Specifications

AMX-4 Plus

and

Signature Series© AMX-4 Plus

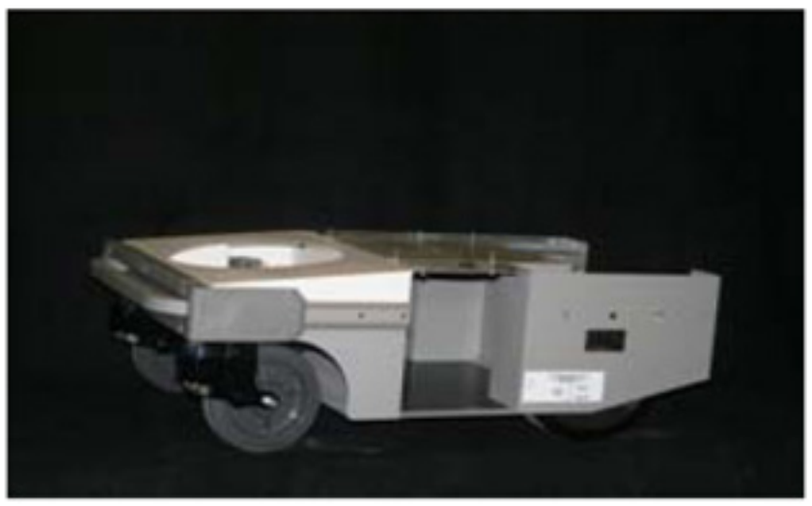
Application

The AMX-4+ X-ray unit is a completely self contained battery driven, mobile radiographic system which operates from a rechargeable battery pack. Mobility and ease of use make the AMX-4+ ideally suited for all routine radiographic procedures, within intensive care units, emergency and operating rooms, pediatrics, neonatal units, orthopedics, and clinics.

Features

Maneuverability

- Independent rear wheel drive servo-controlled motors enable the system to turn within its own radius.



Base Assembly

- Single drive handle control (with "deadman" brake and drive lock) functions ergonomically with drive motors to permit superior maneuverability. Drives respond to force applied to handle in both forward and reverse.

- Top speed of 4.8 kph (3 mph) in forward and reverse.

- Speed totally variable in both reverse and forward.

- Top speed is limited to 2.4 kph (1.5 mph) if tube is not in transport

- Large front casters (20.3cm / 8 in.) for easier crossing of thresholds (e.g. elevator), expansion joints.

- Narrow base of unit measures 60.2 cm (29.7 in.) wide at midpoint.

- Capable of climbing an incline of 5°.

Operator Ease of Use

- Unique column rotation in clockwise or counterclockwise direction from the park position significantly increases setup speed by eliminating the need to reposition the patient or the system. The column may be rotated up to ±270° from the park position to handle the most demanding imaging cases in tight spaces. A positive centering detent is also provided to further simply the tube parking process.

Column Assembly

- Handle grips on both sides of collimator for single-hand positioning of tube. Lock release buttons which activate all lock releases simultaneously at the back of the handles.

- Fully counterbalanced collimator/tube assembly, with the center of gravity at points of rotation, so tube stays positioned through light friction locks without the need for adjustable locks. Detents at ±90° for both axes.

- Ergonomic handswitch controls prep/expose and the collimator light. The handswitch is molded from a light-weight, impact-resistant plastic.

- Compact manual collimator with built-in SID button-on collimator face. Skin spacer is provided to meet BRH requirements of 30cm focal spot to skin minimum distance. Rotary knobs adjust field size with calibrations at 100 cm and 180 cm (40 in. and 72 in.)

- Electromechanical friction locks for column rotation, arm elevation and arm extension movements. Locks are released with a single switch on collimator.

- Integrated front bumper stops unit and activates brakes when hit. Sides of bumper slide into unit to prevent catching on objects such as cords, poles, etc.

- Two position ON/OFF key switch with removable key in the OFF position.

- Touch panel or handswitch activated technique selection; two point (kVp and mAs) control.

- Digital readout of kVp and mAs in two locations:
  -Angle of Top cover--1.9 cm (3/4 in.), always on when ready for exposure.
  -Message display--0.95 cm (3/8 in.), when making selection.

- Forty-eight segment bar graph indicates battery charge status (i.e., power remaining). Message center displays "RECHARGE RECOMMENDED"

position.
power remaining, exposure is inhibited, but will drive before all power is cut off. Message display will read "RECHARGE IMMEDIATELY X-RAY INHIBITED."

- All displays are blue vacuum fluorescent; readable in high ambient light such as surgical suites.

- Positive tube arm extension lock for transport position prevents tube from sliding out during transport.

- large 30.5 cm (12 in.) drive wheels within protective enclosures will not mark walls.

- Side molding extends the entire length of cabinet.

- Collimator field light can be activated from collimator or handswitch. Operates until rotor is prepped. On time is programmable between 5 - 45 seconds.

