

The history of cardiac pacing in Czechoslovakia



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FIRST IMPLANTATION

**1962 – at the Institute for Clinical and Experimental
Surgery, Praha, June 1962**

Surgeons: Dr. Takaro (USA), Dr. Bohumil Peleška,
Prof. Bohumil Spaček

Pacemaker: Chardack – Greatbatch, VOO,
rate adjustable

The history of cardiac pacing in Czechoslovakia

- 1963** – Model Laboratory (for design
of single-purpose medical instruments)
- 1964** – Research Institute for Medical Electronics
and Modelling,
Director: MUDr. Bohumil Peleška, DrSc.

First building of RIMEM



Doc. MUDr. Bohumil Peleška, DrSc.

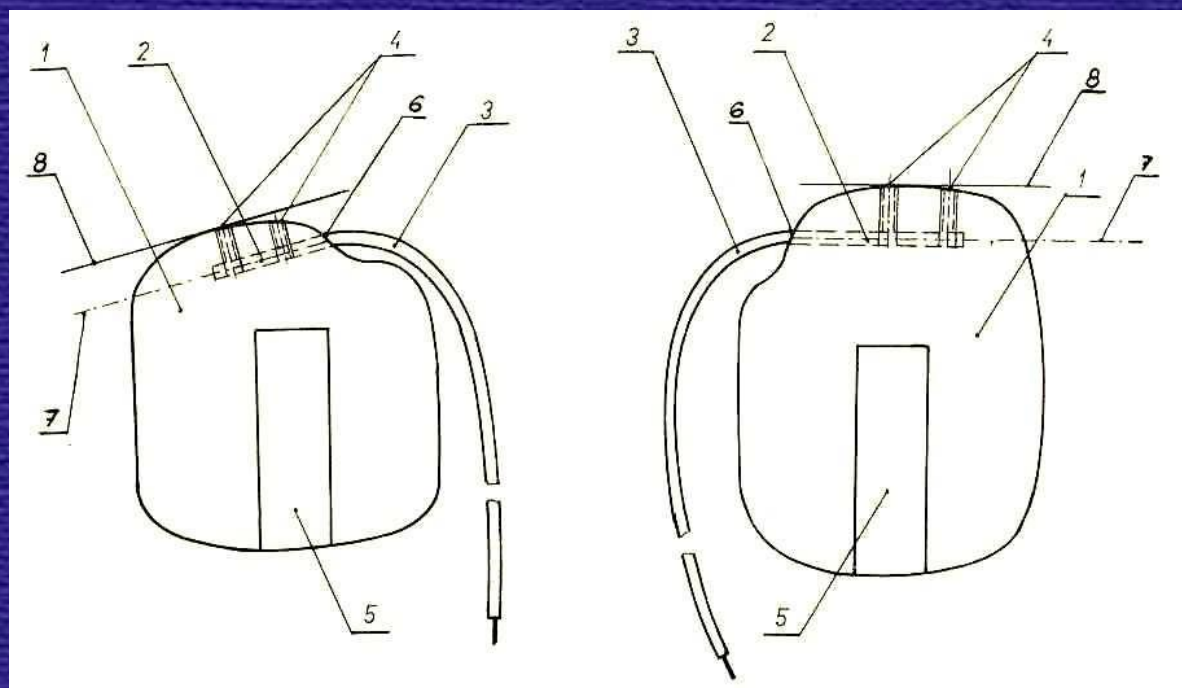


PATENTOVÁ LISTINA

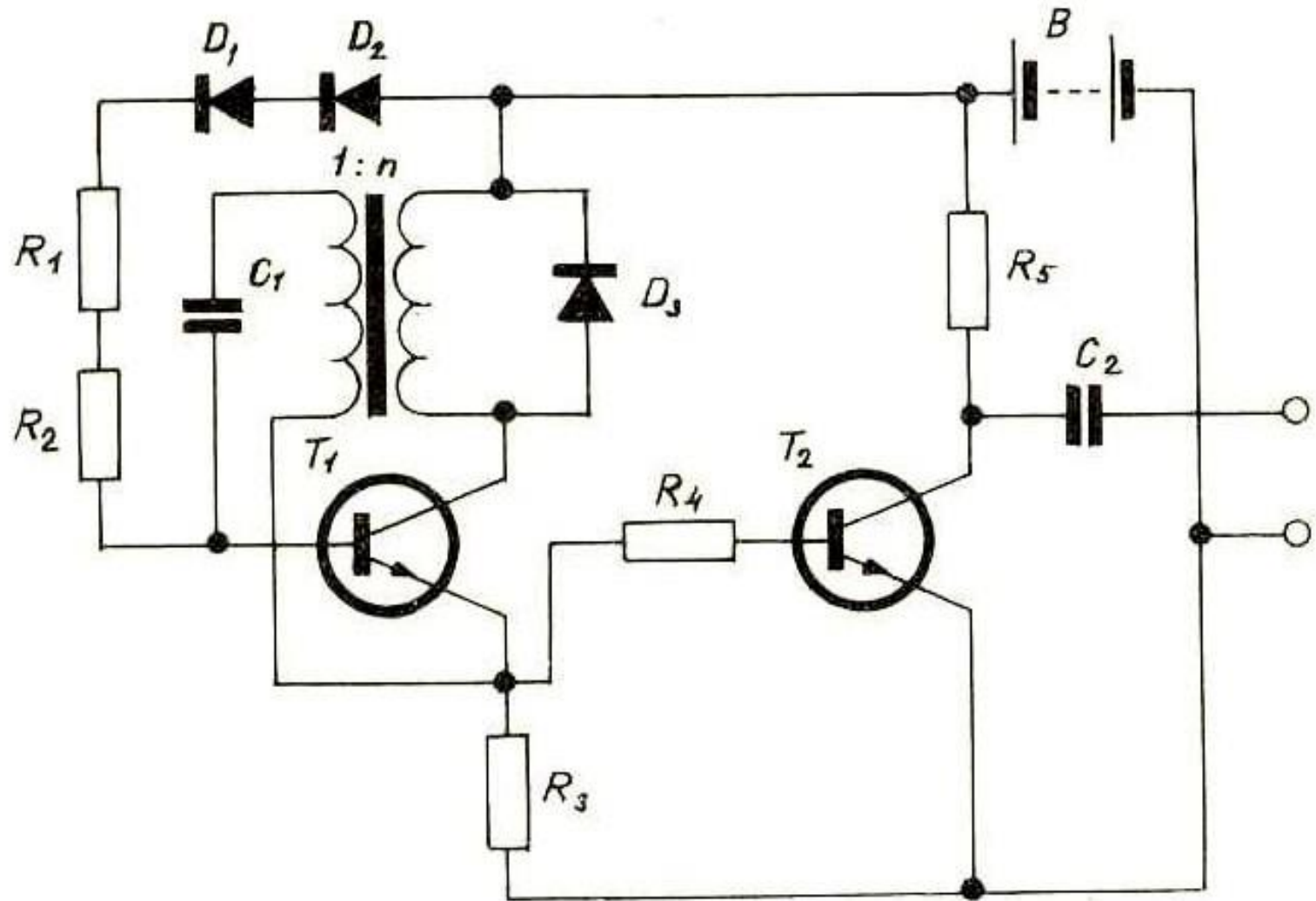
ČÍSLO 1 2 4 9 0 1

ÚŘAD PRO PATENTY A VYNÁLEZY V PRAZE UDĚLIL PODLE § 19 ZÁKONA Č. 34/1957 Sb. PATENT NA VYNÁLEZ
UVEDENÝ V PŘIPOJENÉM PATENTOVÉM SPISU

