BRAINLAB

PLATFORM

1 | 19901 | CURVE 1.1 DUAL NAVIGATION STATION (AVAIL. QIII/15)

High performance Image-Guided-Surgery station, integrated in a mobile display cart with separate mobile camera cart for flexible positioning of the infrared cameras - featuring advanced optical, wireless passive marker tracking technology:

- Total surgical control on a fingertip, accessible via two large 27" widescreen touch displays
- Highly flexible arms allow optimal positioning of displays, e.g. maximum overview in side-by-side configuration, or non-sterile operation from one display outside and other within sterile field
- Brilliant display quality with full HD (1920x1080 pixels per display) resolution without compromises due to touch interface (capacitive touch technology)
- Mobile camera cart with telescopic stand and motorized joints for remote-controlled camera alignment yields new degrees of freedom in terms of setup flexibility
- Infrared tracking cameras with extended detection volume and laser pointer for quick and intuitive positioning
- Advanced high-fidelity sound system brings digital music into the OR from any smartphone, e.g. from iPhone®6,6+
- Docking mechanism optimized for easy transportation and compact storage of display and camera carts
- Enhanced system stability through un-interruptible power supply
- Easily accessible connection panel for plug&play connectivity e.g. with surgical microscopes, fluoroscopes, endoscopes, ultrasound etc via state-of-the-art digital and analog video inputs supporting up to full HD resolution: 2x HD/SD-SDI up to 1080i/29.97fps, 2x Composite (CVBS, NTSC/PAL), 1x S-Video (NTSC/PAL)
- Connection panel also includes 1x DisplayPort 1.2 out with up to 3840x2160 px @60Hz to connect an independent display (full HD 3D, 4K) as well as 1x DVI-I out for analog/digital video output
- Fast simultaneous access to e.g. PACS/hospital network and integration with e.g. C-Arms via 2x high-speed network connection (up to 1 Gbit/s each)
- Built in WLAN module for mobile wireless network communication to hospital access points (according to IEEE 802.11b/g/n/ac with up to 54Mbps - only available in specific countries
- High-performance computer (Intel Xeon E5-1620 v2 3.7 GHz Central Processor Unit, 8 GB RAM memory and 512 GB SSD)
- Direct patient data transfer from/to 5x USB (2x USB 3.0, 3x USB 2.0) and CD-RW & DVD+-RW
- Compatible with Brainlab Origin Data Management

Medical Computer Unit of Display Cart

Power / Voltage	100 VAC: max. 7 A; 240 VAC: max. 3.5 A
Frequency	50-60 Hz
Processor / Memory	Quad-core workstation processor: Intel Xeon E5-1620 v2 3.7 GHz
	8 GB RAM
	512 GB SSD
Operating System	Windows Embedded 8.1 Industry Pro
I/O Support	CD-RW & DVD+-RW
	2x Gigabit LAN
	1x WLAN (802.11 b/g/n/ac, up to 867 Mbps)

		2x USB 3.0, 3x USB 2.0, 1x USB-B 2.0
		1x DisplayPort 1.2 out up to 3840x2160px @ 60 Hz
		1x DVI-I out
		2x HD-SDI in up to 1080i/29.97
		1080i at 60/50 fields/sec (SMPTE 292M)
		720p at 60/50/30/25/24 frames/sec (SMPTE 296M)
		480i at 60 fields/sec and 480p at 60 frames/sec (SMPTE 259M)
		576i at 50 fields/sec
		1x S-Video NTSC/PAL in
		2x Composite (CVBS) NTSC/PAL in
Heat Emission		max. 300 W
Certificates and Classification		IEC 60601-1 Edition 3.1
		NRTL compliance by ETL
Touch Display		
Panel Size		27"
Resolution		1920x1080 px
White Luminance		220 cd/m2
White Point		D65
Viewing Angle	Horizontal	178°
	Vertical	178°
Dimensions	Width	67.2 cm
	Height	41.1 cm
	Depth	6.9 cm
Weight		8.6 kg
Scan Frequency	Horizontal	15-96 kHz
	Vertical	48-75 Hz
Display Technology		Projected capacitive touch technology
Heat Emmission		max. 50 W
Camera System		
Physical Characteristics	Width	61.3 cm
	Height	8.6 cm
	Depth	15.5 cm
Weight		8.6 kg ± 0.5 kg
Tracking Distance		300 cm
Heat Emmission		max. 75 W
Camera Cart		
Dimensions	Width	67.8 cm
	Depth	72.5 cm
Weight		85 kg
Max. Camera Height		254 cm
Min. Camera Height		67 cm
Display Cart		
Dimensions	Width	73.5 cm
	Depth	73.5 cm
Weight		120 kg
Enviromental Requirements		
Temperature (Operation)		10°C (50°F) to 35°C (95°F)

Temperature (Storage)	-10°C (14°F) to 50°C (122°F)
Humidity (Operation)	30% to 75%, non-condensing
Humidity (Storage)	10% to 90%, non-condensing
Pressure (Operation)	700 hPa to 1060 hPa
Pressure (Storage)	500 hPa to 1060 hPa

Cleanability Details	
Alcohol-based	Meliseptol, Mikrozid AF Liquid
Alkylamine-based	Incidin Plus 2%
Active oxygen-based	Perform
Aldehyde/chloride-based	Antiseptica Combi Surface

2 | 30038 | ORIGIN DATA MANAGEMENT

Brainlab Origin operating system facilitating intelligent and automatic synchronization of data between platforms and offering easy access to all new software capabilities. Universal patient data management software that allows for import of patient data in DICOM format on Brainlab systems.

- Easy and intuitive user interface for streamlined access to patient data and applications
- Full control with support of touch gesture interaction as well as mouse and keyboard support
- Provides the same look and feel whether in the O.R. or office, while planning or navigating
- PACS access via DICOM "Query/Retrieve" (compatible to all major PACS systems)
- Import from PACS ("Query/Retrieve" and "Push"), USB, CD/DVD, Quentry and network
- Import of any modalities including CT, MR, PET/SPECT, X-ray
- Receipt of data via DICOM "Push"
- Selection of patient from patient list on PACS (C-FIND)
- Screenshots and video recordings in DICOM format (recording with article #25104 or #25105) can be sent to PACS (C-STORE)
- Intelligent export of screenshots (.png or DICOM) and video recordings (.mp4 or DICOM)
- Data export to different destinations (e.g. PACS, USB,..)
- Data import and export tools: media filter (CD, USB,…) and browsing of network folders
- Patient data management tools including new patient creation, merging and editing of patient data
- Patient pinning allows for manual pre-loading of DICOM images (e.g. all patients that are scheduled for O.R. 3 on Thursday) in order to reduce waiting times for PACS
- Support of DICOM worklist
- Group-based user rights
- Link to Brainlab remote support (iHelp)
- HIPAA-compliant feature set including authentication, accountability log and automatic log-off
- Generic license valid for all applications installed on system
- Until end of 2015: Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp
- Until end of 2015: Includes 24 hours, 7 days a week phone support hotline operated by technical professionals
- Until end of 2015: Includes training which will be delivered in the most appropriate format at the discretion of Brainlab including: remote training via Brainlab Learning Management System or onsite training at the customer facility

PACS requirements for optimal performance

- PACS should feature complete implementation of the DICOM query/retrieve protocol on study, series and instance level for optimal performance. Alternatively, operation on series and study level or study level only is possible resulting in loss of performance and fidelity of the user interface.
- PACS should allow for several parallel associations for optimal performance.
- DICOM data retrieved from a long-term archive should be cached for optimal performance.
- Recommended network connection speed of the client 1Gb/s with latency
- Recommended achievable download bandwidth from PACS 100Mb/s.

