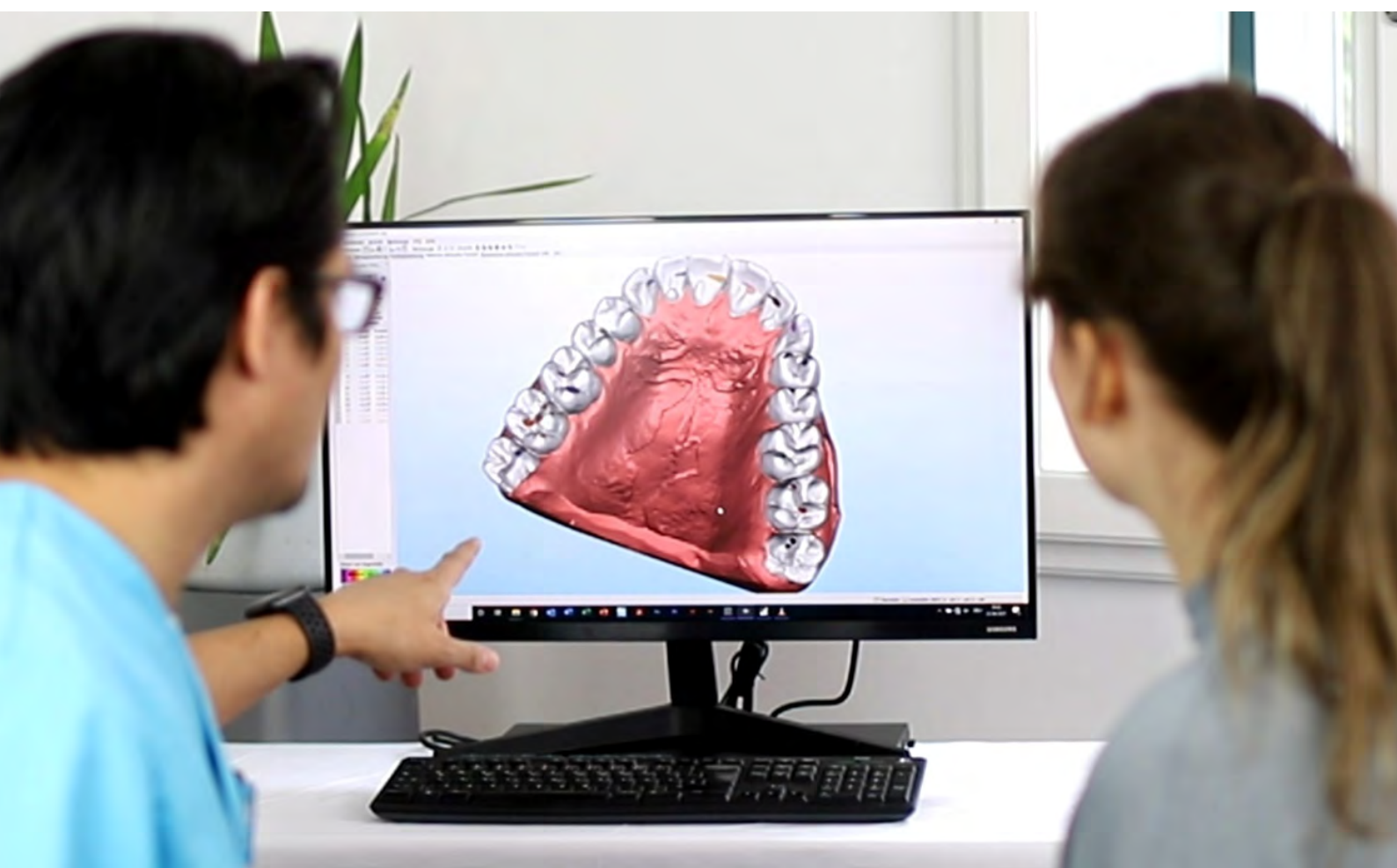


# Mastering Occlusion

**GAMMA  
DENTAL**®



## Products 2022

valid from March 01, 2022



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## Quality, precision and safety.

I am very pleased and proud to present this year's **GAMMA** product catalog, which illustrates the complete GAMMA system. In the name of our company, I would like to thank you for your interest and loyalty to our products and services.

We want to particularly emphasize the further developments of our GAMMA Dental Software. In addition to supporting the Windows® 11 operating system and many other improvements, the CADIAS 3D module now offers an additional tool for measuring the 3D models of the upper and lower jaw and other 3D data, such as the bony skull structures or dental prostheses from external CAD /CAM applications.

We are thus continuing on our successful path of consistently meeting the requirements of occlusal medicine through the integration of diagnostic tools in 3D dentistry.

We would also like to draw your attention to our YouTube channel, where you will find constantly newly created application videos of our systems - both the software and the reference system.

With great enthusiasm and joy we will try to improve our products and services again this year - for the benefit of the patients, for the satisfaction of our customers.

Christian Slavicek and your GAMMA team



## **GAMMA – introducing the team**

GAMMA is not only distinguishable by its ideas, products and services, but even more so by its team of enthusiastic co-workers. Cooperation among the individual areas of expertise is absolutely essential for the smooth functioning of our client-oriented concept.

According to the structure of the company each staff member has been allocated responsibilities and to make it easier for you to find immediately the right person in charge and to provide you with an overview of the corporate structure, we would like to introduce our team:

### **Production, Purchasing, Sales:**



Friedrich Engleithner is responsible for purchasing, production and sales. His job is to guarantee the quality of the products delivered.

+43 2243 34140 - 13

[f.Engleithner@gammadental.com](mailto:f.Engleithner@gammadental.com)

### **Sales support, Accounting:**



Angelika Pokorny makes sure that everything runs smoothly - from the original order to the delivery. She coordinates the communication within the company and processes incoming customer inquiries, making sure that they end up at the appropriate place.

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[a.pokorny@gammadental.com](mailto:a.pokorny@gammadental.com)

### **Quality Control, Product Authorization, Software Hotline, Service, Sales:**



Michael Vavryn is your first contact for all issues regarding our products and the Gamma Dental Software®. He is in particular qualified to find the best solution to software questions of our customers.

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[m.vavryn@gammadental.com](mailto:m.vavryn@gammadental.com)

### **Software development:**



Thomas Haberl coordinates the development of our software products. He is our specialist for all issues related to the GAMMA Dental Software.

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[t.haberl@gammadental.com](mailto:t.haberl@gammadental.com)

**Hardware development:**

Erwin Cetl is in charge of new and further developments of GAMMA hardware products.

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[e.cetl@gammadental.com](mailto:e.cetl@gammadental.com)

**Production:**

Philipp Engleithner works in our production department and supports the internal and external production and assembling processes.

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**Marketing:**

Markus Nurschinger is responsible for all marketing and communication activities as well as the resulting documents – printed and digital.

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[m.nurschinger@gammadental.com](mailto:m.nurschinger@gammadental.com)

## Important Information

<b>Validity</b>	With the publication of this catalogue, all previously published catalogues and pricelists become invalid.
<b>Product Information</b>	<p>The product information contained in this catalogue has been limited to important characteristics and/or directions for use. Detailed descriptions are available upon request.</p> <p>This catalogue is not a substitute for the detailed descriptions and directions which are included in the delivery packages.</p>
<b>Order Information</b>	If not otherwise indicated, the article numbers always refer to one (1) unit. Any deviations from "1 unit" (e.g., package contents or sets, units, pair, 10 per package, etc.) are marked accordingly.
<b>Orders</b>	To be valid, all orders must be made in writing. Please always use the GAMMA order form. To avoid incorrect deliveries, we recommend to always include the article number, the number of units and the description.
<b>Transport</b>	Within Europe, all goods are sent by DPD Transport Company. Any other means of transport, if desired must be indicated accordingly on the order form.
<b>Transport Costs</b>	Transport costs are borne by the buyer and will be automatically included in the bill.
<b>Terms of delivery</b>	<p>Unless otherwise agreed, the term of delivery is 10 workdays after reception of the written order. If the product is not available within this appointed time, the customer will be informed accordingly about the expected date of delivery.</p> <p>In case of collective (group) orders, GAMMA reserves the right to carry out part-deliveries.</p>
<b>General Conditions</b>	<p>Our general business conditions are valid for all business transactions between GAMMA and its customers. This is especially applicable for all orders, deliveries, installations, billings and services performed. Any deviation from these business conditions must be in written form.</p> <p>You will find the general business conditions of GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH at the end of this catalogue.</p>
<b>Replacement Parts</b>	In this catalogue only those spare parts are listed for which, according to our experience, there is a regular demand for replacement. Please get in touch with your GAMMA contact partner with any questions regarding other replacement parts.
<b>Prices</b>	All prices are listed in Euros, ex-warehouse Klosterneuburg. The applicable sales taxes will be added to the bill. Prices for installation and training are not included.
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# 1/5 Information about GAMMA

## Suppliers, Partners and Dealers

GAMMA products are available throughout the world.

<p><b>Austria:</b>  <b>GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH</b>  Wasserzeile 35  A-3400 Klosterneuburg  Telefon +43-2243-34140-0  Telefax: +43-2243-34140-90  eMail: <a href="mailto:office@gammadental.com">office@gammadental.com</a>  Internet: <a href="http://www.gammadental.com">www.gammadental.com</a></p>	<p><b>Russia:</b>  <b>I-Max Ltd.</b>  Nahimovskiy prospect, 52 / 27 office B  117292 Moskau, Russland  eMail: <a href="mailto:mvp@maximum.su">mvp@maximum.su</a></p> <p><b>Belarus:</b>  <b>AldisDentServis</b>  Filimonova str. 35-84, 220114 Minsk  Telefon: +375 17 267 96 07  eMail: <a href="mailto:aldisdentlab@gmail.com">aldisdentlab@gmail.com</a></p>
<p><b>Germany:</b>  <b>GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH</b>  Wasserzeile 35  A-3400 Klosterneuburg  Telefon: +43-2243-34140-0  Telefax: +43-2243-34140-90  eMail: <a href="mailto:office@gammadental.com">office@gammadental.com</a>  Internet: <a href="http://www.gammadental.com">www.gammadental.com</a></p> <p><b>American Dental Systems GmbH</b>  Johann-Sebastian-Bach-Straße 42  D-85591 Vaterstetten  Telefon: +49 (0)8106 300 300  Telefax: +49 (0)8106 300 310  eMail: <a href="mailto:info@ADSystems.de">info@ADSystems.de</a>  Internet: <a href="http://www.ADSystems.de">www.ADSystems.de</a></p>	<p><b>Poland:</b>  <b>Oriline</b>  Jakub Szygenda  ul. Luganska 5  61-311 Poznan, POLEN  E-Mail: <a href="mailto:jakub.szygenda@orident.pl">jakub.szygenda@orident.pl</a>  Tel.: 0048-539-943 831</p> <p><b>Ukraine:</b>  <b>Implamax</b>  Prov. Novonarodnyy, 2  03110 Kyiv  Ukraine  Telefon: 0038-067-328 90 18  eMail: <a href="mailto:zsokhan@gmail.com">zsokhan@gmail.com</a></p>
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<p><b>Romania:</b>  <b>Alligator s.r.l.</b>  Str Vatra Luminoasa nr 28, Bl. P7, Sc. A, Et. 6, Ap. 29  RO - Bucharest Sector 2  Tel: +40-21 - 323 58 39  Fax: +40-21 - 321 21 29  eMail: <a href="mailto:office@alligator-dent.ro">office@alligator-dent.ro</a>  Internet: <a href="http://www.alligator-dent.ro">www.alligator-dent.ro</a></p> <p><b>Bulgaria:</b>  <b>Complete Dental Solutions</b>  Bulgarska Legia 2, Sofia district, 1618, Bulgarian  Tel: +35 9896166847  eMail: <a href="mailto:office@completedental.solutions">office@completedental.solutions</a></p>	<p><b>U.S.A.:</b>  <b>Whip Mix Corporation</b>  1730 East Prospect Road, Suite 101  CO 80525 Fort Collins  USA  Telefon: 001-970 221 7051  Tollfree: 800-201-7286  Telefax: 001-970-221-7003 (6075)  Internet: <a href="http://www.whipmix.com">www.whipmix.com</a></p>

Through the Internet, Gamma offers continuous, current information regarding product innovations, new software versions, courses, exhibitions and other interesting topics. You can find us at: [www.gammadental.com](http://www.gammadental.com)



In addition, the site offers technical information, technical support, and downloadable handbooks.

## Quality Management - management by and for the team

Gamma's quality management team determines the important procedures and processes of our company. We don't just issue dictates; permanent self-analysis and constant improvements in our products are always in the foreground of our cooperative efforts. Our most important goal:

*We offer tools for functional dentistry, perfectly suited for **your** dental practice.*



## The Reference articulator system

The continuous developments in modern dentistry make ever greater demands on articulator systems. Their everyday application requires the highest precision, compatibility with other articulators and maximum flexibility. The increasing amount of cases requiring interdisciplinary therapeutic procedures calls for a system which can provide a standard basis for intercommunication. The development of the Reference system made a tool available, which provides solution-oriented procedures for simple standard cases as well as for complex “full mouth” reconstructions.

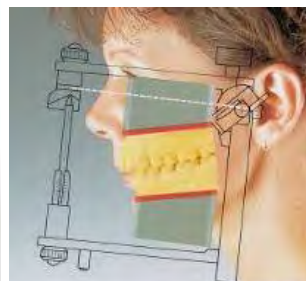
- Articulator/Face-bow system for arbitrary or exact mounting, relative to the hinge axis
- Synchronic calibration of articulators, with and without split-system
- An upgradeable articulator, from the simple occludator to the fully adjustable, all-purpose device
- Integrated magnet retention system
- Avoids problems caused by cast expansion, by means of block mounting
- Condylar position measurement (CPM), condylar position variation (CPV), measures and sets the occlusal plane, anterior tooth diagnostics
- Precast incisal table with various slopes up to a comfortable sequential table for wax-up of sequential occlusion
- Upgradeable face-bows for electronic recording of the mandibular joint with CADIAX®
- Designed by practitioners for the dental practice and the lab
- Designed by instructors for teaching and research

## Reference SL – from centric stability to ex-centric perfection

The unique construction of the condylar housing in Prof. R. Slavicek's Reference SL articulator solves this problem in a special way: not the condyles, but rather the axes, adapted from the hinge axis, glide on sagittal and transverse inserts, as lightly and easily as if on runners.

**For the practice:** Ideal for the everyday average patient: full dentures, part dentures, implants, full-mouth rehabilitations, functional diagnostics, goal-oriented initial therapy, orthodontics, oro-facial surgery.

**For the lab:** They are all exactly the same. Safe, easy to handle, and multifunctional. Constantly upgradeable.



## 2/3 Articulator & Face-bow

### 06-231380 Reference SL Articulator

#### *Components and spare parts:*

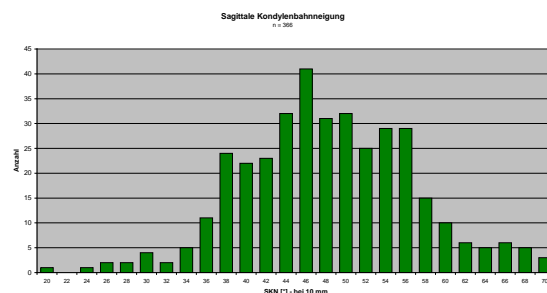
06-231347	Centric locks with setting rings, white (pair) (for Reference SL up to serial no. 06xxxx),
06-231387	Centric locks , white , pair (for Reference SL from serial no. 07xxxx)
06-231388	distance ring (for Reference SL from serial no. 07xxxx)
06-231382	SL centric O-rings, Ø 20mm / 2mm, red ( pair)
06-231303	SL index pin
06-231383	SL retention magnet (1 pc.)
06-231384	Magnet removal pin (1 pc.)
06-231385	Reference SL posterior support pin
06-231912	Ball-shaped allen key 2.5 mm
06-231308	SL Incisal pin unit
06-231307	SL Incisal pin
06-218180	SL Incisal pin height-adjustable
06-231365	SL slider

The Reference SL provides the guidance reliability of a Non-Arcon, without losing the didactic and dynamic-geometric advantages of the Arcon construction.

The user can see the guidance units and check the contact on the guide elements, without needing to perform any acrobatics to control the unit.

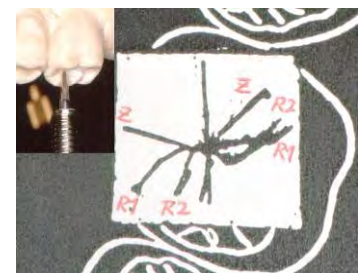
### Reference SL – a practical all-rounder par excellence

The guidance elements are easily exchangeable. The user has any number of options, up to and including individually milled inserts. The articulator can be easily and effortlessly adjusted to the individual movement tracks.



The statistics above, displaying the distribution of condylar guide inclination and compiled from registrations of over 300 patients, demonstrate the necessity of individual eccentric articulator programming.

An additional evaluation shows that the movement patterns of a large number of the patients indicate therapy-relevant retrusive movements. The SL articulator shows the differences in the formation of the occlusal surfaces.



Cusp tracks on the occlusal table showing different retrusive characteristics (Z=none, R1=surtrusive, R2=detrusive)

## 2/4 Articulator & Face-bow

	Condylogram without working side retrusion	Condylogram with working side retrusion	Condylogram with working side surtrusion	Using a detrusion guide element
<b>Patient:</b>				
<b>Articulator:</b>				

The SL articulator is ideally suited for displaying most mandibular movement patterns. The advantage: no time-wasting “screwing” and “adjusting”, just simply click in the guide.

**06-231310 Program Set SL**  
26-piece in color-coded, transparent box, including  
4 SCI inserts + 4 TCI inserts  
+ 5 protrusion stops.

*Components and spare parts:*

06-231321	TCI – insert black
06-231322	TCI – insert white *
06-231323	TCI – insert yellow
06-231324	TCI – insert red
06-231325	TCI – insert blue
06-231331	SCI – insert white *
06-231332	SCI – insert yellow
06-231333	SCI – insert red
06-231334	SCI – insert blue
06-231335	SCI – insert black
06-231341	Protrusion Stop yellow 1 mm
06-231342	Protrusion Stop red 2 mm
06-231343	Protrusion Stop blue 3 mm
06-231344	Protrusion Stop green 4 mm
06-231345	Protrusion Stop black 5 mm
06-231340	Protrusion Stop Set orange ** 0.5 / 1.5 / 2.5 mm (special part)
06-231346	Protrusion Stop Set white ** 6 / 7 / 8 mm (special part)

\* standard equipment for articulator

\*\* not included in program set



Protrusion Stop Set orange \*\*



Protrusion Stop Set white \*\*



## Reference LF – the “Labfighter”, created for the hard work in Dental labs

The semi-adjustable LF articulator is ideally suited for entry into the "Reference" line. The non-arcon construction guarantees a very good sliding behavior in the condyles. Thanks to the same height and front tooth guidance, it is ideally suited as an **addition** to the Reference SL articulator. For simple work but in the usual precision.



### Benefits:

- Easy to handle due to non-arcon construction method
- Secure guidance, no lifting condyle due to non-arcon slide construction
- High stability in centric (reference position)
- Ideal for prosthetic work
- To be used for many tasks in modern dental laboratory
- Continuously upgradeable and fully integrated in the high-end Reference articulator line



Direct articulation of the upper cast with the Reference AB facebow



Special Mounting axis for a perfect and stable connection



Direct mounting with Transfer Stand AB 2 set. The perfect alternative to the articulation with the Reference AB facebow

### 06-232100 Reference LF Articulator

#### Components and spare parts:

06-232101	LF Standard incisal table flat
06-232102	LF Standard incisal table attachment flat
06-232103	LF support bracket

The Reference LF Articulator:  
The ideal entry into the world of "occlusion" with the high-end precision from the Reference line



## Reference – Mounting system with magnetic retention



The distance blocks are held in the articulator through magnetic retention. The retaining magnet is built into the articulator, so that the full height of the unit can be utilized, while maintaining consistent adhesion.



