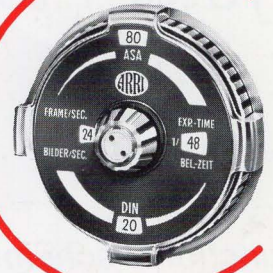


apoe



ARRI PRECISION EXPOSURE CONTROL

a major achievement in
exposure control
from
ARRI



ARRIFLEX
CORPORATION OF AMERICA

P.O. BOX 1050, WOODSIDE, N.Y. 11377 □ 1011 CHESTNUT STREET BURBANK, CALIF. 91502

NEW! thru-the-lens ARRI PRECISION EXPOSURE CONTROL system for the ARRIFLEX® 16 BL

Functional schematic of the Arriflex 16 BL CdS precision exposure control system

Taking and Viewfinder Light Path (including optical components)

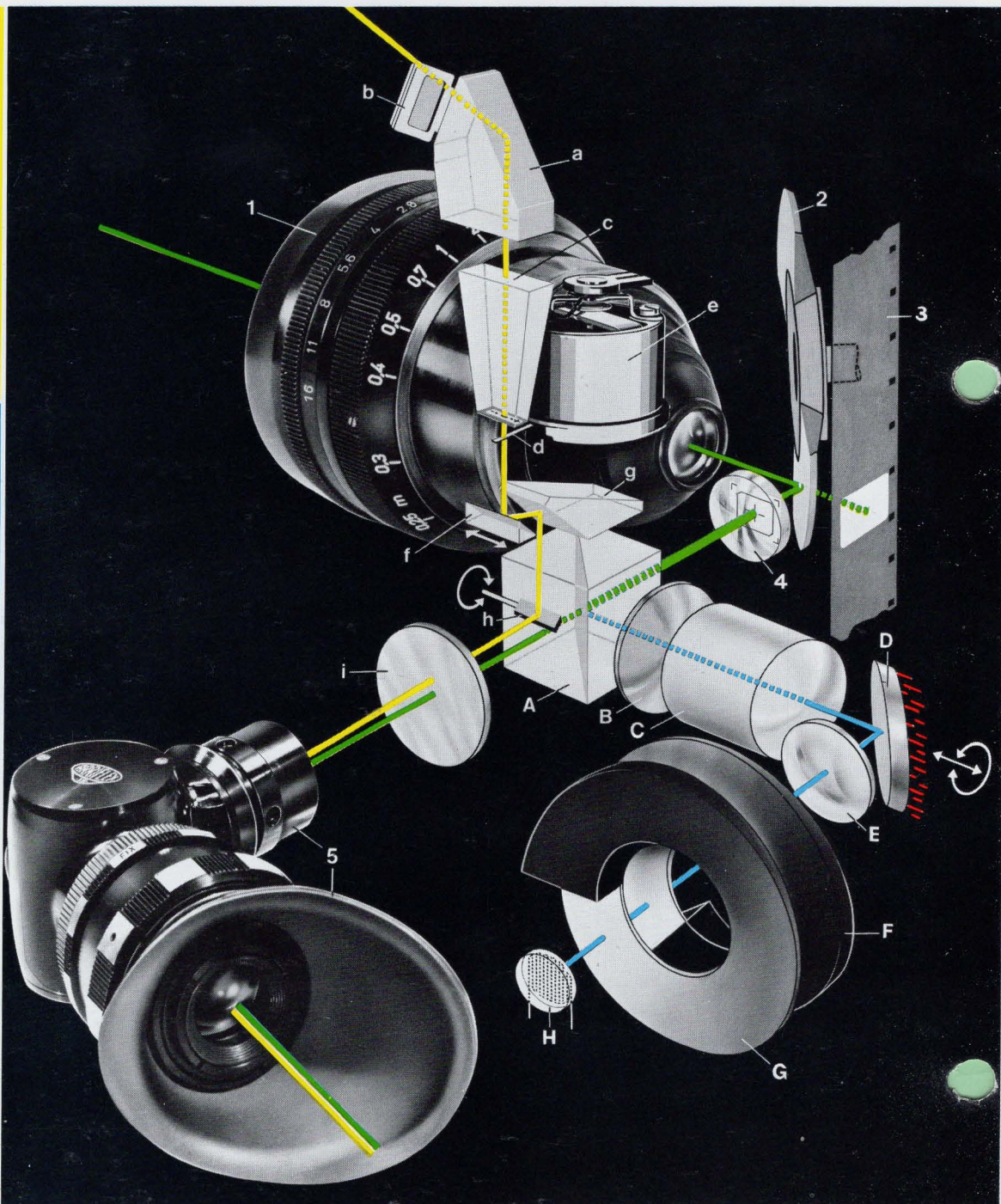
- 1 Taking lens (interchangeable)
- 2 Mirror shutter
- 3 Film
- 4 Ground glass (with frame marking)
- 5 Finder — standard optical equipment for camera (interchangeable against offset finder)

