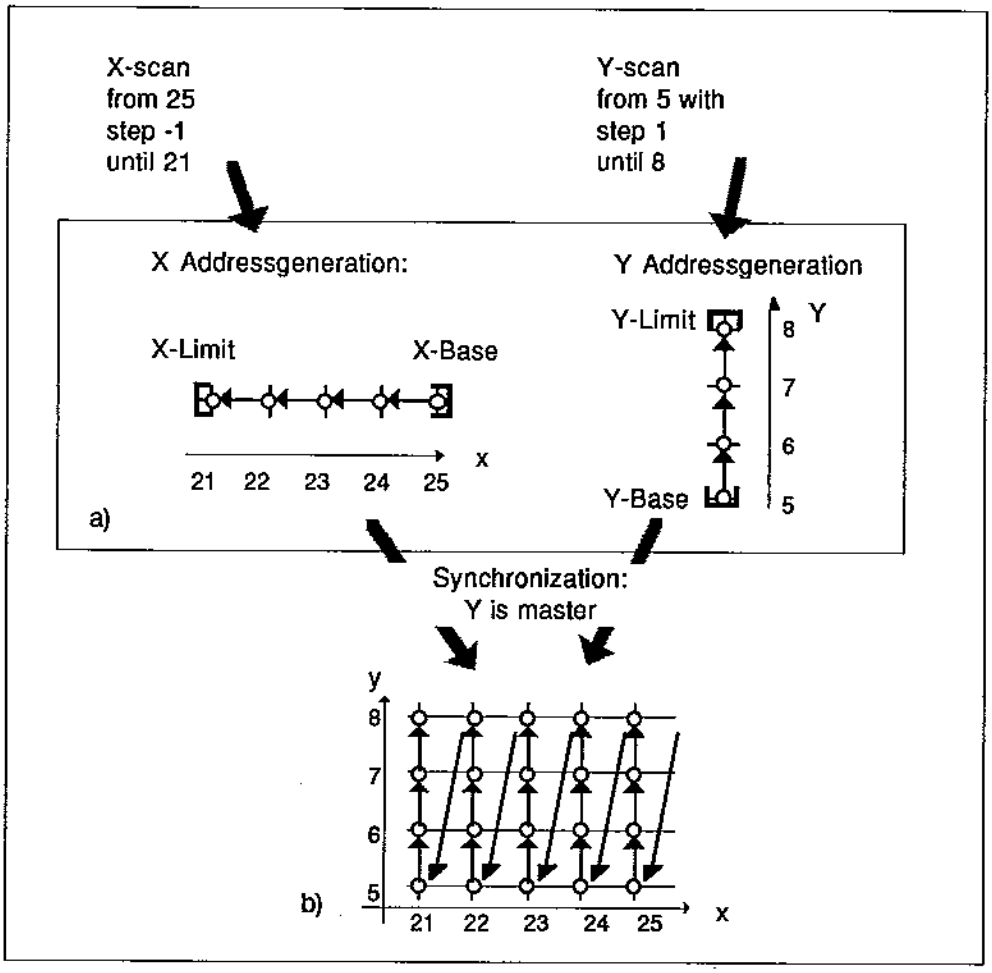
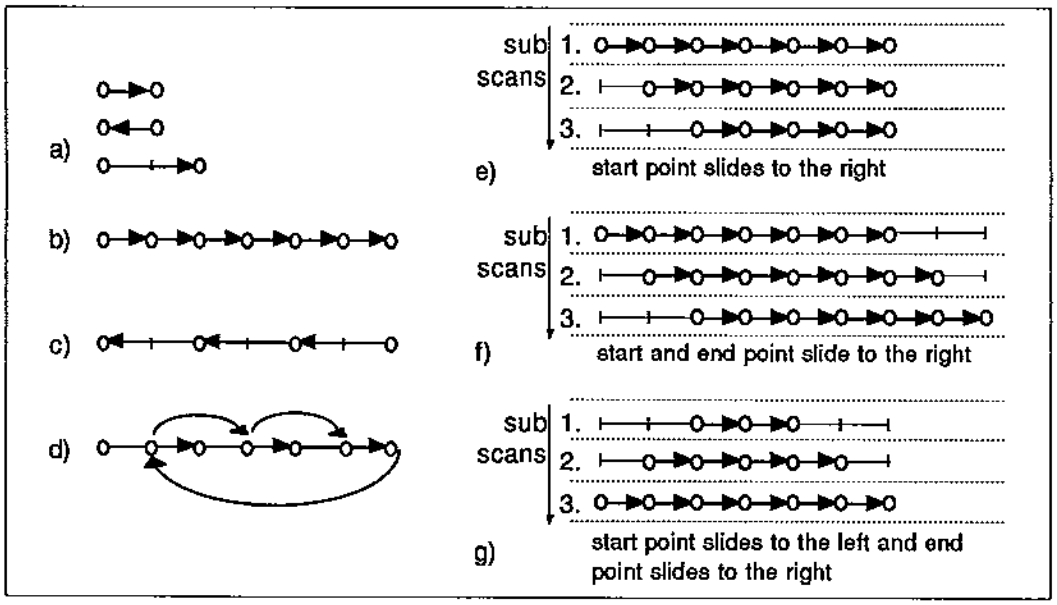
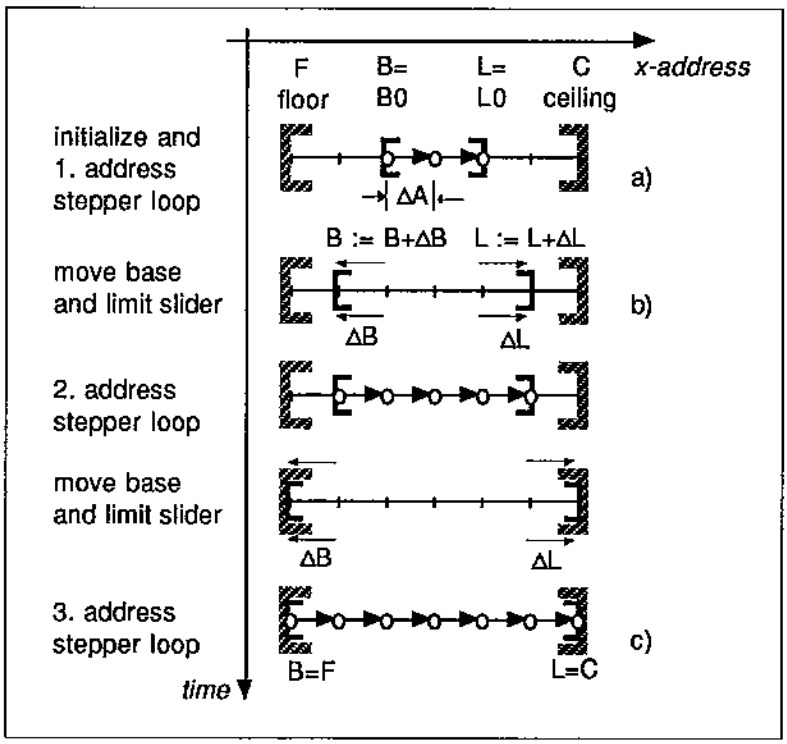
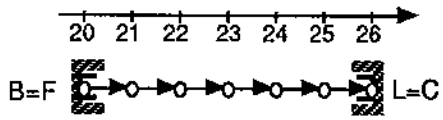
X	Y	Legend	parameters / modifiers
[	⌴	B = base slider	B0 = initial base ΔB = base increment
]	⌐	L = limit slider	ΔL = limit increment L0 = initial limit
[	⌴	F = floor	
]	⌐	C = ceiling	
○		A = address	ΔA = address increment




