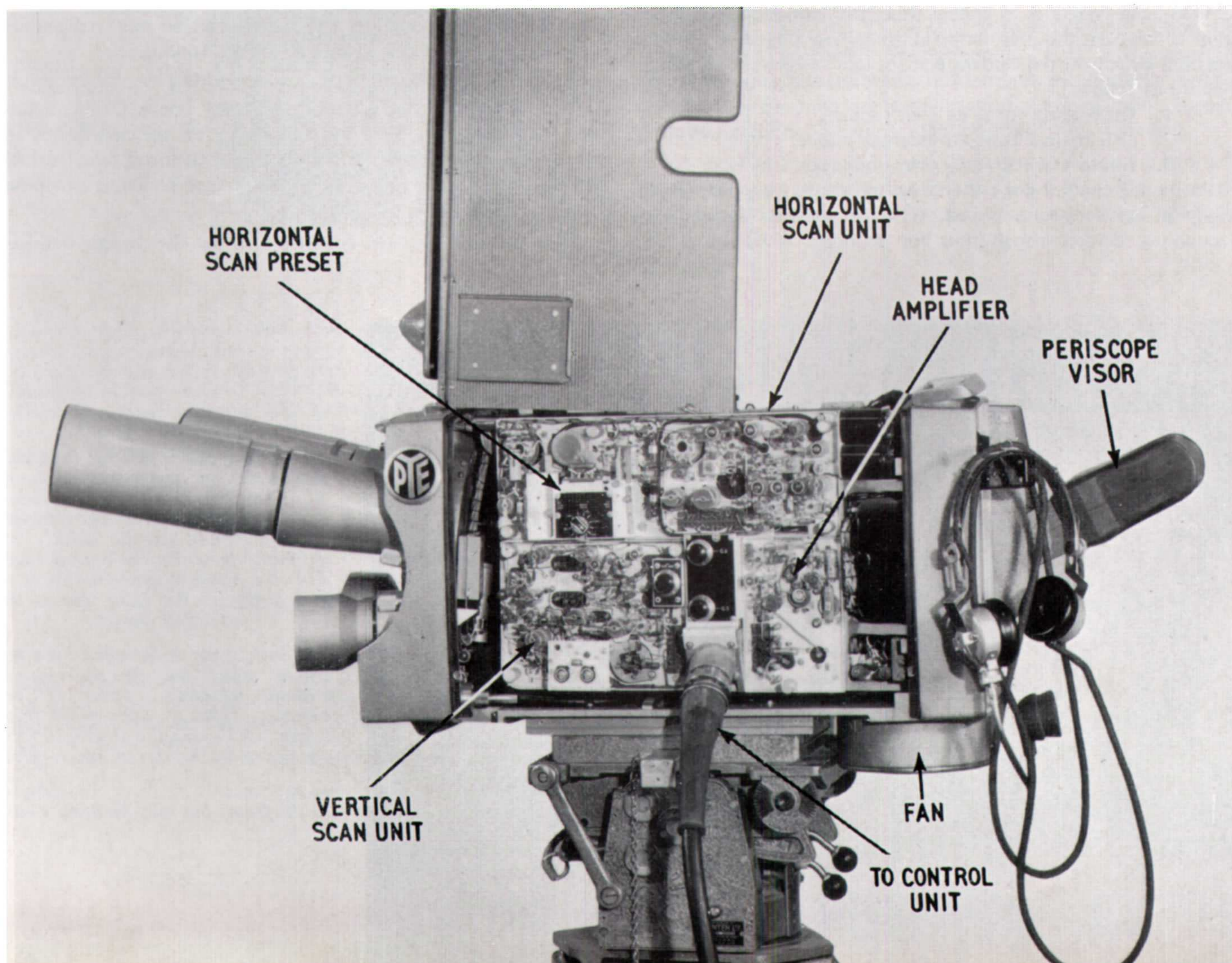
VIEWFINDER

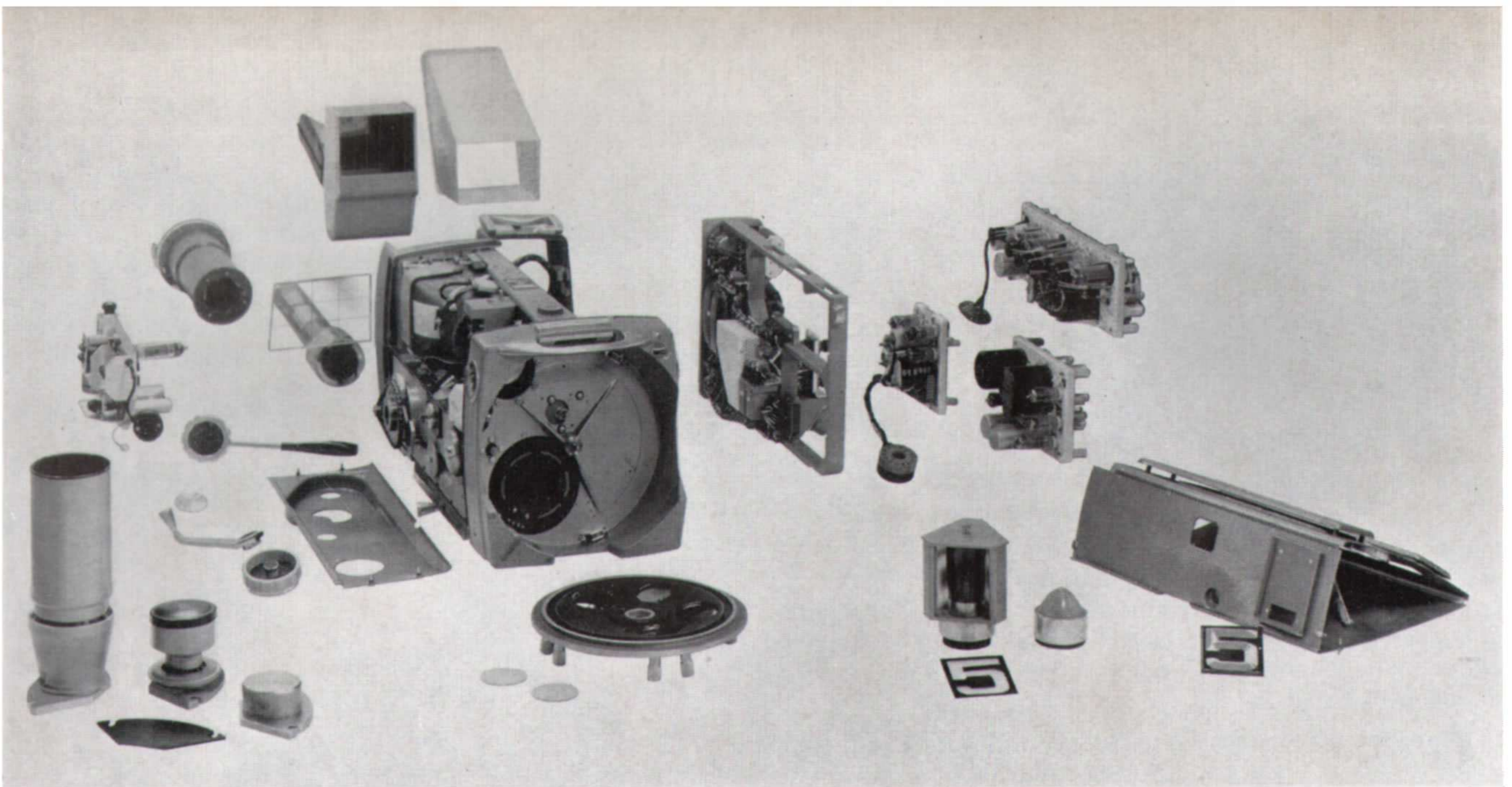
The viewfinder picture size is 5 inches (12.7 cm) wide by 3.7 inches (9.4 cm) high, and is viewed from an effective distance of 12 inches (30 cm) without an intermediate lens. Two types