3 | B44010 | BUZZ IN-WALL PACKAGE

Buzz is the centralized OR information hub combining the latest technology with appealing, modern design. At its core is a large 42" display with ultra-slim multi-touch interface that displays excellent image quality in full HD. The system, based on a premium performance workstation, allows for connection with a multitude of video signals and routing content on up to six full HD displays (requires #15601 and #15604). The newly designed control concept ensures intuitive management of data sources and displays with its drag & drop functionality. Fast and easy access to medical image data is provided through the integrated interactive DICOM viewer. Procedures can be conveniently documented with screenshots or single/dual channel recording with a single click (requires #25104 or #25105 respectively). The in-wall mounting of Buzz ensures a sleek design and superior hygiene in the OR.

15610 | IN-WALL MULTI-TOUCH INFORMATION GATEWAY
Next-generation OR Integration platform based on computer and network technology rather than classical rack-based hardware. Efficiently designed to route medical images, patient data and video sources to be viewed within an OR environment.

- Base unit with brilliant 42" full HD (1920x1080 pixels) multi-touch display
- Ultra-slim touch control (optical touch technology) replacing mouse and keyboard
- High-performance server-grade workstation with Hexa Core Intel Xeon W3680 CPU (3.33 GHz, 6 cores, 12MB cache), 6 GB of main memory and 320 GB storage
- Routing of any display content to connected external displays
- Video out functionality provides two outputs (multi-touch display and one additional display) from the PC with up to full HD resolution. The additional display is either an external display or a secondary in-wall touch display (requires article #15605). Additional video-in/out functionality provided through articles #15601 and #15604.
- In-wall mounting of main display for superior hygiene and ergonomics. PC location flexibility depending upon OR workflow or space constraints, PC can be located either inside or outside the OR.
- Includes mounting frame optimized for easy installation and servicing
- Includes transfer lines for connection between the PC unit and Buzz touch display
- CD/DVD drive and USB 3.0 ports at PC and additional USB ports at display for import of medical image data stored on external media
- Seamless extension to fully integrated IGS operating room with next-generation Brainlab IGS, e.g. Kick, Curve and Curve ceiling-mounted
- Customer site pre-requisite for integration of IGS system: systems connected to local network infrastructure (minimum 100 Mbit/s, recommended 1 Gbit/s, effective network speed 40 Mbit/s, recommended maximum latency 2 ms)

- Full integration with databases such as PACS and web-based HIS and documentation such as HD streams and recordings for easy data access
- Fast simultaneous access to e.g. PACS/hospital network and integration with e.g. IGS C-Arms via 2x high-speed network connection (up to 1 Gbit/s each)
- Intuitive Brainlab operating system for patient-centric data handling, application and display management
- Central ''Home Button'' ensures intuitive system control
- Intuitive content management of available displays via "drag & drop" functionality
- Streamlined patient-centric access to DICOM and Brainlab xBrain image data from multiple sources (PACS, CD/DVD, USB, Network)
- Unified search and load of patient image data from all available sources with optimized usability, including intelligent pre-fetching and buffering of patient image data for increased performance
- Ability to merge different patient data sets
- Export of treatment documentation (e.g. screenshots) and plans to network storage or USB
- HIPAA-compliant feature set including authentication, accountability log and automatic log-off
- Built-in webcam and microphone for video- and audio-conferencing (requires article #25113)
- Future-proof and scalable solution through modular software concept
- Built-in power supplies for fibre-optical transfer lines
- Requires external power switch for display (not included)

IMPORTANT INFORMATION

It is the customer`s sole responsibility:

- to ensure that the structure/substructure and the preparation of the site meets the mounting requirements as stated in the BUZZ SITE PLANNING MANUAL.
- to attach the Buzz mounting components (On-Wall mounting plates or In-Wall mounting frame) with adequate material to the structure/substructure as stated in the BUZZ SITE PLANNING MANUAL.
- to ensure that the site preparations as stated in the BUZZ SITE PLANNING MANUAL have been completed at the mutually agreed installation date.

The BUZZ SITE PLANNING MANUAL will be provided by Brainlab upon order confirmation. If required, a copy can be provided prior to this date upon request. Please contact your Brainlab sales representative or consultant.

Power Input		100-240V; 50/60Hz
Power Consumption	Touch Display (incl. transfer lines)	Max. 350W
	Workstation (incl. transfer lines)	Max. 600W
Certificates and Classifications (Workstation and Touch Display)		ETL
		IEC 60601-1:2005 (3rd edition)
		ANSI/AAMI ES 60601-1:2005 /A2:2010
		CAN/CSA-C22.2 No. 60601-1:08
		SN EN60601-1:2006
		IEC 60601-1-2
		JIS T 0601-1-2
		IP 20 (touch area designed according IP 54 requirements)
		CE, RoHS

I/O connections (total, available with article #15601and #15604)		Total of up to 6 Full HD video outputs Up to 4 video signals with up to Full HD resolution can be displayed simultaneously 2x USB 2.0 and 2x USB 3.0
ENVIROMENTAL REQUIREMENTS		
Temperature (Operation)		10°C to 35°C [50°F to 95°F],
Temperature (Storage)		-10°C to 50°C [-14°F to 122°F]
Humidity (Operation)		20% to 80%. (non-condensing)
Humidity (Storage)		10% to 90% (non-condensing)
MR compatibility (only in-wall version)		MR conditional - mounting outside 5 Gauss line
TOUCH DISPLAY		
Cleanability		Alcohol-based (e.g. Meliseptol, Mikrozid AF Liquid) Alkylamine-based (e.g. Incidin Plus 2%) Active oxygen-based (e.g. Perform) Aldehyde/chloride-based (e.g. Antiseptica Kombi – Flächendesinfektion)
Panel Size		42”
Resolution		Full HD (1920x1080)
White Luminance		450cd/m²
Viewing Angle		178° horizontal, 178° vertical
Contrast Ratio		Typ. 1200:1
Color Depth		10bit, 1.06 Billion colors
Technology		Active Matrix TFT, IPS panel
DICOM		DICOM preset, re-adjustable in field by Brainlab support
Touch Screen		Infrared based multi-touch panel
Glass		Tempered safety glass with antireflection
I/O connections		2x USB 2.0 input
Audio Control		Direct volume control via touch panel
Dimensions touch display	Height	648mm
incl. frame	Width	1148mm
	Depth total	154mm
	Depth in-wall	137mm
	Depth of the frame protruding on the wall	17mm
	Weight	52kg
Dimensions in-wall mounting	Height	620mm
frame for touch display	Width	1140mm
incl. service mechanism	Depth in-wall	137mm
WORKSTATION		
Recommended placement		Outside of OR in 19” rack / technical room (in MR environment mandatory)
Processor		Intel Xeon W3680 (3.33 GHz, 6 cores, 12MB cache)

RAM		6 GB DDR3
Hard disk		320 GB
Operating system		Windows 7 64-bit (Embedded Standard)
Graphics		Nvidia Quadro 2000 (PCI Express 2.0, 1 GB RAM)
I/O connections:		2 x LAN 10/100/1000 (galvanically isolated)
		2 x USB 3.0
		1 x CD/DVD writer
Video Output (incl. Main display)		4 x Full HD DVI output (with article #15601)
		2 x Full HD DVI output (without article #15601)
Video Input (with article #15601)		Formats: S-Video, Composite, HD-SDI, DVI, RGB/VGA
		Two of the connected video signals can be displayed simultaneously
Audio		Line-Out - for external audio system (e.g. speakers)
		Line-In - for external audio sources
		Microphone-In - for external microphone
		All galvanically isolated
Power output for transfer lines		5V DC
Dimensions horizontal placement	Height	160mm
	Width	440mm
	Depth	415mm
Dimensions vertical placement	Height	440mm
	Width	160mm
	Depth	415mm
	Weight	15kg
	add 14mm in height with attachable feet	

