0080 6220
2 8207
4 A 400
6 C444
8 8084
A A 400
C C444
E 808A
90 A3ØØ
4428
8080

6220
8207
add I 4, ØØ
Jmp are bits
80
add I 4, 00
Jmp all bits
add I 3, ØØ
4428 display R3 low

3/23/23

Counter

256

0 83FF
1 6220
2 8207
4 4428
8ØØ8Ø

FØ

80 84XX
82 6220
84 8207
86 A400
88 C444
8A 8086
C A300
E 4428
8080

Hex KBD Connector

B05	- get strobe	A-S11, B- B11
B06	+ DA X1	A-M07, B- G10
B07	+ DA Y3	A-G07, B- J13
B09	+ BUS IN BIT 1	A-M13, B- G12
B10	+ BUS IN BIT 2	A-M12, B- P12
B11	+ BUS IN BIT 4	A-P11, B- M12
B12	GROUND	

D05	+5V	
D06	+ DA F	A-M06
D07	- CTRL STROBE	A-G11, B- D05
D09	- BUS OUT BIT A	A-S09, B- G05
D10	- INT Req 1	A-U13, B- D09
D11	+ BUS IN BIT D	A-U02, B- S12
D12	+ BUS IN BIT 8	A-S03, B- G13

3/30/73.

Call from Ron Johnson. 441-x6287
Needs input for COMBAC-

1) Name of Program
2) quantities 5 year forecasts
3) Time frame FCS-
4) Number of Keys-

4/2/73- No usage at this time -
He will keep us listed for future sampl

~~Fixed~~ Finished change over to new back panel board - Wired Ros addressing & off to the races-

---

esplay R/W even goofed.

R/W		EVEN
	1	B08
	2	B09
	4	D09
	8	D10
	A	D12
	B	D11
	C	

5/B

card
~~Changes on page 05-0~~

C
D
1
2
4
8

4/4/73

Memory Romp.

80	8260 ~~8211~~ 8221	12~~8~~K limit in R2 (Bytes
82	6330	clear R3 high byte
84	83A6	starting address
86	A400	add 1 to R4
88	7438	store byte - no increm
8A	6630	byte fetch ⇒ R6 +1
8C	C642 8090	Jump if OK
8E	808E	Stop on error
90	C333	Jump if ~~all ones~~ Zeros
92	8088	
94	053C	hi to Lo 3 → 5
96	C522	Jump R2 = R3
98	8088	
9A	8080	
9C		

32 16 8 4 2K 1

4/6/73

80	8211	
82	6330	
84	83A0	starting address.
~~86~~	~~0332~~	~~+2~~
~~88~~	~~0434~~	~~mov 3 → 4~~
86	5331	
88	C333	
8A	8086	
8C	053C	
8E	C522	

4/6/73. Larry Warren's machine configurations.

LOCATS

CCU ATTACHMENT for Computervision plotter

Interact graphic 1.

Call George Arnold 443-3619

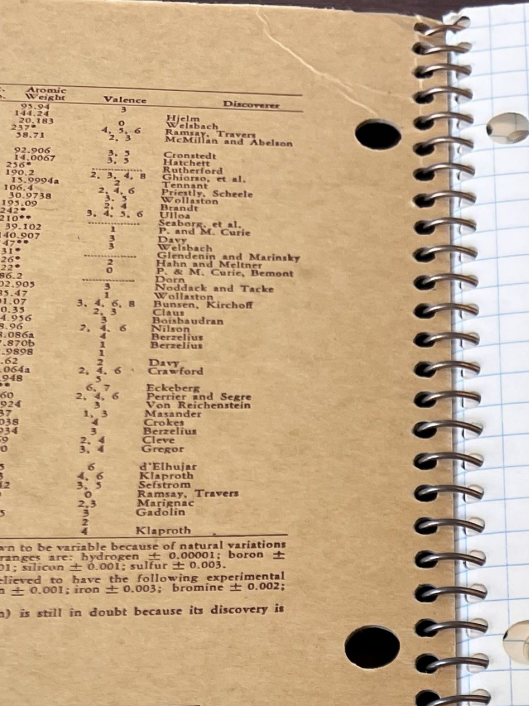
Dougt Chisholm

Test Engr. SJ. DIDO (LOCATS)
Cycle steal channel → 1131.

