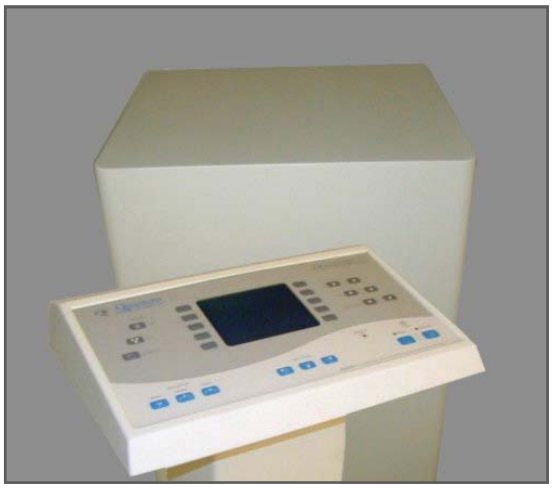
Quantum MEDICAL IMAGING

HF Series X-Ray Generators

ODYSSEY HF Series Generators™
QUEST HF Series Generators™

Generator Installation Planning Guide



Manual Part No. DC30-022 Revision F

Made in U.S.A.

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REVISION HISTORY

REVISION	DATE	TYPE OF MODIFICATION
A	10/3/02	Initial Release.
B	10/17/02	Added electrical specs., format modifications
C	10/28/02	Added generator specifications, service information
D	9/11/03	Incorporated ECO 1272
E	4/5/06	Incorporated ECO 1633 QMI High-Speed Starter
F	9/16/07	Revised electrical specifications

This manual contains site planning and installation considerations for the Quantum Medical Imaging, LLC. ODYSSEY HF and QUEST HF Series Generators listed below:

CATALOG NUMBER	SYSTEM NUMBER
QG-200-SE	QG-20-SE
QG-250	QG-25, QG-25-5
QG-320	QG-32, QG32-2, QG-32-3, QG-32-5
QG-3200	QG-32, QG32-2, QG-32-3, QG-32-5
QG-320-SE	QG-32-SE
QG-3200-SE	QG-32-SE
QG-400	QG-40, QG-40-2, QG-40-3, QG-40-5
QG-4000	QG-40, QG-40-2, QG-40-3, QG-40-5
QG-400-SE	QG-40-SE
QG-4000-SE	QG-40-SE
QG-500	QG-50, QG-50-2
QG-5000	QG-50, QG-50-2
QG-6500	QG-65
QG-8000	QG-80

Revision History

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REQUIRED TOOLS

The following is a list of tools required to install the HF Series X-ray Generator:

- Digital Multi-meter AC/DC Volts, Ohms, AC/DC mA
- Oscilloscope - minimum 50 MHz 2-Channel Storage
- Non-invasive kVp meter or a Dynalyzer (kV Calibration)
- Physical mAs Meter or Dynalyzer (Filament and mA calibration)
- Six slabs of 5 cm thick Acrylic (if AEC option is present)
- Standard Hand Tools Set

POWER REQUIREMENTS

For QMI to assure proper operation of this equipment and subsequently produce high-quality radiographs, it is essential that the power requirements specified in the tables that follow, be met by the facility into which this equipment is installed.

This includes use of correctly sized conductors between the distribution transformer, the generator disconnect switch, and the generator. And the input supply transformer is of at least the specified KVA capacity.

For 480 VAC systems, the static AC line input voltage must be within ±10% of the input tap selected, and the input voltage measured at the bulkhead connector must not sag more than 10% at full load.

For 240 VAC systems, the static AC line input voltage must be within ±5% of the rated tap selected, and the input voltage measured at the bulkhead connector must not sag more than 10% at full load.

Under no circumstances should a Delta configuration distribution transformer secondary be connected to any 3-Phase Quantum generator.

All wiring and grounding must also be done in accordance with all applicable NEC (National Electric Code) and/or local electrical codes in effect at the installation site.

Failure to comply with the above requirements may result in improper generator operation and/or degrade performance, and will also void the factory warranty.

The QMI Warranty includes amongst other conditions, the following Exclusions:

- Failure of the Buyer/Dealer to prepare the site and operating environment in accordance with the recommendations of QMI.
- Failure of the Buyer/Dealer to provide the proper incoming power required to support the equipment in accordance with the requirements of QMI.
- Improper or extraordinary use of the product, improper maintenance of the product, or failure to comply with any applicable instructions and recommendations of Quantum Medical Imaging

Section 1 Specifications

PRODUCT SPECIFICATIONS

To assist you in the radiographic room planning process, the chart below provides relevant QMI Product specifications, including: Input Power, Heat Output, Weight, and Dimensions.

Product/Component Description	Power Specifications	BTU/ Hour	Weight (lbs.) 1 lb.=.45 kg	Size/Dimensions L x D x H (inches) 1 inch=2.54 cm
ODYSSEY HF Operator Control Panel	N/A	130	5	17.9 x 12.25 x 3.13
ODYSSEY HF Operator Control Panel w/ Pedestal	N/A	130	25	17.9 x 12.25 x 36.5
QUEST HF Operator Control Panel	N/A -	130	4	13.75 x 11.6 x 3.13
QUEST HF Operator Control Panel w/ Pedestal	N/A	130	24	13.75 x 11.6 x 36.5
QUEST HF "STORED ENERGY" (SE) 20 kW Generator	See Chart 1	3,600	344	24 x 20 x 34.7
ODYSSEY & QUEST HF "STORED ENERGY" (SE) 32 and 40 kW Generators	See Chart 1	3,600	431	24 x 20 x 34.7
ODYSSEY & QUEST HF Series Generators 25 - 40 kW Single-Phase Input Power (208 - 257 VAC)	See Chart 1	3,600	298	24 x 20 x 34.7
ODYSSEY & QUEST HF Series Generators 25 - 40 kW Single-Phase Input Power (380 - 480 VAC)	See Chart 4	3,600	298	24 x 20 x 34.7
ODYSSEY HF Series Generators *65 &* 80 kW *QUEST HF Series* Generators 32 - 50 kW Three-Phase Input Power (380 - 480 VAC)	See Chart 2	3,600	380	24 x 20 x 34.7
ODYSSEY & QUEST HF Series Generators 32 - 50 kW Three-Phase Input Power (208 - 257 VAC)	See Chart 3	3,600	380	24 x 20 x 34.7
ODYSSEY HF Series Generators 65 & 80 kW w/ *internal* QMI Q-HSS High-Speed Rotor Starter Three-Phase Input Power (380 - 480 VAC)	Powered internally from Generator	3,600	390	24 x 20 x 34.7

TABLE 1: Electrical Power Requirements
ODYSSEY HF and QUEST HF Series Generators
208 - 260VAC Single-Phase Systems & SE Systems

GENERATOR CATALOG NO.	GENERATOR MODEL NO.	MAX. POWER OUTPUT (kW)	NOMINAL LINE VOLTAGE (VAC)	DISCONNECT TO GENERATOR 15 FT. (5 M) MAX.	*SERVICE RATING	*RECOMMENDED DISTRIBUTION TRANSFORMER CAPACITY	MAX. INPUT LINE RESISTANCE (AT FULL-LOAD RMS)
QG-250	QG-25	25	208	#4 AWG	100 AMPS	30 KVA	0.06 OHMS
			240	#4 AWG	80 AMPS	30 KVA	0.08 OHMS
QG-320, QG-3200	QG-32	32	208	#2 AWG	120 AMPS	40 KVA	0.04 OHMS
			240	#2 AWG	100 AMPS	40 KVA	0.05 OHMS
QG-400, QG-4000	QG-40	40	208	#1 AWG	150 AMPS	50 KVA	0.035 OHMS
			240	#1 AWG	120 AMPS	50 KVA	0.04 OHMS

