

Digital Angiography System

Trinias series



Introduction of Advance Pack3

Contents of Advance Pack 3

S/W version up

This package updates your system to the latest S / W version. Newly added functions support your interventional treatment further effectively.

<New features>

- ◆ Improvement of image quality in fluoroscopy and DA for cardiology

<New features which requires additional option

“Upgrade software for SCORE 3D-WS” >

- ◆ Improvement of image quality of SCORE CT/CT-HR
- ◆ New functions on SCORE 3D Workstation

<Included in Advanced Pack 2>

- ◆ Dose Report as DICOM image
- ◆ Vessel Power added on DSA Tool

<Included in Advanced Pack 1>

- ◆ Full size display for SCORE StentView
- ◆ Flex-APS (Active Pixel Shift)
- ◆ Newly designed Graphic User Interface and Icon
- ◆ Dose Report as DICOM image
- ◆ Vessel Power added on DSA Tool

New features

◆ Improvement of image quality in fluoroscopy and DA for cardiology

<Fluoroscopy for Cardiology>

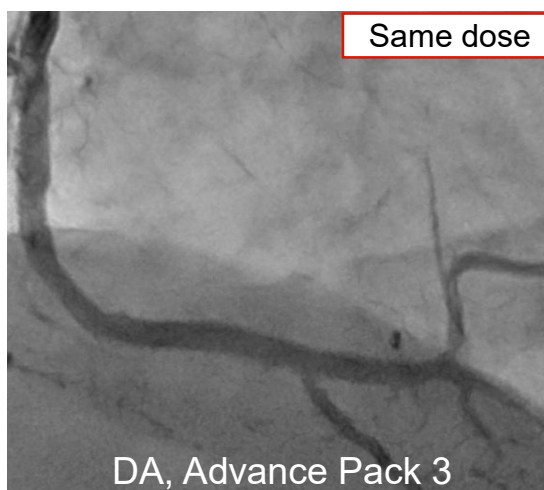
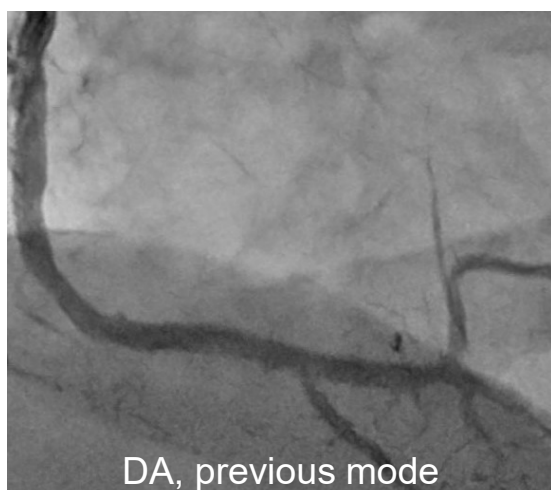
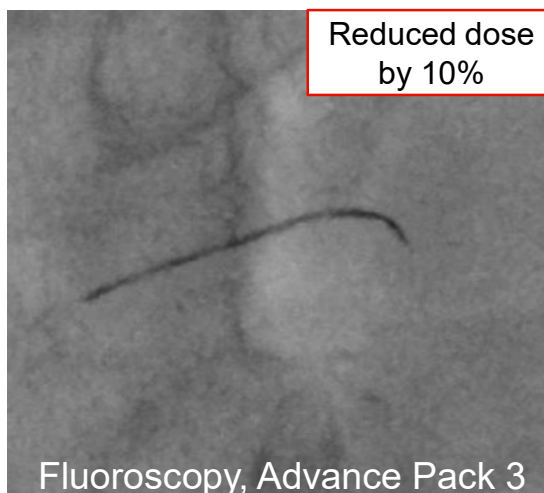
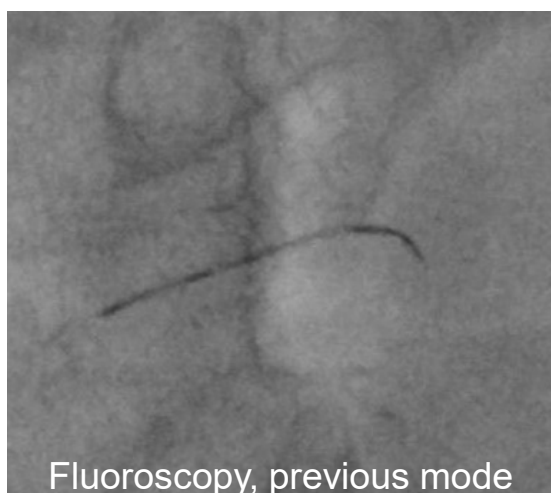
- Motion blur is reduced by shortening the pulse width by 30%
- Dose ratios of “Normal” and “Low” fluoroscopy mode are reduced by 10%.
- In spite of dose reduction, “Normal” fluoroscopy mode keeps same CNR, and “Low” fluoroscopy mode improved its CNR by 10%.
- As a result, visibility of tiny devices is improved in fluoroscopy. (e.g. empty 4Fr catheter, tip of fast-moving guidewire)