Ed Colombo. or Mgr → Was Tom Griffin.
designer x3882

Internal RPQ ~~only~~
834586 DIDO RPQ.

CCU is a redesigned 1130 - (Tool)
1197322 includes DIDO



	Atomic Weight	Valence	Discoverer
	93.94	3	
	144.24		Hjelm
	250.183	0	Weinbach
	38.71	4, 5, 6	Ramsay, Travers
		2, 3	McMillan and Abelson
	92.906	3, 5	
	14.0067	3, 5	Cronstedt
	256*		Hatchett
	190.2		Rutherford
	15.9994a	2, 3, 4, 8	Ghiorso, et al.
	106.4		Tennant
	10.9738	2, 4, 6	Priestly, Scheele
	195.09	3, 4	Wollaston
	243*	2, 4	Brandt
	210**	3, 4, 5, 6	Ulloa
	39.102		Seaborg, et al.
	140.907	1	P. and M. Curie
	47**	3	Davy
	31*	3	Welsbach
	26*		Glendenin and Marinsky
	22*	2	Hahn and Meitner
	86.2	0	P. & M. Curie, Bemont
	02.905		Dorn
	35.47	3	Noddack and Tacke
	1.07	1	Wollaston
	0.35	3, 4, 6, 8	Bunsen, Kirchoff
	4.936	2, 3	Claus
	8.96	3	Boisbaudran
	8.086a	2, 4, 6	Nilson
	7.870b	4	Berzelius
	.9898	1	Berzelius
	.62	2	Davy
	.064a	2, 4, 6	Crawford
	.948	3	
	**	6, 7	Eckeberg
	60	2, 4, 6	Perrier and Segre
	924	3	Von Reichenstein
	37	1, 3	Masander
	038	4	Crokes
	034	3	Berzelius
	9	2, 4	Cleve
	0	3, 4	Gregor
	5	6	d'Elhujar
	3	4, 6	Klaproth
	12	3, 5	Sefstrom
		0	Ramsay, Travers
		2, 3	Marignac
	5	3	Gadolin
		2	
		4	Klaproth

vn to be variable because of natural variations
ranges are: hydrogen ± 0.00001; boron ±
01; silicon ± 0.001; sulfur ± 0.003.
elieved to have the following experimental
n ± 0.001; iron ± 0.003; bromine ± 0.002;

a) is still in doubt because its discovery is

	7a	0	Orbit
		2 0 He 4.0026 2	K
9 −1 F		10 0 Ne	
18.9984 2-7		20.183 2-8	K-L
17 +1 Cl +5 +7 −1		18 0 Ar	
5.453 8-7		39.948 2-8-8	K-L-M
5 +1 r +5 −1		36 0 Kr	
909 18-7		83.80 -8-18-8	-L-M-N
+1 +3 +7 −1		54 0 Xe	
9044 8-7		131.30 -18-18-8	-M-N-O
		86 0 Rn	
9-7		(222) -32-18-8	-N-O-P
			-O-P-Q

-N-O-P

-O-P-Q

4/24/73 dlg

SCAMP #1 less storage $2050.00

Power PAC
- Enclosure 40.-
- Power supply ±5V, ±12, +8.5=100.-
- mtg Hardware & gate 25.-
- AC/DC cables 40.-

CALCULATOR $743.00
- Enclosure 40.-
- fan 6.00
- internal AC/DC cables 10.00
- KBD 101.-
- CRT 80.-
- Console 34.00
  - Panel 10.-
  - 8 LED's 8.-
  - 2 SPDT Slds 3.-
  - 1 SPDT Tog 1.50
  - 1 cable 6.00
  - Misc mtg 5.00

