KETA Molecular Imaging Family

Adaptable and Reliable

Ketagalan is one of the ethnic minorities of the Taiwanese aboriginal tribes originally located along the northern coast of Taiwan. They depend largely on agriculture, hunting, and fishing for their livelihood. The steadfast and rugged Ketagalan people gradually vanished with the dawn of western culture on Formosa Island.

Wealtec Bioscience was founded in 1998 as a worldwide biotechnology instrument manufacturer. In celebration of the Ketagalan spirit, Wealtec, located in Danshuei (northern Taipei) and in close proximity to the tribal origin, is proud to launch the Ketagalan family of imaging systems, manifesting adaptability and reliability to address the wide ranging needs of life science applications.

The Ketagalan is abbreviated to KETA series which provides fast, sensitive, user-friendly and consistent results for routine gel documentation, densitometry, chemiluminescence and fluorescence applications. Besides typical file formats, images captured can be saved according to Good Laboratory Practice (GLP) standards. The Ketagalan series also comes with CE certification. Most importantly, Ketagalan boosts optimal results at an affordability price range.

KETA G Gel Documentation Image System

This computer-controlled system is for routine gel documentation, consists of a superior 12 bit B/W CCD camera, computer controlled lens, standard five position motorized filter wheel coupled with a highly transparent amber filter and 2X close-up lens. The KETA G series comprise three models employing a high intensity, wall-mounted white light LED for epi illumination. Optional MC 100 or MC 100-1 multi-color epi illumination light source are available for different application needs. Large visual area (25cmx25cm) with high intensity low background MD-25K UV transilluminator enhances gel visibility. The KETA GLX is easy upgradable for chemiluminescence and fluorescence applications with optional accessories and Magic Chemi software.

KETA M Multi-purpose Image System

KETA M series is the multi-purpose imaging system dedicated to chemiluminescence and fluorescence detection, in addition to gel documentation. 1.4 and 4.0 megapixels resolution with large chip size CCD element coupled with high efficiency Peltier cooling unit to reduce noise achieving the ultimate performance for fluorescence and chemiluminescence signal detection. LED White light /R/G/B or White light /UV/G/B as epi illumination source, optional motorized sample stage, external Xenon illumination source, and wide range emission filters are all available for specific applications. Wide range emission filters can be selected for different dyes.
Magic 1D and Magic Chemi software are incorporated as standard package for advanced image capture and process.

KETA C Chemiluminescence Image System

The system provides high sensitivity with its state-of-the-art cooled CCD camera housed with a light –tight darkroom. Ideal for chemiluminescence signal detection, the system enhanced performance is optimized for ECL, ECL Plus, ECL Advance, ECL Plex, CDP Star, Qdot, Super Signal and CSPD detection. The KETA C-series is equipped with a fixed lens, tri-level sample stage and optional motorized sample stage.
Magic Chemi software for operational conditions and parameters, stored and recalled, auto default and overlay background subtract function are also included.

Camera

The KETA G, M and C series imaging systems utilize Progressive Scan CCD image sensor with USB 2.0 communication port. Low dark current and high QE value assures excellent performance to make each imaging a positive experience.

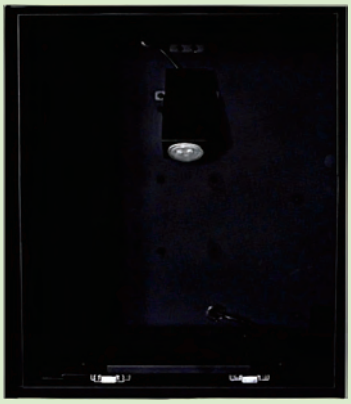
	KETA G			KETA M			KETA C		
Model	K12R	K12C	K12CH	K12CH	K12CHS	K16CH	K12CH	K12CHS	K16C
Cooling	air	Peltier	Peltier	Peltier	2-stage Peltier	Peltier	Peltier	2-stage Peltier	Peltier
Temperature	R-T	Ambient -30 °C	Ambient -30 °C	Ambient -30 °C	Ambient -45 °C	Ambient -40 °C	Ambient -30 °C	Ambient -45 °C	Ambient -40 °C
Chip size	1/2"	1/2"	2/3"	2/3"	2/3"	2/3"	2/3"	2/3"	2/3"
Pixel size	4.65um x 4.65um	4.65um x 4.65um	6.45um x 6.45um	6.45um x 6.45um	6.45um x 6.45um	7.4um x 7.4um	6.45um x 6.45um	6.45um x 6.45um	6.45um x 6.45um
S/N	>56dB	>58dB	>62dB	>62dB	>67dB	>69dB	>62dB	>67dB	>69dB
Megapixels	1.4	1.4	1.4	1.4	1.4	4.0	1.4	1.4	1.4
USB 2.0	Y	Y	Y	Y	Y	Y	Y	Y	Y

