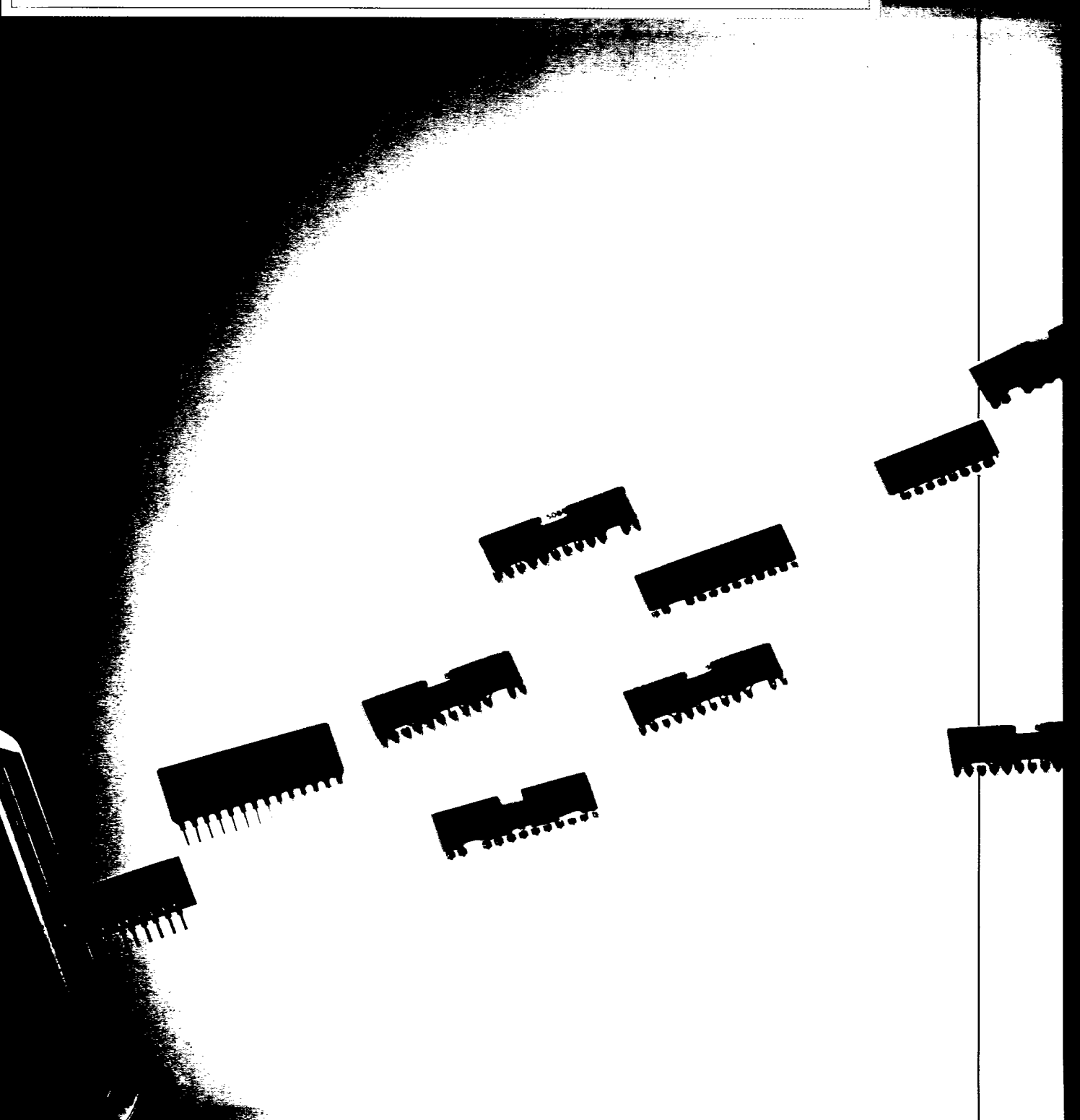


A World First

for electronics industry designers.



Now you can design on your own PC.

