

Deutsches Museum

Munich, Germany UNIVAC Collection

By Keith Myhre – August 2026

BACKGROUND

The Deutsches Museum in Munich, Germany has the last/only UNIVAC I computer of the 46 that were manufactured at the UNIVAC facilities in Pennsylvania.

I visited the Deutsches Museum in July 2026, along with my grandson and late wife Tricia's niece and family, during a two-week driving tour of Bavaria. I made a point of staying two nights in Ulm (west of Munich on the Danube River) to check out the changes over the past 50 years. In 1976/77 I was on temporary assignment in Ulm as a Sperry UNIVAC system engineer, working with AEG-Telefunken to define the command & control computer system for the German Navy's F-122 frigate.

A month before our visit I had arranged to meet with Dr. Carola Dahlke, the curator of the museum's Computer Science & Cryptology Department.

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MUSEUM IN MUNICH

The Deutsches Museum is undergoing an eight-year renovation, so their computer collection is currently in off-site storage.





Dr. Carola Dahlke

Main Department of Technology
Computer Science and Cryptology Department
Curator

Address

Deutsches Museum
80306 Munich

Email c.dahlke@deutsches-museum.de 

Cryptography

Dr. Dahlke gave the six of us a one-hour tour of “her” cryptographic equipment (she has a master’s and PhD in cryptography), including hands-on with a smaller, portable version of the Enigma machine used by the US Army.

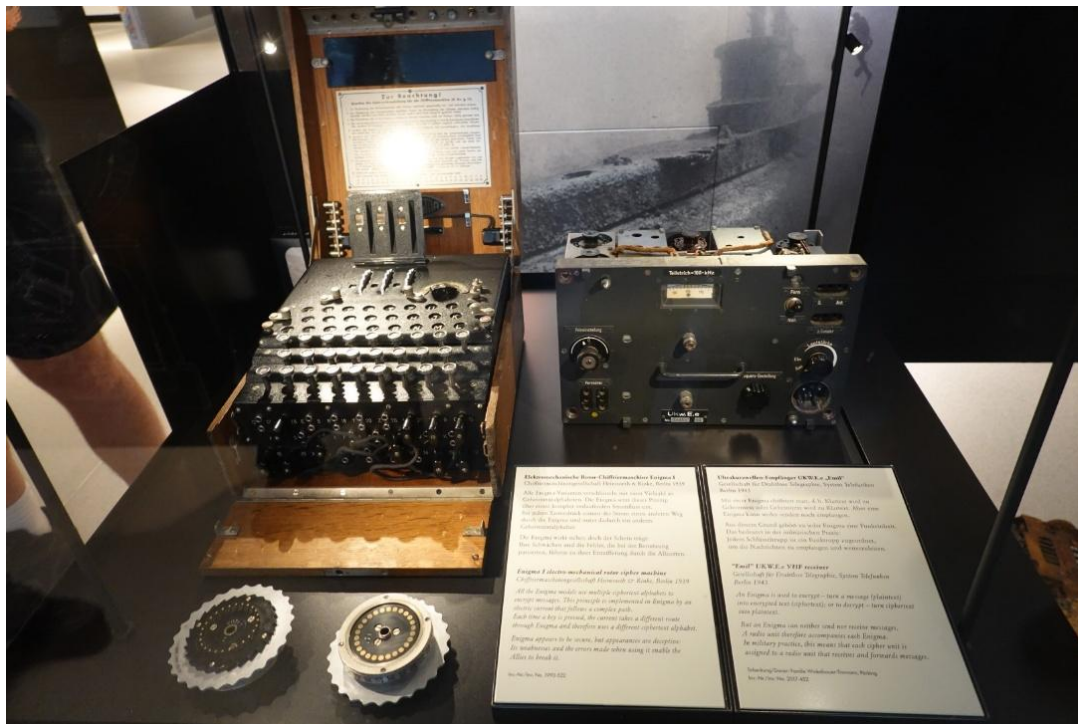


SIGNAL CORPS CIPHER MACHINE

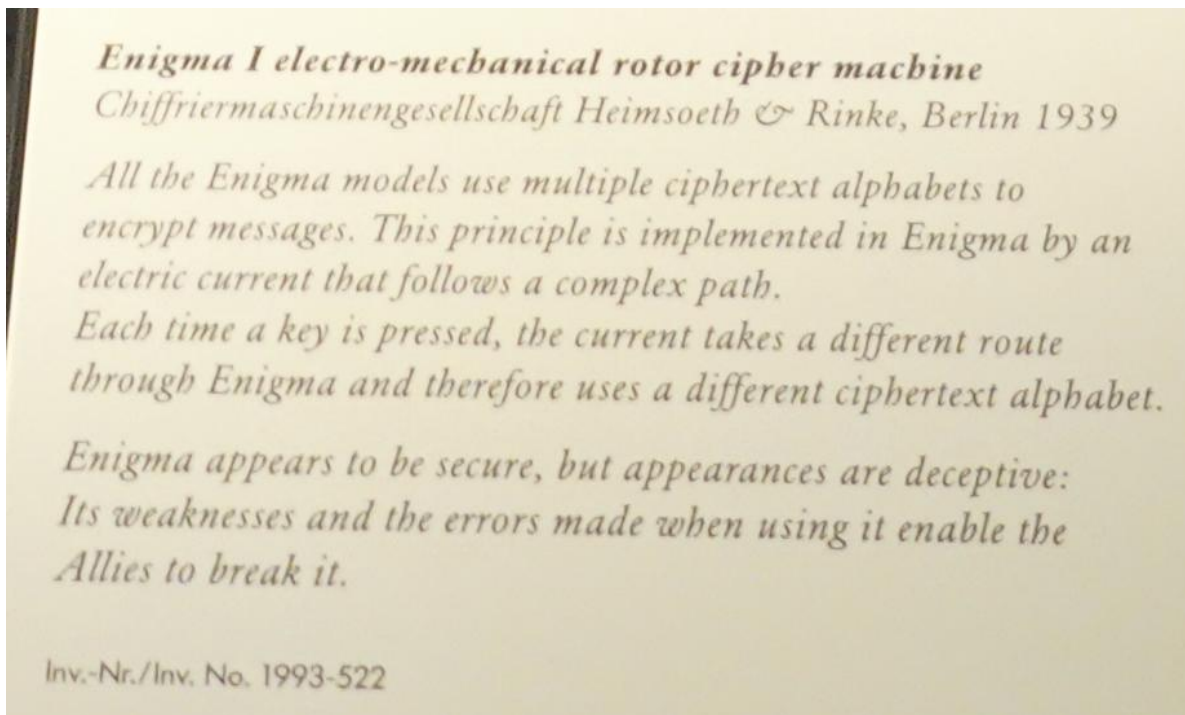
Dr. Dahlke said she could bring out an Enigma machine that I could “practice” with, but I declined.

