

GE Healthcare

GOC5 Hardware Replacement Kit (Z840) Installation Manual

OPERATING DOCUMENTATION



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Rev 1

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IMPORTANT PRECAUTIONS

LANGUAGE

<p>ПРЕДУПРЕЖДЕНИЕ (BG)</p>	<p>Това упътване за работа е налично само на английски език.</p> <ul style="list-style-type: none"> • 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 пациента в резултат на токов удар, механична или друга опасност.
<p>警告 (ZH-CN)</p>	<p>本维修手册仅提供英文版本。</p> <ul style="list-style-type: none"> • 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。
<p>警告 (ZH-HK)</p>	<p>本服務手冊僅提供英文版本。</p> <ul style="list-style-type: none"> • 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。
<p>警告 (ZH-TW)</p>	<p>本維修手冊僅有英文版。</p> <ul style="list-style-type: none"> • 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。
<p>UPOZORENJE (HR)</p>	<p>Ovaj servisni priručnik dostupan je na engleskom jeziku.</p> <ul style="list-style-type: none"> • 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.
<p>VÝSTRAHA (CS)</p>	<p>Tento provozní návod existuje pouze v anglickém jazyce.</p> <ul style="list-style-type: none"> • 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)	<p>Denne servicemanual findes kun på engelsk.</p> <ul style="list-style-type: none">• 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 uden at læse og forstå denne servicemanual.• Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk stød, mekanisk eller anden fare for teknikeren, operatøren eller patienten.
WAARSCHUWING (NL)	<p>Deze onderhoudshandleiding is enkel in het Engels verkrijgbaar.</p> <ul style="list-style-type: none">• Als het onderhoudspersoneel een andere taal vereist, dan is de klant verantwoordelijk voor de vertaling ervan.• Probeer de apparatuur niet te onderhouden alvorens 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)	<p>This service manual is available in English only.</p> <ul style="list-style-type: none">• If a customer's service provider requires a language other than English, it is the customer's responsibility to provide translation services.• Do not attempt to service the equipment unless this service manual has been consulted and is understood.• Failure to heed this warning may result in injury to the service provider, operator or patient from electric shock, mechanical or other hazards.
HOIATUS (ET)	<p>See teenindusjuhend on saadaval ainult inglise keeles.</p> <ul style="list-style-type: none">• 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)	<p>Tämä huolto-ohje on saatavilla vain englanniksi.</p> <ul style="list-style-type: none">• 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)	<p>Ce manuel d'installation et de maintenance est disponible uniquement en anglais.</p> <ul style="list-style-type: none">• Si le technicien d'un client a besoin de ce manuel dans une langue autre que l'anglais, il incombe au client de le faire traduire.• Ne pas tenter d'intervenir sur les équipements tant que ce manuel d'installation et de maintenance 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.

<p>WARNUNG (DE)</p>	<p>Diese Serviceanleitung existiert nur in englischer Sprache.</p> <ul style="list-style-type: none"> • 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.
<p>ΠΡΟΕΙΔΟΠΟΙΗΣΗ (EL)</p>	<p>Το παρόν εγχειρίδιο σέρβις διατίθεται μόνο στα αγγλικά.</p> <ul style="list-style-type: none"> • Εάν ο τεχνικός σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει τις υπηρεσίες μετάφρασης. • Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό αν δεν έχετε συμβουλευτεί και κατανοήσει το παρόν εγχειρίδιο σέρβις. • Αν δεν προσέξετε την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στον τεχνικό σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.
<p>FIGYELMEZTETÉS (HU)</p>	<p>Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el.</p> <ul style="list-style-type: none"> • 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.
<p>AÐVÖRUN (IS)</p>	<p>Þessi þjónustuhandbók er aðeins fáanleg á ensku.</p> <ul style="list-style-type: none"> • 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.
<p>AVVERTENZA (IT)</p>	<p>Il presente manuale di manutenzione è disponibile soltanto in lingua inglese.</p> <ul style="list-style-type: none"> • Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione. • Procedere alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto. • Il mancato rispetto della presente avvertenza potrebbe causare lesioni all'addetto alla manutenzione, all'operatore o ai pazienti provocate da scosse elettriche, urti meccanici o altri rischi.
<p>警告 (JA)</p>	<p>このサービスマニュアルには英語版しかありません。</p> <ul style="list-style-type: none"> ・ 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。

<p>경고 (KO)</p>	<p>본 서비스 매뉴얼은 영어로만 이용하실 수 있습니다.</p> <ul style="list-style-type: none"> • 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객의 책임입니다. • 본 서비스 매뉴얼을 참조하여 숙지하지 않은 이상 해당 장비를 수리하려고 시도하지 마십시오. • 본 경고 사항에 유의하지 않으면 전기 쇼크, 기계적 위험, 또는 기타 위험으로 인해 서비스 제공자, 사용자 또는 환자에게 부상을 입힐 수 있습니다.
<p>BRĪDINĀJUMS (LV)</p>	<p>Šī apkopes rokasgrāmata ir pieejama tikai angļu valodā.</p> <ul style="list-style-type: none"> • Ja klienta apkopes sniedzējam nepieciešama informācija citā valodā, klienta pienākums ir nodrošināt tulkojumu. • Neveiciet aprīkojuma apkopi bez apkopes rokasgrāmatas izlasīšanas un saprašanas. • Šī brīdinājuma neievērošanas rezultātā var rasties elektriskās strāvas trieciena, mehānisku vai citu faktoru izraisītu traumu risks apkopes sniedzējam, operatoram vai pacientam.
<p>ĮSPĖJIMAS (LT)</p>	<p>Šis eksploatavimo vadovas yra tik anglų kalba.</p> <ul style="list-style-type: none"> • Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, suteikti vertimo paslaugas privalo klientas. • Nemėginkite atlikti įrangos techninės priežiūros, jei neperskaitėte ar nesupratote šio eksploatavimo vadovo. • Jei nepaisysite šio įspėjimo, galimi paslaugų tiekėjo, operatoriaus ar paciento sužalojimai dėl elektros šoko, mechaninių ar kitų pavojų.
<p>ADVARSEL (NO)</p>	<p>Denne servicehåndboken finnes bare på engelsk.</p> <ul style="list-style-type: none"> • Hvis kundens serviceleverandør har bruk for 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.
<p>OSTRZEŻENIE (PL)</p>	<p>Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim.</p> <ul style="list-style-type: none"> • Jeśli serwisant klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta. • Nie próbować serwisować urządzenia bez zapoznania się z niniejszym podręcznikiem serwisowym i zrozumienia go. • Niezastosowanie się do tego ostrzeżenia może doprowadzić do obrażeń serwisanta, operatora lub pacjenta w wyniku porażenia prądem elektrycznym, zagrożenia mechanicznego bądź innego.
<p>ATENÇÃO (PT-BR)</p>	<p>Este manual de assistência técnica encontra-se disponível unicamente em inglês.</p> <ul style="list-style-type: none"> • Se outro serviço de assistência técnica solicitar a tradução deste manual, caberá ao cliente fornecer os serviços de tradução. • Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica. • A não observância deste aviso pode ocasionar ferimentos no técnico, operador ou paciente decorrentes de choques elétricos, mecânicos ou outros.

<p>ATENÇÃO (PT-PT)</p>	<p>Este manual de assistência técnica só se encontra disponível em inglês.</p> <ul style="list-style-type: none"> • Se qualquer outro serviço de assistência técnica solicitar este manual noutra língua, 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.
<p>ATENȚIE (RO)</p>	<p>Acest manual de service este disponibil doar în limba engleză.</p> <ul style="list-style-type: none"> • 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.
<p>ОСТОРОЖНО! (RU)</p>	<p>Данное руководство по техническому обслуживанию представлено только на английском языке.</p> <ul style="list-style-type: none"> • Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует самостоятельно обеспечить перевод. • Перед техническим обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения. • Несоблюдение требований данного предупреждения может привести к тому, что специалист по техобслуживанию, оператор или пациент получит удар электрическим током, механическую травму или другое повреждение.
<p>UPOZORENJE (SR)</p>	<p>Ovo servisno uputstvo je dostupno samo na engleskom jeziku.</p> <ul style="list-style-type: none"> • Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilačke usluge. • Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo. • Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo.
<p>UPOZORNENIE (SK)</p>	<p>Tento návod na obsluhu je k dispozícii len v angličtine.</p> <ul style="list-style-type: none"> • Ak zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka. • Nepokúšajte sa o obsluhu zariadenia, kým si neprečítate návod na obsluhu a neporozumiete mu. • Zanedbanie tohto upozornenia môže spôsobiť zranenie poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, mechanické alebo iné ohrozenie.

ATENCIÓN (ES)	<p>Este manual de servicio sólo existe en inglés.</p> <ul style="list-style-type: none">• 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)	<p>Den här servicehandboken finns bara tillgänglig på engelska.</p> <ul style="list-style-type: none">• 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.
OPOZORILO (SL)	<p>Ta servisni priročnik je na voljo samo v angleškem jeziku.</p> <ul style="list-style-type: none">• 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.
DİKKAT (TR)	<p>Bu servis kılavuzunun sadece ingilizcesi mevcuttur.</p> <ul style="list-style-type: none">• Eğer müşteri teknisyeni bu kılavuzu ingilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.• Servis kılavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.• Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent, have notation "damage in shipment" written on all copies of the freight or express bill before delivery is accepted or "signed for" by a General Electric representative or a hospital receiving agent. Whether noted or concealed, damage MUST be reported to the carrier immediately upon discovery, or in any event, within 14 days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this 14 day period.

To file a report:

- Call 1-800-548-3366 and use option 8.
- Fill out a report on <http://us44hdd21/sctq/InstallFulfill/InstalFulfillment.htm>
- Contact your local service coordinator for more information on this process.

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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 Healthcare PQR Process to report all omissions, errors, and defects in this publication.

Revision History

Revision	Date	Reason for change
1	October 24, 2019	Initial Release

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List of Effected Pages

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1 through 86	1				

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Preface

Publication Conventions

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

Section 1.0

Safety & Hazard Information

1.1 Text and Character Representation

Within this publication, different paragraph and character styles have been used to indicate potential hazards. Paragraph prefixes, such as hazard, caution, danger and warning, are used to identify important safety information. Text (Hazard) styles are applied to the paragraph contents that is applicable to each specific safety statement. Words describe the type of potential hazard that may be encountered and are placed immediately before the paragraph it modifies. Safety information will normally include:

- Type of potential Hazard
- Nature of potential injury
- Causative condition
- How to avoid or correct the causative condition

EXAMPLES OF HAZARD STATEMENTS USED

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



**DANGER
SEVERE
PERSONAL
INJURY**

DANGER IS USED WHEN A HAZARD EXISTS WHICH WILL CAUSE SEVERE PERSONAL INJURY OR DEATH IF INSTRUCTIONS ARE IGNORED. THEY CAN INCLUDE:


- **ELECTROCUTION**
- **CRUSHING**
- **RADIATION**




**WARNING
SERIOUS
PERSONAL
INJURY**

WARNING IS USED WHEN A HAZARD EXISTS WHICH COULD OR CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH IF INSTRUCTIONS ARE IGNORED. THEY CAN INCLUDE:

- **POTENTIAL FOR SHOCK**
- **EXPOSED WIRES**
- **FAILURE TO TAG AND LOCKOUT SYSTEM POWER COULD ALLOW FOR UN-COMMANDED MOTION.**


 **CAUTION**
Minor Personal Injury
Caution is used when a hazard exists which can or could cause minor injury to self or others if instructions are ignored. They include for example:










- Loss of critical patient data
- Crush or pinch points
- Sharp objects

 **NOTICE**
Property Damage Only
Notice is used when a hazard is present that can cause property damage but has absolutely no personal injury risk. They can include:

- Disk drive will be destroyed
- Internal mechanical damage, such as to the x-ray tube
- Coasting the rotor through resonance.

1.2 Graphical Representation

Important information will always be preceded by the exclamation point  contained within a triangle, as seen throughout the Preface chapter. In addition to text, several different graphical icons (symbols) may be used to make you aware of specific types of hazards that could possibly cause harm.

<p>ELECTRICAL</p>  <p>LASER</p>  <p>LASER LIGHT</p>	<p>HAZARDS MECHANICAL</p>  <p>HEAT</p> 	<p>RADIATION</p>  <p>PINCH</p> 
<p>AVOID STATIC ELECTRICITY</p> 	<p>PROCEDURAL TAG AND LOCK OUT</p> 	<p>WEAR EYE PROTECTION</p>  <p>EYE PROTECTION</p>

Section 2.0 Publication Conventions

2.1 General Paragraph and Character Styles

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

EXAMPLES OF PREFIXES USED FOR GENERAL INFORMATION

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

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

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

Comment: Represents "additional" information that may or may not be relevant to your situation.

2.2 Page Layout

The diagram illustrates the layout of two pages from a manual. The left page is titled 'Publication Part Number & Revision Number' and the right page is titled 'Publication Title'. Both pages show a header with 'GE Medical Systems Intercom 2625F98-901, Revision 1' and 'GE Medical Systems Service Manual'. The left page contains sections 3.2.2 and 3.2.3, both preceded by a triangle symbol (⚠) and a 'DANGER' icon. Section 3.2.2 is titled 'Intercom Circuit Board' and section 3.2.3 is titled 'Rear Microphone'. The right page contains section 3.2.4, preceded by a triangle symbol (⚠), titled 'Remote Intercom X Board'. Below the title is a diagram of the board labeled 'Figure 11-1 REMOTE INTERCOM X BOARD'. Section 3.2.5 is titled 'Remote Intercom X Board Test Points' and section 3.2.6 is titled 'Remote Intercom X Board LEDs'. Both pages have a footer with 'Page 882' and 'Chapter 11 - Safety'.

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

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

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

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

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

Headers and footers in this publication are designed to allow you to quickly identify your location. The document's part number and revision number appears in every header on every page. Odd

numbered page footers indicate the current chapter, its title and current page number. Even page footers show the current section and its title, as well current page number.

2.3 Computer Screen Output/Input Text Character Styles

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

Example:
Fixed Output

This paragraph's fonts represents computer generated screen "fixed" output. It's output is fixed from the sense that it does not vary from application to application. It's the most commonly used style used to indicate filenames, paths and text that does not change from system to system. The character style used is a fixed width such as courier.

Example:
Variable Output

This paragraph's font represents computer screen output that is "variable". Its used to represent output that varies from application to application or system to system. Variable output is sometimes found placed between greater than and lesser than operators for clarification. For example: <variable_ouput> or <3.45.120.3>. In both cases, the < and > operators are not part of the actual input.

Example:
Fixed Input

This paragraph's font represents fixed input. It's computer input that is typed-in via the keyboard. Typed input that does not vary from application to application or system to system. Fixed text the user is required to supply as input. For example: cd /usr/3p

Example:
Variable Input

This paragraph's font represents computer input that can vary from application to application or system to system. With variable text, the user is required to supply system dependent input or information. Variable input sometimes is placed between greater-than and less-than operators. For example: <variable_input>. In these cases, the (<>) operators would be dropped prior to input. For example: ypcat hosts | grep <3.45.120.3> would be typed into the computer as ypcat hosts | grep 3.45.120.3 without the greater-than and less-than operators.

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

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

Example:
Hard Keys

A power switch **ON/OFF** or a keyboard key like **ENTER** is indicated by applying a character style that uses both over and under-lined bold text that is bold. This is a hard key.

Example:
Soft Keys

Whereas the computer MENU button that you would click with your mouse or touch with your hand uses over and under-lined regular text. This is a soft key.

END OF SECTION

Chapter 1

Introduction

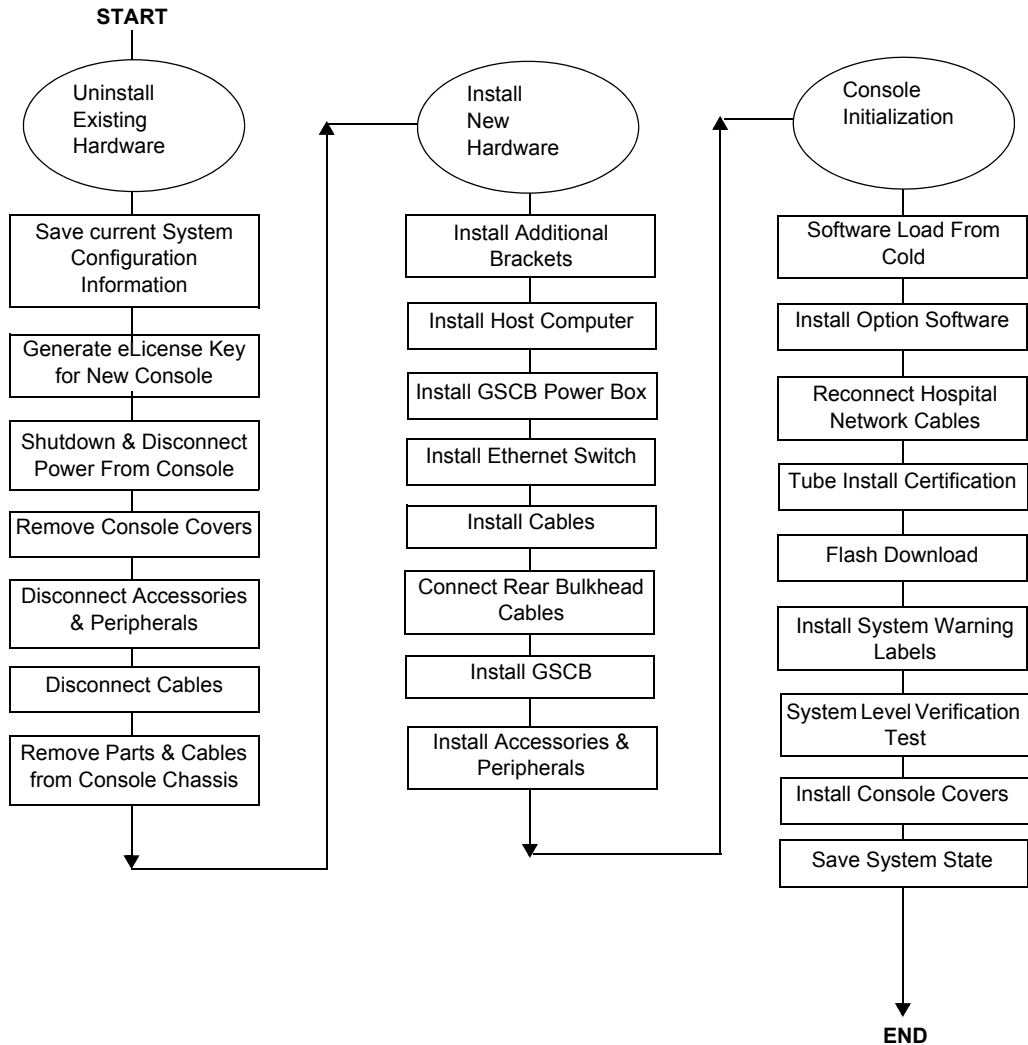
Section 1.0 Personnel Requirements

Required Persons	Preliminary Reqs	Procedure	Finalization
1	Timing Not Applicable	7 hours	1 hour

Section 2.0 Overview

This document describes and illustrates the steps necessary to install hardware replacement kit to LightSpeed VCT GOC5 console. Refer to the flowchart in below for the overall replacement process.

