0.2T E-SCAN XQ EXTREMITY MRI
WITH RF PAVILION

THE EQUIPMENT ILLUSTRATED IN THIS PACKAGE REPRESENTS A TYPICAL SET OF PLANS TO SUGGEST LOCATIONS FOR GE MEDICAL SYSTEMS EQUIPMENT AND ASSOCIATED APPARATUS, ELECTRICAL DETAILS, AND ROOM ARRANGEMENTS. IT IS NOT TO BE USED FOR ACTUAL CONSTRUCTION PURPOSES AND THE COMPANY HEREBY DISCLAIMS RESPONSIBILITY FOR ANY DAMAGE RESULTING THEREFROM.

TYPICAL FINAL INSTALLATION DRAWINGS

PROJECT: 8-148FL
REVISION: 02
DATE: 21-FEB-07
DRAWN BY: SDB
GENERAL SPECIFICATIONS

- The required ceiling height indicated on these plans is to insure equipment function is not inhibited. Consult with your local GEms installation specialist regarding acceptability of other ceiling heights, 8'-0" minimum.
- Check all door openings and elevators from delivery location to where equipment is to be installed.
- Radiation protection requirements are not indicated on this plan. They shall be specified by a qualified radiological physicist.
- The development of the equipment layout, room dimensions, mechanical and electrical suggestions is predicated upon the best information obtainable from the site, coupled with the customer's known desires. Architectural or electrical changes including relocation of equipment illustrated on this drawing is allowed only with notification, in writing, and review by GEms Service Department. Equipment operation, serviceability, and restricting cable lengths, etc., make this essential for a proper installation. GEms reserves the right to make on the job changes because of customer requirements and/or obstacles in construction, etc..
- All work to be in compliance with national and local building safety codes.
- Dimensions are to finished surfaces of room.

SITE ENVIRONMENT SPECIFICATIONS

- Ambient operating temperature: 68–78.8 deg (F) [20–26 (C)].
- Maximum allowable temperature change of 5.4 deg (F)/hr [3 (C)/hr].
- Humidity: 45 to 80 percent non-condensing,
- Maximum allowable change of 5 percent/hour.
- Altitude: 100 ft [30.5m] below sea level to 8000 ft. [2438m] above sea level.
- Environmental restrictions above must not be exceeded for the electronics.
- Do not restrict the air intake or air exhaust of the system components.
- Environmental conditions listed above must be maintained at all times including for example overnight, weekends, and holidays.
- Fluorescent lighting is not allowed in the magnet room due to RF noise.

MAGNETIC INTERFERENCE SPECIFICATIONS

- The customer must establish protocols to prevent persons with cardiac pacemakers, neurostimulators, and biostimulation devices from entering magnetic fields of greater than 5 gauss (exclusion zone).
- Main power transformers must remain outside 32.8 ft. [10 m].
- EMI < 10mG AC. EMI < 30mG DC (with EFI package)
- The ferrous metal objects listed below must not move into or inside of the moving metal sensitivity line during scans.

<table>
<thead>
<tr>
<th>Typical Moving Magnetic Mass</th>
<th>Distance X - FRONT - BACK</th>
<th>Distance Y - Vertical</th>
<th>Distance Z - Lateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORKLIFTS, SMALL ELEVATOR, CARS, MINIVANS VANS, PICKUP TRUCKS, AMBULANCES (OBJECTS GREATER THAN 1984 lbs [900 kg])</td>
<td>25.5 ft. [9.0 m]</td>
<td></td>
<td>19.7 ft. [6.0M]</td>
</tr>
<tr>
<td>TRUCK, LARGE ELEVATORS (OBJECTS GREATER THAN 9920 lbs [4500 kg])</td>
<td>49.2 ft. [15.0 m]</td>
<td></td>
<td>32.8 ft. [10.0 M]</td>
</tr>
<tr>
<td>LARGE TRUCKS, EXCAVATOR (OBJECTS GREATER THAN 44092 lbs [20000 kg])</td>
<td>82.0 ft. [25.0 m]</td>
<td></td>
<td>65.6 ft. [20.0 M]</td>
</tr>
</tbody>
</table>
NOTE: FERRROUS OBJECTS MUST NOT MOVE INTO OR INSIDE OF THE MOVING METAL SENSITIVITY LINE DURING SCANS.

