

GIER
ELECTRONICS

CONVERTER

RC 3000 CONVERTER

The RC 3000 Converter converts data off-line either to and from magnetic tape or directly from one input/output device to another. Developed and manufactured by A/S Regnecentralen to improve the operating efficiency of computer installations, RC 3000 eliminates the need to operate slow peripheral devices on-line.

RC 3000 assumes all basic input/output functions, operating all peripherals independently of the computer, which then consists of a central processor and magnetic tape stations constantly transferring data at high speed.

RC 3000 improves the economy as well as the efficiency of computer installations by reducing running time and job costs. RC 3000 utilizes computer operating capacity more fully by making it possible to use magnetic tape exclusively as a high-speed input/output medium for the computer, thereby lessening the time used for input and output as well as eliminating the need of peripherals to wait for the computer to process data.

RC 3000 – a single, multi-directional data converter – consists of a converter unit, Regnecentralen's RC 2000 Paper Tape Reader (used as a general-purpose input device and mounted on top of the former), and an associated tape station. The RC 2000 Input Buffer accepts input from alternative sources like a punched card reader as well as from its own paper tape reader, while provision is made for the connection of optional output devices like a line printer, paper tape punch, or digital increment plotter.

The RC 3000 Converter is compact, attractive in appearance, and easy to use. The comprehensive use of solid-state circuitry ensures reliability, and its off-line operation creates no interface problems. RC 3000 is already serving many data processing systems, including CDC 1604, Elliott 503, GE 425, GIER, IBM 1401, Minsk 22, Siemens 3003, and others.

FEATURES

- RC 2000 PAPER TAPE READER as general-purpose input device accepts all standard tape formats and provides continuous character reading at 2000 char/sec.
- RC 2000 INPUT BUFFER automatically ensures uninterrupted data flow from alternative input source as well as from own paper tape reader.
- MAGNETIC TAPE STATION operating at 28,800 char/sec makes transfers in binary or BCD characters and performs read-after-write check for parity and continuity.
- INTERFACE MODULARITY facilitates connection of optional peripheral devices.
- UNIVERSAL CODE CONVERSION provided by catalog read in to core store before each run.
- CATALOG FUNCTIONS include alternative catalog, deletion, end of block, and stop.
- VARIABLE BLOCK LENGTH available through programming.
- PARITY CHECKING performed throughout conversion process.
- RELIABILITY ensured through comprehensive use of solid-state circuitry; moving parts minimized by using electronic functions.
- DESIGN FEATURES include easy operation, compactness, and attractive appearance.

APPLICATIONS

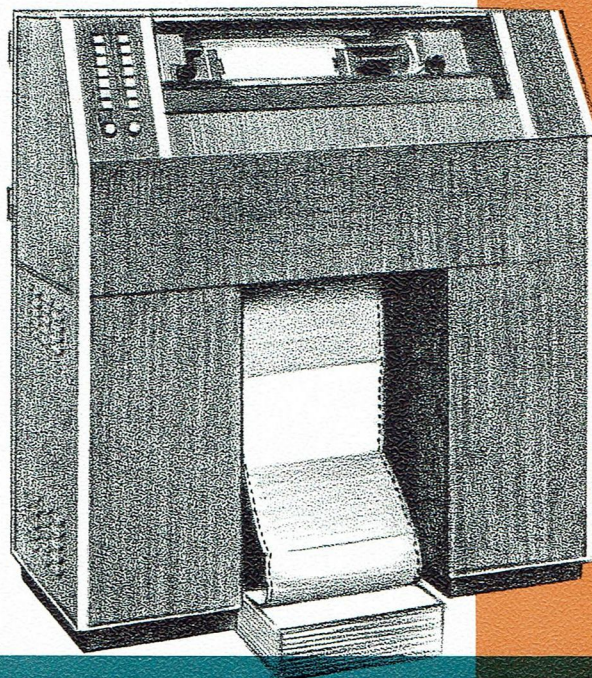
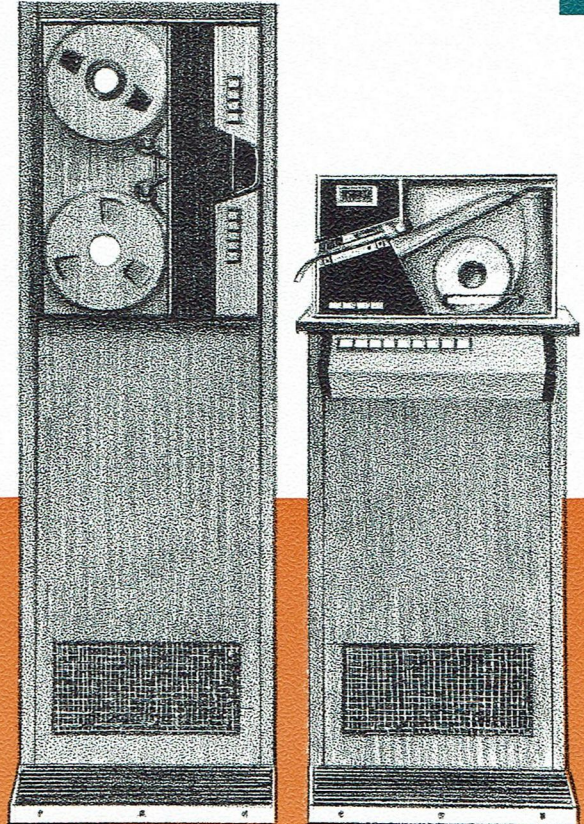
The RC 3000 Converter has applications for service centers and business firms with their own computer installations as well as firms and branch offices that send data out to a centralized computing service for processing.

