



**GE Healthcare**

*gehealthcare.com*

# **Technical Publication**

**Direction 5397208-8EN  
Revision 2**

**GE Healthcare  
Wireless DR Imaging Option System  
Pre-Installation**

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# ***LEGAL NOTES***

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# Important Precautions

## LANGUAGE

### ПРЕДУПРЕЖДЕНИЕ

(BG)

- ТОВА УПЪТВАНЕ ЗА РАБОТА Е НАЛИЧНО САМО НА АНГЛИЙСКИ ЕЗИК.
- АКО ДОСТАВЧИКЪТ НА УСЛУГАТА НА КЛИЕНТА ИЗИСКА ЕЗИК, РАЗЛИЧЕН ОТ АНГЛИЙСКИ, ЗАДЪЛЖЕНИЕ НА КЛИЕНТА Е ДА ОСИГУРИ ПРЕВОД.
- НЕ ИЗПОЛЗВАЙТЕ ОБОРУДВАНЕТО ПРЕДИ ДА СТЕ СЕ КОНСУЛТИРАЛИ И РАЗБРАЛИ УПЪТВАНЕТО ЗА РАБОТА.
- НЕСПАЗВАНЕТО НА ТОВА ПРЕДУПРЕЖДЕНИЕ МОЖЕ ДА ДОВЕДЕ ДО НАРАНЯВАНЕ НА ДОСТАВЧИКА НА УСЛУГАТА, ОПЕРАТОРА ИЛИ ПАЦИЕНТ В РЕЗУЛТАТ НА ТОКОВ УДАР ИЛИ МЕХАНИЧНА ИЛИ ДРУГА ОПАСНОСТ.

### 警告

(ZH-CN)

- 本维修手册仅提供英文版本。
- 如果维修服务提供商需要非英文版本，客户需自行提供翻译服务。
- 未详细阅读和完全理解本维修手册之前，不得进行维修。
- 忽略本警告可能对维修人员，操作员或患者造成触电、机械伤害或其他形式的伤害。

### VÝSTRAHA

(CS)

- TENTO PROVOZNÍ NÁVOD EXISTUJE POUZE V ANGLICKÉM JAZYCE.
- V PŘÍPADĚ, ŽE EXTERNÍ SLUŽBA ZÁKAZNÍKŮM POTŘEBUJE NÁVOD V JINÉM JAZYCE, JE ZAJIŠTĚNÍ PŘEKLADU DO ODPOVÍDAJÍCÍHO JAZYKA ÚKOLEM ZÁKAZNÍKA.
- NESNAŽTE SE O ÚDRŽBU TOHOTO ZAŘÍZENÍ, ANIŽ BYSTE SI PŘEČETLI TENTO PROVOZNÍ NÁVOD A POCHOPILI JEHO OBSAH.
- V PŘÍPADĚ NEDODRŽOVÁNÍ TÉTO VÝSTRAHY MŮŽE DOJÍT K PORANĚNÍ PRACOVNÍKA PRODEJNÍHO SERVISU, OBSLUŽNÉHO PERSONÁLU NEBO PACIENTŮ Vlivem ELEKTRICKÉHO PROUDU, RESPEKTIVE Vlivem MECHANICKÝCH ČI JINÝCH RIZIK.

### ADVARSEL

(DA)

- DENNE SERVICEMANUAL FINDES KUN PÅ ENGELSK.
- HVIS EN KUNDES TEKNIKER HAR BRUG FOR ET ANDET SPROG END ENGELSK, ER DET KUNDENS ANSVAR AT SØRGE FOR OVERSÆTTELSE.
- FORSØG IKKE AT SERVICERE Udstyret MEDMINDRE DENNE SERVICEMANUAL HAR VÆRET KONSULTERET OG ER FORSTÅET.
- MANGLENDE OVERHOLDELSE AF DENNE ADVARSEL KAN MEDFØRE SKADE PÅ GRUND AF ELEKTRISK, MEKANISK ELLER ANDEN FARE FOR TEKNIKEREN, OPERATØREN ELLER PATIENTEN.

## WAARSCHUWING

(NL)

- DEZE ONDERHOUDSHANDLEIDING IS ENKEL IN HET ENGELS VERKRIJGBAAR.
- ALS HET ONDERHOUDSPERSONEEL EEN ANDERE TAAL VEREIST, DAN IS DE KLANT VERANTWOORDELIJK VOOR DE VERTALING ERVAN.
- PROBEER DE APPARATUUR NIET TE ONDERHOUDEN VOORDAT DEZE ONDERHOUDSHANDLEIDING WERD GERAADPLEEGD EN BEGREPEN IS.
- INDIEN DEZE WAARSCHUWING NIET WORDT OPGEVOLGD, ZOU HET ONDERHOUDSPERSONEEL, DE OPERATOR OF EEN PATIËNT GEWOND KUNNEN RAKEN ALS GEVOLG VAN EEN ELEKTRISCHE SCHOK, MECHANISCHE OF ANDERE GEVAREN.

## WARNING

(EN)

- 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.

## HOIATUS

(ET)

- KÄESOLEV TEENINDUSJUHEND ON SAADAVAL AINULT INGLISE KEELES.
- KUI KLIENDITEENINDUSE OSUTAJA NÕUAB JUHENDIT INGLISE KEELEST ERINEVAS KEELES, VASTUTAB KLIENT TÖLKETEENUSE OSUTAMISE EEST.
- ÄRGE ÜRITAGE SEADMEID TEENINDADA ENNE EELNEVALT KÄESOLEVA TEENINDUSJUHENDIGA TUTVUMIST JA SELLEST ARU SAAMIST.
- KÄESOLEVA HOIATUSE EIRAMINE VÕIB PÕHJUSTADA TEENUSEOSUTAJA, OPERAATORI VÕI PATSIENDI VIGASTAMIST ELEKTRILÖÖGI, MEHAANILISE VÕI MUU OHU TAGAJÄRJEL.

## VAROITUS

(FI)

- TÄMÄ HUOLTO-OHJE ON SAATAVILLA VAIN ENGLANNIKSI.
- JOS ASIAKKAAN HUOLTOHENKILÖSTÖ VAATII MUUTA KUIN ENGLANNINKIELISTÄ MATERIAALIA, TARVITTAVAN KÄÄNNÖKSEN HANKKIMINEN ON ASIAKKAAN VASTUULLA.
- ÄLÄ YRITÄ KORJATA LAITTEISTOA ENNEN KUIN OLET VARMASTI LUKENUT JA YMMÄRTÄNYT TÄMÄN HUOLTO-OHJEEN.
- MIKÄLI TÄTÄ VAROITUSTA EI NOUDATETA, SEURAUKSENA VOI OLLA HUOLTOHENKILÖSTÖN, LAITTEISTON KÄYTTÄJÄN TAI POTILAAN VAHINGOITTUMINEN SÄHKÖISKUN, MEKAANISEN VIAN TAI MUUN VAARATILANTEEN VUOKSI.

**ATTENTION**  
(FR)

- 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**  
(DE)

- DIESE SERVICEANLEITUNG 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 DIESE ANLAGE ZU WARTEN, OHNE DIESE SERVICEANLEITUNG GELESEN UND VERSTANDEN ZU HABEN.
- WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH STROMSCHLÄGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.

**ΠΡΟΕΙΔΟΠΟΙΗΣΗ**  
(EL)

- ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ ΔΙΑΤΙΘΕΤΑΙ ΣΤΑ ΑΓΓΛΙΚΑ ΜΟΝΟ.
- ΕΑΝ ΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ ΕΝΟΣ ΠΕΛΑΤΗ ΑΠΑΙΤΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕ ΓΛΩΣΣΑ ΕΚΤΟΣ ΤΩΝ ΑΓΓΛΙΚΩΝ, ΑΠΟΤΕΛΕΙ ΕΥΘΥΝΗ ΤΟΥ ΠΕΛΑΤΗ ΝΑ ΠΑΡΕΧΕΙ ΥΠΗΡΕΣΙΕΣ ΜΕΤΑΦΡΑΣΗΣ.
- ΜΗΝ ΕΠΙΧΕΙΡΗΣΕΤΕ ΤΗΝ ΕΚΤΕΛΕΣΗ ΕΡΓΑΣΙΩΝ ΣΕΡΒΙΣ ΣΤΟΝ ΕΞΟΠΛΙΣΜΟ ΕΚΤΟΣ ΕΑΝ ΕΧΕΤΕ ΣΥΜΒΟΥΛΕΥΤΕΙ ΚΑΙ ΕΧΕΤΕ ΚΑΤΑΝΟΗΣΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ.
- ΕΑΝ ΔΕ ΛΑΒΕΤΕ ΥΠΟΨΗ ΤΗΝ ΠΡΟΕΙΔΟΠΟΙΗΣΗ ΑΥΤΗ, ΕΝΔΕΧΕΤΑΙ ΝΑ ΠΡΟΚΛΗΘΕΙ ΤΡΑΥΜΑΤΙΣΜΟΣ ΣΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ, ΣΤΟ ΧΕΙΡΙΣΤΗ Ή ΣΤΟΝ ΑΣΘΕΝΗ ΑΠΟ ΗΛΕΚΤΡΟΠΛΗΞΙΑ, ΜΗΧΑΝΙΚΟΥΣ Ή ΑΛΛΟΥΣ ΚΙΝΔΥΝΟΥΣ.

**FIGYELMEZTETÉS**  
(HU)

- EZEN KARBANTARTÁSI KÉZIKÖNYV KIZÁRÓLAG ANGOL NYELVEN ÉRHETŐ EL.
- HA A VEVŐ SZOLGÁLTATÓJA ANGOLTÓL ELTÉRŐ NYELVRE TART IGÉNYT, AKKOR A VEVŐ FELELŐSSÉGE A FORDÍTÁS ELKÉSZÍTTETÉSE.
- NE PRÓBÁLJA ELKEZDENI HASZNÁLNI A BERENDEZÉST, AMÍG A KARBANTARTÁSI KÉZIKÖNYVBEN LEÍRTAKAT NEM ÉRTELMEZTÉK.
- EZEN FIGYELMEZTETÉS FIGYELMEN KÍVÜL HAGYÁSA A SZOLGÁLTATÓ, MŰKÖDTETŐ VAGY A BETEG ÁRAMÚTÉS, MECHANIKAI VAGY EGYÉB VESZÉLYHELYZET MIATTI SÉRÜLÉSÉT EREDMÉNYEZHETI.

## ADVÖRUN (IS)

- ÞESSI ÞJÓNUSTUHANDBÓK ER EINGÖNGU FÁANLEG Á ENSKU.
- EF AÐ ÞJÓNUSTUVEITANDI VIÐSKIPTAMANNS ÞARFNAST ANNAS TUNGUMÁLS EN ENSKU, ER ÞAÐ SKYLDA VIÐSKIPTAMANNS AÐ SKAFFA TUNGUMÁLAPJÓNUSTU.
- REYNIÐ EKKI AÐ AFGREIÐA TÆKIÐ NEMA AÐ ÞESSI ÞJÓNUSTUHANDBÓK HEFUR VERIÐ SKOÐUÐ OG SKILIN.
- BROT Á SINNA ÞESSARI ADVÖRUN GETUR LEITT TIL MEIÐSLA Á ÞJÓNUSTUVEITANDA, STJÓRNANDA EÐA SJÚKLINGS FRÁ RAFLOSTI, VÉLRÆNU EÐA ÖÐRUM ÁHÆTTUM.

## AVVERTENZA (IT)

- 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.
- IL NON RISPETTO 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 (JA)

- このサービスマニュアルには英語版しかありません。
- 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ください。
- 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。

## 경고

(KO)

- 본 서비스 지침서는 영어로만 이용하실 수 있습니다.
- 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객의 책임입니다.
- 본 서비스 지침서를 참고했고 이해하지 않는 한은 해당 장비를 수리하려고 시도하지 마십시오.
- 이 경고에 유의하지 않으면 전기 쇼크, 기계상의 혹은 다른 위험으로부터 서비스 제공자, 운영자 혹은 환자에게 위험을 가할 수 있습니다.

## BRĪDINĀJUMS

(LV)

- ŠĪ APKALPES ROKASGRĀMATA IR PIEEJAMA TIKAI ANGLŪ VALODĀ.
- JA KLIENTA APKALPES SNIEDZĒJAM NEPIECIEŠAMA INFORMĀCIJA CITĀ VALODĀ, NEVIS ANGLŪ, KLIENTA PIENĀKUMS IR NODROŠINĀT TULKOŠANU.
- NEVEICIET APRĪKOJUMA APKALPI BEZ APKALPES ROKASGRĀMATAS IZLASĪŠANAS UN SAPRAŠANAS.
- ŠĪ BRĪDINĀJUMA NEIEVĒROŠANA VAR RADĪT ELEKTRISKĀS STRĀVAS TRIECIENA, MEHĀNISKU VAI CITU RISKU IZRAISĪTU TRAUMU APKALPES SNIEDZĒJAM, OPERATORAM VAI PACIENTAM.

## ĮSPĖJIMAS

(LT)

- ŠIS EKSPLOATAVIMO VADOVAS YRA PRIEINAMAS TIK ANGLŲ KALBA.
- JEI KLIENTO PASLAUGŲ TIEKĖJAS REIKALAUJA VADOVO KITA KALBA – NE ANGLŲ, NUMATYTI VERTIMO PASLAUGAS YRA KLIENTO ATSAKOMYBĖ.
- NEMĖGINKITE ATLIKTI ĮRANGOS TECHNINĖS PRIEŽIŪROS, NEBENT ATSIŽVELGĖTE Į ŠĮ EKSPLOATAVIMO VADOVĄ IR JĮ SUPRATOTE.
- JEI NEATKREIPSITE DĖMESIO Į ŠĮ PERSPĖJIMĄ, GALIMI SUŽALOJIMAI DĖL ELEKTROS ŠOKO.
- MECHANINIŲ AR KITŲ PAVOJŲ PASLAUGŲ TIEKĖJUI, OPERATORIUI AR PACIENTUI.

## ADVARSEL

(NO)

- DENNE SERVICEHÅNDBOKEN FINNES BARE PÅ ENGELSK.
- HVIS KUNDENS SERVICELEVERANDØR TRENGER ET ANNET SPRÅK, ER DET KUNDENS ANSVAR Å SØRGE FOR OVERSETTELSE.
- IKKE FORSØK Å REPARERE UTSTYRET UTEN AT DENNE SERVICEHÅNDBOKEN ER LEST OG FORSTÅTT.
- MANGLENDE HENSYN TIL DENNE ADVARSELEN KAN FØRE TIL AT SERVICELEVERANDØREN, OPERATØREN ELLER PASIENTEN SKADES PÅ GRUNN AV ELEKTRISK STØT, MEKANISKE ELLER ANDRE FARER.