Figure 1-1 GOC5 Hardware Replacement Kit Installation Flowchart



Section 3.0 Preliminary Requirements

3.1 Tools and Test Equipment

Item	Qty.	Effectivity	Part No.	Manufacturer
Torque Wrench	1	-	-	-
Standard FE Tool Kit	1	-	-	-
Power Screw driver	1	-	-	-
Hex Bits for Power screw driver	-	-	-	-

3.2 Consumables

Item	Qty.	Effectivity	Part No.	Manufacturer
Tie-wraps	30	-	5394300-3	Included in the kit

3.3 Replacement Parts

Item	Qty.	Effectivity	Part No.	Manufacturer
Refer to Table 2-1 on page 27	-	-	-	-

3.4 Safety



DANGER

ELECTROCUTION HAZARD
 HIGH VOLTAGE PRESENT.



USE PROPER LOCKOUT / TAGOUT PROCEDURES WHEN INSTRUCTED, WHILE PERFORMING THIS HARDWARE REPLACEMENT PROCEDURE.



WARNING

FINGER PINCH AND SHARP EDGES HAZARD



DUE TO TIGHT CLEARANCES OF RACK MOUNTED COMPUTERS AND SHARP EDGES OF CHASSIS COMPONENTS, FINGER AND HAND INJURIES CAN OCCUR.

WEAR HAND PROTECTION GLOVES AND PAY ATTENTION TO HAND AND FINGER LOCATIONS AT ALL TIMES.



NOTICE



TO PREVENT DAMAGE TO COMPONENTS WITHIN THE CONSOLE, OBSERVE THE FOLLOWING ESD PRECAUTIONS: WEAR A STATIC STRAP TO ENSURE THAT ANY ACCUMULATED ELECTROSTATIC CHARGE IS DISCHARGED FROM YOUR BODY TO GROUND. CREATE A COMMON GROUND FOR THE EQUIPMENT YOU ARE WORKING ON BY CONNECTING THE STATIC-FREE MAT, STATIC STRAP AND PERIPHERAL UNITS TO THAT PIECE OF EQUIPMENT.

FOR FURTHER INFORMATION REGARDING ESD PROTECTION, REFER TO THE SAFETY CHAPTER IN THIS PUBLICATION.



NOTICE

FOLLOW ALL REQUIRED SAFETY AND PPE PROCEDURES CUSTOMARY FOR YOUR ORGANIZATION WHEN WORKING ON THIS PRODUCT.



3.5 Required Conditions

Condition	Reference	Effectivity
This replacement applies only to LightSpeed VCT CT Systems with software version of 11HW12.5 (Quatra Dose Check) or 12HW14.6 (Epsilon). If system software version is different from them, upgrade the software at first.	-	-
Existing option software keys cannot be restored after the replacement. Generate new option key by eLicense web according to section 1.3 on page 31	-	-
Only trained service personnel should service the GE CT Scanner.	-	-

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Chapter 2

Replacement Procedure

Section 1.0 Procedure

1.1 Inventory Replacement Kits

Before starting replacement and console disassembly, check contents of replacement Kit to make certain all supplied parts are present and have not been damaged in shipping. (Refer to Table below)

Item Type	Part No.	Descriptions	Qty.
FRU Parts	8770000-42	HP Z840 E5-2620v3 32GB Nvidia SAS HDD for CJ	1.0
FRU Parts	5368687	Global Scan Control Box Assembly with Metal Plate	1.0
FRU Parts	5763460	USB 2 Button scroll mouse	1.0
FRU Parts	5139480-4	Console network switch (CNS)	1.0
FRU Parts	5266222-2	Console Power BOX for GSCB	1.0
FRU Parts	5270510-22	SINGLE BAY PERIPHERAL TOWER WITH DVD-RW DRIVE	1.0
FRU Parts	5169069-7	CT Use Eizo 19inch LCD Monitor FlexScan S1923-black	2.0
Cables	5366515-2	Fiber Optic Cable from Host Computer to J25 Bulkhead	1.0
Cables	5782206	HOST ETH1 to TGP Ethernet cable for GOC5 upgrade kit	1.0
Cables	5782206-2	HOST ETH2 to HSP Ethernet cable	1.0
Cables	5782206-3	HOST ETH3 to Hub ETH1 Ethernet cable	1.0
Cables	5782206-4	Hub ETH2 to AW Ethernet Cable	1.0
Cables	5782206-5	Hub ETH3 to EKG Ethernet cable	1.0
Cables	5782206-6	Hub ETH4 to INJ Ethernet cable	1.0
Cables	5782206-7	Hub ETH5 to SRV Ethernet cable	1.0
Cables	5433898-4	Barcode reader USB Cable	1.0
Cables	5458346	3.5m USB extension cable for mouse	1.0
Cables	5433898-8	USB Trackball cable	1.0
Cables	5433899-3	EXT HDD USB Cable	1.0
Cables	5433899-4	DVD-RW USB cable	1.0
Cables	5366259	DVI-I to VGA Cable, 3 meters	1.0

Table 2-1 VCT Z840 console FRU Kit (5809714-30) Material List

Item Type	Part No.	Descriptions	Qty.
Cables	5408703	DP to DVI cable, 3 meter	1.0
Cables	5366517	Power Cable, Hub, RIO	1.0
Cables	5481103	Right Angle USB Adapter	1.0
Cables	5366513-3	Cable, USB-IF, with ferrite	1.0
Mech HW	5433850	Computer top front bracket	1.0
Mech HW	5433851	Computer bottom front bracket	1.0
Mech HW	5433852	top brkt with GOC6.6 chassis	2.0
Mech HW	5433853	Computer top rear bracket	1.0
Mech HW	5433848	Host computer side bracket	1.0
Mech HW	5435252	Z800 computer base on GOC6.6 chassis	1.0
Mech HW	5454399	Z800 service platform. GOC6.6	1.0
Mech HW	5534404	OUTLET BLOCK	1.0
Mech HW	5747568	Cj3.6B Z840 port Label	1.0
Mech HW	5433852-2	top brkt with GOC chassis upgrade	2.0
Mech HW	5768817	BOTTOM BRKT W STUDS	1.0
Mech HW	5768818	TOP BRKT W STUDS	1.0
Mech HW	5339921-2	bracket, cable support GOC6.6	2.0
Mech HW	5394300-3	Nylon Cable Tie, 290mm Long, 3.70mm Wide	30.0
Mech HW	2262896-2	U0465AA FLANGE SOCKET	4.0
Mech HW	46-136246P14	2- WIDE, WHT, ADH BACK, VELCRO LOOP 25 YD	0.2
Mech HW	46-136246P21	2- WIDE X 25 YD WHITE VELCRO HOOKS	0.2
Mech HW	5779641	USB BRACKET	1.0
Mech HW	5344246-2	ICOM Bracket	1.0
Mech HW	5771244	GSCB films kit without E-reset	1.0
Mech HW	3202-M4C-31	PREVAILING TORQUE TYPE HEXAGON NUTS M4-0.7	4.0
Mech HW	1000-M4C010-04	Hexagon Socket Head Cap Screw, M4-0.7, X10mm Long	15.0
Mech HW	2203-M4-07	Curved Lock Washer, M4	15.0
Mech HW	2000-M4-02	Flat Washer, M4	19.0
Mech HW	1000-M6C020-04	Hexagon Socket Head Cap Screw, M6, X20mm Long	8.0
Mech HW	2203-M6-07	Curved Lock Washer, M6	8.0
Mech HW	2000-M6-02	Flat Washer, M6	8.0
Mech HW	3002-M6C-33	PREVAILING TORQUE TYPE HEXAGON NUT, M6	13.0
Mech HW	1009-M3P5C6P5-29	Cross Recessed Pan Head Tapping Screw, 3.5 X 6.5mm Long	2.0
Mech HW	1007-M3C012-14	Phillips Pan Head Screw, ISO 7045, M3-0.5, X12mm Long	4.0

Table 2-1 VCT Z840 console FRU Kit (5809714-30) Material List

Item Type	Part No.	Descriptions	Qty.
Mech HW	3002-M3C-04	Hexagon Prevailing Torque Nut, ISO7040, M3-0.5	4.0
Mech HW	1000-M5C012-04	Hexagon Socket Head Cap Screw, M5-0.8, X12mm Long	4.0
Mech HW	2000-M5-02	Flat Washer, M5	4.0
Mech HW	3002-M5C-04	Hexagon Prevailing Torque Nut, M5-0.8	4.0
TechPuband Software	2360580-2	Volume Viewer Option Key	1.0
TechPuband Software	5400104	Dynamic Z-axis Tracking Option Key	1.0
TechPuband Software	5961139-140	VCT Zeta Software Collector with Rating Plate WSO	1.0
TechPuband Software	5335821-49	VCT-Zeta NSP CN Tech Pub Collector WSO	1.0
Others	5771244	GSCB films kit without E-reset	1.0
Others	46-302200P24	RATING PLATE	1.0
Others	5810086-1EN	GOC5 Hardware Replacement Kit Z840 Installation Manual	1.0
Others	5431062-1-EN	Keyboard collector for NIO, English	1.0

Table 2-1 VCT Z840 console FRU Kit (5809714-30) Material List

1.2 Save Current System Configuration Information

1.2.1 Record the Installed Software Options and Other System Information

Record the installed software options and other system information such as ConnectPro and Exam Split in the System Information Sheet attached in [Chapter 3 - Appendix](#) of this manual.

1.2.2 Save System State on Existing Console

- 1.) Save a new System State in accordance with Software - GOC5> Software Installation > System State Save & Restore in the LightSpeed VCT Service manual supplied with this replacement.
- 2.) Verify Save System State was successfully completed by checking the system state log file: /usr/g/service/log/sysstate.log.

```
{ctuser@msec7x1}[9] pwd
/usr/g/service/log
{ctuser@msec7x1}[10] ls sysstate.log.*
sysstate.log.20170303_142956  sysstate.log.20170309_135251
sysstate.log.20170309_133043  sysstate.log.20170309_145910
sysstate.log.20170309_135138  sysstate.log.20170329_162447
sysstate.log.20170309_135242
{ctuser@msec7x1}[11] more sysstate.log.20170303_142956

=====
Operation started : Fri Mar 03 14:29:56 2017
=====

-----
Save/Restore System State : Started
PET Base Option Not Enabled ---> Enable this scanner as CT-only scanner
All CT categories are ON
NOAPP mode : No set up for interprocess communication.
Initializing USB ...
/USB already mounted
USB initialization completed with Success
Operation Restore started: 2017-03-03 14:29:57

Protocol Scan Files : START
```

Figure 2-1 System State Log

1.3 Generate eLicense Key for new Console

Contact OLC engineer and request the regeneration of the option key for the new console.

You will need to provide the host ID information which is available on the front face of the Z840 computer.

Discard the host ID label after getting new option key from OLC.

1.4 Uninstall Existing Hardware

1.4.1 Image and Scan Database Resets on Host Computer

To maintain data and patient privacy, it is necessary to erase all Personal Healthcare Information (PHI) from the system before it is uninstalled. Perform the following as the last step before shutting down the existing console.

- 1.) Reset (Erase) the Image Database on the system. Follow Host Computer Image Database Reset procedure found in the Software Chapter of the LightSpeed 7.X Service manual.
- 2.) Reset (Erase) the Scan Database on the system. Follow instructions found in the Align/Setup/Cal Chapter of the LightSpeed 7.X Service manual. Align/Setup/Cal > Console (GOCx) > System Configuration procedure.

On the System Tab of the System Configuration Utility, perform the following:

- * Remove the customer name, replace with [GEMS]
- * Remove the Service ID, replace with [GEMS]
- * Under Regenerate Database, select [YES]

On the Network Tab of the System Configuration Utility, perform the following:

- * Remove the site specific network information (ex: Names), replace with [GEMS]
- * Remove the site specific network information (ex: IP Addresses) in Network Settings and Advance Options.

Select [ACCEPT] button.

Note: The Reset (Erase) of the Image and Scan Databases will remove PHI information from the system but may not meet local regulations for data removal/deletion. If local regulations require specific data removal/deletion criteria, follow local procedures for PHI removal from system.

After completion of System Configuration (reconfig), reboot the system:

- * Select [OK] on the Autostart disabled popup message
- * Open a terminal window and type : **st**
- * When the system is booted into Applications mode, select [IMAGE WORKS]
- * Confirm that patient image data is not present.

1.4.2 Shutdown and Disconnect Power on Existing Operator Console

- 1.) Select one of the following methods to power off the Operator Console:
 - a.) If Applications are running, click on [Shut Down] and select [Shutdown].
 - b.) If Applications are down, open a Unix Shell using the Toolchest. Type:
`{ctuser@hostname} halt[ENTER]`

The Operator Console Monitor will display a System Halted message when it is acceptable to power off the Operator Console.

- 2.) Power OFF the Operator Console at the front panel switch.
- 3.) Remove the Console's incoming Twist-N-Lock Power Cable from rear of the Console.
- 4.) Perform Lockout / Tagout as described in Safety - Equipment Service - Lockout / Tagout / PPE in the LightSpeed VCT Service Manual.

1.4.3 Remove the Console Covers

- 1.) Move the console away from the wall to allow clear access around the console.
- 2.) Remove the console front and rear covers and set aside.

1.4.4 Disconnect Accessories/Options on Existing Operator Console

- 1.) Disconnect the Video Cables from the Host Computer.
- 2.) Disconnect and remove the Remote Monitor Video Amp/Splitter (if so equipped) from the Console. Make sure that all cable connections are labeled.

1.4.5 Disconnect Peripherals on Existing Operator Console

- 1.) Disconnect the Peripheral Tower from console.
- 2.) Disconnect and remove the SCIM Assembly from console.
- 3.) Disconnect the SCIM Cable from the under side of the SCIM Assembly.

1.4.6 Disconnect Rear Bulkhead Cables on the existing Operator Console

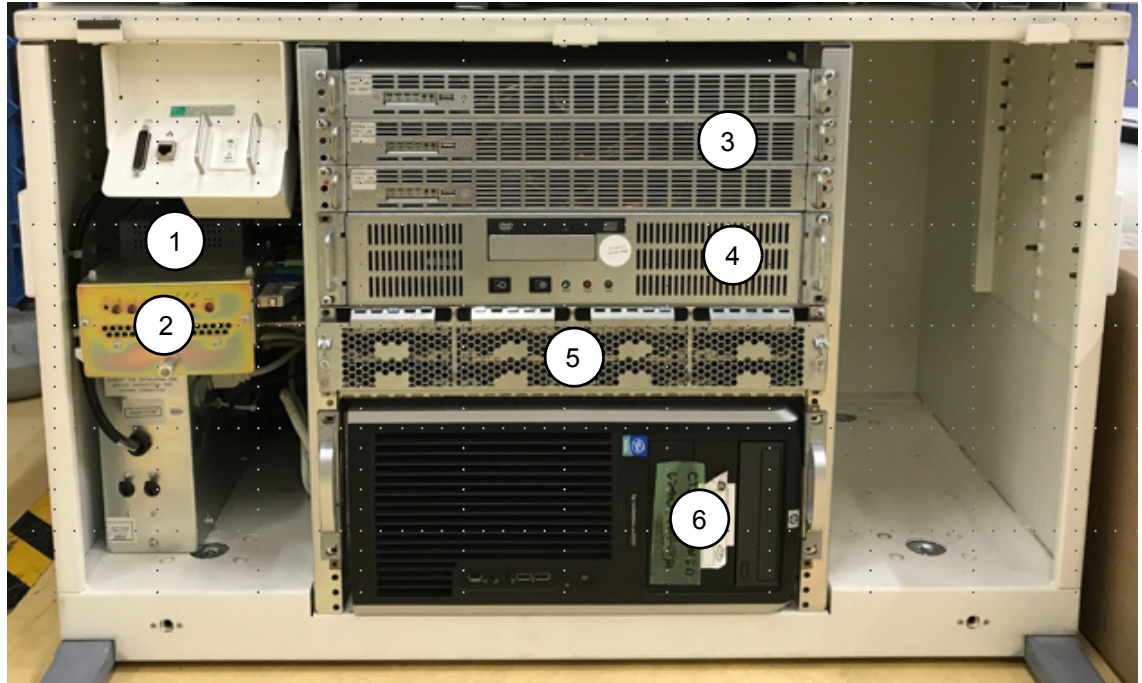
- 1.) Disconnect all cables connected to the Rear Bulkhead Panel on the existing Console. These include the Network, Fiber Optic Link, and Gantry DB25 Cables.
- 2.) Make sure that all cables are clearly labeled as to their function and source.

1.4.7 Remove Console Hardware

Note: The following hardware will be reused;

- Power Cables from Outlet Box:
 - J3 to LCD Monitor
 - J5 to ICOM
 - J6 to Ethernet Hub
 - J8 to Host Computer
 - J10 to LCD Monitor
 - J15 to Fans
 - J16 to Peripheral Tower
- Video Splitter for In-Room Monitor (If present)

- 1.) Remove the following;
 - IG, DARC, SDDA, ICOM, and Ethernet Hub.
 - Host computer & the bracket on which the computer is mounted.
 - All network & power cables inside the console, disconnect the network cables connected to rear bulkhead ports.
 - Fiber patch cable connected between VDIP and rear bulkhead.



①	Hub
②	ICOM
③	IG
④	DARC
⑤	SDDA
⑥	HOST PC

Figure 2-2 Remove Plates and Cables

2.) Remove side rails after removing. Keep the spring washers. This will be reused later.