REFER TO PRE-INSTALLATION MANUAL FOR COMPLETE INFORMATION ON THE MOVING METAL REQUIREMENTS.

SEE NEXT PAGE FOR EQUIPMENT IDENTIFICATION FOR PLAN BELOW

RECOMMENDED CEILING HEIGHT
9'-0" [2700mm]

MINIMUM CEILING HEIGHT
7'-10" [2387mm]

MAGNET ROOM

EQUIPMENT LAYOUT

SCALE: 1/4" = 1'-0"

3 OF 16
# GE Equipment Listing

**Equipment on Order from GE Medical Systems, Installed by GE Medical Systems, Per**

**Note:** Local conditions may dictate that items identified in this category be installed by others.

<table>
<thead>
<tr>
<th><strong>Item No.</strong></th>
<th><strong>Quantity Ordered</strong></th>
<th><strong>Refer to Sheet &quot;D&quot;</strong></th>
<th><strong>Item Description</strong> (* = Existing/Reinstall)</th>
<th><strong>Weight</strong></th>
<th><strong>Heat Output</strong></th>
<th><strong>Detail No.</strong></th>
<th><strong>Strc Plan</strong></th>
<th><strong>Elec Plan</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td></td>
<td><strong>Electronics Cabinet</strong></td>
<td>462 lb</td>
<td>1365 btu</td>
<td>H8700E4</td>
<td>EC</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td><strong>RF Shielding Pavilion</strong></td>
<td>1102 lb</td>
<td>1119 btu</td>
<td>H8700E3</td>
<td>FP</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td></td>
<td><strong>RF Penetration Panel</strong></td>
<td>332 lb</td>
<td>1191 btu</td>
<td>H8700E3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td></td>
<td><strong>Operators Console</strong></td>
<td>4358 lb</td>
<td>1191 btu</td>
<td>H8700E1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td></td>
<td><strong>E-Scan XQ Extremity MRI</strong></td>
<td>1977 kg</td>
<td>1191 btu</td>
<td>H8700E2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td></td>
<td><strong>Rotating Patient Table</strong></td>
<td>178 lb</td>
<td>1054 btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td></td>
<td><strong>Printer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following items, which have been ordered from GE Healthcare, are to be installed by the customer or his contractor.

| 60 | 1 Vinyl Tile - (If customer supplies own vinyl, cut outs 4 and 5 must be available at magent delivery) (Customers responsibility to install other cutouts before 1st. patient scan.) |

## Ancillary Items

**Customer/Contractor Supplied and Installed Items**

<table>
<thead>
<tr>
<th><strong>Item No.</strong></th>
<th><strong>Item Description</strong> (* Indicates Existing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td><strong>Operator’s Chair</strong></td>
</tr>
<tr>
<td>61</td>
<td><strong>Minimum door opening for equipment delivery is 32 in. W x 82 in. H [812mm x 2083mm], contingent on a 36 in. [914mm] corridor width</strong></td>
</tr>
<tr>
<td>62</td>
<td><strong>Air supply and return ducts. See detail MO210B on detail sheets for recommended locations.</strong></td>
</tr>
<tr>
<td>63</td>
<td><strong>Restricted access area above pavilion to change light bulbs.</strong></td>
</tr>
<tr>
<td>64</td>
<td><strong>Printer Table</strong></td>
</tr>
</tbody>
</table>
## STRUCTURAL SUPPORT METHODS

### CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM DESCRIPTION (* INDICATES EXISTING)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LEVELING AREA FOR MAGNET AND TABLE SEE DETAIL H87-00E ON SHEET S2.</td>
</tr>
</tbody>
</table>

## STRUCTURAL NOTES

- ALL UNITS THAT ARE WALL MOUNTED OR WALL SUPPORTED ARE TO BE PROVIDED WITH SUPPORTS WHERE NECESSARY. WALL SUPPORTS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER OR HIS CONTRACTORS. SEE PLAN AND DETAIL SHEETS FOR SUGGESTED LOCATIONS AND MOUNTING HOLE LOCATIONS.