<DA for Cardiology>

- Dose ratio is as same as that of the previous version.
- Noise in the background is reduced and visibility of vessels are improved by modified parameters of image processing.

<Other modes>

- There are no changes in DSA, SCORE RSM and fluoroscopy for neurology, oncology and EVT.



New features

◆ SCORE 3D Workstation

< Improvement of image quality of SCORE CT >

- Visibility of body tissue is improved by better flatness in SCORE CT for oncology.
- Visibility of stent strut is improved in SCORE CT-HR for neurology.

<New functions>

- Rendering speed becomes faster during image operation with volume rendering.
- It can be indicated if displayed angle in 3D data is available or not by the actual C-arm.

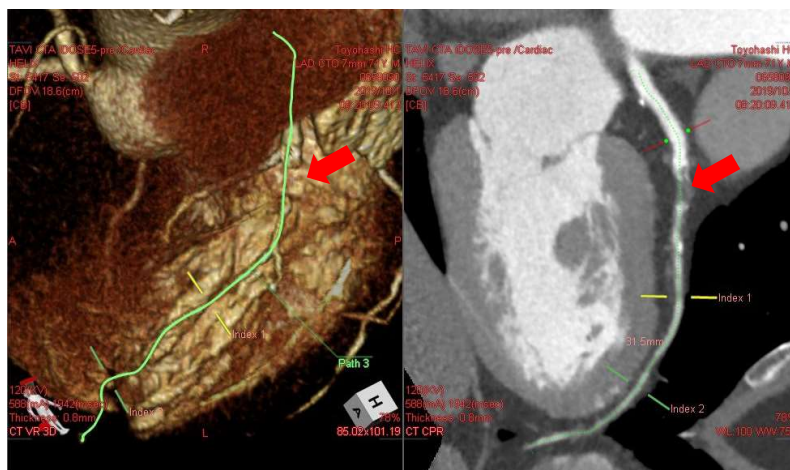


Available



Not available

- Vessel tracking can work even through CTO region.