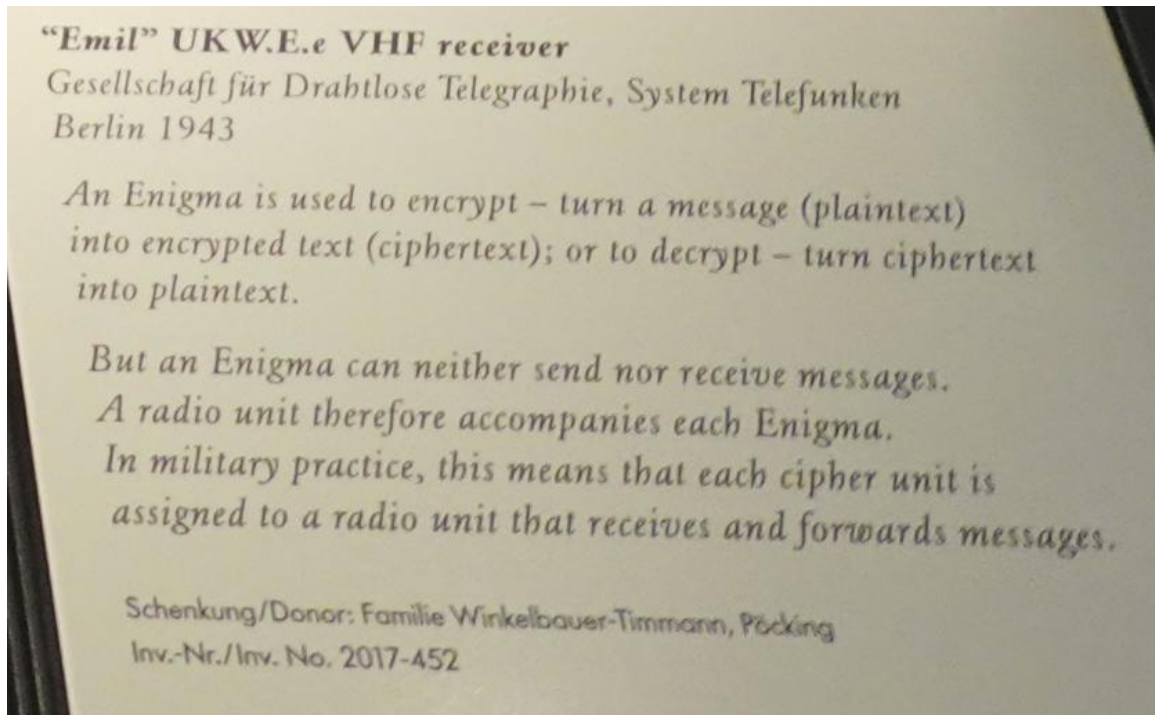


**U.S. ARMY SIGNAL CORPS PORTABLE
CIPHER MACHINE**



ENIGMA I ELECTRO-MECHANICAL ROTOR CIPHER MACHINE

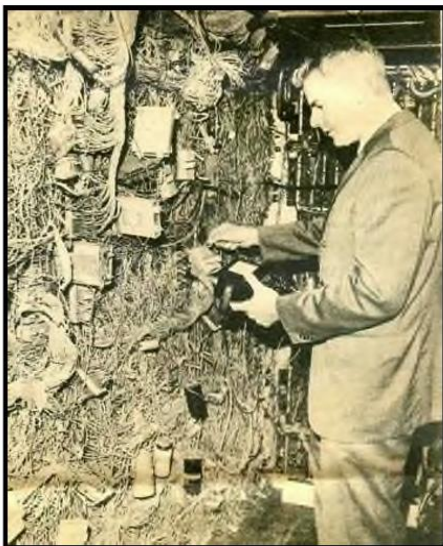




UNIVAC I

The Eckert Mauchly division of Remington Rand Corporation in Philadelphia delivered its first UNIVAC I computer to the U.S. Census Bureau in Washington, DC in March 1951. The last one, Serial number 46, was manufactured in 1958. <https://vipclubmn.org/EngDocImg/CommCustomers.pdf>

Serial number 16 was shipped to the St. Paul Minnehaha Ave. facility in January 1955 where it became the prototype for the UNIVAC II computer. Rollie Arndt was one of the engineers who designed and implemented a core memory to replace some of the 7 long and sixteen short mercury tanks of the UNIVAC I.



Rollie Arndt inside the computer.



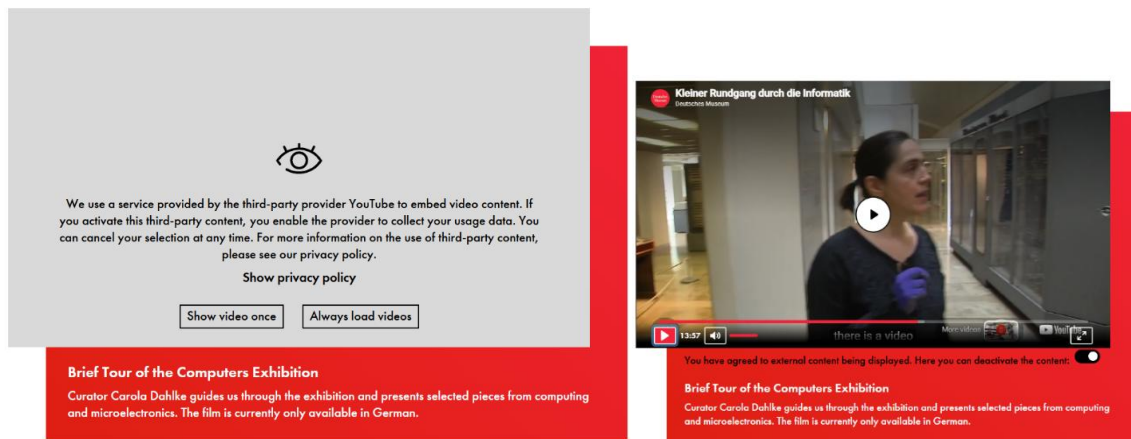
A UNIVAC I at work at the Census Bureau.

Allan Reiter's web site page documented this information on page 16, saved on the UNIVAC VIP Club website as http://vipclubmn.org/Articles/UNIVAC_I_Technical.pdf.

Click on this URL to view a video tour of the Munich Museum's Computers Exhibition produced before the computer exhibits were removed due to renovation:

<https://www.deutsches-museum.de/en/museumsinsel/ausstellung/computers>

Scroll down until you see this image.



Click on "Show video once" to play the video. Dr. Dahlke is the tour guide. The UNIVAC I computer clip begins at 13:57. {Editor's note: A Cray machine is toward the video end.}

Below are UNIVAC I images captured from web page titled "Computing system UNIVAC I Factronic", <https://digital.deutsches-museum.de/de/digital-catalogue/collection-object/75681/>



Computing system UNIVAC I Factronic



Photo: Deutsches Museum / Konrad Rainer, CC BY-SA 4.0

1 of 6

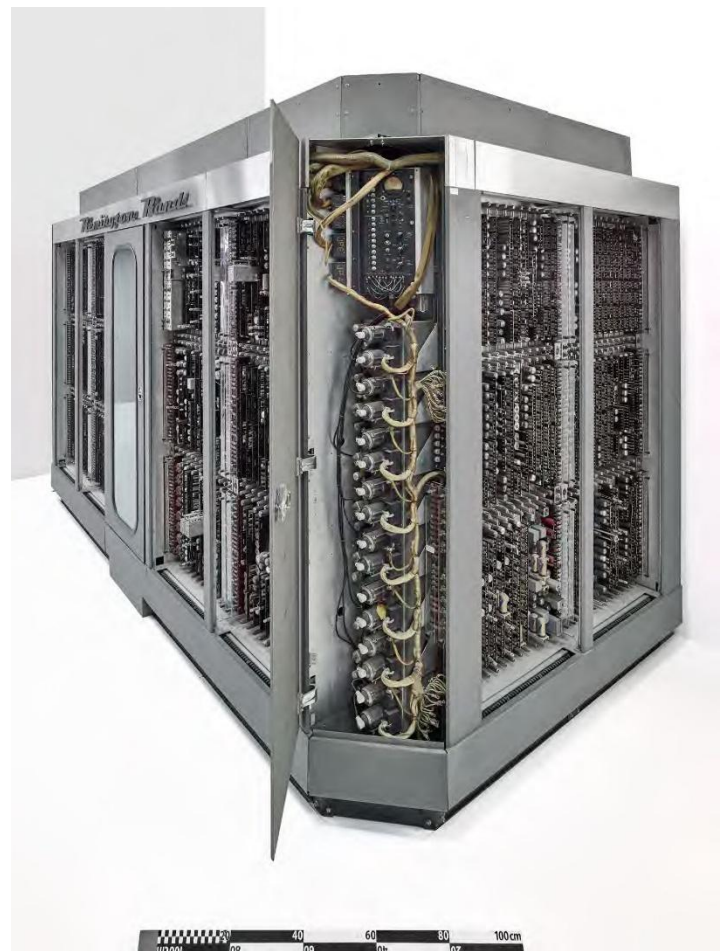
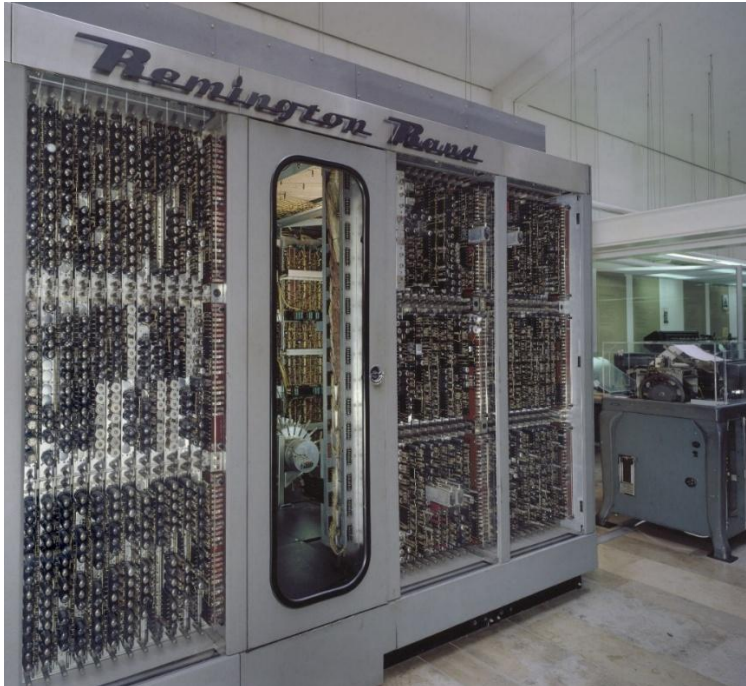
View icons

