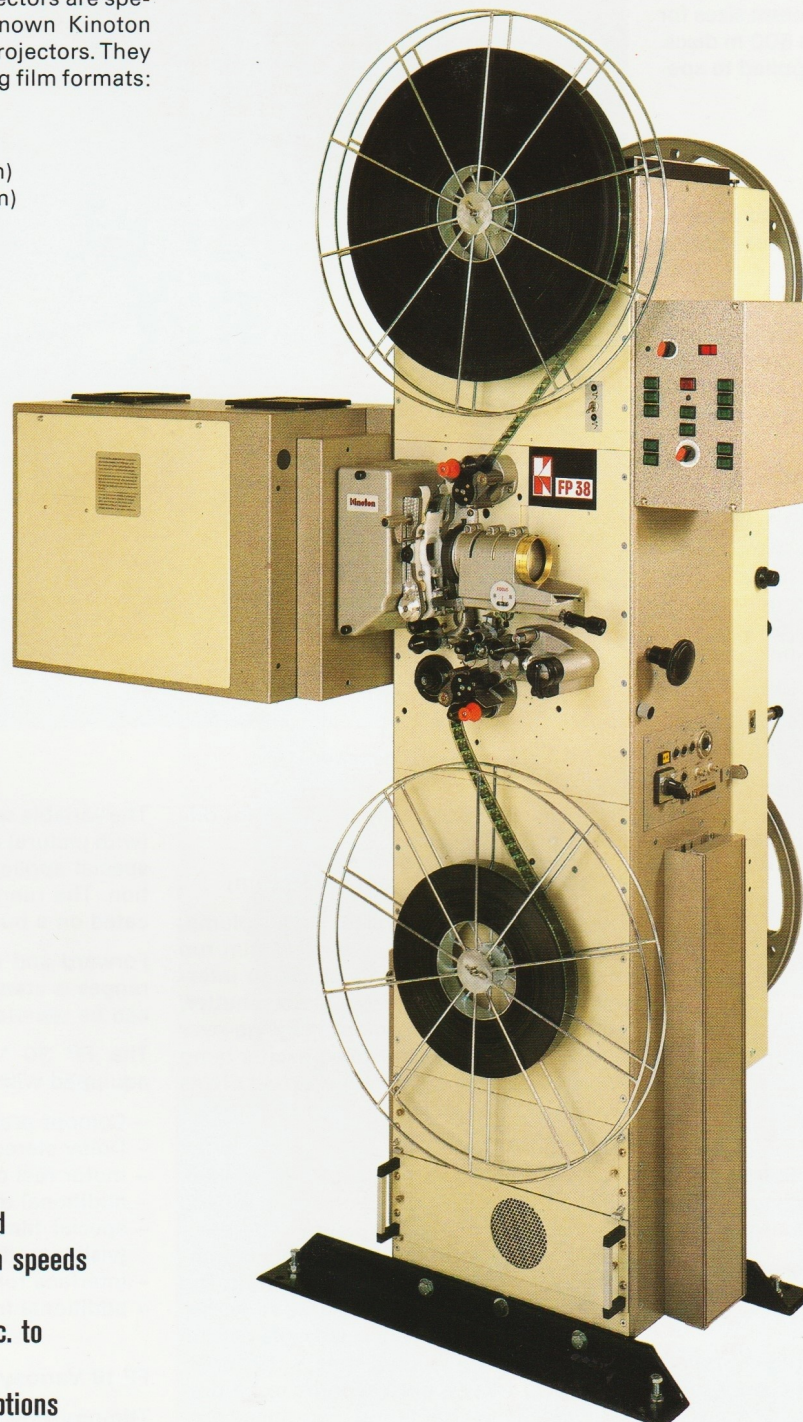




Variosync Projector

The Variosync series of projectors are special versions of the well known Kinoton 16 mm, 35 mm and 70 mm projectors. They are available for the following film formats:

FP 30 Variosync (35 mm)
FP 18 Variosync (16 mm)
FP 38 Variosync (35/16 mm)
DP 75 Variosync (70/35 mm)



- Universal application
- Master/Slave operation
- Ease of maintenance
- Proven reliability
- Simple installation
- Torque motor reel drive
- Microprocessor controlled
- Preselection of projection speeds
- Speed indication
- Synchronous coupling acc. to DIN 15573 part 2
- Various remote control options

The Variosync series of projectors have been developed for professional uses such as preview theatres, film laboratories, film archives, exhibitions and for other special applications.

Mechanics

The projector mechanisms, columns, lamp-house mountings and most mechanical parts are identical to the standard range of Kinson projectors types FP 30, FP 18, FP 38 and DP 75.