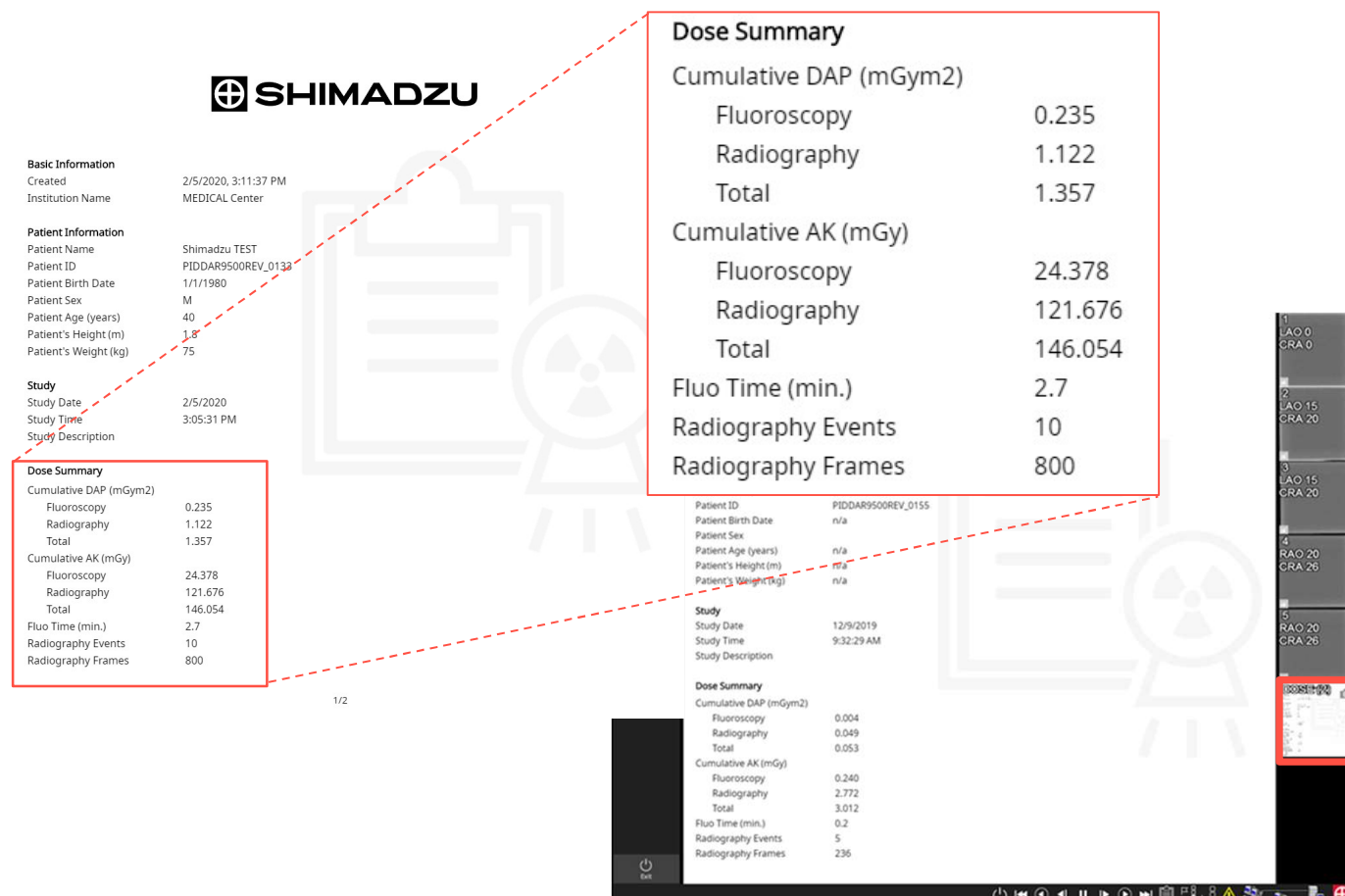


- Working angle can be transferred during 3D Roadmap
- Q/R of MR / Enhanced MR / Enhanced CT is available.
- Functions can be run by the shortcut keys.
- 2D/3D registration is available with MPR layout.
- Patient information can be hidden.

Features taken over from Advance Pack 2

◆ Dose Report as DICOM image

- After the study, a dose report image is automatically created, which are saved as DICOM images and allowing output to network servers.



SHIMADZU

Basic Information
 Created: 2/5/2020, 3:11:37 PM
 Institution Name: MEDICAL Center

Patient Information
 Patient Name: Shimadzu TEST
 Patient ID: PIDDAR9500REV_0133
 Patient Birth Date: 1/1/1980
 Patient Sex: M
 Patient Age (years): 40
 Patient's Height (m): 1.8
 Patient's Weight (kg): 75

Study
 Study Date: 2/5/2020
 Study Time: 3:05:31 PM
 Study Description:

Dose Summary
 Cumulative DAP (mGym2)
 Fluoroscopy: 0.235
 Radiography: 1.122
 Total: 1.357
 Cumulative AK (mGy)
 Fluoroscopy: 24.378
 Radiography: 121.676
 Total: 146.054
 Fluo Time (min.): 2.7
 Radiography Events: 10
 Radiography Frames: 800

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Dose Summary
 Cumulative DAP (mGym2)
 Fluoroscopy: 0.004
 Radiography: 0.049
 Total: 0.053
 Cumulative AK (mGy)
 Fluoroscopy: 0.240
 Radiography: 2.772
 Total: 3.012
 Fluo Time (min.): 0.2
 Radiography Events: 5
 Radiography Frames: 236