of visor are available—a simple one for general studio use, and a periscope type which is particularly suitable for use outdoors. The latter may be positioned either way round into the camera, and may be tilted 40° above or below the horizontal in either position, and always presents a picture which is perpendicular to the line of vision. The rubber face-mask associa-

Raising the cover reveals the underside of three separate chassis held by captive thumbscrews to a cast aluminium frame which may be quickly swung outwards or completely removed as succeeding pictures show.





Considerable attention has been given in the design to producing a camera which can be serviced easily and quickly. Any of the parts shown above can be removed in a few seconds without the aid of tools of any kind.

ted with this visor is easily removable for disinfection purposes, and additional facemasks are available as accessories where it is considered desirable for each camera operator to have his own. The viewfinder amplifier is built on a separate plug-in type sub-chassis mounted across the viewfinder cathode ray tube on the right hand side of the camera and may be changed in a few seconds. A three position switch brings in three progressive degrees of detail-emphasis, giving artificially sharpened edges in the viewfinder picture. This is of considerable help in enabling the cameraman to maintain sharp optical focus.

Viewfinder video is supplied from the camera control unit after it has been through the main processing amplifier. A three position switch on the camera control unit selects the viewfinder picture as follows :—

1. Originating from its own camera.
2. Originating from an external source.
3. Mixed camera and external sources.

Position 3 enables the cameraman to position his picture precisely in relation to a picture from an external source, thus facilitating correct registration for montage effects.

The plain perspex window over the face of the viewfinder tube may be readily changed for one inscribed with composition lines, or a graticule for linearity checking.

MECHANICAL LAYOUT

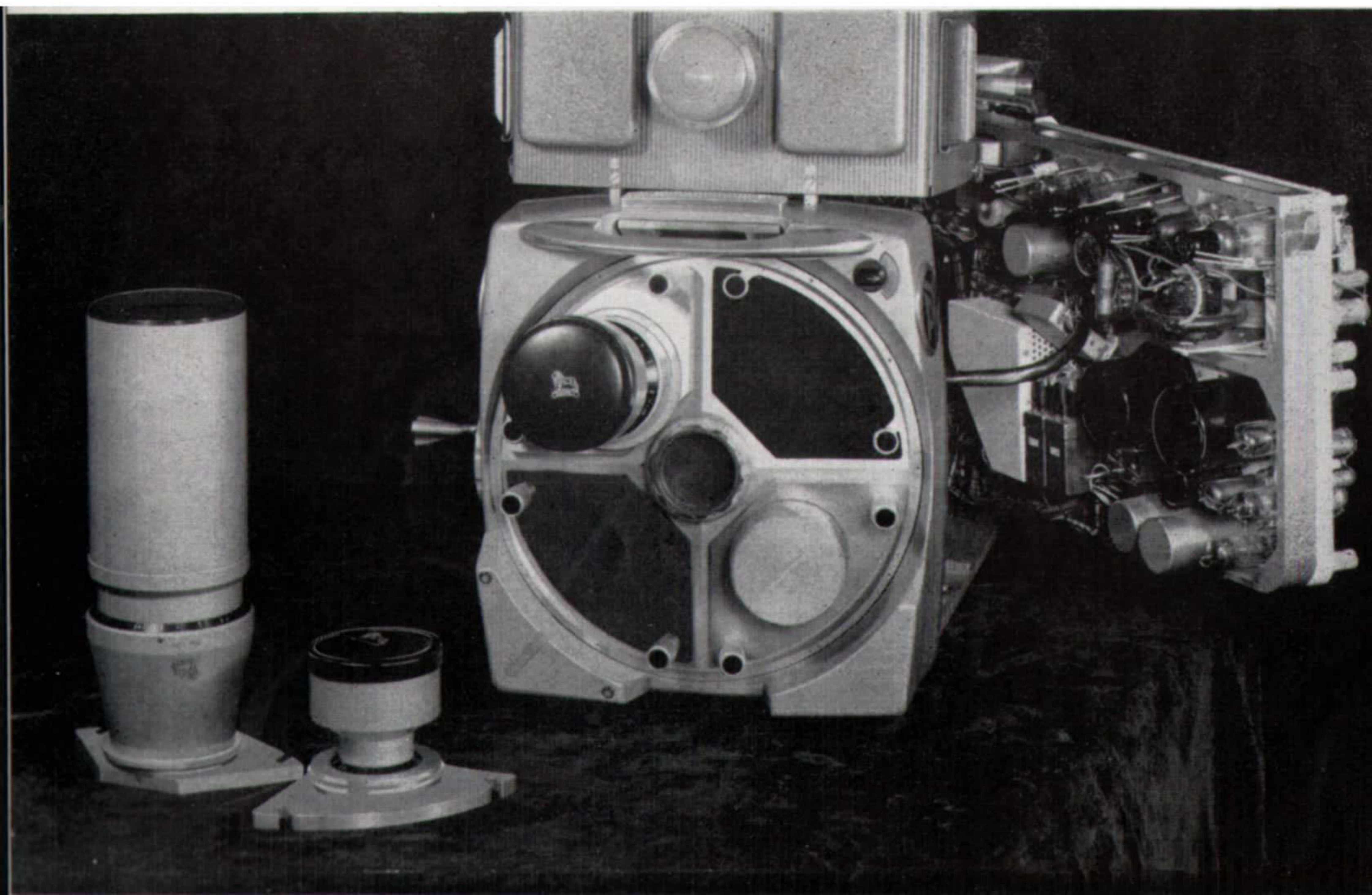
On the left-hand side of the camera is a hinged cast Elektron-metal frame to which are secured three plug-in type sub-chassis. Maintenance work can be carried out on any of these sub-chassis by hinging the frame outwards; or the complete frame with its sub-chassis may be removed from the camera in less than one minute. Alternatively any sub-chassis can be removed and replaced in 30 seconds. The sub-chassis contains :—

Along top of camera :

The horizontal scan generators for the Image Orthicon tube and the viewfinder; the 12 kV generator for the viewfinder, the multiplier voltage generator for the Image Orthicon tube (variable between 900V and 1300V); and the target blanking generator.