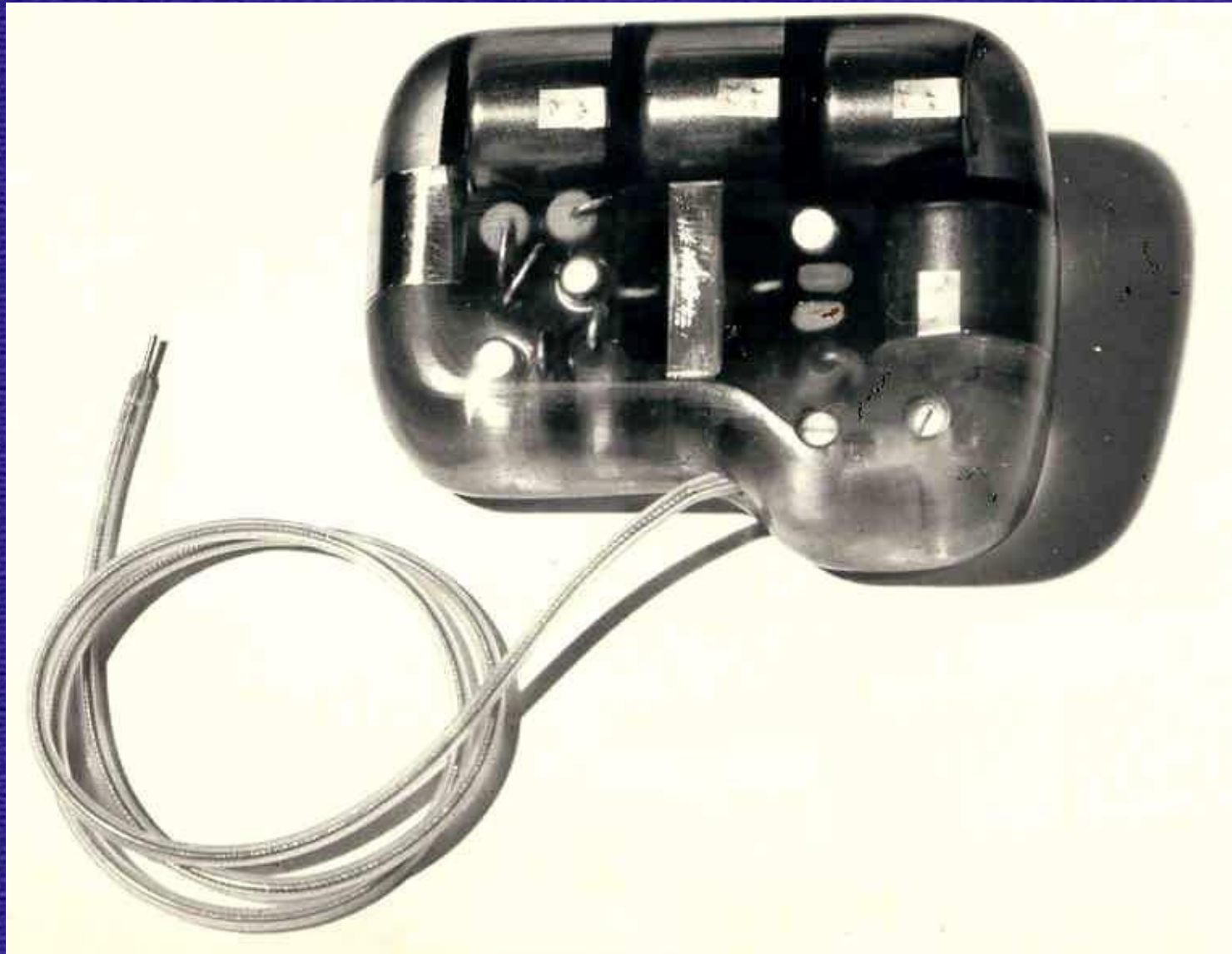
PŮVODCE VYNÁLEZU: Doc.MUDr.Bohumil Peleška, Praha
ing.Vladimír Bičík, Nové Strašecí



V00 - circuit diagram



First RIMEM pacemaker 1965 (V00)



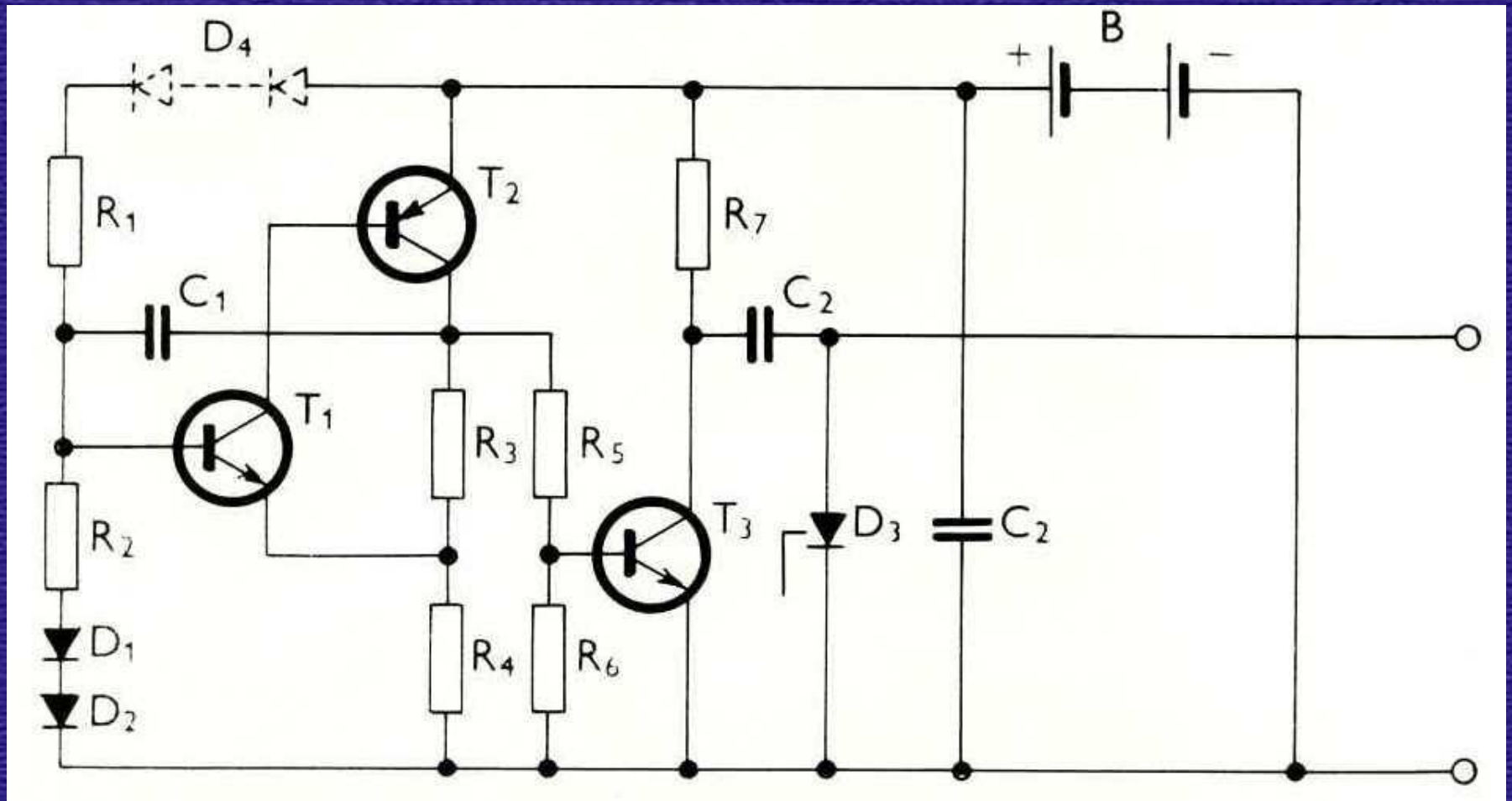
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CZECHOSLOVAK PACEMAKERS

1965 - First VOO, designed and made at RIMEM,
implanted to patient (March 1965)

