# ON-LINE CONTROL AT REDIFON

Redifon, manufacturer of professional radio communications systems, has used ROCC computers to build an on-line stock control and ordering system. This has enabled Redifon to cut the time to produce goods by 25 per cent, and reduce the cost of maintaining stock through reduced stock levels by over £100,000 per annum.

Redifon designs and builds specialist radio communications equipment from Very Low Fre-

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quency to High Frequency (HF) transmitters and receivers, for the civil and defence markets. It is the principal supplier of HF radio equipment to the Royal Navy and is supplying complete HF communications systems for the new Type 23 Frigates.

"Our products are enormously complicated. They can include several thousand components, and accurately tracking their manufacture with a stock control and ordering system is very difficult. If one vital component was out of stock our production could come



to a standstill," said Chris Hird-Jones, data processing manager. Redifon's stock control system also has to take into account permutations within a product range, so that modified products can be produced for major customers, often two orders for the same system might require completely different peripherals.

Since 1982 Redifon has been evolving computer-based stock management systems. "As we got into this it became obvious that we were going to need a faster more powerful machine, and in 1985 we replaced our Seecheck computer with a ROCC 2830 system, which we are currently using with 16 terminals distributed through seven departments.
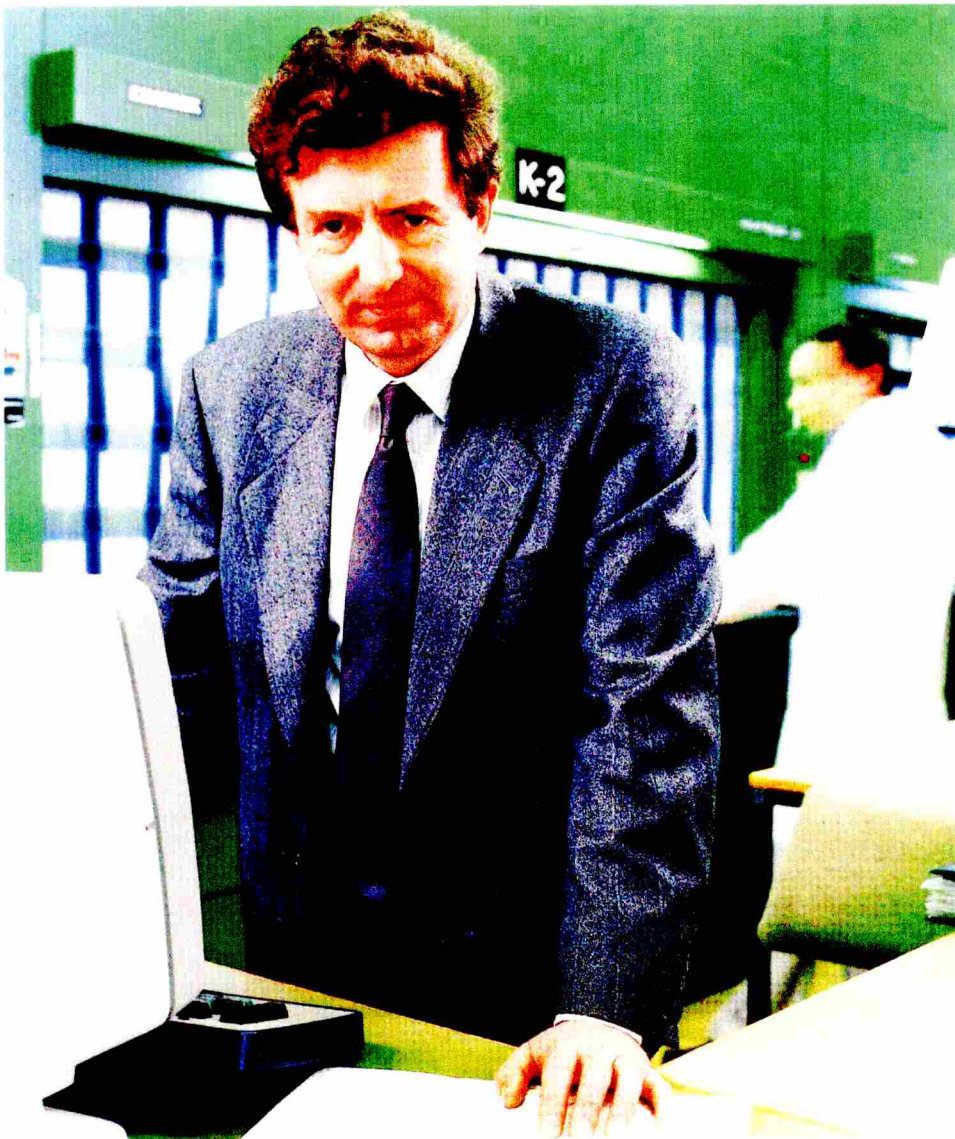
"Our first task was to create a logic file on the computer which reflects the structure of our products. It incorporates the relationships between complete products, their sub-assemblies and individual components. This bill of materials file holds records of 18,000 stock parts, making up over 6000 assemblies and totalling nearly 90,000 items. It hinges on a series of interlocking indexes, a sort of relational database. This has been the basis onto which all our applications are built," said Hird-Jones.

