AccessionIndex: TCD-SCSS-T.20141208.001
Accession Date: 8-Dec-2014
Accession By: Prof.Doug Leith
Object name: Tandy TRS-80
Vintage: c.1977
Synopsis: Tandy TRS-80 Model 1 personal microcomputer, highly popular in late 1970s. S/N: 126823.

Description:
The Tandy TRS-80 Model 1 was highly popular. It was released in the same year as the Apple II, but by 1979 the TRS-80 was said to have the largest selection of software in the personal microcomputer market, by 1980 Tandy was estimated to have sold three times as many as Apple, and eventually 200,000 were sold over its lifetime. Although a world away from professional computers of the time, e.g. the VAX 11/780, it was at the forefront of personal computing, promoting computing as fun.

The Model I combined the mainboard and keyboard into one unit, with a separate power supply, plus a monochrome display. The concept and design was largely by Don French and Steve Leininger. It used a Zilog Z80 processor clocked at 1.77MHz. The basic model originally shipped with 4KB of RAM, but the unit in this collection has 16KB. The keyboard has a QWERTY layout yet is compact; early versions suffered badly from key bounce, but software de-bouncing overcame this. A somewhat messy and troublesome proprietary 'E/I' expansion interface allowed external expansion to 48K of RAM, a floppy disk controller, a real-time clock, a second cassette port, an optional RS-232 port and a Centronics parallel printer port.

The software mainly employed the BASIC programming language, which did include floating-point arithmetic. Three versions of the BASIC programming language were produced for the Model I. Level I BASIC (based on Tiny BASIC by Li-Chen Wang) was built-in on 4kB of ROM. Level II (Microsoft) BASIC was also built-in, on 12kB of ROM. Level I included single-precision floating point arithmetic only and had a smaller set of commands. Level II introduced double-precision support and had a much wider set of commands. Level II was further enhanced when a disk system was added, allowing for the loading of Disk BASIC.

The display was a modified RCA XL-100 black-and-white television, in which an interface card replaced the TV tuner. However, the display would lose horizontal sync if large areas of white were displayed, and access to the screen memory caused the screen to flicker. Due to the very small 1k x 8-bit video memory, it could only display 16 lines of 64 or 32 characters, where the 8th bit denoted ASCII or block-oriented semigraphics characters.

User data was originally stored on audio cassette tape at 250 bits per second (31.25 bytes per second). The CPU switched the output voltage between three states, creating modulated pseudo-sinewave audio.

The system's radio-frequency emissions strongly interfered with surrounding electronics hardware, and eventually this and new FCC RFI regulations led to its replacement by the Model III.

Accession Index	Object with Identification
TCD-SCSS-T.20141208.001.01	Tandy TRS-80 keyboard unit. Catalog no: 26-1006, manufactured by Radio Shack, Fort Worth, Texas 76102, USA. S/N: 126823
TCD-SCSS-T.20141208.001.02	Tandy TRS-80 video display. Catalog no: 26-9201, manufactured in Taiwan for Tandy Corporation.

Figure 1: Tandy TRS-80 front three-quarter view

Figure 2: Tandy TRS-80 front top view

Figure 3: Tandy TRS-80 CPU keyboard unit
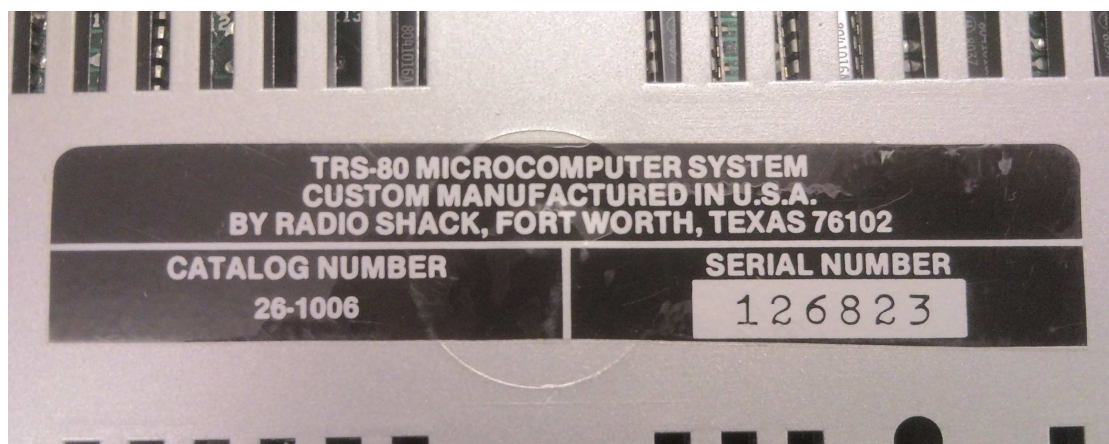

Figure 4: Tandy TRS-80 keyboard unit label closeup

Figure 5: Tandy TRS-80 keyboard manufacturing label
Catalog No: 26-1006, S/N: 126823
Manufactured by Radio Shack, Fort Worth, Texas 76102, USA

Figure 6: Tandy TRS-80 video display label closeup

Figure 7: Tandy TRS-80 video display manufacturing label
Catalog No: 26-9201
Manufactured in Taiwan for Tandy Corporation