a)
b)
c)
d)
sub scans
1.
2.
3.
e)
start point slides to the right
f)
start and end point slide to the right
g)
start point slides to the left and end point slides to the right

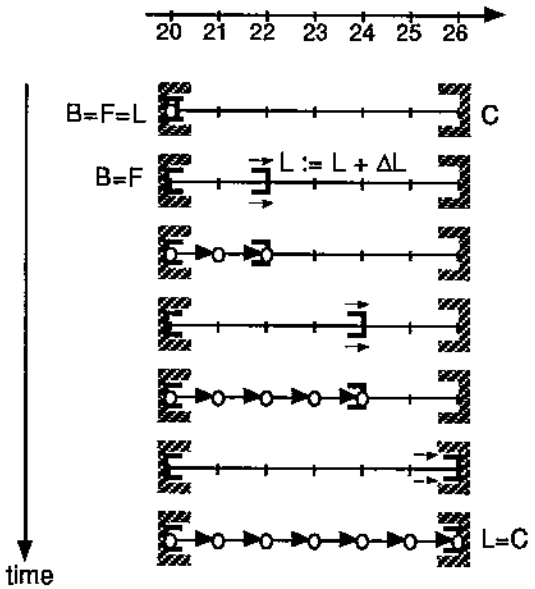

F
floor
B=
B0
L=
L0
C
ceiling
x-address
initialize and
1. address
stepper loop
ΔA
a)
B := B+ΔB
L := L+ΔL
move base
and limit slider
ΔB
ΔL
b)
2. address
stepper loop
move base
and limit slider
ΔB
ΔL
3. address
stepper loop
B=F
L=C
c)
time

scan
from 20
step 1
until 26



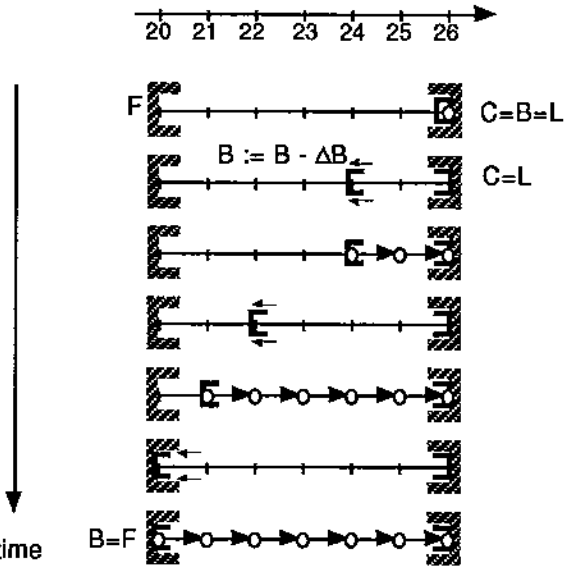
a)

scan
from 20
step 1
until 20 with slider_step 2 to 26



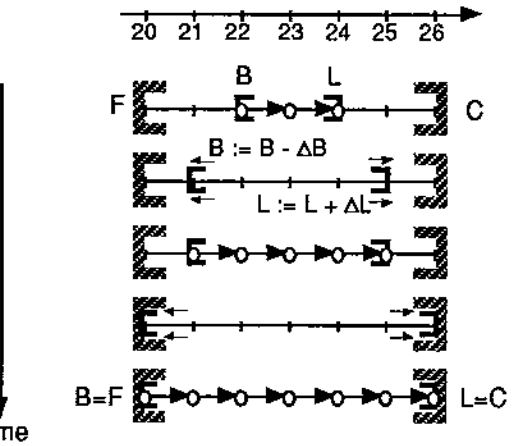
b)