NOTE: All installations must meet the requirements of local electrical codes.
*** The above values are recommended as typical (unless otherwise specified).**

1. All wire must be copper.
2. Actual wire size depends on power quality and distance between mains power and the generator.
3. All wiring and grounding must be in accordance with National Electric Code (NFPA #70) or local electrical codes.
4. The disconnect switch must be located within reach of the operator.
5. Input Voltage: 208-257 (±5%) VAC 50/60 Hz (configured at time of installation).
6. Line Regulation: 5% at full load.
7. Ground wire size is 4 AWG.
8. Specifications are subject to change.
9. Specifications for single-phase “stored energy” Models QG-20-SE, QG-32-SE, and QG-40-SE are as follows:
   105-130 VAC (±10%), 10 Amps, 50/60 Hz
   210-250 VAC (±10%), 10 Amps, 50/60 Hz

TABLE 2: Electrical Power Requirements
ODYSSEY HF and QUEST HF Series Generators
380 - 480 VAC Three-Phase Systems

GENERATOR CATALOG NO.	GENERATOR MODEL NO.	MAX. POWER OUTPUT (kW)	NOMINAL LINE VOLTAGE (VAC)	DISCONNECT TO GENERATOR 15 FT. (5 M) MAX.	*SERVICE RATING	*RECOMMENDED DISTRIBUTION TRANSFORMER CAPACITY	MAX. INPUT LINE RESISTANCE (AT FULL-LOAD RMS)
QG-320, QG-400, QG-3200, QG-4000	QG-32-3, QG-40-3	**32 (QG-32-3)** **40 (QG-40-3)**	**380**	**#6 AWG**	**60 AMPS**	**50 KVA**	**0.23 OHMS**
			440	**#6 AWG**	**60 AMPS**	**50 KVA**	**0.33 OHMS**
			480	**#6 AWG**	**50 AMPS**	**50 KVA**	**0.4 OHMS**
QG-500 QG-5000	QG-50	**50**	**380**	**#4 AWG**	**80 AMPS**	**65 KVA**	**0.17 OHMS**
			440	**#6 AWG**	**80 AMPS**	**65 KVA**	**0.20 OHMS**
			480	**#6 AWG**	**75 AMPS**	**65 KVA**	**0.24 OHMS**
QG-6500	QG-65	**65**	**380**	**#4 AWG**	**90 AMPS**	**80 KVA**	**0.12 OHMS**
			440	**#4 AWG**	**90 AMPS**	**80 KVA**	**0.17 OHMS**
			480	**#4 AWG**	**90 AMPS**	**80 KVA**	**0.19 OHMS**
QG-8000	QG-80	**80**	**380**	**#4 AWG**	**100 AMPS**	**100 KVA**	**0.10 OHMS**
			440	**#4 AWG**	**100 AMPS**	**100 KVA**	**0.14 OHMS**
			480	**#4 AWG**	**100 AMPS**	**100 KVA**	**0.16 OHMS**

***NOTE: All installations must meet the requirements of local electrical codes.**
The above values are recommended as typical (unless otherwise specified).

1. All wire must be copper.
2. Actual wire size depends on power quality and distance between mains power and the generator.
3. All wiring and grounding must be in accordance with National Electric Code (NFPA #70) or local electrical codes.
4. The disconnect switch must be located within reach of the operator.
5. Input Voltage: 380-480 (±10%) VAC 50/60 Hz (configured at time of installation).
6. Voltage is three-phase Y-configuration, measured line-to-line, balanced to earth ground. (Note: Additional Neutral wire may be used if required by local electrical code.)
7. Ground wire size is 4 AWG.
8. Specifications are subject to change.

TABLE 3: Electrical Power Requirements
ODYSSEY HF and QUEST HF Series Generators
208-240 VAC Three-Phase Input Units

GENERATOR CATALOG NO.	GENERATOR MODEL NO.	MAX. POWER OUTPUT (kW)	NOMINAL LINE VOLTAGE (VAC)	DISCONNECT TO GENERATOR 15 FT. (5 M) MAX.	*SERVICE RATING	*RECOMMENDED DISTRIBUTION TRANSFORMER CAPACITY	MAX. INPUT LINE RESISTANCE (AT FULL-LOAD RMS)
QG-320, QG-3200	QG-32-2	32	208	#6 AWG	70 AMPS	40 KVA	0.026 OHMS
			240	#6 AWG	60 AMPS	40 KVA	0.023 OHMS
QG-400, QG-4000	QG-40-2	40	208	#4 AWG	85 AMPS	50 KVA	0.017 OHMS
			240	#6 AWG	70 AMPS	50 KVA	0.024 OHMS
QG-500, QG-5000	QG-50-2	50	208	#4 AWG	110 AMPS	65 KVA	0.014 OHMS
			240	#4 AWG	90 AMPS	65 KVA	0.016 OHMS

***NOTE: All installations must meet the requirements of local electrical codes.**
*** The above values are recommended as typical (unless otherwise specified).**

1. All wire must be copper.
2. Actual wire size depends on power quality and distance between mains power and the generator.
3. All wiring and grounding must be in accordance with National Electric Code (NFPA #70) or local electrical codes.
4. The disconnect switch must be located within reach of the operator.
5. Input Voltage: 208-257 (±5%) VAC 50/60 Hz (configured at time of installation).
6. Voltage is three-phase Y-configuration, measured line-to-line, balanced to earth ground. (Note: Additional Neutral wire may be used if required by local electrical code.)
7. Line Regulation: 5% at full load.
8. Ground wire size is 4 AWG.
9. Specifications are subject to change.

TABLE 4: Electrical Power Requirements
ODYSSEY HF and QUEST HF Series Generators
380 - 480 VAC Single-Phase Systems

GENERATOR CATALOG NO.	GENERATOR MODEL NO.	MAX. POWER OUTPUT (kW)	NOMINAL LINE VOLTAGE (VAC)	DISCONNECT TO GENERATOR 15 FT. (5 M) MAX.	*SERVICE RATING	*RECOMMENDED DISTRIBUTION TRANSFORMER CAPACITY	MAX. INPUT LINE RESISTANCE (AT FULL-LOAD RMS)
QG-250-5	QG-25-5	**25**	380	#6 AWG	60 AMPS	32 KVA	0.028 OHMS
			415	#6 AWG	55 AMPS	32 KVA	0.028 OHMS
			480	#6 AWG	40 AMPS	32 KVA	0.032 OHMS
QG-320-5, QG-3200-5	QG-32-5	**32**	380	#6 AWG	75 AMPS	40 KVA	0.024 OHMS
			415	#6 AWG	70 AMPS	40 KVA	0.024 OHMS
			480	#6 AWG	60 AMPS	40 KVA	0.028 OHMS
QG-400-5, QG-4000-5	QG-40-5	**40**	380	#4 AWG	100 AMPS	50 KVA	0.015 OHMS
			415	#4 AWG	90 AMPS	50 KVA	0.020 OHMS
			480	#6 AWG	70 AMPS	50 KVA	0.024 OHMS

***NOTE: All installations must meet the requirements of local electrical codes.**
The above values are recommended as typical (unless otherwise specified).

