

BrightSpeed Mach3 TIO Upgrade Instruction

Service Documentation



5419010-1EN
Rev 7
© 2011-2015, GE Company,
All Rights Reserved.

LEGAL NOTES

TRADEMARKS

Adobe, the Adobe logo, Acrobat, the Acrobat logo, Exchange, and PostScript are trademarks of Adobe Systems Incorporated or its subsidiaries and may be registered in certain jurisdictions.

Microsoft is a registered trademark and Windows is a trademark of Microsoft Corporation.

All other products and their name brands are trademarks of their respective holders.

COPYRIGHTS

All Material, Copyright © 2011-2015 by General Electric Company, Inc. All rights reserved.

This page intentionally left blank.

IMPORTANT PRECAUTIONS

LANGUAGE

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 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 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 εάν έχετε συμβουλευτεί και έχετε κατανοήσει το παρόν εγχειρίδιο σέρβις.
- Εάν 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 elkészítése.
- Ne próbálja elkezdni 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 tungumálþjónustu.
- 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, 운전자 혹은 환자에게 위해를 가할 수 있습니다.

BRDINJUMS

(LV)

- Štī 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.
- Štī 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 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.

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 noutra idioma, é da responsabilidade do cliente fornecer os serviços de tradução.
- Não tente reparar o equipamento sem ter consultado e compreendido 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.

ATENȚIE

(RO)

- Acest manual de service este disponibil numai în limba engleză.
- Dacă un furnizor de servicii pentru clienți 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 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 zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka.
- Nepokúšajte sa o obsluhu zariadenia skôr, ako si neprečítate návod na obsluhu 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 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 dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.
- Servis kilavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.
- Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

**ПРЕДУПРЕЖДЕН
ИЕ**

(BG)

- Това упътване за работа е налично само на английски език.
- Ако доставчикът на услугата на клиента изиска друг език, 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-HK)

- 本服務手冊僅提供英文版本。
- 倘若客戶的服務供應商需要英文以外之服務手冊，客戶有責任提供翻譯服務。
- 除非已參閱本服務手冊及明白其內容，否則切勿嘗試維修設備。
- 不遵從本警告或會令服務供應商、網絡供應商或病人受到觸電、機械性或其他危險。

警告

(ZH-TW)

- 本維修手冊僅有英文版。
- 若客戶的維修廠商需要英文版以外的語言，應由客戶自行提供翻譯服務。
- 請勿試圖維修本設備，除非 您已查閱並瞭解本維修手冊。
- 若未留意本警告，可能導致維修廠商、操作員或病患因觸電、機械或其他危險而受傷。

UPOZORENJE

(HR)

- Ovaj servisni priručnik dostupan je na engleskom jeziku.
- Ako davatelj usluge klijenta treba neki drugi jezik, klijent je dužan osigurati prijevod.
- Ne pokušavajte servisirati opremu ako niste u potpunosti pročitali i razumjeli ovaj servisni priručnik.
- Zanimarite li ovo upozorenje, može doći do ozljede davatelja usluge, operatera ili pacijenta uslijed strujnog udara, mehaničkih ili drugih rizika.

OPOZORILO

(SL)

- Ta servisni priručnik je na voljo samo v angleškem jeziku.
- Če ponudnik storitve stranke potrebuje priročnik v drugem jeziku, mora stranka zagotoviti prevod.
- Ne poskušajte servisirati opreme, če tega priročnika niste v celoti prebrali in razumeli.
- Če tega opozorila ne upoštevate, se lahko zaradi električnega udara, mehanskih ali drugih nevarnosti poškoduje ponudnik storitev, operater ali bolnik.

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.

To file a report:

Fill out a report on <http://egems.med.ge.com/edq/home.jsp>

Contact the local service coordinator.

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT

All electrical Installations that are preliminary to positioning of the equipment at the site prepared for the equipment shall be performed by licensed electrical contractors. In addition, electrical feeds into the Power Distribution Unit shall be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, calibrations and testing shall be performed by qualified GE Medical personnel. The products involved (and the accompanying electrical installations) are highly sophisticated, and special engineering competence is required. In performing all electrical work on these products, GE will use its own specially trained field engineers. All of GE's electrical work on these products will comply with the requirements of the applicable electrical codes.

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

IMPORTANT...X-RAY PROTECTION

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

Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

It is important that 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, Medical Systems Group, its agents, and representatives have no responsibility for injury or damage which may result from improper use of the equipment.

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

LITHIUM BATTERY CAUTIONARY STATEMENTS



CAUTION Risk of Explosion

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.



ATTENTION Danger d'Explosion

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives.

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

Revision History

Revision	Date	Reason for change
1	05/10/11	Initial Release.
2	07/21/11	Update Software Installation Procedure. Update Disposing the Old Console. Update FX4800 Graphic Card Power Cable connection.
3	03/26/12	Add IEC3 contents for regulation
4	04/15/12	Update material list for IEC3
5	01/28/13	Update material list for replacing LCD to EIZO. Add e-IFU label on Gantry. Update FWS seismic kit installation.
6	10/22/13	Update monitor connection for FX1800 graphic card. Update TIO USB connector location for FX1800 graphic card. Add Aurora SWS table installation information.
7	10/16/15	Update Label attaching.

Revision History

This page intentionally left blank.

Table of Contents

Chapter 1

INSTALLATION OVERVIEW 17

Section 1.0 System Requirement..... 17

Section 2.0 Overview 17

 2.1 BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade 17

 2.1.1 Kit Inventory 17

 2.1.2 Mandatory Selectable Options..... 18

 2.1.3 New Selectable Options 18

 2.2 BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade 19

 2.2.1 Kit Inventory 19

 2.2.2 Mandatory Selectable Options..... 19

 2.2.3 New Selectable Options 21

 2.3 BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade for QIN 22

 2.3.1 BrightSpeed ASiR upgrade with OC SWAP 22

 2.3.2 BrightSpeed ASiR Upgrade with Software & OC Cover 22

 2.3.3 Mandatory Selectable Options..... 22

 2.3.4 Other New Option for TIO Upgrade Kit..... 23

 2.4 BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade for QIN... 23

 2.4.1 BrightSpeed Non-ASiR IB upgrade (BSD Elite & BrightSpeed Select Elite/Edge/Excel) 23

 2.4.2 Mandatory Selectable Options..... 24

 2.4.3 Other New Option for TIO Upgrade Kit..... 25

Section 3.0 Flowchart 26

Chapter 2

Upgrade Procedure 27

Section 1.0 Prerequisite..... 27

Section 2.0 Preparative..... 27

Section 3.0 Old Console Removal 27

Section 4.0 Desk Installation..... 28

 4.1 FWS Table and Monitor Arms Installation 28

 4.2 Optima Desk Installation..... 28

 4.3 Other Desk..... 28

Section 5.0 TIO Console Installation 29

 5.1 Preparative 29

 5.2 Hardware Installation Procedures..... 35

 5.2.1 TIO Console Installation 35

 5.2.2 SCIM, Keyboard, Trackball (Option) & Mouse Installation 36

 5.2.3 Media Tower Installation..... 37

 5.2.4 Monitor Connection..... 39

 5.2.5 TIO Console Cable Connection 41

 5.3 Software Installation Procedures 43

5.3.1	Overview	43
5.3.2	Flowchart.....	44
5.3.3	LFC Procedure	44
5.3.4	ASiR Installation	46
5.4	TIO Cover Installation	47

Chapter 3

FINALIZATION 49

Section 1.0 Attaching The Rating Plate	49
Section 2.0 Attaching The Labels	49
Section 3.0 Disposing The Old Console.....	50
Section 4.0 Sending The Product Locator Card	51

Appendix A

Operating Table Installation and Adjustment..... 1

Section 1.0

FWS Assembly and Adjustment..... 1

1.1	Introduction	1
1.2	Procedure.....	1
1.2.1	Assemble Worksurface (5168666-3).....	1
1.2.2	Install Seismic Kit	6
1.2.3	Install Monitors	10
1.3	Monitor Adjustment	14

Section 2.0

Aurora SWS Table Assembly and Adjustment 15

Appendix B

Operator Console Information Sheet..... 19

Appendix C

xw8600 Host PC BIOS Setup..... 27

Appendix D

DVD-RAM Cartridge Disassembly/Assembly Procedure..... 45

Chapter 1

INSTALLATION OVERVIEW

Section 1.0 System Requirement

BrightSpeed Mach3 TIO Upgrade Kits are available for the following system configuration:

- BrightSpeed Elite - Non Delight (GOC4) and Delight (AIO)
- BrightSpeed Select Elite / Edge / Excel - Non Delight (LCGOC) and Delight (AIO)

Section 2.0 Overview

This upgrade instruction describes the procedures of GOC4, LCGOC and AIO upgrade to TIO. After the upgrade, TIO will replace the function of GOC4, LCGOC and AIO and add some new features.

There are four kinds of upgrade kit for customer to select:

[2.1 - BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade](#)

[2.2 - BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade](#)

[2.3 - BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade for QIN](#)

[2.4 - BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade for QIN](#)



NOTICE The following B-CATs are maybe different from customer's order, they are only for reference. Please base on the actual B-CATs in the order for site to check.

2.1 BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade

2.1.1 Kit Inventory

Verify that the contents of upgrade kits are correct according to the material list below.

BrightSpeed Elite & Brightspeed Select Elite ASiR IB Upgrade Kit

ASiR IB Upgrade Kit	GEYMS	GEHW
	B75372BM	B78782CA
Velocity ASiR Upgrade	B75212BS	B78892CA
Black LCD	B78592LC	B78512CA
Black SCIM	B75012SC	B78292CA
Tech Pub IB Upgrade Mach3	B75392BM	B78922CA
Ship-Collector IB Mach3	B75402BM	B78932CA

2.1.2 Mandatory Selectable Options

Options	GEYMS	GEHW
BSD Elite Std Option Key	B75412BM	B78942CA
BSD Elite Select 75kVA Std Option Key	N/A	B78952CA
BSD Elite Select 50kVA Std Option Key	B75422BM	B78962CA
English Keyboard USB BLK	B78172ML	B78302CA
French Keyboard USB BLK	B7877FR	B7877FR
German Keyboard USB BLK	B7877DE	B7877DE
Italian Keyboard USB BLK	B7877TT	B7877TT
Swedish Keyboard USB BLK	B7877SW	B7877SW
Asian Keyboard USB BLK	B78142ML	B78352CA
Danish Keyboard USB BLK	B7877DA	B7877DA
Dutch Keyboard USB BLK	B7877NL	B7877NL
Norwegian Keyboard USB BLK	B7877NW	B7877NW
Spanish Keyboard USB BLK	B7877ES	B7877ES
Portuguese(Brazilian) Keyboard USB BLK	B7877BR	B7877BR
Europe Keyboard USB BLK	B7877ZZ	B7877ZZ
Chinese Keyboard USB BLK	B78272ML	B78422CA
China Docs BrightSpeed for BSD Select Series	N/A	B78992CA
China Docs BrightSpeed for BSD Elite	N/A	B78742CA
Japan Kit for BSD Elite Select	B75332BM	N/A
Japan Kit for BSD Elite	B75482BM	N/A
Dutch Docs BrightSpeed for BSD Select Series	B75452BM	B79592CA
Dutch Docs BrightSpeed for BSD Elite	B75352BM	B78762CA
Swedish Docs BrightSpeed for BSD Select Series	B75462BM	B79602CA
Swedish Docs BrightSpeed for BSD Elite	B75362BM	B78772CA

2.1.3 New Selectable Options

Option Description	Part Number
2nd Set of Manual Collector for BSD Select Series	B79622CA
2nd Set of Manual Collector for BSD Elite	B79632CA
Freedom Workspace Standard	B78442CA
Optima CT Desk	B78552CA

2.2 BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade

2.2.1 Kit Inventory

Verify that the contents of upgrade kits are correct according to the material list below.

BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade Kit

ASiR IB Upgrade Kit	GEYMS	GEHW
	B75382BM	B78792CA
Operator Console	B75182BS	B78832CA
TIO Std Collector	B75192BS	B78902CA
Black LCD	B78592LC	B78512CA
Black SCIM	B75012SC	B78292CA
Tech Pub IB Upgrade Mach3	B75392BM	B78922CA
Ship-Collector IB Mach3	B75402BM	B78932CA

2.2.2 Mandatory Selectable Options

Options	GEYMS	GEHW
BSD Elite Std Option Key	B75412BM	B78942CA
BSD Elite Select 75kVA Std Option Key	N/A	B78952CA
BSD Elite Select 50kVA Std Option Key	B75422BM	B78962CA
BSD Edge Select Std Option Key	N/A	B78972CA
BSD Excel Select Std Option Key	N/A	B78982CA
English Keyboard USB BLK	B78172ML	B78302CA
French Keyboard USB BLK	B7877FR	B7877FR
German Keyboard USB BLK	B7877DE	B7877DE
Italian Keyboard USB BLK	B7877TT	B7877TT
Swedish Keyboard USB BLK	B7877SW	B7877SW
Asian Keyboard USB BLK	B78142ML	B78352CA
Danish Keybaord USB BLK	B7877DA	B7877DA
Dutch Keyboard USB BLK	B7877NL	B7877NL
Norwegian Keybrd USB BLK	B7877NW	B7877NW
Spanish Keyboard USB BLK	B7877ES	B7877ES
Portuguese(Brazilian) Keybrd USB BLK	B7877BR	B7877BR
Europe Keyboard USB BLK	B7877ZZ	B7877ZZ
Chinese Keyboard USB BLK	B78272ML	B78422CA
China Docs BrightSpeed for BSD Select Series	N/A	B78992CA
China Docs BrightSpeed for BSD Elite	N/A	B78742CA
Japan Kit for BSD Elite Select	B75332BM	N/A
Japan Kit for BSD Elite	B75482BM	N/A

Dutch Docs BrightSpeed for BSD Select Series	B75452BM	B79592CA
Dutch Docs BrightSpeed for BSD Elite	B75352BM	B78762CA
Swedish Docs BrightSpeed for BSD Select Series	B75462BM	B79602CA
Swedish Docs BrightSpeed for BSD Elite	B75362BM	B78772CA

2.2.3 New Selectable Options

Option Description	GEYMS	GEHW
2nd Set of Manual Collector for BSD Select Series	N/A	B79622CA
2nd Set of Manual Collector for BSD Elite	N/A	B79632CA
Freedom Workspace Standard	N/A	B78442CA
Optima CT Desk	N/A	B78552CA
Recon enhancement Package	B75172BM	B76422CA

2.3 BrightSpeed Elite & BrightSpeed Select Elite ASiR IB Upgrade for QIN

2.3.1 BrightSpeed ASiR upgrade with OC SWAP

Verify that the contents of upgrade kits are correct according to the material list below.

BSD Elite & BSD Elite Select ASiR IB Upgrade Kit

Velocity ASiR Upgrade	GEYMS	GEHW
BSD Elite& BSD Select Elite ASiR IB Upgrade Kit	B75372BM	B78782CA
QIN TIO Console	B75982BM	B70002CH
EIZO LCD	B78602LC	B77072CA
Black SCIM	B75012SC	B78292CA
TP&SW for IB Upgrade (w/o TRM)	B75722BM	B74562CA
Shipping Collector for Mach3	B75402BM	B78932CA
QIN TIO ASiR Collector	B75992BM	B74772CA

2.3.2 BrightSpeed ASiR Upgrade with Software & OC Cover

Software & OC Cover ASiR Upgrade Cat#	B75472BM	B79682CA
TIO ASiR Collector	B75992BM	B74772CA
Mach3 TP&SW for IB Upgrade	B75722BM	B74562CA

2.3.3 Mandatory Selectable Options

Options	GEYMS	GEHW
BSD Elite Std Option Key and TRM collector	B75752BM	B74592CA
BSD Elite Select 75kVA Std Option Key and TRM collector	N/A	B74602CA
BSD Elite Select 50kVA Std Option Key and TRM collector	B75772BM	B74612CA
English Keyboard USB BLK	B78172ML	B78302CA
French Keyboard USB BLK	B7877FR	B7877FR
German Keyboard USB BLK	B7877DE	B7877DE
Italian Keyboard USB BLK	B7877TT	B7877TT
Swedish Keyboard USB BLK	B7877SW	B7877SW
Asian Keyboard USB BLK	B78142ML	B78352CA
Danish Keybaord USB BLK	B7877DA	B7877DA
Dutch Keyboard USB BLK	B7877NL	B7877NL
Norwegian Keybrd USB BLK	B7877NW	B7877NW
Spanish Keyboard USB BLK	B7877ES	B7877ES
Portuguese(Brazilian) Keybrd USB BLK	B7877BR	B7877BR
Europe Keyboard USB BLK	B7877ZZ	B7877ZZ
Chinese Keyboard USB BLK	B78272ML	B78422CA
Asian Edition 3 Labeling Kit	B7870YY	B7870YY

Danish Edition 3 Labeling Kit	B7870DA	B7870DA
Dutch Edition 3 Labeling Kit	B7870NL	B7870NL
French Edition 3 Labeling Kit	B7870FR	B7870FR
German Edition 3 Labeling Kit	B7870DE	B7870DE
Italian Edition 3 Labeling Kit	B7870TT	B7870TT
Norwegian Edition 3 Labeling Kit	B7870NW	B7870NW
Spanish Edition 3 Labeling Kit	B7870ES	B7870ES
Swedish Edition 3 Labeling Kit	B7870SW	B7870SW
Brazilian Portuguese Edition 3 Labeling Kit Black	B7870BR	B7870BR
European Collector(English kydb) Edition 3 Labeling Kit	B7870ZZ	B7870ZZ
Chinese Edition 3 Labeling Kit	B75812BM	B77362CA
China Docs BrightSpeed for BSD Select Series	N/A	B78992CA
China Docs BrightSpeed for BSD Elite	N/A	B78742CA
Korea Kit	N/A	B76392CA
Japan Kit for BSD Elite Select	B75332BM	N/A
Japan Kit for BSD Elite	B75482BM	N/A
Dutch Docs BrightSpeed for BSD Select Series	B75452BM	B79592CA
Dutch Docs BrightSpeed for BSD Elite	B75352BM	B78762CA
Swedish Docs BrightSpeed for BSD Select Series	B75462BM	B79602CA
Swedish Docs BrightSpeed for BSD Elite	B75362BM	B78772CA

2.3.4 Other New Option for TIO Upgrade Kit

2nd Set of Manual Collector for BSD Select Series	N/A	B79622CA
2nd Set of Manual Collector for BSD Elite	N/A	B79632CA
Freedom Workspace Standard	N/A	B78442CA
Optima CT Desk	N/A	B78552CA

2.4 BrightSpeed Elite & BrightSpeed Select Elite/Edge/Excel Non-ASiR IB Upgrade for QIN

2.4.1 BrightSpeed Non-ASiR IB upgrade (BSD Elite & BrightSpeed Select Elite/Edge/Excel)

Verify that the contents of upgrade kits are correct according to the material list below.