Computer Controlled Lens

Fully robotics controlled lens operated through Magic software provides customer the easiest adjusting controlling interface. Iris, zoom, and focus which controlled through three individual motors are now integrated all together and can be adjusted well only by clicking.

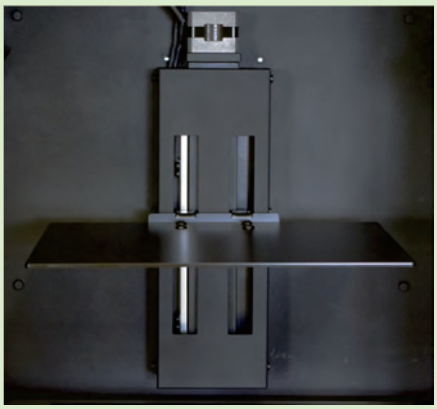
KD 100 Dark Room

The light-tight KD 100 darkroom allows a wide range of applications for molecular imaging. An UV radiation safety interlock switch and smart latch standard configuration ensures operators at a safe working environment. A 180^{o} fully opened door permits convenient gel cutting. A front panel three color signal light display allows operator easy identification of system status. A red light indicates UV operation. Green light refers to system readiness to image. Yellow light indicates that epi-illumination is on.



FW 55 Filter Wheel 55 mm

A five position 55mm filter wheel module is easily mounted on the KD 100 darkroom. Filter ID and position can be selected and changed via the user-friendly Magic 1D software. A dual photo-sensor design keeps the filter in a locked position for accuracy and reliability.



AS 100 Auto Stage

The automatic stage is a computer-controlled sample stage for accurate vertical distance adjustment. Convenient position adjustment for optimal chemiluminescence and fluorescence is software-controlled. Upper and lower limit of the AS 100 is controlled by two photo-sensors.

Single Stage / Tri-level Sample Stage

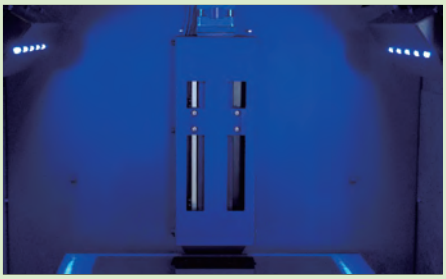
The sample stage is a low cost manual sample stage for chemiluminescence signal detection.

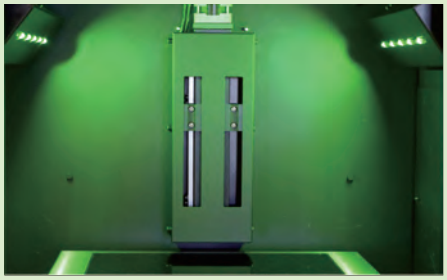
U10 Epi-Light Source

This LED epi-illumination light source with Hg-free technology comes as a standard configuration with the KETA G imaging system. This ensures a stable, high intensity illumination with a long life time (50,000 working hours).

MC 100 & MC 100-1 Multicolor Epi-Light Source

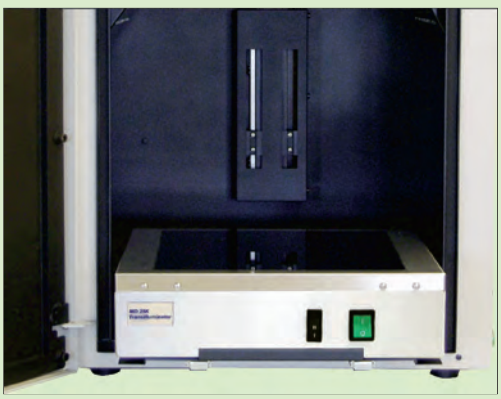
This epi-illumination light source is a selectable LED combination covering 4 colors. The MC 100 & MC 100-1 come complete with two wall-mounted modules (right & left) and metal housing. The projected angle can be adjusted by tightening the screws for even illumination. The MC 100 & MC 100-1 light selection and power on/off are both controlled by the Magic 1D software. UV radiation safety interlock switch is placed on the right side of the MC 100 or MC 100-1 module.

