General Electric

Remote Monitor & Monitor-in-Room Boom Options Installation

OPERATING DOCUMENTATION

5323332-1EN
Rev 4

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 or from mechanical or other hazards.

HOIATUS
(ET)

- Käesolev teenindusjuhend on saadaval ainult inglise keeles.
- Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse 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 service 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'intervenir 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 Kundens 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 Patientens durch Stromschläge, oder mechanische und sonstige Gefahren kommen.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ
(EL)

- Το παρόν εγχειρίδιο σέρβις διατίθεται στα αγγλικά μόνο.
- Εάν το άτομο παροχής σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει υπηρεσίες μετάφρασης.
- Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό εκτός εαν έχετε συμβουλευτεί και έχετε κατανοήσει το παρόν εγχειρίδιο σέρβις.
- Εαν δε λάβετε υπόψη την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στο άτομο παροχής σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.

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 áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.

AÐVÖRUN
(IS)

- Þessi þjónustuhandbók er eingöngu fáanleg á ensku.
- Ef að þjónustuveitandi viðskiptamanns þarfnast annas tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálaþjónustu.
- Reynið ekki að afgreiða tækið nema að þessi þjónustuhandbók hefur verið skoðuð og skilin.
- Brot á sinna þessari aðvörun 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 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 위해를 가할 수 있습니다 .

BRDINJUMS
(LV)

- Šī apkalpes rokasgrāmata ir pieejama tikai angļu valodā.
- Ja klienta apkalpes sniedzējam nepieciešama informācija citā valodā, nevis angļu, 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 jedynie 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-BR)

- 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 tente reparar o equipamento sem ter consultado ecompreendido 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.

ATENÇÃO

(PT-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 tente reparar o equipamento sem ter consultado ecompreendido este manual de assistência técnica.
- O não cumprimento deste aviso pode colocar em perigo a segurança do técnico, do operador ou do paciente devido a choques eléctricos, mecânicos ou outros

ATENŢIE

(RO)

- Acest manual de service este disponibil numai în limba engleză.
- Dacă un furnizor de servicii pentru clienţi necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere.
- Nu încercaţi să reparaţi echipamentul decât ulterior consultării şi înţelegerii acestui manual de service.
- Ignorarea acestui avertisment ar putea duce la rănirea depanatorului, 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.
- Несоблюдение требований данного предупреждения может привести к тому, что специалист по обслуживанию, оператор или пациент получат удар электрическим током, механическую травму или другое повреждение.

UPOZORENJE

(SR)

- Ovo servisno uputstvo je dostupno samo na engleskom jeziku.
- Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilacke usluge.
- Ne pokušavajte da opravite uredaj ako niste procitali i razumeli ovo servisno uputstvo.
- Zanemarivanje ovog upozorenja može dovesti do povredivanja servisera, rukovaoca ili pacijenta usled strujnog udara ili mehanickih i drugih opasnosti.

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 zodpovednos″ou zákazníka.
- Nepokúšajte sa o obsluhu zariadenia skôr, ako si neprečítate návod na obluhu a neporozumiete mu.
- Zanedbanie tohto upozornenia môže vyústi″ do zranenia poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, do mechanického alebo iného nebezpečenstva.

ATENCION

(ES)

- Este manual de servicio sólo existe en inglés.
- Si el encargado de mantenimiento de un cliente necesita un idioma que no sea el inglés, el cliente deberá encargarse de la traducción del manual.
- 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.

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.

DIKKAT

(TR)

- Bu servis kilavuzunun sadece ingilizcesi mevcuttur.
- Eğer müşteri teknisyeni bu kilavuzu ingilizce dişinda bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.
- Servis kilavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.
- Bu uyariya uyulmamasi, elektrik, mekanik veya diğer tehlikelerden dolayi teknisyen, operatör veya hastanin yaralanmasina yol açabilir.

DAMAGE IN TRANSPORTATION

You should closely examine all packages at time of delivery. If you notice any damage, have the notation “Damage in Shipment” written on all copies of the freight or express bill before delivery is accepted or “signed for” by any General Electric representative or hospital receiving agent. Whether noted or concealed, you MUST report damage to the carrier immediately upon discovery and within 14 days after receipt, and you must hold the contents and containers for inspection by the carrier. A transportation company will not pay a claim for damage if you do not request an inspection within this 14-day period.

To file a report:

- Call 1-800-548-3366 and use option 8.
- Fill out a report on http://egems.med.ge.com/edq/home.jsp
- Contact your local service coordinator for more information on this process.

Rev. June 13, 2006

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, GE Healthcare, will gladly 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 take adequate steps to protect against injury.

The equipment is sold with the understanding that the General Electric Company, GE Healthcare, 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 the GE Healthcare Sales or Service representatives. GE personnel: please use the GE Healthcare iTrak/PQR Process to report all omissions, errors, and defects in this publication.

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Revision History

Revision	Date	Reason for change
4	17-Sep-2014	Per HSCSDM00311590 updated Chapter 2 Figure 2-12 and added safety warning.
3	20-June-2014	Per HSCSDM00233529 added and removed catalog numbers. Updated per new RoHS compliance.
2	31-Jan-2012	ECO 2126565: Added new Eizo Monitor specifications.
1	10/24/08	Initial Release of Manual

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Chapter 1
Pre-Installation Information

Section 1.0
Software

There are no special software requirements. The monitors function with all software versions.

Section 2.0
Environmental Conditions

The following standard environmental condition requirements must be met. There are no changes unless otherwise noted.

2.1 Temperature and Humidity Specifications: Ambient Temperature

Maintain a temperature of 70º – 75º F (21º – 24º C) in scan room for patient comfort. When scan room is unoccupied, table and gantry temperature limitations are 64º – 79º F (18º – 26º C).

2.2 Electro-Magnetic Interference (EMI)

Color Monitor. Locate color monitors in ambient static magnetic fields of less than 5 x 10^{-5} tesla to guarantee color purity and display geometry.

If fields where excessive EMI is known or suspected to be present, consult GE Medical Systems for recommendations. Consider the following if you attempt to reduce EMI:

- External field strength decreases rapidly with distance from the source of the magnetic field.
- The external leakage magnetic field of a three-phase transformer is much less than that of a bank of three single phase transformers of equivalent power rating.
- Large electric motors are a source of substantial EMI.
- Steel reinforcing in building structure can be a conductor of EMI.
- High-powered radio signals are a source of EMI.
- Maintain good screening of cables and cabinets.

2.3 Seismic Data

Follow the specified seismic reinforcement requirements for your area.

2.4 Installation Changes with GOC6

The GOC6 requires that console options are powered from the GOC6 console. The options are powered with IEC power connectors. If you have an existing Remote Monitor installed and you plan to use this unit with your new system, you will need to order B-CAT B7820HD.

Section 3.0
Catalog Numbers and Parts Lists

3.1 Catalog Numbers

CATALOG #	SYSTEM	DESCRIPTION
B7820HD	CT-HD	IEC Cable Adaptor Kit
B7710RN	CT-HD; PET-KH	LCD & SUSP (Boom in Room) Linux

Table 1-1 Catalog Numbers - Linux Systems

3.1.1 B7710RN - LCD Monitor & Suspension Option for Linux

P/N	QTY	FRU	DESCRIPTION
46-302200P10	1	Yes	1.72 X 1.10, MODEL#, SN, DATE, DESC.
2403438-3	1	Yes	5 BNC MALE TO HD 15 MALE 75 FEET
5160969-3	1	Yes	Complete Suspension containing ceiling column 5160969 and suspension arm 5160969-2.
5169069-8	1	Yes	CT Use Eizo 19 inch LCD Monitor FlexScan S1923-gray
5161129	1	Yes	LCD Bracket Short Arm
2212717	1	Yes	Cable cover for LCD Suspension 3.6
5116219	1	Yes	Grounding Cable for LCD Console to LCD
2213219	1	No	Power Cable for LCD Console to LCD
2376772	1	Yes	1-in 4-out RGBHV Distribution Amp
2403438	2	Yes	5 BNC Male to HD 15 Male 6 feet
2403438-4	1	Yes	HD 15 Femal to HD 15 Male 15 feet
5428983	1	No	Ceiling Plate Assembly, RoHS
5115171	1	No	Handle LCD Monitor
5449991	10	No	75 OHM Termination Plug, RoHS
5455751	1	No	DVI-A Male to VGA Female Adapter
5115172	1	No	Ground Wire Ceiling Plate
5161926-2	1	No	Hardware collector for Boom-in-Room, RoHS

Table 1-2 Boom-in-a-Room for Linux, Parts List (5115174-3 BOM, Rev 2)

Section 4.0
Exam Suite Monitor with LCD Option

4.1 Site Preparation

Determine whether the existing cables run through conduit, wire trough or under raised floor, and, if a sufficient opening exists to run the monitor video cable from the operator console to the gantry base.

- Video Cable: 24.4 m (75 ft.) long and about 5/8 in. in diameter
- Minimum 45mm (1.75 in.) hole to route cables between Console and Gantry
- LCD Monitor dimensions (see below).

4.2 Component Dimensions

Dimensions listed for Monitor are averages

MODEL	P/N 5117545
WIDTH	402.3 mm (15.8 in.)
DEPTH	80 mm (3.1 in.)
HEIGHT/LENGTH	330.3 mm (13 in.)
WEIGHT	6.3 kg (13.8 lbs.)

Table 1-3 NEC 1990SXi Model LCD Monitor Dimensions

MODEL	P/N 5169069-4 / 5169069-8
WIDTH	405 mm (15.9 in.)
DEPTH	61.5 mm (2.4 in.)
HEIGHT/LENGTH	334 mm (13.1 in.)
WEIGHT	5.2 kg (11.5 lbs.)

