# Scan X

牙科數位影像系統

Image plate
Photomultiplier
Laser source
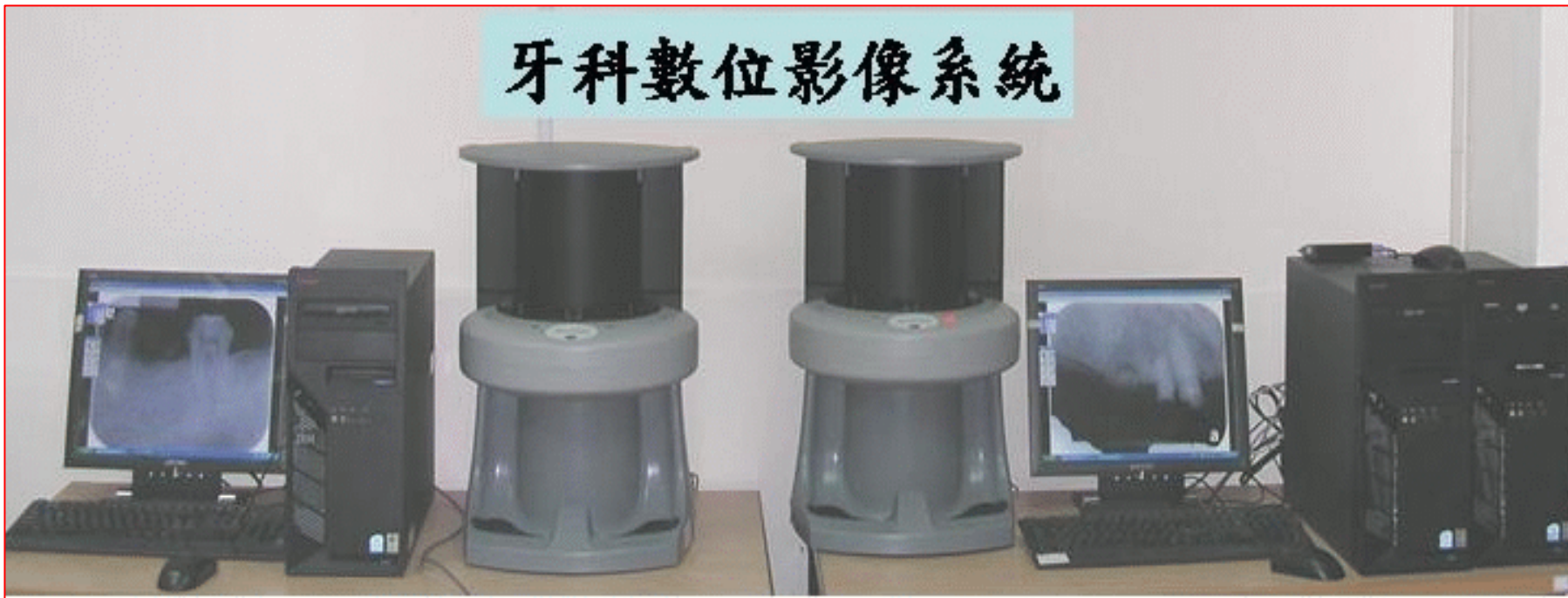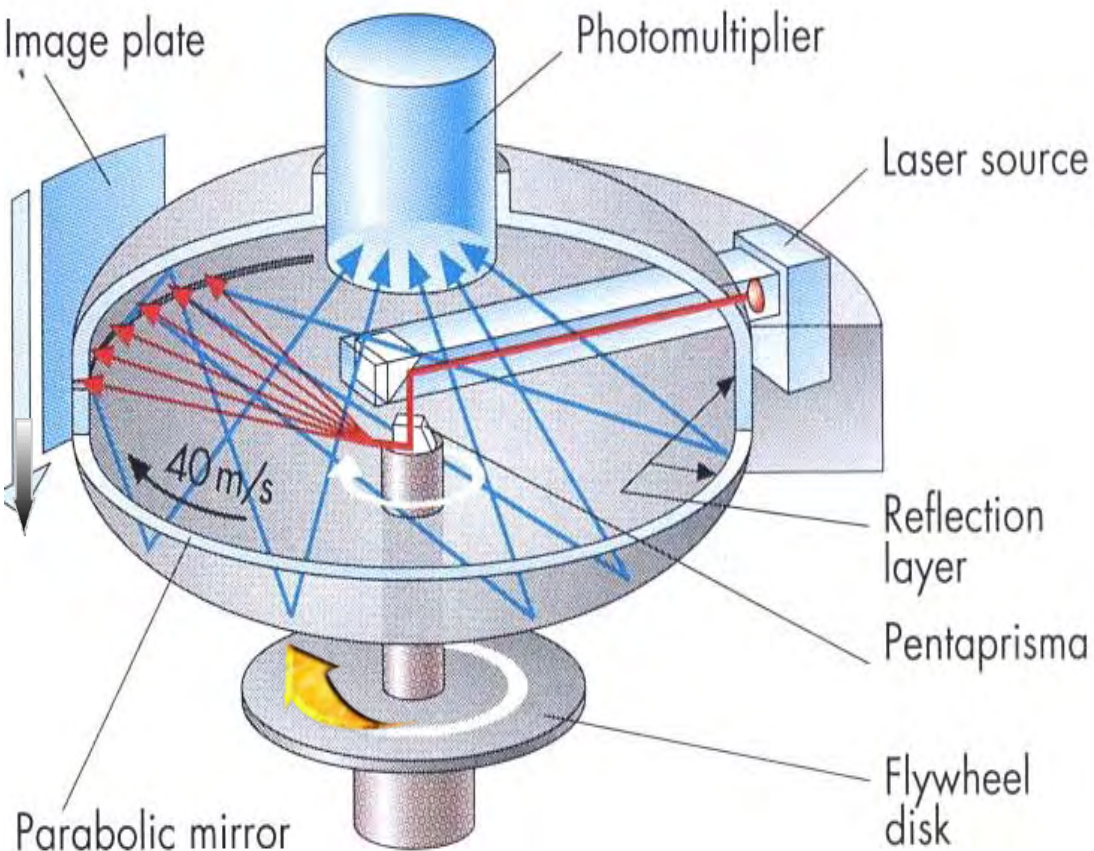