FRAME TIMES

rate	frame time
TV	100/6 msec, doubly interlaced (synchronous)
RS	100/6 msec (synchronous)
S1	~0.7 sec
S2	~10 sec
F	~21 sec (synchronous)
Fx2	~42 sec (synchronous)
N	~85 sec (synchronous)
Nx2	~171 sec (synchronous)

BACKSCATTER YIELDS

(approximations for pseudo-amorphous samples)

beam axis coincident with sample normal:

$E_0 \geq 10$ keV:

$\eta = -0.0254 + 0.016Z - 1.86\times10^{-4}Z^2 + 8.3\times10^{-7}Z^3$

$1\text{keV} \geq E_0 \geq 40\text{keV}$:

$\eta = E_0^{m}C$ where: E_0 is in keV

$m = 0.1382 - 0.9211/Z^{0.5}$

$C = 0.1904 - 0.2235\ln Z + 0.1292(\ln Z)^2 - 0.01491(\ln Z)^3$

beam axis tilted significantly from sample normal:

$\eta = 1/(1+\cos\theta)^{p}$, $p = 9/Z^{0.5}$

E_2 CROSSOVERS for ASSORTED MATERIALS

kapton	400V	GaAs	2.6kV
UHMWPE	~800V	quartz	3.0kV
nylon	~1.2kV	Al_2O_3	4.2kV
acetal	1.65kV		
PVC	1.65kV		
teflon	1.82kV		
glass(specific type)	~2kV		

most materials quoted from Scanning Electron Microscopy and X-Ray Microanalysis, 2nd ed

ELECTRON RANGE

$$R_{KO} = \frac{0.0276(A)E_0^{1.67}}{Z^{0.89}\rho}\ \mu m$$

Appreciable levels of backscatter contrast achieved from within approximately $0.3R_{KO}$ or less, but varies significantly with Z (deeper for low Z, shallower for high Z)