TRANSFER LINE BOX FROM WORKSTATION TO TOUCH DISPLAY

Physical Characteristics (add 5mm in height with attachable feet)	Height	46mm
	Width	440mm
	Depth	230mm
	Weight	2kg
Type of transmission		Galvanic Isolation with Fiber Optic
Transmission distance		50m
Max. distance from transfer line kit to touch display		2.70m
Signal types		HDMI, USB
Mounting		Ceiling-or wall-mountable
Touch display with frame	Height	648mm
	Width	1148mm
	Depth total	154mm
	Depth in-wall	137mm
	Depth of the frame protruding on the wall	17mm
	Weight	52kg
In-wall mounting frame for touch display including service mechanism	Height	620mm
	Width	1140mm
	Depth in-wall	137mm

26232 | ELEMENTS DICOM VIEWER

- Intuitive image viewing, manipulation and data enrichment software with a touchscreen-optimized user interface.
- Concurrent display of multiple medical image series with flexible hanging protocols
- Easy arrangement of windows via drag-and-drop
- Intuitive touch-based view manipulation functions (zoom, pan, scroll, flip, rotate)
- Measurement functions for distance, angles and circles
- Entering image annotations with virtual keyboard
- 3-D multi-planar reconstructions in multiple planes (axial, coronal, sagittal, oblique)
- Support of numerous modalities (x-ray, CT, MRI, PET, SPECT, ultrasound, secondary capture)
- Import and export of surgical plans from/to Brainlab planning workstation or Node Server / USB / CD for trajectories and labeled points
- Until end of 2015: Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp
- Until end of 2015: Includes 24 hours, 7 days a week phone support hotline operated by technical professionals
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Platform support

- Buzz with minimum Patient Data Manager version 2.0
- Curve and Kick navigation systems with minimum Patient Data Manager version 2.0
- Brainlab planning workstations which meet minimum technical requirements
- Brainlab Node Server
- Non-Brainlab customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory

Minimum Technical Requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

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- Recommended network connection speed of the client 1Gb/s with latency
- Recommended achievable download bandwidth from PACS 100Mb/s.

15603 | IN-WALL INSTALLATION KIT
Kit for in-wall installation of the Buzz in-wall touch display.

- In-wall mounting of main display for superior hygiene and ergonomics. PC location flexibility depending upon OR workflow or space constraints, PC can be located either inside or outside the OR.
- Includes mounting frame optimized for easy installation and servicing

4 | 15601 | VIDEO INPUTS: TWO CHANNELS UP TO FULL HD

High-end dual-channel framegrabber enables connection and display of external medical video sources in full HD resolution.

- Supports two external digital or analog inputs to PC with up to full HD resolution
- Adds another two video outputs from PC with up to full HD resolution
- Video input formats: S-video, Composite, HD-SDI, DVI, RGB/VGA
- Video output format: DVI

PLATFORM SOFTWARE FEATURES

5 | 25110 | ORIGIN INTEGRATION OF OR PC INTO BUZZ DIGITAL OR

Enables bi-directional communication between Buzz platform and a hospital OR PC.

- OR PC desktop can be viewed and controlled on Buzz touchscreen and displayed on external screens connected to Buzz
- Allows for remote control of Buzz software from OR PC
- Control of content management of all displays
- Control of treatment documentation features (screenshots, streaming and recording)
- Applications available on Buzz platform (e.g. interactive DICOM viewer, navigation software, etc.) can be viewed and controlled from OR PC
- OR PC is integrated into Buzz "home screen" as additional display
- Other software applications can run simultaneously on OR PC. Easy switch between Brainlab Buzz control software and other applications possible
- Requires installation of Brainlab software on OR PC that is provided by hospital
  Requirements & comments:
- Requires Windows 7 (64 bit) operating system hospital OR PC
- Display resolution: 1920x1080 or 1920x1200
- NET Framework 4.0 must be installed

6 | 25105 | ORIGIN STREAMING AND RECORDING WITH WEB PORTAL: 2 X HD OR 1 X FULL HD

Live-streaming or recording in digital HD or full HD quality including portal for web-browser access from anywhere (e.g. PC in a surgeon's office).

- HD Streaming and recording of two display contents simultaneously with HD quality or one display content with full HD quality
- Digital HD or full HD streaming (1280x800/720p or 1920x1200/1080p resolution with state-of-the-art MPEG4/H.264-encoding) allows efficient transmission of live view of any display content (e.g. navigation software, microscope or endoscope video) to any web-browsing enabled computer connected to network (typical data transfer rate / network load only ~8 Mbit/s)
- Digital HD or full HD recording (1280x800/720p or 1920x1200/1080p resolution with state-of-the-art MPEG4/H.264-encoding) of any display content (e.g. navigation software, microscope or endoscope video) to local or network connected storage (typical file size only ~8 Mbit/s, i.e. ~60 MByte per minute recording
- Screenshot function to capture any display content in native resolution and store to local or network connected storage
- Intuitive one-click control interface for streaming, recording and screenshot functionalities seamlessly integrated in Content Manager

- Direct web-access to live stream, digital recordings and screenshots via system portal page accessible from any web-browsing enabled computer - no further software installation required
- HIPAA-compliant feature set including authentication, accountability log and automatic log-off
- Article only available with #B44000 Buzz on-wall or #B44010 Buzz in-wall
- Requirements and further information:
- Access via HTTP; optional additional access via HTTPS (requires certificate to be purchased by customer)
- Login via "NTLM Authentication Scheme for HTTP"; optionally NTLM can be disabled and Kerberos can be used instead (not supported by Mac OS
- Single-sign-on (automatic login with domain account)
- Web browsers: 32bit-versions of Internet Explorer 8, Mozilla Firefox 4, Google Chrome 11, Opera 11 on Windows, Google Chrome 12 on Mac OS X (or later versions) with VLC 1.1.11 (or later versions) and VLC browser plugin (http://www.videolan.org)
- Requires IPv4 (without NAT) and open network ports for video stream

7 | 25113 | ORIGIN AUDIO AND VIDEOCONFERENCING FOR BUZZ

Web-based audio- and videoconferencing solution for Buzz

- Allows for audio and video communication between (i) Buzz and office PC, or (ii) between two Buzz systems
- Purely web-based solution that requires no installation of hardware or additional software on client side besides web browser
- Conferencing application available for office use on a wide range of operating systems: Apple OS, Windows 7, Windows 8, Windows XP, Windows Vista
- Buzz is equipped with built-in web camera and microphone for conferencing
- Alternatively the surgeon can use an external microphone connected to Buzz (e.g. via bluetooth headset) for audio communication from sterile field (external microphone not provided by Brainlab).
- When viewing a live stream from the OR (e.g. displaying live microscope video) a single-click in the web portal allows to call the OR for remote consulting. Requires article #25104 or #25105.
- For optimized conferencing user administration Brainlab recommends to run the Conferencing application on an iPlan Net server or a hospital server.
- Article only available for Buzz
- Customer requirement: Google Chrome

