TECHNE

Techne® PrimeQ
Real-time PCR System
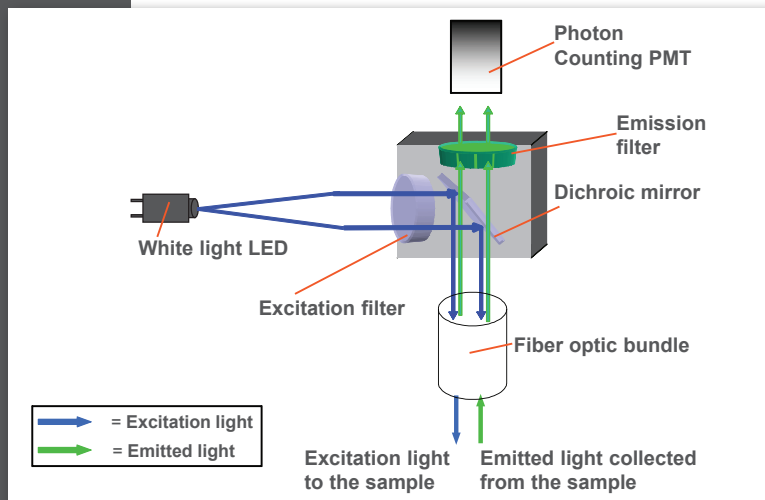
Multiplex capability

Open chemistry

White LED Light source

PMT Detector

Optically heated lid

Wide Dynamic Range

High Sensitivity

QuanSoft® Software

2 year warranty

TECHNE

PrimeQ
Real Time PCR
Plate Not Accessed
▮▶ to run

PrimeQ

Introducing the PrimeQ

The PrimeQ instrument has been designed with the advantage of having an open architecture and chemistry format that allows the end user full flexibility of the qPCR methods and research they wish to pursue.

Photon Counting PMT

Emission filter

Dichroic mirror

White light LED

Excitation filter

Fiber optic bundle

= Excitation light
= Emitted light

Excitation light to the sample

Emitted light collected from the sample

Single White LED Light Source
- Ensures consistent power output to each well compared to tungsten halogen lamps or other multiple LED systems.
- Provides a long life span unlike tungsten halogen lamps that require frequent replacement.

PMT (Photomultiplier tube) Detector
- PMT is designed for accurate detection of photons compared to CCD cameras which are just an imaging system.
- PMT provides raw data for analysis that can be manipulated directly whereas CCD uses image comparisons interpreted by internal algorithms.
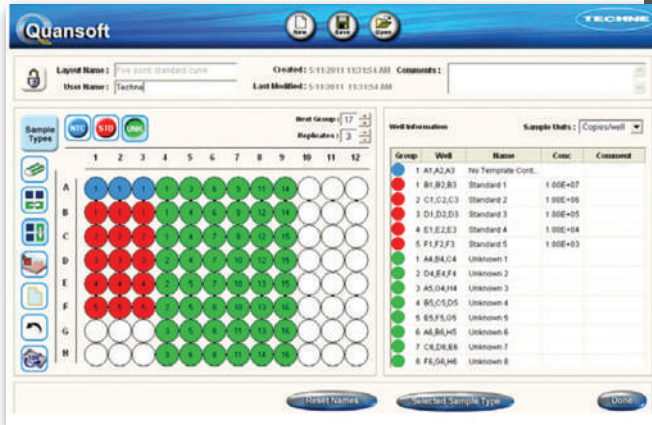
Flexible scanning mechanism
- Allows both partial and full plate reads.
- High accuracy ensures no cross talk between well reads
- Full plate read in 20 seconds per filter.

Multiplex capabilities
- 4 paired excitation and emission filters housed in an individual cartridge system
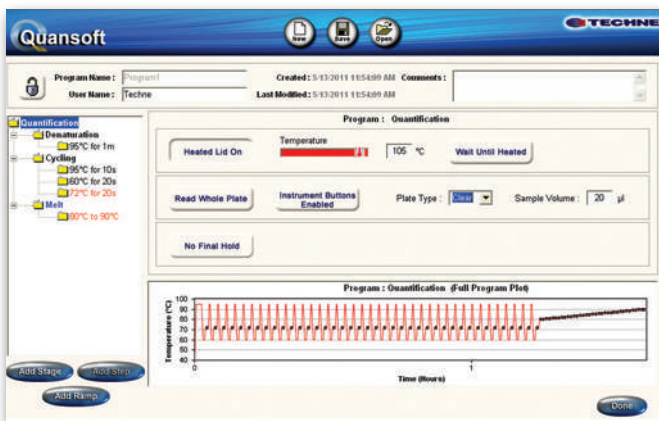- Open system to preferred chemistry and not locked in to factory calibrated dyes.

1. Plate layout editor

Define your PCR plate in seconds with colour coded sample identifications.

2. Program editor

Individual cycles and steps as well as a ramp read can be added quickly to build up and display the thermal program and read points.

3. Experiment editor

Combine thermal cycling programs, plate layouts and analysis methods to generate a new complete experiment.