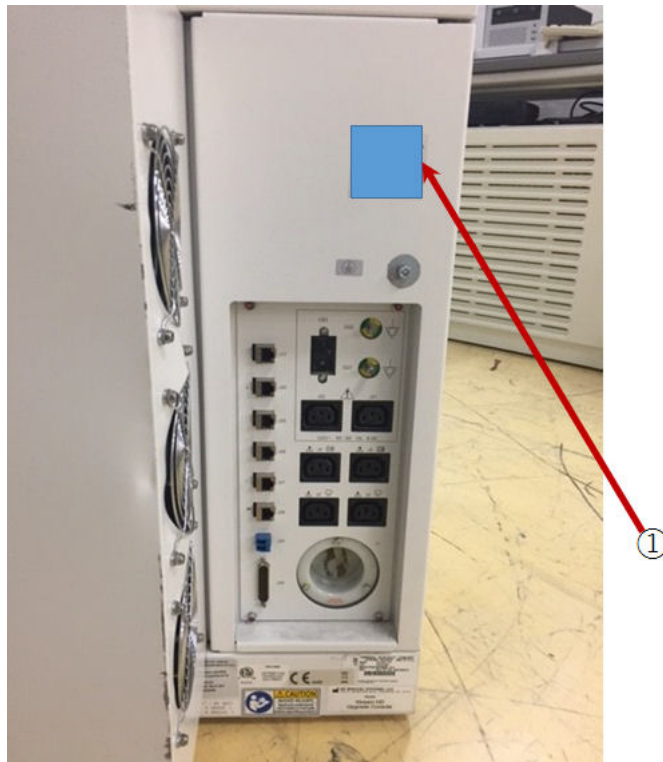
①	Spring Washer
---	---------------

Figure 2-3

3.) Return all uninstalled Hardware back via regular GPRS return process. Apply Red defective tag on the box.

1.5 Install New Hardware

- 1.) Apply the new Console replacement label in this location.



①	Label Location (P/N 46-302200P24)
---	-----------------------------------

Figure 2-4 New Label Location

- 2.) Check if the console chassis has M4 studs already built-in.
 - If the chassis has these studs built-in, go to step 4.).
 - If the chassis does not have studs built-in, proceed to the next step 3.).

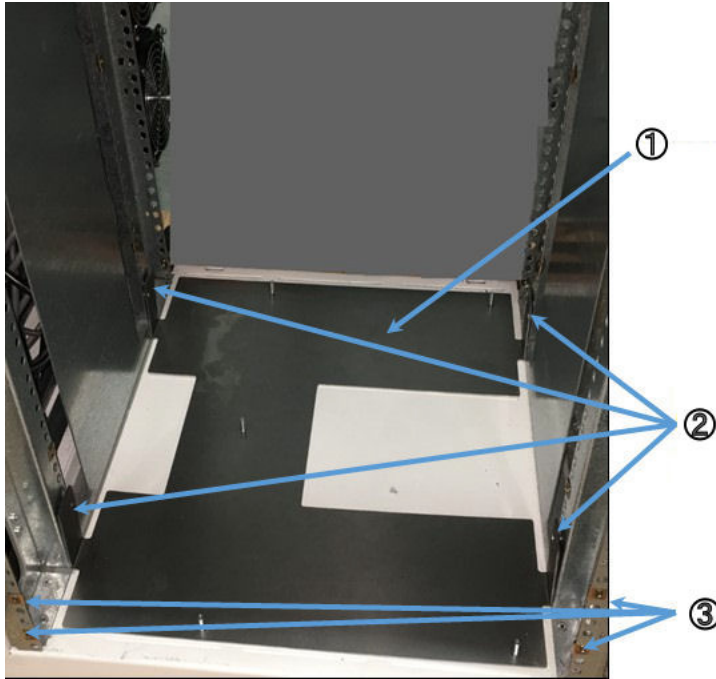


①	M4 studs
---	----------

Figure 2-5 M4 Studs already built-in (example)

- 3.) If the chassis does not have studs built-in, perform this step 3.)
- a.) Discard 5433852 (Top BRKT with GOC6.6 chassis).
 - b.) Install bottom support bracket.

No.	Part No./Identifier	Descriptions	Qty.
1	5768817	Bottom bracket	1

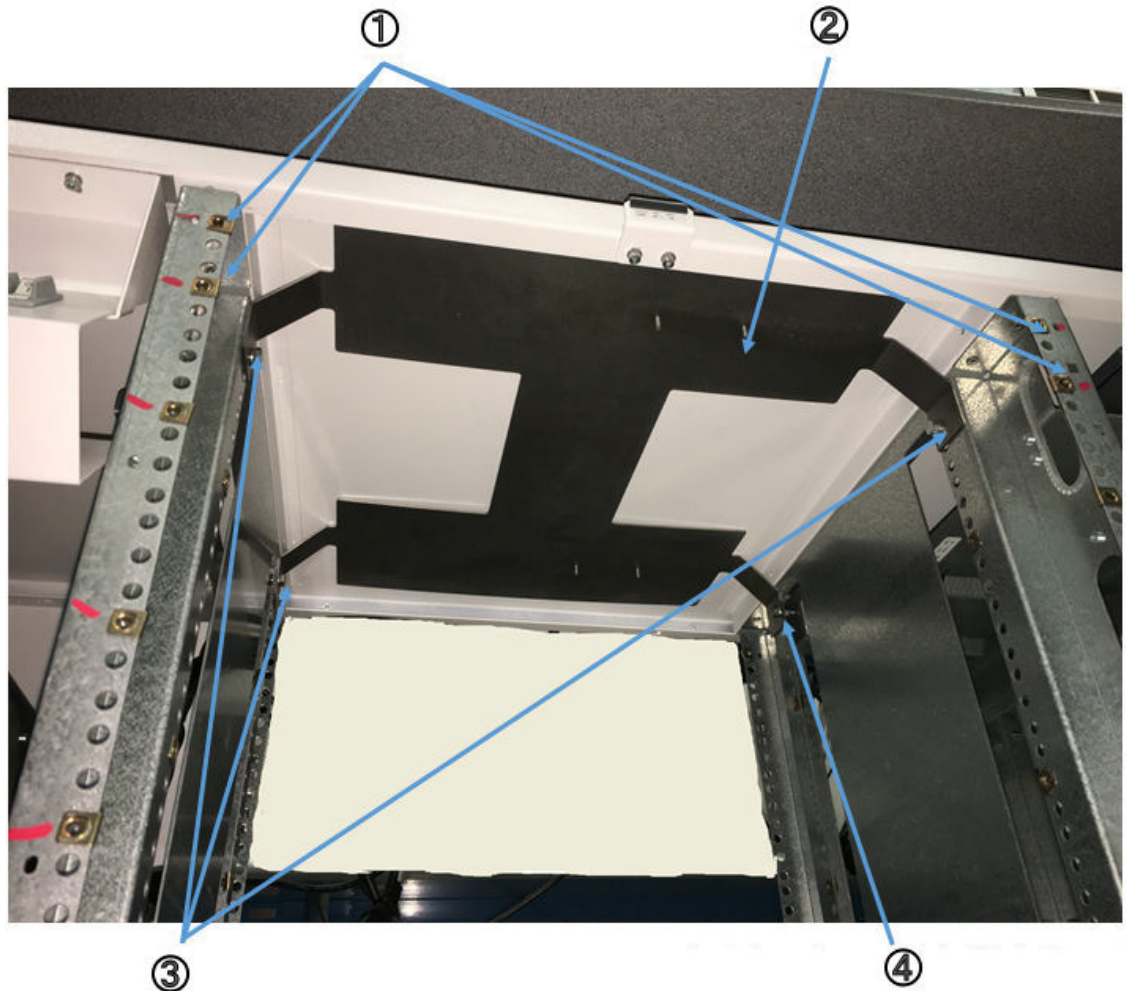


①	Bottom Bracket
②	Fix the bottom bracket to the chassis rails by M5 screws & spring nuts at these locations (Reuse M5 screws removed from old hardware.)
③	Remove these 4 spring nuts & use them to install the bottom bracket.

Figure 2-6 Bottom Support Bracke

c.) Install top support bracket.

No.	Part No./Identifier	Descriptions	Qty.
1	5768818	Top bracket	1



①	Remove these 4 spring nuts & use them to install the top bracket as illustrated above.
②	Top Bracket
③	Install spring nut at top hole and secure top bracket with M5 screw.
④	Install spring nut at 4th hole and secure top bracket with M5 screw. (Reuse M5 screws removed from old hardware.)

Figure 2-7 Top Support Bracket

- d.) Continue to install console HW brackets as shown below on top of the 2 brackets installed already.
- e.) Install computer base bracket and Host computer side bracket with L bracket protective backing facing right as shown (part of the GOC6.6 bracket kit) into the chassis.
- f.) Torque bracket to 7.9Nm. Leave the Host computer side bracket loose for now. Will tighten down when Host Computer is installed.

No.	Part No./Identifier	Descriptions	Qty.
1	5435252	Computer base bracket	1
2	3202-M6C-33 or 3002-M6C-33	Hexagon Prevailing Torque Nut, M6-0.7	5
3	5433848	Host computer side bracket	1
4	1000-M4C010-04	M4 x 10mm screw	3
5	2203-M4-07	M4 lock washer	3
6	2000-M4-02	M4 flat washer	3

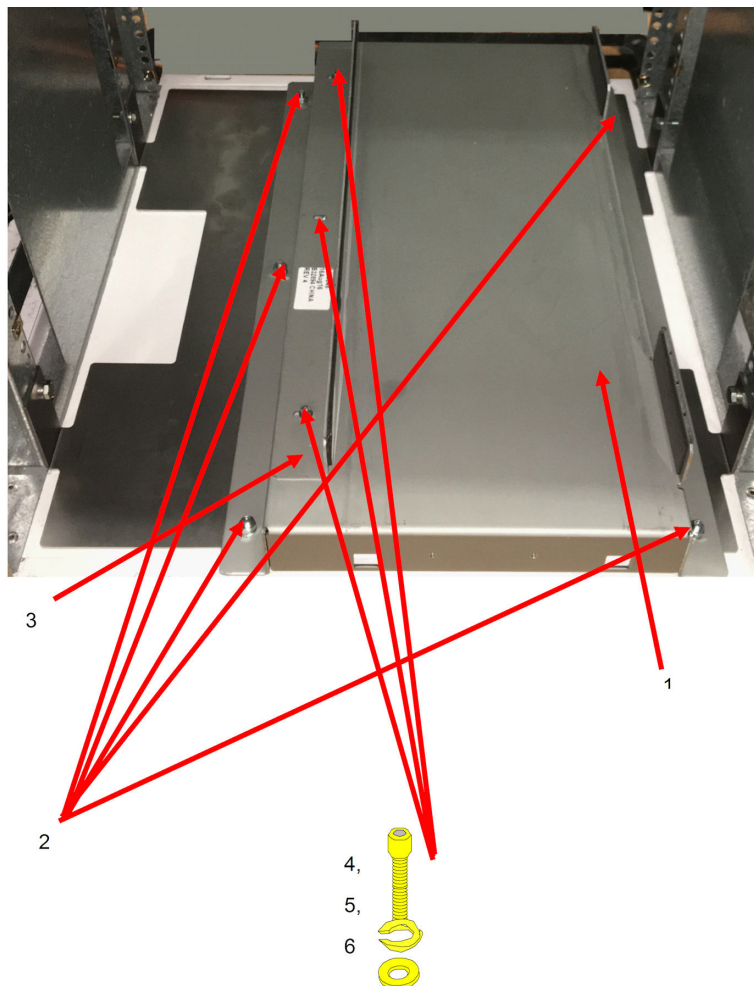


Figure 2-8 Install Computer Base Bracket and Host computer side bracket

- g.) Install upper front & rear brackets.
- h.) Torque bracket nuts to 2.3 Nm.

No.	Part No./Identifier	Descriptions	Qty.
1	5433852-2	Top brackets – rear and front for GOC6.6 chassis	2
2	3202-M4C-31	Hexagon Prevailing Torque Nut, M4-0.7	4

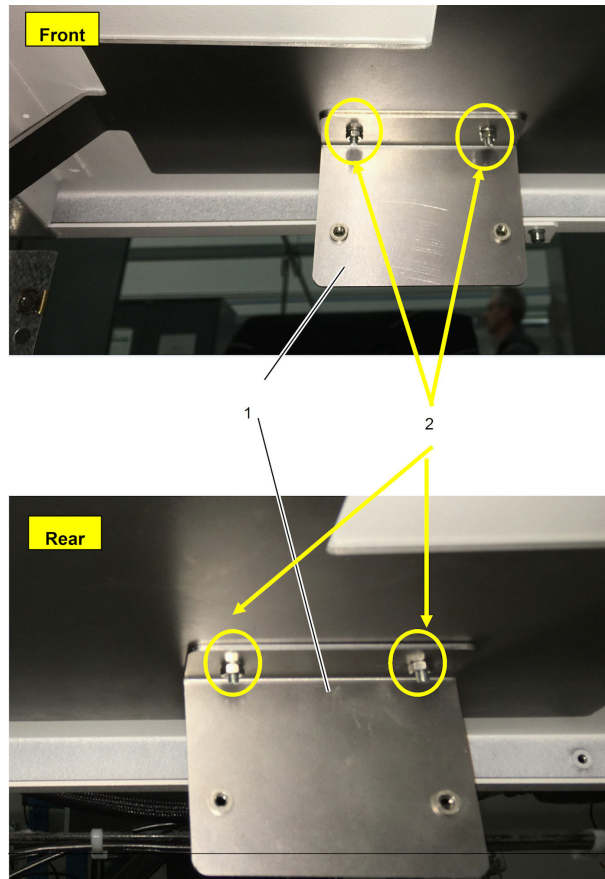


Figure 2-9 Install Upper Front and Rear Brackets

- i.) Go to Step 5.)

- 4.) If the chassis has these studs built-in, perform this step 4.)
- a.) Discard the following brackets
 - * 5768817 Bottom bracket
 - * 5768818 Top bracket
 - * 5433852-2 Top brackets – rear and front for GOC6.6 chassis
 - b.) Install computer base bracket and Host computer side bracket with L bracket protective backing facing right as shown into the chassis.
 - c.) Torque bracket to 7.9Nm. Leave the Host computer side bracket loose for now. Will tighten down when Host Computer is installed.

No.	Part No./Identifier	Descriptions	Qty.
1	5435252	Computer base bracket	1
2	2262896-2	UU0465AA Flange socket	5
3	5433848	Host computer side bracket	1
4	1000-M4C010-04	M4 x 10mm screw	3
5	2203-M4-07	M4 lock washer	3
6	2000-M4-02	M4 flat washer	3

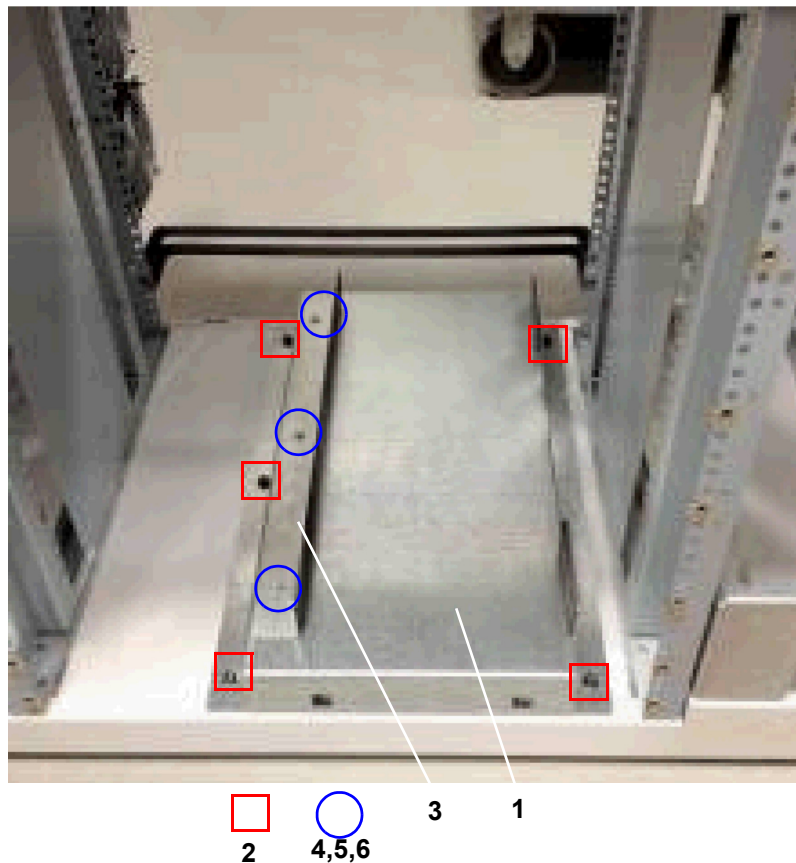


Figure 2-10 Install Computer Base Bracket and Host computer side bracket

- d.) Install upper front & rear brackets.
- e.) Torque bracket nuts to 2.3 Nm.

No.	Part No./Identifier	Descriptions	Qty.
1	5433852	Top brackets – rear and front for GOC6.6 chassis	2
2	3202-M4C-31	Hexagon Prevailing Torque Nut, M4-0.7	4

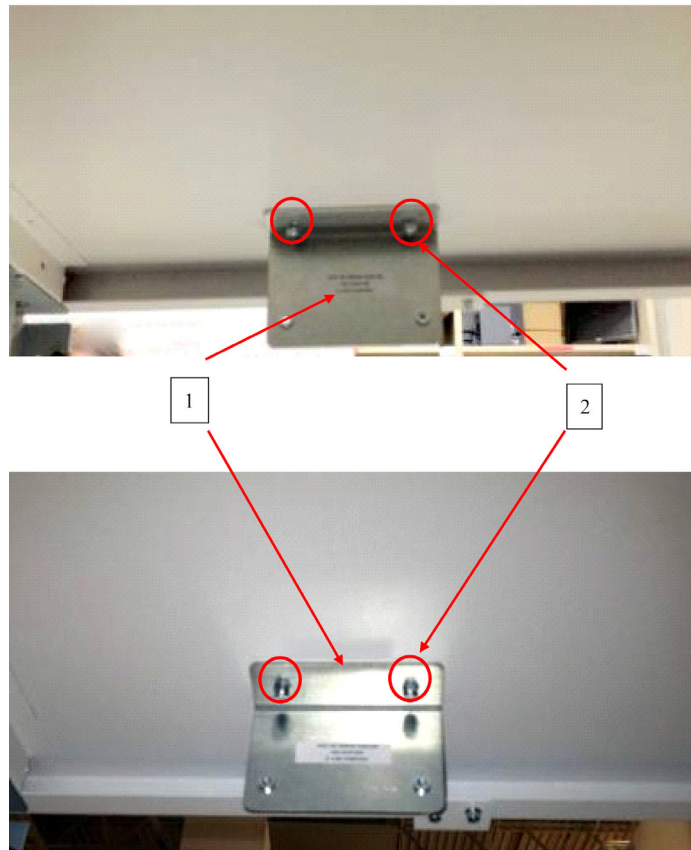


Figure 2-11 Install Upper Front and Rear Brackets

- f.) Go to Step 5.)

- 5.) Install Computer rear bracket to the rear upper bracket installed in step 3.) or 4.). (part of the GOC6.6 bracket kit).
- 6.) Hand tighten screws on bracket. Will torque later in process.