1. All wire must be copper.
2. Actual wire size depends on power quality and distance between mains power and the generator.
3. All wiring and grounding must be in accordance with National Electric Code (NFPA #70) or local electrical codes.
4. The disconnect switch must be located within reach of the operator.
5. Input Voltage: 380-480 (±10%) VAC 50/60 Hz (configured at time of installation).
6. Ground wire size is 4 AWG.
7. Specifications are subject to change.

Peripheral Product Descriptions	Input Power Specifications	Heat Output BTU/Hr	Net Weight (lbs.)	Size/Dimensions L x D x H (inches)
QT-750 *QUIET-LIFT* Elevating/Float-top Table	115 VAC, 15A 220 VAC, 10A	-	500	85.0 x 35.55 x 32.5
QT-740 Float-top Table	115 VAC, 15A 220 VAC, 10A	-	350	85.0 x 35.55 x 32.5
QS-500 Tubestand	24 VDC*	-	508	22.5 x 10.0 x 85.0
QS-550 Tubestand	24 VDC*	-	600	120.0 x 7.34 x 92.0
QW-400 *CHIRO-X* Wall Stand	24 VDC*	-	100	26.5 x 6.6 x 85.0
QW-420 *VERTI-Q* Wall Stand	24 VDC*	-	225	26.0 x 14.5 x 84.0
QW-420-T *VERTI-Q TILTING* Wall Stand	110/220 VAC, 4A	-	415	24.0 x 39.34 x 84.0
QG-HSS High-Speed Starter - AID External Q-HSS High-Speed Starter - QMI Internal	200-240 VAC, 20 Powered from	- -	40 -	19 x 12 x 5.25 Part of Generator
R40-M-P Eureka Manual Collimator *NOTE: Separate 24 VDC power supply required when used with INDi XL Series Generators.*	24 VAC*	-	18.04	8.10 x 11.76 x 9.625
R40-A-P Progeny/Eureka Automatic Collimator (Linear II)	230-250 VAC or 115-125 VAC, 50/60 Hz, 2A, 3-Wire, 1-Phase	-	19	8.10 x 11.76 x 9.625
R40-CS-P Progeny/Eureka Automatic/ Continuous SID Collimator (Linear IV)	115-230 VAC, 50/60 Hz, 3A, 3-Wire, 1-Phase	-	19.3	8.10 x 11.76 x 9.625
R40-MC Huestis Manual Collimator *NOTE: Separate power supply required when used with INDi XL Series Generators.*	24 VAC*	-	13	9.0 x 9.1 x 6.0
R40-S Huestis Selectable Collimator *NOTE: Separate power supply required when used with INDi XL Series Generators.*	24 VAC*	-	14	9.0 x 9.1 x 6.0
Q-RAD Tomography RT-760 Elevating Table	400/440/480 VAC, 10A, 1-Phase	-	772	94.5 x 31.8 x 35.0
RS-580 Ceiling Mounted Tube Support (CMT)	110 VAC, 15A	400	796**	See DC30-012 CMT Planning Guide
RS-580-T Ceiling Mounted Tomography Tube Support	Input Power is supplied by RT-	400	856**	See DC30-012 CMT Planning Guide

* NOTE 1: Power is supplied from QMI - QUEST or ODYSSEY HF Series Generator.

** NOTE 2: Ceiling Mounted Tube Support weight includes Transverse Bridge, Longitudinal Rails and Telescope Carriage.

Section 1 Specifications

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Section 2 Typical System Cabling Diagram

This diagram shows cabling required for a typical radiographic installation. Depending on site requirements, some of the system components shown may or may not be used and/or cabling variations may be necessary to accommodate certain equipment combinations. Listed below are some of the main system components and the power input requirements:

Wall Stand: +24 VDC, from generator Interface Board AY40-023T

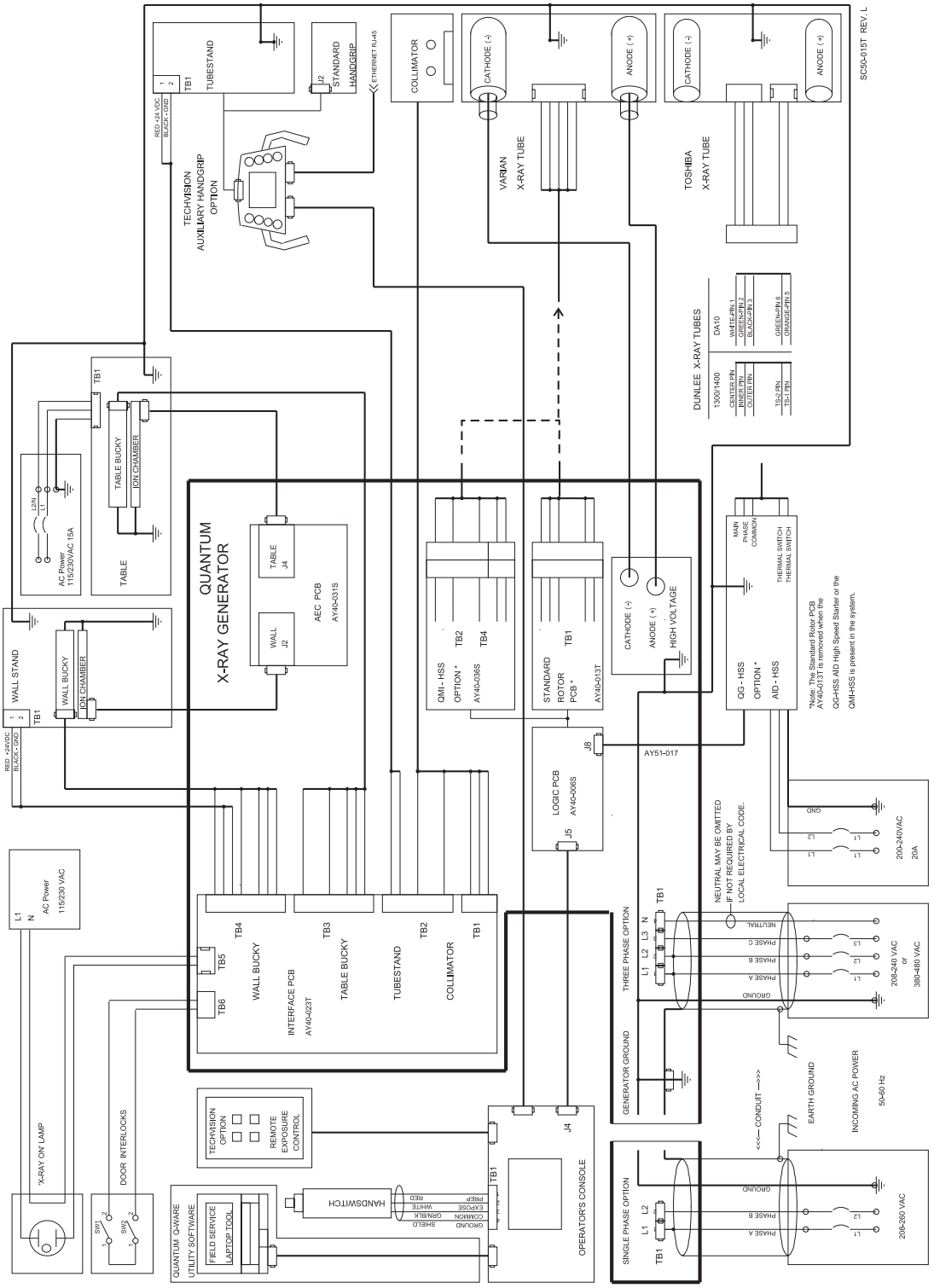
Tube Stand: +24 VDC, from generator Interface Board AY40-023T