Table 1-4 Eizo Model S1921-X / S1923-H LCD Monitor Dimensions

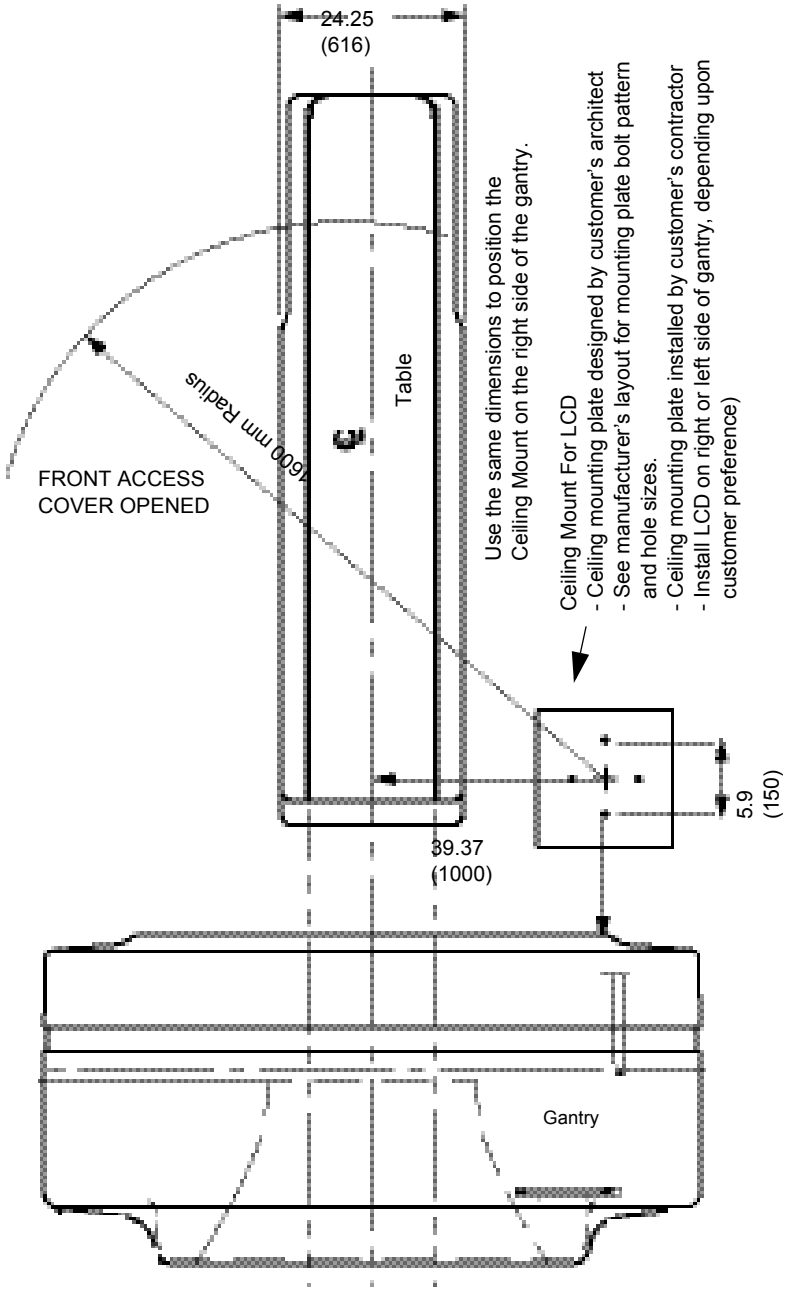

Table and Gantry (Top View) Exam Suite Monitor with Ceiling Mounted LCD

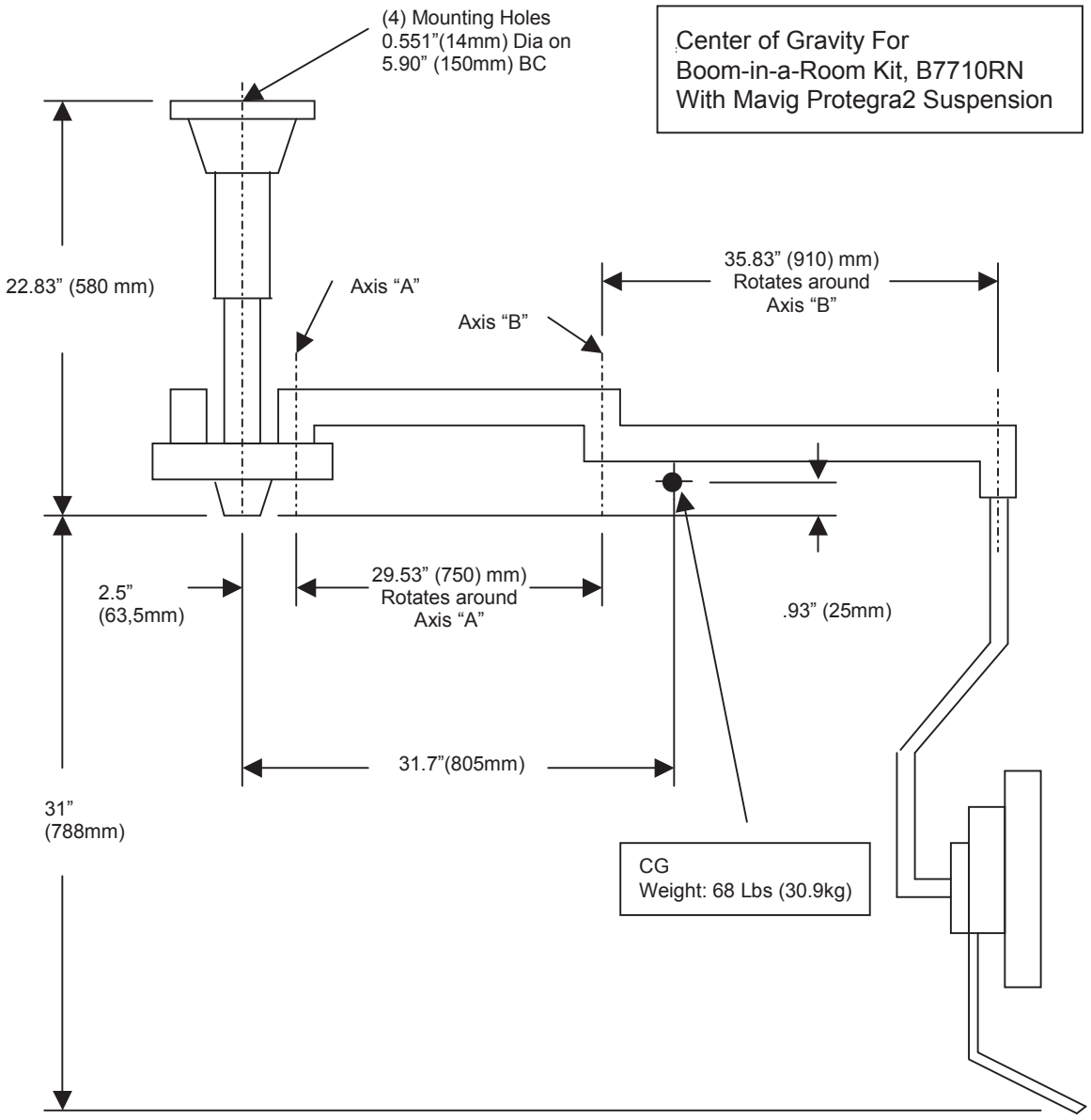

Figure 1-1 Center of Gravity for Boom-in-a-Room Kits

4.3 Electrical Box Requirement

A 152 mm x 152 mm x 102 mm (6 in. x 6 in. x 4 in.) or equivalent ceiling box is required to be flush mounted next to the ceiling plate. There should be two (2) conduits exiting into the box and the box grounded to the mounted plate. The electrical box cover plate must be flush mounted to the finished ceiling and with provision to add a 102 mm x 102 mm (4 in. x 4 in.) centered GE-supplied electrical cover plate.

Note:
- Additional mounting informaiton is available on the Mavig website. Refer to the Protegra 2 Installation manual.
- Seismic information is also available on the same website.

4.4 Remote Monitor Power Requirements

CT Scanner VCT and HD systems using GOC6 Series Console require IEC power plugs or adaptor kit (B7820HD) to supply the power. The LCD monitor and video splitter receives it's power from the Operator Console. Ground Remote Monitor to the console ground stud.

PET Scanner Discovery 600 Series using GOC5 and GOC4 consoles require NEC power plugs to supply the power. The LCD monitor and video splitter recieves it's power from the Operator Console. Ground Remote Monitor to the console ground stud.

Chapter 2
Boom Installation

Section 1.0
Introduction

Follow the manufacturer's shipped boom and arm installation directions to attach the pedestal assembly to the customer installed ceiling mounting plate.

- Assemble and install the pedestal to the ceiling mounting plate (customer installation responsibility) using the supplied hardware.
- With the pedestal column installed, follow the manufacturer’s shipped directions to install the extension spring arm and LCD monitor mounting post.
- Attach the supplied LCD monitor post using the manufacturer's shipped directions.
- Attach the LCD monitor to the post using the directions found in this manual.
- Install the cables and cable cover between the monitor and the ceiling junction box. Connect this wiring to the ceiling junction box.
- Route the LCD power, ground, and video cables to the rear of the operator console. Connect this wiring to the ceiling junction box.
- Connect the power cable to the console's outlet box.
- Connect the ground cable to the console grounding lug.

Section 2.0
Required Tools

Be sure these tools are available before installing the boom.

Step Ladder, 6’ - 8’	Side Cutters
3/8” Ratchet Set (SAE/Metric)	Wire Stripper
Allen Wrench Set	Dale 600 meter (or equivalent)
Screwdrivers, Phillips and Standard (+ and –)	Fluke 87 meter (or equivalent)

Table 2-1 Required Tools

Section 3.0
Installation Tips

Use the manufacturer's supplied instructions and the following tips, to install the **ceiling pedestal**:

1.) When using the supplied pedestal mounting template, orient the template so that the writing on the page (i.e., bottom of page) is toward the gantry. Notice that the safety chain attachment tab will be on the right side of the print.

2.) The customer's architect is responsible for designing a structure and plate with sufficient strength to hold the boom and monitor assembly.

3.) Five (5) mounting holes are required to install this new pedestal to the ceiling mounting plate. Four (4) M12 with flat washers, lock washers, and hex nut are used. One M8 is used to anchor the safety chain bracket assembly. See Figure 2-1 and Figure 2-2.

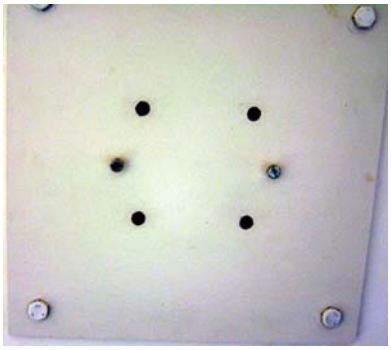

Figure 2-1 New Ceiling Plate

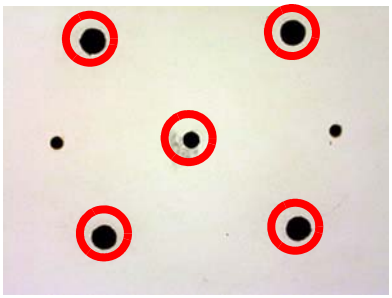

Figure 2-2 Mounting Plate (5 mounting holes are circled)

Ceiling pedestal (4) 12mm x 60mm and the safety chain (1) 8mm x 50mm.