scan
from 26 with slider_step -2 to 20
step 1
until 26

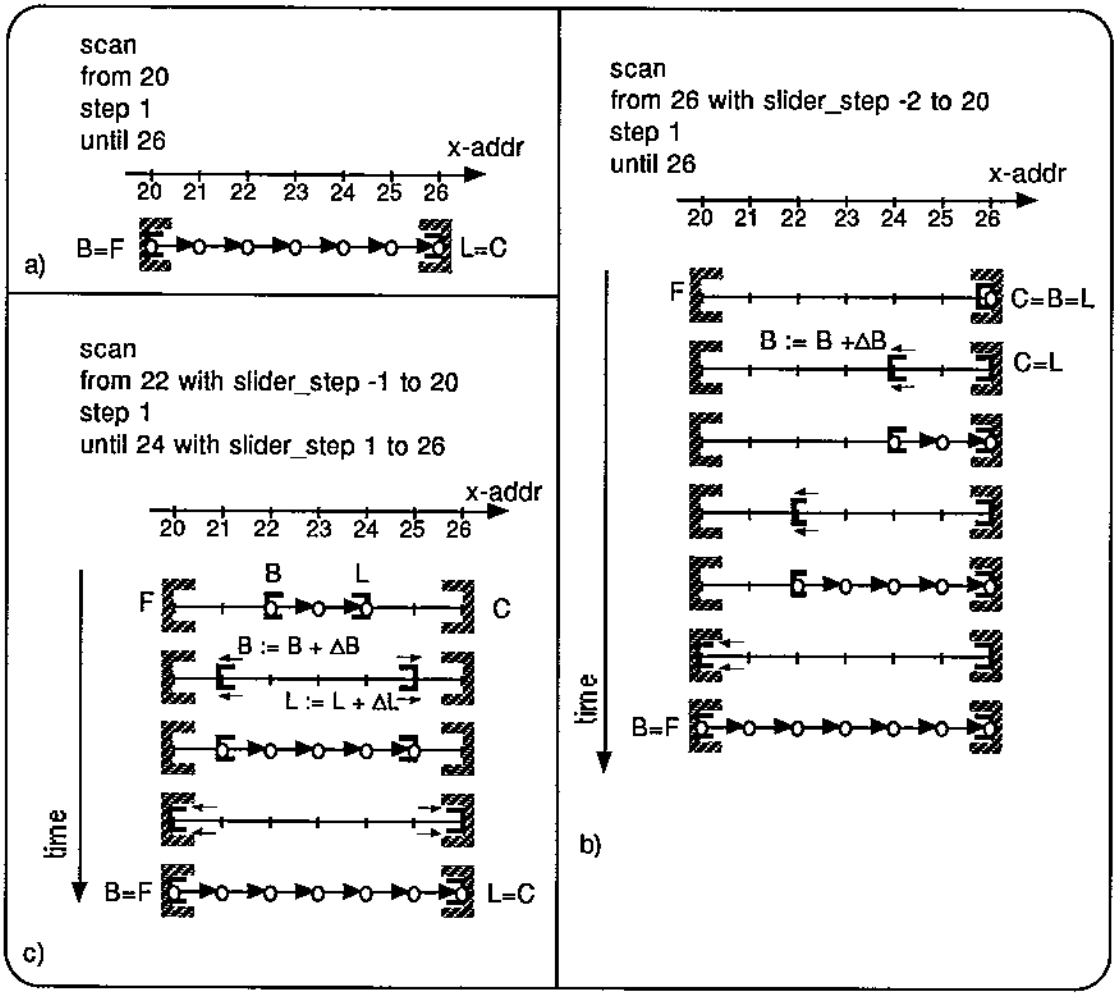


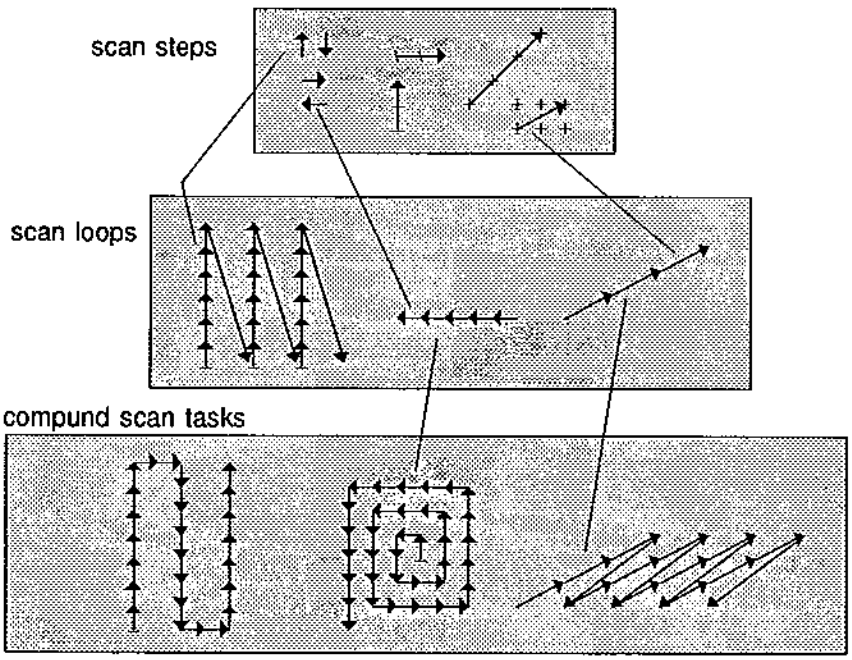
c)

scan
from 22 with slider_step -1 to 20
step 1
until 24 with slider_step 1 to 26



d)


scan
from 20
step 1
until 26
x-addr
20 21 22 23 24 25 26
B=F
L=C
a)
scan
from 22 with slider_step -1 to 20
step 1
until 24 with slider_step 1 to 26
x-addr
20 21 22 23 24 25 26
B
L
F
C
B := B + ΔB
L := L + ΔL
time
B=F
L=C
c)
scan
from 26 with slider_step -2 to 20
step 1
until 26
x-addr
20 21 22 23 24 25 26
F
C=B=L
B := B +ΔB
C=L
time
B=F
b)