*After 2 years of perfect function replaced
preventively.*

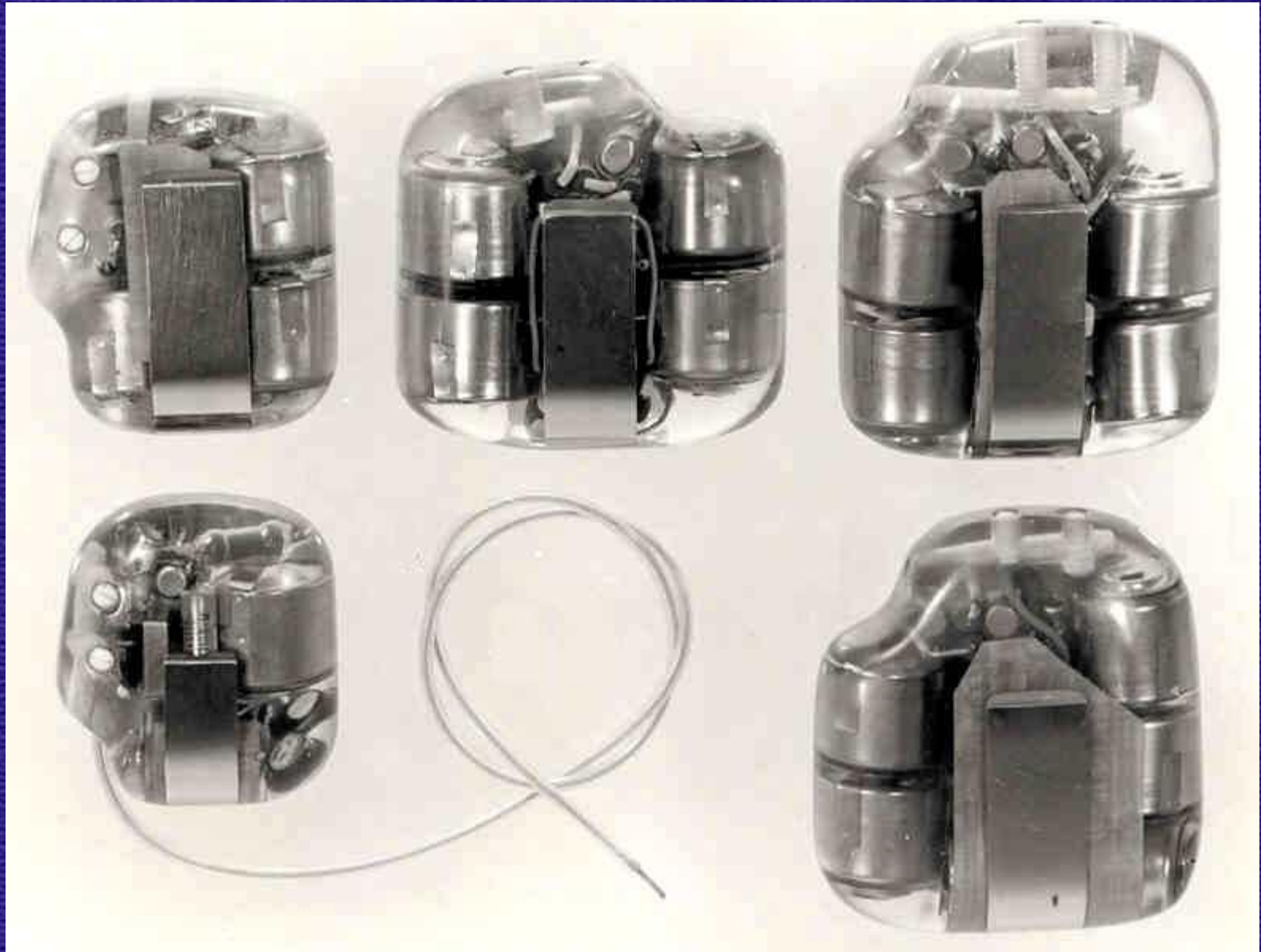
Circuit diagram RIMEM V00



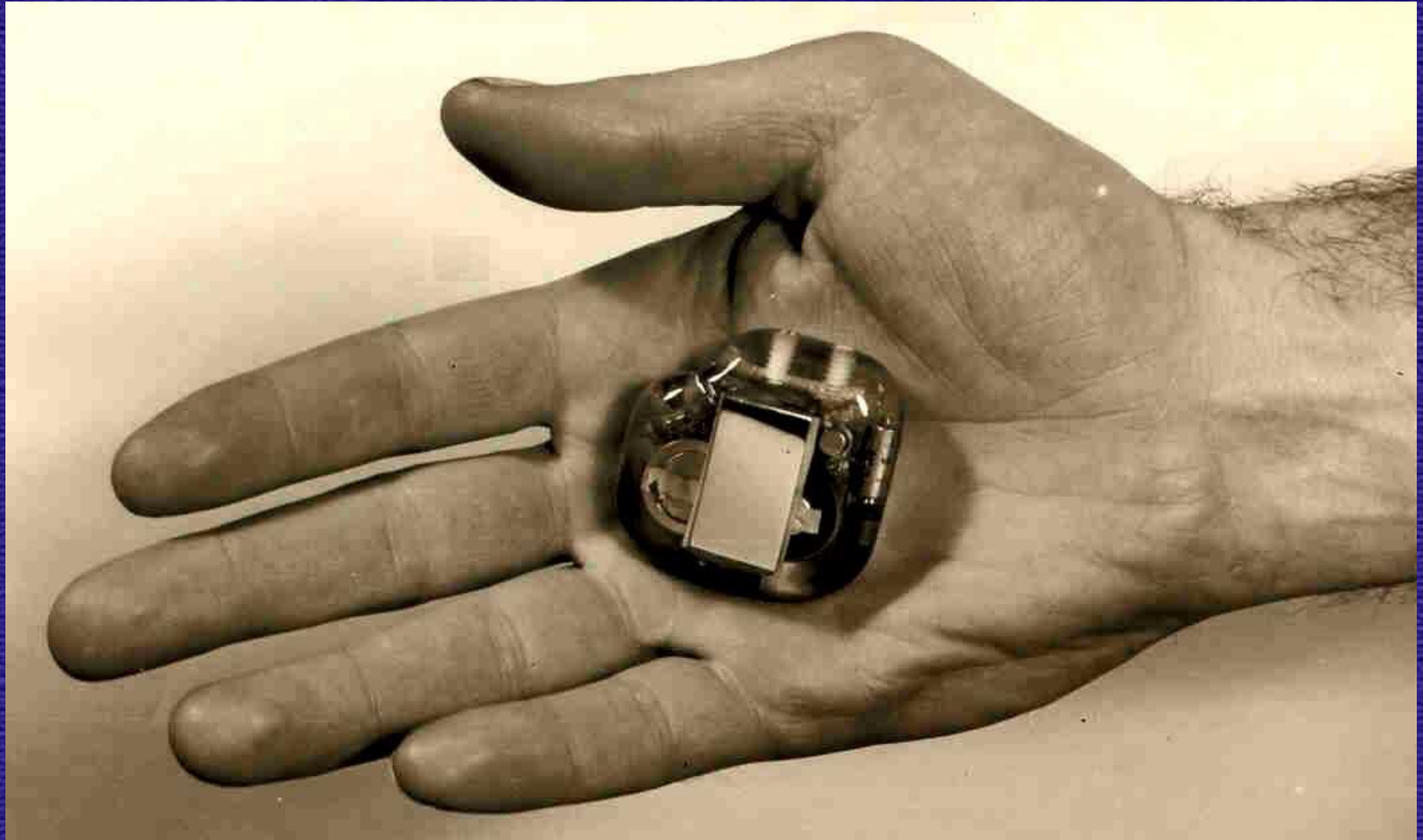
Bipolar electrode - experimental sample



RIMEM V00 pacemakers



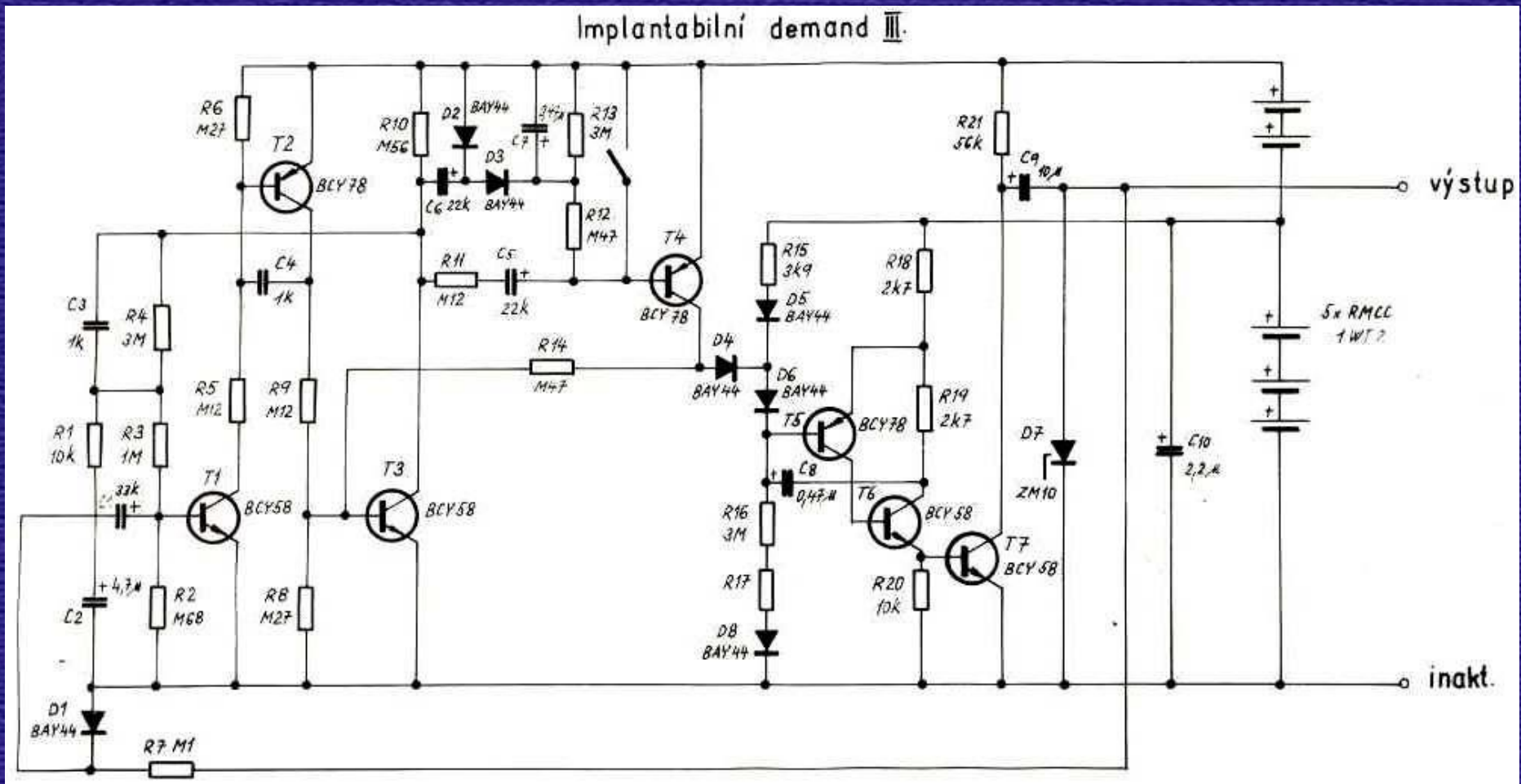
RIMEM PEDIATRIC V00 (2 cells)