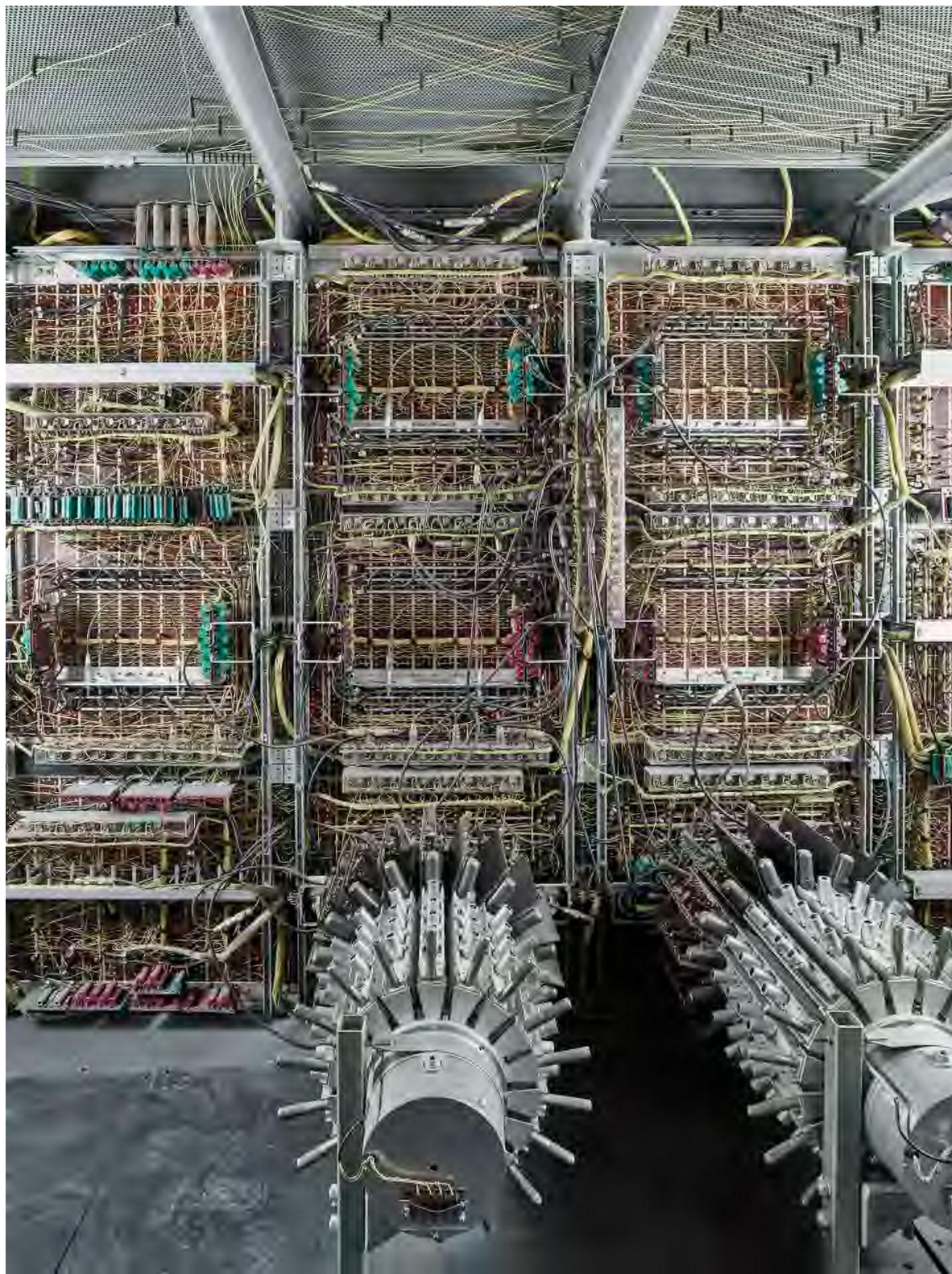
Inventory no.	75681
Systematics	422.07.02 Program Control and Universal Computers / Digital Computing Systems / Tube Computers
Accessories	Runtime memory, mercury delay line UNIVAC I (75681Z1)
Permalink	https://digital.deutsches-museum.de/item/75681
Description	With the UNIVAC I (Universal Automatic Computer) computing system, the serial construction of universal computers began. In 1949, the first example of the series was started, and in 1951 it was completed. A total of 49 plants were built, costing \$1 million each in 1957. The central unit consists of over 975,000 individual parts. The total weight is 19 tons. The number is displayed in binary-decimal according to the Stibitz code. The serial processing of the twelve decimal places is carried out in fixed point representation. There are one-address commands. The memory is mercury delay lines. 5600 tubes, 18,000 diodes and 300 relays are available. The exhibited facility worked from 19 October 1956 to 1963 at the Battelle Institute for Nuclear Physics in Frankfurt, which was closed in the mid-1990s.

Data | [Download](#) | [Contact Now](#)

Participants	Production: Remington Rand
Locations	Production: Philadelphia
Dating	Manufacture: 1956
Labeling	Inscription: Remington Rand
Dimensions	Weight: 5355 kg total, according to Philip Mandy
Literature	- Bauer, Friedrich L. (Hrsg.): Informatik. Guide through the exhibition (exhibition catalogue Deutsches Museum). With the participation of Erhard Anthes, Joachim Fischer, Menso Folkerts, Ulf Hashagen, Alfred Krösa, Hartmut Petzold, Ivo Schneider and Heinz Zemanek. New edition Munich 2004, p. 177, fig. 178 (BVB) - Beauchair, Wilfried de: Rechnen mit Maschinen. Eine Bildgeschichte der Rechentechnik. Braunschweig 1968. p. 124f., fig. 124 (BVB) - Bruderer, Herbert: Meilensteine der Rechentechnik. Zur Geschichte der Mathematik und Informatik. Berlin and Boston 2015, p. 280 (BVB) - Schlombs, Corinna: Der Univac. An international masterpiece of electronic data processing. In: Kultur & Technik 32 (2008), H. 1, S. 24-29 (BVB, Full text)
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OTHER ITEMS

The Deutsche Museum has several other UNIVAC items in its collection beyond the UNIVAC I computer.

