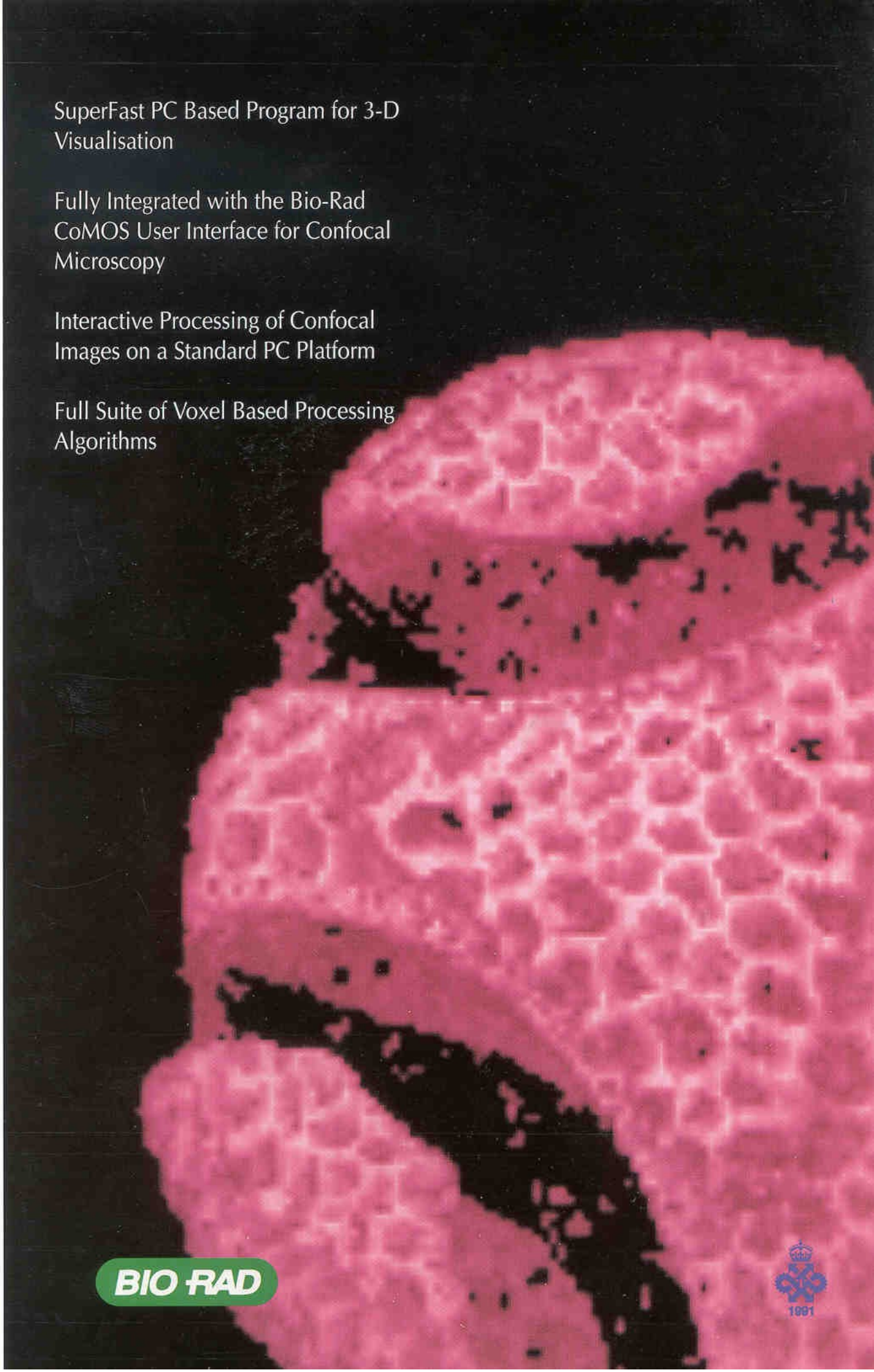
Thru-View PLUS

SuperFast PC Based Program for 3-D Visualisation

Fully Integrated with the Bio-Rad CoMOS User Interface for Confocal Microscopy

Interactive Processing of Confocal Images on a Standard PC Platform

Full Suite of Voxel Based Processing Algorithms



BIO-RAD

1991

Thru-View PLUS

Key Features

- Projections at any arbitrary tilt and rotation angle
- Interactive or batch processing mode
- Single pass or double pass projection algorithms
- Surface based projection algorithms for visualisation of "Solid" objects
- Unambiguous discrimination and visualisation of foreground and background structure
- Full compatibility with CoMOS image processing functions
- Interactive image display with image pan and zoom

