

3D Printing

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3D Printing Guide





SMART001)

Binaural Impressions (85-90 secs)



The scanner is needed to scan the physical impression. You can scan a binaural pair of impressions within 85-95 seconds. **PRODUCTION** (SMART002)

Binaural Impressions (60-70 secs)

CYFEX Modelling Software

Open the scanned impression in the modelling software (Cyfex software recommended) to transform the impression into the actual mould/shell/cast you require, using simple pre-set templates, converted within a few minutes.



Luxaprint Material

Recommend material is Detax Luxaprint. Materials available are shell, mould or cast material



Open the modelled impression in the Asiga software (provided) and place the moulds within the build platform (auto placement). Then send the print through to the printer. Average print time is around 2 hours but can be increased/decreased depending on the settings you choose. You can print approx. 3 moulds at a time with the Pico $2^{\text{\tiny M}}$ and 30 with the PRO 2™. Stacking option is also available allowing you to print 10 moulds on the Pico 2™ and 150 on the PRO 2[™] at a time. Materials available are shell, mould or cast material.



PRO 2™

Pico 2[™]

Effica E1

Once printed remove the built parts and place in the ultrasonic cleaner filled with Isopropanol for 3 minutes to clean the excess, vent holes etc.



Oven

Place in the oven for 30 minutes at 40 degrees. This removes any sticky residue and hardens the part.



Flash Unit

Place in the flash unit to ensure any uncured material is fully cured. Approximately 5-10 minutes with the Asiga flash unit provided with the printer. G171 flash unit used with Nitrogen recommended and can be purchased separately.



Laquer using Detax Shell AC. Cure the laquer under UV light for approx. 4 minutes.

ASIGA Freeform PRO 2 75 3D Printer







- Brushless servo precision 3D printer
- Slide and separate technology (SASTM) resulting in minimal support structured & reliable accuracy
- Material level sensor, automatic pause of machine when material is low allowing long-term unattended operation
- Operation is almost silent, odour free and requires no special facilities
- Ethernet connectivity for shared access across networks making the PRO completely office friendly
- 5 Year UV LED warranty as standard
- Pixel size and build size, PRO 75 75 µm & 144 x 81 x 200 mm
- Supplied with safety tray, calibration kit, PRO material pack and ASIGA Composer software.

Build Size:	PRO 50 (96 x 54 x 200 mm) PRO 75 (144 x 81 x 200 mm)
Pixel Size:	PRO 50 (50 μm) PRO 75 (75 μm)
Z Control:	1 μm
Light Source:	405 nm UV LED
Material System:	Open
File Inputs:	STL, SLC & Stomp
Software:	ASIGA Composer (included)

Network Compatibility:	100 Mb/s Ethernet
System Size:	45 x 49 x 80 cm
System Weight:	34 kg
Packaged Size:	55 x 59 x 90 cm
Power:	100 - 240 VAC 5A

ASIGA0030 Freeform PRO 2 75

ASIGA Freeform Pico 2[™] 3D Printer

4*5154*





- Touch screen display
- 3D printer for audiology production
- Slide and separate technology (SASTM) resulting in minimal support structured & reliable accuracy
- Open material system making the Pico 2[™] versatile and adaptive
- Single point calibration and efficient material change-over in under 60 seconds
- Wifi & Ethernet connectivity for seamless workspace integration
- UV LED light source either 385 or 405 nm
- Supplied with ASIGA flash, calibration kit, PlasCLEAR material pack and ASIGA Composer software.

Build Size:	51.2 x 32 x 75 cm
Pixel Size:	39 µm
Print Speed:	40 mm/h
Z Control:	1 µm
Light Source:	385 or 405 nm UV LED
Material System:	Open
File Inputs:	STL, SLC & Stomp

Software:	ASIGA Composer (included)
Network Compatibility:	Wifi & Ethernet
System Size:	26 x 38 x 37 cm
System Weight:	14 kg
Packaged Size:	46 x 56 x 50 cm
Power:	12 VDC 10A

ASIGA0010 Pico 2[™] 405 nm LED **ASIGA0011** Pico 2[™] 385 nm UV LED

Asiga PICO2 HD™ UV

ASIGA

The World's Smallest HD 3D Printer, the PICO2 $HD^{\text{\tiny M}}$ outputs exceptional surface finish, pristine detail, part accuracy and a surface smoothness enviable of all 3D printer manufacturers.