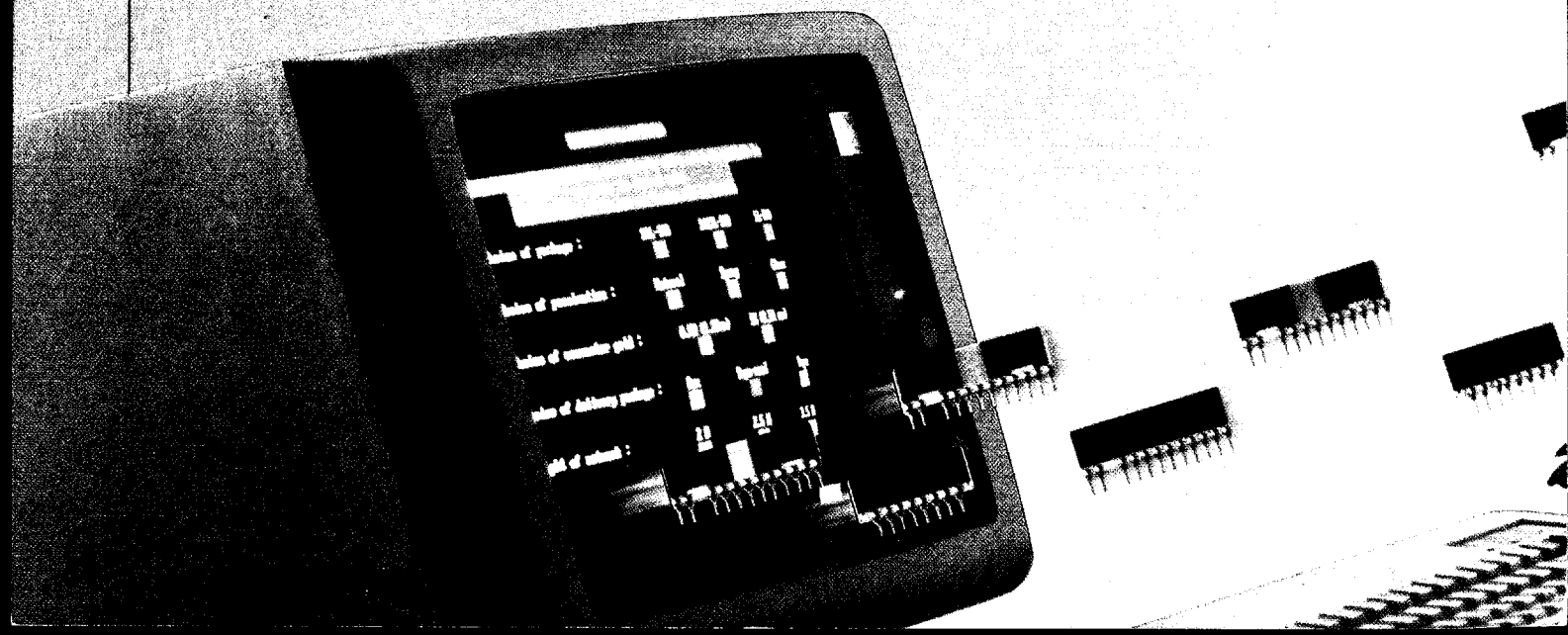
Without the least investment, you now have access to an entirely new and streamlined method of producing semi-custom-designed or "made to measure" resistor networks. All you need to do is switch on your PC and insert the diskette enclosed with this brochure.

In case you haven't access to a PC with an MS-DOS system program, we've arranged alternative ordering procedures. You can read about them later in this brochure.

Specify, design, order, manufacture and deliver.

You know what it's like when an electronic design is going into production. Resistors, often regarded as unexciting, suddenly move to the centre of the stage. Now they have to be specified and tested. Requirements must be met, deliveries must be dependable - and prices as low as possible. And of course they have to be ready in next to no time.

You can do all this with RESICALC, which is the name of our new system for specifying, designing, manufacturing, testing and delivering resistor networks. We who have produced this handy tool for you form a part of Ericsson Components AB. The Head



resistor networks

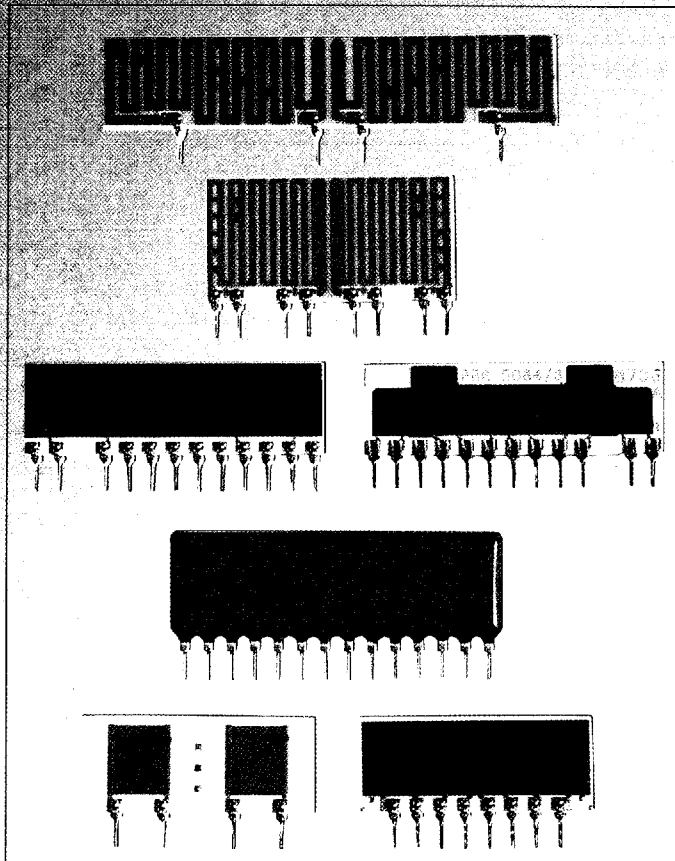
Office is in Kista, a suburb of Stockholm. The resistors, which we market under the name ERISISTOR, are manufactured in Gränna. And it is in Gränna that all of us working with resistors are located. Let's hope that's put things straight!