This minimizes the disturbing influences of cast expansion during the hardening process. Different heights and slopes allow for optimal use.

The red mounting plates are screwed, removable, into the distance blocks.

If the block is unscrewed from the model, it leaves a print in the cast, so that an identical block can be screwed in, if repositioning is necessary. During active treatment, the distance block should not be unscrewed.

06-231550	Mounting plates, 50 pcs./pkg., including nuts
06-231551	Nuts, 50 pcs.
06-231510	Distance blocks, horizontal 1 (standard) *
06-231511	Distance blocks, horizontal 2 (+8 mm) *
06-231512	Distance blocks, horizontal 3 (+16 mm) *
06-231520	Distance blocks, slanted A (standard) *
06-231521	Distance blocks, slanted B (+8 mm) *
06-231522	Distance blocks, slanted C (+16 mm) *
06-231525	Distance blocks, Set (1 pair of each type)
06-231516	Lens head screw for distance blocks 1 + A (10 pcs.)
06-231517	Cylinder head screw for distance blocks 2/3/B/C (10 pcs.)
06-231518	Retention disc (10 pcs.)
06-231912	Spherical Allen key 2.5 mm



\* prices and delivery apply to 2 blocks per package

## Reference – synchronic calibration without compromises

Tolerance can regularly be checked with the calibration key.

This unit synchronizes all Reference articulators (types A, I, LF and SL), in the range from  $\pm 10 \mu\text{m}$  receptors exactly. So, everyone involved is working with identical machines, making it possible to exchange models and guarantee real comparisons.

The calibration key is also necessary for setting the 0-point when using the CPM and CPV applications.



In the dental practice or lab, the articulator can be newly adjusted and/or readjusted. The Reference A, I, and SL articulator can be adjusted over the horizontally arranged axes. The Reference LF articulator can be adjusted over both Condyle bars.



Adjustment Reference A, I und SL



rearrange the axes with the calibration key



casting the readjusted articulator axes

SL Adjustment set 2



Adjustment Reference LF



Separate the condyle bars by heating



Connect the condyle bars with adjustment adhesive again by using the adjustment tool and the Reference Calibration key

Adjustment tool for Reference LF



All components are equally axis-oriented. Then the models can be transferred from one articulator to another without second thoughts.

06-231900	Reference Calibration Key
06-231349	SL Adjustment set 1 for Reference SL up to serial no. 06xxxx
06-231386	SL Adjustment set 2 for Reference SL from serial no. 07xxxx
06-231349A	Articulator Axes with O-rings (pair)
06-231349H	Casings (pair)
06-232120	LF adjustment tool
05-001J	Adjustment for Reference SL articulator (device must be sent to the factory in Klosterneuburg – price excl. transport costs)
05-003J	Adjustment for Reference LF articulator (device must be sent to the factory in Klosterneuburg – price excl. transport cost)

## Reference – Standard incisal tables

Standard incisal guidance tables from flat to 55 degrees; centric adjustable, mounted on self-centering base.

The flat plate was designed for lower jaw mounting and the preparation of individual autopolymeric anterior guides. The 30-, 40- and 55 degree plates are equipped with 5 degree steeper protrusive inclinations.

06-231720	Standard incisal table, flat
06-231722	Standard incisal table, 15degrees lateral
06-231723	Standard incisal table, 30degrees
06-231724	Standard incisal table, 40degrees
06-231725	Standard incisal table, 55 degrees
06-231721	Standard incisal table attachment, flat



With periodic gradation, adapted from the natural front situation.

## 2/8 Articulator & Face-bow

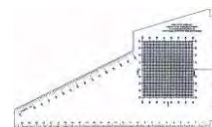
### Reference – individual anterior guidance unit

Two-stage anterior guidance in one purely protrusive part (with track grooves), in three variations; straight, 1mm and 2mm curved course of the S2 distance, with 14 degree angle of inclination.

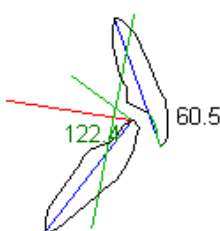
The two pins are plugged into separate jacks in the articulator, and are individually adjustable to zero position. The complete unit as shown, with 3 exchangeable protrusion inserts.

Adjustable, protrusive from 0-80 degrees, lateral from 20-65 degrees.

06-231750	Anterior guidance unit with double-pin for protrusion/laterotrusion
04-000004	Weber's 3D measuring template for metric measurement of cusp coordinates directly in the Reference SL articulator.



### Reference – Anterior tooth shaper



A container for hard silicone, aligned relative to the reference plane, to take front tooth impressions in the articulator. The hard putty can be cut into sections and the palatal surfaces can be measured from the profile. These values serve for evaluating the relation between anterior tooth guidance-joint guidance-occlusal plane in functional analysis, as well as for the articulator programming in

reconstruction and additionally for checking the tooth position and functional surface in orthodontics.

06-231800	Anterior tooth shaper
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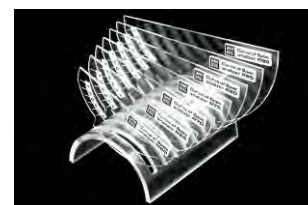


The ideal supplement to the CADIAS cephalometric program in GAMMA Dental Software®.

### Reference – Compensation Curve Analyzer

Curve of Spee Analyzer for SL-Articulator  
7 transparent templates with integrated curve radius in steps of 5 mm from R60-R90. With the help of those parts it is possible to measure or reconstruct the curve of Spee

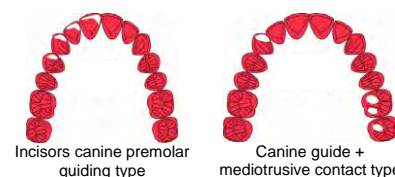
04-000019	Curve of Spee Analyzer for SL-Articulator 7 transparent plates with integrated curve radius in steps of 5 mm from R60-R90 (pedestal not included)
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### Brux checker

Evaluation of grinding patterns during sleep bruxism according to Prof. Sato. The foil registers bruxism by abrasion of the foil color.

04-000050	Brux checker foil (10 foils)
04-000055	Casting wax, fine-grained

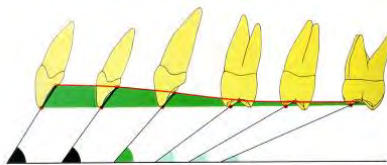


### Reference – Simple conversion to sequential occlusion

## 2/9 Articulator & Face-bow



Based on its flexible concept of using exchangeable guidance tables in various gradations, the sequential incisal table is geometrically and didactically easily comprehensible and allows to define occlusion concepts by predetermining an angle of disocclusion. The sequential incisal table is extremely simple and easy to use, both for examination and technical wax-up applications. The fan-shaped guide surfaces of the table allow for direct assignment to a tooth and a simple implementation of the natural sequential occlusion concept.



*lateral guidance waxed with the sequential incisal table*



The reconstructive wax-up concept is determined by selecting the individual elements. Depending on which occlusal surface (tooth) is being worked on, the table is set to the corresponding mark found on the side of the base plate, by sliding forward or backwards, respectively.

Guidelines are provided by a program, which processes the inclination of the joint track (CADIAX®) to the axis-orbital plane, as well as the selected Bennett element as parameters in the two-dimensional table.

The CADIAX® system calculates the ideal settings automatically.



46° (Protrusiv)  
51° (Tooth 3)  
41° (Tooth 4)  
33° (Tooth 5)  
25° (Tooth 6)



53° (Protrusiv)  
58° (Tooth 3)  
47° (Tooth 4)  
40° (Tooth 5)  
33° (Tooth 6)



49° (Protrusiv)  
55° (Tooth 3)  
44° (Tooth 4)  
37° (Tooth 5)  
29° (Tooth 6)



60° (Protrusiv)  
65° (Tooth 3)  
52° (Tooth 4)  
46° (Tooth 5)  
39° (Tooth 6)

04-000013	<b>Sequence Incisal Table Set*</b>
04-000013T	Base adapter
04-000013B	Guidance blocks, 3-piece, blue
04-000013G	Guidance blocks, 3-piece, green
04-000013O	Guidance blocks 3-piece, orange
04-000013Y	Guidance blocks, 3-piece, yellow*

In asymmetric cases, the inserts (colors) may be combined arbitrarily.

\* The set consists of the base adapter plus three (blue, green, orange) pairs of guidance blocks. The set does not include the yellow blocks.

04-000020	Wax-up Multimedia DVD Digital Wax-Up course "Class I Occlusion" Prof. Slavicek and Team  ISBN 978-3-9501261-3-6
04-000021	Wax-up Multimedia DVD Digital Wax-Up course , "Class II, III, Cross Bite", Prof. Slavicek and Team  ISBN 978-3-9501261-4-3



## Reference – Occlusal plane measurement and adjustment

This unit allows you to measure and/or lay out the individual occlusal plane in degrees. In two parts for the different inclinations of the right and left dentition.

Mounting takes place in the Reference articulator.

06-231850	Occlusal plane measuring unit
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## Reference – flexible Condylar-Position-Measurement (ICP vs. RP)

**CPM SL (Condylar-Position-Measurement adapter)** – A pair of mechanical measurement adapters for the metric comparison of the centric and intercuspal positions of the mandible. Adaptable on the SL articulator- so it is not necessary to buy a special appliance!

06-231350	CPM-SL, including marker pin (pair)
06-231351	CPM-SL marker pin
06-231352	Reference Writing labels CPM (8 sheets, each 25 labels)
06-231353	Transparent protective foil



## E-CPM - Electronic Condylar Position Measurement

06-230600	E-CPM electronic condylar position measurement, complete
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**E-CPM Upgrade** – upgrade device for CADIAX® compact 2 for electronic measurement of condylar positions  
system requirement: CADIAX® compact 2 (01-10E200-2)

06-230610	E-CPM Upgrade for CADIAX® compact 2
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**A-CPM** – Mechanical condylar position measurement, a stand-alone system without the need for electronics

This device enables a quantitative measurement comparing different lower jaw positions and the resulting effect on the jaw joint. For condylar position analysis and to guarantee the quality of the prosthetic reconstructions the support function of the posterior occlusion in ICP can be checked in relation to a centric reference position (RP) of the mandible.

06-230620	A-CPM Upgrade set mechanical (digital measurement unit, mechanic flags, marker pin, Allen key, writing labels)
06-230630	Reference-CPM Set for condylar position measurement, incl. 06-230610 E-CPM + 06-230620 A-CPM Upgrade Set
06-230631	Diagnostic notes condylar position measurement (60 sheets)
06-230632	A-CPM writing labels (10 sheets each 12 labels)



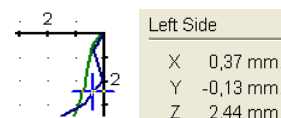
## Reference – Change condylar position with the variator



**CPV (Condylar-Position-Variator):** enables exact metric positioning of the condyle position in three spatial directions, e.g., for setting a therapeutic mandible position, for making splints, or for a set-up in orthodontics.

Ideal for application in combination with the CADIAX® Registration System. A joint position determined by CADIAX® can be set directly in the device!

The calibration key (06-231900) is necessary for determining the centric zero position!



06-230750	CPV (Condylar-Position-Variator)
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## Face-Bow

**No model should be mounted without first determining a spatial jaw relation. With the Reference system, GAMMA offers the possibility of transferring arbitrary and exact models of the upper jaw. With the proven and tested 3D joint support the face-bows can be applied simply and safely.**

### Reference – Anatomic face-bow

Parallel adjustable anatomic face-bow, with 3D joint support. With this face-bow, there is no undesirable axis displacement, e.g., from a shearing effect. Its box-like construction and double-clamping ensure the utmost stability. In its construction, the Reference AB Face-bow is aligned with the AO-plane (hinge axis-orbital plane), the front reference point lies 22 mm below the lowest recession of the Glabella.

06-230430	Reference AB face-bow (incl. 3D joint support)
06-230433	Reference AB attachment screw (pc.)
06-230435	Reference AB Porus supports (pair)
06-230436	Reference AB articulator adapter screw (pair)
06-230491	Mounting axis (pair)
06-230443	Glabella support for Reference AB face bow
06-230444	Glabella cushion comfort (5 pcs)
06-230445	Glabella support comfort (incl. 3 pcs Glabella cushions comfort)
06-230470	3D joint support for AB face-bow
06-230471	Reference adapter screw (for 3D-joint support)
06-217611	Bite fork, partial, 2 pieces - only usable with 3D-joint support
06-230465	Recording plates for Reference AB face bow, red (pair)
06-230111	Recording plates (flag) for CADIAX® compact flag adapter (pair)
01-SP0046	Flag adapter incl. screws for Reference AB (pair)
06-642150	Bite Tabs (180 pieces)



For leaving the axis-orbital plane, an accessory set is available with adjustable orbital pointer. However, in this case, mounting is then only possible in the upper jaw transfer stand (Art. # 06-230510). Sterilizable, detachable ear plugs.

For data recording with CADIAX® compact 2, the AB-Bow can be upgraded with easy-to-use accessories. The advantages are obvious: one bow, two applications!

#### Mounting elements:

06-230480	Face-bow support
06-230490	Orbital pointer for Reference AB face-bow incl. mounting axes
06-230585	Bite fork support
06-230566	Mandible mounting clamp – for a stable position of the articulator during lower jaw mounting



06-216280	Transfer stand AB receives the face-bow registration from the AB bow. The Reference distance block plus mounting plate serve as transfer table
06-231400	Transfer stand AB 2 or direct transfer of upper jaw model in articulator without Reference AB bow
06-231401	Transfer stand AB 2 Set receives the face bow registration from the AB-bow. (Consisting of: Transfer Stand AB2 and Bite fork support 06-230585)
<b>Reflitex:</b> for model transfer and possible conversion from Reference into the Artex® system.	
06-216320	Reflitex Combi-set- 3-piece Splitex plate set for Reference articulators. Simply "click-in" upper and lower jaw plates. The Reference SL is adjusted to the Artex® level.
06-216321	Upper jaw plate for Reflitex combination set
06-216322	Lower jaw plate for Reflitex combination set
06-216330	Reflitex combination set for CPM 2-piece Splitex plate set (UJ plate and LJ base plate) for E-CPM and A-CPM. Simply click in upper and lower jaw plates.
06-216281	Reflitex base plate for transfers table or CPM
06-216011	Splitex® distance plate +10mm synchronization Artex® Carbon to Artex® Standard

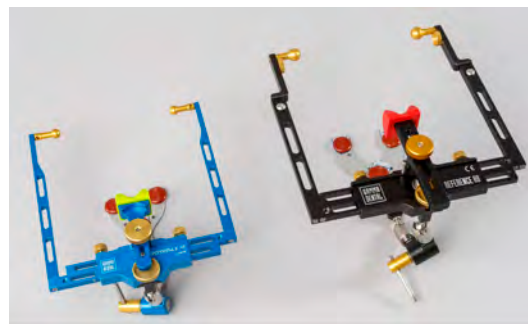
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## Reference AB face-bow Junior

The new Reference AB face bow Junior is designed for smaller patients. The patient-friendly design is easy to handle and has a reduced weight by 40% compared to the Reference AB face-bow. It has a comfortable glabella support with soft cushion.

Transfer into the Articulator can be made with transfer stand AB-Junior or AB2-Junior.

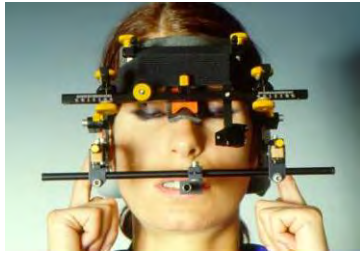


06-230430-J	Reference AB face-bow junior (incl. 3D joint support junior)
06-230470-J	3D joint support for Reference AB face-bow junior
06-217611-J	Bite fork partial small (only usable with 3D joint support)
06-216280-J	Transfer stand AB junior – receives the face-bow registration from the AB-bow junior. The Reference distance blocks plus mounting plate serve as transfer table
06-231400-J	Transfer stand AB2 junior – for direct transfer of upper jaw model in articulator with 3D joint support from Reference AB face-bow junior
01-SP0040-J	Retention straps for Ref. AB face-bow junior incl. pins
01-SP0046-J	Flag adapter incl. screws for Ref. AB face-bow junior





## Reference – Exact hinge axis with the Condylograph



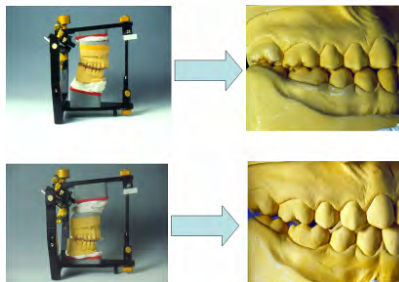
A high-precision face-bow system, for the dentist working with functional diagnostics. The upper face-bow is fixed securely to the head by means of 3-point support technology (Nasion and twice on the forehead) and the head-neck flex-band. The side arms lie without pressure on the ear-saddle. The face-bow is mounted easily and safely and is comfortable for the patient to wear.

The light construction of the mandibular bow allows for precise setting of the registration pins onto the exactly determined hinge axis.

### Why use the exact hinge axis?



*effects of mandibular rotational movements with different mounted axis points*



*example of ICP in the articulator with strongly deviating hinge axis mounting or model position*

The graphic shows the effects of mandibular opening- and closing movements during changes in the position of the hinge axis point of rotation in the articulator. With the anatomic face-bow, the joint axis is mounted to a statistical axis point, derived from the examinations of a number of patients. This can lead to a considerable deviation of the mounted axis to the actual kinematic axis.

An exact mounting of the hinge axis is indicated in cases where vertical modifications are carried out, e.g., splint therapy or milling-in, vertical changes during reconstructions, in total prosthetics or implant prosthetics.



*the condylograph carries the measurement sensory system used in the CADIAX® 4 system*

A further important point, with regard to diagnostic registration with CADIAX®: in order to eliminate geometric distortions in the movement tracks, caused by rotation, the hinge axis must always be located exactly.

The upper jaw model transfer with exact localized hinge axis and individual reference plane in the Reference, Artex® and SAM® articulators.