- FLOOR SLABS ON WHICH PAVILION IS TO BE INSTALLED MUST BE LEVEL TO SPECIFICATIONS. (IF NOT SPECIFIED ELSEWHERE ON THIS SHEET THE FLOOR LEVELNESS SHOULD BE 1/8 IN. [3 MM] IN 10 FT. [3.05 M].

- DIMENSIONS ARE TO FINISHED SURFACES OF ROOM.

- FOR SEISMIC REGIONS ENSURE SUPPORTS SPAN THREE MEMBERS.

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**MAGNET ROOM**

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**EQUIPMENT LAYOUT**
NOTES:

THE FLOOR MUST BE ABLE TO SUPPORT THE WEIGHT
OF THE MAGNET UNIT, PAVILION, AND 3 PEOPLE.
THE TOTAL OF THIS IS 8377 LB. [3800 KG].

THE FLOOR MUST BE LEVEL WITHIN 3/16 IN. ±1/8
[5MM ±3MM] OVER 10 FT. [3.05M].

STEEL REBAR AND OTHER STEEL BUILDING COMPONENTS
NEED TO BE LESS THAN 6 LBS/SQ FT [30 KG/SQ M]
IN THE FLOOR AREA BENEATH THE MAGNET ROOM.

17.70”
[450mm]

8.67”
[220mm]

9.03”
[229mm]

23.27”
[591mm]

1287 lb. per 27.44 sq. in.

15.56”
[395mm]

9.51”
[242mm]

25.08”
[637mm]

19.84”
[504mm]

887 lb. per 27.44 sq. in.
ELECTRICAL OUTLET LEGEND
CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS.
HEIGHT ABOVE FLOOR DETERMINED BY LOCAL CODES UNLESS OTHERWISE SPECIFIED.

- DUPLEX HOSPITAL GRADE, DEDICATED OUTLET
  120-V, SINGLE PHASE OUTLET
  20 AMP
- DEDICATED TELEPHONE LINE(S)
  (SEE ELECTRICAL DETAIL ELEC-1)
- NETWORK OUTLET
  (SEE ELECTRICAL DETAILS ELEC-83)
- DUPLEX HOSPITAL GRADE, DEDICATED OUTLET
  120-V, SINGLE PHASE POWER

MAGNET ROOM

4" x 2"
SURFACE RACEWAY

ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"
JUNCTION POINT DESCRIPTIONS

- BASIC EQUIP. -

- OPTIONS -

**POINT**

THE FOLLOWING MATERIALS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER'S ELECTRICAL CONTRACTOR

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QTY.</th>
<th>HARDWARE</th>
<th>DETAIL NO., SHT. E3</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>1</td>
<td>EXTERNALLY CONNECTED</td>
<td></td>
</tr>
<tr>
<td>FP</td>
<td>1</td>
<td>EXTERNALLY CONNECTED</td>
<td></td>
</tr>
<tr>
<td>MG</td>
<td>1</td>
<td>EXTERNALLY CONNECTED</td>
<td></td>
</tr>
<tr>
<td>OW</td>
<td>1</td>
<td>EXTERNALLY CONNECTED</td>
<td></td>
</tr>
</tbody>
</table>

CONTRACTOR SUPPLIED/INSTALLED WIRING

<table>
<thead>
<tr>
<th>WIRE RUN, FROM - TO</th>
<th>QUANTITY, WIRE SIZE/COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR &gt; OW</td>
<td>1- 12 AWG. GROUND DEDICATED GROUND PULLED BACK TO PANEL</td>
</tr>
</tbody>
</table>

DIAGRAM KEY

- CUSTOMER/CONTRACTOR SUPPLIED WIRING. ROUTE IN ADEQUATE CONDUIT OR RACEWAY.
- GE FURNISHED CABLE RUNS. ROUTE IN EMPTY CONDUIT OR RACEWAY.
- () MAXIMUM RUN LENGTH BETWEEN JUNCTION POINTS.