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Erisistor resistor network in your products.



The RESICALC program lessens the need for fully customized solutions. With the Erisistor semi-customized design solution, you can produce individual solutions to resistor networks faster, more simply and at lower cost than fully customized ones.

By being able to use semi-customized resistor networks instead of discrete resistors or fully customized resistor networks, you gain a whole series of advantages:

First of all, lower costs. Even compared with discrete resistors, the RESICALC solution is more economic: among other reasons, your assembly costs are lower.

It goes without saying that custom-designed solutions can be slightly more expensive. But we'll be happy to produce fully tailored solutions for you if your requirements can't be satisfied within the framework of RESICALC.

Even more advantages.

As you see, the RESICALC solution combines high flexibility with low cost. What's more, if you decide on resistor networks you save valuable space in your products. And don't forget all the other technical advantages.

For example, their outstanding thermal properties, which mean in practice that the risk of heat peaks is eliminated, that hot spots can be avoided and that reliability is increased, especially in the case of transients.

Since the resistance networks are produced with the aid of laser trimming techniques, you are free to choose the size of the resistance values. The laser trims off a little of the resistive paste to give you values that previously could only be obtained in completely customized solutions.

The excellent electrical properties associated with resistor networks built up on ceramic substrate result in even lower series inductance. The long-term properties are also good, since the resistors retain their values over a long period of use.

Your own identification.

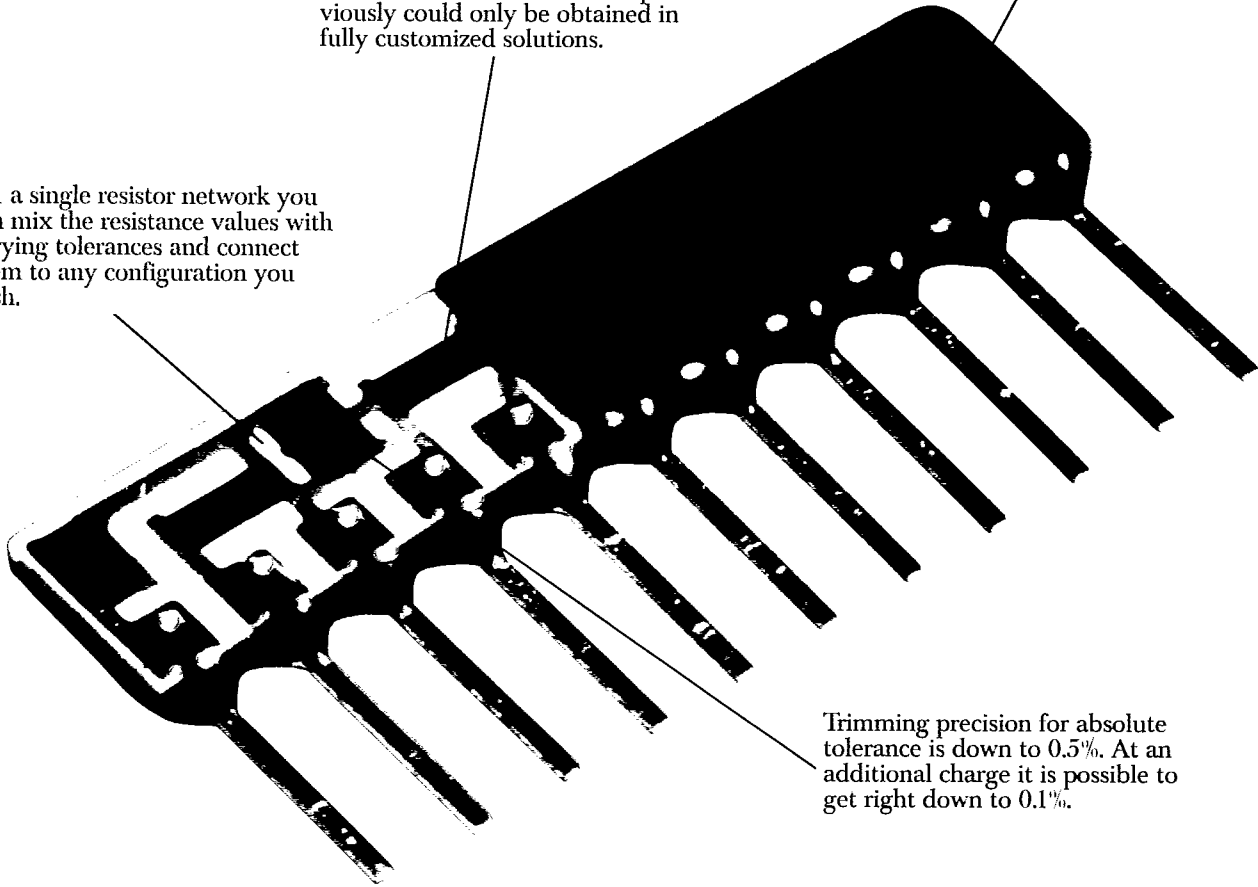
If you wish, we can even arrange for your resistor networks to be marked with your own coding and serialization. You can freely choose figure/letter markings where there is enough space for printing. This is another feature RESICALC helps you with.