RC 3000 can be used as a satellite device for central computer installations, especially where the time now used for input and output limits profitable operation or the possibility of taking on new processing jobs. RC 3000 reduces running costs and throughput time per job, and the service center customer knows that the time he is paying for is being used effectively.

RC 3000 also provides the many advantages of decentralized conversion independent of computer availability. Thus the service center user – with his own RC 3000 – has more control over original data and the production of reports. On his own premises he can assemble data on magnetic tape for processing at a centralized computing service, while retaining the original paper tapes or punched cards for use immediately after conversion; or produce reports and the like from processed and returned magnetic tape on a line printer, for example, connected to RC 3000 – however and whenever he likes.

RC 3000 eliminates the problems of documents lost in shipment and delays due to misunderstandings about the data itself or the forms on which the reports are to appear, whereas magnetic tape, which is less heavy and bulky than paper, is easier to handle, ship, and store.

The RC 3000 Converter continually finds new applications, for example: printing out paper tapes and punched cards directly at maximum line printer speeds, converting paper tapes and punched cards to 5-track paper tape for teletypewriter transmission, and converting computer output on magnetic tape to discrete points, continuous curves, and symbols on a high-speed plotter.



SIZE AND WEIGHT

CONVERTER UNIT WITH READER	
width	58.9 cm
depth	62.0 cm
height	140.9 cm
weight	121.0 kg

MAGNETIC TAPE STATION	
width	57.2 cm
depth	57.0 cm
height	179.9 cm
weight	166.0 kg

CHARACTERISTICS

Operating Speeds

Paper Tape Input	2000 char/sec
Punched Card Input ..	1200 - 1500 cards/min
Line Printer Output ..	10 - 20 lines/sec
Paper Tape Output ..	150 char/sec
Plotter Output	300 - 900 0.1 mm steps/sec

Converter Unit

Core Store Size	1024 8-bit words
Cycle Time	7 microseconds

Paper Tape Reader (RC 2000)

Reading Speed	2000 char/sec
Tape Formats	
round-hole	5, 7, 8 track widths
square-hole	6 track width
Input Buffer	
core store size	256 8-bit words
adaptability	control of alternative input

Magnetic Tape Station

Tape Formats	7 or 9 track, one-half inch, internationally compatible
Recording Densities ..	200 - 556 - 800 bits/inch
Transfer Rates	7,200 - 20,000 - 28,800 char/sec

Interface

Any peripheral device that can be conditioned to impart or receive data in the form of 8-bit characters can be connected to RC 3000.

Conversion Modes

RC 3000 converts from paper tape or alternative input (e.g. cards) to magnetic tape; from magnetic tape to an optional output device (e.g. printer, punch, plotter);

from paper tape or alternative input (e.g. cards) to an optional output device (e.g. printer, punch).

Catalog

Before each run, the catalog or conversion table is read in to the core store of the converter unit, the rest of which is used for buffering blocks of data during conversion. The length of the catalog varies according to the number of bits in the input character, with a maximum length of 512 words. Functions in the catalog allow: conversion to any 7-bit character, catalog shift, deletion, and end of block (with or without stop).

Block Formats

Each block is buffered in the part of the core store not occupied by the catalog. The length of the blocks depends on the size of the catalog; it can range from 1 to 992 words, and can be varied by programming. The format of data is optional and standard American printer formats are catered for.

Parity Checking

Parity checking is performed throughout the conversion process and includes transfers in the core store (including the loading of the catalog), transfers to and from magnetic tape (read-after-write check for parity and continuity), and input from paper tape or alternative source (as specified in the catalog).