No.	Part No./Identifier	Descriptions	Qty.
1	5433853	Computer top rear bracket - for GOC6.6	1
2	1000-M4C010-04	M4 x 10mm screw	2
3	2203-M4-07	M4 lock washer	2
4	2000-M4-02	M4 flat washer	2

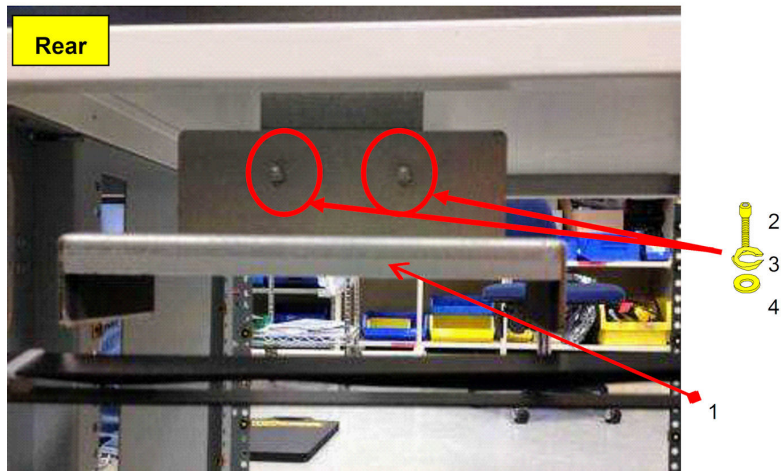
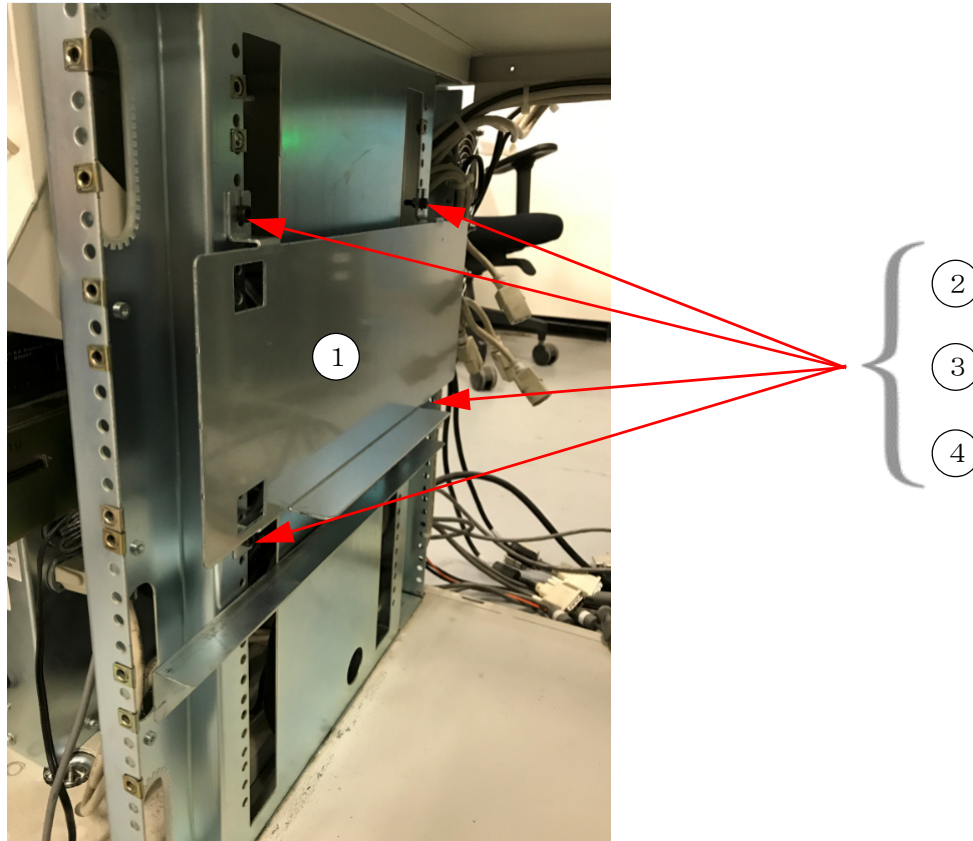


Figure 2-12 Install Computer top rear bracket

7.) Install ICOM mounting Bracket.

Note: Use 6th hole from the top to install the bracket.

No.	Part No./ Identifier	Description	Qty.
1	5344426-2	ICOM Brakcket	1
2	1000-M5C012-04	M5 x 12mm screw	4
3	2000-M5-02	M5 Flat Washer	4
4	3002-M5C-04	M5 Nut	4



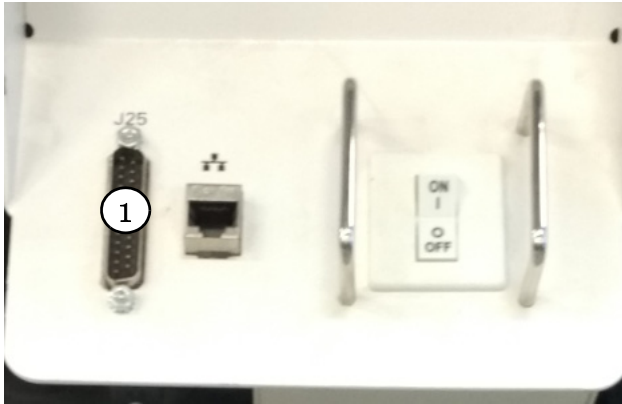
①	ICOM Bracket
②	M5 x 12mm screw
③	M5 Flat Washer
④	M5 Nut

Figure 2-13 Install ICOM mounting Brakcket

8.) Change Service Panel Interface

No	Part No.	Description	Qty
1	5366513-3	USB IF Cable	1
2	5779641	USB Bracket	1
3	1007-M3C012-14	M3 Screw	4
4	3002-M3C-04	M3 Nut	4

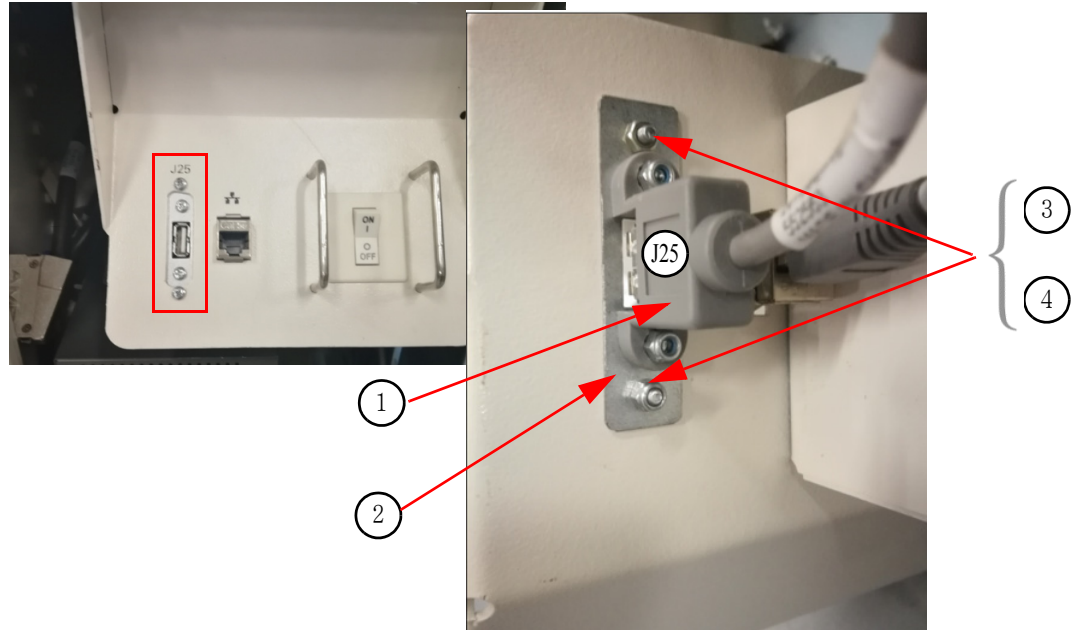
a.) Remove the J25 D-sub connector from the panel



①	J25 D-sub connector
---	---------------------

Figure 2-14 Remove the J25

b.) Install the USB bracket and USB IF Cable



①	USB IF Cable
②	USB Bracket
③	M3 Screw
④	M3 Nut

Figure 2-15 Install the USB Bracket

9.) Install Computer.

- a.) Place the computer on a solid surface.
- b.) Remove top black cover from top of HP computer by tapping it lightly. Using a soft mallet may help.
- c.) Remove any plastic shipping film.



Figure 2-16 Install Computer

10.) Install Computer top front and bottom front brackets (part of the GOC6.6 bracket kit).

Note: Torque screws on brackets to 2.3 Nm.

No.	Part No./Identifier	Descriptions	Qty.
1	5433850	Computer top front bracket – for GOC6.6	1
2	1000-M4C010-04	M4 x 10mm screw	6
3	2203-M4-07	M4 lock washer	6
4	2000-M4-02	M4 flat washer	6
5	5433851	Computer bottom front bracket – for GOC6.6	1

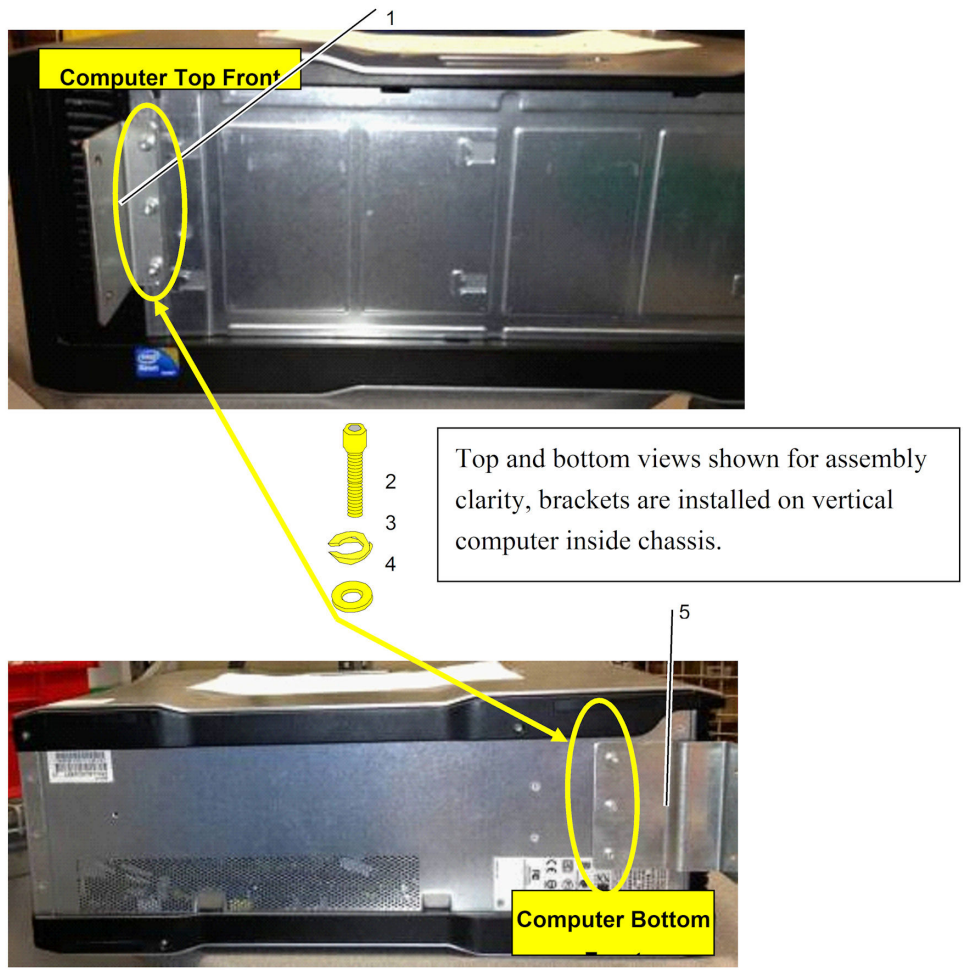


Figure 2-17 Install Computer top front and bottom front brackets - Part II

11.) Install Host Computer:

No.	Part No./Identifier	Descriptions	Qty.
1	8770000-42	Host Z840 Computer	1
2	5454399	Service Platform	1
3	1000-M4C010-04	M4 x 10mm screw	4
4	2203-M4-07	M4 lock washer	4
5	2000-M4-02	M4 flat washer	4
6	5747568	Z840 Port Label	1

- a.) Attach the service platform (5454399) to console chassis and push the computer back into the chassis.

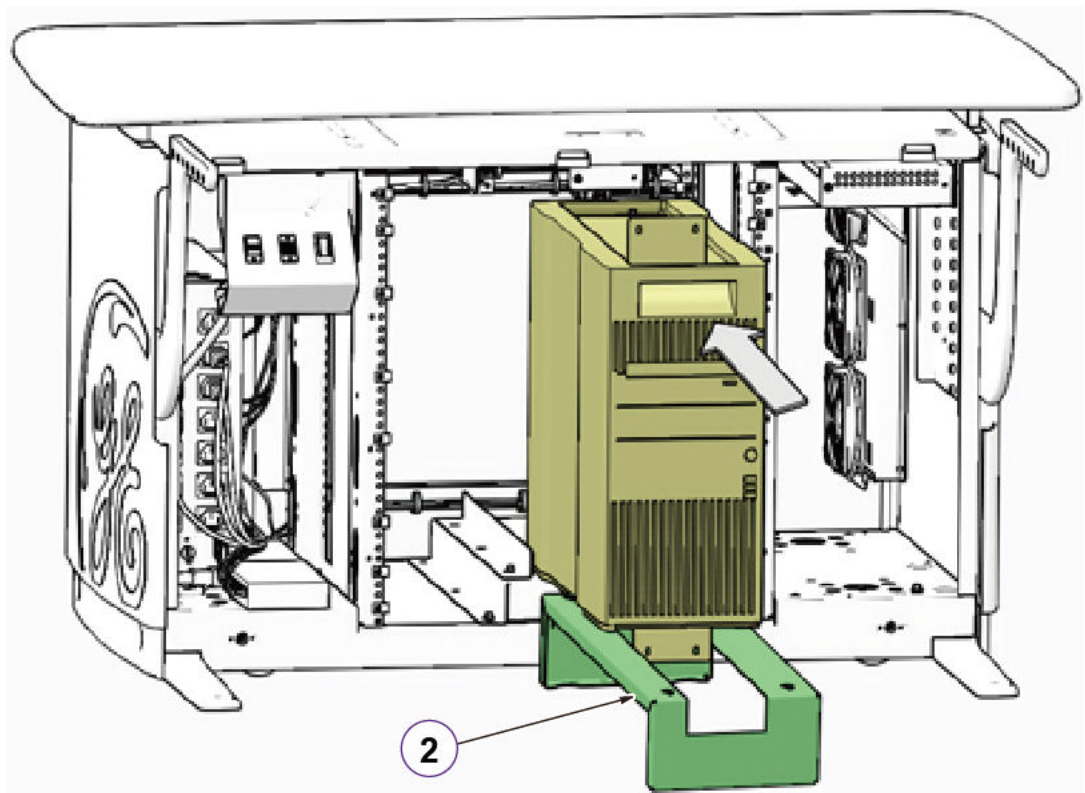


Figure 2-18 Service Platform3

- b.) Secure computer by tightening top rear bracket, front bottom, front top and host computer side bracket.

Note: Torque screws on brackets to 2.3Nm.

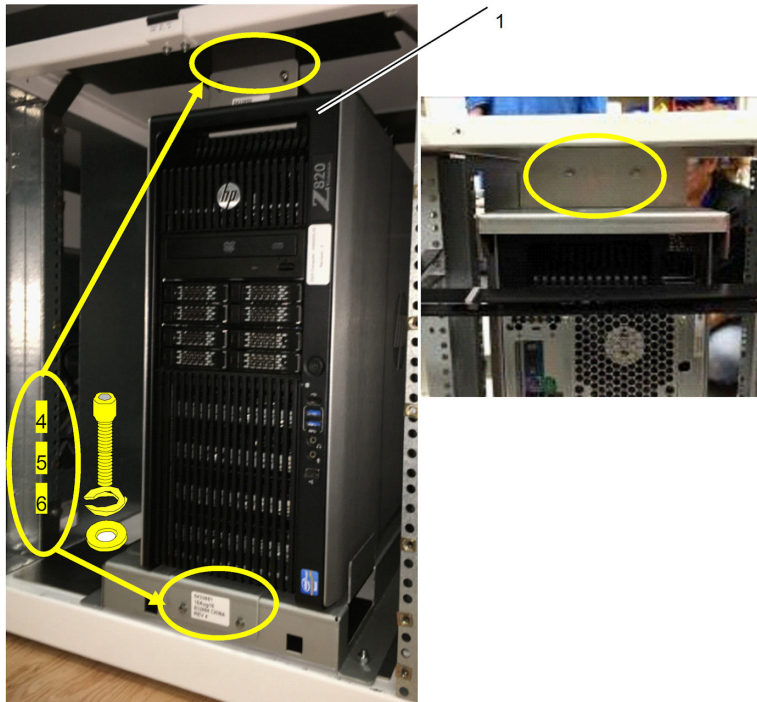


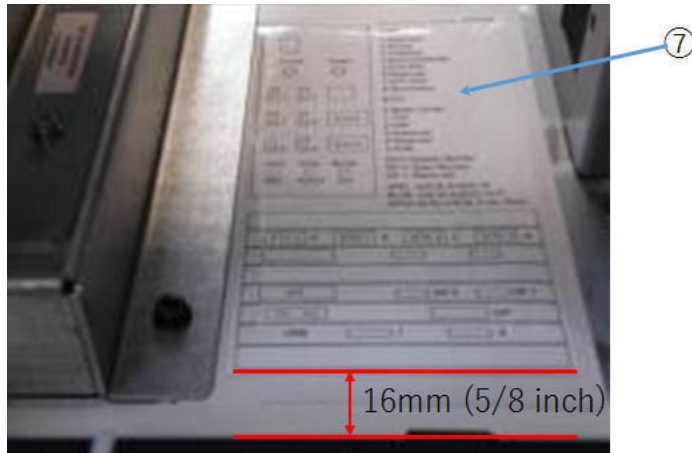
Figure 2-19 Place Computer

- c.) Put the service platform with tabs of bracket facing to the back side of Console chassis.



Figure 2-20 Install Service Platform

- d.) Install Z840 Port Label on the right side of the host computer 16 mm (5/8 inch) away from rear edge chassis (on the floor of chassis or on bottom bracket) looking from rear of console.