Manufacturing Place	GEYMS	GEHW
BSD Non-ASiR IB Upgrade Kit	B75382BM	B78792CA
QIN TIO Console	B75982BM	B70002CH
TIO Std Collector	B75952BM	B74762CA
EIZO LCD	B78602LC	B77072CA

Black SCIM	B75012SC	B78292CA
Mach3 TP&SW for IB Upgrade (w/o TRM)	B75722BM	B74562CA
Shipping Collector for Mach3	B75402BM	B78932CA

2.4.2 Mandatory Selectable Options

Options	GEYMS	GEHW
BSD Elite Std Option Key and TRM collector	B75752BM	B74592CA
BSD Elite Select 75kVA Std Option Key and TRM collector	N/A	B74602CA
BSD Elite Select 50kVA Std Option Key and TRM collector	B75772BM	B74612CA
BSD Edge Select Std Option Key and TRM collector	N/A	B77342CA
BSD Excel Select Std Option Key and TRM collector	N/A	B77352CA
English Keyboard USB BLK	B78172ML	B78302CA
French Keyboard USB BLK	B7877FR	B7877FR
German Keyboard USB BLK	B7877DE	B7877DE
Italian Keyboard USB BLK	B7877TT	B7877TT
Swedish Keyboard USB BLK	B7877SW	B7877SW
Asian Keyboard USB BLK	B78142ML	B78352CA
Danish Keyboard USB BLK	B7877DA	B7877DA
Dutch Keyboard USB BLK	B7877NL	B7877NL
Norwegian Keybrd USB BLK	B7877NW	B7877NW
Spanish Keyboard USB BLK	B7877ES	B7877ES
Portuguese(Brazilian) Keybrd USB BLK	B7877BR	B7877BR
Europe Keyboard USB BLK	B7877ZZ	B7877ZZ
Chinese Keyboard USB BLK	B78272ML	B78422CA
Asian Edition 3 Labeling Kit	B7870YY	B7870YY
Danish Edition 3 Labeling Kit	B7870DA	B7870DA
Dutch Edition 3 Labeling Kit	B7870NL	B7870NL
French Edition 3 Labeling Kit	B7870FR	B7870FR
German Edition 3 Labeling Kit	B7870DE	B7870DE
Italian Edition 3 Labeling Kit	B7870TT	B7870TT
Norwegian Edition 3 Labeling Kit	B7870NW	B7870NW
Spanish Edition 3 Labeling Kit	B7870ES	B7870ES
Swedish Edition 3 Labeling Kit	B7870SW	B7870SW
Brazilian Portuguese Edition 3 Labeling KitBlack	B7870BR	B7870BR
European Collector(English kydb) Edition 3 Labeling Kit	B7870ZZ	B7870ZZ
Chinese Edition 3 Labeling Kit	B75812BM	B77362CA
China Docs BrightSpeed for BSD Select Series	N/A	B79812CA
China Docs BrightSpeed for BSD Elite	N/A	B79822CA

Korea Kit	N/A	B76392CA
Japan Kit for BSD Elite Select	B75332BM	N/A
Japan Kit for BSD Elite	B75482BM	N/A
Dutch Docs BrightSpeed for BSD Select Series	B75452BM	B79592CA
Dutch Docs BrightSpeed for BSD Elite	B75352BM	B78762CA
Swedish Docs BrightSpeed for BSD Select Series	B75462BM	B79602CA
Swedish Docs BrightSpeed for BSD Elite	B75362BM	B78772CA

Integrated Injetctor is only available for Delight, Velocity and Meri IB

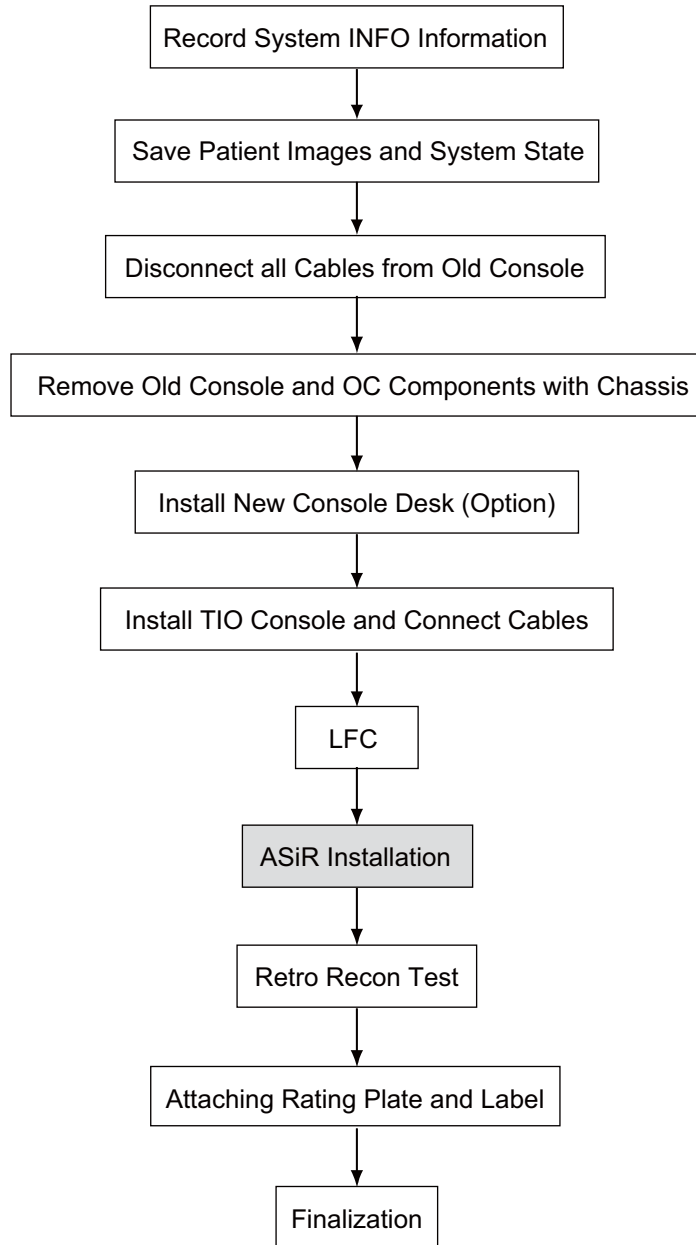
2.4.3 Other New Option for TIO Upgrade Kit

2nd Set of Manual Collector for BSD Select Series	N/A	B79622CA
2nd Set of Manual Collector for BSD Elite	N/A	B79632CA
Freedom Workspace Standard	N/A	B78442CA
Optima CT Desk	N/A	B78552CA
Recon enhancement Package	B75172BM	B76422CA

Section 3.0 Flowchart

The illustration below shows the main flow of the upgrade procedures.

Figure 1-1 Process Flowchart



Chapter 2

Upgrade Procedure

Section 1.0 Prerequisite

Please read carefully the related sections of service manuals about the OC installation/de-installation contents.

- BrightSpeed: Service Method 5350501-8EN_r7 or later.
- BrightSpeed Lite: Service Method 5181166-800_r14 or later.
- ASiR Installation manual: 5344359-1EN

Section 2.0 Preparative

Note: Refer to the latest service method about LFC procedure to understand detailed save state procedure and other information saving procedures. and the Service Manuals above to understand detailed save state procedure and other information saving procedures.

- 1.) Record Autovoice Volume control settings.
- 2.) Write down all of the system INFO information (config, option, network, camera, etc...) in *Console Information Sheets* according to [Appendix B](#).
- 3.) Save JEDI runtime parameters.
- 4.) Save patient images.
- 5.) Save system state data.
- 6.) Verify that the contents of upgrade Kit are correct according to the material list.

Section 3.0 Old Console Removal

- 1.) Shut down the system and power off the Operator Console power switch.
 - 2.) Switch OFF the breaker in the Power Distribution Box (hospital supply).
- Note: If there is UPS, switch OFF the UPS output.
- 3.) Visually verify proper labeling of each cable and disconnect all console rear cables.
 - 4.) Disconnect the cables between the old console and system (Gantry, PDU and local hospital network).
 - 5.) Remove the old OC aside.

Section 4.0 Desk Installation

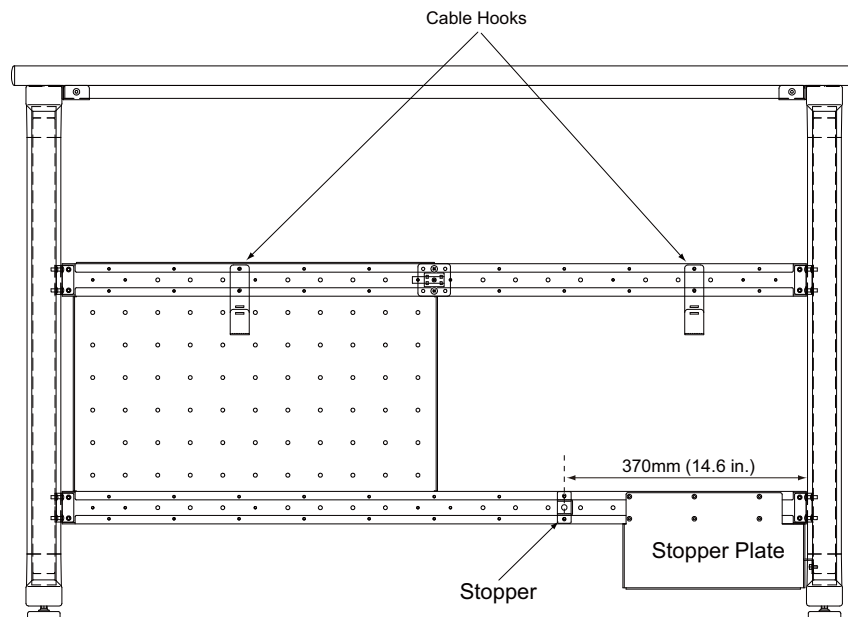
4.1 FWS Table and Monitor Arms Installation

- 1.) If your system has the FWS table, assemble FWS table.
Refer to [Appendix A](#) for details of FWS and monitor arms assembly.
- 2.) Place the FWS table at one side of the console.
- 3.) Install LCD monitor and install monitor arms.

4.2 Optima Desk Installation

- 1.) If your system has the Optima desk, place the desk in the control room.
- 2.) Attach the cable hooks and console stopper by the M4 screws.

Figure 2-1 Cable Hooks and Console Stopper Installation for Optima Desk



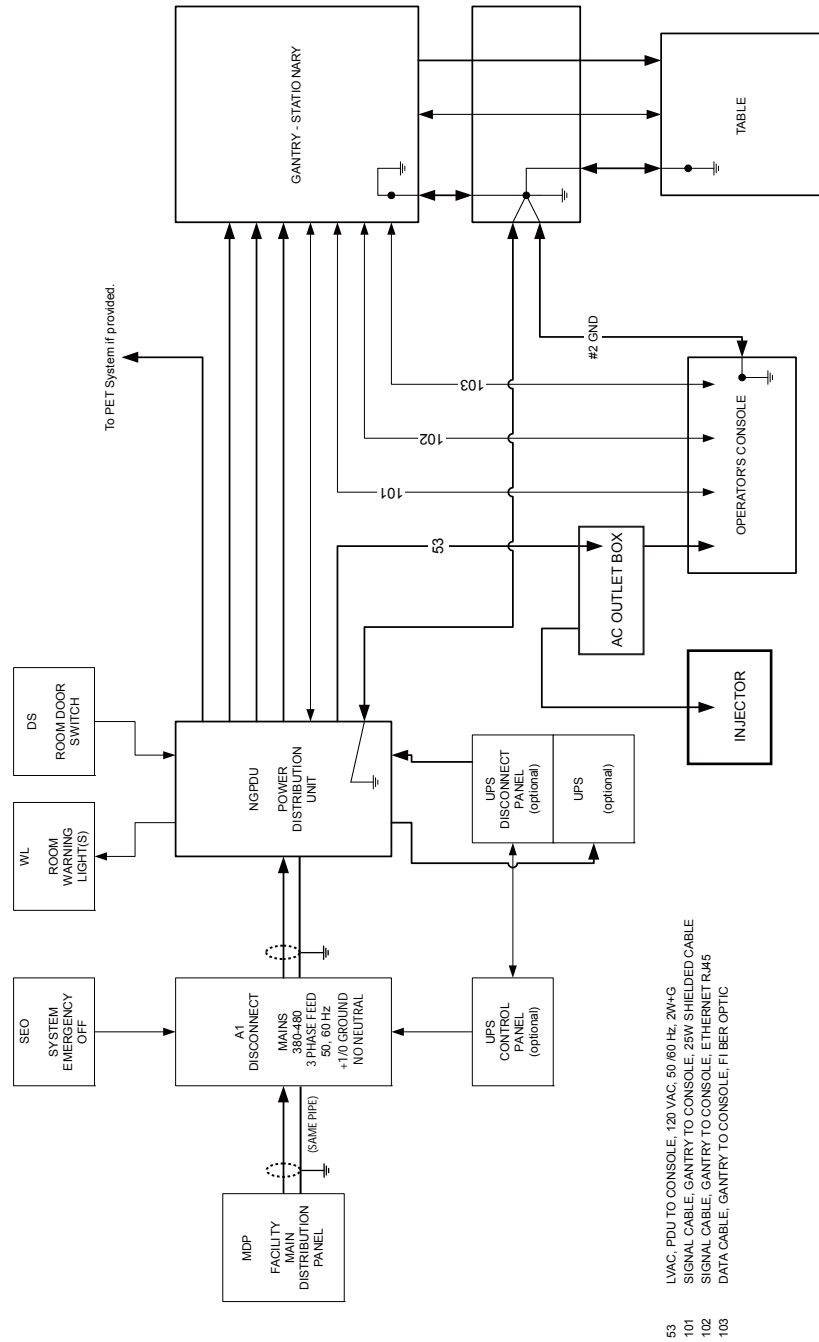
4.3 Other Desk

Please install other desk if customer has and place it to the proper place.

Section 5.0 TIO Console Installation

5.1 Preparative

Figure 2-2 System Interconnect Diagram (with AC Outlet Box)



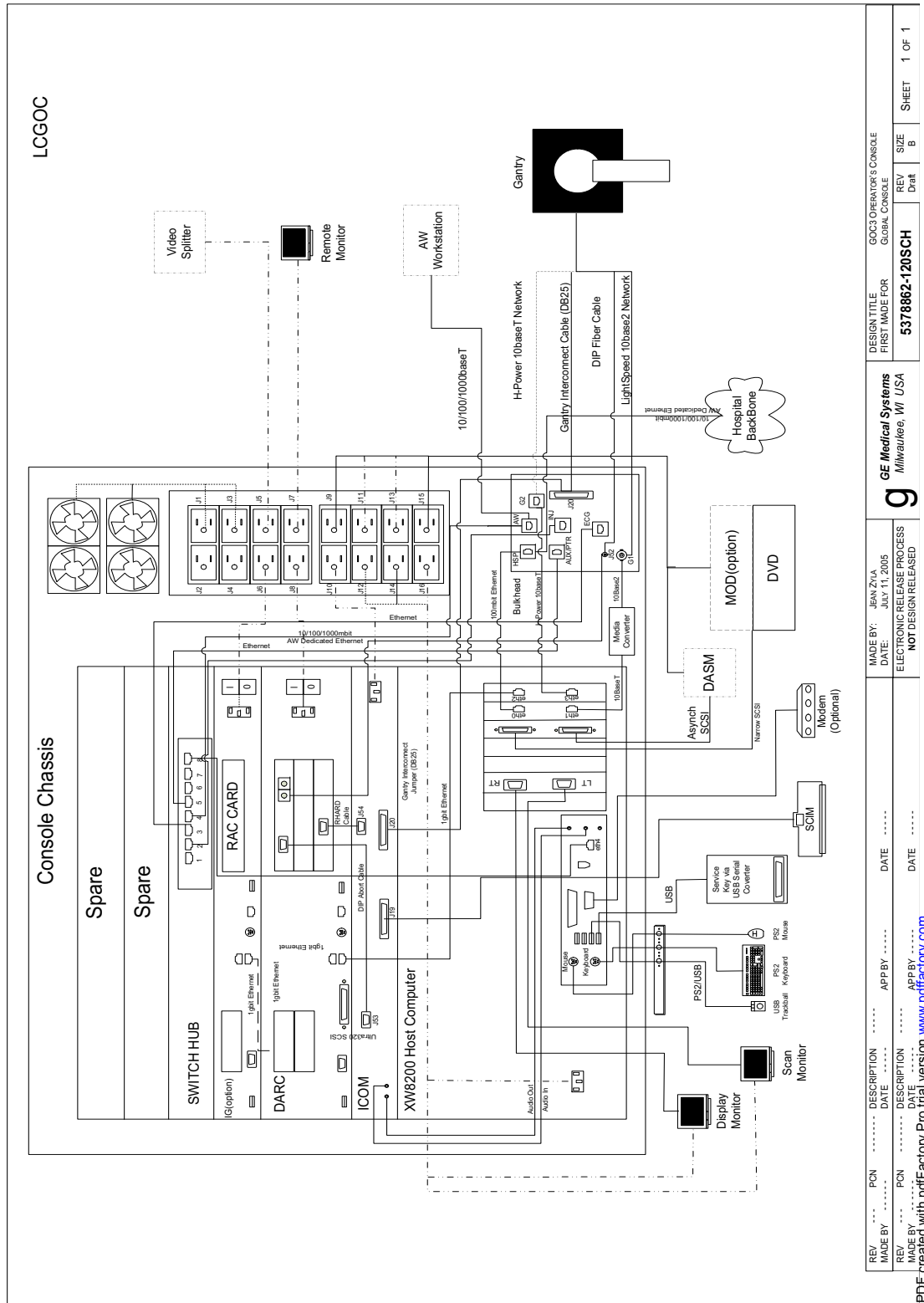
2 – Digital Power Supply
 Removal/Installation

Table 2-1 System Interconnect Cables for OC

NO.	DESCRIPTION	PART NUMBER	
		LONG CABLES	SHORT CABLES
53	LVAC Power Cable - PDU To Operator's Console Outlet	2343531	2343531-2
56	Ground, Raceway to Console	2371450-3	2371450-4
101	Signal Cable - Gantry to Console	5120645	5120645-2
102	Signal Cable (Ethernet) - Gantry to Console	2373436-2	2373436-3
103	Data Cable (Fiber Optic) - Gantry to Console	2117848-2	2117848-7

Note: Cable part number may differ from this list.