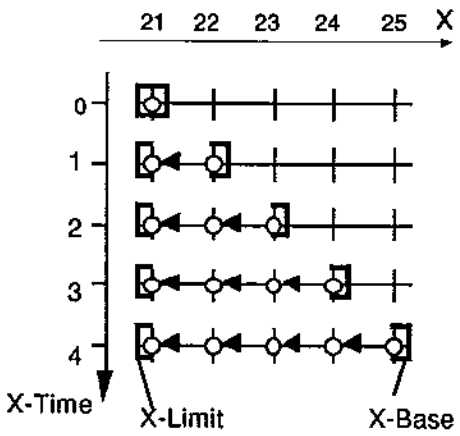

scan steps
scan loops
compund scan tasks

Master is Y;
X/Y-Trigger is interleaved;

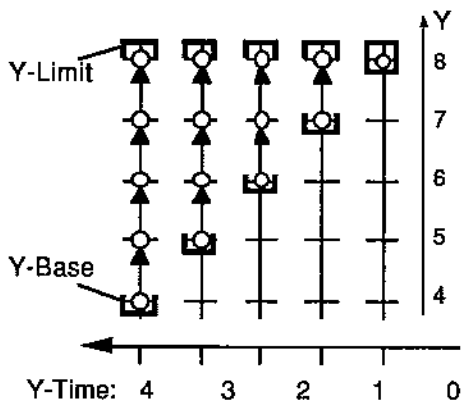
X-scan
from 21 with slider_step 1 to 25
step -1
until 21

Y-scan
from 8 with slider_step -1 to 4
step 1
until 8

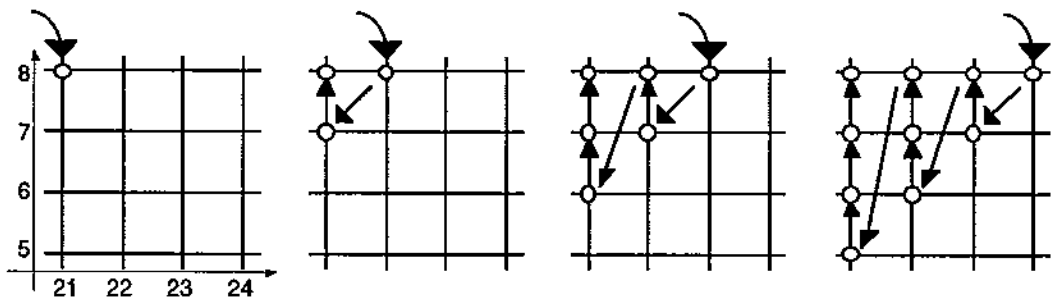
X Addressgeneration:



Y Addressgeneration



a)



Y-Time: 0 1 0 2 1 0 3 2 1 0
X-Time: 0 ----1 ---- ------ 2 ------ --------- 3 ---------

b)

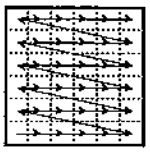
Scan macro: video scan

scan video step (ΔX,ΔY) skew (ΔB,ΔL,L0) flush (a,b)

default values if omitted: step (1,1) skew (0,0, ceiling) flush (0,0)

Default video scan:

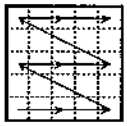
scan video step(1,1) skew (0,0,ceiling)
or simply: scan video



a)

The effect of step

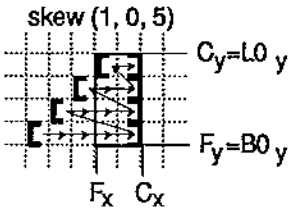
step (2,2)



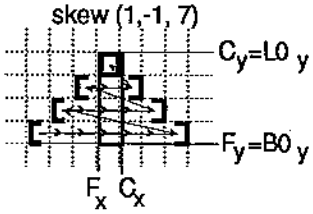
b)

The effect of skew

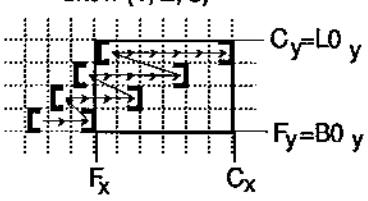
skew (1, 0, 5)



skew (1,-1, 7)



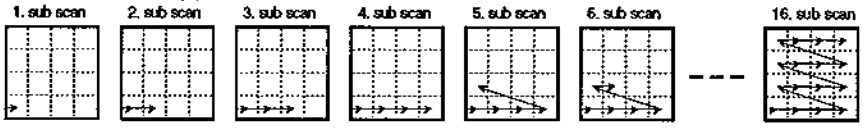
skew (1, 2, 3)



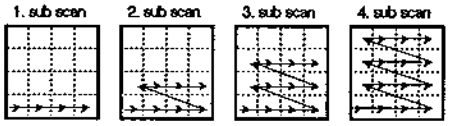
c)

The effect of flush

scan video flush (1)

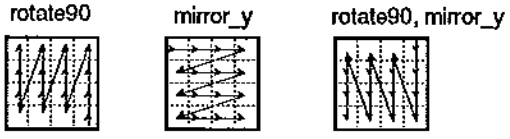


scan video flush ('all',1)