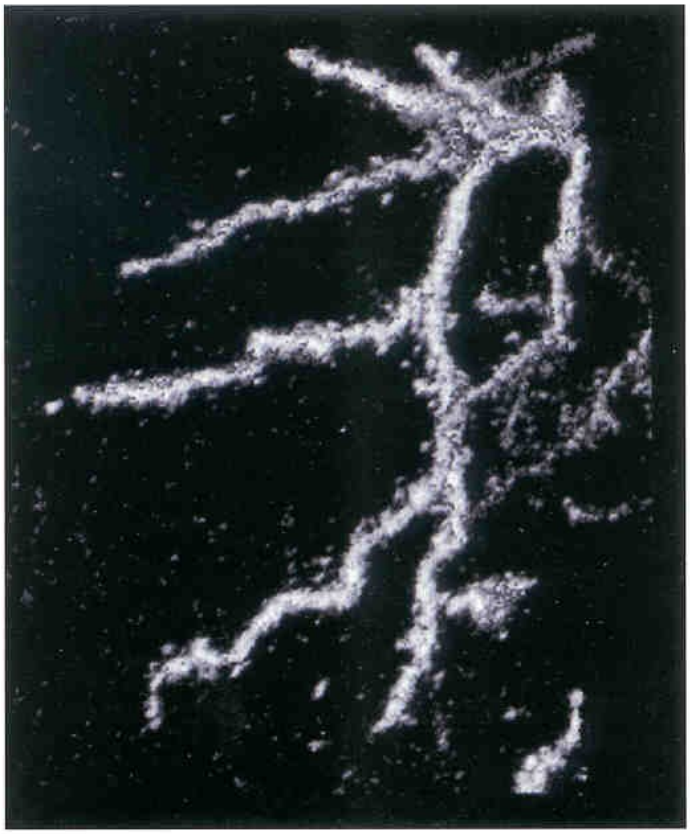
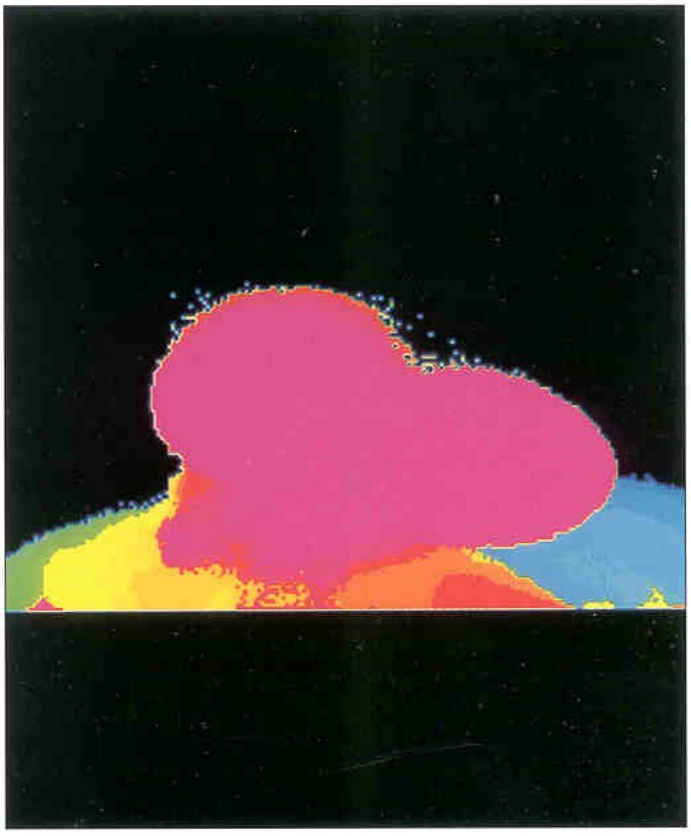


Figure 1. Golgi preparation.

Figure 3 . Live negative stained fibroblasts. **Courtesy of:** Nick White, OxfordUniversity, & MRC Radiobiology Unit Harwell.