Figure 2-3 GOC4/LCGOC Interconnect

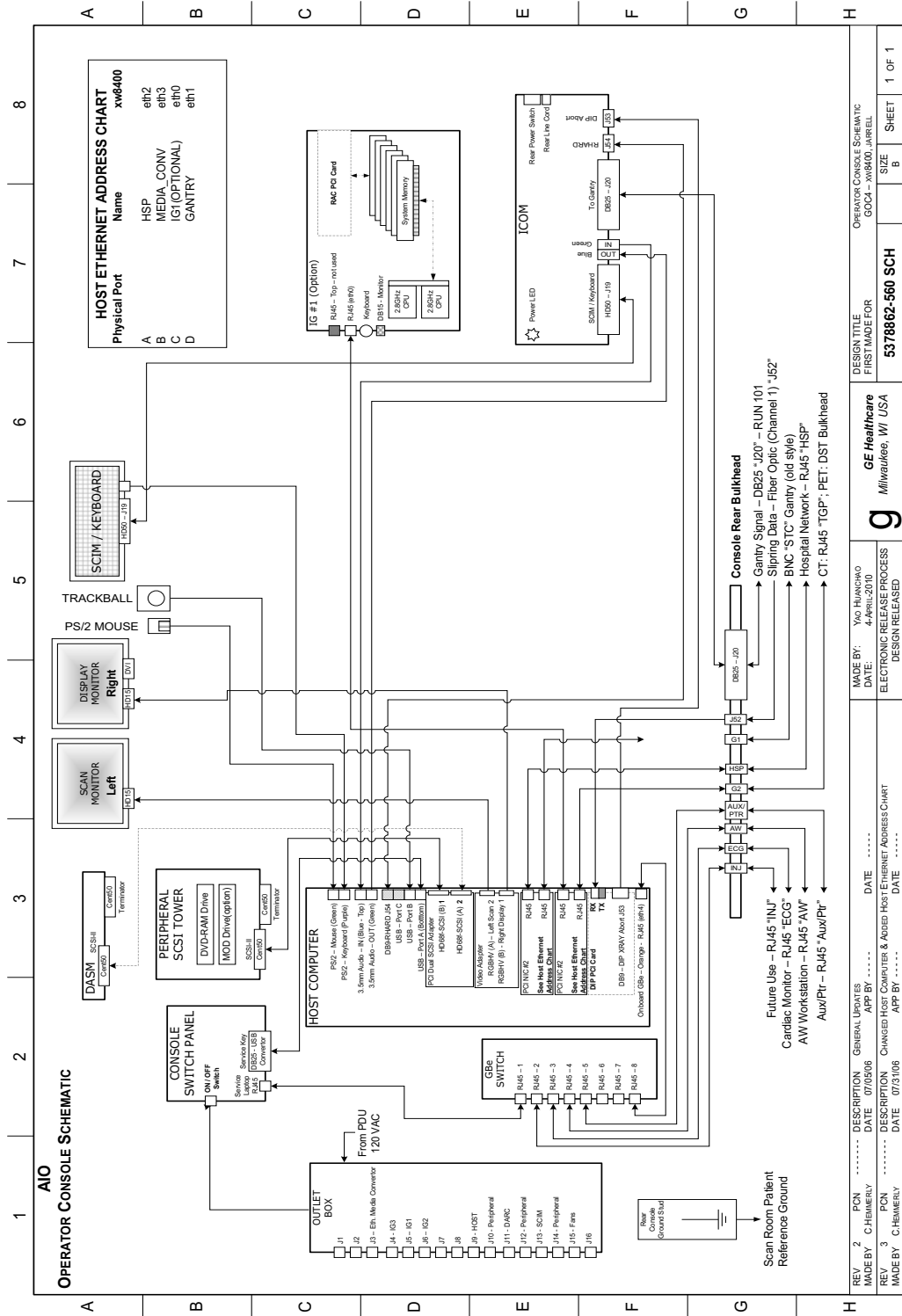


REV	PCN	DESCRIPTION	DATE	APP BY	DATE	DESIGN TITLE	GOC3 OPERATOR'S CONSOLE	REV	SIZE	SHEET
MADE BY						FIRST MADE FOR	GLOBAL CONSOLE	Draft	B	1 OF 1
REV	PCN	DESCRIPTION	DATE	APP BY	DATE	5378862-120SCH				
MADE BY: JEAN ZYLIA DATE: JULY 11, 2005 ELECTRONIC RELEASE PROCESS NOT DESIGN RELEASED										
						GE Medical Systems Milwaukee, WI USA				

PDF created with pdfFactory Pro trial version www.pdffactory.com

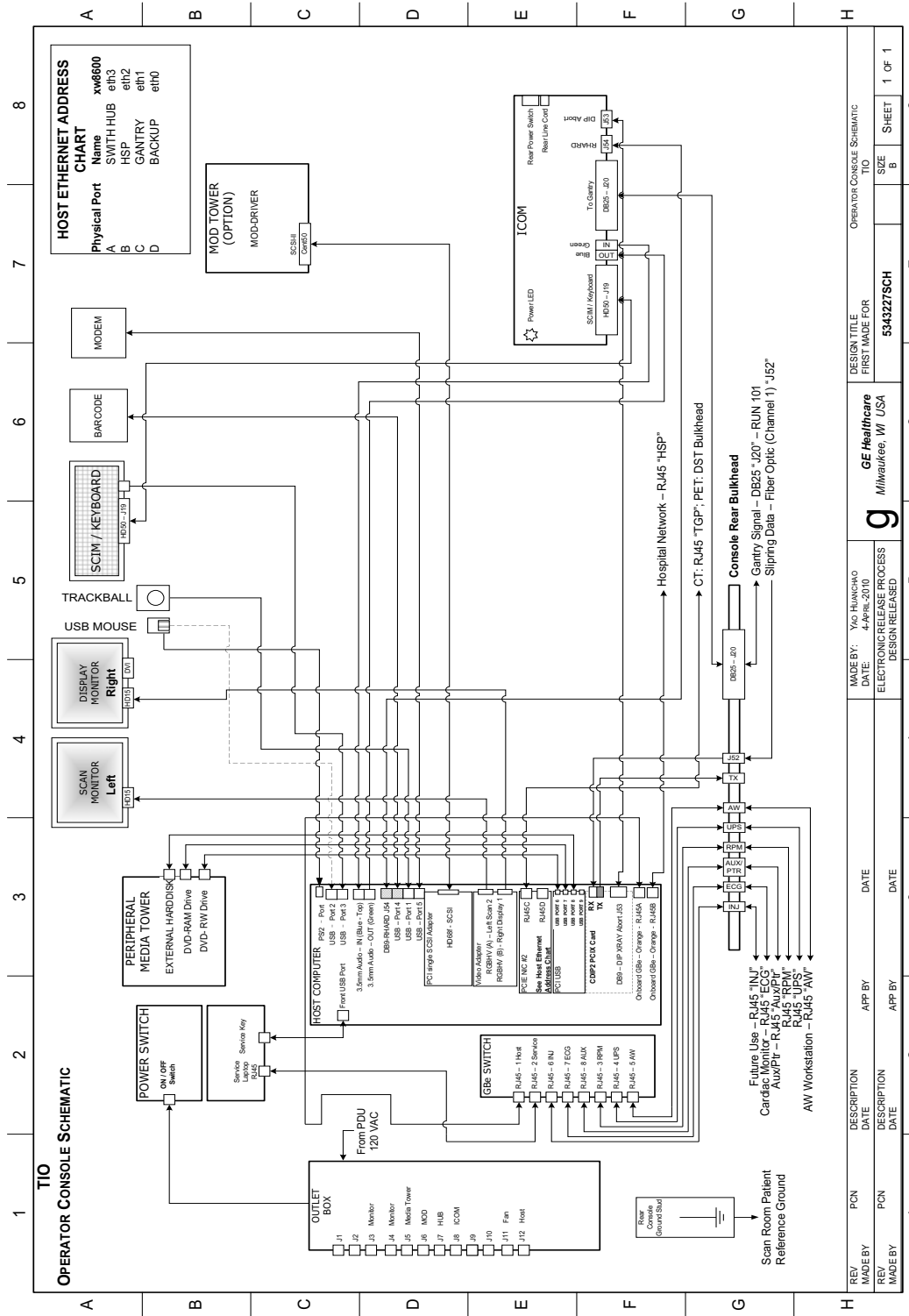
2 – Digital Power Supply
 Removal/Installation

Figure 2-4 AIO OC Interconnect



Information Proprietary to GE Medical Systems
 This document was created using VISIO. Source Master is stored on the CT Products Engineering ECAD database.
 Template Revision A - 5/25/2001

Figure 2-5 TIO OC Interconnect with FX1700 Graphic Card



Information Proprietary to GE Medical Systems
 This document was created using VISO. Source Master is stored on the CT Products Engineering ECAD database.
 Template Revision A - 5/25/2001

**2 - Digital Power Supply
 Removal/Installation**

5.2 Hardware Installation Procedures

5.2.1 TIO Console Installation

Please read details about TIO installation procedures in Service Manuals listed in [Section 1.0, Prerequisite](#).

- 1.) Unpack console packaging.
 - A.) Remove all items from the console.
 - B.) Remove all packaging and discard.
 - C.) Place the step-board under the front edge of the skid and step on it to raise the front edge of the skid as in [Figure 2-7](#).

Figure 2-7 Step-board used to raise front edge of skid



- D.) Remove the two front cushions from the bottom of the skid. Refer to [Figure 2-8](#)

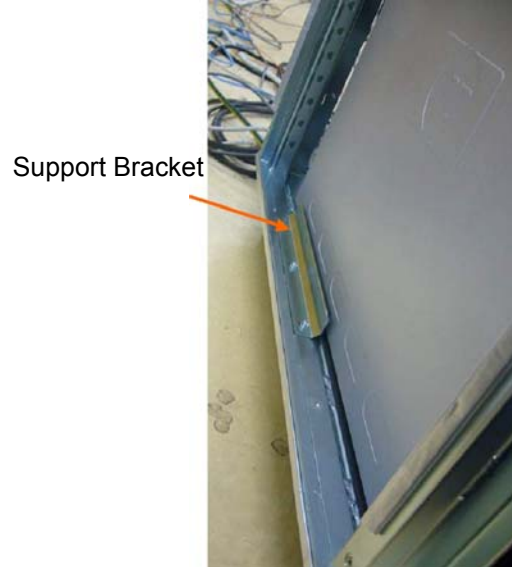
Figure 2-8 Cushion on bottom of skid



- E.) Lift up on the strap on the front of the step-board ([Figure 2-7](#)) to lower the skid. Remove the step-board.
 - F.) Ensure the console stabilizers are in line with the notched portion at the front of the skid. This will allow enough clearance to smoothly roll the console down the ramps.
 - 2.) Move console to installation location.

- 3.) Remove the Host PC support bracket from left side of TIO.

Figure 2-9 Host PC Support Bracket



5.2.2 SCIM, Keyboard, Trackball (Option) & Mouse Installation

- 1.) Place SCIM, keyboard and mouse.
- 2.) Route the keyboard cable under the SCIM, as shown in [Step 2-10](#).

Figure 2-10 SCIM control with keyboard cable routed through SCIM



- 3.) Connect the SCIM cable to the SCIM as shown in [Step 2-11](#).

Note: Make sure the SCIM connector fits snug. Some molding may need to be removed to allow the cable to fit snug.

Figure 2-11 SCIM bottom, showing cables and keyboard mounting bracket



- 4.) The keyboard should attach to the SCIM using the supplied velcro strip and fit snugly against the SCIM when finished.

5.2.3 Media Tower Installation

5.2.3.1 Media Tower (5270510-3) and Optional MOD Drive Installation

Figure 2-12 Media Tower Connections shown with optional MOD Drive



- 1.) SCSI cable MOD Drive to console
- 2.) Power into the MOD Drive
- 3.) DVD-R/CD-R Drive
- 4.) DVD-RAM Drive
- 5.) Power into the Media Tower
- 6.) Power out to the MOD Drive
- 7.) External Hard Disk Drive

- 1.) Place the Media Tower and the optional MOD Drive.
- 2.) Connect the three SUB cables to the rear of the Media Tower. Each USB cable is labeled, plug the labeled cable end into the correct connector.
- 3.) Connect the power cables to the rear of the Media Tower.

2 – Digital Power Supply
Removal/Installation

5.2.3.2 Media Tower (5270510-10/11/20) Installation

- 1.) Place the Media Tower.
- 2.) Connect the SUB cable to the rear of the Media Tower.
- 3.) Connect the power cable to the rear of the Media Tower.

Figure 2-13 Connecting the Media Tower (5270510-10/11)

Front View



Rear View



- 1.) DVD-R/CD-R Drive
- 2.) Power into the Media Tower

Figure 2-14 Connecting the Media Tower (5270510-20)

Front View



Rear View



- 1) Power for Media Tower
- 2) Power for MOD Drive
- 3) DVD-RW Drive
- 4) External USB
- 5) HDD External
SSA Key

5.2.4 Monitor Connection



NOTICE Detail LCD Monitor setup, refer to *Service Methods -> Align, Setup, Cal -> Console -> LCD Video Monitor Setup*.



NOTICE Equipment Damage Possible.

Do not touch the video signal cable connector pins as this might bend them. When connecting the video signal cable, check the alignment of the HD15 connector. Do not force the connector in the wrong way, otherwise the pins might bend.

5.2.4.1 Connecting the Monitor with FX1700 Graphic Card

- 1.) Place the LCD monitors.
- 2.) Connect Scan Monitor and Image Monitor as following:

Figure 2-15 FX1700



Scan Monitor

- Video cable from Console Host RGBHV (A) to Monitor D-SUB (HD15)
- Power cable from Console power panel outlet
- Route through the cable keeper

Image Monitor

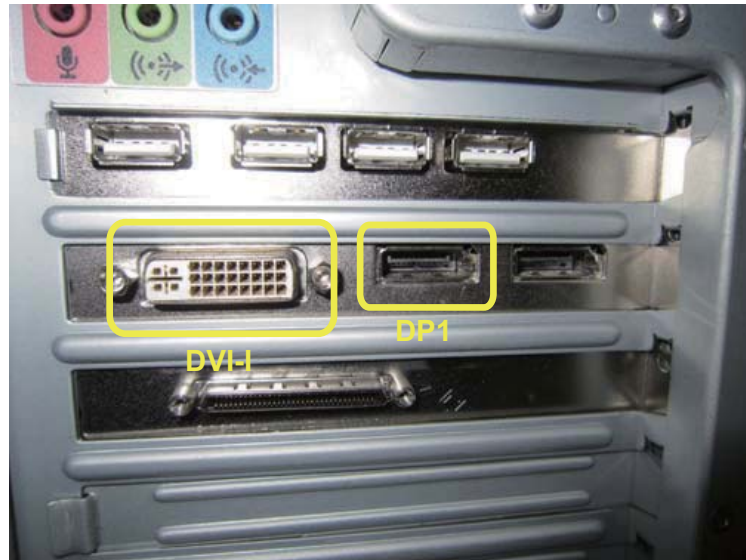
- Video cable from Console Host RGBHV (B) to Monitor D-SUB (HD15)
- Power cable from Console power panel outlet
- Route through the cable keeper

- 3.) Connect the power cord to the monitor.

5.2.4.2 Connecting the Monitor with FX1800 Graphic Card

- 1.) Place the monitors.
- 2.) Connect Scan Monitor and Image Monitor as following:

Figure 2-16 FX1800



Scan Monitor

- Video cable from Console Host DP1 to Monitor DVI
- Power cable from Console power panel outlet
- Route through the cable keeper

Image Monitor

- Video cable from Console Host DVI-I to monitor D-SUB (HD15)
- Power cable from Console power panel outlet
- Route through the cable keeper

5.2.5 TIO Console Cable Connection

- 1.) Refer to [Figure 2-2](#) and [Table 2-1](#) for system interconnect cables of OC connection.

Figure 2-17 Power Connections



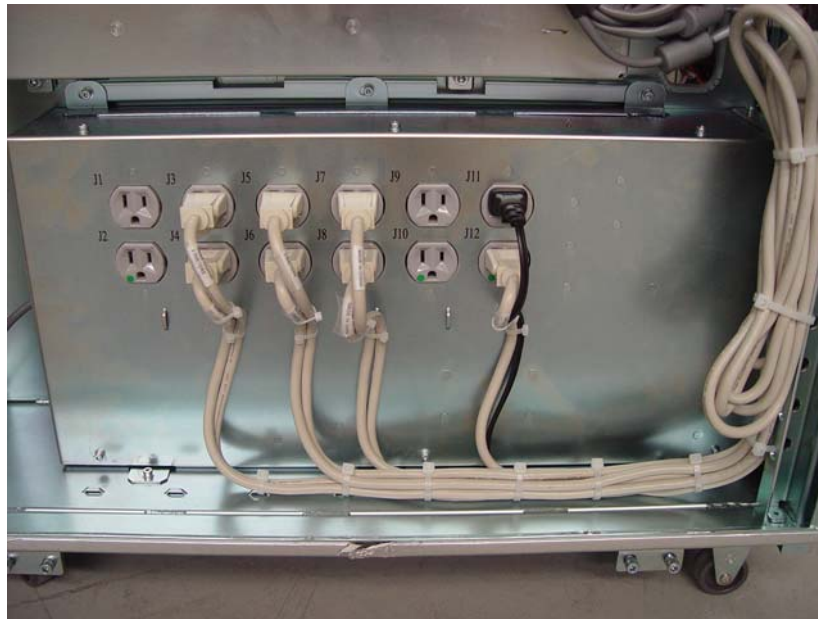
- 2.) Refer to [Table 2-2](#) for console component power cords connection.

Note: Console power is single phase power. Outlet assigned is not critical.

Table 2-2 Power Panel Outlet Assignments

J#	DEVICE	J#	DEVICE
J1		J9	
J2		J10	
J3	Monitor	J11	Fan
J4	Monitor	J12	Host
J5	Media Tower	J13	
J6	MOD	J14	
J7	Hub	J15	
J8	ICOM	J16	

Figure 2-18 Power Panel Outlet



- 3.) Refer to [Figure 2-19](#) for peripheral connection (SCIM, keyboard, mouse, monitors, trackball, etc....)

Figure 2-19 TIO USB Connector Location (for FX1700 Graphic Card)

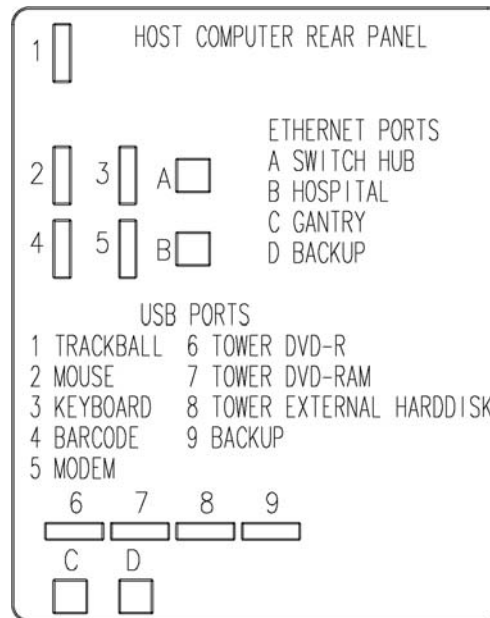
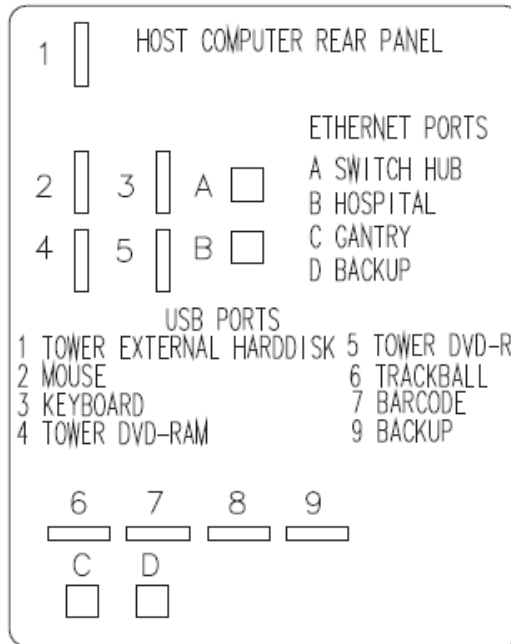


Figure 2-20 TIO USB Connector Location (for FX1800 Graphic Card)



5.3 Software Installation Procedures



NOTICE LFC is necessary no matter the OC has been installed with software or not.