### Indications:

- Cases with planned vertical modifications
- Working with centric registration
- Remounting restorations
- Remounting in total prosthetics
- For exact occlusion diagnostics in the articulator
- For distortion-free joint diagnostics with CADIAX®

**04-GCR309**    **Condylgraph Set standard**  
transfer stand for Reference articulator  
(for Artex®, SAM®, Denar®, Hanau® articulator  
systems on request)



**04-GCR311I**    **Condylgraph *comfort* Set I**  
transfer stand for Reference articulator  
as 04-GCR011, but orbital pointer individual  
(for Artex®, SAM®, Denar®, Hanau® on request)



**04-GCR010I**    **Condylgraph *comfort* face bow**  
incl. orbital point indicator individual



**04-GCR013**    **Extension set for Condylgraph or  
Condylgraph *comfort***  
to enable working with CADIAX® compact 2 /  
CADIAX® compact 4 using patient's individual axis



## *Components and spare parts for upper face-bow*

06-230292	Forehead-neck band for Condylgraph, 5pcs/pkg
06-230288	Retention straps for Condylgraph <i>comfort</i> , 3 pairs/pkg, version 1
06-230290	Retention straps for Condylgraph <i>comfort</i> , version 2
06-230291	Reference headband for Condylgraph <i>comfort</i>
06-230260	Bite fork for Condylgraph and Condylgraph <i>comfort</i>
06-230240	3-D joint support Condylgraph
06-230245	3-D joint support Condylgraph <i>comfort</i> (not included in set 04-GCR010 + 04-GCR010I)
06-217611	Bite fork, partial, 2-pieces (for 3D-joint support)
06-235145	Axis indicator holder (pair)
06-230370	Axis needles and sockets (pair)
06-230155	Axis pins, long (pair)
06-230156	Axis pins, short (pair)
06-230110	Recording plates for Condylgraph and Condylgraph <i>comfort</i> , red (pair)
06-230111	Recording plates (flag) for Cadiax <i>compact</i> flag adapter (pair)
06-230270	Glabella support for Condylgraph
06-230285	Reference point indicator for Condylgraph



06-230286	Reference point indicator T fixed (22mm) for Condylograph <i>comfort</i>
06-230287	Reference point indicator P fixed (22mm) for Condylograph <i>comfort</i>
06-230284	Reference point indicator individual for Condylograph <i>comfort</i>



## *Components and spare parts for mandible face-bow*

06-235306	Mandible Face-bow, indiv. adjustable
06-231352	Reference Writing labels (8 sheets, each 25 labels)
06-230335	Occlusal tray clutch, large
06-230330	Occlusal tray clutch, small (standard)
06-230345	Functional occlusal clutches (5 pcs)
06-230345A	Functional occlusal clutches chadded (4 pcs)
06-230350	Mandibular clamp for LJ bow



## *Components and Replacement parts for articulator mounting*

06-230510	UJ Transfer stand for Reference, incl. reference plane adjustment reed
06-230511	Upper jaw transfer stand for Artex® incl. reference plane adjustment reed and distance ruler (please inquire for availability)
06-230511C	Upper jaw transfer stand for Artex® Carbon incl. reference plane adjustment reed and distance ruler (please inquire for availability)
06-230512*	UJ Transfer stand for SAM® incl. reference plane adjustment reed and distance ruler (Denar®/Hanau® please inquire for availability)
06-230520	Reference plane adjustment reed for 06-230510 (Reference)
06-230521	Reference plane adjustment reed: for 06-230511 (Artex®)
06-231521C	Reference plane adjustment reed for 06-230511C (Artex® Carbon)
06-230522	Reference plane adjustment reed for 06-230512 (SAM®) (Artex®, Denar®/Hanau® please inquire for availability)
06-230530	Distance ruler
06-230570	Pedestal support
06-230566	Mandible mounting clamp- for a stable free standing position of the articulator during LJ mounting



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# Notes



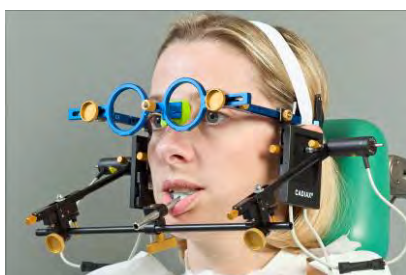


## Recording of mandibular movements with CADIAX®

Electronic registration of mandibular movement is now a standard procedure in many dental practices. The range of application is diverse: CADIAX® offers individual patient value-settings for semi- and fully-adjustable articulators, thus satisfying all of your needs, from joint-related reconstructions to the diagnostics of dysfunction.

- Bilateral, simultaneous, timed 3D registration of condylar movement
- Registration of sagittal and transversal condylar tracks
- Automatic conversion of the joint track curves for the articulator
- Electronic Condylar-Position-Measurement (CPM) directly on the patient
- Individual or standardized registrations according to Prof. Slavicek
- Variety of evaluation- and display possibilities, including zoom functions, replay, overlays, 3D-animation and articulator calculations
- Registration of hinge axis rotation (only CADIAX® 4)
- Hinge axis localization and adjustment with real-time display (only CADIAX® 4)
- Computer-supported incisal table calculations

### CADIAX® - You CAN believe your eyes!



CADIAX® measures near the joint, on the axis; a distinct advantage in the practice. On the one hand, the proven electronic measurement technology guarantees high precision; on the other hand, the system is easily comprehensible and transparent. With CADIAX®, you can review and control at any time, ideal for your practice.

The hinge axis determined by CADIAX® is precisely transferred to the articulator through the face-bow, which is extremely stable.

### CADIAX® - One recording system serves a variety of articulator systems



At the push of a button, CADIAX® calculates articulator value-settings for the **Reference SL** and **Reference LF** articulator as well as for several other articulator systems, such as:

Artex®, Denar®, Hanau®, Ivoclar®, KaVo®, Panadent®, Reference®, SAM®, WhipMix®.

Sagittal Condylar Guidance Reference® SL

Inlay	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
Straight	70	70		60	64	58
Convex	+64	+68		+54	+60	+60
Retrusiv	Black	Black		Black	Black	Black

Transverse Condylar Guidance Reference® SL

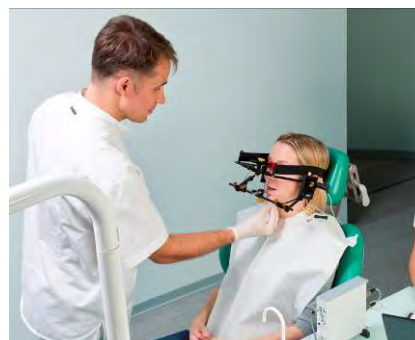
	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
WHITE	+11	+15	+13	+6	+12	+11
YELLOW	0	0	0	0	0	0
RED	0	0	0	0	0	0
BLUE	0	0	0	0	0	0

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## CADIAX® – Diagnostic data

Diagnostics relative to therapy and standardized documentation are called for in running a modern, evidence-based dental practice. GAMMA offers two systems (CADIAX® *compact* 2 and CADIAX® 4) which, depending on their application, offers solutions for any situation.

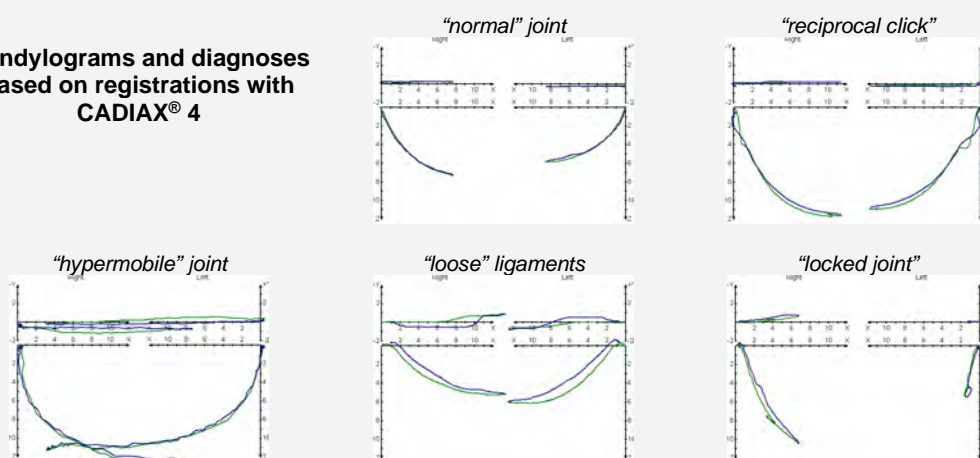
The *compact* system was designed for standard cases. Perfectly qualified for articulator programming, with additional options for screening dysfunction.



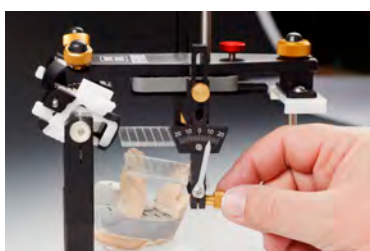
Its "big brother", CADIAX® 4, measures translational- and rotational mandibular movements at the exact hinge axis, using a double-stylus system. The system fulfils all the needs of the dentist working in functional diagnostics. In addition to the standard movements, the system can also register functional- and parafunctional movements: chewing, speaking, bruxism. Using these as overlays to the limiting movements, you can ascertain any deviations from the average patterns.

With the electronic Condylar-Position-Measurement (CPM), the difference between centric joint position and ICP can be measured, directly on the patient. This is not only of diagnostic interest, but also serves in ensuring the quality of dental reconstructions.

### Condylograms and diagnoses based on registrations with CADIAX® 4



## CADIAX® – Therapy-relevant data

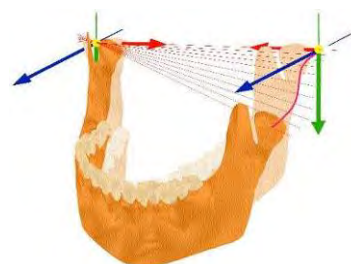


Paying attention to the individual patient's functional pattern helps in minimizing the risks of therapy. Strategic planning of occlusal parameters, in conjunction with habitual hinge axis movements, provides a solid basis for deciding on therapeutic measures. For example, decisions regarding the occlusal plane, inclination of anterior guidance, or eccentric disocclusion concepts based on the posterior joint guidance are easily arrived at and comprehensible.



## CADIAX® – Joint specific splint positions



In conjunction with the Condylar-Position-Variator (Art. # 06-230750), therapeutic splint positions can be planned and implemented exactly in all spatial directions.

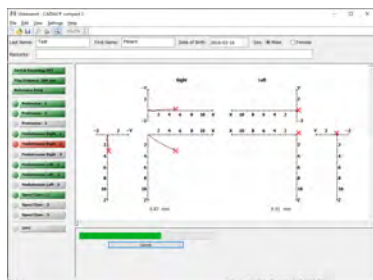


## CADIAX® – Comparing the systems

	CADIAX® compact 2 / CADIAX® compact 4	CADIAX® 4
		
Joint axis	Anatomic – arbitrary or exact	Kinematic – exact computer-assisted hinge-axis localization
Face-bow	Reference AB, Reference AB Junior	Condylograph, Condylograph comfort
Reference plane	Frankfurt plane (FH)	Axis-Orbital plane (AOP) or chosen arbitrarily
Control	Windows® PC	Windows® PC
ADC (internal resolution)	16 Bit (0.01 mm)	16 Bit (0.01 mm)
Data transfer	USB	USB
Stylus	Single (only translation)	Double (translation and rotation)
Flag	40 x 40 mm	60 x 60 mm
Recording time	4.5 seconds	variable from 4.5 – 18 seconds
Number of recordings	12 + 10 CPM	Practically unlimited
Printout	Only through Windows PC	Only through Windows PC
Scope or application	Individual value settings for several articulator systems Instrumental functional analyses in preliminary examination ("Screening")  Documentation Quality assurance Quality control	Individual value settings for several articulator systems Instrumental diagnostic detailed analyses Scientific examinations/evaluations Documentation Quality assurance Quality control
Application time (expert user)	About 7 min.	About 30 min.



## CADIAX® compact 2 – Articulator calculation and more



Recording system consisting of an electronic measuring system and an easily manageable Windows software for quickly registering mandible joint movements. Uses the Reference AB face-bow, fixed to the head and holding the flags, and a mandible bow, adjusted to an arbitrary hinge axis. CADIAX® compact 2 is easy to use and the results are reproducible.

The system saves following curves, max. 3 per patient: protrusion, mediotrusion right and left, open/close. In addition, 10 CPM positions may also be recorded.

The individual patient's articulator calculations are done at the push of a button. For documentation, the curves are printed out directly on a color printer. Optionally, the data can be saved in the GAMMA Dental software.

01-10E200-2	CADIAX® compact 2
	Electronic registration system, consisting of <ul style="list-style-type: none"> <li>• Electronic box</li> <li>• 2 Flags</li> <li>• 2 Styli</li> <li>• Foot switch</li> <li>• cables</li> <li>• Manual</li> <li>• Recording software</li> </ul> (GAMMA Dental Software® not included)
06-230430	Reference AB face-bow (incl. 3D joint support)
06-230451	Upgrade set for AB face-bow (mandible bow, clutch small, retention straps with pins)



### 01-10E300-2 CADIAX® compact 2 basic system

Consisting of: 01-10E200-2 + 06-230430 + 06-230451 + 03-SOFTE000CC2

## GAMMA Dental Software® (GDSW)

GAMMA Dental Software® is the ideal supplement to CADIAX *compact 2*. A variety of analysis options, in conjunction with a modern database system. (Details about GAMMA Dental Software® can be found in the chapter “Diagnostics/Software”)

### 03-SOFTE000CC2 **Recording software for CADIAX® compact 2 or CADIAX® compact 4**

Includes basic file management and articulator calculation

### 03-SOFTEViewer **GAMMA Dental Software®, version “Viewer”**

Includes GAMMA Document Browser case documentation tool as well as read-only access to the CADIAX®, CADIAS®, and CADIAS® 3D modules

### 03-SOFTE000C **GAMMA Dental Software®, version “C”**

Includes GAMMA Document Browser case documentation tool as well as CADIAX® condylography analysis module and recording software for CADIAX® compact 2

### 03-SOFTE000CW **GAMMA Dental Software®, version “CW”**

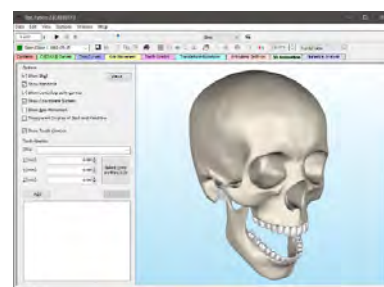
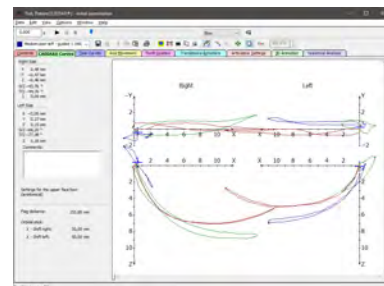
Includes GAMMA Document Browser case documentation tool as well as CADIAX® condylography analysis module, recording software for CADIAX® compact 2, and dental cusp coordinate input for wax-up (CADIWAX)

### 03-SOFTE000AM **GAMMA Dental Software®, version “AM”**

Includes GAMMA Document Browser case documentation tool as well as all other modules: CADIAX® recording with CADIAX® 4 and condylography analysis, CADIAS® cephalometric analysis, and CADIAS® 3D virtual occlusion analysis of 3D dental models

### 01-10E300-2C **CADIAX® compact 2 Basic Set incl. GAMMA Dental Software® version “C”**

Consisting of: 01-10E200-2 + 06-230430 + 06-230451 + 03-SOFTE000C



Please note the system requirements!

## CADIAX® 4 – The high-end system



One basic unit – all options for registration

The compact construction and its flexible range of application are the most impressive features of the CADIAX® 4 system.

CADIAX® 4 data process is easy both for data registered with the CADIAX® compact 2 single stylus system or with the double stylus system of CADIAX® 4.

Consequently, the system can be upgraded in a modular way and the user is granted maximum flexibility in regard of registration of condylar movements and data evaluation.

Minimum space requirement and ergonomic handling are some of the advantages of CADIAX® 4.

CADIAX® 4 is high precision; its 16 Bit ADC enables a resolution of 1/100 mm.

Power is supplied via USB port.

Data transfer and data exposure of CADIAX® 4 are done in real time, this rapid data transfer makes it possible to display positions on the screen before recording, so that the user can control the reference position once more and correct it if necessary.

## CADIAX® compact 4 – Upgradeability built-in

07-10E200-2	CADIAX® compact 4 (incl. recording software, not incl. face-bow and upgrade set)
07-10E300-2	CADIAX® compact 4 basic system consisting of: 07-10D200-2+06-230430+06-230451+03-SOFTE000CC
07-10E300-2C	CADIAX® compact 4 basic system + GDSW version "C" Consisting of: 07-10D200-2 + 06-230430 + 06-230451 + 03-SOFTD000C
07-SP0064	Systainer case for CADIAX® 4



## Replacement parts/accessories for CADIAX® compact

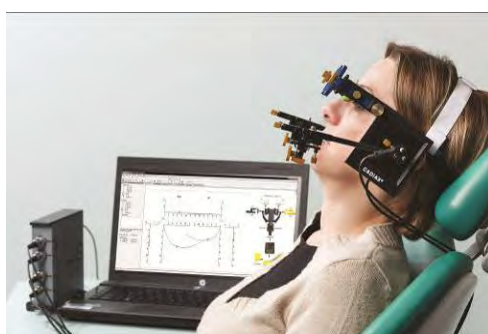
06-230452	Upgrade set individual for AB face bow 06-235306 mandible bow 06-230370 axis needles 01-SP0040 retention straps 06-230330 clutch small 06-231352 Reference writing labels 06-230111 recording plate red
04-GCR013	Extension set for Condylograph + Condylograph comfort for working with CADIAX compact 2/compact 4 using patient's individual axis
04-GCR010I	Condylograph comfort face-bow incl. orbital point indicator individual
06-235306	Mandible Face-bow, indiv. adjustable
06-230335	Occlusal tray clutch, large
06-230330	Occlusal tray clutch, small (standard)
06-230345	Functional clutches (5 pcs)
06-230345A	Functional clutches chadded (4 pcs)
06-230350	Mandibular clamp for LJ bow
06-230444	Glabella cushion comfort (5 pcs.)
06-230445	Glabella support comfort (incl. 3 pcs Glabella cushions comfort)
01-SP0029	Axis locators (piece)
06-230370	Axis needles and sockets (pair)
01-SP0040	Retention straps for Reference AB face bow (pair)



01-SP0043	Mechanics set for Reference AB face-bow
01-SP0046	Flag adapter incl. screws for Reference AB (pair)
01-SP0027	Foot switch for CADIAX® compact 2
01-SP0020M	Measuring stylus, CADIAX® compact 2
01-SP0023M	Measuring flag, CADIAX® compact 2
01-SP0052-MSET-10	Measurement sensory system CADIAX® compact 2, with magnet-retention technology (2 flags, 2 styli)
01-SP0052-MSET-10U	Measurement sensory system CADIAX® compact 2 with magnet-retention technology (2 flags, 2 styli), on return of used flags/styli
01-SP0060	Upgrade Set CADIAX® compact to compact 2 w/o sensors
01-SP0062	USB cable CADIAX® compact 2
01-SP0063	Retention strap for CADIAX® compact 2 electronic box, 25 mm
01-SP0064	Systainer case for CADIAX® compact 2



## CADIAX® 4



The high-end condylography system from GAMMA.

CADIAX® 4 provides high-resolution registration of all ranges of free mandibular movement. In addition to all of the possibilities of articulator- and incisal table programming, CADIAX® 4 especially meets the demands of a functional diagnostic registration system.

The dynamic hinge axis location makes it easy to locate and reproduce the exact axis. Transfer of the bite registration in the articulator, relative to the axis, is carried out with the same face-bow in one process. CADIAX® 4 is a closed system. It is based on many years of scientific and practical experience and was conceived and developed for the everyday practice.

CADIAX® 4 measures translation and rotation. The high-precision electronics (16-bit ADC) work with an internal measurement resolution of 0.01mm. The system records practically any number of movements, up to a duration of 18 seconds per registration.



08-00G200

## CADIAX® 4

Electronic box including:  
2 flags (large), 2 double-styli, foot switch, cables,  
carrying case, USB cable, user manual

(prerequisite: Condylograph / Condylograph comfort;  
GDSW version "AM")



08-00G200AM

## CADIAX® 4

Electronic box including:  
2 flags (large), 2 double-styli, foot switch, cables,  
carrying case, USB cable, user manual

Including: GDSW version "AM"

Not included: Condylograph / Condylograph comfort;



04-GCR309

## Condylograph Set

Set consisting of:  
cranial and mandible bow; 3D-joint support and  
bite fork partial;  
Upper jaw transfer stand and supplementary parts  
for-transfer to Reference articulator

\* mounting stand for Artex®, SAM®, Denar®, Hanau® on request



04-GCR311I

## Condylograph *comfort* set I

Set consisting of:  
cranial and mandible bow; 3D-joint support and  
bite fork partial; incl. orbital pointer individual  
Upper jaw transfer stand and supplementary parts  
for transfer to Reference articulator

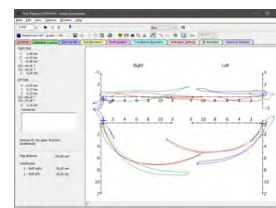
\* mounting stand for Artex®, SAM®, Denar®, Hanau® on



## GAMMA Dental Software® (GDSW)

GAMMA Dental Software® for Windows® is prerequisite for the CADIAX® 4 application. GDSW offers a variety of analysis options, paired with a modern database system.

