



GE Medical Systems

Technical Publications

Direction 2144928–100

Revision 11

Advantx[®] Legacy/Legacy-D R&F System Pre-installation

Copyright© 1996, 1997, 1998 By General Electric Co.

Operating Documentation

WARNING

- THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.
- IF A CUSTOMER'S SERVICE PROVIDER REQUIRES A LANGUAGE OTHER THAN ENGLISH, IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE TRANSLATION SERVICES.
- DO NOT ATTEMPT TO SERVICE THE EQUIPMENT UNLESS THIS SERVICE MANUAL HAS BEEN CONSULTED AND IS UNDERSTOOD.
- FAILURE TO HEED THIS WARNING MAY RESULT IN INJURY TO THE SERVICE PROVIDER, OPERATOR OR PATIENT FROM ELECTRIC SHOCK, MECHANICAL OR OTHER HAZARDS.

AVERTISSEMENT

- CE MANUEL DE MAINTENANCE N'EST DISPONIBLE QU'EN ANGLAIS.
- SI LE TECHNICIEN DU CLIENT A BESOIN DE CE MANUEL DANS UNE AUTRE LANGUE QUE L'ANGLAIS, C'EST AU CLIENT QU'IL INCOMBE DE LE FAIRE TRADUIRE.
- NE PAS TENTER D'INTERVENTION SUR LES ÉQUIPEMENTS TANT QUE LE MANUEL SERVICE N'A PAS ÉTÉ CONSULTÉ ET COMPRIS.
- LE NON-RESPECT DE CET AVERTISSEMENT PEUT ENTRAÎNER CHEZ LE TECHNICIEN, L'OPÉRATEUR OU LE PATIENT DES BLESSURES DUES À DES DANGERS ÉLECTRIQUES, MÉCANIQUES OU AUTRES.

WARNUNG

- DIESES KUNDENDIENST-HANDBUCH EXISTIERT NUR IN ENGLISCHER SPRACHE.
- FALLS EIN FREMDER KUNDENDIENST EINE ANDERE SPRACHE BENÖTIGT, IST ES AUFGABE DES KUNDEN FÜR EINE ENTSPRECHENDE ÜBERSETZUNG ZU SORGEN.
- VERSUCHEN SIE NICHT, DAS GERÄT ZU REPARIEREN, BEVOR DIESES KUNDENDIENST-HANDBUCH NICHT ZU RATE GEZOGEN UND VERSTANDEN WURDE.
- WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH ELEKTRISCHE SCHLÄGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.

AVISO

- ESTE MANUAL DE SERVICIO SÓLO EXISTE EN INGLÉS.
- SI ALGÚN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLÉS, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCIÓN.
- NO SE DEBERÁ DAR SERVICIO TÉCNICO AL EQUIPO, SIN HABER CONSULTADO Y COMPRENDIDO ESTE MANUAL DE SERVICIO.
- LA NO OBSERVANCIA DEL PRESENTE AVISO PUEDE DAR LUGAR A QUE EL PROVEEDOR DE SERVICIOS, EL OPERADOR O EL PACIENTE SUFRAN LESIONES PROVOCADAS POR CAUSAS ELÉCTRICAS, MECÁNICAS O DE OTRA NATURALEZA.

ATENÇÃO

- ESTE MANUAL DE ASSISTÊNCIA TÉCNICA SÓ SE ENCONTRA DISPONÍVEL EM INGLÊS.
- SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEMS, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.
- NÃO TENHA TENTADO REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA.
- O NÃO CUMPRIMENTO DESTA AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.

AVVERTENZA

- IL PRESENTE MANUALE DI MANUTENZIONE È DISPONIBILE SOLTANTO IN INGLESE.
- SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEMS RICHIEDE IL MANUALE IN UNA LINGUA DIVERSA, IL CLIENTE È TENUTO A PROVVEDERE DIRETTAMENTE ALLA TRADUZIONE.
- SI PROCEDA ALLA MANUTENZIONE DELL'APPARECCHIATURA SOLO DOPO AVER CONSULTATO IL PRESENTE MANUALE ED AVERNE COMPRESO IL CONTENUTO.
- NON TENERE CONTO DELLA PRESENTE AVVERTENZA POTREBBE FAR COMPIERE OPERAZIONI DA CUI DERIVINO LESIONI ALL'ADDETTO ALLA MANUTENZIONE, ALL'UTILIZZATORE ED AL PAZIENTE PER FOLGORAZIONE ELETTRICA, PER URTI MECCANICI OD ALTRI RISCHI.

警告

- ・ このサービスマニュアルには英語版しかありません。
- ・ GEMS以外でサービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。
- ・ このサービスマニュアルを熟読し理解せずに、装置のサービスを行わないで下さい。
- ・ この警告に従わない場合、サービスを担当される方、操作員あるいは患者さんが、感電や機械的又はその他の危険により負傷する可能性があります。

注意：

- 本维修手册仅存有英文本。
- 非 GEMS 公司的维修员要求非英文本的维修手册时，客户需自行负责翻译。
- 未详细阅读和完全了解本手册之前，不得进行维修。
- 忽略本注意事项会对维修员，操作员或病人造成触电，机械伤害或其他伤害。

Direction 2144928-100

Revision 11

Advantx[®] Legacy/Legacy-D R&F System Pre-installation

IMPORTANT! . . . X-RAY PROTECTION



X-ray equipment if not properly used may cause injury. Accordingly, the instructions herein contained should be thoroughly read and understood by everyone who will use the equipment before you attempt to place this equipment in operation. The General Electric Company, Medical Systems Group, will be glad to assist and cooperate in placing this equipment in use.

Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical

design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

It is important that everyone having anything to do with x-radiation be properly trained and fully acquainted with the recommendations of the National Council on Radiation Protection and Measurements as published in NCRP Reports available from NCRP Publications, 7910 Woodmont Avenue, Room 1016, Bethesda, Maryland 20814, and of the International Commission on Radiation Protec-

tion, and take adequate steps to protect against injury.

The equipment is sold with the understanding that the General Electric Company, Medical Systems Group, its agents, and representatives have no responsibility for injury or damage which may result from improper use of the equipment.

Various protective material and devices are available. It is urged that such materials or devices be used.

CAUTION: United States Federal law restricts this device to use by or on the order of a physician.

THIS PAGE INTENTIONALLY LEFT BLANK.

If you have any comments, suggestions or corrections to the information in this document, please write them down, include the document title and document number, and send them to:

GENERAL ELECTRIC COMPANY MEDICAL SYSTEMS
MANAGER – INFORMATION INTEGRATION,
AMERICAS W-622
P.O. BOX 414
MILWAUKEE, WI 53201-0414

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT



All electrical installations that are preliminary to positioning of the equipment at the site prepared for the equipment shall be performed by licensed electrical contractors. In addition, electrical feeds into the Power Distribution Unit shall be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, calibrations, and testing shall be

performed by qualified GE Medical personnel. The products involved (and the accompanying electrical installations) are highly sophisticated, and special engineering competence is required. In performing all electrical work on these products, GE will use its own specially trained field engineers. All of GE's electrical work on these products will comply with the

requirements of the applicable electrical codes.

The purchaser of GE equipment shall only utilize qualified personnel (i.e., GE's field engineers, personnel of third-party service companies with equivalent training, or licensed electricians) to perform electrical servicing on the equipment.

DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent, have notation "**damage in shipment**" written on **all** copies of the freight or express bill **before** delivery is accepted or "signed for" by a General Electric representative or a hospital receiving agent. Whether noted or concealed, damage **MUST** be reported to the carrier **immediately**

upon discovery, or in any event, within **14** days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this **14** day period.

Call Traffic and Transportation, Milwaukee, WI (414) 827-3449 /

8*285-3449 **immediately** after damage is found. At this time be ready to supply name of carrier, delivery date, consignee name, freight or express bill number, item damaged and extent of damage.

Complete instructions regarding claim procedure are found in Section "S" of the Policy & Procedure Bulletins.

THIS PAGE INTENTIONALLY LEFT BLANK.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE NUMBER
	REVISION HISTORY	ix
1	INTRODUCTION	1-1
	SECTION 1 – OBJECTIVE AND SCOPE OF THIS MANUAL	1-1
	SECTION 2 – DESCRIPTION OF SYSTEM	1-3
	2-1 Legacy/Legacy-D HF System Identification and Compliance Plates	1-3
	2-2 Legacy/Legacy-D MP System Identification and Compliance Plates	1-5
	SECTION 3 – OTHER LEGACY AND LEGACY-D R&F SYSTEM COMPONENTS CROSS-REFERENCES	1-5
	SECTION 4 – RESPONSIBILITIES OF THE PURCHASER/CUSTOMER	1-6
2	PHYSICAL REQUIREMENTS OF ROOM	2-1
	SECTION 1 – ENVIRONMENTAL REQUIREMENTS/LIMITATIONS	2-1
	1-1 Room Climate	2-1
	1-2 Equipment Heat Output (Dissipation)	2-2
	1-3 Acoustic Output	2-2
	1-4 Magnetic/Electrical Field Sensitivity and Electromagnetic Emissions	2-3
	1-5 Radiation Protection	2-3
	SECTION 2 – STRUCTURAL REQUIREMENTS	2-3
	2-1 Room Size	2-3
	2-2 Door Size Requirements	2-3
	2-3 Floor, ceiling, and Walls	2-4
	SECTION 3 – ELECTRICAL REQUIREMENTS	2-4
	3-1 Generator System Electrical Requirements	2-4
	3-2 Fuse/Circuit Breaker Specifications	2-4
	3-3 Customer Supplied Power	2-5
	3-4 Grounding Requirements	2-6
3	PHYSICAL CHARACTERISTICS	3-1
	SECTION 1 – DIMENSION DRAWINGS	3-1
	SECTION 2 – SWEPT VOLUME CURVES	3-8
	SECTION 3 – MOUNTING REQUIREMENTS	3-11
	3-1 Floor Loading and Recommended Mounting Methods	3-11
	3-2 Legacy/Legacy-D R&F Table Floor Preparation Kit (GEMS supplied)	3-11

TABLE OF CONTENTS (CONT.)

CHAPTER	TITLE	PAGE NUMBER
4	ROOM LAYOUTS	4-1
	SECTION 1 – ROOM LAYOUT CONSIDERATIONS	4-1
	1-1 Radiation Protection	4-1
	1-2 Service Access	4-1
	1-3 Clinical Access	4-1
	1-4 Peripheral Equipment	4-1
	SECTION 2 – ROOM LAYOUT DRAWINGS	4-1
5	ELECTRICAL CONNECTIONS	5-1
	SECTION 1 – CABLE CHANNELING	5-1
	1-1 Conduit	5-1
	1-2 Floor Duct	5-1
	1-3 Raceway	5-1
	SECTION 2 – POWER DISTRIBUTION	5-1
	SECTION 3 – GROUNDING	5-2
	SECTION 4 – MIS (MASTER INTERCONNECT SYSTEM)	5-2
	SECTION 5 – RUN NUMBER REFERENCE TABLE	5-3
	SECTION 6 – HOSPITAL NETWORK CONNECTIONS	5-4
6	ADDITIONAL PLANNING AIDS	6-1
	SECTION 1 – PRODUCT SHIPPING INFORMATION	6-1
	SECTION 2 – TOOLS AND TEST EQUIPMENT	6-2
	SECTION 3 – ROUTE SURVEY	6-3
	3-1 Step One — Sketch	6-3
	3-2 Step Two — Survey	6-3
	3-3 Step Three — Check	6-3
	SECTION 4 – PRE-INSTALLATION CHECKLIST	6-4

REVISION HISTORY

REV	DATE	REASON FOR CHANGE
0	Jan. 23, 1996	Initial product release.
1	Apr. 2, 1996	Production release updates. Updated Legacy HF System Identification and Compliance Plates to include Legacy HF System CE Labels; updated SCPU Cabinet weight from 985 lbs. to actual 962 lbs. (447 kg to 436 kg); updated shipping weights of the SCPU cabinet from 1066 lbs. to 1178 lbs. (484 kg to 534 kg), R&F Positioner cabinet from 766 lbs. to 901 lbs. (347 kg to 409 kg), Titan Systems Cabinet from 671 lbs. to 806 lbs. (304 kg to 366 kg), and dolly weights from 81 lbs. to 216 lbs. (36.7 kg to 98 kg).
2	April 18, 1996	Added Section 6 (Obtaining Customer IP Address Process – Insite) to Chapter 5 and added new DRS 3.1 and EMC version SG-60/SG-100 VBS Pre-Installation Manual references.
3	Oct. 21, 1996	Updated Plan View of Legacy Swept Volume Curve (Illustration 3-8) to increase the head-end dimension of Spot Film Device from table centerline. Dimension was 909 mm (35.75 in.) and is now 1067 mm (42 in.).
4	Nov. 15, 1996	Include Legacy-D information.
5	Feb. 28, 1997	Updated Item 2 in Tables 1-1 and 1-2.
6	May 29, 1997	Removed DRS Console from TV Monitor cart in Illustration 4-1.
7	July 7, 1997	Add Universal Image Head (40 cm/16 inch), Model Number 2173910.
8	Dec. 11, 1997	Changed Universal Image Head rating plate label.
9	Mar. 23, 1998	Added Legacy Phase III model numbers and references.
10	June 11, 1998	Added Legacy Phase III Smart Cable information to chapter 5. Revised side cable entrance port on R&F Positioner Cabinet.
11	Nov. 12, 1998	Added Advantx-E console model number 2224559.

LIST OF EFFECTIVE PAGES

PAGE NUMBER	REVISION NUMBER	PAGE NUMBER	REVISION NUMBER	PAGE NUMBER	REVISION NUMBER
Title Page	11	Back Page	—		
i thru x	11				
1-1 thru 1-6	11				
2-1 thru 2-6	11				
3-1 thru 3-12	11				
4-1 thru 4-2	11				
5-1 thru 5-4	11				
6-1 thru 6-4	11				

THIS PAGE INTENTIONALLY LEFT BLANK.

CHAPTER 1 – INTRODUCTION

SECTION 1
OBJECTIVE AND SCOPE OF THIS MANUAL

This document is intended as a guide and information resource for planning and properly preparing a site for the installation of Advantx Legacy/Legacy–D R&F systems.

In addition, this document provides references to various product pre-installation documents that comprise an Advantx Legacy/Legacy–D R&F System.

These documents are intended to assist the Installation Planner in properly preparing a site for the installation of this system.

Pre-Installation Process

Complete the checklists in Chapters 4, 5, and 6 of this manual. They are an important part of the pre–installation process. The checklists summarize required preparations and verify the completion of the pre-installation procedures.

The following is a graphic outline of information flow in the pre-installation process.

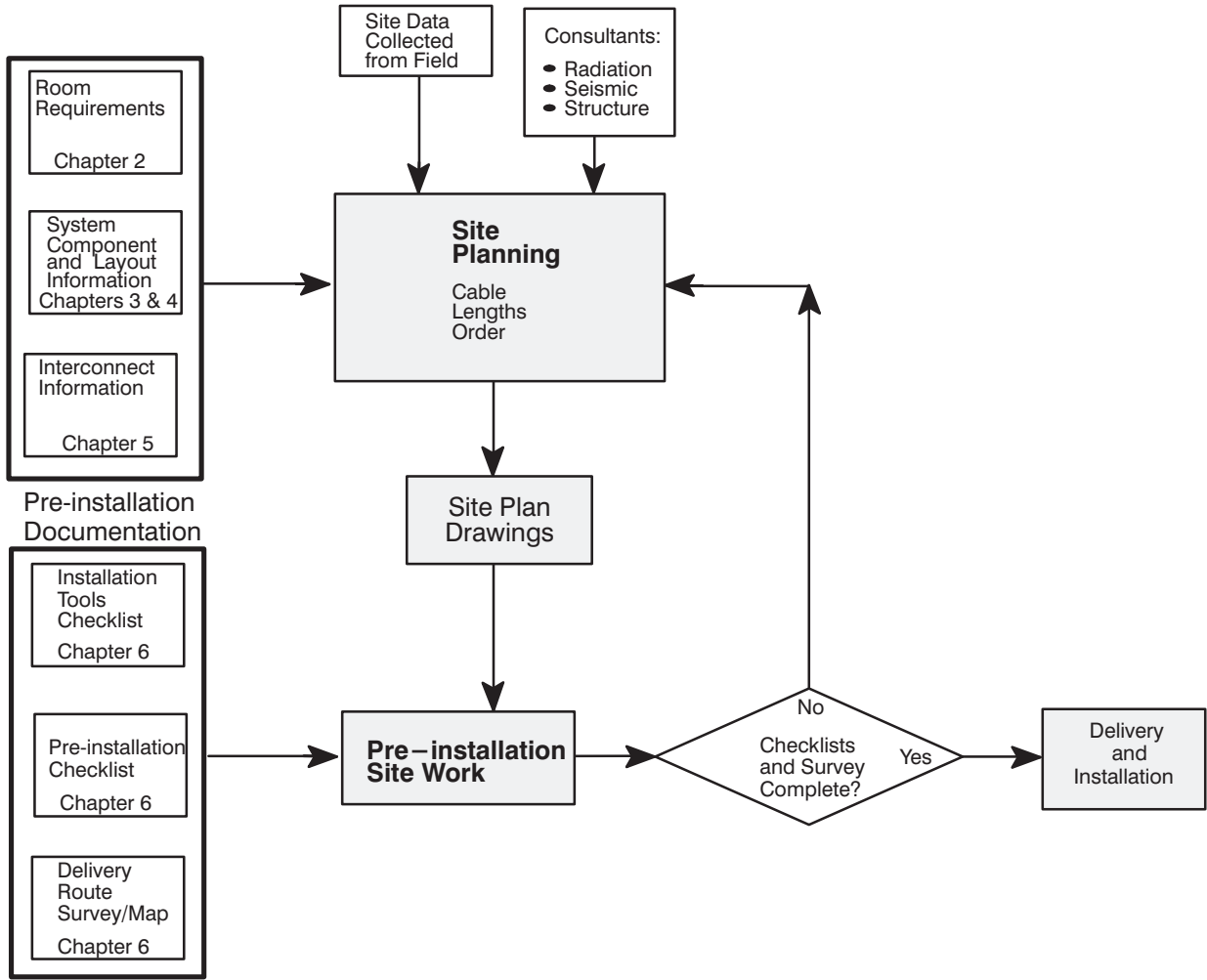
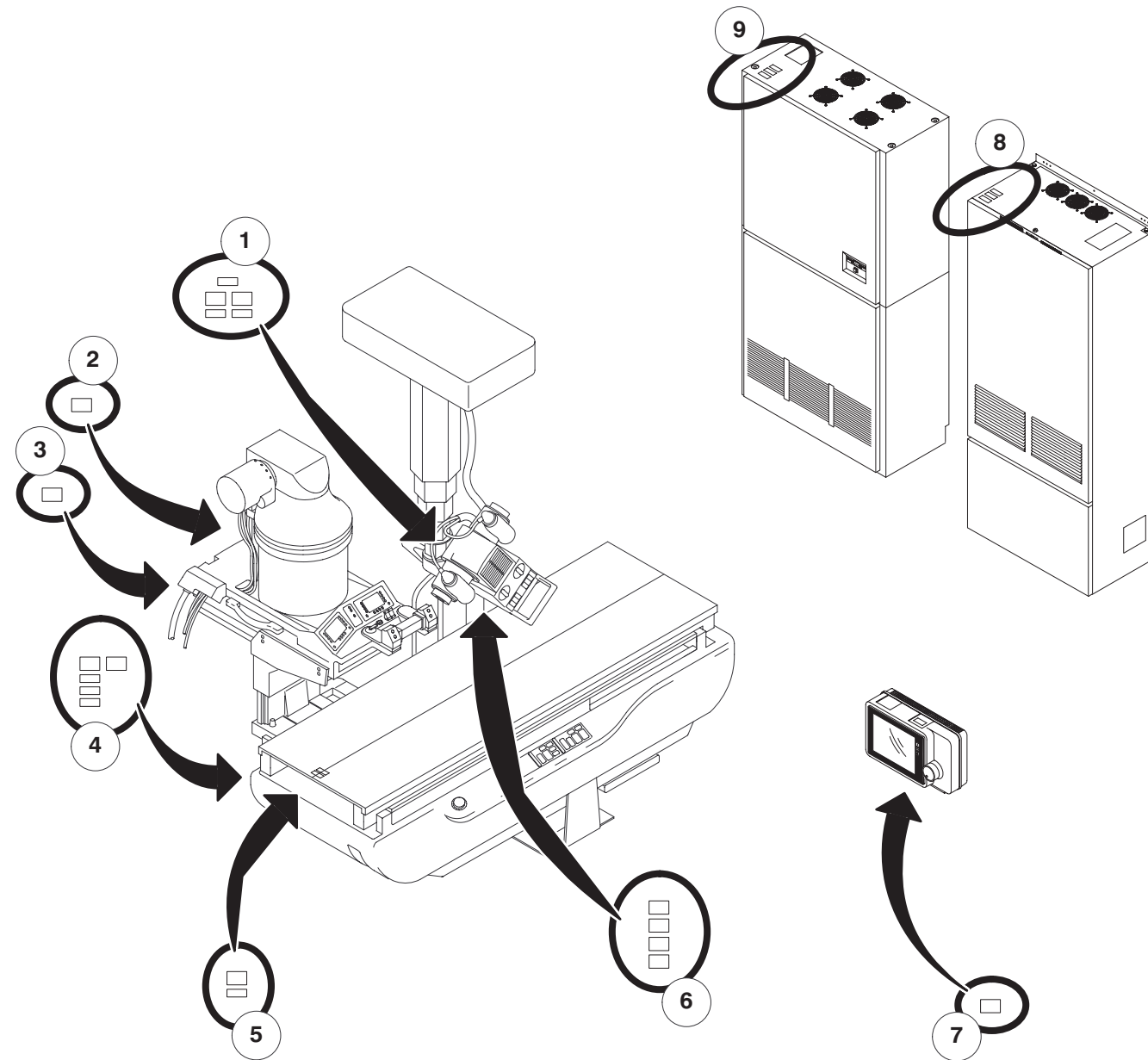