Collimator: 24 VAC, from generator Interface Board AY40-023T

Radiographic Table: 115 VAC 10A or 230 VAC 10A not supplied by generator

Table and/or Wall Bucky — 115 VAC supplied from generator

NOTE: DRAWING SUBJECT TO CHANGE WITHOUT NOTICE



Section 2 Typical System Cabling Diagram

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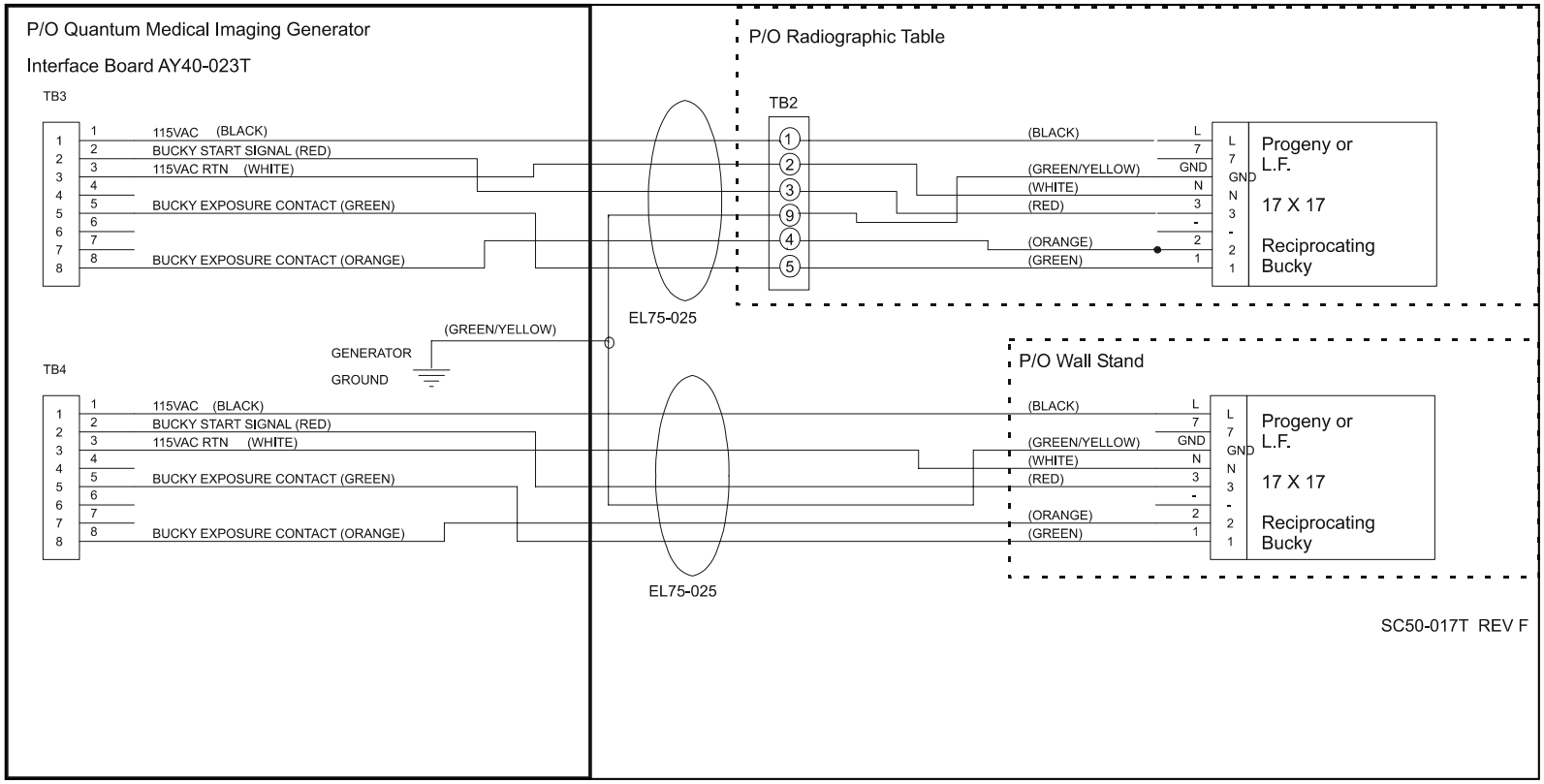
This diagram shows the cabling required for connecting a 17” x 17” L-F 8000, L-F 9000, or Progeny Bucky.

When interfacing a 17" x 17" L-F or Progeny bucky to the generator Interface Board A9 (AY40-023T or AY40-023T1), switches A9SW1 and A9SW2 must **NOT** be set to the "M" position, as marked on the Interface PCB.

When connecting a table bucky, remove jumper JP2 on Interface Board A9.
When connecting a wall bucky, remove jumper JP3 on Interface Board A9.
The bucky power cables should be routed through the access opening located in the top rear of the generator chassis.
NEVER route a bucky cable through any port containing a High Voltage Cable.