8 | 25114 | ORIGIN SURGICAL CHECKLIST

Surgical checklist for improved patient safety

- Electronic checklist is based on WHO principles
- Checklist guides through different questions to make sure that e.g. the correct patient is operated at the correct site, the OR team prepares for risk of high blood loss, the OR team will avoid inducing an allergic drug reaction for which the patient is known to be at risk, etc.
- Checklist is available in the following languages: English, German, Spanish, French
- Customization of checklist items by Brainlab support engineer according to hospital-specific requirements
- Full integration of checklist in Hospital Information System (HIS): document providing evidence that all steps in the checklist were completed is sent to HIS and embedded in the electronic medical record of the patient
- Hospital-specific customization of the Buzz HL7 interface by Brainlab support engineer to enable communication between Buzz and HIS

- Article available for Buzz, Curve, Kick
- Customer requirement for HIS integration: (i) HL7 interface in HIS, (ii) Brainlab Node server or hospital server running the Surgical Checklist application

9 | 25115 | ORIGIN INTEGRATION OF HOSPITAL INFORMATION SYSTEM (HIS)

Automatic data synchronization between Brainlab platform and hospital servers

- Automatic identification of patients scheduled for surgery based on HL7 messages or DICOM worklist provided by the hospital
- Patient list is created accordingly and displayed in the user interface of the Brainlab platform. Eliminates search for patient name or ID.
- Automatic synchronization of patient image data with hospital server. Pre-loading (e.g. overnight) of image data of the scheduled patients.
- Advanced treatment documentation management: automatic saving of screenshots or video recordings to hospital servers and notification of HIS (patient name, ID and storage location)
- Hospital-specific customization of HIS integration by Brainlab support engineer required
- Article only available for Buzz, Kick, Curve, Node Server
- Customer requirement for HL7 integration: (i) HL7 interface in HIS, (ii) iPlan Net server or hospital server running a Brainlab application

ELEMENTS

10 | 26250 | ELEMENTS TRAJECTORY PLANNING SUBSCRIPTION

- Planning of multiple trajectories for neurosurgical approaches
- Interactive crosshairs for target and entry point definition
- Flexible scaling of trajectory diameter
- Probe's Eye and Inline views for trajectory verification
- Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp

Platform support

- Buzz Digital OR with minimum Patient Data Manager version 2.0
- Curve and Kick navigation systems with minimum Patient Data Manager version 2.0
- Brainlab planning workstations which meet minimum technical requirements
- Non-Brainlab customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory
- Brainlab Node server or customer server which meet minimum technical requirements

Minimum Technical Requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- CPU: 4 core processor
- RAM: 4 GB
- Graphics: DirectX 10.1
- Display resolution: 1280x1024

11 | 26217 | ELEMENTS IMAGE FUSION SUBSCRIPTION

- Fast and precise fusion, based on mutual information algorithm enables to exploit all anatomical & functional data sets simultaneously
- Automatic fusion of numerous modalities including CT, MRI (T1, T2, FLAIR, MRA), PET, SPECT (PET, SPECT fusion not available in Spine & Trauma 3D version 2.0)
- Automatic pair selection with instantaneous pre-alignment and fusion
- Possibility of manual fine-adjustments in all dimensions
- Definition of a "Region of Interest" in all dimensions to exclude areas from fusion
- Color overlay in amber-blue and Spyglass functionality for reviews
- Ability to fuse a series of image datasets from different modalities and points of time
- Compatible with datasets of various body regions
- Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp
- Elements subscriptions will automatically renew with extension by 12 months, unless written notice is provided to Brainlab at least 60 days before the expiration of the then current term
- Includes 24 hours, 7 days a week phone support hotline operated by technical professionals
- Includes training which will be delivered in the most appropriate format at the discretion of Brainlab including: onsite training at the customer facility or remote training via Brainlab Learning Management System

Platform support

- Buzz with minimum Patient Data Manager version 2.0
- Curve and Kick navigation systems with minimum Patient Data Manager version 2.0
- Brainlab planning workstations which meet minimum technical requirements
- Non-Brainlab customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory
- Please note: server platforms including iPlan Net will be supported from 3rd quarter 2014 onwards

Minimum Technical Requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

12 | 26211 | ELEMENTS DICOM VIEWER 3D SUBSCRIPTION

- Instantaneous, high-quality 3D visualization for analysis by and increased diagnostic confidence of the surgeon.
- 3D volume rendering of CT, MR, PET, SPECT datasets, with presets for visualization of skin, bone, vessel, DRR and MIP
- Superimposition of 3D dataset visualization and surgical planning data (volume objects, trajectories and labeled points)
- Selection of region of interest to cut and zoom onto the relevant anatomical volume (only available in Elements DICOM Viewer)
- Crop functionality to cut viewing plane into 3D visualization along any freely definable direction or pointer tip (only available in navigation software) respectively
- Threshold adjustment to adapt visualization to density of relevant anatomy

- Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp
- Elements subscriptions will automatically renew with extension by 12 months, unless written notice is provided to Brainlab at least 60 days before the expiration of the then current term
- Includes 24 hours, 7 days a week phone support hotline operated by technical professionals
- Includes training which will be delivered in the most appropriate format at the discretion of Brainlab including: remote training via Brainlab Learning Management System or onsite training at the customer facility

Platform support

- Buzz with minimum Patient Data Manager version 2.0
- Curve and Kick navigation systems with minimum Patient Data Manager version 2.0
- Brainlab Node Server
- Brainlab planning workstations which meet minimum technical requirements
- Non-Brainlab customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory

Minimum Technical Requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

13 | 26210 | ELEMENTS DICOM VIEWER SUBSCRIPTION

- Intuitive image viewing, manipulation and data enrichment software with a touchscreen-optimized user interface.
- Concurrent display of multiple medical image series with flexible hanging protocols
- Easy arrangement of windows via drag-and-drop
- Intuitive touch-based view manipulation functions (zoom, pan, scroll, flip, rotate)
- Measurement functions for distance, angles and circles
- Entering image annotations with virtual keyboard
- 3-D multi-planar reconstructions in multiple planes (axial, coronal, sagittal, oblique)
- Support of numerous modalities (x-ray, CT, MRI, PET, SPECT, ultrasound, secondary capture)
- Import and export of surgical plans from/to Brainlab planning workstation or Node Server / USB / CD for trajectories and labeled points
- Includes related software updates and upgrades within terms of use - additional service costs occur if not installed remotely via iHelp
- Elements subscriptions will automatically renew with extension by 12 months, unless written notice is provided to Brainlab at least 60 days before the expiration of the then current term
- Includes 24 hours, 7 days a week phone support hotline operated by technical professionals
- Includes training which will be delivered in the most appropriate format at the discretion of Brainlab including: remote training via Brainlab Learning Management System or onsite training at the customer facility

Platform support

- Buzz with minimum Patient Data Manager version 2.0

- Curve and Kick navigation systems with minimum Patient Data Manager version 2.0
- Brainlab planning workstations which meet minimum technical requirements
- Brainlab Node Server
- Non-Brainlab customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory

Minimum Technical Requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

SPINE

14 | B23060 | 3D NAVIGATION PACKAGE SPINE & TRAUMA

The package contains the latest universal application for spine and trauma navigation on 3D modalities, like CTs or 3D C-arm datasets and a starter pack remote clips.
@ALTTO:undefined@

22268 | NAVIGATION SOFTWARE SPINE & TRAUMA 3D (AVAIL. QIII/15)
Universal image-guided surgery software for spine and trauma surgery:

- User interface designed for intraoperative touchscreen control with state of the art 3D reconstruction, visualization and manipulation technology including specific visualization options for trauma indications
- Direct import and export of patient data in DICOM format without conversion
- Patient Data Manager interface to select and load patient data before surgery and to add data at any time during surgery
- Navigation on multiple (fused) data sets of different modalities such as 3D C-arm, CT, MR, iAngio 3D
- Real-time tracking and 2D/3D visualization of a pointer and of up to 4 instruments simultaneously in various views
- Open platform that allows simultaneous navigation of manually and pre-calibrated instruments from Brainlab, implant partners, and third party vendors
- Simultaneous navigation of two fused / co-registered datasets, including visualization of pre-planned objects and cx screws
- Interaction with software via Clip-on Remote Control
- Paired point matching is included as standard registration
- Screenshot feature for documentation purposes

HIGHLIGHTS OF LATEST VERSION 2.5

- Improved user guidance for screw planning
- New 4-star reference array for more room set up possibilities with Airo
- Quick check for pre-calibrated instruments
- Loading of multiple registrations
- Anatomy based pre-selection of instruments, implant sizes and views
- Reverse screw planning

REGISTRATION OPTIONS (1)

- Surface Matching: Spinal CT registration for open surgery via point cloud acquisition
- CT-Fluoro-Matching: Spinal CT registration for minimally invasive surgery using 2D fluoroscopic images
- Fluoro 3D: Automatic image registration of image data from 3D C-arm
- Co-Registration: Co-Registration of CT scan using Fluoro 3D or AIR iAngio 3D
- AIR Airo: Automatic image registration of Airo scans
- AIR iAngio 3D: Automatic image registration of image data from iAngio 3D multi-axis system (Siemens Artis zeego)
- Image Fusion: Automatic fusion of numerous modalities including CT, MRI

REQUIREMENTS

- Spine Basic Accessory Package
- Platform: Kick, Curve
  (1) List of compatible imaging devices is available on request

53153 | DISPOS. CLIP-ON REMOTE CONTROL (20 PCS)
The disposable and sterile Clip-On Remote Control enables an easy active patient registration in combination with existing Brainlab pointers for selected applications.
The main features are:

- Patient registration with a simple button press
- Reduction of line of sight issues
- Less space required as for pivoting
- Enables remote control functionality for selected features
  The Clip-On Remote Control is currently compatible with the following Brainlab software applications:
- Knee Essential (Ver. 2.5.x or higher for patient registration)
- Hip (Ver. 6)
- Spine & Trauma 3D (Ver. 2.0 or higher for patient registration and remote control)

15 | 22263 | SPINAL CT REGISTRATION USING SURFACE POINTS (FOR OPEN SURGERY)

Pointer based semi-automatic surface-matching registration option for spinal CT-modality data.

- Acquired points are matched to the bone surface automatically
- Innovative, fast '3 click' planning
- New algorithm for improved first-pass success rate
- No model vertebra positioning necessary
- Intelligent success monitor automatically suggests meaningful improvement actions to increase the accuracy if applicable
- The application is able to detect possible switched landmarks from the initial planning and suggests an automatic correction

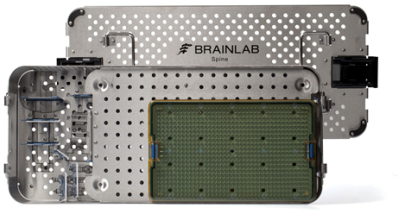
SUPPORTS:

Point acquisition by DISPOS. CLIP-ON REMOTE CONTROL (art. 53153)

SPINE ACCESSORIES

16 | B23506 | SPINE BASIC ACCESSORY PACKAGE

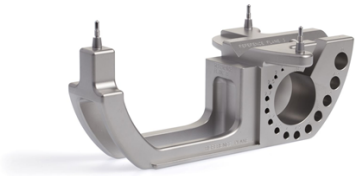
SPINE BASIC ACCESSORY PACKAGE is designed to be quoted for all spine customers. This package includes basic items allowing the ability to perform registration and basic navigation with the pointer.



52306 | STERILIZATION TRAY SPINE

For safe, efficient sterilization (autoclaving) and storage of the spinal navigation accessories such as diverse spinal reference clamps, bone fixators (1-pin / 2-pin), instrument adaptors, pointers or the instrument calibration matrix.

- Standard sterilization container dimensions



41874 | INSTRUMENT CALIBRATION MATRIX

Device for instant intra-operative calibration of length, diameter and vector of a rigid instrument:

- Supports a variety of rigid surgical instruments
- Precision manufactured stainless steel
- Autoclavable design for easy sterilization
- Compatible with Brainlab instrument arrays for manually or pre-calibrated tools
- Requires "Reflective Marker Spheres"
- Minimum software version required: VectorVision Cranial/ENT 6.01, -Hip 2.0, -Knee 1.5, -Spine 5.1, Kolibri Cranial/ENT 1.0

53103 | POINTER EXTENDED WITH SHARP TIP FOR HIP/TRAUMA/SPINE

Standard instrument for the intra-operative registration of anatomical landmarks and surface point acquisition:

- Extended design for improved access to anatomical structures
- Sharp tip for exact point acquisition
- Contains a pointer gauge, for accuracy checks, to be stored in sterilization tray
- Wireless and autoclavable design for fast sterilisation
- Requires Reflective Marker Spheres for wireless navigation

55756 | RADIOLUCENT SPINE REFERENCE CLAMP
Radiolucent Spine Reference Clamp, produced from carbon fiber reinforced materials and ceramics, designed to reduce artifacts in intra-operative navigated surgeries:
- Enhances Fluoro-to-Ct matching and Fluoro 3D scan qualities
- Lightweight design
- Autoclavable for quick and easy sterilization
- For patient referencing at thoracic and lumbar spine
- Requires Reference Aray for Spine Clamps and Reflective Marker Spheres

55751 | SPINE REFERENCE X-CLAMP SIZE S
Enables rigid fixation & dynamic tracking of spinous process:
- Lenght & weight optimized for cervical /thoracic approaches
- Tight clamping force based on X shaped design with pinjoint
- Flex /twist-free based based on rigid segments & integrated spikes
- Thread interface for screw-on trackable reference array
- Precision manufactured stainless steel for high durability
- Wireless & autoclavable design for quick & easy sterilization
- Requires for tracking the "Spine Reference X-Clamp Array"

55752 | SPINE REFERENCE X-CLAMP SIZE L
Enables rigid fixation & dynamic tracking of spinous process:
- Lenght and weight optimized for lumbar approaches
- Tight clamping force based on X shaped design with pinjoint
- Flex /twist-free based based on rigid segments & integrated spikes
- Thread interface for screw-on trackable reference array
- Precision manufactured stainless steel for high durability
- Wireless & autoclavable design for quick & easy sterilization
- Requires for tracking the "Spine Reference X-Clamp Array"

55753 | REFERENCE ARRAY FOR SPINE CLAMPS
Enables dynamic patient tracking in combination with a Spine Clamp:
- Easy to position via 2 joints
- 23 different snap-in positions selectable for each joint
- Autoclavable

REQUIRES:
'Spine Reference X-Clamp' (size S or L) or 'Radiolucent Spine Reference Clamp"
Disposable Reflective Marker Spheres

55754 | SPINE REFERENCE X-CLAMP EXTENSION 40 MM
Improves the tracking array visibility if the X-Clamp is fixed to deep situated spinous process, e.g. deep lumbar approaches:
- Cap nut for screw-on interface to Spine Reference X-Clamp
- Thread interface for the screw-on trackable reference array
- Precision manufactured stainless steel for high durability
- Wireless & autoclavable design for quick & easy sterilization

17 | B23507 | SPINE ACCESSORY FOR UNIVERSAL INSTRUMENTS INTEGRATION

SPINE ACCESSORY FOR UNIVERSAL INSTRUMENTS INTEGRATION is design to be quoted with SPINE BASIC ACCESSORY PACKAGE giving the ability to register third party instruments with manual calibration using modular instrument adapter clamps (STARLINK).
The package offers 15% savings over single components list price.

