

1.2 Synergy^{ID}™ Imaging System

Combined ultra-high-definition camera system, LED light source, and image management system (documentation system) with near-infrared fluorescence imaging support

- All-in-one housing
 - Lean and therefore space saving
 - Improved system stability due to reduced cabling
 - Better hygiene conditions
- Intuitive tablet user interface

1.2.1 Synergy^{ID} Console (AR-3200-0025)

General Information

- Computer type: camera control unit (CCU)
- Brand: Arthrex Synergy^{ID}
- Operating system: Embedded Linux
- Access authorization:
 - Normal user login for authentication
 - Administrator login for user management and advanced (system) settings
 - Active Directory (AD) authentication
 - Complex password for secure user login
 - "Require Password" feature for normal users (can be enabled/disabled permanently)
- Remote access:
 - Secure management of settings and adding of patient information data by means of a network computer
 - Centralized (web browser, IP-based)
 - Compliant with data privacy standards
- Software updates possible via USB (new features and performance improvements)
- Boot times, based on software version 4.17.5:
 - Console until ready for use (without tablet): approx. 110 sec.
 - Console until camera live image is generated: < 5 sec.
 - System (CCU + tablet) until completely ready for use: approx. 160 sec.
- Measurements: 43.2 cm [W] x 8.9 cm [H] x 34.3 cm [D]
- Weight: approx. 6.8 kg
- Power supply: 100 – 240 V; 50/60 Hz
- Power consumption: 174 W
- Noise level: Startup: approx. 46.5 dB(A); standard operating mode: < 42 dB(A)
- Appliance/protection class: I
- Ingress protection class: IPX0
- Operating temperature: 10 – 23 °C
- EU medical device class according to Medical Device Directive (MDD) 93/42/EEC: IIa
- Notified body: BSI / CE2797
- Manufacturer: Arthrex, Inc. | 1370 Creekside Blvd. | Naples, FL 34108, USA
- Delivery contents: video cables, 1 x power cord

Image Management / Documentation System – General Information

	Resolution	File size	File type	Comment
Photo (HD)	1920 x 1080	1.1 ± 0.3 MB	JPEG	
Photo (4K)	3840 x 2160	3.5 ± 1.0 MB		
Photo (RAW)	1920 x 1080	6.1 MB	RAW	Only via DICOM
Video (standard)	640 x 360	9 ± 2 MB/minute	MP4	Video codec: H.264 MPEG-4 AVC image refresh rate: 30 Hz; Secondary capture video qualities only "standard" and "medium"
Video (medium)	1280 x 720	24 ± 3 MB/minute		
Video (high)	1920 x 1080	44 ± 4 MB/minute		
PDF	corr. photos	≈ photos total	PDF	

- Possibility to annotate photos at the end of case
- ACC (accessory) ports: 2 x 3.5 mm mini stereo jacks, usable as output or input:
 - Input: allow for control of the Camera Control Unit (CCU) with a footswitch
 - Output: allow for controlling external devices using the camera head buttons
- Audio-In: Mini Stereo Connector
- Parallel documentation of two video sources and audio; video recording of 2nd source (DVI input) in qualities „standard“ or „medium“ (cf. table)
- Ethernet connector RJ45 isolated 10/100/1000 MB/s
- Integrated Wi-Fi (Client or Hotspot)
 - Frequency and standard: 2.4 GHz or 5 GHz, 802.11 ac/a/b/g/n
 - Technology: Wireless LAN (IEEE 802.11)
 - Encryption modes: WPA-PSK, WPA2, WPA2-Enterprise
 - Encryption standards: WPA with TKIP, WPA2 with AES
 - WPA2-Enterprise certificates supported: ".p7b" and ".cer"
- 3 x USB 2.0 connectors (1 x front, 2 x back)
- 3 x USB 3.0 connectors (1 x front, 2 x back)
- USB connector for tablet: 1 x
- RS-232 connector, isolated
- Internal storage: 128 GB SSD
- Automatic or manual export: USB, iPad® / iPhone®, File server, PACS (DICOM)
- MFi certified (Apple®)
- Possibility to export to the Synergy Surgeon2 app
- Supported USB formatting: VFAT / FAT32, NTFS, HFS-PLUS / HFS+
- Pre-installed printer driver for Sony UP-DR80MD
- DICOM 3.0, EDP link digitally via Ethernet or Wi-Fi, incl. the following functionalities:
 - DICOM Storage (Send/Receive)
 - DICOM Storage Commitment
 - DICOM Worklist Management
- Fileserver export using Samba protocol SMBv1, SMBv2.0 and SMBv2.1

Network Streaming and Communication Functions

- Password-protected access to camera live stream and captured images
- WebRTC, HTML5-based
- Streaming codec: H.264 with MPEG4 container at 30 Hz
- Streaming quality levels:
 - Standard (640x360 px. at 1 Mbit/s)
 - Medium (896x504 px. at 2,5 Mbit/s)
 - High (1920x1080 px. at 6 Mbit/s)
- Audio streaming
- Remote access via web browser (IP based)