Hit list

UNIVAC



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in ☒ Collection ☒ Library ☒ Archive

Sorted by Relevance ▼

☒ Ascending/descending ☐ with pictures ☐ with 3D model [Reset filters](#)

8 search results



Runtime memory, mercury delay line UNIVAC I

From: -
Date: -

Offprints and lectures

By: Neue Zürcher Zeitung; Swiss Federal Institute of Technology Zurich; Speiser, Ambros P.; Pfenniger, Jürg O.; Walther, Alwin; ...
Duration: 1950 - 1955
Shelfmark: NL 288/162



Computing system UNIVAC I

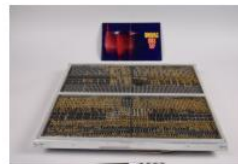
By: Remington Rand
Date: 1956

Objects in the TECHNORAMA Collection of Switzerland

By: Technorama of Switzerland; Remington Rand Inc. <Buffalo, NY>; Sperry Rand Univac <Vienna>; Zuse, Konrad
Duration: 31.12.1983
Shelfmark: NL 207/2021

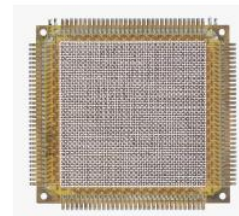
Remington-Rand-GmbH: Univac Europe data center at the Batelle Institute Frankfurt/Main. Information

By: Remington-Rand-GmbH <Frankfurt am Main>; Battelle-Institut e.V. <Frankfurt am Main>
Date: undated.
Shelfmark: FA 005/1730



Pegboard from the UNIVAC 2 (or from model 1004)

From: -
Date: 1958 - 1963



Core memory level UNIVAC 1107

By: Sperry Rand Corporation
Date: from 1961



Estate of Konrad Zuse (1910-1995)

By: Bubenandt, Adolf; Ardenne, Manfred von; Hamann, Christel; Schottky, Walter; Zuse, Konrad; ...
Date: 1910
Shelfmark: NL 207

Mercury Delay Line Memory

The UNIVAC I computer utilized mercury delay lines for main memory and computational and control circuits. The mercury delay line memory was contained in seven rather large mercury tanks called long tanks. Each tank contained eighteen 10-word channels. Each channel was a horizontal column of mercury with sending and receiving piezoelectric quartz crystals in physical contact with each end of a column of mercury. The channels were separated by metal tubes, which acted as wave guides as the data bits moved through the mercury. This Computer History Museum (<https://computerhistory.org/>) video describes its operation: https://www.youtube.com/watch?v=kignGE77l_I

Runtime memory, mercury delay line UNIVAC I

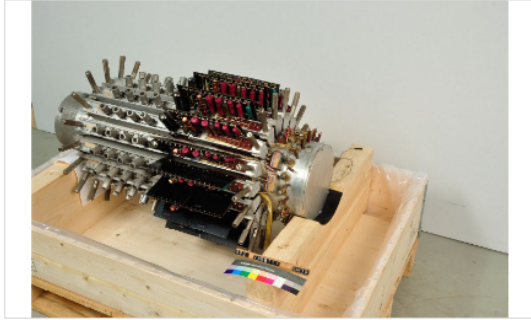


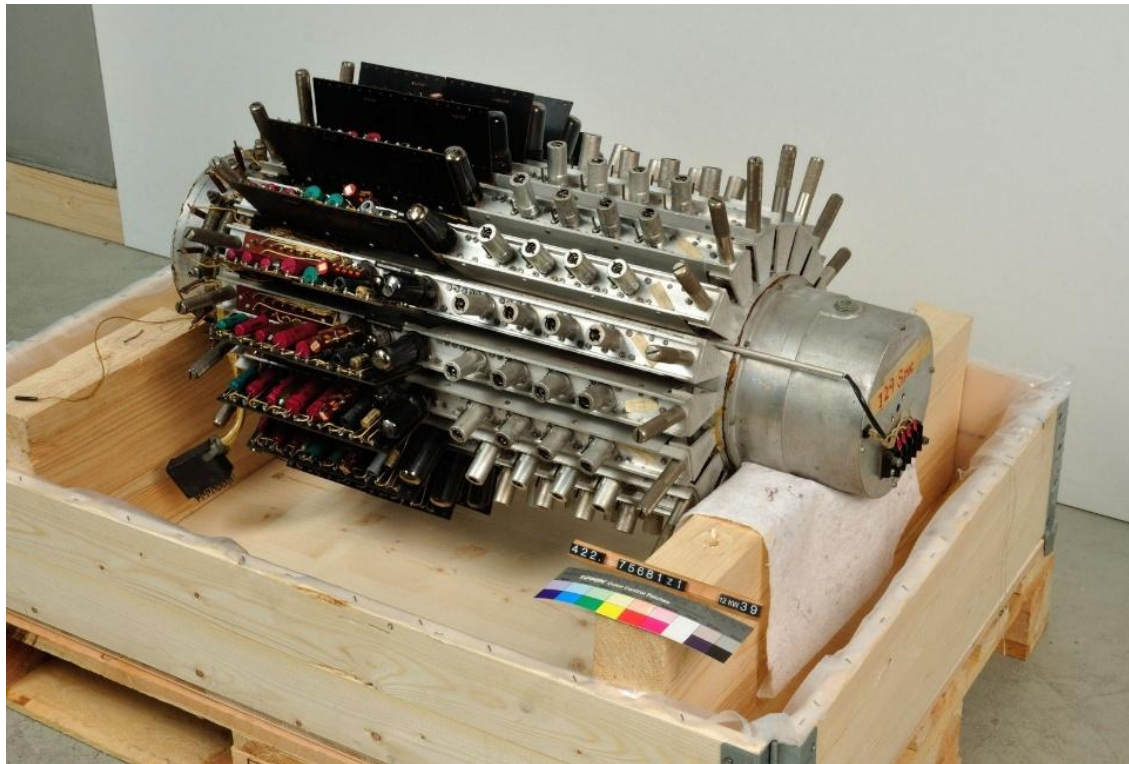
Photo: Deutsches Museum / Sigmund Wimmer, CC BY-SA 4.0

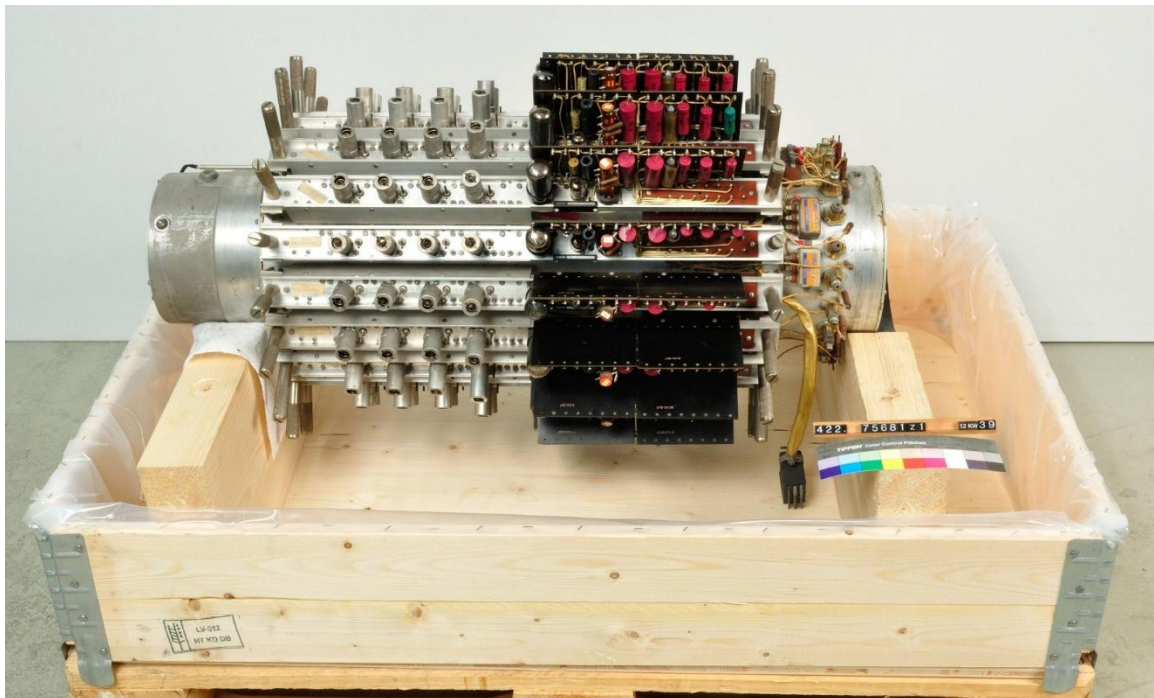
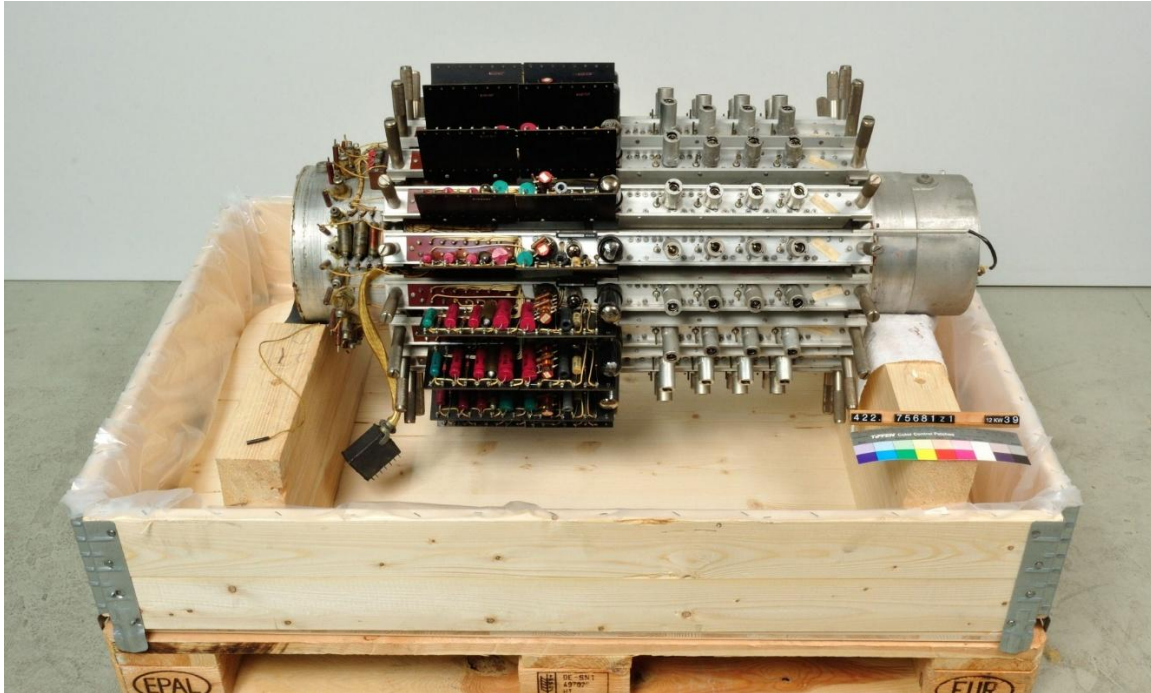
1 of 6

