

# LOLA Computer Hardware diagram 1973

## Explanation of Devices

Based on standard IBM devices and taken from IBM Archives or Wikipedia

LOLA's specification may have varied.

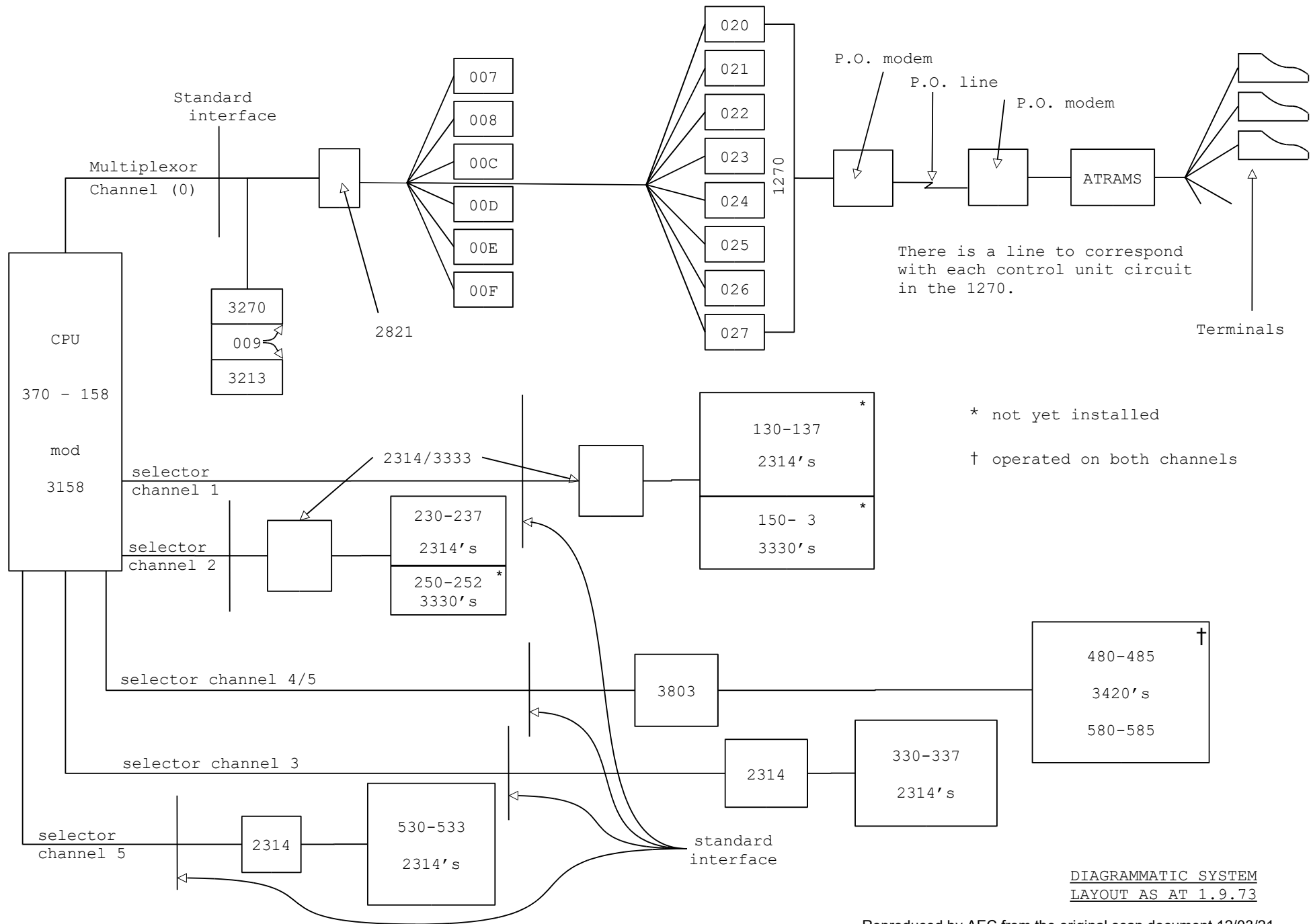
Note: On the diagram where there are 2 sets of figures (e.g. 230-237 & 2314) the 1<sup>st</sup> fig. is the unit's address and the 2<sup>nd</sup> fig. the device model no.)