4.) The pedestal cover is attached with screws to allow the cover to be lowered for installation. If a power cord is present, it must be cut before installing the pedestal. See Figure 2-3.

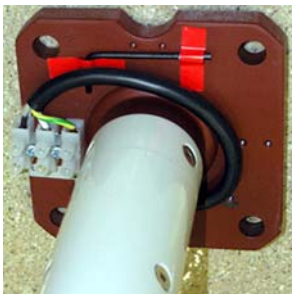

Figure 2-3 Ceiling Pedestal

Determine the proper orientation for the arm assembly before mounting the pedestal to the ceiling plate. See Figure 2-4.

Figure 2-4 Boom Orientation

5.) When attaching the safety chain (Figure 2-5), be sure the M10 bracket hardware is properly torqued. The torque for the M8 is 19.2N-m (14.2 ft-lbs).

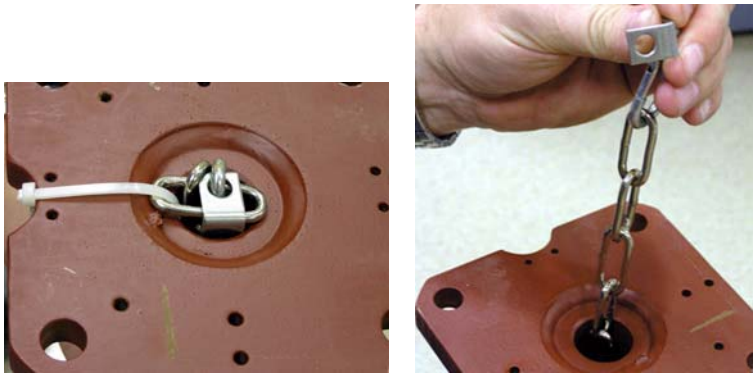

Figure 2-5 Safety Chain

6.) The pedestal is installed using four (4) M12 bolts. Install a flat washer over the bolt, then insert the bolt through the pedestal and ceiling plate. Add another flat washer, a lock washer and hex nut. Torque the M12 bolts to 66.4 N-m (49 Ft-lbs). See Figure 2-6.

Figure 2-6 Pedestal Installed

7.) Install the ceiling pedestal cover, but leave the ceiling open — a ground wire will be added later. Install the bottom pedestal cover by snapping it together. See Figure 2-7

Figure 2-7 Pedestal Cover

Use the manufacturer's supplied instructions and the following tips, to install the **arm assembly**:

1.) After removing the covers from both the pedestal mount and the arm assembly, install the arm using the manufacturer's supplied procedures.

Figure 2-8 Hardware for attaching arm

Figure 2-9 Attaching Arm to Pedestal

Figure 2-10 E-ring Tool

2.) The monitor mounting bracket should fit snugly into the arm assembly. Be sure to follow the supplied manufactures instructions when completing this assembly.

Figure 2-11 Install LCD Monitor Post

WARNING Always use a new safety spring.

The safety spring must be installed properly by sliding the long end between the LCD monitor mount post retaining clip and safety collar. Failure to install this safety spring properly could result in the monitor and post suddenly disconnecting, causing damage or personal injury.

Figure 2-12 Safety Spring and Screw

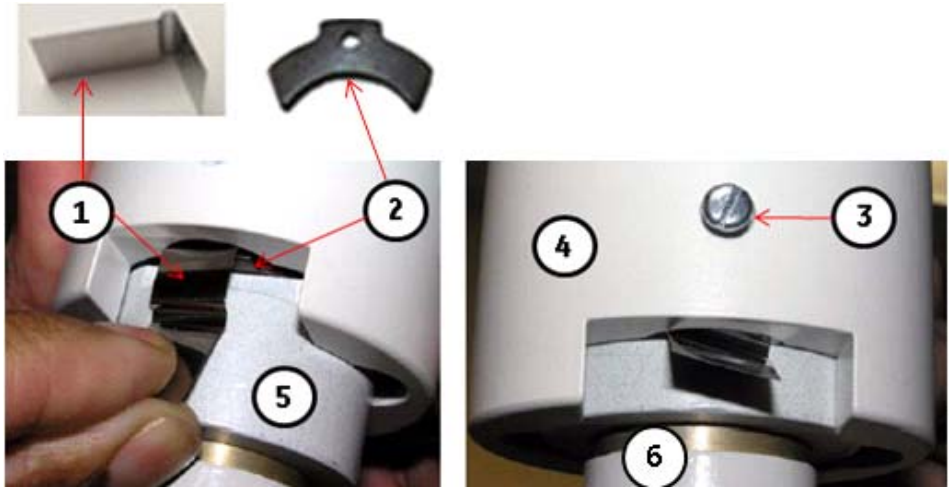

Table 2-2 Description of Items from Figure 2-12

1	Safety Spring
2	Retaining Clip
3	Retention Screw (For safety spring and retaining clip)
4	Safety Collar
5	Receptacle
6	LCD monitor mount post (Receiver)

Use the manufacturer's supplied instructions and the following tips, to complete the **electrical connections**:

1.) The electrical box mounted in the ceiling should be next to the pedestal. The box should have two conduits into the box that run between the console and the ceiling.

Figure 2-13 Ceiling Box

Figure 2-14 Wall Box (behind console)

The finished ceiling should look similar to that shown below.

Figure 2-15 Finished Ceiling Plate

2.) Some installers may choose to install the video splitter in the console on the right side. Route the cables from the wall box into the console.

Use the manufacturer's supplied instructions and the following tip, to complete the **arm balancing**:

- When balancing the arm, be sure to have all cables routed on the assembly, and the cable dressed in the supplied cable cover. Leave enough of a loop to allow full vertical and horizontal motion when done.
- Adjustment locations are shown in the figures below.

Figure 2-16 Vertical Adjustment

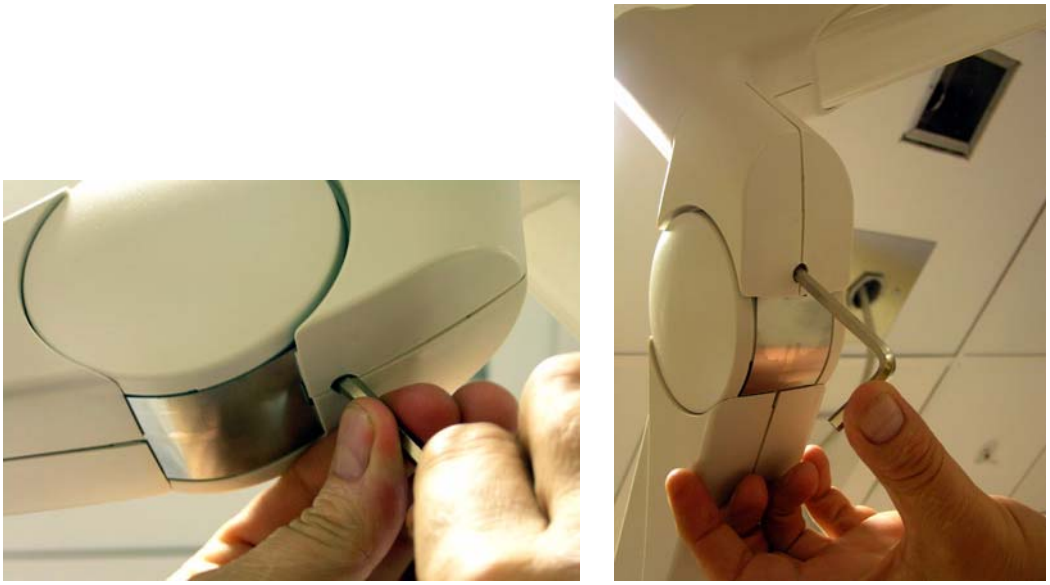

Figure 2-17 Balance Adjustment

The **finished assembly** should look similar to that shown below.

Figure 2-18 Completed Assembly

Figure 2-19 Completed Assembly - Pedestal close-up

Section 4.0
Before You Begin

- Review local electrical codes regarding cable routing and electrical box cover plates.
- Order the appropriate kit for your system. (Review applicable catalog numbers in Chapter 1.)
- Identify the remote monitor location.

DANGER ELECTROCUTION HAZARD

HIGH VOLTAGES PRESENT.

USE PROPER LOCK-OUT/TAG-OUT PROCEDURES BEFORE WORKING ON EQUIPMENT.

WARNING DANGER OF PERSONAL INJURY

INJURY OR DEATH CAN OCCUR FROM FALLING FROM LADDER.

FOLLOW ALL SAFETY PRECAUTIONS WHEN WORKING ON A LADDER.

WARNING CRUSH HAZARD

HEAVY COMPONENTS CAN FALL, CAUSING PERSONAL INJURY OR DAMAGE TO EQUIPMENT.

USE TWO PEOPLE TO INSTALL THE BOOM.

Section 5.0
Procedure

5.1 Power Down System

DANGER ELECTROCUTION HAZARD

WORKING ON ENERGIZED EQUIPMENT CAN RESULT IN ELECTROCUTION OR DEATH.

ALWAYS TAG AND LOCK OUT POWER TO THE SYSTEM AT THE "MAIN" DISCONNECT. DO NOT APPLY POWER TO THE SYSTEM UNTIL ALL WORK IS COMPLETE AND ALL COVERS REPLACED.

Before performing any of the installation procedures described in this section, do the following:

1.) Power down the system.
2.) Perform Lock-Out/Tag-Out.
3.) Remove the console front cover.
4.) Locate the power panel.
5.) Remove the back cover if required.

5.2 Install Ceiling Column

Refer to the manufacturer's installation instructions to complete this task. (The titles and number of steps/sections listed are for Revision ACB03O04 — these may vary for other revisions.)

1.) Review Technical Specifications section.

2.) Complete "Drilling Template for Ceiling Installation and Safety Anchor" (five sections).

Locate the full page drilling template and place on the mounting plate.

