TELEVISION CAMERA EQUIPMENT

CO 301

3 INCH IMAGE ORTHICON

DOC. Nº 1499

- Fully transistorized
- Variable focus lens of ratio 10
- 819/625 L. R.T.F., switchable, or 625 L. C.C.I.R./O.I.R.T. or 525 L. R.E.T.M.A.
- High performance
- 7-inch wiewfinder
- Small dimensions and low weight
- Reliable in operation
- Stable in time
- Simple to operate
- Rain-proof

Equipment Type **CO 301** is a camera unit intended more particularly for use in the open. Its light weight, small dimensions, low consumption, insensitivity to microphonic effects are especially valuable when used on a coach, a light OB van or a helicopter.

Its high technical performance can also be very useful for studio use.

General design

The equipment consists of :

- The camera.
- The Monitor unit.
- The power supply.

Camera

Dimensions (without lens) : width : 9.2 in ; height : 12.8 in ; depth : 23.2 in.

Weight : about 55 lb without the lens.

The camera is contained in a coloured multiply polyester case of good lines, rectangular in shape.

The front panel carries an arrangement serving as sun-shade which encompasses the variable focus lens and its control mechanism.

The right side of the camera carries the lever with a rotating grip enabling the operator to adjust focusing and focal lenght simultaneously.

The camera is protected from rain.

Monitor unit

This unit takes the form of a case to fit a 19 inch rack.

Dimensions : width : 12.3 in ; height : 6 in ; depth : 16 in.

Weight : 22 lb.

The internal circuits are distributed on interchangeable printed circuit cards.

Power supply

The power supply is contained in a case of the same type.

Weight : about 22 lb.

General specification

Operated to the following standards :

819 L./625 L. - R.T.F.

625 L. - EUROPEAN.

525 L. - AMERICAN.

- Pass-band : 10 Mc/s at $\pm$ 1 dB on 819 L.; 8 Mc/s on 525 L. and 625 L.
- Signal/noise ratio : as given by the Orthicon-Image tube.
- Geometric distorsion : less than 2 % of picture height.
- Aperture correction : continuous, without phase distorsion at constant level.
- Brightness of viewing tube : 50 nits.
- Orthicon-Image tube regulation : permits operation without loss of quality between — 15° and + 40° C ambient temperature.
- Orbiting frequency : 1 rpm.

Input signals

819 L./625 L. - R.T.F.

- Composite sync : 1 V peak-to-peak positive
- Frame blanking : » » » »
- Line blanking : » » » »

625 L./525 L.

- Horizontal drive : 4 V peak-to-peak negative
- Vertical drive : » » » »
- Composite sync : » » » »
- Composite blanking : » » » »

Output signals

- 1 luminance signal output : 1 volt on a 75-ohm impedance.

- 2 full-signal outputs : 1 volt on a 75-ohm impedance.

Power supply

220 V 50 c/s single-phase.

Power consumption : 150 VA.

CAMERA

Optical system

Variable focus lens of ratio 10 : 25 to 250 mm corresponding with image magnification in ratio 1.4, to the 35-350 mm lens.

— Diaphragm remotely controlled from the channel (monitor unit).

— Filters : 1/100 - 1/10 - yellow and neutral.

— Focal length permanently set up at the back of the camera, below the viewer.

With the variable focus lens the disadvantages of the multiple lens turret disappear (complicated, heavy, noisy, unsightly mechanism, and discontinuous action). This lens unit permits non-jerky continuous variation of focal length. Focal length and focusing are adjusted by means of a single grip.

Electronic circuits

- Image magnification between the photo-cathode and the target in a 1.4 ratio with respect to standard use.
- Tube protected in the even of scanning failure.
- Regulation of scanning tube temperature permitting correct operation at an outside temperature between — 15° and + 40° C.
- Orbiting to prevent tube stain, with "On" or "Off" switch.
- Line frequency saw-tooth generator for monitoring the amplifiers in the chain.
- Beam alignment adjusted from a signals generator.
- 7-inch tube electronic viewer with its line and frame scanning circuits and its video amplifier.
- Possibility of applying on the electronic viewer either normal video, or an external video taken, for example, from a special effects generator.
- Low frequency order equipment, consisting of a microphone amplifier and an interphone.
- Commentator's low frequency equipment.

MONITOR UNIT

- Maximum length of cable between the channel and the camera : 1 000 ft, in lengths of 166 ft.
- Cable correction in 166 ft lengths.
- Aperture correction continuously adjustable.
- Variable gain video amplifier.
- White limiting device, at 1.2 volt.
- Adjustment of synchronizing signals output voltage.
- Supply of basic signals by insertion (high impedance).
- Number of outputs : two video outputs, one luminance output.
- When mains are not available the order and ringing circuits between the camera and the channel are run off an accumulator.

POWER SUPPLY

The power supply includes rectifiers and regulation using semi-conductors, for the general supply to the camera and the channel. A DC current regulated to 0.3 % feeds the focusing coil and the heater of the Orthicon-Image tube in series ; the effect of this is :

— to ensure perfectly stable focus.

— to regulate the beam current.

Mains : 220 V 50 c/s single-phase.

Power consumption : about 150 VA.

CSF - COMPAGNIE GÉNÉRALE DE TÉLÉGRAPHIE SANS FIL

DOMESTIC SALES

C S F
DÉPARTEMENT TÉLÉVISION

132, AV. DE CLAMART - ISSY-LES-MOULINEAUX (SEINE)

TÉLÉPHONE : 642 - 81-10

EXPORT

C S F
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TÉLÉPHONE : 265 - 84-60

RE - S 12 I 2 P 46 - TSF 1300 FA

CABLE : TESAFI-PARIS - TELEX : 20.936

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