(Details about GDSW can be found in the "Diagnostics/Software" chapter).



03-SOFTE000AM

## GAMMA Dental Software®, version "AM"

Includes GAMMA Document Browser case documentation tool as well as all other modules: CADIAX® recording with CADIAX® 4 and condylography analysis, CADIAS® cephalometric analysis, and CADIAS® 3D virtual occlusion analysis of 3D dental models

(this software is not included in CADIAX® 4 08-00G200!)



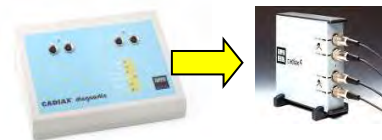
Please note the system requirements!

## CADIAX® 4 complete system

**08-00G310AM:**  
consisting of: 08-00G200AM + 04-GCR309

**08-00G410IAM:**  
consisting of: 08-00G200AM + 04-GCR311I

08-SP0010A	Upgrade CADIAX® 4 from CADIAX <i>diagnostic</i>
08-SP0010U	Upgrade CADIAX® 4 from CADIAX <i>diagnostic</i> in exchange for old system
08-SP0010AF	Upgrade CADIAX® 4 from CADIAX <i>diagnostic</i> incl. flags
08-SP0010UF	Upgrade CADIAX® 4 from CADIAX <i>diagnostic</i> incl. flags in exchange for old system
08-SP0020A	Upgrade CADIAX® 4 from CADIAX III
08-SP0020U	Upgrade CADIAX® 4 from CADIAX III in exchange for old system
08-SP0020AF	Upgrade CADIAX® 4 from CADIAX III incl. flags
08-SP0020UF	Upgrade CADIAX® 4 von CADIAX III incl. flags in exchange for old system



## Replacement parts / components for CADIAX® 4

08-SP0100-MSET	Measurement sensory system CADIAX® 4 with "M" magnet technology (2 flags, 2 styli, incl. case)
08-SP0100-MSETU	Measurement sensory system CADIAX® 4 with "M" magnet technology (2 flags, 2 styli, incl. case) on return of used flags/styli
08-SP0107	CADIAX® 4 stylus cable
08-SP0002M	Measuring stylus CADIAX® 4
08-SP0117	CADIAX® 4 flag cable
08-SPGL01M	Measuring flag, left, for CADIAX® 4
08-SPGR01M	Measuring flag, right, for CADIAX® 4



## Replacement parts/ accessories for CADIAX® diagnostic

04-GCR010	Condylograph <i>comfort</i> face bow (incl. reference point indicator P+T)
04-GCR010I	Condylograph <i>comfort</i> face bow (incl. reference point indicator individual)
06-230240	3D joint support Condylograph
06-230245	3D joint support Condylograph <i>comfort</i>
01-SP0027	Foot switch for CADIAX®
04-000014	USB – Serial adapter
02-SP0044	Serial cable
02-SP0002M	Measuring stylus CADIAX® <i>diagnostic</i>
02-SP0107	CADIAX® <i>diagnostic</i> Stylus cable
02-SPGR01M	Measuring flag right, for CADIAX® <i>diagnostic</i>
02-SPGL01M	Measuring flag left, for CADIAX® <i>diagnostic</i>





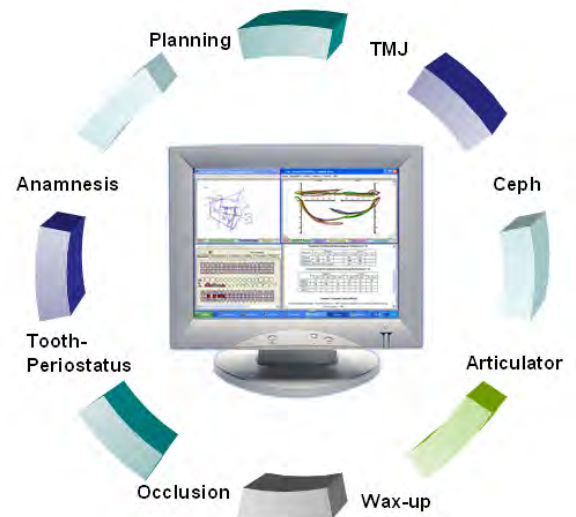
## Diagnostics with GAMMA Dental Software®

Diagnostics is the collection and evaluation of individual findings and other information with the goal of arriving at a diagnosis. A diagnostic system must be relevant to therapy and must meet the demands of running a modern dental practice. GAMMA provides a logically constructed system which makes the acquisition and administration of such information possible and fully supports the user in forming a diagnosis.

GAMMA Dental Software® (GDSW) is a modular system that comprehensively covers the requirements of modern clinical and instrumental functional diagnostics and functional therapy:

- Anamnesis findings
- Cephalometric diagnosis and planning
- TMJ diagnoses
- Articulator programming
- Wax-up
- Tooth and periodontal status

The close integration and compatibility to face-bows and articulators makes the software an ideal interdisciplinary communications medium during the practical course of therapy.



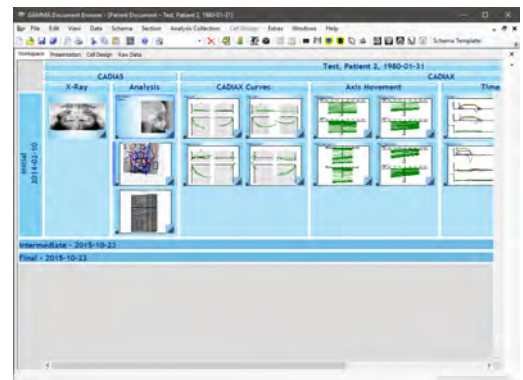
## Data Management

GAMMA Dental Software® is equipped with a modern patient management system, which allows for a completely autonomous patient case documentation independent of third-party systems.

This database system not only permits the management of general patient information, but also the association of various data generated by the individual software modules. The system also supports the storage of arbitrary external data such as pictures and Microsoft Word documents, which can therefore be aggregated with all other patient data in a single location.

Naturally, the system also supports the open VDDS-media interface for communication with the most common software products for practice administration. Among others, this includes the following vendors: *Baumgartner, Dampsoft, Evident, Solutio, Lutz Hergesell, Open Dental*

The openness with regard to the integration of foreign data and interfaces to other applications is a main focus of GAMMA Dental Software®. Continue reading to learn more about the individual software modules and their extensive range of features.



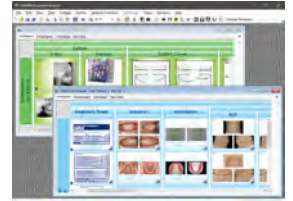


## Modular Structure

The architecture of GAMMA Dental Software® is modular and may be configured according to the needs of your practice and/or laboratory. This chapter describes some of the details of the individual modules.

### GAMMA Document Browser

GAMMA Document Browser is a comprehensive database and documentation tool. In addition to the classical GAMMA modules for diagnostics, it aggregates complete photo documentations as well as any existing documents, such as text files, graphics and spreadsheets. The option for easy and direct presentation of data makes this program an excellent communications tool which is suitable equally for students, in the dental office, or in the dental laboratory.



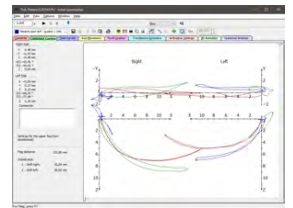
### CADIAS® 3D

This module of the GAMMA Dental Software® combines and displays all stored patient data to a comprehensive 3D representation of the patient. Basis of operation for CADIAS 3D is a pair of 3D dental models obtained either from a 3D scanner or from CAD/CAM software. An important requirement is the correct spatial correlation of these models with the hinge axis-orbital coordinate system. Only then is it possible to relate the 3D models with other data such as condylography records and lateral x-ray analyses.



### CADIAX® Analysis

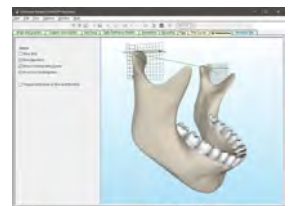
The CADIAX® analysis module processes condylography recordings of the CADIAX® compact 2 and CADIAX® 4 devices. It provides a variety of display options, such as time curves, translation/rotation, and 3D animation, as well as calculations for programming the articulator and for the wax-up procedure.



This module is especially suitable for CADIAX® compact 2 users who want to take advantage of the full potential of the system.

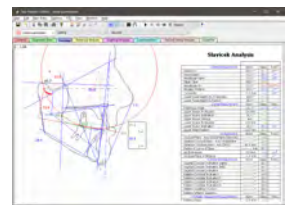
### CADIAX® Condylography

As an extension of the CADIAX® Analyses module, this module allows carrying out condylography registrations with the CADIAX® 4 system.



### CADIAS® Cephalometry

Focal point of the CADIAS® module is the cephalometric analysis, which can be combined with other data, such as clinical functional analysis or CADIAX® condylography recordings.



### Tooth Status

This module processes input of tooth status, plaque status, periodontal status, tooth mobility, tooth resilience and occlusal functions.



The software is available with the following combinations of application modules:

03-SOFTE000CC2	<b>Recording software for CADIAX® compact 2</b> Includes basic file management and articulator calculation
03-SOFTEViewer	<b>Version “Viewer”</b> Includes GAMMA Document Browser case documentation tool as well as read-only access to the CADIAX®, CADIAS®, and CADIAS® 3D modules
03-SOFTE000C	<b>Version “C”</b> Includes GAMMA Document Browser case documentation tool as well as CADIAX® condylography analysis module and recording software for CADIAX® compact 2
03-SOFTE000CW	<b>Version “CW”</b> Includes GAMMA Document Browser case documentation tool as well as CADIAX® condylography analysis module, recording software for CADIAX® compact 2, and dental cusp coordinate input for wax-up (CADIWAX)
03-SOFTE000S	<b>Version “S”</b> Includes GAMMA Document Browser case documentation tool as well as CADIAS® cephalometric analysis and treatment visualization module
03-SOFTELAB	<b>Version “LAB”</b> Includes GAMMA Document Browser case documentation tool as well as CADIAS® 3D module for virtual occlusion analysis of 3D dental models and read-only access to the CADIAX® and CADIAS® modules
03-SOFTE000AM	<b>Version “AM”</b> Includes GAMMA Document Browser case documentation tool as well as all other modules: CADIAX® recording with CADIAX® 4 and condylography analysis, CADIAS® cephalometric analysis, and CADIAS® 3D virtual occlusion analysis of 3D dental models

## System requirements:

Component	Minimum specification	Recommended specification
Operating system	Windows 8.1 with Update 1, Windows 10 version 20H2, Windows 11 version 21H2 32-bit or 64-bit	Windows 10 version 21H2, Windows 11 version 21H2 64-bit
Processor (CPU)	Entry-level x86-based multi-core processor (Intel Core i3/i5 or comparable)	Mid-range x86-based multi-core processor (Intel Core i5/i7 or comparable)
Main memory (RAM)	2 GB	≥ 8 GB
Hard drive space	≥ 2 GB	
Graphics card (GPU)	Mid-range graphics card with DirectX 11.1 support (Intel HD Graphics 4000, Nvidia GeForce 540, AMD Radeon HD 6550, or better)	
Graphics memory (VRAM)	2 GB	≥ 4 GB
Screen resolution	1280 × 720 pixels	1920 × 1080 pixels
Color depth	24 bit (RGB)	

## GAMMA Document Browser

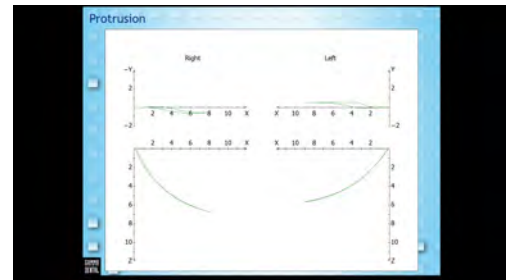
### Customizable Workspace

The layout of the workspace in GAMMA Document Browser is completely customizable in respect to the user's requirements. For example, it is possible to conveniently and comprehensively display all kinds of heterogeneous data such as patient photos, CADIAS® x-rays, CADIAX® condylography recordings and all evaluations thereof, such as tracings and articulator settings, side-by-side. In addition, the software provides multiple predefined layouts that the user can easily alternate between. Since patient data is stored independently from its display in the workspace, this does not result in any loss of information.



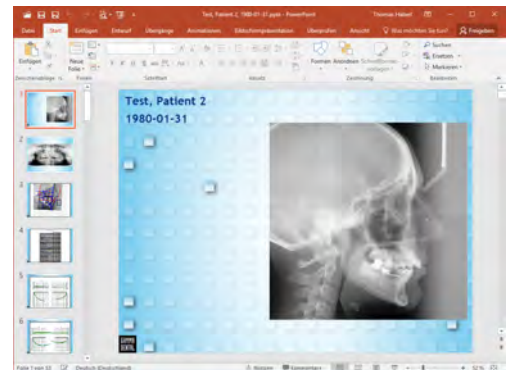
### Case Presentation

GAMMA Document Browser ensures that entered patient data is consistently kept in a presentable and print-ready format. Indeed, the software also promotes the camera-ready case presentation in front of patients and conference audiences and can further be used for illustration purposes in scientific publications or internet presences. For this purpose, the application offers a fully integrated presentation feature, which also supports advanced functionality such as showing/hiding individual cells, defining automatic presentation timings as well as transitions between slides.



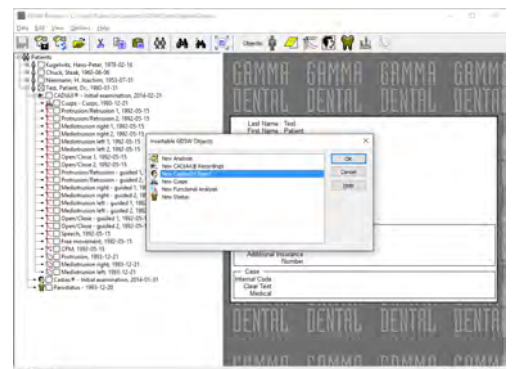
### Data Export

For easily transferring the patient documentation stored in GAMMA Document Browser into other applications, the software provides multiple export functionalities. For example, it is possible to save presentations directly in the format of Microsoft PowerPoint or to copy images of particular cells for easy insertion into the clipboard. In addition, patient images that were once imported into the database can easily be extracted to image files. Similar to the image import, this can be carried out by simply dragging the images into and out of the workspace (drag-and-drop).



### Data Transfer from GDSW classic

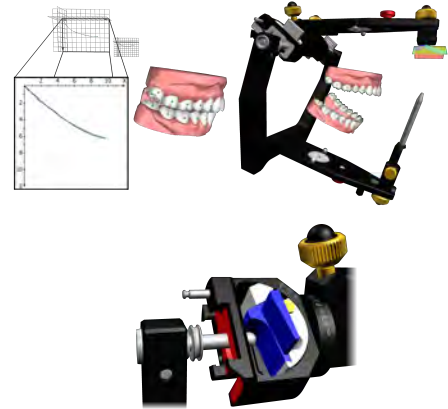
GAMMA Document Browser stores its data in a standalone patient database, which can be used independently from GDSW classic or even in a parallel fashion. To transfer data into the new format, GAMMA Document Browser provides a conversion functionality. This conversion does not only transfer the general patient information, but also all other data saved in the patient file, such as CADIAX® condylography curves or CADIAS® x-ray tracings. This data is automatically prepared for a structured and presentable display in the workspace. During this procedure, the original GDSW classic is preserved without any changes.



## CADIAS 3D

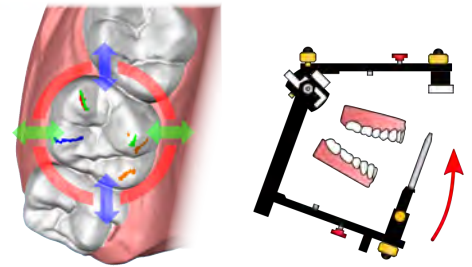
### Virtual Articulator

This function allows the application of a virtual articulator with the 3D dental models of the patient. While the condylar housing can be adjusted individually, it is also possible to use a setting based on the recorded CADIAX data. Furthermore, a movement simulation based on the real movement recordings of the patient is possible, not limited to the movements (protrusion, mediotrusion right or left) only, but to simulate all functional movements (e.g. speech, bruxism, chewing, etc.) and to evaluate the effects on occlusion. The user can decide whether to use free mandibular movements according to the recording, tooth guidance or the individually adjustable incisal table.



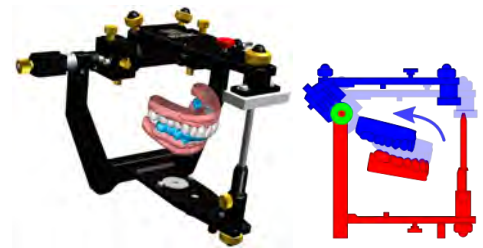
### Visualized Treatment Objectives (VTOs)

VTO stands for "Visualized Treatment Objective" and describes the visualization of a given treatment objective in consideration of the current occlusal situation and the intended outcome. CADIAS 3D allows you to freely and interactively reposition jaw models and individual teeth while visualizing the changes to the functional guidance paths and the anatomical parameters in real-time. The new occlusal situation can be exported in open 3D file formats, which allows for a seamless transfer to external CAD/CAM or other 3D processing applications.



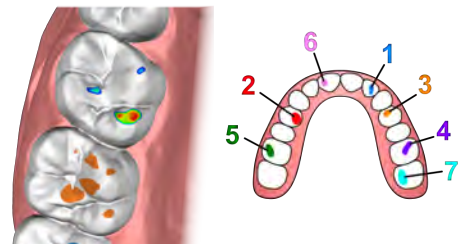
### Virtual Condylar Position Variator (CPV)

The CADIAS 3D module includes a virtual representation of the Condylar Position Variator (CPV) device, which allows the precise repositioning of the upper or lower jaw models based on numeric values. These can be taken from a selected condylography curve, e.g. to move the lower jaw model to a chosen therapeutic position. The resulting interrelation of upper and lower jaw models can subsequently be exported to third-party CAD/CAM applications for designing and manufacturing dental appliances such as bite or relaxation splints.



### Static Occlusal Protocol

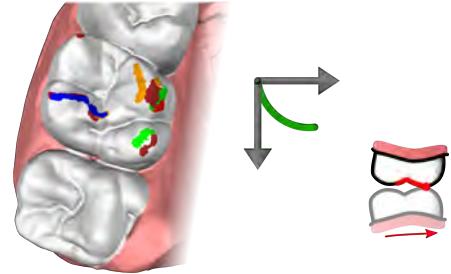
This feature allows the evaluation of the occlusal contacts in detail but also in the dynamic course of the open-close movements in reference position. In a mathematical simulation, the articulator is closed with rotation – starting from zero position for mounting. As soon as a first contact is found, the contacting segmented tooth in the upper jaw model will be dismissed from the mathematical model. This procedure is repeated until the computation of all teeth, i.e. the contact sequence, is complete.





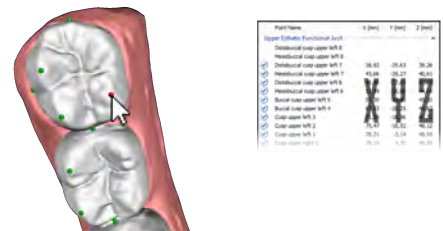
## Dynamic Occlusal Protocol

The feature for calculating a dynamic occlusal protocol allows the evaluation of the real guidance areas on the surface of the upper jaw teeth. Here, the two models will be rotated together until the first contact point for a user-defined selection of teeth has been found. Subsequently, the lower jaw model will be animated according to articulator movements or condylography curves, whereby the models will be guided with permanent contact. The resulting paths will be visualized directly on the surface of the 3D models.