370/158	Announced in 1972, the Model 158 was a medium-sized, high performance data processing system that incorporated monolithic main storage, virtual storage capability, multi-programming, integrated storage controls and a display console. [photo on page 3]	3330	The IBM 3330 Direct Access Storage Facility was introduced in June 1970. Each 3330 subsystem could have from two to 16 removable disk drives, giving users up to 1.6 billion bytes of online storage. The initial model 1 had IBM 3336 -1 disks packs holding 100 MB (404×19×13,030 bytes).
3158	Central Processing Unit. There were 2 models: 1 & 3. The 3158 was available in 6 main storage capacities from 512K to 4MB. Maximum virtual storage was 16MB. Operating Systems available are OS/VS 1, OS/VS2, VM/370, and DOS/VS. Remote support was possible. For input/output operations, one byte-multiplexer channel (channel 0) and two block-multiplexer channels (channels 1 and 2) are standard.	3333	The 3333-1 and the 3333-11 contain two 3330 type drives and a controller that attach to a director type storage control.
1270	Memorex Terminal Control Unit (TCU) – a unit that is plug compatible with the IBM 2701, 2702 and 2703 TCUs, and the IBM 3704 or 3705 Communications Controllers in the 270X emulation mode.	3803	Tape control unit. One Control Unit can provide access to as many as eight 3420 tape units. Sixteen 3420 tape units can be accessed through two, three or four control units.
2314	Model B1 (announced December 14, 1970) provided eight disk drives (pack) and a spare along with a control unit together in one facility. Each removable pack (called a 2316) provided a storage capacity of 29.2 million bytes or 233 million bytes in the eight-pack facility. The access time was 85 ms and the transfer data rate 310,000 bytes per second. The 2316 disk pack containing the eleven 14-inch (360 mm) diameter disks yielded 20 recording surfaces. The drive access consisted of 20 individual R/W heads mounted on a common actuator which was moved in and out hydraulically and mechanically located at the desired track before reading or writing occurred. Each recording surface had 200 tracks.	3420	Magnetic tape drive. Models 4, 6 and 8 announced March 7, 1973 have a nominal data rate of 470 KB/second, 780 KB/s and 1,250 KB/s, respectively and optionally read and write data at 1,600 BPI. It was the first IBM tape drive to have firmware.
		ATRAMS	(probably) Asynchronous Transmissions
		P.O.	Post Office. Until 1 <sup>st</sup> October 1981 the P.O. Telecommunications was the monopoly provider of the UK's telephone network.
		VDU Terminals	Initially IBM 3270 compatible Visual Display Units (VDUs) were purchased from SE Labs but the company ceased trading by 1975. The replacement VDUs were 63 no. PTS-100 programmable terminals from UK company Raytheon Cossor Data Systems ordered in February 1975 [photo on page 4]. In 1978 Cossor acquired Data Logic and some VDUs were bought by LOLA as Data Logic PTS-2000 with enhanced APL keyboards <sup>1</sup> .
2821	Control Unit attaches card readers, card punches and line printers to the processing unit [and presumably data communications units].		
3213	Console printer used with the 3270 display unit.		<a href="#">IBM Archives</a> <a href="#">Memorex 1270 Manual</a> <a href="#">Raytheon PTS-100 Manual</a>
3270	A non-programmable (“dumb”) display screen with a keyboard attached that was text-based. One of the earliest model 3270 terminal displays (3278 model 1) consisted of 12 rows and 80 columns of text characters. Eventually, a 24 x 80 screen size became the standard, with some alternate sizes available.		

1. LOLA Personal Computing Service (overview), PCSG, LOLA, c1983

Notes by Alan Cooper, 2021-03-13 & 2021-04-12. Updated 2024-05-05

**Next page: recreation of the 1973 diagram**



DIAGRAMMATIC SYSTEM  
LAYOUT AS AT 1.9.73

## IBM 370/158



Likely devices left to right: 3850 mass storage, 3505 punch card reader, 3525 punch card reader, punch & print, processor & channel control units with operator console, 3211 printer, 3330 disks storage, 3420 magnetic tapes. From [https://www.ibm.com/ibm/history/exhibits/mainframe/mainframe\\_PP3158.html](https://www.ibm.com/ibm/history/exhibits/mainframe/mainframe_PP3158.html)

**PTS-100 programmable terminals from UK company Raytheon  
Cossor Data Systems. 63 were ordered in February 1975.**



Source: [techarchives](https://www.techarchives.com) Original source: Aer Lingus brochure from 1975