Below, towards front of camera :

Two vertical timebase circuits, one for the Image Orthicon



Turret equipped with lens, balancing weight and lens aperture cover plates, all held by captive quick-release positive action fasteners. The complete turret assembly can be quickly removed by loosening the central knob. The cast frame is swung outwards to give access to the valve side of the attached chassis.

The lens in use is indicated by a red pointer which may be seen in the bottom left-hand corner of the camera. This is illuminated from behind, and works in parallel with the cue lamp on the top of the camera.

In later models the cover is not hinged to the frame but may be lifted clear.



The pictures above and below show how access to the interior of the desk units for adjustment or maintenance can be obtained easily by withdrawing the power unit stand, removing covers held by quick action fasteners, or withdrawing the control unit chassis. In all the examples shown it is unnecessary to disconnect any cables.

lamp situated just above the viewfinder screen, and both cue-light unit and indicator lamp flash rapidly when the camera control unit operator wishes to attract the attention of the camera operator. Conversely, when the camera operator wishes to call the camera control unit operator, he does so by pressing a push-button on the rear panel of the camera, thereby causing a light and a buzzer to be energised at the camera control unit.

Provision is made for the reversal of the vertical and horizontal scans, individually or together, by means of separate reversing switches on the camera control unit. Preset centring controls ensure absence of raster shift when a reversal switch is operated.

A single 37-core cable connects the camera with the camera control unit; this cable can be used in lengths up to a maximum of 1000 feet (300 m).

A utility socket provides a separately fused outlet at local a.c. voltage for the operation of a soldering iron, a test instrument, or a dioscope.

The camera is cooled by air forced through an intake in the underside of the camera.

Camera Control Unit

The camera control unit is supplied as a cased, portable unit. The two sides, the top, and the bottom of the case, together with cast end frames, form a rigid shell into which is fitted the chassis and panels, these being built as a drawer working on roller-bearing slides. The front panel contains all the controls which may be required during normal operation; the rear panel contains all cable connectors, an air blower (which is fitted with a replaceable dust-extraction filter), a.c. input and camera a.c. fuses, and a space for a Pye 28-contact socket.

This spare socket is included so that remote control facilities can be provided to special order if the user so wishes, in which event the socket will be wired in accordance with instructions given at the time of ordering.

MECHANICAL LAYOUT

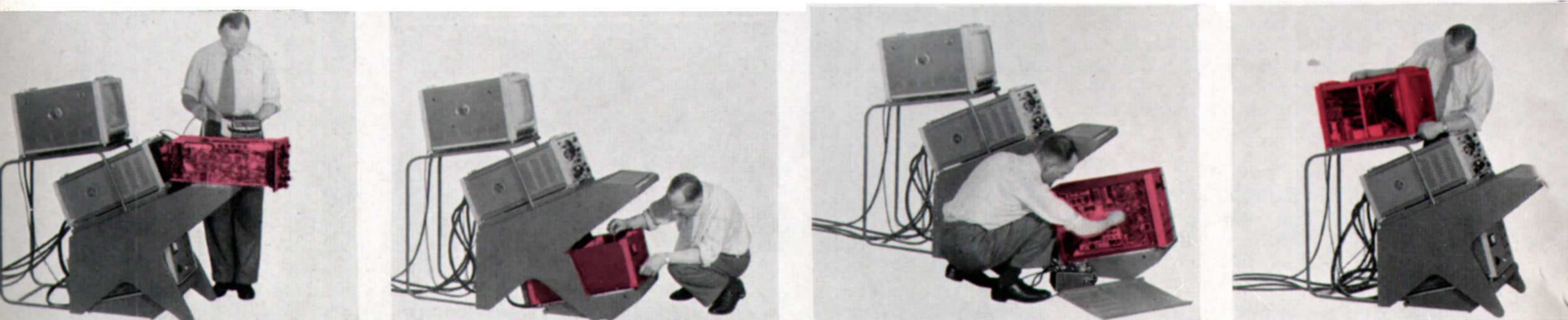
The drawer is released by turning a catch on the front panel, and may then be pulled forward giving access to all circuit wiring and components, and several preset controls. Since in this position all external cables can remain connected, routine maintenance and the correction of minor faults may be carried out even though the top, bottom, and sides of the case are inaccessible due to the presence of other units.

For more extensive servicing or for the replacement of a major item, the front-panel catch may again be operated and the drawer removed completely from the case. With this form of construction it is possible to replace a defective camera control unit in its entirety in approximately one minute, without disturbing adjacent equipment and without the necessity for tools of any kind. Alternatively, individual chassis within the unit may easily be replaced, as indicated below.

ELECTRICAL DETAILS

The circuits of the camera control unit are divided and built on to four sub-chassis. Three of these sub-chassis are of the plug-in type, similar to those used in the camera, and are mounted vertically with their valves towards the centre of the unit, so that all component wiring is accessible from the sides of the unit when the drawer has been pulled forward. These sub-chassis contain: on the left-hand side (looking from the front of the unit), the signal processing circuits; on the right-hand side, towards the front panel, the synchronising-pulse handling circuits and the output circuits, and at the rear the talkback circuits.

Along the centre of the main chassis is mounted the waveform monitor tube, and over the tube is the fourth sub-chassis, mounted horizontally, containing the waveform monitor circuits. This sub-chassis is hinged so that it may be swung upwards when access to the valves of the unit or the monitor tube is necessary. By unplugging one connector, the sub-chassis may be completely removed.