RIMEM „HIGH-POWER“ V00 (7 cells)

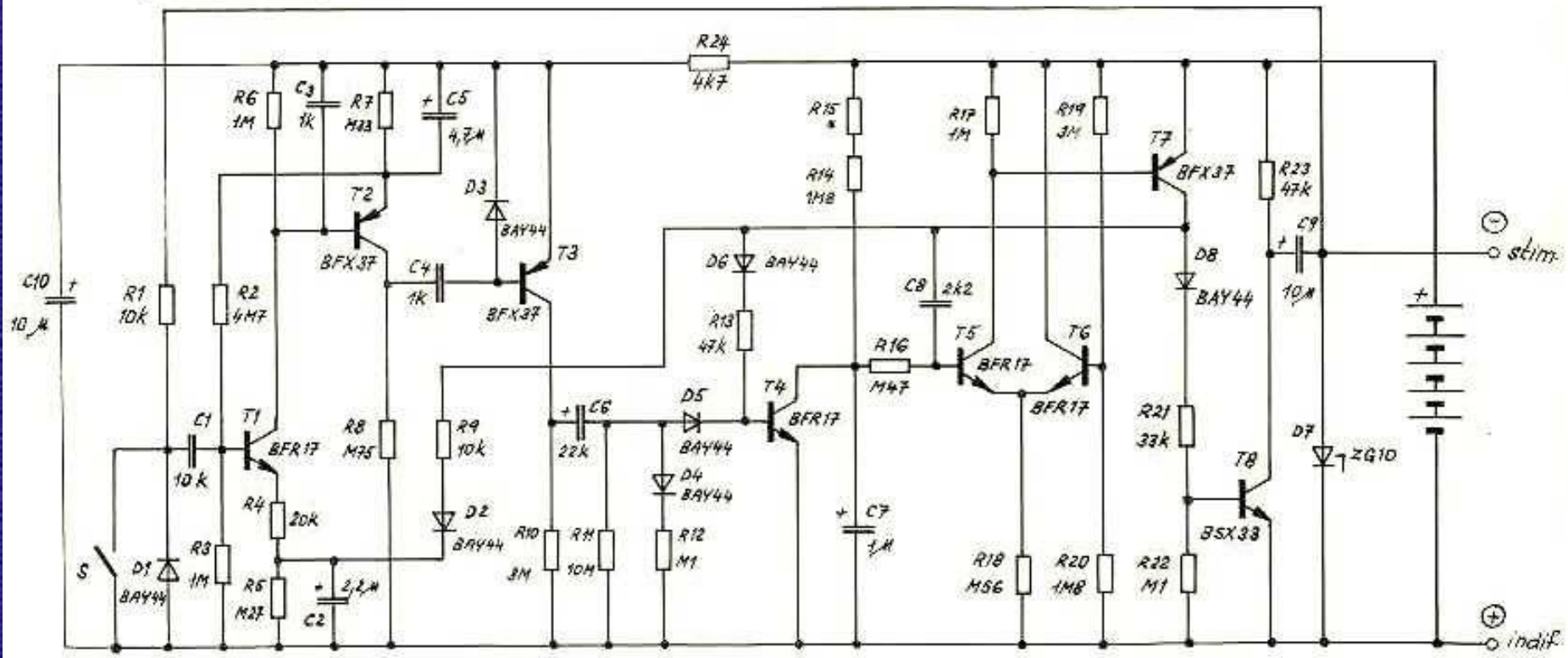


Circuit diagram RIMEM VVI (Ver. 3)



Circuit diagram RIMEM VVI (Ver. 4)

