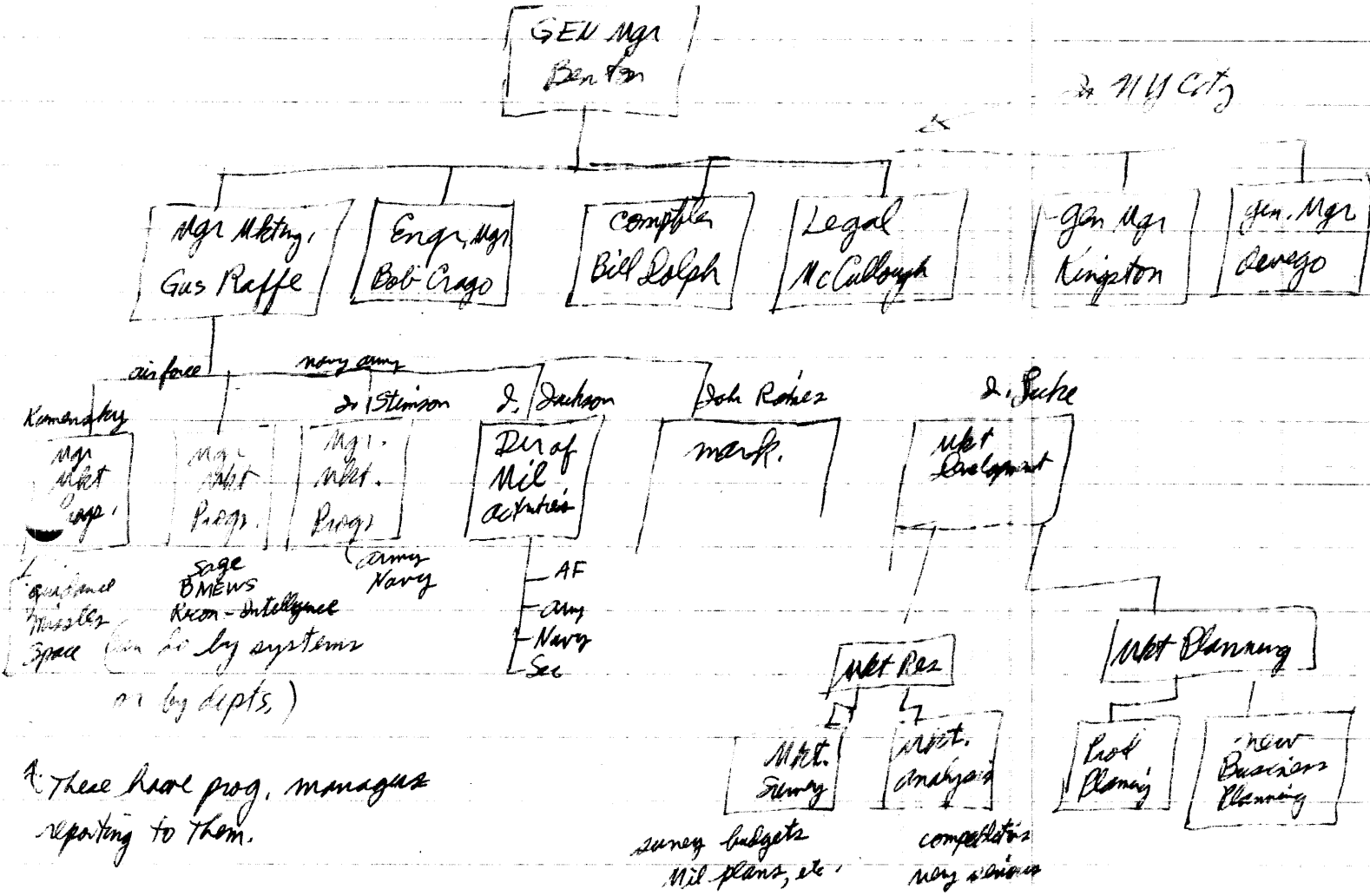


John Luke: Military Products.

Aug 13 58

Structure of MPD



These have prog. managers reporting to them.

WW, Weather

Mil spends about \$4 billion per year

MPhone 5% of mil business would like 10% selected

Not trying to get a gen. prod. to sell to Mil.

BMEWS

Simple: BMEWS

RCA-Sylvania get contract instead of IBM-GE who offered 100%

RTA being sold to { Q78 36bit wtd.
SAC 48bit
Navy

→ question of generality: a military computer for all mil. projects,

Mission: Handle complex special purpose systems for military operational or logistical purposes and/or ^{the} aeronautic ~~and~~ aeronautic fields.

eg. air traffic control

Notions

Profit motive - a "decent" profit - return on investment (The percentages are equiv. to DP because of govt. financing.)