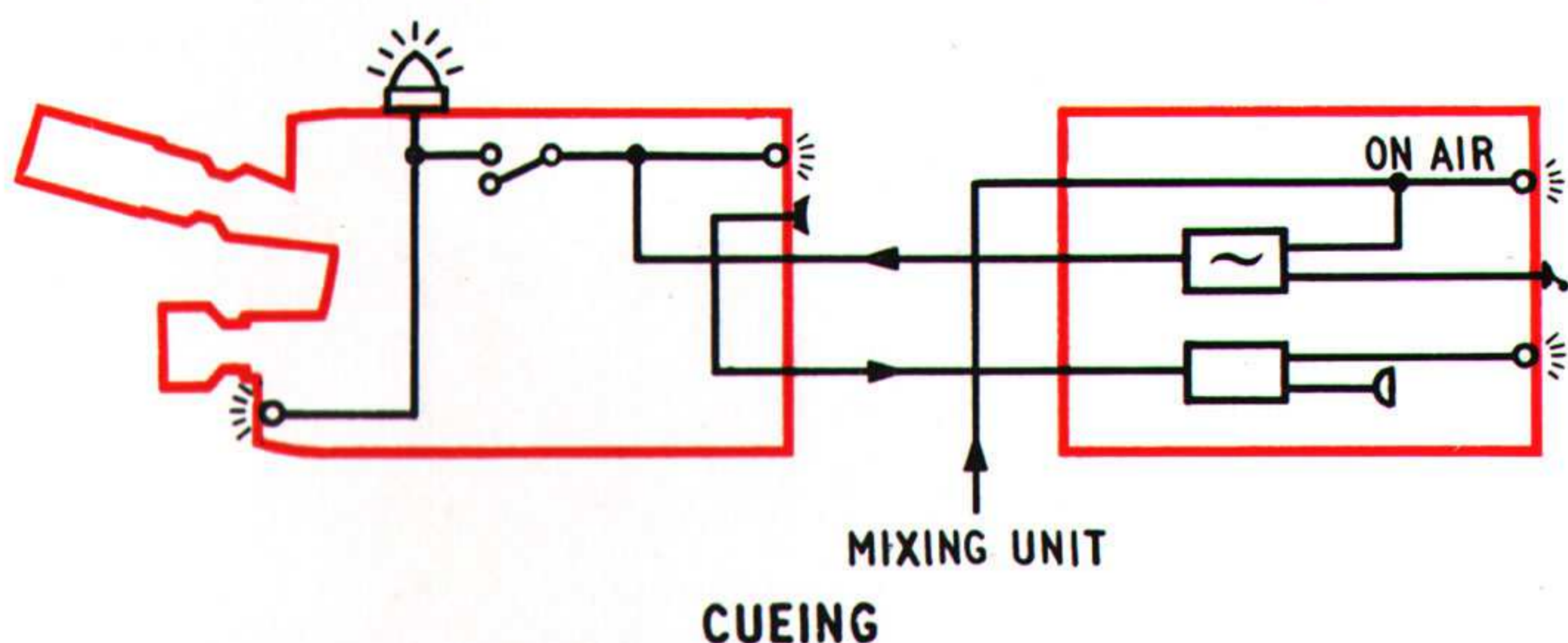


At the rear of the unit, behind the waveform monitor tube, is the a.c. power transformer, so positioned that its weight tends to counterbalance the weight of the remainder of the unit when the drawer is pulled forward. The unit is cooled by a forced air stream passing along the "tunnel" formed by the sub-chassis, and out through the side and top panels. The air is cleansed of dust by being drawn through a dust-extraction filter situated at the intake.

The power transformer and its associated voltage-selector switch will be connected at the factory to accept single-phase a.c. voltage inputs within the ranges 85-125V or 170-250V, adjustment of voltage within either range being effected by means of the a.c. switch on the front panel of the unit.

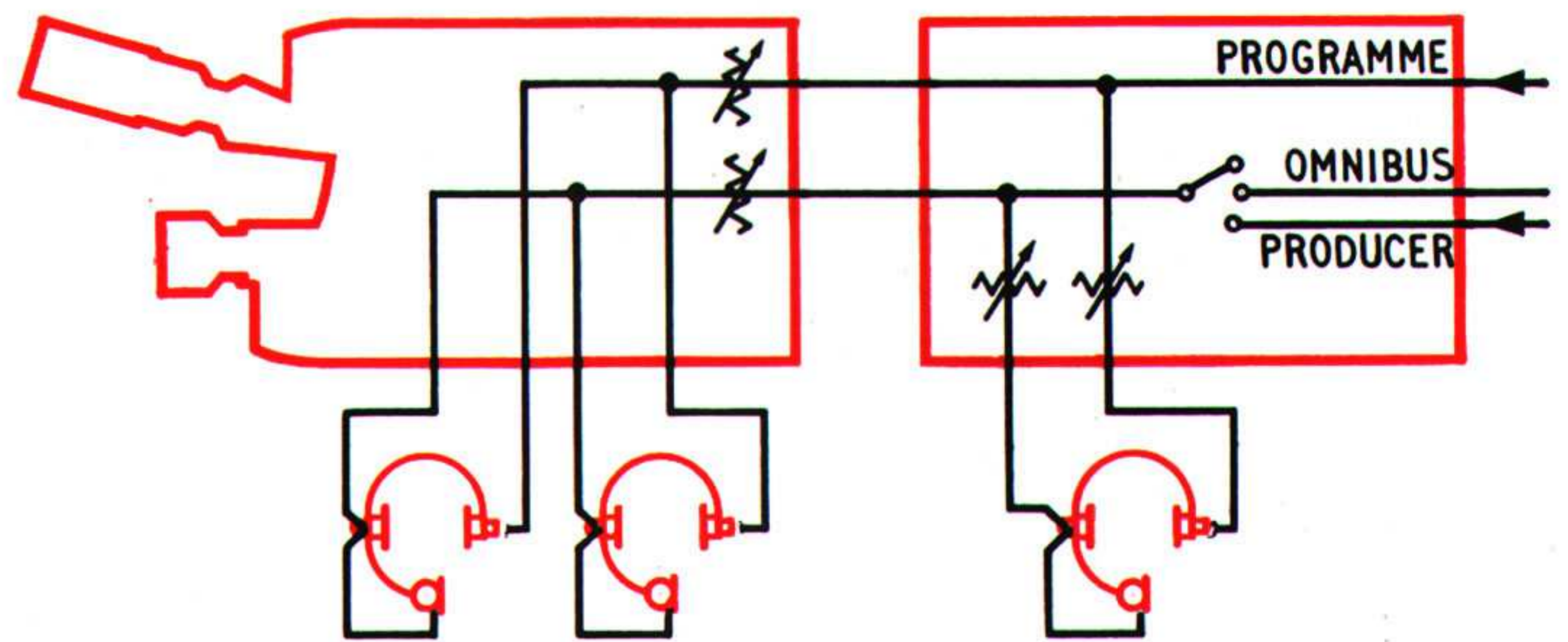
The power transformer delivers the following supplies :

1. Heater current for the camera control unit.
2. Auto-output at 240V a.c. for the camera. (This is in addition to the a.c. supply at local voltage which is available at the utility socket on the camera.).)
3. Auto-output at 180V or 90V a.c. for the power unit.
4. An a.c. supply to a bridge rectifier, the resulting 100V d.c. being used for talkback and ancillary services.



Essential voltages, as well as the temperature of the pick-up tube target in the camera, are indicated by a switch-controlled meter on the front panel of the unit. Also on this panel is an "on air" illuminated window. Variable controls are provided for the adjustment of gamma and for the correction of aperture.

When the a.c. supply to the camera control unit is on, talkback facilities, the Image Orthicon heater supply, and camera a.c. are available even though the power unit is not connected. Thus intercommunication facilities and operating temperatures will be maintained if the power unit has to be withdrawn from circuit for emergency servicing or replacement.



TALKBACK
NOTE. TRANSMITTERS NOT IN CIRCUIT WHEN SWITCH IS IN 'PRODUCER' POSITION.

PICTURE MONITOR

It is recommended that a 14-inch precision picture monitor, such as the Pye type 2788 (or type 2780 for the 405-line system), be used in conjunction with the camera channel.

The above monitor has been designed for providing a high-quality picture, and is specially suitable for the display of camera output signals. It will operate on either a composite signal or on separate video and synchronising waveforms. Connection of the monitor into the camera channel is by means of coaxial line to the camera control unit. The monitor incorporates its own power unit.