- Wifi Enabled
- High Impact Hood
- Open Material System (use any suitable 3rd party material)
- Lifetime Technical Support
- Internal Radiometer
- Quick Release fast material change-over
- Touch Screen Display
- SAS Technology
- High Power UV LED
- Free Composer Software
- Single Point Calibration (calibrate in under 30 seconds)

Build Size:	37 µm
Pixel Size:	71.1 x 40 x 75 mm*
Z Resolution:	Variable in 1 µm
Light Source:	High power LED - uv 385 nm or 405 nm
Material System;	Open - use any 3rd party material
File Inputs	STL, SLC, STM
Software:	ASIGA Composer (lifetime software updates included)

Network Compatibility:	Wifi & Ethernet
System Size:	260 x 380 x 505 mm
System Weight:	18 kg
Packaged Size/Weight:	940 x 530 x 500 mm / 23 kg
Power:	12VDC 1 OA

ASIGA0040 Asiga PICO2 HD[™] UV Inc. Material **ASIGA0050** Asiga PICO2 HD[™] Inc. Material

ASIGA Max UV 3D Printer

ASIGA



Special Order





- Touch screen display
- 3D printer for audiology production
- Smart positioning system
- Open material system making the Max[™] versatile and adaptive
- Single point calibration and efficient material change-over in under 60 seconds
- Wifi & Ethernet connectivity for seamless workspace integration
- UV LED light source 385 nm
- O Supplied with ASIGA flash, calibration kit, PlasCLEAR material pack and ASIGA Composer software.

Build Size:	119 × 67 × 75 mm
Pixel Size:	62 µm
Z Control:	1 μm
Light Source:	385 nm UV LED
Material System:	Open
File Inputs:	STL, SLC & Stomp

Software:	ASIGA Composer (included)
Network Compatibility:	Wifi & Ethernet
System Size:	26 × 38 × 37 cm
System Weight:	16.5 kg
Packaged Size:	41 × 50 × 48 cm
Power:	12 VDC 10A

ASIGA0215 ASIGA Max UV

Pico Flash

ASIGA

Compact post-curing device for use with Freeform Pico/Plus systems.



ASIGA0100 Pico Flash

PRO RFID Build Tray

ASIGA

Pack of 1.



ASIGA0120 PRO RFID Build Tray

Pico RFID Build Tray

ASIGA

Pack of 2.



ASIGA0110 Pico RFID Build Tray

Max Build Tray

Pack of 1.







ASIGA0216 Max Build Tray 11 ASIGA0217 Max Build Tray 5I

Pico PLAS Printing Material

500 ml material pack for ASIGA Pico 3D printers, includes build tray.



- PlasPINK is a high resolution flesh-coloured photopolymer suitable for a wide range of applications.
- Plas Material is a high resolution photopolymer suitable for a wide range of applications; PlasPINK & PlasGRAY.
- SuperCAST v3™ now with the added benefit of faster print speeds and enhanced detail definition. Developed specifically for jewellery and dental applications.
- FusionGRAY is a high temperature material resistant to temperatures up to 160 °C and is suitable for vulcanized rubber moulds & industrial product applications.











ASIGA0204 500 ml PlasPINK ASIGA0203 500 ml PlasGRAY ASIGA0205 500 ml PlasCAST ASIGA0206 500 ml SuperCast V3 ASIGA0207 500 ml FusionGRAY

PRO PLAS Printing Material

1000 ml material pack for ASIGA PRO 3D printers, includes build tray.



- FusionGRAY is a high temperature material resistant to temperatures up to 160 °C and is suitable for vulcanized rubber moulds & industrial product applications.
- Plas Material is a high resolution photopolymer suitable for a wide range of applications; PlasCLEAR, PlasPINK, PlasGRAY & PlasWHITE.
- SuperCAST v3TM now with the added benefit of faster print speeds and enhanced detail definition. Developed specifically for jewellery and dental applications.