3.) Complete "Installing the Extension/Spring Arm Combination to the Ceiling Column" (six steps).

4.) Perform "Installing the Flat Panel Monitor (FPM) and FPM Adapter..." until the plastic caps have been placed into the drilled holes on the side of the safety collar (first 12 steps only).

When the plastic caps have been inserted, return to this Direction to install the LCD monitor (see section 5.3, below).

5.3 Attach Monitor

WARNING CRUSH HAZARD

HEAVY COMPONENTS CAN FALL, CAUSING PERSONAL INJURY OR DAMAGE TO EQUIPMENT.

USE TWO PEOPLE TO ATTACH THE MONITOR.

Following the instructions below, assemble the LCD bracket, the monitor handle, the LCD monitor, and the ground wire as shown in Figure 2-20.

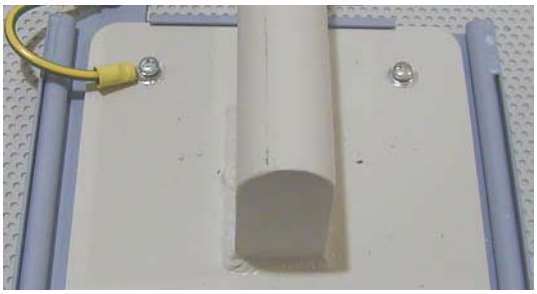

Figure 2-20 Completed LCD Monitor, Handle, Bracket, Ground

1.) Remove the monitor stand from the monitor.

2.) Assemble the bracket, handle, and monitor using the four mounting screws as shown in Figure 2-20. For each of the four mounting holes, apply a thin bead of red Loctite 242 to one of the M4x20mm mounting screws and then install the screw, a flat washer and a lock washer as shown in Figure 2-21.

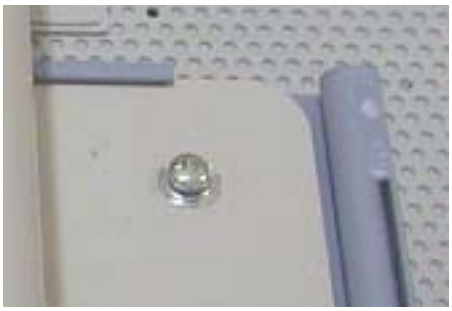

Figure 2-21 M4x20 Mounting Screw (shown installed at right)

5.4 Route and Connect Monitor Cables

1.) Route the cables along the boom arm through cable cover as shown in Figure 2-22. Leave enough slack at each joint to permit the full range of motion without stretching individual cables.

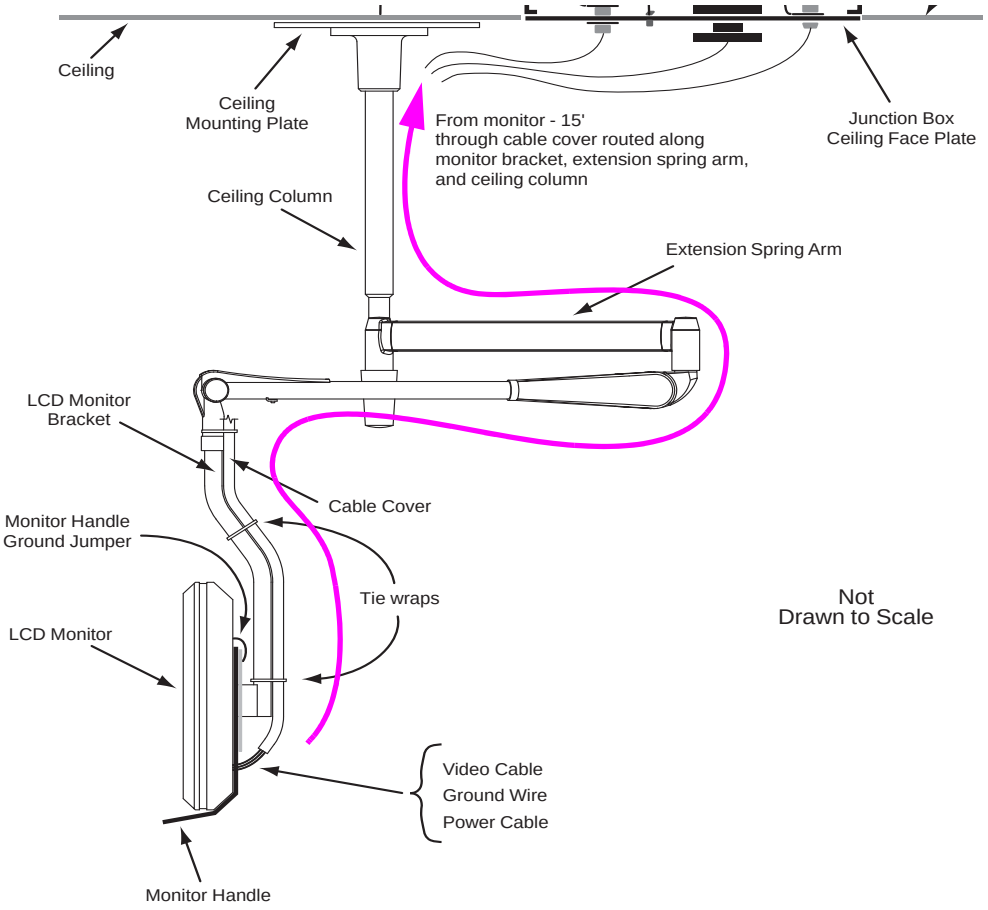

Figure 2-22 LCD Monitor Assembly with Cables and Cover

2.) Connect the ground cable and the ground wire jumper to the ground stud on the monitor handle bracket as shown in Figure 2-23.

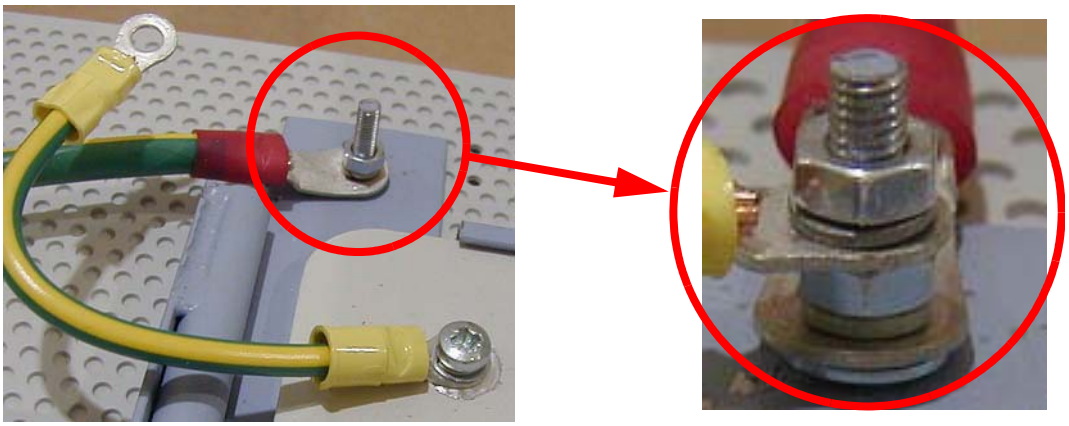

Figure 2-23 Monitor Grounding Wire

3.) Attach the video cable and the power cable to the rear of the LCD monitor as shown in

Figure 2-24.

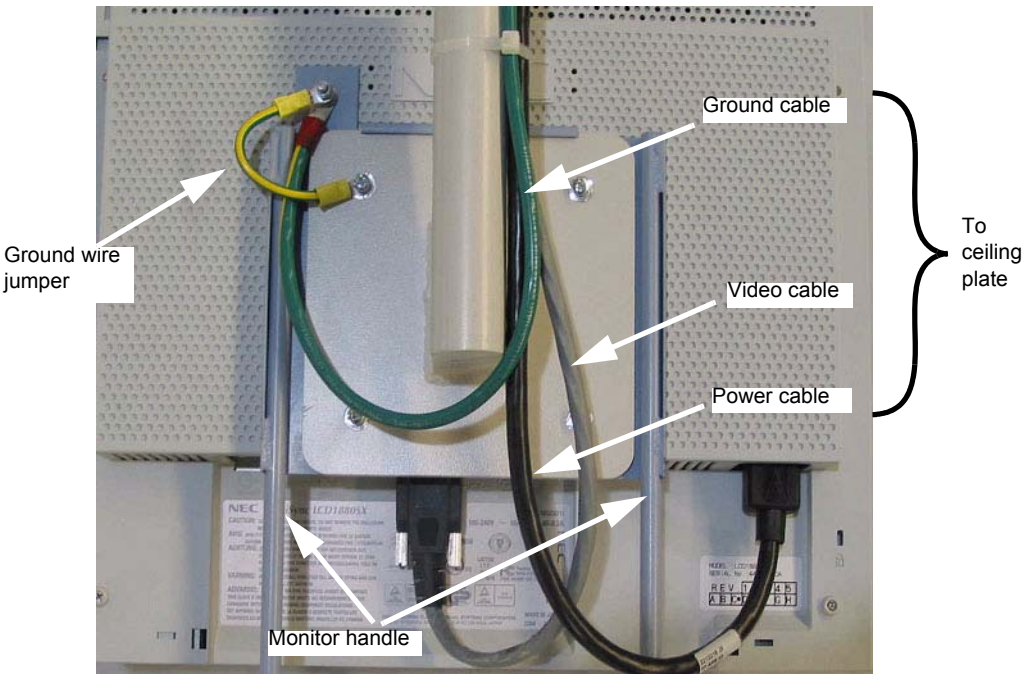

Figure 2-24 Monitor Cabling

5.5 Connect Cables at Ceiling Junction Box

DANGER ELECTROCUTION HAZARD

HIGH VOLTAGES CAN CAUSE INJURY OR DEATH.

USE PROPER LOCKOUT/TAGOUT PROCEDURES BEFORE WORKING ON EQUIPMENT.

5.5.1 Install Ceiling Face Plate

Note: The cables require installation of conduits and face plates. Consult local electrical codes. Refer to the installation site print for additional conduit size and length details.

1.) Select the appropriate ceiling plate to install on the remote monitor ceiling electrical box. The plate for HP has one HD15 connector.

2.) Prepare the ceiling plate as follows.

a.) The ceiling face plate kit is shown in Figure 2-25. Detach the plastic bag with small parts and remove the connector tabs.