- Audible tone and light on control panel indicates X-RAY ON.

- Apron hanger on column.

- Cassette storage of ten (10) 35 cm x 43 cm cassettes.

- Storage tray on top cover holds pens, lead markers and tape.

Generator Performance/Tube

- 0.75 mm focal spot (NEMA); 3 inch rotating anode; GE X-ray tube model HRT09.

- 275,000 HU anode heat storage capacity.

- 15º target angle.

- Low-speed (3000 rpm) operation only

(see Product Data Sheet D1046).

- 43 cm x 43 cm coverage at 100 cm SID (17 in. x 17 in. coverage at 40 inch SID).

- Generator is closed loop kVp design using microprocessor regulation to assure constant and accurate kVp at all battery conditions.

- mAs integrator measures, actual mA to insure accuracy, reproducibility and station-to-station linearity of all exposures.

- Efficient medium frequency mobile generator operates at 1,000 Hz and provides exceptional battery power utilization.

- All units capable of 110 or 220 V nominal 50 or 60 Hz charger operation.

Batteries

- Batteries are sealed lead -acid requiring no maintenance over normal expected life or five years. Batteries are "minimal liquid," film electrolyze technology that will not leak, even if damaged.

- All units capable of 110 or 220 V nominal, 50 or 60 Hz charger operation; requiring no extra parts except wall plug.

- 20,000 mAs usable battery power storage.

- Automatic battery voltage sensor protects batteries from deep-discharge and thereby prevents permanent battery damage.

Reliability, Durability and Serviceability

- Modular electrical chassis design for ease of service.

at 10% power remaining. At 0% side covers for servicing.

AMX-4 Plus

- Digital microprocessor control with service diagnostic software includes self-check program, initiated at start-up.

- Calibration software reduces installation time and time to repair.

- Message readout displays self-diagnosed errors on top panel.

- High reliability dome switches for technique selection (mAs, kVp).

- Heavy duty welded steel mechanical chassis for extended life

- Tube column support includes integrated wear strips and high strength column base casting with oversized bearings for improved durability.

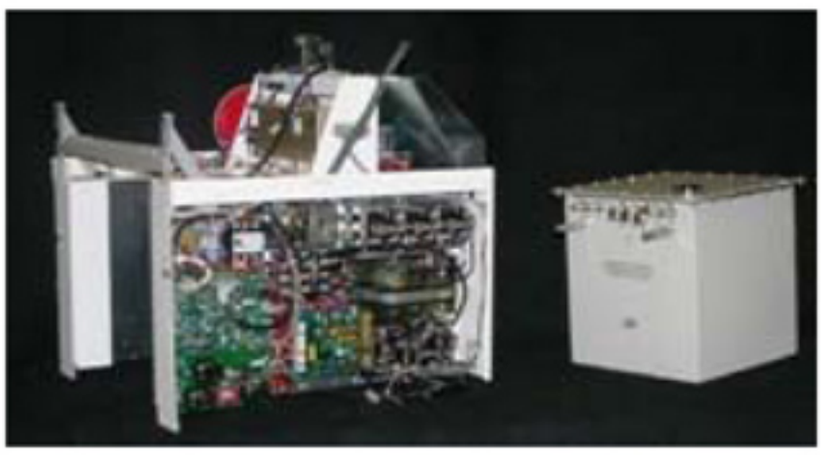
- Tube arm latch supports arm in all three dimensions for safety and stress relief of column while transporting units over floor imperfections such as elevator thresholds or hall expansion joints.

- Motor drives are belt driven using advanced high technology belts for long-life operation. Belt mounting facilitates easy removal/installation.

Specifications

AMX-4 Plus Unit Consists Of:

- Control, Microprocessor
- High-Tension Transformer



Transformer and Electronics Package

- High-Voltage Cables
- Rotating Anode X-ray Tube
- Collimator
- Base and Cabinet
- Tube Stand
- Motor Drive
- Batteries
- Battery Charging System
- Operational and Diagnostic Software

Technical Control

- kVp: 50 to 76 in 2 kVp steps
  80 to 125 in 5 kVp steps
- Tube Height In (transport look over):
- mAs:

kVp Range	mAs
50-90	0.4-320
95-105	0.4-240
110-125	0.4-200

All in 25% increments, 20% decrements

- mA: 100 mA nominal
- Digital readouts, blue vacuum fluorescent.
- Top: 1.9 cm (3/4 in.) kVp and mAs.
- Message: 0.95 cm (3/8 in.) all message.
- Battery Status: 0.95 cm (3/8 in.) bar graph.
- Switches are dome-type push buttons under mylar cover.
- On/Off Two Position Switch:
  -Off/Remove Key
  -Off / -On

The drive System and X-ray work only in ON position. Charger works in either position.

Handswitch controls the rotor prep, exposure and remote field light.

