

Specification for Gel Documentation System

The System should be able to to image fluorescent DNA,RNA and protein gels, colorimetric gels & blots and colony arrays.

1. High resolution CCD camera : 1.44 mega pixel resolution with 1360x1024 pixel array.
2. Data acquisitions: 12 bit and 4096 gray level. Pixel Size : 4.6x4.6 micron.
3. Motorized control for Zoom with numerical feedback and software acquisition preset integrated into an intuitive and easy to use interface alongwith gel alignment templates, aperture & Iris with f/1.2, 12-75 mm lens with broad range amber filter.
4. Gel alignment templates matched to agarose or protein gel trays and ready gels.
5. Blue illumination integrated in a light tight darkroom with software controlled illumination to view DNA gels using blue excitable DNA fluorescent stains such as Gelscreen, SYBR safe dyes and SYBR Green.
6. UV and white light source : 302 nm illumination source having 25x26 Trans-illumination area with White Light Converter screen for viewing protein gels with trans blue illumination.
7. Fire wire connectivity , with 3 position filter slider with amber filter.
8. *Software for imaging and analyzing 1-D electrophoretic gels, dot blots, slot blots, and colony counts.* Software should be able to do:
 - Quantitate and analyze a variety of data
 - Rapid molecular weight determinations with choice of multiple regression models.Band/lane matching analysis with comparative dendrogram creation.
 - Background subtraction correction of gradient gels
 - VNTR and Phylogenetic tree formation.
 - Colony counting that discriminates colonies and plaques
 - Array tools to analyze and quantitate dot blots, slot blots, and medium-density arrays
 - Annotation tools to add text and lines
 - 3 D viewer for critical analysis of closely spaced bands
 - Tools for compliance with US FDA 21 CFR Part 11 regulations Automation Manager for
 - Recall of lane and sample layouts
 - Molecular weight determination,Volume overlays,Text and line overlays

9..Dynamic range should be more than 3 order of magnitude.

10. A Branded Work Station- Laptop with dual core Processor, (hp/Dell/apple) 2GB RAM, 250 GB HDD, DVD R/W Drive, with 17" TFT , Windows XP Pro, compatible for running the 1-D software

11. Online UPS (1 KVA) of reputed brand.