Study
 Patient ID: PIDDAR9500REV_0155
 Patient Birth Date: n/a
 Patient Sex: n/a
 Patient Age (years): n/a
 Patient's Height (m): n/a
 Patient's Weight (kg): n/a
 Study Date: 12/9/2019
 Study Time: 9:32:29 AM
 Study Description:

Dose Summary
 Cumulative DAP (mGym2)
 Fluoroscopy: 0.004
 Radiography: 0.049
 Total: 0.053
 Cumulative AK (mGy)
 Fluoroscopy: 0.240
 Radiography: 2.772
 Total: 3.012
 Fluo Time (min.): 0.2
 Radiography Events: 5
 Radiography Frames: 236

Reference monitor

Display Pulsed Fluoroscopy Information as Continuous Fluoroscopy: ON

Acq. Frames	Time	DUP	DAP (mGym2)	AK (mGy)	Plane	LAO/RAO	CAN/CMAN	KV	mA	ms	SD	Calculated Field Area	Pulse Rate	Exposure Time (s)	Exposure Duration (s)	
1	63	15:06:17	Fluoro_Cardio_7.5sps/Low	0.015	0.506	Single Plane	LAO 0	CMAN 0	70	4.4	133.333	1061	0.006	7.5	3625	6.425
2	72	15:06:27	Fluoro_Cardio_7.5sps/Low	0.013	0.920	Single Plane	LAO 0	CMAN 0	80	6.3	133.333	1061	0.000	7.5	10725	10.125
3	92	15:06:43	Fluoro_Cardio_7.5sps/Low	0.011	1.233	Single Plane	LAO 45	CMAN 0	70	5.2	133.333	1060	0.000	7.5	12547	12.147
4	65	15:06:57	Fluoro_Cardio_7.5sps/Low	0.008	0.779	Single Plane	LAO 45	CMAN 0	70	5.2	133.333	1060	0.000	7.5	3647	3.447
5	68	15:07:10	Fluoro_Cardio_7.5sps/Low	0.013	1.621	Single Plane	RAO 30	CAUD 30	83	8.9	133.333	1062	0.000	7.5	6912	6.512

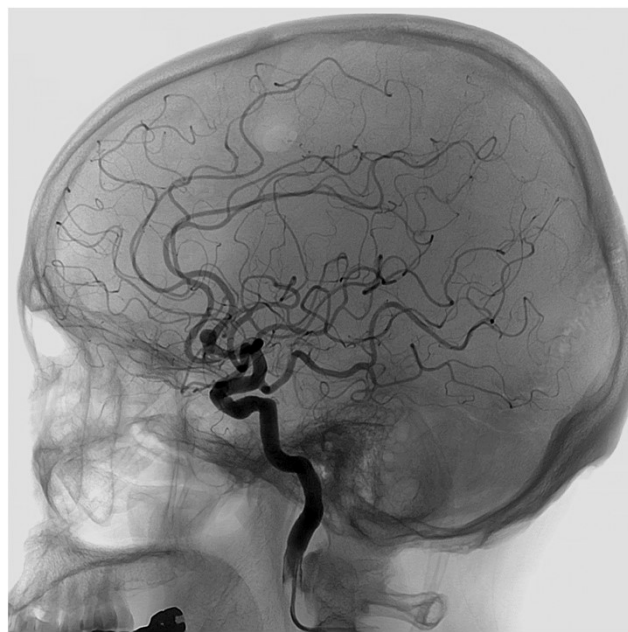
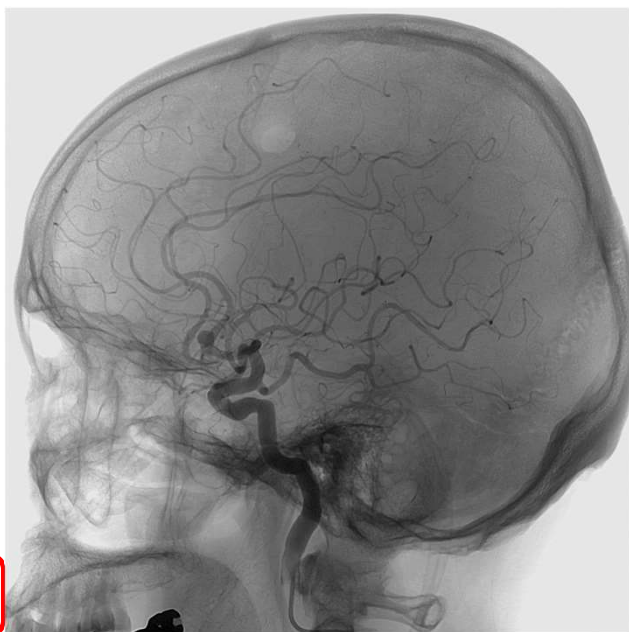
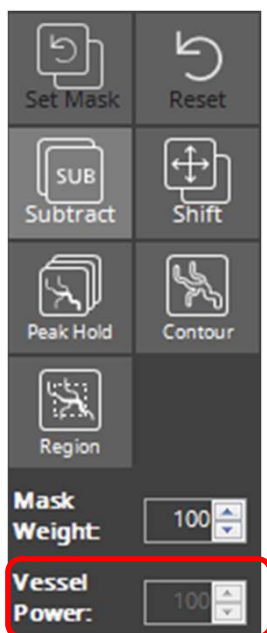
Display Pulsed Fluoroscopy Information as Continuous Fluoroscopy: ON