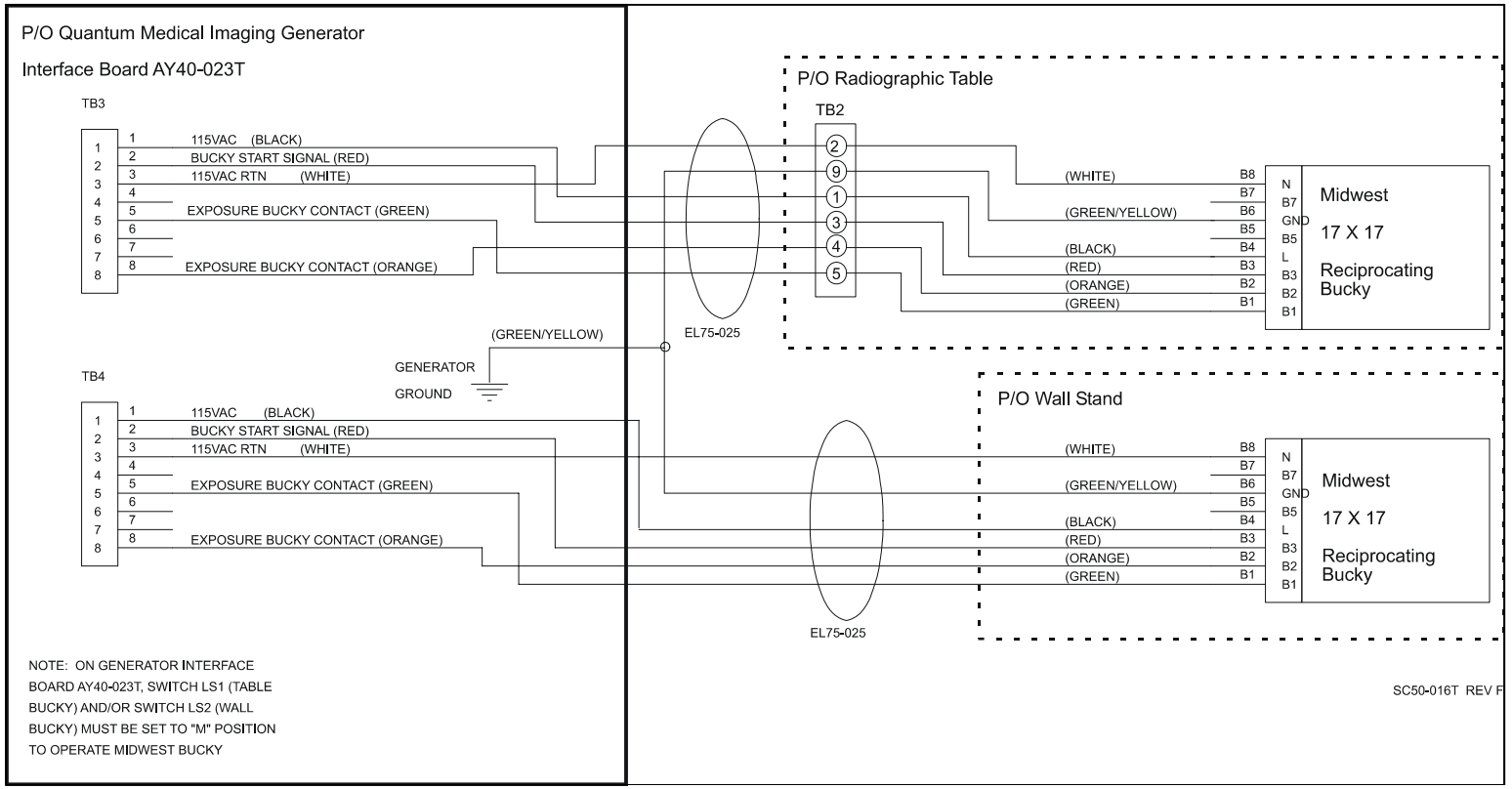


This diagram shows the cabling required for connecting a 17” x 17” Midwest Bucky.

When interfacing 17" x 17" Midwest table or wall bucky to the generator Interface Board A9 (AY40-023T or AY40-023T1), switches A9SW1 and A9SW2 must be set to the "M" position as indicated on the Interface PCB.

When connecting a table bucky, remove jumper JP2 on Interface Board A9.
When connecting a wall bucky, remove jumper JP3 on Interface Board A9.

The bucky power cables should be routed through the access opening located in the top rear of the generator chassis. NEVER route a bucky cable through any port containing a High Voltage Cable.



This diagram shows the cabling required for connecting a Midwest 14” x 36” Bucky.

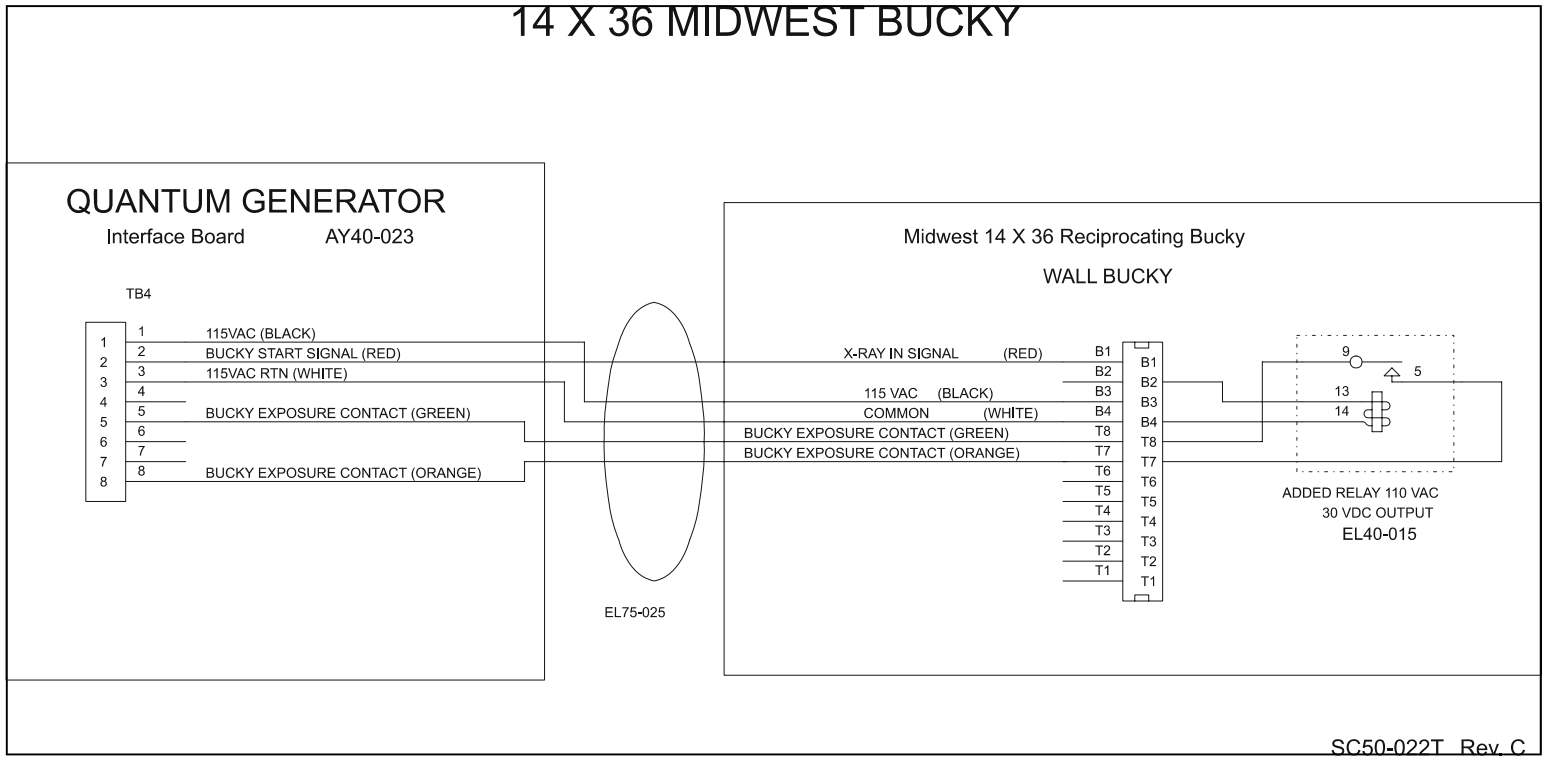
When interfacing a 14" x 36" Midwest bucky to the generator Interface Board A9 (AY40-023T or AY40-023T1), switches A9SW1 or A9SW2 must **NOT** be set to the "M" position, as indicated on the Interface PCB.

When connecting to a 14” x 36” Midwest bucky, a relay is required (as shown in this diagram).
When a 14” x 36” Midwest bucky is shipped by Quantum the relay already installed.

When connecting to 14” x 36” Midwest bucky that was not provided by Quantum, this relay must be installed.
Contact the Quantum Technical Services Department to obtain the relay.

When connecting a table bucky, remove jumper JP2 on Interface Board A9.
When connecting a wall bucky, remove jumper JP3 on Interface Board A9.

The bucky power cables should be routed through the access opening located in the top rear of the generator chassis.
NEVER route a bucky cable through any port containing a High Voltage Cable.