Accompanying PrimeQ is our unique, intuitive software Quansoft. Employing four user-friendly editor functions Quansoft enables any real-time experiment to be created and analysed with ease.
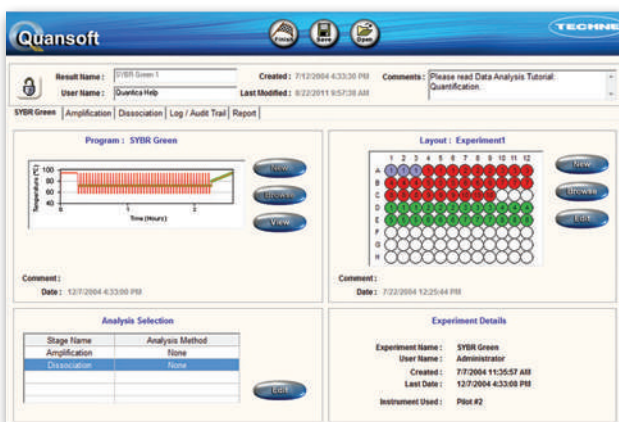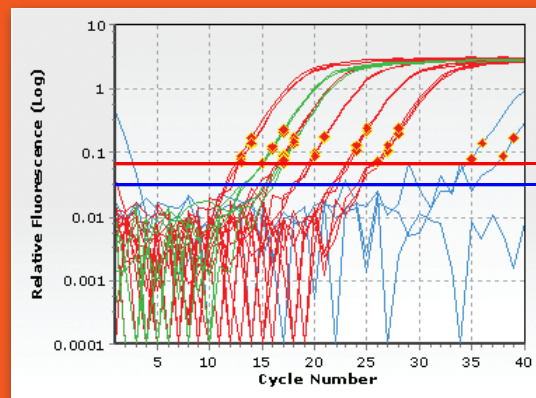
4. Results editor

Choose your analysis method and manipulate your raw data before packaging the results in a customised report.

Quantification analysis

Using intercalating dyes or probes PrimeQ provides a wide dynamic range and high sensitivity

- Linearity of at least 9 orders of magnitude
- Detecting down to a single copy template or to achieve absolute quantification of 1nM fluorescein in a volume of 20µl.
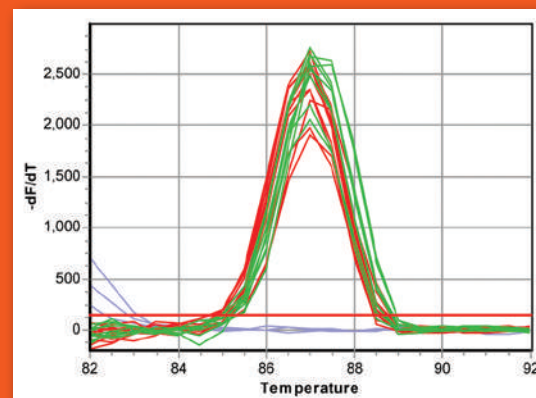
Dissociation analysis

Provides the user confident reporting in genotyping experiments and in product verification analysis.

End point analysis

- Plus/minus scoring
- Allelic discrimination

Features

Block format	96 x 0.2ml
Block specification	8 x Peltier block employing quad-circuit technology to enhance performance
Block uniformity at 50°:C	< ±:0.3°C
Maximum ramp rate	Up to 2.2°C
Temperature range	4 to 98°C
Sample volume	15 to 50ul
Heated lid	Adjustable between 100 and 115°C in 1°C increments, or off
Maximum sample evaporation	Less than 15% volume loss from any well using the plate sealing recommended by Techne
PC connectivity	USB, OS Win XP SP3 or higher and Win 7 (one unit per PC)
Plate format	Low profile 96-well plate (skirted or non-skirted)
Excitation source	Solid state white light source
Detector	Photon counting photomultiplier tube
Multiplex dye detection	Up to 4 dyes per reaction tube
User selected filters	Maximum of 4 paired excitation/emission filter cartridge systems suitable with currently used dyes*
Fluorescence excitation range	470-650nm (standard filters are centred at 485, 530, 580 and 640nm)
Fluorescence detection range	500-710nm (standard filters are centred at 520, 560, 615 and 685nm)
Dynamic range	At least 9 orders of magnitude of target DNA concentration
Sensitivity (detection threshold)	1nM fluorescein in a 20ul sample

* Custom filter cartridge systems available upon request

Ordering information

Product Code	Description
PRIMEQ	PrimeQ real-time PCR System (supplied with filters FC02, FC03, FC04, FC05)
FC01	FAM multiplex, 460nm excitation wavelength, 500nm emission wavelength
FC02	Green, FAM/SYBR®, 485nm excitation wavelength, 520nm emission wavelength
FC03	Yellow, HEX, 530nm excitation wavelength, 560nm emission wavelength
FC04	Red, ROX 580nm excitation wavelength, 615nm emission wavelength
FC05	Blue, Cy5, 640nm excitation wavelength, 685nm emission wavelength

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