ILLUSTRATION 1-1 LEGACY HF SYSTEM IDENTIFICATION AND COMPLIANCE PLATES



TYPICAL CSA CERTIFICATION PLATE

CERTIFIÉ SELON LES
EXIGENCES DU CODE
CANADIEN DE L'ÉLECTRICITÉ.
L'ANCHOR N'A PAS ÉTUDIÉ
LES AUTRES EFFETS
PHYSIOLOGIQUES POSSIBLES.

CERTIFIED TO THE REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE. CSA HAS NOT INVESTIGATED OTHER PHYSIOLOGICAL EFFECTS.

**TYPICAL IEC
CERTIFICATION PLATE**

IEC 601-2-7

TYPICAL ETL CLASSIFICATION PLATE



TYPICAL IDENTIFICATION PLATE

GENERAL ELECTRIC COMPANY
MILWAUKEE, WISCONSIN MADE IN U.S.A.

MODEL	S/N	DESC



X-RAY EQUIPMENT BY UNDERWRITERS LABORATORIES INC.
IS TO ELECTRICAL, SHOCK, FIRE, AND MECHANICAL HAZARDS ONLY, 310L
COMPLIES WITH RADIATION PERFORMANCE STANDARDS
21 CFR SUBCHAPTER J.

TYPICAL UL STATEMENT

TYPICAL HHS STATEMENT

SECTION 2
DESCRIPTION OF SYSTEM

The Advantx Legacy/Legacy–D R&F System is divided into three basic sub-systems:

- Basic Advantx Imaging and X–Ray Control sub–system (1 System Cabinet, and 1 Control Console).
- Basic X–Ray Generator sub–system (65 kW HF Single Cabinet SCPU Generator or 100 kW two Cabinet MPPU Generator).
- Legacy/Legacy–D R&F Table and Intelligent Spot Film Device/Intelligent Digital Device sub–system (Legacy/Legacy–D R&F Table, Intelligent Spot Film Device/Intelligent Digital Device, and R&F Positioner Cabinet).

The Advantx Legacy/Legacy–D R&F System can include the following free standing components as optional items:

- TV Monitor Suspension.
- XT Radiographic Suspension.
- SG60 or SG100 Vertical Wall Stand
- DRS Digital Image Processing Option (DRS Image Processor Cabinet, Control Console, and a variety of optional items available on this subsystem).

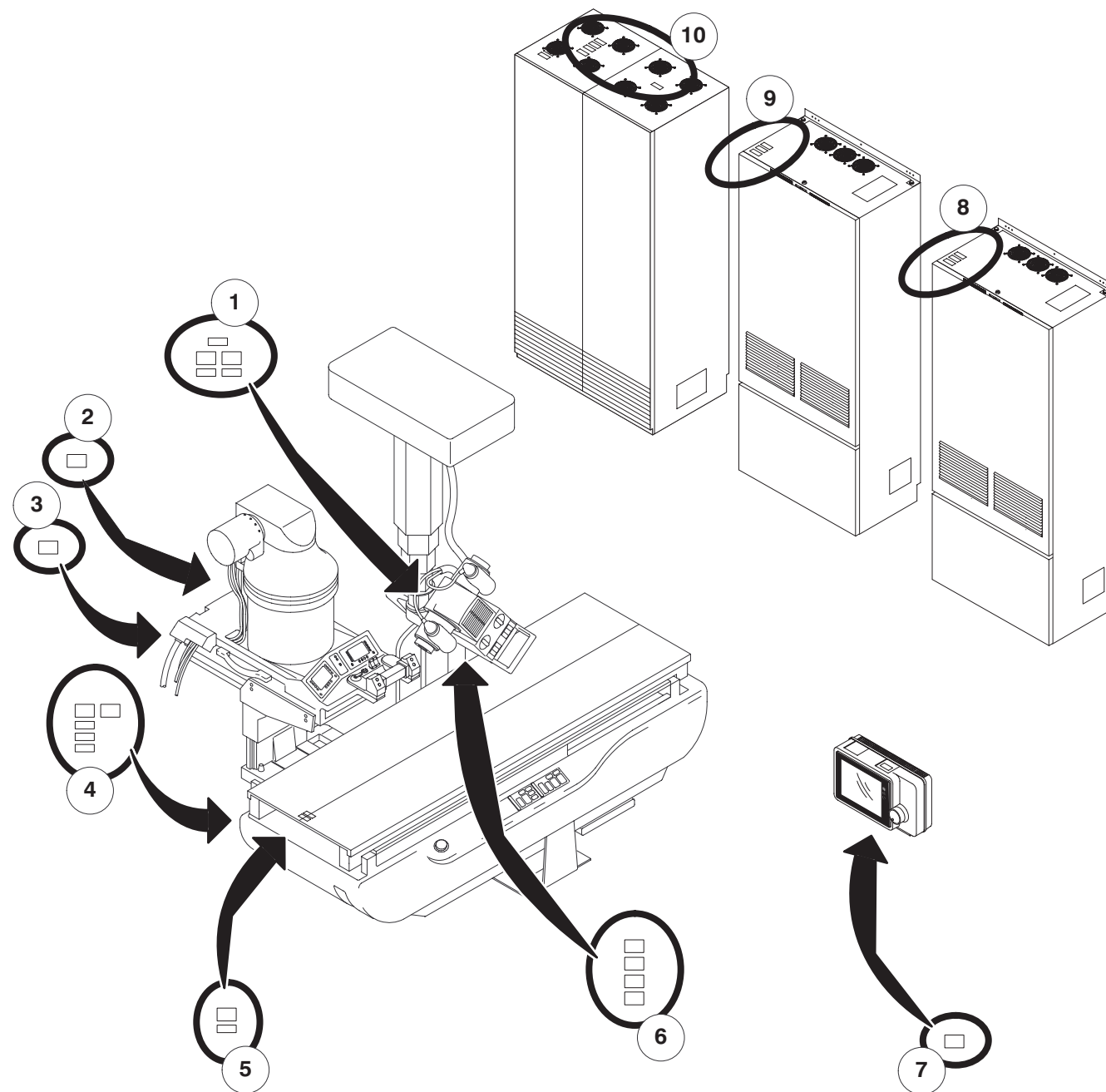
2–1 Legacy/Legacy–D HF System Identification
and Compliance Plates

See Illustration 1–1 and Table 1–1.

TABLE 1-1
LEGACY/LEGACY–D HF SYSTEM IDENTIFICATION AND COMPLIANCE PLATES

Item	Component	Model Number	Plate Type
1	XT Suspension X–Ray MX 100 X–Ray Tube Casing		
	Maxiray 100–18 H.S.; Focal Spots 0.6 – 1.25; 12.5°	46–155400G277	Identification, HHS, CE, UL
	Maxiray 100–18 H.S.; Focal Spots 0.3 – 1.0; 12.5°	46–155400G290	Identification, HHS, CE, UL
2	Image Intensifier (40 cm/16 Inch) Digital and Non–Digital	46–315152G3	Identification, HHS, UL
	Image Intensifier (32 cm/12 Inch) Digital	46–275382G58	Identification, HHS, UL
	Image Intensifier (22 cm/9 Inch) Digital	46–275382G59	Identification, HHS, UL
	Image Intensifier (32 cm/12 Inch) Non–Digital	46–275382G60	Identification, HHS, UL
	Image Intensifier (22 cm/9 Inch) Non–Digital	46–275382G61	Identification, HHS, UL
	Image Intensifier (40 cm/16 inch) Universal Image Head	2173910	Identification, HHS, UL, CE
3	Intelligent Spot Film Device (22/32 cm II)	2118104	Identification, HHS, ETL
3a	Intelligent Spot Film Device (40 cm II)	2118104-2	Identification, HHS, ETL
3b	Intelligent Digital Device (22/32 cm II)	2118104–3	Identification, HHS, ETL
3c	Intelligent Digital Device (40 cm II)	2118104–4	Identification, HHS, ETL
4	Legacy/Legacy–D R&F Table	46–262751G6 /G7/G8	Identification, CE Label
4a	Legacy/Legacy–D R&F Table Standard Top Drive	46–270153G4	Identification
4b	Legacy/Legacy–D R&F Table Collimator (Ultranet SU – Undertable)	ZAOULOSU	Identification, HHS, CSA (On collimator inside table)
4c	Legacy/Legacy–D R&F Table Fluoro MX–100 X–Ray Tube Casing		
	Maxiray 100FL; Focal Spots 0.6 – 1.0; 12.5°	46–155500G228	Identification, HHS, CE, UL (On tube inside table)
	Maxiray 100FL; Focal Spots 0.3 – 1.0; 12.5°	46–155500G230	Identification, HHS, CE, UL (On tube inside table)
4d	Legacy/Legacy–D R&F Table Reciprocating Bucky	46–315385G2 2189553	Identification (On bucky inside table)
	Legacy/Legacy–D R&F Table Cassette Size Sensing Tray	46–262555P3	Identification (On bucky CSS tray inside table)
5	Legacy/Legacy–D R&F Table Top	46–180600G1	Identification, HHS
6	XT Suspension Collimator Ultranet SA – Automatic	ZAOULOSA	Identification, HHS, CSA
	XT Suspension Collimator Ultranet SM – Manual	ZAOULOSM	Identification, HHS, CSA
7	Advantx Console	2106684 2183000 2224559	Identification, HHS, CSA
8	Legacy/Legacy–D R&F Positioner Cabinet	2131148	Identification, ETL
9	Legacy/Legacy–D SCPU Cabinet (Upper Half Control)	2139574 2139574–2	Identification, ETL
9a	Legacy/Legacy–D SCPU Cabinet (Lower Half Generator)	ZHTSCPU	Identification, HHS, CSA, IEC
9b	Legacy/Legacy–D SCPU Cabinet Upper Half VIC Module	46–289804G10/ G12/G14	Identification

ILLUSTRATION 1-2 LEGACY HF SYSTEM IDENTIFICATION AND COMPLIANCE PLATES



TYPICAL CSA CERTIFICATION PLATE

CERTIFIÉ SELON LES
EXIGENCES DU CODE
CANADIEN DE L'ÉLECTRICITÉ.
L'ANCHOR N'A PAS ÉTUDIÉ
LES AUTRES EFFETS
PHYSIOLOGIQUES POSSIBLES.

CERTIFIED TO THE
REQUIREMENTS OF THE
CANADIAN ELECTRICAL
CODE. CSA HAS NOT
INVESTIGATED OTHER
PHYSIOLOGICAL EFFECTS.

**TYPICAL IEC
CERTIFICATION PLATE**

IEC 601-2-7

TYPICAL ETL CLASSIFICATION PLATE



TYPICAL IDENTIFICATION PLATE

GENERAL ELECTRIC COMPANY
MILWAUKEE, WISCONSIN MADE IN U.S.A.

MODEL	S/N	DESC
-------	-----	------



X-RAY EQUIPMENT BY UNDERWRITERS LABORATORIES INC.
IS TO ELECTRICAL, SHOCK, FIRE, AND MECHANICAL HAZARDS ONLY, 310L
COMPLIES WITH RADIATION PERFORMANCE STANDARDS
21 CFR SUBCHAPTER J.

TYPICAL HHS STATEMENT

TYPICAL UL STATEMENT

2–2 Legacy/Legacy–D MP System Identification and Compliance Plates

See Illustration 1–2 and Table 1–2.

TABLE 1–2
LEGACY/LEGACY–D MP SYSTEM IDENTIFICATION AND COMPLIANCE PLATES

Item	Component	Model Number	Plate Type
1	XT Suspension X–Ray MX 100 X–Ray Tube Casing		
	Maxiray 100–18 H.S.; Focal Spots 0.6 – 1.25; 12.5°	46–155400G277	Identification, HHS, CE, UL
	Maxiray 100–18 H.S.; Focal Spots 0.3 – 1.0; 12.5°	46–155400G290	Identification, HHS CE, UL
2	Image Intensifier (40 cm/16 Inch) Digital and Non–Digital	46–315152G3	Identification, HHS, UL
	Image Intensifier (32 cm/12 Inch) Digital	46–275382G58	Identification, HHS, UL
	Image Intensifier (22 cm/9 Inch) Digital	46–275382G59	Identification, HHS, UL
	Image Intensifier (32 cm/12 Inch) Non–Digital	46–275382G60	Identification, HHS, UL
	Image Intensifier (22 cm/9 Inch) Non–Digital	46–275382G61	Identification, HHS, UL
	Image Intensifier (40 cm/16 inch) Universal Image Head	2173910	Identification, HHS, UL, CSA
3	Intelligent Spot Film Device (22/32 cm II)	2118104	Identification, HHS, ETL
3a	Intelligent Spot Film Device (40 cm II)	2118104-2	Identification, HHS, ETL
3b	Intelligent Digital Device (22/32 cm II)	2118104–3	Identification, HHS, ETL
3c	Intelligent Digital Device (40 cm II)	2118104–4	Identification, HHS, ETL
4	Legacy R&F Table	46–262751G6/ G7/G8	Identification
4a	Legacy R&F Table Standard Top Drive	46–270153G4	Identification
4b	Legacy R&F Table Collimator (Ultramet SU – Undertable)	ZAOULOSU	Identification, HHS, CSA (On collimator inside table)
4c	Legacy R&F Table Fluoro MX–100 X–Ray Tube Casing Maxiray 100FL; Focal Spots 0.6 – 1.0; 12.5°	46–155500G228	Identification, HHS, CE, UL (On tube inside table)
	Legacy R&F Table Fluoro MX–100 X–Ray Tube Casing Maxiray 100FL; Focal Spots 0.3 – 1.0; 12.5°	46–155500G230	Identification, HHS, CE, UL (On tube inside table)
4d	Legacy/Legacy–D R&F Table Reciprocating Bucky	46–315385G2 2189553	Identification (On bucky inside table)
	Legacy/Legacy–D R&F Table Cassette Size Sensing Tray	46–262555P3	Identification (On bucky CSS tray inside table)
5	Legacy/Legacy–D R&F Table Top	46–180600G1	Identification, HHS
6	XT Suspension Collimator Ultramet SA – Automatic	ZAOULOSA	Identification, HHS, CSA
	XT Suspension Collimator Ultramet SM – Manual	ZAOULOSM	Identification, HHS, CSA
7	Advantx Console	2106684,2183000	Identification, HHS, CSA
8	Legacy/Legacy–D R&F Positioner Cabinet	2131148	Identification, ETL
9	Legacy/Legacy–D Systems Cabinet (Titan)	2131148	Identification, ETL
9b	Legacy/Legacy–D Systems Cabinet VIC Module	46–289804G9 /G14	Identification
10	Legacy/Legacy–D MPPU Cabinets (MPP1 and MPP2)	ZHOOMPPU	Identification, HHS, CSA

SECTION 3
OTHER LEGACY AND LEGACY–D R&F SYSTEM COMPONENTS CROSS–REFERENCES

Refer to this section for references to other Legacy and Legacy–D R&F System components Pre–Installation Manuals.