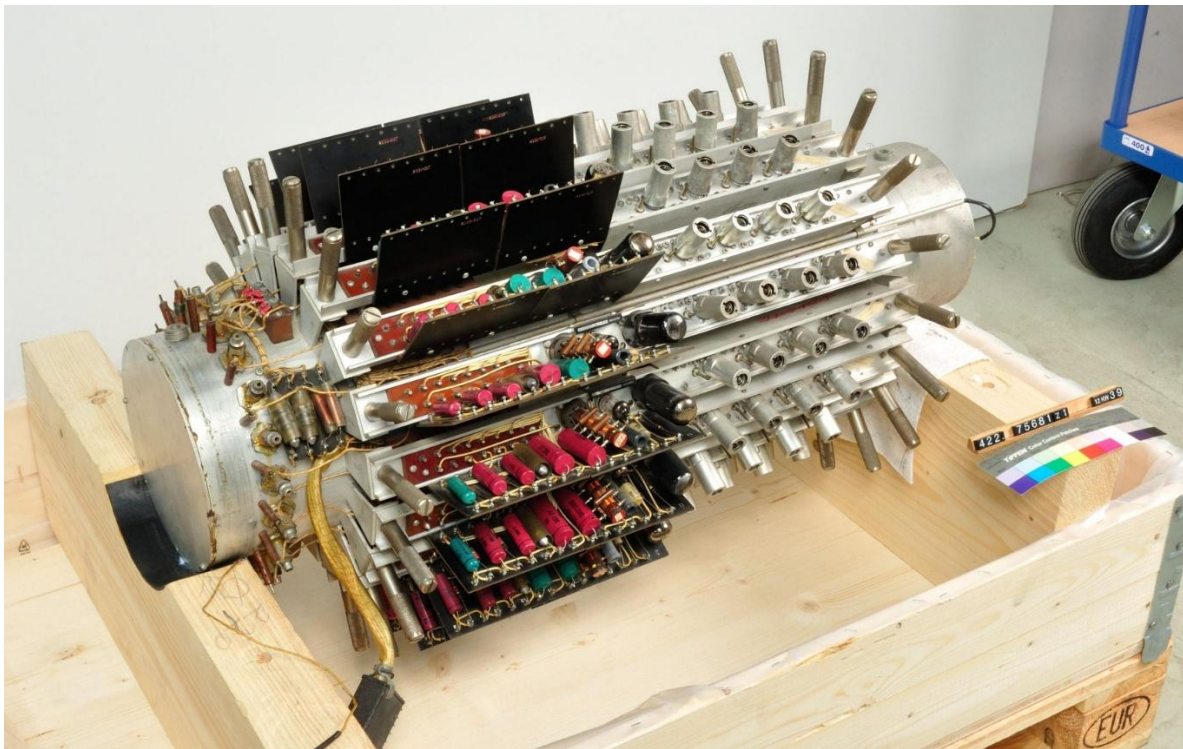
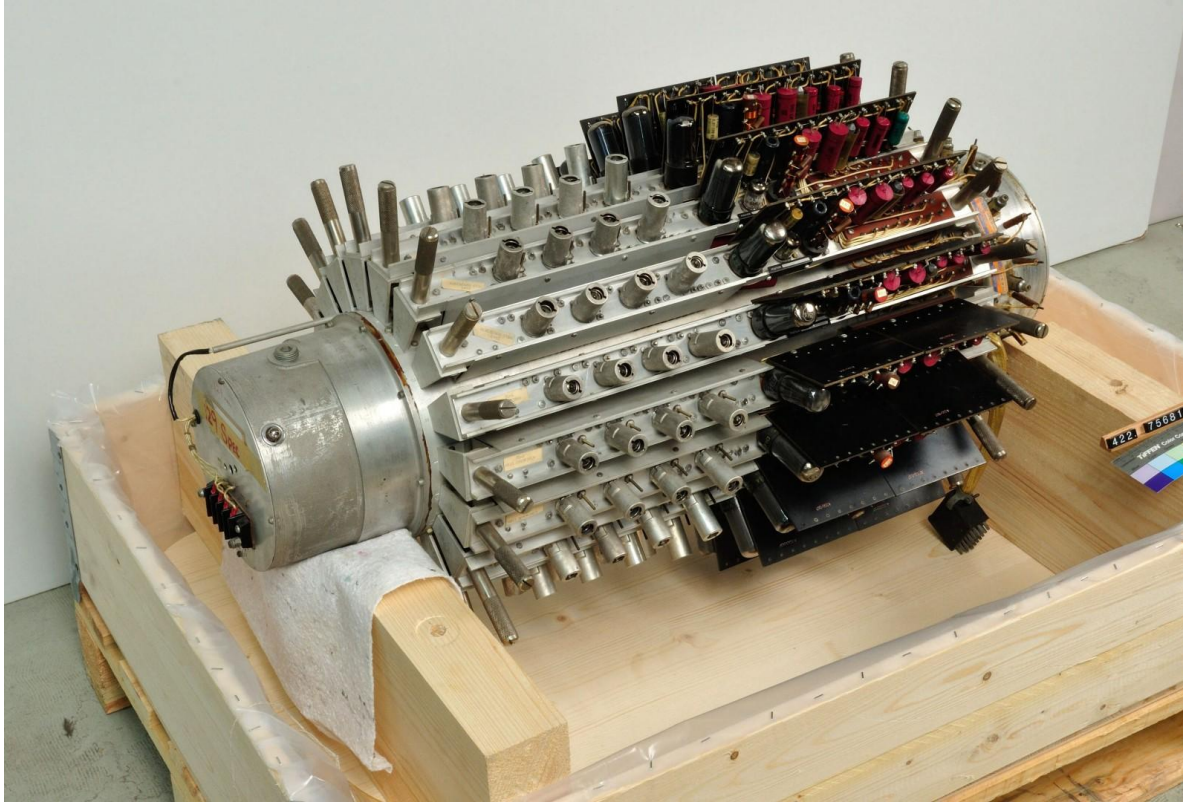
View icons

Data | [Download](#) | [Contact Now](#)