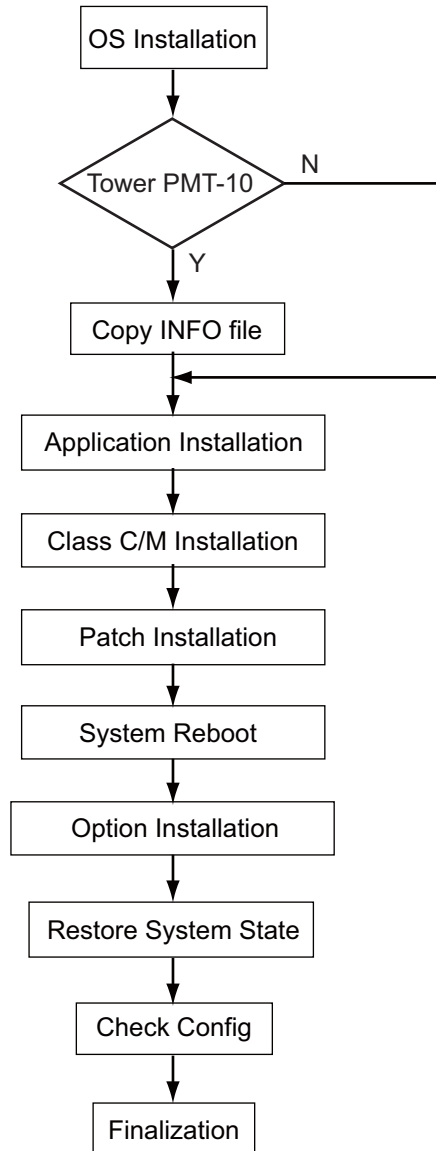
5.3.1 Overview

There may be two types of media tower as followings:

- Media Tower (5270510-10/11/20) only supports DVD-RAM disk without cartridge.
- Media Tower (5270510-3) can support DVD-RAM disk with/without cartridge.

Note: For Media Tower (5270510-10/11/20) without cartridge, please refer to [Appendix D Service Note YMS-SN184](#) for DVD-RAM cartridge disassembly procedure.

5.3.2 Flowchart



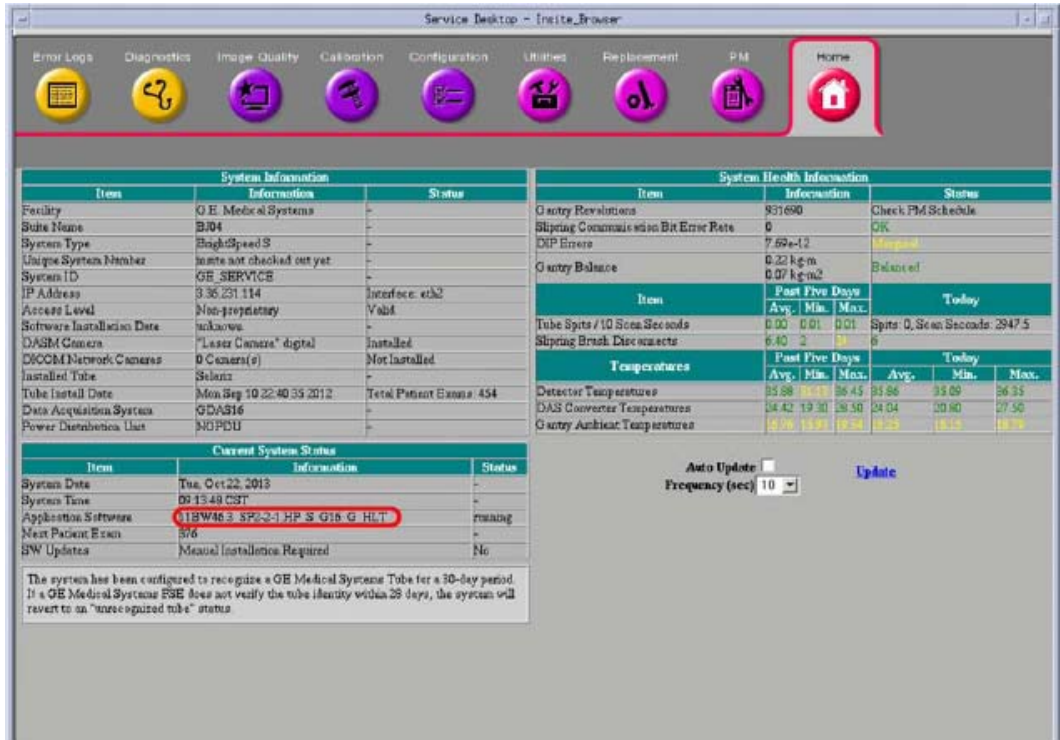
5.3.3 LFC Procedure

- 1.) **OS Installation**
For OS installation procedure, please refer to the latest LFC procedure of the service method 3.2.2 Operating System (OS) Load.
- 2.) **Prepare INFO File**
If new TIO has PMT-10 DVD Media Tower, then follow procedures in the latest LFC procedure of the service method 3.2.3 Prepare INFO File, otherwise, please skip this step.
- 3.) **Application Installation**
After INFO preparation (PMT-10 only), then follow the procedure of the latest LFC procedure of the service method 3.2.4 Application SW Load
- 4.) **Confirm Host PC Software** (the latest LFC procedure of the service method 3.2.5 Confirm Host PC Software)
- 5.) **Load Other Service Software**
 - a.) Load Class C and Class M - LFC Procedures 3.5.1 Load Class C and 3.5.2 Load Class M.
 - b.) Install Service Patch - LFC Procedure 3.5.3 Service Pack Load



NOTICE There is the exist issue that scan and image monitors display reverse on TIO console + FX1800 graphic card (5700000-24) before 11BW46.3 SP2.2 installation.

- A.) Check the software version string by following methods to confirm whether 11BW46.3 SP2.2 has been installed or not.
 - a.) Method 1: Open a unix shell and type the following command: `swhwinfo -all`
 - b.) Method 2: Look at the Common Service Desktop Home Page:



- B.) 11BW46.3 SP2.2 Non-Installed
There is a workaround for the scan and image monitor display reverse as following:
 - a.) Open a shell, and then input the commands below:
`{ctuser@hostname} su -`
 Password: **#bigguy**
`[root@hostname]# cp xorg.conf.clean xorg.conf.clean.backup.date (date=Current date)`
`[root@hostname]# cp xorg.conf xorg.conf.backup.date (date=Current date)`
`[root@hostname]# BaseMonitorOpts Device0 TwinViewOrientation LeftOf`
`[root@hostname]# cp /etc/X11/xorg.conf /etc/X11/xorg.conf.clean`
`cp: overwrite '/etc/X11/xorg.conf.clean'? y`
 - b.) Reboot the system.
- C.) 11BW46.3 SP2.2 Installed
Ignore the above commands input and perform the following steps.

2 - Digital Power Supply Removal/Installation

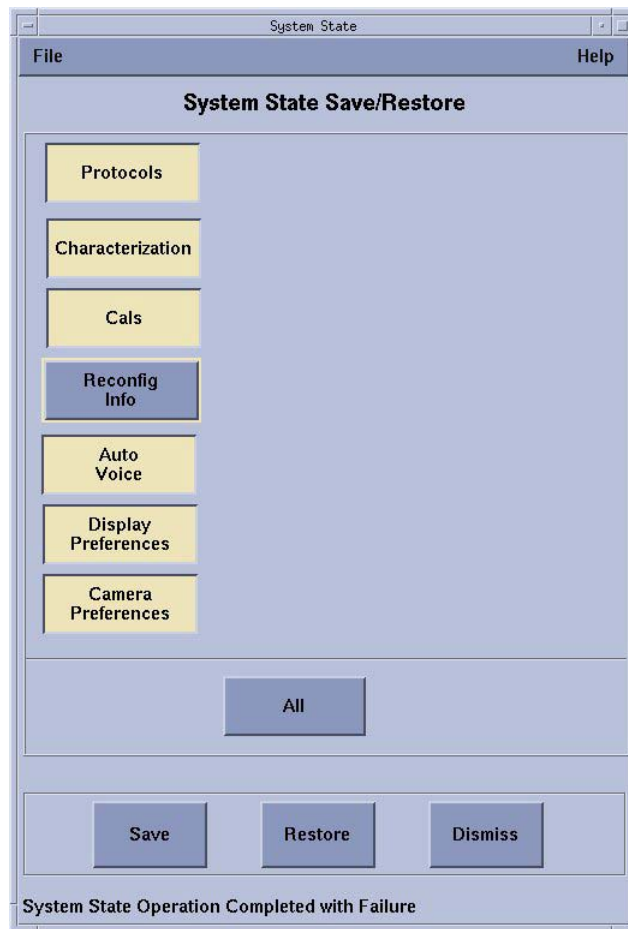
6.) Option Installation

- a.) A standard option key is shipped with system, please install it first.
- b.) Options can not be restored after console changed, so all options should be re-installed through new Option Keys or e-licenses.



NOTICE Options must be loaded before Protocols.

- 7.) **Restore System State** (the latest LFC procedure of the service method 3.7 Restore System State)



5.3.4 ASiR Installation

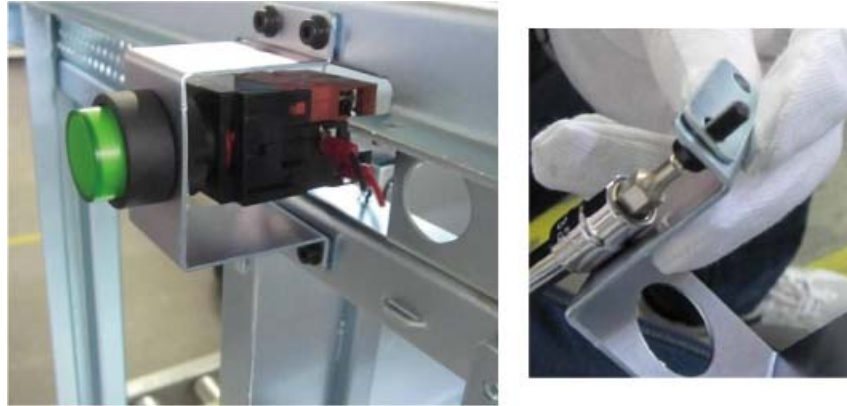
Note: Kit B78892CA or B75212BS may be shipped to site, it depends on the order from China or Japan. They are the same kit for ASiR.

- **For ASiR**
Please refer to ASiR Upgrade Installation Manual (5344359-1EN) shipped with TIO ASiR Collector to install ASiR application function.
- **For Non-ASiR**
Skip this section.

5.4 TIO Cover Installation

- 1.) Unpack console cover kit packaging.
 - If order is ASiR upgrade kit, please find console covers in TIO ASiR Collector (5340995-2).
 - If order is Non-ASiR upgrade kit, please find console covers in TIO Console Kit (5340995).
- 2.) Install the side and top covers to OC chassis.
- 3.) If the console power switch cannot fit properly and could not function well, adjust the console power switch bracket by adding or removing the adjustment plate of the power switch bracket as below [Figure 2-21](#). Two additional adjustment plates are stuck inside TIO console between ICOM and AC outlet box.

Figure 2-21 Power Switch Adjustment



This page intentionally left blank.

Chapter 3

FINALIZATION

Section 1.0 Attaching The Rating Plate

Attach the provided rating plate on the rear of OC.

Section 2.0 Attaching The Labels

- 1.) Rip off one "read book caution label" per the local language from the multi-language caution labels and attach it beside the English Label on the rear panel of OC.



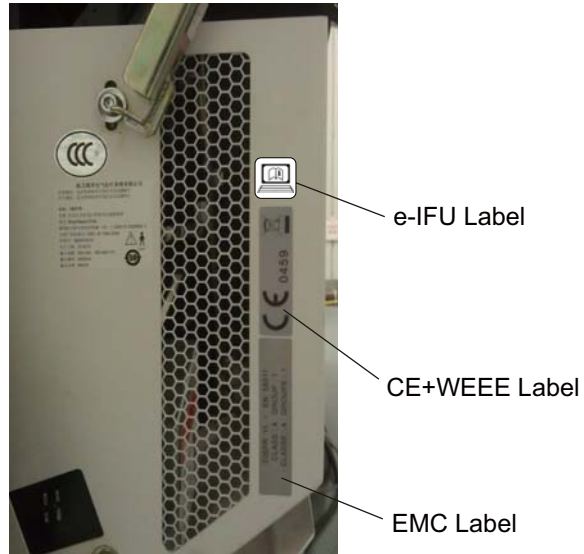
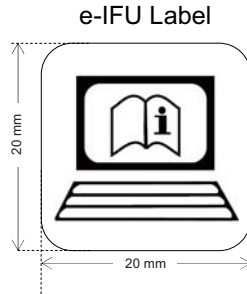
Note: Only attach one read documentation caution label to OC, other labels MUST be discarded. Do NOT overlap any portion of the English label.

- 2.) Attach the "CE mark and WEEE label" beside the "read book caution label" on the rear panel of OC.



Note: Do Not overlap any portion of the "read book caution label".

- 3.) Attach the e-IFU label on the right side panel of Gantry, which be found after removing the Gantry right side cover.



Section 3.0 Disposing The Old Console

The old console has components that are needed to cover FRU shortages, so please **RETURN** the old console. Follow the normal local return process to return the console.

- 1.) Package the old console with the shipping material.
- 2.) Mark type of the old console on the outside of the box. (Example: GOC4, LCGOC or AIO)
- 3.) Return the old console:

- **For U.S. sties**

Call **Schenker** Heavyweight Return at 866-229-7877 (Option 25), and ship to:
GE Healthcare Renewable Resources
7624 South 10th Street
Oak Creek, WI. 53154

- **For Western Europe sites**

Stick the harvest sticker (see below) on the OC box & ship (Heavyweight Return) to:
P. Vinet - Volta Repair Center Manager
Gems, 283 rue de la Minière 78533 Buc
VIA St WITZ



- **For other Europe Sites**

Please contact your local service representative for approbation.

Section 4.0 Sending The Product Locator Card

- 1.) Fill in the blanks on the Product Locator Card provided in this kit.
- 2.) Send the Product Locator Card to the appropriate address provided below.

Address for GEMS-AM sites:

Send to the address printed on the Product Locator Card.

Address for GEMS-E sites:

Send to the address printed on the Product Locator Card.

Address for GEMS-A sites:

Send to the local PLS or Service Administrator.

This page intentionally left blank.

Appendix A

Operating Table Installation and Adjustment

Section 1.0

FWS Assembly and Adjustment

1.1 Introduction

Freedom WorkSpace (FWS) is an optional console table with better ergonomic performance. The monitor arm is designed to adjust quickly and easily.

Before assembly go through this section and checklist with the FWS to have an overview.

- Assemble worksurface
 - Assemble table base and worksurface
 - Assemble drawer
- Install monitors
 - Mount pole onto table surface
 - Install monitor with monitor arms
 - Install monitor arms on the pole
 - Route cables
- Adjust the monitors for customer use
- Install Seismic Kit (if need)

1.2 Procedure

1.2.1 Assemble Worksurface (5168666-3)

- 1.) Carefully remove the base assembly from the packaging material.
- 2.) Attach the crossbrace with the two inner-leg cover and secure the crossbrace to the down leg with six M6 x 10 screws ([Figure 2](#)).

Figure 1 Assemble Workspace (5168666-3)

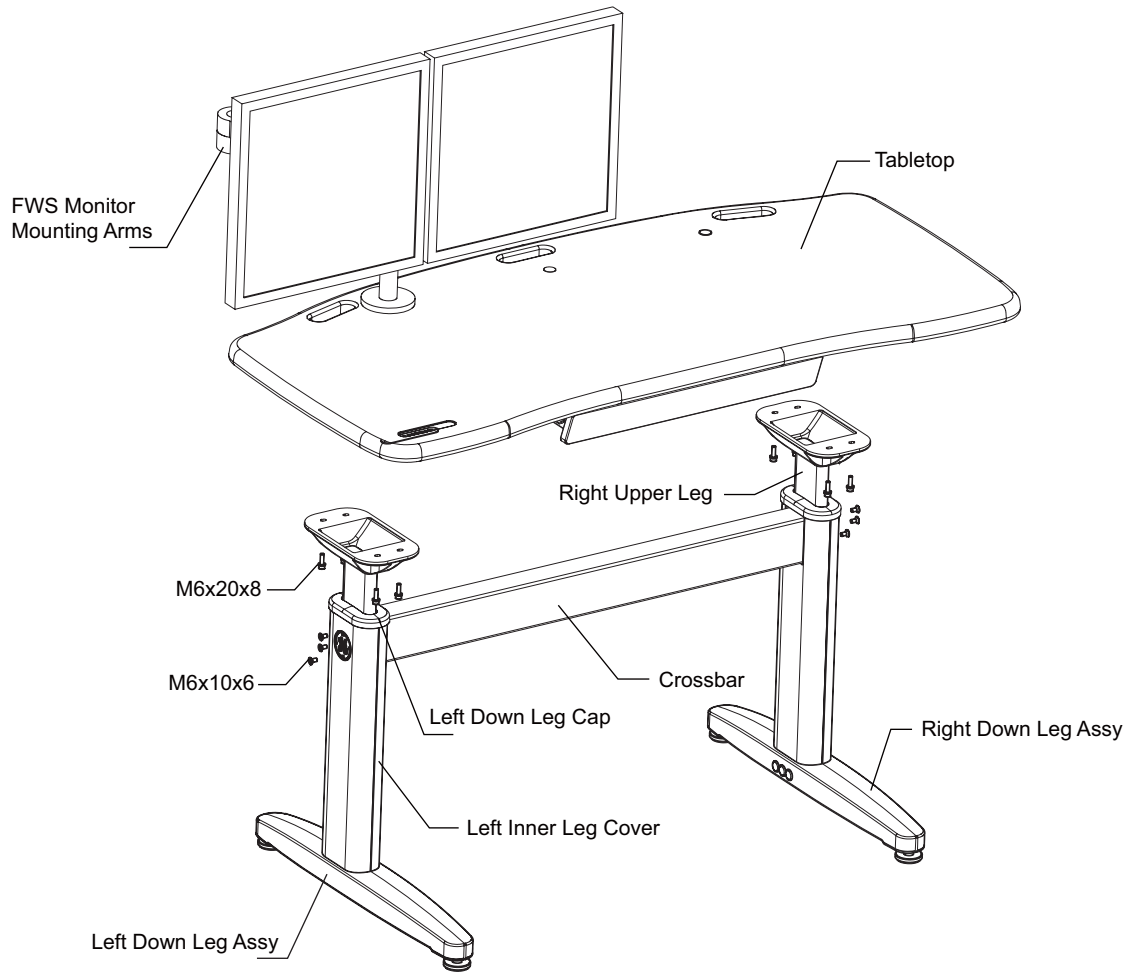


Figure 2



- 3.) Press the inner-leg cover to secure with the adhesive pad ([Figure 3](#)).

Figure 3



- 4.) Install upper legs to down legs.
 - a.) Install down leg cap to the down legs ([Figure 4](#)).
 - b.) Insert upper legs into down legs, adjust to desired height by attaching the upper legs' screws to appropriate down legs' holes. [Figure 5](#) shows an example of attaching upper legs at the fifth and seventh holes from the bottom upward. In this case, the height of worksurface would be 785mm.
 - c.) Secure the upper legs with four M6 x 20 screws each leg.

Figure 4



Figure 5



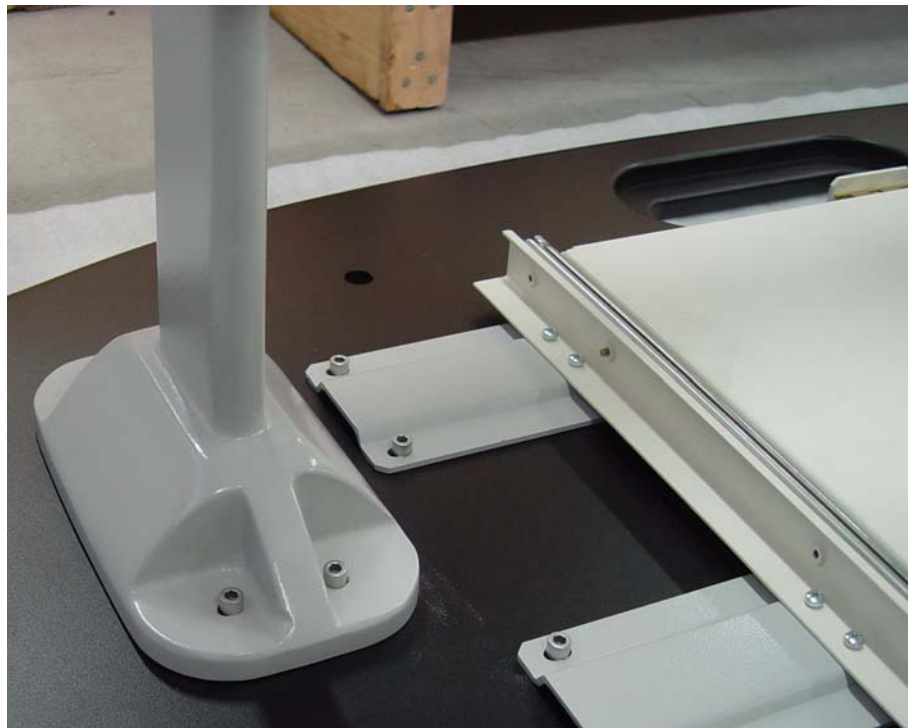
- 5.) Insert outer-leg cover and inner-leg cover into down leg slot. Then push down the upper cover to fix them.([Figure 6](#)).