ks save space

With laser techniques the tolerance of each resistor can be trimmed down to values that previously could only be obtained in fully customized solutions.

You can choose to have your resistor networks either epoxy-dipped, with screen-printed plastic, or untreated.

On a single resistor network you can mix the resistance values with varying tolerances and connect them to any configuration you wish.



Trimming precision for absolute tolerance is down to 0.5%. At an additional charge it is possible to get right down to 0.1%.

Type up your value appear immediate

The RESICALC program asks you a lot of questions. These are easily answered, just by giving the required value.

You begin by stating what type you want, for example SIL (single-in-line) for through-hole or surface-mount assembly. Then you name the dimensions and connections you want.

Next, you specify each individual resistor to be included in the network. And now you have an opportunity to create a mix of resistors with varying characteristics. Some perhaps are to have closer resistance tolerances than others; some you may wish to specify with a particular temperature coefficient.

Then you address the resistors to one another, and to the various connectors.

In this way, in a single resistor network, can combine resistance values with varying tolerances and connect them up to your preferred configuration.

The program checks your specifications and estimates the cost.

When you have answered all the questions, the program checks whether your specifications can be met - which in the great majority of cases they can. If not, the program asks whether certain of your input data can be modified. This enables you to test and examine different solutions on the spot and arrive at an economic resistor network that can be delivered with minimum delay.

Finally you are given an estimated price for your particular resistor network. (If your requirements prove to be so special that RESICALC can't find a solution, we'll naturally produce a fully custom-designed resistor network for you.)



es. Price and delivery details ately on the display.

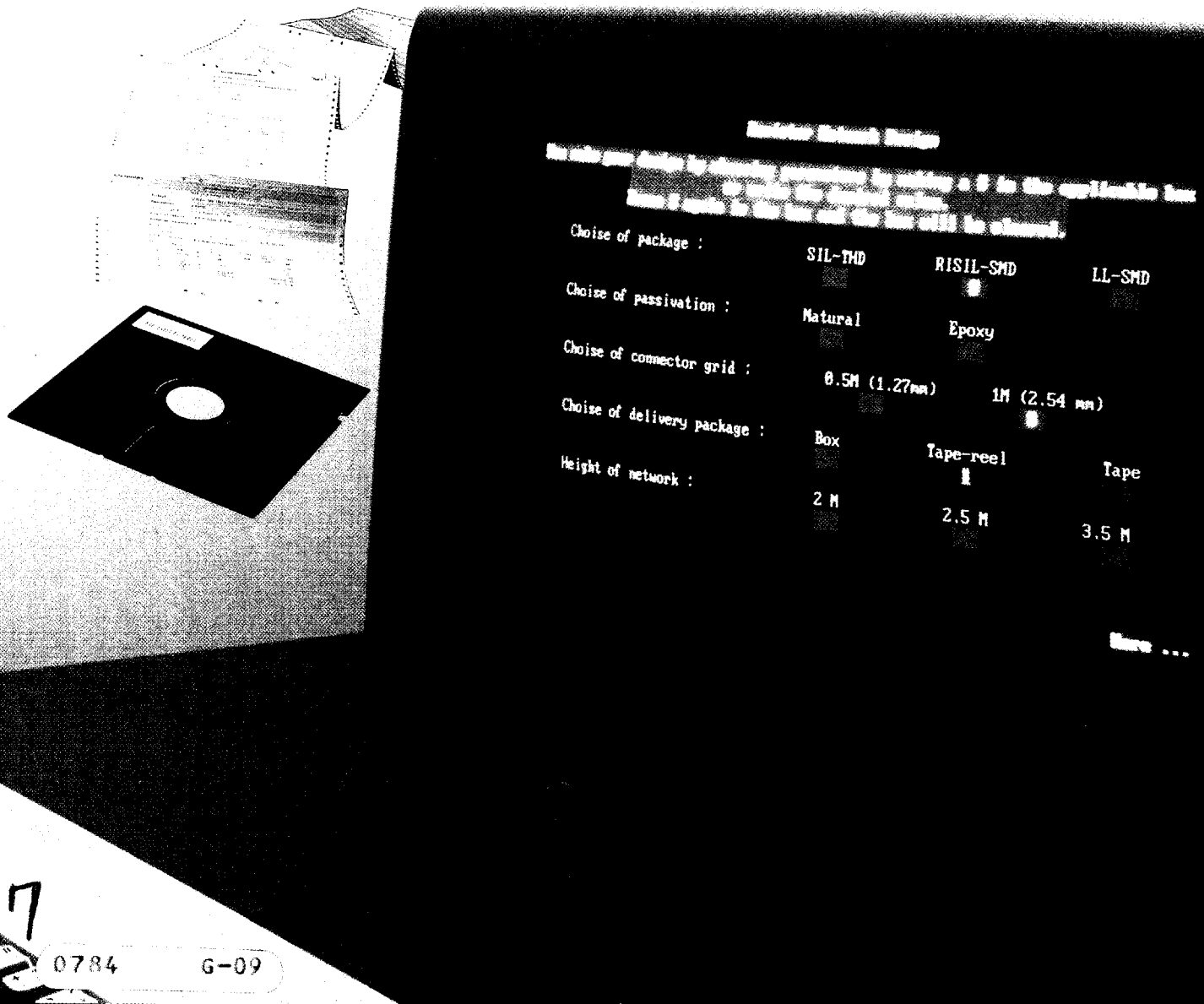
Alternative ordering procedures.