Section 3 Bucky Connection Diagrams

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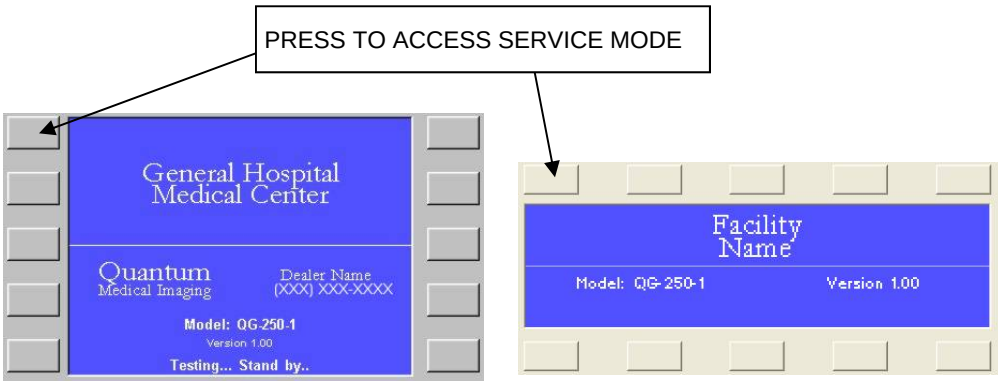
CONFIGURATION

Prior to calibration, verify the correct Tube, Rotor, AEC, and Ion Chamber configurations have been set in the Service Configuration screen of the Service Mode.
To access the Service mode proceed as follows:

1. Set the Power ON/Standby Switch on the Operator Control Panel (OCP) to the standby position.
2. Set the Circuit Breaker CB1 on the generator cabinet to the ON position.
3. Set the Power-ON/Standby Switch on the Operator Control Panel (OCP) to the On position.
4. The "Welcome Screen" will appear indicating: "Testing. Stand by.." displayed in the bottom center of the display.
5. Within five seconds of Power-ON, press the upper left field select key. The “Password” Numeric Keypad Menu will appear.
6. Enter the Service Technician Password: **58623** using the field select keys corresponding to the numbers. The Service Menu will be displayed.



7. Press the **Configuration** key. The Service Configuration Menu will be displayed.
8. Press the **Rotor** key, and verify the correct rotor is selected; 60Hz, 50Hz, QMI-HSS, or AID-HSS. Press the **Previous Screen** key.
9. Press the **TUBE TYPE** key. Verify the X-ray tube setting is correct. The tube model is preset at the factory, and normally does not require change except when replacing the existing tube with a different tube type.

IMPORTANT! Pressing the “Save Tube” key will restore the factory default values for the AEC kVp tube calibration for the selected tube. Therefore, you will be required to again perform the AEC kVp calibration. However, all other calibrations (kVp, Filament, mA, AEC Reciprocity and AEC Optical Density) are <u>not</u> affected. Use the “Save Tube” function only when necessary, such as when replacing the X-ray tube.

CALIBRATION SETUP

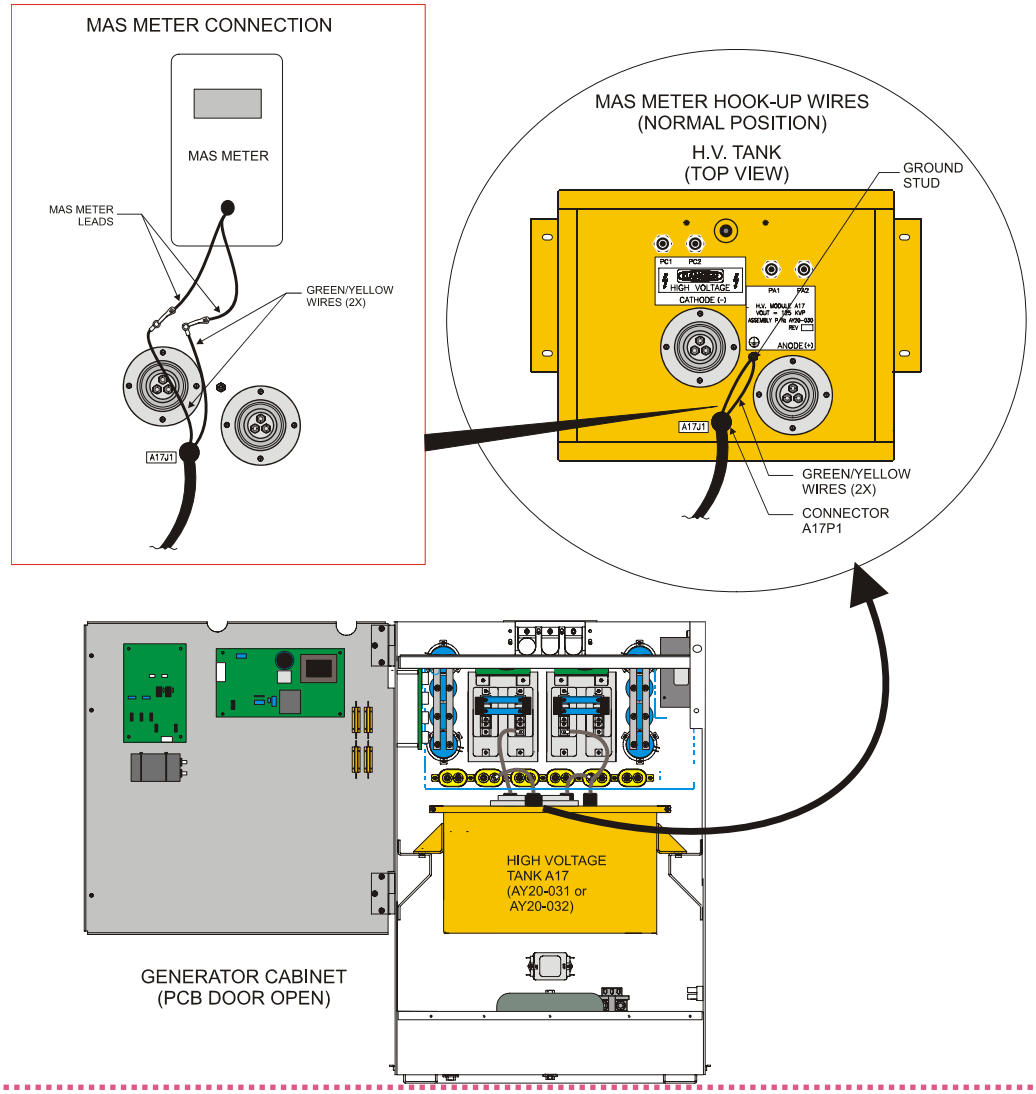
There are four main calibration procedures:

- kV Calibration (2-step procedure)
- Filament Calibration (2-step procedure)
- mA Calibration (2-step procedure)
- AEC calibration (only required on systems equipped with AEC option)

Note: When using a Dynalyzer a kVp Bleeder Tank should be connected between the tube and the High-Voltage (H.V.) Transformer, A17.

When using a mAs Meter, remove from the ground stud on top of the H.V. Transformer the two green/yellow wires marked "MAS METER" connected to A17P1-9 and A17P1-10. (see diagram below). Connect an AC mAs Meter between these two leads.

