Video signals used in CCTV systems must be transmitted over 75R ‘low-loss’ coaxial cable in order to give acceptable picture quality at the receiving end.
The use of co-axial cable prevents interference to the quite small (1v) peak to peak) video signal from external sources and because the cable is low in capacitance then the high frequency elements of the signal are not attenuated to the same degree as would be the case with say a standard twisted-pair type transmission cable.

Distance limitations do have to be set for different types of coaxial cable but these are subjective since different end-users will accept different levels of picture quality and hence levels of signal attenuation.

‘Acceptable’ pictures should be obtainable over the distances as shown for the following common types of cable used in the CCTV industry:-

Standard un-screened 4 core alarm cable	5-10m *(single camera only)*
Composite video cable	100m
URM70	200m
RG59	200m
CT100	350m
CT125	450m
CT167	750m

Different grades within each type of cable exist. These grades define the use to which the cable can be put. ie suitable for direct burial etc. The type (ie URM7O) defines the electrical performance.

Note that the above distances quoted assume a continuous cable run with a minimum number of joints. Every well-made joint will add extra signal attenuation equal to approximately 50m of cable, badly made joints considerably more!

Coaxial cable is generally supplied either on 100, 200 or 500m drums.

Always remember that a video signal is only 1volt in amplitude and is thus very vulnerable to external interference and losses in poor quality cables.

Never use aerial down lead type coaxial cable for CCTV signals ! Always keep video signal cables as far away as possible from mains cables and wiring that may carry high-frequency signals.