Figure 6



- 6.) Place the worksurface upside down on a clean, soft surface to prevent scratching. Invert the table base onto the worksurface, taking care to align the holes with the pre-drilled holes in the worksurface. Secure the table base to the worksurface with eight M6 x 20 screws (Figure 7).

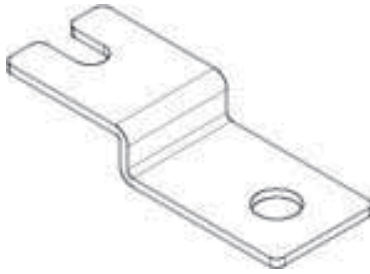
Figure 7



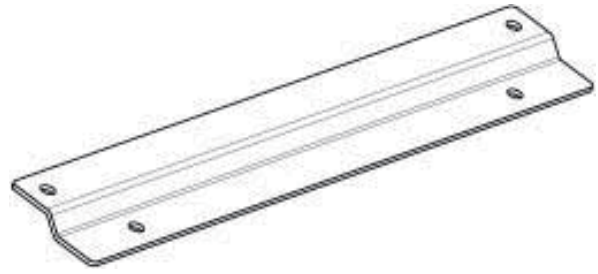
- 7.) Carefully turn the table assembly to the upright position. Insert hole cover into one of the two holes in the worksurface, the other hole would be used for monitor installation.
- 8.) The four adjustable glides may be raised or lowered to accommodate varying floor surfaces. Lift the leg off the floor and turn the glide clockwise or counterclockwise to adjust.

1.2.2 Install Seismic Kit

There are two kinds of anti seismic brackets as shown in below figure.



FWS anti seismic bracket
(Part No.: 5380721)



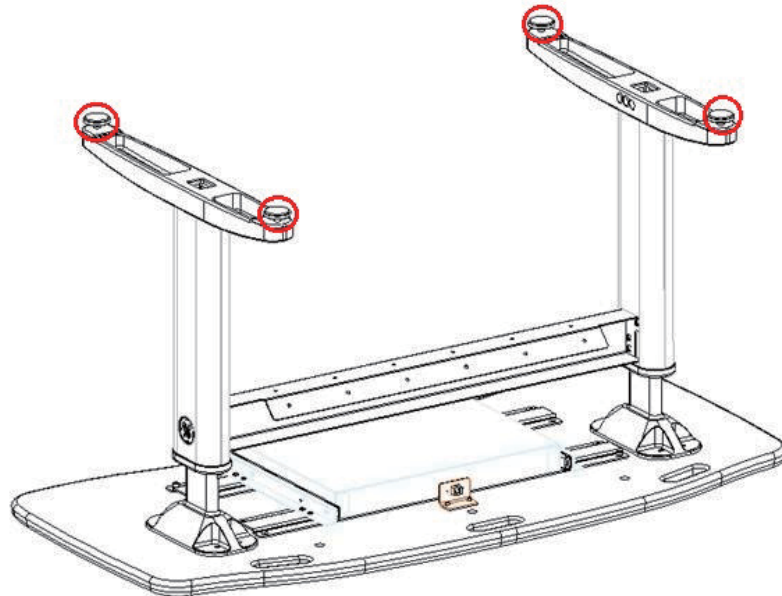
FWS anti seismic bracket
(Part No.: 5451608)

If site specifications require seismic mounting, follow below steps:

- **For anti-seismic bracket 5380721**

- 1.) Turn over the FWS, loosen the four foot adjusters as [Figure 8](#) shown.

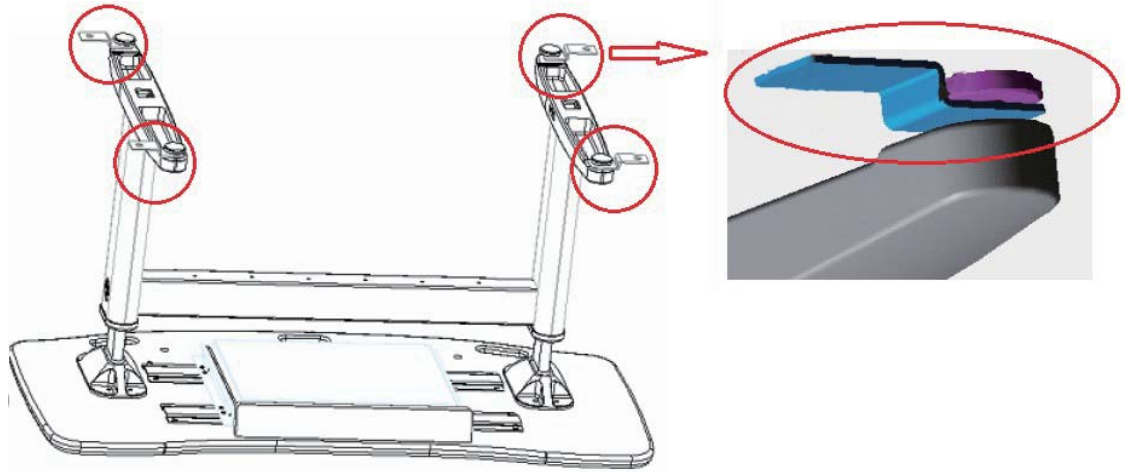
Figure 8 Foot Adjusters Removal



- 2.) Insert the anti seismic brackets (5380721) between the adjusters and foots, then tighten the adjusters again, as [Figure 9](#) shown.

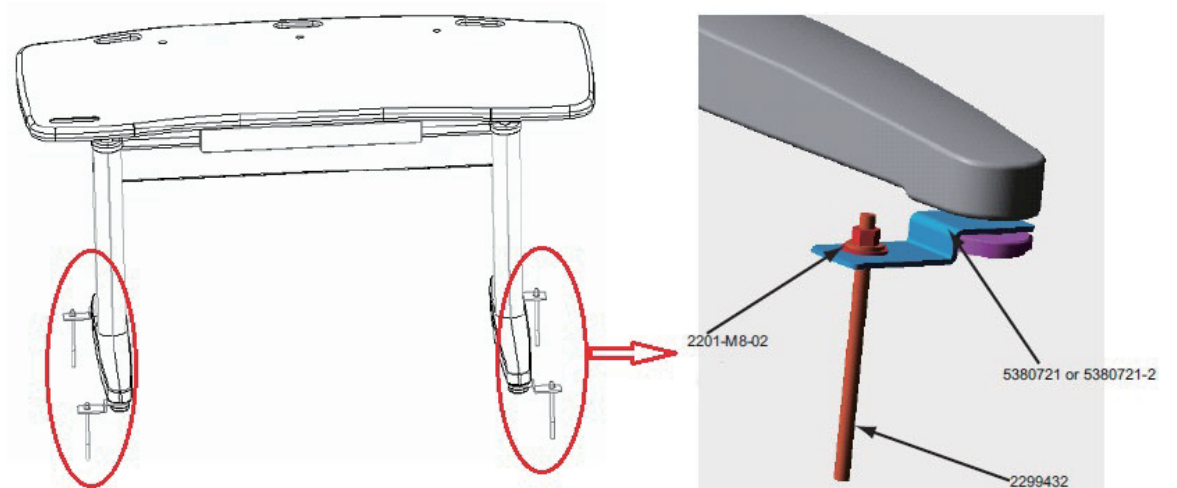
Note: Pay attention to the up down direction of the anti seismic brackets during installation, the side of bracket that used to mount to the floor shall be flush with the foot adjuster.

Figure 9



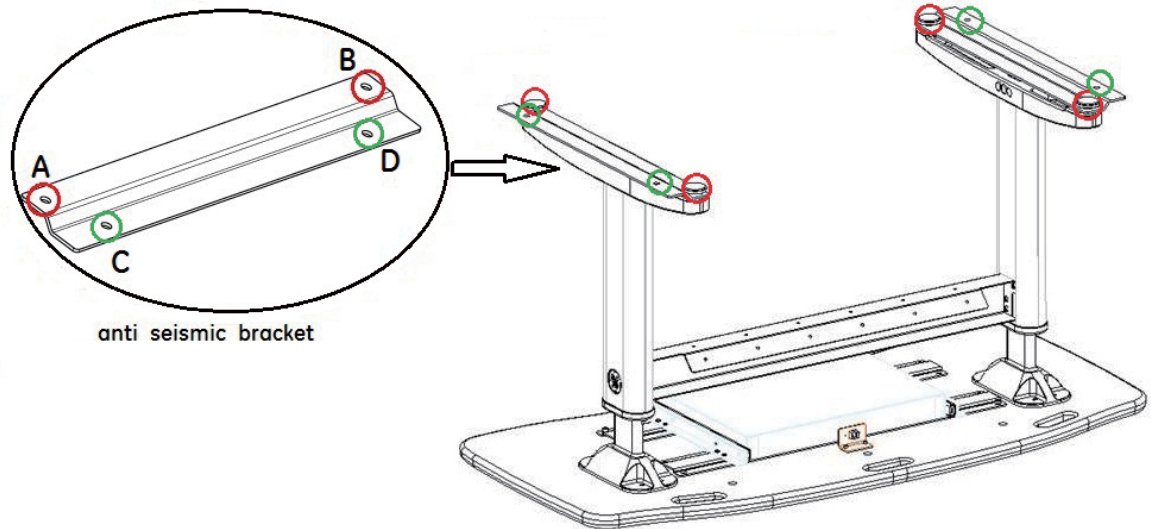
- 3.) Turn the FWS to the upright position, use anchors to mount the brackets to the floor, as shown in Figure 10.

Figure 10



- **For anti-seismic bracket 5451608**
 - 1.) Turn over the Freedom WorkSpace (FWS), loosen and remove the four foot adjusters as [Figure 8](#) shown.
 - 2.) Install two anti seismic brackets (5451608) to each down leg with the foot adjusters, hole A and B shall be used to mount the bracket to the foot adjuster, and hole C and D are used for mounting the bracket to the floor, as shown in [Figure 11](#).

Figure 11 Install Anti Seismic Brackets



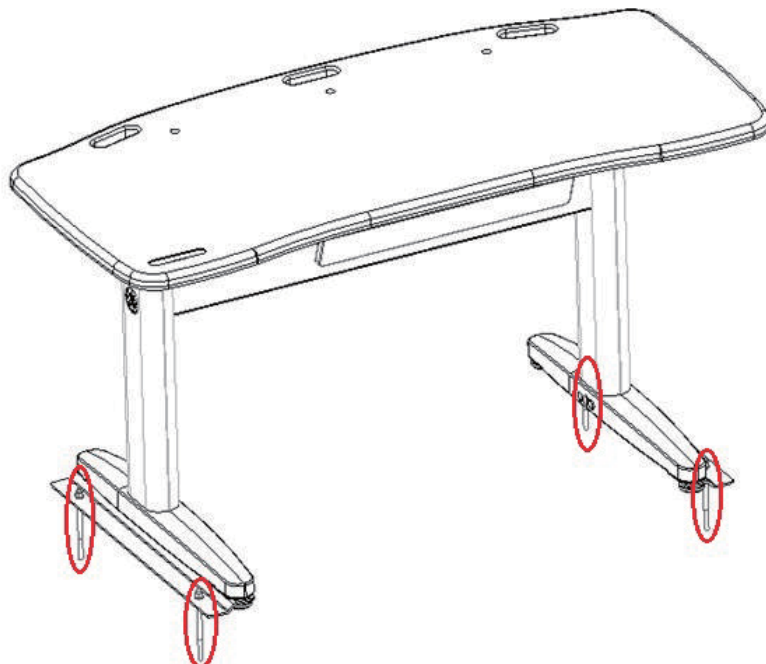
Note: Pay attention to the up down direction of the anti seismic brackets during installation, the side of bracket that used to mount to the floor shall be flush with the foot adjuster, and the holes reserved for mounting the brackets to floor shall be on the outside of each down leg, as shown in [Figure 12](#).

Figure 12 Installation Direction of Anti Seismic Brackets



- 3.) Turn the Freedom WorkSpace (FWS) to the upright position, use anchors provided by customer to mount the brackets to the floor, as shown in [Figure 13](#).

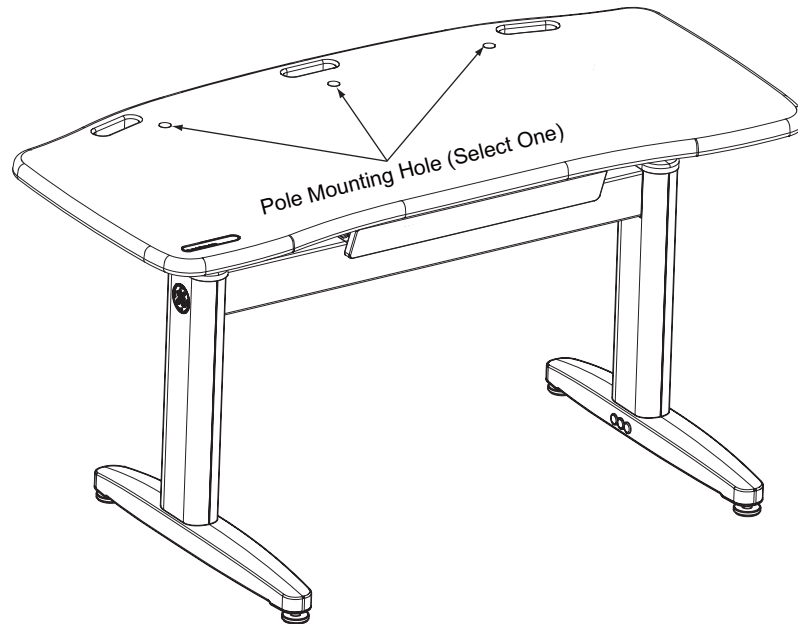
Figure 13 Mount FWS



1.2.3 Install Monitors

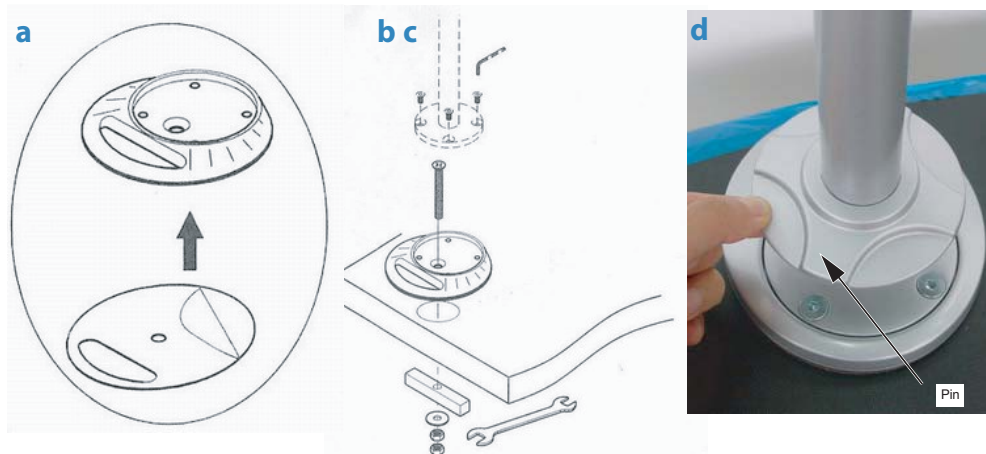
Note: For more information, refer to the materials shipped with the FWS.

Figure 14 5168666-3



- 1.) Mount the pole on the worksurface. (See [Figure 14](#) and [Figure 15](#))
 - a.) Adhesive the pad under the grommet mount.
 - b.) Use large bolt to go through parts.
 - c.) Fix the clamp on the desk with 4 screws.
 - d.) Put the screw plate cover through the pole. Check the pin position with the screw.

Figure 15



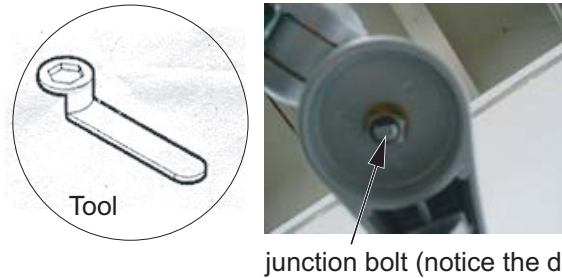
- 2.) Change configuration of the monitor arms for site.
 - a.) Three configurations for customer to select, see pictures below:

Figure 16



- b.) If B or C is selected, disengage the not-to-used arm by unscrewing the junction bolts and reconfigure the arms.

Figure 17



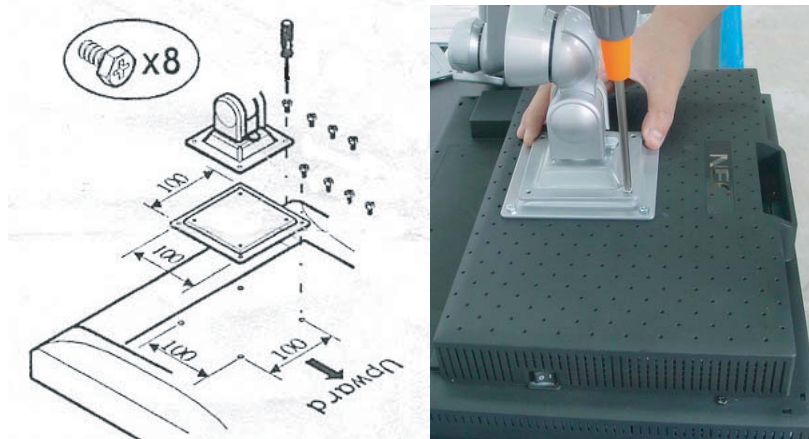
- 3.) Secure cable covers onto monitor arms. Cable covers should open backward the customer.

Figure 18



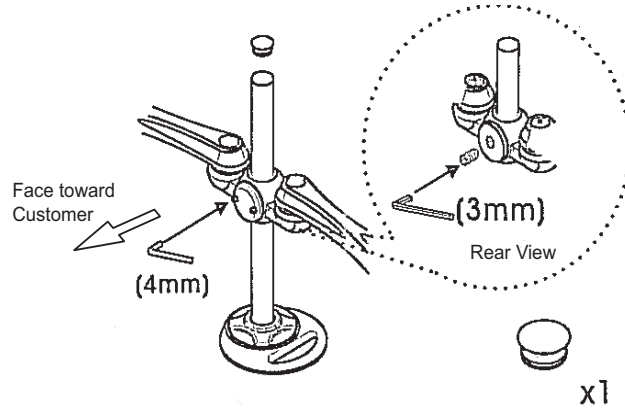
- 4.) Mount the monitors to the arm.