Figure 2-25 HP Ceiling Face Plate Kit

b.) Place the connector tabs onto the face plate in the location for the video cabling. Firmly slide them into place so that the slot in each tab fits over the plate and their holes line up with the holes in the face plate. (See Figure 2-27.)

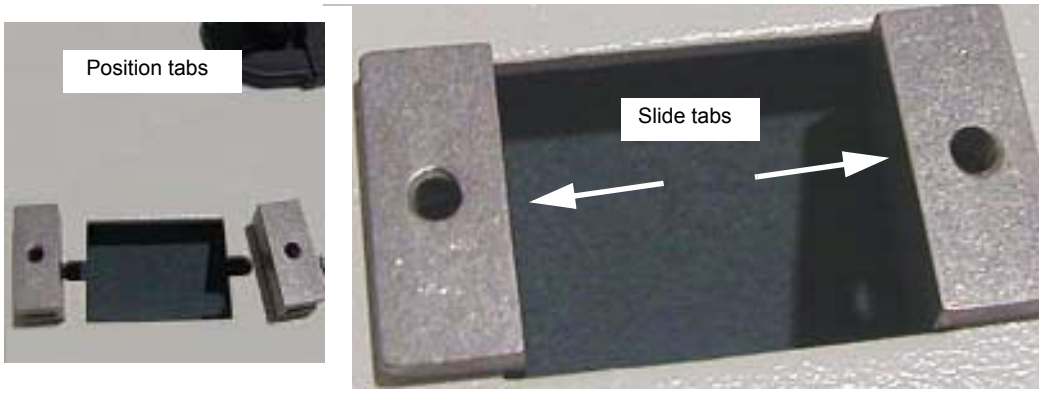

Figure 2-26 Installing Video Connector Tabs

3.) Connect the video, power, and ground cables from the room monitor to the ceiling face plate, as shown in Figure 2-27.

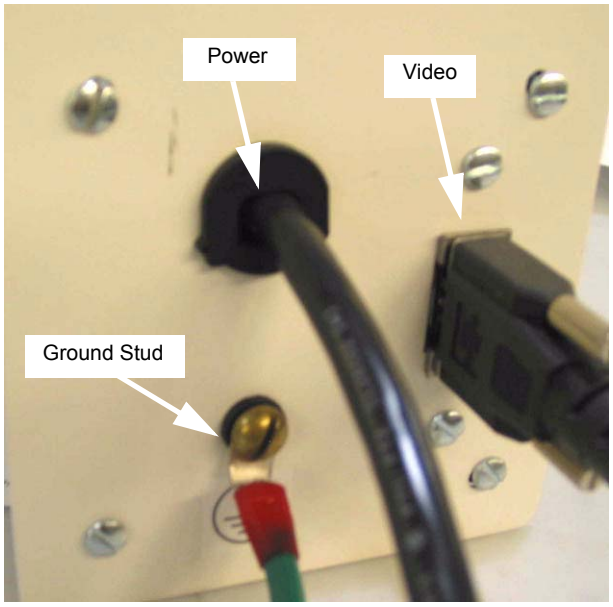

Figure 2-27 Ceiling Face Plate - HP System - Front View

5.5.2 Connect Power Cable

4.) Route the power cable between the operator console and the junction box for the room monitor as follows. (Maximum length for the power cord is 70' and for video cables, it is 75'.)

Note: There are no optional cables available.

a.) Strip the power cord.

b.) Route the cable through the face plate behind the console first before pulling wires to the ceiling face plate junction box.

c.) Route the power and ground wires to the remote ceiling junction box.

5.) Install and connect the power cable in junction box. (See Figure 2-28.)

For HP, connect the power cable to corresponding wiring using the three wire nuts supplied.

Note: Use the table below, or equivalent wiring, as a guideline for power connections.

FROM CONSOLE		TO LCD MONITOR
Black	Hot	Black or Red wire
White	Neutral	Blue or White wire
Green	Ground	Green wire

Table 2-3 Power Connections for HP

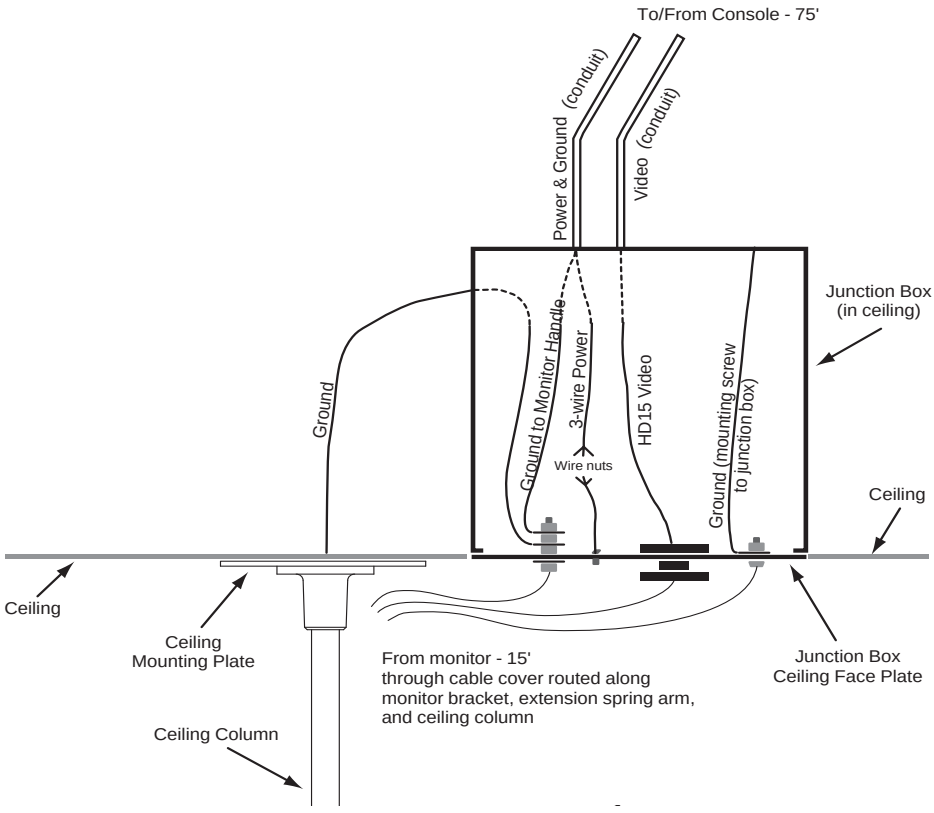

Figure 2-28 Monitor Cables at Ceiling Face Plate

5.5.3 Connect Ground Wires

1.) Connect #8 ground wire to the ground stud on plate. Connect the ring terminal ground wire to the console stud using a nut and lock washer.

Figure 2-29 Supplied Ground Wire With Ring Terminals

GROUND STUD	
1 #8	From console
1 #10	From ceiling column
1 #14	Face plate to junction box

Table 2-4 Ground Stud Connections

2.) Connect the ceiling column ground and the console ground to the ground stud on the ceiling face plate.

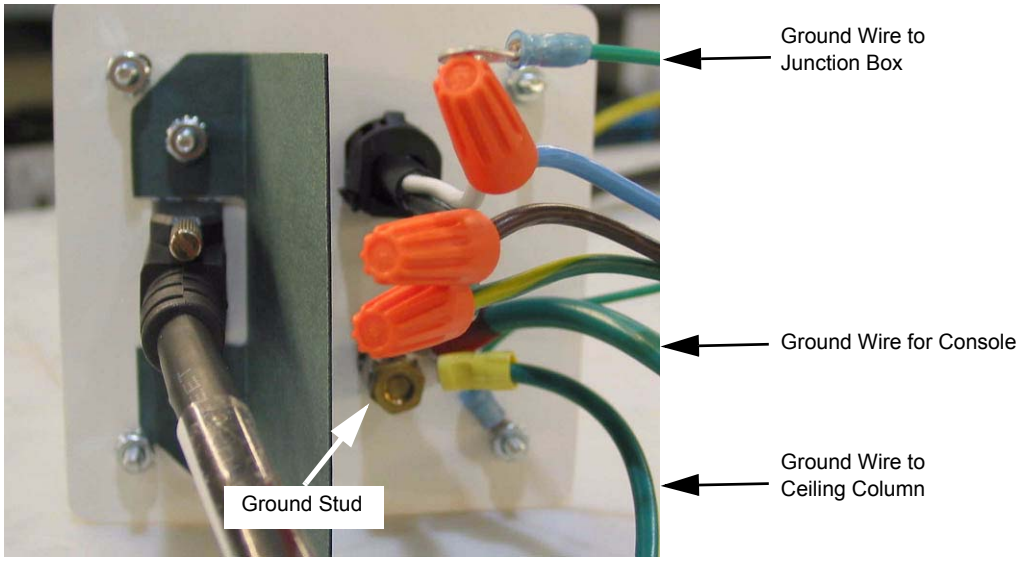

Figure 2-30 Ceiling Face Plate - HP System - Back View (in junction box)

5.5.4 Connect Video Cabling

NOTICE **The video converter wires are very fragile and break easily. A pull wire is required for pulling this cable in conduit.**

1.) Tape a pull wire to the BNC end of the video cable. (See Figure 2-31.)

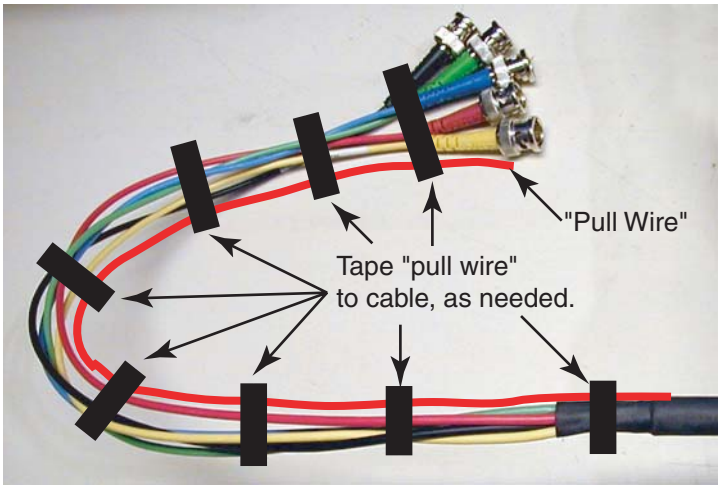

Figure 2-31 HP Remote Video Cable With "Pull Wire"

2.) Using the pull wire, very carefully pull the video cable *from the junction box* at the remote monitor location to the splitter at the console.