Material	Metal Wood
Dimensions	Dimensions: 60 kg Object dimensions (H/L x D): estimated 900 x 500 mm Object dimensions (H x W x L/D): 960 x 830 x 1190 mm (total dimensions incl. packaging) Dimensions: estimated 150 kg (total dimensions)
Literature	Bauer, Friedrich L. (Hrsg.): Informatik. Guide through the exhibition (exhibition catalogue Deutsches Museum). With the participation of Erhard Anthes, Joachim Fischer, Menso Folkerts, Ulf Hashagen, Alfred Krösa, Hartmut Petzold, Ivo Schneider and Heinz Zemanek. New edition, Munich 2004, p. 198 (BVB)
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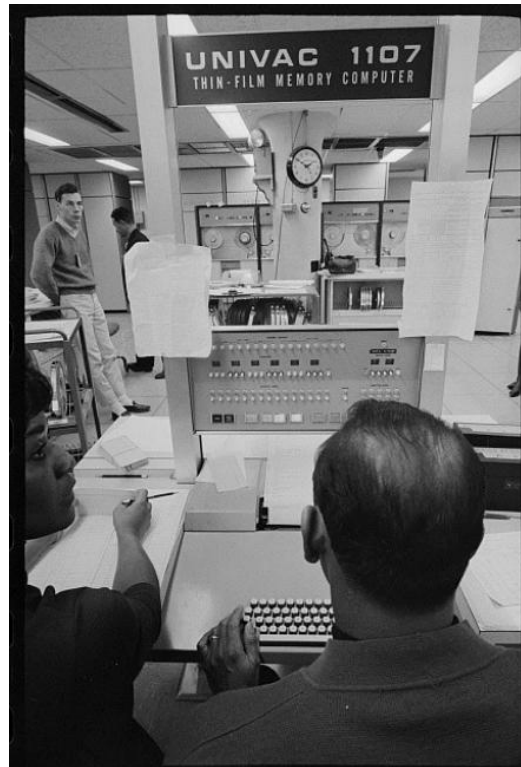




UNIVAC 1107 Thin-Film Memory Computer

The 1107 computer was the first transistorized UNIVAC computer, first delivered in October 1962. It utilized magnetic thin-film memory (developed under U.S. National Security Agency contract) for general registers and ferrite core memory for programs/data.

Photo is from U.S. Bureau of the Census dated 1965.



Core memory level UNIVAC 1107

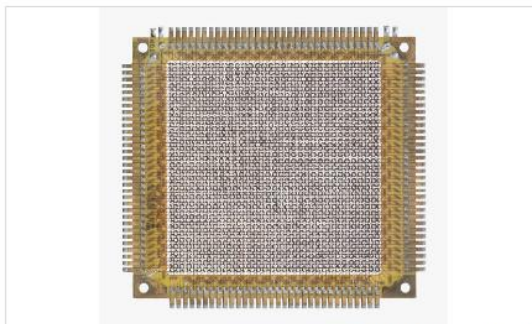


Photo: Deutsches Museum, CC BY-SA 4.0

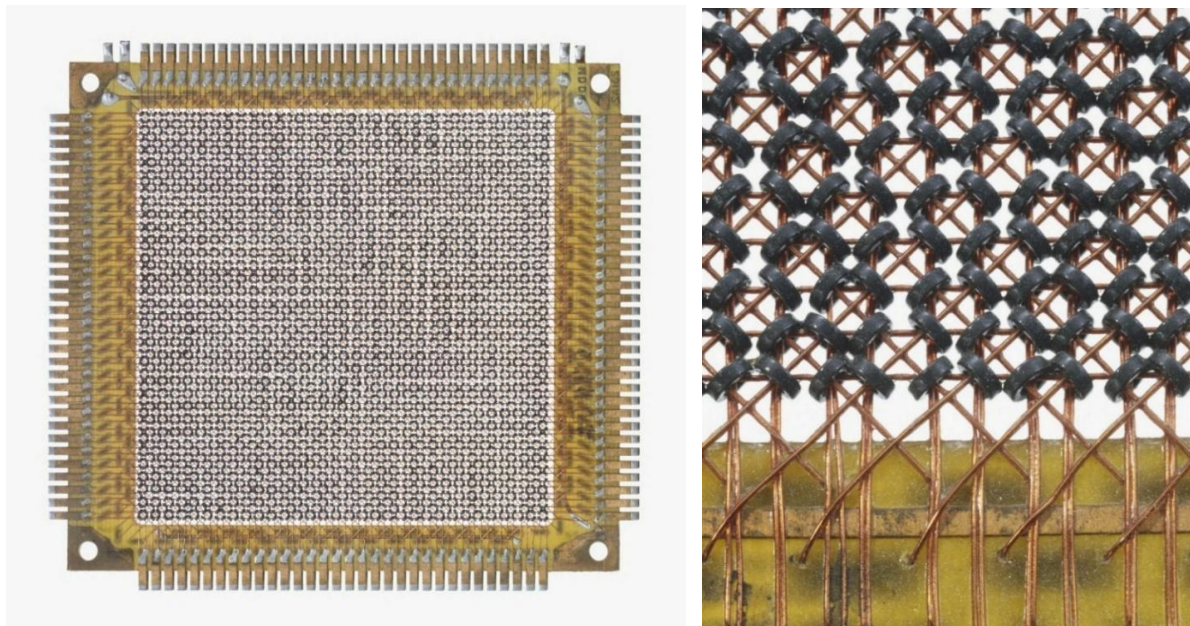
1 of 2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

Inventory no.	76020
Systematics	422.09.02 Program Control and Universal Computers / Peripherals / External Memory, general
Permalink	https://digital.deutsches-museum.de/item/76020
Description	On a carrier frame manufactured as a printed circuit, the core memory level is formed from 4096 toroidal cores, which are threaded on 64x64 copper wires. The punched tongues of the frame form the connection points for horizontal (x) and vertical (y) control wires.

Data | [Download](#) | [Contact Now](#)

Participants	Production: Sperry Rand Corporation
Locations	Production: Philadelphia
Dating	Production: from 1961
Material	Metal
Dimensions	Weight: 0.024 kg
Literature	Bauer, Friedrich L. (Hrsg.): Informatik. Guide through the exhibition [exhibition catalogue Deutsches Museum]. With the participation of Erhard Anthes, Joachim Fischer, Menso Folkerts, Ulf Hashagen, Alfred Krösa, Hartmut Pelzold, Ivo Schneider and Heinz Zemanek. New edition Munich 2004, p. 208, fig. 207 (BVB)
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EDITOR'S NOTE: 1. FOUR WIRES GO THROUGH EACH CORE: HORIZONTAL IS THE X DRIVE LINE, DIAGONAL IS THE SENSE LINE; AND VERTICAL ARE THE Y DRIVE LINE AND THE INHIBIT LINE. ADDRESSING CIRCUITRY SENDS A CONCURRENT CURRENT THROUGH ONE X AND ONE Y DRIVE LINE SIMULTANEOUSLY WHICH CAUSES THE CORE MAGNETISM TO FLIP DIRECTION. THE SENSE LINE DETECTS THE FLIPPING THUS ONE READOUT, ETC..

UNIVAC 1004 Card Processor/Computer

Pegboard from the UNIVAC 2 (or from model 1004)

