2000-X Meeting

Meeting with: E. Coffin (later with E.J. Sarr & J Gibson)

Dec 11, '68

I10 Prices

SWIFT Tapes:

where we consider; Character ≡ Frames

	Prel. Planning Design Objectives	0-Level Pricing
250 KC Transport	$900 - £650	800-1000.
150 KC Transport	800 - 600	790-990.
250 KC Control	8000 - 6000	1300-1500
150 KC "	6500 - 4000	1300-1500
15 KC T+C	500 - 300	800-1000

Typical System { HSTC 1 + HSTO 10 + LSTO+TC 4

actually there will probably not be 250 & 150 but a single 187.5 rate

(for ½" tape 13 channels, 2200 Bits/inch, 100" per reel

still won't work at present

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729 II $700,

729 III $1100.

-TAU $500. (not separable item on present machines)

Card Reader: (for 20 machs)

STRETCH 1000 cpm $3500. → £2400 for double market.

plus adapter.

Card Punch — $3300.
250 cpm
(7070 item)

Chain Printer — $1750, design objective (1500 + 250 attachment)
(48 char) — $2400, — present rumor.
600 lpm

Disks:

Disk Control Unit — $13,000 – $16,000

High Speed Disk Unit — $4,000 — 2 units of 22 platters each
Parallel

Serial Unit. — ? $6,000, — 3 units of 22 platters ea.
(4 million wds? 6M? 8M?)

Data Transmission:

$200, per mo. for card terminal equipment
(not incl phone line cost)
$3 per mile per month, leased line.

Paper Tape: 500 cps reader. announced.

Compass

High Speed Disk & SWIFT

Swift Tape 4K capacity of 729

729 has capacity 2400'ft
~~833,333~~ (6 bit characters)

729 831K words

SWIFT 252 K wds,

(1) So 2 SWIFTS ≈ 1 HS Disk capacity,

729 (200 bits per inch)

729III (556 Bits per inch) 62.5KC (160μs per STRETCH wd)

6) 5,760,000. characters
960,000. wds (704)

(576,000. STR wds on 729
1.5M STR 729III
2,292,000 STR wds SWIFT

(2) SPEED:

32 μs/wd. SWIFT

4 μs/wd HS Disk

Factor of 8 in speed.

"Binary Serial File"

Bit rate 2μs/bit on disk: ~ 140 μs per wd.

Disk files: Advanced (Rec.)
Binary Serial
H.S. Binary

Stretch wds.

	Capacity	cost	speed	No devices/CU
729	1.5 M	$1.1 K tape (1.5)? CU	160 μs/wd	10
SWIFT	2. M	$1.1 K (4.)?	32 μs/wd	24
Serial Disk	8 M ?	$3.5 K ? (5) ?	140 μs/wd	32
H.S. Disk	4 M ?	4 (10) ?	4 μs/wd	32

Typical jobs:

card to tape

tape to printer

processing ← File ← Tapes → File Tape

card → process → print
CU ↑ tape; process ↓ file; process → CU → tape updated

(14)

Typical Systems

	units	CUs	cost
729	6	3	$18.1 K
SWIFT	6	3	$18.6 K
Serial Disk	2	1	$12. K
H.S. Disk	2	1	$18. K

729 or SWIFT

Serial or H.S.

1.5 ... 6.6 12

Examples:

6 SWIFT + Serial $30 K

729 + serial $23. K

SWIFT + HS $36. K

∴ Typical Tape + disk cost ~$30 K

Others:

Card Reader	$2.4 K
Printer	2. K
Cd. Punch	3. K
	7.4

Typical I/O	~$40. K
Typical Memory 2	$32 K
all non-CPU	~$70. K

multiplexor +

Similar for Typical 7090:

?? {	1 DSU	@ $3.5K	7. K
	2 TCU	@ $2.8K	5. K
(7 x .7 + 7 x 1.1) →	14 Tapes	@ 1.1	12.6 K.
	1 cd Rdr. (400 cpm)	@ .8	.8
	1 Printer (150 lpm)		1.2
			$ 26.6 K

CPU	$10.K
32K mem	$20.K
CPU power supply	1.1 K
741 power supply	1.6
power distr. unit	1.3
	$ 34.0

See below

Peripheral T → Reader	~~1.1 + 2 + .8 = 3.9~~	3.5
T-Pch	~~1.1 + 2 + .75 = 3.85~~	1.6
1 T-Pr 150 lpm	1.1 + 2 + 1.2 = 4.3	4.5
1 T-Pr 500	~~1.1 + 2 + 1.4 = 4.5~~	4.9
	~~$ 16.55 K~~	$ 14.5

26.6
14.5
$ ~~[illegible]~~ K
$ 41.1 K

$ 70.

Typical 705 III (Total ~50K)

(T-Pr) 720A	1.9
760	2.5
727	.55
	4.95
(T-Rd) 714	1.5
759	.9
729	1.1
	3.5
(T-Ph) 722	.75
758	.30
727	.55
	1.6

CPU	$ 15K	} 17.6
Power	1.5	
Console	1.1	

2 TRC's	@ $3.K	$ 6.
18 ~~12-14-16~~ Tapes	(6: 1/3 HS + 12: 2/3 cheap)	$ 14.4 K
0 or 1 drum	@ $2.8K	$ 1.4
1 cd reader 714 online		1.5 K
(pr. or punches not on line)		$ 23.3 K

1 TCU	$ 2. K
8 tapes LS	4.4K
1/2 drum	1.4
1 rdr.	1.5
	$ 9.3

Peripheral:

2 720 printers 500 lpm	@ 4.95	9.9 K
1 punch		1.6
1 reader		3.5
		$ 15.0 K
		23.3
		$ 38.3 K

2 150 lpm prs. @ 4.55	$ 9.6 K
1 punch	1.6 K
	$ 11.2 K
	9.3
	$ 20.5 K

650
.12
1300
650
7800
6600
14400

550
8
4400

17.6
38.3
$ 55.9 Total

20.5
17.6
Total $ 38.1

So $40.K peripheral & non-CPO

present STRETCH CPU $ 70.K

"Relay" to $40K a possibility? probably not that far.