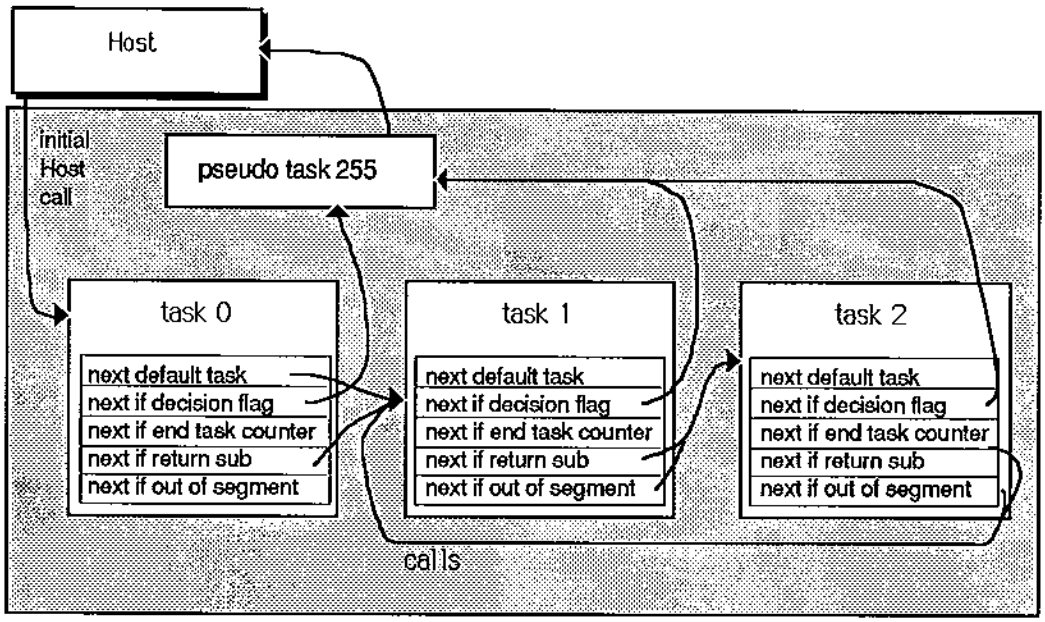


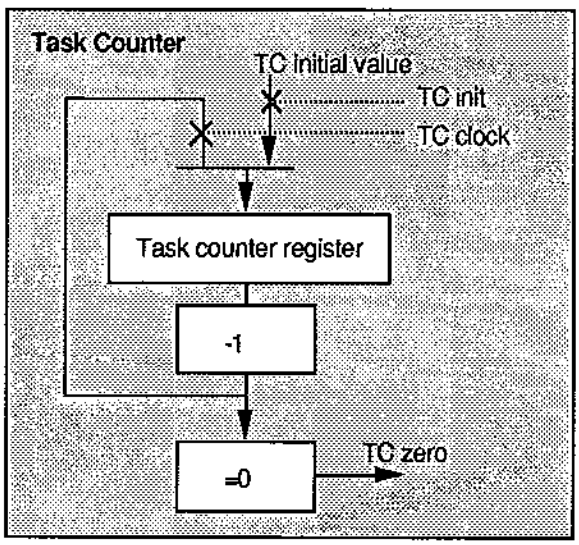
d)

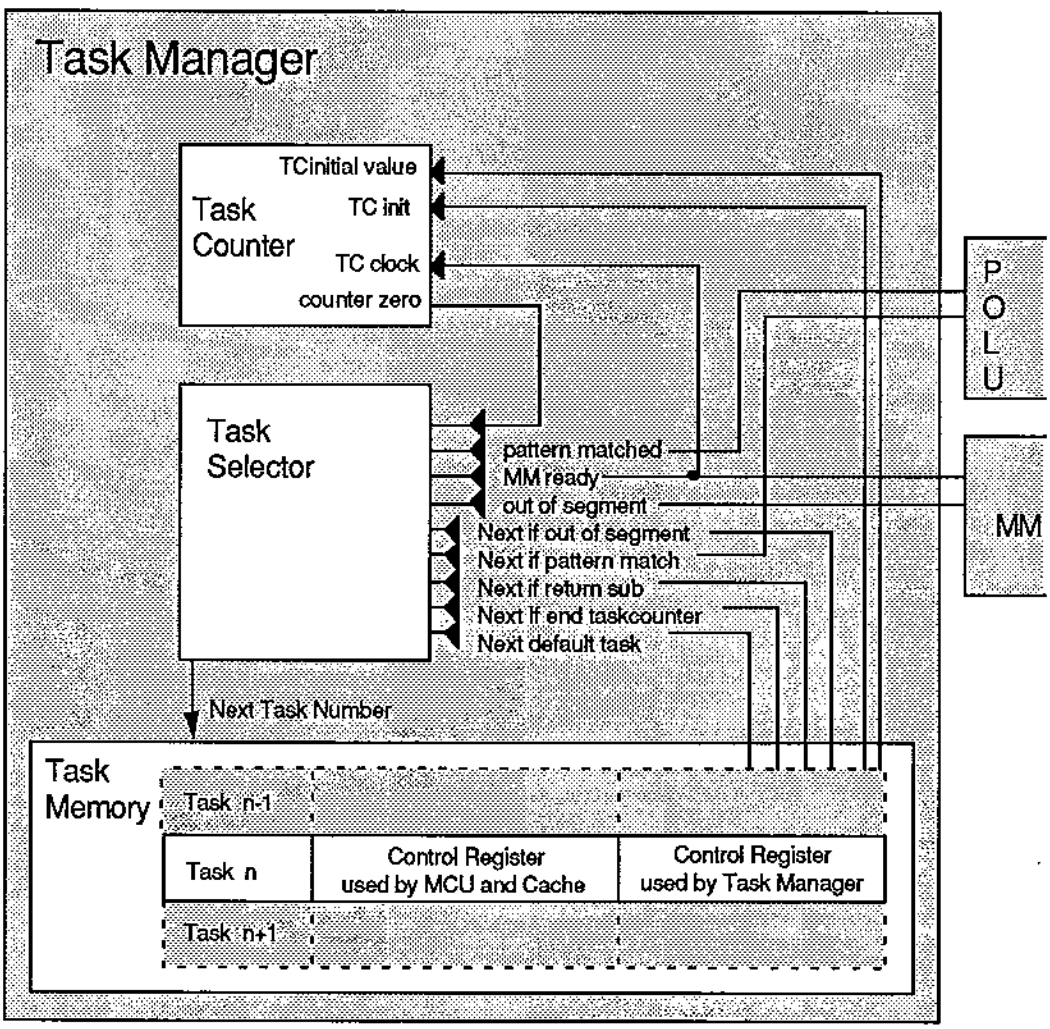
The effect of transformation

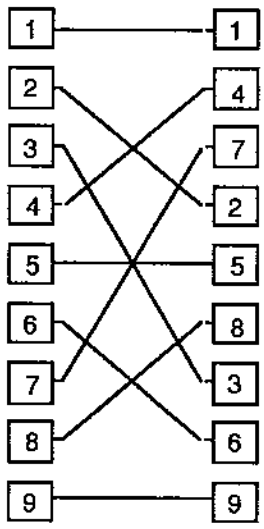


e)