Figure 19



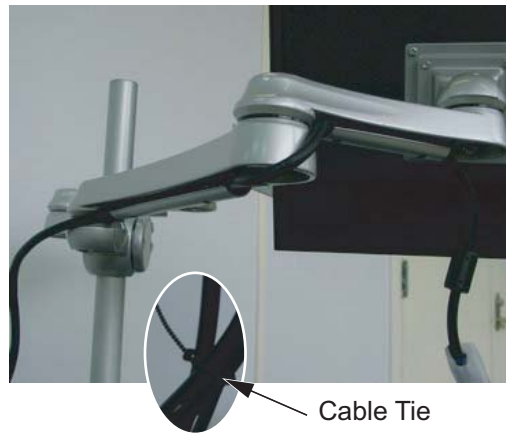
- 5.) Mount arms with pole. (Figure 20)
 - a.) Loosen two screws slightly. Put the arm into the pole and adjust it to the suitable position. Middle joint mount (two large allen screws) of the monitor arms should face toward the customer.
 - b.) Tighten up the pole with 4mm and 3mm allen keys.
 - c.) Put in the plug on top of the pole.

Figure 20



- 6.) Put extra hole covers onto the holes not used. (Figure 14)
- 7.) Route cables.
 - a.) Thread monitor cables through cable covers.
 - b.) Use cable tie to wrap the cables together or wrap the cables with pole.

Figure 21



- 8.) Route cables (for FWS Part 5168666), thread cables through worksurface and use cable tie to wrap them together to the back slot of crossbrace (Figure 22).

Figure 22

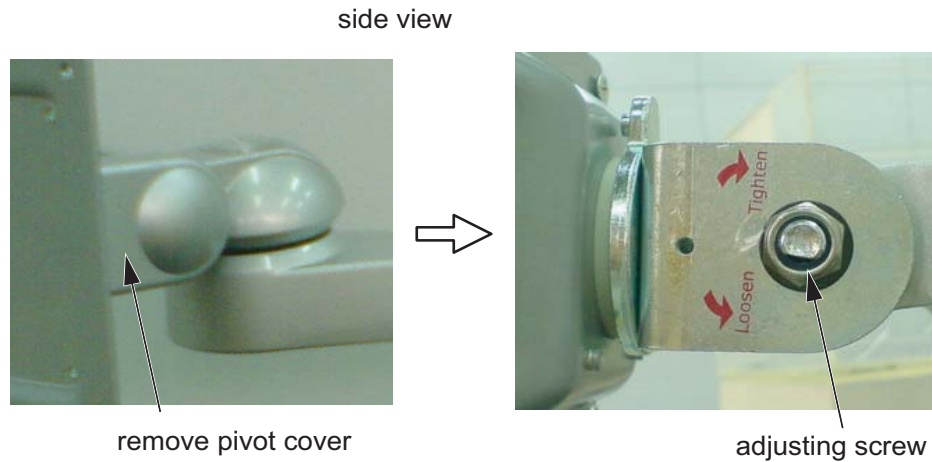


A – Table

1.3 Monitor Adjustment

- 1.) Position the arms for ergonomic viewing. For optimum ergonomic viewing set top of monitor screen 1" below eye height. With monitor and arm properly supported, loosen screw and adjust up or down to desired height. Retighten to secure arm to pole.
- 2.) Adjust monitor tilt: Tilt monitor back and forth through entire pivot range of motion. If it does not stay in place or movement in one direction is stiff, pivot needs adjustment - see below (pivot cover is removed). Adjust until monitor stays in place and tilting forces, up or down, are equal.
Increase tilt lifting force: Turn screw clockwise.
Decrease tilt lifting force: Turn screw counterclockwise.

Figure 23

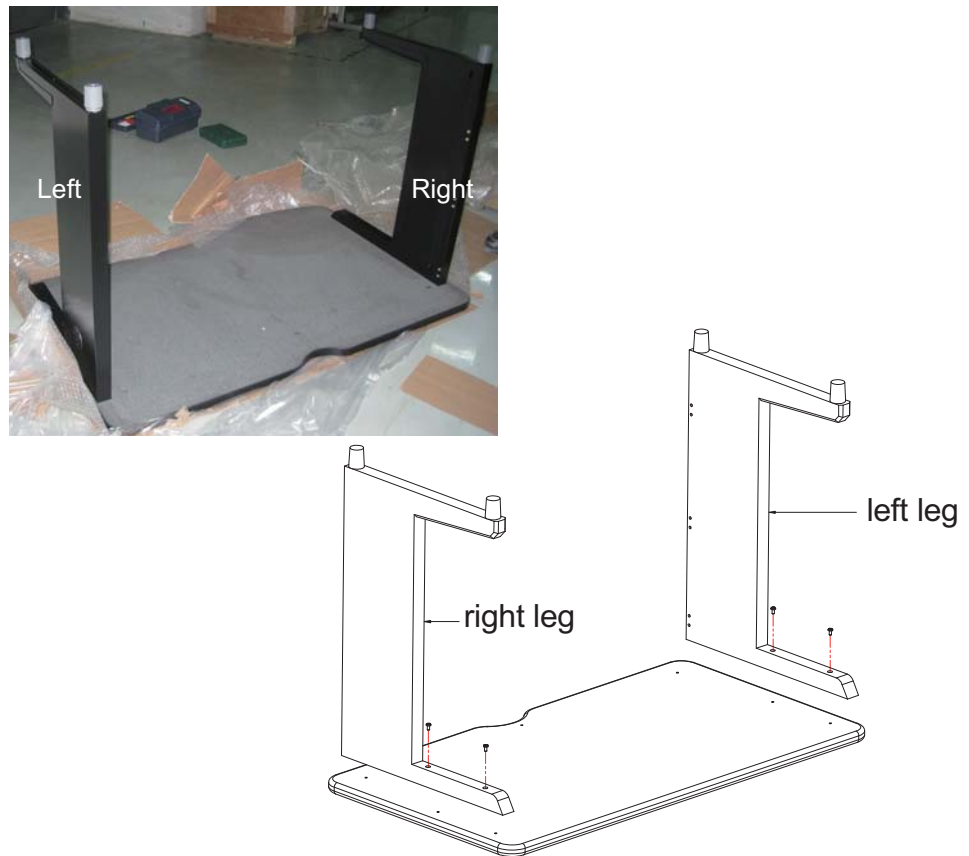


Section 2.0 Aurora SWS Table Assembly and Adjustment

Aurora table is an optional console table.

- 1.) Remove all the transportation packaging from the Aurora Table, use the packing material as cushion and carefully put tabletop on it to avoid scratches.
- 2.) Assemble the left and right legs to the tabletop by screwing 4 screws.

Figure 24 Table Legs Installation



- 3.) Prepare crossbar and two beams.



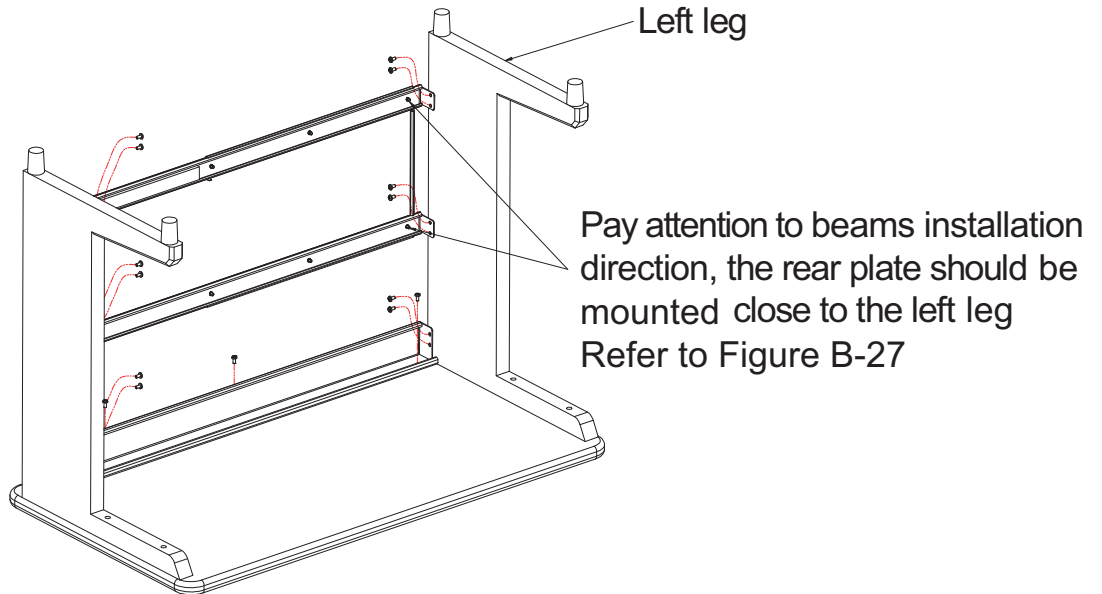
- 4.) Install the upper crossbar by screwing seven screws, three screws for tabletop, four screws for left and right legs.

Figure 25 Crossbar Installation



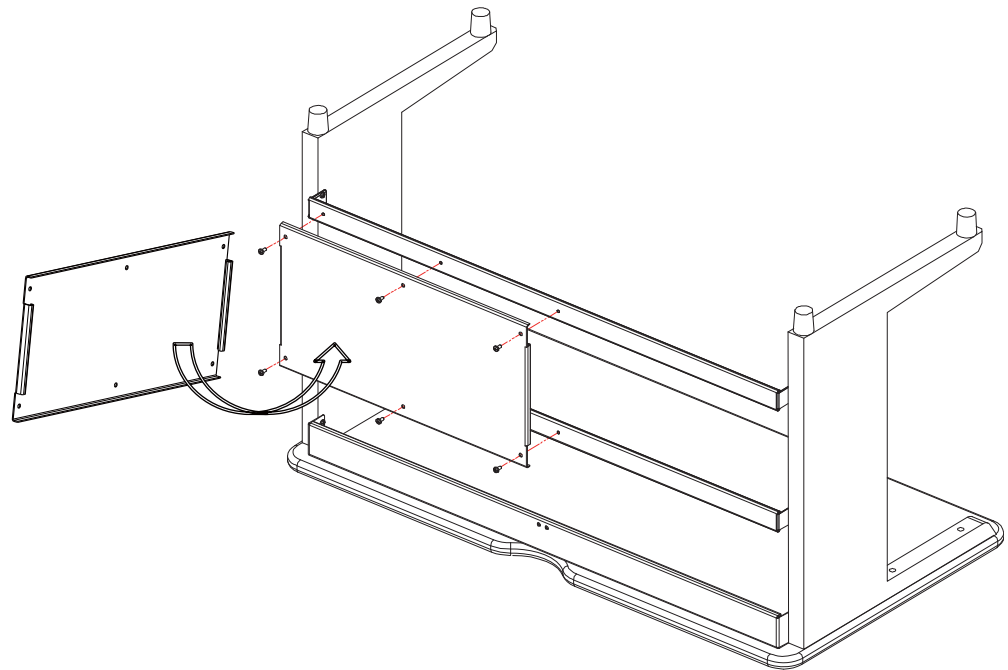
- 5.) Install two beams to the left and right legs as shown in [Figure 26](#). Note to keep all screws loose.

Figure 26 Beams Installation



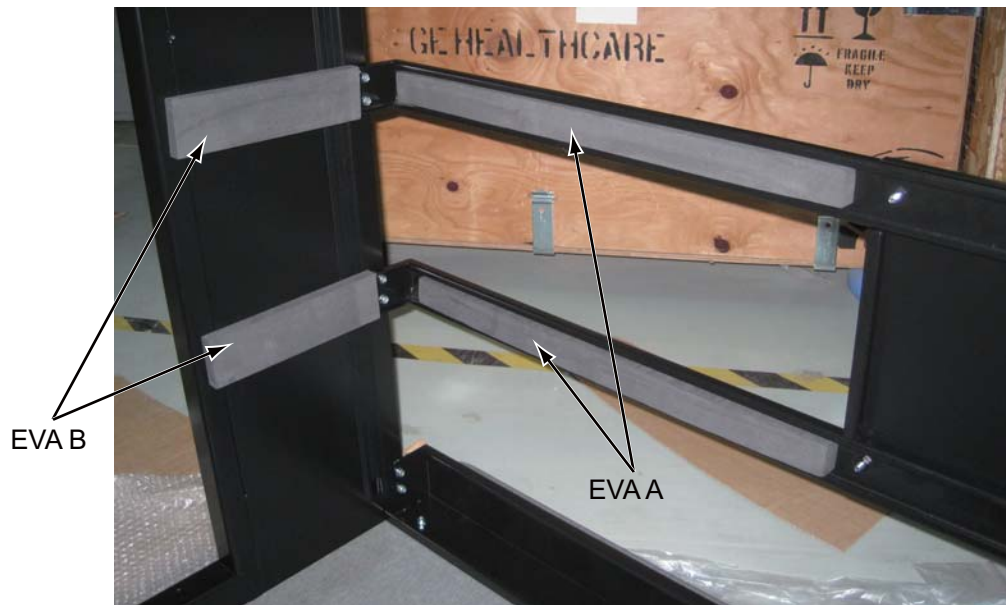
- 6.) Mount the rear plate on two beams by screwing 6 screws.

Figure 27 Rear Plate Installation



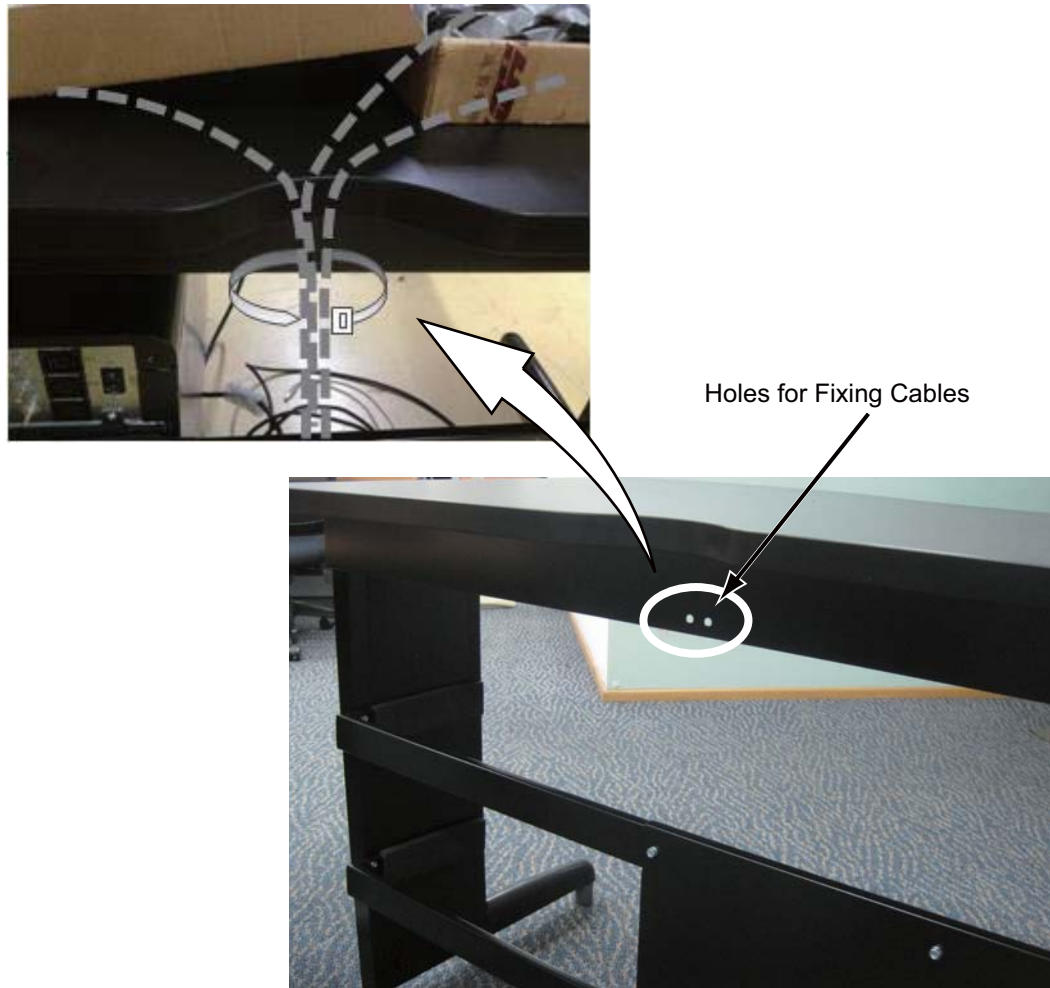
- 7.) Tighten all screws.
8.) Stick EVA A on the teams and EVA B on the right leg as shown in [Figure 28](#).

Figure 28 EVA Attaching



- 9.) Overturn the table, then place monitors and route cables to the table.

Figure 29



Appendix B - Operator Console Information Sheet

Last Revised:	26 July 2007
---------------	--------------

1 Required Information

Autovoice Volume: Left Value (%) _____ Right Value (%) _____

With Applications up, gather the Screen and Film Customize Large Font information.

Film - Patient_Name: _____

Film - Patient_ID: _____

Film - Accession_Number: _____

Screen - Patient_Name: _____

Screen - Patient_ID: _____

Screen- Accession_Number: _____

Record system information as required in one of the following Option lists.

LightSpeed RT16 and Xtra, BrightSpeed Select 4/8/16-slice

With Applications up or down, type {ctuser@hostname} **installOptions** to verify and record the following:

1. SmartPrep
2. 3000 Image Series
3. Helical Tilt
4. Thin Twin Helical
5. Power 440
6. AutomA
7. HiPower
8. 6.3 MHU
9. 90KVA
10. Smart Speed

11. 0.7-Second-Scan
12. 8-slice
13. Patient 16-slice
14. 0_4Speed
15. Wide View
16. Direct-3D
17. Direct-MPR
18. Vari Viewer
19. Connect Pro
20. ExamSplit
21. DentaScan
22. Perfusion 2
23. Perfusion 3
24. Perfusion 3 Neuro
25. SmartStep
26. Realtime CT Fluoro
27. SmartScore Pro
28. Card IQ (Snapshot)
29. EKG Viewer
30. Noise Reduction Filter
31. VolumeViewer
32. AdvVesselAnalysis
33. CTC Base
34. CTC Colonoscopy / CTC Plus
35. CTC Pro
36. Card EP
37. Card IQ2

- 38. Card IQ Plus
- 39. Card IQ Pro
- 40. Data Export
- 41. CopyComposer
- 42. Slice0_625
- 43. Advantage 4D
- 44. 350mA Power Max
- 45. Auto Bone
- 46. Perfusion 3 Multi-organ
- 47. 75KVA Power Option
- 48. ECG Trace
- 49. Helical 120
 - Exam Split Option Info: ves (virtual) hes (hard)
 - PPS Server (SCP) Setup Info:
 - AppTitle (PPS Server AE Title): _____
 - IPAddress (PPS Server IP Address): ____ . ____ . ____ . ____
 - IPPortNo (PPS Server AE Port #): _____
 - HostName (CT Server AE Title): : _____

2 Additional Console/Gantry/Configuration Information

With Applications up or down, type {ctuser@hostname} `cat /usr/g/config/INFO` to verify and record the following:

- Site ID #: _____
- Gateway_HostName: _____
- Gateway_IP: ____ . ____ . ____ . ____
- Gateway_Net Mask: ____ . ____ . ____ . ____
- Gateway_Broadcast:: ____ . ____ . ____ . ____
- Gateway_Default: ____ . ____ . ____ . ____

- Tube Type: (15) (16) (17) Other: _____
- PDU Type: _____
- DASM Type: _____
- KV Values: 80 100 120 140
- Default Archive: DICOM
- Suite ID: _____
- Filter Type: _____
- Printer: _____
Printer IP: ____ . ____ . ____ . ____
- DAS Type: _____
- EKG_CONSIPADDR: _____
- Enable AW Direct Connect (AWDCON)? (if this item is checked): _____
- AWDCIPADDR: _____
- Modified in Room Start (INROOMSCAN): _____
- Gantry Type: _____
- Recon Hardware: GRE
- Dose: **y** = (On) or (On without Total DLP) **n** = (Off)
- Table Type: _____
- # of IG's (NUMIG): 0 ____ 1 ____ 3
- Use NIS? (DomainName): _____
- IP Address of Server (NIS Server): ____ . ____ . ____ . ____
- Change DARC Subnet? (if this item is checked, record address): 169.254.0 or _____
- Next Patient Exam #: _____
- Hardware Configuration Load Selected (DASLIST): _____
- Target Noise Index Table (AUTOMA_INDEX_TABLE_TYPE): Type 1 ____ Type 2 ____ Type 3
- Mobile System: _____
- HIPAA Present (AAA): On Off

Internal Option - Internal Subnet: "this item may not appear" do not modify contents

Advanced Option (if this item is checked):

Enable Network Time Protocol : _____

Primary Server IP address: ____ . ____ . ____ . ____

ConnectPRO Option Info:

CTTITLE: _____

PORTNUM: _____

AETITLE: _____

IPADDR: ____ . ____ . ____ . ____

HRCTTITLE (CT Server AE Title): _____

HRPORNUM (HIS Server AE Port #): _____

HRAETITLE (CT Server AE Title): _____

HRIPADDR (HIS Server IP Address): _____

3 Tube Information

With Applications up, record the DICOM network host information:

1. Go to *Service* icon.
2. Select Error Logs.
3. Select Tube Usage.
4. Record the information via [Details]. For 07BW08.X software, record information from the *Advanced metric* selection.