TABLE 1–3
TV MONITORS

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
20 Inch (51 cm) Distar LLR Monitor	36002820	2129366–100	
20 Inch (51 cm) Distar DLR 60 Hz Monitor	36003612	2129366–100	
15 Inch Distar–M DLR Monitor (Charcoal gray)	2153977	none	
15 Inch Distar–M DLR Monitor (Mist gray)	2153978	none	
20 Inch Distar–M DLR Monitor (Charcoal gray)	2153976	none	

TABLE 1–4
XT SUSPENSION

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
12 ft. (3.66 m) Outboard XT Suspension Bridge	2106445	46–019618	
10 ft. (3.05 m) Inboard XT Suspension Bridge	2102423	46–019618	

TABLE 1–5
DRS 3.0 DIGITAL SUB–SYSTEM

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
Advantx DRS Digital Cabinet (DRS1)	2126007	2137574–100	
Advantx DRS Main Console (DRS2)	2126017	2137574–100	
Advantx DRS Infrared Remote (DR2)	2126015	2137574–100	

TABLE 1–6
DRS 3.1 DIGITAL SUB–SYSTEM

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
Advantx DRS Digital Cabinet (DRS1)	2148130 (MP Systems) 2148121 (HF Systems)	2151163–100	
Advantx DRS Main Console (DRS2)	2126017	2151163–100	
Advantx DRS Infrared Remote (DR2)	2126015	2151163–100	

TABLE 1–7
DRS 3.2 DIGITAL SUB-SYSTEM

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
Advantx DRS Digital Cabinet (DRS1)	2150800	2151163–100	
Advantx DRS Main Console (DRS2)	2126017	2151163–100	
Advantx DRS Infrared Remote (DR2)	2126015	2151163–100	

TABLE 1–8
MPPU GENERATOR SUB-SYSTEM

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
Legacy and Legacy–D MPPU Cabinets (MPP1 and MPP2)	ZHOOMPPU	2127978–100	

TABLE 1–9
NON-EMC VERSION SG–60 VERTICAL BUCKY STAND

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
SG–60 Vertical Bucky Stand	2126330 or 2126331	46–020079 (Chapter 2)	

TABLE 1–10
EMC VERSION SG–60 VERTICAL BUCKY STAND

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
SG–60 Vertical Bucky Stand (EMC)	2146731 or 2146735 2206038 or 2206048	2150301–100	Liebel–Flarsheim version Medys version

TABLE 1–11
NON-EMC VERSION SG–100 VERTICAL BUCKY STAND

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
SG–100 Vertical Bucky Stand	2125977 or 2125978	46–020086 (Chapter 2)	

TABLE 1–12
EMC VERSION SG–100 VERTICAL BUCKY STAND

PRODUCT NAME	MODEL NUMBER	PRE–INSTALLATION DOCUMENT NUMBER	NOTES
SG–100 Vertical Bucky Stand (EMC)	2146797 or 2146798 2206056 or 2206057	2150305–100	Liebel–Flarsheim version Medys version

SECTION 4
RESPONSIBILITIES OF THE PURCHASER/CUSTOMER

The purchaser is responsible for the “Pre-Installation” which includes the procurement and installation of all required materials and services in the room before delivery of the product and associated components. This responsibility includes the following:

- Room floor, ceiling, and wall finish
- Provision of suitable support structure in the floor, walls, or ceiling as necessary for the mounting of the product and components
- Room lighting
- Power supply of the required voltage including an emergency–off safety switch in the room
- Installation of junction boxes of proper size including covers and fittings at locations required by the installation plan
- Installation of conduit, duct and/or raceway
- Installation of non–electric services

CHAPTER 2 – PHYSICAL REQUIREMENTS OF ROOM

SECTION 1
ENVIRONMENTAL REQUIREMENTS/LIMITATIONS

1–1 Room Climate

Relative Humidity and Temperature

See Table 2–1. To obtain relative humidity and temperature requirements for components not specified in Table 2–1, refer to the appropriate component Pre-Installation Manual listed in Chapter 2.

TABLE 2–1
LEGACY/LEGACY–D R&F SYSTEM ROOM CLIMATE REQUIREMENTS (BY COMPONENT) – RELATIVE HUMIDITY AND TEMPERATURE

PRODUCT OR COMPONENT	RELATIVE HUMIDITY (Non–Condensing)				TEMPERATURE			
	IN–USE		STORAGE		IN–USE		STORAGE	
	MIN.	MAX	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Legacy/Legacy–D Table RFP3	20%	80%	20%	80%	50° F (+10° C)	100° F (+38° C)	–40° F (–40° C)	140° F (+60° C)
Intelligent Spot Film Device/ Intelligent Digital Device – RFP2	20%	80%	20%	95%	50° F (+10° C)	104° F (+40° C)	–40° F (–40° C)	160° F (+70° C)
Positioner Cabinet RFP1 (All systems)	20%	80%	–	–	50° F (+10° C)	100° F (+38° C)	–	–
SCPU Cabinet SKL (HF Systems)	30%	80%	–	95%	60° F (+15° C)	95° F (+35° C)	–40° F (–40° C)	160° F (+70° C)
MP Control Cabinet MPPU1 (MP Systems)	30%	80%	–	95%	61° F (+16° C)	104° F (+40° C)	–40° F (–40° C)	160° F (+70° C)
MP Power Unit Cabinet MPPU2 (MP Systems)	30%	80%	–	95%	61° F (+16° C)	104° F (+40° C)	–40° F (–40° C)	160° F (+70° C)
Titan Systems Cabinet SKL (MP Systems)	20%	80%	5%	95%	41° F (+5° C)	104° F (+40° C)	–40° F (–40° C)	160° F (+70° C)
Maxiray 100FL X–Ray Tube								
Maxiray 100–18 X–Ray Tube (XT Suspension)								
Image Intensifier 9 Inch (23 cm)	20%	80%	20%	95%	50° F (+10° C)	100° F (+38° C)	–40° F (–40° C)	160° F (+70° C)
Image Intensifier 12 Inch (32 cm)								
Image Intensifier 16 Inch (40 cm)								
Advantx Console SCC1	20%	80%	5%	95%	41° F (+5° C)	104° F (+40° C)	–40° F (–40° C)	160° F (+70° C)

Altitude and Atmospheric Pressure

See Table 2–2. To obtain altitude and atmospheric pressure requirements for components not specified in Table 2–2, refer to the appropriate component Pre-Installation Manual listed in Chapter 2.

TABLE 2–2
LEGACY/LEGACY–DR&F SYSTEM ROOM CLIMATE REQUIREMENTS (BY COMPONENT) – ALTITUDE AND ATMOSPHERIC PRESSURE

PRODUCT OR COMPONENT	ALTITUDE				ATMOSPHERIC PRESSURE			
	IN–USE		STORAGE		IN–USE		STORAGE	
	MIN.	MAX	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Legacy /Legacy–D Table RFP3	–100 ft. (–31 m)	8000 ft. (2438 m)	–	–	–	–	–	–
Intelligent Spot Film Device/Intelligent Digital Device – RFP2	–100 ft. (–31 m)	8000 ft. (2438 m)	–100 ft. (–31 m)	40, 000 ft. (12, 200 m)	–	–	3.5 psi (25 kPa)	15.4 psi (106 kPa)
Positioner Cabinet RFP1 (All systems)	–100 ft. (–31 m)	8000 ft. (2438 m)	–	–	–	–	–	–
SCPU Cabinet SKL (HF Systems)	–98 ft. (–30 m)	9843 ft. (3000 m)	–	–	10.16 psi (70 kPa)	15.4 psi (106 kPa)	–	–
MP Control Cabinet MPPU1 (MP Systems)	–100 ft. (–30 m)	8200 ft. (2500 m)	–	–	10.16 psi (70 kPa)	15.4 psi (106 kPa)	–	–
MP Power Unit Cab. MPPU2 (MP Systems)	–100 ft. (–30 m)	8200 ft. (2500 m)	–	–	10.16 psi (70 kPa)	15.4 psi (106 kPa)	–	–
Titan Systems Cabinet SKL (MP Systems)	0 ft. (0 m)	15, 092 ft. (4600 m)	0 ft. (0 m)	49, 869 ft. (15, 200 m)	–	–	–	–
Maxiray 100FL X–Ray Tube								
Maxiray 100–18 X–Ray Tube (XT Sus)								
Image Intensifier 9 Inch (23 cm)	–100 ft. (–31 m)	6000 ft. (1829 m)	–100 ft. (–31 m)	8000 ft. (2438 m)	10 psi (69 kPa)	15.4 psi (106 kPa)	7 psi (48 kPa)	15.4 psi (106 kPa)
Image Intensifier 12 Inch (32 cm)								
Image Intensifier 16 Inch (40 cm)								
Advantx Console SCC1	0 ft. (0 m)	15, 092 ft. (4600 m)	0 ft. (0 m)	49, 869 ft. (15, 200 m)	–	–	–	–

1–2 Equipment Heat Output (Dissipation)

See Table 2–3. To obtain heat output information for components not specified in Table 2–3, refer to the appropriate component Pre–Installation Manual listed in Chapter 2.

TABLE 2–3
LEGACY AND LEGACY–D R&F SYSTEM HEAT OUTPUTS (BY COMPONENT)

PRODUCT OR COMPONENT	HEAT OUTPUT (Watts & BTU/hr)		AIR FLOW RATE (ft³/h or m³/h)	
	STANDBY	IN–USE	STANDBY	IN–USE
Legacy and Legacy–D Table RFP3	< 50 W < 171 BTU/h	300 W 1024 BTU/h		
Intelligent Spot Film Device and Intelligent Digital Device – RFP2	75 W 256 BTU/h	300 W 1024 BTU/h		
Positioner Cabinet RFP1 (All systems)	1,000 W 3,400 BTU/h	2,500 W 8,530 BTU/h		
SCPU Cabinet SKL (HF Systems)	117 W 400 BTU/h	293 W 1,000 BTU/h		
MP Control Cabinet MPPU1 (MP Systems)	1,000 W 3,400 BTU/h	1,500 W 5,100 BTU/h	–	16,950 ft³/h 480 m³/h
MP Power Unit Cabinet MPPU2 (MP Systems)				
Titan Systems Cabinet SKL (MP Systems)	720 W 2455 BTU/h	960 W 3274 BTU/h		
Maxiray 100FL X–Ray Tube (All systems)				
Maxiray 100–18 X–Ray Tube (XT Suspension)				
Image Intensifier 9 Inch (23 cm)	negligible	negligible	–	–
Image Intensifier 12 Inch (32 cm)				
Image Intensifier 16 Inch (40 cm)				
Advantx Console SCC1	53 W 181 BTU/h	56 W 194 BTU/h	–	–

1–3 Acoustic Output

See Table 2–4. To obtain acoustic output information for components not specified in Table 2–4, refer to the appropriate component Pre–Installation Manual listed in Chapter 2.

TABLE 2–4
LEGACY AND LEGACY–D R&F SYSTEM ACOUSTIC OUTPUTS (BY COMPONENT)

PRODUCT OR COMPONENT	SOUND OUTPUT (dB)	
	STANDBY	IN–USE
Legacy and Legacy–D Table RFP3		
Intelligent Spot Film Device and Intelligent Digital Device – RFP2		
Positioner Cabinet RFP1 (All systems)		
SCPU Cabinet SKL (HF Systems)	< 50 dBA @ 1 meter (3.3 ft.) away from cabinet and 1 meter (3.3 ft.) off the floor.	< 47 dBA during X–Ray
MP Control Cabinet MPPU1 (MP Systems)		65 dB @ 1 meter (3.3 ft.)
MP Power Unit Cabinet MPPU2 (MP Systems)		
Titan Systems Cabinet SKL (MP Systems)		
Maxiray 100FL X–Ray Tube (All systems)		
Maxiray 100–18 X–Ray Tube (XT Suspension)		
Image Intensifier 9 Inch (23 cm)	negligible	negligible
Image Intensifier 12 Inch (32 cm)		
Image Intensifier 16 Inch (40 cm)		
Advantx Console SCC1		

1–4 Magnetic/Electrical Field Sensitivity and Electromagnetic Emissions

All the products or components of the Legacy/Legacy–D R&F system meet EMI and EMC requirements FCC47CFR, Part 14 VDE 0871 (Class C) as well as those specified in GEMS ENG. Std. 806–13, 806–14, and 806–15.

1–5 Radiation Protection

Because X-ray equipment produces radiation, special precautions may need to be taken or special site modifications may be required. The General Electric Company does not make recommendations regarding radiation protection. It is the purchasers responsibility to consult a radiation physicist for advise on radiation protection in X-ray rooms.

SECTION 2
STRUCTURAL REQUIREMENTS

2–1 Room Size

See Table 2–5.

TABLE 2–5
SC SYSTEM RECOMMENDED AND MINIMUM ROOM SIZE DIMENSIONS

LENGTH		WIDTH		CEILING HEIGHT	
Recommended	Minimum	Recommended	Minimum	Recommended	Minimum
18 ft. 6 in. (5.64 m)	16 ft. 6 in. (5.03 m)	15 ft. 0 in. (4.57 m)	12 ft. 6 in. (3.81 m)	9 ft. 6 in. (2.90 m)	9 ft. 0 in. (2.74 m)

Reference

See Chapter 5, *Room Layouts*, for additional details.

2–2 Door Size Requirements

See Table 2–6.

Note:

Door widths are based on a “straight–in” approach requiring an 8 ft. (2.44 m) wide corridor. Calculations need to be made for accommodation of equipment through narrower corridors.

Minimum door sizes also apply to hallways and elevators. See Chapter 7, *Planning Aids*, for additional details.

TABLE 2–6
LEGACY/LEGACY–D R&F SYSTEM MINIMUM DOOR SIZE REQUIREMENTS (LARGEST COMPONENTS)

PRODUCT OR COMPONENT	MINIMUM DOOR SIZE REQUIREMENTS (using provided shipping dollies, pallets, or air freight containers)			
	HEIGHT		WIDTH	
	Inches	Centimeters	Inches	Centimeters
Legacy /Legacy–D Table (On dolly)	55	140	44 (opening = 42.5)	111.8 (opening = 107.9)
Positioner Cabinet (On dolly)	81	206	29	74
SCPU Cabinet (On dolly)	81	206	29	74
MP Control Cabinet (On pallet or air freight container)	On Pallet (Europe): 83	On Pallet (Europe): 211	On Pallet (Europe): 31.5	On Pallet (Europe): 80
MP Power Unit Cabinet (On pallet or air freight container)	Air Freight Package (outside Europe): 90.6 (both cabinets)	Air Freight Package (outside Europe): 230 (both cabinets)	Air Freight Package (outside Europe): 25.2	Air Freight Package (outside Europe): 64
Titan Systems Cabinet (On dolly)	82	208.3	29	74

Moving Table Through Smaller Door Widths

If required, the table can be modified for smaller door sizes. The width of the table on the shipping dolly can be reduced as follows:

- Normal table body on dolly width: 42.2 inches (107 cm)
- With SID pot removed: 40.9 inches (104 cm)
- With four way table top back: 40.7 inches (103 cm)
- With tower forward: 39.5 inches (100 cm)

Room planning for moving Table through Door Widths less than 39.5 inches (100 cm)

Note:

Any opening less than 39.5 inches (100 cm) will require other means of table entry to the room (removing door frame, knocking out a partition wall, etc).



AVOID EQUIPMENT DAMAGE!

Under no circumstances should the table body be rotated to present a narrower dimension. This could result in broken welds and/or distortion to the table frame.




GE MEDICAL SYSTEMS		ADVANTX LEGACY/LEGACY–D R&F SYSTEM PRE–INSTALLATION	
REV 11		DIRECTION 2144928–100	
2–3	Floor, ceiling, and Walls	SECTION 3 ELECTRICAL REQUIREMENTS	
	Seismic Requirements	All components of the Legacy and Legacy–D R&F System obtain power from the Advantx power distribution center in either the SCPU or MPPU Generators.	
	Floor Requirements when using provided Table Floor Anchors	3–1 Generator System Electrical Requirements	
	Ceiling	3–2 Fuse/Circuit Breaker Specifications	
Seismic requirements are determined and specified by the hospital structural engineer of record and approved by the specific state or country agency. GE provides Service Marketing catalogs (“R” Catalogs) which contain seismic mounting information and kits, if required.		The main circuit breaker is supplied by the customer and must be sized in accordance to the local regulation. If the PDP is equipped with a differential calibrated to 30 mA, the latter must be at least with class A (for pulse waveform current).	
The maximum pullout force per provided anchor was calculated assuming:		Reference	
<ul style="list-style-type: none">A regular weight concrete having a minimum, 28 day, compression strength (f'c) of 2500 psi (17.24 MPa) at the time of installation,Anchors installed to the required hole depth of 4 in. (102 mm), andCenter of anchor hole to concrete edge distance 4.5 in. (114 mm).		For additional details on MPPU system electrical requirements, refer to:	
Make sure to obtain data on compression strength of the concrete before using floor anchors.		 CAUTION	
Aluminum rails support the XT Radiographic Suspension and In-Room TV Monitor bridge used in Legacy and Legacy–D R&F system X-ray rooms.		TABLE 2-7 SCPU 65 POWER SUPPLY	
Reference		SCPU 65	
For details on ceiling requirements for stationary rails, refer to:		Phase	
 Direction 46–019618, <i>Advantx (VHLA) XT RAD Suspension Inboard/Outboard – Planning</i>		Three Phase without neutral	
 Direction 46–019639, <i>Advantx (VHLA) XT Stationary Rails Installation and Adjustment</i>		Nominal line voltage (Vac)	
Walls		Voltage range (Vac)	
All Legacy and Legacy–D R&F System cabinets must be securely fastened to the wall to prevent tipping. Each cabinet is supplied with wall mounting brackets that may be used as drilling templates at the time of installation.		Nominal line frequency (Hz)	
		Maximum instantaneous power ⁽¹⁾ (kVA)	
		Power factor	
		Momentary line current ⁽¹⁾ (Amp)	
		Continuous line current (Amp)	
		Maximum Line Impedance (Apparent Resistance of Feed Circuit in ohms per phase wire (measured on point B))	
		Inrush current	
		Power demand (kVA)	
		⁽¹⁾ Based on momentary power demand in kVA/0.1 second max.	