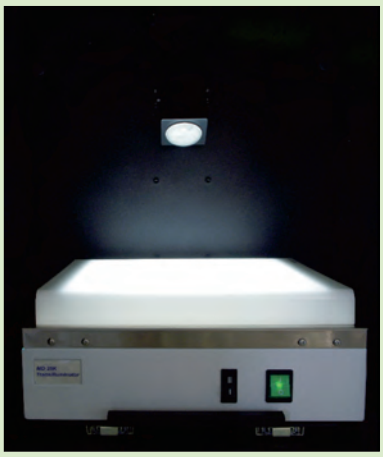




MD 25K UV Transilluminator

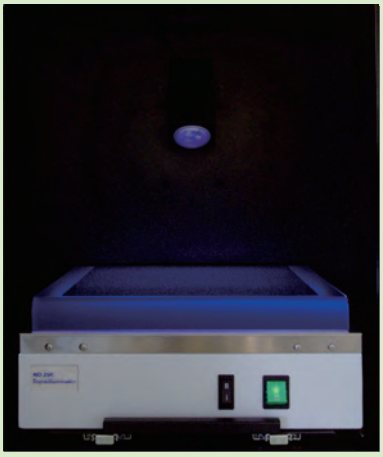
The transilluminator is equipped with six long life 8W UV tubes with specific 312nm wavelength and 75% adjustable intensity. A 25 X 25cm low background IR cut-off filter embedded into stainless steel frame provides excellent UV radiation for gel documentation and fluorescence detection when integrated with the KETA imaging system. On/off and high/low intensity are controlled by the Magic 1D software.





UV/White Light Converter Plate

Place this converter plate on top of the UV transilluminator to convert from UV illumination to white light illumination for visible wavelength imaging without damaging target samples.



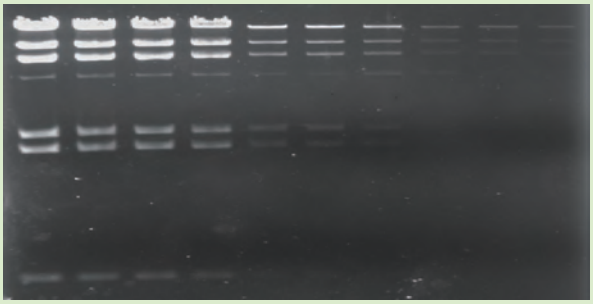
UV/Blue Light Converter Plate

Based on the same principle as the white light converter plate, its emission light is specifically intensified at 490 nm blue light for SYBR Green and wtGFP detection.

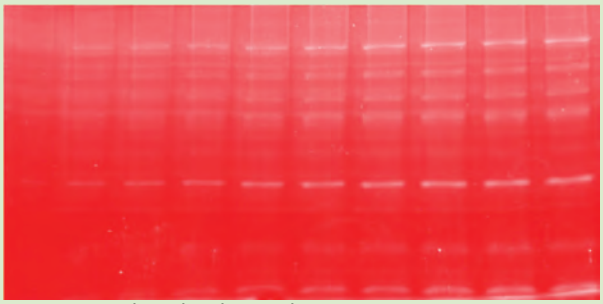
Emission filter selection guide

Filter	Dye/stain
WK 101	EtBr, SYBR Green I/II, SYBR Gold, SYPR Red/Ruby/Orange
WK 102	SYBR Greeoptionn I/II, SYBR Gold, SYBR Safe, wtGFP
WK 103	EtBr, SYBR Green I/II, SYBR Gold, SYPRO Red/Ruby/Orange, Fluorescein/FITC
WK 104	SYPRO Ruby, EtBr
WK 105	SYPRO Red, Radiant Red, Texas Red

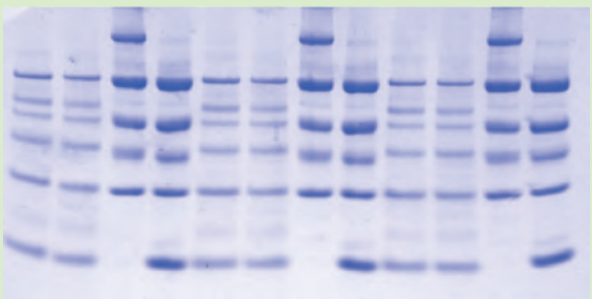
For other filters, please contact local distributor or support@wealtec.com.