Measuring Light Path (including optical components)

- A Beam splitter
- B First lens element
- C Second lens element
- D Reflecting mirror (cold mirror)
- E Third lens element
- F N. D. wedge for exposure time
- G N. D. wedge for film speed
- H CdS photoresistor

Light Path for Projection of Meter Reading (including associated components)

- a Light collecting prism
- b Matte with slot for gelatine filters (brightness attenuation for meter scale)
- c Light guide block with meter scale
- d Indicator
- e Galvanometer Instrument
- f First reflecting mirror
- g Second reflecting mirror
- h Third reflecting mirror
- i Protecting glass



CORRECTION: The YELLOW and GREEN color coding of the copy blocks have been inadvertently reversed.

APEC is the first and only thru-the-lens exposure control system that is thoroughly professional, that is of the highest accuracy and that provides the cameraman with complete, reliable exposure information.

The mirror-shutter reflex system invented and pioneered by Arriflex revolutionized modern motion picture camera design. It put picture information in the through-the-lens viewfinder Field—Focus—Depth—Perspective—all seen through the eyepiece. It made filming faster surer and easier. It opened the way to film styles and methods never before possible. It made Arriflex the most preferred professional motion picture camera in the world!

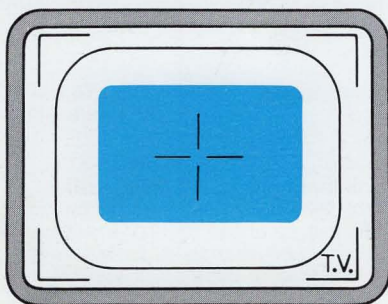
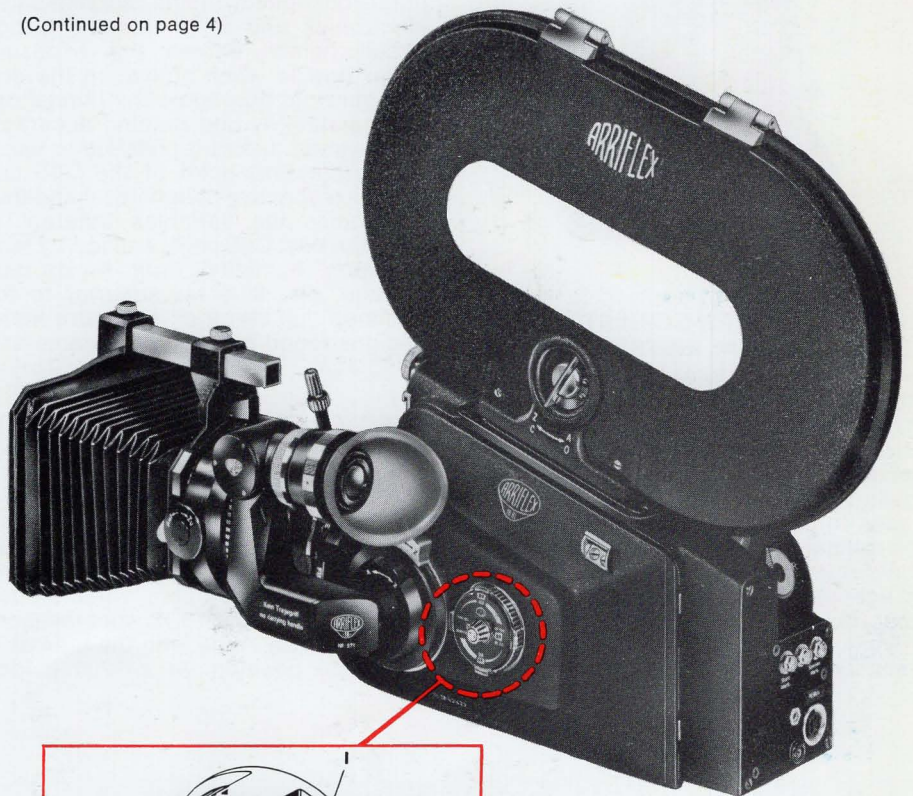
But with all this information available at the eyepiece, the professional cameraman heretofore still had to turn to another instrument for the one more piece of information that he had to have **CORRECT EXPOSURE**. Now Arriflex changes the art again! With the Arri Precision Exposure Control built into the 16BL viewfinder system, picture information is now complete. For the first time in a professional motion picture camera, the viewfinder shows a bright, parallax-free ground glass image **and** beneath it, the correct exposure setting on a large, easily visible scale. Now the working cameraman has complete information and total control of every element of the picture, without ever taking his eye from the viewfinder. View! Focus! Turn diaphragm control till meter zeroes! Shoot! He can work as fast as that!