From [Details], record the following:

Tube Usage #1		
	Patient	Non-Patient
Exam Usage Total (07BW08.X software only)		
Tube mA or Tube mA Seconds		
Scan Seconds		

From Details, record the following:

Tube serial no.: _____

- Tube Insert Model #.: _____
- Housing serial no.: _____
- Housing model #.: _____
- Installed on.: _____

Tube Usage #2		
	Patient	Non-Patient
Exam Usage Total (07BW08.X software only)		
Tube mA or Tube mA Seconds		
Scan Seconds		

From Details, record the following:

- Tube serial no.: _____
- Tube Insert Model #.: _____
- Housing serial no.: _____
- Housing model #.: _____
- Installed on.: _____

Tube Usage #3		
	Patient	Non-Patient
Exam Usage Total (07BW08.X software only)		
Tube mA or Tube mA Seconds		
Scan Seconds		

From Details, record the following:

- Tube serial no.: _____
- Tube Insert Model #.: _____
- Housing serial no.: _____
- Housing model #.: _____
- Installed on.: _____

Tube Usage #4		
	Patient	Non-Patient
Exam Usage Total (07BW08.X software		

only)		
Tube mA or Tube mA Seconds		
Scan Seconds		

From Details, record the following:

- Tube serial no.: _____
- Tube Insert Model #.: _____
- Housing serial no.: _____
- Housing model #.: _____
- Installed on.: _____

Tube Usage #5		
	Patient	Non-Patient
Exam Usage Total (07BW08.X software only)		
Tube mA or Tube mA Seconds		
Scan Seconds		

From Details, record the following:

- Tube serial no.: _____
- Tube Insert Model #.: _____
- Housing serial no.: _____
- Housing model #.: _____
- Installed on.: _____

This Page Intentionally Blank.

Appendix C - xw8600 Host PC BIOS Setup

[\(Click Here for Summary Version\)](#)

1 Personnel Requirements

Required Persons	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	Not Applicable	Not Applicable

2 Overview

The BIOS of the computer is a collection of machine language programs stored as firmware in ROM. The BIOS ROM includes such functions as POST, PCI device initialization, Plug 'n Play support, power management activities, and the BIOS Setup (F10) Utility. The BIOS Setup (F10) Utility enables you to change factory default settings and set or change the system configuration based on the Host PC hardware or system functionality requirements.

The BIOS Flash Code for programming the Host PC BIOS ROM is available on CD-ROM media (see Preliminary Requirements). In addition, the BIOS Flash Code is available from HP in the form of a downloadable CD image (ISO) file, which is used to create the above-mentioned BIOS CD.

Last revised:	17 June 2009
---------------	--------------

3 Preliminary Requirements

3.1 Tools and Test Equipment

Item	Qty	Effectivity	Part#	Manufacturer
V 1.32 HP xw8600 BIOS CD	1	-	5346690	-
Standard FE Toolkit	1	-	-	-

3.2 Consumables

Item	Qty	Effectivity	Part#	Manufacturer
1.44 MB Floppy Diskette	1	-	-	-

3.3 Safety



DANGER

ELECTROCUTION HAZARD

DISCONNECT AC POWER FROM THE HOST PC BEFORE RESEATING OR REPLACING COMPONENTS BECAUSE THERE IS POWER TO THE SYSTEM BOARD EVEN WHEN THE

**HOST PC IS POWERED DOWN.
USE PROPER LOCKOUT / TAGOUT PROCEDURES BEFORE REPLACING THE COMPONENTS.**



NOTICE

Do not turn the Host PC power off while the ROM is saving your BIOS Setup (F10) Utility changes or when flashing new BIOS ROM Code, because the CMOS could become corrupted. After you exit the F10 Setup screen, it is safe to remove all power from the Host PC.

4 Procedure

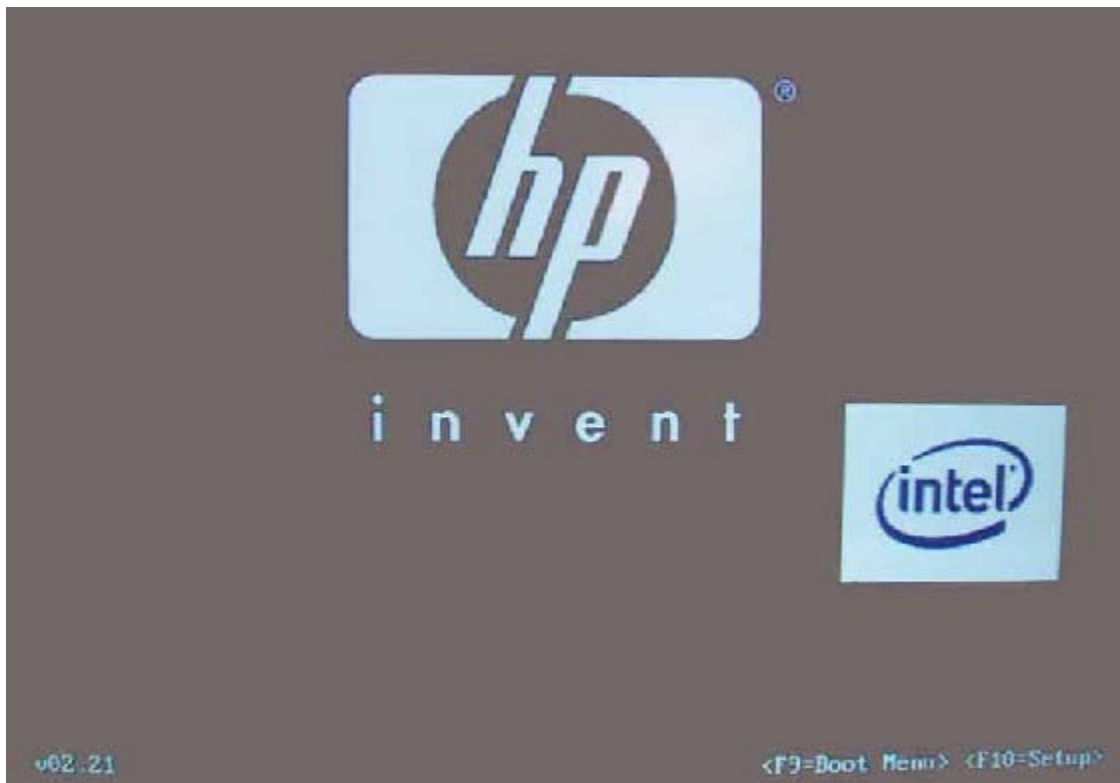
4.1 HP xw8600 BIOS Flashing and Recovery

The following information covers the necessary procedures for flashing and recovering from corrupted or incomplete flashing of the Host PC's BIOS ROM. This is not to be confused with the BIOS Settings discussed later. The BIOS firmware code flashed to the BIOS ROM is the executable portion of the BIOS ROM code, which includes a default set of configuration settings. Later, customize these settings for the Host PC's specific configuration details. You can save and restore these customized settings on floppy drive media for quick restoration in the event of BIOS ROM corruption or BIOS updating.

4.1.1 xw8600 BIOS ROM Flash Update Procedure

1. If there is a diskette in the diskette drive, or a CD in the CD drive, remove the diskette or CD, and power down the Host PC.
2. Insert the BIOS CD into the CD drive.
3. Power on the Host PC.
4. Press <F10> as soon as your display is active and the word *Setup* appears in the lower right corner of the screen. (See [Illustration 1](#).)

Illustration 1: BIOS Splash Screen



NOTE: If you do not press <F10> at the appropriate time, you must try again. Restart the Host PC and press <F10> again to access the utility, or press <Ctrl+Alt+Delete> prior to boot if you miss the opportunity to press <F10>.

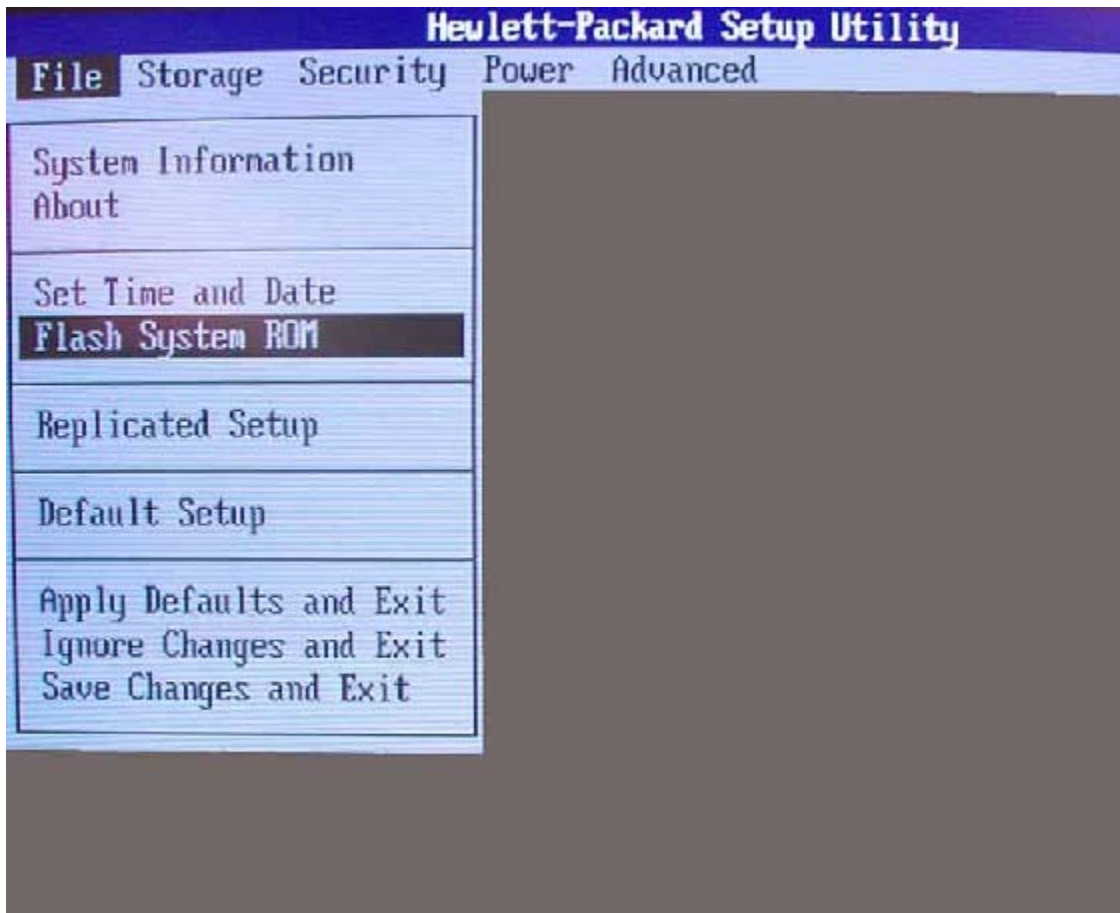
5. Select your language from the list ([Illustration 2](#)) and press <Enter>.
6. Use the left and right arrow keys to select the language option, then press <Enter>.

Illustration 2: BIOS Setup Language Selection Screen



7. In the BIOS Setup (F10) Utility menu, five headings are displayed: *File*, *Storage*, *Security*, *Power*, and *Advanced*. Use the left and right arrow keys to select the appropriate heading, then press <Enter>.
8. Select *File* > *Flash System ROM*. (See [Illustration 3](#).)

Illustration 3: Flash System BIOS ROM Selection



9. Select the *Optical Disk* option and follow instructions on the screen to flash BIOS ROM.
10. Remove the BIOS CD.
11. On the File submenu, select *File > Save Changes and Exit* to reboot the Host PC.

4.1.2 xw8600 BIOS Recovery Procedure

The FailSafe Boot Block ROM allows for system recovery in the unlikely event of a ROM flash failure; for example, if a power failure occurs during a ROM upgrade. The Boot Block is a flash-protected section of the ROM that checks for a valid system ROM flash when the system is powered on, with the following results:

- If the system ROM is valid, the system starts normally.
- If the system ROM fails the validation check, the FailSafe Boot Block ROM provides enough support to start the system recovery from a BIOS CD.

When the Boot Block detects an invalid system ROM, the System Power LED blinks red eight times (once every second), followed by a two-second pause. You also hear eight beeps that correspond to the blinks. In some models, a Boot Block recovery mode message is displayed on the screen. To recover the system after it enters Boot Block recovery mode:

1. If there is a diskette in the diskette drive or a CD in the CD drive, remove the diskette or CD, and power down the Host PC.
2. Insert the BIOS CD into the CD drive.

3. Power on the Host PC.

NOTE: If no BIOS CD is found, you are prompted to insert one and restart the Host PC. If the system successfully starts and successfully reprograms the ROM, then the three keyboard lights illuminate. A rising tone series of beeps also signals successful completion.

4. Remove the BIOS CD and restart the system.

4.2 xw8600 BIOS Setup (F10) Utility Procedure

The BIOS Setup (F10) Utility enables you to do the following:

- Change factory default settings and set or change the system configuration, which might be necessary when you add or remove hardware.
- Determine if all of the devices installed on the workstation are recognized by the system and functioning properly.
- Determine information about the operating environment of the workstation.
- Solve system configuration errors detected but not automatically fixed during the Power-On Self-Test (POST).
- Establish and manage energy-saving time-outs (not supported for Linux platforms).
- Modify or restore factory default settings.
- Set the system date and time.
- Set, view, change, or verify the system configuration, including settings for processor, graphics, memory, audio, storage, communications, and input devices.
- Modify the boot order of installed mass storage devices, such as SATA, IDE (ATA), SAS, SCSI, diskette drives, optical drives, network drives, and LS-120 drives.
- Configure the boot priority of SATA, IDE (ATA), and SAS hard drive controllers.
- Select POST Messages Enabled or Disabled to change the display status of POST messages. POST Messages Disabled suppresses most POST messages, such as memory count, product name, and other non-error text messages. If a POST error occurs, the error is displayed regardless of the mode selected. To manually switch to POST Messages Enabled during POST, press any key (except F1 through F12).
- Secure the integrated I/O functionality, including the serial, USB, or parallel ports, audio, or embedded NIC, so that the I/O functionality cannot be used until they are unsecured.
- Enable or disable removable media boot ability.
- Enable or disable removable media write ability (when supported by hardware).
- Replicate your system setup by saving system configuration information on diskette and restoring it on one or more workstations.

NOTE: You can only open the BIOS Setup (F10) Utility by powering on the Host PC or restarting the system.

To access the BIOS Setup (F10) Utility menu, perform the following steps:

1. Power on or restart the Host PC.
2. Press <F10> as soon as your display is active and the word *Setup* appears in the lower right corner of the screen.

NOTE: If you do not press <F10> at the appropriate time, you must restart the Host PC and try again. Alternatively, you can press <Ctrl+Alt+Delete> prior to boot if you miss the opportunity to press <F10>.

3. Select your language from the list, and press [Enter]. In the BIOS Setup (F10) Utility menu, five headings are displayed: *File*, *Storage*, *Security*, *Power*, and *Advanced*.
4. Use the left and right arrow keys to select the appropriate heading. Use the up and down arrow keys to select the option you want, and press Enter.
5. To apply and save changes, select *File > Save Changes and Exit*. Host PC will reboot.
6. Remove floppy diskette.

NOTE: If you made changes that you do not want applied, select *File > Ignore Changes and Exit*.

To reset to factory settings:

1. Select *File > Default setup > Restore Factory Settings as Default*
2. Press <F10> to accept the changes.
3. Select *Apply Defaults and Exit*. This option restores the original factory system defaults.

4.3 xw8600 BIOS Settings Save and Restore Procedures

Perform the following procedures to save the Host PC's BIOS Settings (after proper configuration is set).

4.3.1 Saving BIOS Settings Using Floppy Drive

1. Reboot the Host PC, and press and hold <F10> until you enter the Computer Setup (F10) Utility.
2. Insert a formatted floppy diskette.
3. Select *File > Replicated Setup > Save to Removable Media* and follow the instructions on the screen to create the BIOS Settings floppy diskette.
4. Select *File > Ignore Changes and Exit*. The Host PC reboots.
5. Remove the floppy diskette.
6. Label the diskette "xw8600 BIOS Configuration Settings."

4.3.2 Restoring BIOS Settings Using Floppy Drive

1. Reboot the Host PC, and press and hold <F10> until you enter the Computer Setup (F10) Utility.

2. Insert saved BIOS Settings floppy diskette.
3. Click *File > Replicated Setup > Restore from Removable Media* and follow the instructions on the screen to restore the BIOS Settings from the floppy diskette.
4. To apply and save changes, select *File > Save Changes and Exit*. The Host PC reboots.
5. Remove the floppy diskette.

4.4 Saving and Restoring BIOS Settings as Default

This section describes the steps necessary to save and restore xw8600 BIOS Settings ([Table 1](#)).

4.4.1 Saving Host PC BIOS Settings as Default

Perform the following steps to save the Host PC BIOS Settings as default settings (settings currently configured and stored in ROM):

1. Reboot the Host PC, and press and hold <F10> until you enter the Computer Setup (F10) Utility.
2. Select *File > Default Setup > Save Current Settings as Default*. Follow the instructions on the screen to create the new Default BIOS Settings.
3. To apply and save changes, select *File > Save Changes and Exit*. The Host PC reboots.

4.4.2 Restoring Host PC BIOS Settings from Default

Perform the following steps to restore the Host PC BIOS settings from default settings (BIOS Settings currently saved in Defaults Settings of ROM):

1. Reboot the Host PC, and press and hold <F10> until you enter the Computer Setup (F10) Utility.
2. Select *File > Apply Defaults and Exit*. Follow the instructions on the screen to apply default BIOS Settings. The Host PC reboots.