3.) Connect the video cable at both ends.

5.5.5 Complete Wiring Installation

1.) Neatly arrange all the wire connection inside the ceiling electrical box.

2.) Attach the ceiling face plate ground wire to the electrical box.

3.) Attach the ceiling face plate to the ceiling junction box with the four supplied screws.

4.) Attach the #6 ground wire to the boom mounting plate. This wire is attached to the ceiling face plate.

Section 6.0
Balance Extension Spring Arm

Refer to the manufacturer's installation instructions to complete this task. (The titles and number of steps listed are for Revision ACB03O04 — these may vary for other revisions.)

1.) Complete "Adjusting the Height of the Spring Arm." (Three steps.)

2.) Complete "Spring Arm Weight Adjustment." (Three steps.)

3.) When finished with the spring arm weight adjustment procedure, return to this Direction, to continue with the installation (see Chapter 3).

Chapter 3
Wiring at Console

Section 1.0
Console Monitor Wiring Overview

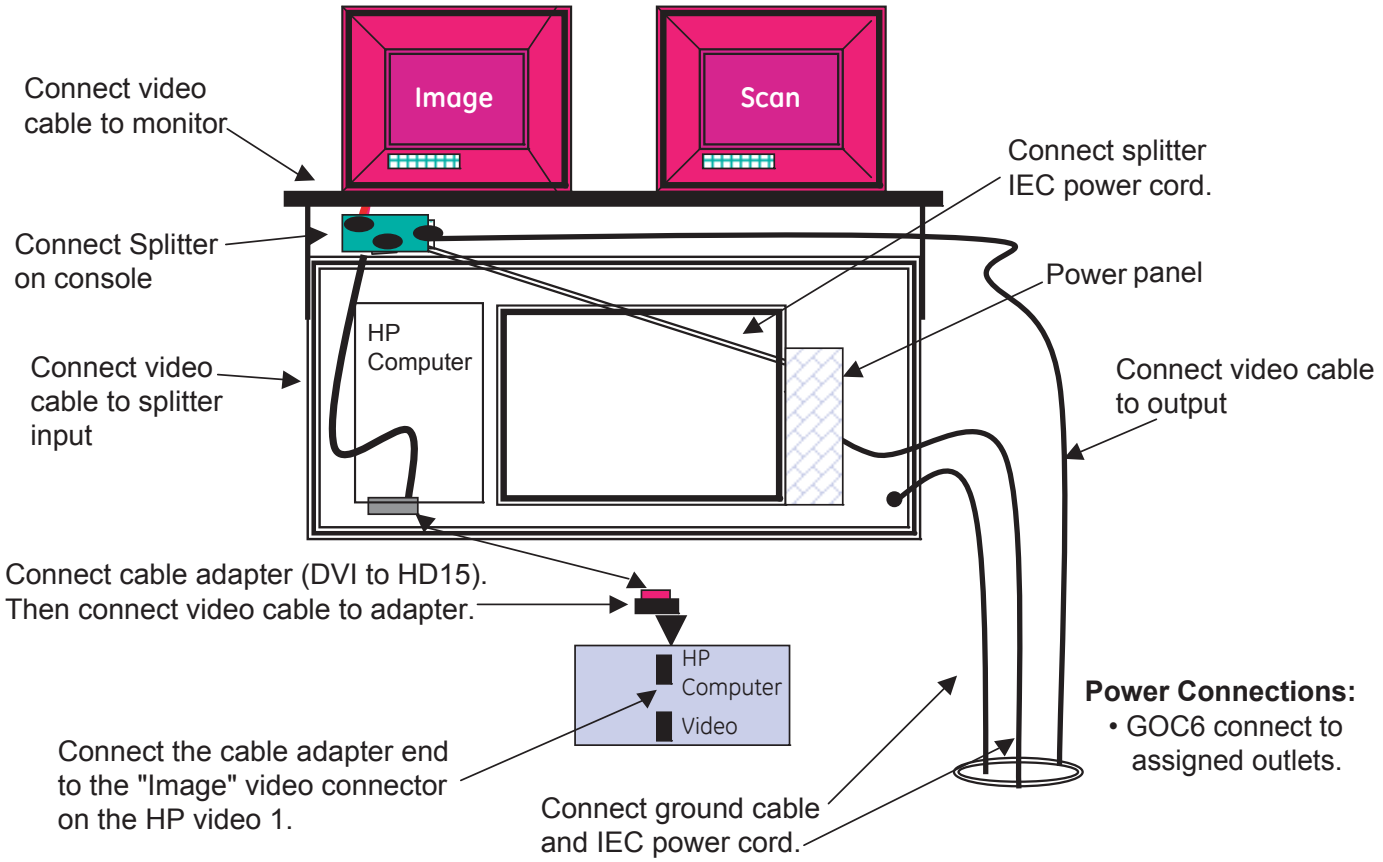

Figure 3-1 View from Behind Console

Section 2.0
Wiring Installation

2.1 Power Down System

DANGER **ELECTROCUTION HAZARD**

HIGH VOLTAGES CAN CAUSE INJURY OR DEATH.

USE PROPER LOCKOUT/TAGOUT PROCEDURES AT THE "MAIN" DISCONNECT BEFORE WORKING ON EQUIPMENT.

CAUTION **Do not apply power to the system until all work has been completed and all covers are in their proper place.**

Before performing any of the installation procedures described in this section, do the following:

1.) After the customer has saved all information: Power down system.
2.) Perform LOTO at A1 breaker.
3.) Remove the front console cover, using a screwdriver for the two quarter-turn screws located on the console bottom. Screws may differ for your console type.
4.) Locate the console power panel.
5.) Remove the console back cover if required to install the splitter.

2.2 Install 4-Way Splitter

Follow the steps below to install the 4-way splitter.

Figure 3-2 shows splitter connections when completed.

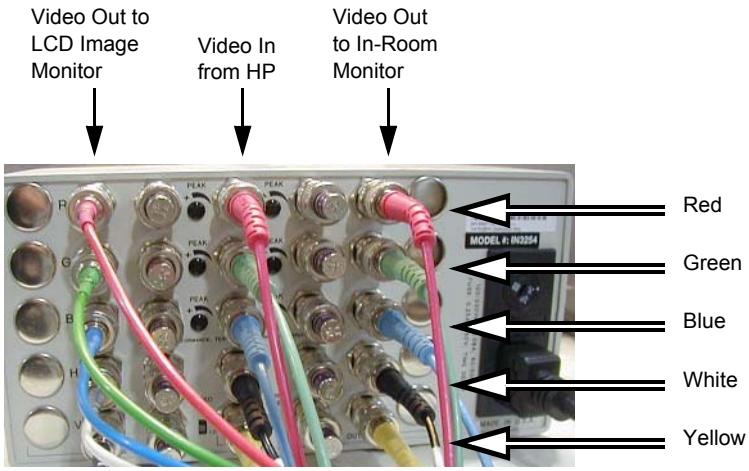

Figure 3-2 4-Way Splitter Connections, Completed

Note: The video cable connections shown in Figure 3-2 apply to all 4-way splitters, even if the splitter itself appears different from that shown.

1.) Determine where to locate the 4-port video splitter. There are several options to choose from:

- Mount the splitter between the console box and the monitor table top with Velcro tape.

2.) With the monitor and computer switched off, remove the video cable from the back of the image monitor. See Figure 3-3. (The monitor shown below may appear different from the one you have.) Remove this cable from the HP computer video connector. Discard this cable. If the monitor has BNC connectors, remove them.

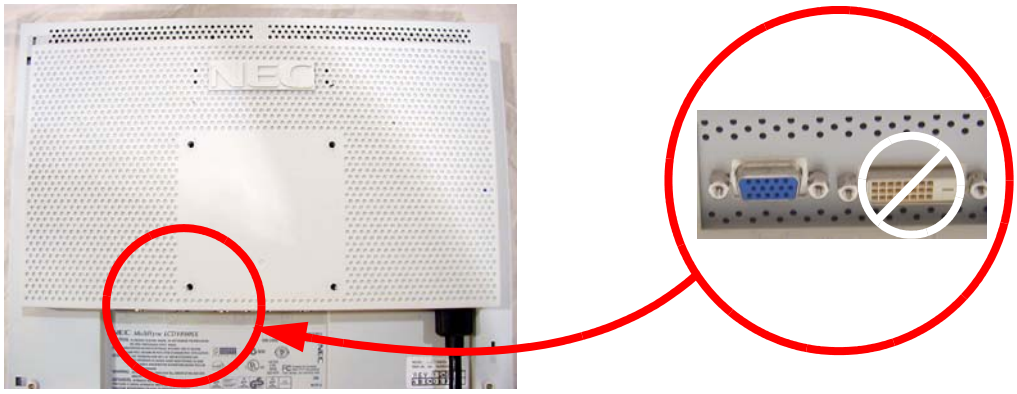

Figure 3-3 Image Monitor (Your actual monitor may appear differenct from picture.)

3.) **For the HP computer**, add the DVI-to-HD15 adapter to cable 2403438 and connect to the HP video 1 port. See Figure 3-4.

Figure 3-4 DVI-to-HD15 Adapter

4.) Connect the video cable to the HP computer video connector and then route the cable to the 4-way video splitter.

The kit has the required cable for the connection between the computer and splitter input. Secure the cable with supplied tie wraps.

5.) Route the BNC end of the video cable to the center row of BNC connectors on the video splitter. Use caution when connecting BNC cables. Observe color codes and name on cables.

NOTICE

Potential for Equipment Damage. Touching the video signal cable connector pins may cause them to bend. When connecting the video signal cable, check the alignment of the HD15 connector. Do not force the connector in the wrong way.

6.) From the kit, select the second short video cable (the one that has a BNC on one end and HD15 on the other end) and connect this cable between the video splitter and the image monitor.

7.) Add the video cables to the video splitter output side. There should be five BNC connectors.

a.) Ensure the cables are attached to the video inputs (from above).

b.) Attach the cables from the desktop image monitor to the video outputs on the left.

c.) Attach the cables from the remote monitor to the video outputs on the right.

d.) Add BNC terminators to unused outputs.

Figure 3-5 Splitter connections

8.) Set the Video Gain Level to 1.0 and the Sync Level to HI.