POWER

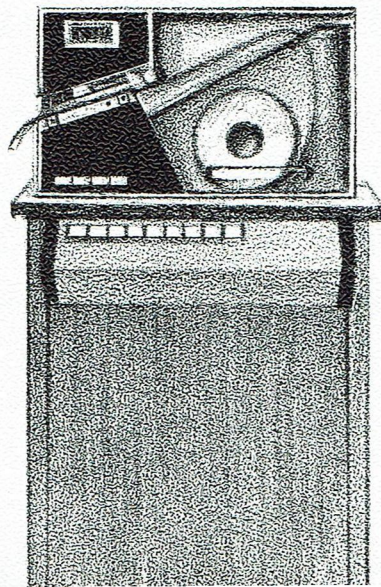
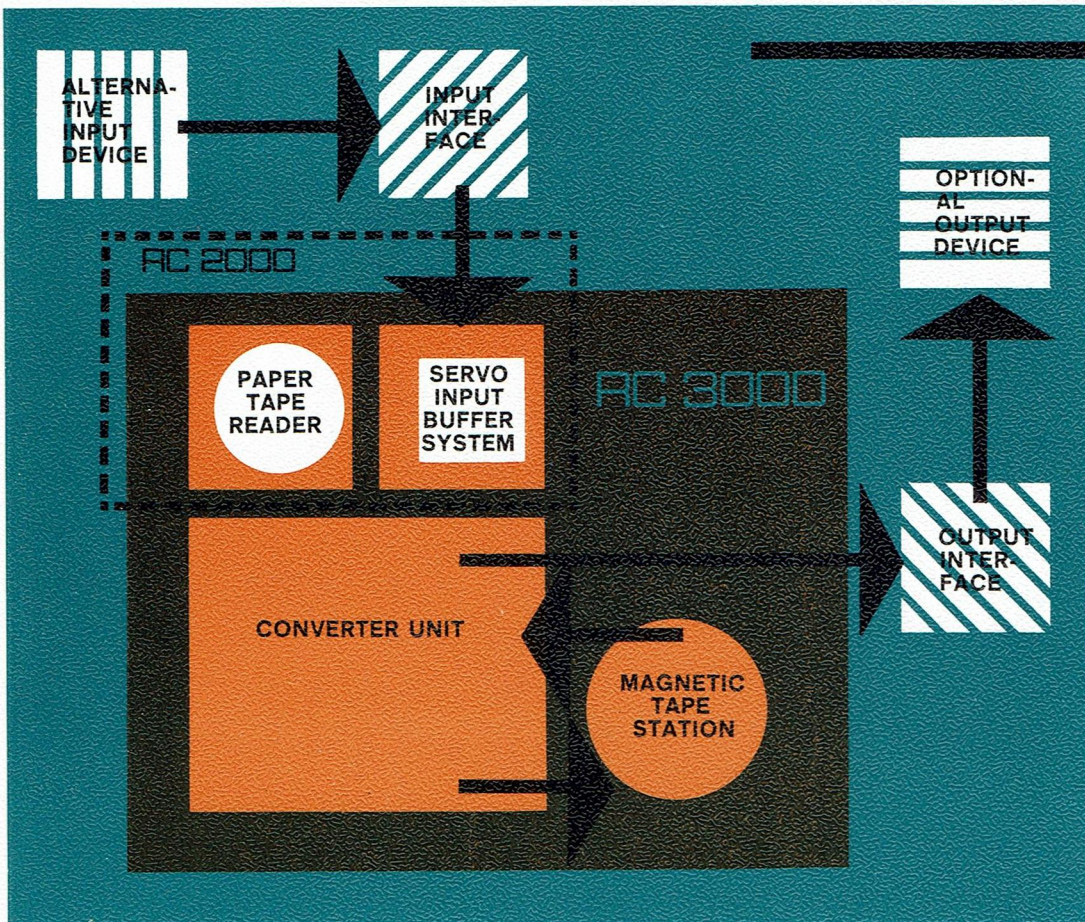
CONVERTER UNIT WITH READER	50 Hz; 220 V
maximum power	334 kcal/h (388 W)
maximum line current	2 A
fuses in mains connection	6 A
MAGNETIC TAPE STATION	50-60 Hz; 220 V and 3×220 V
maximum power	731 kcal/h (850 W)
maximum line current	4 A at 220 V
fuses in mains connection	6 A

ENVIRONMENT

CONVERTER UNIT WITH READER	
cooling air	280 m ³ /h from ambient
air temperature	18-25° C
relative humidity	40-70 %
MAGNETIC TAPE STATION	
cooling air	300 m ³ /h from ambient
air temperature	16-32° C
relative humidity	40-70 %

TYPICAL CONVERSION MODES

- PAPER TAPE → MAGNETIC TAPE
- PUNCHED CARD → MAGNETIC TAPE
- MAGNETIC TAPE → LINE PRINTER
- MAGNETIC TAPE → PAPER TAPE
- MAGNETIC TAPE → PLOTTER
- PAPER TAPE → LINE PRINTER
- PUNCHED CARD → LINE PRINTER
- PAPER TAPE → PAPER TAPE
- PUNCHED CARD → PAPER TAPE



A **REGNE** CENTRALEN

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