

MULTIQUARTZ
for
ARRI 16 SR Standard and HIGH SPEED



MULTIQUARTZ is an highly sophisticated, compact, very low current consumption, electronic device that has been designed and optimised for **ARRI 16 SR** cameras, factory engineered to work without any modification either with **Standard** or with **High Speed** model.

It can be nicknamed "the younger brother" of well known and appreciated **MULTIQUARTZ** for **ARRI 35 III** cameras. It keeps many of its features, mainly the immediate and easy way of operations, that has been appreciated through the years. **Only by the extensive use of electronic micropackages has been possible to get the same degree of ruggedness without sacrificing the operative characteristics of that one for Arri 35 III.**

Following the same "design philosophy", **MULTIQUARTZ** packs in one case a whole series of accessories for **ARRI 16 SR** camera, while it introduces new unique ones, that have been designed with professional cameraman's work in mind, giving him a new freedom to devote himself more to film creativeness than to technical problems.

No modification is necessary to the camera, because **MULTIQUARTZ** is designed to stay externally to the camera body, keeping all its important features like the Integrated **Exposure Meter** and camera balance, due to its extremely low weight.

Due to its extremely low current consumption, **MULTIQUARTZ** can be used even with the integrated **NICAD** batteries of 16 SR camera, without substantially affecting the performance of the camera .

16 crystal controlled speeds are available: which differs each other, within each range selected, of exactly **one f/step**. Choosing the speed it is easily accomplished with **one** selector knob and it can be done **even by the cameraman himself alone** during shooting, without stopping the camera, to perform unique special effects.

- Rugged body, with fast, safe attachment device to fix to the camera carrying handle.
- Commands ergonomically positioned for intuitive and easy way of operations.

MULTIQUARTZ has a built-in an additional Fischer socket, that can be used conveniently with accessories as: **Zoom Servocontrols** (Microforce ,etc.), **Video Assist**, **Remote Controls**, etc. so making unnecessary the use of multiple socket adapters (**ZV** named accessories).

It is advisable to spend a few minutes to read and to understand the following lines to be acquainted and get the best from Your MULTIQUARTZ.

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WARNING:

For correct crystal operations camera selector switch 24/25 MUST be set on 24 fps position !

OPERATIONS

XTAL - VAR

⇒ Crystal controlled speeds are selected through the switch **XTAL - VAR**, set on the position:

XTAL

CRYSTAL SPEED operations

- ⇒ The **engraved speed positions** on the side panel are referred to **Standard** camera.
- ⇒ When You work with High Speed camera, just double the figures mentally, while **digital tachometer** will show You always the right frame rates using the **STD - H.S.** switch.
- Through the **SPEED SELECTOR KNOB** You can select any of the following frame rates :

for **STANDARD** camera:

			HIGH SPEED
5	10	20	40
6	12	24	48
6.25	12.5	25	50
7.5	15	30	60

for **HIGH SPEED** camera:

			HIGH SPEED
10	20	40	80
12	24	48	96
12.5	25	50	100
15	30	60	120

- **These speeds can be varied up or down, even when the camera is running**, allowing the possibility for the cameraman to **perform unique special effects** (provided the necessary **f/stop** adjustments). ARRI 16 SR cameras can be equipped with automatic servo exposure control, connected through the Exposure Meter in the camera housing. Otherwise manual compensation must be performed through the lens iris.
- Within each range (**20-24-25-30**) each speed differs from the next of exactly **one f/stop**.
- When **HIGH SPEEDS** are selected, either crystal or variable, camera speed-up is not abrupt, but automatically speed is reached with a **smooth speed ramp**, to avoid any undesired film breaking during acceleration.
- **Accuracy** for all crystal controlled speeds: **± 15 ppm**, corresponding to **±1 frame shift error** over approx. 11 min filming.

XTAL - VAR

VARIABLE SPEED operations

- Not crystal controlled speeds are selected through the switch **XTAL - VAR**, set on the position:
VAR
- Any intermediate speed from as low as **2 fps** up to **75 fps** (**4 fps** up to **150 fps** for **High Speed**) can be selected in advance using the facility of **digital tachometer** that shows the speed in advance **even when the camera is not running**.
- Unique effects can be performed by starting camera, set at **XTAL** speed and commuting during shooting to **VAR** (set previously at a different frame rate): i.e. start at **25 fps (XTAL)** - commuting to **VAR** (set previously to **75 fps**). Any combination of frame rates can be selected. Exposure must be manually compensated for that.
- Both of these checkable **in advance** through the built-in digital tachometer.

CAM - M.Q.

- The switch **CAM - M.Q.** selects the operation mode either from internal controls of the camera (**CAM**) or from **MULTIQUARTZ (M.Q.)**
- When the switch **CAM - M.Q.** is set to **CAM**, camera will run with its internal crystal reference. Speed can be checked only when camera is running.
- When the switch **CAM - M.Q.** is set to **M.Q.**, camera will run with **MULTIQUARTZ** crystal reference. Speed can be checked either when camera is stopped or when camera is running.
- ⇒ Camera speed can be selected in advance and checked through digital tachometer with an accuracy of **± 0.1 fps**.
- ⇒ When switched on, the camera will run at the preselected speed.

STD - H.S.

- ⇒ This switch, when set on **H.S.** position, enables the correct reading of the preselected **fps**, when **MULTIQUARTZ** is used with **ARRI 16 SR II HIGH SPEED** model.
- It is very useful to select the right speed, either crystal or variable without making any unnecessary calculations, because it allows to show immediately the selected speed for **High Speed** camera on the **MULTIQUARTZ digital tachometer**.

PHASE TV

- **PHASE TV** red pushbutton is used, when the camera is running, to change slightly its speed. This action must be performed to set "**Shutter bar**" in a convenient position, relative to the frame, when shooting TV monitors. Releasing of the pushbutton will lock the shutter bar in the desired position.

Digital Tachometer

- **Digital Tachometer** built-in, that shows the right speed either with **Standard** or with **High Speed** camera, functioning either in simulated condition when camera is stopped or showing the real speed while running. **Accuracy : ± 0.1 fps**.

MAIN FEATURES

- **16 Crystal controlled frame rates.**
- **Accuracy** for all crystal controlled speeds: **± 15 ppm**, corresponding to **±1 frame shift error** over approx. 11 min filming.
- **Variable speed:** any intermediate speed from as low as **2 fps** up to **75 fps** (4fps up to 150fps with High Speed cameras)
- Built-in **PHASE Shifter** for **TV monitors** filming.
- **Extremely low current consumption.**
- Powered directly from the camera through the accessory socket, without the need to use multiple socket adapters.
- **Built-in additional Fischer socket** to use other accessories as Microforce, Remote controls, etc.



- Due to the highly sophisticated electronics modules and Surface Mounted Circuits inside Your **MULTIQUARTZ**, it is advisable not to attempt any unauthorized adjustment .
- Your **MULTIQUARTZ** has been manufactured with the best components available from the state of the art and servicing with other than specified or commercial spares will not certainly improve its features and specifications .
- Special care has been devoted during the design stages to minimize all the factors that can influence the reliable, money-making work of **MULTIQUARTZ**, through a careful marriage of the materials selected with the final purpose to give you troublefree operations for a creative Film Making.

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