In RESICALC Part 2 you have an opportunity not only to check your design but also order prototypes, ask for a quotation and the delivery time – in fact, even give your order, in accordance with the quotation.

If your PC is connected to a modem, at this point you can get the answers to all this on the display of your PC, after making a free phone call on our special RESICALC line. If it's engaged, other lines are available. The telephone number is on your diskette.

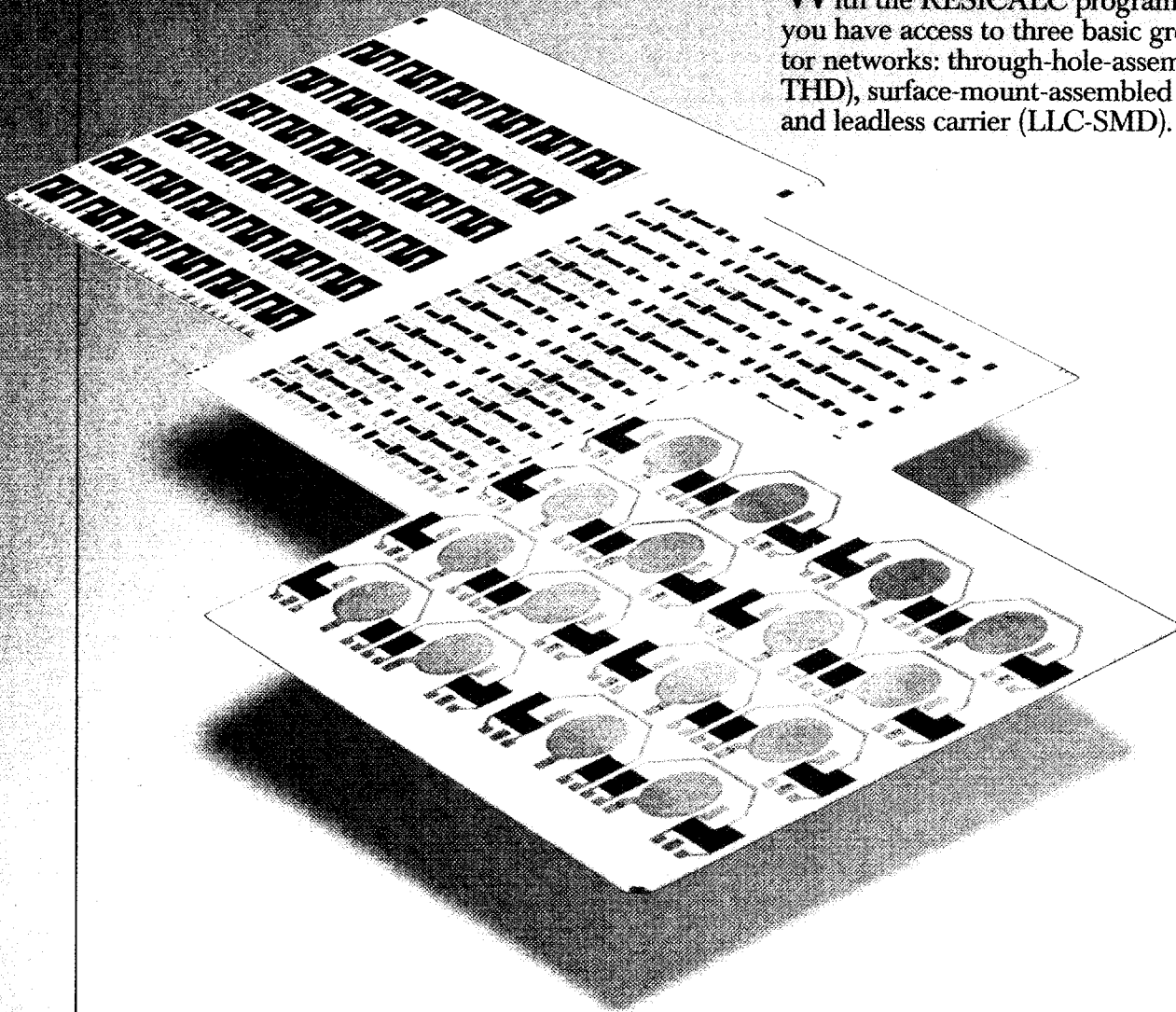
Alternatively, you can mail a diskette containing your information, or have your PC print out the completed order form – or you can even simply fill in a form by hand. When you order, you receive written confirmation – of course.