Acq. Frames	Time	DUP	DAP (mGym2)	AK (mGy)	Plane	LAO/RAO	
1	63	15:06:17	Fluoro_Cardio_7.5sps/Low	0.015	0.506	Single Plane	LAO 0
2	72	15:06:27	Fluoro_Cardio_7.5sps/Low	0.013	0.920	Single Plane	LAO 0
3	92	15:06:43	Fluoro_Cardio_7.5sps/Low	0.011	1.233	Single Plane	LAO 45
4	65	15:06:57	Fluoro_Cardio_7.5sps/Low	0.008	0.779	Single Plane	LAO 45
5	68	15:07:10	Fluoro_Cardio_7.5sps/Low	0.013	1.621	Single Plane	RAO 30

Features taken over from Advance Pack 2

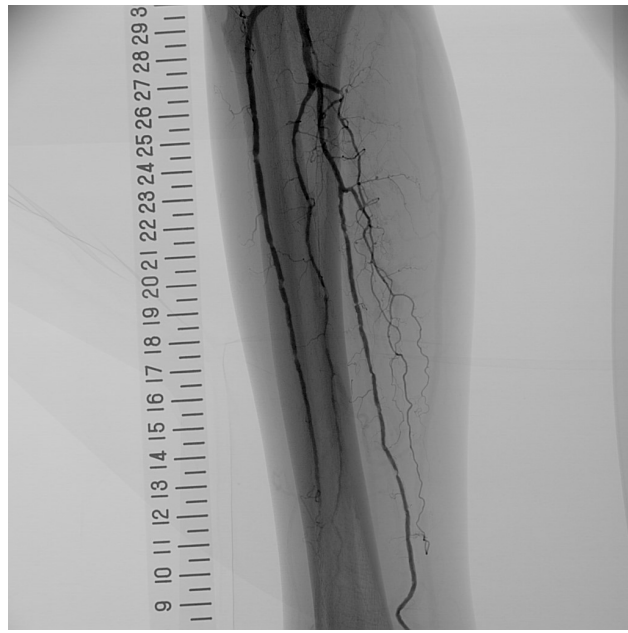
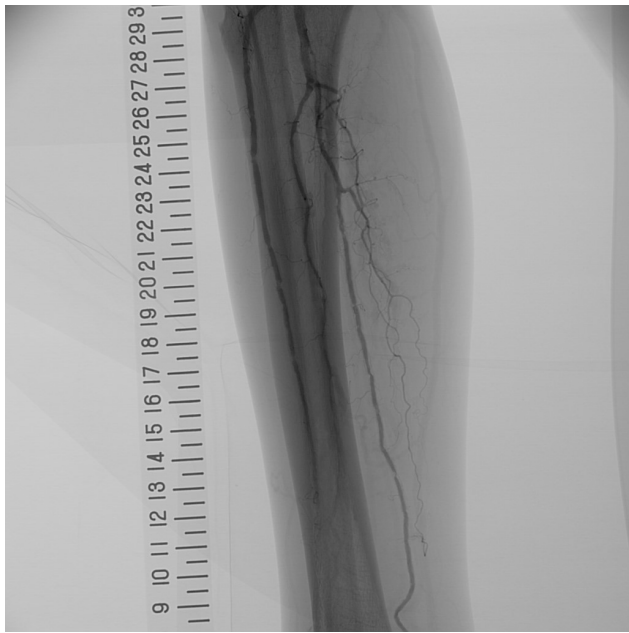
◆ Vessel Power added on DSA Tool