TABLE 2–8
SCPU 80 POWER SUPPLY

SCPU 80						
Phase	Three Phase without neutral					
Nominal line voltage (Vac)	380	400	420	440	460	480
Voltage range (Vac)	±10 %	±10 %	±10 %	±10 %	±10 %	±10 %
Nominal line frequency (Hz)	50 Hz to 60 Hz with a rate of ±3 %					
Maximum instantaneous power ⁽¹⁾ (kVA)	118	118	118	118	118	118
Power factor	0.73	0.73	0.73	0.73	0.73	0.73
Momentary line current ⁽¹⁾ (Amp)	180	170	162	155	148	144
Continuous line current (Amp)	15.8	15.0	14.3	13.6	13.0	12.5
Maximum Line Impedance (Apparent Resistance of Feed Circuit in ohms per phase wire (measured on point B)	0.10	0.11	0.12	0.14	0.15	0.16
Inrush current						
Power demand (kVA)						
⁽¹⁾ Based on momentary power demand in kVA/0.1 second max.						

TABLE 2–9
MPPU 100 POWER SUPPLY

MPPU 100							
Phase	Three Phase without neutral						
Nominal line voltage (Vac)	360	380	400	420	440	460	480
Voltage range (Vac)	±10 %	±10 %	±10 %	±10 %	±10 %	±10 %	±10 %
Nominal line frequency (Hz)	50 Hz to 60 Hz with a rate of ±1 %						
Maximum instantaneous power ⁽¹⁾ (kVA)	171	171	171	171	171	171	171
Power factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Momentary line current ⁽¹⁾ (Amp)	274	260	247	235	224	214	205
Continuous line current (Amp)	14 ↕ range ↗ 10						
Maximum Line Impedance (Apparent Resistance of Feed Circuit in ohms per phase wire – measured on point B)	0.09	0.10	0.11	0.12	0.13	0.14	0.16
Inrush current							
Power demand (kVA)	50	50	50	50	50	50	50
⁽¹⁾ Based on momentary power demand in kVA/0.1 second max.							

3–3 Customer Supplied Power

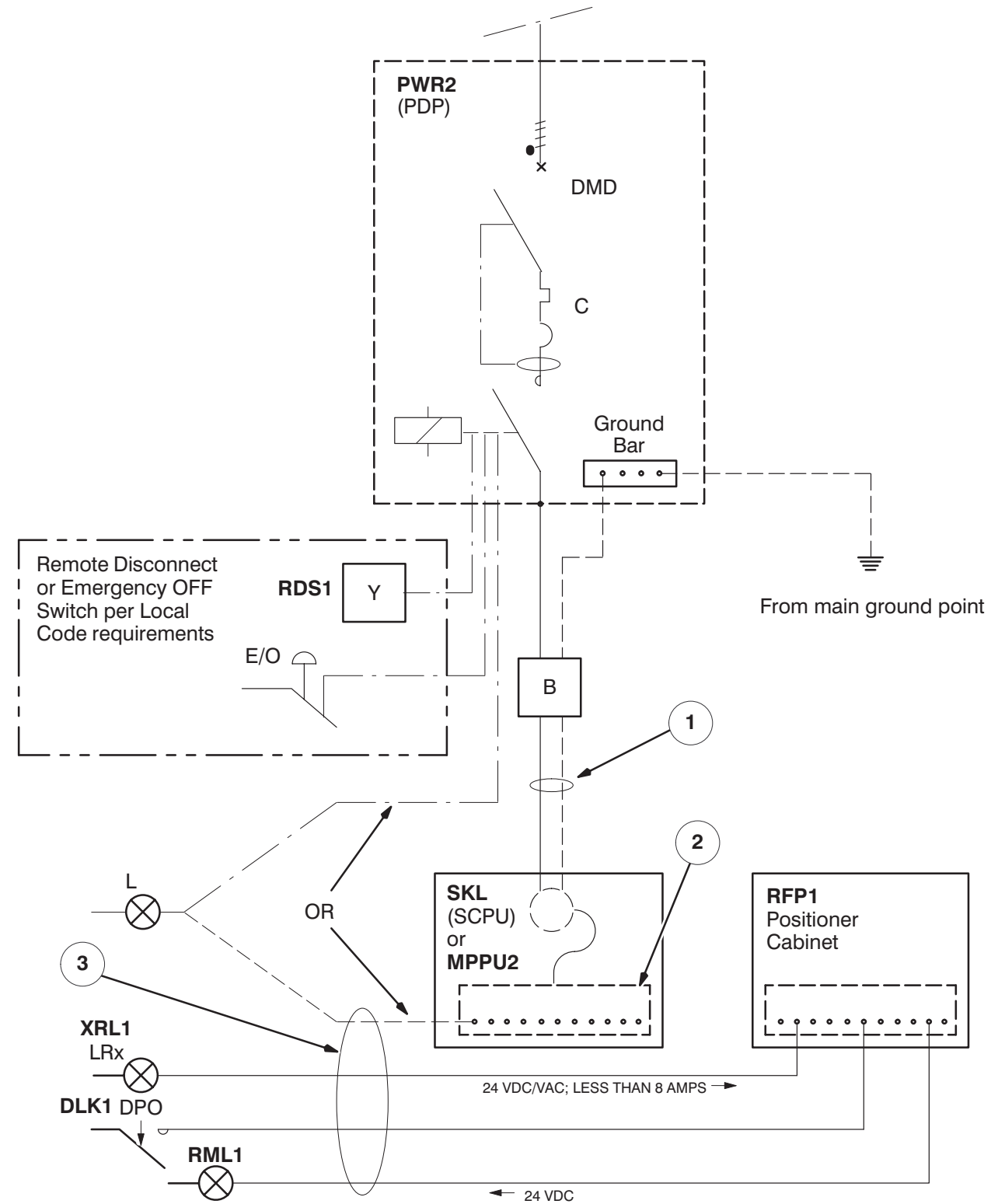
This section provides additional data regarding power circuits provided by the customer and internal electrical circuits to supply the correct power to the Legacy/Legacy–D SCPU or MPPU R&F system.

Illustration 2–1 shows the room power supply installed at customer expense with a DMD in compliance with Section 3–2.

TABLE 2–10
CUSTOMER SUPPLIED POWER REQUIREMENTS LEGEND FOR ILLUSTRATION 2–1

United States Key	European Key	Description
1	1	Feeder wire and grounding cable supplied by the customer.
2	2	The Advantx SKL (SCPU) and MPPU2 are supplied by GEMS with an AC Distribution Panel located inside the Cabinet.
3	3	Cables are to be provided by customer with inlet to SKL (SCPU) or MPPU2 with 2 meters or 79 inches for internal cabinet routing).
PWR2	PDP	Power distribution panel for powering X–ray equipment (not supplied by GEMS).
DMD	DMD	Thermomagnetic differential circuit breaker.
C	C	Contactor
RDS1	Y	Contactor remote–control ON/OFF impulse buttons, lockable on “OFF”, with indicator lamps (Red = ON/Green = OFF) located near access door, 1.5 meters (59 inches) above floor.
B	B	Inlet for power supply cable on plinth in connecting box (depending of length between PDP and SCPU/MPPU2 Cabinet).
E/O	E/O	Emergency off button located near access door, 1.5 meters (59 inches) above floor.
L	L	Red continuous glow or flashing presence indicator lamp located above the access door, near LRx. Voltages: 220 V in Europe/120 V in USA with bulb 25 W maximum.
XRL1	LRx	Yellow X–ray emission indicator lamp above the room access door. 220 V in Europe/120 V in USA with 25 W max. bulb (per local regulations). Circuitry Requirements: <ul style="list-style-type: none">● Customer furnished 24 VDC/VAC @ less than 8 Amps Low Voltage Source (to SKL or MPPU2).● Contactor (GE Part # CR120B01125 or equivalent)● Varistor in parallel with Contactor (35 VAC Varistor – Harris Part # V56ZA2 or equivalent.
DLK1	DPO	Open–door detector (per local regulations). SKL (SCPU) or MPPU2 provides 24 VDC.
RML1	RML1	Room Light dimmer control.

ILLUSTRATION 2-1
ROOM POWER SUPPLY INSTALLED AT CUSTOMER'S EXPENSE - LEGACY AND LEGACY-D SCPU OR MPPU R&F SYSTEM



3-4 Grounding Requirements

An R&F room may be used as a critical care area and requires a special grounding system for patient safety. An equipotential grounding system is recommended for meeting patient safety requirements.

Reference: For general system grounding requirements and information on establishing an equipotential grounding system, refer to:

- ☐ Direction 46-014505, *Electrical Safety – Equipment Grounding*
- ☐ Direction 46-014546, *Electrical Safety – Leakage Currents*

Reference: For specific Advantx system grounding requirements and information on establishing an equipotential grounding system, refer to:

- ❑ Direction 46-019668, *Advantx System Facility Power and Ground Requirements*

Reference: For specific Legacy and Legacy–D R&F system grounding maps and connection details, refer to the following:

- ☐ Direction 2145463–100, *Advantx Legacy R&F (MP/SCPU) System MIS Maps*
- ☐ Direction 2145464–100, *Advantx Legacy R&F (MP/SCPU) System MIS Charts*
- ☐ Direction 2188326–100, *Legacy/Legacy–D Phase II R&F System Interconnect Map*
- ☐ Direction 2188186–100, *Legacy/Legacy–D Phase II R&F System Interconnect Charts*
- ☐ Direction 2209056sch, *Legacy/Legacy–D Phase III R&F System Interconnect Map*
- ☐ Direction 2209015–100, *Legacy/Legacy–D Phase III R&F System Interconnect Charts*

CHAPTER 3 – PHYSICAL CHARACTERISTICS

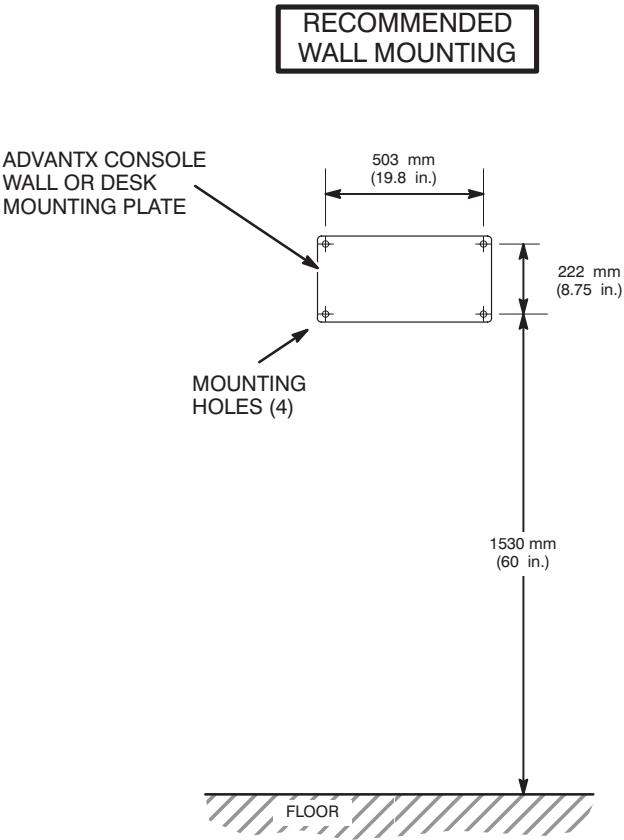
SECTION 1
DIMENSION DRAWINGS

Refer to this section for dimensional drawings for the components of the Legacy/
Legacy–D R&F system. These components include:

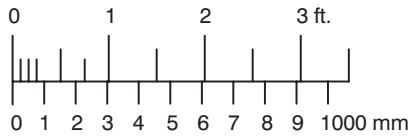
- Advantx Console (SCC1) – Illustration 3–1
- SCPU Cabinet (SKL – HF Systems Only) – Illustration 3–2
- R&F Positioner Cabinet (RFP1) – Illustration 3–3
- Titan System Cabinet (SKL – MP Systems Only) – Illustration 3–4
- Legacy/Legacy–D Table (RFP3) – Illustrations 3–5 and 3–6

Note: All dimensional drawings are scale drawings. Refer to the scale legends on
each drawing to determine scale used.

ILLUSTRATION 3-1
ADVANTX CONSOLE DIMENSIONS



DIMENSIONS ARE IN INCHES (mm)
SCALE: 1/2 in. = 12 in.

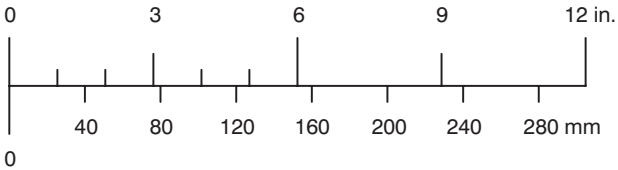


Reference:
Source Drawings:

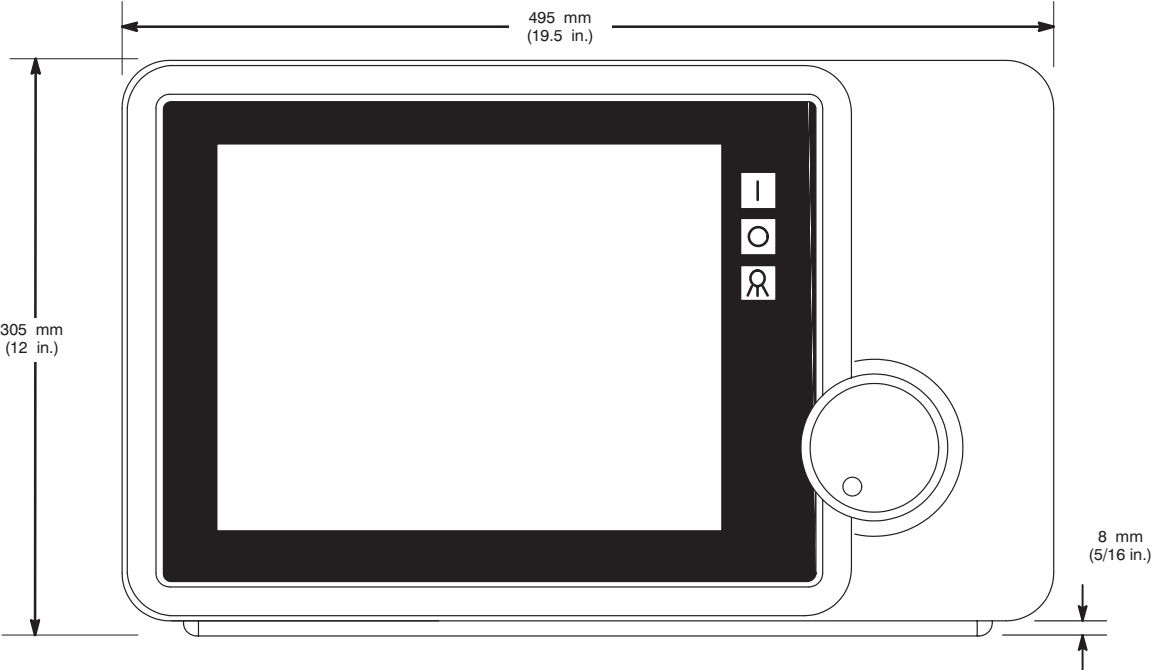
Wall Mounting Plate 46-276444P1

Console Weight
16 lbs.
(7.3 kg)

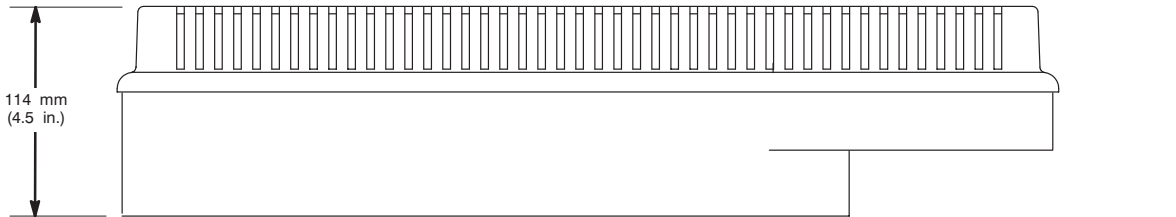
DIMENSIONS ARE IN INCHES (mm)
SCALE: 3 in. = 12 in.