Reel drive

The projectors can be equipped with mechanical or torque motor reel drives. The direction of the upper reel drive on the torque motor version is switchable. The shafts can be supplied in different sizes for film spools or Kodak cores on 600 m discs. Other sizes of disc can be supplied to special order.

Electronics

The built-in microprocessor and control electronics are the same as those used in the MC II series of projectors.

The fixed programmable and crystal controlled operation function sequence is a special characteristic. The control system consists of an input unit, an output unit, central processor with resident memory and serial interface.

The microprocessor has the following control and monitoring functions:

1. The production of variable speed ramps in the form of different frequencies, which are adjusted to the motor start characteristics in conjunction with the mass response of the film run mechanism.
2. The output of the control sequence for the reel drive systems.
3. The verification of a logically optimised error free execution of the function sequence of the control and regulating units.
4. The collecting and computing of commands at the operation panel, the remote control panel or via telephone cables at other operating points.
5. The operation of the dowser, change-over of sound, monitoring and execution of the functions of safety devices, such as switching off at film break.
6. Interface with other systems, such as SMPTE-code, EBU-code, pilot tone, studio frequency, incremental impulse frequency or 50Hz biphasic control.
7. The interpretation and execution of external commands such as from the electronic loop taker.
8. The interpretation and implementation of commands from a code reader with time calculator and automatic translation into commands.



FP 38 Variosync, door opened

The program is specially modified for different projector types.

FP 30 Variosync projector (35 mm)

The projector is supplied with column, 2 adjustable pedestals, complete film run mechanism 35 mm, high-precision intermittent movement, three blade shutter, optical sound head (Comopt), change-over unit, electronically controlled exciter lamp power supply, spool shafts and reel drives of 300 – 1800 m, lens holder 70,6 mm \varnothing and aperture plates.

The projector is microprocessor controlled. The control of the projection speed is fixed by crystal or mains frequency. The electronics are mounted in frames accommodated in the column for easy servicing. The main drive is a position regulated servomotor with the proven four quadrants control system. The projection speeds 12/16/18/24/25/30 frames per second can be pre-selected. Single frame and high-speed projection (48 fps) are separately selectable.

The variable speed capability from 1–48 fps (with picture) offers considerable scope for special applications such as print inspection. The running speed in frames is indicated on a built in display.

Forward and reverse running in all speed ranges is standard. All projector functions can be remote controlled.

The FP 30 Variosync projector can be equipped with:

- Comopt preamplifier
- Dolby stereo solar cell
- motor reel drive system
- additional dowser (manual/automatic)
- special film gate for print examination (visible perforation, visible sound track)
- interface for interlocked twin projection
- additional frame counter

FP 18 Variosync projector (16 mm)

The projector is equipped with column, 2 adjustable pedestals, complete film run

mechanism 16 mm, high precision intermittent movement, three blade shutter, optical and magnetic sound heads (Comopt, Commag), change over unit, electronically controlled exciter lamp power supply, spool shafts and reel drives of 300 – 1500 m.

The control electronics are identical with that of the FP 30 Variosync. The projection speeds 12/16/18/24/25/30 frames per second can be pre-selected, single frame projection and still frame projection (projection time limited to lamp power) are separately selectable.

The variable speed capability from 1–30 fps (with picture) offers considerable scope for special applications such as print inspection. The running speed in frames is indicated on a built in display.

Forward and reverse running in all speed ranges is standard. All projector functions can be remote controlled.

The FP 18 Variosync projector can be equipped with:

- Comopt/Commag preamplifiers
- motor reel drive system
- additional dowser (manual/automatic)
- special film gate for print examination (visible perforation, visible sound track)
- interface for interlocked twin projection
- additional frame counter

FP 38 Variosync projector (35/16 mm)

The FP 38 Variosync projector consists of a complete FP 30 Variosync projector with an FP 18 16 mm projector built into the rear door. The control system is common to both projectors. A simple switch selects 35 or 16 mm.