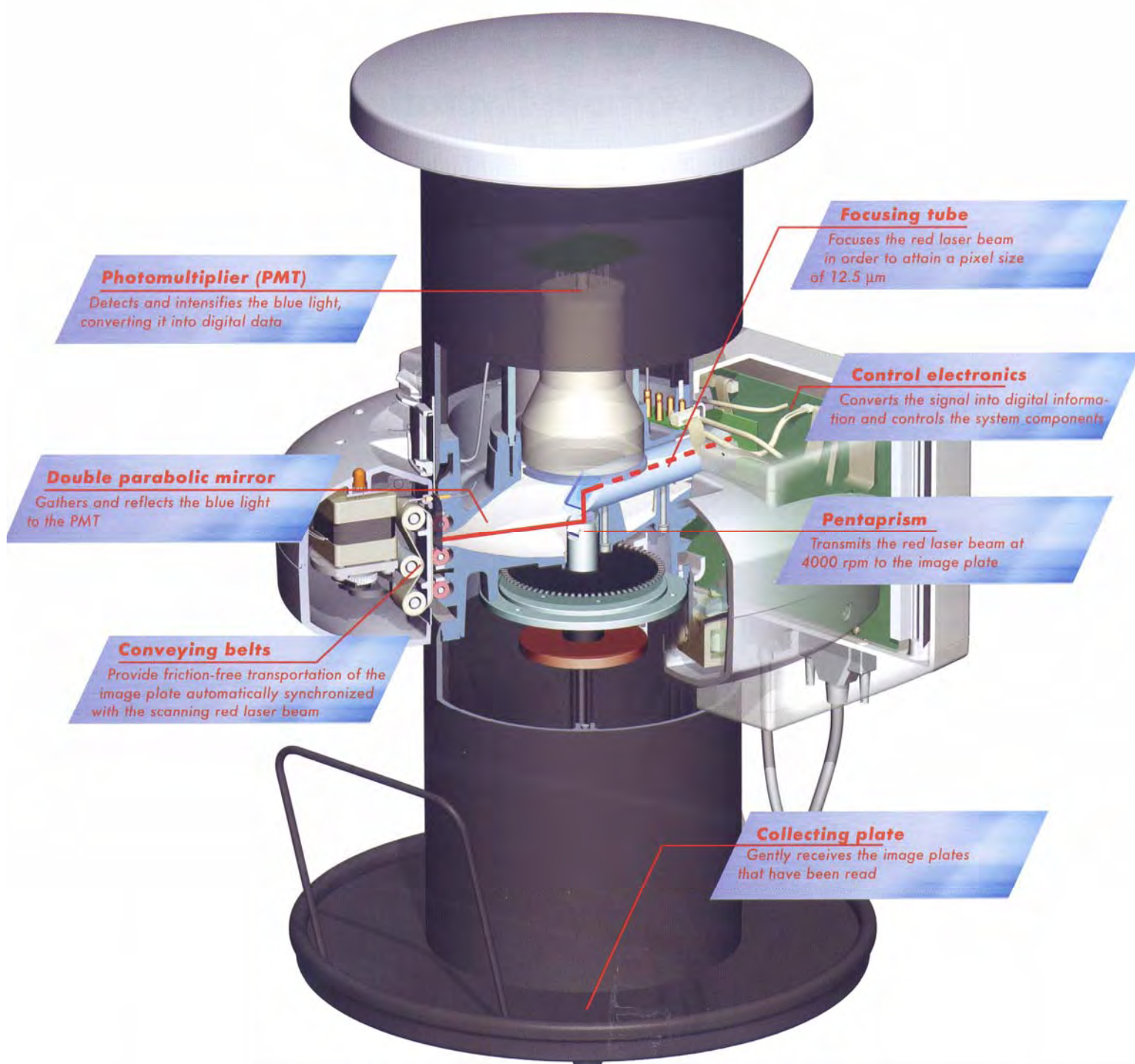Reflection layer
Pentaprisma
40 m/s
Flywheel disk
Parabolic mirror

