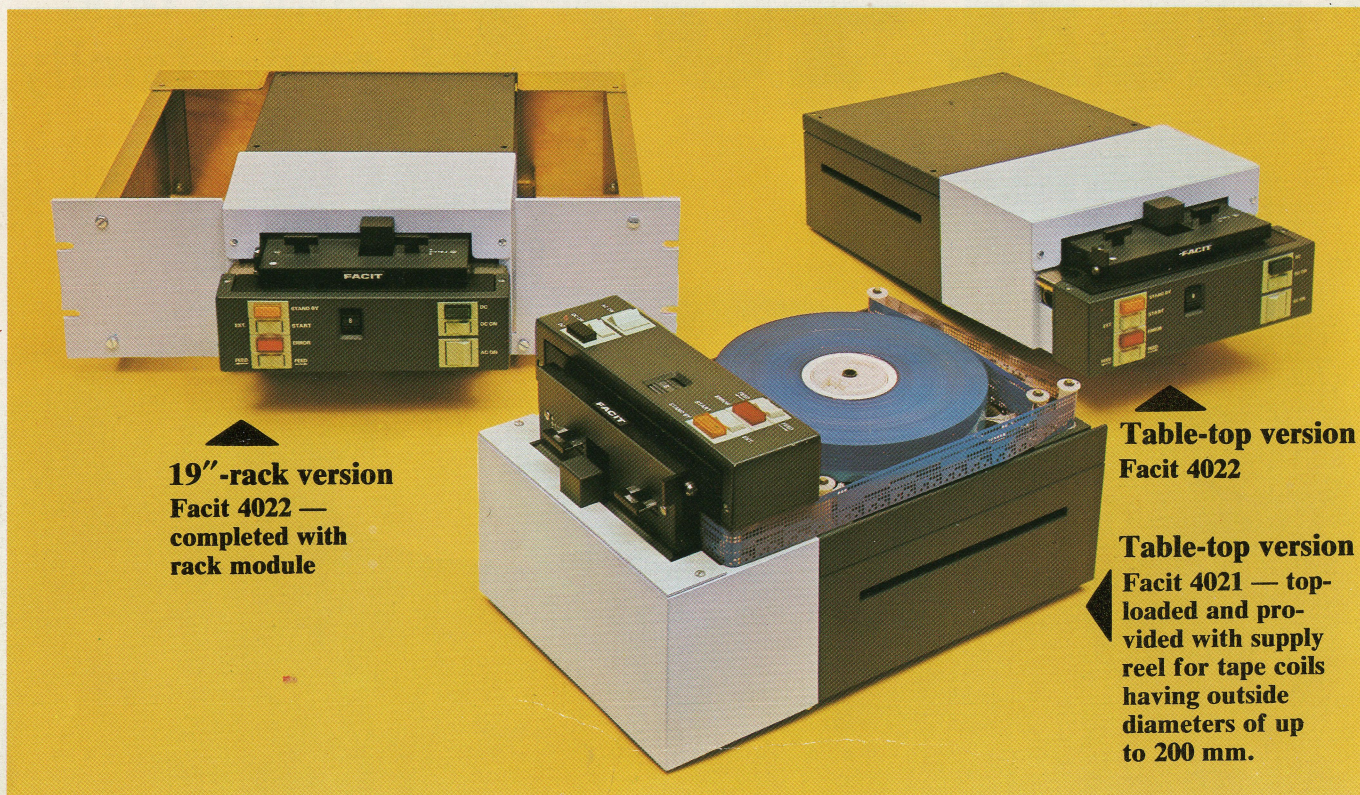


Facit 4020

300 cps
optical tape
reader family



3 versions cover most applications



**19"-rack version
Facit 4022 —
completed with
rack module**

**Table-top version
Facit 4022**

**Table-top version
Facit 4021 — top-
loaded and pro-
vided with supply
reel for tape coils
having outside
diameters of up
to 200 mm.**

Worth changing over

When you change over to the Facit 4020, you acquire a tape reader that incorporates up-to-date electronic components together with Facit's world-famous mechanical quality — modern design and construction for modern data processing systems. Result: tape reading procedures will become simpler and more reliable. Adaptation and servicing will be easier, to cite two examples. Moreover, the superior operational reliability and broad versatility of the Facit 4020 make it ideal for virtually all operations. Examples: • numerical control • minicomputers • data transmission • typesetting. What's more, it provides outstanding performance at a reasonable price.

