Flat panel based digital C-arms

Incorporating modern and up-to-date technology provides numerous advantages in clinical practice and efficiently provides patients with high-quality care and treatment. In hospitals and emergency rooms, technological advancement is of the utmost importance. Flat panel based digital (FPD) C-arms are a prime example of cutting-edge technology. C-arm technology has undergone continuous development since its introduction. The most recent technological trend is the migration from image intensifier-based analog technology to flat panel detector-based digital technology.

Digital flat panel-based C-arms offer patients enhanced, safer, and more precise results.

Advantages of switching to FPD C-arms

Radiation dose is crucial for patient safety. Image intensifiers and flat panel detectors have different radiation dose parameters. Every medical imaging test is intended to yield optimal results while exposing the patient to the lowest possible dose of radiation. FPD technology emits less radiation compared to traditional image intensifier technology. If the image intensifiers unit's zoom level is raised to zoom 3, the radiation dose must be raised by five terms compared to the normal field mode. On a flat panel, the same magnification will result in a smaller radiation frontage.

"Trivitron Healthcare's Digital C-arms with flat panel technology provide exceptional imaging performance. An innovative and user-friendly surgical C-arm system significantly improves the precision, throughput, imaging precision, and quality of surgical techniques. This range of advanced C-arms supports intraoperative imaging applications in orthopedics, trauma surgery, urology, pain management, and peripheral vascular surgery. Trivitron Infinity Series Digital C-arms feature a 3.5 KW stationary anode, while the Elite series features a 5KW rotating anode. These C-arms feature sophisticated software with digital subtraction angiography (DSA) and road-mapping capabilities, as well as the option of a dual-panel or wide-screen single-panel display with touch capabilities. Vascular diagnostics use digital subtraction angiography. It is extraordinarily effective for locating blockages or aneurysms in arteries or veins. These C-arms are also featured with low-dose fluoroscopy mode making them ideal for hybrid operating rooms. It is integrated with tools like PACS and HIS RIS in order to increase data accessibility."

Navjot Singh
President–Medical Imaging,
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Magnification modes. In a FPD C-arm, magnification has zero effect on the scale. However, in order to achieve a more detailed image, the field of view is decreased with each magnification step in an image intensifier.

Concise and area-efficient. An FPD C-arm is more compact than an image intensifier as it conserves space. They occupy less space in the operating room, allowing more room for the medical team, and will allow the healthcare professional to maintain precise control when managing complicated cases that require precise moves and measurements.

Excellent image resolution and quality. The FPD C-arm provides a higher image resolution than the image intensifier. They produce high-quality, clear images that are devoid of geometrical distortion and have a higher grayscale resolution, which enables precise visibility of various anatomical structures. It is worth noting that resolution varies from model to model, but FPD C-arms are capable of producing digital images of higher quality and consistency overall.

Advanced and upgraded image intensifiers have been on the market for over 50 years, but their underlying technology is becoming obsolete. A flat panel detector is the most recent and innovative technology for improved results.

Since 1997, the journey of Trivitron Healthcare as a medical technology company providing affordable healthcare solutions weaves a fascinating thread of inspiration to many healthcare providers. Trivitron markets its products to hospitals, individual healthcare providers, independent clinics and laboratories, extended care facilities, renal care centers, and all other roofs providing healthcare solutions. As a pioneer in the field, Trivitron constantly pursues technological innovations to offer superior clinical benefits at a lower cost. At Trivitron, quality healthcare is considered as a fundamental right and the vision is to make it available for the people of all classes. Having a solid expertise in research and development, the company manufactures and distributes exceptional medical technology products to 180 countries.