Demand IV



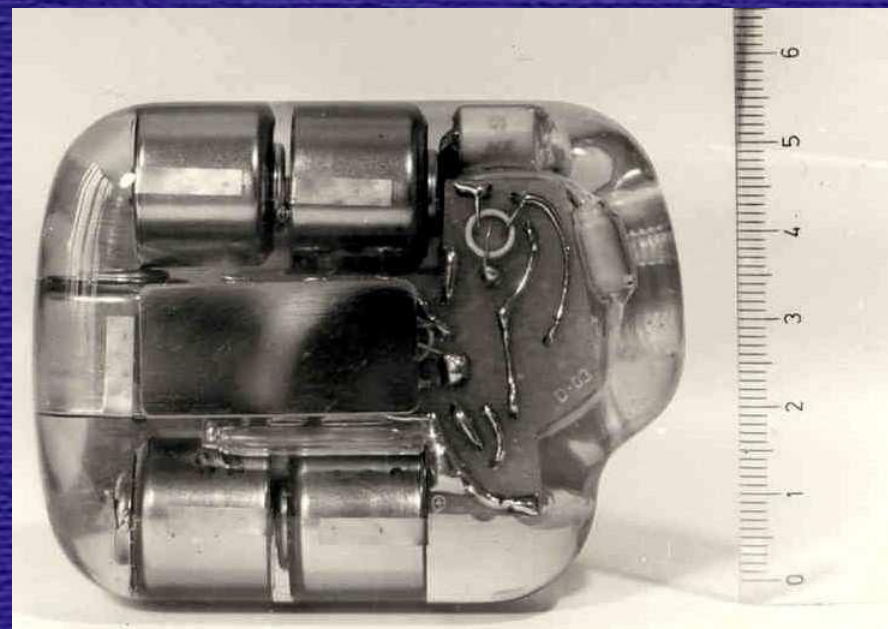
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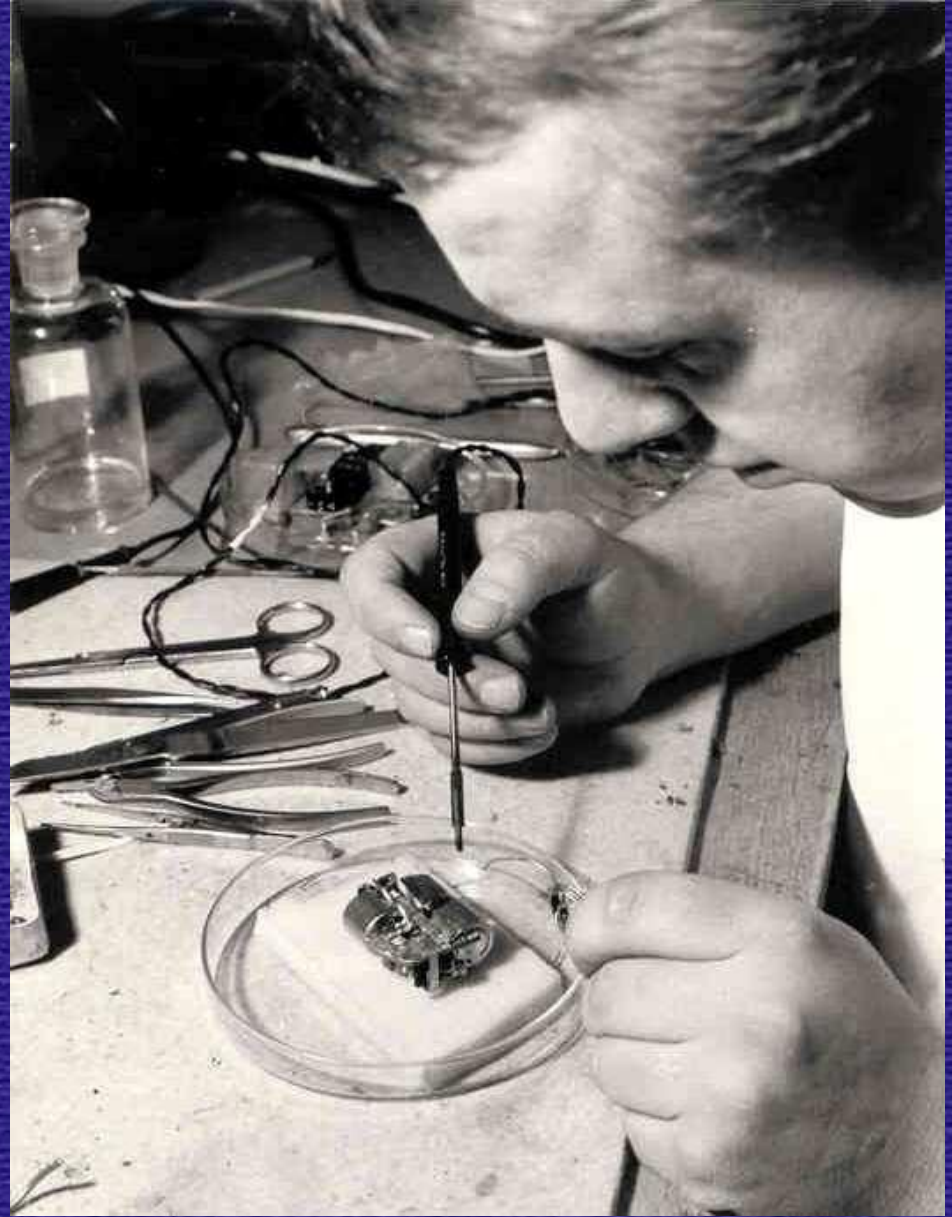
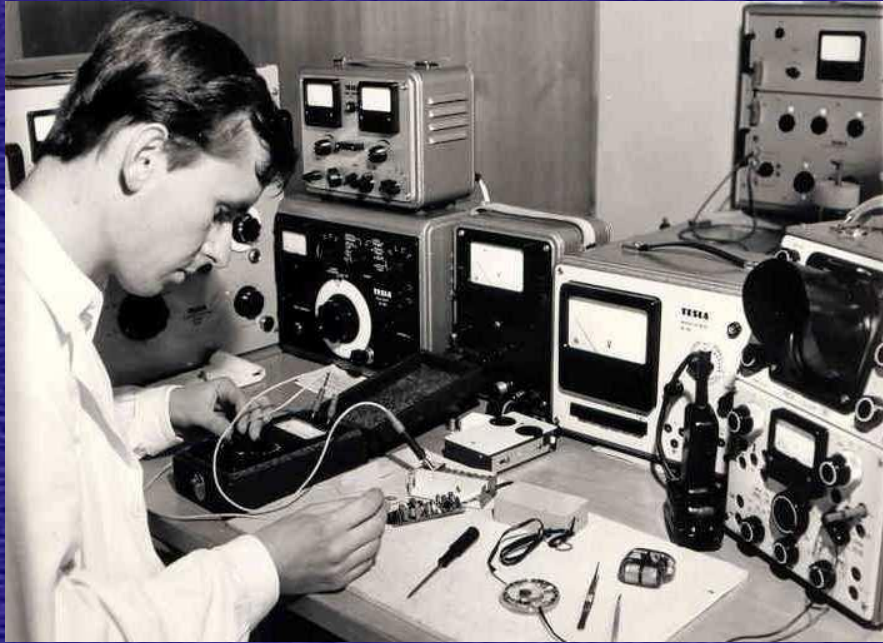
CZECHOSLOVAK PACEMAKERS

1969 - First VVI implanted, designed and made at RIMEM

1972 - Outset of industrial production at TESLA Valašské Meziříčí

RIMEM VVI (1968)





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**EXPERIMENTAL
PRODUCTION
DEPARTMENT of RIMEM**

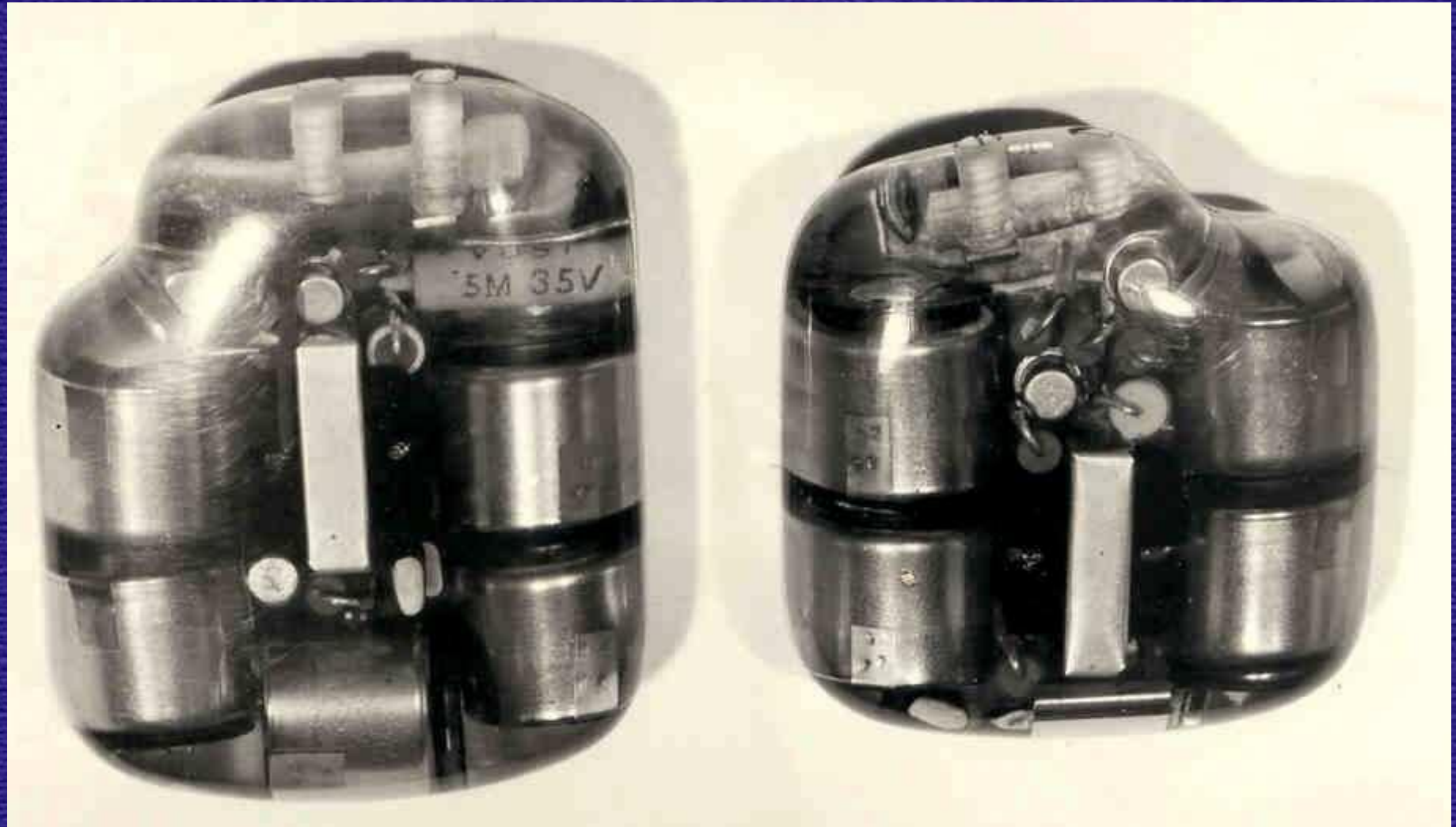
Production: over 3000 implantable pacemakers
(VOO and VVI)

Development: Ing. Vladimír Bičík, Ing. Miroslav Netušil,
Ing. Antonín Grošpic, Ing. Zdeněk Hýža