## OSTRZEŻENIE

(PL)

- NINIEJSZY PODRĘCZNIK SERWISOWY DOSTĘPNY JEST JEDYNNIE W JĘZYKU ANGIELSKIM.
- JEŚLI DOSTAWCA USŁUG KLIENTA WYMAGA JĘZYKA INNEGO NIŻ ANGIELSKI, ZAPEWNIENIE USŁUGI TŁUMACZENIA JEST OBOWIĄZKIEM KLIENTA.
- NIE PRÓBOWAĆ SERWISOWAĆ WYPOSAŻENIA BEZ ZAPOZNANIA SIĘ I ZROZUMIENIA NINIEJSZEGO PODRĘCZNIKA SERWISOWEGO.
- NIEZASTOSOWANIE SIĘ DO TEGO OSTRZEŻENIA MOŻE SPOWODOWAĆ URAZY DOSTAWCY USŁUG, OPERATORA LUB PACJENTA W WYNIKU PORAŻENIA ELEKTRYCZNEGO, ZAGROŻENIA MECHANICZNEGO BĄDŹ INNEGO.

## ATENÇÃO

(PT)

- 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 TENDE REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA
- O NÃO CUMPRIMENTO DESTE AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.

## ATENȚIE

(RO)

- ACEST MANUAL DE SERVICE ESTE DISPONIBIL NUMAI ÎN LIMBA ENGLEZĂ.
- DACĂ UN FURNIZOR DE SERVICII PENTRU CLIEȚI NECESITĂ O ALTĂ LIMBĂ DECÂT CEA ENGLEZĂ, ESTE DE DATORIA CLIENTULUI SĂ FURNIZEZE O TRADUCERE.
- NU ÎNCERCAȚI SĂ REPARAȚI ECHIPAMENTUL DECÂT ULTERIOR CONSULTĂRII ȘI ÎNȚELEGERII ACESTUI MANUAL DE SERVICE.
- IGNORAREA ACESTUI AVERTISMENT AR PUTEA DUCE LA RĂNIREA DEPARATORULUI, OPERATORULUI SAU PACIENTULUI ÎN URMA PERICOLELOR DE ELECTROCUTARE, MECANICE SAU DE ALTĂ NATURĂ.

## **ОСТОРОЖНО!**

(RU)

- ДАННОЕ РУКОВОДСТВО ПО ОБСЛУЖИВАНИЮ ПРЕДЛАГАЕТСЯ ТОЛЬКО НА АНГЛИЙСКОМ ЯЗЫКЕ.
- ЕСЛИ СЕРВИСНОМУ ПЕРСОНАЛУ КЛИЕНТА НЕОБХОДИМО РУКОВОДСТВО НЕ НА АНГЛИЙСКОМ, А НА КАКОМ-ТО ДРУГОМ ЯЗЫКЕ, КЛИЕНТУ СЛЕДУЕТ САМОСТОЯТЕЛЬНО ОБЕСПЕЧИТЬ ПЕРЕВОД.
- ПЕРЕД ОБСЛУЖИВАНИЕМ ОБОРУДОВАНИЯ ОБЯЗАТЕЛЬНО ОБРАТИТЕСЬ К ДАННОМУ РУКОВОДСТВУ И ПОЙМИТЕ ИЗЛОЖЕННЫЕ В НЕМ СВЕДЕНИЯ.
- НЕСОБЛЮЖДЕНИЕ ТРЕБОВАНИЙ ДАННОГО ПРЕДУПРЕЖДЕНИЯ МОЖЕТ ПРИВЕСТИ К ТОМУ, ЧТО СПЕЦИАЛИСТ ПО ОБСЛУЖИВАНИЮ, ОПЕРАТОР ИЛИ ПАЦИЕНТ ПОЛУЧАТ УДАР ЭЛЕКТРИЧЕСКИМ ТОКОМ, МЕХАНИЧЕСКУЮ ТРАВМУ ИЛИ ДРУГОЕ ПОВРЕЖДЕНИЕ.

## **UPOZORNENIE**

(SK)

- TENTO NÁVOD NA OBSLUHU JE K DISPOZÍCII LEN V ANGLIČTINE.
- AK ZÁKAZNÍKOV POSKYTOVATEĽ SLUŽIEB VYŽADUJE INÝ JAZYK AKO ANGLIČTINU, POSKYTNUTIE PREKLADATEĽSKÝCH SLUŽIEB JE ZODPOVEDNOSŤOU ZÁKAZNÍKA.
- NEPOKÚŠAJTE SA O OBSLUHU ZARIADENIA SKÔR, AKO SI NEPREČÍTATE NÁVOD NA OBLUHU A NEPOROZUMIETE MU.
- ZANEDBANIE TOHTO UPOZORNENIA MÔŽE VYÚSTIŤ DO ZRANENIA POSKYTOVATEĽA SLUŽIEB, OBSLUHUJÚCEJ OSOBY ALEBO PACIENTA ELEKTRICKÝM PRÚDOM, DO MECHANICKÉHO ALEBO INÉHO NEBEZPEČENSTVA.

## **ATENCION**

(ES)

- ESTE MANUAL DE SERVICIO SOLO EXISTE EN INGLES.
- SI ALGUN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLES, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCION.
- NO SE DEBERA DAR SERVICIO TECNICO 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.

## **VARNING**

(SV)

- DEN HÄR SERVICEHANDBOKEN FINNS BARA TILLGÄNGLIG PÅ ENGELSKA.
- OM EN KUNDS SERVICETEKNIKER HAR BEHOV AV ETT ANNAT SPRÅK ÄN ENGELSKA ANSVARAR KUNDEN FÖR ATT TILLHANDAHÅLLA ÖVERSÄTTNINGSTJÄNSTER.
- FÖRSÖK INTE UTFÖRA SERVICE PÅ UTRUSTNINGEN OM DU INTE HAR LÄST OCH FÖRSTÅR DEN HÄR SERVICEHANDBOKEN.
- OM DU INTE TAR HÄNSYN TILL DEN HÄR VARNINGEN KAN DET RESULTERA I SKADOR PÅ SERVICETEKNIKERN, OPERATÖREN ELLER PATIENTEN TILL FÖLJD AV ELEKTRISKA STÖTAR, MEKANISKA FAROR ELLER ANDRA FAROR.

## **DİKKAT**

(TR)

- BU SERVİS KILAVUZUNUN SADECE İNGİLİZCESİ MEVCUTTUR.
- EĞER MÜŞTERİ TEKNİSYENİ BU KILAVUZU İNGİLİZCE DIŞINDA BİR BAŞKA LİSANDAN TALEP EDERSE, BUNU TERCÜME ETTİRMEK MÜŞTERİYE DÜŞER.
- SERVİS KILAVUZUNU OKUYUP ANLAMADAN EKİPMANLARA MÜDAHALE ETMEYİNİZ.
- BU UYARIYA UYULMAMASI, ELEKTRİK, MEKANİK VEYA DİĞER TEHLİKELERDEN DOLAYI TEKNİSYEN, OPERATÖR VEYA HASTANIN YARALANMASINA YOL AÇABİLİR.

## **DAMAGE IN TRANSPORTATION**

All packages should be closely examined at time of delivery. If damage is apparent, write "Damage In Shipment" on ALL copies of the freight or express bill BEFORE delivery is accepted or "signed for" by a GE representative or 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 GEHC Global Parts 1-800-548-3366 and select option 8, 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 And Procedures Bulletins.

14 July 1993

## **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 Healthcare 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.

### **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, Healthcare 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 anyone 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 Protection, and of any other local authorities, and take adequate steps to protect against injury.

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

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

### **OMISSIONS & ERRORS**

Customers, please contact your GE Sales or Service representatives.

GE personnel, please use the GEHC PQR Process to report all omissions, errors, and defects in this publication.

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# **Preface**

## **Publication Conventions**

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Standardized conventions for representing information is a uniform way of communicating information to a reader in a consistent manner. Conventions are used so that the reader can easily recognize the actions or decisions that must be made. There are a number of character and paragraph styles used in this publication to accomplish this task. Please become familiar with them before proceeding forward.

It is important that you read and understand hazard statements, and not just ignore them.

## **Section 1.0 Safety & Hazard Information**

Proper product safety labeling allows a person to safely use or service a product. The format and style for safety communications reflected in this publication represents the harmonization of IEC/ISO 3864 and ANSI Z535 standards.

Within this publication, different paragraph and character styles are used to indicate potential hazards. Paragraph prefixes, such as hazard, caution, danger and warning, are used to identify important safety information. Text (Hazard) styles are applied to the paragraph contents that are applicable to each specific safety statement.

### **1.1 Hazard Messages**

Any action that will, or could potentially cause personal injury will be preceded by the safety alert symbol and an appropriate signal word. The safety alert symbol is the triangle with an exclamation mark within it. It is always used next to the signal word to indicate the severity of the hazard. Together, they are used to indicate a hazard exists.

Signal words describe the severity of possible human injuries that may be encountered. The alert symbol and signal word are placed immediately before any paragraph they affect. Safety information includes:

- 1.) Signal Word - The seriousness level of the hazard.
- 2.) Symbol or Pictorial - The consequence of interaction with the hazard.
- 3.) Word Message:
  - a.) The nature of the hazard (i.e. the type of hazard).
  - b.) How to avoid the hazard.

The safety alert symbol is not used when an action can only cause equipment damage.

### **1.2 Text Format of Signal Words**

**DANGER - INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. THIS SIGNAL WORD IS TO BE LIMITED TO THE MOST EXTREME SITUATIONS.**

**WARNING - INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.**




































**Caution - Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.**

**NOTICE** - Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property. This signal word is associated directly with a hazard or hazardous situation and is used in place of 'DANGER,' 'WARNING,' or 'CAUTION.' It can include:

- Destruction of a disk drive
- Potential for internal mechanical damage, such as to a X-ray tube

## 1.3 Symbols and Pictorials Used

The following Symbols and Pictorials may be used in this publication. These graphical icons (symbols) may be used to make you aware of specific types of hazards that could possibly cause harm.

NOTICE	CAUTION	WARNING	DANGER	
 keep_up	 magnetic	 biohazard	 compressgas	 ppe-hearing
 fragile	 impact	 corrosive	 heavyobject	 ppe-2people
 static_elec	 heat	 general	 laser	 ppe-respiratory
 keep_dry	 pinch	 radiation	 poisongas	 ppe-loto
 general	 explosive	 electrical	 flammable	 ppe-eye
 torque	 crush/mechanical	 tipping	 Read Manual	 ppe-gloves
 ce	 instuction	 poisonmatl	 entanglement	 instuction

## Section 2.0 Publication Conventions

### 2.1 General Paragraph and Character Styles

Prefixes are used to highlight important non-safety related information. Paragraph prefixes (such as Purpose, Example, Comment or Note) are used to identify important but non-safety related information. Text styles are also applied to text within each paragraph modified by the specific prefix.

#### **EXAMPLES OF PREFIXES USED FOR GENERAL INFORMATION:**

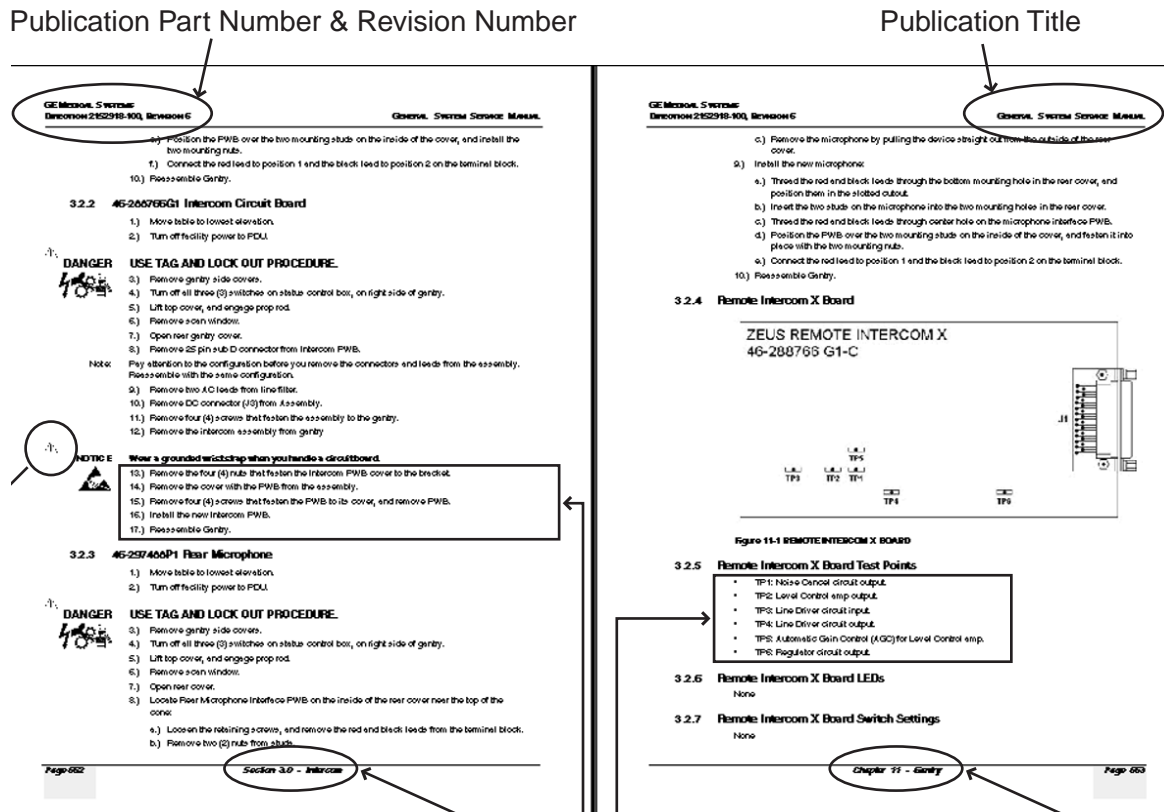
**Purpose:** Introduces and provides meaning as to the information contained within the chapter, section or subsection (such as used at the beginning this chapter, for example).

**Note:** Conveys information that should be considered important to the reader.

**Example:** Used to make the reader aware that the paragraph(s) that follow are examples of information possibly stated previously.

**Comment:** *Represents “additional” information that may or may not be relevant to your situation.*

## 2.2 Page Layout



The current section and its title are always shown in the footer of the left (even) page.

An exclamation point in a triangle is used to indicate important information to the user.

Paragraphs preceded by **Alphanumeric** characters (e.g. numbers) contain information that must be followed in a **specific order**.

The current chapter and its title are always shown in the footer of the right (odd) page.

Paragraphs preceded by a **symbol** (e.g. bullets) contain information that has **no specific order**.

**Figure 1 Component Identification**

Headers and footers in this publication are designed to allow you to quickly identify your location. The document part number and revision number appear in every header on every page. Odd numbered page footers indicate the current chapter, its title and current page number. Even numbered page footers show the current section and its title, as well as the current page number.

## 2.3 Computer Screen Output/Input Text Character Styles

Within this publication, mono-spaced character styles (fonts) are used to indicate computer text that is either screen input or output. Mono-spaced fonts, such as *courier*, are used to indicate text direction. When you type at your keyboard, you are generating computer input. Occasionally you will see the math operator “greater-than” and “less-than” symbols used to indicate the start and finish of variable output. When reading text generated by the computer, you are reading it as computer generated output. In addition to direction, characters are italicized (e.g. *italics*) to indicate information specific to your system or site.