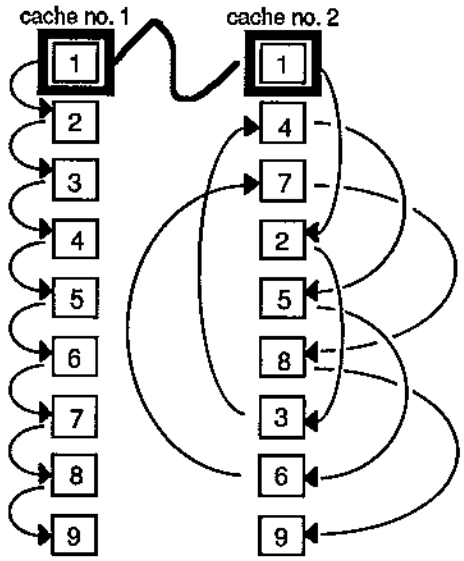

Host
initial Host call
pseudo task 255
task 0
next default task
next if decision flag
next if end task counter
next if return sub
next if out of segment
task 1
next default task
next if decision flag
next if end task counter
next if return sub
next if out of segment
task 2
next default task
next if decision flag
next if end task counter
next if return sub
next if out of segment
calls


Task Counter
TC initial value
TC init
TC clock
Task counter register
-1
=0
TC zero

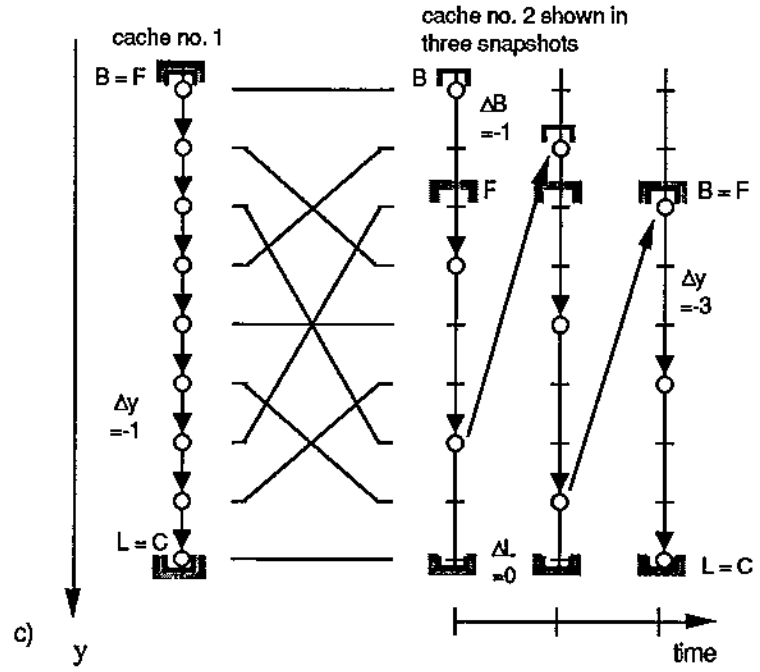

Task Manager
TCinitial value
Task Counter
TC init
TC clock
counter zero
Task Selector
pattern matched
MM ready
out of segment
Next if out of segment
Next if pattern match
Next if return sub
Next if end taskcounter
Next default task
Next Task Number
Task Memory
Task n-1
Task n
Control Register used by MCU and Cache
Control Register used by Task Manager
Task n+1
P O L U
MM