41798 | INSTRUMENT ADAPTER ARRAY SIZE M
- Size "M" tracking geometry enables navigation of various existing surgical instruments
- Compatible with different sized adapter clamps due to standardized attachment interface
- High-precision manufactured stainless steel
- Autoclavable design for easy sterilization
- Requires "Reflective Marker Spheres"
- Requires "Instrument Adapter Clamp"
- Requires "Instrument Calibration Matrix"

41799 | INSTRUMENT ADAPTER ARRAY SIZE ML
- Size "ML" tracking geometry enables navigation of various existing surgical instruments
- Compatible with different sized adapter clamps due to standardized attachment interface
- High-precision manufactured stainless steel
- Autoclavable design for easy sterilization
- Requires "Reflective Marker Spheres"
- Requires "Instrument Adapter Clamp"
- Requires "Instrument Calibration Matrix"

41801 | INSTRUMENT ADAPTER ARRAY SIZE L
- Size "L" tracking geometry enables navigation of various existing surgical instruments
- Compatible with different sized adapter clamps due to standardized attachment interface
- High-precision manufactured stainless steel
- Autoclavable design for easy sterilization
- Requires "Reflective Marker Spheres"
- Requires "Instrument Adapter Clamp"
- Requires "Instrument Calibration Matrix"

55102 | INSTRUMENT ADAPTER CLAMP SIZE M
Used in conjunction with an optical tracking geometry or an electromagnetic sensor, the instrument adapter clamp easily integrates a wide range of medium-sized surgical instruments into surgical navigation.
- Supported instrument diameters: 5.1mm - 10.5mm
- Flexible width jaws for attaching clamp to the instrument
- Standardized interface for attaching the tracking component to the clamp
- Compatible with "Instrument Adapter EM" for electromagnetic navigation
- Compatible with different sized "Instrument Adapter Arrays" for optical navigation
- Autoclavable design for fast sterilization

55103 | INSTRUMENT ADAPTER CLAMP SIZE L
Used in conjunction with an optical tracking geometry or an electromagnetic sensor, the instrument adapter clamp easily integrates a wide range of large-sized surgical instruments into surgical navigation.
- Supported instrument diameters: 7.0mm - 16.0mm
- Flexible width jaws for attaching clamp to the instrument
- Standardized interface for attaching the tracking component to the clamp
- Compatible with "Instrument Adapter EM" for electromagnetic navigation
- Compatible with different sized "Instrument Adapter Arrays" for optical navigation
- Autoclavable design for fast sterilization

55104 | INSTRUMENT ADAPTER CLAMP SIZE XL
Used in conjunction with an optical tracking geometry or an electromagnetic sensor, the instrument adapter clamp easily integrates a wide range of extra large-sized surgical instruments into surgical navigation.
- Supported instrument diameters: 13.0mm - 24.0mm
- Flexible width jaws for attaching clamp to the instrument
- Standardized interface for attaching the tracking component to the clamp
- Compatible with "Instrument Adapter EM" for electromagnetic navigation
- Compatible with different sized "Instrument Adapter Arrays" for optical navigation
- Autoclavable design for fast sterilization

55061 | TOOL FOR INSTRUMENT ADAPTER
Allen key for fixation of Intrument Adapter Array

55101 | INSTRUMENT ADAPTER CLAMP SIZE S
Used in conjunction with an optical tracking geometry or an electromagnetic sensor, the instrument adapter clamp easily integrates a wide range of small-sized surgical instruments into surgical navigation.
- Supported instrument diameters: 1.5mm - 5.1mm
- Flexible width jaws for attaching clamp to the instrument
- Standardized interface for attaching the tracking component to the clamp
- Compatible with "Instrument Adapter EM" for electromagnetic navigation
- Compatible with different sized "Instrument Adapter Arrays" for optical navigation
- Autoclavable design for fast sterilization

18 | B23510 | SPINE ACCESSORY FOR DRILLING
SPINE ACCESSORY FOR DRILLING is design to be quoted with SPINE BASIC ACCESSORY PACKAGE giving the ability to use pre-calibrated drill guide solutions with adjustable depth control to navigate open thoracic, lumber, cervical, and sacral cases. This package is designed for the customers that pre-drill their pedicles and not probe.
The package offers 15% savings over single components list price.

52307 | STERILIZATION TRAY SPINE INSTRUMENTS
For safe, efficient sterilization (autoclaving) and storage of the spinal navigation instruments such as awls, probes, drill guide tubes, drill bits and chisels including the diverse instrument star units.
- Standard sterilization container dimensions

41839-30 | DRILL GUIDE TUBE 3.2 X 150 MM
Attachable Guide-tube for the navigated "Drill Guide Handle":
- 150 mm long ex-changeable guide tube for 3.2 mm diameters
- Secure guide-tube fixation on handle with left-handed thread
- Spikes on Guide-tube tip enabling slip-free bone positioning
- Wireless and autoclavable design enabling fast sterilization

41839-35 | DRILL BIT 3.2 MM AO SHANK
Drill bit 3.2 mm with AO standard lug:
- Compatible to Drill Guide Tube 3.2 x 150 mm
- Guided drill depth of 65 mm when combined with compatible Drill Guide Tube

41839-36 | DRILL BIT - AO SHANK 3.2 MM (SUPPORTS DEPTH CONTROL)
Bone drill with AO standard lug, fitting to 3.2 mm "Guide Tube":
- 1x 3.2mm diam. drill bit, enabling max. drill depth of 60mm
- adapted length for "Drill Guide Depth Control"

41839-60 | DRILL GUIDE TUBE 2.6 x 150 MM
Attachable Guide-tube for the navigated "Drill Guide Handle":
- 150 mm long ex-changeable guide tube for 2.6mm diameters
- Secure guide-tube fixation on handle w. left-handed thread
- Spikes on Guide-tube tip enabling slip-free bone positioning
- Wireless and autoclavable design enabling fast sterilization

41839-65 | DRILL BIT - AO SHANK 2.6 MM (SUPPORTS DEPTH CONTROL)
Bone drill with AO standard lug, fitting to 2.6 mm "Guide Tube":
- 1x 2.6mm diam. drill bit, enabling max. drill depth of 60mm
- adapted length for "Drill Guide Depth Control"

41839-69 | DRILL BIT - AO SHANK 2.6 MM
Bone drill with AO standard lug, fitting to 2.6 mm "Guide tube":
- 1x 2.6mm diam. drill bit, enabling guided drill depth of 65mm

41839-50 | DRILL GUIDE DEPTH CONTROL
- Attachable drill guide depth control with 4-60mm scale for manual setting of maximum drill depth
- Autoclavable design
- Optionally required for "Drill Guide Handle"

41839 | DRILL GUIDE HANDLE
Handheld guide with integrated array, for exact navigation & targeting of rigid surgical instruments such as drills or wires:
- Comprehensive alignment aid used in combination with pre-planned trajectories and the ''AutoPilot'' view display
- Pre-calibrated geometry allows for instant navigation
- Enables the use of guide tubes with different diameters
- Wireless and autoclavable design for fast sterilization
- Requires minimum one application specific "Drill Guide Kit"
- Requires the "Instrument Calibration Matrix Revision 4"
- Requires Reflective Marker Spheres for wireless navigation

54923 | PRE-DRILL HANDLE AO COUPLING
Ergonomic quick-handle for pre-drilling with A.O quick coupling.