Example: Fixed Output	This paragraph's font represents computer generated screen "fixed" output. Its output is fixed from the sense that it does not vary from application to application. It is the most commonly used style used to indicate filenames, paths and text that do not change from system to system. The character style used is a fixed width such as courier.
Example: Variable Output	<i>This paragraph's font represents computer screen output that is "variable". It is used to represent output that varies from application to application or system to system. Variable output is sometimes found placed between greater-than and less-than operators for clarification. For example: &lt;variable_output&gt; or &lt;3.45.120.3&gt;. In both cases, the &lt; and &gt; operators are not part of the actual input.</i>
Example: Fixed Input	<b>This paragraph's font represents fixed input. It is computer input that is typed-in via the keyboard. Typed input that does not vary from application to application or system to system. Fixed text the user is required to supply as input. For example: cd /usr/3p</b>
Example: Variable Input	<i>This paragraph's font represents computer input that can vary from application to application or system to system. With variable text, the user is required to supply system dependent input or information. Variable input sometimes is placed between greater-than and less-than operators. For example: &lt;variable_input&gt;. In these cases, the (&lt; &gt;) operators would be dropped prior to input. For example: ypcat hosts   grep &lt;3.45.120.3&gt; would be typed into the computer as</i> <div style="text-align: center;"><b>ypcat hosts   grep 3.45.120.3</b></div> <i>without the greater-than and less-than operators.</i>

## 2.4 Buttons, Switches and Keyboard Inputs (Hard & Soft Keys)

Different character styles are used to indicate actions requiring the reader to press either a hard or soft button, switch or key. Physical hardware, such as buttons and switches, are called hard keys because they are hard wired or mechanical in nature. A keyboard or on/off switch would be a hard key. Software or computer generated buttons are called soft keys because they are software generated. Software driven menu buttons are an example of such keys. Soft and hard keys are represented differently in this publication.

Example: Hard Keys	A power switch <b><u>ON/OFF</u></b> or a keyboard key like <b><u>ENTER</u></b> is indicated by applying a character style that uses both over and under-lined bold text. This is a hard key.
Example: Soft Keys	Whereas the computer <b><u>MENU</u></b> button that you would click with your mouse or touch with your hand uses over and under-lined regular text. This is a soft key.

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# Table of Contents

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## Preface

## Publication Conventions ..... 15

### Section 1.0 Safety & Hazard Information ..... 15

1.1 Hazard Messages..... 15

1.2 Text Format of Signal Words..... 15

1.3 Symbols and Pictorials Used..... 16

### Section 2.0 Publication Conventions ..... 17

2.1 General Paragraph and Character Styles..... 17

2.2 Page Layout..... 18

2.3 Computer Screen Output/Input Text Character Styles ..... 18

2.4 Buttons, Switches and Keyboard Inputs (Hard & Soft Keys) ..... 19

## Chapter 1 - Introduction ..... 25

Section 1.0 Objective and Scope of this Manual..... 25

Section 2.0 Avoiding Unnecessary Expenses and Delays..... 25

Section 3.0 An Overview of the Pre-Installation Process..... 25

Section 4.0 Responsibility of Purchaser/Customer ..... 26

Section 5.0 Contract Changes ..... 26

Section 6.0 Responsibilities of the Purchaser ..... 27

Section 7.0 What You Will Receive (System Components)..... 28

## Chapter 2 - Target System Confirmation..... 31

## Chapter 3 - Room Requirements..... 33

### Section 1.0 Environmental Requirements ..... 33

1.1 Relative Humidity and Temperature ..... 33

1.2 Altitude and Atmospheric Pressure ..... 33

1.3 Heat Output ..... 34

1.4 Acoustic Output ..... 34

1.5 Light Specification..... 34

1.6 Radiation Protection ..... 34

### Section 2.0 Structural Requirements ..... 34

2.1 Door Size ---No special requirement ..... 34

2.2 Floor ---No special requirement ..... 34

## Chapter 4 - Planning Electrical Connections ..... 35

### Section 1.0 Routing Cables ..... 35

1.1 General ..... 35

1.2 Conduit ..... 35

1.3	Electrical Ducts .....	35
1.4	Power Distribution .....	36
<b>Section 2.0 Hospital Network .....</b>		<b>36</b>
2.1	Broadband Network Connection .....	36
2.2	Remote Services Broadband Pre-Installation Requirements for Europe .....	36
<b>Section 3.0 Master Interconnect System (MIS) .....</b>		<b>37</b>
 <b>Chapter 5 - System Facility Power &amp; Grounds .....</b>		 <b>39</b>
<b>Section 1.0 Introduction .....</b>		<b>39</b>
1.1	Power Quality .....	39
1.2	Electrical Requirements .....	40
1.2.1	System Electrical Requirements .....	40
1.2.1.1	System Power Specifications .....	40
1.2.2	Wiring Electrical Power and Disconnects .....	41
1.2.2.1	Room Power Supply .....	41
1.2.2.2	Customer-supplied Electrical Outlet .....	41
<b>Section 2.0 Electrical Grounds .....</b>		<b>42</b>
2.1	System and Facility Grounds .....	42
2.2	Final Checks, Before System Installation Can Begin .....	42
 <b>Chapter 6 - Product Characteristics .....</b>		 <b>43</b>
<b>Section 1.0 Overview .....</b>		<b>43</b>
<b>Section 2.0 System Components Dimensions and Weights .....</b>		<b>43</b>
2.1	Dimensions .....	43
2.2	Dimensioned Figures and Drawings .....	44
2.2.1	Operator Console .....	44
2.2.2	Cabinet .....	44
2.2.3	Cabinet Bracket .....	45
2.2.4	Tether Interface Box .....	46
2.2.5	Detector BIN .....	47
2.2.6	Dongle Assembly .....	48
2.2.7	Touchscreen Monitor and Mount .....	49
2.3	Floor Loading and Recommended Mounting Methods .....	51
 <b>Chapter 7 - Room Layout .....</b>		 <b>53</b>
<b>Section 1.0 Clinical Access .....</b>		<b>53</b>
<b>Section 2.0 Dongle Assembly Room Layout .....</b>		<b>53</b>
2.1	Dongle default location and adjusting range: .....	53
 <b>Chapter 8 - Planning Aids .....</b>		 <b>55</b>
<b>Section 1.0 Shipping Dimensions and Weights .....</b>		<b>55</b>
<b>Section 2.0 Installation Tools and Materials Required .....</b>		<b>56</b>
2.1	Tools and Materials Checklist .....	56

<b>Section 3.0 Preparing the Delivery Route .....</b>	<b>57</b>
<b>Section 4.0 Networkflow Audit.....</b>	<b>58</b>
4.1 What is the Networkflow Audit? .....	58
4.2 Facility Information.....	59
4.3 Workflow Analysis.....	59
4.4 The Physical Network .....	60
4.5 Wireless DR Imaging Option System Parameters.....	61
4.6 Devices & Services Audit.....	63
4.7 Dataflow Analysis .....	65
4.8 What Will Happen Next?.....	67
<b>Section 5.0 Pre-Installation Checklist .....</b>	<b>68</b>
 <b>Chapter 9 - System Cable Information .....</b>	 <b>71</b>
<b>Section 1.0 Introduction .....</b>	<b>71</b>
<b>Section 2.0 Cable Information .....</b>	<b>72</b>
2.1 Cable Lengths and Characteristics .....	72
<b>Section 3.0 System Master Interconnect Schematic (MIS).....</b>	<b>74</b>
 <b>Chapter 10 - Seismic Calculations .....</b>	 <b>77</b>
<b>Section 1.0 Overview .....</b>	<b>77</b>
<b>Section 2.0 Calculations .....</b>	<b>77</b>
 <b>Chapter Appendix A - Revision History .....</b>	 <b>79</b>



# ***Chapter 1 - Introduction***

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## **Section 1.0 Objective and Scope of this Manual**

This document is intended as a guide and informational resource for planning and properly preparing a location for the installation of a Wireless DR Imaging Option System (Modle Name: WDR1).

## **Section 2.0 Avoiding Unnecessary Expenses and Delays**

To avoid unnecessary expenses and delays, use the “Pre-Installation” checklist located in [Chapter 8](#) to determine if you are ready for the installation to begin. Once you believe that your room/location is ready for installation to begin, complete the “Pre-Installation” checklist. The checklist is an important tool that helps verify that nothing has been missed. The checklist summarizes the preparations and allows you to record a permanent record of the activities that have taken place.

## **Section 3.0 An Overview of the Pre-Installation Process**

Pre-installation is a co-operative effort between the customer/purchaser and GE Healthcare (GEHC). Complete the checklists contained in this manual. They are an important part of the pre-installation process. The checklists summarize the required preparations and verify the completion of the pre-installation procedures.

[Figure 1-1](#) outlines the information in this document and its place in the pre-installation process.

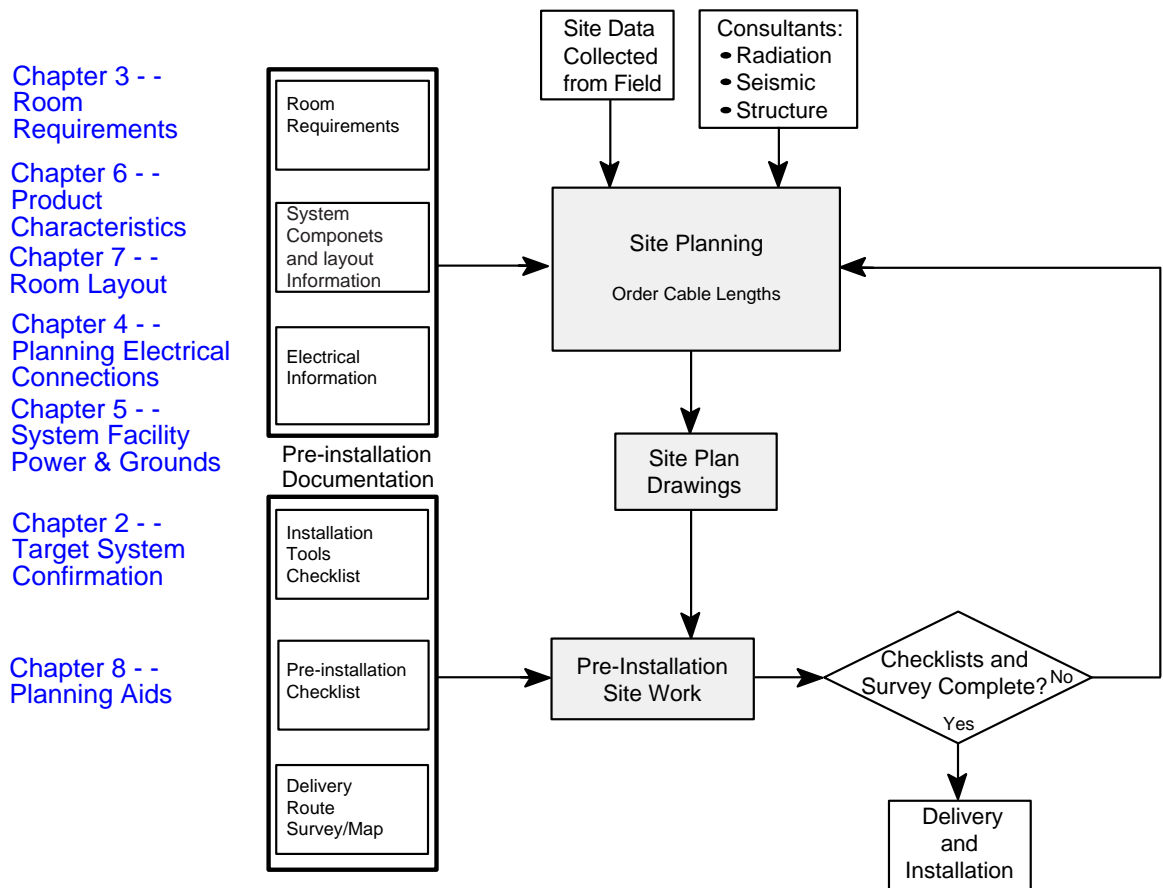


Figure 1-1 Pre-Installation Overtable

## Section 4.0 Responsibility of Purchaser/Customer

To ensure that the installation of a Wireless DR Imaging Option System meets the purchaser or Customer expectations, it is important to determine who will take responsibility for various items in the course of the system installation process. To aid you in determining these responsibilities, review the following checklists with the customer and assign responsibilities as appropriate:

- Tools and Equipment Checklist (see [page 56](#))
- Pre-Installation Checklist (see [page 68](#))

## Section 5.0 Contract Changes

Be sure to inform the customer that the cost of any alterations or modifications not specified in the sales contract are the responsibility of the customer.

## Section 6.0 Responsibilities of the Purchaser

The purchaser is responsible for completion of “Pre-Installation”. This includes the procurement and installation of all required materials and services to get the room ready for installation of the product. This responsibility includes providing:

- A clean and safe work environment for installation of the product (finished floor, ceiling, walls, and proper room lighting).
- A location suitable for the installation of the product. See [Chapter 3 - - Room Requirements](#).
  - Suitable support structures in the floor, walls, or ceiling necessary for the mounting of the product and/or its components.
  - Installation of conduit, ducts and/or raceways necessary to route cables safely. See [Chapter 5 - - System Facility Power & Grounds](#) and [Chapter 6 - - Product Characteristics](#)
  - Electrical power and grounds of specified quality and reliability. See [Chapter 5 - - System Facility Power & Grounds](#).
- A location suitable for operation of the product. See [Chapter 7 - - Room Layout](#).
- Installation of non-electric services.