## 3D Point Digitizing

CADIAS® 3D allows the user to 3-dimensionally digitize morphologic or functional occlusal points on the scanned models and to store their coordinates. Similar to the digitizing of points and contours on 2D x-ray images, this functionality is easily operated by moving the mouse cursor and clicking at the desired positions on the model. The program constantly shows the 3-dimensional coordinates (X/Y/Z) of the current position. With a simple click, this position will be saved, marked, and the coordinates will be allocated to the respective point.



## Numerical Analysis

Based on the digitized morphologic and functional 3-dimensional positions, the CADIAS® 3D program calculates the various values of the real 3D occlusion of the individual patient. The advantage, compared to other conventional methods, is the accuracy of the measurements and calculations. Compared to the occlusal analyses in cephalometry, it is additionally possible to get exact and differentiated calculations of the symmetry of the models. This means, it is possible to compare the left and the right occlusion.

Numerical Analysis			
Lower Occlusal Plane			
Description	Value		
Occlusal Plane Inclination	11.1°		
Occlusal Plane Inclination Right	10.8°		
Occlusal Plane Inclination Left	11.5°		
Upper Occlusal Plane			
Description	Value		
Upper Anterior Occlusal Plane Inclination	10.5°		
Upper Anterior Occlusal Plane Inclination Right	10.2°		
Upper Anterior Occlusal Plane Inclination Left	10.8°		
Upper Posterior Occlusal Plane Inclination Right	11.2°		
Upper Posterior Occlusal Plane Inclination Left	11.8°		
Relative Condyle Inclination (RCI)			
Description	Value	Description	Guidance (°)
Right Condyle Inclination (RCI)	10.2°	Upper 1-1 Inclination Right	12.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 2-2 Inclination Right	12.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 3-3 Inclination Right	13.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 4-4 Inclination Right	14.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 5-5 Inclination Right	14.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 6-6 Inclination Right	15.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 7-7 Inclination Right	16.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 8-8 Inclination Right	17.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 9-9 Inclination Right	17.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 10-10 Inclination Right	18.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 11-11 Inclination Right	19.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 12-12 Inclination Right	19.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 13-13 Inclination Right	20.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 14-14 Inclination Right	21.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 15-15 Inclination Right	21.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 16-16 Inclination Right	22.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 17-17 Inclination Right	23.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 18-18 Inclination Right	24.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 19-19 Inclination Right	24.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 20-20 Inclination Right	25.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 21-21 Inclination Right	26.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 22-22 Inclination Right	26.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 23-23 Inclination Right	27.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 24-24 Inclination Right	28.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 25-25 Inclination Right	28.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 26-26 Inclination Right	29.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 27-27 Inclination Right	30.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 28-28 Inclination Right	31.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 29-29 Inclination Right	31.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 30-30 Inclination Right	32.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 31-31 Inclination Right	33.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 32-32 Inclination Right	33.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 33-33 Inclination Right	34.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 34-34 Inclination Right	35.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 35-35 Inclination Right	35.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 36-36 Inclination Right	36.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 37-37 Inclination Right	37.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 38-38 Inclination Right	38.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 39-39 Inclination Right	38.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 40-40 Inclination Right	39.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 41-41 Inclination Right	40.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 42-42 Inclination Right	40.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 43-43 Inclination Right	41.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 44-44 Inclination Right	42.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 45-45 Inclination Right	42.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 46-46 Inclination Right	43.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 47-47 Inclination Right	44.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 48-48 Inclination Right	45.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 49-49 Inclination Right	45.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 50-50 Inclination Right	46.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 51-51 Inclination Right	47.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 52-52 Inclination Right	47.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 53-53 Inclination Right	48.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 54-54 Inclination Right	49.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 55-55 Inclination Right	49.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 56-56 Inclination Right	50.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 57-57 Inclination Right	51.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 58-58 Inclination Right	52.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 59-59 Inclination Right	52.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 60-60 Inclination Right	53.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 61-61 Inclination Right	54.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 62-62 Inclination Right	54.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 63-63 Inclination Right	55.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 64-64 Inclination Right	56.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 65-65 Inclination Right	56.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 66-66 Inclination Right	57.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 67-67 Inclination Right	58.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 68-68 Inclination Right	59.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 69-69 Inclination Right	59.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 70-70 Inclination Right	60.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 71-71 Inclination Right	61.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 72-72 Inclination Right	61.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 73-73 Inclination Right	62.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 74-74 Inclination Right	63.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 75-75 Inclination Right	63.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 76-76 Inclination Right	64.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 77-77 Inclination Right	65.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 78-78 Inclination Right	66.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 79-79 Inclination Right	66.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 80-80 Inclination Right	67.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 81-81 Inclination Right	68.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 82-82 Inclination Right	68.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 83-83 Inclination Right	69.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 84-84 Inclination Right	70.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 85-85 Inclination Right	70.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 86-86 Inclination Right	71.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 87-87 Inclination Right	72.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 88-88 Inclination Right	73.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 89-89 Inclination Right	73.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 90-90 Inclination Right	74.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 91-91 Inclination Right	75.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 92-92 Inclination Right	75.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 93-93 Inclination Right	76.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 94-94 Inclination Right	77.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 95-95 Inclination Right	77.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 96-96 Inclination Right	78.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 97-97 Inclination Right	79.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 98-98 Inclination Right	80.0°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 107-107 Inclination Right	86.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 108-108 Inclination Right	87.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 109-109 Inclination Right	87.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 110-110 Inclination Right	88.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 111-111 Inclination Right	89.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 112-112 Inclination Right	89.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 113-113 Inclination Right	90.5°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 115-115 Inclination Right	91.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 116-116 Inclination Right	92.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 117-117 Inclination Right	93.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 118-118 Inclination Right	94.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 119-119 Inclination Right	94.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 120-120 Inclination Right	95.4°
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Right Condyle Inclination (RCI) Right	10.0°	Upper 122-122 Inclination Right	96.8°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 129-129 Inclination Right	101.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 130-130 Inclination Right	102.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 131-131 Inclination Right	103.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 132-132 Inclination Right	103.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 133-133 Inclination Right	104.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 134-134 Inclination Right	105.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 135-135 Inclination Right	105.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 136-136 Inclination Right	106.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 137-137 Inclination Right	107.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 138-138 Inclination Right	108.0°
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Right Condyle Inclination (RCI) Right	10.0°	Upper 140-140 Inclination Right	109.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 141-141 Inclination Right	110.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 142-142 Inclination Right	110.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 143-143 Inclination Right	111.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 144-144 Inclination Right	112.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 145-145 Inclination Right	112.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 146-146 Inclination Right	113.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 147-147 Inclination Right	114.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 148-148 Inclination Right	115.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 149-149 Inclination Right	115.7°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 151-151 Inclination Right	117.1°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 153-153 Inclination Right	118.5°
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Right Condyle Inclination (RCI) Right	10.0°	Upper 156-156 Inclination Right	120.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 157-157 Inclination Right	121.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 158-158 Inclination Right	122.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 159-159 Inclination Right	122.7°
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Right Condyle Inclination (RCI) Left	10.4°	Upper 167-167 Inclination Right	128.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 168-168 Inclination Right	129.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 169-169 Inclination Right	129.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 170-170 Inclination Right	130.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 171-171 Inclination Right	131.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 172-172 Inclination Right	131.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 173-173 Inclination Right	132.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 174-174 Inclination Right	133.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 175-175 Inclination Right	133.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 176-176 Inclination Right	134.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 177-177 Inclination Right	135.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 178-178 Inclination Right	136.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 179-179 Inclination Right	136.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 180-180 Inclination Right	137.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 181-181 Inclination Right	138.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 182-182 Inclination Right	138.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 183-183 Inclination Right	139.5°
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Right Condyle Inclination (RCI) Right	10.0°	Upper 188-188 Inclination Right	143.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 189-189 Inclination Right	143.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 190-190 Inclination Right	144.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 191-191 Inclination Right	145.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 192-192 Inclination Right	145.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 193-193 Inclination Right	146.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 194-194 Inclination Right	147.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 195-195 Inclination Right	147.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 196-196 Inclination Right	148.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 197-197 Inclination Right	149.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 198-198 Inclination Right	150.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 199-199 Inclination Right	150.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 200-200 Inclination Right	151.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 201-201 Inclination Right	152.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 202-202 Inclination Right	152.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 203-203 Inclination Right	153.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 204-204 Inclination Right	154.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 205-205 Inclination Right	154.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 206-206 Inclination Right	155.6°
Right Condyle Inclination (RCI) Left	10.4°	Upper 207-207 Inclination Right	156.3°
Right Condyle Inclination (RCI) Right	10.0°	Upper 208-208 Inclination Right	157.0°
Right Condyle Inclination (RCI) Left	10.4°	Upper 209-209 Inclination Right	157.7°
Right Condyle Inclination (RCI) Right	10.0°	Upper 210-210 Inclination Right	158.4°
Right Condyle Inclination (RCI) Left	10.4°	Upper 211-211 Inclination Right	159.1°
Right Condyle Inclination (RCI) Right	10.0°	Upper 212-212 Inclination Right	159.8°
Right Condyle Inclination (RCI) Left	10.4°	Upper 213-213 Inclination Right	160.5°
Right Condyle Inclination (RCI) Right	10.0°	Upper 214-214 Inclination Right	161.2°
Right Condyle Inclination (RCI) Left	10.4°	Upper 215-215 Inclination Right	161.9°
Right Condyle Inclination (RCI) Right	10.0°	Upper 216-216 Inclination Right	

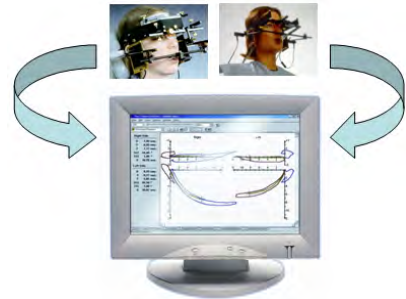
## CADIAX® Analysis

The CADIAX® Analyses module processes and stores data from all CADIAX® registration systems, CADIAX® compact 2 and CADIAX® 4.

The program includes a variety of display options, as well as conversions for setting the articulator and wax-up technique. In addition to detailed diagnostic analyses of mandibular movement, it allows for expanded articulator calculations, including the setting of individual anterior guidance units.

The software is especially suitable for CADIAX® users who want to take advantage of the full potential of their device. All the details of the condylography data are clearly displayed on the screen of the PC.

The three-dimensional display of mandibular movement is clear and easily comprehensible for the patient. This is extremely helpful when explaining planned therapeutic measures to the layperson.

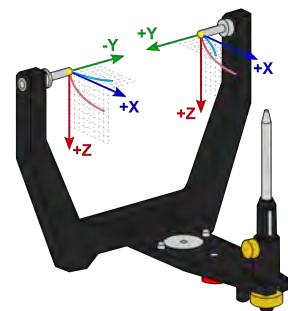
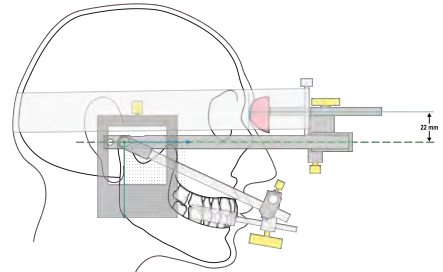


## Movement Simulation Through Eccentric Articulator Programming

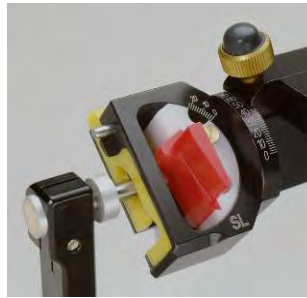
Using the face-bows of the CADIAX® compact 2 and the CADIAX® 4 systems, the coordinate system, which is defined by right and left hinge axis points and the anterior reference point, is transferred directly to the articulator.

This leads to an interlocking system with a logical workflow. Through the mechanical connection between registration and the articulator, CADIAX® provides a precise hinge axis relation for maximum reproducibility.

The data acquired with the registration systems can then be used in the calculation programs for individual patient settings in the articulator.







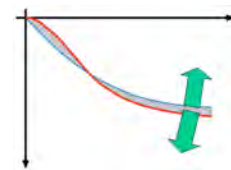
All calculations are based on the manufacturer's geometry for the various articulators.

Calculations for sagittal protrusion inserts are made with the protrusion track on hand, by evaluation of the X/Z diagram.

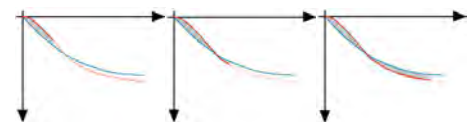
Calculations for transversal inserts are made with the mediotrusion movements on hand, by evaluation of the X/Y diagram.

The mathematical adaptation of the given articulator characteristics is carried out following a "best-fit" process. The articulator insert (blue) is rotated until it coincides, as closely as possible, to the patient's registration (red). If the articulator includes various inserts, the program will determine for the best fitting one.

CADIAX® always calculates values for 3, 5 and 10 mm, always processing the total track progression from the origin (reference position) to the given value.



Right			Left		
3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
32	37	41	14	26	34

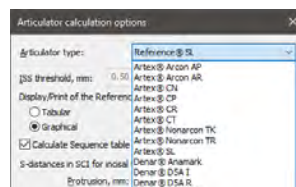


0-3 mm      0-5 mm      0-10 mm  
excursion movement

## Compatibility

In addition to the perfectly suitable Reference SL articulator, CADIAX® users have several other articulator systems at their disposal, which are compatible with the software:

Artex®, Denar®,  
Hanau®, Ivoclar®,  
KaVo®, Panadent®,  
SAM®, Whip Mix®



## Pre-Calculated Occlusal Guidance for Diagnostics and Wax-Up – CADIWAX®

The simulation in the articulator is determined by three adjustable guidance units: the two condylar joints and the adjustable incisal table.

Posterior guidance is already given with the CADIAX registration.



Occlusion concepts and their implementation in wax-up are defined by means of the incisal table. By adjusting the guidance surfaces in the table, more or less rotation is brought into the movement, i.e., the inclinations of the guidance surfaces on the tooth are determined.

GAMMA Dental Software® includes suggested pre-set concepts, as well as the possibility of implementing an individual, computer-generated occlusion concept.



## Method for incisal table calculation

- ☒ Sequential occlusion concept according to R. Slavicek
- ☐ Group-function 3-8
- ☐ User-defined occlusion concept

**R. Slavicek's natural concept of sequential occlusion** is included as standard feature in the software.

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For the sequential table, the calculations are based on the values of the joint guidance, in relationship with the spatial cusp coordinates, determined by statistical means.

## Gamma Sequence Incisal Table

Condylar Articulator values for Sequence Incisal Table calculation  
 SCI right: 44°  
 SCI left: 29°  
 TCI right: WHITE / 0°  
 TCI left: WHITE / 1°  
 Suggested sequence table setting  
 Protrusion: BLUE  
 Right lateral: BLUE  
 Left lateral: BLUE



For exact calculations, the cusp coordinates of the mandible are entered. GAMMA Dental Software® then calculates an incisal table setting for each tooth, depending on the desired concept.

Calculated vertical cusp tip positions								
	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	46,2°	46°	34°	54°	46,2°	45°	34°	54°
2	46,2°	45°	34°	54°	46,2°	46°	34°	55°
3	36,2°	46°			36,2°	50°		
4	23,6°	34°			23,6°	39°		
5	16,8°	25°			16,8°	30°		
6m	10,7°	15°			10,7°	19°		
6d	9,2°	5°			9,2°	8°		
7m								
7d								
8m								
8d								

In addition, the program calculates an idealized radius of the curve of Spee and, depending upon the occlusion concept and cusp angles, an optimal inclination of the occlusal plane, according to functional parameters.

cusp inclination	20°	25°	30°
balanced occlusion 1/6	15°	10°	5°
balanced occlusion 1/7	24°	19°	14°
canine guidance 1/6	6°	1°	-4°
canine guidance 1/7	15°	10°	5°

## TMJ Diagnostics

CADIAX® records the spatial movement of the hinge axis of both mandibular joints simultaneously, bilaterally and in elapsed time. Converted to the intercondylar distance, the system offers the possibility of using differential diagnostics for the static- and dynamic evaluation of the movement tracks.

The advantages of condylographic diagnostics are apparent:

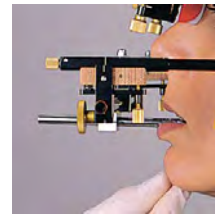
- The method is non-invasive and carried out quickly
- The patients are not exposed to radiation
- The results are dynamically reproducible, independent of the therapist
- The examination can be carried out in the dental practice; the results are immediately available
- The ideal enhancement for interdisciplinary communication

Application of an individually adjustable mandible bow (order No.: 06-235306) for setting the exact hinge axis is absolutely necessary in diagnostic condylography. When using the bow with CADIAX® compact 2, the hinge axis is manually adjusted before registration.

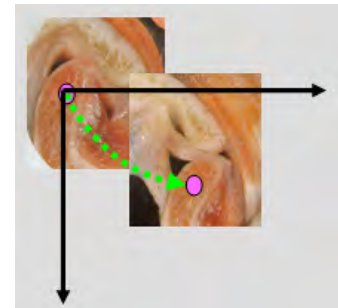
The foundation of diagnostics is the standardized orthopedic description of the mobility and motility of the TMJ, with the following parameters:

- Quantity
- Quality
- Characteristics
- Symmetry
- Timing (comparison between left and right TMJ)
- Speed phenomena
- CPM
- Function und para-function

Among others, the following movements can be evaluated: protrusion/retrusion, mediotrusion right and left, open/close, as well as all sorts of functional movements like speech, bruxism, and chewing.



*The individual writing bow, adjusted onto the hinge axis as a requirement for condylography diagnostics*



## The Principles of Condylographic Diagnostics

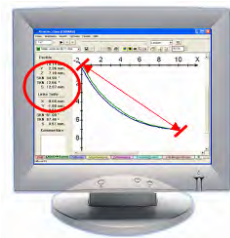
The first findings are purely descriptive. These are the basis for every other interpretation and serve in the collection of diagnostic data.

Subsequent interpretation requires the differential diagnostic evaluation of the results with clinical- and instrumental functional analyses, because the condylography registrations cannot be evaluated separately, but only in conjunction with the other findings of the cranio-mandibular system.

## The "Normal" Joint

Condylography findings are based on the principle of comparative diagnostics with statistically obtained movement patterns of a "normal joint". The following illustrations display non-guided movements, without tooth contact and without utilization of a bearing device:

### Quantity



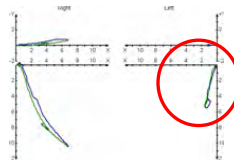
Protrusion  
Mediotrusion  
Open/Close

Describes the maximum excursion distance of the translatory part of a movement track, measured from the reference position to the most excursive point of the movement. The quantity is described as *reduced*, *average* or *hypermobile*.

With GAMMA Dental Software®, this value can be read quickly and clearly, by clicking on the maximal excursive point in the CADIAX® curves.

#### Reduced

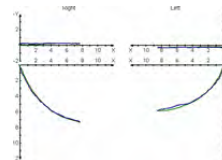
$\leq 8$  mm  
 $\leq 9$  mm  
 $\leq 10$  mm



*Reduced quantity left during opening*

#### Average

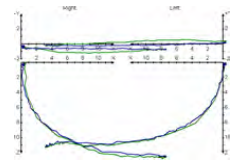
$> 8$  mm and  $< 12$  mm  
 $> 9$  mm and  $< 14$  mm  
 $> 10$  mm and  $< 16$  mm



*average quantity of a protrusive record*

#### Hypermobile

$\geq 12$  mm  
 $\geq 14$  mm  
 $\geq 16$  mm



*Hypermobility shown in an Open/Close movement*

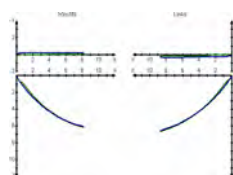
### Quality



Normal registrations are reproducible, distorted and frictionless movements of synovial joints. Excursion- and incursion tracks practically overlap. The quality is described as *excellent*, *average* or *poor*.