APEC OPERATES WITHOUT OBSTRUCTING FILM LIGHT PATH The Arri exposure control is not built into the film light path of the camera. There are no prisms, no beam splitters or other optical devices in the path of the light rays which go to the film. Therefore nothing interferes with getting maximum picture quality on film. APEC is built into the viewfinder system of the camera, sensing being done only when the camera shutter is in the closed or viewing position. Viewfinder brilliance is not affected since only a very small amount of light is diverted for measurement.

APEC COMPENSATES FOR ALL FACTORS The 16BL Exposure Control System works with any Arriflex lens—zoom, macro, wide angle or telephoto. It compensates for filter factors, lens extension, variation in lens transmission and all other variables that conspire against correct exposure information.

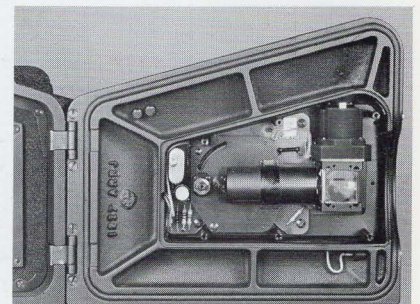
APEC CONVENIENTLY BUILT INTO CAMERA DOOR The entire APEC mechanism is built into the door of the Arriflex 16BL and is operated by outside concentric control knobs which actuate the film speed setting (ASA 16-500) and the camera speed setting (24 to 50 fps).

(Continued on page 4)

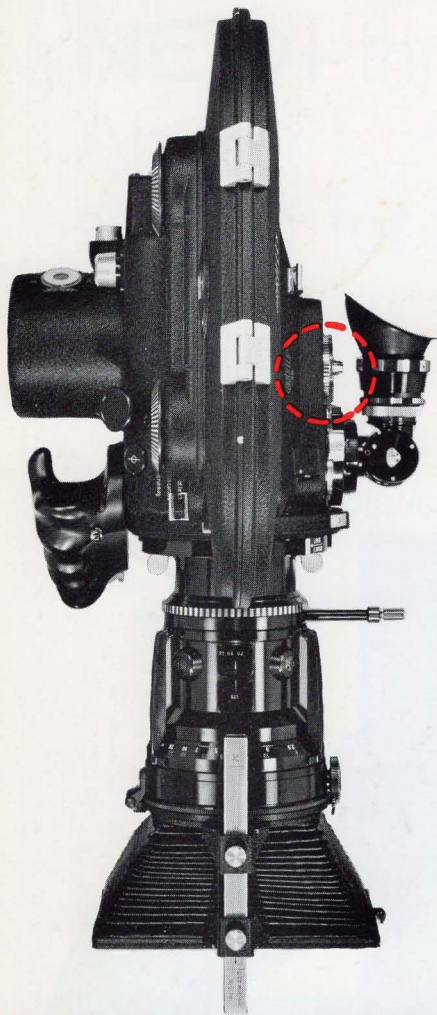


Safe action area according to ISO

Measured image area Subdued surround Exposure indicator



The entire APEC mechanism is built into the camera door (illustrated with cover removed)



beam from the finder optics has a selective reflectance especially matched to the cell response. Another feature of this beam splitter is to absorb any light that might accidentally enter through the eyepiece so that it cannot affect the meter reading.