- The contrast of blood vessel image can be adjusted by using the DSA tool. (0~1000)



Original DA

Vessel Power Stronger



Features taken over from Advance Pack 2

◆ Change of performing physician setting in the middle of a study

- Function of SMART Touch and Function keys are changed regarding to physician setting.

◆ Direct entry of age is available at the time of study information entry

- 0 - 107 years old can be entered.



The screenshot shows a dark-themed interface for entering birth information. At the top, it says "Date of Birth" followed by a checkbox labeled "Unknown". Below this, there are four input fields: "Month", "Day", "Year", and "Age". The "Month" field contains "05", the "Day" field contains "05", the "Year" field contains "1940", and the "Age" field contains "79".

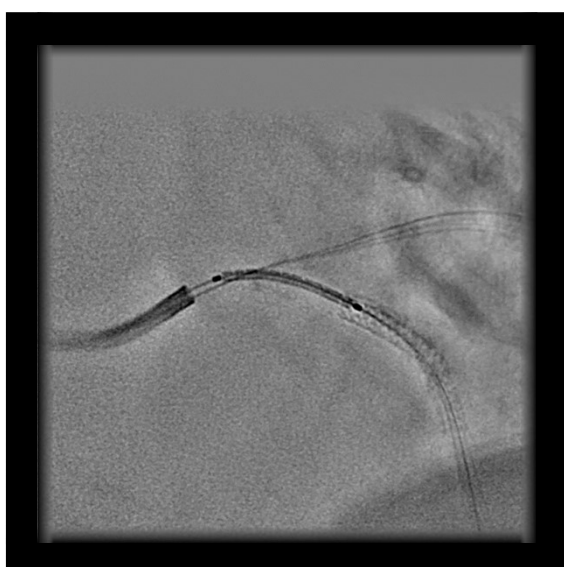
◆ Display of gender and age during study becomes available

◆ Region Rendering Quality of Contour Enhancement becomes available for each physician setting

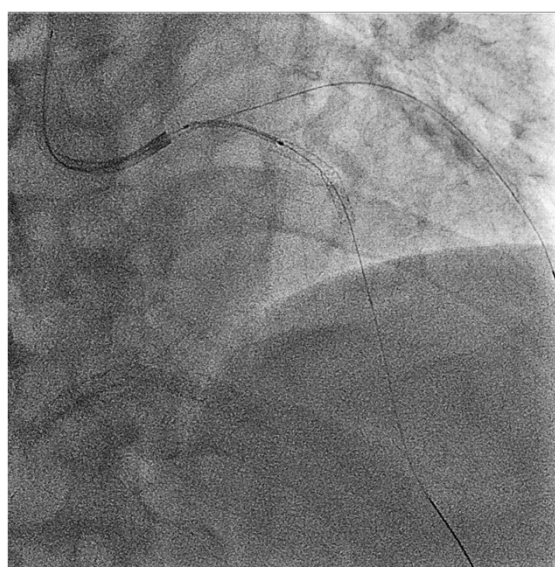
Features taken over from Advance Pack 1

◆ Full size display for SCORE StentView*

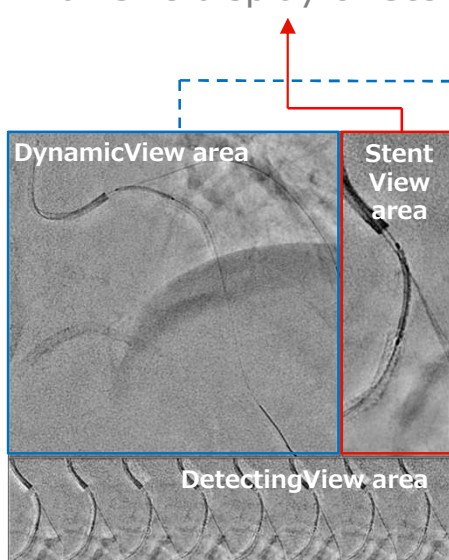
- Maintains the clinical orientation of the stent and displays the StentView area in full screen.
- During SCORE StentView, the original image (the entire image to which X-rays have been exposed) is displayed on the reference monitor.