19 | 55720 | 3D/2D FLUORO REGISTRATION KIT FOR 3D C-ARMS

Registration localizer for 3D C-arms:
- Fits to compatible Siemens and Ziehm 3D C-arms
- Exclusively designed for accurate registration of 3D data
- Pre-calibrated geometry and reproducible fixation
- Enables instant navigation without patient registration
- Integrated reflective disks for the localization of the registration kit in almost every position of the C-arm
- Easy fixation, wireless and lightweight design
- Optional attachable 2D Registration Ring for localization & registration of acquired 2D fluoro images
- Embedded tungsten marker spheres for distortion correction & calculation of 2D registration based on projection parameters

20 | B24501 | XSPOT REGISTRATION ACCESSORY PACKAGE

xSpot Registration Accessory Package for quick and easy registration of 2D fluoroscopic images with xSpot.

REQUIRES:
- RUBBER BANDS 9/12 INCH AND 50 DISPOSABLE ADHESIVE PADS FOR XSPOT

55741 | XSPOT
XSPOT REFERENCING DEVICE FOR 2D-FLUOROSCOPES
Handheld universal referencing device for intraoperative convenient referencing of 2D fluoroscopic images in Navigation Software Trauma 3.0. and for CT-fluoro matching in Navigation Software Spine & Trauma 3D.
Universal 2D referencing:

- Supports conventional 2D image intensifiers as well as flat panel detector fluoroscopes
- Supports all common 2D intensifier sizes
- Supports digital and analog c-arm signal output

Convenient intraoperative referencing:

- Enables surgeon-directed positioning in ray beam in optimal orientation
- Avoids visibility restrictions caused by reference fixation to the c-arm or draping
- Minimizes space requirements for referencing in all projection angles of the fluoroscope

Functional sterility concept:

- Autoclavable instrument enables sterile handling by surgeon
- Storage in standard size Brainlab sterilization tray optimizes handling of sterile goods

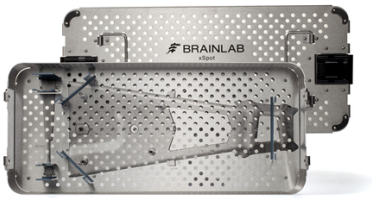
Compatible with:

- Navigation Software Fluoro Express
- Navigation Software Trauma 3.0. and Spine & Trauma 2D 3.1
- Navigation Software Spine & Trauma 3D (for coregistration)
- xSpot handle, sterilization tray for xSpot, correction plates 9/12 inch, xSpot adhesive pads and xSpot rubber bands 9/12 inch

55743 | STORAGE CASE FOR XSPOT ACCESSORIES
Robust case for convenient storage of correction plates, adhesive pads and safeguard rubber bands

55742 | HANDLE FOR XSPOT
Detachable handle for xSpot:

- Autoclavable design for quick & easy sterilization
- Ergonomic shape



52301 | STERILIZATION TRAY FOR XSPOT
Tray for storage and efficient autoclaving of xSpot and xSpot handle:
- Comfortable handling and transport with ergonomic quick release fasteners and handles
- Compatible to standard sterilization containers (min. size: l x h x w = 559 x 140 x 275mm)

55744 | CORRECTION PLATE 9 INCH FOR XSPOT
Plate to rectify images of conventional 9 inch c-arms:
- convenient mounting directly on fluoroscope via special adhesive pad and rubber band safeguard
- Mounting prior to conventional draping in unsterile environment
- No specific visibility requirements or sterility issues.

55745 | CORRECTION PLATE 12 INCH FOR XSPOT
Plate to rectify fluoroscopic images of conventional 12 inch c-arms:
- convenient mounting directly on fluoroscope via special adhesive pad and rubber band safeguard
- Mounting prior to conventional draping in unsterile environment
- No specific visibility requirements or sterility issues

21 | 55775 | REFLECTIVE DISKS FOR 2D AND 3D FLUORO KIT (21 PCS)
Enables 3D localization of the Fluoro/Fluoro-3D Registration kit:
- Quick release snap mechanism for fast & easy exchange
- Wireless flat marker design and autoclavable for sterilization
- Multiple use for up to max. 15 cleaning & sterilizations cycles

BRAINLAB

TRAUMA

22 | 22082 | NAVIGATION SOFTWARE TRAUMA 2D

NAVIGATION SOFTWARE TRAUMA 2D, version 3.1, optimizes treatment of fractures while reducing radiation exposure to surgeon and patient.
Virtual Fluoroscopy provides for significant reduction in radiation exposure while optimizing first pass accuracy:

- simultaneous depiction of up to four referenced fluoroscopic images on one screen
- real-time visualization of surgical instruments simultaneously in all images
- visualizes movements of two bone fragments in real-time without additional radiation

Supports xSpot handheld registration device:

- xSpot minimises system interaction
- xSpot allows for fully intuitive line of sight checks
- xSpot supports common commercially available c-arms in 9", 12" and FD formats
- xSpot image acquisition is fully compatible to standard c-arm draping

Offers streamlined image acquisition workflow:

- One-touch-to-the-image technique allows for intuitive rapid image acquisition
- Image acquisition adapted to specific surgical indications
- adaptation of brightness, contrast, position and zoom improves image relevance for actual procedure
- Storage of multiple fluoro images for later navigation use

Navigation of surgical tools allows precise transfer of on-screen planning to the OR table:

- Enables visualization of pre-calibrated drill guides and tools adapted to surgical demands
- Supports manual calibration of adequate primarily non-navigated tools
- Enables navigation of drilling depth for drill bits including the visualization of possible bending
- Alignment view visualises angle and depth information for intuitive targeting
- Enables navigation of Synthes LFN nails, Synthes LCP/DCP-DF plates and Synthes LISS Distal Femur plates.
  For navigation specific implant handles refer to SYNTHES for
  LCP/DCP-DF Insertion Handle Left SD03.120.010,
  LCP/DCP-DF Insertion Handle Right SD03.120.008,

LISS Distal Femur Insertion Handle Left SD324.011,

LISS Distal Femur Insertion Handle Right SD324.012,
Expert LFN Insertion Handle SD03.010.045
Intuitive workflow concept according to AO standards:

- Bone man navigator for immediate access to software workflows
- Dedicated workflows include upper extremity, lower extremity, pelvis and spine treatment
- Offers intuitive workflows for long-bone fracture reduction, screw placement and interlocking
- Checks for axis, length and rotation in femur fractures
- Offers the assessment of length and rotation of the contralateral femur

Image-free pinless navigation:

- Intuitive, fast and accurate targeting in arthroscopic procedures and pin placements

- Requires neither imaging nor fragment tracking
  Smart additional tools for improved fracture care:
- Automatic definition of shaft axes
- Display of angular offset in image planes and as combined angle
- Spherical target tool protects hip and shoulder during interventions
- Conical tool tip extension allows for accurate angular alignment of navigated tools to the image plane.
- Parallel screw planning for optimal dynamisation in screw fixations
  Improved Quality Control & Documentation:
- Screenshot acquisition at any time of the procedure
- Screenshot review during surgery with the user-friendly screenshot viewer
  Requires Fluoro Registration Kit or xSpot referencing device
  Requires C-arm video signal output in NTSC or PAL standard format or digital.
  Available for Curve Platforms and VectorVision Platforms with minimum workstation 6, NaviVision and Kolibri Rev. 2.
  Available for KICK Platform depending on platform availability.
  @ALTTO:undefined@