ASIGA0208 1000 ml FusionGRAY ASIGA0209 1000 ml PlasCLEAR ASIGA0210 1000 ml PlasGRAY ASIGA0211 1000 ml PlasPINK ASIGA0212 1000 ml PlasWHITE ASIGA0213 1000 ml SuperCast V3

DETAX

Freeprint® Cast

DETAX

1 kg green transparent.





PRO151D-1000 Freeprint® Cast

Luxaprint® Cast

DETAX

1 kg green transparent.





PRO152K-1000 Luxaprint® Cast

Freeprint® Mould

DETAX

Light curing resin (wavelength 405 nm) for the production of earmoulds & hearing protection. Low viscose for reduced loss of material, easier cleaning and faster finishing. Non-brittle, fracture resistance, high transparency and biocompatible.





PRO151A-500 Clear 500 g PRO151A-1000 Clear 1 kg **PRO151B-500** Rose 500 g PRO151B-1000 Rose 1 kg

Freeprint® Shell

DETAX

Light curing resin (wavelength 405 nm) for the production of hard ITE shells. Extra low viscose formula; reduced loss of material, easier cleaning and faster processing. Non-brittle, fracture resistance, short light exposure time and biocompatible.





PRO151E-500 Black 500 g PRO151E-1000 Black 1 kg PRO151C-500 Beige 500 g PRO151C-1000 Beige 1 kg

Cast Separator

500 ml colourless.





PRO153A-500 Cast Separator

Luxaprint® 3D Mould

DETAX





PRO152J-500 Blue 500 g PRO152J-1000 Blue 1 kg PRO152F-500 Clear 500 g PRO152F-1000 Clear 1 kg PRO152H-500 Red 500 g PRO152H-1000 Red 1 kg PRO152G-500 Rose 500 g PRO152G-1000 Rose 1 kg

Luxaprint® 3D Shell

DETAX

UV premium resin, for generating manufacturing of hard ITE shells (light spectrum UV 378-388 nm). and biocompatible.





PRO152E-500 Beige 500 g PRO152E-1000 Beige 1 kg PRO152D-500 Blue 500 g PRO152D-1000 Blue 1 kg PRO152A-500 Clear 500 g PRO152A-1000 Clear 1 kg **PRO152C-500** Red 500 g PRO152C-1000 Red 1 kg PRO152B-500 Rose 500 g PRO152B-1000 Rose 1 kg

Scraper For Asiga Printer

ASIGA

To aid in the removal of 3D prints from the printer bed.



ASIGA0130 Scraper For Asiga Printer

Detax Softwear® 2.0

DET₄X

Permanently elastic earmould silicone for indirect fabrication of soft BTE moulds & protectors, particularly for 3D cast technique. Bubble-free filling of the cast forms, low extrusion strength, excellent flow properties. Effortless removal of the silicone blank due to reduced surface tension, does not stick to the cast form. Maximum detail reproduction, tear & tensile strength with high elastic recovery. Long-term wearing comfort due to soft flexible fitting, skin-friendly & biocompatible. Working time approx. 2:30 min, final hardness: approx. 60 Shore A.



ACC136-S60A Clear Transparent
ACC136-S60B Rose Transparent
ACC136-S60C Red Opaque
ACC136-S60D Blue Opaque
ACC136-S60E Green Opaque
ACC136-S60F Yellow Florescent
ACC136-S60H Colourmix

Detax Bioflex

DETAX

Permanently elastic earmould silicone for indirect fabrication of hearing and splash water protection. For use in conventional or generative manufacturing (e.g. 3D cast technique). Good flow properties, precise detail reproduction, tear resistant, easy processing. High wearing comfort due to soft-flexible fitting. Skin-friendly & biocompatible. A-silicone, light bodied, working time approx. 2:30 min, final hardness: approx. 40 Shore A, Bioflex Pearl colours: rose quartz, serenity blue, pearl white. Bioflex Shock colours: electric blue, poison green, shocking pink.



ACC136-S68 Bioflex Pearl Set
ACC136-S67 Bioflex Shock Set

Duo Scan (Desktop Scanner)

smart optics

3D-Scanner For Ear Impressions

Generate precise 3D data of impressions in the easiest possible way.