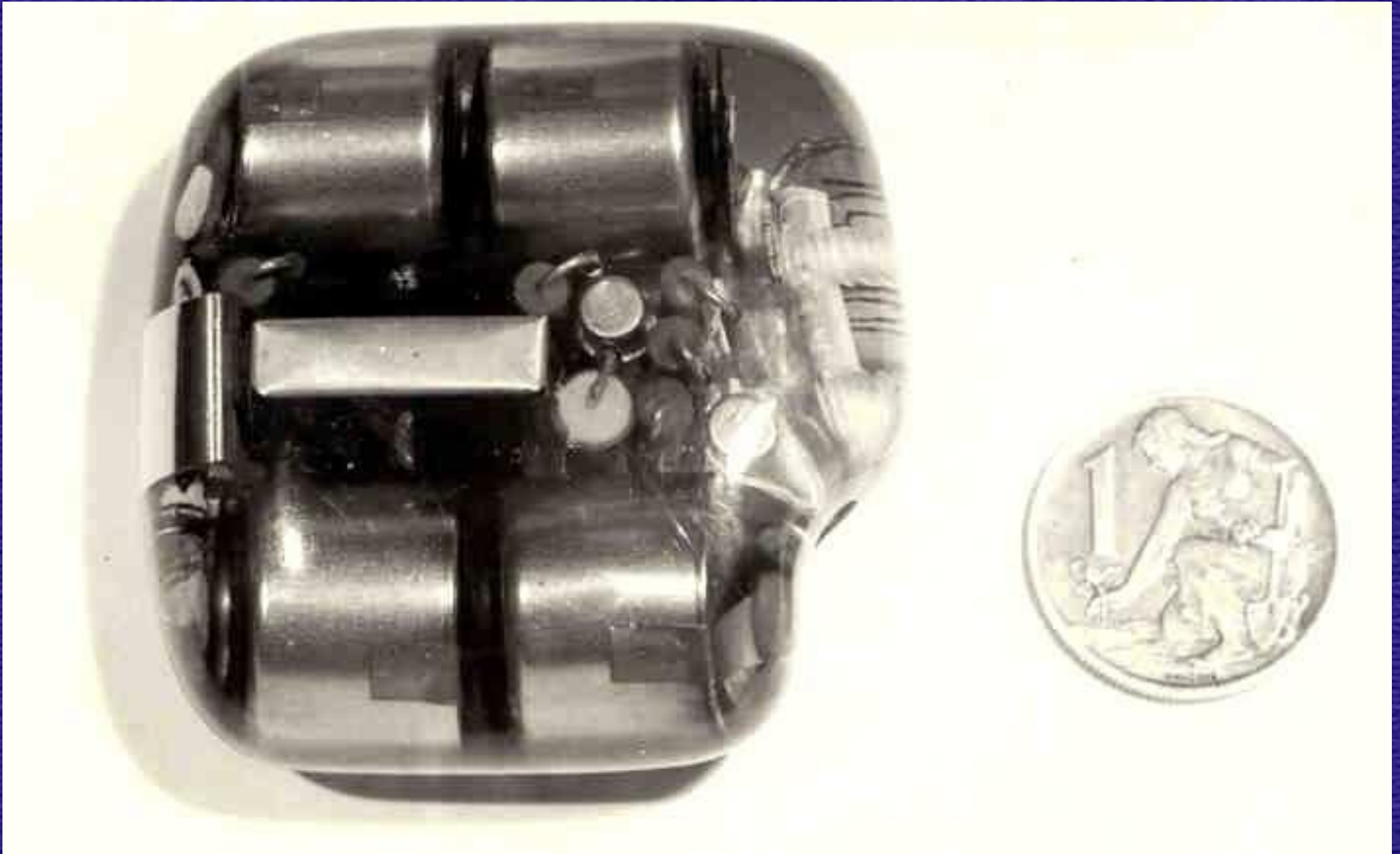
Design: Alexander Mach, Jiří Jelínek, Miloš Strnad

Production: Ing. Antonín Kravka, Ing. Josef Pohanka,
Ing. Arnošt Dobsa

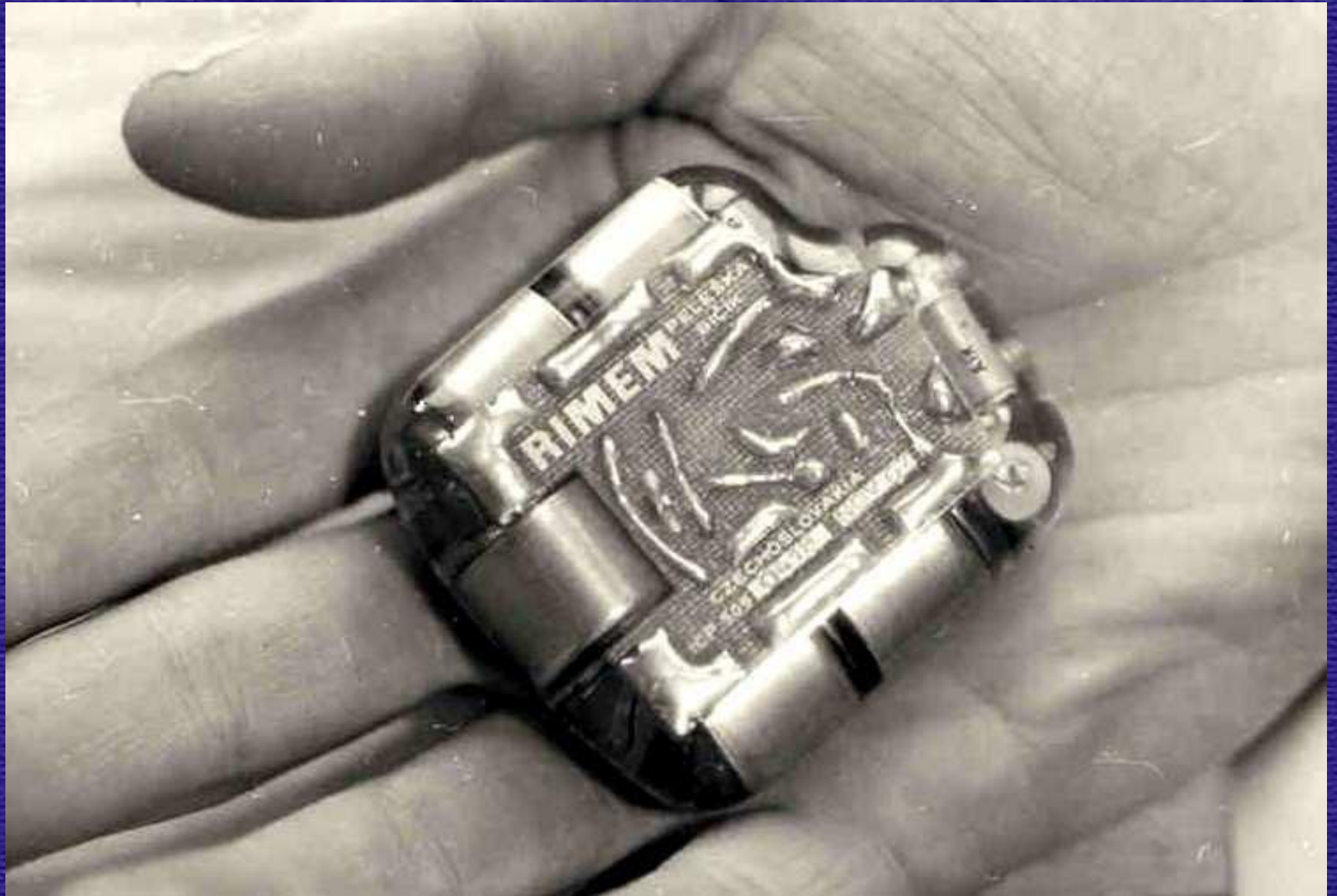
RIMEM pacemakers (V00)



RIMEM pacemaker (V00)



RIMEM V00 (1967)