◀ ORIENTATION

- Views At Any Orientation
- Fast Interactive Processing
- Fully Interpolated Sections

SURFACES ▶

- Surface Views with true intensity information
- Thresholded Projections
- Second Surface Visualisation

◀ HEIGHT

- Algorithms for negative staining
- Height Coded Projections
- Cut-away views

OBJECT SEGMENTATION ▶

- Average Intensity Display
- 2 Pass Projection Algorithms
- Display, Zoom & Pan

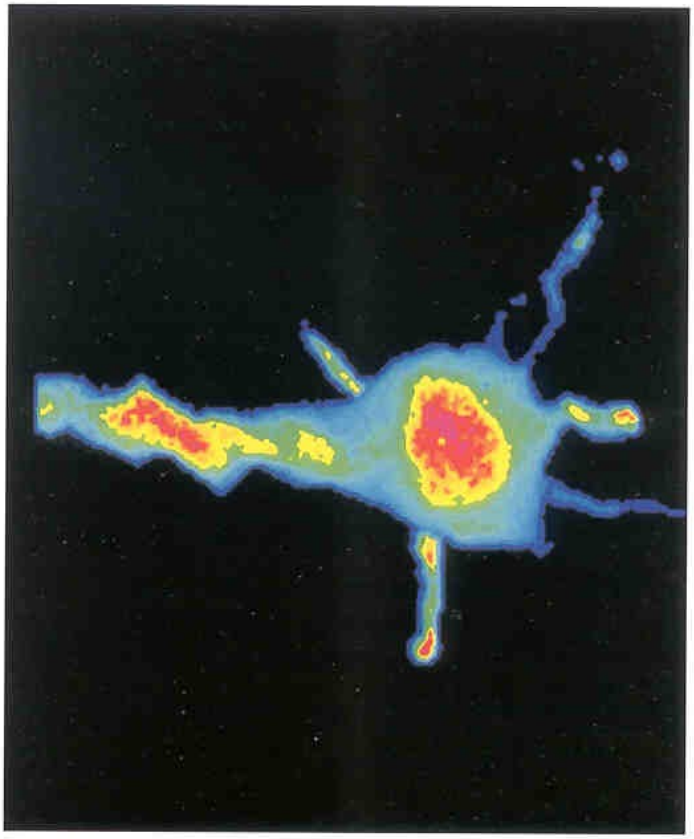


Figure 2. Two pass surface projection. Neuron. Image Data Set
Courtesy of: Dr. F. Wouterlood, The Free University, Amsterdam & Dr M.E. Boon, Leiden Cytologisch en Pathologisch Laboratoriun.

Figure 4 . Anaphase plant chromosomes.
Courtesy of: M.D. Fricker, N.S. White, S.T. Bennett, Oxford University, M.D. Bennett, Royal Botanical Gardens Kew.

SPECIFICATIONS

QUANTATIVE 3D VISUALISATION FOR CONFOCAL MICROSCOPY

An integrated software package for use with the Bio-Rad CoMOS user interface

64 bit RISC processor, 25 MHz clock speed

Arbitrary image size up to 768 x 512 pixels
Data sets up to 6MBytes (optional 30MBytes)
Data set compression in X,Y or Z Axes (Independently variable)
Sub-volume selection for accelerated processing
Z-axis stretch for processing cubic voxels
Linear interpolation of "missing" Z planes
Intensity thresholding (maximum and minimum)

PROCESSING ALGORITHMS

a) SINGLE PASS PROJECTIONS

Intensity or height coded projections by following algorithms

	Brightness	Height
Maximum	✓	✓
Minimum	✓	✓
Above Threshold	✓	✓
Below Threshold	✓	✓
Average	✓	×

PROJECTION ANGLES

Projections at arbitrary tilt and rotation angle (up to 360°).
Interactive computation of single views
Batch computation of multiple views
Build to display, computer memory or disk file

IMAGE DISPLAY

Single step mode under mouse control
Movie display mode
Display zoom and pan

b) DOUBLE PASS PROJECTIONS

Pass 2 \ Pass 1	max	min	abv	bel	av
max	✓	✓	✓	✓	×
min	✓	✓	✓	✓	×
abv	✓	✓	✓	✓	×
bel	✓	✓	✓	✓	×
av	✓	✓	✓	✓	×

BRIGHTNESS

Pass 2 \ Pass 1	max	min	abv	bel	av
max	✓	✓	✓	✓	×
min	✓	✓	✓	✓	×
abv	✓	✓	✓	✓	×
bel	✓	✓	✓	✓	×
av	×	×	×	×	×

HEIGHT

HARDWARE REQUIREMENTS

RECOMMENDED SYSTEM REQUIREMENTS

i486 Computer
Min 110 Mb Hard Disk
Min 2Mb expanded memory
2-VGA Monitors
(one VGA 640 x 480, one Super VGA 800 x 600)

Thru-View PLUS

2 - Proprietary Cards with 8Mb on-board memory
1- Operating System Disc
1- Thru-View PLUS Program Disk
1- Special 9-Pin/9 Pin connecting cable

Please Note: Systems running Thru-View PLUS should have a Bio-Rad Framestore card and CoMOS Software installed.