[ELECTRONIC Package
- gate & mtg hardware 25.-
- back panel board 60.-
- Card A attachment 108.- includes cassette, KBD, TPA, Printer, & shift.
- Card B (PALM) 177.-
- Card C - Storage interface and display 92.00
- storage cards (8) (1360)
- Misc hardware 10.-

$ 948.00

30% Contingency 284.40
Labor 60.
Storage 1360.-

Total SCAMP 1 with 64K storage and all attachments 2652.40

Copied by Art McCarthy & Dell Hollenbeck 6/14/73 dlg

4/24/18 Communications adaptor (TPA)
VTL Only

2 7475	1.44
2 7496	2.54
1 75154	2.07
2 74150	3.68
1 7493	.83
4 7403	.88
1 7474	.44
1 7476	50
1 7404	24
3 7400	66
1 7402	22
OSC	5.00
90° connector	1.00
internal cable	5.00
	24.50

TPA
Communications adaptor
dutchers / VTL

1 dutchers	4.00
2 7496	2.54
1 75154	2.07
2 75150	3.68
1 OSC	5.00
90° connector	1.00
internal cable	5.00
	23.29

add insertion, assembly & Test.

4/24

Hardware Shifter (for PALM Only)

2	74194	4.00
1	74197	2.00
1	7475	72
1	7474	44
1	7450	22
1	7427	127
1	7404	24
1	7411	22
1	7410	22
2	7403	44
		9.77

1975

Cassette attachment

VTL ONLY

1 7475	.72
2 7474	.88
1 7493	.83
1 7403	.22
2 7400	.44
1 7402	.22
1 7410	.22
1 7420	.22
1 74123	1.00
Read / Write ckts	4.00
MOTOR DRIVER	1.50
Connector. 90°	1.00
	11.25
Internal Cable	5.00
	16.25

Cassette attachment
Dutchers / VTL

1976

1 dutchers modelle	4.00	2.89
1 74123	1.00	
read / write ckt.	4.00	
mtr driver	1.50	
Connecta 90°	1.00	
Internal cable	5.00	
	16.50	

add insertion COSTS
assembly & Test.
RAS Considerations.

Key Board attachment

		1975	1976
	VTL Only		
2	7474	44	
1	7408	27	
1	7410	22	
1	7400	22	
3	7403	66	
1	7404	24	
	flat cable to KBD	5.00	
		7.05	7.05

Dutchers KBD attachment

1 dutchers Module	4.00	2.89
1 flat cable.	5.00	5.00
	9.00	7.89

Attachment Card A	1975	1976
4W 6 Hi card	19.97	21.23
12 - 6.8 mfd Capacitors	4.20	
KBD attachment clutches	9.00	7.89
Hardware shift instruction (VTL)	9.77	....
Cassette attachment (VTL)	16.25	
printer attachment clutches/VTL	23.83	18.67
Communications adapter (VTL)	24.50	24.50
	107.52	

Card B (PALM) 177.00

Card C Storage enterface 108.00
and display
Uses clutches enterface
designed by Boca lab.

Storage Cards. 8 @ 170 1360.—

ROS Simulator - 4/25/73 dg

```
0080   244B    fetch beginning storage address to R4
 82    254C    fetch length count to R5
 84    1FFF    reset all attachments
 86    E140    get data, Inc +1
 88    0441    decrement R4  1
 8A    064C    H→L  4→6
 8C    C663    skip if no bits.
 8E    8086      repeat get data
 90    C443    skip if no bits
 92    8086      repeat get data.
 94    8094    STOP
 96  [0A00]    address
 98  [0400]    length count in hex.
```

4/25/13 Call from Tuttle

Storage interface module

9 lines in/out

256 x 4 from Fishkill

— programmable —

5X PALM. — new design —

Display card in layout —

should be ready next week.