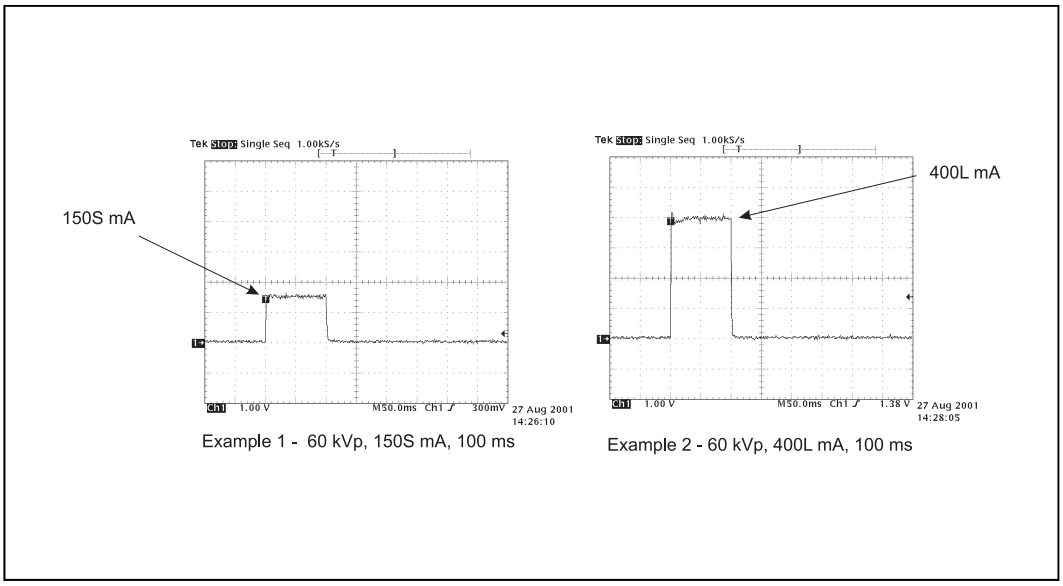
IMPORTANT: Reconnect these leads when calibration is complete!



CALIBRATION

MA Calibration must be performed using a mAs Meter. An oscilloscope will not provide the accuracy necessary for performing the mA calibration. If an oscilloscope is the only equipment available for mA measurement, connect scope leads between test point TP7 (mA Mon) & TP4 (Ground) on the generator's KVP Control Board A2 (AY40-003S). Set the scope to 1.0 volt/division, and 50 ms/division time base. 100 mA = 1 volt (see diagram below).

USE OF AN OSCILLOSCOPE FOR MA CALIBRATION IS NOT RECOMMENDED



Example 1 - 60 kVp, 150S mA, 100 ms

Example 2 - 60 kVp, 400L mA, 100 ms

IMPORTANT! In the event the generator system detects an error condition, the system will not initiate an exposure, an audible alert will sound, and an error message will appear on the Operator Control Panel's LCD screen. To clear the error, press any key on the operator control panel except for "PREP" or "EXPOSE".

FILM SPEED SETTING

Typically, on a system using a wall stand and radiographic table, three separate film/screen combinations require calibration:

Wall 72" - Used when the operator selects wall receptor at 72 inch SID

Wall 40" - Used when the operator selects wall receptor at 40 inch SID

Table 40" - Used when the operator selects table receptor at 40 inch SID

The factory default film speed setting for these film screen combinations is 400.
If the facility uses a film having speed other than 400, it is necessary to set the generator for the appropriate film speed.

Proceed as follows:

1. From the Service Calibration Menu, press the key next to the **AEC Calibration** field. The AEC Calibration Menu is displayed.

2. Using the key next to the Film/Screen field (upper left key), select the film/screen combination for which the film speed is to be set.

3. Using the up and down keys next to the **FILM SPEED** field, set the film speed value to the desired film speed.

4. Repeat previous steps for all other film/screen combinations, as necessary.

NOTE: If desired, the film/screen combination name can be edited. For example, the system default "Wall 40" film/screen combination name may be changed to "Kodak", "AGFA", or to whatever text is required. For instructions on film/screen combination name editing, refer to "Editing a Film/ Screen Combination Name" procedure in the AEC calibration section of the service manual.

AEC CALIBRATION — SUMMARIZED PROCEDURE

The following table shows the steps required for calibrating AEC on a system containing a table (40” SID) and wall bucky (Wall 40” SID and Wall 72” SID). Refer to the service manual for full details on calibrating AEC.

IMPORTANT: After completing AEC calibration of 72" Wall film/screen, the "COPY" function can be used to copy the 72" film/screen calibration data to 40" Wall film/screen. Typically, after copying, the only further calibration required for the 40" film/screen is performing AEC OD Calibration to set the "AEC Ref" value. Similarly, the 40" Wall film/screen calibration data can be copied to the 40" Table, however, the table ion chamber’s MASTER GAIN potentiometer must be adjusted as required. Be sure to verify the AEC films for each SID/ receptor meet applicable regulatory agency requirements. If required, further optical density accuracy can be attained by performing the "AEC KV Calibration" procedure.

FILM/SCREENS TO BE CALIBRATED	REQUIRED AEC CALIBRATION PROCEDURES/ SPECIAL INSTRUCTIONS
WALL STAND 72" SID FILM/SCREEN (SLOWEST SPEED, LARGEST SID)	1. Perform "Ion Chamber Balancing" procedure. 2. Perform "AEC MAS Balance" procedure for wall stand ion chamber. 3. Perform "AEC Optical Density (OD) Calibration": a. Set desired "base" optical density b. Set "AEC Ref" to 2000. c. Adjust ion chamber's MASTER GAIN potentiometer until base optical density is achieved in developed films. 4. Perform "Reciprocity Calibration". 5. Perform "AEC KV Calibration".
WALL STAND 40" SID FILM/SCREEN	1. Copy "Wall 72" film/screen to "Wall 40". 2. Perform "AEC Optical Density (OD) Calibration", however, DO NOT re-adjust the ion chamber MASTER GAIN potentiometer. Adjust "AEC Ref" to obtain desired (set) optical density. 3. Perform "Reciprocity Calibration". 4. Perform "AEC KV Calibration".
TABLE 40" SID FILM/ SCREEN	1. If system includes a wall stand, copy "Wall 40" film/ screen to "Table 40". 2. Perform "Ion Chamber Balancing" procedure for table ion chamber. 3. Perform "AEC Optical Density (OD) Calibration": a. Set desired "base" optical density b. Set "AEC Ref" to 2000. c. Adjust ion chamber's MASTER GAIN potentiometer until base optical density is achieved in developed films. 4. Perform "Reciprocity Calibration". 5. Perform "AEC KV Calibration".