**Electronic circuits sealed in plastic box
RIMEM V00 (1972)**



**STIMOKARD
TESLA**

PELEŠKA - BIČIK

TEST	5,2V	7,7ms	790/min
	28	11	1965





PACEMAKER
FIXED RATE

LSK 105

No: 800170

TESLA

MADE IN CZECHOSLOVAKIA





PACEMAKER
FIXED RATE

LSK 112

No. 780190

TESLA



MADE IN CZECHOSLOVAKIA



PACEMAKER

ON DEMAND

THIS SIDE OUT

LSK 201

No. 811315

TESLA



MADE IN CZECHOSLOVAKIA



PACEMAKER

LSK 300

TESLA



MADE IN CZECHOSLOVAKIA





PACEMAKER

LSK 350

SK: 840062

TESLA



ZECHEŠŤOVANIA

MADE IN



PACEMAKER

VVI

LSK 365

SN: 910422

TESLA



MADE IN CZECHOSLOVAKIA



UNI
1S-1

PULSE

GENERATOR

VK 375

SN: 920040

VVI

TESLA

VALASSKE MEZIRICI
CZECHOSLOVAKIA



UNI
15-1

MULTIPROGRAMMABLE

VK 402

SN: 920035

SSIC

TESTA

VALASSKE MEZIRICI
CZECHOSLOVAKIA



TESLA



LSK 105

LSK 112

LSK 201

LSK 300

LSK 300

LSK 350

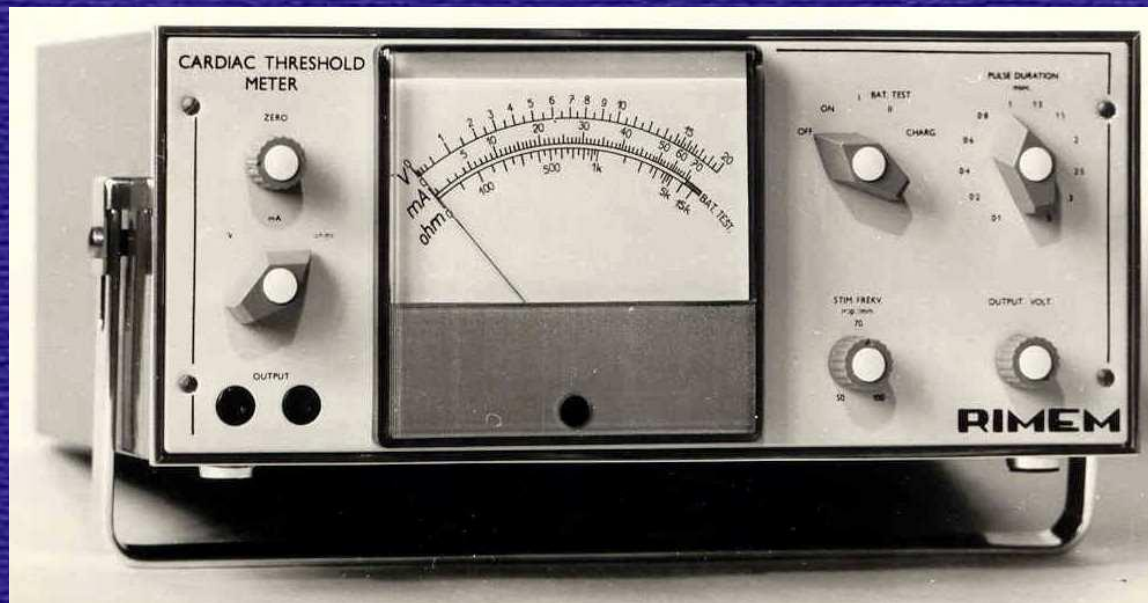
LSK 350

LSK 365

VK 375

VK 402

Auxilliary instruments



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ACKNOWLEDGEMENTS

Special thanks belong to:

Ing. M. Lidařík,
Ústav syntetických
pryskyřic, Pardubice

biocompatible epoxy resin

Mr. Hellebrand,
Válcovny trub
Chomutov

**steel material for spirals
which withstand more than
10 years of function as pacing
leads**

Mr. Kováčik,
Výzkumný ústav
kabelů a izolantů,
Bratislava

**high quality polyethylene
for pacing leads**

... and to many others

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FOUNDING FATHERS

Clinical pacing

Surgeons: Bohumil Peleška, Zdeněk Náprstek

Cardiologists: Čestmír Švorčík, Pavel Kamarýt,
Zdeněk Bělobrádek, Jaroslav Šimíček,
Julius Kasper

Technicians: Libert Malina, Zdeněk Hrdlička

...and many others

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CLINICAL PIONEERS:

Praha

(ÚKECH, IKEM): B. Peleška, Z. Náprstek, A. Jegorov
Č. Švorčík, L. Malina

(University Hospital): M. Kučera, M. Novák,
M. Pšenička

Brno

(University Hospital): P. Kamarýt, K. Zeman,
M. Novák Jr.

External pacemaker (designed by M. Vašulín) with needle electrodes, clinically used in 1960 by J. Navrátil, H. Olejník, M. Novák,

First implantation in 1963 (Elema pacemaker)

...cont.

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CLINICAL PIONEERS:

Hradec Králové: Z. Bělobrádek, J. Kvasnička
First trans-venous lead in 1967

Olomouc: J. Lukl, B. Černošek

Ostrava: J. Šimíček, A. Káňa,
T. Minařík, M. Štípal

Ústí nad Labem: J. Nebáznivý

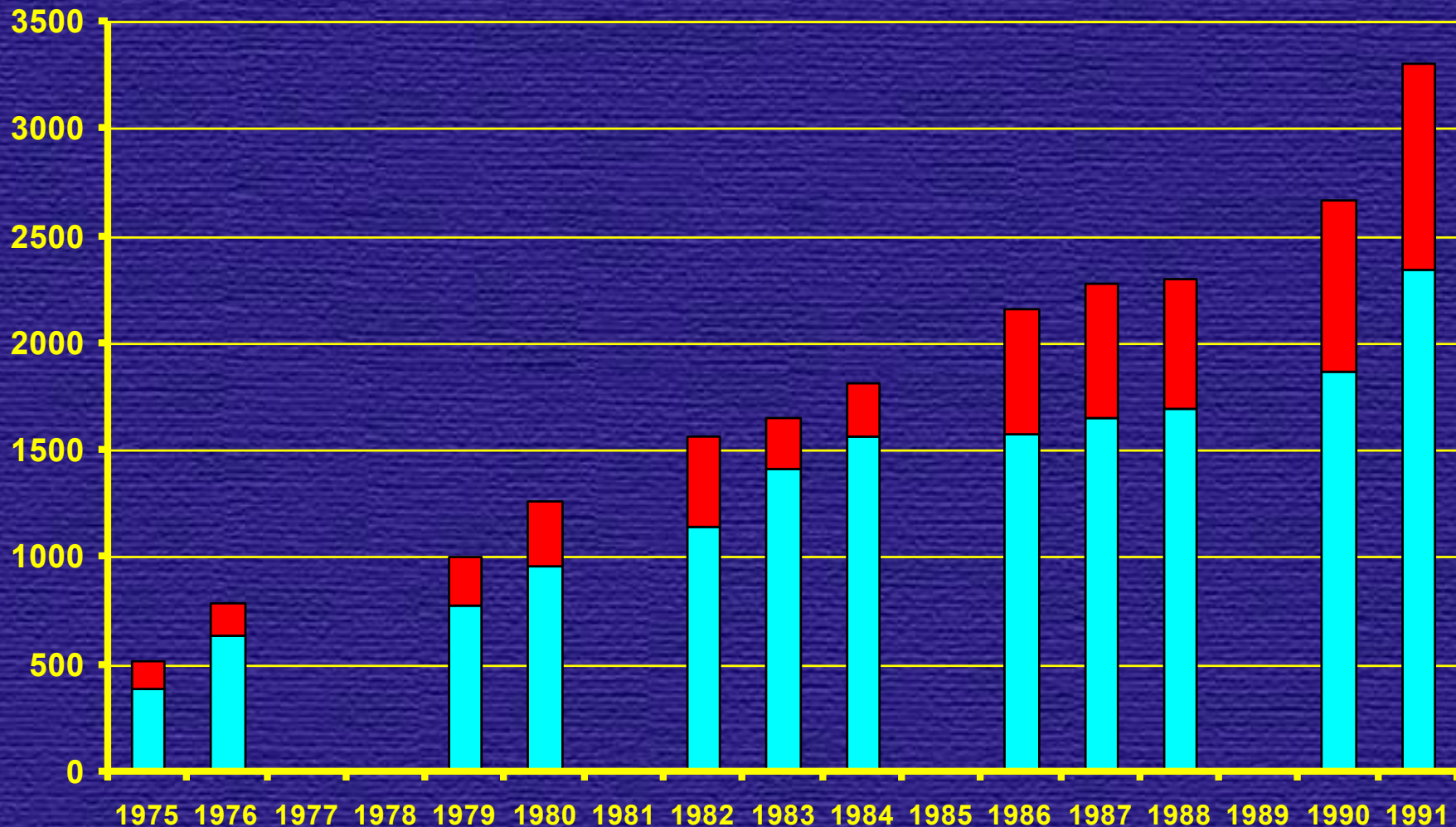
Bratislava: J. Kasper

(at University and County Hospitals)