Could the production of resistor networks be simpler?!



You can choose between mount assembly and

With the RESICALC program in your PC you have access to three basic groups of resistor networks: through-hole-assembled (SIL-THD), surface-mount-assembled (SIL-SMD) and leadless carrier (LLC-SMD).



Between through-hole/surface- and leadless networks.

Trimming precision for the absolute tolerance is down to 0.5%. For an extra charge it is fully possible to get down even further, to 0.1%.

The minimum value for the relative tolerance is 0.1%. The absolute temperature coefficient has minimum and maximum values of 20 and 200 ppm respectively. The corresponding values for the relative temperature coefficient are 20 and 50 ppm respectively.

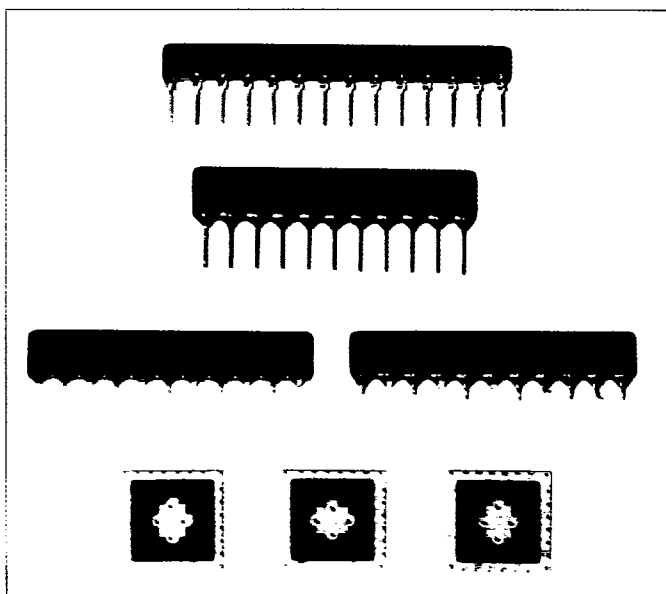
The resistor networks are available with three different types of surface treatment: epoxy-dipped, with screen-printed plastic and untreated.

We can also offer Erisistor standard networks with fixed resistance values in the E 12 series and a range of tolerances – usually from stock.

For more technical details see our product specifications.

Customer-specific networks, too.

If you require fully customer-specific solutions, we can naturally produce them too. During the 40 years we've been manufacturing resistors (formerly as Rifa AB), we have also developed into one of Europe's largest and most experienced manufacturers in the thick film area. Nothing is beyond our ken. We have learnt how to deal with most types of electrical and mechanical demands, such as high voltages, non-standard forms, fuses, and PTC/NTC functions. So we have appropriate solutions, even if standard or semi-customized networks don't fill the bill.



How come we can and low prices?

The idea behind Erisistor semi-custom-designed resistor networks rests firmly on three cornerstones: an easily accessible design program – RESICALC; efficient communications, without obstruction; and a high-tech production unit.

As a customer/design engineer you feed your input data into your own PC and the program takes care of the basic calculations. The definitive calculations and manufacturing commands, which are handled by our mainframe, can then be put into effect in three different ways, depending on which alternative suits you best.