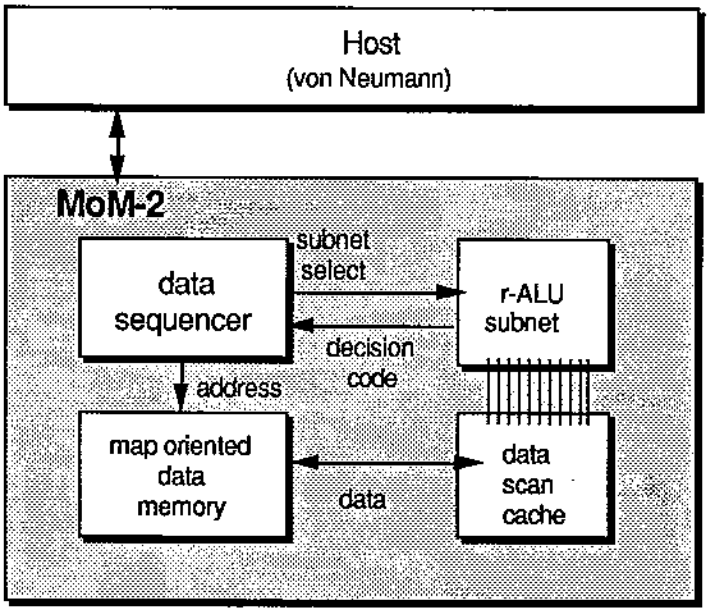
a) spatial shuffle exchange connection

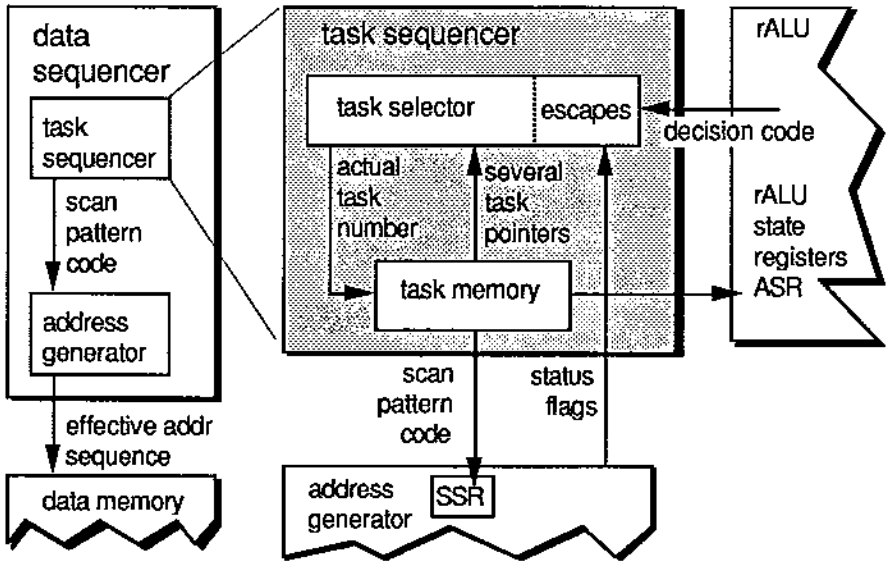


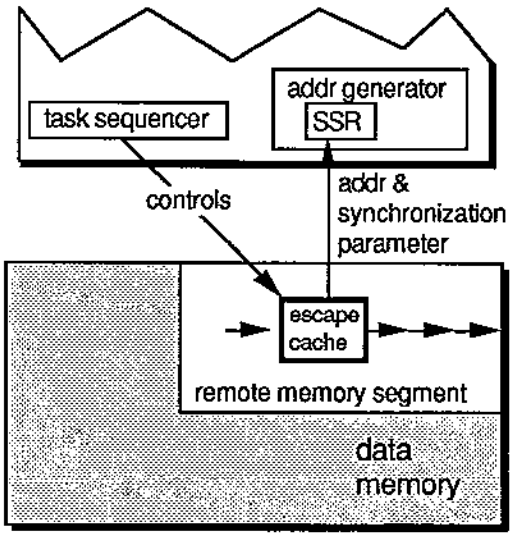
b) the same shuffle exchange is organized, using two interconnected caches