- Precise and fast for outstanding fit and increased productivity
- Simultaneous scanning of two impressions saves time
- Ompact structure and attractive design enable use in any environment
- Easy installation
- Removable object holders enable easy-to-use and flexible positioning of the castings
- High-quality, durable components mean reliable, maintenance-free use
- Easy, intuitive operation ensures minimal induction period
- Open file formats STL, ASCII and MSH provide an easy connection with CAD software or industrial solutions
- Save shipping costs and shipping time through electronic transmission of ear impression scans (e-mail, FTP, etc.)
- Unique price/performance ratio

Scanning time (binaural)	85 to 95 seconds (with recommended computer)
Number of castings per scanning procedure	2
Output data format	STL, ASCII, MSH
Technology	Structured-light scanner with durable
	high-performance LED
Resolution of scan data	Adjustable

Interface	USB
Connection voltage and power consumption	100 – 240 V AC 50 / 60 Hz, max. 30 W
Dimensions	300 x 340 x 135 mm (W x L x H)
Weight	8 kg
Warranty	24 months

SMART001 Duo Scan (Desktop Scanner)

SMART004 FTP Module

SMART005 Warranty + 12 Months

CYF0001 Cyfex Software - 1 Year - 2500 Decryptions
CYF0002 Cyfex Software - 1 Year - 5000 Decryptions
CYF0003 Cyfex Software - 1 Year - Unlimited Decryptions

DS Production (Production Scanner) For Continual Operation

smart optics

Fast Precise 3D-Scanner For Ear Impressions

The fast 3D scanner for the professional.









- No annually license fees or other costs, e.g. fee-per-scan-charges
- No encoded data file, therefore open for many CAD solutions
- Precisely and very fast for an excellent fitting
- Increasing the productivity
- Saving time because of simultaneous scanning of two canal castings
- Ompact and robust construction and attractive design allows the use in any environment
- Easy installation
- Reliable and maintenance-free, continuous operation by using high quality and long-lasting components
- Very short setting-in-period by easy and intuitive appliance
- Unique price-performance ratio

Scanning time (binaural)	60 - 70 sec. (with recommended computer)
Number of castings per scanning procedure	2
Output data format	STL, ASCII, MSH
Technology	Structured-light scanner with durable
	high-performance LED
Resolution of scan data	Adjustable

Interface	USB
Connection voltage and power consumption	100 - 240 V AC 50 / 60 Hz, max. 30 W
Dimensions	300 x 340 x 135 mm (W x L x H)
Weight	10 kg
Warranty	24 months

SMART002 DS Production (Production Scanner)

SMART004 FTP Module

SMART005 Warranty + 12 Months

CYF0001 Cyfex Software - 1 Year - 2500 Decryptions
CYF0002 Cyfex Software - 1 Year - 5000 Decryptions
CYF0003 Cyfex Software - 1 Year - Unlimited Decryptions

Mono Scan (Shop Scanner)

Shop Solution For Ear Impressions

Simple and precise: generation of 3D data of models of the ear impression. Mono Scan is the ideal in-store solution for audiology.







FTP Module
SMART004

Allow the direct upload
of the scan files to a
FTP Server of your
choice.

- Individual: Own OEM casing can be selected (in the case of a volume purchase)
- Productive: Precise fit and rapid scanning
- Compact: Appealing design and construction
- Intuitive: Simple installation and operation
- Comfortable: Removable model holder for comfortable positioning
- High quality: Optimum materials for reliable application.
- Practical: Open file formats for processing with any CAD software that provides STL processing, etc.

60 sec. (with recommended computer)
1
STL, ASCII, MSH
Structured-light scanner with durable
high-performance LED
Adjustable

Interface	USB
Connection voltage and power consumption	100 - 240 V AC 50 / 60 Hz, max. 30 W
Dimensions	300 x 367 x 145 mm (W x L x H)
Weight	7.5 kg
Warranty	24 months

SMART003 Mono Scan (Shop Scanner)

SMART004 FTP Module

SMART005 Warranty + 12 Months

CYF0001 Cyfex Software - 1 Year - 2500 Decryptions
CYF0002 Cyfex Software - 1 Year - 5000 Decryptions
CYF0003 Cyfex Software - 1 Year - Unlimited Decryptions

