



BiAA Upgrade Instruction



BiAA Introduction

BiAA – Built-in AEC Assistance

With BiAA, AEC exposures can also be performed for non-Bucky imaging, eliminating the need for manual exposure settings and thereby reducing the risk of retakes and extra patient dose.

For Bucky imaging the built-in AEC chamber is still used.

BiAA is available with the following detectors:

- CXDI-420C Wireless
- CXDI-720C Wireless
- CXDI-820C Wireless



BiAA – System Requirements

Basic Requirements for upgrade:

- Arcoma system with Canon Elite detector & Multibox MB-02.
- Canon NE 3.10 SW or later > Shall be upgraded to version according to Arcoma Software Release note
- Latest Arcoma SW (see Arcoma Partner portal) and corresponding / compatible Softwares Canon and CPI.



BiAA Upgrade: Preparation

- 1) Download from ARCOMA Partner portal
 - a) BiAA Upgrade Instruction (this)
 - b) BiAA package (Software, xml-file, text-file)
 - c) System Software for Latest Version Upgrade

2) Collect information from hospital + Update SW → Info > Hospital Visit or by Remote Access

a) Upgrade system with Canon *BuiltInAECAssistance SW* and Generate a Canon License Request File with BiAA option selected.b) Create a copy of the CANONKIT.txt-file.

c) Check CPI generator serial number and System ID.

3) Place an order to Arcoma

Article number: 0073-815-012 Upgrade BiAA We need the following information from you: a) Serial number of the system

b) Serial number and System ID of the generator

c) CANONKIT.txt-file

4) Arcoma will delivery to you:

a) CPI License key b) CANONKIT.lic-file

For you to arrange: Canon License Request File (xx.lrf-file) > Updated Canon license key



BiAA Upgrade: Perform

4) Upgrade the System SW to the latest released version.

5) Perform the BiAA Upgrade **Section** 5) Perform the BiAA Upgrade

- a) CANONKIT.lic-file update (CXDI_NE_Overwrap folder)
- b) Settings in GenConfig (GenConfig)
- c) Generator license key update (Genware)
- d) Receptor Settings (Genware)
- e) Register the Canon license key (Canon Service Tool)
- f) Add and update files in CCS-S-folder:
 - a) DRTSETTING.ini.file
 - b) CanonWarnings and safety check xml files
 - c) BiAA Error Message update

6) Adjust BiAA cut-off dose → Info

7) BiAA settings in Anatomical Protocols
Info



Collect Information for BiAA License Update



Required Information for BiAA License Update

The listed information is required for BiAA License Update. See following pages on how to collect the required information.

- a) Serial number of the system
- b) Serial number and System ID of the generator
- c) CANONKIT.txt-file
- d) Canon License Request File (xx.lrf-file)

Information can be collected via Hospital visit or by Remote Access to the system.



System serial number and Generator Serial Number

SYSTEM SERIAL NUMBER > See labels on the System Cabinet.

GENERATOR SERIAL NUMBER

WARNING! *Read Warnings in System Manual before opening up the System Cabinet.*

- Open the System cabinet covers,
 > Read the Manual!
- Generator Serial Number is found on the right side of the generator.





System ID

Com Menter Dispi Dow Lickey Help About Tube © Fuor Beckup Restre Report X EXIT () AFC 125 😑 kV tor Service Software Dispi About 288 + 3 mA Lic Key Help Downi Monitor Generator License Key Setup System ID / License Key-Apply 0000 0000 1421 383a System ID ---License Key ---Close 0 1 2 3 5 6 7 8 9 4 BACKSPACE Q W E R Τ Y U I 0 P G CLEAR S D F H J K L A Lower Case Letters X V Z C В N M

CONNECTED.

SYSTEM ID

- 1. Open GenWare
- 2. Select LicKey button
- 3. System ID = numbers in the green fields

CANONKIT.TXT-file

CANONKIT.TXT-file

- 1. Go to CXDI_NE_Overwrap folder
- 2. Copy: CANONKIT.TXT-file

	Name	
	ExposureCondition.exe.config	
	ExposureCondition.exe	
	📧 GenConfig.exe	
	GenControlUtils.dll	
	CPITableProtocolCommandDef.dll	
	CPITableProtocolFramework.dll	
	AppMessages.txt	
	CANONKIT.LIC	
	IXdGen.dll	
	Ocean.dll	
1	Utils.dll	
	UtilsCPlus.dll	
Ι.	CPIGeneratorControl.dll	
	CANONKIT.TXT	
	Septrolkit.dll	
	🔮 c 🛛 + Generator	ARCOMA
	🕋 😋 Serial Number & 🛛 📶	
	💽 n System ID 🥏	
	🔊 n	
	L	
	🦲 x	

Canon License Request File

- 1) Install the BuiltInAECAssistance SW
 - a) Start the Setup.exe file
 - b) Select Generator Console Mode as Built-in AEC Configuration
 - c) Follow the steps in the installation tool until finished.
- 2) Open Canon Service Tool.
- 3) Canon Service Tool: **Add-in Settings** / Built-in AEC Assistance > Select *Enable settings of ROI and exposure*.
- 4) Canon Service Tool: **License**. Select *Create License Request Files* and select *Option Software Built-in AEC Assistance* > Confirm.
- 5) A lrf-file is created.