FRONT VIEW



TOP VIEW



BACK VIEW

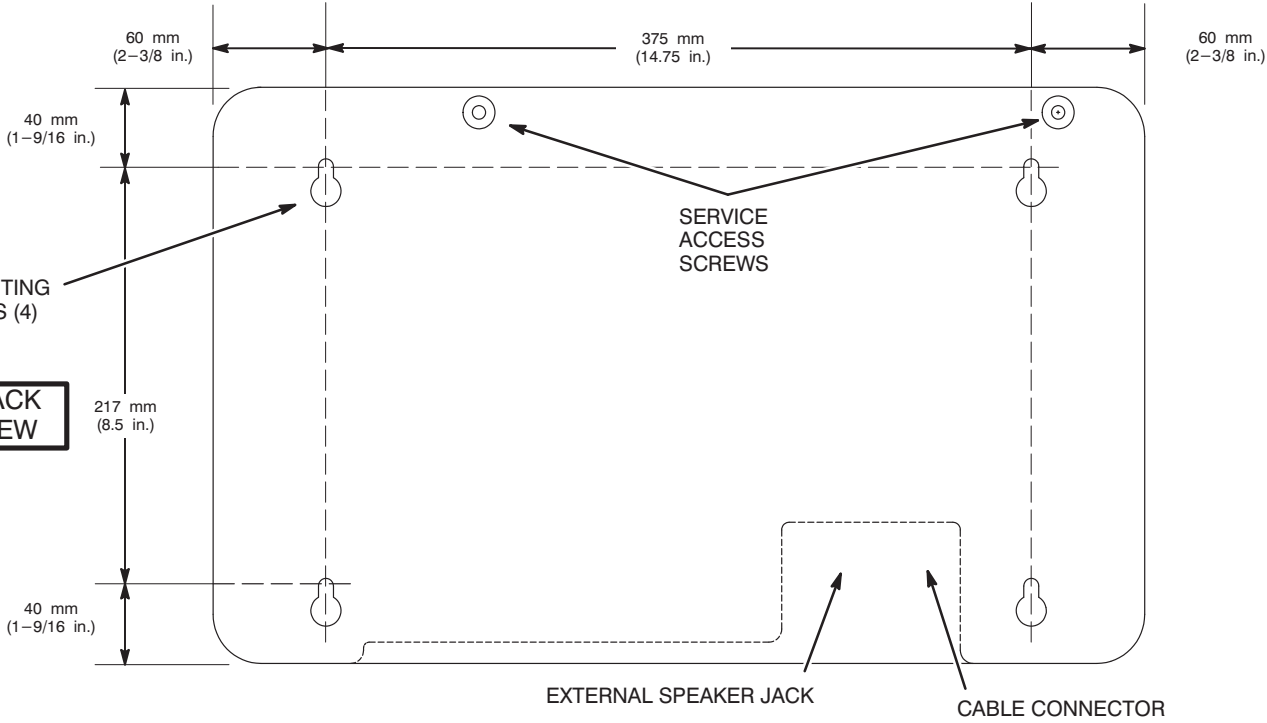


ILLUSTRATION 3-2
SCPU CABINET DIMENSIONS (USED WITH SCPU SYSTEMS ONLY)

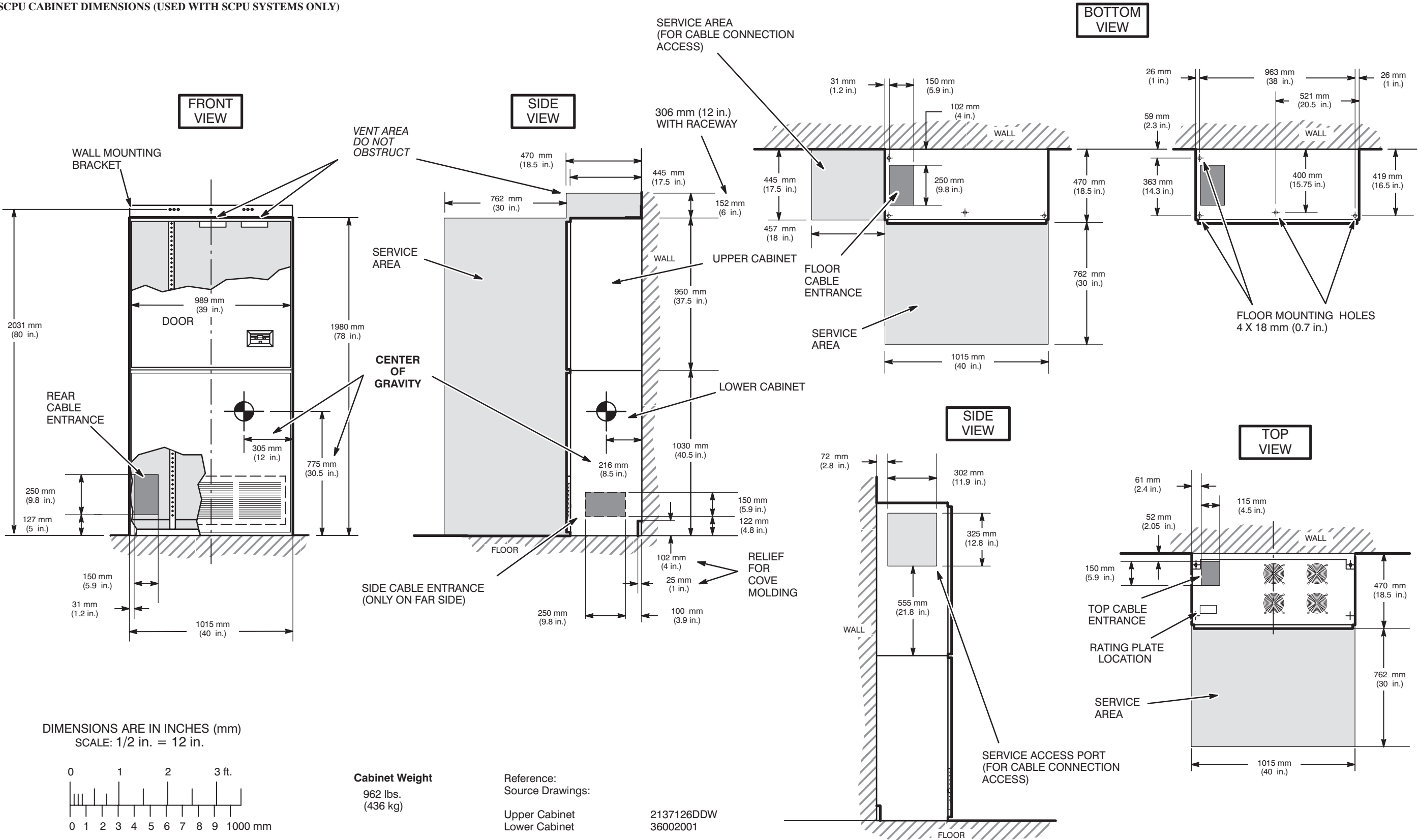


ILLUSTRATION 3-3
LEGACY AND LEGACY-D R&F POSITIONER CABINET DIMENSIONS (USED WITH ALL SYSTEMS)

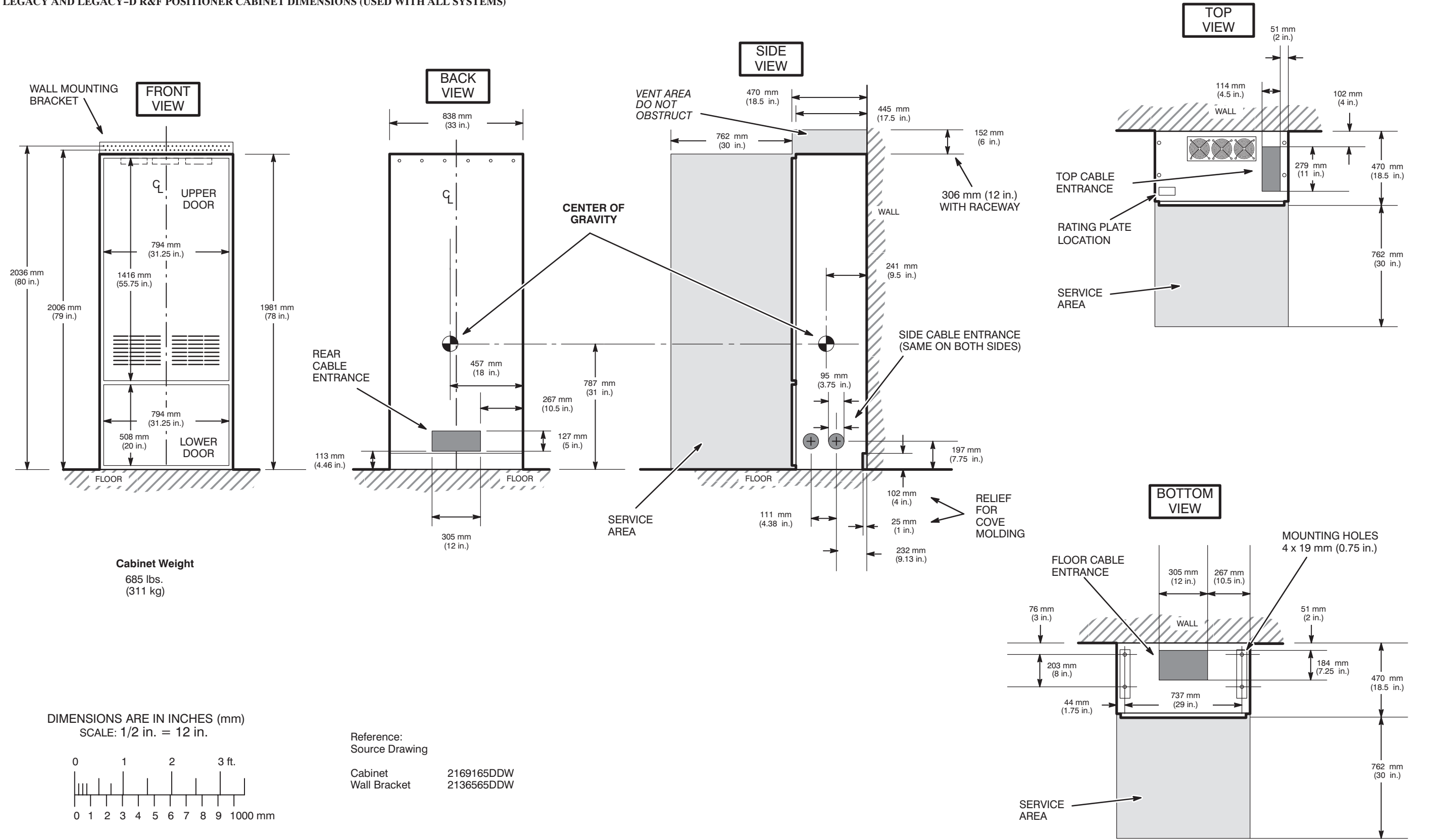


ILLUSTRATION 3-4
LEGACY/LEGACY-D TITAN SYSTEM CABINET DIMENSIONS (MPPU SYSTEMS ONLY)

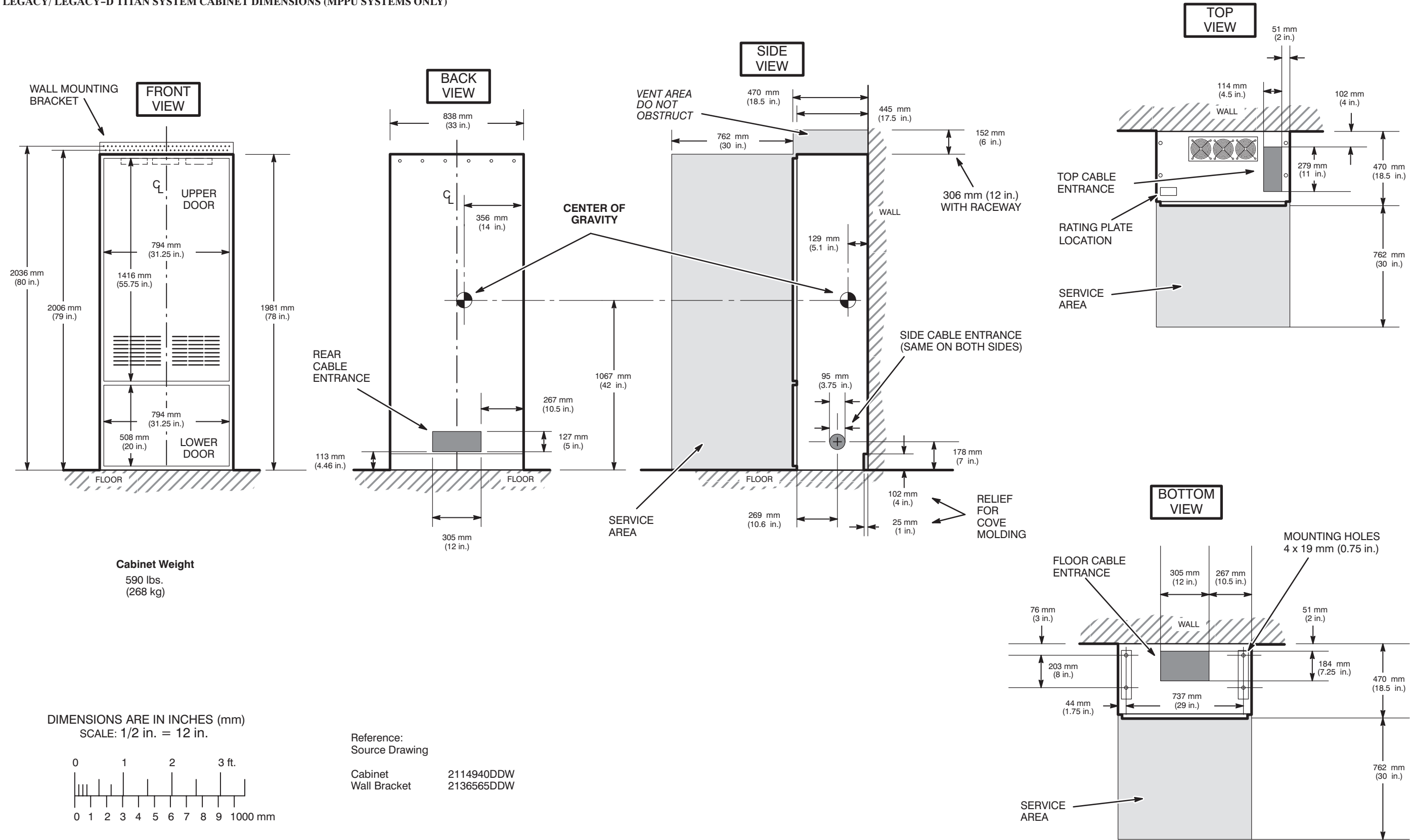
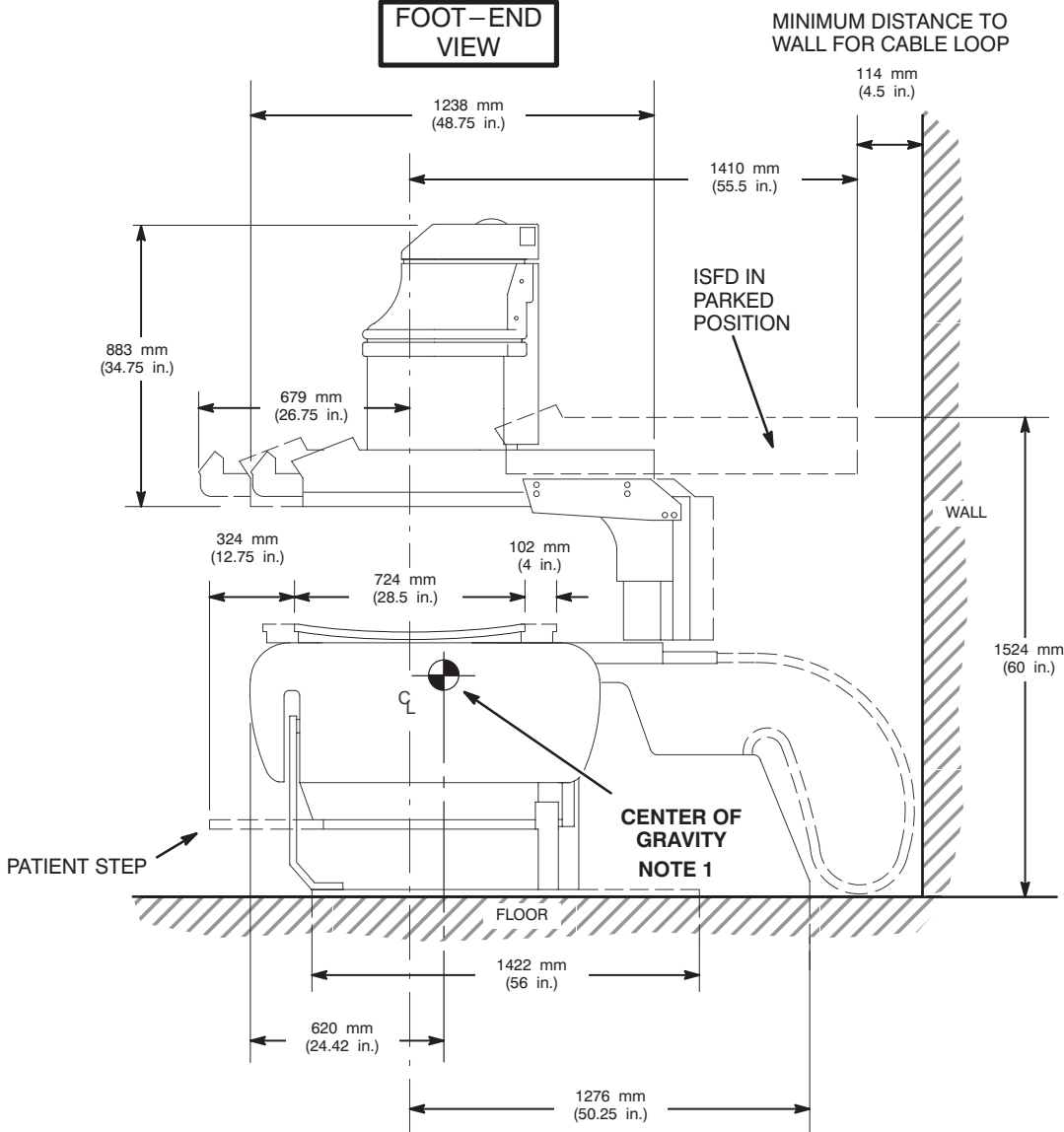
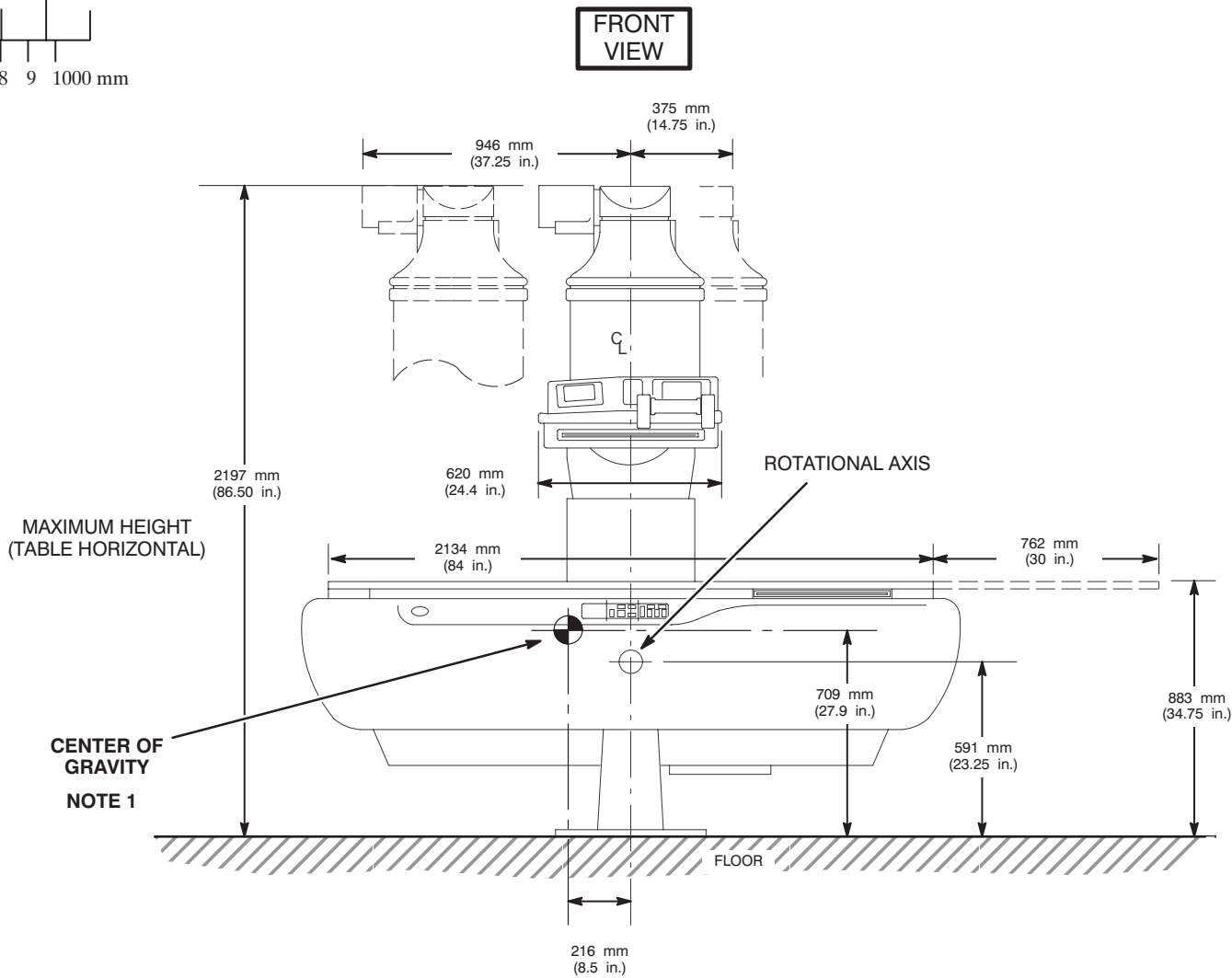
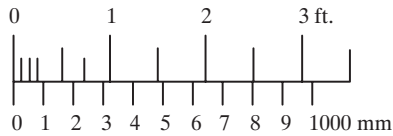


ILLUSTRATION 3-5
LEGACY AND LEGACY-D R & F TABLE DIMENSIONS (FRONT VIEW AND FOOT-END VIEW)

DIMENSIONS ARE IN INCHES (mm)
SCALE: 1/2 in. = 12 in.