# Advantages of Scan X

- Simple handling because of semi-automatic plate insertion
- High scanning speeds resulting in images being produced quickly
- Small laser spot of 12.5µm giving a max. theoretical resolution of 40 LP/mm
- Almost complete detection efficiency for absorbed X-ray quanta (96.3 %) thus mini-mizing interference that would spoil the image quality
- Complete utilization of the resolution of image plates available today and in future generations up to 40 LP/mm
- Operation under normal lighting conditions
- High dynamics (16 bit raw data)

**Photomultiplier (PMT)**
Detects and intensifies the blue light, converting it into digital data

**Focusing tube**
Focuses the red laser beam in order to attain a pixel size of 12.5 μm

**Control electronics**
Converts the signal into digital information and controls the system components

**Double parabolic mirror**
Gathers and reflects the blue light to the PMT

**Pentaprism**
Transmits the red laser beam at 4000 rpm to the image plate

**Conveying belts**
Provide friction-free transportation of the image plate automatically synchronized with the scanning red laser beam

**Collecting plate**
Gently receives the image plates that have been read

DÜRR

## Scanning times

| Extra-oral formats | | Standard scanning 5 LP/mm | Fine scanning 6.7 LP/mm |
|---|---|---|---|
| OPG | 12.7 x 30.5 | 21 sec. | 28 sec. |
| OPG | 15 x 30 | 24 sec. | 32 sec. |
| CEPH | 18 x 24 | 29 sec. | 38 sec. |

