

AccessionIndex: TCD-SCSS-T.20251005.001

Accession Date: 5-Oct-2025

Accession By: Dr.Brian Coghlan

Object name: Fairchild PPS-25 microprocessor and associated chips

Vintage: 1971

Synopsis: Fairchild's first and very early 4-bit microprocessor.

**Description:**

The Fairchild *Programmed Processor System* (PPS-25 or PPS25) was one of the earliest microprocessors, the heart of a 4-bit 25-digit multi-chip pMOS family. Its significance is that it was one of the first six microprocessor designs, as tabulated below:

| Company                   | Product       | First Working Samples | Comments  |
|---------------------------|---------------|-----------------------|---|
| Four Phase Systems        | AL1           | April 1969            | Only available within the company               |
| Garret AiResearch         | MP944         | 1970                  | Used in F-14, not publicly disclosed until 1998 |
| Fairchild                 | PPS-25        | May 1971              | Available for sale from late-1972               |
| Texas Instruments         | TMX1795       | June/July 1971        | Only taken as far as the prototype stage        |
| Intel                     | 4004          | January 1971          | Available for sale from November 1971           |
| Pico / General Instrument | PICO1 / GI250 | 1971                  | Only sold within a calculator from January 1972 |

The PPS-25 was one of the only two of these first six that became a standard commercially available product. Despite this, the PPS-25 is today virtually unknown.

For related literature, see the folder:

<https://www.scss.tcd.ie/SCSSTreasuresCatalog/hardware/TCD-SCSS-T.20251005.001/>

These items in this collection are an unused chipset for the PPS-25 demonstration calculator set model 3025A given by Fairchild Germany to Brian Coghlan in early 1973, along with documentation (see elsewhere in this catalog). Many thanks to Brian Coghlan for donating these items.

The homepage for this catalog is at: <https://www.scss.tcd.ie/SCSSTreasuresCatalog/>  
 Click 'Accession Index' (1st column listed) for related folder, or 'About' for further guidance.  
 Some of the items below may be more properly part of other categories of this catalog,  
 but are listed here for convenience.

| Accession Index                            | Object with Identification  |
|--|---|
| <a href="#">TCD-SCSS-T.20251005.001</a>    | Fairchild PPS-25 microprocessor and associated chips. Fairchild's first and very early 4-bit microprocessor. 1971.  |
| <a href="#">TCD-SCSS-T.20251005.001.01</a> | Fairchild F3805DC arithmetic logic unit.  |
| <a href="#">TCD-SCSS-T.20251005.001.02</a> | Fairchild F3806/FSL30448 function and timing (F & T) unit.  |
| <a href="#">TCD-SCSS-T.20251005.001.03</a> | Fairchild F3807 keyboard encoder.   |
| <a href="#">TCD-SCSS-T.20251005.001.04</a> | Fairchild F3808 memory.   |
| <a href="#">TCD-SCSS-T.20251005.001.05</a> | Fairchild F3810/FSL35183 program ROM.   |
| <a href="#">TCD-SCSS-T.20251005.001.06</a> | Fairchild F3811 output unit.  |
| <a href="#">TCD-SCSS-V.20251005.001</a>    | Fairchild OPTIMOS Catalogue. MOS integrated circuit catalogue which introduced PPS-25 chipset. 1972.  |
| <a href="#">TCD-SCSS-V.20251005.002</a>    | Fairchild PPS-25 Documentation. Bound volume including: (a) PPS-25 preliminary users manual, (b) PPS-25 datasheet, (c) PPS-25 demonstration calculator set model 3025A documentation, (d) PPS-25 demonstration model 3025A source code and flowcharts, (d) Max Lösel, <i>Additional Hardware and Software to PPS-25 Programmable Processor System</i> , Fairchild GmbH. 1973. |
| <a href="#">TCD-SCSS-T.20251017.001</a>    | Cybernetic Mathputer. An early arithmetic learning toy for children that used the Fairchild PPS-25 chipset. 1975.   |
| <a href="#">TCD-SCSS-T.20251123.001</a>    | King Radio KNR665 Radio Navigation Computer. Aircraft avionics that used the Fairchild PPS-25 chipset. Model 066-4006-01, S/N: 4051, with original PPS25 board. 1977.   |
| <a href="#">TCD-SCSS-T.20190508.001</a>    | King Radio KNR665 Service Manual. Maintenance manual for an aircraft avionics unit that used the Fairchild PPS-25 chipset. 1977.  |
| <a href="#">TCD-SCSS-X.20250916.001</a>    | Dr.Brian Coghlan's Collection of Early Microprocessors. An extensive and nearly complete set of unused 1970s microprocessor chips, most accompanied with documentation, some with demonstration boards. 1971.   |

### References:

1. WikiChip, *PPS-25 - Fairchild*, see:  
<https://en.wikichip.org/wiki/fairchild/pps-25>  
 Last browsed to on 5-Oct-2025.