"From this, we can establish for any production order the exact component requirements for each batch. With accurate establishment of stock requirements we can also determine our buying requirements more precisely and so avoid many problems of stock shortfall."

With the previous paper system prior to 1982 it was not possible to link stock ordering to stock commitments this accurately. Previously Redifon used a physical master record of the structure of each product, which would be spirit-duplicated. The components on each sheet were multiplied manually to arrive at the requirements for any specific order.

The material control office could then match an order to stock. Redifon now knows instantane-

ously whether an order can be fulfilled, and what has to be ordered. Time taken to process orders has been reduced from several weeks to a couple of days.

"With the list of components required for each job available on the computer, we can now also produce a kitting schedule for any job as it enters production. We used to issue stock with individual requisitions for each component. Now the computer looks at each sub-assembly and by using its product structure knowledge can produce a kitting schedule, including the bin locations of each component. This has drastically cut the time wasted by the wrong parts being drawn from stores," explained Hird-Jones.

Although each department uses the system independently for their separate functions, they are in many ways connected. "What makes this system work is that it is in real-time. As all the component elements of the system interconnect, without real-time operation, any form of linkage would be meaningless.

"We could have bought in a pre-written stock control package, but by developing our bespoke system on the ROCC computer we have been able to write uniquely tailored applications which exactly match this company's complex needs. We can also adapt and grow the system as and when we suit into whatever we need, which in the long term is

cheaper," explained Hird-Jones. By taking this route, the benefits to the company are qualitative as well as having direct cost saving benefits. "The quality of information for decisions is greatly improved. By holding stock information in real-time and offering extensive interrogative facilities the company is able to make decisions and react to developing situations faster.

"The system is all about retaining the company's competitive edge. We are providing better information to all levels across the company. For example, if a supplier withdraws a component, we can check immediately to see where it fits into each product, how important it is and thus what course of action must be taken all BEFORE a problem develops," said Hird-Jones.

By developing an integrated stock control and information system, the eradication of duplicated paper control systems in connected departments has reduced the endemic level of error.

Milton Hewins, production controller identified other benefits. "As most of the work with any application is done by the staff who use the system directly, we have tried to make the system as simple to use as possible. This helps to increase the efficiency of that system, reduce error rates and allows us to do more training on the job.

"We can use staff more effec-

tively than before and so increase the overall productivity and profitability of the company. New parts lists had previously to be drawn up manually by engineers. We can now do this on the computer using clerical staff, and so make available the time of those engineers for work which better utilises their expensive skills," concluded Hewins.

Neither Hewins or Hird-Jones regards their task as nearly complete. They are both looking to expand the system to fill the 'missing link' between customer orders and production scheduling. The ultimate goal is to extrapolate from the original order the final production schedule. "We have about 90 per cent of the software in place, and we would hope to generate stock commitments directly from customer orders within the next 12 months.

"If we can bring purchase orders on-line, like sales orders which are already part of the system, and extend the service for goods received to remove the current batch entry, we would complete the loop. From the point of order to the point of production any piece of stock will then be tracked completely on the computer by the relevant departments, without needing to interface with any paper control system.

Hird-Jones concluded, "We have been amazed at the sophistication and flexibility of the systems we have been able to develop on the ROCC computer but we haven't finished yet!"

*Redifon's BC20 Series Battery Management System. The battery for handheld portable radios.*

*Hewins .... "We can use staff more effectively than before."*