Audible Tone: X-ray On

Generator

Frequency: 1,000 Hz

Voltage: 50 to 125 kVp

Power: 12.5 kW nominal

Cables: Vinyl covered, rated to 75 kVp each or 150 kVp for pair. Federal type connectors.

Batteries

- Type: Sealed lead acid "Minimal liquid" or film electrolyte technology classifies battery as dry. Cannot leak if punctured
- Pack: Nine 12-volt packs connected in series (108 V nominal). Runs both motor drive and X-ray from same pack.
- Unit is shipped with batteries fully charged.

Battery Charging System

- Automatic battery status sensing with programmed overcharging protocol for maximizing battery life.
- Charger cord provided with retraction into base. Hospital grade line plug fits standard wall receptacle.
- Maximum line draws 5 A, 110 V; 2.5 A, 220 V.
- Unit designed to be charged in any corridor or room space with normal ventilation. Unit should not be charged in closets, etc., or in areas using isolated power, e.g., surgery.
- Charger operates in any key switch position as charger mode has precedence over all other modes (transport exposure). The system can neither be moved, nor used for X-ray if it is recharging. Charger status displayed on message readout.

Mechanical Dimensions

- Overall Width (includes front bumper): 63.9 cm (25 in.).
- Width at Midpoint: 60.2 cm (23.8 in.).
- Overall Height: 193 cm (76 in.). decrease normal film optical density.

131.8 cm (51.9 in.)

- Overall Length (includes handle): 114.8 cm (45.2 in.).
- Length, Base: 103.5 cm (40.8 in.).
- Length, Full Horizontal Arm Extension: 212.9 cm (83.8 in.).

Tube Positioning:

- Maximum Focal Spot Height (standard): 201.2 cm (79.2 in.).
- Maximum Focal Spot Height (short): 186.2 cm (73.3 in.)
- Minimum Focal Spot Height: 62.4 cm (24.6 in.).

Tube Unit

- Vertical Travel: 138.4 cm (54.5 in.).
- Maximum Horizontal Extension: 107.6 cm (42.4 in.).
- Minimum Horizontal Extension: 67.0 cm (26.4 in.).
- Horizontal Travel: 40.6 cm (16.4 in.).

Performance

- Maximum Speed, Forward or Reverse: 4.8 kph (3.0 mph).

Speed, Arm Out of Transport Position:

- 2.4 kph (1.5 mph).

Maximum Incline Degrees: 5º.

- Weight: 499 kg (1,100 lbs).

P 110 V nominal 5A maximum for

- recharging.

220V nominal 2.5A maximum for

- recharging.

Weight: Shipping (with battery) 590

- kg (1,300 lbs). Unit weight 499 kg (1,100 lbs).

Standard Listing

Catalog Number(s): A0659F (A0659A, A0659D, A0659C)

Available Options

Mobil-AID™ Automatic Exposure Control (AEC)

A fully integrated automatic exposure control option is available with the AMX-4+. Mobil-AID™ further simplifies use by automatically controlling radio-graphic exposures. This option includes th Power ON/OFF switch to activate

- or deactivate the Mobil-Aid circuitry.

Film-Screen to select compensation

- for up to two film-screen combinations.

Active Detectors control select one

- or two detector fields

Grid compensation control to select

- proper compensation level for use of a grid with either film-screen choice.

Available Options (Continued)

Remote Control Handswitch

AMX-4+ is available with TechSwitch™ --a cordless handswitch option that enables even greater procedural flexibility and radiation protection to the Technologist.

TechSwitch™ employs infrared technology to enable a 360º operating radius up to a distance of 10.9 m (36 ft.) from the base of the system. The remote handswitch option provides the following:

- Integrated rotor prepare and exposure control actuator.
- Collimator light ON.
- Loss/misplacement softtone that sounds if the handswitch is out of the holder for more than 3 minutes.

Digital Key Pad

- Restricts use to authorized users only
- User programmable 4 digit code
- Cost effective
- No more lost or broken keys
- Easy to use friendly interface
- Simple installation

UL/CSA Listings

- UL Listed
- CSA Listed
- GE Certified
- Specifications are subject to change without notice.

BRING YOUR PORTABLE INTO THE 21ST CENTURY
DIGITAL KEY PAD! THE KEYLESS SOLUTION!

The *Digital Key Pad* secure electronic keypad replaces those "RELIC" keys currently in use, with a user programmable 4 digit activation code. When finished, simply push "OFF" and walk away. What could be simpler.

Solves the regulatory issues of personnel leaving keys in Portables or C-Arms

FEATURES:

- √ *Resricts use to authorized users only*
- √ *User programmable 4 digit code*
- √ *Cost effective*
- √ *No more lost or broken keys*
- √ *Easy to use friendly interface*
- √ *Simple Installation ***

***By Qualified Service Engineer*

The *Digital Key Pad* is available for: GE AMX 2** - AMX4+ • OEC 9600 and 9800

*** Additional interface module required for AMX 110, AMX 2 and AMX 3*