Full details of this and other picture monitors appear separately.

TALKBACK FACILITIES

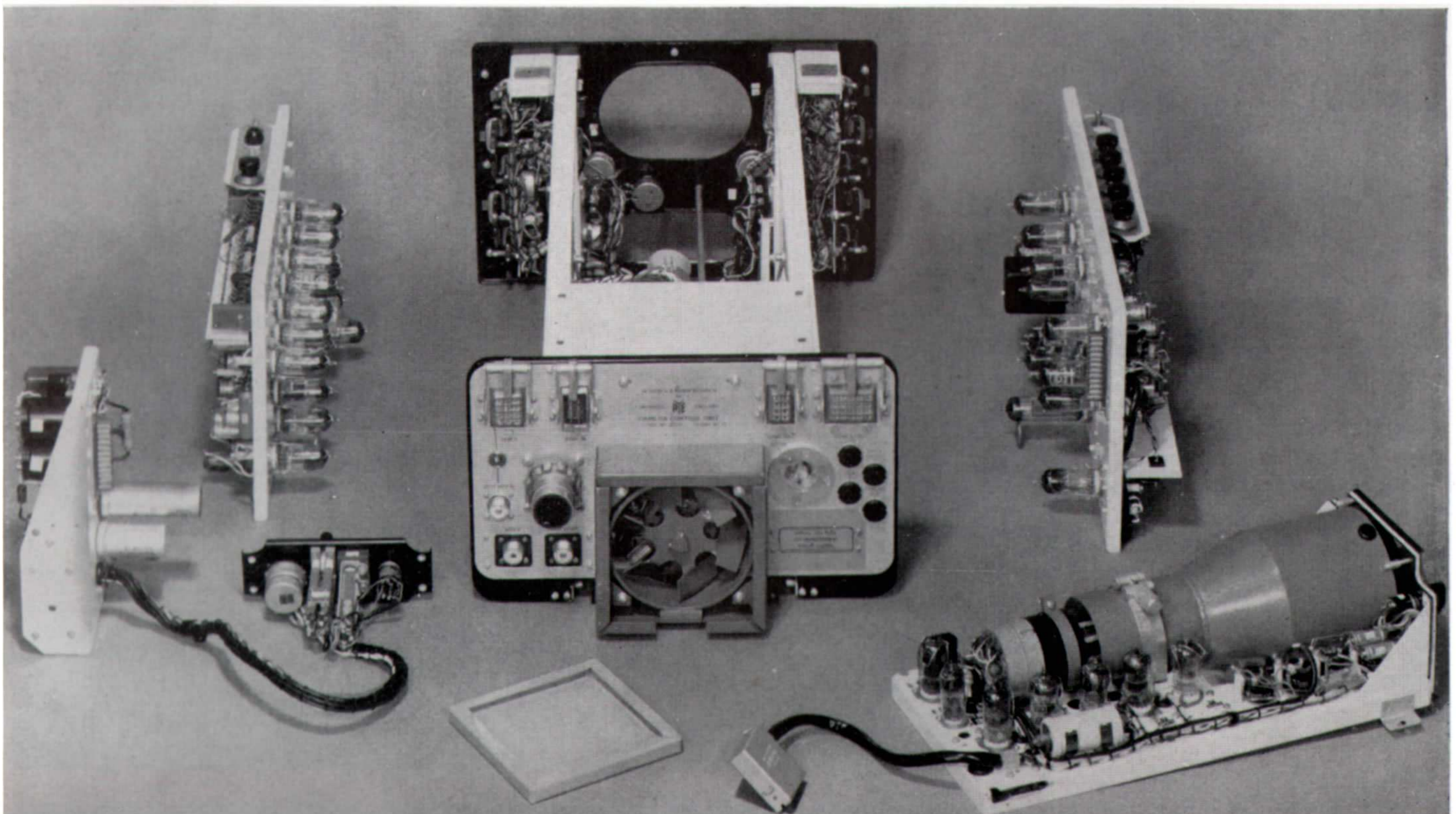
A twin jack permits a "split" headset to be connected for talkback, the following facilities being selected by a three-position switch :

- Switch to C: Two-way speech on private line between control unit and camera.
- Switch to OM: Omnibus talkback.
- Switch to P: Producer's talkback to control unit and camera.

In all switch positions, programme is heard in one earpiece, while the other is used for intercommunication purposes. Volume controls mounted concentrically are provided to set the levels of the respective earpiece signals.

A key switch is operated to call camera. When camera calls control unit, a lamp on the front panel of the control unit is

When the control unit is withdrawn from the case the various chassis as shown below may be quickly removed. All connections are made by connectors having gold-plated contacts.



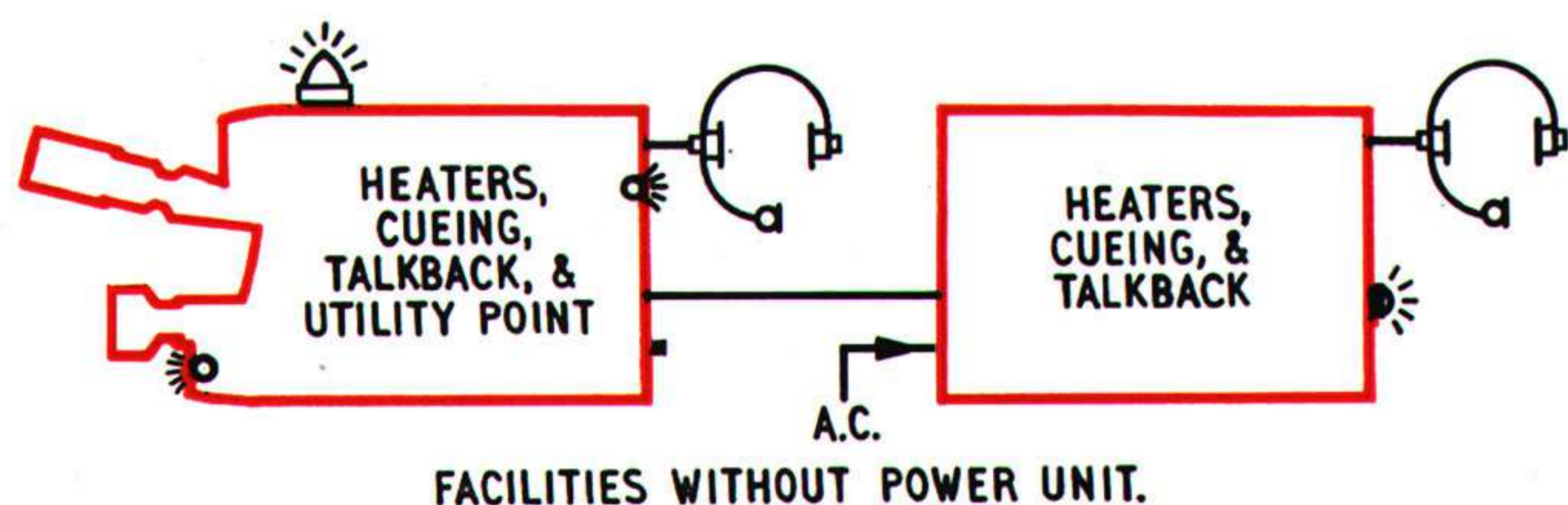


The clean appearance and symmetrical layout of the Control Unit panel is clearly shown above. The chassis release catch is adjacent to the pull-handle enabling the unit to be withdrawn conveniently with one hand only.

energised, and a buzzer sounds. This call circuit is so arranged that the audible warning ceases automatically after a few seconds, but the light continues to show as a reminder until the camera control unit operator answers the call.