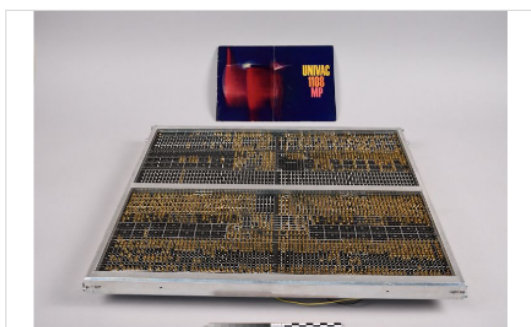


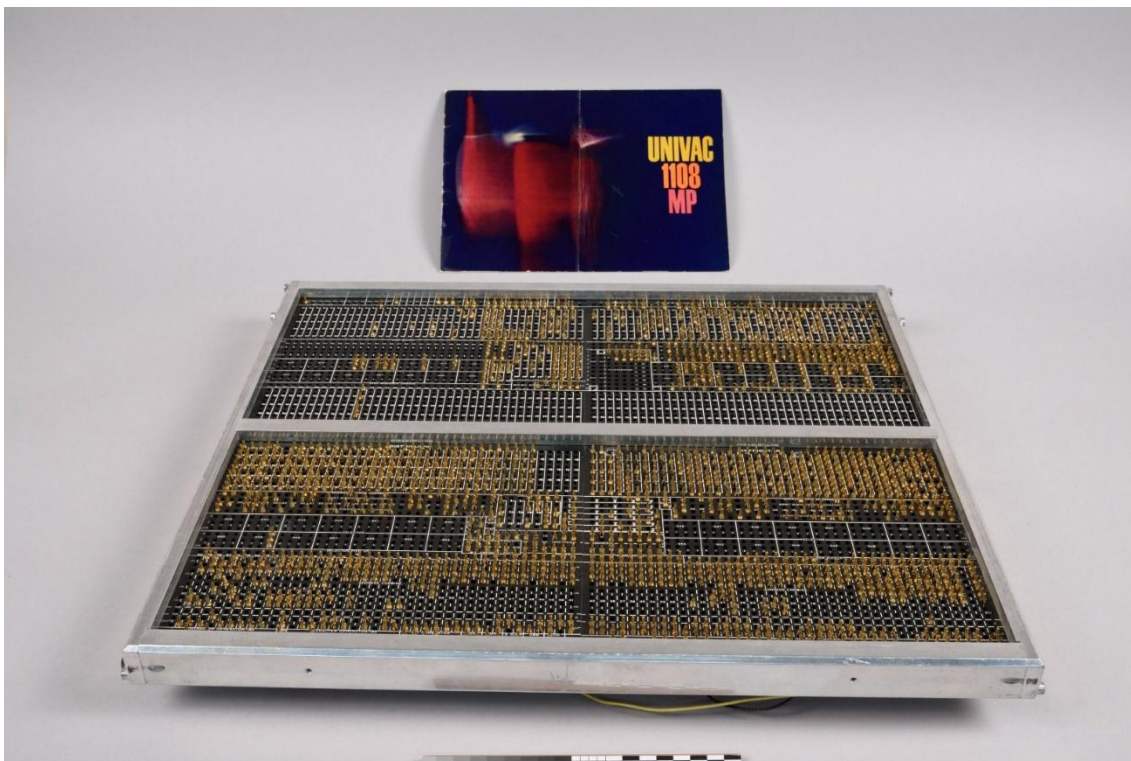
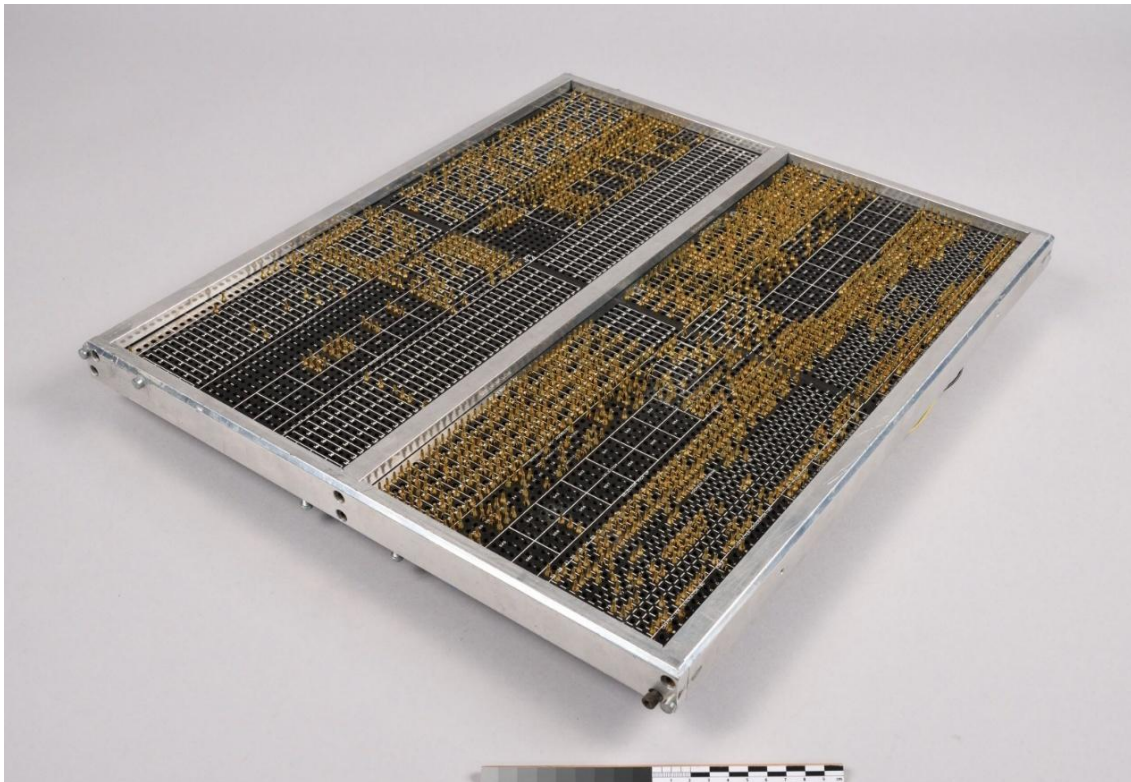
Photo: Deutsches Museum / Andreas Kaufmann, CC BY-SA 4.0

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Inventory no.	2016-711
Systematics	422.07.70 Program Control and Universal Computers / Digital Computing Systems / Components
Permalink	https://digital.deutsches-museum.de/item/2016-711
Description	<i>Note:</i> This record was not edited prior to publication. The name of the object and other information may be a copy of the initial registration at the time of acquisition of the object. We are aware that in some cases such information does not correspond to the current state of knowledge or may contain problematic formulations from today's perspective. In order to be able to offer visitors to the Deutsches Museum Digital access to as many objects from our collection as possible, we have nevertheless decided to display such data as well. Updating and expanding the information about our properties is an ongoing process. If you notice any errors or if you have any further suggestions, please feel free to use the feedback function under "Contact".

Data | [Download](#) | [Contact Now](#)

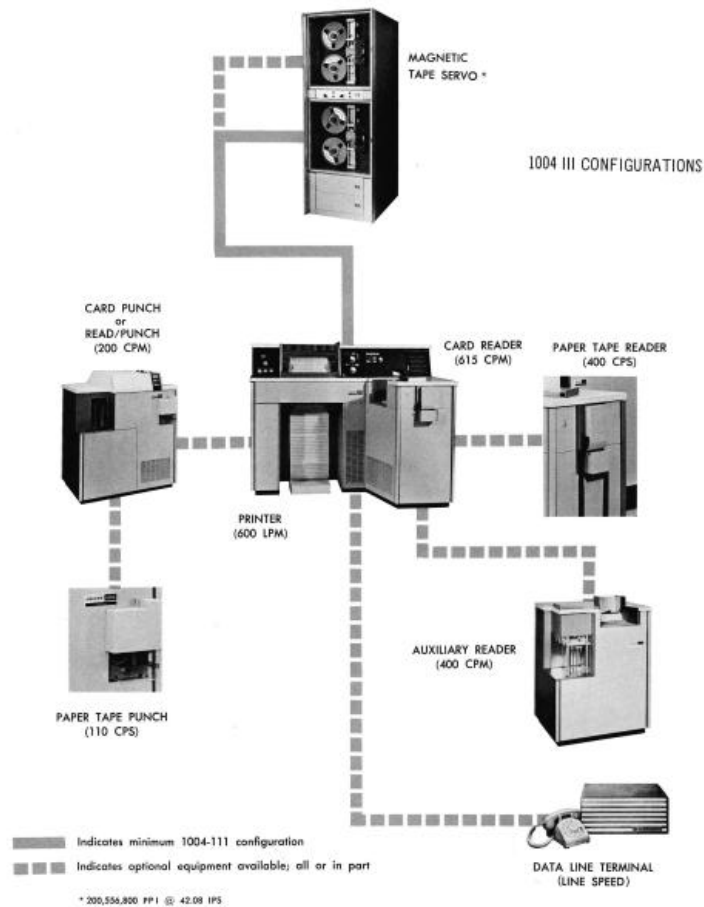
Dating	1958 - 1963 - Production: ca. 1960
Rights Notice	CC BY-SA 4.0