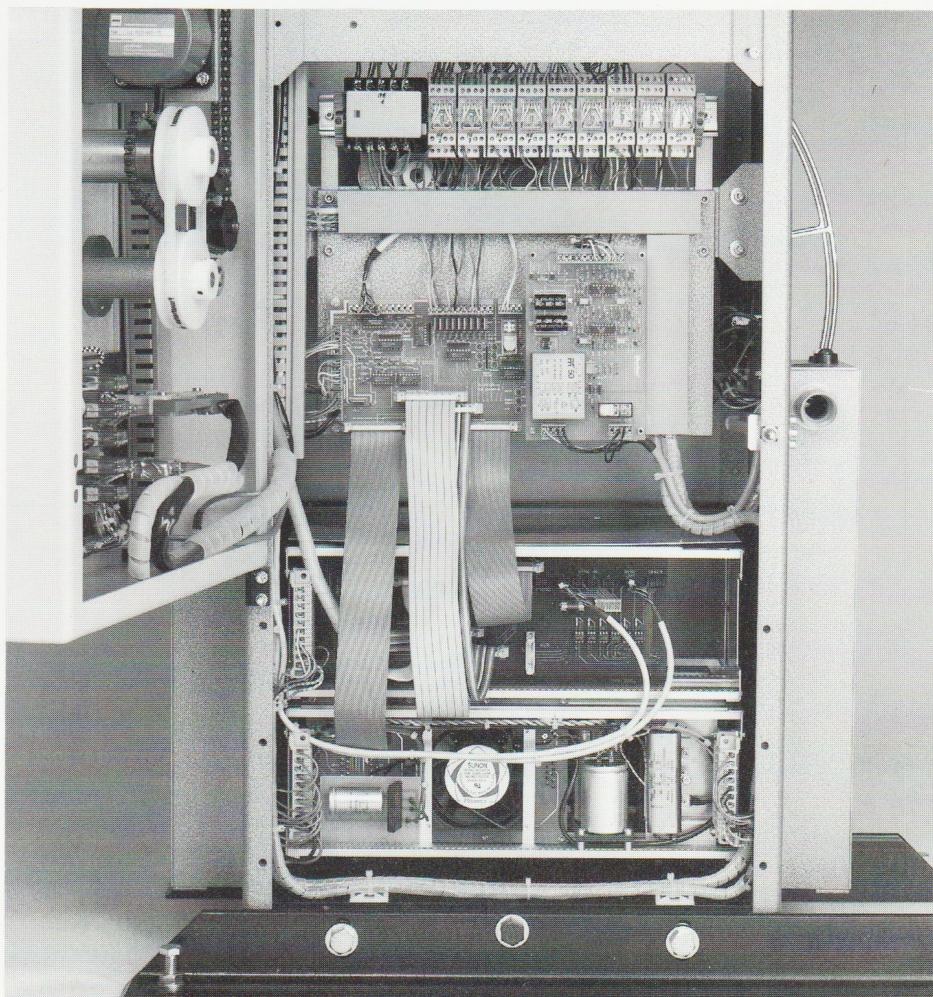
DP 75 Variosync projector (70/35 mm)

The projector is built into a steel column with an adjustable base. The column contains the film run mechanism for 35 mm and 70 mm, a high precision intermittent movement, a two blade shutter, an optical sound head for 35 mm (Comopt), a magnetic sound head for 35 mm and 70 mm (Commag) and an electronically controlled exciter lamp power supply. The control electronics are identical with that of the FP 30 Variosync. The projection speeds 12/16/18/24/25/30 fps (60 fps with special intermittent movement) can be pre-selected, single frame projection is possible with reduced lamp power.

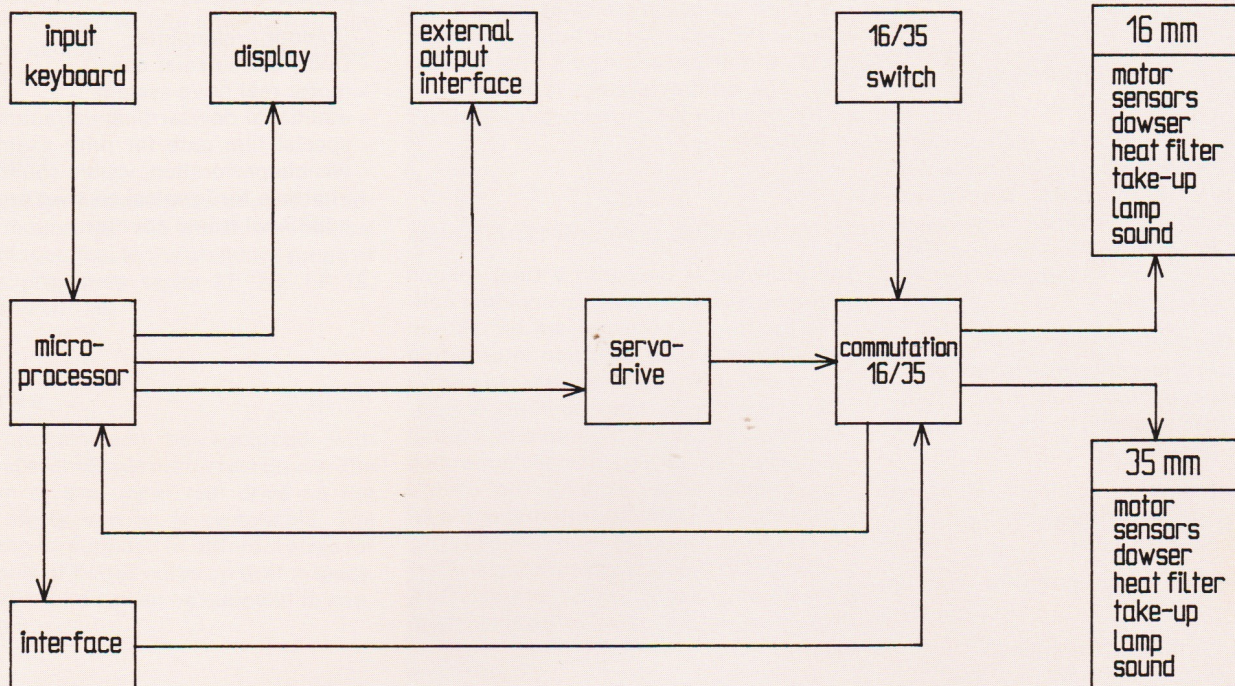
The variable speed capability from 1–50 fps (with picture) offers considerable scope for special applications such as print inspection. The running speed in frames is indicated on a built in display.