WAVEFORM MONITOR

The waveform monitor uses a P.D.A. (post-deflection accelerator) cathode ray tube having a round screen 4 inches (10 cm) in diameter. The total acceleration voltage is 2.8 kV. The controls adjacent to the monitor screen, are a switch for selecting a calibration voltage or a video or a composite waveform, and a switch for selecting either a vertical or a horizontal waveform, the display consisting of one complete waveform with one half of each of the preceding and following waveforms. In front of the screen is an edge illuminated graticule calibrated to suit the television system on which the camera channel is to be used. Black-level clamping ensures a very stable display.



Camera Power Unit

The power unit is supplied as a cased unit for portable use. It is similar in styling to the camera control unit and has identical base dimensions so that the two units may be stacked economically within an outside-broadcast vehicle or may be contained in a small pedestal desk specially designed for them.

A.C. supply is fed at a constant voltage to the power unit from an auto-tapping at the primary winding of the power transformer in the camera control unit. This supply is at either 180V or 90V, according to the input voltage range on which the equipment is to be used.

A single cable, plugged into a connector situated on the rear panel of the unit, connects the power unit to the camera control unit. On the front panel of the power unit are mounted a meter and a multi-position switch wired for the checking of a wide range of essential voltages and currents within the unit. The stabilised supply circuits to the camera control unit are separately fused, and when operational are indicated as live by energised neon lamps. These circuits are: Focus Current, 300V, +150V, and -150V. A further neon lamp indicates, when energised, the presence of 1300V stabilised d.c. for the first section of the waveform monitor tube in the camera control unit. There is also a filament lamp which when energised indicates that the a.c. supply from the camera control unit is on.

In addition to fuses, the following safety devices are incorporated:

1. A thermal delay switch which allows all valve heaters to reach operating temperature before HT (B+) can be applied.
2. A relay that cuts off all HT (B+) supplies if a negative bias voltage fails.
3. A thermal warning device which operates to energise a buzzer in the camera control unit if the chassis temperature of the power unit rises above 60°C.

Access to all parts of the chassis is readily gained by removing the top and bottom panels of the case after turning coin-operated quick release catches.

Silicon rectifiers are employed for main rectification. To ensure stability of performance, all components are under-run by at least 20 per cent when the unit is meeting the normal power demands of the channel. The interior of the unit is ventilated by two blower-fans situated on the rear panel, and at the intake of each of these blowers is a readily replaceable dust-extraction filter.

Specification

IMAGE ORTHICON CAMERA TYPE 2042

Systems. 405, 525 or 625 lines to order.
Scanning Linearity. Less than 2% departure from the ideal.
Viewfinder Tube. AW17-20 (Mullard).
Turret. 4-position, hand-operated.
Working Range of Illumination on Scene (pick-up tube Type 5820).
Minimum ... 0.5 foot-candle (with f2 lens).
Minimum for first-grade results ... 10 to 20 foot-candles.
Maximum ... bright sunlight.

Connectors.

To control unit: 37-contact B.I.C.C. plug, Mark IVB (Quick Release).

Power take-off: Films and Equipments socket, Type EP-4-17S.

Case Dimensions.† Height ... 12½ inches (32 cm).
Width ... 11½ inches (30 cm).
Length ... 21½ inches (55 cm).

Weight.‡ 98 lb (44 kg) approximately.

Finish. Light and dark blue enamel, with black anodising and chrome plating.

† Excluding lenses and viewfinder hood.

‡ Excluding lenses and Image Orthicon.

Part No.	...	...	...	...	...	...	842042
Each unit includes							Part No.
1	Viewfinder Hood	...	...	...	...	...	746177
1	Telephone headset (standard) for either 405 line system	...	...	...	...	...	743804
	or other systems	...	...	...	...	...	732851
1	On-air lamp for camera top	...	...	...	...	...	745546
1	Viewfinder window (plain)	...	...	...	...	...	431161
1	Turret handle	...	...	...	...	...	745973
1	Focusing handle	...	...	...	...	...	745581
1	Knob for fixed filter	...	...	...	...	...	745569
4	Lens aperture cover plates for turret	...	...	...	...	...	324795
1	Yellow filter	...	...	...	...	...	714551/B
1	10% Neutral density filter	...	...	...	...	...	714551
1	1% " " "	...	...	...	...	...	714551/A
1	Wedge plate (secured to underside of camera case)	...	...	...	...	...	482135
1	Set of Allen Keys	...	...	...	...	...	711363
and full complement of valves, lamps, viewfinder tube, mating connector for power take-off socket, and a supply of camera oil and grease.							

CAMERA CONTROL UNIT TYPE 2329

Output Picture Signal Level.

1V p-p into 75 ohms (0.7V p-p without syncs).

Bandwidth of Transmission Circuits.

405-line version ... flat within ±0.2 dB to 3.5 Mc/s.

Other versions ... flat within ±0.5 dB to 7 Mc/s.

Low Frequency Response.

Less than 2% tilt on 50/60 c/s square waveform.

