StarTrack* with OmniPro-Advance

The universal QA solution

StarTrack*

A real star

- 453 vented pixel ionization chambers with automatic k(t,p) correction
- unique detector layout to verify main QA parameters in just one measurement
- patented energy verification method (optional)
- gantry (optional) or table mount

Energy constancy verification plates

The energy constancy verification plates can be used with electron beams of any energy from 4 to 22 MeV and photon beams of any energy from Co60 to 25 MV.

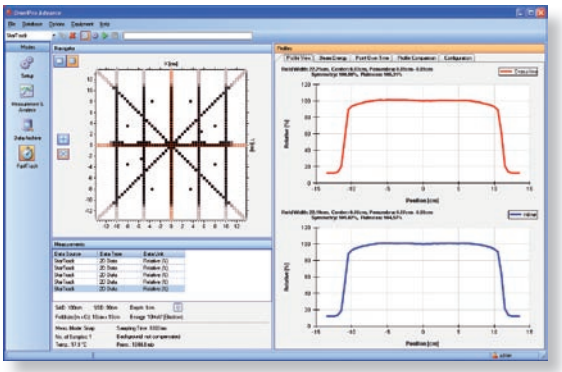
When verifying the constancy of beam quality, the electron or photon plate is placed on the Star*Track**. Measurements of all desired beam energy can be performed without the need of entering the treatment room at any time.

For each energy, the set of results from the dedicated chambers is automatically compared in OmniPro-Advance to the set of measured reference values. A report on the test is issued according to the chosen pass/fail criteria together with the reference values.

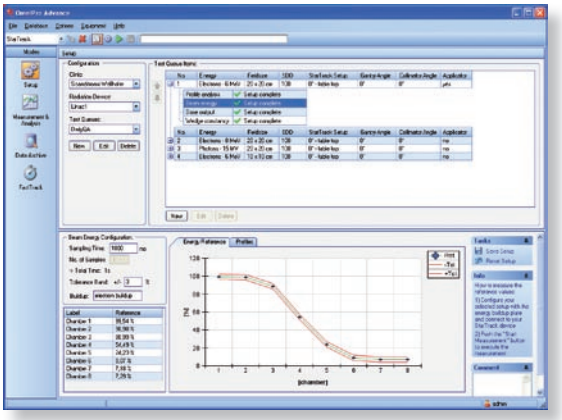
OmniPro-**Advance**

Truly universal

- latest .NET software technology
- predefinition of setup & queues
- “FastTrack“ measurement mode
- simultaneous, real time measurement and analysis of symmetry, flatness, penumbra, field width, energy verification and dose output
- light field vs radiation field congruence
- Linac start-up behaviour



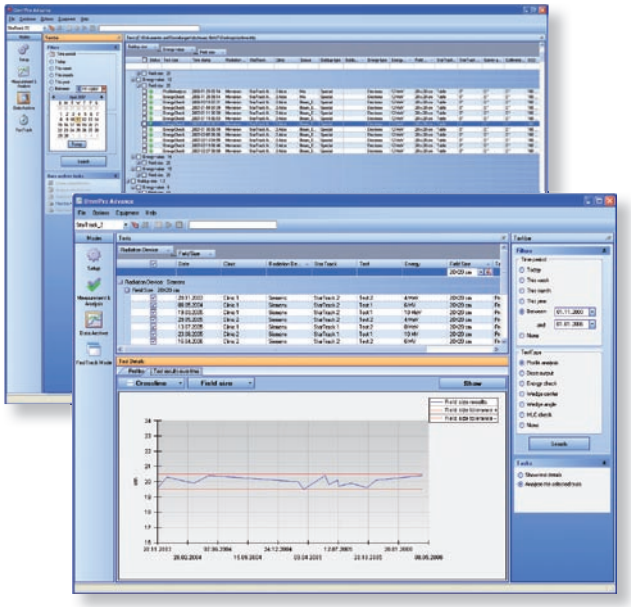
“FastTrack“ measurement mode



Energy verification

No black holes in your data

- automated archiving in database
- advanced grouping, filtering & sorting, e.g. for dedicated trend analysis
- simple export of data to e.g. Microsoft® Excel, OmniPro-Accept and OmniPro-I´m*RT*
- easy printout of all measured and archived data



Calendar / Trend analysis

The Star*Track was designed and built in cooperation with Torino University and INFN (Italy). The OmniPro-Advance software was developed in cooperation with UCL I.M.R.E Unit and University Clinic Saint-Luc (Belgium).**

Technical specifications

Star*Track**

Application:	routine QA of high energy photon and electron beams
Positioning:	gantry mount (holder optional) or patient table
Measuring quantity:	absorbed dose, dose rate
Energy range:	Co60, 4 MV–30 MV Photon 4 MeV-21 MeV Electron
Intrinsic build-up:	3 mm Tecaran ABS; density 1.06 g/cm^3
Backscatter material:	RW3, (composition: 98% Polystyrol + 2% TiO_2 and density: 1.045 g/cm^3); thickness 22 mm
Dose rate range:	0.02–20 Gy/min
Signal to noise ratio:	better than 1 % with 1 cGy integrated dose
Dose linearity:	tested to be better than 0.5 % from 10 cGy to 5 Gy integral dose and better than 0.5 % from 0.1 Gy/min up to 4 Gy/min dose rate
Output factor:	within 1 % from 5 cm x 5 cm to 25 cm x 25 cm field size compared to CC13 between 6 and 18 MV
k(t,p) correction:	temperature (10-40 °C), pressure (70-110 kPa)
Dimensions:	56 cm (L) x 6 cm (H) x 32 cm (W)
Weight:	≈10 kg
Power supply:	100-240 V, 50/60 Hz, power cord with US or German power plug included
Interface to PC:	Ethernet RJ-45 (direct connection or via network)

Number of chambers:	453
Active area:	27 cm x 27 cm, measuring field sizes up to 25 cm x 25 cm
Sensor layout:	chamber arrays organized along main axes and diagonals, 8 additional chambers for energy constancy check and 4 lines of chambers for MLC checks
Spacial resolution:	5 mm detector spacing for horizontal and vertical lines and 7 mm for diagonals
Chamber type:	vented pixel ionization chambers
Chamber size:	cylindrical, 3 (Ø) x 5 (h) mm, sensitive volume 0.035 cm^3
Typical sensitivity:	1.1 nC/Gy (Co60)
Effective point of measurement:	3 mm below top surface
Energy verification:	one build-up plate each for photon and electron energies (optional)

Electrometer:	8 TERA ASICs (each contains 64 independent electrometers)
Channels:	453
Charge resolution:	0.1 pC/count
Sampling time:	min. 10 ms
Readout:	parallel and synchronous with no dead time

Minimum computer requirements

Operating system:	Microsoft® Windows® (2000, XP, VISTA™)
Processor:	Pentium® (or equivalent), 1.8 GHz or better
Memory:	2 GB RAM recommended
Hard disk:	with at least 100 MB available
Monitor and graphics:	supporting a resolution of 1024 x 768 pixel at True Colour (32-bit)
Ports:	available Ethernet connection (RJ-45 for Star*Track**)

Technical data is subject to change without prior notice.

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