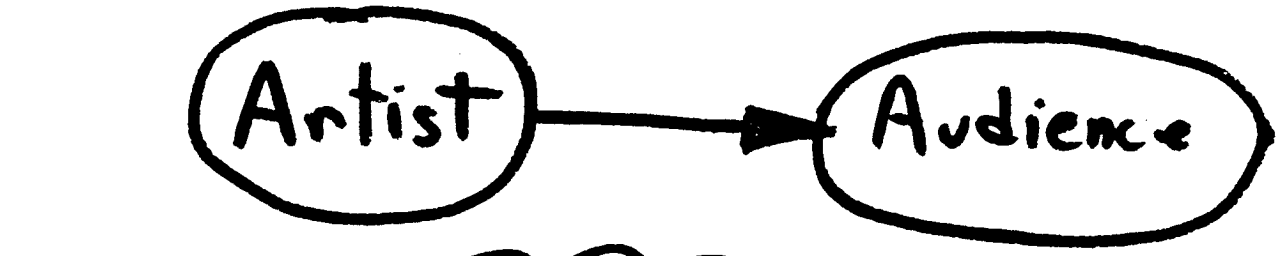
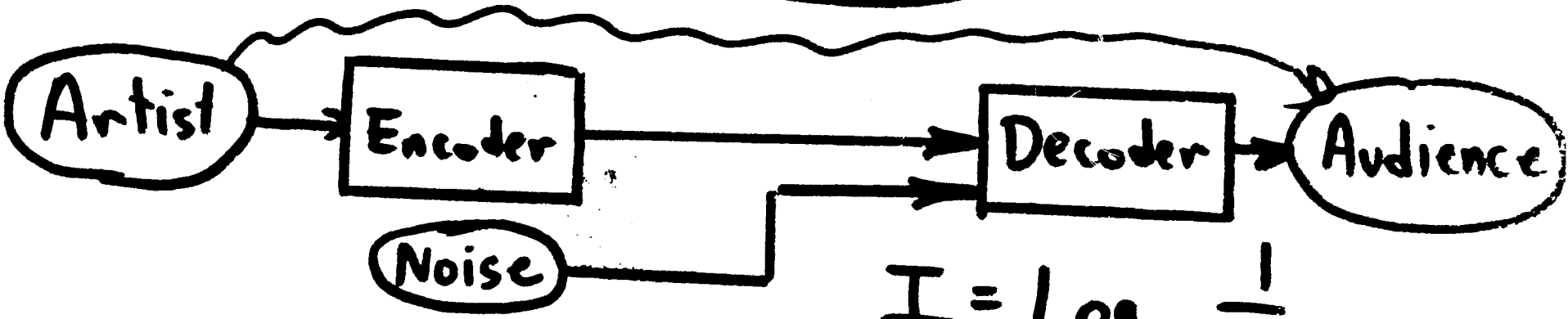
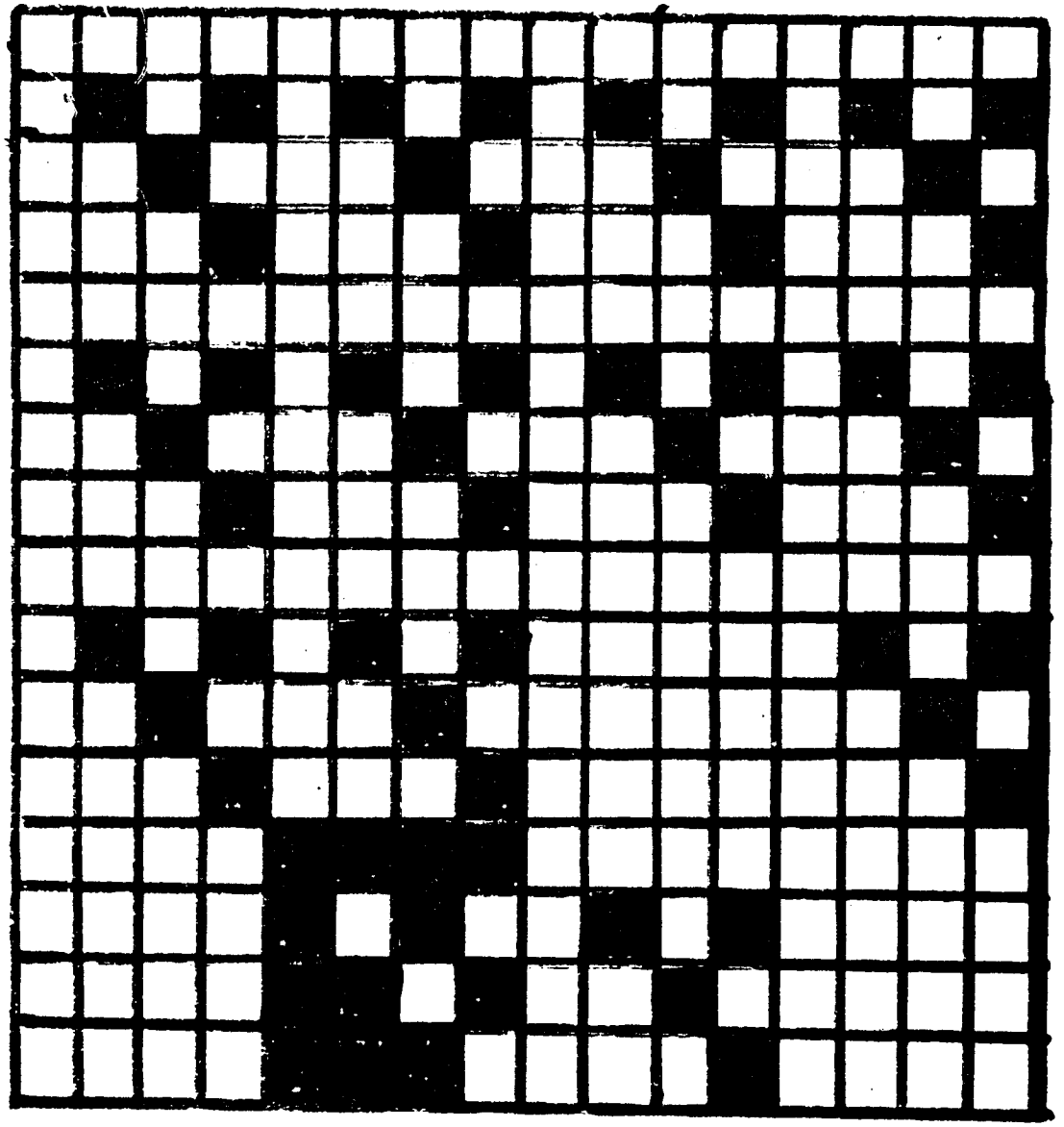