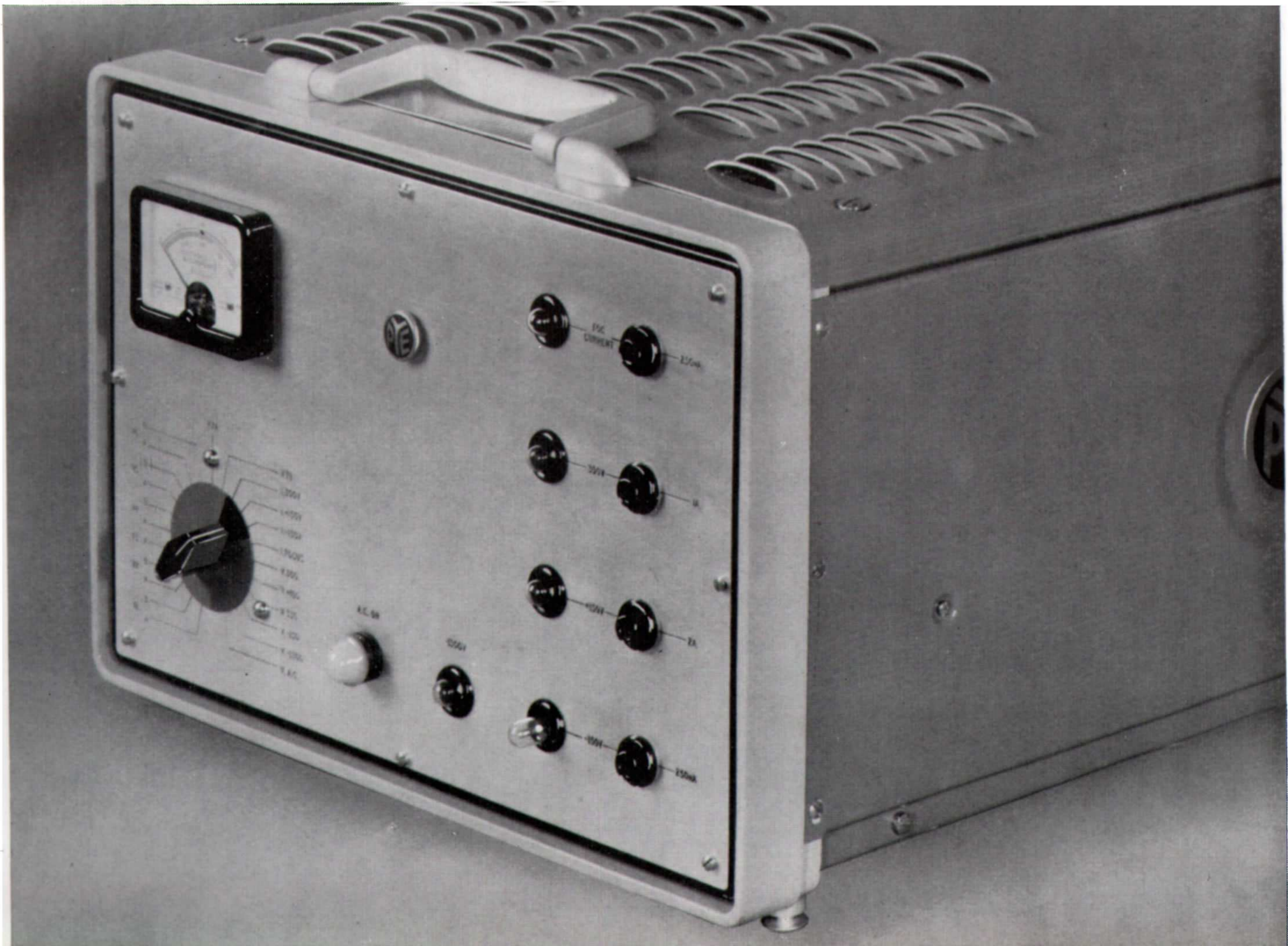
Bandwidth of Waveform Monitor Circuits.

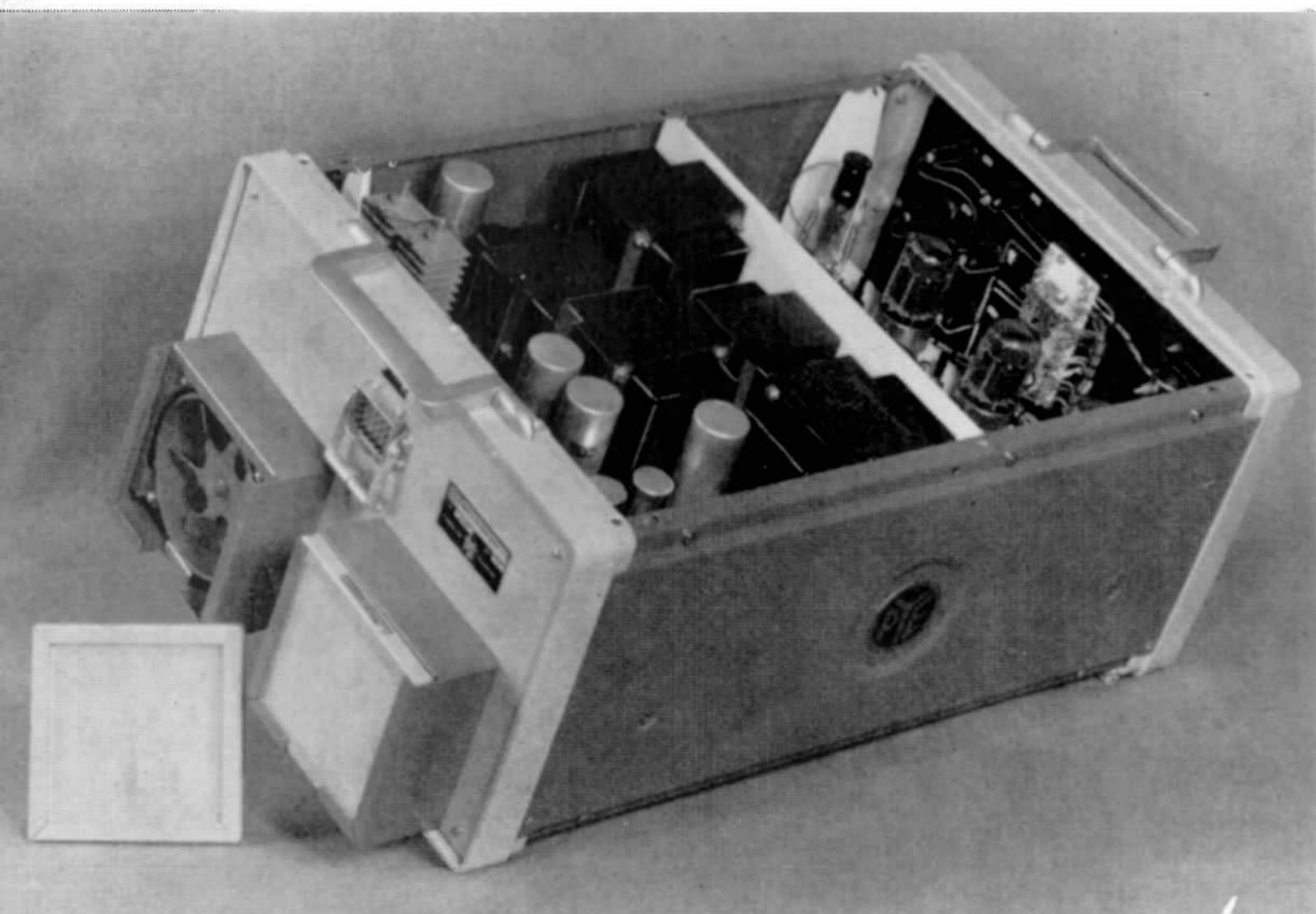
I.R.E. response.

Waveform Monitor Tube ... Mullard type DH 10/78.

Maximum Length of Camera Cable ... 1000 feet (300m).

Front panel of the Power Unit showing the fuses, neon indicators, meter and meter selector switch.





Particular attention has been given in the design to cooling problems and a number of safety devices included.

A.C. Supply. 85–125V or 170–250V, 47–70 c/s, single-phase.
Power Consumption: 1000 watts approximately.

Connectors.