Three ways to choose from.

If you have a modem, you simply transfer the information direct to our mainframe.

Alternatively, you can send your diskette to one of our subsidiaries or agents who, via their own computer, make direct contact with our mainframe.

Or, finally, you don't send a diskette at all; you simply print out your order and post it to us in Gränna or to one of our subsidiaries or agents.

Erisistor's mainframe handles all the rest.

This is what happens when the mainframe starts processing your information:

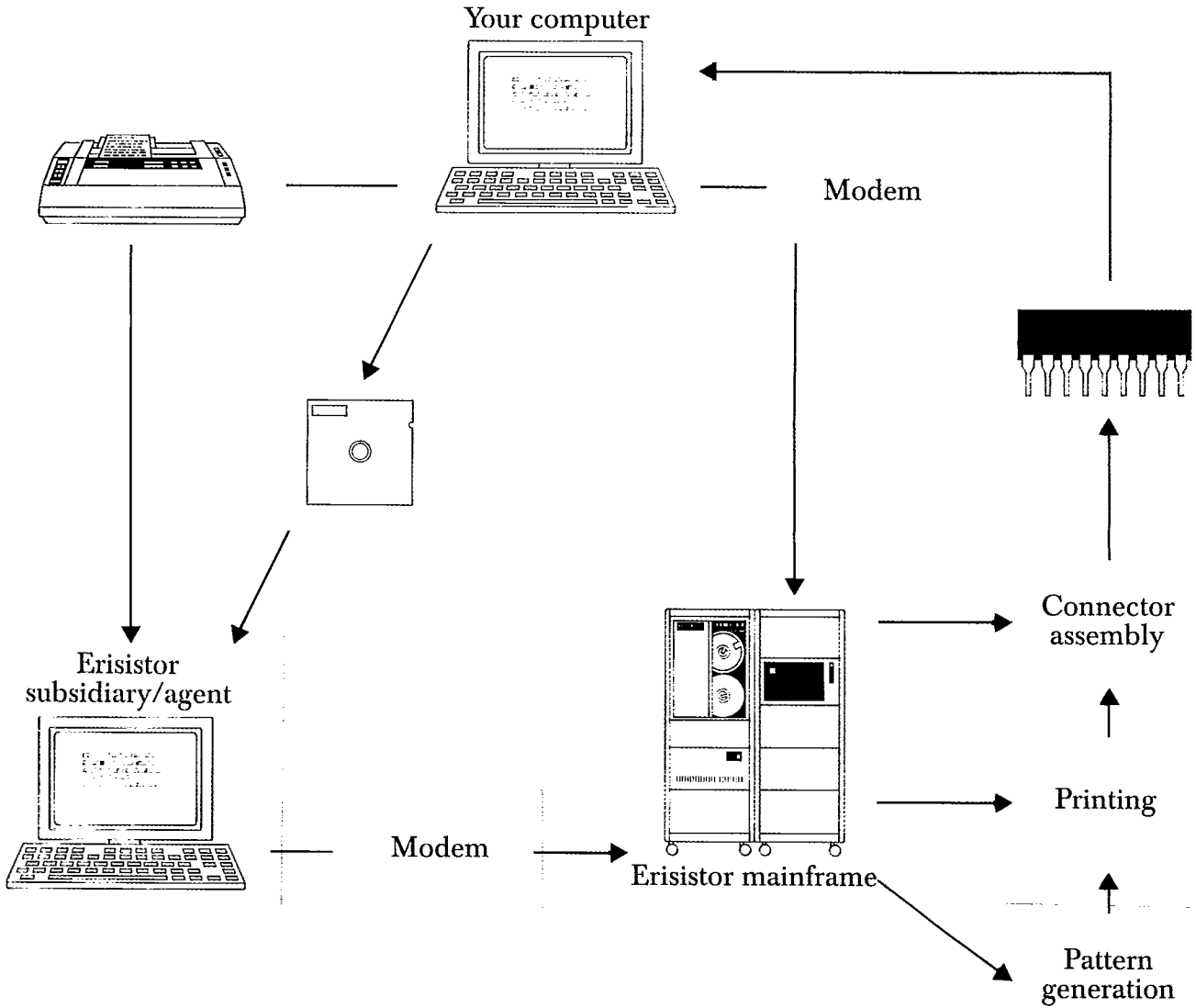
First, all calculations are checked once more, to see whether we can't meet your requirements with even closer tolerances than RESICALC promised you. The computer then provides the fully automated production line with the necessary data for manufacturing your own resistor network. The production line consists of a number of machines "connected in series", each of which performs a specific phase in the manufacturing process, such as pattern generation, printing, connector assembly and measuring.

The mainframe gives the exact information for each type of circuit.