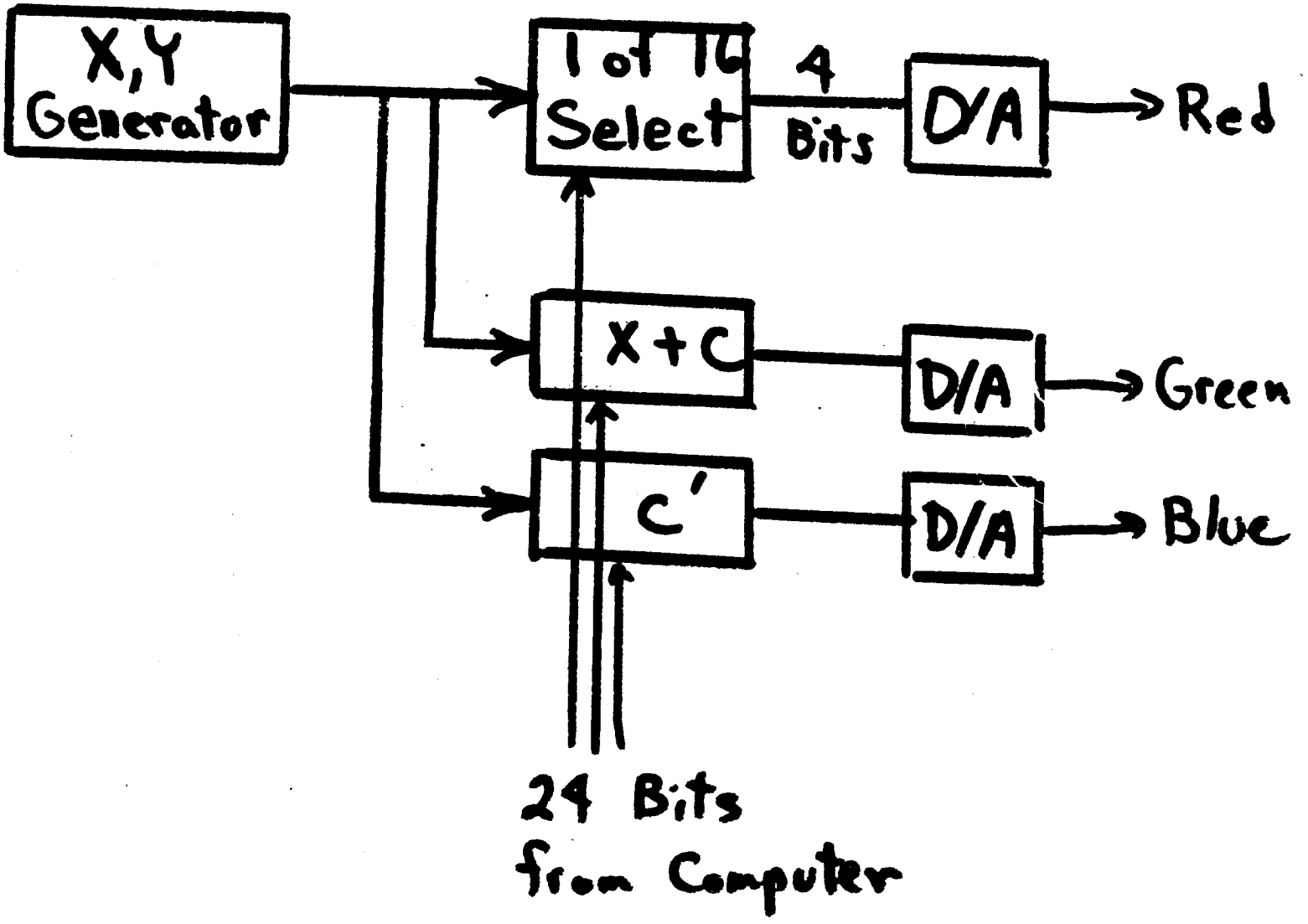
$$I = \log_2 \frac{1}{P}$$

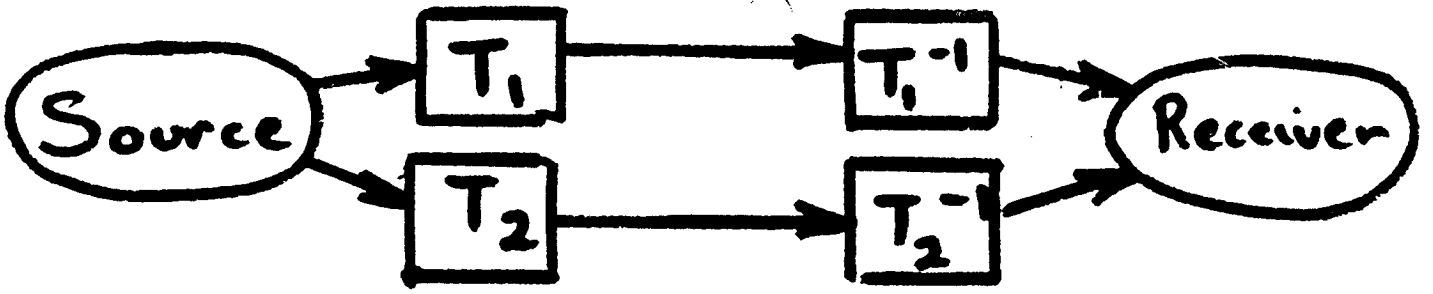
yes, no	1 Bit
Key Stroke	6
Telephone	1200 Bits / Sec.
Typed Page	9000
Video Frame	1,250,000
Human	~ 10 ? Bits/Sec