Section 4 Configuration/Calibration

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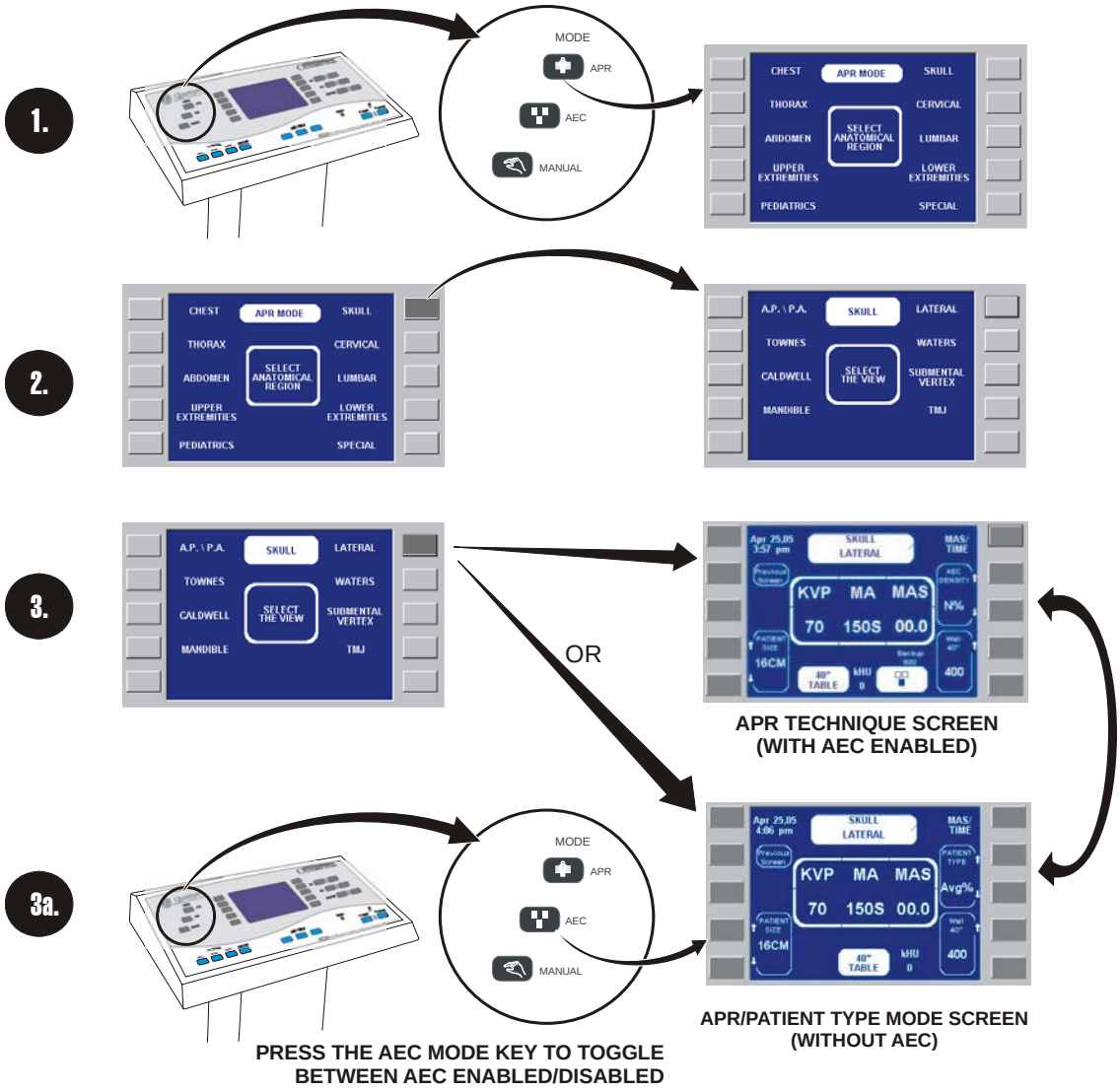
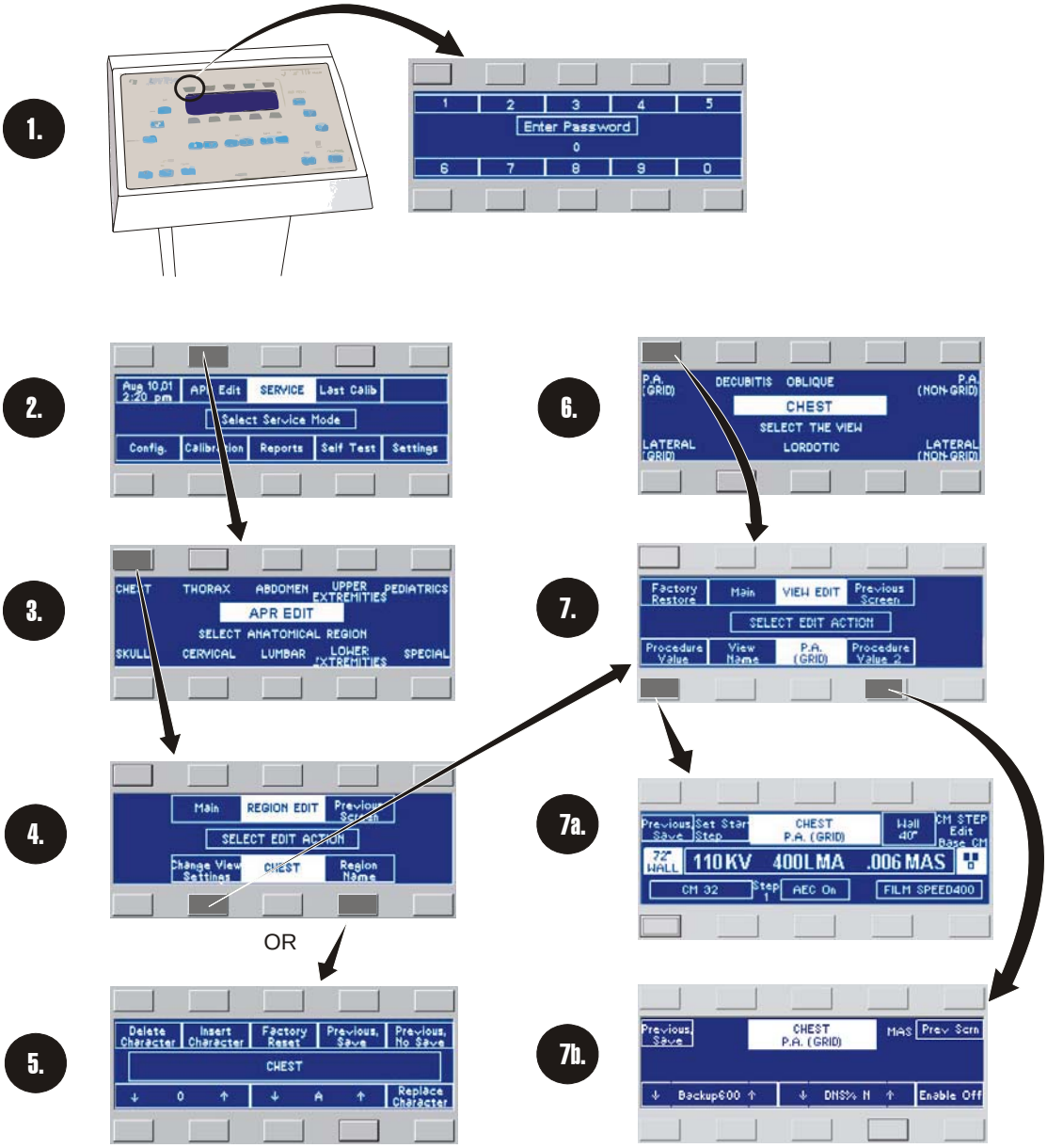
APR EDITING - ODYSSEY

The pictogram below depicts a map for accessing the various APR edit mode screens on the ODYSSEY generator console. Each screen is described in detail in the operator's manual. Access is via the Service Menu, APR Edit, using either the Operator or Service Password.



APR EDITING - QUEST

The pictogram below depicts a map for accessing the various APR edit mode screens on the QUEST generator console. Each screen is described in detail in the operator's manual. Access is via the Service Menu, APR Edit, using either the Operator or Service Password.



SERVICE INFORMATION

Below are references to service information available from the QMI.
The Service Department is available from 7:00 AM to 6:30 PM EST Monday through Friday.

For **Technical Support** and **Service**, or for additional planning information, contact the QMI Technical Services Department at:

631 567-5800 x 2

Quantum System Interconnect cable length information for planning installations is available from **Customer Support,** who will assist you with the details and provide you the latest Dealer Support Bulletins. Customer Support is at:

631 567-5800 x 121

Quantum Generator Spare Parts Kits are now available for Authorized Dealers and OEMs. Contact the Technical Services Department for complete information ad the latest Dealer Technical Bulletins.

Quantum also provides Technical Training Courses for Authorized Dealers and OEMs. Contact the Technical Services Department for scheduling.

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