Port label on right side of host as seen from rear of console

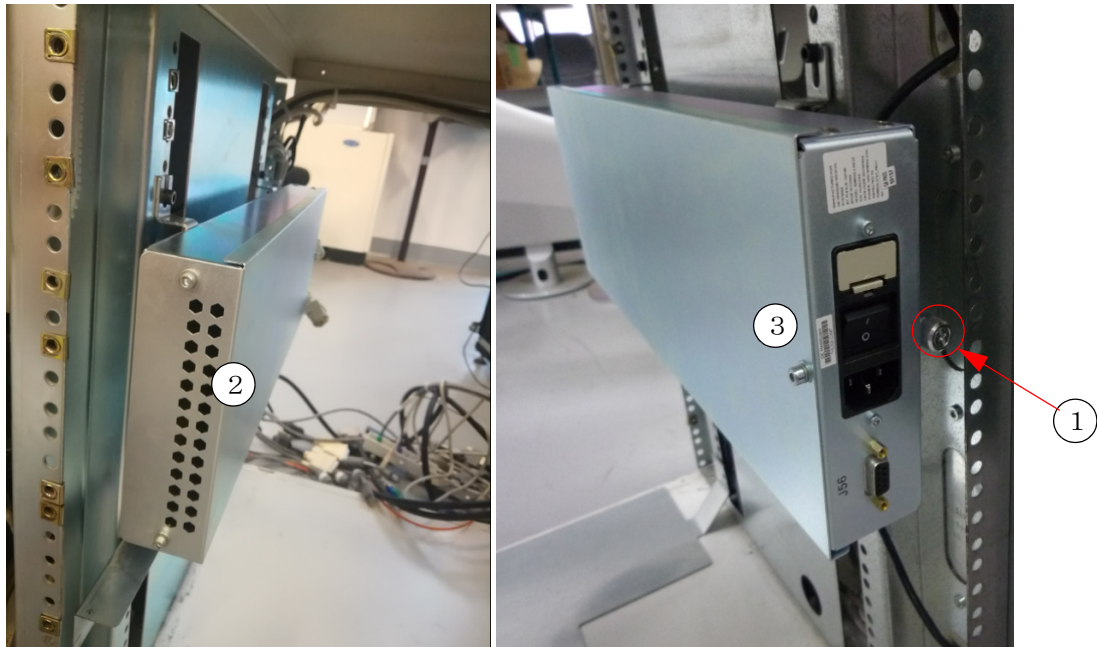
Figure 2-21 Install Z840 Port Label

12.) Install GSCB Power Box.

No.	Part No./Identifier	Descriptions	Qty.
1	5266222-2	GSCB Power Box	1
2	5339921-2	Cable trough	2

- a.) Install GSCB Console Power Box by sliding the unit in from the rear of the console and engage the tabs into the front of the console bracket. Secure power box with by hand tightening thumb screw.

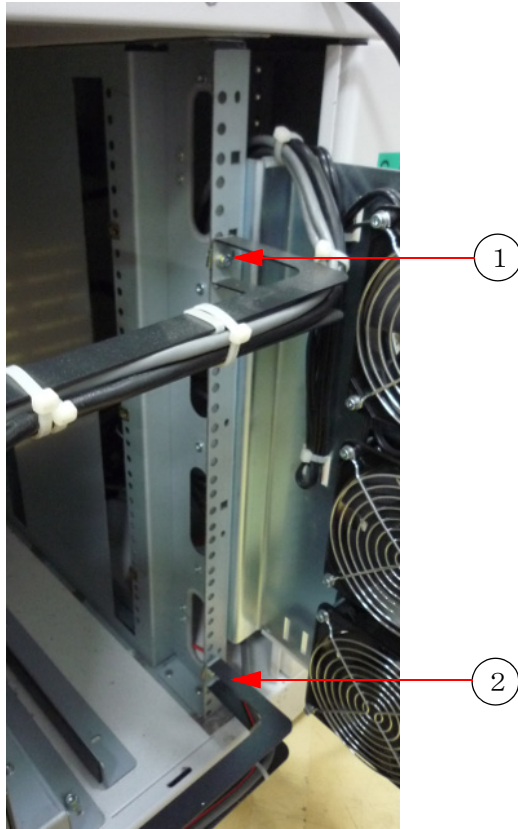
Note: Torque thumb screw on bracket to Hand Tight.



①	Thumb Screw
②	Front View
③	Rear View

Figure 2-22 Install GSCB Console Power Box

b.) Install cable troughs as described in Figure 2-22. Re-use spring nuts and screws from the front.



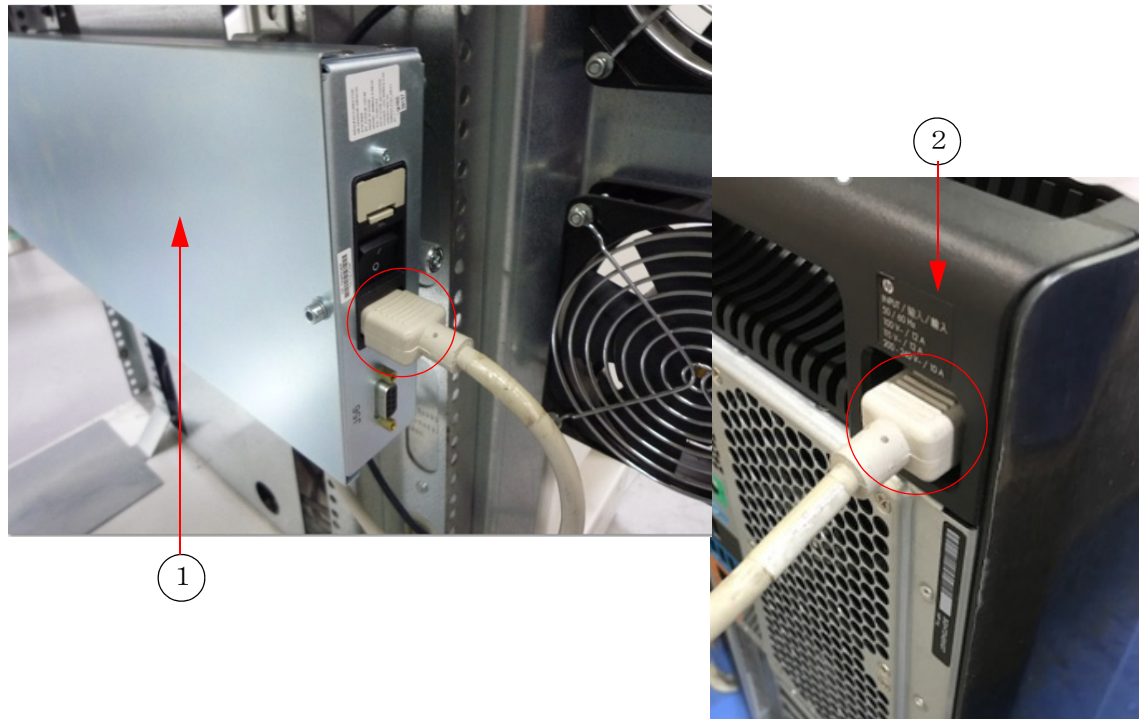
①	Cable Trough Upper (Install at 7th hole from the top)
②	Cable Trough Lower (Install at 5th hole from the bottom)

Figure 2-23 Install Cable Trough

13.) Install Power Cables- back side.

- a.) Connect power cord cables into designated power outlet connections in the rear of the Console chassis.
- b.) Plug ICOM Power cable from Outlet Box J5 into GSCB Power Box.
- c.) Plug Host computer power cable from Outlet Box J8 into HP Host computer.

No.	Part No./Identifier	Descriptions	Qty.
1	5433897-3	GSCB Power Cable	1
2	5433897	HP Host Computer Power Cable	1



①	GSCB Power Box
②	Host Computer

Figure 2-24 Power Cables- back side

14.) Install Power Cable to Front Side - Ethernet Switch.

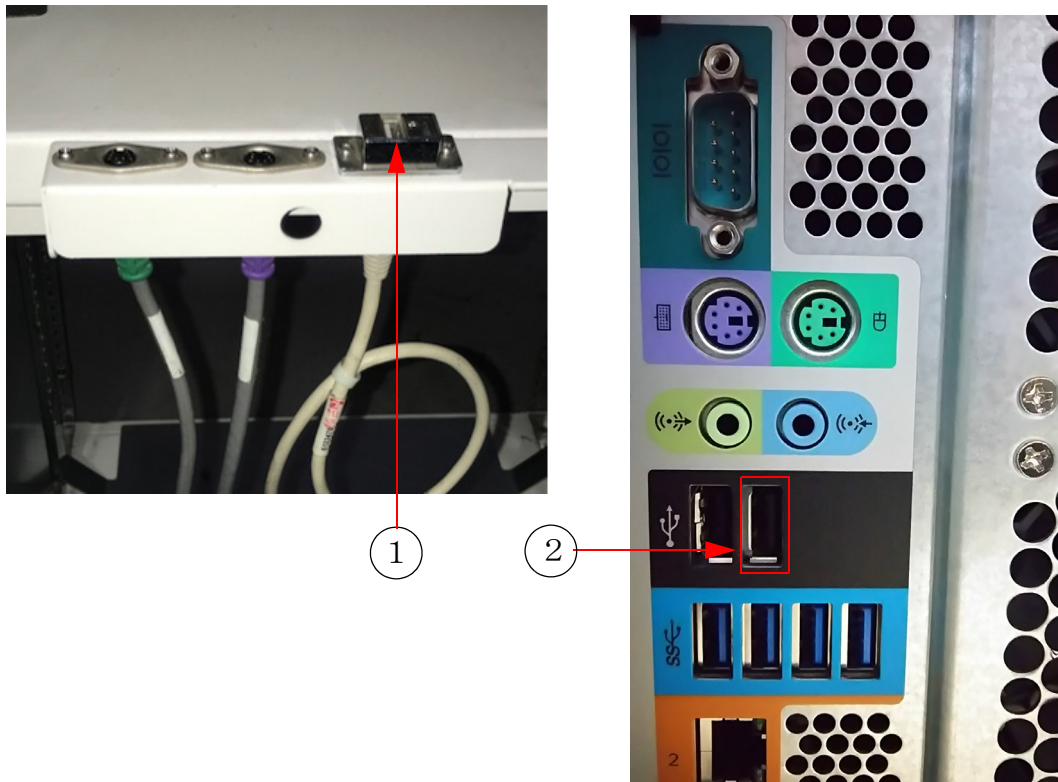
No.	Part No./Identifier	Descriptions	Qty.
1	5139480-4	Console network switch (CNS)	1
2	5366517	Ethernet Switch Hub Power Cable	1

- a.) Remove front panel switch and let hang.
- b.) Connect the Ethernet Switch Hub power plug P/N 5366517 to the Ethernet switch (front side of console).
- c.) Connect all the power cable from Outlet Box J6 to Ethernet Hub power cable.



Figure 2-25 Connect Power Plugs

15.) Connect the existing Trackball USB cable from rear bulkhead to Host as shown.



①	Connect the Trackball
②	Connect the existing Trackball USB cable from rear bulkhead to Host

Figure 2-26 Trackball USB Cable Connection

- 16.) Connect/Route USB cables between computer port number and then route to DVD-RW/EXT HDD component plus Service Key connection (Front Panel) as shown:
- Install item # 1 DVD-RW USB cable to USB port 6.
 - Install item # 2, EXT HDD USB cable to USB port 5.
 - Service Key USB cable item #3, attaches to item # 4, right angle USB adapter at front of computer.
 - Install item # 4, right angle USB adapter, to the top front USB port 8 on the computer.

No.	Part No./Identifier	Descriptions	Qty.
1	5433899-4	DVD-RW USB cable	1
2	5433899-3	EXT HDD USB cable	1
3	5366513-3	Service Key USB cable	1
4	5481103	Right angle USB adapter	1

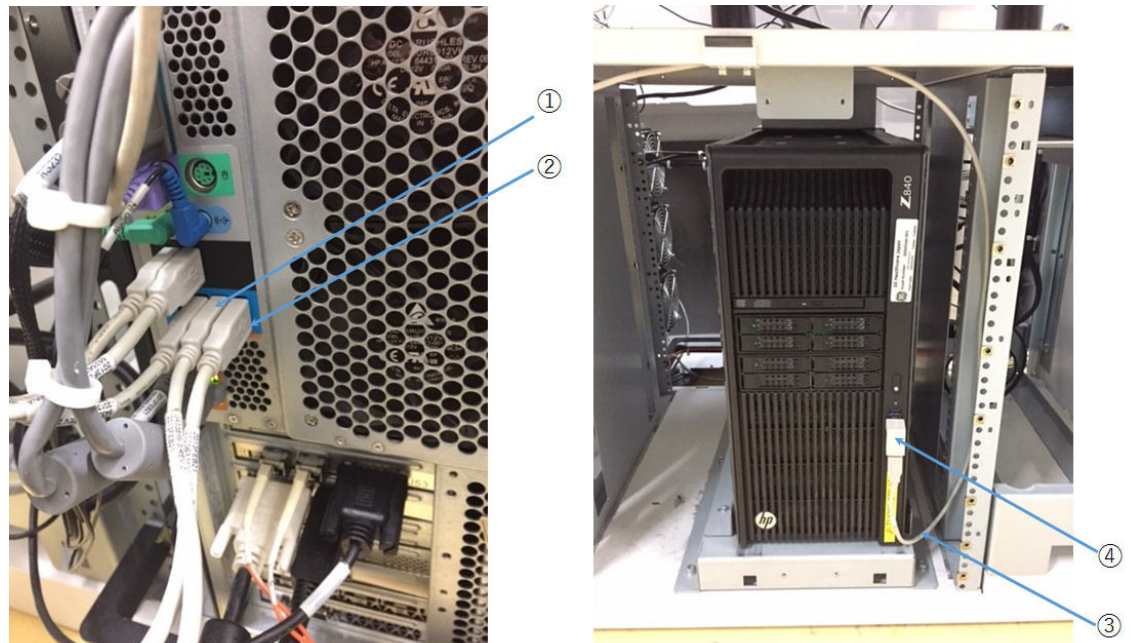


Figure 2-27 Connect USB Cables - DVD RW & EXT HDD & Service Key

17.) Connect the monitor cables and fiber optic cable as below.

- Connect / Route DVI-I to VGA cable to the right-hand Display Monitor.

Note:

If there is an In-Room Monitor present, reuse the Video Splitter present on the old console. Follow wiring instructions as shown in *direction 5323332-1EN Remote Monitor & Monitor-in-Room Boom Options Installation*.

- Connect / Route DP to DVI cable to the left-hand scan prescription monitor.
- Route Fiber Optic cable from DIP card connection on back of Host Computer through black cable though to front of console chassis (which will connect to J52 rear bulkhead connection later)..

No.	Part No./Identifier	Descriptions	Qty.
1	5366259	DVI-I to VGA Monitor cable	1
2	5408703	DP to DVI Monitor cable	1
3	5366515-2	Fiber Optic Cable from Host Computer to Bulkhead	1

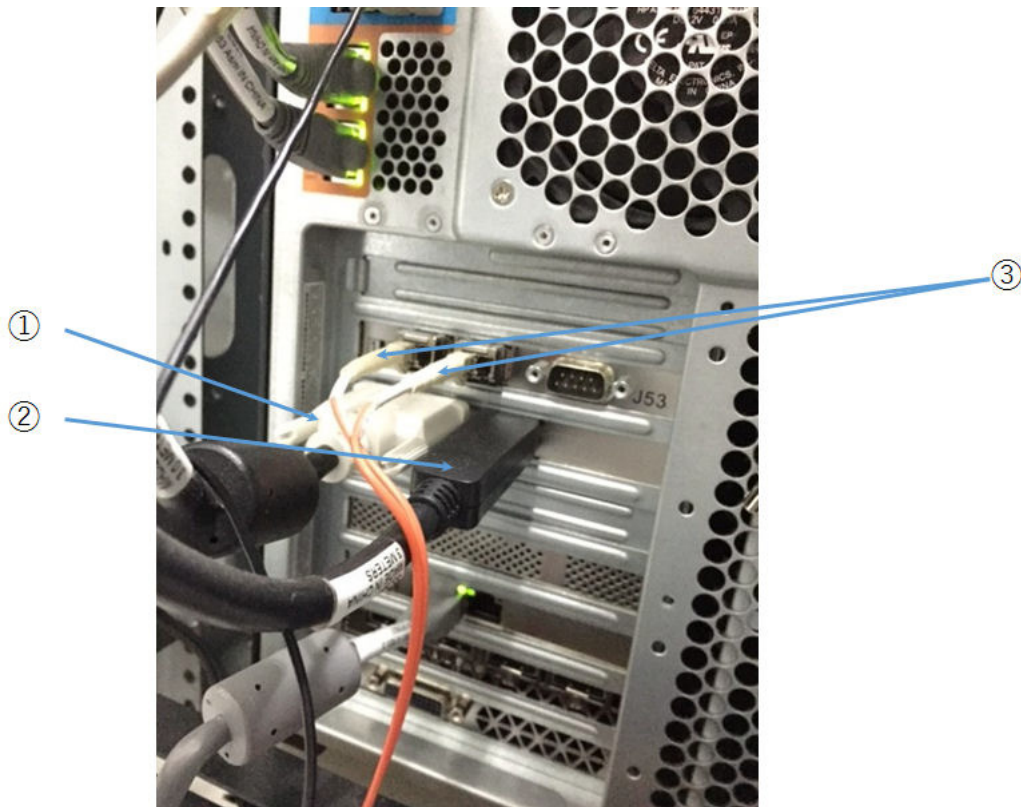


Figure 2-28 Connect DVI Monitor Cables and Fiber Optic Cable

18.) Connect/Route Host Ethernet Cables as shown:

- a.) Host ETH1 to TGP Bulkhead P/N 5782206
- b.) Host ETH2 to HSP Bulkhead P/N 5782206-2
- c.) Host ETH3 to port 1 on Network Switch P/N 5782206-3

No.	Part No./Identifier	Descriptions	Qty.
1	5782206	ETH1 to TGP Bulkhead	1
2	5782206-2	Host ETH2 to HSP Bulkhead	1
3	5782206-3	ETH3 to Port 1 on Network Switch	1

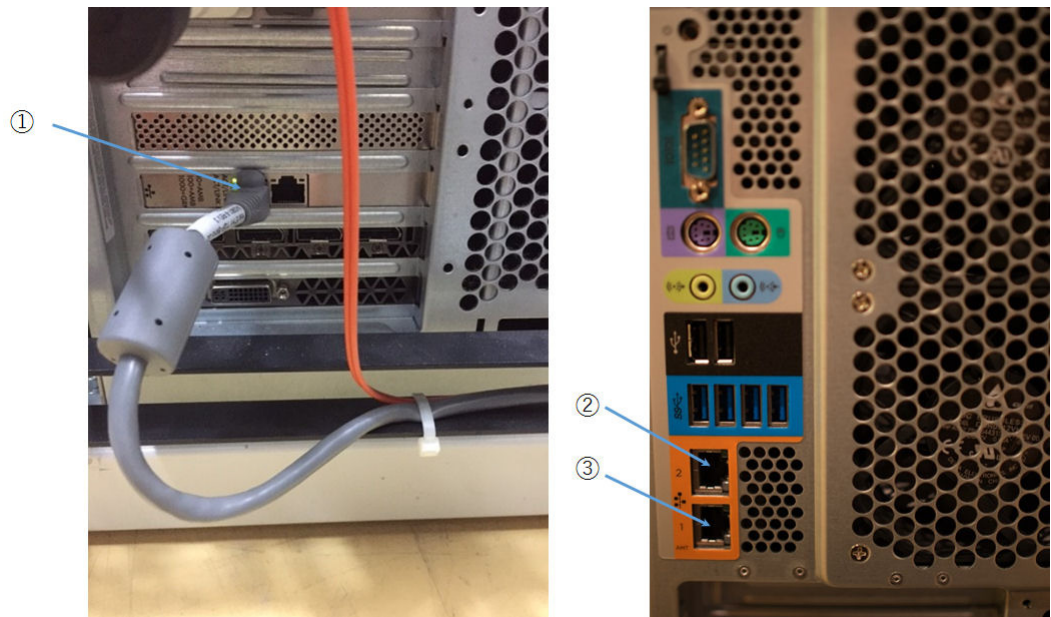


Figure 2-29 Connect Ethernet Cables to Host Computer

19.) Bundle up remaining cables in trough and tyrap.