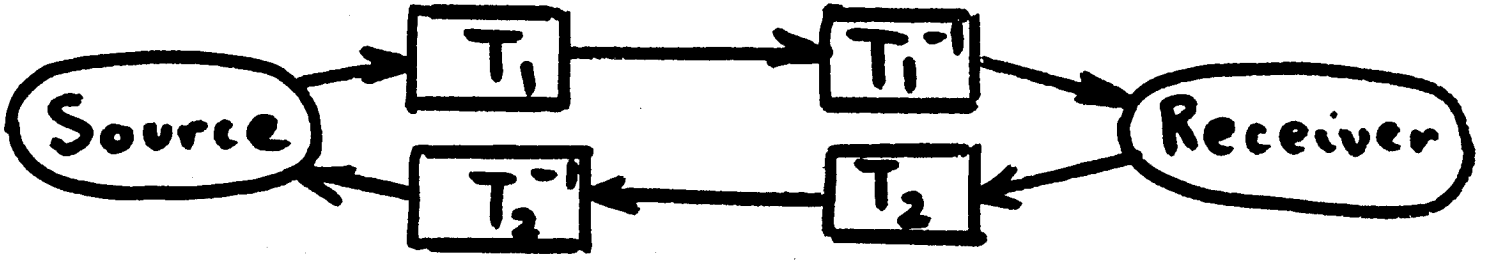


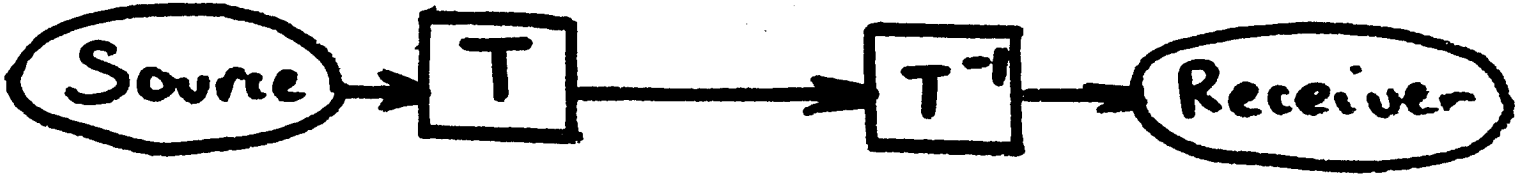
$16 \times 16 = 256$ Bits

$2^{256} \simeq 10^{80}$ Different patterns

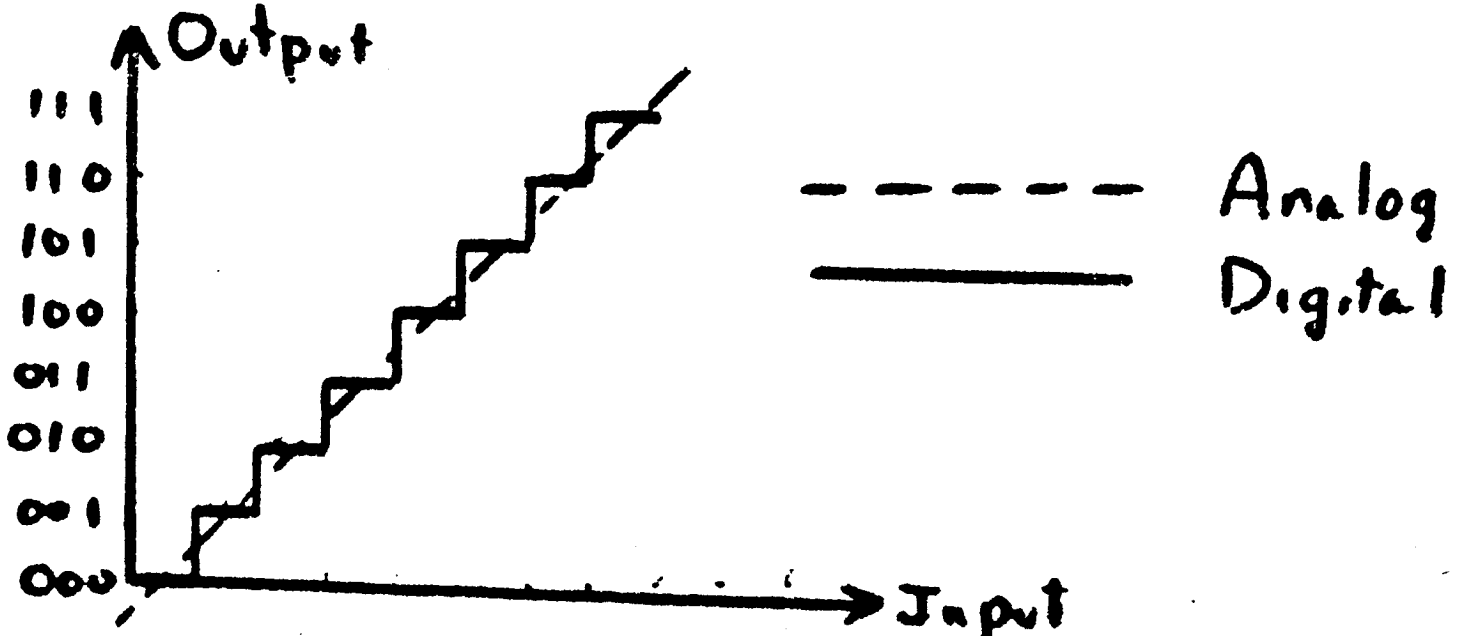

X,Y
Generator
1 of 16
Select
4
Bits
D/A
Red
X+C
D/A
Green
C'
D/A
Blue
24 Bits
from Computer

