

**THE CRYSTAL REGULATED MOTOR and AUTOMATIC VIEWFINDER CONTROL
INSTALLED ON THE ARRIFLEX 16BL**

(1) Separate Mode Switch, to make quick changes between sound speed and non-sync speed. (2) Reset Knob for footage counter. (3) Audible, out-of-sync signal. (4) Volume Control for above. (5) Main power cable connector. (6) Bridging Plug; shown in normal position. (7) Receptacle for accessories, external sync signals, etc. (8) Pre-selector Switch for fps setting.

THE CORDLESS SYNC—CRYSTAL REGULATED MOTOR

A new Arri drive system brings to the Arriflex 16BL camera, the combined advantages of cordless crystal sync, when the camera is running, and the elimination of viewfinder blackout when the camera is stopped. All components of the system, drive motor, electronics and viewfinder control are built into a single slender casting that becomes an integral part of the camera, as illustrated. The new drive makes the camera handier, faster — more convenient and more effective to use than ever. The ready to shoot 16BL with the new motor assembly weighs only 17 lbs — actually less than it did before. Overall camera width is over an inch less than it was with the standard universal motor

(OVER)

The new drive uses a new DC motor that has a special armature and a high energy, permanent magnet field. Nothing more than a standard, 16BL battery and power cable are needed at the camera to get cordless sync operation. Crystal speed is near perfect, better than plus/minus ½ frame in a 400 ft. scene. This tight tolerance is maintained over a wide temperature range, from 13° F to + 130° F! An audible, out-of-sync signaling device is built into the system, so that if camera speed is changed, or if sync speed is lost for any reason, the cameraman is immediately aware of it.

UNINTERRUPTED VIEWING

A most attractive feature of the new system is the electro-optical, all solid state, automatic control, which stops the camera mirror-shutter always in the viewing position. It means the end of viewfinder blackout. Now, focusing, composing, checking depth and field can all be done fast, without fumbling, whether the camera is running or still. This is a great aid in shooting documentaries or any kind of unrehearsed action. It helps to hold down costs in all film production. Crystal Regulated Motor and Automatic Viewfinder Control came together in great style, to improve camera handling and to facilitate the use of sophisticated filming techniques.

EFFICIENCY

The new drive is powered from any standard 16BL, 12 volt battery or power supply. Efficiency is exceptionally high. Running camera current drain is only about 2.0 amperes. A new "pocket-sized" 33 ounce Battery, for example, available from Arriflex Company of America, can be expected to drive a 16BL outfit with the new motor, at moderate ambient temperatures, for about 1300 feet on a single charge.

VARIABLE SPEEDS

The crystal regulated motor can be operated at variable speeds by means of a built-in, pre-selector step-switch, (No. 8) at 6, 12, 24 and 48 fps.* Corresponding shutter speeds are 1/12, 1/24, 1/48 and 1/96 second respectively. A separate mode switch (No. 1) enables the camera operator to make changes instantly between a pre-selected non-sync frame rate and crystal regulated sound speed.

*The 16BL must be equipped with the proper gear set for 24 fps operation (Cat. No. 339-396)

AUXILLARY FACILITIES

The new drive system has an auxillary socket that provides several supplementary functions that add substantially to the versatility of the camera. Among these are:

- a) **External Sync:** The auxillary socket serves as the input for external sync signals which can be used to control camera speed for special requirements. These signals may come from a special connection to the power line, so that the camera will run in sync with the line and equipment powered with synchronous motors. Or, the external signal may come from another camera, so that two cameras will run in perfect sync. The external signal may also originate from the Pilotone track of a pre-recorded tape, so that the camera will run in sync with pre-recorded music, or the like. Changeover from internal crystal sync to external sync is switched automatically via the accessory connector.

- b) **Remote control:** A special control cable may be plugged into the Auxillary socket, and all the main camera functions can then be controlled from the tripod panhead handle. In tripod setups and operation, this facility can be very helpful and efficient.
- c) **Service Testing:** On the service bench, special testing equipment can be connected to the auxillary socket, and immediate checks can be made on all important functions, such as basic crystal frequency, voltages and operation of critical circuits, etc. Correct operation of the principal circuits can be verified quickly, without disassembly of the camera or the motor

EMERGENCY STANDBY FACILITIES

In case of need, the electronics of the entire motor and shutter control system can be bypassed. This is done simply by reversing the bridging-plug (No. 6) at the back of the motor assembly. The camera motor is then energized directly from the battery over a built-in series resistor. PFS speed is read directly from the camera tachometer. Camera speeds and camera stop/start are controlled via an accessory that plugs into the auxillary socket. In this mode, motor speed of course does not have the high precision of crystal regulation, and camera speed is suitable for wild filming only.

There are two circuit protecting, readily accessible, fuses built into the base of the motor. One fuse is for the motor only; the other is for the electronic circuitry. There is a spare fuse of each type located in the fuse holder recess.

The automatic start marker, cue marker, tachometer and footage counter all remain in their original form. For the time being, in cordless sync, the transfer of automatic start marks and cue marks to the recorder, must await the development of a universally accepted transmission system.

TECHNICAL DATA

Drive Motor:	Special, permanent magnet DC motor
Power Requirements:	12V DC nominal (11 to 15 volts) Approx. 2.0 amperes with camera running.
Accuracy:	Plus/minus ½ frame per 400 ft. scene; ±15 ppm.
Framing Rates:	6, 12, 24, or 48 fps. (with 24 fps gear set)
Temperature Rating:	from 13° F to +130° F -25° C to +55° C
Power Cable:	Cat. No. 339-480 or 339-481
Camera Weight:	17 lbs. approximately with Motor Lens & 400 ft. Magazine. (3/4 lb. less than with Universal Motor.)
Viewfinder Control:	Light-emiting and light-sensing diodes and all solid state electronics

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AVAILABILITY

The Arri Crystal Regulated Motor & Automatic Viewfinder Control assembly is available as original equipment, as an extra cost option, on all new Arriflex 16BL cameras. The new drive is also available as an accessory for service shop installation on any 16BL cameras in this field. Inquire from authorized Arriflex Dealers or directly from Arriflex Company of America.

<u>CAT NO.</u>	<u>DESCRIPTION</u>
339-341 *	ARRI/CRYSTAL REGULATED MOTOR & AUTOMATIC VIEWFINDER CONTROL With built-in electronics but without special power cable. For Arriflex 16BL cameras, factory installed as original equipment.
339-340 *	Same as above, for later installation on 16BL cameras in the field (BUT with cost of shop installation NOT included.)
300-000 *	Shop installation charge for Cat. No. 330-240.
339-480 *	SPECIAL POWER CABLE ONLY 6 ft. straight type, for Cat. No. 339-341 or 339-340.
339-481 *	SPECIAL POWER CABLE ONLY 2 ft. to 6 ft. coiled type, for motors as above.

*Please see regular List for Prices.

Specifications subject to change without notice.

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