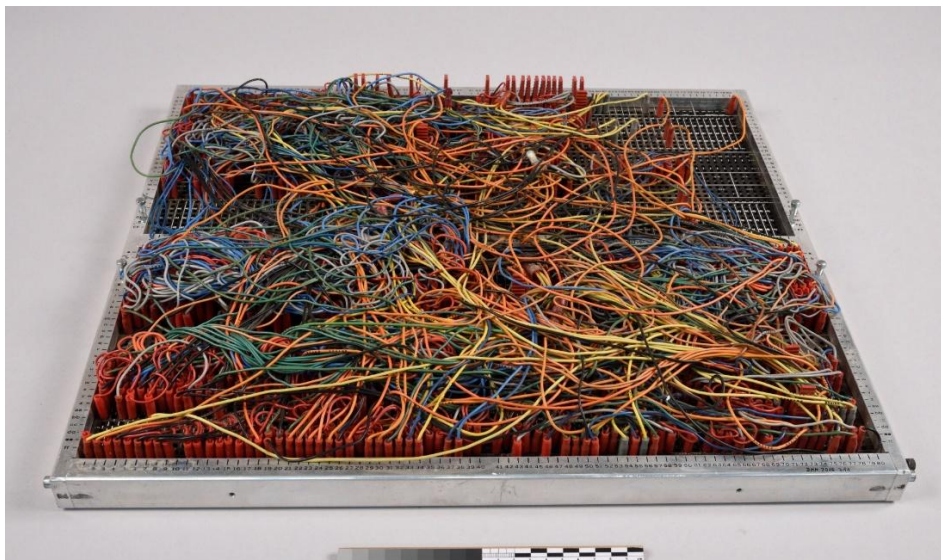
{2. EDITOR'S NOTE: ALTHOUGH A POSTER 'UNIVAC 1108 MP' IS POSITIONED ADJACENT TO THIS 1004 PLUGBOARD, THERE IS NO RELATIONSHIP BETWEEN THE TWO MACHINE TYPES. BTW, I WORKED WITH A 1004 MACHINE FROM 1963 TO 1966 IN THE ST. PAUL PLANT 1 AS A COMPUTER OPERATOR FOR NTDS DEFENSE MACHINES. THERE WAS AN 1107 IN AN ADJACENT COMMERCIAL COMPUTER CENTER.}

This is a Connection Panel (commonly called a Plug Board) for the UNIVAC 1004 Card Processor/Computer. The 1004 system comprises a cabinet containing a processor, 80 column card reader and printer, and an external magnetic tape unit. The Plug Board is used to “program” the functionality of the system to perform desired tasks. As you can see, the “programming” can use many interconnecting cables.

I used a 1004 system (card reader, printer & magnetic tape unit) in 1972/1973 while debugging an AN/UYK-7 assembly language maintenance test program (POFA) I wrote for a digital analog/digital converter (ICKCMX) for US Navy ships.



The Museum Victoria in Melbourne, Australia also has a UNIVAC 1004 Plug Board in their collection: [Computer Plug-Board - Univac, Model 1004, circa1965](#)





Air Traffic Control Workstations

While touring the numerous museum exhibits, I came across a display of air traffic control (ATC) workstations from the former control tower at Cologne/Bonn airport. They were installed in the 1960s until decommissioning in 1994. The five printed flight strips shown below (page 19) contain information about five different aircraft.

These flight strips were generated initially beginning in the late 1970s by a system called ZKSD (Zentraler Kontrollstreifendruck). Later in the 1990s ZKSD was superseded by UKD (Unterer Kontrollbezirk – Lower Control Area). Both systems automated the distribution, processing, and physical printing of flight progress strips for air traffic controllers in the lower-altitude controlled airspace sector in the pre-DFS (Deutsche Flugsicherung - German equivalent of the FAA) era.

In 1976 Sperry UNIVAC Germany received an RFQ (Request for Quote) from the German government for an update to their air traffic control operations, as did IBM. The proposal manager, Glen Hambleton (Defense Systems Division – St. Paul), put together a team of five ATC engineers/proposal writers from St. Paul plus Sperry UNIVAC Germany personnel in Wiesbaden, Germany. Six weeks later the proposal was submitted. To everyone's surprise, Sperry UNIVAC won the contract. More details can be found here: <https://vipclubmn.org/Articles/ZKSD-Proposed.pdf> and <https://vipclubmn.org/aircontrol.html>.

I cannot find any evidence that Sperry UNIVAC supplied any computers/equipment to the ZKSD system. However, Sperry UNIVAC engineers were responsible for defining the system architecture and operation for the ZKSD/UKD systems and future German air traffic control.



Poster wording:

Workplace of Control Tower.

The workstations on display are from the former control tower at Cologne/Bonn Airport. Although they were installed in the 1960s their technology was continually updated in the 30 years prior to their decommissioning in 1994.

From the control tower, controllers grant takeoff and landing clearances and observe and coordinate activities on the apron and in the surrounding airspace the control zone. Unlike radar controllers who work in remote air traffic centers, air traffic controllers in the tower can see the aircraft from their workstation. They are supported by state-of-the-art technology, such as ground radar in case of poor visibility.



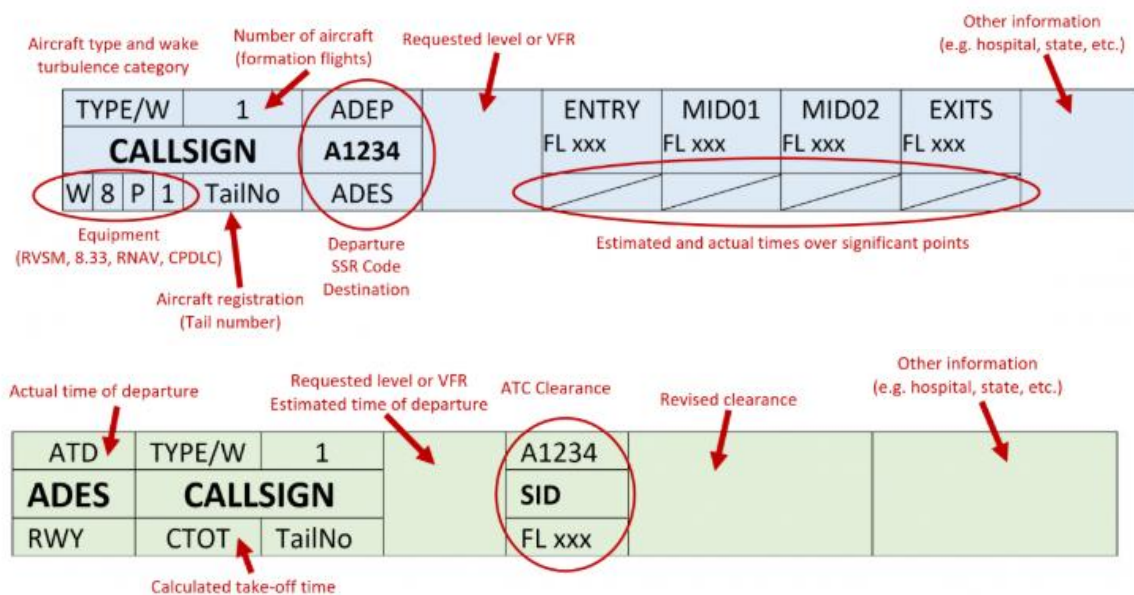


As control towers play such a key role in the transport system, access is strictly regulated and security measures are particularly stringent.

End of poster wording.



{Editor's note: Flight strips similar to these were used in the US, automated printing started with the File Computer in the mid-50s. In the early 60s, the ARTS I system had flight strip information on electronic displays versus paper for tower controllers.}



EPILOGUE

Thanks to Dr. Dahlke and Keith Myhre for the tour, history of some of our technology, and the photos.



KEITH MYHRE & DR. CAROLA DAHLKE

Editor's Note: Mr. Myhre worked at UNIVAC/Sperry/Unisys/Lockheed Martin from 1972 to 1991; he earned a master's degree supplementing his U of MN BEE while there. Since 2012, he has been volunteering at the South St. Paul Lawshe Memorial Museum cataloguing and documenting legacy artifacts and photos. <https://vipclubmn.org/People5.html#Myhre> is his career summary.

*Paper formatted for web viewing by LABenson, VIP Club Legacy Historian,
<https://vipclubmn.org/People1.html#Benson>.*