## Section 7.0 What You Will Receive (System Components)

The Wireless DR Imaging Option System may consist of the following main components (See [Figure 1-2](#) and [Table 1-2](#)):



Figure 1-2 Wireless DR Imaging Option System Component Identification

Item	Component	Part Number	Comment
1	Touchscreen Monitor	5178667	Standard
2	Workstation	5830000	Standard
3	Cabinet	5394686	Standard
4	Detector Bin	5394348	Standard
5	Detector	5399000-3	Standard
6	Detector Tray	5380866	Standard
7	Tether Interfact Box	5394349	Standard
8	Dongle	5397322-3	Standard
9	Detector Battery	5382000 (Catalog#:A0659SL)	Standard
10	Detector Battery Charger	5394471	Optional

Table 1-1 Wireless DR Imaging Option System Component Identification

Item	Component	Part Number	Comment
11	Probe Holder	2280928-2	Standard
12	Flat Field Phantom	2281087-2	Standard
13	OM English Paper Manual	5397214-1EN	Standard
14	OM CD	5397214-299	Standard
15	SM Class A CD	5397205-2EN	Standard
16	Warning Label for Wallstand	5401827	Standard
17	OS DVD	5399373	Standard
18	Applicaton Software CD	5399375	Standard
19	P500D Configuration Tool CD	5413253	Standard: Only for P500D
20	Proteus XR/a AEC Compensation Patch CD	5408826	Standard: Only for Proteus
21	English Keyboard	5183547-4	Standard
22	System MIS Cable Collector	Refer to MIS Map	
23	Medium Tether (7m)	5389155-4	Optional, at least 1 selected
24	Short Tether (4m)	5389155	
25	Long Tether (10m)	5389155-2	
26	100CM Table Grid	5394289	Optional
27	130CM Grid for Table/WS	5396678	Optional
28	100CM Wallstand Grid	5396677	Optional
29	180CM Wallstand Grid	5396679	Optional
30	8:1 Portable Grid	5363606-2	Optional
31	6:1 Portable Grid	5363606	Optional
32	Tabletop Lateral Detector Holder	5396920	Optional
33	Monitor Wall Mount	2371592	Optional
34	Proteus XR/a Exposure Key Disable Board	5397162	Standard: Only for Proteus
35	Precision 500D VENUS Kit	5328038	Optional: For Precision 500D Non-Aurora
36	Bar code reader	5271574-2	Optional

Table 1-1 Wireless DR Imaging Option System Component Identification

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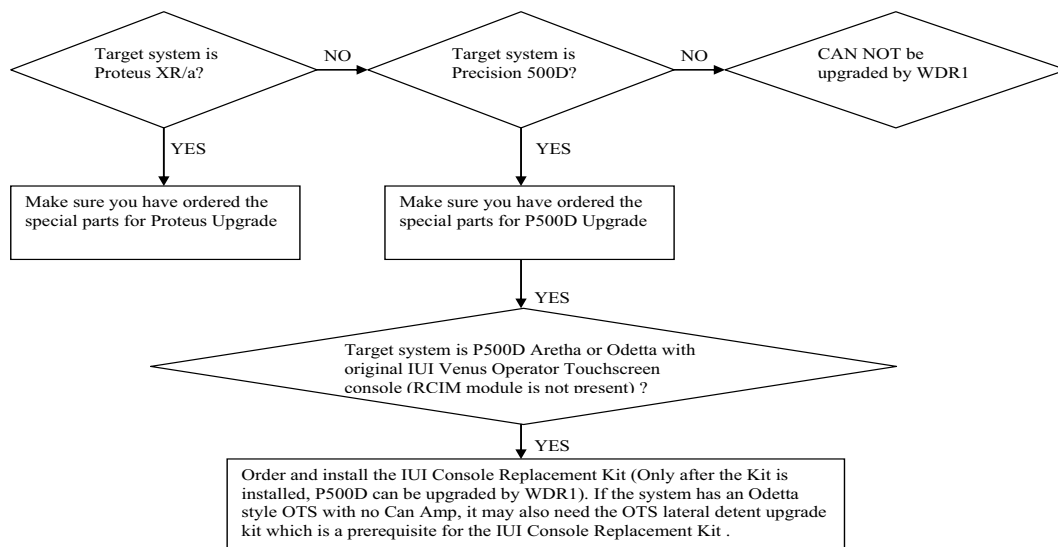
## Chapter 2 - Target System Confirmation

Wireless DR Imaging Option System can upgrade below target systems to DR system:

Proteus XR/a, Precision 500D Aretha/Odetta/Aurora.

Before installation of Wireless DR Imaging Option System, purchaser needs check target system

- 1.) Make sure correct components have been ordered for target system. Use below figure as reference for your order. For more information, contact with your sales representative.



- 2.) Purchaser needs make sure target system works well before installation of Wireless DR Imaging System. Refer to target system Operator Manual and Service Manual to do functional check.
- 3.) For Proteus XR/a, check that system console cable is 2259298-60. If not, replace it before proceeding.

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# Chapter 3 - Room Requirements

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## Section 1.0 Environmental Requirements

### 1.1 Relative Humidity and Temperature

#### Transportation and Storage Conditions

- Environment temperature: -20~60°C (-4°F~140°F) ( The environment temperature of digital detector and monitor: ( -5°C ~ +50°C) (23°F~122°F)
- Relative humidity: 10 ~ 85%

#### In-Use Conditions

- Environment temperature: 15 ~ 35°C (59°F~95°F)
- Relative humidity: 30 ~ 60%

#### Limits for rates of change:

##### In-Use Storage

< 10 °C(50°F)/ hour< 20 °C (68°F)/ hour

< 30% / hour< 30% / hour

Note: STORAGE values only refer to equipment that is still in shipping containers. If the equipment is partially or completely installed, refer to IN-USE values.

### 1.2 Altitude and Atmospheric Pressure

#### Transportion and Storage Conditions:

Atmospheric pressure: 700 ~ 1060 hPa

#### In-use Conditions :

Atmospheric pressure: 700 ~ 1060 hPa

#### Limits for rates of change:

##### In-Use

< 1.8 hPA / hour

##### Storage

< 76 hPA / hour

Note: STORAGE values only refer to equipment that is still in shipping containers. If the equipment is partially or completely installed, refer to IN-USE values.

## 1.3 Heat Output

PRODUCT OR COMPONENT	HEAT OUTPUT (Watts/BTU)	HEAT OUTPUT(Watts/BTU)
	MAX	Idle
Workstation	250 /853	130/512
Monitor	115/392	4/14
TIB	20/68	2/7
Cabinet	190/648	140/477
<b>Total System Output</b>	<b>575/1961</b>	<b>276/1010</b>

Table 3-1 Heat Outputs by Component

## 1.4 Acoustic Output

COMPONENT	SOUND OUTPUT (dBA)	
	IN-USE (measured 1m from any point in system)	STAND-BY (measured 1m from any point in system)
System	< 60	< 55

Table 3-2 DR image Acoustic Output

## 1.5 Light Specification

The monitor screen is adjusted for an optimum ambient light level of 50 lux.

## 1.6 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 advice on radiation protection in X-ray rooms.

# Section 2.0 Structural Requirements

## 2.1 Door Size ---No special requirement

## 2.2 Floor ---No special requirement

# **Chapter 4 - Planning Electrical Connections**

---

## **Section 1.0 Routing Cables**

### **1.1 General**

High voltage and power cables must be separated from other cables. Use a separate trough in the duct system, or use a separate conduit. USB cables concealment need follow local regulatory requirements. Minimize cable length between the line disconnect and the System Cabinet power unit to reduce voltage regulation problems and wiring costs.

For information about the cables supplied with your system, please refer to [Chapter 9 - - System Cable Information](#).

### **1.2 Conduit**

Separate conduits must be used for power and signal wires. These wires must be kept separated from each other.

Using conduit imposes some important considerations when used with this system. Of primary concern, the majority of cables used are pre-terminated. Pre-termination 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, the size of conduit chosen must allow for future growth. There is the possibility of additional cables being added later as the system is developed and options are added.

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

### **1.3 Electrical Ducts**

It's important that electrical ducts have separate compartments for power and signal wires. These wires must be kept separated from each other for proper system operation.

Electrical ducts have advantages, when used with a single room or two adjacent rooms. Electrical ducts combine cabling in a neat and functional appearance, with accessibility and room for expansion.

## 1.4 Power Distribution

Note:	For hospital facility power and ground requirements to the Wireless DR Imaging Option System power unit, refer to: <a href="#">Chapter 5 - - System Facility Power &amp; Grounds</a> .
Additional Reference Material Exists	For Wireless DR Imaging Option System power distribution from the System Cabinet power unit, refer to Wireless DR Imaging Option System MIS Map, see <a href="#">Chapter 9 - - System Cable Information</a> .

# Section 2.0 Hospital Network

## 2.1 Broadband Network Connection

Wireless DR Imaging Option Systems are equipped with Broadband fast Ethernet hardware for Service diagnostics. Wireless DR Imaging Option Systems equipped with Digital Imaging are capable of placing electronic images on the Hospital image Ethernet Network. It is the purchasers responsibility to provide the Ethernet connection (rated at 100Mb/sec transfer rate for optimal performance) of the Operator Console. The network connection is made at the Operator Console.

- 100BaseT network connection is preferred
- 10BaseT network connection is acceptable

Note: If using GE PACS LITE BOX software, the GE PACS LITE BOX software revision must be 6.1d02 or greater. Older versions will not work with the Wireless DR Imaging Option System.

For DICOM information, refer to: 5398016 Wireless DR Imaging Option DICOM Conformance Statement V3.0.

## 2.2 Remote Services Broadband Pre-Installation Requirements for Europe

- To enable an easier installation and to benefit from remote support (service and engineering teams), equipments should be Insite connected at installation.
- Thus the connectivity solution to implement should be decided during pre installation and all related data should be available before installation starts.
- For all installations make sure that you have at least one RJ45 dedicated to connect the new equipment on the LAN. In case of Broadband, this connection will also be used for the remote service of the equipment.
- GEHC offers a wide range of connectivity solutions: From full GE package (GE supplies Router and customer buys the line) to customized solutions (GE adapts to customer infrastructure).
- Network devices (like CISCO Routers for instance) can be shipped with the equipment only if the Sales Representative has added the connectivity item in the order.

For complete descriptions of these connectivity solutions, please refer to the Broadband Solutions

- catalogue available through your local GEHC sales and service representative.
- Connectivity Process and pre-installations checklists are available in the Broadband onnectivity PIM available through your local GEHC sales and service representative.
- For each solution selected by the customer the pre-installation checklist must be fulfilled by site IT manager in order to get connectivity information (site IT manager contacts, IP address...) available at installation.
- In case Broadband is not available: Modem A dedicated phone line using a RJ11 used only for the connection to a modem must be located at 1 mm maximum from the operator console. This line will be a direct classical phone line.

Note: For P500D upgrade, two Ethernet ports are needed: one for P500D, another for WDR1.

## Section 3.0 Master Interconnect System (MIS)

System interconnect cables are described in MIS (Master Interconnect System) documents shipped with the system. These documents specify all interconnections between components within the system and its options.

---

Note:	For specific Wireless DR Imaging Option System interconnect maps and connection details, please
Additional	refer to <a href="#">Chapter 9 - - System Cable Information</a> .
Reference	
Material Exists	

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# Chapter 5 - System Facility Power & Grounds

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## Section 1.0 Introduction

The purpose of this chapter is to ensure that the product is properly powered and grounded, thus ensuring the proper operation of the product installed. The information in this chapter should be adhered to, unless there are written deviations approved by GE Healthcare.

This chapter gives the sizes and procedures on how to power and ground your system. If these power and grounding instructions are not adhered to, proper operation cannot be guaranteed. Any cost associated and found to be a result of non-conformity, as stated in this chapter, may result in additional cost charged back to the institution and/or their contractor.

### NOTICE

All Wireless DR Imaging Option System component power connections must be made in accordance with the Wireless DR Imaging Option System MIS Map, see [Chapter 9 - - System Cable Information](#).

## 1.1 Power Quality

The electrical power, from its origination to the system, must adhere to the wire size and transformer sizes as prescribed in the installation drawings. The feeder voltage-drops, as well as the supplying power, must be within the given parameters. Sizing for feeder is usually calculated for a maximum of 2% voltage drop at the minimum voltage range. The actual feeder sizing may vary from the installation drawing for a facilities voltage.

Calculate feeder losses before you begin. Total feeder losses must be calculated to ensure that the losses are less than those specified in the installation drawings. Calculating the recommended minimum transformer sizing for feeding a system ensures the transformer losses are less than half of the maximum regulation for the system.

Regulation is the calculated voltage losses for the entire power distribution system (No-Load Voltage minus Full-Load Voltage) divided by the no-load voltage minus the system losses (Full-Load Voltage):

$$\text{Regulation} = \frac{\text{NoLoadVoltage} - \text{FullLoadVoltage}}{\text{FullLoadVoltage}} \times 100$$

In the X-ray room, there must be a lockable facility power disconnect. It must be installed electrically before the equipment, for the purpose of locking out the power. This must be done before service to the high voltage system is performed.

## 1.2 Electrical Requirements

### 1.2.1 System Electrical Requirements

#### 1.2.1.1 System Power Specifications

PARAMETER	DISCRIPTION
Input Power	<b>Single phase:</b> 100-127vac $\pm 10\%$ or 200-240vac $\pm 10\%$
Frequency	50/60Hz $\pm 10\%$
Power	>650W

**Table 5-1 System Cabinet Power Specifications**

PARAMETER	DISCRIPTION
Input Power	<b>Single phase:</b> 100-127vac $\pm 10\%$ or 200-240vac $\pm 10\%$
Frequency	50/60Hz $\pm 10\%$
Power	>50W

**Table 5-2 Detector BIN Power Specifications**

PARAMETER	DISCRIPTION
Input Power	<b>Single phase:</b> 100-240vac $\pm 10\%$
Frequency	50/60Hz $\pm 10\%$
Power	>1.5A

**Table 5-3 Detector Battery Charger Power Specifications**

## 1.2.2 Wiring Electrical Power and Disconnects

This section provides additional data regarding power circuits the customer must provide, and internal electrical circuits necessary to supply the correct power to the Wireless DR Imaging Option System. [Figure 5-1](#) shows the room power supply installed.

### 1.2.2.1 Room Power Supply

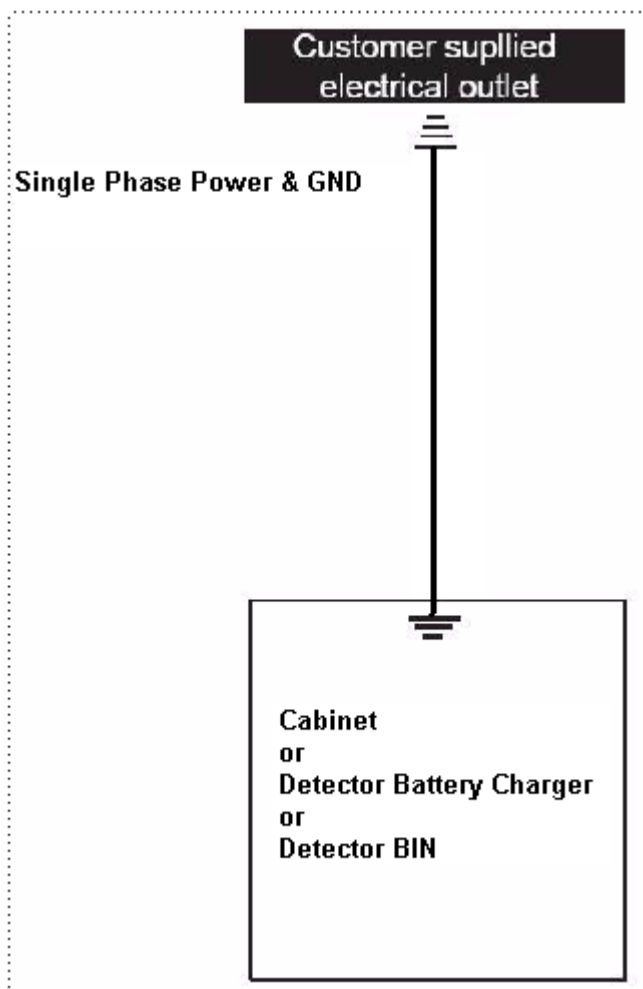


Figure 5-1 Room Power Supply

### 1.2.2.2 Customer-supplied Electrical Outlet

Customer must provide electrical outlets of appropriate voltage rating to the System Cabinet, Detector Battery Charger and Detector BIN.