Note: Please route the remaining part of Ethernet cables and any other cables through cable trough and tyrap cables to bracket as shown.

No.	Part No./Identifier	Descriptions	Qty.
1	5394300-3	RoHS tyraps	25

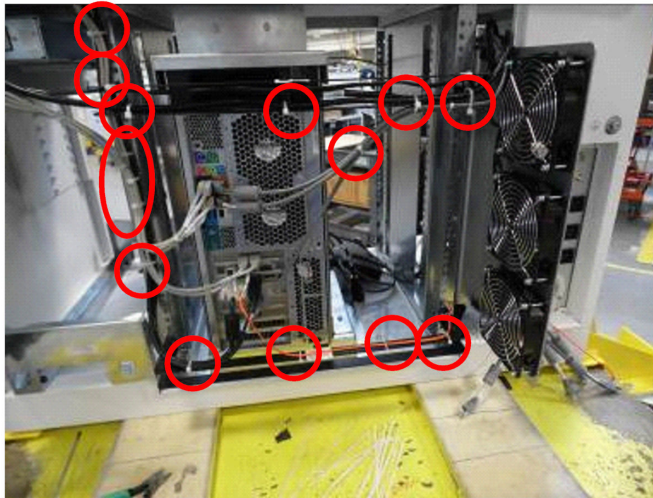


Figure 2-30 Bundle up remaining cables in trough and tyrap

20.) Remove screws and set aside console rear bulkhead panel.



Figure 2-31 Rear Bulkhead Removal

21.) Make connections to the inside of bulkhead plate as pictured:

- a.) Connect Ethernet cables.(Item #1 ~ #5)
- b.) Connect fiber optic cable to J52.

Note: Route the other end of the Ethernet cables back through rear bulkhead to the front of the Console for connections to Ethernet Switch Hub.

No Ethernet connection for TBL and COIN

No.	Part No./Identifier	Descriptions	Qty.
1	5782206	Host Eth1 to Bulkhead TGP Ethernet Cable	1
2	5782206-2	Host Eth12 to Bulkhead HSP Ethernet Cable	1
3	5782206-4	Hub Eth2 to Bulkhead AW/X Ethernet Cable	1
4	5782206-5	Hub Eth3 to Bulkhead EKG Ethernet Cable	1
5	5782206-6	Hub Eth4 to Bulkhead INJ Ethernet Cable	1
6	5366515-2	Fiber Optic Cable	1



Figure 2-32 :Rear Bulkhead Connections

22.) Attach blocking plate and rear bulkhead.

- a.) Remove J20 D-sub connector (and EMC Filter if installed).

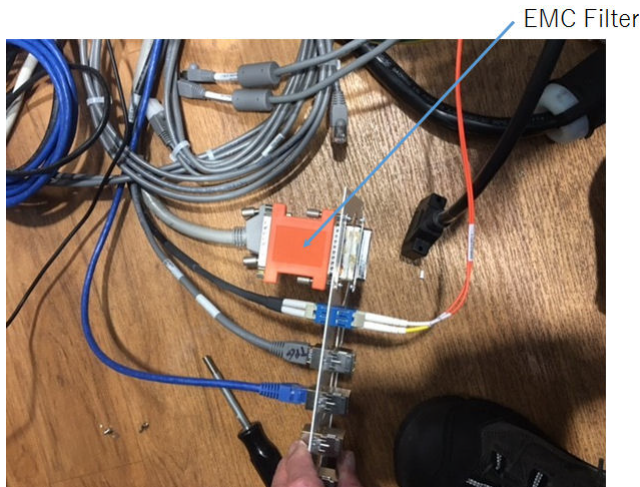


Figure 2-33 EMC Filter

- b.) Re-install rear bulkhead panel with provided hardware after all cables are connected.
Torque using 2.3Nm.
- c.) Install blocking plate item #1 to J20 using item #2 screws.

No.	Part No./Identifier	Descriptions	Qty.
1	5534404	Blocking plate	1
2	1009-M3P5C6P5-29	3.6 x 6.5 tapping screw	2

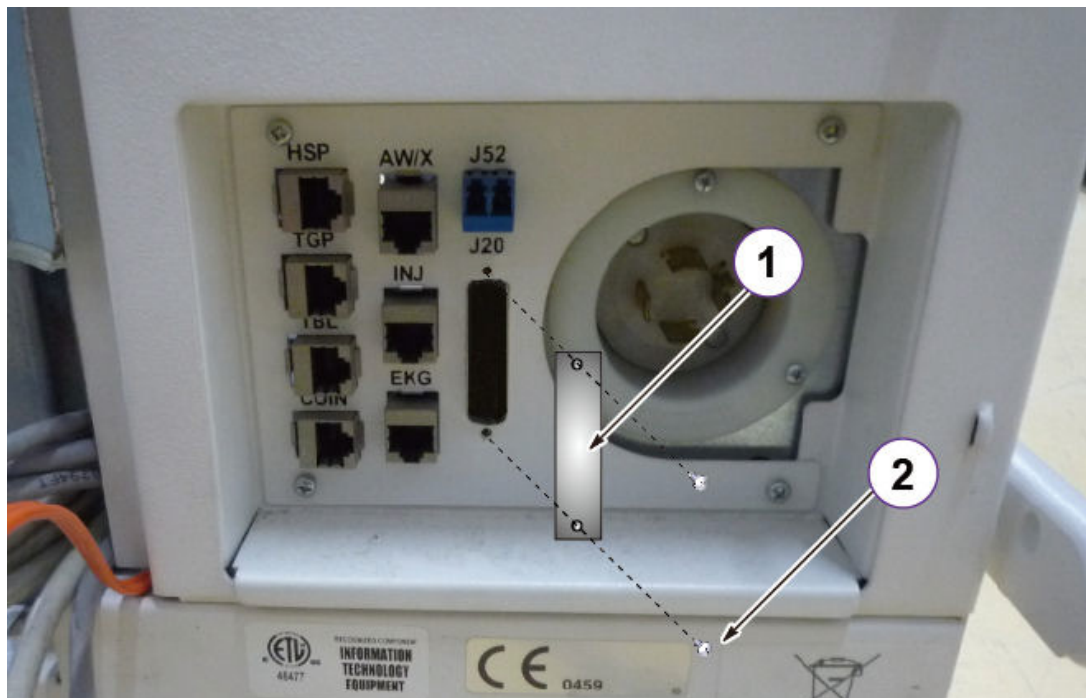


Figure 2-34 Rear Bulkhead Connections

23.) Connect the loose ethernet cable ends to their respective slots on the CNS

Part No./Identifier	Descriptions	Qty.
5782206-7	Service Port to ETH5 Ethernet Cable	1



①	Port 1 to Host
②	Port 2 to Bulkhead AW/XHost
③	Port 3 to Bulkhead EKG
④	Port 4 to Bulkhead INJ
⑤	Port 5 to Front Service Port

Figure 2-35 Cable up and Secure Console Network Switch (CNS)

24.) Slide in console network switch above the console power outlet assembly and secure it with velcro stripes.

Part No./Identifier	Descriptions	Qty.
46-136246P14	2-WIDE, WHT, ADH BACK, VELCRO LOOP x 25 YD	1
46-136246P21	2-WIDE x 25 YD WHITE VELCRO HOOKS	1

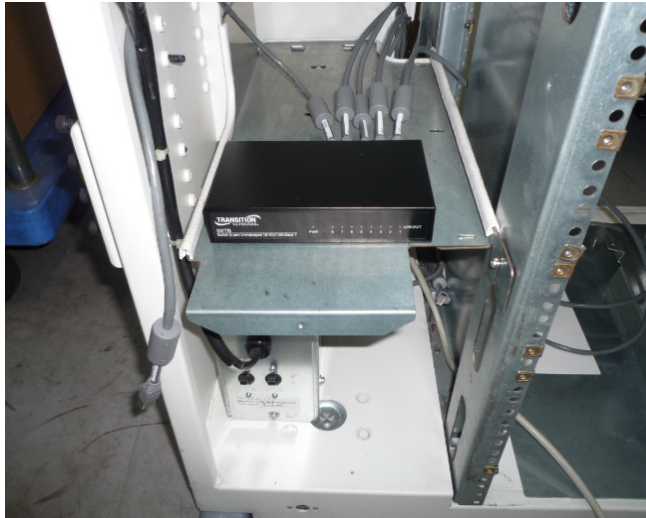
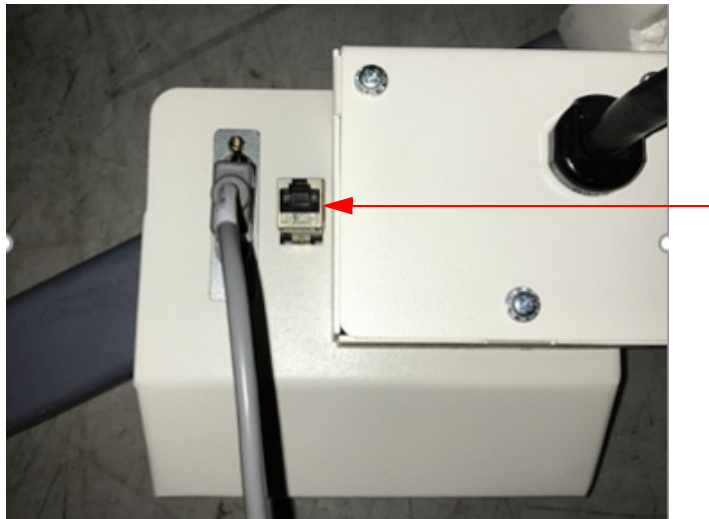


Figure 2-36 Console Network Switch

25.) Connect Ethernet cable labeled "SRV" from Network switch Port 5 to service panel as shown.



①	Ethernet
---	----------

Figure 2-37 Ethernet Cable Connection to Service Panel

26.) Install service panel:

Attach with two screws included, sliding as far into cabinet as slotted holes allow. Leave loose until front cover is going to be installed.



Figure 2-38 Service Panel

27.) Connect:

- a.) USB External HDD (slave) to Peripheral Tower External USB connection.
- b.) USB DVD-RW cable (slave) to Peripheral Tower connection.
- c.) Connect power cord to Peripheral Tower.

Note: If the site has Dual-bay Peripheral Media Tower, do not connect the USB cable to DVD-RAM Drive. DVD-RAM drive is not supported by new console.

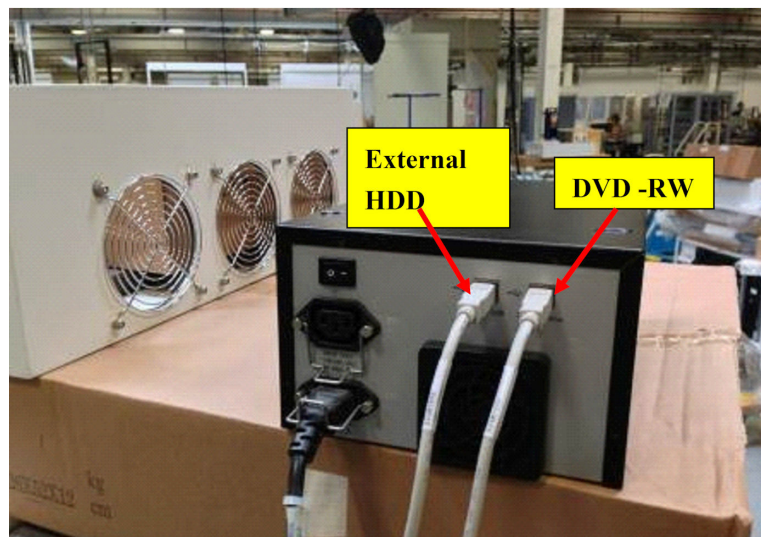


Figure 2-39 Peripheral Tower Connectio

28.) Connect GSCB cables as per diagram

No.	Part No./Identifier	Descriptions	Qty.
1	5402332	GSCB	5

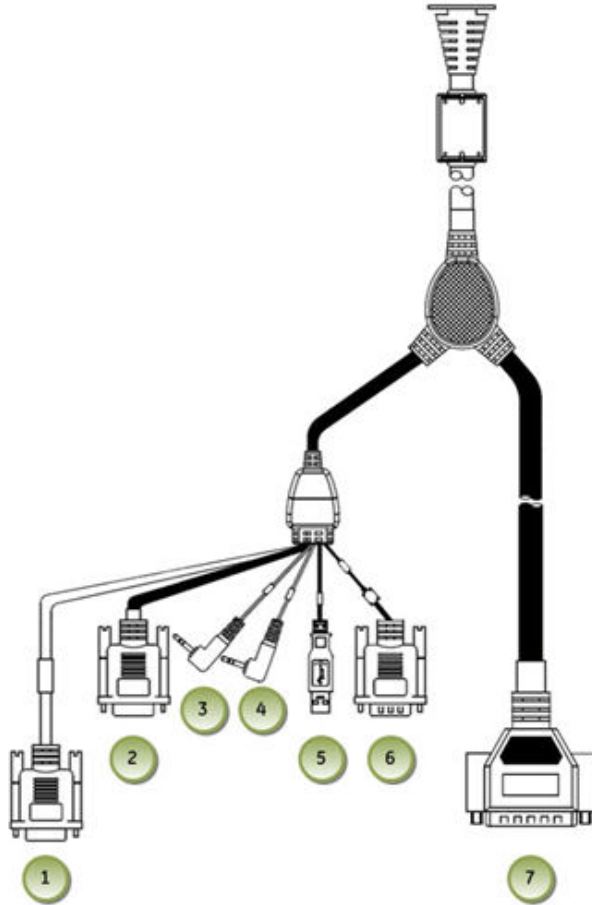
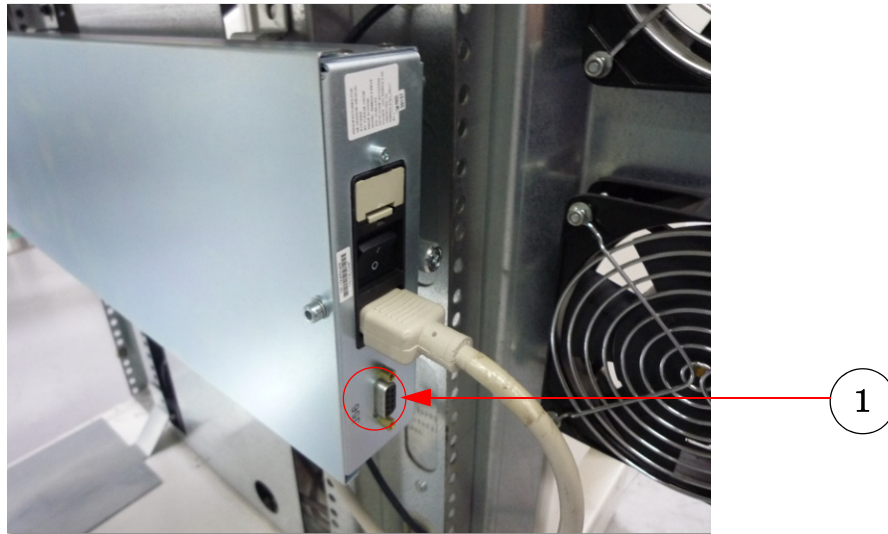


Figure 2-40 GSCB Connection

No.	Item	Descriptions
1	GSCB - Black DB-9 (Male) Connector	Power Box J56
2	GSCB - Gray DB-9 (Female) Connector	Host Computer Serial Port
3	GSCB - Green Audio Connector	Host Computer Audio Out (Green)
4	GSCB - Blue Audio Connector	Host Computer Audio In (Blue)
5	GSCB - USB Connector	NOT Used on GOC6.6 VCT Console
6	GSCB - Black DB-9 (Female) Connector	Host Computer DIP Serial Port
7	GSCB - Black DB-25 (Male) Connector	TGP Gantry Cable



①	J56
---	-----

Figure 2-41 J56 Connector on Power Box

- 29.) Connect the Mouse directly to USB connector on host computer.(Bypass the Upper Bulkhead Panel.)
- 30.) Connect the Keyboard to Console by passing the Keyboard USB Cable through the GSCB Assembly.And directly connect it to Host Computer.



Figure 2-42 Keyboard Connection

- 31.) Select the **without E-Reset** with local language overlay film from the collector and attach it to GSCB.

32.) Connect the power and signal cables between monitors and console.

Part Number	Description	From	To
Reuse the existing cables	Power cable	Outlet Box (J2 and J10)	Monitor Power connector
5366259	DVI-I to VGA Monitor cable	Host PC Video Card (DP0)	Right Monitor: D-Sub connector
5408703	DP to DVI Monitor cable	Host PC Video Card (DVI)	Left Monitor: DVI-D connector

1.5.1 Connect Accessories

- 1.) Place and connect the Video Amp/Splitter (if so equipped). Connect the Video Amp/Splitter power cable to any open Outlet Box inside the Console.



Figure 2-43 Outlet Box

- 2.) Connect the Video cable coming from the Host Computer Right Display and Right Display Monitor Video cable to the Video Amp/Splitter.

1.5.2 Connect Rear Bulkhead Cables

- 1.) Reconnect the Gantry and Network Interface Cables removed earlier from the old Operator Console.