9.) Mount the video splitter in your selected location and secure with 2" Velcro tape as needed.

10.) Power:

* Video Splitter - Any open outlet inside console. For GOC6 you may need to use one of the IEC adaptor cables.
* Video Power - Any open outlet inside console. For GOC6 you may need to use one of the IEC adaptor cables.
* Ground - Use ground stud on the backside of the console.

11.) Select any open outlet and attach the AC power cable from the splitter to the power panel. (See Figure 3-6.) Connect the remote power cord to any open outlet. If you have removed the rear console cover, reinstall that cover now.

Figure 3-6 GOC6 Console power panel

Note: GOC6 Console may require the use of IEC adaptor cables.

Figure 3-7 GOC5 Console power panel

12.) Connect one end of the ground wire with the ring terminal to the ground stud on the back of the console.

Figure 3-8 Ground stud GOC6

Figure 3-9 Ground stud GOC5

Section 3.0 Finalization

3.1 Restore System Power

1.) Install all covers.
2.) Check all electrical connections.
3.) Remove LOTO.
4.) Turn ON power to the system.

WARNING **POSSIBLE ACCIDENTAL SHOCK TO PATIENTS.**

INCORRECTLY-POWERED AND GROUNDED WIRING CAN CAUSE ELECTROCUTION, SERIOUS INJURY OR DEATH.

CAREFULLY CHECK ALL GROUND CONNECTIONS, THEN PERFORM THE LEAKAGE/GROUND CURRENT TEST PROCEDURE IN THE FOLLOWING SECTION.

3.2 Adjust Monitor Contrast/Brightness

Note: Use the LCD Monitor Setup procedures found in the Service Methods of your System and refer to the Align, Setup, Cals chapter for setup instructions.

3.3 Attach Console Modification Plate

1.) Remove the modification plate from the upgrade kit.
2.) Refer to Figure 3-10. Attach the new plate to the left of the rating plate(s). Take care not to cover any part of the existing plate(s).

Attach MOD Plate to the left of the existing plate

Figure 3-10 Attach Modification Plate to Operator Console

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Chapter 4
Patient Touch Leakage Test

Section 1.0
Personnel Requirements

Required Persons	Preliminary Reqs	Procedure	Finalization
1	10 mins	20 mins	10 mins

Section 2.0
Overview

This procedure must be completed after all options have been installed. It covers three safety and leakage current checks:

- Patient Touch current test (completed after installation)
- System Ground resistance measurement (completed during installation)
- Ground current typical (completed after installation - optional)

Section 3.0
Preliminary Requirements

3.1 Tools and Test Equipment

Item	Qty
Standard service tool kit	1
Dale 600 Meter (from Tool Pool)*	1
Dale extended length leads*	1

*This procedure has been validated only with the Dale 600. General Electric cannot guarantee the accuracy of this procedure, if any other meter is used.

3.2 Safety

WARNING **POTENTIAL FOR SHOCK**

GROUND WIRES WILL HAVE GROUND CURRENT PRESENT WITH POWER "ON".

FOLLOW APPROPRIATE SAFETY PROCEDURES FOR WORKING WITH AN ENERGIZED SYSTEM.

NOTICE **Follow ALL required safety and PPE procedures customary for your organization, when working on this product.**

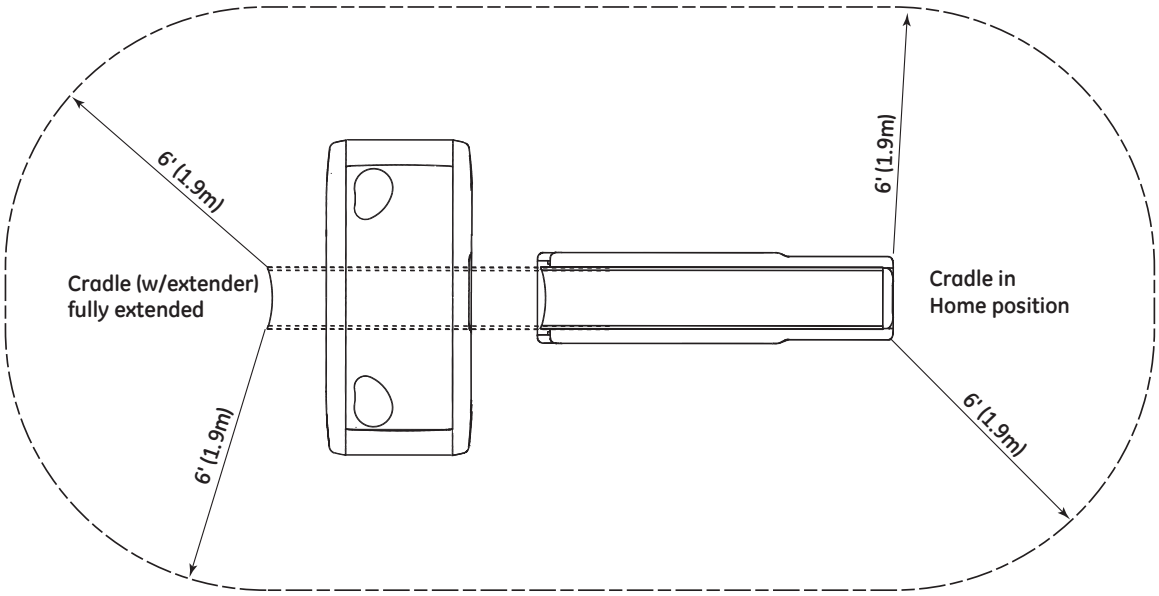
3.3 Required Conditions

- Only trained service personnel should service the GE CT Scanner.
- Footswitch cover must be removed.

Section 4.0 Procedure

4.1 Test Conditions

- Test with Table at maximum elevation and again with Table at minimum elevation
- Test to cover all points in an envelope described by Table travel from minimum to maximum extension (including table extender).
- Test from both the head and the foot of the Table -- e.g., test assuming patient feet first position as well as patient head first
- Test above (7ft or 2.1m) and below (6ft or 1.9m) Table surface -- e.g., test assuming patient lying face down as well as face up.
- Test for six feet (1.9m) envelope preventing patient access to all conductive surfaces including:
  - IV poles and tray assembly
  - any smart step monitors and stands
  - table bearing rails
  - all other conductive surfaces



4.2 Patient Touch Leakage Current Test Procedure

NOTICE **These instructions have been validated only with a Dale 600/601 meter. Due to the unique nature of this meter, General Electric cannot guarantee the accuracy of these procedures when performed with any meter other than the Dale 600/601.**

1.) Move the table to ISO elevation.

2.) Remove the footswitch covers and the gantry left side cover.

3.) Refer to the Dale 601 Operator's Manual for instructions on the use of the Dale 600 meter for measuring leakage current (or refer to Figure 4-1, for a quick overview).

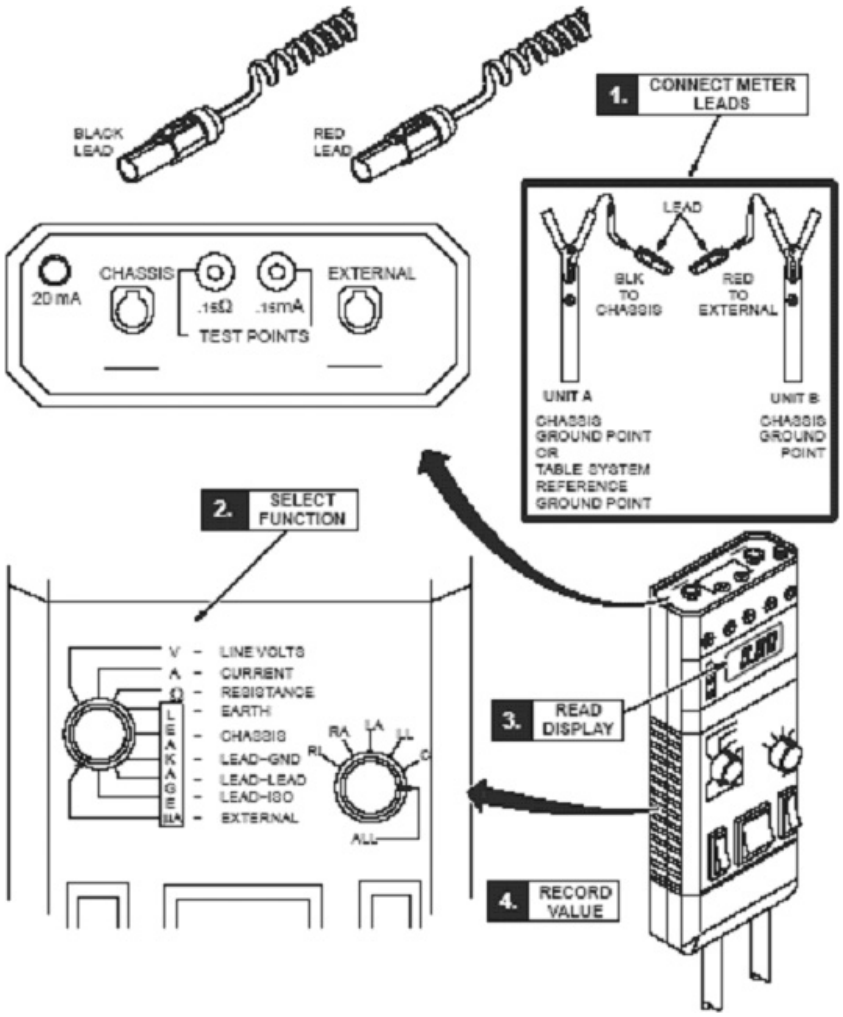


Figure 4-1 Using Dale 600 to Measure Leakage Current

4.) Plug the Dale 600 Meter into the outlet on the gantry left side.
Confirm the outlet is correctly wired per the three LED indicators on the meter.

5.) Connect one end of the shorter black lead to the chassis plug and connect the other end to the table ground bus.

6.) Connect the longer red test lead (or the longer black lead) to the external plug on the top of the Dale 600 meter.

7.) Set the function switch on the Dale to external. Use the external lead to touch the meter's test terminal, to test that the meter is operational.

8.) The black lead will be connected to the table base ground bus, and the read lead will be

connected to the devices (components) under test.

Note: Your meter may have two black leads that are keyed for chassis and the ground connection.

A valid calibration sticker must be present on the meter used. Record this information on the GE 4879 form.