#### NOTICE

It is supposed to connect the cabinet to a standard electrical outlet. But, if local regulatory requires that it is mandatory to have this outlet connected to the power distribution box (in case of emergency to switch off the complete room), please follow local regulatory requirement.

Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade" This tag is for USA only.

## Section 2.0 Electrical Grounds

### 2.1 System and Facility Grounds

The ground for this system must originate at the system's power source and be continuous (i.e., transformer or first access point of power into a facility, and be continuous to the system power disconnect in the room). Ground connection at the power source must be at the grounding point of the "Neutral/Ground" if a "Wye" transformer is used, or typical grounding points of a separately derived system. In the case of an external facility, it must be bonded to the facility ground point at the electrical service entrance.

The "system" ground can be spliced using "High Compression Fittings" but must be properly terminated at each distribution panel it passes through. When it is terminated, it must be connected into an approved grounding block. Incoming and outgoing grounds must terminate at this same grounding block. Grounds must only be terminated to approved grounding blocks. Grounds must never connect directly to the panels, frames or other materials in a cabinet or distribution panel.

### 2.2 Final Checks, Before System Installation Can Begin

The customer must provide GE Healthcare or its representative (installation specialist) evidence that grounds and electrical power meet GE Healthcare' specifications.

Prior to product installation, a local service or installation specialist, to be determined by GEHC, will do a physical walk through of the exam suite to ensure the following:

- 1.) Grounds at junction points are connected properly and securely to an approved ground bus.
- 2.) Grounds originate at the power source.
- 3.) Ground at the power source is common with target system.

# Chapter 6 - Product Characteristics

## Section 1.0 Overview

Refer to this section for dimensional drawings for the components of the Wireless DR Imaging Option System.

Note: Drawings are not to scale. Dimensions are called out on each drawing.

## Section 2.0 System Components Dimensions and Weights

### 2.1 Dimensions

PRODUCT OR COMPONENT	DIMENSIONS			References
	Width (mm/in)	Depth (mm/in)	Height (mm/in)	
Operator Console:				
Workstation	318/12.52	351/13.82	85/3.35	Figure 6-1
LCD Monitor	420/16.54	254/10.00	458/18.03	
Cabinet	240/9.45	265/10.40	330/12.99	See Figure 6-2
Tether Interface Box	255/10.04	110/4.33	310/12.20	See Figure 6-4 through Figure 6-5
Detector Bin	535/21.06	119/4.68	360/14.17	See Figure 6-6 through Figure 6-7
Dongle Assembly	62.5/2.46	133/5.24	257/10.11	See Figure 6-8 through Figure 6-9

**Table 6-1 Product Physical Characteristics (Width / Depth / Height)**

## 2.2 Dimensioned Figures and Drawings

### 2.2.1 Operator Console

Unit:mm (inch)



Figure 6-1 Operator Console

### 2.2.2 Cabinet

Unit:mm (inch)

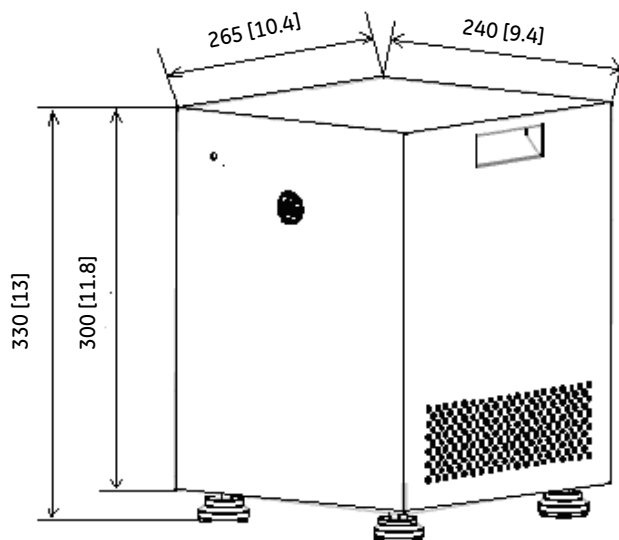


Figure 6-2 Cabinet

### 2.2.3 Cabinet Bracket

Note: Only for the sites which have seismic regulatory requirement. No anchors were supplied with bracket. Use floor anchors (obtain locally) to bolt affix bracket to floor.

Unit:mm (inch)

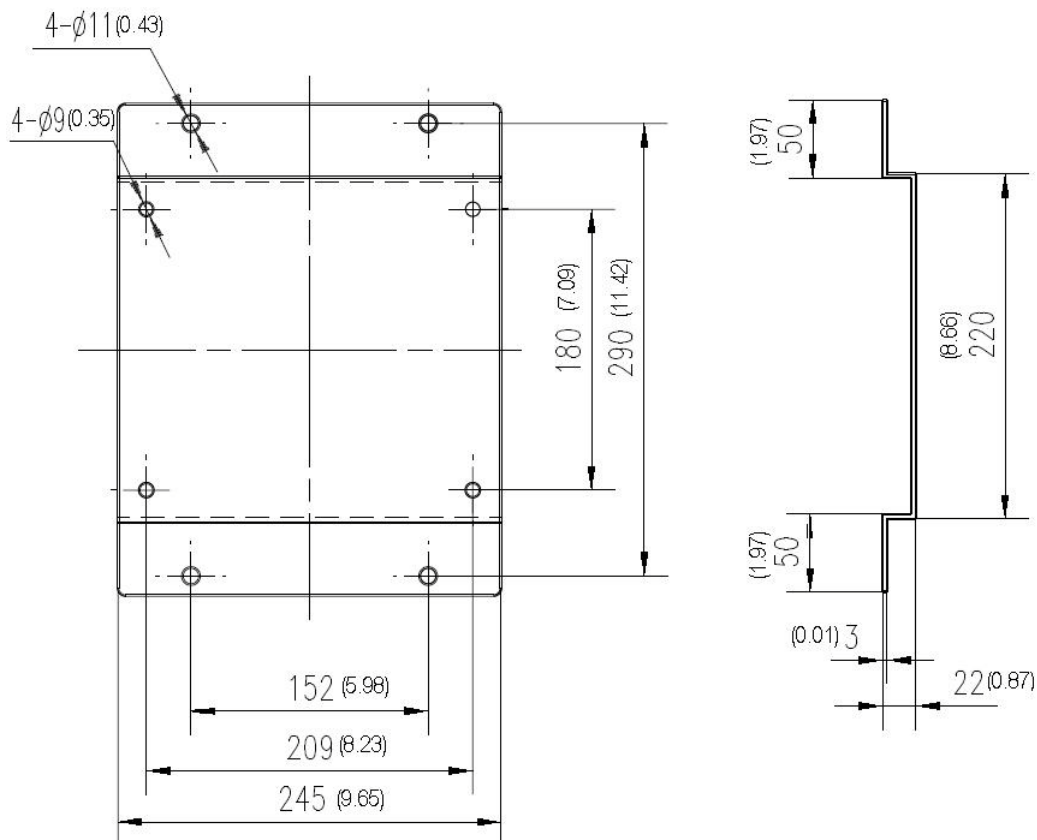


Figure 6-3 Cabinet Bracket

2.2.4 Tether Interface Box

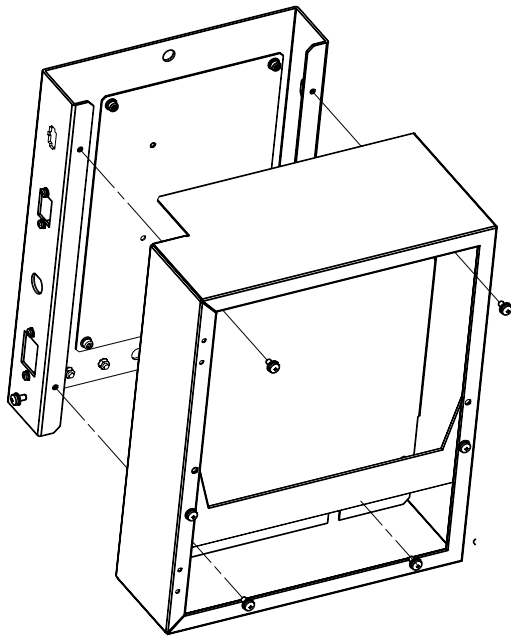


Figure 6-4 TIB structure overview

Unit:mm (inch)

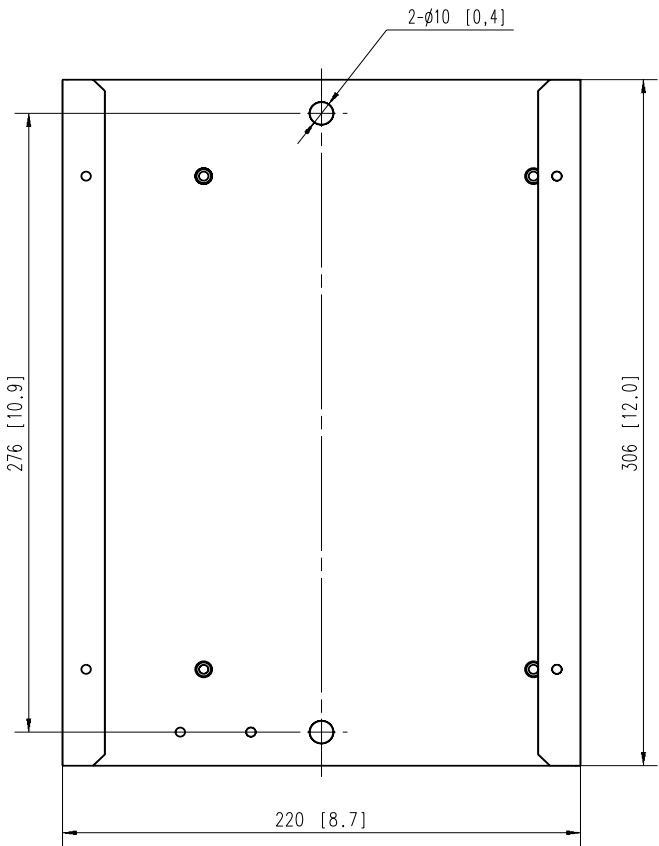


Figure 6-5 TIB rear cover (wallmount)

## 2.2.5 Detector BIN

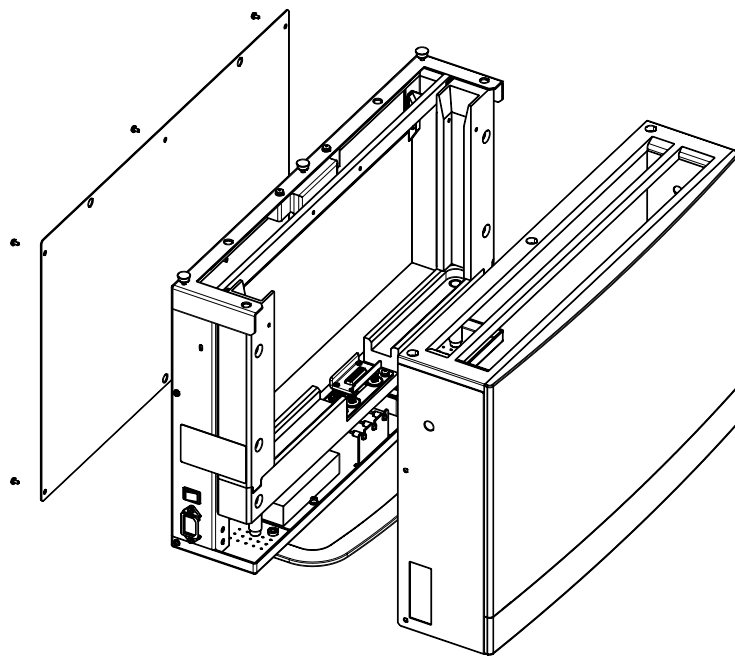


Figure 6-6 Detector BIN structure overview

Unit:mm (inch)

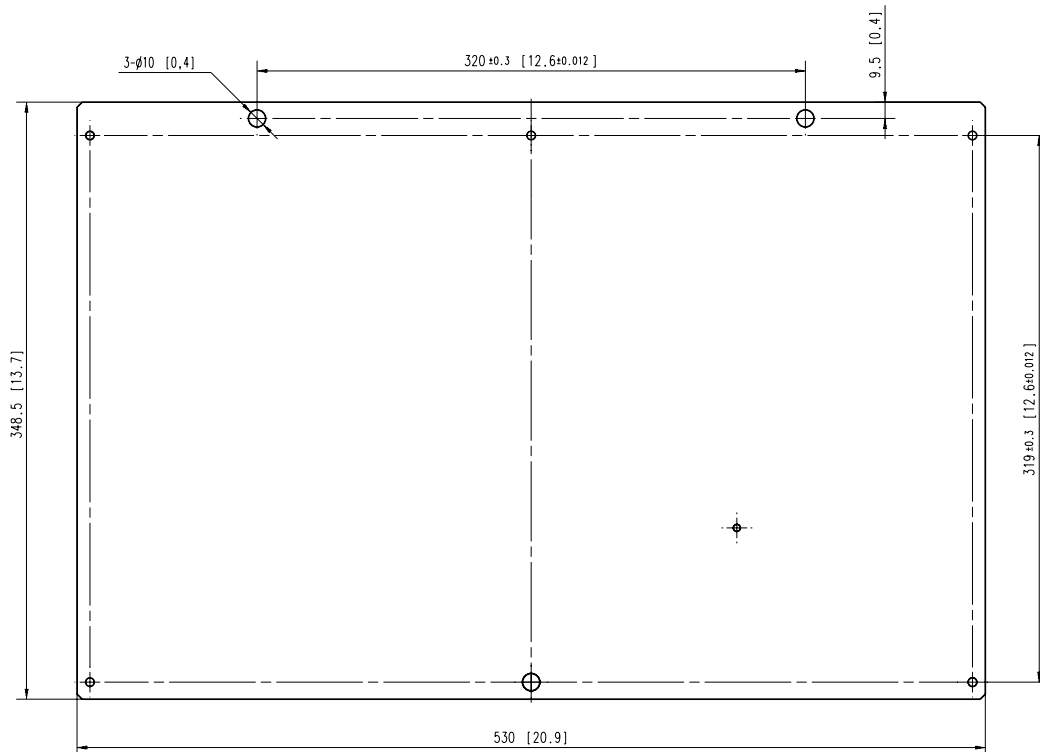


Figure 6-7 Detector BIN rear cover (wallmount)

2.2.6 Dongle Assembly



Figure 6-8 Dongle Assebley structure overview

Unit mm(inch)

mm [inch]