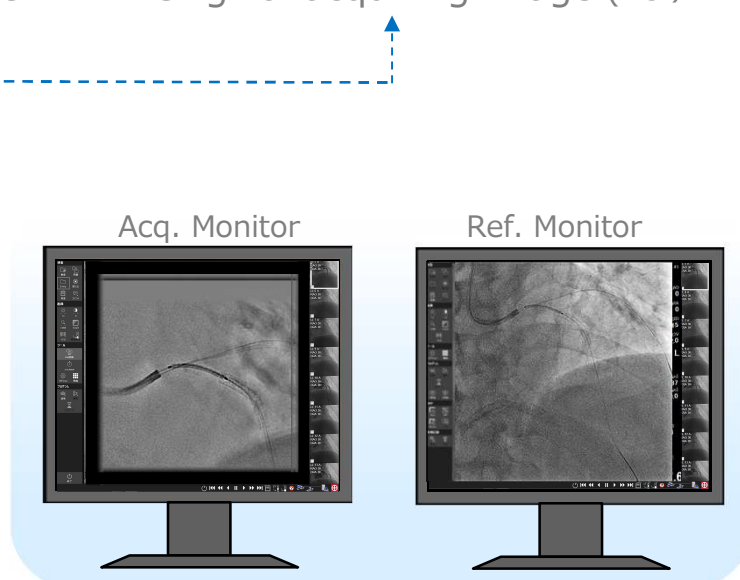
Full size display of StentView



Original acquiring image (Ref)



Conventional Display
Split type



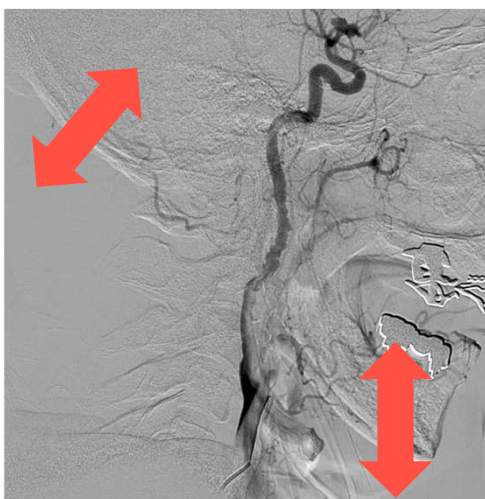
Display during SCORE StentView

Acquisition Monitor : Full size display of StentView
Reference Monitor : Original acquiring image

Features taken over from Advance Pack 1

◆ Flex-APS (Active Pixel Shift)

- Automatically adjusts misregistration between LIVE and MASK in DSA imaging. For the head and lower limb area during DSA imaging.
- Since adjustment is performed for each pixel, it is possible to respond to movement in the twist direction.