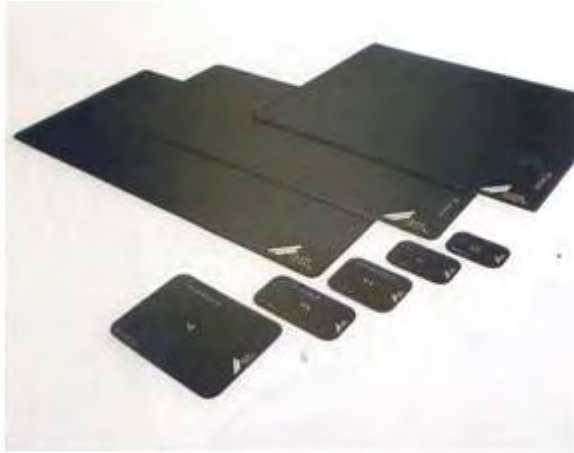| Intra-oral formats | | Standard scanning 10 LP/mm | Fine scanning 20 LP/mm |
|---|---|---|---|
| Child | 2 x 3 | 14 sec. | 27 sec. |
| Child bite-wing | 2 x 4 | 15 sec. | 30 sec. |
| Standard | 3 x 4 | 15 sec. | 30 sec. |
| Bite-wing | 2.7 x 5.4 | 20 sec | 39 sec. |
| Occlusal | 5.7 x 7.6 | 26 sec. | 51 sec. |

Image plates in all current dental formats



Foil cassettes in a foil cassettes holder



Consistent and gentle erasure of the image plates

# Changing over is simple for the practice

# Intra-oral



1. Insert the image plate into the foil cassette

2. Place the foil cassette

3. Start the reading process

# Panorama/Ceph



1. Foil cassette has been put in place

2. Start the reading process

VistaScan Intra – the smaller
solution for producing intra-oral
radiographs only.

VistaScan with a comprehensive range
of applications for all dental areas of use
Intra-oral, Panorama and Ceph.

# Commercial available Products

*List #1: Companies Providing <u>Intra-oral</u> Solid-state Detector Systems*

1. Dent-X: **Eva** (Enhanced Visual Assessment)
2. Dentrix Dental Systems: **ImageRAY$\iota$**
3. Danaher: **Dexis**
4. GE Healthcare Dental Imaging (Instrumentarium Imaging): **Sigma**
5. Kodak Dental Systems: **Kodak 5000 and Kodak 6000**
6. Lightyear Direct: **SpeedVision**
7. Owandy (France): **Krystal-X**
8. Planmeca USA (Finland): **Dixi3**
9. Progeny: **MPSe**
10. Schick Technologies: **CDR and CDR Wireless**
11. Sigma Biomedics, USA: **BIO-RAY**
12. Sirona, USA: **Sidexis XG**
13. Sometech (Korea): **Xview**
14. Suni Medical Imaging: **Dr. Suni Plus**

# Commercial available Products

*List #2: Companies Providing <u>Panoramic</u> Solid-state Detector Systems\**

1. GE Healthcare Dental Imaging (Instrumentarium Imaging): **OP100D**
2. J. Morita: **Veraview IC5**
3. Kodak Dental Systems: **Kodak 8000**
4. Planmeca USA (Finland): **EC Proline** and **ProMax**
5. Schick Technologies: **CDR PanX**
6. Sirona, USA: **Orthophos XG**[Plus]

\* excluding "retro-fits"

*List #3: Companies Providing <u>Phosphor Plate</u> Detector Systems*

1. AirTechniques: **ScanX**
2. Gendex (Danaher): **DenOptix**
3. Soredex: **Digora** and **Optime**
4. Sigma Biomedics: Orex CR