- Bidirectional reading from 0 to 300 ch/s.
- Reads all types of tapes and hole configurations; designed for fast changeover.
- The Facit 4020 is the only optical reader on the market today which, as standard, reads all of the following:
Tapes with light transmissivity of up to 80 %, ISO, typesetting and Japanese telex tapes and, of course, coloured, dry, as well as oiled and oil-spotted tapes and spliced tapes.
- Capstan drive ensures gentle tape feed.
- The Facit 4020 withstands severe industrial environments. Operates discreetly in quiet office environments. Compact, light in weight and handy.
- Requires no adjustment attributable to aging of components and temperature variations.
- Easy to adapt, very few input/output signals.
- The Facit 4020 features modular design and is at present available in three versions.

Sophisticated up-to-date features

for up-to-date systems

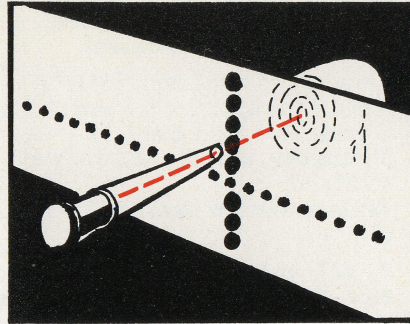
Entirely new optical reading method

The new and unique reading method used by the Facit 4020 permits all types of tapes to be read.

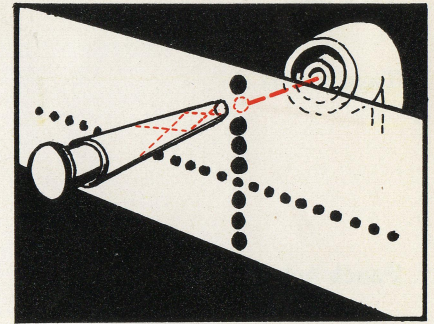
- Coloured tapes.
- Oiled and dirty tapes.
- Tapes having an 80 % light transmissivity.

The Facit 4020 reads perfectly even in strong extraneous light.

Read amplifiers need not be adjusted because of the aging of the light-emitting diode or phototransistors.



The Facit 4020 reading method incorporates a LED light source that actuates a phototransistor. The light source is a light-emitting diode with a service life of up to 50 000 hours. The Facit 4020 differs from other optical readers in that the light from the light source passes through a slender tube before striking the phototransistor.



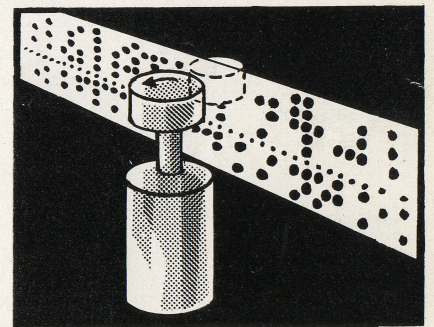
Light penetrating the tape itself is dispersed and weakened as it passes through the tube so that only 2 % of it reaches the phototransistor, even when a tape having a light transmissivity of 80 % is used. The amplifiers are adjusted so that they will not react to this light.

Stepping motor with capstan — no tape wear, low noise level

The Facit 4020 reads asynchronously and bidirectionally from 0 to 300 ch/s.