NOTICE

IT IS IMPORTANT THAT NETWORK INTERFACES BE CORRECTLY PLUGGED INTO THEIR RESPECTIVE PORT LOCATIONS.

1.5.3 Connect Power and Grounds

- 1.) Connect the Scan Room Patient Reference Ground cable to the rear of the Console.
- 2.) Connect the Twist-N-lock Power Cable on the Console.
- 3.) Remove Lockout/Tagout.
Refer to Safety - Equipment Service - Lockout / Tagout - PPE in the LightSpeed VCT Service Manual supplied with the replacement, and perform the Lockout/Tagout process in reverse.
- 4.) Power On the console and confirm that all computer connections are receiving power.

Note: At this time the console may not properly initialize to full system functionality.

1.6 Console Initialization

Read this section in its entirety before executing this part of the procedure! In almost every case a Load From Cold will be required to complete the Console replacement.

1.6.1 LFC Preparations

Make note of the following LFC process clarifications.

- 1.) Refer to DAS type as record in Section 1.2 "Identify Dectector/DAS type. LFC is required on any of DAS / Detector configuration system.
- 2.) When loading INFO file during application Software load, the following pop-up will appear. Click OK to proceed.

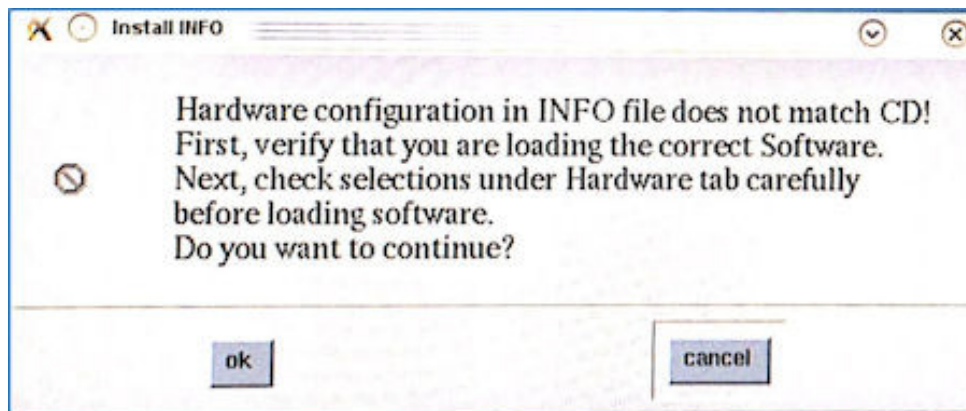


Figure 2-44 Pop-up Window - Install INFO

Select the appropriate hardware configuration in the hardware setting screen.

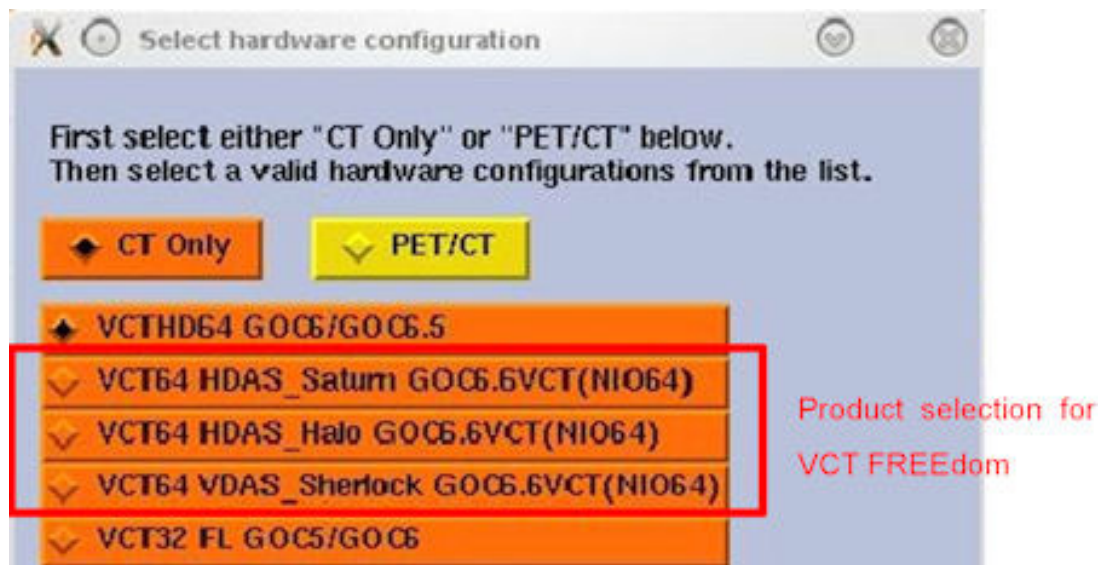


Figure 2-45 Hardware Setting Screen

- 3.) During the LFC process when executing the LFC Menu, skip the Install Options step. Options will be manually installed after LFC.
- 4.) Option install failure message will appear when Restore System State is completed because the existing option keys are not compatible with new host computer. Make sure no other errors are contained in the sysstate.log.

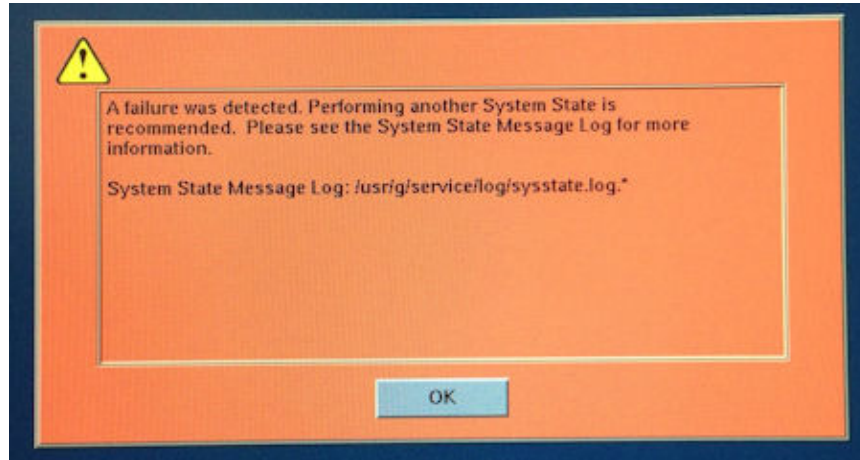


Figure 2-46 Error Message

Note: Ignore the "The file doesn't exist." Message in the log. This is not a failure.

1.6.2 Load from Cold (LFC)

- 1.) Perform Load from Cold.
Refer to Software GOC6.6 VCT > Software Installation Procedures > (16HW36.x) GOC6.6 Z840 VCT Load From Cold procedure in the LightSpeed VCT Service manual supplied with the replacement.
- 2.) After completing the Restore SysState in LFC Menu, quit the LFC Menu.
- 3.) If remote archive was previously used. Set the Default Storage Commit Host in the Network Configuration menu. This setting is not restored from system state media.

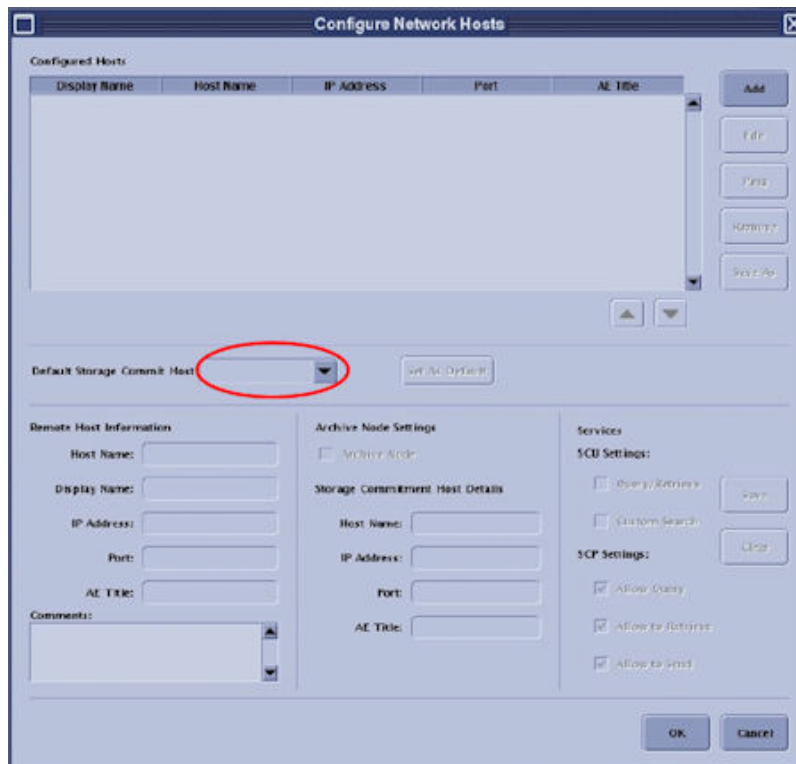


Figure 2-47 Window - Configure Network Hosts

- 4.) If SmartStep and/or SmartView option will be installed on this system, perform the following procedure to prevent multiple "No Printer Installed" pop-up messages.
 - a.) If any DICOM camera or Postscript printer will be connected to this system, no action is required. Proceed to next step.
 - b.) If DICOM camera or Postscript printer is not planned to be connected to this system, configure a dummy camera settings in Common Service Desktop → Configuration → Install Camera.
Select Other DICOM Protocol Camera in Camera selection screen (Figure 2-48) and enter dummy information as shown in Figure 2-49.

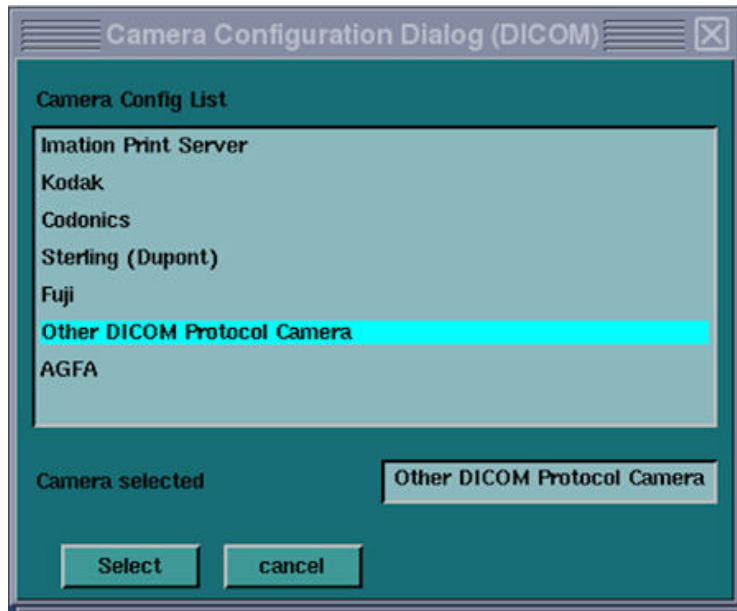


Figure 2-48 Camera selection screen

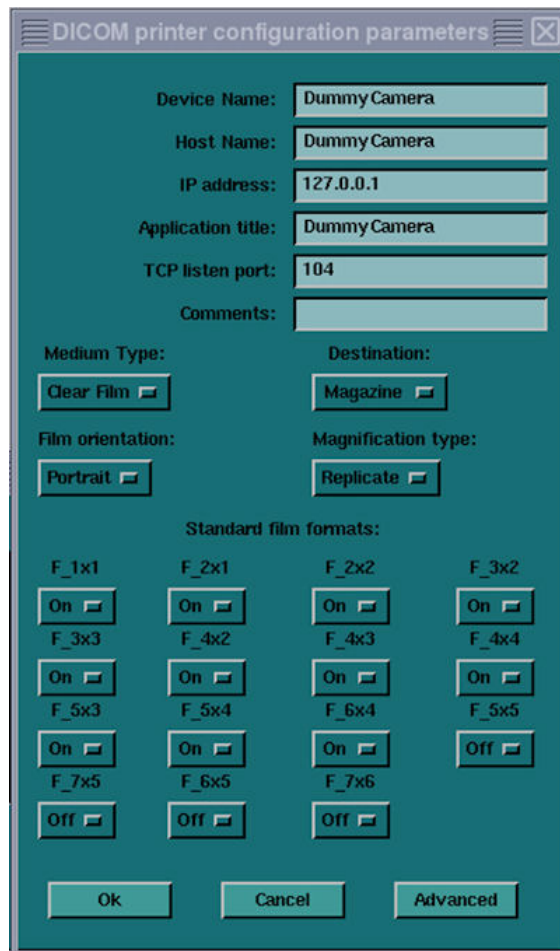


Figure 2-49 DICOM Camera Dummy Information

1.6.3 Install Option Software

- 1.) Install Volume Viewer SW & Dynamic Z axis tracking SW from DVD supplied in the upgrade kit. Install the license key for this SW using the license DVD media supplied in the kit.

Note: These option keys can also be generated by eLicense by using dummy order number. Refer to Chapter 3 - Appendix, Section 2.0 for the detailed procedure.

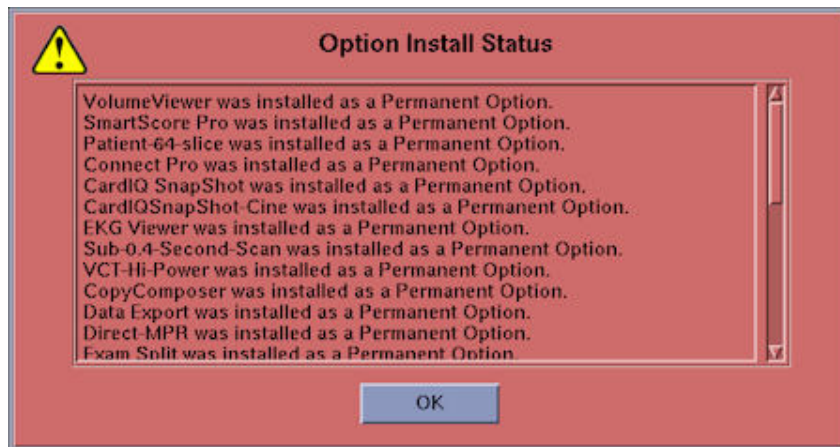
- 2.) Install the eLicense option keys which were generated at Generate eLicense Key for new console (Section 1.3).

Note: Preferred method of installing new license keys is via USB.

In case eLicense are downloaded from OLC, verify all required licenses are downloaded & installed on the console prior to Apps training.

Refer to CT E-LICENSE TRAINING (COURSE ID: GEHC- TECH-AMOL-CT6002) in MyLearning for more details. The following steps explain how to install the eLicense key via USB memory.

- a.) Copy the "license.dat" file which was generated by eLicense web tool to an USB memory mounted on your laptop PC.
 - b.) Insert the USB memory to the service USB port on the console front.
 - c.) Open a Unix shell and type mountUSB
 - d.) Type `cp /USB/license.dat /usr/g/service/flex`
 - e.) Type unmountUSB and remove the USB memory from the service USB port.
- 3.) Reboot the system.
 - Option key installation will be automatically started after OS is started up.
 - Some options will ask you to confirm the settings. Check or enter the appropriate parameters.
 - When all eLicense keys are installed, the following pop-up message will appear.



- 4.) After application start up, check that all options are installed by Verify Options in Common Service Desktop - Configuration tab.

Note: Some option key installation may fail due to dependency to other options. If failed, repeat the Step 1 through Step 3 again.

Note: The following options are not compatible between original and new console. The eLicense tool will generate both original and new license key. Installation of the original key will be rejected by CT system.

Effectivity	Part No.	Manufacturer
CardIQ Plus CardIQPro	CardIQPlus CardIQPro	CardIQ_Xpress_Reveal
Advanced Vessel Analysis	AdvVesselAnalysis	AVA_Xpress
AutoBone	AutoBone	AutoBone_Xpress
CTC Pro on OC	CTColonoPro	CT_Colono_Pro3D_EC
CTPerfusion4	CTPerfusion4	CT_Perfusion_4D_MultiOrgan
CTPerfusion4Neuro	CTPerfusion4Neuro	CT_Perfusion_4D_Neuro

Table 2-2 Updated Option Key

Catalog ID	Description	Floatable	Application Name/Key/Number of Users
B7870JC	B7870JC Advanced Vessel Analysis	N	AdvVesselAnalysis permanent 0 00b96c49f5811000000001700 AVA_Xpress permanent 0 0273269d5f511000000000658

Table 2-3 Example of eLicense Key

- 5.) Install additional option keys (DVD) supplied with this replacement kit according to Install Software Options in LightSpeed 7.X Service Methods.

1.6.4 Install SSA License File

- 1.) Click on “Create Softkey for FMI” link on the SSA homepage.

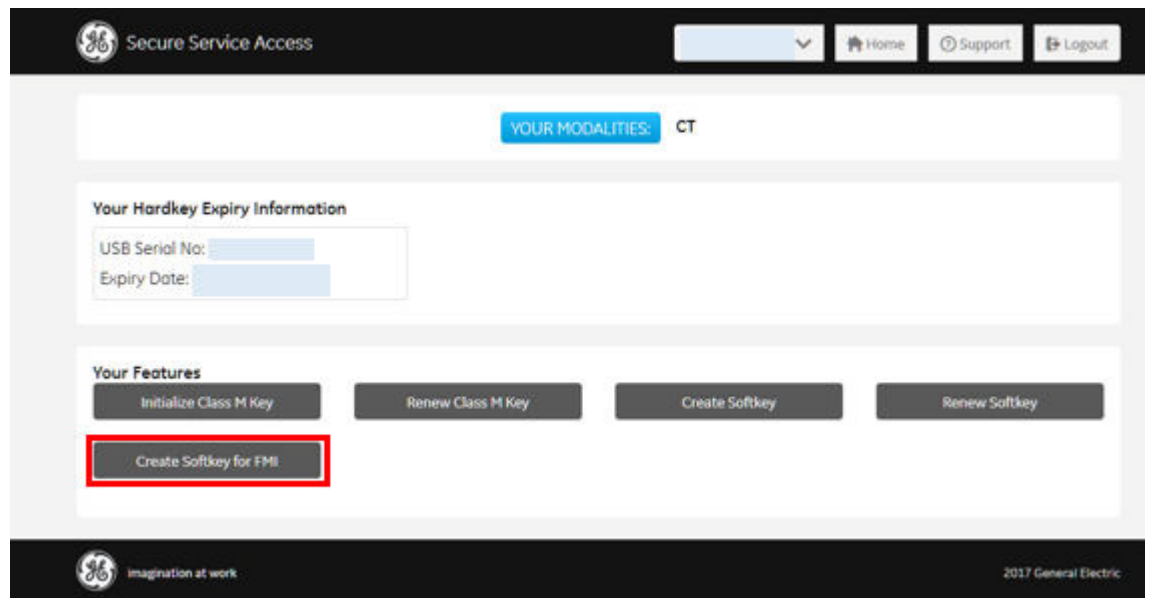


Figure 2-50 SSA homepage

- 2.) “Create Softkey for FMI” page will open up.