IGS SPARE PARTS TRAUMA

23 | 55839-20 | DRILL GUIDE REDUCTION SLEEVE 2.0 X 180 MM

- Reduction insert 2.0 mm for Drill Guide Tube 5.0 x 180 mm
- Required for guidance of 2.0 mm K-wires

24 | 55839-50 | BLUNT TROCAR FOR DRILL GUIDE TUBE 5 X 180 MM

- Compatible to Drill Guide Tube 5.0 x 180 mm
- For minimal-invasive placement of Drill Guide Tube

25 | 55839-10 | DRILL GUIDE TUBE 5 X 180 MM

Guide-tube attaches to the navigated Drill Guide Handle:

- 180mm long exchangeable guide tube with 5mm core diameter
- left-handed thread fixation on handle for secure drilling
- Spiked tip enables slip-free positioning on bone
- Compatible to blunt trocar for minimally invasive protrusion through soft tissues
- Compatible to drill guide reduction sleeves 2.0 mm, 2.8 mm and 3.2 mm for K-wire guidance
- Compatible to tissue protection sleeve for minimal invasiveness in placement of cannulated screws

26 | 55839-40 | TISSUE PROTECTION SLEEVE FOR DRILL GUIDE TUBE 5.0 X 180 MM

Detachable tissue protection sleeve:

- Compatible to Drill Guide Tube 5.0 x 180 mm
- Inner diameter of 10mm adapted to minimally invasive placement of cannulated screws

ONSITE APPLICATION TRAINING -IMAGE GUIDED SURGERY

27 | 84012-02 | BUZZ TRAINING ON-SITE (1 DAY)

One day on-site training provided by Brainlab Support Specialist for Buzz™ complete functionality including:

- Authentication
- Patient selection
- Image viewing
- Connection and routing of video signals
- Interconnection with Brainlab navigation platforms
- Treatment plan viewing and session sharing (only in combination with iPlan Net™)
- Optional features

28 | 81043-01 | CLINICAL CONSULTATION SPINE - 1 CASE

On-site clinical support for a spine case with Brainlab equipment. Facilitated by qualified and trained Brainlab Support Personnel.
Requires 48 hours advance notice.

29 | 81042-01 | SPINE (1 DAY)

The Brainlab Onsite Application Training Program (OAT) is a three-hour training program for all members of a clinical team who utilize Brainlab VectorVision® IGS products. Onsite training offers participants the opportunity to gain a basic proficiency and comfort level in using IGS technology. Participants will use the equipment and software to demonstrate proficiency in OR setup, patient

registration, planning, navigation, and basic troubleshooting for a navigated case.
Each one-day OAT purchase includes the following:

- 2) three-hour training sessions for staff and surgeons, maximum six participants per session
- CEU/CE accreditation
- Participant educational materials
- Travel and accommodations for Application Trainer

INTEGRATED OR PLANNING AND IMPLEMENTATION SERVICES

30 | B14272 | PLANNING AND IMPLEMENTATION OF BUZZ IOR

GENERAL

This quote article includes all services (including travel expenses) for planning (including consulting) and implementation (including project coordination and installation) of Buzz IOR and is necessary when installation involves in-wall mounting (#15603), Video Extension Unit (#15604) or transfer lines. The services will be described in detail in the following sections. Training is not included in this article.
The services are provided by the Customer Consulting team, consisting of the following experts:

- Project Consultant Site Planning (PCSP, responsible for project coordination, site planning and respective consulting) and
- Project Consultant Engineering (PCE, responsible for planning of electrical wiring, video routing, and network integration as well as respective consulting).
  After the purchase order (PO) Brainlab will assign one PCSP and one PCE. They are responsible for planning and implementation of the project until release for clinical use. They can involve other Brainlab specialists, e.g. Application Consultants, if necessary. The PCSP or the PCE will be assigned as the primary customer contact throughout the entire project.

CONSULTING

To be able to implement the best solution for the operating theatre together with the customer it is important to create a joint understanding of the broad spectrum of capabilities, which are available with the Integrated OR products from Brainlab. Therefore consulting plays a vital role in implementing integrated OR projects. Brainlab consults pre-PO regarding the following topics: General Brainlab Integrated OR concept

- General feasibility (based on a feasibility study created with customer provided AutoCAD drawings, if necessary)
- Conceptual layout (based on preliminary drawings created with customer provided AutoCAD drawings, if necessary)
- Third party integration: Brainlab checks and makes sure that all third party components ordered via Brainlab are fully compatible to Brainlab products (e.g. for integration of microscope or C-arm). Furthermore Brainlab can consult regarding the compatibility of third party components even when not ordered via Brainlab (e.g. compatibility of spring-loaded arms)
  Consulting topics after-PO:
- Different layouts/drawings of Brainlab provided products throughout design phases (Conceptual layouts and Design Development drawings, s. section planning for details)

PLANNING
During planning requirements and constraints of all involved parties are taken into account. In consecutive phases the planning becomes more and more developed. Thus, throughout the planning process a planning set is created, mainly consisting of drawings, integration diagrams, and schedules. Based on the final planning set the agreed upon Integrated OR solution will be implemented. Planning is subdivided in two main phases:

- Conceptual layout phase: Determining a set of needs, that respective parts of the building need to fulfill and preparation of conceptual layout proposal(s) - if necessary - as basis for customer approval
- Design Development phase: Refinement of conceptual layout into final design; preparation of the highly detailed Design Development drawings (incl. title sheets with architectural legend + drawing index, floor plans with specifications, section drawings) and site specific video and network integration as well as electrical wiring diagrams of Brainlab provided products.
  All layouts/drawings are created with AutoCAD (ready for inclusion in customer identified architect's project documentation), containing color coding and showing the area of responsibility / scope of work of all involved parties.

PROJECT COORDINATION
The assigned PCSP or PCE is responsible for the coordination throughout the whole project. The main project coordination tasks are:

- Coordination of stakeholders (e.g. customer, Brainlab personnel, such as PCSP, PCE, 3rd Party Coordinator, Production Planner, Installation Engineers, Application Consultant as well as third party vendors
- Preparation of a project schedule showing all dependencies for phases, steps, and milestones of Brainlab tasks and deadlines of stakeholder tasks, which are important for executing the Brainlab Scope of Work.
- Continuous on- and off-site supervision of site and work progress related to the Brainlab Scope of Work
- Continuous tracking, adaptation, and communication of the tasks and schedule for Brainlab Scope of Work to the stakeholders throughout the whole project
- Coordination of meetings and responsibility for meeting the agreed milestones of Brainlab, e.g. kick-off meeting, design freeze meeting, site readiness check, system installation acceptance.

INSTALLATION
The installation phase includes the installation of all Brainlab products (hard- and software) by a qualified Installation Technician and includes integration with third party products ordered via Brainlab and/or defined during the Consulting and Planning process with the Brainlab Project Consultant. Furthermore a customer specific service plan (showing information regarding warranty, inspection, and service contact for all components provided by Brainlab, including third party products, if applicable) will be created by Brainlab and handed to the customer during System Installation Acceptance.

BRAINLAB

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31 | 81001-11 | CURVE NAVIGATION SYSTEM INSTALLATION

- Assembly of hardware & computer components (including planning platform if applicable)
- Installation and configuration of Brainlab software
  Verification of completeness, functioning, precision, faultlessness of all soft-and hardware components
- Network integration
- Test & Verification of data transfer
- Set-up / mapping, installation and test of network connection
- Adjustment of TCP/IP settings according to hospital specs
- Adjustment of DICOM specific settings at workstation
- Adjustment of Brainlab specific initialization file for correct directory selection and networking capacity
- Configuration of video streaming

32 | 50780 | FREIGHT, INSURANCE AND FEES