To camera	...	...	37-contact B.I.C.C. socket mark IVB, (quick release).
To a.c. supply	...	...	4-contact Films and Equipments plug type EP-4-14S.
To power unit	...	...	Pye 20-contact socket.
Syncs in	...	...	Pye 8-contact plug.
Syncs out	...	...	Pye 8-contact socket.
To mixing unit	...	...	Pye 12-contact socket.
To remote control panel	...	...	Pye 28-contact socket (if fitted).
Video out	...	...	Coaxial socket type SO-239.
Composite video (for picture monitor)	...	...	Coaxial socket type SO-239.
Test video	...	...	Coaxial socket type SO-239.

Case Dimensions. Height ... 10 inches (25 cm).
Width ... 15 inches (38 cm).
Depth ... 23 inches (59 cm).

Weight. 70 lb (32 kg).

Finish. Light and dark blue enamel with natural colour anodised control panels.

Part No. ... 842329

Each unit includes:

Waveform monitor tube, Mullard DH 10/78	
Waveform monitor graticule (1V/0.4V)	431312
or (0.7V/0.3V)	433103
Air filter...	714695
and full complement of valves and mating connectors.	

CAMERA POWER UNIT TYPE 2396

A.C. Supply. Fixed 180V or 90V, 47–70 c/s, single-phase (derived from the camera control unit).

Connector. Pye 20-contact plug.

Case Dimensions. Height ... 10 inches (25 cm).
Width ... 15 inches (38 cm).
Depth ... 23 inches (59 cm).

Weight. 85 lb. (39 kg).

Finish. Light and dark blue enamel with natural colour anodised control panel.

Part No. ... 842396

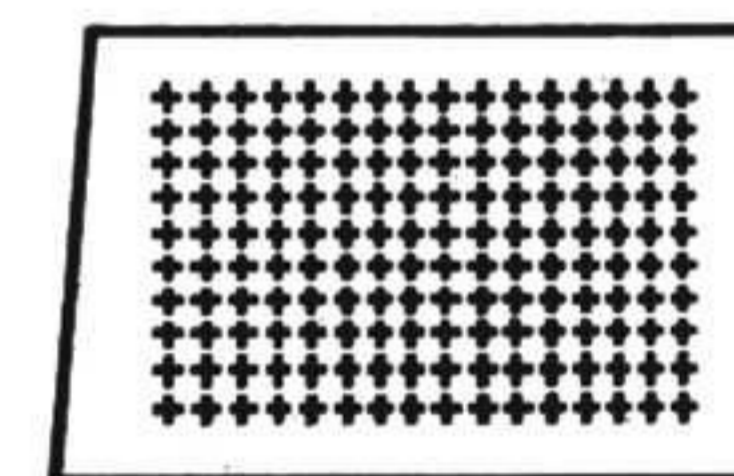
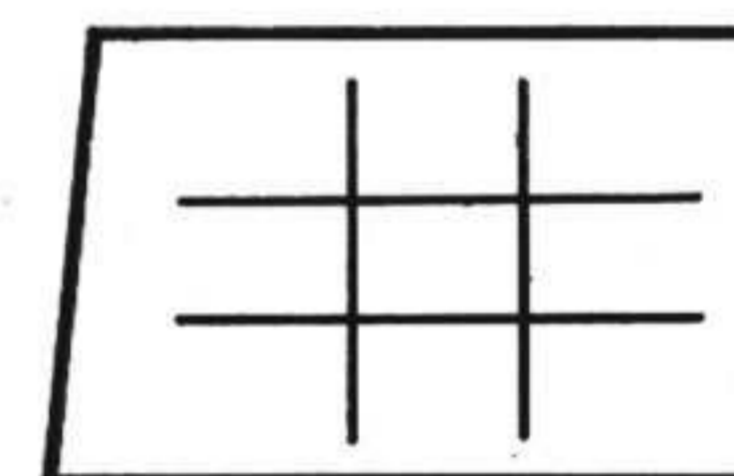
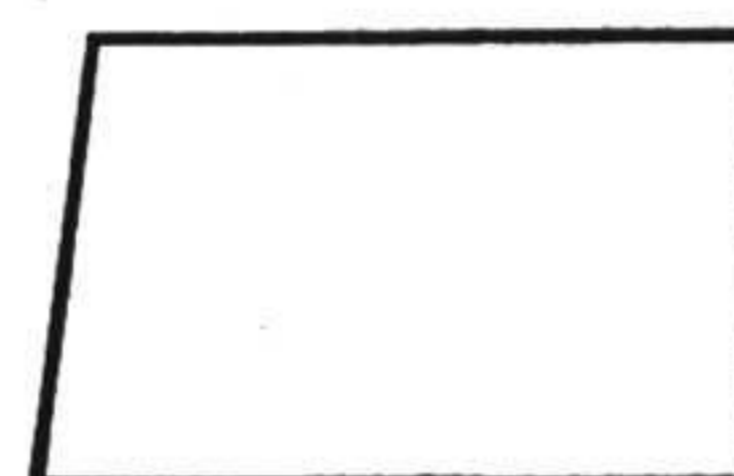
Each unit includes full complement of valves, two air filters and mating connector.

Ordering

When ordering please state the television system in use and the voltage of the a.c. power supply.

Accessories

	Part No.
Viewfinder visor, periscope type, (complete with face mask)	745534
Cue and identification lantern, (for top of camera)	745510
Identification numerals for lantern (0–9)	482448
Camera identification plates, for sides of camera (0–9)	711607
Telephone headset, for 405-line system (lightweight)	741244
„ other systems (lightweight)	741243
Pick-up Tube, Type C960	860375
„ 5820	860352
„ 5828	
„ P807	860353
Waterproof camera cover	715048
Additional viewfinder face-mask	550407
Focusing knob, (alternative to handle)	745585
Turret balancing weight	746523
Engraved viewfinder window—composition	432533
„ „ „ —linearity 405 lines	432530
„ „ „ — „ 525 „	432531
„ „ „ — „ 625 „	432532



Cables.

Camera cables, 25, 50, 100 or 200 ft. (7½, 15, 30 or 60 m).

Lengths of other cables to order (Power Unit cable normally 6 ft. (2 m)).

Jack lead (Camera Control Unit internal to Waveform Monitor)	...	...	845993/1
Sync. Terminating Plug	...	...	736957
Video Terminating Plug	...	...	735823

Lenses. 39 mm	f2	...	714571
2 inch (5 cm)	f1.9	...	714552
3 inch (7½ cm)	f1.9	...	714553
4 inch (10 cm)	f1.9	...	714554
5 inch (12½ cm)	f1.9	...	714556
8 inch (20 cm)	f2.8	...	714558
12 inch (30 cm)	f4.5	...	714560
Studio Varotal 2¼ to 8 inch (5.7 cm to 20 cm)			842294 or 842295

Lenses of other focal lengths to special order.

Diascope	...	...	843877
Film Strip Attachment (for use with Diascope)	...	...	843570

Spares Kits.

Kits of valves and kits of selected components are available for all units.

PYE T.V.T. LIMITED

CAMBRIDGE ENGLAND

Telegrams and Cables : TeeVeeTee Cambridge
Telephone : Cambridge 58985 Telex 81105