Perform the BiAA Upgrade



BiAA Upgrade: Perform

Upgrade the System SW to the latest released version.

5) Perform the BiAA Upgrade

- a) CANONKIT.lic-file update (CXDI_NE_Overwrap folder)
- b) Settings in GenConfig (GenConfig)
- c) Generator License key update (Genware)
- d) Receptor Settings (Genware)
- e) Register the Canon license key (Canon Service Tool)
- f) Add and update files in CCS-S-folder:
 - a) DRTSETTING.ini.file
 - b) CanonWarnings and safety check xml files
 - c) BiAA Error Message update



CANONKIT.LIC-file update

CANONKIT.lic-file UPDATE

- 1. Go to CXDI_NE_Overwrap
- 2. Exchange the current CANONKIT.LIC file with the new provided file.





GenConfig Settings

GENCONFIG SETTINGS UPDATE

Open GenConfig (CXDI_NE_Overwrap folder) 1.

- Select tab: Licensed Features 2.
- Select 5-Field BiAA 3.

	Generator Control Settings							
CXDI_NE_Overwrap	General Receptors Network Licensed Features							
Name	General							
ExposureCondition.exe.config	5-field AEC	✓ 5-field BiAA						
🔳 GenConfig.exe	Table Interface							
	🗹 Auto Position							
	Tomography							
	Receptor Orientation							
	Stitching							
	Image Preview							
	Collimator							
	Exclude collimator from protocol v							
	Collimator Filter							
	Enable Filter Toggle Button	Filter Names						
		0 No filter						
		1 1,0Al + 0,1Cu						
		2 1,0Al + 0,2Cu						
		3 2,0Al + 0,3Cu						
	Exclude all table parameters from protoco Filter, SID, Detector Angle)	Exclude all table parameters from protocol validation (Auto Position, Receptor Orientation, Collimator, Filter, SID, Detector Angle)						
	Discard unsent table commands when ne	Discard unsent table commands when new protocol is received						
			Exit					



CPI License Key



License Key Update

- 1. Open GenWare
- 2. Select LicKey button
- 3. Enter the provided License Key

CPI License Key

EXIT 😑 kV 3 겁비난 mA Help About Displ Down About GenwareMP Generator Utility Revision Number: 1.15 Power Unit - CMP200DR Revision Number: 2.55 Part Number: 90135000AT Build Number: 016B64361B Engineering Number: 0 SC Revision Number: 111003 Features 1 DAP. 2 Interface Option 27. 3 Flat Panel AEC This Product is subject to license 6,4 Close agreements. R5 R6

CONNECTED.

-

About

License Key Update

- Open GenWare 1.
- Select LicKey button 2.
- 3. Enter the provided License Key
- Check that option 3 Flat Panel AEC is shown 4.

GENWARE, Receptor

AEC Channel = 5 shall be selected when BiAA used.

STANDARD SETUP

- R1: Table ٠
- R2: Table top ٠
- R3: Wall stand ٠
- R4: Wall stand detector, out of Bucky ٠
- **R5:** Free detector ٠

R2, R4 and R5 recommended for BiAA use.

eceptor Setup			~ Onerati
• P1	AEC Settings	tor Detaults Inputs Outputs	
e Ki	AEC Channel:	5	App Refn
• R2			
• R3	AEC Backup mAs:	180	
\varTheta R4	AEC Backup ms:	180	•
	AEC Lock Exposures:	1	* Exit-
- K5			• Cla
• R6	AEC Back-up Mode	mAs	ms
572	→11		

CONNECTED.

CANON LICENSE UPDATE

Canon BiAA License Update

- 1. Open Canon Service Tool
- 2. Canon Service Tool: License. Select *Register license keys* and enter the provided license key.
- 3. Check that option Built-in AEC Assistance is shown as Activated.

Menu selection							×	Set Up Licenses				- 🗆 X	
X-ray Generator and Sensor	X-Ray Generator	Sensor	Grid	AP/LNK	Maintenance Tool			Choose a license option					
DICOM Setting	DICOM DICOM Common Setting		MPPS	Storage	Printer M	tedia output Report		,		Create Licens	se Reque	st Files	
System Setting	Application Setting	User Account Management	Anotation	Log Setting	Add-in Setting			-		Register	license ke	eys	
Utility Setting	Protocol Editor	Protocol Protocol Import and Export	Data Collection	Migration	Image Import and Export	P Leer	💽 Lic	ense Key Activation					<
Input Assist Setting		Magnetic Card	Linkir	ng System	Esternal Image		Т	ype your license key					
	barcode Keader	Reader			Processing System			CXDI Control Software	e NE : MJ	7T17CVS7WS	~		
								Scatter Correction for CXDI Se	eries : Z7/	AZNV349N3K	~		
								Advanced Edge Enhancen	nent: E20		v		
								Built-in AEC Assist	ance: NP	7V7FRX7IWC	· ·		
					🕑 Sat IIa Licence					_		Exit	
					Set Up License	s 🕇							
					Choose a license option Create License Request Files				_				
	Register interior keys												
					Product License Status Expiration Date								
					CXDI Control Software NE (V3.11) Activated								
					Advanced	d Edge Enhancement (V1.1)	Activate	:d					
					Free Rota	tion for CXDI Series (V1.0)	Activate	d					
					Built-in A	EC Assistance (V1.0)	Activate	.a				~	
				l								- 🕼 ARCOMA	