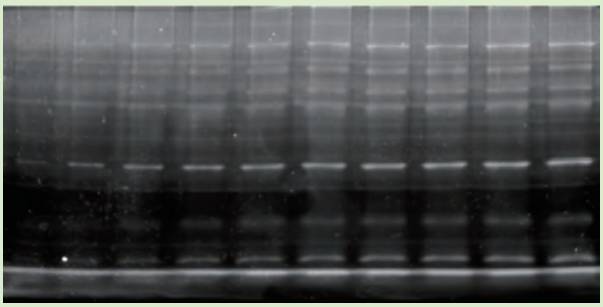
EtBr Stained DNA Agarose Gel



SYPRO Red Stained Protein SDS-PAGE



Coomassie Brilliant Blue Stained Protein SDS-PAGE



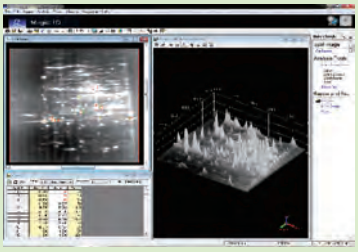
SYPRO Orange Stained Protein SDS-PAGE

Magic 1D Software

This software is an integrated image capture module with powerful data analysis capabilities. The software covers 1-D gel molecular weight and mass determination, colony counting, microtitre plate analysis and spot densitometry calculation, combined with traceable image enhancement function in simple steps for reliable results. A 3D color display, X-axis comparison and smiling gels correction feature provides the researcher with visual clarity for enhanced comparison in data analysis. Support with most common file formats such as Tiff, BMP, JPG, JPEG, GIF, PCX, TGA is available.

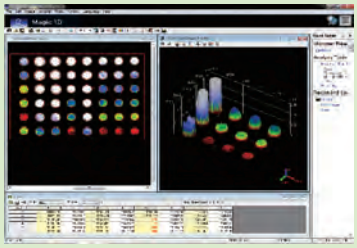
The Magic 1D package comes with powerful analysis functions, integrated with a system control package for the KETA series for a standalone PC or laptop.

Spot Density Calculation



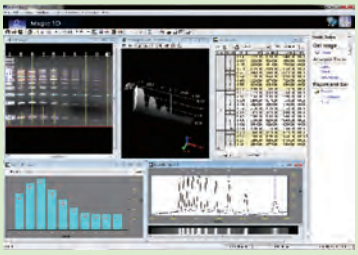
Spot densitometry analysis is for analyzing 2D gel image. Its irregular spot shape selection and similar spot marking function enables fast spot marking process. Using typical protein standards, the unknown sample can be calculated within seconds.

Microtitre Plate Imaging



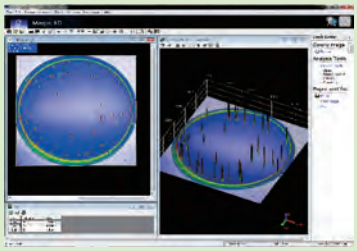
Densitometry analysis for microtitre plate assays, calibrated with standard sample as reference provides the user with the most reliable data output. Customized block numbers and size selection offer the best calibration result and information of all samples

Molecular Weight and Mass Determination



Gel image with 3D color display provides a clear visual comparison between each band and samples. Based on densitometry calibration and standard sample molecular weight and mass, bands profile can be calculated within seconds.