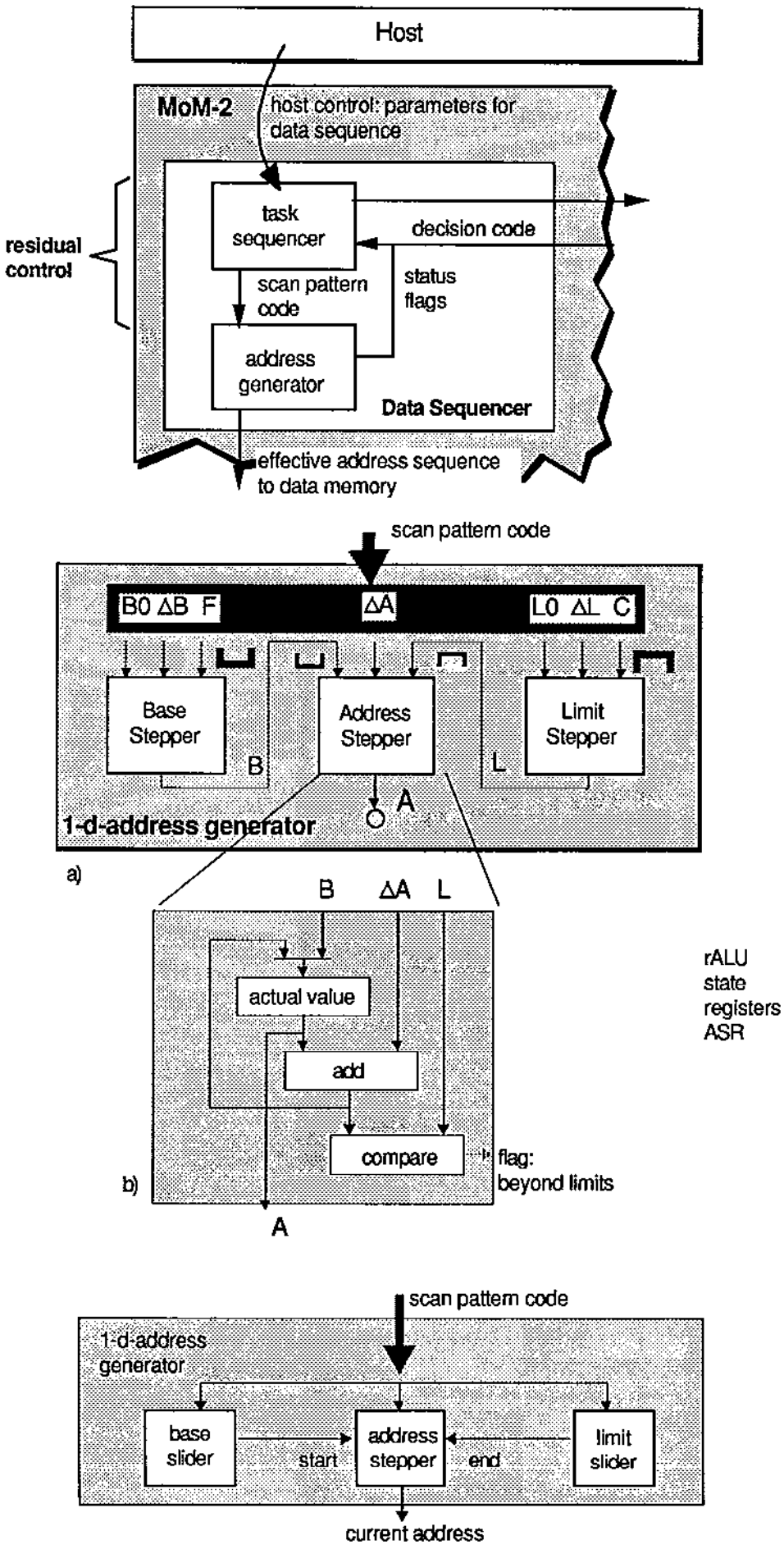


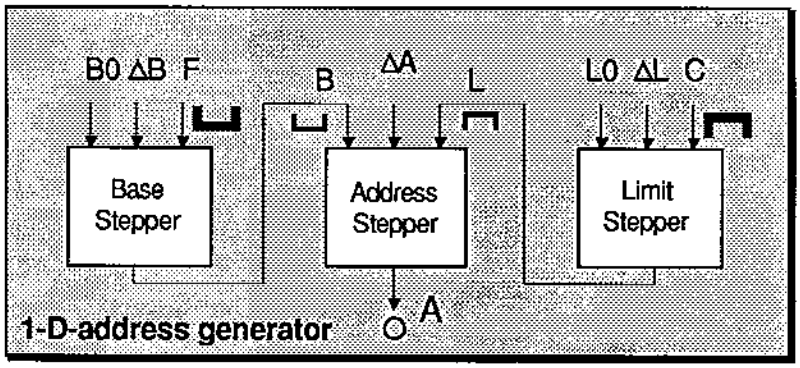
c)

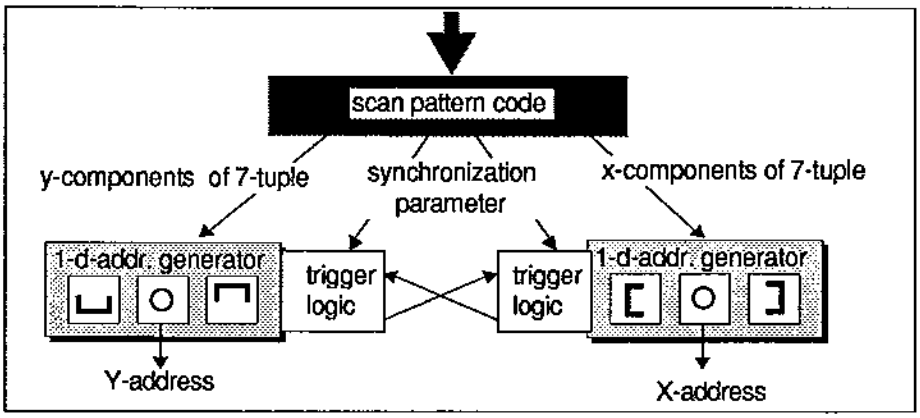
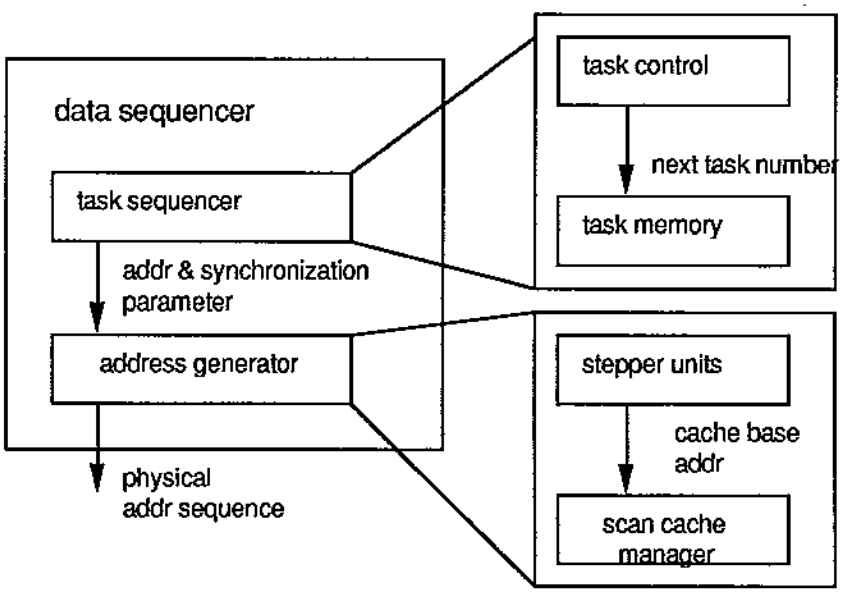

Host
(von Neumann)
MoM-2
data sequencer
subnet select
r-ALU subnet
decision code
address
map oriented data memory
data
data scan cache


data sequencer
task sequencer
scan pattern code
address generator
effective addr sequence
data memory
task sequencer
task selector
escapes
actual task number
several task pointers
task memory
scan pattern code
status flags
address generator
SSR
rALU
decision code
rALU state registers ASR


task sequencer
addr generator
SSR
controls
addr & synchronization parameter
escape cache
remote memory segment
data memory


Host
MoM-2
host control: parameters for data sequence
residual control
task sequencer
decision code
scan pattern code
status flags
address generator
Data Sequencer
effective address sequence to data memory
scan pattern code
B0 ΔB F
ΔA
L0 ΔL C
Base Stepper
Address Stepper
Limit Stepper
B
L
A
1-d-address generator
a)
B
ΔA
L
actual value
add
compare
flag: beyond limits
b)
A
rALU state registers ASR
scan pattern code
1-d-address generator
base slider
start
address stepper
end
limit slider
current address





Legend:
B0 = initial base
ΔB = base increment
L0 = i nitial limit
ΔL = limit increment
F = floor
C = ceiling
ΔA = address increment
A = current address