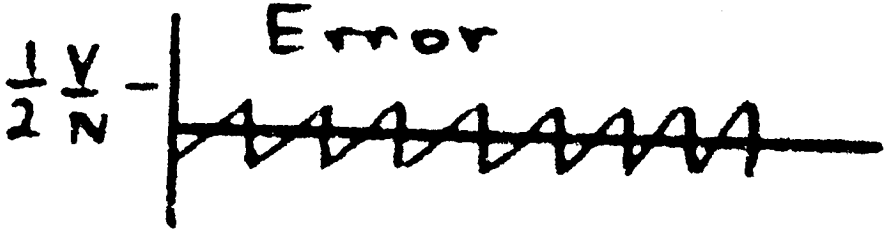

Source
T_1
T_2
T_1^{-1}
T_2^{-1}
Receiver


Source
T_1
T_2^{-1}
T_1^{-1}
T_2
Receiver


Source
T
T^{-1}
Receiver

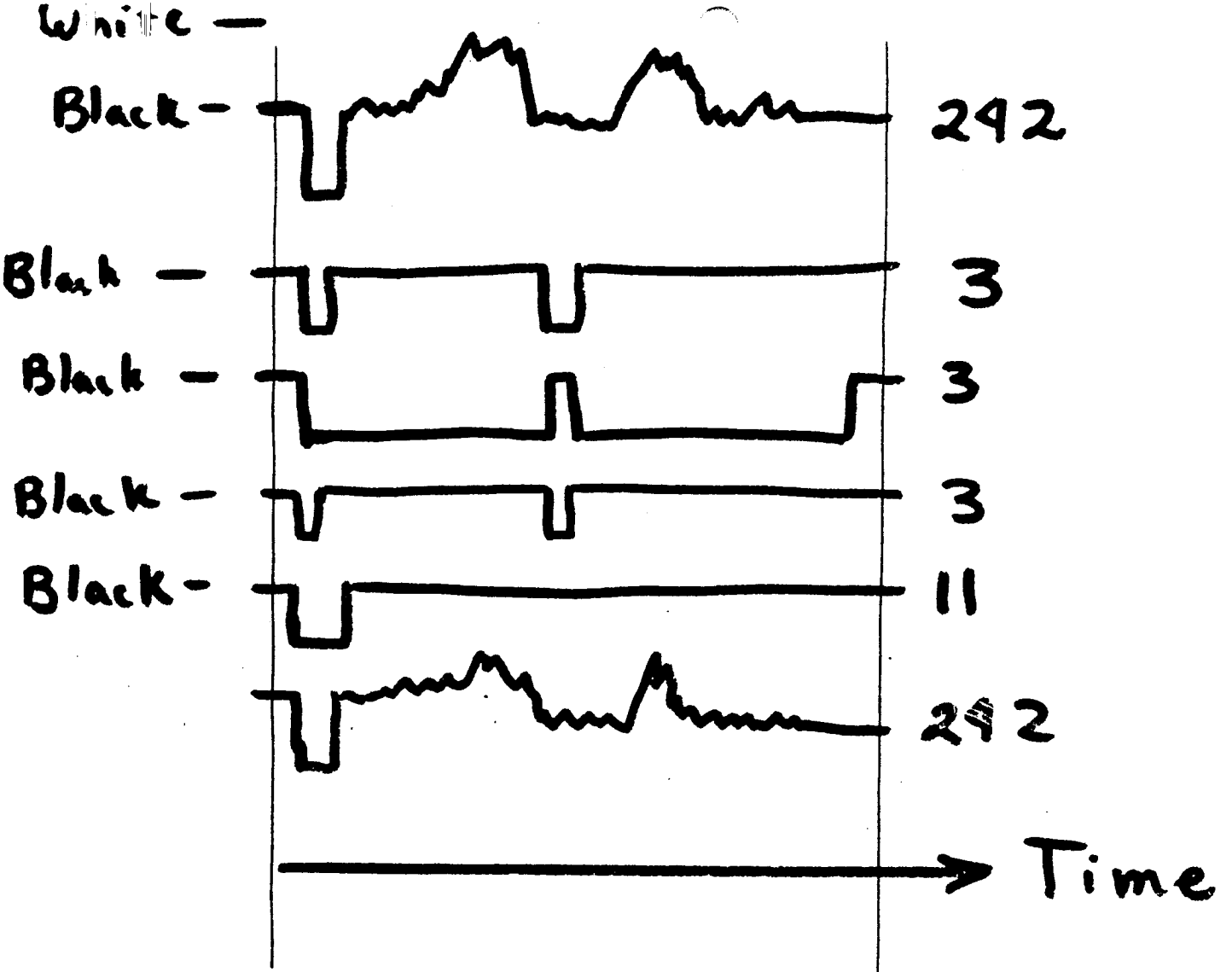
$$T\,T^{-1} = I$$



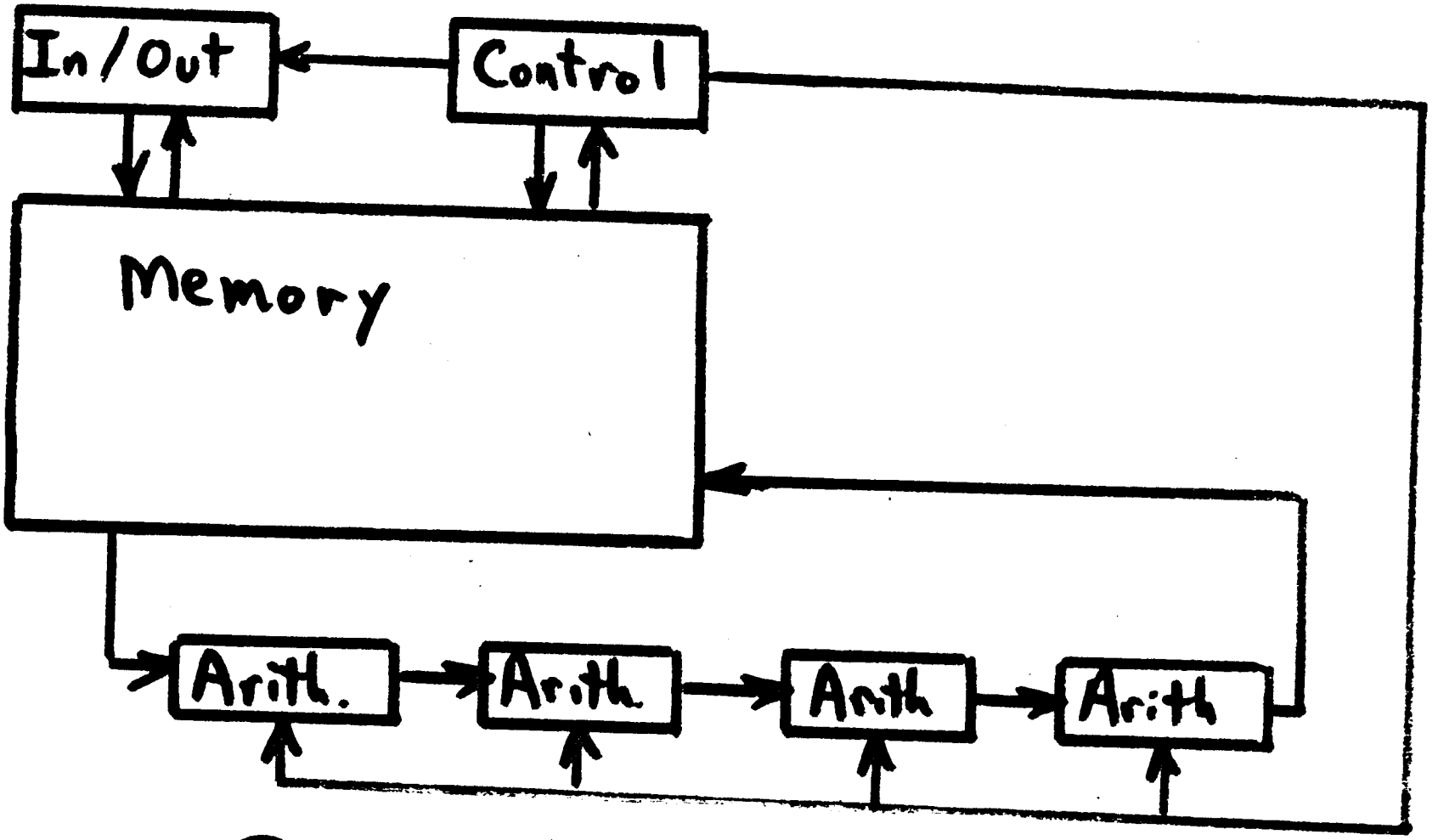


$$R.M.S. = \sqrt{\frac{\int_0^1 \left(\frac{1}{2}\frac{V}{N}\right)^2 dt}{\int_0^1 dt}} = \frac{1}{\sqrt{12}}\frac{V}{N}$$