Effica E1 Professional Ultrasonic Cleaner

Ultrasonic Cleaning System



- Contemporary Design
- Quiet Operation
- Custom Basket Included
- Unique Cover
- Fast, Convenient Draining

Output Frequency Range/Rate	45 KHz +- 2KHz / 3Hz
Overall Dimensions Centimeters L x W x H	37.5 x 26.7 x 26.7 cm
Shipping Weight Kgs (Approx.)	5.5
Tank Capacity Liters	4.0
Tank Internal Dimensions Centimeters L x W x D	28.6 x 14 x 8.9 cm

Redesigned draining system results in 65% faster draining. Convenient and easy to access.



New instrument basket design for greater ultrasonic energy flow.

Raised bottom allows for ultrasonic waves to properly form beneath instruments for a quieter, more thorough cleaning.

Allows for hands-free draining.

Unique hinged cover design.
Cover fully encloses beakers during use.
Full line of accessories available for greater versatility.





ACC235D Ultrasonic Cleaning System

PROD30 Isopropyl Alcohol 5 | Special Delivery

ACC235C Ultrasonic Cleaning Fluid 5 I

Ultrasonic Cleaner III

The Ultrasonic Cleaner III is a ultrasonic cleaner featuring a large 2 litre tank, 70 watts of ultrasonic power, 60 watts of heating power, enough to heat the chamber up to 80 °C. The Ultrasonic Cleaner III features high build quality, robust design and easy to use operations, making it the ideal ultrasonic cleaner for use in lab environments.



Capacity	Tank Size	Ultrasonic Power	Heating Power	Frequency	Timer Settings	Heater Settings
2.0 litres	150 x 135 x 100 mm	70 w	60 w	40 kHz	1 - 30 minutes	20 - 80 °C

ACC235E Ultrasonic Cleaner III

PROD30 Isopropyl Alcohol 5 | Special Delivery
ACC235C Ultrasonic Cleaning Fluid 5 |

Otoflash G171 UV Flash Unit With Protective Gas Input

The Otoflash is a light polymerization chamber for the hardening/curing of light curing resins.

Two photoflash lamps at the bottom of the curing chamber operate in a work mode with a frequency of 10 flashes per second.

The photo-flash lamps produce a very intensive light radiation in a spectrum from 300 up to 700 nm. Because of this intensive light radiation, a better hardening of the materials is possible, resulting in materials with good physical values and reduced content of residual monomer versus using other lamp types with a different light emitting spectrum.



Operating Voltage	100, 115, 230 volt AC, Selectable
Nominal Frequency	50/60 Hz
Power Input	About 250 W
Radiated/Flashed Lamp Power	About 200 W (100 X/Lamp)
Light Power	Ca. 1/3 of lamp power ≈ 66 W
Spectral Distribution	300-700 nm, max 400-500

Light Power in Interesting Spectrum	Ca 1/3 of lamp power ≈ 11 W
Flash Rate	10 flashes per second
Digital Time	Adjustable from 1 up to 9999 flashes
Life Time	300-500 hours operating time (10.8 - 18 Mio flashes)
Curing Chamber	120 x 120 x 50 mm
Outer Dimensions	310 x 310 x 140 mm
Weight	6 kg

ACC464A Otoflash G171 UV Flash Unit With Protective Gas Input
ACC464B Plexi-glass Containers For Otoflash - With UVB-Blocker
ACC464C Plexi-glass Containers For Otoflash - Without UVB-Blocker

Labnet Mini Incubator

Labnet's Mini Incubator is compact and economically priced, yet offers features not typically found in a basic incubator. The housing is all metal, as is the door frame. A plexiglass window in the door offers full visibility to the interior. One shelf is included, and can be adjusted to three different levels.



Features:

- Temp. range: ambient +5°C to 60°C
- Wrap around heating elements
- Corrosion resistant chamber
- Door with large viewing area
- Access hole in top for thermometer
- Supplied with 1 shelf (3 positions)
- External dimensions: 285W x 280D x 335H mm
- Internal dimensions: 230W x 200D x 200H mm. (9 litre)



ACC472B Labnet Mini Incubator
ACC472A Non-Toxic Thermometer