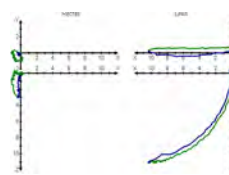
With a variety of view and zoom options, Gamma Dental Software® offers an ideal and vivid program for evaluating the quality of joint track recordings.

#### Excellent



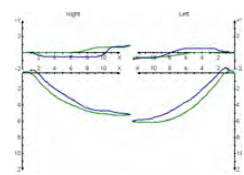
*Excellent Quality of a protrusive record*

#### Average



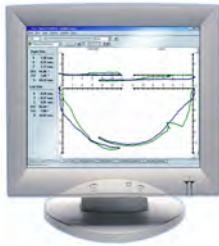
*Average quality of a left mediotrusive record*

#### Poor



*Poor quality in open/close*

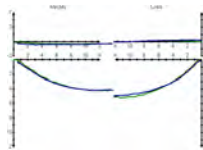
## Characteristics



The characteristic is described as *concave*, *straight*, *convex* or *changing*. Normal tracks show an anterior concave characteristic.

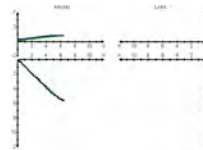
GAMMA Dental Software® provides the possibility to superimpose curves with a deviation from the "ideal" tracing with other recordings, serving differential diagnostics.

### Anterior-concave



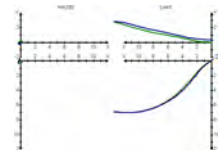
Anterior concavity in the sagittal tracing for both sides

### Straight

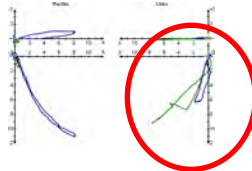


Mediotrusion right shown with straight characteristics

### Changing



Left mediotrusion with changing characteristics from convex to concave)

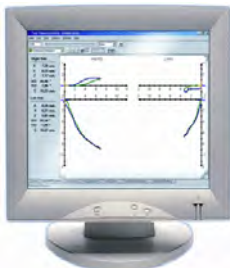


Example of open/close and mediotrusion left in an overlay display

The differential diagnostics of joint track overlays have special importance in the evaluation of the characteristic. The illustration left shows the overlay of an open/close movement (blue), with a left mediotrusion track (green).

The steep and extremely shortened opening track does not match the distinctly longer mediotrusion. An indication of anterior disk displacement of the left joint, with possible partial reduction.

## Symmetry

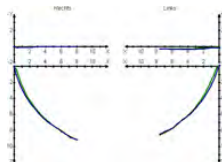


Right-left comparison of quantity, angularity, quality and characteristic of symmetrical registrations (protrusion/retrusion and open/close). In symmetrical movements, no noticeable transversal movements take place.

In the examination for symmetry, it has to be considered that the "symmetric" patient is not the norm. Thus, slight asymmetries are to be expected and considered "normal". The evaluation of symmetry can only be carried out for open/close and protrusion/retrusion.

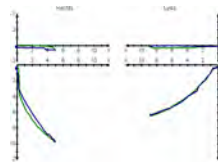
The clear and comprehensible displays of GAMMA Dental Software® allow for evaluation of functional symmetry according to graphic and numerical standards.

### Symmetrical joint track



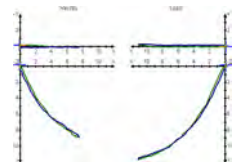
Symmetrical joint track, protrusion

### Sagittal asymmetry of track inclination



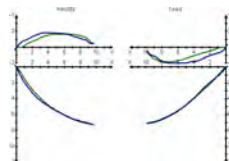
Protrusion with extreme differences in inclination

### Sagittal asymmetry in quantity



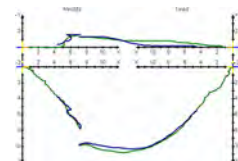
Clearly extended tracing of left joint

### Transversal asymmetry



Strong transversal asymmetry of a protrusion track, caused by occlusal interferences

### Sagittal and transversal asymmetry



Extreme right-left differences in open/close



## Timing and phenomena of speed

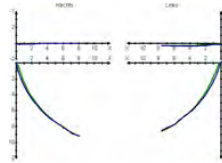


Dynamic evaluation of symmetric and asymmetric movements in translation and rotation.

Observing speed phenomena of the sagittal, transversal and rotational components of hinge axis movement. Normal joint movements generally register speeds of less than 60 mm/sec.

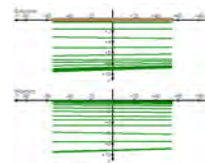
Gamma Dental Software® provides the possibility for evaluating elapsed time by means of the view aspects "Axis movements", "Translation-Rotation" and "Time curves".

### The "normal" tracing



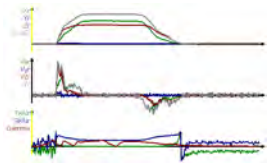
*Symmetric joint track*

### Axis movement separated in ex- and incursion

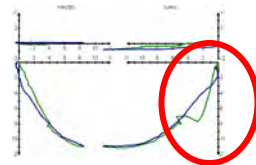


*The even hinge axis movement in excursion and incursion, separated*

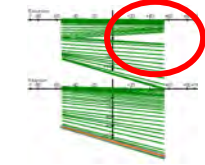
### Time curves show the condylographic parameters drawn over the time axis



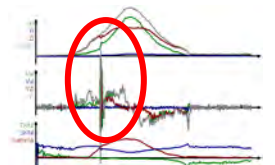
*The time curves of a normal registration*



*Reciprocal TMJ clicking of the left side*

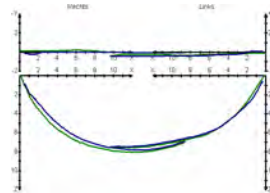


*Blockage and acceleration visible in the axis movements*

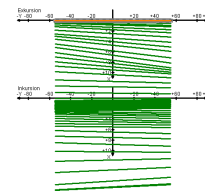


*Exact localization of luxation, using time curves*

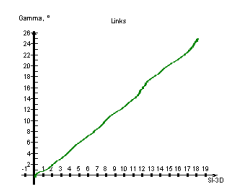
## The significance of the hinge axis rotation in diagnostics



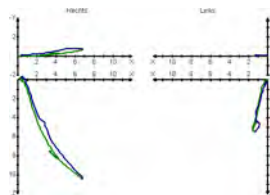
*Normal open/close movement*



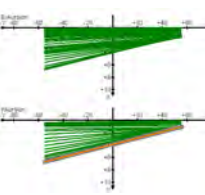
*Blockage free hinge axis movement in excursion and incursion*



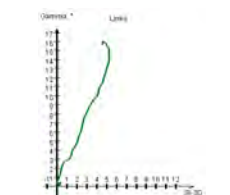
*Translation-rotation diagram shows a harmonious development of translation and rotation*



*Locked joint on the left side*



*Axis movements show the blocked joint*



*Diagram of translation-rotation in a "locked joint" case*



## Condylographic diagnostics including functional occlusion

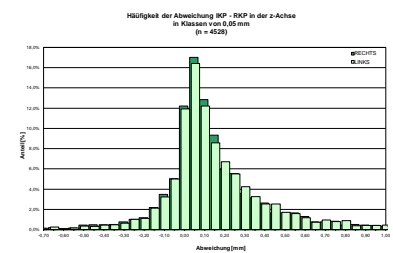
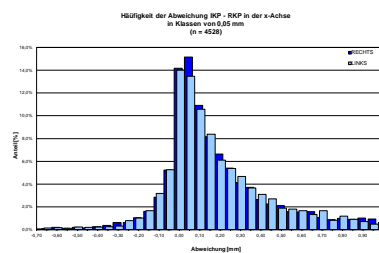
Prerequisite for these diagnostics is that the registrations carried out with the functional occlusal clutch.

### CPM (Condylar Position Measurement)



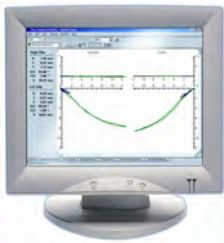
CPM measures the spatial difference between the reference position (centric) and a second mandible position (e.g., maximum intercuspation ICP). The registrations are superimposed with a simple protrusion movement and evaluated.

The ICP (or closed bite position) normally lies on the reference position or slightly anterior, on the habitual protrusion track



Using a CPM, you can measure the relation of the existent ICP to the joint or make a post-reconstructive check of the new occlusion situation. For example, deviations in cranial direction during the measurement (compression) have diagnostic significance. These kinds of registrations are indications that the occlusion in the molar area is not bearing sufficient force.

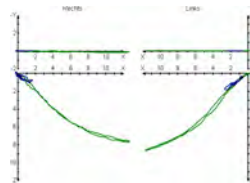
### Recording of functions



Among others, the following functions of the masticatory organ can be documented and evaluated using condylar track registration: mastication, speech, clenching and bruxism, swallowing.

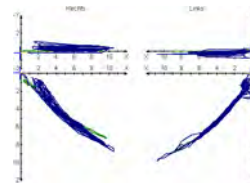
The relation of any movements to the border movements of the TMJ can be viewed and evaluated.

#### Speech



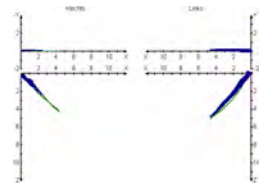
Speech recordings document the phonetic function

#### Mastication



Mastication: the very informative function of chewing

#### Bruxism



Bruxism- a dominant function of the masticatory organ

## CADIAS®

CADIAS® is the sophisticated cephalometric analysis and diagnosis module of GAMMA Dental Software®.

The program links teleradiographic information from the x-ray program with the articulator, condylography, and other diagnostic findings.



## Cephalometric Analysis – Essential Part of Interdisciplinary Diagnostics

Cephalometric analyses are often wrongly considered to be relevant only for orthodontic diagnostics and treatment planning. However, these analyses are being accorded more and more significance in diagnostics and treatment strategies involved in comprehensive interdisciplinary dentistry. Considering the statistical distribution of skeletal classes in the overall population, it is evident that skeletal Class I is not the "norm", but rather, at only 37%, represents a clear minority. The majority of skeletal relations follow a Class II principle. Because of the considerable compensatory mechanisms involved during dento-facial development, most of these cases still achieve normal dentition, or a close facsimile. Nevertheless, after completion of development, this results in a large number of malocclusions and dysgnathias.

Therefore, when planning treatment for complex reconstructions, it is extremely important to analyze the relation in each individual case, before taking therapeutic action. This applies first of all to treatment of non-dysfunctional patients, but even more so for patients with dysfunction. All of these patients benefit from a systematic diagnostic procedure with standardized data-acquisition and evaluation, appropriate to the complexities of the stomatognathic system.

### CADIAS® offers:

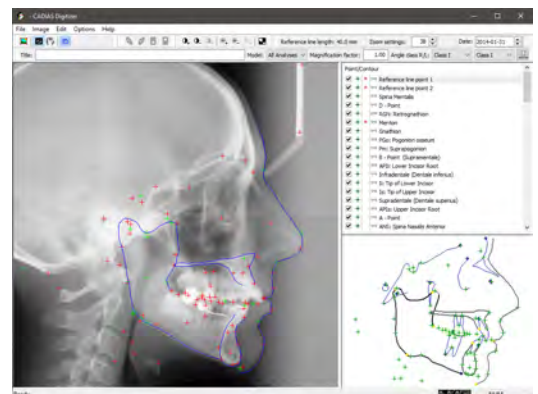
- Statistical analyses, based on individual standards, taking into consideration the functional compensation mechanisms
- Dynamic analyses by including the articulator's reference plane and therewith a link to clinical and functional analysis (CADIAX®)
- Interactive treatment visualization, with immediate feedback from all of the statistical and dynamic analyses

## Point and Contour Input from the Ceph

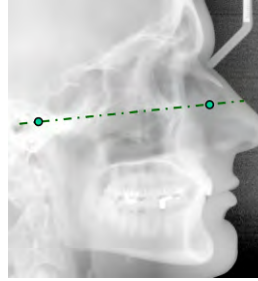
Input of points and contours on the x-ray image is carried out directly on the computer screen. X-ray images can be loaded from digital image files.

The program provides a list of points and contours, which should be entered one after another. Interactive help and explanatory functions for the entries can be invoked when needed.

A Zoom window can be displayed permanently to magnify the current cursor position and simplify the identification of points on the screen. Using standardized picture editing functions, you can modify important parameters, such as brightness, contrast, or magnification, adjusting them to your needs.

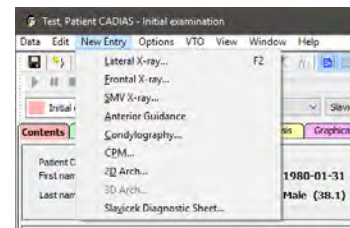


In general, the lateral x-ray is created after the condylography. Before removing the writing bow (adjusted to the exact hinge axis), you must mark the position on the skin and make a small pencil-mark, so that the positions will be visible on the x-ray. The anterior reference point (orbital) will be marked in the same way.



Further input in CADIAS®, which can be linked to the lateral x-ray analysis:

- Frontal x-ray
- SMV x-ray
- Anterior guidance
- Condylography (CADIAX®)
- CPM (CADIAX®)
- Dental arch
- Diagnosis sheet, preliminary diagnostics



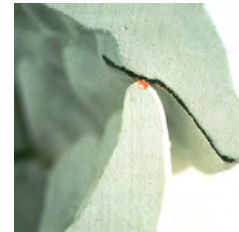
## Frontal and SMV x-ray

These aspects are entered similarly to the lateral x-rays, and extend the possibilities for analysis, especially with regard to symmetrical skeletal and dental aspects.

## Anterior Guidance

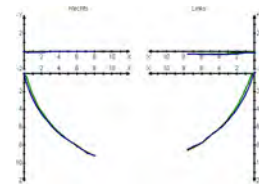
Entering an anterior guidance allows exact functional analysis of the incisors.

With the tooth shaper (order No.: 06-231800), filled with hard silicone, an impression is made of the upper incisor, cut on the lingual concavity, and entered in the program.



## Condylography

The appropriate protrusion tracings are selected from the list of CADIAX® condylography registration data and, using Copy/Paste, entered into the CADIAS® program.

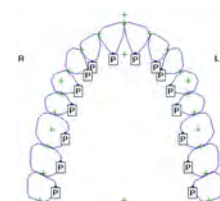


## CPM

CPM is also input from CADIAX®, or by graphic registration, using an input form.

## Dental Arch

To digitize the arch, the models are placed on a scanner, with occlusal surfaces facing down, and transferred as pictures to the computer.



## Examination Sheet - Initial Diagnostics

Findings Initial-Diagnostics			
Patient Test: 01.01.1982			
Patient: date of birth			
<b>Special Medical Analysis</b>			
Do you have or did you ever have an illness with regard to points 1-12?			
1. Infections	yes	no	
2. Cardio-vascular systems			
3. Respiratory systems			
4. Digestive systems			
5. Metabolic systems			
6. Allergies			
7. Urogenital problems	yes	no	
8. Central nervous systems			
9. Psychological problems (therapy)			
10. Rheumatic disease			
11. Hormonal disease			
12. Special problems			
<b>Main concern</b>			
<b>Dental History Analysis</b>			
1. Do you have problems when you chew?	valuation	yes	no
2. Do you have problems when you are talking?			
3. Do you have problems in closing your teeth properly?			
4. Are any of your teeth especially sensitive?			
5. Do you have a problem when you open your mouth very wide?			
6. Do your jaw joints make noise and if so, on what side?			
7. Do you ever have pain in the area of your jaw joints?			
8. Do you suffer from headaches?			
9. Do you suffer from cramps or spasm in your head, neck or throat?			
10. Do you have in general problems with your posture?			
Occlusal Index		0.00	
11. Did you ever have a serious accident?	yes	no	
12. Did you have one or more oral intubations?			
13. Have you ever had orthodontic treatment or equilibration of the teeth?			
14. Did you have a treatment with a splint?			
15. Are you grinding or pressing with your teeth?			
16. Do you think that treatment is necessary?			
17. Do you think that there is a serious disorder or illness?			
18. When was the last time you had dental treatment and what was done?			
19. How would you describe your physical behaviour?			
	happy	sad	calm
	excited	self-controlled	lack of self control

This easily clearly arranged form sheet is designed to cover all of the questions in dental anamnesis. The user can process the form with the mouse or fill out the fields with the keyboard:

- The patient's main concern
- Special medical anamnesis
- Dental anamnesis

Calculation of the occlusal index is automatically carried out based on the inputs in the dental anamnesis. It reflects the patient's own subjective feelings, regarding his/her complaints. A comparison of the subjective and objective situation is a key to evaluation.

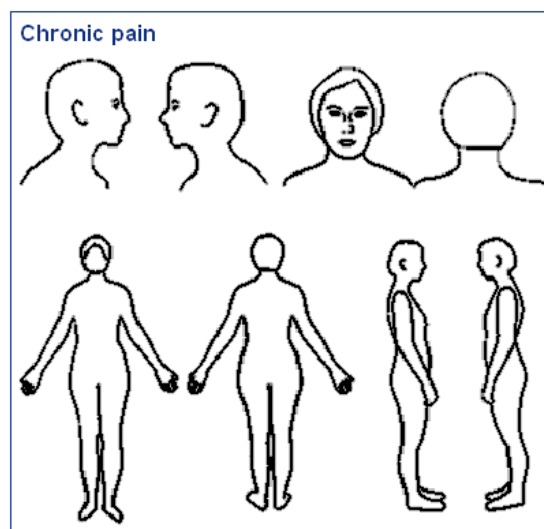
Comparative muscle analysis is geared to an evaluation of the differences of the two sides. Palpation is carried out symmetrically, simultaneously and evenly while the patient is sitting comfortably. The patient indicates any differences between left and right and indicates any possible pain in the palpated areas.

After the bilateral comparison, an evaluation of asymmetry can be made. This can offer insights into any possible disharmonious functional processes.

The examination sheet for chronic pain, tooth status and the possibility for including myofunctional problems, round out the program into a complete anamnesis package.

Muscle Diagnosis			
	left	right	
1. shoulders and neck	+	++	++
2. atlanto-occipital region			
3.a M.temporalis ant.			
3.b M.temporalis med.			
3.c M.temporalis post.			
4.a M.masseter (superficial)			
4.b M.masseter (deep)			
5. Tuber maxillae			
6. M.pterygoideus medialis			
7. M.mylohyoideus			
8. M.digastricus			
9. suprahyoidale M.			
10. infrahyoidale M.			
11. Larynx			
12. M.sterno-cleido-mastoideus			
13. M.omoiohyoideus			
14. Tongue			
15. comparative palpation of jaw joints			
a) lateral poles, statically			
b) lateral poles, in rotation			
c) retral joint space			
d) Lig.temporo-mandibulare			

Preliminary Brainstem Nerve Analysis			
1. N.olfactorius (analysis)			
2. N.opticus (analysis)			
3. N.oculo-motorius (clinical mobility)			
4. N.trochlearis (clinical mobility)			
5. N.trigemini (clinical palpation and sensitiveness)			
6. N.abducens (clinical mobility)			
7. N.facialis (clinical mobility)			
8. N.statob-acusticus (clinical check of equilibrium and hearing)			
9. N.glosso-pharyngeus (clinical and analysis)			
10. N.vagus (analysis)			
11. N.accessorius (clinical and analysis)			
12. N.hypoglossus (clinical and analysis)			

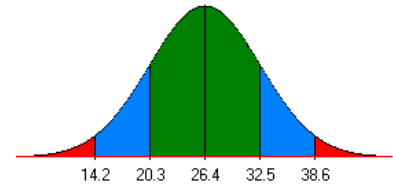


## CADIAS® Analyses

Based on the input data, CADIAS® provides a variety of static and dynamic analyses, which are generally offered as tracings and/or numerical lists from specific authors.