Add and update files in CCS-S folder

Add / Update the follwing files in the CCS-S folder:

- DRTSETTING.ini-file
- UsePixelValueAlertWithBiAA.xml
- UseWifiAlertWithBiAA.xml
- Exchange the following file in the CCS-S/en-US folder: Canon.Medical.DR.Seychelle.Facade.Common.Propert ies.ErrorMasgResources.en-US.resources

Windows (C:)	→ CCS-S	
Name		
B DRTS	SETTING.ini	

Name	^
bga.resources.dll	
Canon.Medical.DI	R.GAIA.Component.CxdiInfoProxy.Properties.ErrorMsgResources.en-US.resources
Canon.Medical.Dl	R.GAIA.Component.CxdiInfoProxy.Properties.UIControlResources.en-US.resources
Canon.Medical.DI	R.GAIA.QC.MessageResource.resources.dll
Canon.Medical.DI	R.GAIA.QC.QCTool.Properties.ErrorMsgResources.en-US.resources
Canon.Medical.DI	R.GAIA.QC.QCTool.Properties.InfoMsgResources.resources
Canon.Medical.Dl	R.GAIA.QC.QCTool.resources.dll
Canon.Medical.Dl	$\label{eq:second} R. Seychelle. Component. Cruise GCOM Converter. GCOM Overwrap. Properties. Error MsgResources. en-US. resources and the second se$
Canon.Medical.DI	$\label{eq:second} R. Seychelle. Component. Cruise GCOM Converter. GCOM Overwrap. Properties. UI Control Resources. en-US. resources and the second $
Canon.Medical.Dl	R.Seychelle.Facade.Common.Properties.ErrorMsqResources.en-US - Copy.resources
Canon.Medical.Dl	R.Seychelle.Facade.Common.Properties.ErrorMsgResources.en-US.resources
CCS resources dll	



BiAA Settings & Protocol



Canon APR Editor: BiAA settings

Anatomical Protocols are defined in the Canon APR Editor.

Settings requied to use BiAA in a protocol:

- Technique: AEC ٠
- ms = Used as Backup value ٠
- Detector AEC Assist: YES •

Adjustable protocol settings related to BiAA:

- Active Detector AEC •
- DRT Denstity ٠
- **Detector Rotation** ٠

See next page for more information.

	Parame	eters Configuration						
		NAME	Very Small	Small	Medium	Large	T	
	⊳	Rad kV	40	40	95	40		
Used as		Rad mA	320.0	250.0	320.0	320.0	1	
Backup value	-	ms	16.0	16.0	16.0	16.0	Ì	
		mAs	5.1	4.0	5.1	5.1	ľ	
Technique: AEC ——		Technique	AEC	AEC	AEC	AEC		
		Film	Film Screen 1	Film Screen 1	Film Screen 1	Film Screen 1	Ī	
		Focus	LARGE	LARGE	LARGE	LARGE		
		Left Field	NO	NO	NO	NO		
		Center Field	NO	NO	NO	NO		
		Right Field	NO	NO	NO	NO	1	
			Receptor	4	4	4	4	
		Density	0	0	0	0		
				1.000 C	and the second se		1	
Now paramotors		Detector AEC Assist	YES	YES	YES	YES	Γ	
		Active Detector AEC	Α	A	Α	A		
related to BIAA		DRT Density	0	0	0	0	1	

0 degree

Detector Rotation



0 degree

0 degree

0 degree

BiAA – Protocol Setup

Parameters^{*)} related to BiAA in Anatomical Protocol:



Manual/0 degree or Auto Rotation link



ROI...

*) Note that there are also other parameters related to BiAA in the standard, recommendation to hide these parameters with the support of the Configuration tab settings.



Define AEC cut-off dose

Check the BiAA cut-off dose:

- 1) Select a BiAA protocol and activate the center chamber (C).
- 2) Position the X-ray tube above the detector (SID 115 cm) and adjust the collimator light to cover the detector area.
- 3) Make an exposure with the following parameters - RQA5: 70 kV, 21 mmAl added filtration
- 4) Note the EI value received (shown in Canon, exposed image). *Example of EI-values:*
 - EI : $200 = 2 \mu Gy$ cut-off dose EI : $180 = 1.8 \mu Gy$ cut-off dose

EI=100 x Base / Sfpd, Sfpd = 678 LSB/µGy at RQA5

Adjust the BiAA cut-off dose:

- 1) Open the drtsetting.ini-file in the Canon CCS folder.
- 2) Adjust the Base value until correct cut-off dose received.

Base = $1350 > EI = 200 > cut-off dose ~2\mu Gy$ Base = $2115 > EI ~ 312 > cut-off dose ~>3\mu Gy$



THANK YOU

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