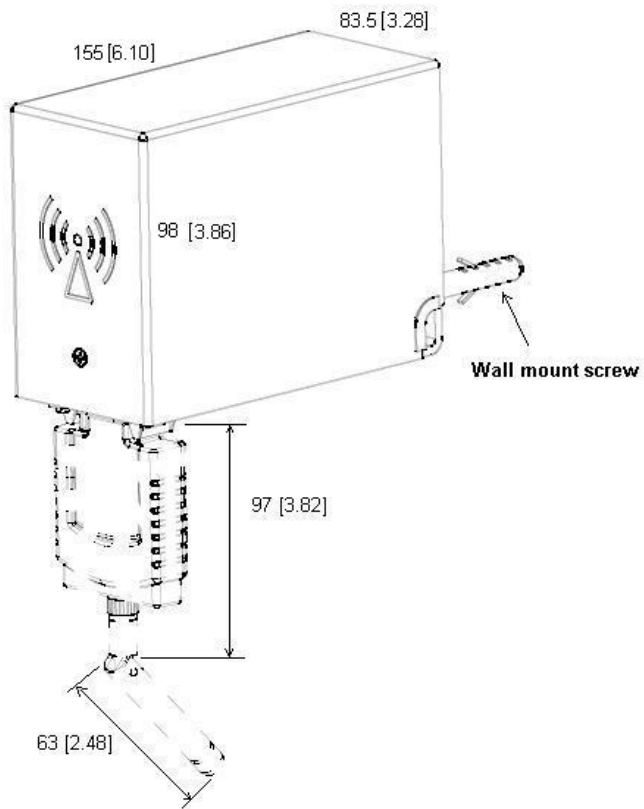


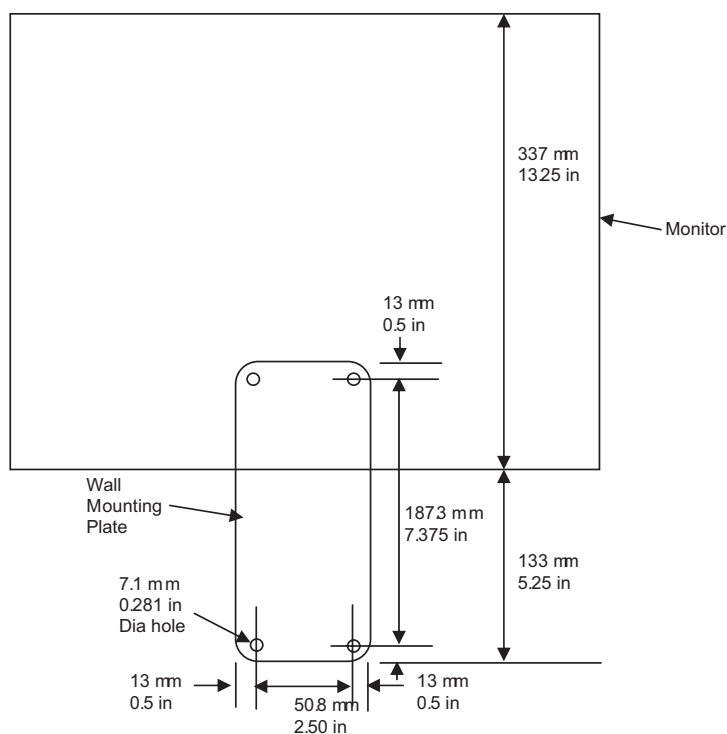
Figure 6-9 Dongle Assebley Dimentions(wallmount)

## 2.2.7 Touchscreen Monitor and Mount



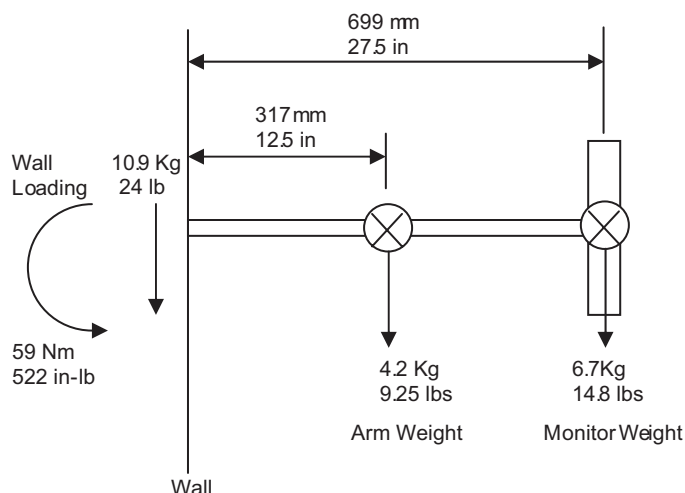
**Figure 6-10 Assembled Monitor**

The relationship between the monitor and the wall mounting plate is given as following drawing. This is a view looking into the wall.



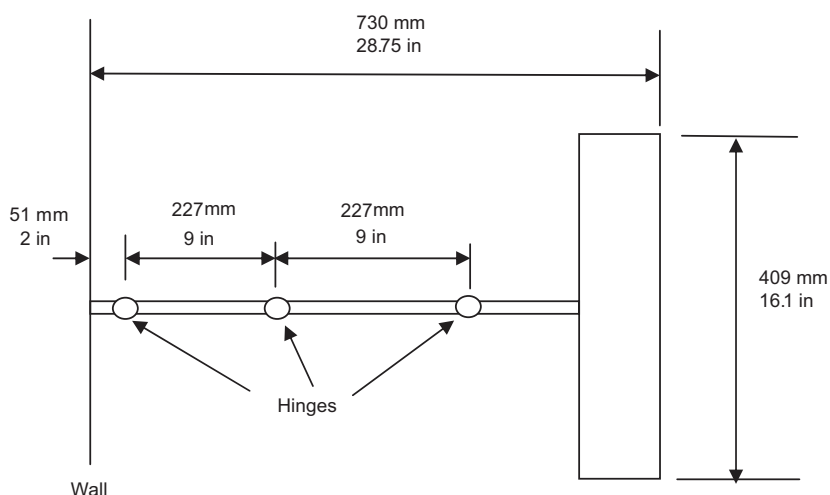
**Figure 6-11 Wall Mounting Plate**

The wall that the monitor is mounted on must be able to carry a vertical shear load of 10.9 kg (24 lbs) and a moment of 59 Nm (522 in-lbs). The factor of safety applied over this shall be a minimum of 4. If a higher factor of safety or seismic loading is required per the local building codes, it shall be used to determine the mounting.



**Figure 6-12 Wall Mounting Plate - Vertical Shear and Moment**

The top view of the mounted monitor is shown as following



**Figure 6-13 Wall Mounting Plate - Top View**

Note: Fasteners are not shipped with system.

As part of the pre-installation process, the appropriate wall anchor must be installed prior to the arrival of the system. The associated fasteners (i.e., bolts) should also be made available to those performing the monitor installation. Fasteners are not provided with the system because physical characteristics of walls will vary from site to site.

## 2.3 Floor Loading and Recommended Mounting Methods

PRODUCT OR COMPONENT	WEIGHT (kg/lb)	LOAD BEARING AREA m <sup>2</sup>	WEIGHT/OCCUPIED AREA kg/m <sup>2</sup>	RECOMMENDED MOUNTING INFORMATION
Operator Console: PC Tower Monitor	4.5/9.92 8.2/18.07	NA	NA NA	Table mount (not anchored) Table or wall mount
Cabinet	17/37.48	NA	NA	Floor mounting (not anchored)
Tether Interface Box	7/15.43	NA	NA	wall mount
Detector BIN	13/28.66	NA	NA	Floor mounting (not anchored) or wall mount
Dongle Assembly	1.5/3.30	NA	NA	wall mount

**Table 6-2 Product Physical Characteristics (weight)**



# Chapter 7 - Room Layout

## Section 1.0 Clinical Access

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

- Provide emergency egress path out of the room for patient, operators and service personal, per country and regional requirements.
- Operators in the control area must have easy access to the Operator 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.
- Consult customer on the number and location of nonelectrical lines (air, oxygen, vacuum, water, etc.) in the radiographic room.

Note: The generally accepted practice is to load the patient laterally. In case of room layout designed for longitudinal patient loading, some modifications must be brought to the table.

## Section 2.0 Dongle Assembly Room Layout

Note: Aside from Dongle Assembly location which is critical for wireless signal quality, other components can be located anywhere cable length allows and customer prefer for application. So, this section just describe room layout requirements for Dongle Assembly installation.

Note: Dongle Assembly location maybe need change in order to find better wireless signal performance during WDR1 installation. Refer to Install Manual. It is recommended that customer prepares cables concealment (conduit, surface cover...) for the whole adjusting range.

### 2.1 Dongle default location and adjusting range:

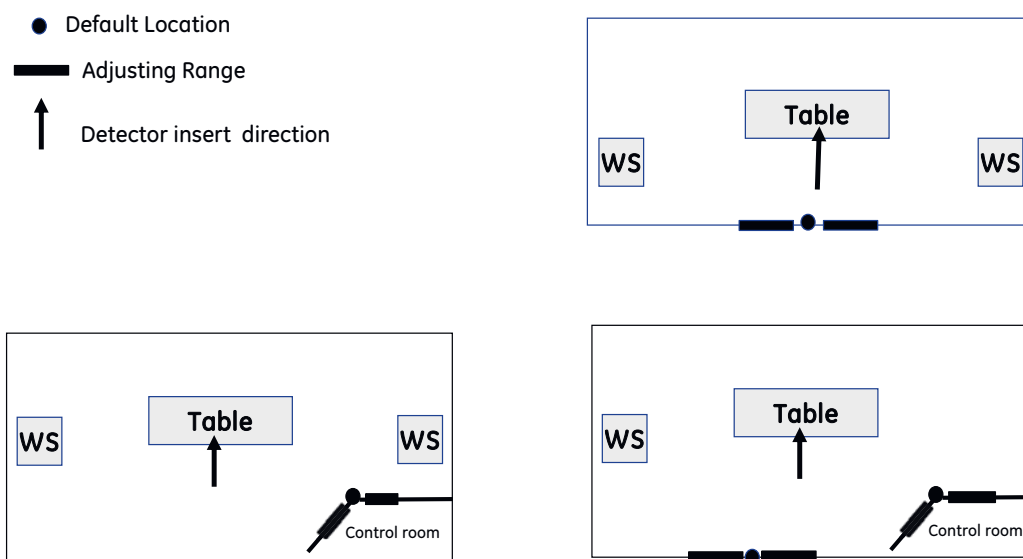


Figure 7-1 Dongle Assembly Room Layout

- 1.) Dongle location should face to the detector insert direction in table housing.
- 2.) Antenna angle is 45 degree pointing to the wall
- 3.) Antenna height is close to ceiling, but without metal obstacles within 20 cm range.
- 4.) No obstacles are between antenna and application range of portable detector.
- 5.) For “Control room outside” default location is center of wall, and adjusting range is 1.5m to left and 1.5m to right. There is no restriction for WS insert direction (Left or right) and layout (Foot and Head).
- 6.) For “Control room inside” default location is corner of shielding wall of control room, and Adjusting range is 1.5m to left and 1.5m to right (not behind wallstand patient barrier). There is no restriction for WS insert direction (Left or right) and layout (Foot and Head).
- 7.) For “Control room inside” If WS is at Head, another default location is center of wall (not including control room), and Adjusting range is 1.5m to left and 1.5m to right. There is no restriction for WS insert direction (Left or right).

# Chapter 8 - Planning Aids

## Section 1.0 Shipping Dimensions and Weights

PRODUCT OR COMPONENT	SHIPPING DATA					SHIPPING METHOD
	SHIPPING DIMENSIONS (APPROX.)			GROSS SHIPPING WEIGHT (approx.)	NET SHIPPING WEIGHT (approx.)	
	LENGTH (cm/in)	WIDTH (cm/in)	HEIGHT (cm/in)	(kg/lb)	(kg/lb)	
Digital Upgrade kit	121/47.64	68/26.77	70/27.56	79/174.16	69/152.12	Box1# including "FIRST OPEN ME"
Detector Bin	54/21.26	36/14.17	12/4.72	15/33.07	13/28.66	BOX2#
Detector Tray	31/12.20	26/10.24	11/4.33	6/13.23	4.5/9.92	BOX3#
Workstation	45/17.72	46/18.11	17/6.69	11/24.25	9.5/20.94	BOX4#
Detector	102/40.16	80/31.50	44/17.32	20/44.10	4.5/10	BOX5#
Proteus XR/a Upgrade Assembly	50/19.68	40/15.75	10/3.94	2/4.40	1.5/3.30	BOX6#
P500D Upgrade Assembly	50/19.68	40/15.75	10/3.94	2/4.40	1.5/3.30	BOX7#

**Table 8-1 Shipping Data**

## Section 2.0 Installation Tools and Materials Required

### 2.1 Tools and Materials Checklist

The following tools and materials are needed for installation, but are not shipped with the product:	Completed
Assorted hardware for termination of electrical connections (solder-less ring lug terminals and butt splices, AWG 2-18)	<input type="checkbox"/>
Tie wraps, electrical tape and wire markers	<input type="checkbox"/>
Tags for labelling incomplete work in accordance to OSHA and regulatory requirements	<input type="checkbox"/>
Tag and lock-out equipment	<input type="checkbox"/>
Assorted 12-point sockets (SAE and metric), drives, wrenches and torque wrench (Nm and ft.-lbs)	<input type="checkbox"/>
Electric and hammer drill. Assorted masonry and high-speed bits in both metric and SAE sizes	<input type="checkbox"/>
Assorted sizes of tongue and groove pliers, hammers, hex wrenches (metric and SAE), screw drivers and metal files	<input type="checkbox"/>
Assorted sizes of wire cutters and strippers, ratchet and standard crimpers (42,400 mm <sup>2</sup> and upwards), and a 75 watt soldering iron	<input type="checkbox"/>
Heat and electrical tape	<input type="checkbox"/>
Chalk line	<input type="checkbox"/>
Digital multimeter	<input type="checkbox"/>
4 ft. level (or two standard levels)	<input type="checkbox"/>
Dosemeter	<input type="checkbox"/>
Densitometer	<input type="checkbox"/>
Thread fixing glue	<input type="checkbox"/>

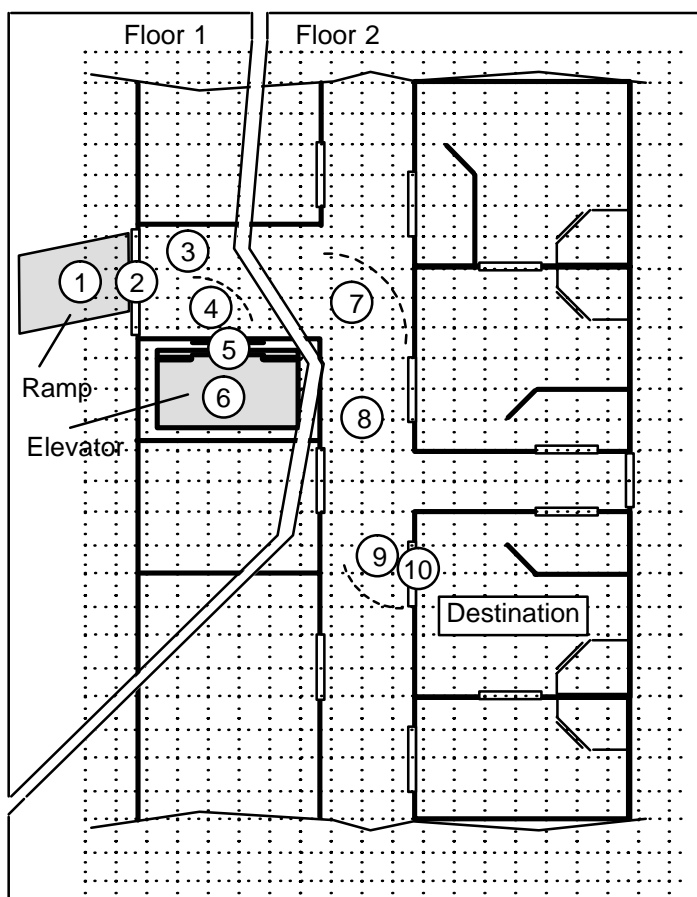
## Section 3.0 Preparing the Delivery Route

### 1.) Step One – Sketch out the Route

Begin preparing Route Survey by sketching the area of the hospital or clinic which will receive the equipment. Include all areas on the delivery route from outside of building to destination. See sample sketch below.