Deck Cicone —

new mgr —

5/1/73 Product manager responsible for phase I review.

if phase I OK - receive funding for next phase

Phase II Design phase
Initial publications rewritten
functional specs - sign off begins
update forecast
better cost estimate
base manufacturing cost
programming cost - if software required
4 elements of cost (~~the element~~)
a) materials
b) direct labor
c) burden - total - cooling, floor space, + indirect cost administration, etc
d) manufacturing engineering
Contingency figure based on amount of input
e) progress curve (learning curve)
Ultimate costs - all of the above -

Must develop customer manuals at this time -

Patent operations must review work -

Do we have rights infringement; disclosure?

Product testing must be negotiated - (development test -)

Working model — Product test -
~~rugid~~ - Hardware test - Could be paper A test -
Product test now part of services group -

Phase III determines announceability of products.
Can be built per specs - etc - ?
Update market forecast
publish customer manuals

all phase III documents to Product pricing -
Product pricing is corporate function -
all other expenses added to initial ~~cost~~ cost -

Prepare release package -
Blue letter, etc - machine type
SPS number -

options ? must define -
World Trade ? 115V 50~ -
language options -

MFI ~~Machine~~ machine features indep
Software alpha test completion -

5/2/73

5" diagonal CRT
yoke deflection circuits
Horizontal - Vertical ~~Sync~~ Sync

Composite video or separate inputs OK.
~~line scan~~ american standard lines 525
Band Width - 3.5 MEGHERTZ or better.
+12 Volt power to be supplied by Host System.
Sony ~~505~~ TV 500 U without tuner, IF, etc
has been ~~used~~ modified and used successfully -

1K ~~5K~~ 20K 50K

5/3/73 SLT Cable 5802172
Check Print for possible usage

SLT Cable 811645
360 flat cable assembly

Azimuth tape - 2 week delivery for NY. $40 each.

Re-third SLT VTL board.

Jim Irving 253-1473
VTL 1/3 board wire it yourself.

5/3/73 Printer attachment — back connectors

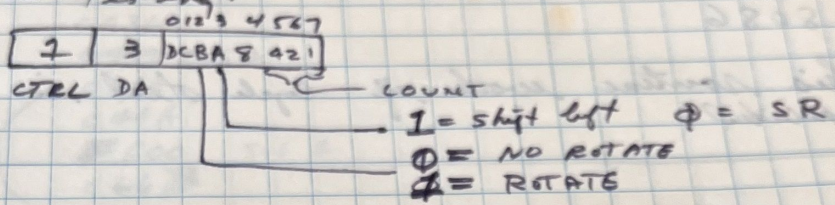
K3	D04	– forms DR B	H12-8
	D05	– forms DR A	H12-3
	D06	– PRINT MTR B	H13-8
	D07	+ FORMS EMITTER	H16-9
	D08	GROUND	
	D11	+5V	
	D12	– LEFT MARGIN	C14-9
K3	B03	– Forms DR $\overline{B}$	H12-11
	B04	– " " $\overline{A}$	H12-6
	B05	– Print mtr $\overline{B}$	H13-11
	B07	– Print mtr $\overline{A}$	H13-6
	B08	– Print mtr A	H13-3
	B12	– 3 Volts – temporary	S
K4	D04	– DR wire 2	H14-8
	5	4	H14-3
	6	6	H15-8
	7	8	H15-3
	8	GROUND	
	9	– ready	H16-13
	D10	+ end of forms	H16-1
	D11	+5V.	
K4	B03	– DR wire 1	H14-11
	4	3	H14-6
	5	5	H15-11
	B07	7	H15-6
	8	+ emitter 3	G16-12
	9	2	G16-5
	B10	1	G16-4
	B12	– reset to Printer (P.O.R)	D12-10 – string

3/8/73

Les Holmes for Dulchen Info

3584

Shifter testing.




```
0080   8301
  82   6220   } address of R3
  84   8207
  86   4428     load console bits.
       1311     Set SL 1
       033E       SL data R3
       8086
```

```
80     8302
82     8404
84     1331  ← rotate left.
86     033E  |
88     C342  |
8A     808A  | error trap.
8C     8080  (8084)
```

no error

```
80     8301   0300   0080
82     8402   0400   0082
       1331
       033E
       C342
       808A
       044B
       044A
       8084
```