



<p>articles</p> <p>collections</p> <p>timeline</p>	<p>Mullard</p> <h1>E90CC</h1> <p>The Hampshire Collection</p>	<p>equivalents</p> <p>new</p> 
--	---	---

 <p>home</p>	<p>Sensibly equivalent¹ to:- CV5214 - 5920</p> <p><i>This exhibit was last updated on 21 February 2013</i></p>	<p>Become a friend or</p> <p>Donate</p> <p>with PayPal.</p>
---	---	---



The E90CC is a special quality double triode from Mullard. This valve is interesting from the fact that no attempt has been made to separate the two sections on the base pin out. Mullard just refer to it as an industrial double triode.



The twin triodes seen end on.

Thanks to Rainer Glaschick we have information on this valve.

The E90CC was used in the IBM CPC Computer in a plug-in module, like the picture seen below.

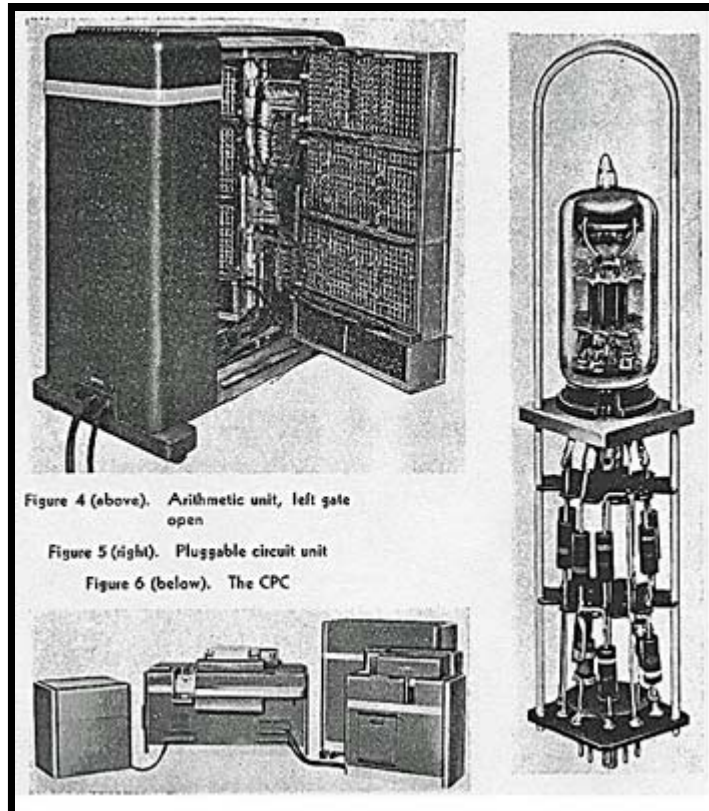


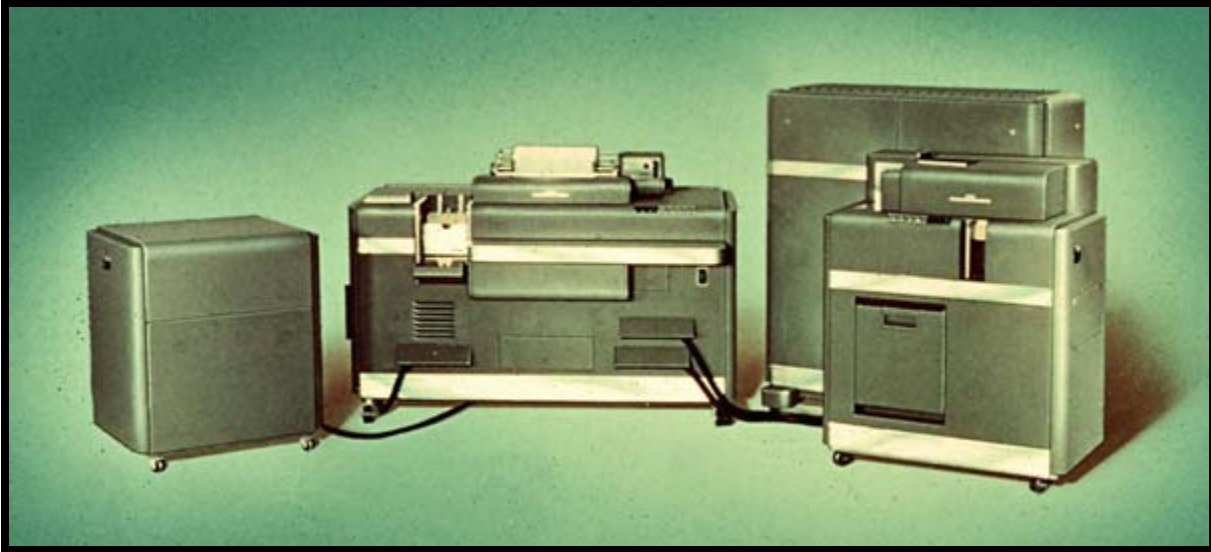
Figure 4 (above). Arithmetic unit, left gate open

Figure 5 (right). Pluggable circuit unit

Figure 6 (below). The CPC

Although not written in the article on the CPC, but Rainer had very short access to such a module in 2009. The module is now in the HNF Computer Museum in Paderborn.

The E90CC was designed for high speed and high reliability digital circuits, as the data-sheet says, it has 10,000 hours lifetime and is not designed for amplifiers with low noise etc. There are some example digital circuits that could use this type, e.g. in the Book by Copeland about the Pilot ACE early Computer, and a German book on tubes in pulse applications.




The 1960 IBM CPC computer.


The thin glass tube envelope is 17 mm in diameter and, excluding the B7G base pins, is 60 mm tall.

References: Datasheet, [1040](#) & Rainer Glaschick. Type E90CC was first introduced¹ in [1954](#).

Pin Connections

B7G	1	2	3	4	5	6	7
	a(2)	a(1)	h	h	g1(1)	g1(2)	k

Absolute Maximum Operating Conditions¹

Triode	Vh	Ah	Va	Vg	mAa	ra	gm
	6.3	0.4	100	-2.1	8.5	4,500	6.0

Thanks to [Frank Philipse](#) for supplying the above PDF datasheet