...and many others

CARDIAC PACING IN CZECHOSLOVAKIA FIRST IMPLANTS

Patients



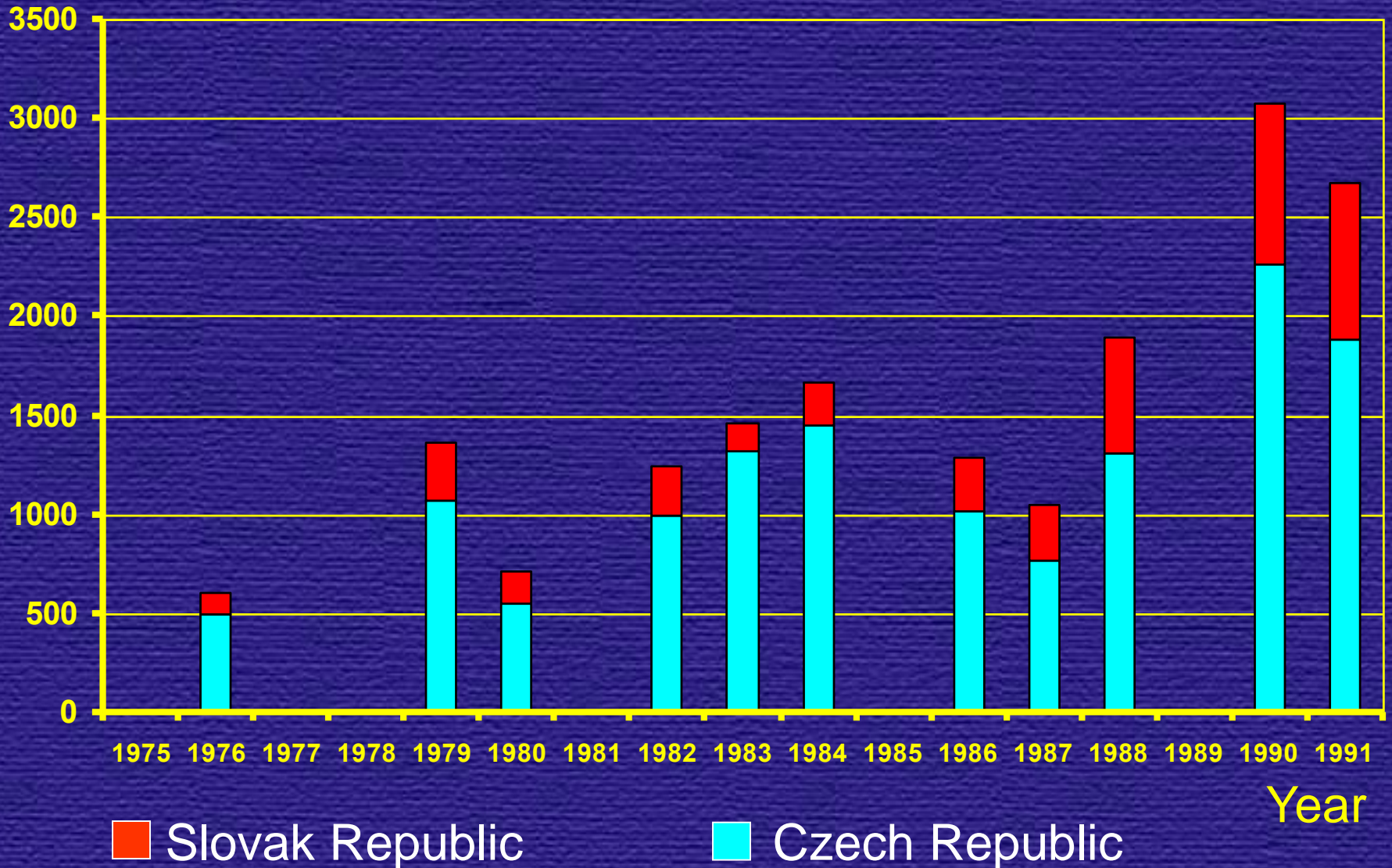
Year

■ Slovak Republic

■ Czech Republic

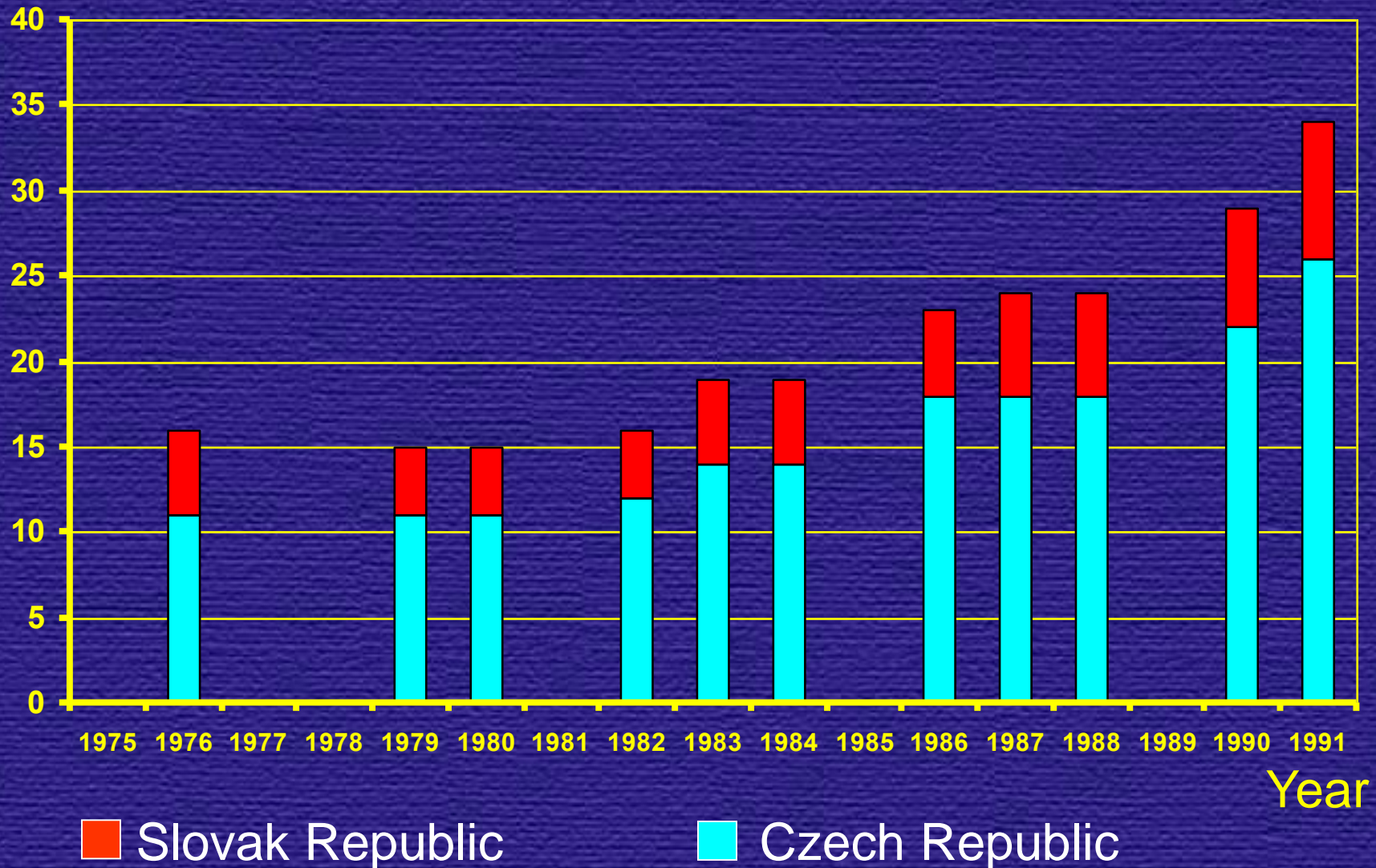
CARDIAC PACING IN CZECHOSLOVAKIA REPLACEMENTS

Patients



CARDIAC PACING IN CZECHOSLOVAKIA IMPLANTING CENTERS

Number of clinical centers



Pacemakers: TESLA LSK 200, (1969 – 1970) MEDTRONIC Micro Minix