The DP 75 Variosync projector can be equipped with:

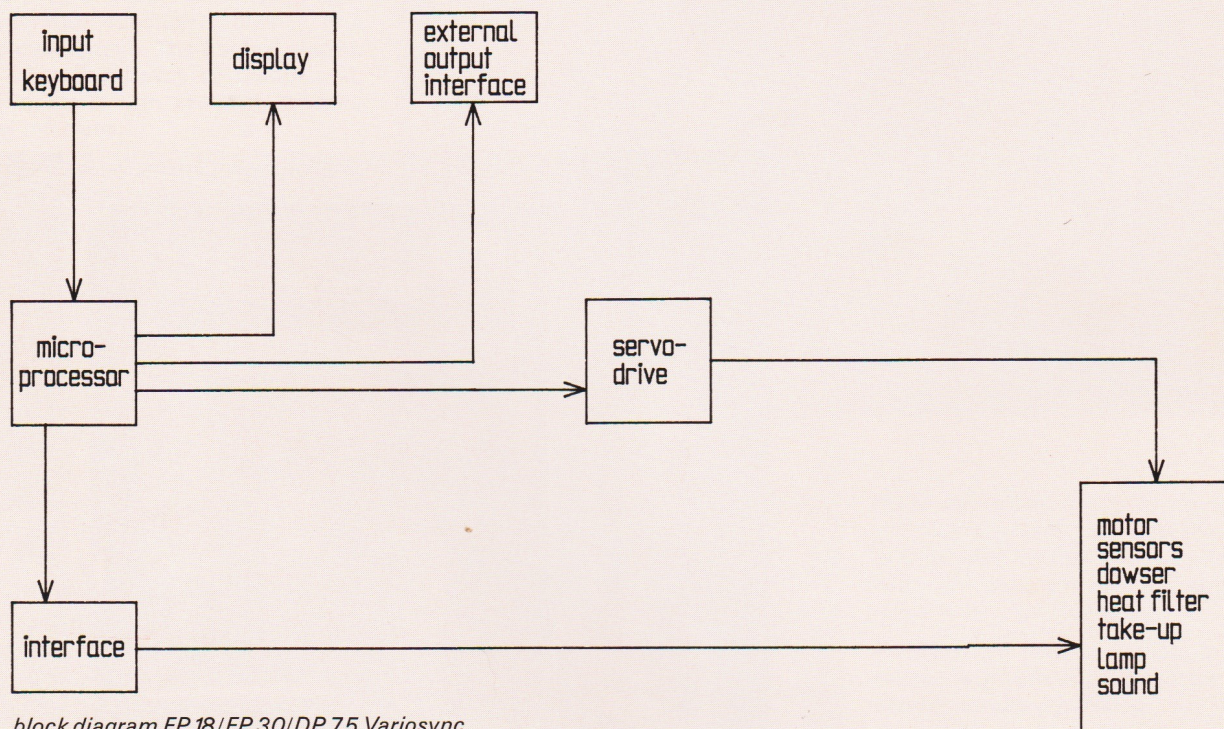
- Comopt preamplifier
- Dolby stereo solar cell
- motor reel drive system
- additional dowser (manual/automatic)
- special film gate for print examination (visible perforation, visible sound track)
- interface for interlocked twin projection
- additional frame counter



FP 38 Variosync, interface and switch-over unit



block diagram FP 38 Variosync



block diagram FP 18/FP 30/DP 75 Variosync

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