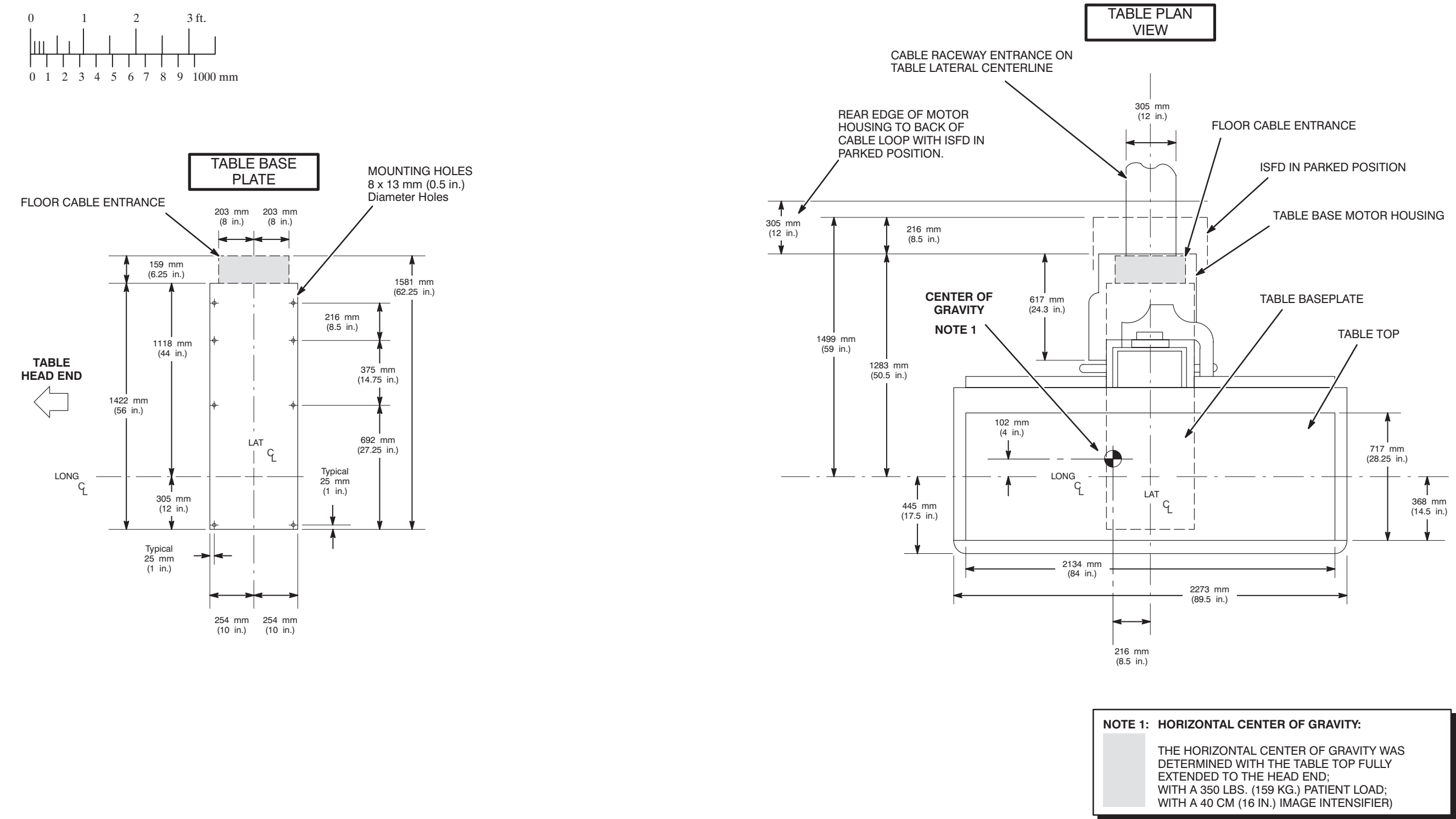
NOTE 1: HORIZONTAL CENTER OF GRAVITY:

THE HORIZONTAL CENTER OF GRAVITY WAS DETERMINED WITH THE TABLE TOP FULLY EXTENDED TO THE HEAD END; WITH A 350 LBS. (159 KG.) PATIENT LOAD; WITH A 40 CM (16 IN.) IMAGE INTENSIFIER

TOTAL WEIGHT
(with 350 lbs. or 159 kg. Patient)
3444 lbs. / 1562 kg.

ILLUSTRATION 3-6
LEGACY/LEGACY-D R & F TABLE DIMENSIONS (TABLE BASE PLATE AND TABLE PLAN VIEW)

DIMENSIONS ARE IN INCHES (mm)
SCALE: 1/2 in. = 12 in.



SECTION 2
SWEPT VOLUME CURVES

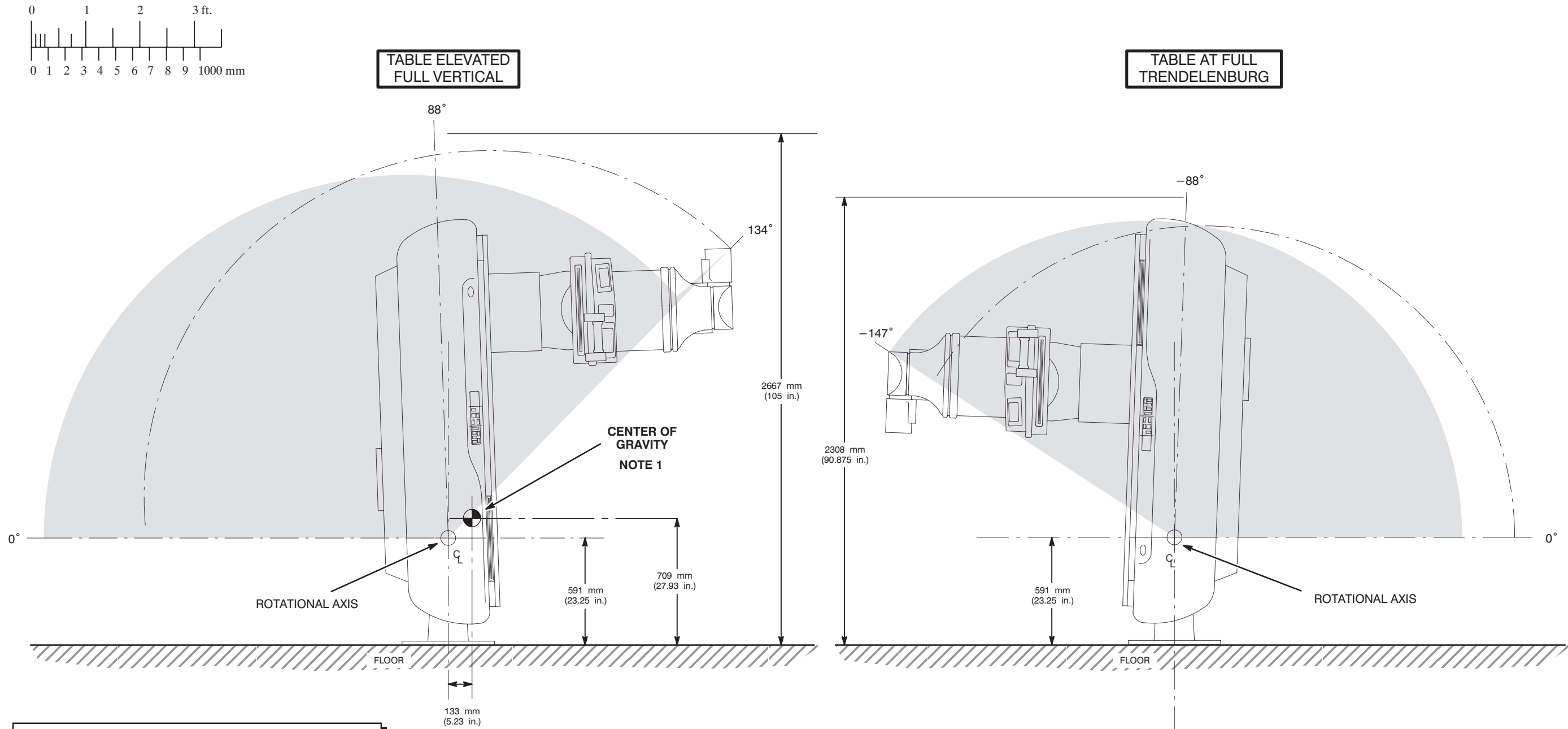
Refer to this section for details on the mechanical curve dimensions for the Legacy and Legacy–D R&F Table. These dimensions are the interference zones for the rotating members of the gantry.

Refer to Illustration 3–7 (frontal view with 40 cm Image Intensifier).

Refer to Illustration 3–8 (plan view with 40 cm Image Intensifier).

ILLUSTRATION 3-7
LEGACY/LEGACY-D R&F TABLE SWEEP VOLUME CURVES (FRONTAL VIEW WITH 40 CM IMAGE INTENSIFIER)

DIMENSIONS ARE IN INCHES (mm)
SCALE: 1/2 in. = 12 in.

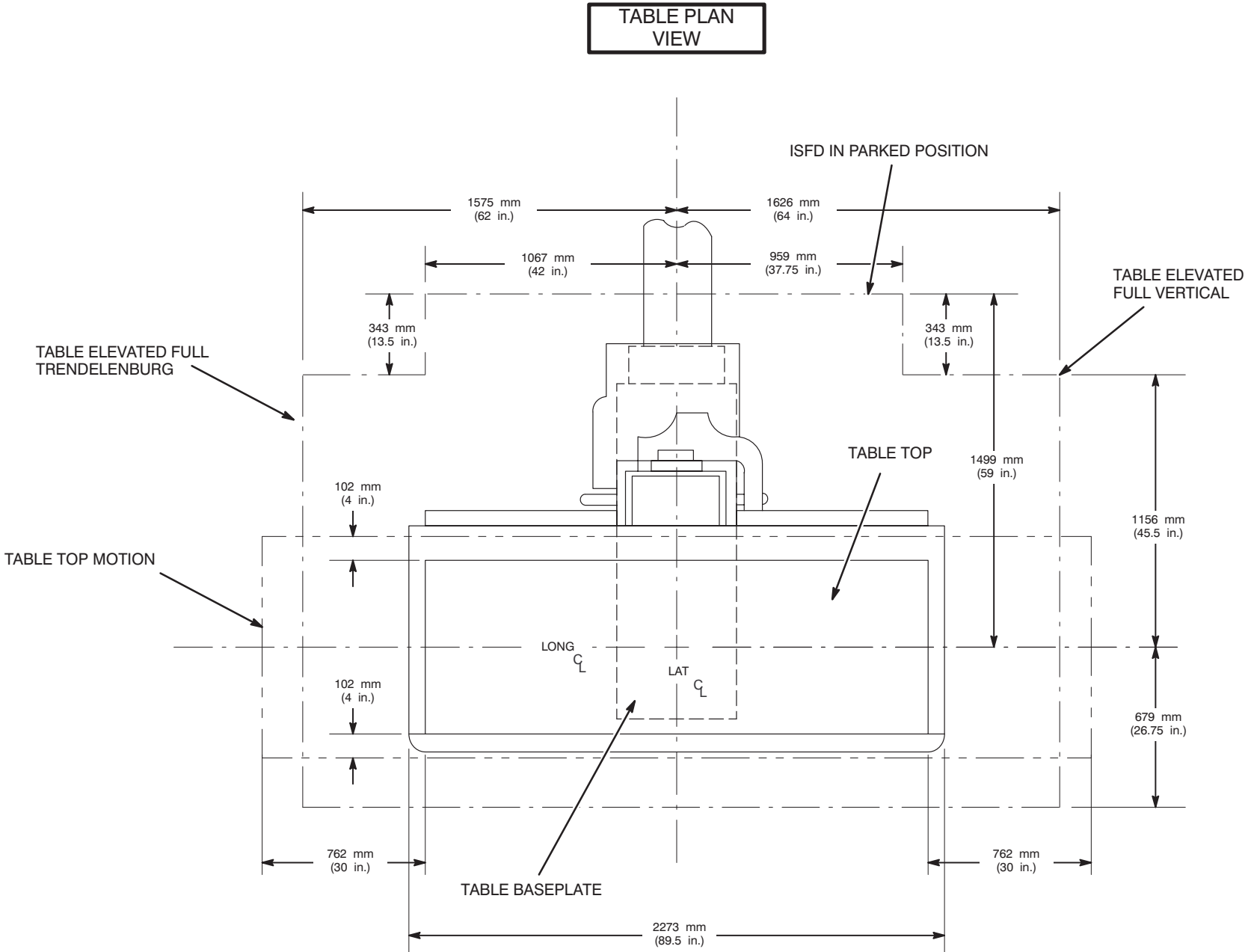
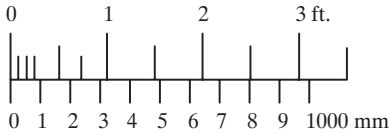


NOTE 1: VERTICAL CENTER OF GRAVITY:

THE VERTICAL CENTER OF GRAVITY WAS DETERMINED WITH THE ISFD FULLY EXTENDED TO THE HEAD END; WITH A 350 LBS. (159 KG.) PATIENT LOAD; WITH A 40 CM (16 IN.) IMAGE INTENSIFIER)

ILLUSTRATION 3-8
LEGACY AND LEGACY-D R & F SWEEP VOLUME CURVE (PLAN VIEW WITH 40 CM IMAGE INTENSIFIER)

DIMENSIONS ARE IN INCHES (mm)
SCALE: 1/2 in. = 12 in.



SECTION 3
MOUNTING REQUIREMENTS

3–1 Floor Loading and Recommended Mounting Methods

See Table 3–1. To obtain floor loading and recommended mounting methods for components not specified in Table 3–1, refer to the appropriate component Pre-Installation Manual listed in Chapter 1.






TABLE 3–1
LEGACY/LEGACY–D R&F SYSTEM FLOOR LOADING, WEIGHTS, AND MOUNTING METHODS

PRODUCT OR COMPONENT	NET WEIGHT	DIMENSIONS			LOAD BEARING AREA ft ² (m ²)	WEIGHT/OCCUPIED AREA	MOUNTING METHOD
		Length	Width	Height			
Advantx Console (SCC1)	16 lbs. (7.3 kg)	See Illustration 3–1					Wall mounted, Desk mounted, or on cart.
SCPU Cabinet (SKL)	985 lbs. (447 kg)	See Illustration 3–2			4.86 ft ² (0.45 m ²)	203 lbs/ft ² (993 kg/m ²)	Recommended: ● 3/8 in. or 10 mm (4) anchors to floor ● 5/16 in. or 8 mm (2) anchors to wall (Mounting hardware not provided by GEMS)
Legacy/Legacy–D R&F Positioner Cabinet (RFP1)	685 lbs. (311 kg)	See Illustration 3–3			4.01 ft ² (0.37 m ²)	171 lbs/ft ² (841 kg/m ²)	Recommended: ● 3/8 in. or 10 mm (4) anchors to floor ● 5/16 in. or 8 mm (2) anchors to wall (Mounting hardware not provided by GEMS)
Titan Systems Cabinet (SKL)	590 lbs. (268 kg)	See Illustration 3–4			4.01 ft ² (0.37 m ²)	147 lbs/ft ² (724 kg/m ²)	Recommended: ● 3/8 in. or 10 mm (4) anchors to floor ● 5/16 in. or 8 mm (2) anchors to wall (Mounting hardware not provided by GEMS)
Legacy/Legacy–D R&F Table (40 cm Image Intensifier & 350 lbs. or 159 kg Patient)	3444 lbs. (1562 kg)	See Illustrations 3–5 & 3–6			7.78 ft ² (0.72 m ²)	443 lbs/ft ² (2169 kg/m ²)	Recommended: ● 3/8 in. x 4 in. Anchors (8) (Mounting hardware provided by GEMS)

3–2 Legacy/Legacy–D R&F Table Floor Preparation Kit (GEMS supplied)

The GE supplied Legacy/Legacy–D R&F Table floor preparation kit parts are contained in Catalog # B0124JY.