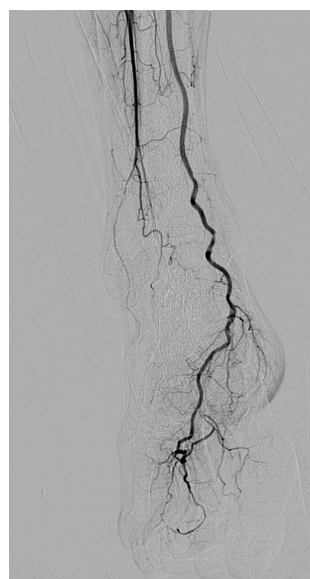
Conventional method



Flex-APS



Conventional method

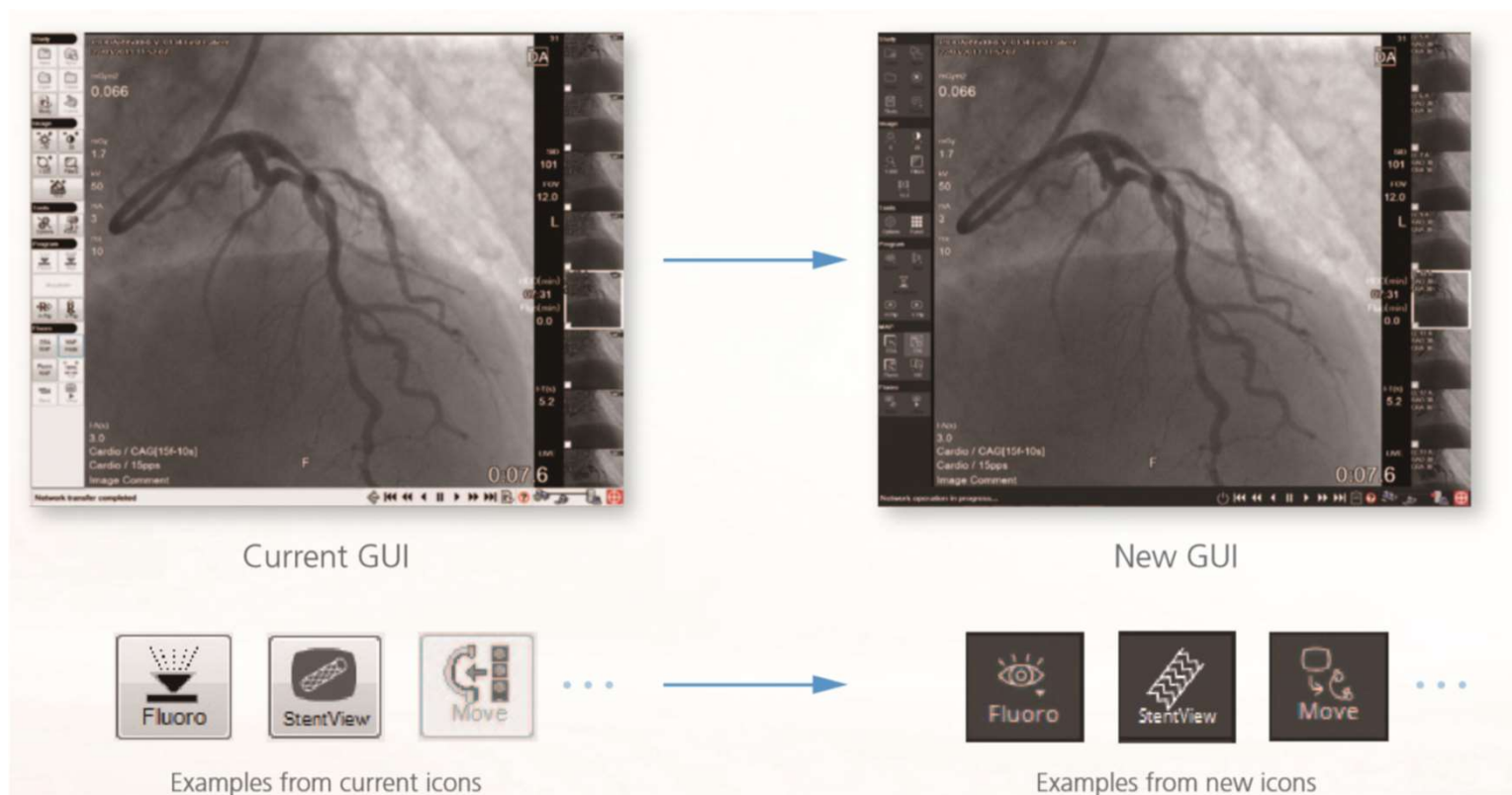


Flex-APS

Features taken over from Advance Pack 1

◆ Newly designed Graphic User Interface

- The new GUI with black and gray design provides a stress-free, smooth operating environment. Also, the intuitive icons are adopted thanks to opinions by experts.



◆ [Fluoro Alarm] stop supported by Shortcut Key

- It becomes possible to register [Fluoro Alarm] stop by setting IVR NEO and keyboard Shortcuts. Only Shimadzu or specified service representatives can change the settings. ◦



◆ Checkbox for H, V Flip in [New Study] window

- Newly added checkbox is useful, when you start the study to set H, V Flips depending on patient positions.



[New Study] window in the bottom