### Norm Calculations

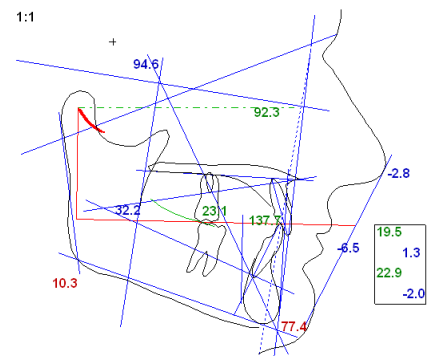
Most of the standards used in CADIAS® have been calculated according to the patient's age and gender. Values lying within the first standard deviation are displayed in green; values lying between the first and second standard deviation are displayed in blue; values lying outside the second standard deviation are displayed in red.



### System- and User-Defined Analyses

The program is equipped with a number of predefined points, values, numerical analyses and tracings. With all of these system settings, you will almost always find what you need.

However, if further individualization of the analyses is necessary, do not hesitate to contact us.



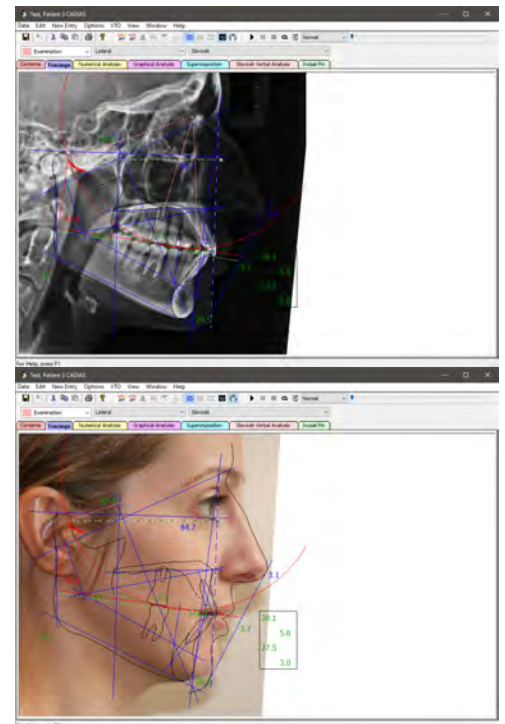
### Tracings

The digitized x-ray is displayed in tracings. The program shows the input contours, as well as the most important measuring planes and values.

The following author-specific tracings are included in the program's scope of delivery, among others:

- Slavicek
- Sato
- Ricketts
- Jarabak
- Sassouni
- Bergen
- Björk
- Steiner

It is also possible to overlay the cephalometric tracing on the patient's lateral photograph.





## Numerical Analyses

These author-specific analyses give a list of values, which are generally sorted in chapters, thus offering a diagnostic overview, from a cephalometric point of view.

By simply clicking on any value, you will get an explanation of the value and the calculation of the trend.

Skeletal Measurement	Norm	Wert	Trend
Facial Axis	90.0 °	88.1	
Facial Depth	89.8 °	81.6	2-*
Mandibular Plane	23.3 °	26.8	1D*
Facial Taper	68.0 °	71.6	1B*
Mandibular Arc	30.8 °	40.6	3B***
Maxillary Position	65.0 °	62.2	1-*
Convexity	0.2 mm	3.6	1X*
Lower Facial Height (by R.Slavicek)	45.7 °	44.2	
Lower Facial Height to Point D	52.2 °	51.0	

*Excerpt of the skeletal measurement from the Slavicek analysis*

## Interactive Slavicek Verbal Analyses

In the Slavicek verbal analysis, values of individual problem groups are summarized and diagnostic statements formulated.

Click on any of these statements to arrive at an explanatory field, appearing under the list, which displays the determining- and interrelated values.

With this option, the program offers an excellent possibility for recognizing the interrelationships among individual values and for analyzing their evaluation.

### The skeletal trend of the skull is dolichofacial

The skeletal trend of the mandible is extremely brachyfacial  
Skeletal class is II with tends to I  
The maxilla is positioned neutral, with tendency to retrognathic  
The mandible is positioned strongly retrognathic  
The lower facial height is normal  
Dental class unknown  
The protrusion of the upper incisor is diminished  
The inclination of the upper incisor is extremely diminished (6.9°)  
The protrusion of the lower incisor is diminished  
The inclination of the lower incisor is normal  
The interincisal angle is increased  
Occlusal concept: Canine dominant  
No functional statement available

## Graphical Analyses

In the graphical analyses, various areas of analysis are displayed in spreadsheets:

Skeletal relation, Compensation, Occlusal plane, Maxilla, Mandible, Lower face height, Growth type, Skeletal profile, Maxillo-mandibular position.

Ratio	ML-NSL	Sum angle	low. Go.A.	Facial axis	Basic angle
68.0	24.0	390.0	62.5	98.0	20.0
68.0	26.0	392.0	65.0	96.0	22.0
68.0	28.0	394.0	67.5	94.0	24.0
64.0	30.0	396.0	70.0	92.0	26.0
62.0	32.0	398.0	72.5	90.0	28.0
60.0	34.0	400.0	75.0	88.0	30.0
58.0	36.0	402.0	77.5	86.0	32.0
	38.0		80.0	84.0	34.0
	40.0		82.5	82.0	36.0

*Graphical analysis for growth type*

## Incisal Pin Table

This table allows the exact conversion of planned modifications of the vertical position in the articulator.

For example, with the index, modifications of cephalometric values planned in the VTO can be calculated to the height of the incisal pin. This means that you can exactly convert the planning on the x-ray through the modified height of the articulator.

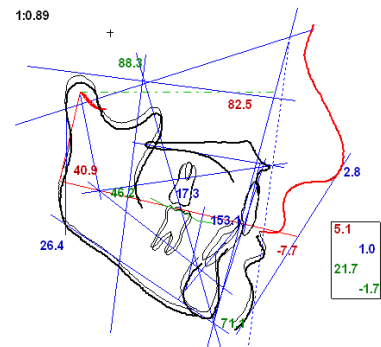
Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	44.2	44.7	45.0	45.5	45.9	46.3	46.7	47.5	48.2	49.0	49.7	50.4	51.7
LFH (Norm)	45.7	45.9	46.1	46.2	46.3	46.4	46.6	46.8	47.0	47.2	47.4	47.6	
LFH (Variation)	-0.0	0.4	0.8	1.3	1.7	2.1	2.5	3.3	4.0	4.8	5.5	6.2	7.5
Menton Vertical	0.0	0.4	0.8	1.2	1.6	1.9	2.3	3.0	3.6	4.3	4.9	5.4	6.5
Pogonion Sagittal	0.0	-0.9	-1.8	-2.6	-3.5	-4.4	-5.3	-7.1	-8.9	-10.7	-12.5	-14.3	-17.9
Incision Inf. Vertical	0.0	0.5	1.1	1.6	2.1	2.6	3.1	4.0	5.0	5.9	6.7	7.8	9.2
Incision Inf. Sagittal	0.0	-0.6	-1.2	-1.8	-2.4	-3.0	-3.7	-4.9	-6.2	-7.5	-8.8	-10.2	-12.8

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	44.2	43.7	43.3	42.8	42.3	41.9	41.4	40.4	39.3	38.2	37.1	35.9	33.4
LFH (Norm)	45.7	45.6	45.5	45.4	45.3	45.2	45.1	44.9	44.7	44.4	44.2	44.0	43.5
LFH (Variation)	-0.0	-0.5	-0.9	-1.4	-1.9	-2.3	-2.8	-3.8	-4.9	-6.0	-7.1	-8.3	-10.8
Menton Vertical	0.0	-0.4	-0.8	-1.3	-1.7	-2.2	-2.7	-3.7	-4.7	-5.8	-6.8	-8.2	-10.8
Pogonion Sagittal	0.0	0.9	1.7	2.6	3.5	4.3	5.2	6.9	8.6	10.2	11.8	13.4	16.4
Incision Inf. Vertical	0.0	-0.5	-1.1	-1.7	-2.2	-2.8	-3.4	-4.7	-5.9	-7.3	-8.6	-10.1	-13.1
Incision Inf. Sagittal	0.0	0.6	1.2	1.7	2.3	2.8	3.4	4.5	5.5	6.5	7.4	8.3	9.8

## Overlay and Comparison

Overlays and comparisons are useful in various areas. For instance, orthopedic or dental modifications directly planned on the screen can be displayed with overlays of the original situation.

Of course, comparisons of findings are also possible, before, between, during and after treatment.



*Superimposition of a planned repositioning of the mandible with the original situation*

## Diagnostic Evaluations Using Lateral X-Ray

Providing graphical visualization of the skull, uncovering dynamic interrelationships and offering the possibility of recognizing compensatory processes, x-ray diagnostics often set a decisive course to treatment planning. However, placing too much emphasis on any single aspect should be avoided. When combined with the other findings, x-ray diagnostics can be a meaningful contribution towards the final diagnosis.

In general, cephalograms are analyzed according to the following aspects:

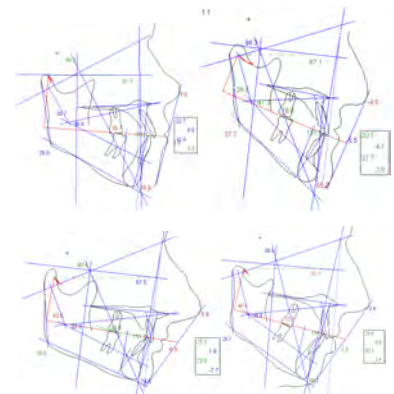
- Skeletal evaluation
- Vertical evaluation
- Occlusal plane evaluation
- Dental analysis
- Aesthetic evaluation
- Dynamic analysis
- Compensation mechanisms
- VTO

### Skeletal Evaluation

Mandibula and maxilla are evaluated separately, as skeletal units. After this basic classification, the principle of the architecture will be reclassified to an appropriate subgroup of facial patterns, based on the values at hand.

A significant aspect of skeletal diagnostics involves the position of the jaw, relative to the reference structures of the skull, as well as the relative relation of the lower jaw to the upper jaw.

This individual preparation is so important, because all of the further analytical results can then be compared to the individualized values which correspond to the patient's skeletal pattern.



*The "uniform face" does not exist; the variations in skeletal relations are manifold*

### Vertical Evaluation

During growth, an individual distance develops between the upper and lower jaw: in individual cases, this vertical can be necessary as compensation for skeletal discrepancies. Therefore, this vertical assumes a special significance in diagnostics and treatment planning. This system classifies patients according to their skeletal principles. This is followed by the calculation of an individual vertical and a comparison with the current situation. This can supply valuable information for planning therapy. However, the "norm", as a principle of classification, should not be dogmatically set as the goal.

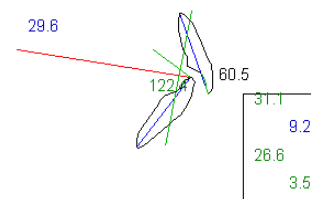


*The individual lower face height as an important parameter for planning therapy*

### Dental Analysis and Occlusal Plane Evaluation

The anterior tooth situation and the occlusal plane, important for many functions, are decisive elements of the dental analysis.

Here, it is very important to take into consideration the morphology of the lingual functional surfaces of the anterior teeth.

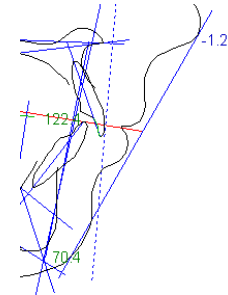


*Magnified display of the anterior tooth situation*

First, the occlusal plane is evaluated statically. It is defined relative to the mandible and evaluated.

## Aesthetic Evaluation

In the lateral x-rays, the soft tissues are displayed nicely, using soft-filtering. This allows you to evaluate the facial aesthetics, and also to make a quality evaluation of the circumoral structures. The tooth position within and relative to the lip structures is important for diagnosis and planning. The position of the upper- and lower lips in the facial profile can be evaluated in relation to aesthetic planes of reference.



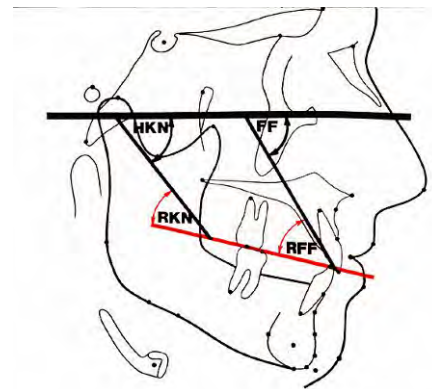
## Dynamic Analyses

A significant element of lateral x-ray analysis is the dynamic examination of mandibular movement. This is achieved by transferring the recordings of hinge axis movement. With this supplement, it is possible to identify the functional determinants in their interrelationships and make a diagnostic evaluation.

The dynamic is defined through the relation of the sagittal condylar track inclination (SCI) to the occlusal plane and its inclination (OPI) as the *relative condylar inclination* (RCI):

$$RCI = SCI - OPI$$

From this simple formula, an optimal inclination of the occlusal plane, adhering to functional aspects, can be planned easily, as a whole or for individual teeth.



Schematic illustration of relative condylar track inclination and relative anterior guidance

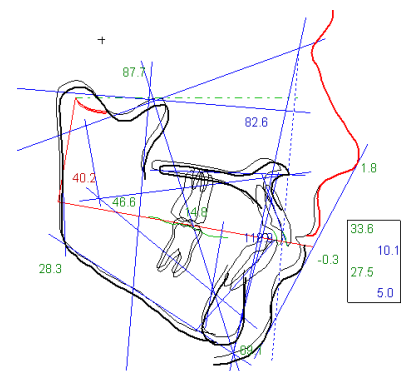
## Visualizing Treatment Objectives with CADIAX® – VTO

The program offers visualization possibilities for given treatment objectives on the x-ray display, which allows keeping track of important parameters and treatment steps on the computer screen. The following actions can be displayed:

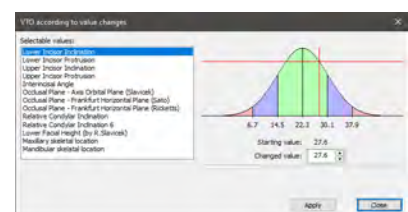
- Modification of the vertical situation
- Orthopedic tooth movements (rotation and shifting)
- Orthopedic TMJ movements of the maxilla and mandibula
- Surgical treatment simulation
- Mandibular positioning, using condylography data (CADIAX®)

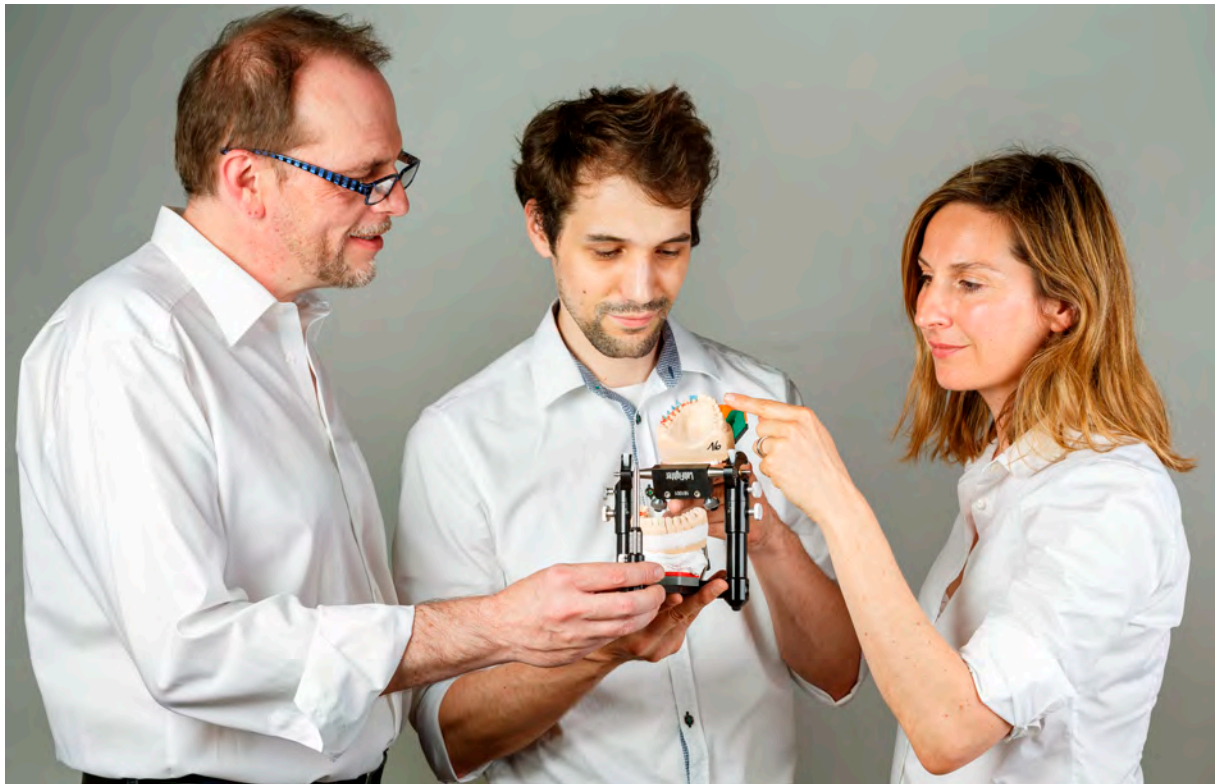
While using the application, you can make use of all static and dynamic analyses and call up a comparison of the planned situation with the original situation in index form or graphic.

Using the incisal table chart, you can transfer various planned parameters back to the articulator. You can save as many VTO items as you like for each patient case. The program documents all alterations automatically, allowing you to retract individual modification steps as needed.



Skulltable Vermessung		Norm.	Wert	Trend	Norm.	Wert	Trend
Facialachsenwinkel		90.0°	87.7°		90.0°	88.1°	
Facialbefe (Facialbogenwinkel)		88.4°	87.6°	1.°	88.4°	87.2°	1.2°
Mandibulargelenk (Unterkiefergelenkwinkel)		24.5°	24.5°		24.5°	24.5°	
Kieferwinkel (Facial Taper)		69.0°	69.0°		69.0°	68.4°	0.6°
Collumwinkel (Unterkieferbogenwinkel)		27.5°	27.5°		27.5°	27.5°	0.0°
Maxillare Position		65.0°	65.0°		65.0°	64.4°	0.6°
Kieferhöhe (Punkt A)		1.0 mm	1.0 mm		1.0 mm	1.2 mm	-0.2 mm
Untergesichtshöhe (Slavic Norm)		45.1°	45.1°		45.1°	45.1°	0.0°
Untergesichtshöhe zu U		52.6°	52.6°		52.6°	52.6°	0.0°







# 5/2 Service, Maintenance & Training

## Service, maintenance and training

Over the last several years, we at GAMMA have continuously built up our service and advisory team. Not least, because we are convinced, that being constantly at our customers' service and permanently "on call" with customer support is the best way to ensure successful application of the GAMMA system. In practical terms, this means service- and customer-oriented direction for proper application of our product. Above all, close contact to our customers also brings us important market feedback, which we use towards continuous product improvement and development.



Through our international contacts, we always stay informed about the latest developments in the "functional" business, just as we ourselves make constant efforts to improve our systems and encourage innovation.

### Customer service means:

- Direct contact to the customer
- Well-trained consultants for medical products
- Visits to the practice (throughout the German-speaking area)
- On site product introduction and service (Germany/Austria only)
- Advanced training sessions
- Close partnership with renowned Institutes and Universities
- Road Shows
- Participation at exhibitions

The GAMMA CADIAX® systems are medical measurement devices of Product Class Im. Legal regulations make it obligatory that our customers have these appliances checked at regular intervals for electrical safety and measurement function.