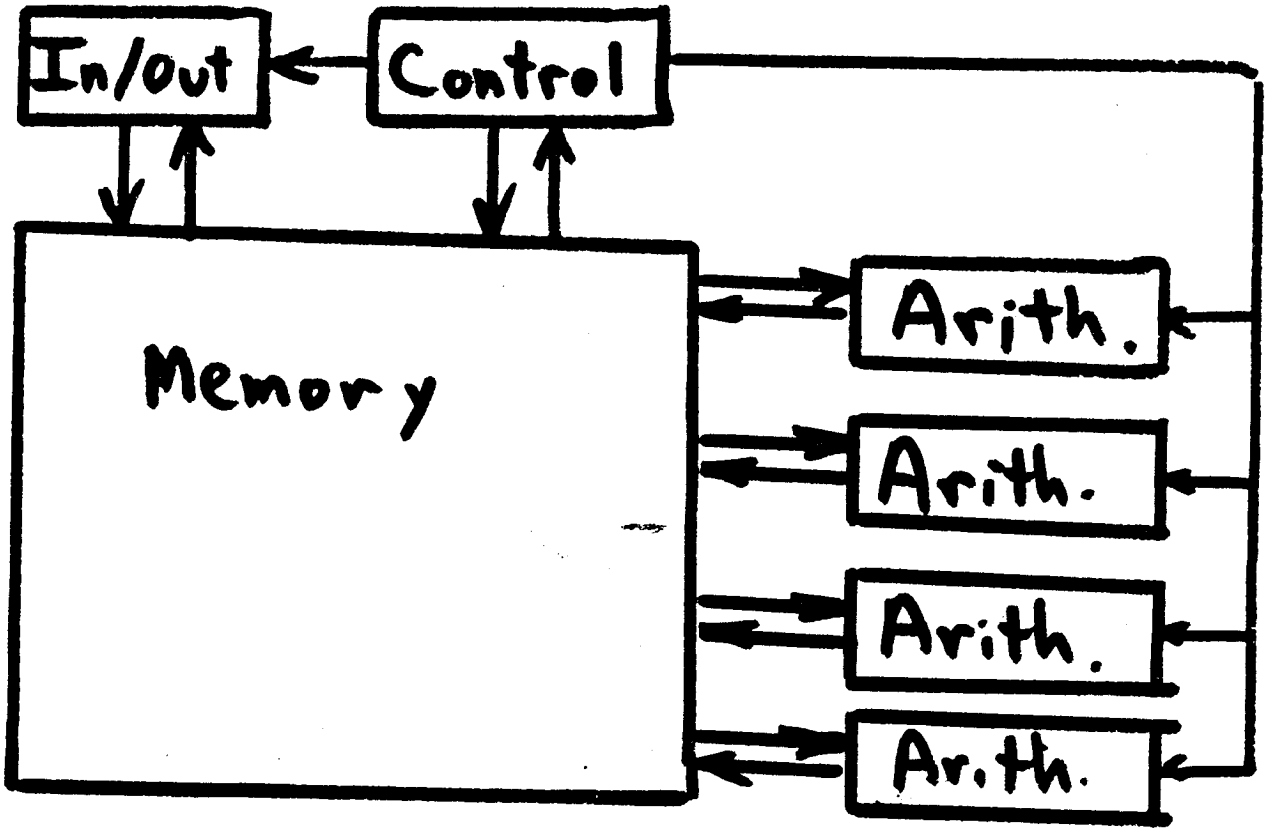
5 Bits $\simeq$ 40 db



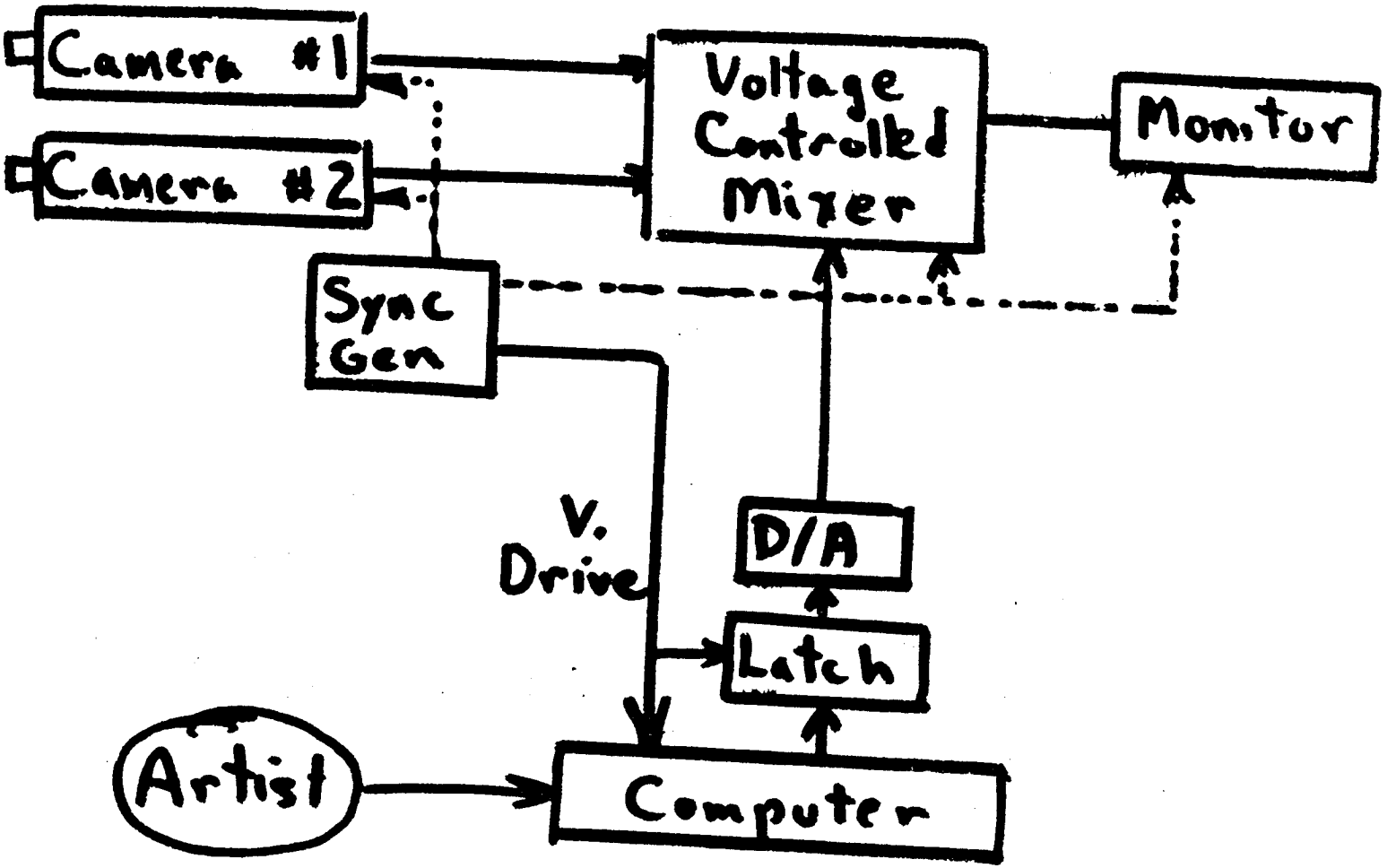
108,000 frames per hour



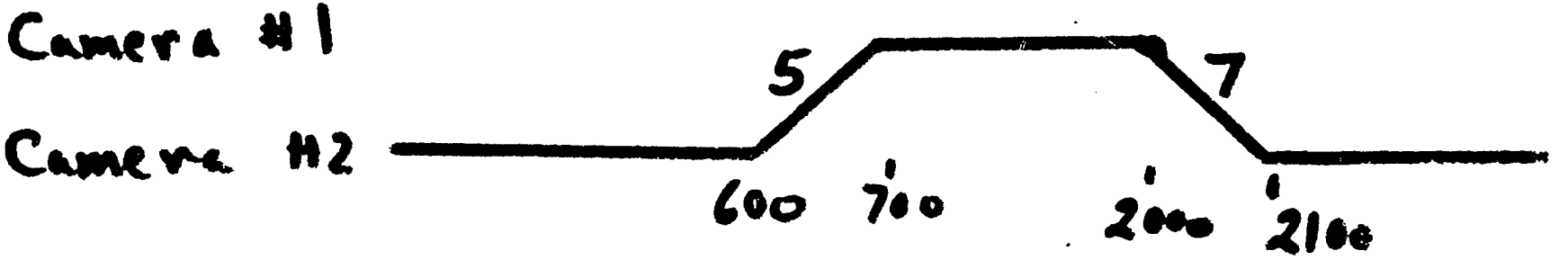
Pipe Line Architecure

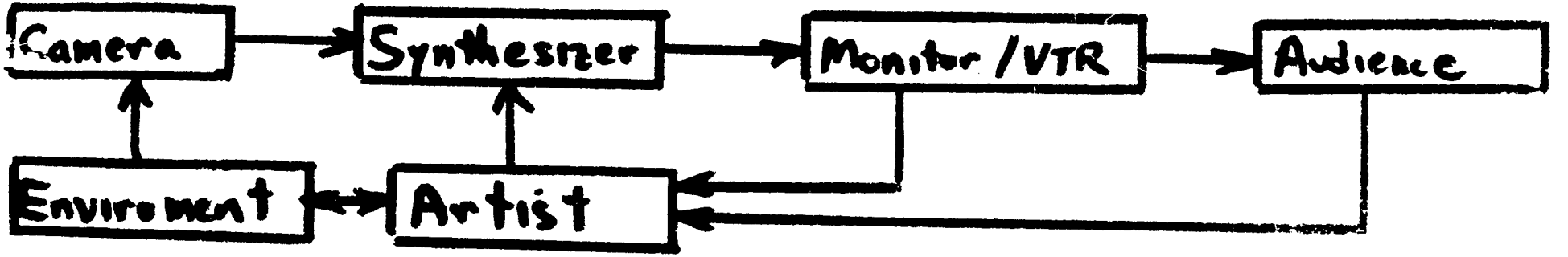