*Reference Numbers*

Numbers in circles refer to the Route Survey data. The Route Survey is a form on which site data is listed (step 2).



**Figure 8-1 Sample Route**

### 2.) Step Two – Survey the Route

Record all loading capacities, corridor widths, door openings, turning radii, flooring materials, elevator sizes, obstructions and so on for reference.

### 3.) Step Three – Check the Route

Verify equipment can actually be transported via the route determined in step 1.

## Section 4.0 *Networkflow* Audit

**Networkflow** (net' wurk' flo) *n* 1. The study of how to integrate diagnostic imaging devices into both your facility's network *and* workflow. -*v* 2. The act of integrating a digital diagnostic device most effectively for your particular situation. 3. Leveraging your network equipment and workflow investment for peak efficiency.

Understanding how your facility leverages its network investment through our *Networkflow* process will help us better integrate the Wireless DR Imaging Option System into your operations. The following is intended to identify the various ways the Wireless DR Imaging Option System can fit into your workflow and the ramifications of selecting one path or another. We would like to start at the beginning, with the patient arriving at your facility, going through registration/admittance/patient scheduling and proceed all the way to the read images being archived.

### 4.1 What is the *Networkflow* Audit?

This audit was designed to collect information on your network, your DICOM equipment, your workflow and your dataflow. Once this information is collected, it will be used to determine the best way the Wireless DR Imaging Option System can fit into your facility. The information will also be used to ease and speed the integration of the system into your facility.

This audit is intended to be performed before the system is quoted to you. The audit process will uncover aspects of your network and workflow that will impact how well the Wireless DR Imaging Option System will integrate into your facility. With all facts uncovered, GE can prepare a more accurate quote and minimize "surprises" at the time of install.

You should fill this out with the GE Healthcare representative. They will be able to answer any questions you may have.

## 4.2 Facility Information

Name of facility:	_____	Room #:	_____
Workflow contact:	_____	Phone:	_____
Network Infrastructure contact:	_____	Phone:	_____
DICOM Device contact:	_____	Phone:	_____
Other contact:	_____	Phone:	_____
GEHC Sales Representative:	_____		
GEHC Auditor:	_____		

## 4.3 Workflow Analysis

When the patient arrives in the Wireless DR Imaging Option System room for the exam, how is the patient data entered into the system?

- ☐ Manually typed
 ☐ Entered via barcode reader
 ☐ Downloaded from HIS/RIS
- Barcode format: \_\_\_\_\_

If the patient information was downloaded from a HIS/RIS system, how would the query be structured? *(Pick all that apply)*

- ☐ By date
 ☐ By modality
 ☐ By patient information
- ☐ By procedure
 ☐ By product (AE Title)
- ☐ Other method - Please explain: \_\_\_\_\_

In retrieving patient schedule information, do you query

- ☐ Once at the start of the shift
 ☐ Several times during a shift
 ☐ Before each patient

What percent of images acquired are reviewed via softcopy? \_\_\_\_\_%

What percent of images acquired are printed? \_\_\_\_\_%

Once the digital diagnostic images are acquired, what is your facility's default workflow?

*(Pick one)*

- ☐ Manually send
 ☐ Automatically push

*(Pick all that apply)*

- ☐ Review station(s)                      ☐ Archive system(s)                      ☐ Printer(s)

When images are configured for automatic push, what would you like to be sent to PACS/archive/review stations?

- ☐ Raw                      ☐ Processed                      ☐ Raw and Processed

When images are printed, on what device is the print command originated? *(Pick all that apply)*

- ☐ The Wireless DR Imaging Option System                      ☐ A review workstation                      ☐ A PACS system

How soon after the images are acquired is the first image quality check done?

- ☐ Before the next image is shot                      ☐ Before the patient leaves                      ☐ After patient leaves

When it comes to image quality, would you prefer to;

- ☐ Consider all images good unless marked bad  
☐ Consider all images bad unless marked good

## 4.4 The Physical Network

Physical infrastructures vary widely from institution to institution. GE Healthcare tried to pick the most popular networking connection to ease integration into your facility's network.

In the Wireless DR Imaging Option System room, this facility;

- ☐ Has 100baseT installed                      ☐ Has 10baseT installed                      ☐ Has a different network installed  
☐ Will have 100baseT installed                      ☐ Will have 10baseT installed                      ☐ We don't have a network installed

Is the network open to GE?

- ☐ Yes                      ☐ No

Do you segment your network using subnets?

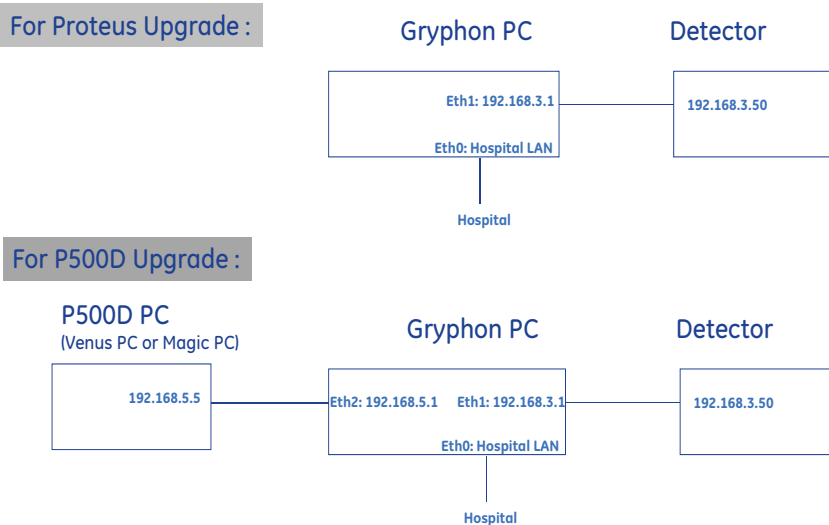
- ☐ Yes                      ☐ No

Our equipment's IP addresses are:

- ☐ Static                      ☐ Acquired via DHCP                      ☐ A combination of both methods

## 4.5 Wireless DR Imaging Option System Parameters

Figure 8-2 WDR1 Internal Network Topology



Note: If the hospital network uses 192.168.x.x, there will be a conflict. If this conflict occurs, you must contact your GE Service Representative to change the internal IP Addresses used by the system. No hazardous situations resulting from network data coupling.

- Connection of the System to a NETWORK/DATA COUPLING that includes other equipment could result in previously unidentified RISKS to PATIENTS, OPERATORS or third parties.
- The RESPONSIBLE ORGANIZATION should identify, analyze, evaluate and control these RISKS.
- Subsequent changes to the NETWORK/DATA COUPLING could introduce new RISKS and require additional analysis.
- Changes to the NETWORK/DATA COUPLING include.
- Changes in NETWORK/DATA COUPLING configuration.
- Connection of additional items to the NETWORK/DATA COUPLING.
- Disconnecting items from the NETWORK/DATA COUPLING.
- Update of equipment connected to the NETWORK/DATA COUPLING.
- Upgrade of equipment connected to the NETWORK/DATA COUPLING.

Wireless DR Imaging Option System	
Host Name:	_____
Network (IP) Address:	___ . ___ . ___ . ___
Subnet Mask:	___ . ___ . ___ . ___
Router IP:	___ . ___ . ___ . ___
Scheduled Station AE Title:	_____

The **Host Name** is the network's name for the Wireless DR Imaging Option System.

IP addresses uniquely identify a device on a network. IP addresses are constructed of 32 bits, usually displayed as four numbers separated by a period. Please indicate the **Network (IP) Address** that will be assigned to the Wireless DR Imaging Option System.

Subnets are a method of logically dividing a network into smaller blocks. This is usually done based upon locality, functionality or security requirements. If your facility will place the Wireless DR Imaging Option System on a subnet, please list the **Subnet Mask** and **Router IP**.

The **Scheduled Station AE (Application Entity) Title** is the name your HIS/RIS system will use to send worklist information to the Wireless DR Imaging Option System.

## 4.6 Devices & Services Audit

Use the following narrative to complete the form on the previous page.

**REMOTE HOSTS:** Remote hosts are DICOM devices to which the Wireless DR Imaging Option System can push an image. Remote hosts can be review workstations, archival devices, or PACS systems. Please indicate the type of remote host.

Now indicate the manufacturer and model name or number.

Compatibility can vary with software versions, please indicate the version of device firmware/software the device will be running.

List the device's **IP address**.

The answers to the next several items can be found in the device's DCS (DICOM Conformance Statement).

Please indicate the highest level of **DICOM conformance** for this device. If the device is not DICOM compliant, please indicate so and move on to the next device.

**If the device does have some level of DICOM conformance please return a copy of the DICOM Conformance Statement with this completed form.**

DICOM supports a number of **image types**. Please indicate if this device supports the DX and/or the CR image types.

The **host name** is the name that will appear on the screen and users will use to indicate this device. Please list the host name.

The next four sections address the four services that remote host devices may offer. Each of the services will have its own AE (application entity) title and port number. The AE title is the name given to a service or application provided by a DICOM device. The port number is a logical designation within the device. These pieces of information are available in the device's DCS.

Being a **remote host server** allows the Wireless DR Imaging Option System to push images to other devices. If you want the device to accept this service, check yes and provide the AE title and port number.

Being a **query/retrieve** service class provider allows the Wireless DR Imaging Option System to query this device and retrieve images stored there. If you want this device to provide these services to the Wireless DR Imaging Option System check yes and fill in the requested items.

The **query/retrieve by** study or patient controls how much the user is able to retrieve at one time. For study, the user may retrieve studies, series, images. For patient, the user may retrieve all of the study attributes plus a patient's entire image collection.

A **storage commitment** provider confirms that images sent by the Wireless DR Imaging Option System to an archival system were received and stored. Note - This option is only available when the Wireless DR Imaging Option System is sending DX type images. If your device supports both DX image types and storage commitment check yes and provide the AE title, the port number and the network (IP) address.

The **MPPS server** receives the messages sent by the Wireless DR Imaging Option System. These messages consist of information such as when the exam started and closed, how many images were acquired, dose information, etc. This information is then updated on the Hospital Scheduling system. If the site has an MPPS server, provide the AE Title, IP address and port number.

Printers		Include a DICOM Compliance Statement for each printer
Manufacturer/Model:	_____	_____
Software/Firmware Version:	_____	_____
Prints via Spooler:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Network (IP) Address:	____.____.____.____	____.____.____.____
DICOM Compliance Level:	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant
Host Name:	_____	_____
Printer AE Title:	_____	_____
Port Number:	_____	_____

**Printers:** As with the remote hosts, please list the manufacturer and the model name/number. The software/firmware version should also be entered. Next, supply the IP address of the printer.

Indicate the DICOM compliance level of the printer. If it is not DICOM compatible, please indicate so.

DICOM compatibility does not guarantee all functions will work properly. **Include every unique printer's DICOM Compliance Statement.**

Supply the Host name for the printer.  
Look in the DCS for the printer's AE title and port number.

RIS Systems		Include a DICOM Compliance Statement for each device
Manufacturer/Model:	_____	_____
Software/Firmware Version:	_____	_____
Network (IP) Address:	____.____.____.____	____.____.____.____
DICOM Compliance Level:	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant
Host Name:	_____	_____
HIS/RIS AE Title:	_____	_____
Port Number:	_____	_____
Modality used for Scheduling:	<input type="checkbox"/> DX <input type="checkbox"/> CR	<input type="checkbox"/> DX <input type="checkbox"/> CR

**RIS Systems:** As with the remote hosts please list the manufacturer and the model name/number. The software/firmware version should also be entered.

Indicate the IP address the device is using as well as the DICOM compliance level. **Please include the DCS for the RIS with this completed form.**

Fill in the Host name.

Look in the DCS for the AE title and port number.

Please indicate if this device supports the DX and/or the CR image types. This information should also be in the device's DCS.

## 4.7 Dataflow Analysis

Now that we have outlined the way your facility works and the devices you work with, we would like to define how the images flow through your network.

The Wireless DR Imaging Option System is an acquisition-only device. Because of that fact you will need to move acquired images off the Wireless DR Imaging Option System and into your work/data flow. Please use the chart below to describe your data flow. As an example, if your facility reviewed images as the first step after acquisition, the review box would be checked in the first column of the **Task** row and the review workstation would be checked in the first column of the **Device** row. You should use each of the functions once.

	1st step after acquisition	2nd step after acquisition	3rd step after acquisition
<b>Task</b>	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review
<b>Device</b>	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)

**Printing:** It is important to us to understand the path your images follow before they are printed. We are now looking to answer the question of what road an image most typically travels on its way to be printed regardless if that is the first step in your process or not. Please try to find in the list below the path that best describes the path the image takes from acquisition to printing.

- ☐ Wireless DR Imaging Option System ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ Spooler ➡ Printer(s)
- ☐ Wireless DR Imaging Option System ➡ Archive Device ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ Archive Device ➡ Spooler ➡ Printer(s)
- ☐ Wireless DR Imaging Option System ➡ Archive Device ➡ Review Workstation ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ Archive Device ➡ Review Workstation ➡ Spooler ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ PACS ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ PACS ➡ Spooler ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ Review Workstation ➡ Printer
- ☐ Wireless DR Imaging Option System ➡ Review Workstation ➡ Spooler ➡ Printer(s)
- ☐ Wireless DR Imaging Option System Other: \_\_\_\_\_ ➡ Printer(s)

**Image Review:** Now let's trace the path from acquisition to image review. Again, pick the item below that best describes how the image flows from the Wireless DR Imaging Option System to the radiologist.