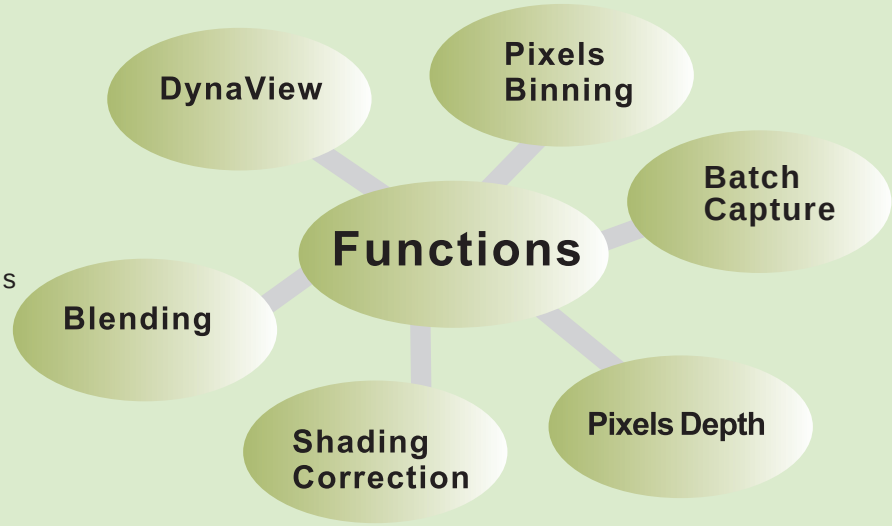
Colony Counting



Auto-counting of the colonies and smart color is distinguished through absorption intensity to provide researchers an easy way to observe their sample results on petridishes.

Magic Chemi Software

Software capability is dedicated for enhanced chemiluminescence signal capture. Its functions include automatic and manual exposure mode, gradient exposure time for batch mode image capture, and signal amplification in image processing. The built-in darkroom calibration, image profiling, blending, pixels binning, and camera shading correction augment the system for chemiluminescence imaging.



Dolphin-View II

Dolphin-View II is a stand-alone image system specially for routine gel documentation purpose, equipped with B/W CCD camera with manual adjustment lens, built-in firmware, compact darkroom, large LCD display, touch screen panel, USB port, multiple languages interface, Epi-White light LED*, and 312 nm UV transilluminator allows to capture various images like X-ray film, SDS-PAGE and Agarose gel stained by EtBr, SYBR Green, SYBR Orange, SYPR Gold, Coomassie Blue, and silver stain.
Band tool analysis software is incorporated with the system as standard.

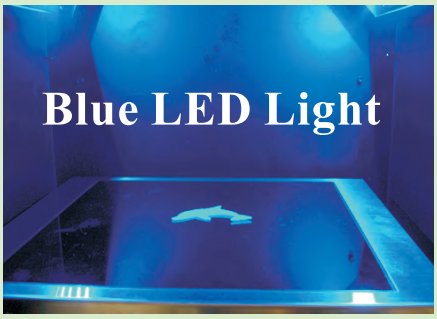
*Epi-White light LED coverts to Epi-Blue/Green/White LED light or UV/White LED light is for different applications.

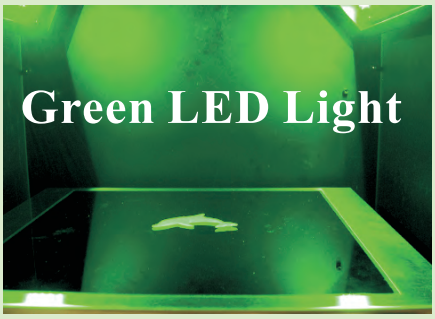
Features

- Quick place and catch image for all kinds sample
- Low cost high performance system
- Maintenance free design
- Simple operation user interface
- Firmware upgrade and image storage by USB memory sticker
- Band tool analysis software included

Applications

- Drug discovery, Biotechnology company
- Education, university, academic and research institute
- Analytical chemistry, colorimetric laboratory
- Enzyme reaction, immunology
- Proteomics, genomics core facility
- Food industrial and inspection laboratory





Dolphin-Scan

Dolphin-Scan captures a wide linear dynamic range of O.D. High resolution Tri-linear CCD up to 10,600 elements completes with reflection and transmission modes are suitable for all kinds of sample such as Protein, Agarose, 2D gel, and X-ray in laboratory. Image area is up to 216 x 297 mm. Dolphin 1D software package is the standard for operation and analysis.

Features

- Low cost high performance scanner in the market.
- High resolution Tri-linear CCD up to 10,600 elements
- Wide O.D. range up to 3.4
- Image area up to 216 x 297 mm under reflection mode

Applications

- Drug discovery, Biotechnology company
- Education, university, academic and research institute
- Analytical chemistry, colorimetric laboratory
- Enzyme reaction, immunology
- Proteomics, genomics core facility
- Food industrial and inspection laboratory

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