



THE
IMAGING
SOLUTIONS COMPANY®

X-Ray Buyer's Guide



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Introduction

Choosing the best x-ray equipment can be a challenge with so many choices. There are different features, brands and options that can make the purchase process complex. This guide is designed to help a prospective buyer gather and evaluate all the information needed to make the best purchase decisions.

Working with a distributor, like MXR Imaging, that specializes in medical imaging solutions, can help sift through all these options and match a customer's requirements to the best digital radiography equipment on the market for your applications and budget. But first, use this guide to organize your x-ray product search.



➔ Step 1

Collect Your Data

The first step is to do an inventory of considerations that will ultimately help drive your decision process. Use this checklist as a starting point:

Understand Your Space Constraints. What footprint is available to support this x-ray system? You'll want ample room for both procedures, supplies and administration. Will you need storage and charging space if this is a mobile unit? Ultimately, we'll want to match your footprint to the product's.

Research Any Power Constraints. x-ray equipment can use a lot of power and it's important to understand any limitations within the facility. High-power digital x-ray systems can generate enough heat to warm the room and impact the ventilation and cooling requirements.

Build a Procedure Forecast. Before proceeding to the next step, you'll want to anticipate your clinical needs and build a forecast that anticipates the demand for specific types and quantity of radiographic procedures. Factor in any procedures that you may outsource today but want to bring in house with the new equipment. While all x-ray machines will do the basics, specific procedures may end up narrowing your list of purchase options. For facilities with other x-ray equipment, you will want to isolate the forecast to this one machine you plan to purchase so you can balance the cost against the return.

X-Ray Equipment Return on Investment. Your x-ray equipment represents a considerable investment. The total cost of ownership involves more than the price of equipment, there might be shielding or other site preparation costs, and the cost of service and support. Include any lost revenue due to downtime you anticipate in your cost calculation. On the return side of the equation, research the average reimbursement rate for every procedure before multiplying that against your procedure forecast. Building a detailed ROI is an important part of what you'll want to do with a medical imaging distributor before making an x-ray purchase.

Before moving to Step 2, it's worth taking a second look at your procedure forecast and understand what's a requirement versus just an option. You may face some trade-off decisions downstream and some prioritization may prove useful. The last thing you will want is to purchase too little or too much machine for your organization.

➔ Step 2

Review X-Ray Technology

Today's digital x-ray technology is reasonably stable. While new features come out all the time, they tend to offer incremental improvements like better image quality, a more efficient workflow and the ability to support a wider range of procedures. This section will help you narrow your search by organizing the hundreds of options available to you.

The x-ray market looks much different than when MXR Imaging was founded in the late 1950s. x-ray technology was a messy film and chemical intensive process back then, but as we entered the 21st century, the filmless, or digital x-rays, quickly displaced the old technology.



Digital X-Ray Considerations

DDR Panel. Digital Radiography or DR Panels are the digital equivalent of today's film. When paired with an x-ray tube the DR panel digitally captures images as the radiation passes through the body. DR panels come in different sizes, resolutions and use different materials. The sensitivity of a DR panel is a key safety factor where high-sensitivity panels require a lower dose of radiation without sacrificing image quality. Most DR panels today include some glass which adds weight and means that this extensively handled component can be vulnerable to damage. The cost to replace a DR panel can be significant and it's worth understanding what a realistic life-expectancy will be.

Fixed vs. Portable vs. Mobile. Fixed systems offer the most procedural flexibility. Within a fixed system there are floor, wall and ceiling mounted options. Each brings slightly different advantages and disadvantages. If you have the space and the patient diagnostic demand to support it, a fixed system offers maximum flexibility. Portable and Mobile x-rays are a practical solution for any organization without space for a fixed machine. A portable unit is flexible enough to go in a car and be carried while a mobile unit is designed to be wheeled from one room to another within the facility. Also check your state's laws regarding x-ray systems. Some states don't allow portable or mobile x-rays in ambulatory healthcare facilities.

Fixed X-Ray Options: Traditional X-Ray, Straight Arm X-Ray vs. U-Arm X-Ray. Deciding on the shape or configuration of the x-ray arm that holds the DR panel opposite the x-ray tube is driven by the type of procedures you perform. While straight-arms are typically the least expensive and support everything from chiropractors, veterinarians and most clinical x-ray requirements, the U-Arm is typically viewed as the most flexible option able to perform a much wider range of procedures. One of the advantages of a U-Arm or Straight Arm is that the DR panel remains in the arm and thus there is no risk of dropping. With a traditional x-ray, the DR panel can be moved from table to wall stand.

Scan Time, Ease of Use & Software. Your x-ray purchase has to consider more than just delivering a solid high-quality image. The time required to cycle through an x-ray procedure is a key factor of both the costs and return sides of the ROI equation. An x-ray system with easy maneuverability, fast scan times, quick previews, smart software, and automation tools, for example, will allow you to run more patients through your system every hour while balancing efficiency with efficacy.

Step 3

Review Advanced Technology

While Step 2 focuses on the technology common across most of today's digital x-ray systems, there are other features that may be crucial for some operations. Here are a few examples:

DDR. Dynamic Digital Radiography gives the ability to animate an x-ray. DDR captures a series of rapid low dose x-ray images to show movement in a video loop. This can be critical in orthopedics, gastrointestinal and other procedures where a static image might not be enough.

Fluoroscopy. Fluoroscopy x-rays provide real-time imaging and play an important role in today's minimally invasive procedures where a needle, catheter or stent need to be delivered to precise locations in the body.

Step 4

Build your Procurement Team

Contact Us



MXR Imaging, Inc. is the nation's largest independent provider of diagnostic imaging equipment, service, & support. Since 1956, our privately-owned history has been dedicated to becoming the industry's most dependable, single-source solution, simplifying the complex imaging lifecycle for our customers. We offer comprehensive services that rival OEMs, backed by our promise of being honest and simple.



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