ORDERING INFORMATION

CoMOS Thru-View PLUS, Superfast Interactive 3-D Visualisation System for Bio-Rad approved IBM Compatible Computers

Part Number MRC680/05

BIO-RAD

UK Bio-Rad Microscience Limited, Bio-Rad House, Maylands Avenue, Hemel Hempstead, Hertfordshire. HP2 7TD, England. • Phone: 0442-232552 • Telex: 827770 • Fax: 0442-234434
USA Bio-Rad Microscience Division, 19 Blackstone Street, Cambridge, MA. 02139. • Phone: 617-864 5820 • Fax: 617-864 9328
AUSTRALIA Bio-Rad Laboratories Pty Limited, Unit 11, 112-118 Talavera Road, North Ryde, N.S.W. 2113. • Phone: 2 477 6644 • Telex:70166 • Fax: 2 805 1920
AUSTRIA Bio-Rad Laboratories Gesmbh, Auhofstrasse 78D, A-1130 Wien. • Phone: 1 222 877 8901 • Telex: 136565 • Fax: 1 222 876 3629
BELGIUM Bio-Rad Laboratories S.A.N.V. Begoniastraat 5, B-9810 Nazareth. • Phone: 91 85 5511 • Fax: 91 85 6554.
CANADA Bio-Rad Laboratories (Canada) Limited, 5149 Bradco Boulevard, Mississauga, Ontario L4W 2A6. • Phone: 416 624 0713 • Fax: 416 624 3019
CHINA Bio-Rad China, Yanshan Hotel Office Tower #1317, A138 Haidian Road, Beijing • Phone: 1 256 4308 • Fax: 1 256 4308
FAR EAST Bio-Rad Pacific Limited, Unit 1109-1111, 11/F New Kowloon Plaza, 38 Tai Kok Tsui Road, Tai Kok Tsui, Kowloon, Hong Kong. • Phone: 789 3300 • Telex: 42814 • Fax: 789 1257
FRANCE Bio-Rad S.A.,94/96 Rue Victor Hugo, 94200 Ivry Sur Seine, Paris. • Phone: 49 606834 • Telex: 203546 • Fax: 49 712467
GERMANY Bio-Rad Laboratories GmbH, Gewerbepark Krefeld-Oppum, Bischofstrasse 85, 4150 Krefeld-Oppum. • Phone: 2151 515910 • Fax: 2151 515911
ITALY Bio-Rad Laboratories S.r.l, Via Morandi 66, Via Cellini 18/A, Segrate 20090, Milan. • Phone: 2 213 8751 • Telex: 320410 • Fax: 2 216 09399
JAPAN Nippon Bio-Rad Laboratories K.K.,Sumitomo Seimei Kachidoki Bldg.5-3-6 Kachidoki, Chuo-ku, Tokyo 104. • Phone: 33534 7601/7591 • Telex: 78134221 • Fax: 33534 8027/37
NETHERLANDS Bio-Rad Laboratories B.V. Fokkerstraat 10, 3905 KV. Veenendaal. • Phone: 8385 40666 • Telex: 36292 • Fax: 8385 42261
SCANDINAVIA Bio-Rad Laboratories Inc, Kanalvagen 10C, 19461 Upplands Vasby. • Phone: 760 73489/74020 • Fax: 760 71781
SPAIN Bio-Rad Laboratories S.A. Valdelaparra, 3 - Polígono Ind. Alcobendas E - 28100 Alcobendas, Madrid. • Phone: 1 661 7085 • Fax: 1 661 9698
SWITZERLAND Bio-Rad Laboratories A.G., Kanalstrasse 17, 8152 Glattbrigg, Zurich. • Phone: 1 810 1677 • Telex: 828771 Fax: 1 810 1933

For All Other Countries Please Contact U.K. Office. Phone: 0442 232552