- 3.) Enter the required information in the following window to create the 20 year C1 license.

The screenshot shows a web form titled "Create Softkey for FMI" within a "Secure Service Access" portal. The form includes several input fields and options:

- System ID*:** An empty text input field.
- FMI No.*:** An empty text input field with a "Get Catalog" button to its right.
- Catalog Number*:** A disabled (grayed out) text input field.
- Enter 16 digit code*:** An empty text input field.
- Re-Enter 16 digit code*:** An empty text input field.
- Your Email address*:** A text input field containing the email address "takashi.uehara@ge.com".
- Delivery option*:** Radio buttons for "Download" (selected) and "Email".
- Renewal Notification*:** Radio buttons for "Yes" (selected) and "No".

At the bottom of the form are two buttons: "Create License" and "Reset".

Figure 2-51 Window - (Create Softkey for FMI)

- a.) Enter System ID.
 - b.) Enter FMI No. "26850", then click on "Get Catalog" button.
 - c.) Catalog Number (R23051CA) will popup.
 - d.) Enter 16 digit Code and Re-Enter.
 - e.) Enter your email address
 - f.) Select delivery Option
 - g.) Select Renewal Notification Option
 - h.) Click on Create License
- 4.) License(s) will be sent to you via email or download to your laptop based on the delivery option you choose
 - 5.) Save the license file(s) to a USB memory.
 - 6.) Insert the USB memory to the PMT USB port.

Note: Do not plug in both the SSA Class M Service Key and the SSA Softkey license USB memory at the same time.

- 7.) Select "Import License" button from the Tool Chest menu. You can see a pop-up message that indicates completion of importing license.

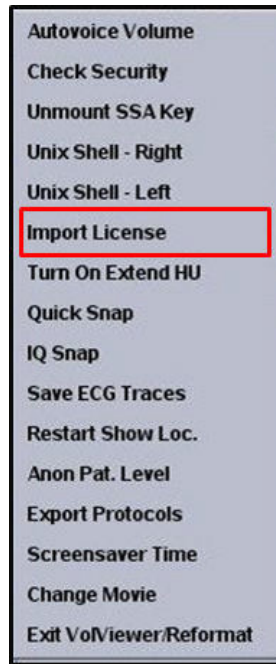


Figure 2-52 Tool Chest menu

- 8.) Remove the USB device from the PMT USB port.
- 9.) Reboot the system.
- 10.) Perform a Check Security to verify the class M key is no longer recognized/installed.
- 11.) Check the CSD home menu and confirm that the valid license is displayed on the Current License Status as illustration below.

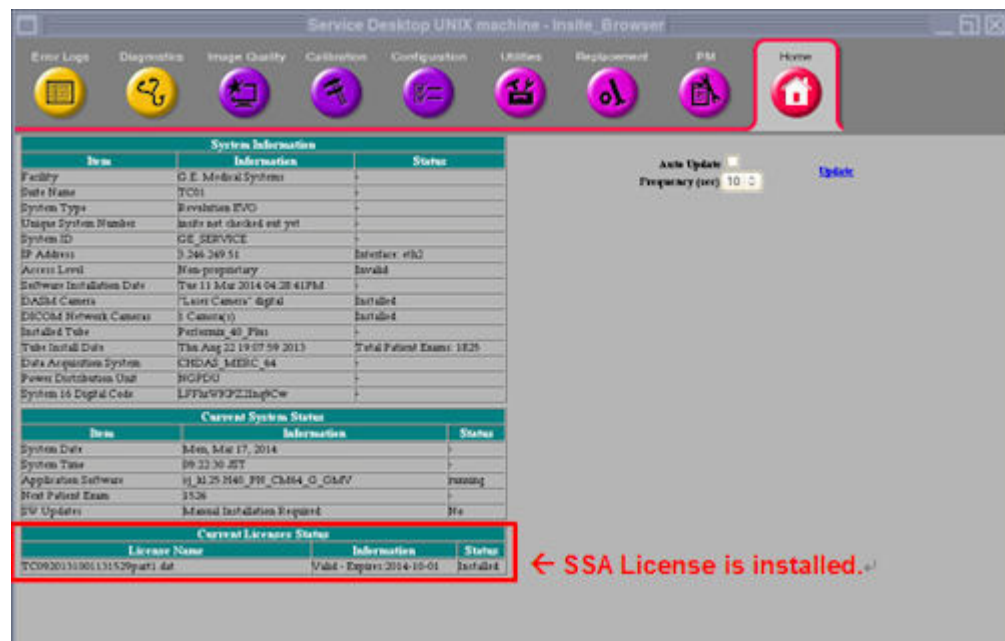


Figure 2-53 CSD Home menu with SSA License installed

Note: If the above check(s) fail, confirm the 16-digit code was entered correctly. Ensure there is no confusion over letters and numbers such as zero and letter “O” or a number one and lower case “L” for example.

1.6.5 Reconnect the Hospital Network Cable

- 1.) Reconnect the Hospital Network cable at the rear of the Operator Console (J26) that was disconnected at the beginning of the LFC.

1.6.6 Tube Install Certification

- 1.) Perform the Tube Install Certification procedure.
- 2.) When completed, continue with Flash Download.

1.6.7 Flash Download

- 1.) Perform the Flash Download Utility found on the Common Service Desktop - Utilities Tab, select [Flash Download].

Note: The Flash Download takes 5 - 30 minutes, depending on which subsystems need firmware updating.

- 2.) When the Flash Download Window opens, Select [Update].
- 3.) Once the Hardware Flash Downloads successfully, select [Dismiss].
- 4.) Close the Common Service Desktop.
- 5.) Select Shutdown icon on the Desktop and restart the system.

1.6.8 GSCB Configuration and Intercom Set Up

- 1.) Configure the GSCB following the GSCB Configuration and Intercom Setup procedure found in the LightSpeed 7.X Service Manual.

Refer to Align/Setup/Cal > Console (GOC6.6) > GSCB Configuration and Intercom Setup procedure.

- 2.) Setup and adjust the Intercom speaker and microphone volumes following the GSCB Configuration and Intercom Setup procedure.

Refer to Align/Setup/Cal > Console (GOC6.6) > GSCB Configuration and Intercom Setup procedure.

1.6.9 Install System Warning Labels



NOTICE Important: Do not cover English labels already on the system.



- 1.) All labels are installed in English and present on Console. Add the labels listed below for the appropriate language for the country in which this system is installed. Additionally, apply any other warning labels if present, on equipment where appropriate.

Subsystem	Component	Label(s)
Console	GSCB	Language overlay label
		X-ray warning indicator
	Keyboard	Function key overlay label
		Keyboard ERGO Warning (GOC6 Series Only)

Table 2-4 System Warning Labels

1.6.10 InSite Checkout

- 1.) If the InSite (and iLinq) was previously used, perform the InSite checkout here.

Note: New model type (_SUSE_IIP4) is required for the checkout.

1.7 System Level Verification Test

- 1.) Check the GSCB warning labels.
 - a.) Check the X-ray warning indicator is attached to the GSCB.
 - b.) Check the X-ray warning statement is in the appropriate language.



Figure 2-54 X-Ray Warning Label

- 2.) System Ground Check
Note: Complete the following items. Refer to the LightSpeed 7.X Installation Manual for the detailed procedure.
 - a.) Table/Gantry raceway to Console ground wire resistance should be less than 1.0 ohm.
 - b.) System Ground Chassis Leakage test was performed and the results indicate a passing condition.
 - c.) Patient Touch Leakage test was performed and the results indicate a passing condition.
- 3.) User Interface Language
Confirm that appropriate or Requested language is installed.
Note: The UI is expected to be using the language appropriate for the country in which this system is installed, according to Direction 5221102-1EN. If an authorized site representative chooses another UI language, record the following information.
 - Radiology Manager (or equivalent)
 - Date of discussion
 - Language selected
- 4.) Check Operator Controls / Indicators
 - Check the GSCB X-ray On indicator illuminates during a scan.
 - Check the GSCB stop scan controls terminates a scan when pressed.
- 5.) Functional System Tests
Refer to Functional Checks - System Scanning Tests in the LightSpeed VCT Service Manual supplied with the replacement and perform the tests to confirm proper operation.

1.8 CT# Adjustment

- 1.) Execute CT# Adjustment. (No calibration is necessary.)
- 2.) Execute Quality Assurance Test.
Refer to Functional Checks - Quality Assurance Test in the LightSpeed VCT Service Manual supplied with the replacement.

1.9 Finalization

- 1.) Reinstall the Console Front and Rear Covers.
Note: Refer to Replacement > Console > GOC6.6 VCT > Console Cover Removal and Installation in the LightSpeed VCT Service Manual for more details.
- 2.) Save a new System State in accordance with Software GOC6.6 VCT > Software Installation procedures > System State Save Restore in the LightSpeed VCT Service manual supplied with the replacement.
- 3.) Return the removed console parts according to standard parts return process.

Chapter 3

Appendix

Section 1.0

System Information Sheet

DAS Type	Check
VDAS64	
HDAS64	
HDAS SATURN 64	

Installed Software Option Key	Check	Note
3000 Image Series		
AutoFilter-and-Transfer		
AutomA		
Connect Pro		
CopyComposer		
Data Export		
Direct-MPR		
NeuroFilter		
Patient-64-slice		
Smart Prep		
Smart Speed		
Exam Split		
VolumeViewer		
ASiR		
CardIQ Snapshot		
CardIQ Snapshot-Cine (SSP)		
EKG Viewer		
SmartScore Pro		
Sub-0.4-Second-Scan		
NoiseReductionFilter		
VCT-85kW-Power		
VCT-Hi(100kW)-Power		
AutoBone		To be replaced with "AutoBone_Xpress"
AdvVesselAnalysis		To be replaced with "AVA_Xpress"
AWE connection		
AxialShuttle		
CardEP		
CardIQPlus		To be replaced with "CardIQ_Xpress_Reveal"
CTColonoPro		To be replaced with "CT_Colono_Pro3D_EC"

CTPerfusion4		To be replaced with "CT_Perfusion_4D_MultiOrgan"
CTPerfusion4_Neuro		To be replaced with "CT_Perfusion_4D_Neuro"
DentaScan		
Enhanced Rotor Management-DS		
Enhanced Xtreme Injector		
HelicalShuttle		
Real Time CT Fluoro		
SmartStep		
Xtream Injector (Class I)		

ConnectPro	Current Setting	Note
HIS Server IP Address		
HIS Server AE Title		
HIS Server AE Port #		
CT Server AE Title		
HIS Server IP Address		
HIS Server AE Title		
HIS Server AE Port #		
CT Server AE Title		

Exam Split	Current Setting	Note (How to check the setting)
Exam Split Type (VES / HES)		1. Open Unix shell and and log on as root. 2. Type: ls -l ~ctuser/ves/.hesMode 3. If there is .hesMode file, it's HES mode. If not, It's VES mode.

Xtream injector / Enhanced Xtream injector	Current Setting	Note (How to check the setting)
Injector:Pressure unit (kPa / "kg/cm2" / PSI)		CSD -> Configuration -> Injector: Pressure Limit Unit

Remote Archive Device	Current Setting	Note (How to check the setting)
Selected archive device		Image Works -> Archive -> Selected Archive Device

AWE Connection	Current Setting	Note (How to check the setting)
AW Server IP Address		CSD -> Configuration -> Configure AW Server Client
Login User Name		
Login Password (this is masked by *)		

Smart score Pro	Current Setting	Note (How to check the setting)
Cardiac monitor (None / IVY 7800 / IVY 3150 / IVY 3100 / INVIVO MILLENNIA)		CSD -> Configuration -> Install Gating Monitor

Section 2.0

Obtain Dynamic Z-Axis Tracking and Volume Viewer Options via eLicense

- 1.) Open internet explorer and go to the eLicense webpage. This webpage can be found at this address:
<http://elicense.gehealthcare.com/elicense/>
- 2.) Type **1579664** in the Order Number Field
- 3.) Click on Add a System

Order Information

FDO: 1579664
Header ID: 39121201
Site: FROEDTERT HEALTH INC
Address: FROEDTERT HEALTH INC
Street:
City, State, Zip: MENOMONEE FALLS, WI, 53051-4490
Country: US

Instructions
[Add a System](#)
[Generate Licenses](#)
[View System Information](#)

Add a System

Catalog Number	Description	Floatable	Qty Ordered	Qty Used
B76882AD	VOLVIEWER F/HNO LS GRE	N	2500	0
B7677NB	DYNAMIC Z-AXIS TRKG-MBR	N	2500	0
B76852AD	VOLVIEWER 3.1 ON OC HNO	N	2500	0

Add a System

- 4.) Enter System ID and select CT as modality. Then click GO.

Enter System Information

CQ3058 System ID CT **Go**

[Close Window](#)

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5.) Add Details of the System.

Note: Model Type, System ID and Host ID Field are Mandatory fields, the rest of the fields are optional.

eLicense
Close Window

SystemID is Verified.

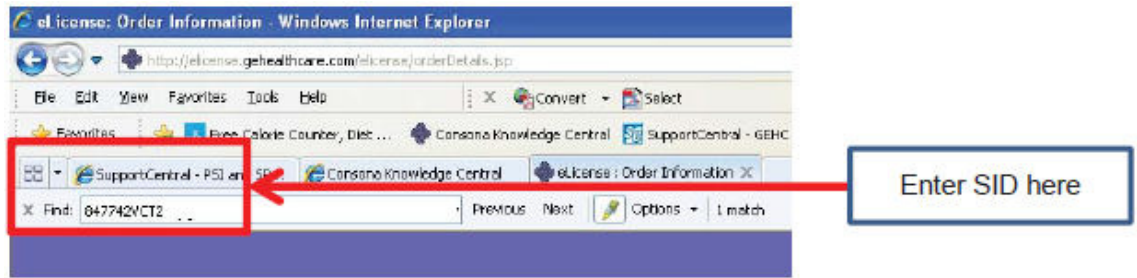
Enter System Information

Modality: CT
Model Type: VCT
Serial Number:
Host ID: 3834521852
MAC ID:
System ID: CQ3058
USN: 0000CQ3058

Continue

6.) Click on Continue

Note: When adding systems in eLicense, the tool displays the SIDs horizontally, across the page. To help find a SID, on your computer keyboard, hit Shift + F3 key at the same time. This will open a "Find" box on toolbar. Enter your SID, and the SID will appear highlighted in the window.



Host : 41932426	Host : 41932426	Host : 973142660
Details	Details	Details
System : 00054CT S02	System : 847742VCT2	System : 10390CTS01
Serial Number :	Serial Number :	Serial Number :
Modality : CT	Modality : CT	Modality : CT
Model Type : VCT	Model Type : VCT	Model Type : VCT
Check All	Check All	Check All

SID highlighted here

7.) Click on Check All

8.) Click on Generate Licenses

Order Assignment

FDO: 1579664
 Header ID: 39121201
 Site: FROEDTERT HEALTH INC
 Address: FROEDTERT HEALTH INC
 Street:
 City, State, Zip: MENOMONEE FALLS, WI, 53051-4490
 Country: US

[Add a System](#) [Generate Licenses](#)

Host : 3834521852 System : CQ3058 Serial Number : Modality : CT Model Type : VCT <input type="checkbox"/>	Catalog Number	Description	Floatable	Qty Ordered	Qty Used
<input type="checkbox"/>	B76882AD	VOLVIEWER F/HNO LS GRE	N	2500	0
<input checked="" type="checkbox"/>	B7877NB	DYNAMIC Z-AXIS TRKG-MBR	N	2500	0
<input checked="" type="checkbox"/>	B78852AD	VOLVIEWER 3.1 ON OC HNO	N	2500	0
<input type="checkbox"/>					

[Add a System](#) [Generate Licenses](#)

9.) Click on Confirm Selections

Order Information

Site: FROEDTERT HEALTH INC
 FDO: 1579664
 Order Date: 2017-06-02
 Address: FROEDTERT HEALTH INC
 Street:
 City, State Zip: MENOMONEE FALLS, WI, 53051-4490
 Country: US

New System	ASSIGNED CATALOG ITEMS				
	Type	Catalog No.	Description	Floatable	Quantity
Host : 3834521852 System : CQ3058 Serial Number : Modality : CT Model Type : VCT	New	B7877NB	DYNAMIC Z-AXIS TRKG-MBR	N	1
	New	B78852AD	VOLVIEWER 3.1 ON OC HNO	N	1

[Confirm Selection\(s\)](#) [Back](#)

Please be sure of your decisions before you confirm. Once you confirm, changes can not be made.

10.) Click on Details

Order Assignment

FDO: 1579664
 Header ID: 39121201
 Site: FROEDTERT HEALTH INC
 Address: FROEDTERT HEALTH INC
 Street:
 City, State, Zip: MENOMONEE FALLS, WI, 53051-4490
 Country: US

Instructions
[Add A System](#)
[Generate Licenses](#)
[View System Information](#)

Add a System **Generate Licenses**

Host : 3834521852 System : CQ3058 Serial Number : Modality : CT Model Type : VCT <input type="button" value="Check All"/>	Catalog Number	Description	Floatable	Qty Ordered	Qty Used
	B76882AD	VOLVIEWER F/HNO LS GRE	N	2500	0
	B7877NB	DYNAMIC Z-AXIS TRKG-MBR	N	2500	1
	B78852AD	VOLVIEWER 3.1 ON OC HNO	N	2500	1
<input type="button" value="Check All"/>					

Add a System **Generate Licenses**

11.) Print, to save the confirmation page. The Key numbers listed will be used during the site visit to install the Options.

System Information

[Edit System Information](#)
 Modality: CT
 Model Type: VCT
 Serial Number:
 Host ID: 3834521852
 System ID: CQ3058 (SystemID is Verified.)
 USN: 0000CQ3058

Instructions
[Generate New Licenses](#)
[Email Licenses](#)
[Save Licenses](#)
[Update List](#)
[Reconfigure System](#)

Generate New Licenses **Email Licenses** **Save Licenses** **Print Licenses** **Update List** **Reconfigure**

Generate Date	Generate Type	Order ID	Genesis ID	Catalog ID	Description	Floatable	Application Name/Key/Number of Users	License Type	Expire Date
2017-06-05	Generated From Order	1579664	1579664	B78852AD	B78852AD VOLVIEWER 3.1 ON OC HNO	N	VolumeViewer permanent 0 013ed6b6fab11000000004042	Permanent	
2017-06-05	Generated From Order	1579664	1579664	B7877NB	B7877NB - Dynamic Z-Axis Tracking	N	Dynamic2-axisTracking permanent 0 171f308b91211000000002603	Permanent	

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