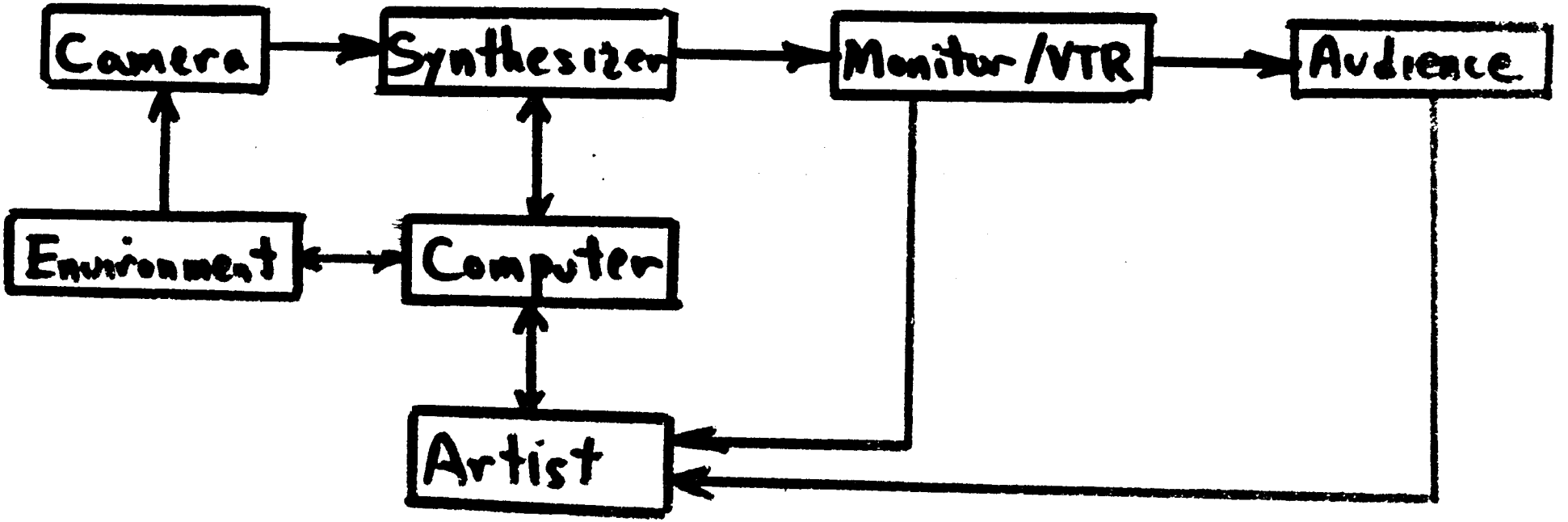
Parallel Architecure

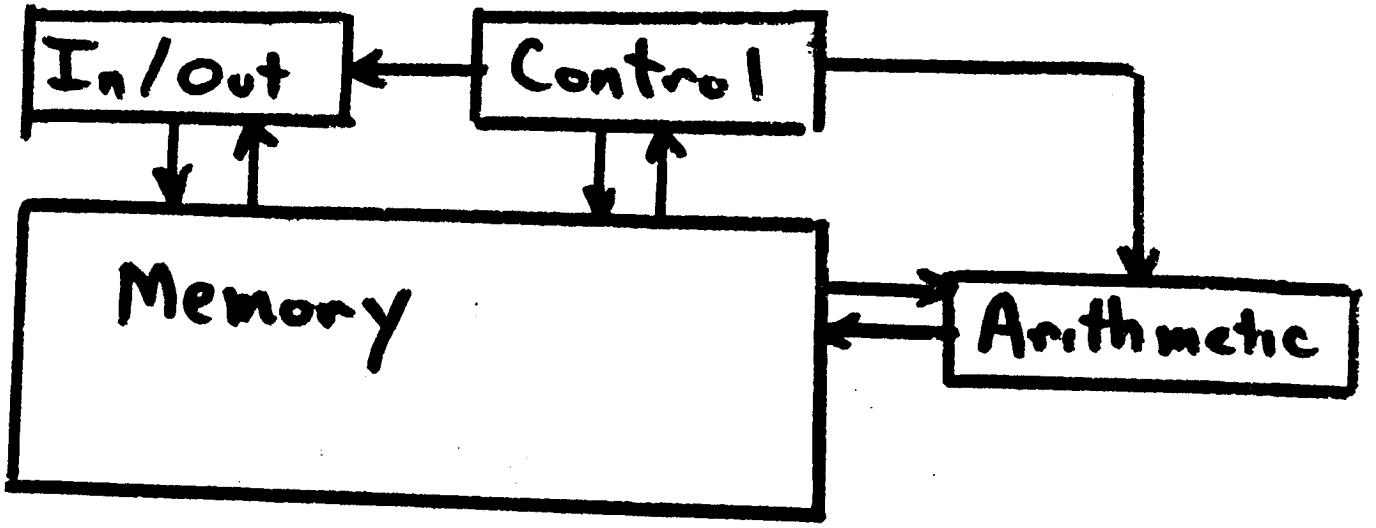

Camera #1
Camera #2
Voltage Controlled Mixer
Monitor
Sync Gen
V. Drive
D/A
Latch
Artist
Computer

Score:


Camera #1
Camera #2
5
7
600
700
2000
2100


Camera
Synthesizer
Monitor /VTR
Audience
Enviroment
Artist

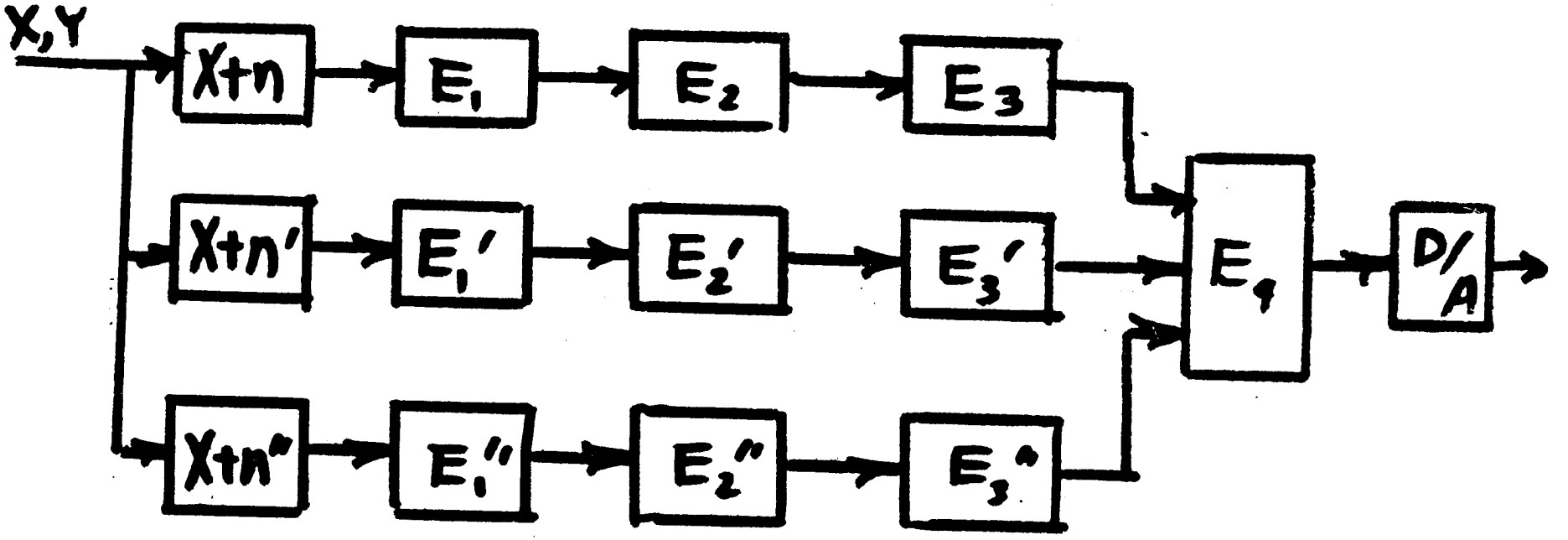

Camera
Synthesizer
Monitor /VTR
Audience
Environment
Computer
Artist



Instructions

Add
Subtract
Multiply
Divide
Input
Output

Go to
Read Memory
If, then ... Else
Clear
Store

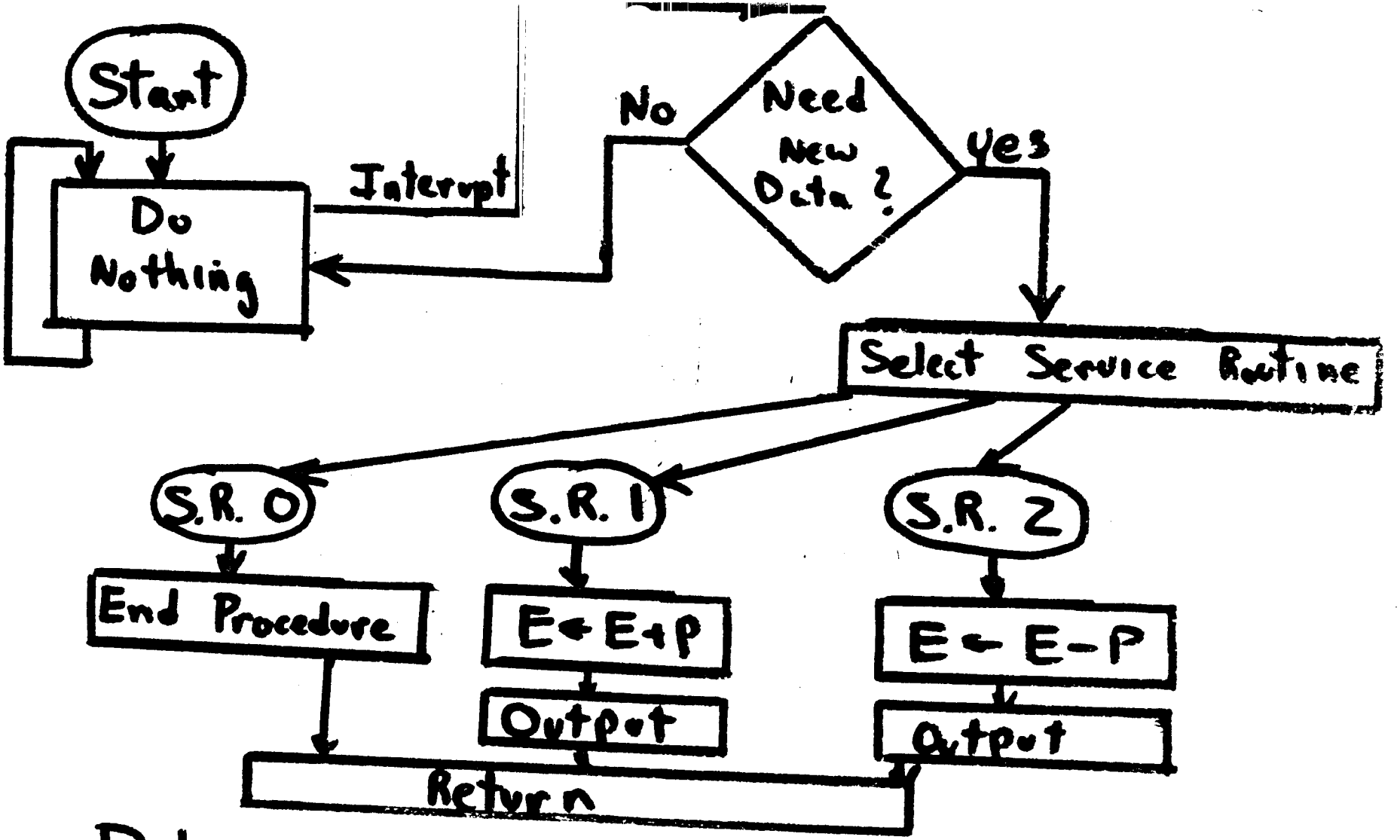


$$V(t) = f_n[X(t), y(t)]$$

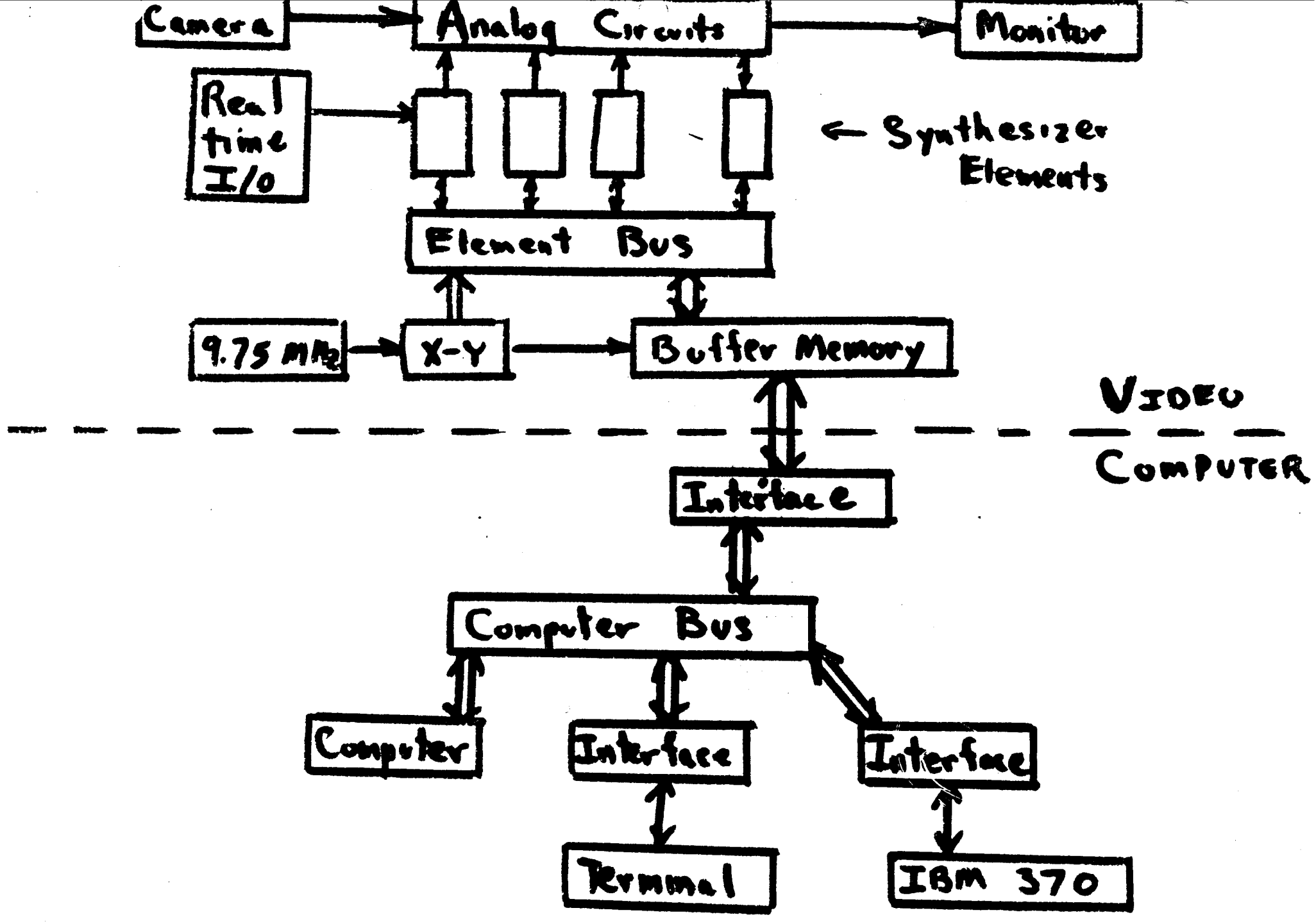
102.5 nS Delay per Element

Up to 100 Elements per Pipe line

E_1: $X+C_x$, $Y+C_y$ $\quad$ E_1': $X+C_x'$, $Y+C_y'$ $\quad$ E_1'': $X+C_x''$, $Y+C_y''$



Data Frame Count	Service Routine	P
600	1	5
700	0	0
2000	2	7
2100	1	0


Camera
Analog Circuits
Monitor
Real time I/O
← Synthesizer Elements
Element Bus
9.75 MHz
X-Y
Buffer Memory
VIDEO
COMPUTER
Interface
Computer Bus
Computer
Interface
Interface
Terminal
IBM 370

Mc Arthur SAID