TABLE 3–2
LEGACY/LEGACY–D R&F TABLE FLOOR PREPARATION KIT (KIT # 46–195961G1; CATALOG # B0124JY) PARTS LIST

ITEM	NAME	PART #	DESCRIPTION	QUAN.	NOTES
	Cement	46–220466P2	27 lb. Powdered Mortar Ardex K–15 inside pail Powdered grout material for Legacy R&F Table grout pad	1 kit	Used in constructing Legacy/ Legacy–D R&F Table grout dam
	Masking Tape	46–170127P4	3/4 in. (19 mm) wide; 60 yard (55 m) roll	1 roll	Used in constructing Legacy/ Legacy–D R&F Table grout dam
	Floor Anchor	46–219624P1	Floor Anchor Bolt; 3/8–16 x 4 in. 8 anchors for Legacy Table Base Plate	8	Preferred mounting method for Legacy / Legacy–D Table
	Wood Dowel	46–195954P1	Wood Dowel; 0.5 in. (13 mm) diameter	8	Used in constructing Legacy/ Legacy–D R&F Table grout dam
	Foam Tape	46–221505P4	Foam Tape; 1 in. (25 mm) wide x 1 in. (25 mm) thick; 25 ft. (7.6 m) roll Used as grout dam for Legacy R&F Table Base grout pad	1 roll	Used in constructing Legacy/ Legacy–D R&F Table grout dam
	Direction	46–017488	“Grout Preparation”. Detailed instructions on how to prepare, mix, pour, and set Ardex K–15 grout.	1	Used in constructing Legacy/ Legacy–D R&F Table grout dam

THIS PAGE INTENTIONALLY LEFT BLANK.

CHAPTER 4 – ROOM LAYOUTS

SECTION 2
ROOM LAYOUT DRAWINGS

SECTION 1
ROOM LAYOUT CONSIDERATIONS

See Illustration 4–1, for a recommended room layout for a Legacy/Legacy–D HF R&F System (SCPU with 40 cm Image Intensifier).

1–1 Radiation Protection

Because X–Ray equipment produces radiation, you may need to take special precautions or make special site modifications. The General Electric Company does not make recommendations regarding radiation protection. It is the purchasers responsibility to consult a radiation physicist for advisement on radiation protection in x–ray rooms.

1–2 Service Access

Allow appropriate space for service access of equipment. Consult component pre-installation directions for clearance information.

1–3 Clinical Access

Make sure that you plan the room with the following clinical access requirements:

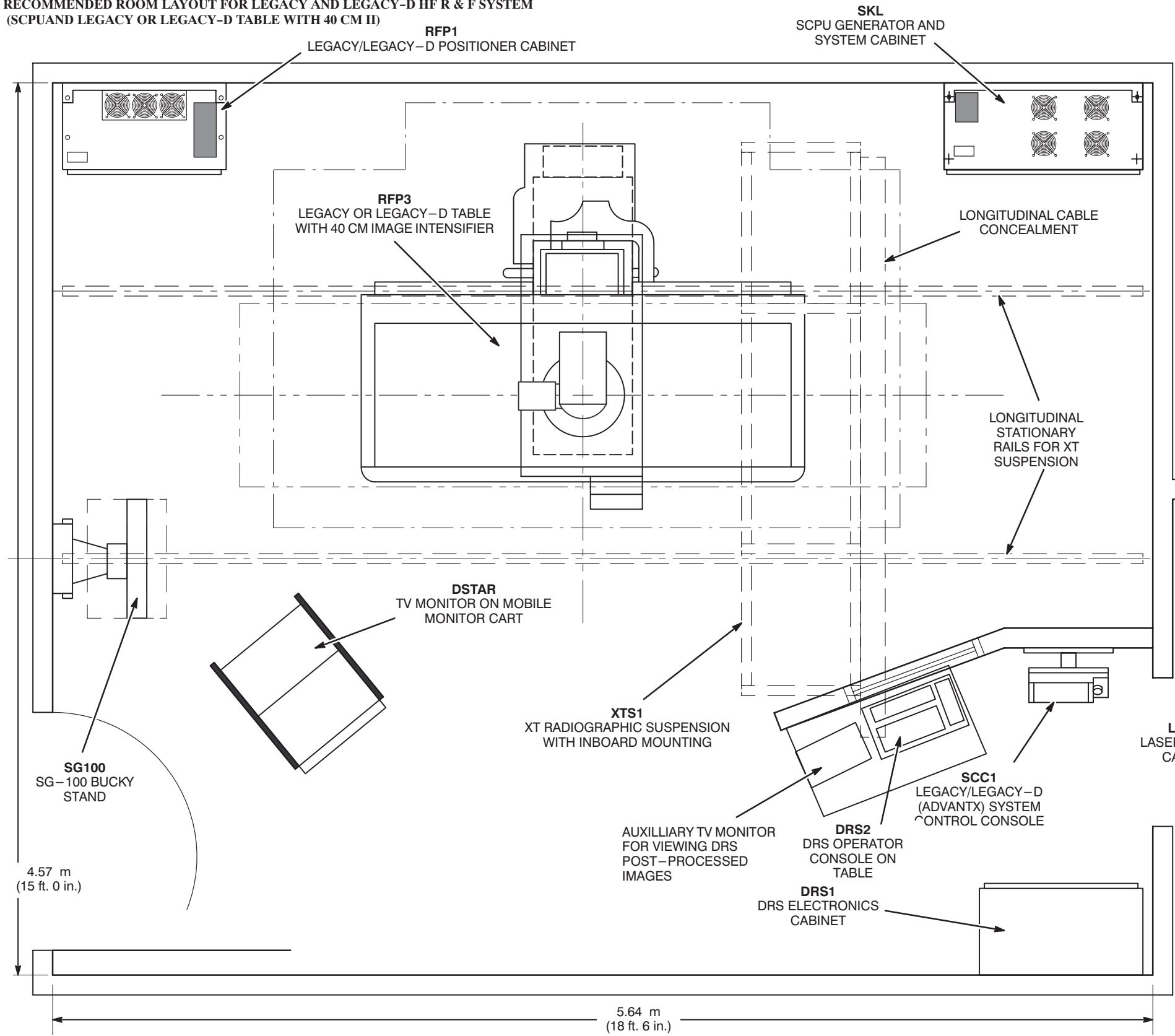
- ☐ Provide easy access to the patient table. Stretchers and other mobile hospital equipment must reach the table quickly.
- ☐ Clinicians at the patient table must be able to communicate with assistants in the control area.
- ☐ There must be an unrestricted view of the video monitors and physiological monitoring equipment from the vascular table.
- ☐ Operators in the control area must have easy access to the control console. However, position the controls (including handswitches) so the operator cannot take exposures while looking around or standing outside the control booth’s lead glass window.
- ☐ Operators in the control area must have easy access to video recorders and injector programmers, film and video storage cabinets, and service and operating manuals.
- ☐ Consult customer on the number and location of nonelectrical lines (air, oxygen, vacuum, water, etc.) in the vascular room.

1–4 Peripheral Equipment

Consult hospital personnel regarding additional space requirements for the following types of hospital equipment:

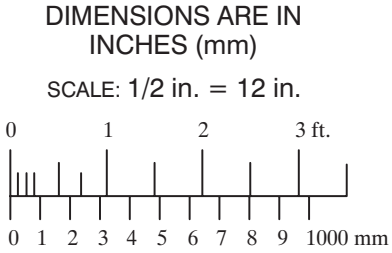
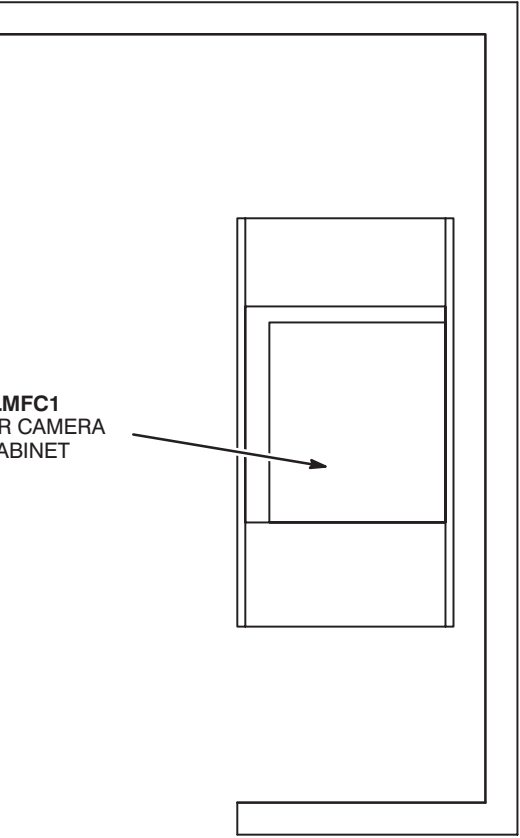
- ☐ storage cabinets
- ☐ sinks
- ☐ oxygen stations
- ☐ IV apparatus
- ☐ injectors
- ☐ heart monitoring equipment
- ☐ crash cart

ILLUSTRATION 4-1
RECOMMENDED ROOM LAYOUT FOR LEGACY AND LEGACY-D HF R & F SYSTEM
(SCPU AND LEGACY OR LEGACY-D TABLE WITH 40 CM II)



ROOM DIMENSIONS	L X W	CEILING HEIGHT
RECOMMENDED:	18.6 ft. 0 in. x 15 ft. 0 in. (5.64 m x 4.57 m)	9 ft. 4 in. (2.87 m)
MINIMUM:	16 ft. 6 in. x 12 ft. 6 in. (5.03 m x 3.81 m)	9 ft. 0 in. (2.74 m)

ROOM ENVIRONMENT
Ambient Operation Temperature: 55° F – 75° F (12.78° C – 23.89° C)
Allowable Temperature Change: 15° F per hour (9.44° C per hour)
Humidity: 20–80 percent non-condensing
Allowable Humidity Change: 10 percent per hour
Max – Altitude: 8000 ft (2438 m) above sea level



CHAPTER 5 – ELECTRICAL CONNECTIONS

SECTION 1
CABLE CHANNELING

1–1 Conduit

Conduit has some important restrictions when used with modularized X-ray systems. The primary consideration is that the majority of cables used are preterminated, which greatly simplifies interconnection, but makes cable-pulling difficult because of the added dimensions of the connectors. Conduit must be large enough to pass the cable and connector through with all other cables already in the conduit. Also consider the possibility of additional cables being added as the system is developed.

The use of conduit is recommended for cables running overhead between rooms, especially when a diagonal run provides the shortest cable path.

1–2 Floor Duct

Floor duct has advantages when used with a single room or two adjacent rooms. Floor duct combines a neat, functional appearance with accessibility and room for expansion. The disadvantage is the amount of work required to install it, which is generally prohibitive in old installations. For the same reason, it is impractical to attempt to add on to existing floor duct systems.

1–3 Raceway

Raceway offered by General Electric Medical Systems offers some unique advantages. It is very practical to use in existing structures, since it is surface-mounted. There is no problem with preterminated cables, since the entire raceway system can be opened. Raceway systems are relatively easy to expand, as compared to other means of routing cables. Equipment cabinets have been designed for extensive interfacing with raceway.

Reference:

For more information on raceway systems, refer to the following:

Direction 46–014232, *Surface Raceway System*

SECTION 2
POWER DISTRIBUTION

Legacy/Legacy–D R&F System power distribution consists of two major components that must either be customer supplied or General Electric Medical Systems supplied. These are:

- Feeder power from Hospital distribution center to Legacy/Legacy–D R&F system load power unit (SKL or MPPU2), and
- Power distribution from the Legacy/Legacy–D R&F system load distribution power unit (SKL or MPPU2) to all the components in the Legacy/Legacy–D R&F system room.

Usually the feeder power from the Hospital distribution center is customer supplied and the power distribution within the Legacy/Legacy–D R&F system is supplied by GEMS.

Reference:

For feeder power requirements to the Legacy/Legacy–D system power unit, refer to:

Section 3 of Chapter 2 in this document.

Reference:

For hospital facility feeder power and ground requirements to the Legacy/Legacy–D R&F system power unit, refer to:

Direction 46–019668, *Advantx System Facility Power and Ground Requirements*

Reference:

For Legacy/Legacy–D R&F system power distribution from the Legacy/Legacy–D system power unit, refer to the following:

- Direction 2145463–100, *Advantx Legacy R&F (MP/SCPU) System MIS Maps*
- Direction 2145464–100, *Advantx Legacy R&F (MP/SCPU) System MIS Charts*
- Direction 2188326–100, *Legacy/Legacy–D Phase II R&F System Interconnect Map*
- Direction 2188186–100, *Legacy/Legacy–D Phase II R&F System Interconnect Charts*
- Direction 2209056sch, *Legacy/Legacy–D Phase III R&F System Interconnect Map*
- Direction 2209015–100, *Legacy/Legacy–D Phase III R&F System Interconnect Charts*

Emergency Power

R&F rooms may be used as critical care areas. Primary power to the patient table auxiliary outlets should be distributed from the customer’s emergency power branch. The auxiliary outlets may have life-support devices plugged in that must remain on during a power failure in the main branch. This will require a separate, independent circuit breaker so servicemen can remove all power from the table during installation and servicing without removing power from the room outlets. Always check local codes for emergency power requirements.

SECTION 3
GROUNDING

An R&F room, such as an Legacy R&F room, may be used as a critical care area and requires a special grounding system for patient safety. An equipotential grounding system is recommended for meeting patient safety requirements.

- Reference:

For general system grounding requirements and information on establishing an equipotential grounding system, refer to:

☐

Direction 46–014505, *Electrical Safety – Equipment Grounding*

☐

Direction 46–014546, *Electrical Safety – Leakage Currents*
- Reference:

For specific Advantx system grounding requirements and information on establishing an equipotential grounding system, refer to:

☐

Direction 46–019668, *Advantx System Facility Power and Ground Requirements*
- Reference:

For specific Advantx Legacy/Legacy–D R&F system grounding maps and connection details, refer to the following:

☐

Direction 2145463–100, *Advantx Legacy R&F (MP/SCPU) System MIS Maps*

☐

Direction 2145464–100, *Advantx Legacy R&F (MP/SCPU) System MIS Charts*

☐

Direction 2188326–100, *Legacy/Legacy–D Phase II R&F System Interconnect Map*

☐

Direction 2188186–100, *Legacy/Legacy–D Phase II R&F System Interconnect Charts*

☐

Direction 2209056sch, *Legacy/Legacy–D Phase III R&F System Interconnect Map*

☐

Direction 2209015–100, *Legacy/Legacy–D Phase III R&F System Interconnect Charts*

SECTION 4
MIS (MASTER INTERCONNECT SYSTEM)

Legacy/Legacy–D R&F system interconnect cables are described in MIS (Master Interconnect System) documents. These documents specify all interconnections between components within the system.

- Reference:

For specific Legacy/Legacy–D R&F system interconnect maps and connection details, refer to the following:

☐

Direction 2145463–100, *Advantx Legacy R&F (MP/SCPU) System MIS Maps*

☐

Direction 2145464–100, *Advantx Legacy R&F (MP/SCPU) System MIS Charts*

☐

Direction 2188326–100, *Legacy/Legacy–D Phase II R&F System Interconnect Map*

☐

Direction 2188186–100, *Legacy/Legacy–D Phase II R&F System Interconnect Charts*

☐

Direction 2209056sch, *Legacy/Legacy–D Phase III R&F System Interconnect Map*

☐

Direction 2209015–100, *Legacy/Legacy–D Phase III R&F System Interconnect Charts*

General Guidelines

Cables and Wiring

Whenever possible, keep high-voltage and power cables away from any other cables. Use separate trough in duct system.

Minimize cable length between the line disconnect and the Legacy system power unit to reduce voltage regulation problems and wiring costs.

SECTION 5
RUN NUMBER REFERENCE TABLE

Run #	Run Information Standard Length				Run Information Non–Standard Length			Notes
	TO (Reference Designator)	FROM (Reference Designator)	Length Feet	Length Meters	Run Catalog Number	Length Feet	Length Meters	
8	SCPU Cabinet (SKL)	XT Suspension (XTS1)	20	6.1	P/O B2055TJ	30	9.1	
9	R&F Positioner Cabinet (RFP1)	XT Suspension (XTS1)	20	6.1	P/O B2055TJ (XT Signal Cables) P/O S0910PP (Tomo–Link Cables)	40	12.2	
10	Legacy Table Base (RFP3)	XT Suspension (XTS1)	28	8.5	P/O B2055TJ	48	14.6	
11	SCPU Cabinet (SKL)	R&F Positioner Cabinet (RFP1)	30	9.1	S0910PC (without DRS) S0910PH (with DRS)	40	12.2	
12	R&F Positioner Cabinet (RFP1)	Legacy Table Base (RFP3)	28	8.5	S0910PD (Legacy Table Cables) P/O S0910PP (Tomo–Link Cables)	48	14.6	
13	SCPU Cabinet (SKL)	Legacy Table Base (RFP3)	25	7.6	S0910PL (HV & Stator Cables) S0910PE (TV/II Cables & Ground Wires)	55	16.8	
14	R&F Positioner Cabinet (RFP1)	SG–60 or SG–100 Vertical Bucky Stand (K)	50	15.2	P/O S0910PN	70	21.3	
15	Legacy Table Base (RFP3)	SG–60 or SG–100 Vertical Bucky Stand (K)	57	17.4	P/O S0910PN	77	23.5	
18	SCPU Cabinet (SKL)	Control Booth Wall Plate (CBWP)	48	14.6	S0910PF	68	20.7	
20	SCPU Cabinet (SKL)	In–Room Monitor Wall Plate (IRWP)	30	9.1	S0910PG	55	16.8	
21	In–Room Monitor Wall Plate (IRWP)	TV Monitor Cart or TV Monitor Suspension	35	10.7				
25	SCPU Cabinet (SKL)	DRS Cabinet (DRS1)	36	11.0	S0910PJ	66	20.1	
26	R&F Positioner Cabinet (RFP1)	DRS Cabinet (DRS1)	16	4.9	S0910PK	66	20.1	
27	Legacy Table Base (RFP3)	DRS Cabinet (DRS1)	73	22.3				
28	In–Room Monitor Wall Plate (IRWP)	DRS Cabinet (DRS1)	25	7.6	S0910PM	40	12.2	
40	Control Booth Wall Plate (CBWP)	DRS Cabinet (DRS1)	53	16.2	S0910NJ	106	32.3	
52	SCPU Cabinet (SKL)	VCR/VTR Wall Plate (WBV1)	30	9.1	P/O S0910PS	70	21.3	
53	VCR/VTR Wall Plate (WBV1)	Xr–70U VCR (XR–70U)	8	2.4	P/O S0910PS	8	2.4	
54	Legacy Table Base (RFP3)	Control Booth Wall Plate (CBWP)	69	21.0	P/O S0910PR	69	21.0	
56	In–Room Monitor Wall Plate (IRWP)	Control Booth Wall Plate (CBWP)	54	16.5	P/O S0910PR	84	25.6	

SECTION 6
HOSPITAL NETWORK CONNECTIONS

Legacy/Legacy-D R&F Systems equipped with the DRS option are capable of placing electronic images on the Hospital image Ethernet Network. It is the purchasers responsibility to provide the Ethernet connection to the Legacy System at the points shown in Illustration 5-1 (SCPU Systems) or Illustration 5-2 (MP Systems).