05-001J	Adjustment for Reference SL articulator (device must be sent to the factory in Klosterneuburg – price excl. transport costs)
05-003J	Adjustment for Reference LF articulator (device must be sent to the factory in Klosterneuburg – price excl. transport costs)
05-002	Annual CADIAX® service – as 05-001002, but device to be sent to the factory in Klosterneuburg (price excluding transport costs)
05-001S	Installation and service - per hour, excluding expenses 05-001F
05-001T	Individual practical on-site training – per hour, (on request)



# 5/3 Service, Maintenance & Training

## Software maintenance

It is our duty to ensure that, with the Gamma Dental Software®, our customers receive a functionally reliable system at their disposal. We work constantly at improving and further developing the software, and creating new modules and functions.

Most GAMMA users appreciate to have regular supervision in product application as well as periodical training sessions, so that new staff has no problems in handling the software.



In addition to the normal telephone **Hotline**, we have a special service: **Software support online**. With this system, our software technicians can have direct access to the customer's computer. The customer can follow each of the technician's manipulations directly on the computer screen. This not only solves the software- or configuration problem quickly and easily, but also serves as an individual training session!

To take advantage of this service, you only need an internet connection. Our technicians will then give you all further details. The connection set-up only takes a few minutes.

Immediately after concluding a software maintenance contract, the following company services are automatically at your disposal:

- Telephone information (or information via Fax or Email) for questions concerning the software.
- Information about update releases and announcements regarding new program versions, containing details of performance range
- Telephone information (or via fax, e-mail) about the usage of the program
- Telephone information about program interfaces of the software, in order to link individual modules of the software with other programs.
- Availability of the latest program version; this version will be sent via post or simply as a download link, including all of the corresponding documentation. The end user is responsible for setting up and running the new updates on the computer
- Free online software maintenance

Naturally, we cannot provide all of these services at no cost. Therefore, we offer a system calculated on the modules, that represents the graded maintenance costs, according to the software version being used:

Software maintenance for GAMMA Dental Software®		per month
05-00E00C	Software maintenance for version "C"	
05-00E0CW	Software maintenance for version "CW"	
05-00E00S	Software maintenance for version "S"	
05-00E0LAB	Software maintenance for version "LAB"	
05-00E0AM	Software maintenance for version "AM"	
05-EViewer	Software maintenance for version "Viewer"	



# 5/4 Service, Maintenance & Training

## MEDIA FOR INSTRUCTION & PRACTICAL USE:

04-000020	Multimedia course Wax-Up DVD "Class I Occlusion" Prof. Slavicek and team ISBN 978-3-9501261-3-6
04-000021	Multimedia course Wax-up DVD "Class II, III, Cross Bite", Prof. Slavicek and team ISBN 978-3-9501261-4-3



## Books by GAMMA DENTAL Edition

### Book "The Masticatory Organ"

A fascinating book by Dr. R. Slavicek, full of experiences concerning the functions and dysfunctions of the masticatory organ. An important work, very helpful for understanding the possibilities of the GAMMA system.



ISBN 978-3-9501261-1-2 **Book "The Masticatory Organ"** by Prof. Dr. Rudolf Slavicek

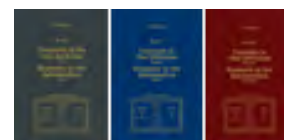
### Book "Concepts in Oral Medicine"

Prof. Dr. Rudolf Slavicek

Facts and documentation about the treatment of patient cases according to the principles of the Viennese School of Interdisciplinary Dentistry.

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We maintain close cooperation with renowned training academies and universities, and our own team of advisors is being well trained. We want to provide you with reliable contact partners, who will be at your service in "word and deed".

For information about the latest course program and the partner training institutes who offer seminars, courses and university courses, using our system, please request from or visit below mentioned contacts:



**VieSID**  
**Vienna School of Interdisciplinary Dentistry**

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Internet: [www.viesid.com](http://www.viesid.com)  
e-mail: [info@viesid.com](mailto:info@viesid.com)

# ORDER FORM

**GAMMA**DENTAL  
SOFTWARE

to: GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH  
Wasserzeile 35  
3400 Klosterneuburg - Österreich  
Tel.: +43 (0)2243 34140-0  
Fax.: +43 (0)2243 34140-90  
Email: office@gammadental.com

VAT-ID-No.: ATU37002505

Customer: \_\_\_\_\_ Customer-No.: \_\_\_\_\_  
\_\_\_\_\_ VAT-ID-No.: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Pos	Article-No.	Product description	Quantity	Price (EUR)

Desired delivery date:

**TOTAL**plus statutory tax and  
shipmentUnless otherwise stated,  
prices for installation and  
training are not included**Notes:**

This is a legally effective contract between you as customer and GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH. The valid general terms and conditions are part of this contract and are explicitly accepted by the customer. You can find the general terms and conditions listed on the back-side of this form, on our homepage ([www.gammadental.com](http://www.gammadental.com)) or ask for the terms at any time in our office. Gamma Medizinisch-wissenschaftliche Fortbildungs-GmbH reserves the right to reject the order within a period of 30 days after the order form was signed.

\_\_\_\_\_  
For GAMMA Date/Signature\_\_\_\_\_  
For the customer Date/Signature

# General business conditions of GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH (GAMMA)

## Wasserzeile 35, A-3400 Klosterneuburg – AUSTRIA

In principle, the contractual parties undertake to display mutual loyalty. GAMMA requires that its co-workers comply with the provisions of the data protection laws.

If any individual conditions of this contract are, or should become void or inoperative, this will not affect the remaining contents of this contract. The parties will work together as partners towards an arrangement which approaches the sense of the inoperative provision as nearly as possible.

### 1 Tending an offer and conferring of contract

1.1 A contract is effected exclusively by means of written confirmation or upon delivery of goods by GAMMA.

1.2 Collateral agreements, changes and amendments of this contract require the written confirmation of the contractual partners in order to be valid. The same applies for any guarantees regarding features, as well as for any waivers regarding the requirement for written confirmation.

1.3 Quotations are, in principle, subject to change without prior notice.

### 2 Terms of payment, prices, taxes and charges

2.1 Prices are valid ex-warehouse Klosterneuburg, Austria, exclusive of all incidental costs as well as of the statutory Value Added Tax and, unless specifically noted otherwise, are given in Euros. Prices are valid only for the order on hand.

2.2 In case of failure to meet the term of payment, the client is obliged to pay the customary bank interest charges on the buying price.

### 3 Right of detention, compensation, cession

3.1 The client may not refuse to meet his/her obligations on the basis of any possible counter-claims, nor may the client withhold payment or make pretension to compensation for costs that may be incurred, unless the grounds and the extent of these claims are undisputed by GAMMA, or are legally established and binding.

3.2 Cession of a client's claims against GAMMA is only possible with the express permission of same.

### 4 Delivery date, Term of delivery

4.1 The delivery date begins when the client receives the confirmation of order from GAMMA.

4.2 The term of delivery is complied with if, before its expiry, the product has left the GAMMA warehouse in Klosterneuburg, Austria (shipping date or postmark), or when written notice is given that the product is ready to be shipped.

4.3 The term of delivery will be extended as necessary in cases of labor disputes, in particular strikes and lock-outs, or in case of unforeseen hindrances, which are beyond the control of GAMMA, insofar as these hindrances can be demonstrated to have a considerable influence on the production or delivery of the product. This also applies to the sub-contractor, if such problems should materialize. Even if the aforementioned circumstances occur at a time when there is already a delay, no claims may be made on GAMMA. Any agreed-upon contractual penalty is invalid under these circumstances.

4.4 The prerequisite for compliance with the term of delivery is that the client fulfills all contractual obligations.

### 5 Devolution of risk and receipt (of goods), compulsory inspection and compulsory complaint, acceptance

5.1 Risk is transferred to the client, at the latest, with the dispatch of the shipment, even in the case of a part-delivery, or when GAMMA has undertaken to perform other

5.2 services. Redeliveries are carried out at the risk of the client.

5.3 Part-deliveries are permissible, § 8.1 takes priority.

5.4 If the client is a qualified merchant, he/she is required to inspect the goods immediately and to inform GAMMA, in writing, within 10 days at the latest, of any substantiated defects or deficiencies, i.e., wrong goods or wrong quantities. After the expiration of this term, the product is considered to be accepted. In cases of "hidden" defects, the client (qualified merchant) bears the burden of proof.

5.5 In case of defects on deliveries, caused during transport, the carrier has to be informed immediately at time of takeover

5.6 Acceptance can only be refused in case of considerable defects or deficiencies.

### 6 Proprietary rights

6.1 GAMMA retains proprietary rights to the product until all of the obligations of the business transaction (including future business arrangements) have been settled (including all balance payments due from account current).

6.2 The client may only utilize the product in the normal course of business, and confers upon GAMMA the joint-ownership of any new product resulting from the connection or combination of the GAMMA product with any other products. Upon disposal (sale), the client will transfer to GAMMA, in advance, for security reasons, the sum of the invoiced amount of its purchase price, in accordance with the joint-ownership agreement. The transfer will be accepted by GAMMA.

6.3 In case of breach of contract on the part of the client, especially in cases of default of payment, GAMMA has the right to reclaim the product(s), after a default reminder, and the client is obliged to return the product(s).

### 7 Liability for wrong goods and/or wrong quantities

7.1 In principle, GAMMA is liable for damages, insofar as gross negligence or intent can be demonstrated on its part, within the scope of legal provisions. Liability for simple negligence is precluded. As far as legally allowed, compensation is precluded, in any case, for consequential damages and property damages, non-attained savings, loss of interest fees, and damages from claims of a third party against GAMMA. GAMMA assumes liability for defects and/or deficiencies in the shipment, including the absence of features which are explicitly guaranteed, to the exclusion of further claims, notwithstanding § 8, as follows, if the shipment is not considered to be accepted, in accordance with § 5.3: all of these parts are to be repaired, free of charge, or replaced with new ones, if they display defects and/or deficiencies which can be attributed to GAMMA, within 2 years of delivery on movable parts, within 3 years of delivery for non-movable parts, and if GAMMA has received written notification of these defects and/or deficiencies. All replacements remain the property of GAMMA.

7.2 After a written complaint to GAMMA AG of wrong goods and/or wrong quantities, the client is obliged to allow GAMMA the opportunity to carry out any and all repairs and/or shipments of replacements, which it may deem necessary, according to its judgment and responsibility; otherwise, GAMMA

is free from any liability. Only in extreme circumstances, involving a threat to the operational security and to prevent excessive or disproportionately greater damage, whereby GAMMA must be informed immediately, or if GAMMA is delayed in repairing a defect, does the client have the right to repair a defect himself/herself, or to have a defect repaired by a third party. In this case, the client may demand reimbursement from GAMMA, for the necessary costs incurred.

7.3 GAMMA assumes the immediate costs for the repairs and/or delivery of replacements- insofar as the complaint proves to be valid- the costs of the replacement items, including shipment charges, and reasonable costs for dismantling and installation; further, according to individual circumstances, the costs which may actually be necessary for engaging assemblers and assistants. Any other costs are borne by the client.

7.4 The term of liability for the replacement is 3 months, but this term must extend to at least the expiry date of the original shipment's term of liability. The term of liability for wrong goods and/or wrong quantities will be extended for the amount of time of interrupted operation, necessitated by the repairs.

7.5 GAMMA bears no liability for the consequences of any possible inappropriate alterations or repair work, carried out by the client or a third party, without previous, express authorization from GAMMA.

### 8 The client's right of rescission and other liability of GAMMA

8.1 The client can rescind the contract, if it is clearly impossible for GAMMA to provide complete service, prior to the devolution of risk. The same is true for incapability on the part of GAMMA. The client can also rescind the contract if, after placing an order for products of the same type, it is finally impossible for GAMMA to deliver the required number of part of the shipment, and the client has a legitimate interest in refusing part-delivery; if this is not the case, the client may proportionately reduce the amount of his/her obligation.

8.2 If this impossibility arises during an already existent delay in acceptance or through the encumbrance of debt on the part of the client, the client remains under the obligation to pay.

8.3 The client has the right of rescission, if GAMMA, in the absence of mitigating circumstances, allows the expiration of two appropriately set term-extensions for repairs or the delivery of replacements, relative to wrong goods or wrong quantities attributable to GAMMA, in accordance with the conditions of delivery. The client is obliged to allow two attempts at repairs. The client's right of rescission is also valid in other instances involving two unsuccessful attempts at repair or delivery of replacements on the part of GAMMA.

8.4 All further client claims are precluded, especially regarding conversion, price-reductions and compensation for damages of any kind, including those damages not arising on the product itself. This preclusion of liability is not valid in cases of malicious intent or gross negligence on the part of the proprietor or managerial employee, or in those cases in which liability for defects and/or deficiencies in the product is assumed for personal injury and material damages on units in private use. This preclusion also does not apply to missing features, which are explicitly guaranteed, if the express purpose of said guarantee is to protect the user against damages, not arising on the product itself.

### 9 Copyright protection

9.1 Designs, models, software, tools, programs, documentations and the like, from GAMMA, are the intellectual property of GAMMA and, although no specific protection exists, they may not be copied by the client or used in any way for reproduction, nor may they be ceded to a third party, neither free of charge nor for remuneration, nor used in any manner other than within the scope of the conditions agreed upon by GAMMA and the client.

9.2 In the case of orders, according to the client's own specifications (drawings, designs, etc.) the client assumes liability. In this way, the patent rights will not be infringed upon.

### 10 Installation

10.1 If installation of the product is agreed upon in writing, GAMMA will install the product for the client, in a state of operational readiness. The following constitute the prerequisites for installation:

- a. the client has, and makes available, an appropriate location for the apparatus, including all of the proper connections (water, electricity, etc.).
- b. the apparatus may not have been altered by the client before installation.

10.2 The installed product is considered to be in operational readiness after being subjected successfully to the GAMMA functional testing process, and witnessed to by the client's counter-signature on the certificate of acceptance. If the client does not sign the certificate of acceptance, despite a successful functional test, GAMMA will instruct the client as to the consequences of exceeding the acceptance deadline and will offer an extension of at least two weeks: if the client does not offer an explanation before expiry of this extended term, operational readiness is assumed as certified nevertheless, with the date of the functional test.

10.3 If, after delivery, the agreed-upon installation of the product cannot be effected by GAMMA, for reasons attributable to the client, GAMMA AG will instruct the client as to the consequences of exceeding the deadline and offer the client a deadline of 30 days; if the installation has still not been carried out upon expiry of this term, also for reasons attributable to the client, operational readiness is considered as certified from the date of delivery. GAMMA assumes no obligations for connecting the product to any apparatus or appliance belonging to the client, which has not been supplied by GAMMA.

### 11 Privacy policy

11.1 The customer agrees that his personal data, namely name, address and email address will be processed for marketing purposes (sending of advertising material by post or email). This consent can be revoked at any time. The revocation does not affect the legality of the previous processing. Our full privacy policy can be found at: <http://www.gammadental.com/privacy.htm>

### 12 Concluding stipulations

Unless otherwise agreed to, the applicable legal provisions in effect between qualified merchants are exclusively according to Austrian law, also when the contract is carried out in another country. The territorial jurisdiction of the relevant court for the registered seat of the GAMMA is the exclusive authority, in case of possible disputes and/or litigation. The above-mentioned conditions are applicable to consumer sales, within the intent of the consumer protection laws, only insofar as the consumer protection laws do not specifically make other provisions.

# MAINTENANCE CONTRACT 2022

## for GAMMA Dental Software®

☐ GDSW „AM“ ☐ GDSW „LAB“ ☐ GDSW „S“ ☐ GDSW „CW“ ☐ GDSW „C“ ☐ GDSW „Viewer“

(cross the appropriate version/option)

This is a contract between the user of the software and GAMMA MEDIZINISCH-WISSENSCHAFTLICHE FORTBILDUNGS-GmbH, a company formed under the laws of the Republic of Austria. (GAMMA)

### Terms of contract

**1. Contents of the contract:** GAMMA provides maintenance for the product **GAMMA Dental Software**, hereafter named "software" for supporting operating systems, under the following conditions:

**2. Duration and cancellation of contract:** The contract is concluded for an unspecified period of time, with a minimum duration of the contract of ☐ 12 months/ ☐ 24 months/ ☐ 36 months and may be terminated by either party, subject to 3 month's notice, until the end of the calendar year. Cancellation on special grounds (i.e., death, forced retirement for health reasons) is possible at any time. In this case, an aliquot part of the annual fee will be reimbursed to the end user, commensurate with the portion of unused service.

**3. Scope of performance:** Upon receipt of the fees stated in item 4, GAMMA will provide the following services:

**a.)** Telephone information (or via fax or e-mail) in response to questions concerning software problems; Monday-Friday, 9 AM- 4 PM (excluding public or annual holidays). The call should be made by the end user or an authorized representative.

**b.)** Information about update releases and announcements regarding new program versions through releases containing details of performance range.

**c.)** Information (via phone, fax or email) in response to questions concerning the software respectively program interfaces of the software, in order to link individual modules of the software with other programs: Monday-Friday, 9 am- 4 pm (excluding public or annual holidays). The call should be made by the end user or an authorized representative.

**d.)** Availability of the latest program version. This version will be sent on CD-ROM; including all of the corresponding documentation. The new version replaces the directly preceding version with the same serial number. All conditions of the license contract remain valid. The end user is responsible for setting up and running the program updates on the computer.

**e.)** Provide free online software maintenance at no extra cost. Any information given does not make up for user training, but are based on the knowledge level of an experienced user.

#### 4. Fees and conditions of payment:

maintenance fee	per month	per year
GDSW "AM"		
GDSW "LAB"		
GDSW "S"		
GDSW "CW"		
GDSW "C"		
GDSW „Viewer“		
Additional work stations		
Number of required work stations		

The yearly maintenance fee is charged in advance at the beginning of the calendar year of proportionally at validity of the contract. Payments of the invoices are due within 8 days, without deductions. These prices do not include sales taxes. Any legally applicable taxes will be included in the bill. The maintenance costs are to correspond with changes in the consumer index of the Austrian Central Bureau of Statistics. The index is calculated by comparing the indexes of the beginning and end of the calendar year, or part of the year, respectively. The change will be set as the calculation basis for the following year.

**5. Terms of Use:** The customer is obliged to use the software exclusively for his own office. Passing on of software to third parties is not permitted.

**6. License extension:** If the customer receives an extended license of the software (e.g., by buying an upgrade from GDSW "CW" to "AM"), the contract becomes automatically extended and adjusted to the new software version. This applies especially to the maintenance fees, described in item 4, which will be increased accordingly.

**7. Written form:** Collateral agreements, changes and amendments of this contract require the written confirmation of the contractual partners in order to be valid. The same applies for any waivers regarding the requirement for written confirmation.

**8. Costs:** The purchaser bears all costs, expenses, taxes and fees incurred, relative to the construction and implementation of this contract.

**9. Miscellaneous:** If any individual conditions of this contract are, or should become void or inoperative, this will not affect the validity of the remaining provisions. Any invalid provision will be replaced by such valid provision which corresponds most closely to the sense of the provision in question.

**10. Copyright:** Software, handbooks and other accompanying written materials are intellectual property of GAMMA and protected against copying through copyright laws, international treaty provisions and other national laws.

**11. Legal jurisdiction:** This contract and all parts thereof are governed by Austrian law. The parties agree that all legal disputes arising from this contract shall be settled by the Austrian court having subject-matter jurisdiction.

**12. Liability:** GAMMA is liable for damages, only insofar as gross negligence or malicious intent can be demonstrated on its part. Liability for simple negligence is precluded. In no event shall GAMMA be liable for any special, incidental or consequential damages, including loss of sales, loss of profits, non-attained savings, loss of interest fees, or for damage claims of a third party against the end user.

GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH  
Wasserzeile 35  
3400 Klosterneuburg  
Österreich

\_\_\_\_\_  
Name and address of the user

\_\_\_\_\_  
Date and Signature

\_\_\_\_\_  
Date and Signature

March 2022





# Notes



# Notes

**GAMMA  
DENTAL**



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