Patriotism -

Res. & Devel. - new knowledge.

give new I/O to DP
new computer
etc.

Products:

1. Systems Management eg. ~~Q78~~ BMEWS

2. Computer Subsystems Q7 etc

3. I/O Systems real time, etc

4. Data Transfer sub-systems, switching systems, MAC bases, etc (most inadequate in this field)

5. Applied Research eg. ergonomics, thin film

6. System Studies eg. air traffic, sonar patterns

M-4-60 Sperry Rand } competing machines.
 Rocky Dick Sylvania }

Airborne systems - Guego

AN/ASQ-38 in B-52's

AN/ASB-4

IBM's systems
 analog

radio, ~~etc~~ } sub-contractors.
 camera
 true heading,

AN/ASQ-38 B-70 system (chem. powered)

① Digital Bomb Nav

DYNABOC 512 word core 12K Mag drum 22 bits + sign 16 bit instr.
 light weight etc. minitization,
 sq. 10 lb, printer

Circuitry Work at Kingston

R.T.A. (15 Million has been paid to date by contracts)

Speed:	1 μ sec mem (crgo)	1,780,000 instr/sec	1.78 μ s/op
	STRETCH. 2.4 μ sec mem. (stretch)	400,000 instr/sec	2.5 μ s/op

Design Features

- pulse circuit design for low power
- liquid cooled
- stress shield logic
- 30:1 volume reduction over SAGE

Proposed for SAGE II system. have bid SAC 48 bit, some VFL, etc.

Pulse Core Logic (registers + matrix logic)

Speed: 30,000 instr./sec. 33.3 ns/ops

few transistors

50% less volume than RTA

No cooling

not compatible with RTA circuits.

Proposed for: Management central

Informers - info retrieval

BASIC PAC } systems bid.
LOGIC PAC }

Adv. SAGE

Speed: 500,000 instr. per sec. 2 μ s/op

Mem: stretched mem

Acc. drum 210,000 words

36 bits

7x more powerful than FSQ-7

$\frac{1}{4}$ floor space of FSQ-7

I/O drum 130,000 words.

100 ops 10^{-4}
10,000

SAC proposal: (similar to 709A)

Army Mobile Computer Prog.

accelerators	30,000	8 μ s core mem	4K each
super accelerator	50,000	informers drum	
complete error checking		I/O controller	
		Crosstell Unit	communication

Transistorized Drum

1000 tracks 48 bit w/d
8K bits/track 20 fields
8M bits/drum

Max rate 400,000 words/sec (bit rate per track)

floating heads.

10 year life.

Cryogenic Mem:

Speed 1 μ sec or less

Capacity 64x64 ~~bits~~ slows speed if large.

Volume 1/100 of ferrite mag

Progress 8x8x21 op. in Jan.

1959 in RTA.

Thin Film Mag. Mem.

Speed 2 μ sec
1 μ sec ultimate

Capacity ~~64~~ 64x64

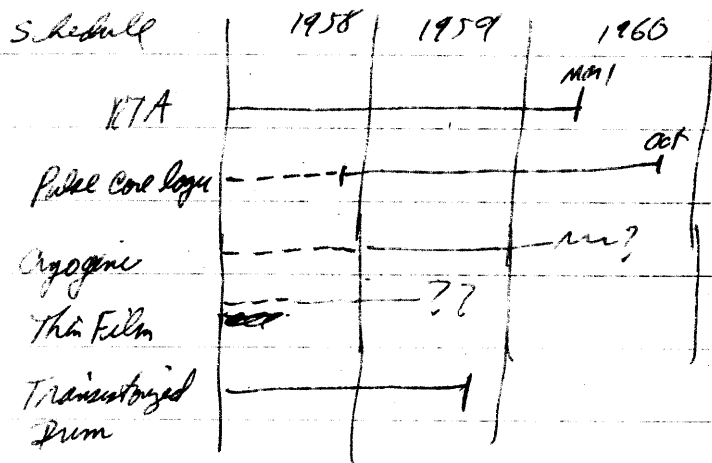
No cooling

low current

low signal output (1-10 millivolts)

11x66 matrix due Oct 58

Display ECPX
 upgrade present equipment
 - bright tubes
 - audible communication.



	Market
438L Intelligence	~2B
465L SAC Control	\$170M
456L Communications WorldWide	\$10M
423L Commt	~50M
433C Worldwide Weather	~50M
117L Reconnaissance Satellite	~30M

should be compatible,