- ☐ Wireless DR Imaging Option System ➡ Printer ➡ Printed Film ➡ Radiologist
- ☐ Wireless DR Imaging Option System ➡ Review Workstation ➡ Radiologist
- ☐ Wireless DR Imaging Option System ➡ Archive Device ➡ Review Workstation ➡ Radiologist
- ☐ Wireless DR Imaging Option System ➡ PACS ➡ Radiologist
- ☐ Wireless DR Imaging Option System ➡ PACS ➡ Review Workstation ➡ Radiologist
- ☐ Wireless DR Imaging Option System ➡ Other: \_\_\_\_\_ ➡ Radiologist

**Archive:** The final part of this triad is archiving images. Pick the item below that best describes the flow of images to be archived.

- ☐ Wireless DR Imaging Option System ➡ Archive Device
- ☐ Wireless DR Imaging Option System ➡ PACS
- ☐ Wireless DR Imaging Option System ➡ Printer ➡ Printed Film ➡ Filing System
- ☐ Wireless DR Imaging Option System ➡ Review Workstation ➡ Archive Device
- ☐ Wireless DR Imaging Option System ➡ Review Workstation ➡ PACS
- ☐ Wireless DR Imaging Option System ➡ Other: \_\_\_\_\_ ➡ Archive Device

## 4.8 What Will Happen Next?

Next, your completed audit sheet will be analyzed by your GE Healthcare representative and any issues identified.

## Section 5.0 Pre-Installation Checklist

Delivery Date: \_\_\_\_\_ Sales Person: \_\_\_\_\_  
 Customer: \_\_\_\_\_ FDO No.: \_\_\_\_\_ Room # \_\_\_\_\_  
 Equipment: \_\_\_\_\_

### Physical Requirements of Site

### Completed

- 1.) Room size adequate for intended equipment configuration? ☐
- 2.) Floor is strong enough for intended equipment and mounting methods approved – seismic regulatory codes considered? ☐
- 3.) Delivery route accommodates all intended equipment? ☐
- 4.) Radiation physicist consulted? ☐
- 5.) Necessary alterations made to circumvent obstructions? ☐
- 6.) Modifications to room finished? ☐
- 7.) Supports, platforms been provided? ☐
- 8.) Support structures installed for floor, and wall mounted equipment? ☐
- 9.) Has floor been modified for cable ducts? ☐
- 10.) Electrical service in place - at the ratings specified in pre-installation documentation? ☐
- 11.) Power available to operate power tools? ☐
- 12.) All non-electrical lines (air, water, oxygen, vacuum) installed? ☐

### Interconnections

### Completed

- 1.) Signal cable, power and grounding plans produced? ☐
- 2.) Necessary interconnection hardware, such as junction boxes, conduit or raceways, and fittings provided? ☐
- 3.) Interconnection hardware installed? ☐
- 4.) Flexible, stranded wire provided for System input power connection? ☐
- 5.) System “feeder” power cables pulled and sufficient length available at disconnect box for connections? ☐
- 6.) Interconnecting cables continuity checked, and labeled? ☐
- 7.) All high voltage cable lengths verified? ☐
- 8.) Interface information available for equipment? ☐

**General****Completed**

- |   |                          |
|---|--------------------------|
| 1.) Walls, and floor clear of all obstructions?                     | <input type="checkbox"/> |
| 2.) Walls finished?   | <input type="checkbox"/> |
| 3.) Finished floor installed?                                       | <input type="checkbox"/> |
| 4.) Room lights installed?  | <input type="checkbox"/> |
| 5.) Dust-creating work completed?                                   | <input type="checkbox"/> |
| 6.) Old equipment within room removed?                              | <input type="checkbox"/> |
| 7.) Component positions clearly marked on floor?                    | <input type="checkbox"/> |
| 8.) Space available to store equipment?                             | <input type="checkbox"/> |
| 9.) Lock on door, or locked room available?                         | <input type="checkbox"/> |
| 10.) Room IP Addresses for DICOM and Broadband identified?          | <input type="checkbox"/> |
| 11.) Have all fire/safety inspections for occupancy been completed? | <input type="checkbox"/> |

Comments:

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Inspection Date(s):

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Installation Project Manager Signature



# ***Chapter 9 - System Cable Information***

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## **Section 1.0 Introduction**

The following information is provided as an aid to make the physical installation of system cables easy and efficient. In the tables that follow, the physical characteristics of each cable and its associated connectors is provided. Thus making it easier to plan cable paths and clearances in advance. Physical characteristics are given for each available cable length. Review cable lengths carefully and choose lengths appropriate for your installation prior to the equipment arriving, to avoid unnecessary installation delays.

Remember, it is up to you to make sure that all cables are routed and connected in accordance with all regulatory laws that may apply.

## Section 2.0 Cable Information

### 2.1 Cable Lengths and Characteristics

Item	Cable Name	PN.	Voltage (V)	Length (m/in.)	Diameter (mm/in.)	Connector One End	Plug Size One End WidthXHeight (mm/in.)	Connector The Other End	Plug Size The Other End WidthXHeight (mm)
	System MIS Cable Collector	5395952							
1	Power Cable	5393571	100-240 VAC	3/118.11	8.4/0.33	Cabinet Power Input Port	30X30 /1.18X1.18	Hospital Electrical Outlet	30X10 /1.18X0.39
2	TIB Power Cable	5393572	110VAC	25/984.25	8.4/0.33	Cabinet J9	30X10 /1.18X0.39	TIB Power Input	20X10 /0.79X0.39
3	PC Power Cable	5393583	110VAC	3/118.11	8.4/0.33	Cabinet J7	30X10 /1.18X0.39	PC Power Input	20X10
4	Monitor Power Cable	5393584	110VAC	3/118.11	8.7/0.34	Cabinet J8	30X10 /1.18X0.39	Monitor Power Input	20X10 /0.79X0.39
5	Dongle USB Cables	5411408/ 5419255	5VDC	24/944.88	8.6/0.34	PC USB Port	30X10 /1.18X0.39	Dongle USB Port	20X10 /0.79X0.39
6	TIB Ethernet Cable	5393576	24VDC	25/984.25	6.3/0.25	PC J4	10X10 /0.39X0.39	TIB Ethernet Port	10X10 /0.39X0.39
7	TIB Grounding Cable	5400785	0V	25/984.25	8/0.31	Cabinet Grounding Point	10X4 /0.39X0.16	TIB Grounding Point	10X4 /0.39X0.16
8	RS232 Cable	5393585	24VDC	3/118.11	5/0.20	Cabinet J5	30X10 /1.18X0.39	PC J7	30X10 /1.18X0.39
9	Proteus XR/a Upgrade MIS cable Collector	5395953							
10	Handswitch Input Cable	5393581	12VDC	2/78.74	4/0.16	Cabinet J1	40X10 /1.57X0.39	Handswitch	10X10 /0.39X0.39
11	Handswitch Output For Proteus XR/a	5393579	12VDC	3/118.11	5/0.20	Cabinet J2	10X10 /0.39X0.39	Proteus XR/a Console	40X10 /1.57X0.39
12	Proteus XR/a Sync Signal Input Cable	5393574	12VDC	3/118.11	8.7/0.34	Cabinet J3	40X10 /1.57X0.39	Proteus XR/a Console	40X10 /1.57X0.39
13	Proteus XR/a Sync Signal Output Cable	5393573	12VDC	0.2/7.87	8.7/0.34	Cabinet J4	40X10 /1.57X0.39	Proteus XR/a 225997 Cable	40X10 /1.57X0.39

Item	Cable Name	PN.	Voltage (V)	Length (m/in.)	Diameter (mm/in.)	Connector One End	Plug Size One End WidthXHeight (mm/in.)	Connector The Other End	Plug Size The Other End WidthXHeight (mm)
	Precision 500D Upgrade MIS cable Collector	5395954							
14	Handswitch Input Cable	5393581	12VDC	2/78.74	4/0.16	Cabinet J1	30X10 /1.18X0.39	Handswitch	10X10 /0.39X0.39
15	Handswitch Output For Precision 500D	5393580	12VDC	3/118.11	6.4/0.25	Cabinet J2	30X10 /1.18X0.39	Precision 500D RCIM J2	30X10 /1.18X0.39
16	Sniffer Ethernet Cable	5393577	12VDC	3/118.11	6.3/0.25	PC J3	10X10 /0.39X0.39	Precision 500D PC: J5 for Aurora, J11 for others	10X10 /0.39X0.39
17	Precision 500D Power Sense Cable	5393578	12VDC	3/118.11	8.4/0.33	Cabinet J6	20X10 /0.79X0.39	End1. Precision 500D PC Power Input End2: Precision 500D PC Power Cable	30X10 /1.18X0.39
18	Table Bucky Simulation Cable	5394068	110VAC	0.1/3.94		J3(Precision 500D Table Base)	30X10 /1.18X0.39	No Connection	NA
19	Wallstand Bucky Simulation Cable	5394070	110VAC	0.1/3.94		J210(Precision 500D Positioner Cabinet)	30X10 /1.18X0.39	No Connection	NA

Note: System main power cable 5393571 is pre-terminated with US standard plug. This plug is replaceable. For other countries, customer need prepare the plug matching local electrical outlet and regulatory requirement.

## Section 3.0 System Master Interconnect Schematic (MIS)

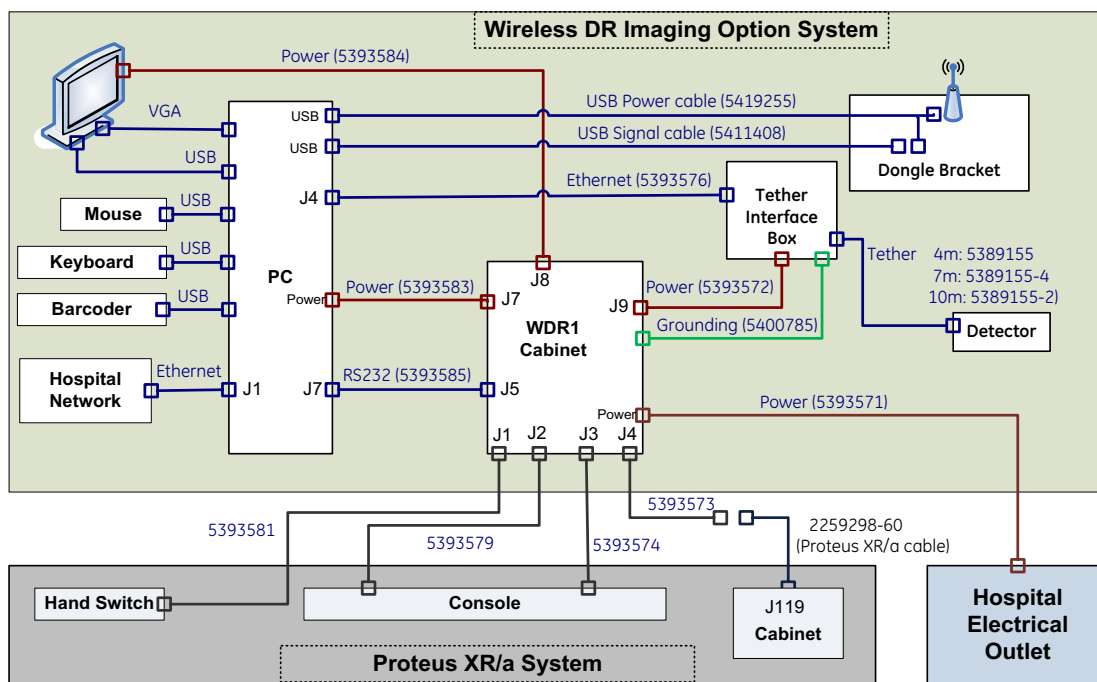


Figure 9-1 MIS for Proteus XR/a Upgrade

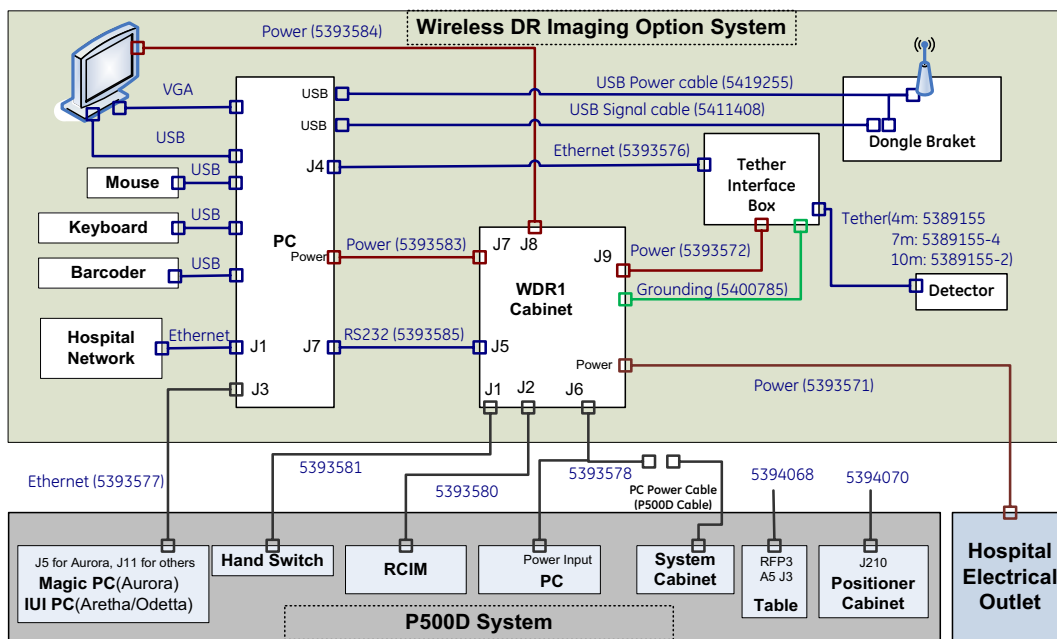


Figure 9-2 MIS for Precision 500D Upgrade

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# Chapter 10 - Seismic Calculations

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## Section 1.0 Overview

Seismic requirements are determined and specified by the hospital/Design Professional of record and may require approval by the specific state or country agency.

Seismic attachment hardware shown on seismic calculations may differ from hardware supplied with system. Any additional hardware that is required will be the responsibility of the institution and/or their contractor. Contact your local GE representative to obtain seismic calculations.

Seismic calculations are per California Building Code (CBC) and International Building Code (IBC).

## Section 2.0 Calculations

Seismic calculations can be obtained for the following:

- Wall Mounted Touchscreen Monitor
- Cabinet
- Detector Bin
- Tether Interface Box (TIB)

### NOTICE

If the customer needs seismic calculations they should speak to their local GE Project Manager or Installation Specialist to obtain.

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# ***Appendix A - Revision History***

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Revision	Date	Reason for change
1	May 14, 2011	First Release
2	Dec 13, 2011	Add "No hazardous situations resulting from net work data coupling." to section 4 Networkflow Audit







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