INTERCONNECT DIAGRAM
JUNCTION POINT NOTES

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, etc., are to be supplied and installed by customers' electrical contractor.
- Conduit and duct runs shall have sweep radius bends.
- Conduits and duct above ceiling or below finished floor must be installed as near to ceiling or floor as possible to reduce run length.
- All ductwork must meet the following requirements:
  1. Ductwork shall be metal with dividers and have removable, accessible covers.
  2. Ductwork shall be certified/rated for electrical power purposes.
  3. Ductwork shall be electrically and mechanically bonded together in an approved manner.
  4. PVC as a substitute must be used in accordance with all local and national codes.

ELECTRICAL NOTES

Note 1: All wires specified shall be stranded, flexible, thermo-plastic, color coded, copper only, cut 10 foot long at outlet boxes, duct termination points or stubbed conduit ends, unless otherwise specified. All conductors, power, signal and ground, must be run in conduit or duct system. Electrical contractor shall ring out and tag all wires at both ends. Wire runs must be continuous copper and free from splices.

Note 2: Wire sizes given are for use of equipment. Larger sizes may be required by local codes.

Note 3: It is recommended that all wires be color coded, as required in accordance with national and local electrical codes.

Note 4: Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or national codes.

Note 5: Convenience outlets are not illustrated. Their number and location are to be specified by others. Locate at least one convenience outlet close to the system control, the power distribution unit and one on each wall of the procedure room. Use hospital approved outlet or equivalent.

Note 6: General room illumination is not illustrated. Caution should be taken to avoid excessive heat from overhead spotlights. Damage can occur to ceiling mounting components and wiring if high wattage bulbs are used. Recommend low wattage bulbs no higher than 75 watts and use dimmer controls (except MR). Do not mount lights directly above areas where ceiling mounted accessories will be parked.

Note 7: Routing of cable ductwork, conduits etc., other than shown on this drawing may result in the need for greater than standard cable lengths (refer to the interconnection diagram for maximum usable lengths point to point).

Note 8: Conduit turns to have large, sweeping bends with minimum radius in accordance with national and local electrical codes.

Note 9: A special grounding system is required in all procedure rooms by some national and local codes. It is recommended in areas where patients might be examined or treated under present, future, or emergency conditions. Consult the governing electrical code and confer with appropriate customer administrative personnel to determine the areas requiring this type of grounding system.

Note 10: The maximum point to point distances illustrated on this drawing must not be exceeded.

Note 11: Physical connection of primary power to GE equipment is to be made by a qualified electrical contractor with the supervision of a GE representative. The GE representative would be required to identify the physical connection location, and insure proper handling of GE equipment.
LUNAR E–SCAN

VOLTAGE

PRIMARY SOURCE IS REQUIRED FOR ALL INSTALLATIONS. RANGE OF LINE VOLTAGES: NOMINAL LINE VOLTAGE OF 100 TO 240, 1 PHASE, 50 OR 60 Hz.

MAXIMUM DAILY VOLTAGE VARIATION MUST FALL WITHIN ONE OF THE RANGES IN TABLE A.

<table>
<thead>
<tr>
<th>NOMINAL VOLTAGE</th>
<th>ABSOLUTE RANGE</th>
<th>CURRENT (AMPS)</th>
<th>MINIMUM STANDARD OVERCURRENT PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>100–120</td>
<td>13</td>
<td>20–A</td>
</tr>
<tr>
<td>220</td>
<td>200–240</td>
<td>6.5</td>
<td>10–A</td>
</tr>
</tbody>
</table>

PHASE–TO–PHASE VOLTAGES MUST BE WITHIN 2 PERCENT OF THE LOWEST PHASE–TO–PHASE VOLTAGE. MAXIMUM ALLOWABLE TRANSIENT VOLTAGE EXCURSIONS ABOVE OR BELOW NOMINAL WAVESHAPE FORM NOT TO EXCEED 200V AT A MAXIMUM DURATION OF 1 CYCLE AND FREQUENCY OF 10 TIMES PER HOUR.