Even low-quality tapes can be read repeatedly. The capstan drive virtually eliminates tape wear — a valuable feature when loading programs and carrying out numerical control operations for example. The rubber capstan enables the Facit 4020 to operate at a very

low noise level, 62 dB (A), at maximum reading speed. It reads tapes having accumulative spacing errors of up to $\pm 5\%$ throughout 50 rows and spacing errors up to $\pm 10\%$ between adjacent rows. This performance is achieved by 10 % overfeeding and a buffer register that stores three characters. When the third position in the buffer register is filled the tape feed is inhibited for one row to compensate the overfeed.



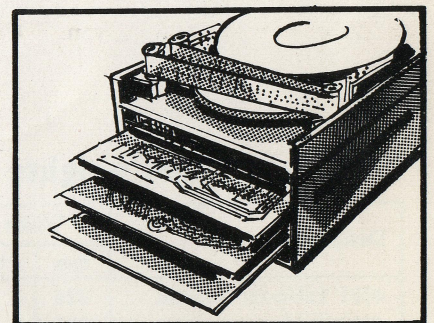
Easy to adapt

The self-contained Facit 4020 is equipped with drive and read electronics, buffer register and power supply. Moreover the user can select one of two interfaces in order to adapt the Facit 4020 to different systems — the Facit SP-1 standard interface or the universal interface. Both interfaces transfer data in parallel and use TTL-levels. The Facit 4020 reader is also provided with space and connector for an

extra customer designed circuit board. This connector is wired to the cable harness and supplied with DC-power from the internal power supply.

Fan-folded tape cassettes

Cassettes for fan-folded tape are available for all models of the Facit 4020.



Technical data

Reading speed

All speeds up to 300 characters per second, bidirectional reading

Buffer register

Stores three characters. One character for acceptor and two for internal synchronization

Error rate

Max one error in 10^8 characters

Tape feed

Stepping motor, rubber capstan and pinch roller. Bidirectional feed. External, asynchronous control

Tape widths

5 track, 17.5 ± 0.1 mm (11/16")
6 and 7 track, 22.2 ± 0.1 mm (7/8")
8 track, 25.4 ± 0.1 mm (1")
Typesetting, 6 track, 22.2 ± 0.1 mm (7/8")
Japanese telex, 6 track, 22.2 ± 0.1 mm (7/8")

Punch hole configurations

5, 6/7 and 8 track ISO standard tape. 6 track typesetting tape (forward direction only). 6 track Japanese telex tape

Inter-character spacing

2.54 mm ± 5 % accumulative
 2.54 mm ± 10 % between adjacent rows

Thickness of tape

0.08 mm to 0.25 mm tapes including splices

Tape material

All types of punched tape materials now being marketed

Light transmissivity of tape

Up to 80 %

Tape supply

- Tape dispenser with supply reel for coils with max 200 mm (8") outside diameter. Inside diameter shall be 51 to 52 mm (2")
- Fan-folded tape (8½") in cassettes that accommodate max 61 metres (200 feet)

Interfaces

1. Universal interface
2. Facit SP1 standard interface

Noise levels

Idling 40 dB (A)
10 ch/s 55 dB (A)
50 ch/s 60 dB (A)
300 ch/s 62 dB (A)

Environment

Ambient temperature, $+5^\circ$ to $+40^\circ$ C

Relative humidity, 25 to 75 %.

Mains voltage

Selectable by a rotary switch: 100, 115, 220 and 240 V AC $+15$ %
 -10 %

Mains frequency

49 to 100 Hz

Power consumption

Max 180 W. min 60 W.

Automatic DC cutoff

If the mains voltage drops below 85 % of the value specified for the reader, the regulated DC voltage is turned off. Moreover, the DC voltage is cut off if the mains voltage should fail for more than 15 ms

Dimensions and weights

Designation	Width		Depth		Height		Weight	
	mm	in	mm	in	mm	in	kg	lb
4021 Table-top version	226	9	352	14	208	8 ¼	10	22
4022 Table-top version	226	9	455	18	108	4 ¼	9.5	21
4022 Rack version	482	19	455	18	132.6	5 ¼	13	28.6
— Cassette module	482	19	30	1 ¼	215	8 ½	1.3	2.9

Specifications subject to changes without notice.