The APEC System uses sophisticated electronics for broad range temperature compensation. Special circuitry automatically compensates the meter reading so that exposure indications are equally accurate with the camera running or still. Also featured is a tiny voltage stabilizer so that the CdS cell is automatically powered by the camera battery thus eliminating the need for a special battery. All electronic components are mounted on a single printed circuit board for easy accessibility

'apec'

The exclusive design concept utilizing precision optical inputs, sophisticated electronics and a Wheatstone bridge circuit (which zeroes the exposure meter needle when activating the diaphragm ring) guarantee the utmost operating stability and reading accuracy. This system makes it possible to use a fixed operating point of the CdS cell curve irrespective of light level and thus overcomes the variables inherent in even the best CdS cells, caused by temperature, humidity, light level, dark storage, etc. It is far superior to the common "all electric" exposure meter designs found in most other cameras.

APEC GIVES YOU INTEGRATED OR SPOT READING The area measured by the photo cell, represents approximately $\frac{1}{3}$ of the 16mm film format and provides a reliable reading in most filming applications. It is center weighted to favor the most important part of the frame. At the same time, when a zoom lens is used on the 16BL, spot measurements can be made with the lens at its telephoto position. At a 120mm focal

length setting of a zoom lens for example, a spot measurement as small as 3° is obtainable.

APEC PROVIDES EXPOSURE READING AT THE EYEPIECE As related before, the exposure reading is seen on a bright expanded scale, located under the ground glass. As viewed through the eyepiece, the meter needle is projected into this scale by means of a special optical system which picks up ambient light in the shooting direction. The diaphragm ring of the taking lens is turned until the needle is zeroed on the center point. This gives the exact diaphragm setting for perfect exposure. Additional marks to the left and right are provided to show one F stop under and over, respectively. The brightness of the scale can be reduced by inserting gelatin filters into a hinged frame located over the light collecting prism.

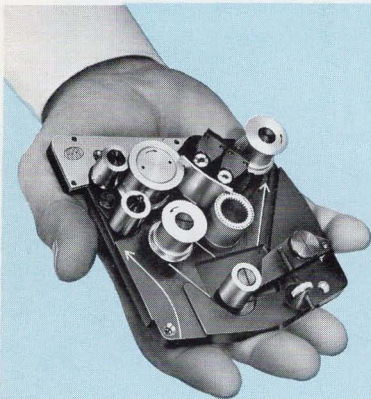
APEC IS A MAJOR CONTRIBUTION TO PROFESSIONAL FILMMAKING On location, where so much of today's filming is done, the Arri Exposure Control System is a major contribution to creative filming. So simple to use, it will serve old timers and novices alike. It means fewer retakes. It means greater productivity. It means better, more consistent color.

With the APEC System, Arri accomplished another 'first' which will set the pace for the professional motion-picture camera field for years to come. The Arriflex 16BL is the only professional camera which can offer this feature plus so many other exclusive advantages. rugged reliability true mechanical and optical precision workmanship, brightest finder image, single-system sound convertibility, etc.

APEC is now available as a factory installed option on new 16BL's and will be offered in early 1971 as a modification to existing models from serial #50701

APEC IS AN ULTRA-SOPHISTICATED ELECTRO/OPTICAL INSTRUMENT

control knobs actuate two, counter-rotating, high precision, stepless, circular neutral density wedges. The neutral density wedges are located in front of a special CdS photocell. Before the light measuring beam reaches these discs, it goes through a high powered multi-lens optical system and is deflected by a cold mirror which filters out all infra red light in order to make APEC equally accurate under daylight or tungsten illumination. Also, the high efficiency beam splitter which takes the light



ARRI Single System Sound Module
another unique feature of the **ARRIFLEX 16BL**

The unique capability of matching its sound recording system to the assignment, makes the 16BL your best investment in a sync sound camera. Single-system, double-system, either or both—conversions made in moments with a screwdriver.

The superbly engineered Arri Single System Module does the trick. Place the palm-sized module into the 16BL's camera head and you're set to enjoy the advantages of single-system

sound with sound quality that matches the unequalled mechanical/optical perfection of the 16BL itself.

A companion Arri recording amplifier offers dual mike inputs with built-in mixing; music/speech selector switch, and you can monitor from line or off the recorded track. Threading the single-system configuration is as fast and simple as the installation of the module itself.