9.) Beware: Leakage current cannot exceed the following and is tested with power ON:

a.) Critical care areas (invasive) - 10µa CT Systems

b.) General care areas - 20µa

c.) Not intended for patient area - 50µa

10.) Testing must be completed between the system reference ground point (table base) to unit reference ground points (i.e. gantry and table, see Figure 4-3).

11.) Test all conductive surfaces and components within patient reach or within 6 feet (1.9m) of the table and 7 feet (2.1m) above.

- Measure at table maximum travels.
- At some sites, wall outlet cover plates and sinks may become an issue.

12.) Test all Optional components such as in-room monitors, injector, overhead monitor suspensions, and table options.

Record these results in the data sheet. To be completed at install and during PM inspections.

Gnd Bus to	Install <10µA
Any table ground points within the 6' range	
Any gantry ground points within the 6' range	
Injector assembly metal surface	
Boom-in-Room metal surface	
Monitors or metal surface	
Sink or metal surface	
Installed table accessories	
(other)	
(other)	
(other)	

NOTICE **Be Aware of Static Discharge from: scan window, keypads, display, and touch pads or other plastic surfaces.**

13.) **Procedure Hints**:

a.) Look for items that have abnormal measurements, high or low.

These could indicate mis-wiring, loose connections, or poor connections due to corrosion, painted surfaces, etc.

b.) High leakage could indicate a wiring error such as a neutral connected to the ground.

c.) Fluctuating ground currents could indicate a short, poor connection, or facilities ground problem causing leakage currents from other areas of the facility to flow though our system grounds.

d.) Refer to the illustrations below, for measurement visual descriptions.

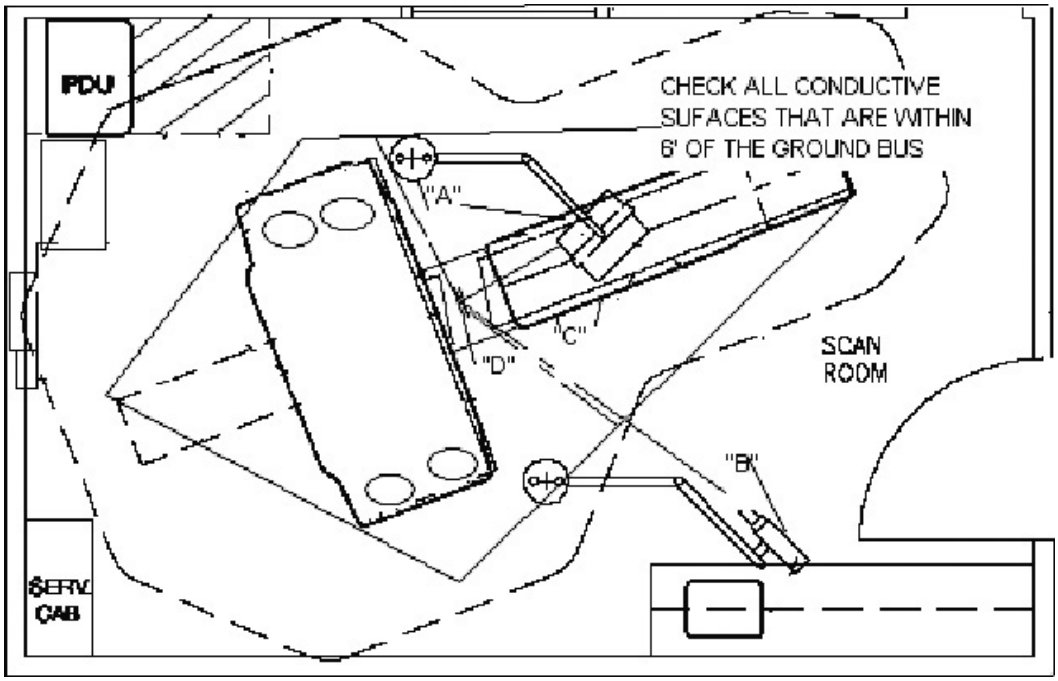


Figure 4-2 CT Leakage Current Map

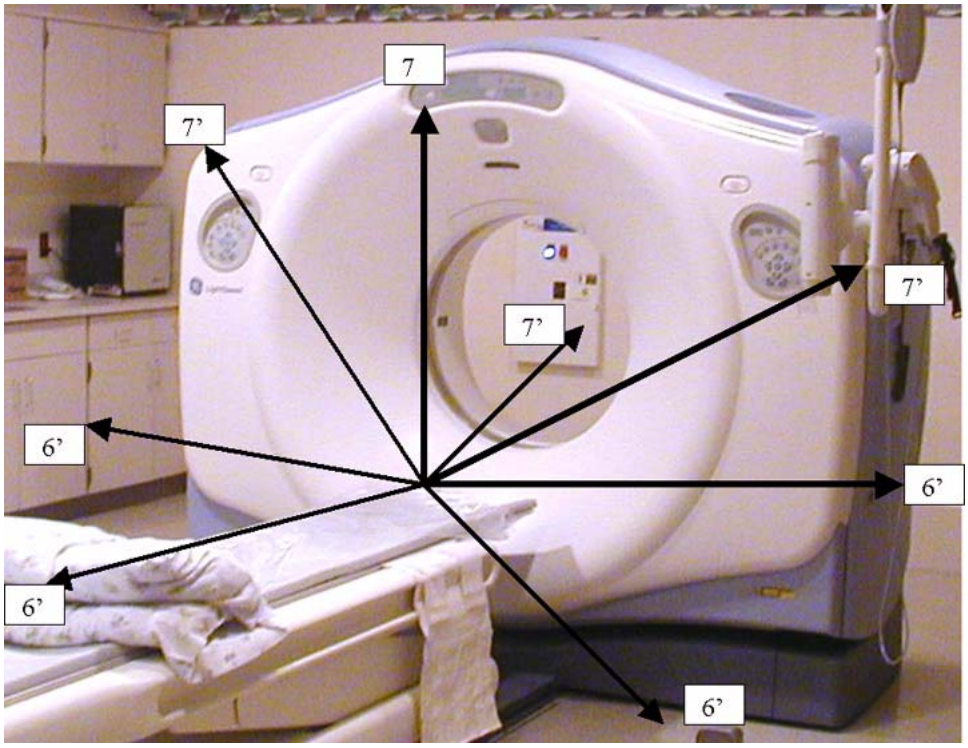


Figure 4-3 Measurement Points

4.3 Ground Resistance Checks Procedure (done during mechanical install)

Use Fluke 87 to measure ground resistance.

1.) Use a Fluke 87 or equivalent RMS Meter to verify the presence of less than 0.5 ohm of resistance between each of the following points:

FROM	TO	
PDU Ground Bus	Vault Ground	❒ Check box when complete
PDU Ground Bus	Table/Gantry raceway ground point	❒ Check box when complete
Table/Gantry raceway ground point	Gantry Chassis	❒ Check box when complete
Table/Gantry raceway ground point	Table Chassis	❒ Check box when complete
Table/Gantry raceway ground point	Operator Console Chassis	❒ Check box when complete
All Display or Computing Options (if any)	Operator Console Chassis	❒ Check box when complete

Table 4-1 Resistance Verification - Site Ground

2.) Connect the meter leads to the Fluke 87 meter.

3.) Set the function switch to resistance ohms.

4.) The black and red leads will be connected per Table 4-1.

5.) All ground resistance testing is done with power OFF. Ground current will cause errors in the resistance readings.

6.) Use lockout/tag out procedures.

7.) Maximum ground resistance is 0.5 ohms impedance.

8.) Using the table footswitch ground bar as a reference. Check the ground resistance to all 5 system grounds.

Record the measurements in the datasheet:

SYSTEM GROUND BUS	TYPICAL READING	SITE DATA
Gantry Ground Stud	0.5 Ohms	
Console Ground Stud	0.5 Ohms	
PDU Ground Stud	0.5 Ohms	
Table Ground Stud	0.5 Ohms	

Hints:

- Look for undersized ground wires and repair.
- Ground resistance readings should not fluctuate. If so this indicates an intermittent

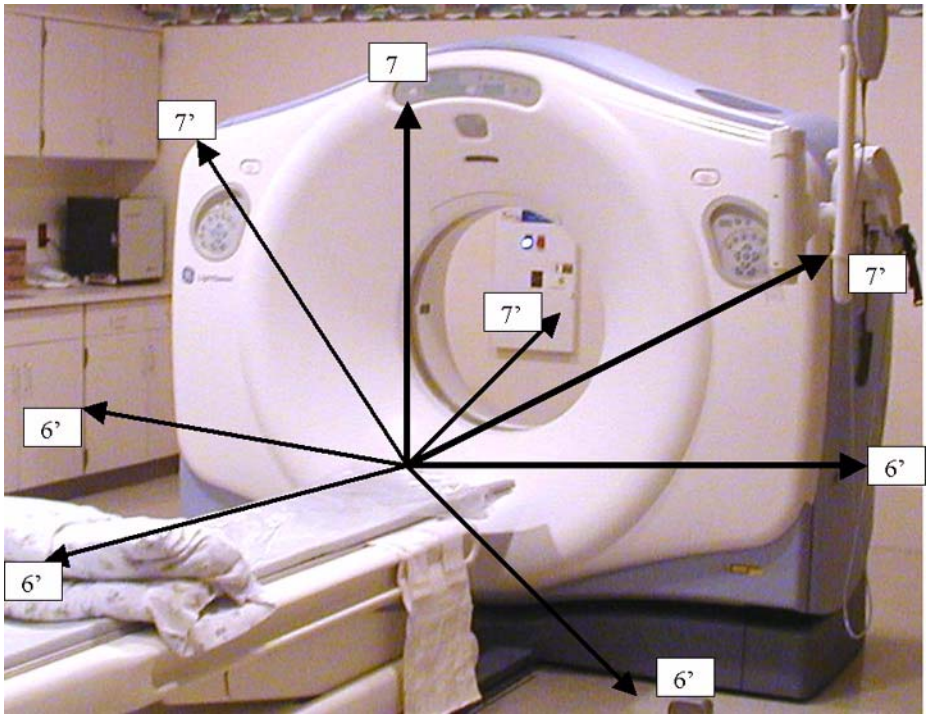


Figure 4-4 Measurement Points

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3000 N. Grandview Boulevard
Waukesha, Wisconsin 53188
USA