Now what's stopping you? Put the RESICALC program in your PC. And give it a try!!

T-62-05

offer both high quality



T-62-05

You can find us everywhere.

Erisistor operations form part of Ericsson Components which has more than 2000 employees. The whole world is our marketplace, and subsidiaries of ours can be found in altogether 24 countries. Then the Ericsson group in total is represented all over the world.

Your representative is:

Ericsson Components Inc.
403 International Parkway
P.O. Box 853904
Richardson, TX 75085-3904
Telephone (214) 480-8300
Telex 735389 ERICS RCHN
Fax (214) 680-1059

ERICSSON 

Ericsson Components AB
Microelectronics division
P.O. Box 98, S-56300 Gränna
SWEDEN
Telephone: Int +46-39011020
Telefax: Int +46-39011933

12

RESISTOR NETWORK DATA:

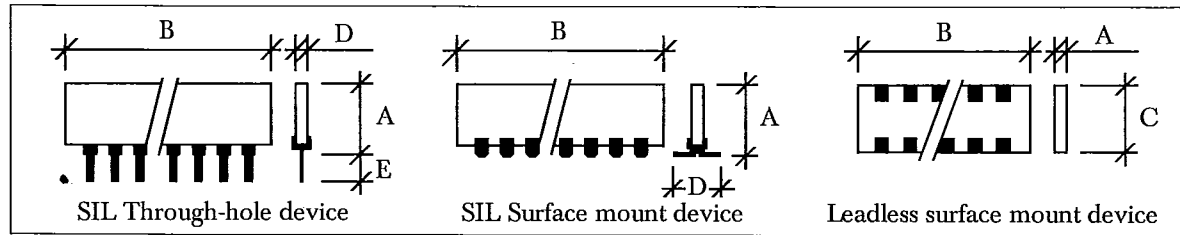
Erisistor

SEMI CUSTOM DESIGN:

Absolute maximum ratings:

Resistance range: 1 ohm-10 Mohm

Max. operating voltage: 250 Volt



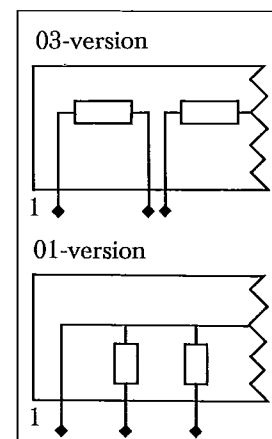
	PRR 10000 SIL package (SIL-THD) Through hole device		PRR 50000 RISIL package (SIL-SMD) Surface mount device		PRR 80000 Leadless surface mount device (LLC-SMD) Leadless carrier	
	Min	Max	Min	Max	Min	Max
Absolute tolerance	0.5%		0.5%		0.5%	
Relative tolerance	0.1%		0.1%		0.1%	
Absolute tempcoeff.	50		50		50	
Relative tempcoeff.	20		20		20	
Power/Connector	0.1 W		0.1 W		0.2 W	
Height (A)	5.08	14 mm	5.08	14 mm	2 mm	
Length (B)	7.6	33 mm	7.6	33 mm		
Pin/connector grid	0.5 / 1 M*		0.5 / 1 M*		0.5 / 1 M*	
Stand off (E)	7 mm					
Coating	None Epoxy/plastic		None Epoxy/plastic		None Epoxy/plastic	
Width (C)					7.6	12.7 mm
Thickness (D)	2.40		5.00			
Delivery	Tape/batch		Sticks/batch		Tape/batch	

Epoxy: Dipped
Plastic: Screen printed polymer

*1 M = 2,54 mm

STANDARD RESISTOR NETWORKS:

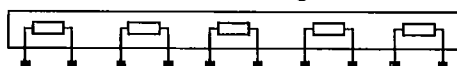
	PRR-X Standard networks
Resistance range	E-12 series 22 ohm-1 Mohm
Tempcoefficient	100 ppm
Max operational voltage	250 V
Power/connector	0.1 W
Tolerances	2%, 5% or 10%
Configuration	Separate resistors/common connector
Resistances/network	3-12
Coating	Epoxy
Pin grid	1 M (2.54 mm)
Package	SIL-THD (see PRR 10000)
Height (A)	5.08 mm
Delivery	Tape/Batch



Ordering information: PRR

010 (No of pins) 03 (Configuration) 182 (Resistance value) J (Tolerance)
 01 - Common connector 1st, 2nd significant digit G = ± 2%
 03 - Separate resistors 3rd number of zeros J = ± 5%
 K = ± 10%

Example: PRR 010 03 182 J



The example above: 5 separate isolated resistors (10 pins), 1.8 Kohm ± 5%.

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ERICSSON

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Telephone: Int +46-39 011020