4.4.3 Restoring Host PC BIOS Factory Settings as Default

Perform the following steps to restore the Host PC BIOS factory settings (stored in ROM) as default settings:

1. Reboot the Host PC, and press and hold <F10> until you enter the Computer Setup (F10) Utility.
2. Select *File > Default Setup > Restore Factory Settings as Default*. Follow the instructions on the screen to apply factory default BIOS settings.
3. To apply and save changes, select *File > Save Changes and Exit*. The Host PC reboots.

NOTE: Restore BIOS settings per [Table 1](#).

4.5 xw8600 BIOS Settings Clear / Reset Procedure

Although rare, the BIOS Settings portion of the Host PC's BIOS can corrupt, causing Host PC boot issues and POST errors. In the event that you suspect the BIOS Settings is corrupted, perform the following steps to clear/reset the setting to the HP factory default values.

1. Shut down the operating system, and power off the Host PC and any external devices.
2. Disconnect the power cord of the Host PC and any external devices from the power outlets.
3. Disconnect the keyboard, monitor, and any other external devices that are connected to the workstation.
4. Remove the access panel.

NOTE: Pushing the CMOS (BIOS Settings) button resets CMOS values to HP factory defaults and erases any customized information, including passwords, asset numbers, and special settings. It is important to back up the Host PC BIOS settings ([Table 1](#)) before resetting them in case they are needed later. It is also important to back up the Host PC's BIOS Setting before BIOS corruption occurs, otherwise you need to configure the BIOS setting manually.

5. Locate, press, and hold the CMOS button ([Illustration 4](#)) in for five seconds.

NOTE: Be sure that the AC power cord is disconnected from the power outlet. The CMOS button does not clear CMOS if the power cord is connected.

Illustration 4: BIOS Setting (CMOS) Reset Button



1. CMOS
Reset Button

6. Replace the access panel.
7. Reconnect any external devices.
8. Plug in and power on the Host PC.

NOTE: The workstation passwords, and any special configurations, along with the system date and time, must be reset.

9. Restore the saved BIOS Setting from the locally-created BIOS Setting Floppy, or manually configure the BIOS settings.
10. To apply and save changes, select *File > Save Changes and Exit*. The Host PC reboots.

Table 1: xw8600 BIOS Settings

MENUS	SUBMENUS				SETTINGS / INFORMATION (bold = configurable setting)	NOTES
FILE						
	System Information					
		Product Name			HP xw8600 Workstation	HP Model
		SKU Number			RV726AV	Varies based on GEHC product
		Processor Type			Intel® Xeon® CPU E5410 @ 2.33 GHz	CPU model
		Processor Speed			2333/1333MHz	CPU clock / FSB
		Processor 0 Stepping			67A	
		Processor 1 Stepping			67A	
		Cache Size (L1/L2)			64/6144 KB	Varies based on CPU Type
		Memory Size			8192 MB DDR2/667 MHz/Quad Channel	Varies based on GEHC product
		Channel 0			#1:2048M #2:---	Memory slot config
		Channel 1			#3:2048M #4:---	Memory slot config
		Channel 2			#5: 2048M--- #6:---	Memory slot config
		Channel 3			#7: 2048M--- #8:---	Memory slot config
		Integrated MAC 1			00237D46FE7D	Specific to Motherboard On-board NIC
		Integrated MAC 2			00237D46FE7C	
		System BIOS			786F5 v 1.32	Varies based on GEHC product

		Boot Block Date			09/25/2007	ROM date, 64 KB write protected code for BIOS/PC bootup
		Chassis Serial Number			CNG904W0ST	HP factory set
		Asset Tracking Number			CNG904W0ST	HP factory set
	About				System BIOS and Setup Utility Copyright © 1082-2008 Hewlett-Packard Development Company L.P. All Rights Reserved	
	Set Time and Date					
		Time (hh:mm)			11:56	Use tab key to switch between hour/minute
		Date (mm/dd/yyyy)			07/06/2009	Use tab key to switch between day/month/year
	Flash System ROM					Utility for flashing BIOS
		Select Drive			Diskette A:	
					Optical Disk	Use *.iso file to create or order CD
	Replicated Setup					
		Save to Removable Media				Saves BIOS configurable settings, uses floppy disk only
		Restore from Removable Media				Restore saved BIOS config settings from floppy
	Default Setup					
		Save Current Settings as Default				Creates new defaults based on current config
		Restore Factory Settings as Default				Sets HP defaults
	Apply Defaults and Exit					Sets and saves defaults; default settings depend

						on default setup
	Ignore Changes and Exit					Exits and leave config as before
	Save Changes and Exit					Saves current config and exits
STORAGE						Save BIOS configurable settings
	Device Configuration					
		Optical Disk				
			IDE Primary 0 PBDS HD-16DYP			
				Model	PBDS DH-16DYP	Hardware ID, Drive model may change. Several alternatives
				Firmware		Drive firmware revision
				Serial Number	BLANK	Not Used
				Cable Type	40 Conductor	IDE ribbon cable
				Transfer Mode	MAX UDMA	I/O transfer mode
		Diskette				
			Legacy Diskette 0 3.5" 1.44 MB			
				Diskette Type	3.5" 1.44 MB	
		Default Values				
			IDE/SATA	Multisector Transfers	16	
				Transfer Mode	Max UDMA	
				Translation Mode	Automatic	
	Storage Options					
		Removable Media Boot			Enable	
		Legacy Diskette Write			Enable	
		BIOS DMA Data Transfers			Enable	
		SATA Emulation			Separate IDE Controller	

		SATA PORT0			Enable	
		SATA PORT1			Enable	
		SATA PORT2			Enable	
		SATA PORT3			Enable	
		SATA PORT4			Enable	
		SATA PORT5			Enable	
		SATA/eSATA SPEED PORT4 Setup			GEN2/3.0Gbps (Internal Only)	
		SATA/eSATA SPEED PORT5 Setup			GEN2/3.0Gbps (Internal Only)	
	Boot Order				Optical Drive	1st boot device
					Diskette Drive	2nd boot device
					USB Drive	3rd boot device
					Hard Drive Integrated IDE #1130 ID00 LUN0 FUJITSU MBA3147RC #1130 ID01 LUN0 FUJITSU MBA3147RC #1130 ID02 LUN0 FUJITSU MBA3147RC #1130 ID03 LUN0 FUJITSU MBA3147RC	4th boot device
					Broadcom Ethernet controller 1	
					Broadcom Ethernet controller 2	
					Intel Ethernet controller	
SECURITY						
	Setup Password					
		Enter New Setup Password			Blank	Not Used
		Enter New Password Again			Blank	Not Used
	Power-On Password					
		Enter New Power-On			Blank	Not Used

		Password				
		Enter New Password Again			Blank	Not Used
	Device Security					
		Serial Port			Device Available	
		Parallel Port			Device Available	
		All USB Ports			Device Available	
		Front USB Ports			Device Available	
		System Audio			Device Available	
		IDE Controller Security			Device Available	
		SATA Controller Security			Device Available	
		IEEE 1394 Controller			Device hidden	
		Network Controller			Device Available	
		SAS Controller			Device Available	
		Embedded Security Device			Device Hidden	Class C Hasp on USB Port
	Network Service Boot					
		Network Service Boot			Disable	
	System IDs					
		Enter Asset Tag			2UAA638096S	Leave default asset tag
		Enter Ownership Tag			Blank	Not Used
		Enter UUID			C4568D64-494D-11DB-BBDA-082AE3D00017	
		Keyboard			US	Configurable for attached keyboard
	OS Security					
		Data Execution Prevention			Disable	
		Intel Virtualization Technology			Disable	

POWER						
	OS Power Management					
		Runtime Power Management				Enable
		Idle Power Savings				Extended
		Idle Power Savings (C2 Extended)				Extended
		ACPI S3 Hard Disk Reset				Disable
		ACPI S3 PS2 Mouse Wake Up				Disable
		USB Wake on Device Insertion				Disable
	Hardware Power Management					
		SATA Power Management				Enable
	Thermal					
		Fan Idle Mode				Minimum (one bar) Adjust level to minimum
ADVANCE						
	Power-On Options					
		POST Messages				Disable Permitted to "enable" to see hardware faults
		F1 Prompt on recoverable errors				Disable if requested, Indicates configuration change or hardware fault
		F9 Prompt				Displayed Choose boot drive
		F10 Prompt				Displayed BIOS Setup
		F11 Prompt				Displayed
		F12 Prompt				Displayed
		Factory Recovery Boot Support				Disable
		Option ROM Prompt				Enable
		Remote Wakeup Boot Source				Local Hard Drive
						Host PC will

		After Power Loss			On	restart once power is returned
		POST Delay (in seconds)			None	
		Setup Browse Mode			Enable	
	BIOS Power-On					
		Sunday			Disable	
		Monday			Disable	
		Tuesday			Disable	
		Wednesday			Disable	
		Thursday			Disable	
		Friday			Disable	
		Saturday			Disable	
		Time (hh:mm)			00:00	
	Processors					
		Limit CPUID Maximum Value to 3			Disable	
	Onboard Devices					
		Message: Select the legacy Device's IRQ, DMA, I/O Range, or Disable. The settings may not take effect for all operating systems. To hide a device from OS, see Security/Device Security.	Serial Port		3F8-3FF, IRQ 4	
			Parallel Port		378-37F, IRQ 7, DMA 3	
			Diskette Controller		3F0-3F7, IRQ 6, DMA 2	
	Chipset/Memory					
		PCI SERR# Generation			Enable	
		PCI VGA Palette Snooping			Disable	
		MCH Error Handling			SMI (reboot)	
		Memory Write Combining			Enable	
	Device Options					
		Printer Mode			EPP+ECP	
		Num Lock State at Power-On			Off	

		S5 Wake on LAN			Disable
		Unique Sleep State Blink Rates			Disable
		Monitor Tracking			Disable
		NIC PXE Option ROM Download			Disable
		SAS Option ROM Download			Enable
		PCIX Secondary Latency Timer			default
		PXH-V Secondary Latency Timer			default
		SAS Latency Timer			default
		Peer to Peer Reads			Disable
		Fast Delay Transaction Timer			Disable
	Slot 1 - PCI				
		Slot 1 Option ROM Download - PCI			Enable
		Slot 1 Latency Timer			default
	Slot 2 - PCIe x16				
		Slot 2 Option ROM Download - PCIe x16			Enable
	Slot 3 - PCIe x8 (4)				
		Slot 3 Option ROM Download - PCIe x8 (4)			Enable
	Slot 4 - PCIe x16				
		Slot 4 Option ROM Download - PCIe x16			Enable
	Slot 5 - PCIe X8				

	(1)				
		Slot 5 Option ROM Download - PCIe x8 (1)			Enable
	Slot 6 - PCIe X8 (4)				
		Slot 6 Option ROM Download - PCIe X8 (4)			Enable
	Slot 7 - PCI-X 133				
		Slot 7 Speed			Auto
		Slot 7 Option ROM Download - PCI-X 133			Enable
		Slot 7 Latency Timer			default

5 Finalization

After running any of the procedures in this document, ensure that BIOS settings conform to those in [Table 1](#).

Appendix D - DVD-RAM Cartridge Disassembly/ Assembly Procedure

1 Applied to:

All CT system using PMT 5270510-10.

2 Purpose:

This service note is intended to inform the service personnel (FE, RSE/ZSE, OLE) of information about DVD-RAM cartridge disassembly/assembly. SV document will be updated on next release.

3 Errata:

Please refer to the following procedure for DVD-RAM cartridge disassembly/assembly. This procedure is used for option key installation with new PMT (5270510-10), that does not have DVD-RAM drive. In this situation, DVD-RW drive is used instead of DVD-RAM drive.

In case of maxell

- 1.) Remove the 2 pins as shown in the following picture.

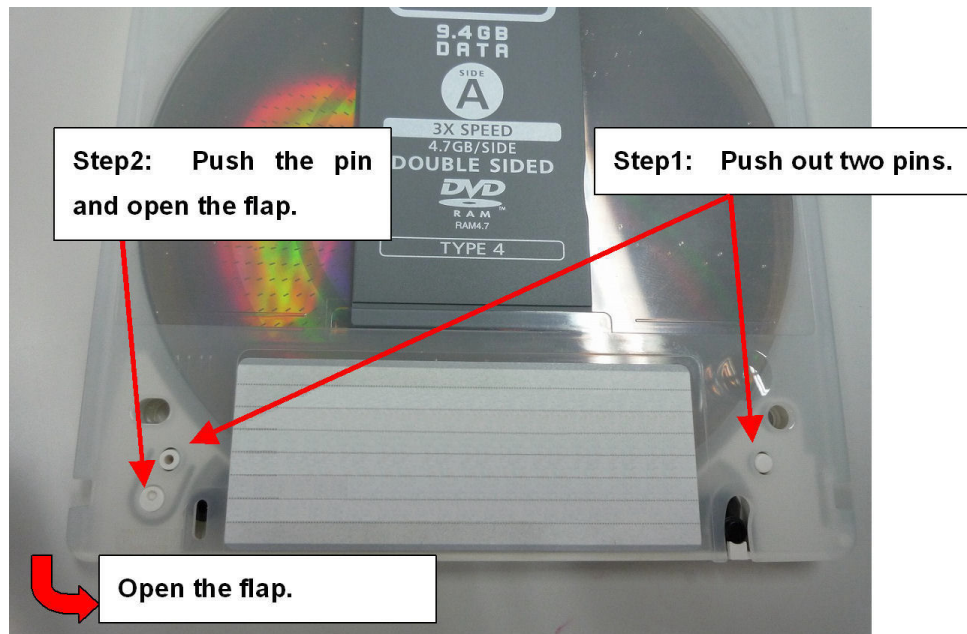


Figure 1: Locking Pins

- 2.) Put the stick (like ball point pen) and pull out the cartridge flap.



Figure 2: Cartridge Flap

- 3.) Remove the DVD media.



Figure 3: DVD Media

- 4.) Insert the media into the original cartridge for identification after usage of option installation.



Figure 4: Media Inserting

- 5.) Close and lock the flap, keep the media in a cabinet.

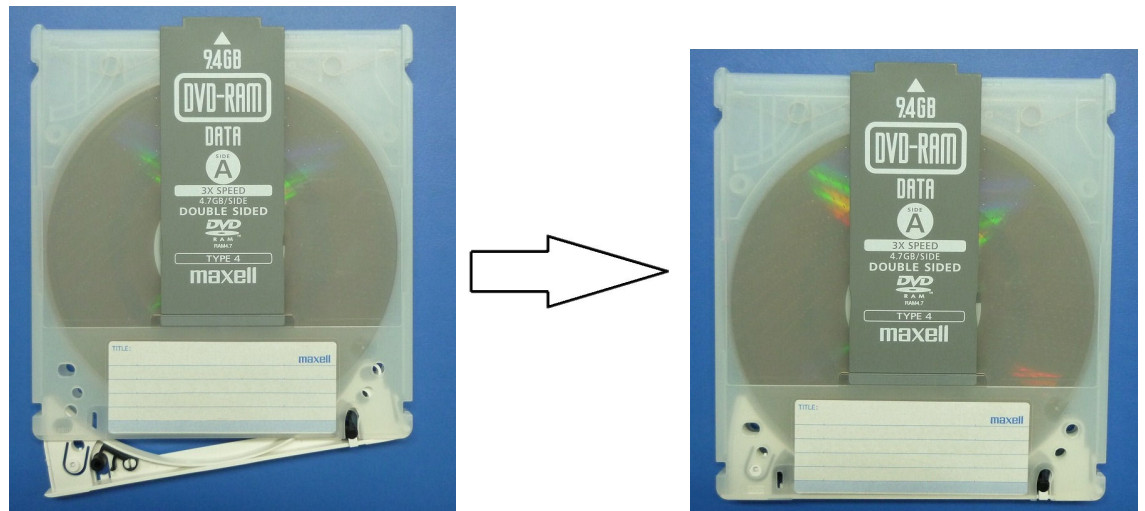


Figure 5: Flap Closing

In case of Panasonic or Verbatim

- 1.) Remove the 2 pins as shown in the following picture.

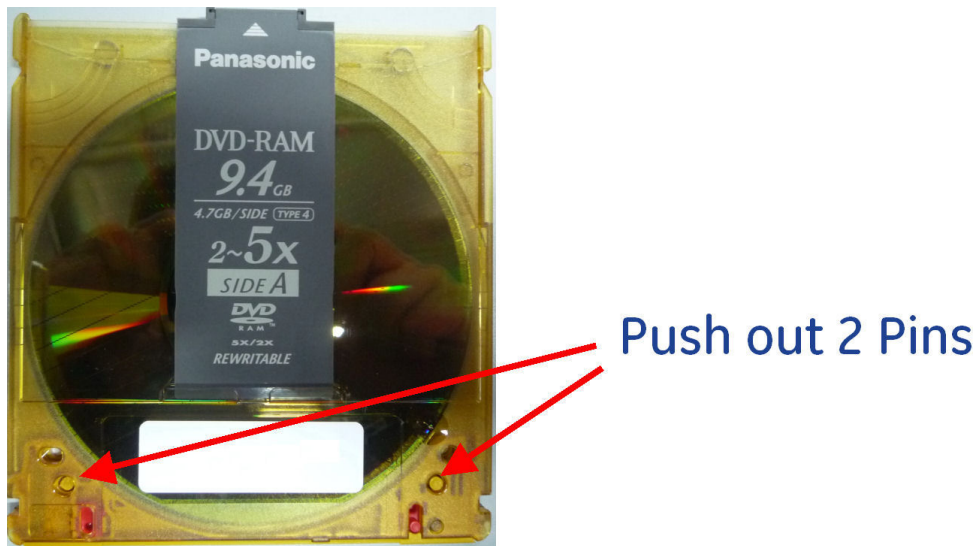


Figure 6: Locking Pins

- 2.) Push the stick at right side of DVD RAM (with A side upwards) and swing out the cartridge flap.



Figure 7: Stick at the Right Side

- 3.) Remove the DVD media.



Figure 8: DVD Media

- 4.) Insert the media into the original cartridge for identification after usage of option installation.
- 5.) Close and lock the flap.

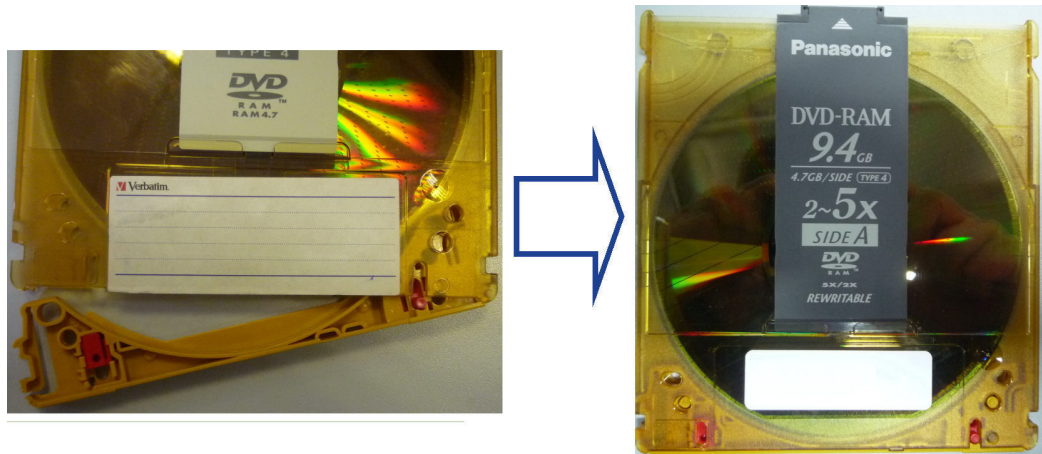


Figure 9: Flap Closing

This Page Intentionally Blank.

www.gehealthcare.com