ILLUSTRATION 5-1
DRS 3.X ETHERNET CONNECTIONS TO HOSPITAL NETWORK ON SCPU LEGACY/LEGACY-D SYSTEMS

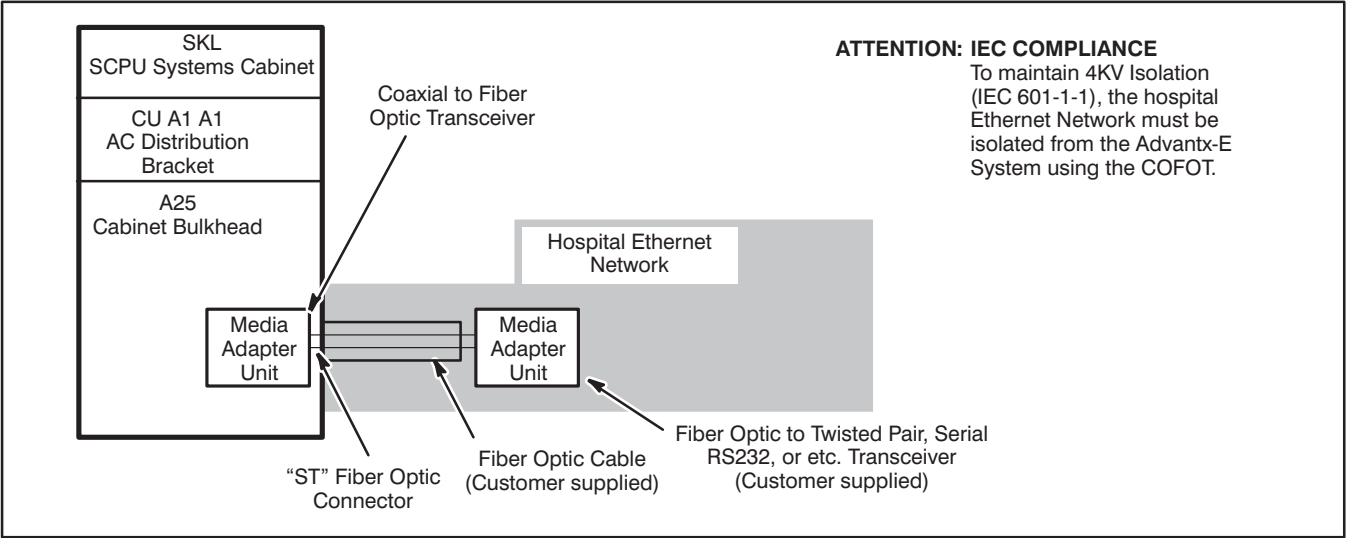
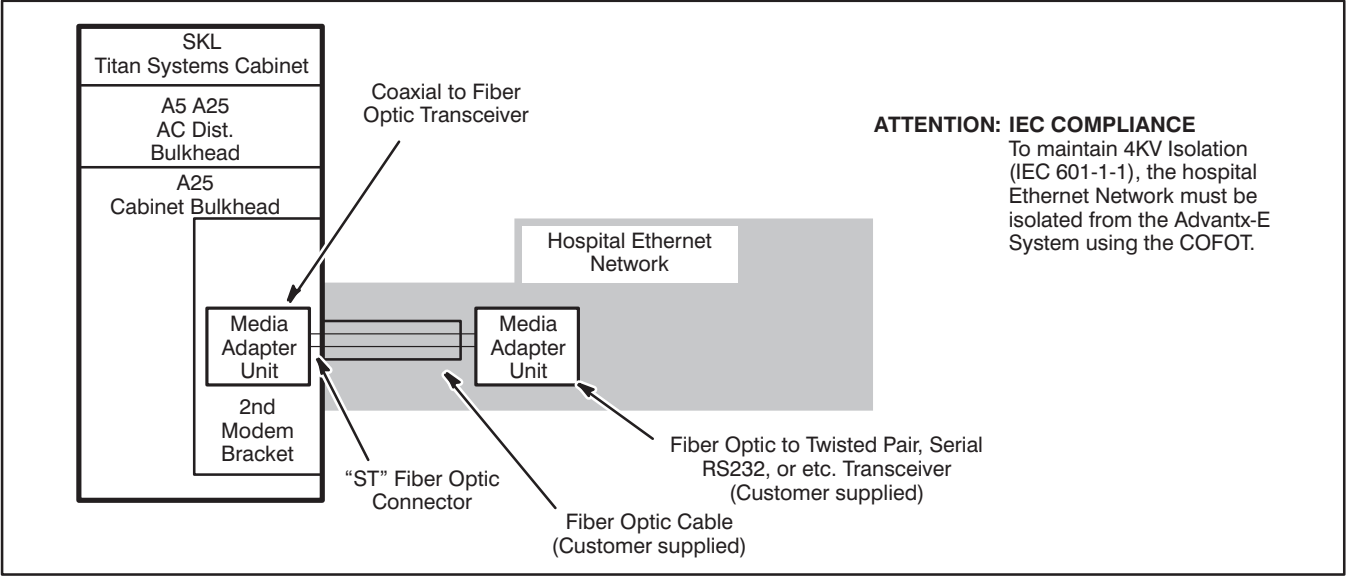


ILLUSTRATION 5-2
DRS 3.X ETHERNET CONNECTIONS TO HOSPITAL NETWORK ON MP LEGACY/LEGACY-D SYSTEMS



CHAPTER 6 – ADDITIONAL PLANNING AIDS

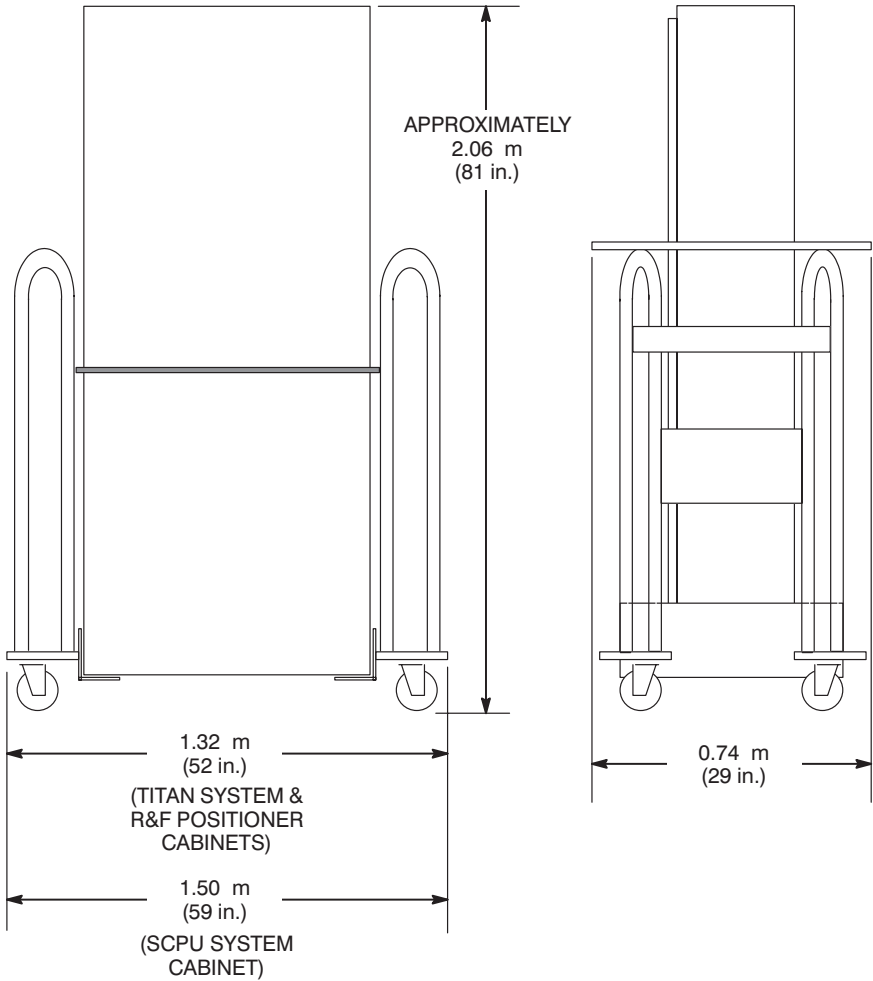
SECTION 1
PRODUCT SHIPPING INFORMATION

See Table 6–1. To obtain shipping information for components not specified in Table 6–1, refer to the appropriate component Pre-Installation Manual listed in Chapter 1.

TABLE 6–1
LEGACY R&F SYSTEM PACKING

PRODUCT OR COMPONENT	DIMENSIONS			WEIGHT	METHOD OF SHIPMENT
	Height	Width	Depth		
Legacy Table/Legacy–D RFP3	55 in. (1.4 m)	42.2 in. (1.07 m)	100 in. (2.54 m)	2182 lbs. (990 kg)	Shipping Dolly.
Legacy /Legacy–D Table Motor Base	62 in. (1.57 m)	37 in. (0.94 m)	33 in. (0.84 m)	1060 lbs. (481 kg)	Shipping Dolly.
Intelligent Spot Film Device and Intelligent Digital Device	28.25 in. (0.72 m)	51 in. (1.30 m)	31.5 in. (0.80 m)		Box
R&F Positioner Cabinet RFP1	81 in. (2.06 m)	52 in. (1.32 m)	29 in. (0.74 m)	901 lbs. (409 kg)	Shipping Dolly. See Illustration 6–1.
SCPU System Cabinet SKL (HF Systems only)	81 in. (2.06 m)	59 in. (1.5 m)	29 in. (0.74 m)	1178 lbs. (534 kg)	Shipping Dolly. See Illustration 6–1.
40 cm (16 in.) Image Intensifier	33.5 in. (0.85 m)	34.6 in. (0.88 m)	41.3 in. (1.05 m)		Box on Pallet
32 cm (12 in.) Image Intensifier					Box
23 cm (9 in.) Image Intensifier					Box
MP Generator Cabinets MPPU1 & MPPU2 (MP Systems only)	90.6 in. (2.3 m)	51.2 in. (1.3 m)	25.2 in. (0.64 m)	1545 lbs. (701 kg)	Box (For air shipments outside Europe, cabinets are packaged together)
Titan System Cabinet SKL (MP Systems only)	81 in. (2.06 m)	52 in. (1.32 m)	29 in. (0.74 m)	806 lbs. (366 kg)	Shipping Dolly. See Illustration 6–1.
Advantx Console SCC1					

ILLUSTRATION 6–1
EQUIPMENT CABINETS ON SHIPPING DOLLY (RFP1, SKL)



NOTE: EACH CABINET DOLLY SYSTEM WEIGHS APPROXIMATELY 216 LBS. (98 KG).

SECTION 2
TOOLS AND TEST EQUIPMENT

See Table 6–2. To obtain a list of tools and test equipment for components not specified in Table 6–2, refer to the appropriate component Pre-Installation Manual listed in Chapter 1.

TABLE 6–2
LEGACY AND LEGACY–D R&F SYSTEM REQUIRED TOOLS AND TEST EQUIPMENT

PRODUCT OR COMPONENT	TOOL OR TEST EQUIPMENT	USED FOR	SOURCE	RECEIVED (DATE)
Legacy and Legacy–D Table RFP3	Service Engineer’s Tool Case	General Use		<input type="checkbox"/>
	Level, Protractor Type	Table Base Installation & Translation Chain Adjustments		<input type="checkbox"/>
	Chain Wrench, 13/16” (46–152955P1)	Table Translation Chain Adjustments		<input type="checkbox"/>
	Bearing Wrench, 7/8” (84549)	Table Carriage Bearing Adjustments		<input type="checkbox"/>
	Plumb Line	Table to Tube Hanger Alignment		<input type="checkbox"/>
	Masonry Drill Bit (1/2” or 12.5 mm)	Table Floor Mounting		<input type="checkbox"/>
	Tensiometer (46–262044G1)	Various Table & ISFD Moving Effort Checks		<input type="checkbox"/>
	Torque Wrench 2 to 20 daN.m (15 ft. lbs. to 150 ft. lbs.)	Table Floor Mounting (Anchor Adjustments)		<input type="checkbox"/>
	1/2 inch Ratchet Wrench (2)	Various mechanical adjustments		<input type="checkbox"/>
	Laser Alignment Tool (46–216640G1)	Image Intensifier Alignment		<input type="checkbox"/>
	Focal Spot Location Tool (46–250080G1)	X–Ray Tube and Collimator Alignment		<input type="checkbox"/>
	Wrench, Hex Head (46–165137P1)	Collimator Installation		<input type="checkbox"/>
	Wrench, Spanner (46–176584P1)	High Voltage Cable Installation		<input type="checkbox"/>
	Test Cassette (46–205884G1 for ISFD) & Alignment Washer (46–262350P1 for ISFD)	Spot Film Device Alignment Procedures	Shipped with each System	<input type="checkbox"/>
	216566 Collimator Alignment Tool (For IDD)			

TABLE 6–2 (CONTINUED)
LEGACY AND LEGACY–D R&F SYSTEM REQUIRED TOOLS AND TEST EQUIPMENT

PRODUCT OR COMPONENT	TOOL OR TEST EQUIPMENT	USED FOR	SOURCE	RECEIVED (DATE)
Legacy and Legacy–D System	Service Laptop Computer with Ethernet Kit and CD–ROM drive	Software Installation, mode changes (App/ Serv/Diag, IP Address Installation, S/W back-up/restore, etc.		<input type="checkbox"/>
	Ethernet Kit (2119797 or 2128794)	NOTE: Kit is assigned per Field Engineer – not by site.		<input type="checkbox"/>
	Modem Kit (2135921)	INSITE connectivity		<input type="checkbox"/>
	Service Digital Voltmeter	Various Checks		<input type="checkbox"/>
	Service Oscilloscope and Test Leads	Various Checks		<input type="checkbox"/>
	Image Evaluation Tool (46–232388G1)	Various VIC Sub–System Checks		<input type="checkbox"/>
	Resolution Wedge (46–197871P2)	Various VIC Sub–System Checks		<input type="checkbox"/>
	Field Size Gauges: 23 cm (9 in.) II (46–286485P1) 32 cm (12 in.) II (46–286486P2) 40 cm (16 in.) II (46–302601P1)	Various VIC Sub–System Checks (V004)		<input type="checkbox"/>
	Radiation Meter and Probe Stand	Various Radiation Measurements		<input type="checkbox"/>
	Densitometer (X–Rite 301 or equivalent)	Film Density Adjustments		<input type="checkbox"/>
	RAT Fixture	Film Alignment & Adjustments		<input type="checkbox"/>
	Collimator Alignment Tool (46–166390G1)	X–Ray Tube and Collimator Alignment		<input type="checkbox"/>
	Keithley Non–Invasive KV Meter	Various Generator Adjustments (HHS, etc.)		<input type="checkbox"/>
	CV Phantom Kit (46–156797G1)	Various Advantx Adjustments		<input type="checkbox"/>

SECTION 4
PRE–INSTALLATION CHECKLIST

Equipment Delivery Date _____ Salesman _____

Customer _____ FDO # _____ Room # _____

Equipment _____

	RESPONSIBILITY			
	GE	PURCH.	OTHER	COMPLETE
PHYSICAL REQUIREMENTS OF SITE				
1. Is room size adequate for intended equipment configuration?	_____	_____	_____	_____
2. Are floor and ceiling strong enough for intended equipment and mounting methods — have seismic codes been considered?	_____	_____	_____	_____
3. Does delivery route accommodate all intended equipment?	_____	_____	_____	_____
4. Has radiation physicist been consulted?	_____	_____	_____	_____
5. Have necessary alterations been made to circumvent obstructions?	_____	_____	_____	_____
6. Are modifications to room construction finished?	_____	_____	_____	_____
7. Have supports, platforms, suspensions, ceiling materials been provided?	_____	_____	_____	_____
8. Are support structures installed for floor, ceiling, and wall mounted equipment?	_____	_____	_____	_____
9. Are ceiling supports leveled?	_____	_____	_____	_____
10. Has floor been modified for cable ducts?	_____	_____	_____	_____
11. If drop—in ceiling is not used, is access panel provided (3 x 2 ft. minimum)?	_____	_____	_____	_____
12. Is electrical service in place — at the ratings specified in pre–installation documentation?	_____	_____	_____	_____
13. Is power available to operate power tools?	_____	_____	_____	_____
14. Are non–electrical lines (air, water, oxygen, vacuum) installed?	_____	_____	_____	_____

INTERCONNECTION

1. Have MIS, power and grounding plans been produced?	_____	_____	_____	_____
2. Has the necessary interconnection hardware such as junction boxes, conduit or raceways, and fittings been provided?	_____	_____	_____	_____
3. Has the interconnection hardware been installed?	_____	_____	_____	_____
4. Is flexible, stranded wire provided for System input power connection?	_____	_____	_____	_____
5. Are system feeder power cables pulled, with appropriate lengths available at disconnect box?	_____	_____	_____	_____
6. Are interconnecting cables continuity checked, and labeled?	_____	_____	_____	_____
7. Are HV cable lengths verified?	_____	_____	_____	_____
8. Is interface information available for equipment?	_____	_____	_____	_____

GENERAL

1. Are ceiling, walls, and floor clear of all obstructions?	_____	_____	_____	_____
2. Are walls finished?	_____	_____	_____	_____
3. Is finish floor installed?	_____	_____	_____	_____
4. Are room lights installed?	_____	_____	_____	_____
5. Has dust–creating work been completed?	_____	_____	_____	_____
6. Is old equipment in room removed?	_____	_____	_____	_____
7. Are component positions clearly marked on floor?	_____	_____	_____	_____
8. Is space available to store equipment?	_____	_____	_____	_____
9. Is lock on door, or locked room available?	_____	_____	_____	_____

Comments: _____

Inspection Dates: _____