VOLTAGE TRANSIENT OR IMPULSE ON THE INCOMING POWER MUST BE HELD TO A MINIMUM. TRANSIENTS CAUSED BY LIGHTNING, SURGES, LOAD SWITCHING, STATIC ELECTRICITY ETC. CAN CAUSE SCAN ABORTS OR, IN EXTREME INSTANCES, COMPONENT FAILURE IN THE COMPUTER SUBSYSTEM.

POWER DEMAND

MAXIMUM POWER DEMAND AVERAGED OVER 5 SECONDS = 1.3 KVA.

REFER TO PLANNING DIRECTION FOR ADDITIONAL INFORMATION.
ELECTRICAL DETAIL
INSITE CONNECTION (TYPICAL)

ONE OF THE FOLLOWING TWO SELECTIONS MUST BE INSTALLED AT THE LOCATION SHOWN ON THE ELECTRICAL PLAN (SHEET E1) FOR GE INSITE CONNECTION BASED UPON SYSTEM CONFIGURATION.

A) ONE INTERNET ACCESSIBLE VIRTUAL PRIVATE NETWORK (VPN) CONNECTION WITH A STATIC IP ADDRESS, AND ONE TELEPHONE LINE — DEDICATED—DIRECT—DIALING, VOICE GRADE.

OR

B) TWO TELEPHONE LINES — ONE DEDICATED DIRECT—DISTANCE—DIALING, VOICE GRADE AND ONE A DEDICATED DATA LINE.

— FINISHED CEILING —

1" CONDUIT FROM J.B. TO ABOVE FINISHED CEILING.

— SINGLE GANG J.B. —

TO BE DETERMINED

— FINISHED FLOOR —

COVERPLATE WITH TWO TELEPHONE RECEPTACLES OR ONE TELEPHONE RECEPTACLE AND ONE NETWORK RECEPTACLE.

ALL ITEMS ILLUSTRATED ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER OR THEIR CONTRACTOR.

DETAIL NOT TO SCALE
FOR NUCLEAR SYSTEMS A DIRECT NETWORK CONNECTION IS TO BE MADE BETWEEN THE SYSTEM AND THE REVIEW WORKSTATION.

LOCAL AREA NETWORK

FINISHED CEILING

1/2" CONDUIT FROM J.B. TO ABOVE FINISHED CEILING.

TO BE DETERMINED

FINISHED FLOOR

SINGLE GANG J.B.

COVERPLATE WITH NETWORK RECEPTACLE

DETAIL NOT TO SCALE
EQUIPMENT DETAIL
E-SCAN ELECTRONICS CABINET

PLAN VIEW

20.70" [526mm]

10.55" [268mm]

24.88" [632mm]

36.0" [914mm]

31.25" [794mm]

FRONT VIEW

SIDE VIEW

DETAIL NOT TO SCALE

EQUIPMENT DETAIL
MAGNET SYSTEM AIR COOLING

BECAUSE MAGNETS ARE SENSITIVE TO TEMPERATURE CHANGE, CARE MUST BE TAKEN IN LOCATING THE AIR CONDITIONING SUPPLY AND AIR DUCTS TO THE MAGNET ROOM TO ENSURE PROPER AIR FLOWS.

SUPPLY DUCTS ARE TO BE LOCATED BY PATIENT TABLE SIDES SO CONDITIONED AIR DOES NOT FLOW DIRECTLY TO THE MAGNET. RETURN DUCTS ARE TO BE LOCATED NEAR MAGNET SIDE TO MAINTAIN CIRCULAR AIR FLOW.

MAGNET ROOM MUST NOT BE ON SET-BACK MODE FOR AIR CONDITIONING A CONSTANT TEMPERATURE IS REQUIRED IN THE MAGNET ROOM.

AIR SUPPLY DUCT

AIR RETURN DUCT

60" [1.5M] MINIMUM

AIR FLOW

AIR FLOW

DETAIL NOT TO SCALE

SIDE VIEW